RESOLUTION NO. 25-2028

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAKE FOREST PARK, WASHINGTON, AUTHORIZING THE MAYOR TO SIGN A PUBLIC WORKS CONTRACT AGREEMENT WITH JOHANSEN CONSTRUCTION COMPANY FOR THE SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

WHEREAS, the City has completed engineering design for the SR 104 and 40th Place NE Roundabout project (Project) and desires to enter into a construction contract to construct the Project; and

WHEREAS, the City publicly advertised a formal solicitation of bids for the Project on June 11, 2025, and received six (6) bids from construction contractors for the Project on July 16, 2025; and

WHEREAS, the Public Works Department determined that Johansen Construction Company submitted the lowest responsive, responsible bid in the amount of $5,412,357.75 and subsequently prepared the public works contract agreement included herewith as Attachment 1;

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Lake Forest Park, as follows:

Section 1. AUTHORIZATION TO EXECUTE AGREEMENT. The City Council of the City of Lake Forest Park authorizes the Mayor to sign the agreement with Johansen Construction Company, included herewith as Attachment 1.

Section 2. CORRECTIONS. The City Clerk is authorized to make necessary corrections to this resolution, including, but not limited to, the correction of scrivener's/clerical errors, references, ordinance numbering, section/subsection numbers, and any references thereto.

PASSED BY A MAJORITY VOTE of the members of the Lake Forest Park City Council this 11th day of September, 2025.

APPROVED:

Tracy Furutani
Deputy Mayor

ATTEST/AUTHENTICATED:

Matthew McLean
City Clerk

FILED WITH THE CITY CLERK: August 28, 2025
PASSED BY THE CITY COUNCIL: September 11, 2025
RESOLUTION NO.: 25-2028

ATTACHMENT 1

Agreement

THIS CONTRACT, (AG-25-026) is made and entered, by and between the CITY OF LAKE FOREST PARK, a Washington municipal corporation (the "City"), and Johansen Construction Company (the "Contractor"), hereafter the "Contract".

RECITALS

WHEREAS, the City desires to contract with the Contractor for the City of Lake Forest SR 104 and 40th Pl NE Roundabout Project (the Project); and

WHEREAS, pursuant to the invitation of the City, the Contractor did file with the City a Bid Proposal containing an offer; and

WHEREAS, the City has determined that the Contractor's offer was the lowest responsive and responsible bid submitted;

NOW THEREFORE, in consideration of the terms and conditions contained in this Contract, the parties covenant and agree as follows:

1. Scope of Work to be Accomplished. The Contractor shall perform the work described in Exhibit "A" of this contract ("Work"). The Contractor shall provide and bear the expense of all equipment, materials, work and labor of any sort whatsoever that may be required for the transfer of materials and for constructing and completing the Work provided for in this Contract, unless otherwise specified in the attached plans and specifications. The Contractor will also provide the City as-built drawings of the Work.

2. Compensation. The Work shall be commenced and completed in accordance with and as described in the Contract Documents for the sum of Five-Million, Four-Hundred and Twelve-Thousand, Three-Hundred and Fifty-Seven Dollars and Seventy-Five Cents ($5,412,357.75).

3. Contract Documents. The Contract between the parties includes this Contract, Special Provisions (Exhibit A with Appendix A - F),General Conditions (Exhibit B), Pricing Information (Exhibit C), Addenda or change orders, L&I form Statement of Intent to Pay Prevailing Wages, L&I form Affidavit of Wages Paid, Certificate of Insurance naming City as additional insured, copy of Contractor's state contractor license and UBI number, copy of Contractor's city business license, which are all hereby incorporated by reference and made a part of this Contract as if fully set forth herein, and shall be referred to collectively as the "Contract" or "Contract Documents." In the event there is any discrepancy between any of the foregoing Contract Documents, the following order of documents governs so that the former prevails over the latter: Addenda, Contract, Special Provisions, General Conditions.

4. Time of Completion. The Contractor shall achieve Physical Completion of the Work within 257 working days, considering the mandatory contract suspension as outlined in Section 1-08.6 Suspension of Work in the Specifications, from the date written in the Notice to Proceed ("Contract Time"). The Notice to Proceed is anticipated to be issued, upon approval by the City Administrator and/or their designee, within 30 calendar days of contract execution.

5. Payment.

5.1 The Contractor shall submit properly certified invoices for the Work performed. The City agrees to pay the Contractor for the actual work completed to the satisfaction of the City and in conformance with Exhibit "C" to this Contract. Upon acceptance of payment, Contractor waives any claims against the City related to the Work covered by the invoice. The total amount to be paid shall not exceed $5,412,357.75.

5.2 The Contractor shall complete and return to the City Exhibit "D" or a W-9 Request for Taxpayer Identification Number and Certification, prior to or along with the first invoice submittal. The City shall pay the Contractor for services satisfactorily rendered within 21 days after City Council approval of such payment.

6. Warranties/Guaranty.

6.1 Contractor warrants that all Work conforms to the requirements of the Contract and is free from any defect in equipment, material, design, or workmanship performed by Contractor or its Subcontractors and Suppliers. The warranty period shall be for the longer period of: one year from the date of the City's final acceptance of the entire Work or the duration of any special extended warranty offered by a Contractor, a supplier or common to the trade.

6.2. With respect to all warranties, express or implied, for Work performed or materials furnished according to the Contract, Contractor shall:

1. Obtain all warranties that would be given in normal commercial practice from the supplier and/or manufacturer;
2. Prior to final acceptance require all warranties be executed, in writing, for the benefit of the City;
3. Enforce all warranties for the benefit of the City; and,
4. Be responsible to enforce any warranty of a subcontractor, manufacturer, or supplier, should they extend beyond the period specified in the Contract.

6.3 If, within an applicable warranty period, any part of the Work is found not to conform to the Contract, the Contractor shall correct it promptly after receipt of written notice from the City to do so. In the event the City determines that Contractor corrective action is not satisfactory and/or timely performed, then the City has the right to either correct the problem itself or procure the necessary services, recommendations, or guidance from a third party. All damages incurred by the City and all costs for the City's remedy shall be reimbursed by the Contractor.

6.4 The warranties provided in this section shall be in addition to any other rights or remedies provided elsewhere in the Contract or by applicable law.

7. Change Orders. Changes to the scope of work to be performed, of the amount of the contract sum, or in the time for completion of the work, may be accomplished only by a written document, signed by the Contractor and the City. Once effective, the Contractor shall proceed promptly with the Work as modified, unless otherwise provided in the change order.

8. Insurance. Terms of insurance required are provided in Special Provisions, Exhibit A, Section 1-07.18 and the following:

8.1 Minimum Scope and Amount of Insurance. In addition to insurance required Section 1-07.18, the Contractor's is required to procure and maintain coverage as stated below:

Builders Risk insurance covering interests of the City, the Contractor, Subcontractors, and Sub-subcontractors in the work. Builders Risk insurance shall be on a special perils policy form and shall

insure against the perils of fire and extended coverage and physical loss or damage including flood, earthquake, theft, vandalism, malicious mischief, and collapse. The Builders Risk insurance shall include coverage for temporary buildings, debris removal, and damage to materials in transit or stored off-site. This Builders Risk insurance covering the work will have a deductible of $5,000 for each occurrence, which will be the responsibility of the Contractor. Higher deductibles for flood and earthquake perils may be accepted by the City upon written request by the Contractor and written acceptance by the City. Any increased deductibles accepted by the City will remain the responsibility of the Contractor. The Builders Risk insurance shall be maintained until the City has granted substantial completion of the project. An installation floater may be acceptable in lieu of Builders Risk for renovation projects only if approved in writing by the City.

Builders Risk insurance shall be written in the amount of the completed value of the project with no coinsurance provisions.

8.2 Contractor's Insurance for Other Losses. The Contractor shall assume full responsibility for all loss or damage from any cause whatsoever to any tools, Contractor's employee owned tools, machinery, equipment, or motor vehicles owned or rented by the Contractor, or the Contractor's agents, suppliers, contractors or subcontractors as well as to any temporary structures, scaffolding and protective fences.

8.3 Waiver of Subrogation. The Contractor and the City waive all rights against each other, any of their Subcontractors, Sub-subcontractors, agents and employees, each of the other, for damages caused by fire or other perils to the extent covered by Builders Risk insurance or other property insurance obtained pursuant to the Insurance Requirements Section of this Contract or other property insurance applicable to the work. The policies shall provide such waivers by endorsement or otherwise.

9. Apprenticeship Incentive/Penalties

If the total amount of the Contract listed in section 2 for the Project is two million dollars ($2,000,000.00) or more, then this Project is subject to the apprenticeship utilization requirements of RCW 39.04.320. Pursuant to RCW 39.04.320, no less than fifteen percent (15%) of the labor hours shall be performed by apprentices, unless a different amount is permitted or otherwise required by law. Apprenticeship hours must be performed by participants in training programs approved by the Washington State Apprenticeship Council.

Apprenticeship utilization goals must be met. A penalty will be deducted from the final payment for unmet apprenticeship hours at the wage specified in 2025 WSDOT Standard Specification section 1-07.9(3)). An incentive payment of $0 will be added to the final payment if the apprenticeship utilization goal is met.

The Contractor or subcontractor may not be required to exceed the apprenticeship utilization requirements of RCW 39.04.320.

10. Prevailing Wages/Performance Bond

10.1 Prevailing Wages. The work under the Contract may be subject to the prevailing wage requirements of chapter 39.12 RCW, as amended or supplemented**.** If this Contract is subject to prevailing wage requirements, the Contractor, each of its subcontractor(s) and other person(s) doing any work under the Contract shall pay all laborers, workers or mechanics not less than the prevailing rate of wage for an hour's work in the same trade or occupation in the locality within the State of Washington where such labor is performed as required by law. The prevailing rate of wage to be paid to all workman, laborers or mechanics employed in the performance of any part of this Contract shall be in accordance with the provisions of chapter 39.12 RCW, as amended, and the rules and regulations of the Department of Labor

and Industries. The rules and regulations of the Department of Labor and Industries and the schedule of the prevailing wage rates for the Industrial Statistician of the Department of Labor and Industries, are by reference made a part of this contract as though fully set forth herein. These rates may be accessed on the internet at https://fortress.wa.gov/lni/wagelookup/prvWagelookup.aspx

Pursuant to RCW 39.12, prior to payment by the City, the Contractor must submit -- on behalf of itself and each and every subcontractor at every tier -- a "Statement of Intent to Pay Prevailing Wages," which must be approved by the Department of Labor and Industries prior to its submission. Within fifteen (15) days of the final acceptance of the Contractor's work under this Contract, the Contractor must submit -- on behalf of itself and every subcontractor -- an "Affidavit of Wages Paid".

OR

At the option of the City, the Contractor may use the combined Statement of Intent to Pay Prevailing Wages and Affidavit of Wages Paid form. Contractor must meet the Washington State Department of Labor and Industries criteria for use of the form. Combined forms may be requested from the City.

10.2 Performance Bond. If applicable, the Contractor shall provide a performance and payment bond to the City prior to commencement of work for 100% of the bid amount guaranteeing the full and faithful performance by Contractor of the terms and conditions of this Contract. In lieu of a performance and payment bond, the Contractor may request, in writing, that the City retain an additional 10% of the contract amount until 30 days after the date of final acceptance, or until the receipt of all necessary releases from the Department of Labor and Industries, whichever is later.

11. Assignment/Delegation. The Contractor shall not assign this Contract nor delegate any duties hereunder without prior written consent of the City, which consent may be withheld by the City in its sole subjective discretion for any cause whatsoever.

12. Applicable Law; Venue. This Contract shall be subject to, and the Contractor shall at all times comply with, all applicable federal, state and local laws, regulations, and rules, including the provisions of the City of Lake Forest Park Municipal Code and ordinances of the City of Lake Forest Park. Venue for any action arising from or related to this Contract shall be exclusively in King County Superior Court.

13. Termination.

13.1 The City reserves the right to terminate or suspend this Contract at any time, with or without cause, upon seven days' prior written notice. In the event of termination or suspension, all finished or unfinished documents, data, studies, worksheets, models, reports or other materials prepared by the Contractor pursuant to this Contract shall promptly be submitted to the City.

13.2 In the event this Contract is terminated or suspended, the Contractor shall be entitled to payment for all services satisfactorily performed and reimbursable expenses incurred to the date of termination.

13.3 This Contract may be terminated immediately if the Contractor's insurance coverage is canceled for any reason, or if the Contractor fails to timely perform the services or defaults on any other material obligations under this Contract.

13.4 Any termination of this Contract shall not prevent the City from seeking any legal or equitable remedies it may otherwise have against the Contractor for the violation or nonperformance of any provisions of this Contract.

14. Indemnification/Hold Harmless. The Contractor shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits, including attorney fees, arising out of or in connection with the performance of this Contract, except for injuries and damages caused by the sole negligence of the City.

Should a court of competent jurisdiction determine that this Contract is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Contractor and the City, its officers, officials, employees, and volunteers, the Contractor's liability hereunder shall be only to the extent of the Contractor's negligence.

It is further specifically and expressly understood that the indemnification provided herein constitutes the Contractor's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Contract.

15. Independent Contractor. For all purposes, the Contractor shall be deemed an independent contractor and shall not be deemed an employee or agent of the City for any purpose.

16. Wages and Other Costs. The City assumes no responsibility for the payment of any compensation, wages, benefits, or taxes owed by the Contractor by reason of this Contract. The Contractor shall indemnify and hold the City, its officers, agents, and employees, harmless against all liability and costs resulting from the Contractor's failure to pay any compensation, wages, benefits or taxes.

17. Waiver. Waiver by the City of any breach of any term or condition of this Contract shall not be construed as a waiver of any other breach.

18. Attorney's Fees. In the event any action is brought by either party to enforce the terms of this Contract or for breach of this contract by the other party, the parties agree that the non-prevailing party shall pay to the prevailing party reasonable attorney fees and expert witness fees, costs and disbursements incurred by such party.

19. Entire Contract/Binding Effect. This Contract constitutes the entire agreement between the parties hereto.

20. Modification. No amendment or modification of this Contract shall be of any force or effect unless it is in writing and signed by the parties.

21. Severability. If any provision of this Contract is held invalid, the remainder shall not be affected thereby if such remainder would then continue to conform to the terms and requirements of applicable law, and shall continue in force and effect.

22. Notices. Any notice required by this Contract may be delivered personally or mailed, certified with return receipt requested. If mailed, notice shall be deemed given upon the first business day after the date of the postmark. Notices shall be delivered or mailed to the following:

TO CITY:	**TO CONTRACTOR:**
City of Lake Forest Park	Contractor: Johansen Construction Company
Contact Name: Katie Phillips	Contact Name: Shane Webley
Address: 17425 Ballinger Way NE Lake Forest Park, WA 98155	Address: P.O. Box 674 Buckley Buckley, WA 98321
Phone: 206-957-2812	Phone: 360-829-6493 x 103
Contact email: kphillips@cityoflfp.gov	Contact email: swebley@johansencci.com

23. **Public Records Disclosure**

23.1. Contractor acknowledges that the City is an agency governed by the public records disclosure requirements set forth in Chapter 42.56 RCW. Contractor shall fully cooperate with and assist the City with respect to any request for public records received by the City concerning any public records generated, produced, created and/or possessed by Contractor and related to the services performed under this Agreement. Upon written demand by the City, the Contractor shall furnish the City with full and complete copies of any such records within five (5) business days.

23.2. Contractor's failure to timely provide such records upon demand shall be deemed a material breach of this Agreement. To the extent that the City incurs any monetary penalties, attorneys' fees, and/or any other expenses as a result of such breach, Contractor shall fully indemnify and hold harmless City as set forth in Section 14.

23.3. The City is required to promptly make public records available upon request. However, under Washington State Law some records or portions of records may be considered legally exempt from disclosure. If the City receives a public disclosure request for any records or parts of records that Contractor has properly and specifically marked "Confidential", the City will notify Contractor in writing of the request and, as a courtesy, will allow Contractor up to ten business days to obtain and serve the City with a court injunction to prevent the City from releasing the records in accordance with RCW 42.56.540. If Contractor fails to obtain a Court order and serve the City within the ten days, the City may release the documents. The City will not assert an exemption from disclosure on Contractor's behalf. If Contractor believes that its records are exempt from disclosure, Contractor is obligated to seek an injunction under RCW 42.56.540. Contractor acknowledges that the City will have no obligation or liability to Contractor if the records are disclosed.

23.4. All written information submitted by the City to the Contractor in connection with the services performed by the Contractor under this Agreement will be safeguarded by the Contractor to at least the same extent as the Contractor safeguards like information relating to its own business. If such information is publicly available or is already in Contractor's possession or known to it, or is rightfully obtained by the Contractor from third parties, the Contractor shall bear no responsibility for its disclosure, inadvertent or otherwise.

23.5. For purposes of this section, the terms “public records” and “agency” shall have the same meaning as defined by Chapter 42.56 RCW, as said chapter has been construed by Washington courts.

23.6. The provisions of this section shall survive the expiration or termination of this Agreement.

24. **Appropriation, suspension, termination.**

24.1 The City’s funding for this Project comes in part from the Public Works Board Construction Funding Agreement, Agreement Number: PC25-96103-014 (“PWB Agreement”). Contractor agrees to be bound by all applicable terms of the PWB Agreement.

24.2 Contractor agrees that the Public Works Board and the State of Washington are not liable for claims or damages arising from Contractor’s performance under this Contract.

24.3 Contractor agrees to the following audit requirements:

24.3.1 If the Public Works Board requests an audit of the Project, Contractor will cooperate with such audit during this Contract and for six years following termination of this Contract, at its own expense;

24.3.2 Contractor shall maintain its records and accounts so as to facilitate this audit requirement; and

24.3.3 Contractor must respond to the City’s request for information concerning audit issues within thirty (30) days of the date of request.

24.4 If funding is not available at the time an invoice is submitted by Contractor per section 5, payment will be delayed until such time as funds become available. In such event, all work under this Contract will be suspended effective upon receipt by the Contractor of the City’s notice to suspend work. Upon receipt of the notice to suspend work, Contractor shall immediately suspend work under this Contract and take all reasonable steps necessary to minimize the cost of performance directly attributable to such suspension until the suspension is cancelled by the City. Such suspension shall be a suspension in the public interest under 2025 WSDOT Standard Specification section 1-08.6. If funding is not available within a reasonable amount of time, the City may terminate the for public convenience under 2025 WSDOT Standard Specification section 1-08.10(2).

24.5 If the PWB suspends or terminates the PWB Agreement, this Contract will be terminated when the City sends written notice to Contractor of the termination. Upon receipt of a notice to terminate, Contractor shall immediately suspend work under this Contract and take all reasonable steps necessary to minimize the cost of performance directly attributable to such termination. Such termination shall be a termination under 2025 WSDOT Standard Specification section 1-08.10(2).

24.6 After receipt of a notice of termination (“notice”), the Contractor shall, unless otherwise notified by the City:

24.6.1 Stop work under the Contract on the date, and to the extent specified, in the notice;

24.6.2. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the work under the Contract that is not terminated;

24.6.3 Agree to an assignment of the City’s interests in this Contract to the Public Works Board;

24.6.4. Complete performance on such part of the Work as shall not have been terminated by the City; and

24.6.5. Take such action as may be necessary, or as the City may direct, for the protection and preservation of the property related to this Contract.

24.7 In the event that the Washington State Legislature fails to pass and the Governor does not authorize a Capital Budget by June 30 of each biennium, the Washington State Constitution Article 8 and RCW 43.88.130 and RCW 43.88.290 prohibit expenditures or commitments of state funds in the absence of appropriation. In such event, all work under this Contract will be suspended effective July 1. The Contractor shall immediately suspend work under this Contract and take all reasonable steps necessary to minimize the cost of performance directly attributable to such suspension until the suspension is cancelled. The City shall notify the Contractor immediately upon lifting of the Contract suspension. Such suspension shall be a suspension in the public interest under 2025 WSDOT Standard Specification section 1-08.6.

CITY OF LAKE FOREST PARK, WASHINGTON		CONTRACTOR	
By:	_____	By:	_____
Name & Title:	Tom French, Mayor	Name & Title:	_____
Date:	_____	Date:	_____

Attest/Authenticated:	Approved as to Form:
_____	_____
City Clerk	City Attorney

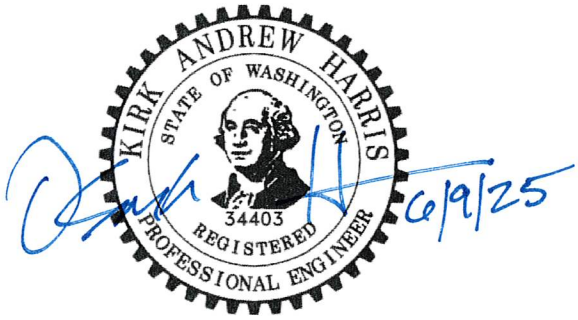
EXHIBIT A

Special Provisions

SPECIAL PROVISIONS

SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

The engineering material and data contained in the Plans and Specifications were prepared under supervision and direction of the undersigned, whose seal as a registered professional engineer or architect is affixed below.



Kirk A. Harris, PE
Transportation Solutions, Inc.

CONTENTS

INTRODUCTION TO THE SPECIAL PROVISIONS 1

DESCRIPTION OF WORK 2

1-01 DEFINITIONS AND TERMS 2
1-01.3 Definitions 2
1-02.2 Plans And Specifications 5
1-02.4 Examination of Plans, Specifications and Site of Work 5
1-02.4(1) General 5
1-02.5 Proposal Forms 6
1-02.6 Preparation of Proposal 6
1-02.7 Bid Deposit 7
1-02.9 Delivery of Proposal 7
1-02.10 Withdrawing, Revising, Or Supplementing Proposal 8
1-02.12 Public Opening Of Proposal 9
1-02.14(1) Supplemental Bidder Responsibility Criteria 13
1-02.15 Pre Award Information 13
1-02.16 Addenda and Interpretation of Documents 14

1-03 AWARD AND EXECUTION OF CONTRACT 14
1-03.1 Consideration Of Bids 14
1-03.1(1) Identical Bid Totals 14
1-03.3 Execution Of Contract 15
1-03.4 Contract Bond 15
1-03.7 Judicial Review 16

1-04 SCOPE OF THE WORK 17
1-04.2 Coordination Of Contract Documents, Plans, Special Provisions, Specifications, And Addenda 17
1-04.4 Changes 17
1-04.4(1) Minor Changes 17

1-05 CONTROL OF WORK 18
1-05.1 Authority of the Engineer 18
1-05.1(2) Requests for Information (RFI) 18
1-05.7 Removal Of Defective And Unauthorized Work 25
1-05.11 Final Inspection 28
1-05.11(1) Substantial Completion Date 28
1-05.11(2) Final Inspection and Physical Completion Date 29
1-05.11(3) Operational Testing 29
1-05.13 Superintendents, Labor And Equipment Of Contractor 30
1-05.14 Cooperation With Other Contractors 30
1-05.15 Method Of Serving Notices 30
1-05.16 Water And Power 31
1-05.18 Record Drawings 31

1-06 CONTROL OF MATERIAL 33
1-06.1 Approval Of Materials Prior To Use 33
1-06.1(4) Fabrication Inspection Expense 33
1-06.6 Recycled Materials 33

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC 33
1-07.1 Laws To Be Observed 33

1-07.1(2) Health and Safety 34
1-07.2 State Taxes 35
1-07.5 Environmental Regulations 36
1-07.6 Permits and Licenses 36
1-07.7 Load Limits 37
1-07.8 High Visibility Apparel 37
1-07.8(1) Traffic Control Personnel 37
1-07.9 Wages 38
1-07.9(1) General 38
1-07.9(5)A Required Documents 38
1-07.11(10)B Required Records and Retention 38
1-07.13 Contractor's Responsibility for Work 38
1-07.15 Temporary Water Pollution/Erosion Control 39
1-07.16 Protection and Restoration of Property 39
1-07.17 Utilities And Similar Facilities 40
1-07.18 Public Liability and Property Damage Insurance 42
1-07.23 Public Convenience And Safety 46
1-07.23 (1) Construction Under Traffic 47
1-07.23 (2) Construction and Maintenance of Detours 51
1-07.24 Rights Of Way 53

1-08 PROSECUTION AND PROGRESS 55
1-08.0 Preliminary Matters 55
1-08.0(1) Preconstruction Conference 55
1-08.0(2) Hours Of Work 56
1-08.1 Subcontracting 56
1-08.1(8)B Clauses Required in Subcontracts of All Tiers 57
1-08.3 Progress Schedule 57
1-08.3(2)A Type A Progress Schedule 57
1-08.4 Prosecution Of Work 57
1-08.5 Time For Completion 58
1-08.6 Suspension of Work 59
1-08.7 Maintenance During Suspension 60
1-08.9 Liquidated Damages 60

1-09 MEASUREMENT AND PAYMENT 61
1-09.1 Measurement of Quantities 61
1-09.1(1) Quantity Reporting Requirements 61
1-09.1(2) Estimated Quantities 61
1-09.2 Weighing Equipment 62
1-09.2(1) General Requirements For Weighing Equipment 62
1-09.2(5) Measurement 62
1-09.6 Force Account 62
1-09.6(1) Force Account Reporting Requirements 62
1-09.9 Payments 63
1-09.9(1) Retainage 64
1-09.11 Disputes and Claims 64
1-09.11(3) Time Limitation and Jurisdiction 64
1-09.13 Claims Resolution 64
1-09.13(1) Conditions Precedent to Binding Arbitration or Litigation 64
1-09.13(1)A General 64
1-09.13(3) Arbitration 65
1-09.13(3)A Arbitration General 65
1-09.13(4) Venue For Litigation 65

1-10 TEMPORARY TRAFFIC CONTROL 65

1-10.2 Traffic Control Management 66
1-10.2(1) General 66

DIVISION 2 – EARTHWORK **69**

2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP **69**
2-01.1 Description 69
2-01.2 Disposal of Usable Material and Debris 69
2-01.3 Construction Requirements 69
2-01.3(1) Clearing 70
2-01.3(3) Vacant 70
2-01.3(3) Tree Protection 70
2-01.4 Measurement 70
2-01.5 Payment 70

2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS **71**
2-02.1 Description 71
2-02.3 Construction Requirements 71
2-02.3(3) Removal of Pavement, Sidewalks, Curbs and Ramps 73
2-02.4 Measurement 74
2-02.5 Payment 74

2-03 ROADWAY EXCAVATION AND EMBANKMENT **75**
2-03.1 Description 75
2-03.4 Measurement 75
2-03.5 Payment 76

2-04 HAUL **76**
2-04.1 Description 76
2-04.5 Payment 76

2-06 SUBGRADE PREPARATION **76**
2-06.3 Construction Requirements 76
2-06.3(1) Subgrade for Surfacing 76
2-06.5 Payment 76

2-09 STRUCTURE EXCAVATION **77**
2-09.1 Description 77
2-09.3 Construction Requirements 77
2-09.3(1)D Disposal of Excavated Material 77
2-09.3(1) General Requirements 77
2-09.3(1)E Backfilling 77
2-09.5 Payment 77

DIVISION 3 - AGGREGATE PRODUCTION AND ACCEPTANCE **79**

3-01 PRODUCTION FROM QUARRY AND PIT SITES **79**
3-01.4 Contractor Furnished Material Sources 79

DIVISION 4 - BASES **81**

4-04 BALLAST AND CRUSHED SURFACING **81**
4-04.4 Measurement 81

DIVISION 5 - SURFACE TREATMENTS AND PAVEMENTS 83

5-04 HOT MIX ASPHALT 83
5-04.1 Description 83
5-04.2 Materials 83
5-04.2(1) How to Get an HMA Mix Design on the QPL 84
5-04.2(1)A – Vacant 84
5-04.2(2) Mix Design – Obtaining Project Approval 84
5-04.3 Construction Requirements 86
5-04.3(1) Weather Limitations 86
5-04.3(2)Paving Under Traffic 86
5-04.3(3)Equipment 86
5-04.3(3)A Mixing Plant 86
5-04.3(3)BHauling Equipment 87
5-04.3(3)C Pavers 88
5-04.3(3)DMaterial Transfer Device or Material Transfer Vehicle 88
5-04.3(3)ERollers 89
5-04.3(4)Preparation of Existing Paved Surfaces 89
5-04.3(4)ACrack Sealing 90
5-04.3(4)B Vacant 92
5-04.3(4)CPavement Repair 92
5-04.3(5) Producing/Stockpiling Aggregates and RAP 92
5-04.3(5)A Vacant 92
5-04.3(6)Mixing 92
5-04.3(7) Spreading and Finishing 93
5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA 94
5-04.3(9) HMA Mixture Acceptance 94
5-04.3(9)C1 Mixture Nonstatistical Evaluation – Lots and Sublots 95
5-04.3(9)C3 Mixture Nonstatistical Evaluation – Acceptance Testing 96
5-04.3(9)C4 Mixture Nonstatistical Evaluation – Pay Factors 97
5-04.3(9)C7 Mixture Nonstatistical Evaluation - Retests 97
5-04.3 (9)D Mixture Acceptance – Commercial Evaluation 98
5-04.3(10) HMA Compaction Acceptance 98
5-04.3(10)A HMA Compaction – General Compaction Requirements 99
5-04.3(10)B HMA Compaction – Cyclic Density 100
5-04.3(10)D HMA Nonstatistical Compaction 100
5-04.3(10)D1 HMA Nonstatistical Compaction – Lots and Sublots 100
5-04.3(10)D2 HMA Compaction Nonstatistical Evaluation – Acceptance Testing 100
5-04.3(10)D3 HMA Nonstatistical Compaction – Price Adjustments 101
5-04.3(11) Reject Work 101
5-04.3(11)A Reject Work General 101
5-04.3(11)B Rejection by Contractor 101
5-04.3(11)D Rejection - A Partial Sublot 102
5-04.3(11)E Rejection - An Entire Sublot 102
5-04.3(11)F Rejection - A Lot in Progress 102
5-04.3(11)G Rejection - An Entire Lot (Mixture or Compaction) 102
5-04.3(12) Joints 102
5-04.3(12)A HMA Joints 102
5-04.3(12)A1 Transverse Joints 102
5-04.3(12)A2 Longitudinal Joints 103
5-04.3(13) Surface Smoothness 103
5-04.3(14) Planing (Milling) Bituminous Pavement 104
5-04.3(15) Sealing Pavement Surfaces 108
5-04.3(16)HMA Road Approaches 108
5-04.4 Measurement 109

5-04.5 Payment 109

SECTION 5-05 CEMENT CONCRETE PAVEMENT **112**
5-05.1 Description 112
5-05.2 Materials 112
5-05.3 Construction Requirements 113
5-05.4 Measurement 114
5-05.5 Payment 114

DIVISION 6 - STRUCTURES **116**

6-16 SOLDIER PILE AND SOLDIER PILE TIEBACK WALLS **116**
6-16.3 Construction Requirements 116
6-16.4 Measurement 116
6-16.5 Payment 116

6-18 SHOTCRETE **116**
6-18.2 Materials 116
6-18.3 Construction Requirements 117

DIVISION 7 - DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND CONDUITS **119**

7-04 STORM SEWERS **119**
7-04.1 Description 119
7-04.3 Construction Requirements 119
7-04.4 Measurement 119
7-04.5 Payment 120
7-05.3 Construction Requirements 120
7-05.3(1) Adjusting Manholes and Catch Basins to Grade 121
7-05.3(5) Adjust and Replace Catch Basin Frame and Grate 121
7-05.3(6) Connection to Existing Pipe, Catch Basin, Curb Inlet, or Manhole 121
7-05.4 Measurement 122
7-05.5 Payment 122

7-07 CLEANING EXISTING DRAINAGE STRUCTURES **123**
7-07.3 Construction Requirements 123
7-07.5 Payment 123

7-08 GENERAL PIPE INSTALLATION REQUIREMENTS **124**
7-08.3 Construction Requirements 124
7-08.3(1) Excavation and Preparation of Trench 124
7-08.3(1)A Trenches 124
7-08.3(2) Laying Pipe 126
7-08.3(2)B Pipe Laying – General 126
7-08.3(3) Backfilling 126
7-08.4 Measurement 127
7-08.5 Payment 127

7-09 WATER MAINS **127**
7-09.1 Description 127
7-09.2 Materials 128
7-09.3 Construction Requirements 128
7-09.5 Payment 128

7-12 VALVES FOR WATER MAINS 129
7-12.1 Description 129
7-12.2 Materials 129
7-12.3 Construction Requirements 129
7-12.4 Measurement 130
7-12.5 Payment 130

7-14 HYDRANTS 131
7-14.1 Description 131
7-14.5 Payment 131

7-15 SERVICE CONNECTIONS 131
7-15.1 Description 131
7-15.3 Construction Requirements 131
7-15.3(2) New Meter Setters and Boxes (New Section) 132
7-15.4 Measurement 132
7-15.5 Payment 132

7-16 STORMWATER DETENTION AND TREATMENT VAULTS 133
7-16.1 Description 133
7-16.1(1) Manufacturer 133
7-16.1(2) Submittals 133
7-16.2 Materials 134
7-16.2(1) Manhole Components 134
7-16.2(2) Contractor-Provided Components 134
7-16.3 Construction Requirements 134
7-16.3(1) Stormwater Detention Vault 134
7-16.3(2) Oil/Water Separator Vault 134
7-16.3(3) Bayfilter Stormwater Vault 134
7-16.3(4) Biopod Biofilter Vault 135
7-16.4 Measurement 135
7-16.5 Payment 135

DIVISION 8 - MISCELLANEOUS CONSTRUCTION 137

8-01 EROSION CONTROL AND WATER POLLUTION CONTROL 137
8-01.1 Description 137
8-01.3 Construction Requirements 137
8-01.3(1) General 138
8-01.3(1)A Submittals 138
8-01.3(1)B Erosion and Sediment Control (ESC) Lead 139
8-01.3(8) Street Cleaning 139
8-01.3(15) Maintenance 140
8-01.3(16) Removal 140
8-01.4 Measurement 140
8-01.5 Payment 140

8-02 ROADSIDE RESTORATION 141
8-02.1 Description 141
8-02.3 Construction Requirements 141
8-02.3(1) Responsibility During Construction 142
8-02.3(2)A Roadside Work Plan 142
8-02.3(2)B Weed and Pest Control Plan 142
8-02.3(2)C Plant Establishment Plan 143
8-02.3(3) Weed and Pest Control 143

8-02.3(4) Topsoil 143
8-02.3(4)C Topsoil Type C 144
8-02.3(12) Completion of Initial Planting 144
8-02.3(13) Plant Establishment 144
8-02.4 Measurement 144
8-02.5 Payment 145

8-03 IRRIGATION SYSTEMS **145**
8-03.1 Description 145
8-03.3 Construction Requirements 145
8-03.3(6) Electrical Wire Installation 145
8-03.3(7)B Irrigation Sleeves 146
8-03.3(10) As Built Plans 146
8-03.4 Measurement 146
8-03.5 Payment 146

8-04 CURBS, GUTTERS, AND SPILLWAYS **147**
8-04.3 Construction Requirements 147
8-04.3(1) Cement Concrete Curbs, Gutters, and Spillways 147

8-06 CEMENT CONCRETE DRIVEWAY ENTRANCES **148**
8-06.1 Description 148
8-06.2 Materials 149
8-06.3 Construction Requirements 149
8-06.4 Measurement 149
8-06.5 Payment 149

8-12 CHAIN LINK FENCE AND WIRE FENCE **149**
8-12.1 Description 149
8-12.2 Materials 150
8-12.4 Measurement 150
8-12.5 Payment 150

8-13 MONUMENT CASES **150**
8-13.1 Description 150
8-13.3 Construction Requirements 150
8-13.4 Measurement 151
8-13.5 Payment 151

8-14 CEMENT CONCRETE SIDEWALKS **151**
8-14.3 Construction Requirements 151
8-14.4 Measurement 152
8-14.5 Payment 153

8-18 MAILBOX SUPPORT **153**
8-18.1 Description 153
8-18.3 Construction Requirements 153
8-18.4 Measurement 153
8-18.5 Payment 153

8-21 PERMANENT SIGNING **154**
8-21.1 Description 154
8-21.5 Payment 155

8-22 PAVEMENT MARKING **155**

8-22.1 Description 155
8-22.2 Materials 155
8-22.3 Construction Requirements 155
8-22.3(1) Preliminary Spotting 155
8-22.3(3)G Glass Beads 155

8-24 ROCK AND GRAVITY BLOCK WALL AND GABION CRIBBING **156**
8-24.1 Description 156
8-24.2 Materials 156
8-24.3 Construction Requirements 156
8-24.3(2) Gravity Block Wall 157
8-24.4 Measurement 158
8-24.5 Payment 158

DIVISION 9 - MATERIALS **160**

9-03 AGGREGATES **160**
9-03.8 Aggregates for Hot Mix Asphalt 160
9-03.8(2) HMA Test Requirements 160
9-03.8(7) HMA Tolerances and Adjustments 160

9-14 EROSION CONTROL AND ROADSIDE PLANTING **160**
9-14.2(1) Topsoil Type A 160
9-14.2(1)A References 160
9-14.2(1)B Submittals 161
9-14.2(1)C Quality Assurance 161
9-14.2(1)D Guarantee 161
9-14.2(1)E Sequencing and Scheduling 161
9-14.2(1)F Maintenance 161
9-14.2(1)G Compost 161
9-14.2(1)H Mulch 162
9-14.2(1)I Imported Topsoil 162
9-14.2(1)K Preparation 162
9-14.2(1)L Subgrades 162
9.-4.2(1)M Amendment 162
9-14.2(1)N Inspection and Verification 163
9-14.2(1)O Final Acceptance 164
9-14.8 Stakes, Guys, and Wrapping 164

9-15 IRRIGATION SYSTEM **164**
9-15.1(2) Polyvinyl Chloride Pipe and Fittings 164

APPENDIX A: Prevailing Wage Rates – King County **175**

APPENDIX B: LFPWD Specifications **176**

APPENDIX C: Standard Plans **177**

APPENDIX D: Geotechnical Information **178**

APPENDIX E: Utility Relocation Work By Others Information **179**

APPENDIX F: Contract Plans **180**

SPECIAL PROVISIONS

FOR

SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

INTRODUCTION TO THE SPECIAL PROVISIONS

(January 4, 2024 APWA GSP, Option A)

The work on this project shall be accomplished in accordance with the *Standard Specifications for Road, Bridge and Municipal Construction*, 2025 edition, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter "Standard Specifications"). The Standard Specifications, as modified or supplemented by these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.

These Special Provisions are made up of both General Special Provisions (GSPs) from various sources, which may have project-specific fill-ins; and project-specific Special Provisions. Each Provision either supplements, modifies, or replaces the comparable Standard Specification, or is a new Provision. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

The GSPs are labeled under the headers of each GSP, with the effective date of the GSP and its source. For example:

(March 8, 2013 APWA GSP)
(April 1, 2013 WSDOT GSP)
(May 1, 2013 LFP GSP) Lake Forest Park GSP

Project specific special provisions are labeled without a date as such:
(*****)

Also incorporated into the Contract Documents by reference are:

- *Manual on Uniform Traffic Control Devices for Streets and Highways*, currently adopted edition, with Washington State modifications, if any
- *Standard Plans for Road, Bridge and Municipal Construction*, WSDOT Manual M21-01, current edition

Contractor shall obtain copies of these publications, at Contractor's own expense.

(*****)
Where a Standard Specification is identified as "vacant" the Standard Specification is not being supplemented, modified, or replaced.

DESCRIPTION OF WORK

(March 13, 1995 WSDOT GSP)

This Contract provides for the improvement "of the intersection of SR 104 (Ballinger Way NE) and 40th Place NE, including construction of a roundabout, earthwork and grading, retaining walls, full depth pavement replacement, planing and overlay of roadways, storm drainage, and waterline improvements, adjusting utility appurtenances, cement concrete curb, gutter, and sidewalk, driveway improvements, channelization and signing, landscaping, an irrigation system, off-site tree planting, and other related items of work" all in accordance with the Contract Plans, Special Provisions, the Standard Specifications, and Standard Plans.

1-01 DEFINITIONS AND TERMS

1-01.3 Definitions

(January 19, 2022 APWA GSP)

Delete the heading **Completion Dates** and the three paragraphs that follow it, and replace them with the following:

Dates

Bid Opening Date
The date on which the Contracting Agency publicly opens and reads the Bids.

Award Date
The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive Bidder for the Work.

Contract Execution Date
The date the Contracting Agency officially binds the Agency to the Contract.

Notice to Proceed Date
The date stated in the Notice to Proceed on which the Contract time begins.

Substantial Completion Date
The day the Engineer determines the Contracting Agency has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, any remaining traffic disruptions will be rare and brief, and only minor incidental work, replacement of temporary substitute facilities, plant establishment periods, or correction or repair remains for the Physical Completion of the total Contract.

Physical Completion Date
The day all of the Work is physically completed on the project. All documentation required by the Contract and required by law does not necessarily need to be furnished by the Contractor by this date.

Completion Date
The day all the Work specified in the Contract is completed and all the obligations of the Contractor under the contract are fulfilled by the Contractor. All documentation required by the Contract and required by law must be furnished by the Contractor before establishment of this date.

Final Acceptance Date
The date on which the Contracting Agency accepts the Work as complete.

Supplement this Section with the following:

All references in the Standard Specifications or WSDOT General Special Provisions, to the terms “Department of Transportation”, “Washington State Transportation Commission”, “Commission”, “Secretary of Transportation”, “Secretary”, “Headquarters”, and “State Treasurer” shall be revised to read “Contracting Agency”.

All references to the terms “State” or “state” shall be revised to read “Contracting Agency” unless the reference is to an administrative agency of the State of Washington, a State statute or regulation, or the context reasonably indicates otherwise.

All references to “State Materials Laboratory” shall be revised to read “Contracting Agency designated location”.

All references to “final contract voucher certification” shall be interpreted to mean the Contracting Agency form(s) by which final payment is authorized, and final completion and acceptance granted.

Additive
A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

Alternate
One of two or more units of work or groups of bid items, identified separately in the Bid Proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

Business Day
A business day is any day from Monday through Friday except holidays as listed in Section 1-08.5.

Contract Bond
The definition in the Standard Specifications for “Contract Bond” applies to whatever bond form(s) are required by the Contract Documents, which may be a combination of a Payment Bond and a Performance Bond.

Contract Documents
See definition for “Contract”.

Contract Time
The period of time established by the terms and conditions of the Contract within which the Work must be physically completed.

Notice of Award
The written notice from the Contracting Agency to the successful Bidder signifying the Contracting Agency’s acceptance of the Bid Proposal.

Notice to Proceed
The written notice from the Contracting Agency or Engineer to the Contractor authorizing and directing the Contractor to proceed with the Work and establishing the date on which the Contract time begins.

Traffic
Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrian traffic.

(*****)
The terms defined in Section 1-01.3 of the Standard Specifications shall be further described by the following:

Contracting Agency
City of Lake Forest Park
17425 Ballinger Way NE
Lake Forest Park, WA 98155

The terms “Contracting Agency”, “Agency” and “Owner” are interchangeable.

Engineer
City of Lake Forest Park
17425 Ballinger Way NE
Lake Forest Park, WA 98155

Inspector
The Contracting Agency’s designated Inspector (Resident Engineer) who observes the Contractor’s performance.

Working Drawings
Working drawings are further defined as electrical diagrams, catalog cut sheets, manufacturer's informational sheets describing salient features, performance curves, or samples of fabricated and manufactured items (including mechanical and electrical equipment) required for the construction project.

1-02 BID PROCEDURES AND CONDITIONS

1-02.1 Prequalification of Bidders

Delete this section and replace it with the following:

1-02.1 Qualifications of Bidder
(January 24, 2011 APWA GSP)

Before award of a public works contract, a bidder must meet at least the minimum qualifications of RCW 39.04.350(1) to be considered a responsible bidder and qualified to be awarded a public works project.

1-02.2 Plans And Specifications

Delete this section and replace it with the following:

(******)
Informational copies of Plans and Specifications are available for inspection at the City of Lake Forest Park Public Works Department.

Contract Documents, including plans, specifications, and price quotation proposal forms may be obtained **FREE OF CHARGE through the City of Lake Forest Park's online plan room (http://bxwa.com then click on "Posted Projects"; "Public Works"; "City of Lake Forest Park"; and "Projects Bidding").** Bidders may register in order to receive automatic email notification of future addenda and to be placed on the "Bidders List." This online plan room provides Bidders with fully usable on-line documents with the ability to download, print to your own printer, order full/partial plan sets from numerous reprographic sources (online print order form), and a free online digitizer/takeoff tool. Contact Builders Exchange of Washington at (425) 258-1303 for assistance.

The following Conformed Contract Documents, after contract execution, will be furnished without charge:

To Prime Contractor	No. of Sets	Basis of Distribution
Conformed Contract Documents with Reduced plans (half scale)	1	Furnished
CD Including Conformed Contract Documents	1	Furnished
Large Plans (full scale)	2	Furnished

1-02.4 Examination of Plans, Specifications and Site of Work

1-02.4(1) General

(December 30, 2022 APWA GSP Option B)

The first sentence of the ninth paragraph, beginning with "Prospective Bidder desiring…", is revised to read:

Prospective Bidders desiring an explanation or interpretation of the Bid Documents, shall request the explanation or interpretation in writing by close of business 5 business days preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of their Bids.

1-02.5 Proposal Forms

(November 25, 2024 APWA GSP)

Delete this section and replace it with the following:

The Proposal Form will identify the project and its location and describe the work. It will also list estimated quantities, units of measurement, the items of work, and the materials to be furnished at the unit bid prices. The bidder shall complete spaces on the proposal form that call for, but are not limited to, unit prices; extensions; summations; the total bid amount; signatures; date; and, where applicable, retail sales taxes and acknowledgment of addenda; the bidder's name, address, telephone number, and signature; the bidder's DBE commitment, if applicable; a State of Washington Contractor's Registration Number; and a Business License Number, if applicable. Bids shall be in legible figures (not words) written in ink or typed and expressed in U.S. dollars. The required certifications are included as part of the Proposal Form.

The Contracting Agency reserves the right to arrange the proposal forms with alternates and additives, if such be to the advantage of the Contracting Agency. The bidder shall bid on all alternates and additives set forth in the Proposal Form unless otherwise specified.

1-02.6 Preparation of Proposal

(November 25, 2024 APWA GSP 1-02.6, Option B)

Supplement the second paragraph with the following:

4. If a minimum bid amount has been established for any item, the unit or lump sum price must equal or exceed the minimum amount stated.

Delete the last two paragraphs, and replace them with the following:

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form, provided by the Contracting Agency. Failure to return this certification as part of the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.

The Bidder shall make no stipulation on the Bid Form, nor qualify the bid in any manner.

A bid by a corporation shall be executed in the corporate name, by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign).

A bid by a partnership shall be executed in the partnership name and signed by a partner.

A bid by a joint venture shall be executed in the joint venture name and signed by a member of the joint venture.

1-02.7 Bid Deposit

(March 8, 2013 APWA GSP)

Supplement this section with the following:

Bid bonds shall contain the following:

1. Contracting Agency-assigned number for the project;

2. Name of the project;

3. The Contracting Agency named as obligee;

4. The amount of the bid bond stated either as a dollar figure or as a percentage which represents five percent of the maximum bid amount that could be awarded;

5. Signature of the bidder's officer empowered to sign official statements. The signature of the person authorized to submit the bid should agree with the signature on the bond, and the title of the person must accompany the said signature;

6. The signature of the surety's officer empowered to sign the bond and the power of attorney.

If so stated in the Contract Provisions, bidder much use the bond form included in the Contract Provisions.

If so stated in the Contract Provisions, cash will not be accepted for a bid deposit.

(*****)
Supplement this section with the following:

Bid Bond form shall be fully completed including execution date and signature date.

1-02.9 Delivery of Proposal

(*****)

Delete this section, and replace it with the following:

Each Proposal shall be submitted in a sealed envelope, with the Project Name and Project Number as stated in the Call for Bids clearly marked on the outside of the envelope, or as otherwise required in the Bid Documents, to ensure proper handling and delivery.

All bid envelopes must be in an opaque envelope and plainly marked on the outside:

Proposal for Contract
(Name of Bidder)
Project Name: **SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT**
Project Number: **AG-25-026**

The completed Bid Proposal Form and any other documents required in accordance with the Special Provisions, shall be received at the following location prior to the time specified in the Invitation to Bid:

City of Lake Forest Park
City Hall
17425 Ballinger Way NE
Lake Forest Park, WA 98155

No oral, telephonic, or telegraphic bids or modifications will be considered.

Proposals that are received as required will be publicly opened and read as specified in Section 1-02.12. The Contracting Agency will not open or consider any Bid Proposal that is received after the time specified in the Call for Bids for receipt of Bid Proposals, or received in a location other than that specified in the Call for Bids.

If an emergency or unanticipated event interrupts normal work processes of the Contracting Agency so that Proposals cannot be received at the office designated for receipt of bids as specified in Section 1-02.12 the time specified for receipt of the Proposal will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which the normal work processes of the Contracting Agency resume.

1-02.10 Withdrawing, Revising, Or Supplementing Proposal

(July 23, 2015 APWA GSP)

Delete this section, and replace it with the following:

After submitting a physical Bid Proposal to the Contracting Agency, the Bidder may withdraw, revise, or supplement it if:

1. The Bidder submits a written request signed by an authorized person and physically delivers it to the place designated for receipt of Bid Proposals, and
2. The Contracting Agency receives the request before the time set for receipt of Bid Proposals, and
3. The revised or supplemented Bid Proposal (if any) is received by the Contracting Agency before the time set for receipt of Bid Proposals.

If the Bidder's request to withdraw, revise, or supplement its Bid Proposal is received before the time set for receipt of Bid Proposals, the Contracting Agency will return the unopened Proposal package to the Bidder. The Bidder must then submit the revised or supplemented package in its entirety. If the Bidder does not submit a revised or supplemented package, then its bid shall be considered withdrawn.

Late revised or supplemented Bid Proposals or late withdrawal requests will be date recorded by the Contracting Agency and returned unopened. Mailed, emailed, or faxed requests to withdraw, revise, or supplement a Bid Proposal are not acceptable.

1-02.12 Public Opening Of Proposal

Section 1-02.12 is supplemented with the following:

(******)

Date of Opening Bids

The bid opening date for this project is identified in the Invitation to Bid.

Sealed bids will be received by the City of Lake Forest Park Department of Public Works in **LAKE FOREST PARK, WASHINGTON** as stated in the invitation to bidders for performing the work described. Sealed bids received will be opened and publicly read aloud or shortly thereafter. Bids received after this time will not be considered. The City Administrator will make a recommendation of award to the City Council.

1-02.13 Irregular Proposals

(September 3, 2024 APWA GSP)

Delete this section and replace it with the following:

1. A Proposal will be considered irregular and will be rejected if:
   a. The Bidder is not prequalified when so required;
   b. The Bidder adds provisions reserving the right to reject or accept the Award, or enter into the Contract;
   c. A price per unit cannot be determined from the Bid Proposal;
   d. The Proposal form is not properly executed;
   e. The Bidder fails to submit or properly complete a subcontractor list (WSDOT Form 271-015), if applicable, as required in Section 1-02.6;
   f. The Bidder fails to submit or properly complete a Disadvantaged Business Enterprise Certification (WSDOT Form 272-056), if applicable, as required in Section 1-02.6;
   g. The Bidder fails to submit Written Confirmations (WSDOT Form 422-031) from each DBE firm listed on the Bidder's completed DBE Utilization Certification that they are in agreement with the bidder's DBE participation commitment, if applicable, as required in Section 1-02.6, or if the written confirmation that is submitted fails to meet the requirements of the Special Provisions;
   h. The Bidder fails to submit DBE Good Faith Effort documentation, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to demonstrate that a Good Faith Effort to meet the Condition of Award in accordance with Section 1-07.11;
   i. The Bidder fails to submit a DBE Bid Item Breakdown (WSDOT Form 272-054), if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;
   j. The Bidder fails to submit the Bidder Questionnaire (DOT Form 272-022), if applicable as required by Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions; or
   k. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation.

2. A Proposal may be considered irregular and may be rejected if:
   a. The Proposal does not include a unit price for every Bid item;

b. Any of the unit prices are excessively unbalanced (either above or below the amount of a reasonable Bid) to the potential detriment of the Contracting Agency;
c. The authorized Proposal Form furnished by the Contracting Agency is not used or is altered;
d. The completed Proposal form contains unauthorized additions, deletions, alternate Bids, or conditions;
e. Receipt of Addenda is not acknowledged;
f. A member of a joint venture or partnership and the joint venture or partnership submit Proposals for the same project (in such an instance, both Bids may be rejected); or
g. If Proposal form entries are not made in ink.

1-02.14 Disqualification of Bidders

(May 17, 2018 APWA GSP, Option B)

Delete this section and replace it with the following:

A Bidder will be deemed not responsible if the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1), as amended; or does not meet Supplemental Criteria 1-7 listed in this Section.

The Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria in RCW 39.04.350(1), and Supplemental Criteria 1-2. Evidence that the Bidder meets Supplemental Criteria 3-7 shall be provided by the Bidder as stated later in this Section.

1. **Delinquent State Taxes**

A Criterion: The Bidder shall not owe delinquent taxes to the Washington State Department of Revenue without a payment plan approved by the Department of Revenue.

B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder does not owe delinquent taxes to the Washington State Department of Revenue, or if delinquent taxes are owed to the Washington State Department of Revenue, the Bidder must submit a written payment plan approved by the Department of Revenue, to the Contracting Agency by the deadline listed below.

2. **Federal Debarment**

A Criterion: The Bidder shall not currently be debarred or suspended by the Federal government.

B. Documentation: The Bidder shall not be listed as having an “active exclusion” on the U.S. government’s “System for Award Management” database (www.sam.gov).

3. **Subcontractor Responsibility**

A Criterion: The Bidder's standard subcontract form shall include the subcontractor responsibility language required by RCW 39.06.020, and the Bidder shall have an established procedure which it utilizes to validate the responsibility of each of its subcontractors. The Bidder's subcontract form shall also include a requirement that each of its subcontractors shall have and document a similar procedure to determine whether the sub-tier subcontractors with whom it contracts are also "responsible" subcontractors as defined by RCW 39.06.020.

B. Documentation: The Bidder, if and when required as detailed below, shall submit a copy of its standard subcontract form for review by the Contracting Agency, and a written description of its procedure for validating the responsibility of subcontractors with which it contracts.

4. **Claims Against Retainage and Bonds**

A Criterion: The Bidder shall not have a record of excessive claims filed against the retainage or payment bonds for public works projects in the three years prior to the bid submittal date, that demonstrate a lack of effective management by the Bidder of making timely and appropriate payments to its subcontractors, suppliers, and workers, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

B. Documentation: The Bidder, if and when required as detailed below, shall submit a list of the public works projects completed in the three years prior to the bid submittal date that have had claims against retainage and bonds and include for each project the following information:

- Name of project
- The owner and contact information for the owner;
- A list of claims filed against the retainage and/or payment bond for any of the projects listed;
- A written explanation of the circumstances surrounding each claim and the ultimate resolution of the claim.

5. **Public Bidding Crime**

A Criterion: The Bidder and/or its owners shall not have been convicted of a crime involving bidding on a public works contract in the five years prior to the bid submittal date.

B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder and/or its owners have not been convicted of a crime involving bidding on a public works contract.

6. **Termination for Cause / Termination for Default**

A Criterion: The Bidder shall not have had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to

the bid submittal date, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to the bid submittal date; or if Bidder was terminated, describe the circumstances. .

7. **Lawsuits**

A Criterion: The Bidder shall not have lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency

B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, or shall submit a list of all lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date, along with a written explanation of the circumstances surrounding each such lawsuit. The Contracting Agency shall evaluate these explanations to determine whether the lawsuits demonstrate a pattern of failing to meet of terms of construction related contracts.

As evidence that the Bidder meets the Supplemental Criteria stated above, the apparent low Bidder must submit to the Contracting Agency by 12:00 P.M. (noon) of the second business day following the bid submittal deadline, a written statement verifying that the Bidder meets the supplemental criteria together with supporting documentation (sufficient in the sole judgment of the Contracting Agency) demonstrating compliance with the Supplemental Criteria. The Contracting Agency reserves the right to request further documentation as needed from the low Bidder and documentation from other Bidders as well to assess Bidder responsibility and compliance with all bidder responsibility criteria. The Contracting Agency also reserves the right to obtain information from third-parties and independent sources of information concerning a Bidder's compliance with the mandatory and supplemental criteria, and to use that information in their evaluation. The Contracting Agency may consider mitigating factors in determining whether the Bidder complies with the requirements of the supplemental criteria.

The basis for evaluation of Bidder compliance with these mandatory and supplemental criteria shall include any documents or facts obtained by Contracting Agency (whether from the Bidder or third parties) including but not limited to: (i) financial, historical, or operational data from the Bidder; (ii) information obtained directly by the Contracting Agency from others for whom the Bidder has worked, or other public agencies or private enterprises; and (iii) any additional information obtained by the Contracting Agency which is believed to be relevant to the matter.

If the Contracting Agency determines the Bidder does not meet the bidder responsibility criteria above and is therefore not a responsible Bidder, the Contracting Agency shall notify the Bidder in writing, with the reasons for its determination. If the Bidder disagrees with this determination, it may appeal the determination within two (2) business days of the Contracting Agency's determination by presenting its appeal and any additional information to the Contracting Agency. The Contracting Agency will consider the appeal and any additional information before issuing its final determination. If the final determination affirms that the Bidder is not responsible, the Contracting Agency will not execute a contract with any other Bidder until at least two business days after the Bidder determined to be not responsible has received the Contracting Agency's final determination.

Request to Change Supplemental Bidder Responsibility Criteria Prior To Bid: Bidders with concerns about the relevancy or restrictiveness of the Supplemental Bidder Responsibility Criteria may make or submit requests to the Contracting Agency to modify the criteria. Such requests shall be in writing, describe the nature of the concerns, and propose specific modifications to the criteria. Bidders shall submit such requests to the Contracting Agency no later than five (5) business days prior to the bid submittal deadline and address the request to the Project Engineer or such other person designated by the Contracting Agency in the Bid Documents.

1-02.14(1) Supplemental Bidder Responsibility Criteria

(*****)

Add this new section as follows:

For the purpose of Section 1-02.14, the criterion, "Bidder" shall include the registered construction company submitting the bid, as well as the owner(s) of the company and any other construction companies the owner(s) may currently or previously have owned.

1-02.15 Pre Award Information

(December 30, 2022 APWA GSP)

Revise this section to read:

Before awarding any contract, the Contracting Agency may require one or more of these items or actions of the apparent lowest responsible bidder:

1. A complete statement of the origin, composition, and manufacture of any or all materials to be used,
2. Samples of these materials for quality and fitness tests,
3. A progress schedule (in a form the Contracting Agency requires) showing the order of and time required for the various phases of the work,
4. A breakdown of costs assigned to any bid item,
5. Attendance at a conference with the Engineer or representatives of the Engineer,
6. Obtain, and furnish a copy of, a business license to do business in the city or county where the work is located.

7. Any other information or action taken that is deemed necessary to ensure that the bidder is the lowest responsible bidder.

1-02.16 Addenda and Interpretation of Documents

(*****)

Add this new section as follows:

No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation shall be submitted in writing, addressed to the Engineer, and to be given consideration, shall be received at least ten (10) days prior to date fixed for Bid Opening. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Specifications which, if issued, will be mailed or otherwise delivered to each prospective bidder. Failure of any bidder to receive any such addendum shall not relieve such bidder from any obligation under this bid as submitted. All addenda so issued shall become a part of the Contract documents.

1-03 AWARD AND EXECUTION OF CONTRACT

1-03.1 Consideration Of Bids

(December 30, 2022 APWA GSP)

Revise the first paragraph to read:

After opening and reading proposals, the Contracting Agency will check them for correctness of extensions of the prices per unit and the total price. If a discrepancy exists between the price per unit and the extended amount of any bid item, the price per unit will control. If a minimum bid amount has been established for any item and the bidder's unit or lump sum price is less than the minimum specified amount, the Contracting Agency will unilaterally revise the unit or lump sum price, to the minimum specified amount and recalculate the extension. The total of extensions, corrected where necessary, including sales taxes where applicable and such additives and/or alternates as selected by the Contracting Agency, will be used by the Contracting Agency for award purposes and to fix the Awarded Contract Price amount and the amount of the contract bond.

1-03.1(1) Identical Bid Totals

(*****)

Revise this section to read:

After opening Bids, if two or more lowest responsive Bid totals are exactly equal, then the tie-breaker will be the Bidder with an equal lowest bid, that proposed the lowest Bid for Schedule A. If the bid amounts for Schedule A are identical, the next tie-breaker will be the Bidder with the lowest Bid for Schedule B. If the bid amounts for Schedule A and Schedule B are identical, the next tie-breaker will be the Bidder with the lowest Bid for Schedule C. If all schedule amounts are exactly equal, then the tie-breaker will be determined by drawing

as follows: Two or more slips of paper will be marked as follows: one marked “Winner” and the other(s) marked “unsuccessful”. The slips will be folded to make the marking unseen. The slips will be placed inside a box. One authorized representative of each Bidder shall draw a slip from the box. Bidders shall draw in alphabetic order by the name of the firm as registered with the Washington State Department of Licensing. The slips shall be unfolded and the firm with the slip marked “Winner” will be determined to be the successful Bidder and eligible for Award of the Contract. Only those Bidders who submitted a Bid total that is exactly equal to the lowest responsive Bid, and with a proposed recycled materials percentage that is exactly equal to the highest proposed recycled materials amount, are eligible to draw.

1-03.3 Execution Of Contract

(July 8, 2024 APWA GSP Option A)

Revise this section to read:

Within 3 calendar days of Award date (not including Saturdays, Sundays and Holidays), the successful Bidder shall provide the information necessary to execute the Contract to the Contracting Agency. The Bidder shall send the contact information, including the full name, email address, and phone number, for the authorized signer and bonding agent to the Contracting Agency.

Copies of the Contract Provisions, including the unsigned Form of Contract, will be available for signature by the successful bidder on the first business day following award. The number of copies to be executed by the Contractor will be determined by the Contracting Agency.

Within **Twenty (20)** calendar days after the award date, the successful bidder shall return the signed Contracting Agency-prepared contract, an insurance certification as required by Section 1-07.18, a satisfactory bond as required by law and Section 1-03.4, the Transfer of Coverage form for the Construction Stormwater General Permit with sections I, III, and VIII completed when provided. Before execution of the contract by the Contracting Agency, the successful bidder shall provide any pre-award information the Contracting Agency may require under Section 1-02.15.

Until the Contracting Agency executes a contract, no proposal shall bind the Contracting Agency nor shall any work begin within the project limits or within Contracting Agency-furnished sites. The Contractor shall bear all risks for any work begun outside such areas and for any materials ordered before the contract is executed by the Contracting Agency.

If the bidder experiences circumstances beyond their control that prevents return of the contract documents within the calendar days after the award date stated above, the Contracting Agency may grant up to a maximum of **Ten (10)** additional calendar days for return of the documents, provided the Contracting Agency deems the circumstances warrant it.

1-03.4 Contract Bond

(July 23, 2015 APWA GSP)

Delete the first paragraph and replace it with the following:

The successful bidder shall provide executed payment and performance bond(s) for the full contract amount. The bond may be a combined payment and performance bond; or be separate payment and performance bonds. In the case of separate payment and performance bonds, each shall be for the full contract amount. The bond(s) shall:

1. Be on Contracting Agency-furnished form(s);
2. Be signed by an approved surety (or sureties) that:
   a. Is registered with the Washington State Insurance Commissioner, and
   b. Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner,
3. Guarantee that the Contractor will perform and comply with all obligations, duties, and conditions under the Contract, including but not limited to the duty and obligation to indemnify, defend, and protect the Contracting Agency against all losses and claims related directly or indirectly from any failure:
   a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of the Contractor) to faithfully perform and comply with all contract obligations, conditions, and duties, or
   b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to pay all laborers, mechanics, subcontractors, lower tier subcontractors, material person, or any other person who provides supplies or provisions for carrying out the work;
4. Be conditioned upon the payment of taxes, increases, and penalties incurred on the project under titles 50, 51, and 82 RCW; and
5. Be accompanied by a power of attorney for the Surety's officer empowered to sign the bond; and
6. Be signed by an officer of the Contractor empowered to sign official statements (sole proprietor or partner). If the Contractor is a corporation, the bond(s) must be signed by the president or vice president, unless accompanied by written proof of the authority of the individual signing the bond(s) to bind the corporation (i.e., corporate resolution, power of attorney, or a letter to such effect signed by the president or vice president).

1-03.7 Judicial Review

(*****)

Revise this section to read:

All decisions made by the Contracting Agency regarding the Award and execution of the Contract or Bid rejection shall be conclusive subject to the scope of judicial review permitted under Washington Law. Such review, if any, shall be timely filed in the Superior Court of King County.

1-04 SCOPE OF THE WORK

1-04.2 Coordination Of Contract Documents, Plans, Special Provisions, Specifications, And Addenda

(December 30, 2022 APWA GSP)

Revise the second paragraph to read:

Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):

1. Change Order(s) where most recent Change Order presides over previous change order(s),
2. City of Lake Forest Park Construction Contract,
3. Addenda,
4. Proposal Form,
5. Special Provisions,
6. Contract Plans,
7. Standard Specifications,
8. Contracting Agency's Standard Plans or Details (if any), and
9. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

1-04.4 Changes

(January 19, 2022 APWA GSP)

The first two sentences of the last paragraph of Section 1-04.4 are deleted.

1-04.4(1) Minor Changes

(*****)

Section 1-04.4(1) is supplemented as follows:

Unexpected Site Changes

Payments or credits for changes amounting to $20,000 or less may be made under the Bid item "Unexpected Site Changes". At the discretion of the Contracting Agency, this procedure for Unexpected Site Changes may be used in lieu of the more formal procedure as outlined in Section 1-04.4, Changes.

The Contractor will be provided a copy of the completed order for Unexpected Site Changes. The agreement for the Unexpected Site Changes will be documented by signature of the Contractor, or notation of verbal agreement. If the Contractor is in disagreement with anything required by the order for Unexpected Site Changes, the Contractor may protest the order as provided in Section 1-04.5.

Payments will be determined in accordance with Section 1-09.6. For the purpose of providing a common Proposal for all Bidders, the Contracting Agency has entered an amount for "Unexpected Site Changes" in the Proposal to become a part of the total Bid by the Contractor.

1-05 CONTROL OF WORK

1-05.1 Authority of the Engineer

1-05.1(2) Requests for Information (RFI)

The fourth paragraph of Section 1-05.1(2) is revised to read:

(November 4, 2024 WSDOT *GSP)*
The Contractor may submit a RFI for one of the following reasons:

1. The Contractor believes there is information missing from the Contract Documents (Missing Information).

2. The Contractor believes a clarification of one or more of the Contract requirements is necessary (Clarification).

3. The Contractor needs to substitute a material that provides an equal or better level of performance as the one specified in the Contract (RFC - Material Substitution). Requests shall indicate the location(s), quantity, and shall describe how the material provides an equal or better level of performance as the material originally specified.

4. The Contractor requests a change to the Contract requirements for a reason other than one listed in items 1-3 of this Section (RFC - Other). To be considered, the request must not meet the requirements of a Value Engineering Change Proposal. To be considered, the request shall qualify as a Minor Change in accordance with Section 1-04.4(1) and shall describe how the change is beneficial to the project.

1-05.3 Working Drawings

Section 1-05.3 is supplemented with the following:

(*****)
Shop drawings and/or catalog cuts shall be furnished in digital format by the Contractor for all items indicated in various sections of the Contract Documents and as requested by the Engineer.

Shop drawings and/or catalog cuts shall show the name of the project, the name of Contractor and, if any, the names of suppliers, manufacturers, and subcontractors. Shop drawings shall be submitted promptly and in orderly sequence so as to cause no delay in prosecution of the Work.

After review of submittals, the Engineer will respond electronically to the Contractor with any comments noted thereon. If so noted by the Engineer, the Contractor shall correct the submittal and resubmit electronic copies of them in the same manner as specified for the original submittals within one week after receipt of the reviewed submittals. The Contractor, in the letter of transmittal accompanying the resubmittals, shall direct special attention to any revisions other than the corrections requested by the Engineer on previous submittals.

Review by the Engineer is only for general conformance with the design concept of the project and general compliance with the Contract Documents, and shall not be construed as relieving the Contractor of the full responsibility for: providing materials, equipment and work required by the Contract; the proper fitting and construction of the Work; the accuracy and completeness of any submittals; selecting fabrication processes and techniques of construction; and performing the Work in a safe manner.

One copy of all reviewed submittals shall be kept accessible at the construction site.

If the Contractor believes than any submittal or communication relative thereto calls for changes in the Work for which the Contract amount or time for completion should be changed, the Contractor shall not proceed with the changes in the Work so called for and shall promptly provide to the Engineer in writing an estimate of the requested changes in the Contract amount and time for completion. No payment for changes in the Work will be made and no change in the time for completion by reason of changes in the Work will be made, unless the changes are covered by a written change order approved by the Owner in advance of the Contractor proceeding with the changes the Work.

A minimum of ten (10) business days shall be allowed for the Engineer to review each submittal and resubmittal for wall structure submittals.

1-05.4 Conformity With and Deviations from Plans and Stakes

(September 3, 2024)

Contractor Surveying – Structure

The Contracting Agency has provided primary survey control in the Plans.

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of bridges, noise walls, retaining walls, buried structures, and marine structures. Except for the survey control data to be furnished by the Contracting Agency, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans “DO NOT DISTURB” shall be protected throughout the length of the project or be replaced at the Contractor’s expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work by the Contractor shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points.

2. Establish, by placing hubs and/or marked stakes, the location with offsets of foundation shafts and piles.

3. Establish offsets to footing centerline of bearing for structure excavation.

4. Establish offsets to footing centerline of bearing for footing forms.

5. Establish wing wall, retaining wall, noise wall, and buried structure horizontal alignment.

6. Establish retaining wall top of wall profile grade.

7. Establish buried structure profile grade.

8. Establish elevation benchmarks for all substructure formwork.

9. Check elevations at top of footing concrete line inside footing formwork immediately prior to concrete placement.

10. Check column location and pier centerline of bearing at top of footing immediately prior to concrete placement.

11. Establish location and plumbness of column forms, and monitor column plumbness during concrete placement.

12. Establish pier cap and crossbeam top and bottom elevations and centerline of bearing.

13. Check pier cap and crossbeam top and bottom elevations and centerline of bearing prior to and during concrete placement.

14. Establish grout pad locations and elevations.

15. Establish structure bearing locations and elevations, including locations of anchor bolt assemblies.

16. Establish box girder bottom slab grades and locations.

17. Establish girder and/or web wall profiles and locations.

18. Establish diaphragm locations and centerline of bearing.

19. Establish roadway slab alignment, grades and provide dimensions from top of girder to top of roadway slab. Set elevations for deck paving machine rails.

20. Establish traffic barrier and curb profile.

21. Profile all girders prior to the placement of any deadload or construction live load that may affect the girder's profile.

22. Establish locations for marine structures including fixed and floating berthing structures, vehicle and pedestrian foundations and spans, and marine-based buildings.

The Contractor shall provide the Contracting Agency copies of any calculations and staking data when requested by the Engineer.

The Contractor shall submit the computed elevations at the top of bridge decks as a Type 2 Working Drawing. To compute top of bridge deck elevations, elevations shall be taken at the tenth points along the centerline of each girder web from center-to-center of bearing. For girders exceeding 100 feet in length, the elevations shall be taken at equivalent intervals not to exceed 10 feet.

The Contractor shall ensure a surveying accuracy within the following tolerances:

	Vertical	Horizontal
1. Stationing on structures		±0.02 feet
2. Alignment on structures		±0.02 feet
3. Superstructure elevations	±0.01 feet variation from plan elevation	
4. Substructure	±0.02 feet variation from Plan grades.	

Buried structures shall be within the tolerances described in Section 6-20.3.

The Contracting Agency may spot-check the Contractor's surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

When staking the following items, the Contractor shall perform independent checks from different secondary control to ensure that the points staked for these items are within the specified survey accuracy tolerances:

Piles
Shafts
Footings
Columns

The Contractor shall calculate coordinates for the points associated with piles, shafts, footings and columns. The Contracting Agency will verify these coordinates prior to issuing approval to the Contractor for commencing with the survey work. The Contracting Agency will require up to seven calendar days from the date the data is received to issuing approval.

Contract work to be performed using contractor-provided stakes shall not begin until the stakes are approved by the Contracting Agency. Such approval shall not relieve the Contractor of responsibility for the accuracy of the stakes.

Payment

Payment will be made for the following bid item when included in the proposal:

"Structure Surveying", lump sum.

The lump sum contract price for "Structure Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

(January 13, 2021)
Contractor Surveying – Roadway

The Contracting Agency has provided primary survey control in the Plans.

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of the roadbed, drainage, surfacing, paving, channelization and pavement marking, illumination and signals, guardrails and barriers, and signing. Except for the survey control data to be furnished by the Contracting Agency, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans “DO NOT DISTURB” shall be protected throughout the length of the project or be replaced at the Contractors expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points.

2. Establish, the centerlines of all alignments, by placing hubs, stakes, or marks on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and at points on the alignments spaced no further than 50 feet.

3. Establish clearing limits, placing stakes at all angle points and at intermediate points not more than 50 feet apart. The clearing and grubbing limits shall be 5 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless otherwise shown in the Plans.

4. Establish grading limits, placing slope stakes at centerline increments not more than 50 feet apart. Establish offset reference to all slope stakes. If Global Positioning Satellite (GPS) Machine Controls are used to provide grade control, then slope stakes may be omitted at the discretion of the Contractor

5. Establish the horizontal and vertical location of all drainage features, placing offset stakes to all drainage structures and to pipes at a horizontal interval not greater than 25 feet.

6. Establish roadbed and surfacing elevations by placing stakes at the top of subgrade and at the top of each course of surfacing. Subgrade and surfacing stakes shall be set at horizontal intervals not greater than 50 feet in tangent sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-foot intervals in intersection radii with a radius less than 10 feet. Transversely, stakes shall be placed at all locations where the roadway slope changes and at additional points such that the transverse spacing of stakes is not more than 12 feet. If GPS Machine Controls are used to provide grade control, then roadbed and surfacing stakes may be omitted at the discretion of the Contractor.

7. Establish intermediate elevation benchmarks as needed to check work throughout the project.

8. Provide references for paving pins at 25-foot intervals or provide simultaneous surveying to establish location and elevation of paving pins as they are being placed.

9. For all other types of construction included in this provision, (including but not limited to channelization and pavement marking, illumination and signals, guardrails and barriers, and signing) provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.

10. Contractor shall determine if changes are needed to the profiles or roadway sections shown in the Contract Plans in order to achieve proper smoothness and drainage where matching into existing features, such as a smooth transition from new pavement to existing pavement. The Contractor shall submit these changes to the Engineer for review and approval 10 days prior to the beginning of work.

The Contractor shall provide the Contracting Agency copies of any calculations and staking data when requested by the Engineer.

The Contractor shall ensure a surveying accuracy within the following tolerances:

	Vertical	Horizontal
Slope stakes	±0.10 feet	±0.10 feet
Subgrade grade stakes set 0.04 feet below grade	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Stationing on roadway	N/A	±0.1 feet
Alignment on roadway	N/A	±0.04 feet
Surfacing grade stakes	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Roadway paving pins for surfacing or paving	±0.01 feet	±0.2 feet (parallel to alignment) ±0.1 feet (normal to alignment)

The Contracting Agency may spot-check the Contractor's surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

When staking roadway alignment and stationing, the Contractor shall perform independent checks from different secondary control to ensure that the points staked are within the specified survey accuracy tolerances.

The Contractor shall calculate coordinates for the alignment. The Contracting Agency will verify these coordinates prior to issuing approval to the Contractor for commencing with the work. The Contracting Agency will require up to seven calendar days from the date the data is received.

Contract work to be performed using contractor-provided stakes shall not begin until the stakes are approved by the Contracting Agency. Such approval shall not relieve the Contractor of responsibility for the accuracy of the stakes.

Stakes shall be marked in accordance with Standard Plan A10.10. When stakes are needed that are not described in the Plans, then those stakes shall be marked, at no additional cost to the Contracting Agency as ordered by the Engineer.

Payment

Payment will be made for the following bid item when included in the proposal:

"Roadway Surveying", lump sum.

The lump sum contract price for "Roadway Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

(March 9, 2023)

Contractor Surveying – ADA Features

ADA Feature Staking Requirements

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, and grades necessary for the construction of the ADA features. Calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility. The Contractor shall build the ADA features within the specifications in the Standard Plans and contract documents.

ADA Feature Contract Compliance

The Contractor shall be responsible for completing measurements to verify all ADA features comply with the Contract in the presence of the Engineer.

ADA Feature As-Built Measurements

The Contractor shall be responsible for providing the latitude and longitude of each ADA feature as indicated on the ADA Inspection Form(s) (WSDOT Form 224-020).

The completed ADA Inspection Form(s) (WSDOT Form 224-020) shall be submitted as a Type 3 Working Drawing and transmitted to the Engineer within 30 calendar days of completing the ADA feature. After acceptance, the Contracting Agency will submit the final form(s) to the WSDOT ADA Steward.

Payment

Payment will be made for the following bid item that is included in the Proposal:

"ADA Features Surveying", lump sum.

The lump sum Contract price for "ADA Features Surveying" shall be full pay for all the Work as specified.

In the instance where an ADA feature does not meet accessibility requirements, all work to replace non-compliant work and then to measure, record the as-built measurements, and transmit the electronic forms to the Engineer shall be completed at no additional cost to the Contracting Agency.

1-05.7 Removal Of Defective And Unauthorized Work

Section 1-05.7, including title and subsections, is deleted and replaced with the following:

(November 4, 2024 WSDOT GSP)

Nonconforming Work

The Contracting Agency will not pay for Nonconforming Work.

Nonconforming Work is Work that in any way fails to meet the requirements of the Contract. This includes, but is not limited to:

- Work that does not conform to Contract requirements
- Work that does not meet Contract requirements

- Work done beyond the lines and grades set by the Plans or the Engineer
- Extra Work and materials furnished without the Engineer's written approval
- Defective Work
- Noncompliant Work
- Nonconforming Work
- Out of specification Work
- Rejected Work
- Unacceptable Work
- Unauthorized Work
- Unsuitable Work
- Unsatisfactory Work

Identification of Nonconforming Work

The Contractor is responsible for quality control and shall identify all Nonconforming Work. The Contracting Agency may also identify Nonconforming Work during inspection of Work that has been completed, is at an identified hold point, or has been identified by the Contractor as ready for inspection. However, failure by the Contracting Agency to identify Nonconforming Work shall not relieve the Contractor from their responsibility for the quality of the Work, nor shall it constitute acceptance or approval of the Nonconforming Work.

Reporting of Nonconforming Work

Unless otherwise specified, the Contractor shall immediately report all Nonconforming Work to the Engineer along with any relevant information about how the Nonconforming Work shall be remediated. The Contractor shall be responsible and bear all costs for remediating Nonconforming Work.

If the Contract requires the use of the WSDOT Unifier system for Document Control in accordance with Section 1-04.2, reporting and remediation submittals shall follow the "Nonconformance Report" business process in Unifier.

Remediation of Nonconforming Work

Remediation to correct Nonconforming Work shall be completed as soon as possible. However, unless otherwise specified, the Contractor shall not proceed with implementing the remedy until the Engineer has accepted the Contractor's proposed remedy. Any remedial work done prior to the Engineer's acceptance shall be at the Contractor's sole risk and will be subject to further rejection or remediation. The Engineer has the right to reject all or part of the Nonconforming Work, and the Engineer's decision is final and not subject to protest.

Remediation shall be classified in one of the following categories:

1. Rework to Contract requirements

2. Remove and replace

3. Repair to acceptable standards

When disputes occur over which category a remedy belongs, the Engineer's decision will be final and binding.

Rework to Contract Requirements

To be considered rework, the design and construction standards of the proposed completed Work, in the sole judgment of the Engineer, shall meet the design and construction standards applicable to the project.

Reporting of Nonconforming Work that is reworked is not required if all of the following conditions are met:

1. The remediation shall be completed in the same shift as the Nonconforming Work was identified.

2. It shall be remedied without damaging other Work.

3. It shall be remedied without putting the public at risk.

4. The Contractor's proposed remedy is in accordance with the Contract requirements.

5. The Engineer does not request the Nonconforming Work be reported.

Examples of Nonconforming Work that may not need reported if reworked include:

- Missing dobies prior to concrete pouring

- Rebar spacing and missing rebar

- Out of plumb luminaire or sign pole/post

For all other rework the Contractor shall submit all relevant information to the Engineer. The Contractor shall include Type 2 Working Drawings. The Type 2 Working Drawings shall explain how the nonconforming work will be reworked including repairs that will achieve the Contract requirements. For preapproved repair procedures, Type 1 Working drawings shall be included in lieu of the Type 2 Working Drawings.

Remove and Replace

To be considered as remove and replace, the Nonconforming Work shall be removed and replaced and the design and construction standards of the proposed completed Work, in the sole judgment of the Engineer, shall meet the design and construction standards applicable to the project.

Reporting of Nonconforming Work that is removed and replaced is not required if all of the following conditions are met:

1. The remedy shall be completed in the same shift the Nonconforming Work was identified.

2. It shall be removed and replaced without damaging other Work.

3. Both the removal and the replacement meet all Contract requirements.

4. The Engineer does not request the Nonconforming Work be reported.

Examples of Nonconforming Work that may not need reported if removed and replaced include:

- Decompacting and recompacting a lift of embankment to meet compaction requirements

- Removing and replacing an installed and dented luminaire pole with a new one.

For all other remove and replace Work, the Contractor shall submit all relevant information, including Working Drawings of the Type requested by the Engineer.

The Working Drawings shall include how the nonconforming Work will be removed and replaced including protection of other Work if needed. Type 2 Working Drawings shall be required, unless the remediation requires engineering, in which case, Type 2E Working Drawings shall be provided.

Repair to an Acceptable Standard
At the Contractor's written request, the Engineer may approve remediation that includes repairing to an acceptable standard that does not meet the Contract requirements with an appropriate price reduction that may range from no reduction to no payment.

To request to repair Nonconforming work to an acceptable standard, the Contractor shall submit all relevant information. Remedies proposed for this category shall include Type 2E Working Drawings. The Type 2E working drawings shall indicate whether the Work, as repaired, will achieve the same load carrying capacity, and shall assess the effects of the repair on the durability of the Work. Calculations shall be provided to demonstrate that the Work, as repaired, will perform the intended functions for its intended design life.

1-05.11 Final Inspection

Delete this section and replace it with the following:

1-05.11 Final Inspections and Operational Testing
(October 1, 2005 APWA GSP)

1-05.11(1) Substantial Completion Date

When the Contractor considers the work to be substantially complete, the Contractor shall so notify the Engineer and request the Engineer establish the Substantial Completion Date. The Contractor's request shall list the specific items of work that remain to be completed in order

to reach physical completion. The Engineer will schedule an inspection of the work with the Contractor to determine the status of completion. The Engineer may also establish the Substantial Completion Date unilaterally.

If, after this inspection, the Engineer concurs with the Contractor that the work is substantially complete and ready for its intended use, the Engineer, by written notice to the Contractor, will set the Substantial Completion Date. If, after this inspection the Engineer does not consider the work substantially complete and ready for its intended use, the Engineer will, by written notice, so notify the Contractor giving the reasons therefor.

Upon receipt of written notice concurring in or denying substantial completion, whichever is applicable, the Contractor shall pursue vigorously, diligently and without unauthorized interruption, the work necessary to reach Substantial and Physical Completion. The Contractor shall provide the Engineer with a revised schedule indicating when the Contractor expects to reach substantial and physical completion of the work.

The above process shall be repeated until the Engineer establishes the Substantial Completion Date and the Contractor considers the work physically complete and ready for final inspection.

1-05.11(2) Final Inspection and Physical Completion Date

When the Contractor considers the work physically complete and ready for final inspection, the Contractor by written notice, shall request the Engineer to schedule a final inspection. The Engineer will set a date for final inspection. The Engineer and the Contractor will then make a final inspection and the Engineer will notify the Contractor in writing of all particulars in which the final inspection reveals the work incomplete or unacceptable. The Contractor shall immediately take such corrective measures as are necessary to remedy the listed deficiencies. Corrective work shall be pursued vigorously, diligently, and without interruption until physical completion of the listed deficiencies. This process will continue until the Engineer is satisfied the listed deficiencies have been corrected.

If action to correct the listed deficiencies is not initiated within 7 days after receipt of the written notice listing the deficiencies, the Engineer may, upon written notice to the Contractor, take whatever steps are necessary to correct those deficiencies pursuant to Section 1-05.7.

The Contractor will not be allowed an extension of contract time because of a delay in the performance of the work attributable to the exercise of the Engineer's right hereunder.

Upon correction of all deficiencies, the Engineer will notify the Contractor and the Contracting Agency, in writing, of the date upon which the work was considered physically complete. That date shall constitute the Physical Completion Date of the contract, but shall not imply acceptance of the work or that all the obligations of the Contractor under the contract have been fulfilled.

1-05.11(3) Operational Testing

It is the intent of the Contracting Agency to have at the Physical Completion Date a complete and operable system. Therefore when the work involves the installation of machinery or other mechanical equipment; street lighting, electrical distribution or signal systems; irrigation systems; buildings; or other similar work it may be desirable for the Engineer to have the

Contractor operate and test the work for a period of time after final inspection but prior to the physical completion date. Whenever items of work are listed in the Contract Provisions for operational testing they shall be fully tested under operating conditions for the time period specified to ensure their acceptability prior to the Physical Completion Date. During and following the test period, the Contractor shall correct any items of workmanship, materials, or equipment which prove faulty, or that are not in first class operating condition. Equipment, electrical controls, meters, or other devices and equipment to be tested during this period shall be tested under the observation of the Engineer, so that the Engineer may determine their suitability for the purpose for which they were installed. The Physical Completion Date cannot be established until testing and corrections have been completed to the satisfaction of the Engineer.

The costs for power, gas, labor, material, supplies, and everything else needed to successfully complete operational testing, shall be included in the unit contract prices related to the system being tested, unless specifically set forth otherwise in the proposal.

Operational and test periods, when required by the Engineer, shall not affect a manufacturer's guaranties or warranties furnished under the terms of the contract.

1-05.13 Superintendents, Labor And Equipment Of Contractor

(August 14, 2013 APWA GSP)

Delete the sixth and seventh paragraphs of this section.

1-05.14 Cooperation With Other Contractors

Section 1-05.14 is supplemented with the following:

(March 13, 1995 WSDOT GSP)

Other Contracts or Other Work

It is anticipated that the following work adjacent to or within the limits of this project will be performed by others during the course of this project and will require coordination of the work:

***

1. Relocation of overhead utilities and conversion of some to underground

***

(******)

The Contracting Agency will not pay for any costs incurred by the Contractor resulting from delays or scheduling of work resulting from activities of others.

1-05.15 Method Of Serving Notices

(January 4, 2024 APWA GSP)

Revise the second paragraph to read:

All correspondence from the Contractor shall be served and directed to the Engineer. All correspondence from the Contractor constituting any notification, notice of protest, notice

of dispute, or other correspondence constituting notification required to be furnished under the Contract, must be written in paper format, hand delivered or sent via certified mail delivery service with return receipt requested to the Engineer's office. Electronic copies such as e-mails or electronically delivered copies of correspondence will not constitute such notice and will not comply with the requirements of the Contract.

Add the following new section:

1-05.16 Water And Power

(October 1, 2005 APWA GSP)

The Contractor shall make necessary arrangements, and shall bear the costs for power necessary for the performance of the work, unless the contract includes power as a pay item.

Add the following new section:

1-05.18 Record Drawings

(March 8, 2013 APWA GSP)

The Contractor shall maintain one set of full size plans for Record Drawings, updated with clear and accurate red-lined field revisions on a daily basis, and within 2 business days after receipt of information that a change in Work has occurred. The Contractor shall not conceal any work until the required information is recorded.

This Record Drawing set shall be used for this purpose alone, shall be kept separate from other Plan sheets, and shall be clearly marked as Record Drawings. These Record Drawings shall be kept on site at the Contractor's field office, and shall be available for review by the Contracting Agency at all times. The Contractor shall bring the Record Drawings to each progress meeting for review.

The preparation and upkeep of the Record Drawings is to be the assigned responsibility of a single, experienced, and qualified individual. The quality of the Record Drawings, in terms of accuracy, clarity, and completeness, is to be adequate to allow the Contracting Agency to modify the computer-aided drafting (CAD) Contract Drawings to produce a complete set of Record Drawings for the Contracting Agency without further investigative effort by the Contracting Agency.

The Record Drawing markups shall document all changes in the Work, both concealed and visible. Items that must be shown on the markups include but are not limited to:

- Actual dimensions, arrangement, and materials used when different than shown in the Plans.
- Changes made by Change Order or Field Order.
- Changes made by the Contractor.
- Accurate locations of storm sewer, sanitary sewer, water mains and other water appurtenances, structures, conduits, light standards, vaults, width of roadways, sidewalks, landscaping areas, building footprints, channelization and pavement markings, etc. Include pipe invert elevations, top of castings (manholes, inlets, etc.).

If the Contract calls for the Contracting Agency to do all surveying and staking, the Contracting Agency will provide the elevations at the tolerances the Contracting Agency requires for the Record Drawings.

When the Contract calls for the Contractor to do the surveying/staking, the applicable tolerance limits include, but are not limited to the following:

	Vertical	Horizontal
As-built sanitary & storm invert and grate elevations	± 0.01 foot	± 0.01 foot
As-built monumentation	± 0.001 foot	± 0.001 foot
As-built waterlines, inverts, valves, hydrants	± 0.10 foot	± 0.10 foot
As-built ponds/swales/water features	± 0.10 foot	± 0.10 foot
As-built buildings (fin. Floor elev.)	± 0.01 foot	± 0.10 foot
As-built gas lines, power, TV, Tel, Com	± 0.10 foot	± 0.10 foot
As-built signs, signals, etc.	N/A	± 0.10 foot

Making Entries on the Record Drawings:

- Use erasable colored pencil (not ink) for all markings on the Record Drawings, conforming to the following color code:
- Additions - Red
- Deletions - Green
- Comments - Blue
- Dimensions - Graphite
- Provide the applicable reference for all entries, such as the change order number, the request for information (RFI) number, or the approved shop drawing number.
- Date all entries.
- Clearly identify all items in the entry with notes similar to those in the Contract Drawings (such as pipe symbols, centerline elevations, materials, pipe joint abbreviations, etc.).

The Contractor shall certify on the Record Drawings that said drawings are an accurate depiction of built conditions, and in conformance with the requirements detailed above. The Contractor shall submit final Record Drawings to the Contracting Agency. Contracting Agency acceptance of the Record Drawings is one of the requirements for achieving Physical Completion.

Payment will be made for the following bid item:

Record Drawings (Minimum Bid $____*____) * Amount specified in the Bid Schedules	Lump Sum

Payment for this item will be made on a prorated monthly basis for work completed in accordance with this section up to 75% of the lump sum bid. The final 25% of the lump sum item will be paid upon submittal and approval of the completed Record Drawings set prepared in conformance with these Special Provisions.

A minimum bid amount has been entered in the Bid Proposal for this item. The Contractor must bid at least that amount.

1-06 CONTROL OF MATERIAL

Section 1-06 is supplemented with the following:

1-06.1 Approval Of Materials Prior To Use

1-06.1(4) Fabrication Inspection Expense

(June 27, 2011 AWPA GSP)

Delete this section in its entirety.

1-06.6 Recycled Materials

(January 4, 2016 APWA GSP)

Delete this section, including its subsections, and replace it with the following:

The Contractor shall make their best effort to utilize recycled materials in the construction of the project. Approval of such material use shall be as detailed elsewhere in the Standard Specifications.

Prior to Physical Completion the Contractor shall report the quantity of recycled materials that were utilized in the construction of the project for each of the items listed in Section 9-03.21. The report shall include hot mix asphalt, recycled concrete aggregate, recycled glass, steel furnace slag and other recycled materials (e.g., utilization of on-site material and aggregates from concrete returned to the supplier). The Contractor's report shall be provided on DOT form 350-075 Recycled Materials Reporting.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.1 Laws To Be Observed

(October 1, 2005 APWA GSP)
Supplement this section with the following:

In cases of conflict between different safety regulations, the more stringent regulation shall apply.

The Washington State Department of Labor and Industries shall be the sole and paramount administrative agency responsible for the administration of the provisions of the Washington Industrial Safety and Health Act of 1973 (WISHA).
The Contractor shall maintain at the project site office, or other well-known place at the project site, all articles necessary for providing first aid to the injured. The Contractor shall establish, publish, and make known to all employees, procedures for ensuring immediate removal to a hospital, or doctor's care, persons, including employees, who may have been injured on the project site. Employees should not be permitted to work on the project site before the Contractor has established and made known procedures for removal of injured persons to a hospital or a doctor's care.

The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of the Contractor's plant, appliances, and methods, and for any damage or injury resulting from their failure, or improper maintenance, use, or operation. The Contractor shall be solely and completely responsible for the conditions of the project site, including safety for all persons and property in the performance of the work. This requirement shall apply continuously, and not be limited to normal working hours. The required or implied duty of the Engineer to conduct construction review of the Contractor's performance does not, and shall not, be intended to include review and adequacy of the Contractor's safety measures in, on, or near the project site.

1-07.1(2) Health and Safety

Section 1-07.1(2) is supplemented with the following:

(April 3, 2006 WSDOT GSP)
Confined Space
Confined spaces are known to exist at the following locations:

*** Storm sewer manholes/catch basins ***
*** Stormwater vaults ***
*** Stormfilter manhole ***
*** Utility vaults ***
*** Utility trenches ***

The Contractor shall be fully responsible for the safety and health of all on-site workers and compliant with Washington Administrative Code (WAC 296-809).

The Contractor shall prepare and implement a confined space program for each of the confined spaces identified above. The Contractors Confined Space program shall be sent to the Contracting Agency at least 30 days prior to the Contractor beginning work in or adjacent to the confined space. No work shall be performed in or adjacent to the confined space until the plan is submitted to the Engineer as required. The Contractor shall communicate with the Project Engineer to ensure a coordinated effort for providing and maintaining a safe worksite for both the Contracting Agency's and Contractor's workers when working in or near a confined space.

All costs to prepare and implement the confined space program shall be included in the bid prices for the various items associated with the confined space work.

1-07.2 State Taxes

Delete this section, including its sub-sections, in its entirety and replace it with the following:

(June 27, 2011 APWA GSP)

The Washington State Department of Revenue has issued special rules on the State sales tax. Sections 1-07.2(1) through 1-07.2(4) are meant to clarify those rules. The Contractor should contact the Washington State Department of Revenue for answers to questions in this area. The Contracting Agency will not adjust its payment if the Contractor bases a bid on a misunderstood tax liability.

The Contractor shall include all Contractor-paid taxes in the unit bid prices or other contract amounts. In some cases, however, state retail sales tax will not be included. Section 1-07.2(3) describes this exception.

The Contracting Agency will pay the retained percentage only if the Contractor has obtained from the Washington State Department of Revenue a certificate showing that all contract-related taxes have been paid (RCW 60.28.050). The Contracting Agency may deduct from its payments to the Contractor any amount the Contractor may owe the Washington State Department of Revenue, whether the amount owed relates to this contract or not. Any amount so deducted will be paid into the proper State fund.

1-07.2(1) State Sales Tax — Rule 171

WAC 458-20-171, and its related rules, apply to building, repairing, or improving streets, roads, etc., which are owned by a municipal corporation, or political subdivision of the state, or by the United States, and which are used primarily for foot or vehicular traffic. This includes storm or combined sewer systems within and included as a part of the street or road drainage system and power lines when such are part of the roadway lighting system. For work performed in such cases, the Contractor shall include Washington State Retail Sales Taxes in the various unit bid item prices, or other contract amounts, including those that the Contractor pays on the purchase of the materials, equipment, or supplies used or consumed in doing the work.

1-07.2(2) State Sales Tax — Rule 170

WAC 458-20-170, and its related rules, apply to the constructing and repairing of new or existing buildings, or other structures, upon real property. This includes, but is not limited to, the construction of streets, roads, highways, etc., owned by the state of Washington; water mains and their appurtenances; sanitary sewers and sewage disposal systems unless such sewers and disposal systems are within, and a part of, a street or road drainage system; telephone, telegraph, electrical power distribution lines, or other conduits or lines in or above streets or roads, unless such power lines become a part of a street or road lighting system; and installing or attaching of any article of tangible personal property in or to real property, whether or not such personal property becomes a part of the realty by virtue of installation.

For work performed in such cases, the Contractor shall collect from the Contracting Agency, retail sales tax on the full contract price. The Contracting Agency will automatically add this sales tax to each payment to the Contractor. For this reason, the Contractor shall not include the retail sales tax in the unit bid item prices, or in any other contract amount subject to Rule 170, with the following exception.

Exception: The Contracting Agency will not add in sales tax for a payment the Contractor or a subcontractor makes on the purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project. Such sales taxes shall be included in the unit bid item prices or in any other contract amount.

1-07.2(3) Services

The Contractor shall not collect retail sales tax from the Contracting Agency on any contract wholly for professional or other services (as defined in Washington State Department of Revenue Rules 138 and 244).

1-07.5 Environmental Regulations

Section 1-07.5 is supplemented with the following:

(September 20, 2010)

Environmental Commitments

The following Provisions summarize the requirements, in addition to those required elsewhere in the Contract, imposed upon the Contracting Agency by the various documents referenced in the Special Provision **Permits and Licenses**. Throughout the work, the Contractor shall comply with the following requirements:

Commitment Number	Commitment via Permit	Construction Commitment
1	NPDES	Contractor will prepare a SWPPP prior to construction and implement the SWPPP during construction.
2	NPDES	Contractor will implement BMPs from the Stormwater Management Manual or equivalent.
3	NPDES	Contractor will submit monitoring data to Ecology.

(August 3, 2009)

Payment

All costs to comply with this special provision for the environmental commitments and requirements are incidental to the contract and are the responsibility of the Contractor. The Contractor shall include all related costs in the associated bid prices of the contract.

1-07.6 Permits and Licenses

Section 1-07.6 is supplemented with the following:

(January 2, 2018)

The Contracting Agency has obtained the below-listed permit(s) for this project. A copy of the permit(s) is attached as an appendix for informational purposes. Copies of these permits, including a copy of the Transfer of Coverage form, when applicable, are required to be onsite at all times.

Contact with the permitting agencies, concerning the below-listed permit(s), shall be made through the Engineer with the exception of when the Construction Stormwater General Permit coverage is transferred to the Contractor, direct communication with the Department of Ecology is allowed. The Contractor shall be responsible for obtaining Ecology's approval for any Work requiring additional approvals (e.g. Request for Chemical Treatment Form). The Contractor shall obtain additional permits as necessary. All costs to obtain and comply with additional permits shall be included in the applicable Bid items for the Work involved.

- Right-of-Way, Temporary Construction Easement (ROW/TCE)
- Utility Easements
- Wall Permit
- State Environmental Policy Act (SEPA)
- DOE Construction Stormwater General Permit (CSWGP)

The Contractor will be required to obtain:

1. All other permits necessary to complete the Work

1-07.7 Load Limits

Section 1-07.7 is supplemented with the following:

(March 13, 1995 WSDOT GSP)
If the sources of materials provided by the Contractor necessitates hauling over roads other than State Highways, the Contractor shall, at the Contractor's expense, make all arrangements for the use of the haul routes.

1-07.8 High Visibility Apparel

The third and fourth paragraphs of Section 1-07.8 are revised to read:

(November 4, 2024 WSDOT GSP)
High-visibility garments shall always be the outermost garments worn in a manner to ensure 360 degrees of uninterrupted background and retroreflective material encircling the torso.

High-visibility garments shall be labeled as, and in a condition compliant with the ANSI/ISEA 107-2015 publication entitled "American National Standard for High-Visibility Safety Apparel and Accessories," or equivalent revisions.

1-07.8(1) Traffic Control Personnel

Section 1-07.8(1) is revised to read:

(November 4, 2024 WSDOT GSP)
All personnel performing the Work described in Section 1-10 (including traffic control supervisors, flaggers, and others performing traffic control labor of any kind) shall comply with the following:

1. During daylight hours with clear visibility, workers shall wear a high-visibility ANSI/ISEA 107 Type R Class 2 or 3 garment with background material that are fluorescent yellow-green, fluorescent orange-red, or fluorescent red in color; and

a high visibility hardhat that is white, yellow, yellow-green, orange, or red in color; and

2. During hours of darkness (½ hour before sunset to ½ hour after sunrise) or other low-visibility conditions (snow, fog, etc.), workers shall wear a high-visibility ANSI/ISEA 107 Type R Class 2 or 3 garment with background material that are fluorescent yellow-green, fluorescent orange-red, or fluorescent red in color; a high-visibility lower garment meeting ANSI/ISEA 107 Class E, and a high visibility hardhat marked with at least 12 square inches of retroreflective material applied to provide 360 degrees of visibility.

1-07.9 Wages

1-07.9(1) General

(*****)

Section 1-07.9(1) is supplemented with the following:

The State rates incorporated in this contract are applicable to all construction activities associated with this contract.

1-07.9(5)A Required Documents

(December 30, 2022 APWA GSP)

This section is revised to read as follows:

All Statements of Intent to Pay Prevailing Wages, Affidavits of Wages Paid and Certified Payrolls, including a signed Statement of Compliance for Federal-aid projects, shall be submitted to the Engineer and to the State L&I online Prevailing Wage Intent & Affidavit (PWIA) system.

1-07.11(10)B Required Records and Retention

Section 1-07.11(10)B is supplemented with the following:

(*****)

Replace “either the Washington State Department of Transportation or the Federal Highway Administration” with “the Contracting Agency”.

1-07.13 Contractor’s Responsibility for Work

Section 1-07.13 is supplemented with the following:

(******)

The Contractor will remedy any defect in work or materials and pay for any damage to other work resulting therefrom, which appears within a period of two (2) years from the date of final

acceptance of the work. The City will give formal notice of Observed Defects to the Contractor.

This work is guaranteed as part of the 2-year maintenance bond.

1-07.15 Temporary Water Pollution/Erosion Control

Section 1-07.15 is supplemented with the following:

(******)
Erosion Control shall include but not be limited to preventing storm water which has come in contact with disturbed or excavated areas from entering the storm drainage system. The Contractor will not allow flow from existing ditches or ground water to come in contact with disturbed or excavated areas. The Contractor shall be required to take any means necessary to prevent, control and stop water pollution or erosion within the project limits. No additional compensation will be made for this item due to extensions or delays.

Payment will be made in accordance with Section 1-04.1, for the following listed bid item that is included in the proposal:

"SPCC Plan," lump sum.

1-07.16 Protection and Restoration of Property

1-07.16(1) Private/Public Property

Section 1-07.16(1) is supplemented with the following:

(******)
Temporary Construction Easements (TCE) from adjacent parcels to complete the work have been secured by the Agency. Full use of each the areas of the TCE has been secured. Work within each TCE requires notification prior to beginning the work to adjacent parcel owner and some level of coordination with the adjacent parcel owner.

The Contractor will be required to coordinate with property owners and tenants, and the Contracting Agency, and should expect restrictions on timing or rescheduling of some service disruptions. All costs associated with coordinating this work shall be considered incidental to the Contract.

Private properties may be used by the Contractor only if Contractor makes the arrangements with the legal owner(s) of each property. Use and restoration of such property shall be in accordance with the stipulations of the agreement between the Contractor and the property owner. Before using any private property, the Contractor shall submit to the Engineer a copy of the written permission of the property owner; upon vacating the premises, the Contractor shall submit to the Engineer a release from all damages, properly executed by the property owner. The Contractor shall save the Contracting Agency harmless from all suites and actions of every kind and description that might result from use of private property.

Contractor shall take care not to disturb existing irrigation systems. Prior to beginning excavation or ground disturbance activities in the vicinity of known or suspected irrigation systems, the Contractor must inform the Engineer and agree on what existing improvements must be removed and replaced. All irrigation pipe and fittings must be cut and/or capped at

the edge of the excavation area; impacts beyond those pre-agreed to are not allowed, and such impacts shall be repaired at the sole expense of the Contractor.

Disturbed grass areas shall be restored with sod. Existing plant material shall be salvaged prior to disturbance, where feasible, and replanted following the installation of improvements. Where it is not feasible to salvage existing plant material, new plant material shall be provided that is compatible to the existing landscaping as approved by the Engineer. All materials shall conform to the applicable portions of Section 9-14 and 9-15 of the Standard Specifications.

1-07.17 Utilities And Similar Facilities

Section 1-07.17 is supplemented with the following:

(******)
The City has attempted to locate the existing utilities; however, the exact location, and/or depth are unknown in most instances. The utilities shown in the Plans are for the convenience of the Contractor only, and no responsibility is assumed by either the Owner or the Engineer for the accuracy of their location, existence, or completeness. It shall be the responsibility of the Contractor to locate the existing utilities and their respective depths.

Where the Plans or Special Provisions require public or private utilities or similar facilities to be adjusted, relocated, replaced, or constructed the Contractor shall furnish all work necessary to perform the Work unless otherwise provided for in the Plans or these Special Provisions. Such adjustment, relocation, replacement, or construction shall be done during the prosecution of the work for this project.

The Contractor shall protect all utility systems from damage. If interfering utilities are encountered notify the Engineer and the appropriate utility company at least three (3) working days in advance of construction operations to permit the necessary arrangements for protection or relocation of such facilities.

Seattle City Light (SCL)
The Contractor is also responsible to coordinate with SCL, (Power) in order to locate the existing power lines within the project limits. The Contractor shall be familiar with and follow SCL's current requirements for Work done around existing power lines.

PSE Gas Line
The Contractor is responsible to coordinate with Puget Sound Energy (PSE) in order to locate the existing gas lines within the project limits. The Contractor shall be familiar with and follow PSE's current requirements for Work done around existing gas lines.

The Contractor shall coordinate construction activities with PSE.

If the Contractor's equipment comes in contact with a gas line pipe, they are required to call 1-800-424-5555 or 811.

If the Contractor's equipment comes in contact with a gas line pipe, they are also required to call 1-888-225-5773 to have the pipe inspected by PSE for damage.

Lumen, UW and WSDOT Fiber, and Comcast
The Contractor is also responsible to coordinate with telecommunications companies in

order to locate the existing telecommunication lines within the project limits. The Contractor shall be familiar with and follow utility companies' current requirements for Work done around existing telecommunications facilities.

Lake Forest Park Water District (LFPWD)

The Contractor is also responsible to coordinate with LFPWD (Water) in order to locate the existing water lines within the project limits. The Contractor shall be familiar with and follow the LFPWD's current requirements for Work done around existing water lines.

Cutting and restoration of water services, if necessary, shall be done by Lake Forest Park Water District personnel. The Contractor shall notify in writing the City of Lake Forest Park Public Works Department and Lake Forest Park Water District at least three (3) working days in advance when a service is to be cut and restored.

Unidentified and/or Broken Utilities and Similar Facilities

If an unidentified facility is encountered, the Contractor shall cease work in the vicinity and notify the Project Engineer, the City, and the affected facility owner. Any changes in the work due to encountering unidentified facilities shall be accepted by the Engineer and performed in accordance with Section 1-04.4.

In the event of interruption to utilities or similar facilities as a result of accidental breakage due to construction operations, the Contractor shall promptly notify the proper authority, cooperate with said authority in restoration of service as promptly as possible.

1-07.17.OPT2.FR1
(October 3, 2022)

Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.

Public and private utilities, or their Contractors, will furnish all work necessary to adjust, relocate, replace, or construct their facilities unless otherwise provided for in the Plans or these Special Provisions. Such adjustment, relocation, replacement, or construction will be done during the prosecution of the work for this project. It is anticipated that utility adjustment, relocation, replacement, or construction within the project limits will be completed as follows:

*** Overhead and underground utility relocation at Ballinger Way and 40th Place NE ***

The Contractor shall attend a mandatory utility preconstruction meeting with the Engineer, all affected subcontractors, and all utility owners and their Contractors prior to beginning onsite work.

The following addresses and telephone numbers of utility companies or their Contractors that will be adjusting, relocating, replacing or constructing utilities within the project limits are supplied for the Contractor's use:

Puget Sound Energy (Gas) Contact: Eric Liaw, Project Manager Eric.Liaw@pse.com (425) 495-3297 Contact: Aaron Hines, Engineer Aaron.hines@pse.com (253) 307-0767	Comcast (Cable) 1525 75th St SW, STE 200 Everett, WA 98203 Contact: Daniel Graham Daniel.graham@comcast.com (425) 697-0919
Seattle City Light (Power) 700 5th Ave, Seattle, WA, 98104 PO Box 34023, Seattle, WA, 98124 Contact: Germán Gutiérrez Murillo german.gutierrezmurillo@seattle.gov O: (206) 684-3820 M: (206) 530-3180	Lumen (Phone) Contact: Beth Tan btan@congruex.com (206) 660-6330
UW-IT (Fiber) Contact: Brenda Jones brendaj@uw.edu O: (206) 221-4523 M: (253) 318-1577	WSDOT ITS Contact: Christian Santiago Christian.santiago@wsdot.wa.gov O: (206) 440-4784

1-07.18 Public Liability and Property Damage Insurance

Delete this section in its entirety, and replace it with the following:

1-07.18 Insurance
(January 4, 2024 APWA GSP)

1-07.18(1) General Requirements

A. The Contractor shall procure and maintain the insurance described in all subsections of section 1-07.18 of these Special Provisions, from insurers with a current A. M. Best rating of not less than A-: VII and licensed to do business in the State of Washington. The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer's financial condition.

B. The Contractor shall keep this insurance in force without interruption from the commencement of the Contractor's Work through the term of the Contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated below.

C. If any insurance policy is written on a claims-made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The policy shall state that coverage is claims made and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the

Completion Date or earlier termination of this Contract, and the Contractor shall annually provide the Contracting Agency with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period ("tail") or execute another form of guarantee acceptable to the Contracting Agency to assure financial responsibility for liability for services performed.

D. The Contractor's Automobile Liability, Commercial General Liability and Excess or Umbrella Liability insurance policies shall be primary and non-contributory insurance as respects the Contracting Agency's insurance, self-insurance, or self-insured pool coverage. Any insurance, self-insurance, or self-insured pool coverage maintained by the Contracting Agency shall be excess of the Contractor's insurance and shall not contribute with it.

E. The Contractor shall provide the Contracting Agency and all additional insureds with written notice of any policy cancellation, within two business days of their receipt of such notice.

F. The Contractor shall not begin work under the Contract until the required insurance has been obtained and approved by the Contracting Agency

G. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Contracting Agency may, after giving five business days' notice to the Contractor to correct the breach, immediately terminate the Contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the Contracting Agency on demand, or at the sole discretion of the Contracting Agency, offset against funds due the Contractor from the Contracting Agency.

H. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the Contract and no additional payment will be made.

I. Under no circumstances shall a wrap up policy be obtained, for either initiating or maintaining coverage, to satisfy insurance requirements for any policy required under this Section. A **"**wrap up policy**"** is defined as an insurance agreement or arrangement under which all the parties working on a specified or designated project are insured under one policy for liability arising out of that specified or designated project**.**

1-07.18(2) Additional Insured

All insurance policies, with the exception of Workers Compensation, and of Professional Liability and Builder's Risk (if required by this Contract) shall name the following listed entities as additional insured(s) using the forms or endorsements required herein:

- the Contracting Agency and its officers, elected officials, employees, agents, and volunteers

The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor pursuant to 1-07.18(4) describes limits lower than those maintained by the Contractor.

For Commercial General Liability insurance coverage, the required additional insured endorsements shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

1-07.18(3) Subcontractors

The Contractor shall cause each subcontractor of every tier to provide insurance coverage that complies with all applicable requirements of the Contractor-provided insurance as set forth herein, except the Contractor shall have sole responsibility for determining the limits of coverage required to be obtained by subcontractors.

The Contractor shall ensure that all subcontractors of every tier add all entities listed in 1-07.18(2) as additional insureds, and provide proof of such on the policies as required by that section as detailed in 1-07.18(2) using an endorsement as least as broad as ISO CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency evidence of insurance and copies of the additional insured endorsements of each subcontractor of every tier as required in 1-07.18(4) Verification of Coverage.

1-07.18(4) Verification of Coverage

The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. Failure of Contracting Agency to demand such verification of coverage with these insurance requirements or failure of Contracting Agency to identify a deficiency from the insurance documentation provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

Verification of coverage shall include:

1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as additional insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement.
3. Any other amendatory endorsements to show the coverage required herein.
4. A notation of coverage enhancements on the Certificate of Insurance shall <u>not</u> satisfy these requirements – actual endorsements must be submitted.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a full and certified copy of that policy is required when the Contractor delivers the signed Contract for the work.

1-07.18(5) Coverages and Limits

The insurance shall provide the minimum coverages and limits set forth below. Contractor's maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the Contracting Agency's recourse to any remedy available at law or in equity.

All deductibles and self-insured retentions must be disclosed and are subject to approval by the Contracting Agency. The cost of any claim payments falling within the deductible or self-insured retention shall be the responsibility of the Contractor. In the event an additional insured incurs a liability subject to any policy's deductibles or self-insured retention, said deductibles or self-insured retention shall be the responsibility of the Contractor.

1-07.18(5)A Commercial General Liability

Commercial General Liability insurance shall be written on coverage forms at least as broad as ISO occurrence form CG 00 01, including but not limited to liability arising from premises, operations, stop gap liability, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract. There shall be no exclusion for liability arising from explosion, collapse or underground property damage.

The Commercial General Liability insurance shall be endorsed to provide a per project general aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.

Contractor shall maintain Commercial General Liability Insurance arising out of the Contractor's completed operations for at least three years following Substantial Completion of the Work.

Such policy must provide the following minimum limits:

$2,000,000	Each Occurrence
$3,000,000	General Aggregate
$3,000,000	Products & Completed Operations Aggregate
$2,000,000	Personal & Advertising Injury each offence
$2,000,000	Stop Gap / Employers' Liability each accident

1-07.18(5)B Automobile Liability

Automobile Liability shall cover owned, non-owned, hired, and leased vehicles; and shall be written on a coverage form at least as broad as ISO form CA 00 01. If the work involves the transport of pollutants, the automobile liability policy shall include MCS 90 and CA 99 48 endorsements.

Such policy must provide the following minimum limit:

$1,000,000	Combined single limit each accident

1-07.18(5)C Workers' Compensation

The Contractor shall comply with Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.

1-07.18(5)D Excess or Umbrella Liability

(January 4, 2016 APWA GSP)

The Contractor shall provide Excess or Umbrella Liability insurance with limits of not less than $600,000 each occurrence and annual aggregate. This excess or umbrella liability coverage shall be excess over and as least as broad in coverage as the Contractor's Commercial General and Auto Liability insurance

All entities listed under 1-07.18(2) of these Special Provisions shall be named as additional insureds on the Contractor's Excess or Umbrella Liability insurance policy.

This requirement may be satisfied instead through the Contractor's primary Commercial General and Automobile Liability coverages, or any combination thereof that achieves the overall required limits of insurance.

1-07.18(5)K Professional Liability

(December 30, 2022 APWA GSP)

The Contractor and/or its subcontractor(s) and/or its design consultant providing construction management, value engineering, or any other design-related non-construction professional services shall provide evidence of Professional Liability insurance covering professional errors and omissions.

Such policy shall provide the following minimum limits:
$1,000,000 per claim and annual aggregate

If the scope of such design-related professional services includes work related to pollution conditions, the Professional Liability insurance shall include coverage for Environmental Professional Liability.

If insurance is on a claims-made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract.

1-07.23 Public Convenience And Safety

Section 1-07.23 is supplemented with the following:

(******)
The Contractor shall notify all property owners and tenants of street closures, or other restrictions which may interfere with their access. Notification shall be at least seventy-two (72) hours in advance of such restrictions. When an existing access is to be eliminated and replaced under the Contract by other access, the existing access shall not be closed until the replacement access is available.

All unattended excavations shall be properly covered, barricaded, or fenced. Any asphalt concrete pavement, crushed surfacing, gravel base, or water, required for maintaining traffic during the project, shall be placed by the Contractor immediately upon request by the Contracting Agency. Steel plates will be allowed if approved by Engineer, and must be secured and supported properly, pinned, shimmed, welded, and cold mix asphalt transitions added to prevent movement and provide smooth transitions.

A minimum of 1-1/4” thick steel plates, or as approved by the Engineer, is required, if used.

Contractor shall be responsible for controlling dust and mud within the project limits, and for cleaning all surfaced roadways affected by the Work. Contractor shall clean up on a daily basis all refuse, rubbish, scrap material and debris caused by the work, to the end that, at all times, the site of the work shall present a neat, orderly and workmanlike appearance. Flushing shall not be used. The costs for such dust and mud control and cleaning shall be incidental to the Contract, and no separate payment will be made. In the event Contractor fails to conform to these requirements, Owner shall have the right to have the work done by others and the cost shall be deducted from moneys otherwise due to Contractor.

There shall be no delay to medical, fire, police, or other emergency vehicles with flashing lights or sirens. The Contractor shall alert all flaggers and personnel of this requirement. Reasonable provisions shall be made by the Contractor to accommodate medical, fire, police, or other emergency vehicles with flashing lights or sirens during periods of roadway closure to public traffic.

1-07.23 (1) Construction Under Traffic

Section 1-07.23(1) is supplemented with the following:

(November 4, 2024)
Lane, ramp, shoulder, and roadway closures are subject to the following restrictions:

***

The Contractor shall not close or cause to be closed, any arterial street or portion thereof between 7 a.m. and 9 a.m. or 4 p.m. and 6 p.m., unless otherwise approved by the Engineer.

Lane restrictions shall be held to a minimum time and length needed for each operation. If the Engineer determines that the lane restrictions are causing congestion, the Contractor shall open all lanes to traffic until the congestion is eliminated.

Hours for Lane Closures
Lane restrictions will only be permitted under flagger controlled alternating one-lane traffic. Standard Specification 1-10.3(2)A shall be followed and two-way traffic shall be restored when flagging operations are not in place.

There are no work hour restrictions for Short Term Traffic Stop for Truck Ingress and Egress (Traffic stops of one minute or less).

Hours of allowable lane closures will vary based upon the dates of the calendar. Excluding the lane closure restrictions related to holidays and holiday weekends described in this section, the following dates and hours are related to the yearly calendar:

Should high volume hours differ from those specified, as determined by the Engineer, the Contractor shall adjust the hours of work accordingly. Exceptions to these restrictions may be considered by the Engineer on a case-by-case basis following a written request by the Contractor.

Ballinger Way NE (SR 104) – Two-Way Traffic
Two-way traffic along Ballinger Way NE (SR 104) shall be maintained at all times, except for the periods noted in the section Ballinger Way NE (SR 104) – One-Way Traffic, Two-Way Flagging through the use of flagging.

Ballinger Way NE (SR 104) – One-Way Traffic, Two-Way Flagging
One-way traffic, two-way flagging along Ballinger Way NE (SR 104) may only be permitted for construction activities that require temporary closure of one lane of traffic to work in that area and as permitted by the Engineer.

40th Place NE – Two-Way Traffic
Two-way traffic along 40th Place NE shall be maintained at all times, except for the periods noted in the section 40th Place NE – One-Way Traffic through the use of traffic shifts and/or flagging.

40th Place NE – One-Way Traffic

One-way traffic in the northbound direction along 40th Place NE may be permitted as part of a detour route as outlined in the Traffic Control Plans.

NE 184th Street – Two-Way Traffic
Two-way traffic along NE 184th Street shall be maintained at all times, except for the periods noted in the section NE 184th Street – One-Way Traffic, Two-Way Flagging through the use of flagging.

NE 184th Street – One-Way Traffic, Two-Way Flagging
One-way traffic in the northbound direction along 40th Place NE may be permitted for construction activities that require temporary closure of one lane of traffic to work in that area and as permitted by the Engineer.

After the hours of work, the Contractor shall provide at least the number of lanes shown on the Plans for the Construction Stage and associated Detour Route.

Ballinger Way NE (SR 104) and 40th Place NE
A full closure of the Ballinger Way NE (SR 104) and 40th Place NE Intersection will not be allowed to construct the roundabout. A detour route for the southbound closure of 40th Place NE must be in place during any one-way traffic operations through this intersection. Local access shall be maintained at all times within the intersection area.

Transit Stops

- Traffic control devices must allow 11 feet wide passage of busses
- 7 working days or 10 calendar days of advance written notice by the Contractor to King County Metro Transit and the Engineer, and/or to the Shoreline School District and the Engineer, is required prior to any relocation and/or adjustments of permanent and temporary transit stops that is required by the Contractor to perform the work
- King County Metro staff will position the locations of temporary transit stop information posts in coordination with the Contractor
- Shoreline School District project contact:

  Susan Skorjanc, Director of Transportation
  Shoreline School District
  18560 1st Ave. NE
  Shoreline, WA
  (206) 393-4278
  susan.skorjanc@ssd412.org

***

If the Engineer determines the permitted closure hours adversely affect traffic, the Engineer may adjust the hours accordingly. The Engineer will notify the Contractor in writing of any change in the closure hours. Exceptions to these restrictions are listed below and when applicable take precedence over closures listed above. The Engineer may also consider on a case-by-case basis additional exceptions following a written request by the Contractor.

Lane, ramp, shoulder, and roadway closures are not allowed on any of the following:

1. A holiday,

2. A holiday weekend; holidays that occur on Friday, Saturday, Sunday or Monday are considered a holiday weekend. A holiday weekend includes Saturday, Sunday, and the holiday.

3. After *** 12:00 p.m. *** on the day prior to a holiday or holiday weekend, and

4. Before *** 12:00 p.m. *** on the day after the holiday or holiday weekend.

5. The two-hour period prior to and the two-hour period after special events. It shall be the Contractor's responsibility to obtain the dates and times of all events.

Traffic Delays

When Automated Flagger Assistance Devices (AFADs) or flaggers are used to control traffic, traffic shall not be stopped for more than *** 4 *** minutes at any time. All traffic congestion shall be allowed to clear before traffic is delayed again.

If the delay becomes greater than *** 4 *** minutes, the Contractor shall immediately begin to take action to cease the operations that are causing the delays. If the *** 4 *** minute delay limit has been exceeded, as determined by the Engineer, the Contractor shall provide to the Engineer, a written proposal to revise his work operations to meet the *** 4 *** minute limit. This proposal shall be accepted by the Engineer prior to resuming any work requiring traffic control.

There shall be no delay to medical, fire, or other emergency vehicles. The Contractor shall alert all flaggers and personnel of this requirement.

General Restrictions

Construction vehicles using a closed traffic lane shall travel only in the normal direction of traffic flow unless expressly allowed in an accepted traffic control plan. Construction vehicles shall be equipped with flashing or rotating amber lights.

No two consecutive on-ramps, off-ramps, or intersections shall be closed at the same time and only one ramp at an interchange shall be closed, unless specifically shown in the Plans.

Roads or ramps that are designated as part of a detour shall not be closed or restricted during the implementation of that detour, unless specifically shown in the Plans.

Controlled Access

No special access or egress shall be allowed by the Contractor other than normal legal movements or as shown in the Plans.

Contractor's vehicles of 10,000 GVW or greater shall not exit or enter a lane open to public traffic except as follows:

Egress and ingress shall only occur during the hours of allowable lane closures, and:

1. For exiting an open lane of traffic, by decelerating in a lane that is closed during the allowable hours for lane closures.

2. For entering an open lane of traffic, by accelerating in a closed lane during the allowable hours for lane closures.

Traffic control vehicles are excluded from the gross vehicle weight requirement. If placing construction signs will restrict traveled lanes, then the work will be permitted during the hours of allowable lane closures.

Advance Notification

The Contractor shall notify the Engineer in writing of any traffic impacts related to lane closure, shoulder closure, sidewalk closure, or any combination for the week by 12:00 p.m. (noon) Wednesday the week prior to the stated impacts.

The Contractor shall notify the Engineer in writing ten working days in advance of any traffic impacts related to full roadway closure, ramp closure, or both.

The Contractor shall notify the Engineer in writing of any changes to the stated traffic impacts a minimum of 48 hours prior to the traffic impacts.

(October 3, 2022)

Public Notification

The Contractor shall furnish and install information signs that provide advance notification of a ramp closure, roadway closure, or both, a minimum of *** 20 *** working days prior to the closure. Sign locations, messages, letter sizes, and sign sizes are shown in the Plans.

The Contractor shall notify *** local fire/police/emergency services, City Public Works Department, the local school district, and transit ***, in writing, a minimum of *** 20 *** working days prior to each closure. The Contractor shall furnish copies of these notifications to the Engineer.

(September 3, 2024)

If July 4 occurs on a Tuesday, the prior Monday is considered to be part of a holiday weekend. If July 4 occurs on a Thursday, the following Friday is considered to be part of a holiday weekend.

(*****)

The Contractor shall notify the Shoreline Fire Department at the address below in writing a minimum of 20 working days prior to any lane or shoulder closures for the Project. The Contractor shall furnish a copy of the notification to the Engineer.

Ryan Burgess, Fire Marshall
Shoreline Fire Department Headquarters
17525 Aurora Ave N
Shoreline, WA
Main: (206) 533-6500
Fire Marshal's Office: (206) 533-6565
rburgess@shorelinefire.com

The Contractor shall notify the Shoreline School District at the address below in writing a minimum of 20 working days prior to any lane or shoulder closures for the Project. The Contractor shall furnish a copy of the notification to the Engineer.

Susan Skorjanc, Director of Transportation
Shoreline School District
18560 1st Ave. NE
Shoreline, WA
(206) 393-6111
susan.skorjanc@ssd412.org

The Contractor shall notify the Lake Forest Park Police Department at the address below in writing a minimum of 20 working days prior to any lane or shoulder closures for the Project. The Contractor shall furnish a copy of the notification to the Engineer.

Mike Harden, Chief of Police
Lake Forest Park Police Department
17425 Ballinger Way NE
Lake Forest Park, WA
(206) 957-2851
mharden@cityoflfp.gov

If the Engineer determines the permitted closure hours adversely affect traffic, the Engineer may adjust the hours accordingly. The Engineer will notify the Contractor in writing of any change in the closure hours.

1-07.23 (2) Construction and Maintenance of Detours

Section 1-07.23(2) is supplemented with the following:

(*****)
If alternative detours are proposed by the Contractor, they shall be shown in the Contractor provided Traffic Control Plans.

Posting of "No Parking" Signs Prior to Work
When necessary to complete the work specified under this contract, the Contractor shall furnish and install, at no expense to the Contracting Agency, temporary "No Parking" signs at least twenty-four (24) hours in advance of start of work. The Contractor shall be responsible for coordinating the removal of non-compliant vehicles from the work zone with the Lake Forest Park Police Department.

All temporary "No Parking" signs shall clearly indicate the date(s) of construction and include the words "Tow Away Zone". If the schedule of work changes, for any reason, the Contractor shall change the dates indicated on the sign. The Contractor shall be onsite working on the days indicated on the sign. A range of dates that span multiple project areas will not be acceptable.

Pedestrian Control and Protection
If no alternative is proposed within the Contract Plans, all existing pedestrian routes and access points within the project limits, including sidewalks and crosswalks, shall remain

open and clear at all times. The Contractor may propose Traffic Control Plans (TCP's) that comply with the MUTCD, ADA requirements, and these Specifications. Contractor-proposed TCP's detailing the alternative accessible pedestrian route shall be approved by the Engineer prior to implementation. The TCPs will either be returned for correction, approved as noted, or approved for use by the end of a 10-day review period. Each time the TCP is returned for correction, an additional 10-day review period may be necessary.

Pedestrian sidewalk access (minimum 60" width) shall remain on at least one side of each roadway at all times, by following the Pedestrian Detour Plan.

When the Engineer allows Work areas to encroach upon a sidewalk or crosswalk area, and minimum clear width of 48-inches cannot be maintained for pedestrian use, an alternative accessible pedestrian route shall be provided. Separation of pedestrians from the Work area and vehicular traffic is required.

Protective barricades, fencing, and bridges, together with warning and guidance devices and signs, shall be utilized so that the passageway for pedestrians is safe, well defined and accessible.

The Contractor shall provide flaggers and spotters as necessary to guide pedestrians through the work area when an alternative accessible pedestrian route can't be provided. The cost to furnish and provide flaggers and spotters for pedestrian control and protection shall be paid under "Project Temporary Traffic Control".

Whenever pedestrian walkways are provided across excavations, they shall be provided with suitable handrails. Foot bridges shall be safe, strong, and free of bounce and sway, have a slip resistant coating, and be free of cracks, holes, and irregularities that could cause tripping. Ramps, with a maximum slope of 8.3%, shall be provided at the entrance and exit of all raised footbridges. The maximum cross slope shall be 2.0%. When the existing facility is illuminated or TCP's requires illumination, illumination shall be provided during the hours of darkness. Retroreflective delineation shall be provided during hours of darkness.

Where accessible pedestrian routes are allowed to be closed by the Engineer during construction, an alternate accessible pedestrian route shall be provided that complies with the MUTCD, ADA requirements and these Specifications. The alternate accessible pedestrian route shall not have abrupt changes in grade or terrain. Barriers and channelizing devices shall be detectable to pedestrians who have visual disabilities. Where it is necessary to divert pedestrians into the Roadway, barricading or channelizing devices shall be provided to separate the pedestrian route from the adjacent vehicular traffic lane. Barricading or channelizing devices used to separate pedestrian and vehicular traffic shall be crashworthy and, when struck by vehicles, present a minimum threat to pedestrians, workers, and occupants of impacting vehicles. At no time shall pedestrians be diverted into a portion of the street used concurrently by moving vehicular traffic.

Where accessible pedestrian routes are allowed to be closed by the Engineer during construction, there must be active Work performed in the construction zone as demonstrated by no more than one consecutive day of inactivity.

In addition, the TCP shall address the following:

- All pedestrians, including persons with disabilities, shall be provided with a safe and accessible route.
- The width of the existing pedestrian facility shall be maintained.
- Traffic control devices and other construction materials and features shall not intrude into the usable width of the sidewalk, alternate accessible pedestrian route, or other pedestrian facility.
- Signs and other devices mounted lower than 84-inches above the temporary accessible pedestrian route shall not project more than 4-inches into the accessible pedestrian route.
- A smooth, continuous hard surface shall be provided throughout the entire length and width of the pedestrian route throughout construction. There shall be no curbs or vertical elevation changes greater than ½-inch in grade or terrain that could cause tripping or be a barrier to wheelchair use. Vertical elevation differences between ¼-inch and ½-inch shall be beveled at a maximum 2:1 slope.
- When channelization is used to delineate a pedestrian pathway, a continuous detectable edging shall be provided throughout the length of the facility such that pedestrians using a cane can follow it. Edging shall protrude at least 6-inches above the surface of the sidewalk or pathway with the bottom of the edging a maximum of 2-1/2 inches above the surface.
- Temporary ramps shall be provided when an alternate accessible pedestrian route crosses a curb and no permanent curb ramps are in place. The width of the curb ramp shall be a minimum of 48-inches and the maximum slope of the ramp shall be 8.3%. The maximum cross slope shall be 2.0%. The bottom of the curb ramp shall be flush with the Roadway. Temporary detectable warning mats shall be installed at street crossings.
- When possible, an alternate accessible pedestrian route shall be provided on the same side of the street as the disrupted route. When it is not possible, the alternate route shall be clearly identified at the nearest intersection crossing prior to the closure area.
- Information regarding closed pedestrian routes, alternate crossings, and sign and signal information shall be communicated to pedestrians with visual disabilities by providing devices such as audible information devices, accessible pedestrian signals, or barriers and channelizing devices that are detectable to the pedestrians traveling with the aid of a cane or who have low vision.
- It is desirable that pedestrians cross to the opposite side of the Roadway at intersections rather than mid-block. Appropriate signing shall be placed at the intersections prior to any pedestrian route closure.
- If not otherwise stated in the Contract provisions, access to transit stops shall be provided and maintained at all times. Transit stops may be temporarily relocated with approval of the transit agency and the Engineer.
- At locations where adjacent alternate walkways cannot be provided, appropriate signs shall be posted at the limits of construction and in advance of the closure at the nearest crosswalk or intersection, to divert pedestrians across the street. Physical barricades shall be installed to prevent visually impaired people from inadvertently entering a closed area.

1-07.24 Rights Of Way

(July 23, 2015 APWA GSP)
Delete this section and replace it with the following:

Street Right of Way lines, limits of easements, and limits of construction permits are indicated in the Plans. The Contractor's construction activities shall be confined within these limits, unless arrangements for use of private property are made.

Generally, the Contracting Agency will have obtained, prior to bid opening, all rights of way and easements, both permanent and temporary, necessary for carrying out the work. Exceptions to this are noted in the Bid Documents or will be brought to the Contractor's attention by a duly issued Addendum.

Whenever any of the work is accomplished on or through property other than public Right of Way, the Contractor shall meet and fulfill all covenants and stipulations of any easement agreement obtained by the Contracting Agency from the owner of the private property. Copies of the easement agreements may be included in the Contract Provisions or made available to the Contractor as soon as practical after they have been obtained by the Engineer.

Whenever easements or rights of entry have not been acquired prior to advertising, these areas are so noted in the Plans. The Contractor shall not proceed with any portion of the work in areas where right of way, easements or rights of entry have not been acquired until the Engineer certifies to the Contractor that the right of way or easement is available or that the right of entry has been received. If the Contractor is delayed due to acts of omission on the part of the Contracting Agency in obtaining easements, rights of entry or right of way, the Contractor will be entitled to an extension of time. The Contractor agrees that such delay shall not be a breach of contract.

Each property owner shall be given 48 hours notice prior to entry by the Contractor. This includes entry onto easements and private property where private improvements must be adjusted.

The Contractor shall be responsible for providing, without expense or liability to the Contracting Agency, any additional land and access thereto that the Contractor may desire for temporary construction facilities, storage of materials, or other Contractor needs. However, before using any private property, whether adjoining the work or not, the Contractor shall file with the Engineer a written permission of the private property owner, and, upon vacating the premises, a written release from the property owner of each property disturbed or otherwise interfered with by reasons of construction pursued under this contract. The statement shall be signed by the private property owner, or proper authority acting for the owner of the private property affected, stating that permission has been granted to use the property and all necessary permits have been obtained or, in the case of a release, that the restoration of the property has been satisfactorily accomplished. The statement shall include the parcel number, address, and date of signature. Written releases must be filed with the Engineer before the Completion Date will be established.

1-08 PROSECUTION AND PROGRESS

Add the following new section:

1-08.0 Preliminary Matters

(May 25, 2006 APWA GSP)

Add the following new section:

1-08.0(1) Preconstruction Conference

(July 8, 2024 APWA GSP)

Prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, the Engineer and such other interested parties as may be invited. The purpose of the preconstruction conference will be:

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
4. To review DBE Requirements, Training Plans, and Apprenticeship Plans, when applicable.
5. To establish normal working hours for the work;
6. To review safety standards and traffic control; and
7. To discuss such other related items as may be pertinent to the work.

The Contractor shall prepare and submit at the preconstruction conference the following:

1. A breakdown of all lump sum items;
2. A preliminary schedule of working drawing submittals; and
3. A list of material sources for approval if applicable.

(******)

This section is supplemented with the following:

Prior to the Preconstruction Conference, the Contractor shall prepare and submit to the Contracting Agency the following documents for approval:

1. Spill Prevention, Control & Countermeasures (SPCC) Plan – Per Section 1-07.15(1);
2. Storm Water Pollution Prevention Plan (SWPPP) – Per Section 8-01.3(1)A.

The Contractor will not be authorized to mobilize or begin on-site work until both the SWPPP and SPCC plan have been approved by the Contracting Agency.

Add the following new section:

1-08.0(2) Hours Of Work

(December 8, 2014 APWA GSP)

Except in the case of emergency or unless otherwise approved by the Engineer, the normal working hours for the Contract shall be any consecutive 8-hour period between 7:00 a.m. and 6:00 p.m. Monday through Friday, exclusive of a lunch break. If the Contractor desires different than the normal working hours stated above, the request must be submitted in writing prior to the preconstruction conference, subject to the provisions below. The working hours for the Contract shall be established at or prior to the preconstruction conference.

All working hours and days are also subject to local permit and ordinance conditions (such as noise ordinances).

If the Contractor wishes to deviate from the established working hours, the Contractor shall submit a written request to the Engineer for consideration. This request shall state what hours are being requested, and why. Requests shall be submitted for review no later than noon prior to the day(s) the Contractor is requesting to change the hours.

If the Contracting Agency approves such a deviation, such approval may be subject to certain other conditions, which will be detailed in writing. For example:

1. On non-Federal aid projects, requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency representatives who worked during such times. (The Engineer may require designated representatives to be present during the work. Representatives who may be deemed necessary by the Engineer include, but are not limited to: survey crews; personnel from the Contracting Agency's material testing lab; inspectors; and other Contracting Agency employees or third party consultants when, in the opinion of the Engineer, such work necessitates their presence.)
2. Considering the work performed on Saturdays, Sundays, and holidays as working days with regard to the contract time.
3. Considering multiple work shifts as multiple working days with respect to contract time even though the multiple shifts occur in a single 24-hour period.
4. If a 4-10 work schedule is requested and approved the non-working day for the week will be charged as a working day.
5. If Davis Bacon wage rates apply to this Contract, all requirements must be met and recorded properly on certified payroll

1-08.1 Subcontracting

(December 30, 2022 APWA GSP, Option A)

Section 1-08.1 is supplemented with the following:

Prior to any subcontractor or lower tier subcontractor beginning work, the Contractor shall submit to the Engineer a certification (WSDOT Form 420-004) that a written agreement between the Contractor and the subcontractor or between the subcontractor and any lower tier subcontractor has been executed. This certification shall also guarantee that these

subcontract agreements include all the documents required by the Special Provision Federal Agency Inspection.

A subcontractor or lower tier subcontractor will not be permitted to perform any work under the contract until the following documents have been completed and submitted to the Engineer:

1. Request to Sublet Work (WSDOT Form 421-012), and

2. Contractor and Subcontractor or Lower Tier Subcontractor Certification for Federal-aid Projects (WSDOT Form 420-004).

The Contractor shall submit to the Engineer a completed Monthly Retainage Report (WSDOT Form 272-065) within 15 calendar days after receipt of every monthly progress payment until every subcontractor and lower tier subcontractor's retainage has been released.

The Contractor's records pertaining to the requirements of this Special Provision shall be open to inspection or audit by representatives of the Contracting Agency during the life of the contract and for a period of not less than three years after the date of acceptance of the contract. The Contractor shall retain these records for that period. The Contractor shall also guarantee that these records of all subcontractors and lower tier subcontractors shall be available and open to similar inspection or audit for the same time period.

1-08.1(8)B Clauses Required in Subcontracts of All Tiers

(November 25, 2024 APWA GSP)

Delete item 8 of the second paragraph of Section 1-08.1(8)B.

1-08.3 Progress Schedule

This section is supplemented with the following:

1-08.3(2)A Type A Progress Schedule

(December 30, 2022 APWA GSP)

Revise this section to read:

The Contractor shall submit 3 copies of a Type A Progress Schedule no later than at the preconstruction conference, or some other mutually agreed upon submittal time. The schedule may be a critical path method (CPM) schedule, bar chart, or other standard schedule format. Regardless of which format used, the schedule shall identify the critical path. The Engineer will evaluate the Type A Progress Schedule and approve or return the schedule for corrections within 15 calendar days of receiving the submittal.

1-08.4 Prosecution Of Work

Delete this section and replace it with the following:

1-08.4 Notice to Proceed and Prosecution of Work
(July 23, 2015 APWA GSP)

Notice to Proceed will be given after the contract has been executed and the contract bond and evidence of insurance have been approved and filed by the Contracting Agency. The Contractor shall not commence with the work until the Notice to Proceed has been given by the Engineer. The Contractor shall commence construction activities on the project site within ten days of the Notice to Proceed Date, unless otherwise approved in writing. The Contractor shall diligently pursue the work to the physical completion date within the time specified in the contract. Voluntary shutdown or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to complete the work within the time(s) specified in the contract.

When shown in the Plans, the first order of work shall be the installation of high visibility fencing to delineate all areas for protection or restoration, as described in the Contract. Installation of high visibility fencing adjacent to the roadway shall occur after the placement of all necessary signs and traffic control devices in accordance with 1-10.1(2). Upon construction of the fencing, the Contractor shall request the Engineer to inspect the fence. No other work shall be performed on the site until the Contracting Agency has accepted the installation of high visibility fencing, as described in the Contract.

1-08.5 Time For Completion

(November 25, 2024 APWA GSP, Option B)

Revise the third and fourth paragraphs to read:

Contract time shall begin on the first working day following the 30th calendar day after the Notice to Proceed date. If the Contractor starts work on the project at an earlier date, then contract time shall begin on the first working day when onsite work begins.

Each working day shall be charged to the contract as it occurs, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the contract the week before; (2) specified for the physical completion of the contract; and (3) remaining for the physical completion of the contract. The statement will also show the nonworking days and all partial or whole days the Engineer declares as unworkable. The statement will be identified as a Written Determination by the Engineer. If the Contractor does not agree with the Written Determination of working days, the Contractor shall pursue the protest procedures in accordance with Section 1-04.5. By failing to follow the procedures of Section 1-04.5, the Contractor shall be deemed as having accepted the statement as correct. If the Contractor is approved to work 10 hours a day and 4 days a week (a 4-10 schedule) and the fifth day of the week in which a 4-10 shift is worked would ordinarily be charged as a working day, then the fifth day of that week will be charged as a working day whether or not the Contractor works on that day.

Revise the sixth paragraph to read:

The Engineer will give the Contractor written notice of the completion date of the contract after all the Contractor's obligations under the contract have been performed by the Contractor. The following events must occur before the Completion Date can be established:

1. The physical work on the project must be complete; and
2. The Contractor must furnish all documentation required by the contract and required by law, to allow the Contracting Agency to process final acceptance of the contract. The following documents must be received by the Project Engineer prior to establishing a completion date:
   a. Certified Payrolls (per Section 1-07.9(5)).
   b. Material Acceptance Certification Documents
   c. Monthly Reports in DMCS of the amounts paid including the final payment confirmation to all firms required by Section 1-08.1(7)A if applicable
   d. Final Contract Voucher Certification
   e. Copies of the approved "Affidavit of Prevailing Wages Paid" for the Contractor and all subcontractors
   f. A copy of the Notice of Termination sent to the Washington State Department of Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the Notice of Termination by Ecology; and no rejection of the Notice of Termination by Ecology. This requirement will not apply if the Construction Stormwater General Permit is transferred back to the Contracting Agency in accordance with Section 8-01.3(16).
   g. Property owner releases per Section 1-07.24

Section 1-08.5 is supplemented with the following:

(March 13, 1995 WSDOT GSP)
This project shall be physically completed within **257** working days.

(******)
The construction of the elements of the project located at the northeast and southeast areas of the project limits, including but not limited to: clearing and grubbing, grading, furnishing of materials and construction/installation of Wall #2, Wall #3, Wall #4, Stormwater Vault, Stormwater Treatment Manhole, Oil/Water Separator, Biofilter Vault, stormwater catch basins and pipe, as shown in Plans shall be completed within the first 130 working days of the contract.

A suspension of work, in accordance with Section 1-08.6 Suspension of Work, following completion of the work described to take place in the first 130 working days of the contract will be implemented to allow for work by others to relocate overhead and underground utilities as shown in exhibits included in Appendix E. Following the suspension of work and 180 calendar days for work by others, the Contractor shall resume work on the project and complete the work in an additional 127 working days, for a combined total of 257 working days for the contractor.

1-08.6 Suspension of Work

Section 1-08.6 is supplemented with the following:

1-08.6.OPT2.FR1
(February 6, 2023 WSDOT GSP)
Contract time may be suspended for procurement of critical materials (Procurement Suspension). In order to receive a Procurement Suspension, the Contractor shall within 21 calendar days after execution by the Contracting Agency, place purchase orders for all materials deemed critical by the Contracting Agency for physical completion of the contract. The Contractor shall provide copies of purchase orders for the critical materials. Such purchase orders shall disclose the purchase order date and estimated delivery dates for such critical material.

The Contractor shall show procurement of the materials listed below as activities in the Progress Schedule. If the approved Progress Schedule indicates that the materials procurement are critical activities, and if the Contractor has provided documentation that purchase orders are placed for the critical materials within the prescribed 21 calendar days, then contract time will be suspended upon physical completion of all critical work except that work dependent upon the below listed critical materials:

*** Stormwater Vaults ***

Charging of contract time will resume upon delivery of the critical materials to the Contractor or *** 120 *** calendar days after execution by the Contracting Agency, whichever occurs first.

1-08.7 Maintenance During Suspension

The fifth paragraph of Section 1-08.7 is revised to read:

(*****)
The Contractor shall protect and maintain all other work in areas not used by traffic. All costs associated with protecting and maintaining such work shall be the responsibility of the Contractor except those costs associated with implementing the TESC plan according to Section 8-01.

1-08.9 Liquidated Damages

(March 3, 2021 APWA GSP, Option B)

Revise the second and third paragraphs to read:

Accordingly, the Contractor agrees:

1. To pay (according to the following formula) liquidated damages for each working day beyond the number of working days established for Physical Completion, and

2. To authorize the Engineer to deduct these liquidated damages from any money due or coming due to the Contractor.

Liquidated Damages Formula

LD=0.15C/T

Where:

LD = liquidated damages per working day (rounded to the nearest dollar)
C = original Contract amount
T = original time for Physical Completion

When the Contract Work has progressed to Substantial Completion as defined in the Contract, the Engineer may determine the Contract Work is Substantially Complete. The Engineer will notify the Contractor in writing of the Substantial Completion Date. For overruns in Contract time occurring after the date so established, the formula for liquidated damages shown above will not apply. For overruns in Contract time occurring after the Substantial Completion Date, liquidated damages shall be assessed on the basis of direct engineering and related costs assignable to the project until the actual Physical Completion Date of all the Contract Work. The Contractor shall complete the remaining Work as promptly as possible. Upon request by the Project Engineer, the Contractor shall furnish a written schedule for completing the physical Work on the Contract.

1-09 MEASUREMENT AND PAYMENT

1-09.1 Measurement of Quantities

Add a new sections as follows:

(*****)

1-09.1(1) Quantity Reporting Requirements

The Engineer will complete a quantity and time report on City-provided forms for each day's work. The Contractor and Engineer shall review and sign the report not later than the close of business on the next day. The Engineer will furnish one copy of each day's report to the Contractor.

Quantity reports for the preceding week shall be reviewed at each weekly site meeting and to the extent possible, any disagreement related to the quantity of work performed during the preceding week shall be resolved and final quantities agreed upon. Nothing in this section shall bar adjustment of quantities at a later time, for the purpose of correcting errors or omissions, when such adjustments are authorized by the Engineer.

1-09.1(2) Estimated Quantities

The estimated quantities shown in the bid forms are estimates only, being given only as the basis for the comparison of bids, and the Owner does not warrant, expressly or by implication, that the actual amount of work will correspond therewith. The right to increase or decrease the amount of any class or portion of the work, or to make changes in the work required as may be deemed necessary is reserved by the Owner as provided elsewhere in these specifications. The basis of payment will be the actual unit bid items of work performed and measured in accordance with the contract. All prospective bidders should

note that certain bid items may be included in the Bid Form to establish a unit price should the use of those items become necessary during construction. Allowance will not be made for loss of anticipated profits or additional compensation should the use of these items be deemed unnecessary.

1-09.2 Weighing Equipment

1-09.2(1) General Requirements For Weighing Equipment

(November 25, 2024 APWA GSP, Option B)

Revise item 4 of the fifth paragraph to read:

4. Test results and scale weight records for each day's hauling operations are provided to the Engineer daily. Reporting shall utilize WSDOT form 422-027LP, Scaleman's Daily Report, unless the printed ticket contains the same information that is on the Scaleman's Daily Report Form. The scale operator must provide AM and/or PM tare weights for each truck on the printed ticket.

1-09.2(5) Measurement

(December 30, 2022 APWA GSP)

Revise the first paragraph to read:

Scale Verification Checks – At the Engineer's discretion, the Engineer may perform verification checks on the accuracy of each batch, hopper, or platform scale used in weighing contract items of Work.

1-09.6 Force Account

(December 30, 2022 APWA GSP)

Supplement this section with the following:

The Contracting Agency has estimated and included in the Proposal, dollar amounts for all items to be paid per force account, only to provide a common proposal for Bidders. All such dollar amounts are to become a part of Contractor's total bid. However, the Contracting Agency does not warrant expressly or by implication, that the actual amount of work will correspond with those estimates. Payment will be made on the basis of the amount of work actually authorized by the Engineer.

Add a new section as follows:

(*****)

1-09.6(1) Force Account Reporting Requirements

The Contractor will complete a separate Force Account Report on City-Provided forms, for each unit of Force Account work, for each day that such work is performed. The Contractor and Engineer or his designated representative shall review and sign the reports not later

than the close of business on the next day. The Contractor will furnish one copy of each day's reports to the Engineer.

The Force Account Report will indicate the number and classification of workers, major equipment in use or on standby, and the number of hours for each worker and piece of equipment in accordance with the Standard Specifications.

Force Account reports for the preceding week shall be reviewed at each weekly site meeting and, to the extent possible, and disagreement related to the quantity of work performed during the preceding week shall be resolved and final material quantities, labor hours, and equipment hours agreed upon. Nothing in this section shall bar adjustment at a later time, for the purpose of correcting errors or omissions, when such adjustments are authorized by the Engineer.

1-09.9 Payments

(July 8, 2024 APWA GSP, Option A)

Supplement this section with the following:

Lump sum item breakdowns are not required when the bid price for the lump sum item is less than $20,000.

(July 8, 2024, APWA GSP, Option B)

Delete the fourth paragraph and replace it with the following:

Progress payments for completed work and material on hand will be based upon progress estimates prepared by the Engineer. A progress estimate cutoff date will be established at the preconstruction conference.

The initial progress estimate will be made not later than 30 days after the Contractor commences the work, and successive progress estimates will be made every month thereafter until the Completion Date. Progress estimates made during progress of the work are tentative, and made only for the purpose of determining progress payment. The progress estimates are subject to change at any time prior to the calculation of the Final Payment.

The value of the progress estimate will be the sum of the following:

1. Unit Price Items in the Bid Form — the approximate quantity of acceptable units of work completed multiplied by the unit price.
2. Lump Sum Items in the Bid Form — based on the approved Contractor's lump sum breakdown for that item, or absent such a breakdown, based on the Engineer's determination.
3. Materials on Hand — 100 percent of invoiced cost of material delivered to Job site or other storage area approved by the Engineer.
4. Change Orders — entitlement for approved extra cost or completed extra work as determined by the Engineer.

Progress payments will be made in accordance with the progress estimate less:

1. Retainage per Section 1-09.9(1), on non FHWA-funded projects;
2. The amount of Progress Payments previously made; and
3. Funds withheld by the Contracting Agency for disbursement in accordance with the Contract Documents.

Progress payments for work performed shall not be evidence of acceptable performance or an admission by the Contracting Agency that any work has been satisfactorily completed. The determination of payments under the contract will be final in accordance with Section 1-05.1.

1-09.9(1) Retainage

Section 1-09.9(1) content and title is deleted and replaced with the following:

(June 27, 2011 WSDOT GSP)
Vacant

1-09.11 Disputes and Claims

1-09.11(3) Time Limitation and Jurisdiction

(December 30, 2022 APWA GSP)

Revise this section to read*:*

For the convenience of the parties to the Contract it is mutually agreed by the parties that all claims or causes of action which the Contractor has against the Contracting Agency arising from the Contract shall be brought within 180 calendar days from the date of final acceptance (Section 1-05.12) of the Contract by the Contracting Agency; and it is further agreed that all such claims or causes of action shall be brought only in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction. The parties understand and agree that the Contractor's failure to bring suit within the time period provided, shall be a complete bar to all such claims or causes of action. It is further mutually agreed by the parties that when claims or causes of action which the Contractor asserts against the Contracting Agency arising from the Contract are filed with the Contracting Agency or initiated in court, the Contractor shall permit the Contracting Agency to have timely access to all records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

1-09.13 Claims Resolution

1-09.13(1) Conditions Precedent to Binding Arbitration or Litigation

1-09.13(1)A General

(December 30, 2022 APWA GSP)

Revise this section to read:

Prior to seeking claims resolution through arbitration or litigation, the Contractor shall proceed in accordance with Sections 1-04.5 and 1-09.11. The provisions of Sections 1-04.5 and 1-09.11 must be complied with in full as a condition precedent to the Contractor's right to seek claim resolution through binding arbitration or litigation.

Any claims or causes of action which the Contractor has against the Contracting Agency arising from the Contract shall be resolved, as prescribed herein, through binding arbitration or litigation.

The Contractor and the Contracting Agency mutually agree that those claims or causes of action which total $1,000,000 or less, which are not resolved by mediation, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

The Contractor and the Contracting Agency mutually agree that those claims or causes of action in excess of $1,000,000, which are not resolved by mediation, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

1-09.13(3) Arbitration

1-09.13(3)A Arbitration General

(January 19, 2022 APWA GSP)

Revise the third paragraph to read:

The Contracting Agency and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Contracting Agency's headquarters is located, provided that where claims subject to arbitration are asserted against a county, RCW 36.01.050 shall control venue and jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the decision shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

1-09.13(4) Venue For Litigation

(December 30, 2022 APWA GSP)

Revise this section to read:

Litigation shall be brought in the Superior Court of the county in which the Contracting Agency's headquarters is located, provided that where claims are asserted against a county, RCW 36.01.050 shall control venue and jurisdiction of the Superior Court. It is mutually agreed by the parties that when litigation occurs, the Contractor shall permit the Contracting Agency to have timely access to all records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

1-10 TEMPORARY TRAFFIC CONTROL

1-10.2 Traffic Control Management

Section 1-10.2 is supplemented with the following:

1-10.2.OPT1.GR1
(November 2, 2022 WSDOT GSP)
Work Zone Safety Contingency
Enhancements to improve the effectiveness of the accepted traffic control plans to increase the safety of the work zones shall be discussed on a weekly basis between the Contractor and the Contracting Agency. Enhancements shall be mutually agreed upon by the Contractor and Engineer prior to performing any Work to implement the enhancement.

Enhancements do not include the use of Uniformed Police Officers or WSP, address changes to the allowed work hour restrictions, or changes to the staging plans in the Contract (if applicable). If allowed by the Engineer, these items will be addressed in accordance with Section 1-04.4.

The Contractor shall be solely responsible for submitting any traffic control plan revision to implement the enhancement in accordance with Section 1-10.2(2).

1-10.2(1) General

Section 1-10.2(1) is supplemented with the following:

1-10.2(1).OPT1.GR1
(October 3, 2022 WSDOT GSP)
The Traffic Control Supervisor shall be certified by one of the following:

The Northwest Laborers-Employers Training Trust
27055 Ohio Ave.
Kingston, WA 98346
(360) 297-3035
https://www.nwlett.edu

Evergreen Safety Council
12545 135th Ave. NE
Kirkland, WA 98034-8709
1-800-521-0778
https://www.esc.org

The American Traffic Safety Services Association
15 Riverside Parkway, Suite 100
Fredericksburg, Virginia 22406-1022
Training Dept. Toll Free (877) 642-4637
Phone: (540) 368-1701
https://atssa.com/training

Integrity Safety
13912 NE 20th Ave.
Vancouver, WA 98686
(360) 574-6071
https://www.integritysafety.com

US Safety Alliance
(904) 705-5660
https://www.ussafetyalliance.com

K&D Services Inc.
2719 Rockefeller Ave.
Everett, WA 98201
(800) 343-4049
https://www.kndservices.net

END OF DIVISION 1

DIVISION 2
EARTHWORK

DIVISION 2 – EARTHWORK

2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

2-01.1 Description

The second paragraph of Section 2-01.1 is revised to read as follows:

(*****)
Clearing and grubbing shall be performed as necessary to prepare the project area for work, and all other items included for constructing this project. All work shall be accomplished within the "limits of work" identified on the plans, staked by the Contractor, and approved by the Engineer.. Clearing and grubbing shall include stripping the top 6 inches of native material.

Do not remove trees, shrubs, and other vegetation indicated to remain.

Existing landscaping outside the limits shall be protected from damage by the Contractor's operations. All damaged landscaping due to the Contractor's operations outside the limits shall be replaced in coordination with the property owner at the Contractor's expense.

"Clearing" means removing and disposing of all unwanted material from the surface, such as trees less than 12 inches in diameter, measured at a height 48 inches above ground level, shrubs, brush, down timber, or other natural material.

Use only hand methods for grubbing within drip line of remaining trees.

2-01.2 Disposal of Usable Material and Debris

Section 2-01.2 is supplemented with the following:

(*****)
The Contractor shall only use Disposal Method No. 2 for this project.

A waste site has not been provided by the owner for the disposal of excess materials and debris. All materials removed by clearing and grubbing operations shall be disposed of at a legal disposal site obtained by the Contractor.

There is limited access and limited available space for the Contractor for installation of the proposed improvements. The Contractor will be required to haul from the site all the stockpiled debris from that day's construction activities. Any material or debris which hinders traffic safety or creates an obstruction shall be removed immediately.

2-01.3 Construction Requirements

Section 2-01.3 is supplemented with the following:

(*****)
The Contractor shall notify adjacent property owners a minimum of 5 days in advance of clearing and grubbing operations.

Tree Removal
Trees identified for removal shall be completely removed, including the roots, and disposed of offsite unless the Engineer determines that complete removal is not necessary. If it is determined by the Engineer that the removal of the entire trunk is not feasible, the Contractor shall cut the trunk flush with ground level and provide stump treatment. The tree stump shall be treated to prevent resprouting with an approved herbicide according to label instructions.

2-01.3(1) Clearing

(******)
Section 2-01.3(1) is supplemented with the following:

Prior to clearing operations, it shall be the Contractor's responsibility to flag all trees which are to be removed. The Contractor shall notify the Engineer after flagging is completed and arrange a meeting prior to the removal of any existing trees on the project. At this meeting the Contractor and Engineer shall inspect those trees designated for removal and make any necessary changes. Following the inspection, the Contractor will be notified in writing to proceed with clearing and grubbing. All labor, materials, tools and equipment necessary for flagging and removal of existing trees shall be incidental to the bid item, "Clearing and Grubbing." All trees removed shall become the property of the Contractor.
Trees identified for removal shall be completely removed, including the roots, and disposed of offsite unless the Engineer determines that complete removal is not necessary. In such cases, the trunk shall be cut at ground level and treated with an approved herbicide.

2-01.3(3) Vacant

(*****)
Delete this section and replace with the following:

2-01.3(3) Tree Protection

The Contractor shall install tree protection fencing for protection of those trees identified and detailed in the contract documents, and where directed and approved by the Engineer. No soil disturbance shall occur before tree protection fences are installed. Fence shall remain in place until all construction is completed.

Under the field direction of the Engineer, the Contractor shall prune minor roots and branches of trees indicated to remain in a manner that will not compromise the survivability of the trees, where such roots and branches obstruct installation of new construction. Any roots to be cut or accidentally broken shall be cut smoothly and any cut roots over two (2) inches in diameter shall be covered with wet fabric until backfill can be placed.

2-01.4 Measurement
Supplement this section with the following:

(*****)
“Tree Removal, Over 6-Inch Diam.” shall be measured per each tree removed.

2-01.5 Payment
(******)
Section 2-01.5 is supplemented with the following:

"Clearing and Grubbing", per lump sum
"Tree Removal, Over 6-Inch Diam." shall be measured per each tree removed.

The lump sum price for "Clearing and Grubbing" shall be full pay for all work to clear and grub for the project including all Work described in Section 2-01 including removal, haul, and disposal. Selective trimming of trees/shrubs shall be included in the lump sum contract price for Clearing and Grubbing and no additional payment will be made.

2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

2-02.1 Description

Section 2-02.1 is supplemented with the following:

(******)
This work shall consist of removing all miscellaneous traffic items including but not limited to existing paint stripe, plastic stripe, pavement markers, road signs, and reflectors for construction staging traffic revisions and for the ultimate traffic alignments as shown on the Plans. This work shall also consist of removing catch basins and storm pipe identified on the Plans.

The Contractor shall notify adjacent residents and businesses at least 48 hours in advance of work impacting access and coordinate with businesses regarding access.

2-02.3 Construction Requirements

Section 2-02.3 is supplemented with the following:

(******)
Section 2-02.3 is supplemented with the following:

The Contractor shall remove and dispose of all pipes, structures, or obstructions that lie wholly or partially within the roadway alignment which prevent the Contractor's prosecution of work and have been determined to be unnecessary or abandoned by the respective utility company or Engineer.

All pipes which have had sections removed shall have their ends plugged with concrete, in a manner approved by Engineer, to prevent the flow of unwanted liquids into the trench or embankment. Contractor shall remove frame/grate and catch basin identified in plans, and backfill and compact excavation as described in 2-03.3(14) C Method C.
The Contractor shall arrange to dispose of any waste material at no expense to the Owner. Plugging of the existing pipe left in place as shown on the Plans or directed by the Engineer shall be considered incidental to and included in the cost of removal.

"Removal of Structures and Obstructions", lump sum, shall also consist of the following:

1. Remove and dispose of all miscellaneous traffic items including but not limited to road signs, reflectors, pavement markings, traffic arrows and other related items. When so notified by the Engineer, the Contractor will take reusable items to the City Shop for storage and reuse.

The following approximate quantities of items shall be removed and disposed of:

Item	Approximate Quantity	Location
Concrete Block Retaining Wall	150 SF	40th: 53+00 LT, 53+25 LT
Brick Retaining Wall	40 SF	Ballinger: 185+75 to 186+00 LT
Rock Retaining Wall	500 SF	184th: 76+00 to 76+77 LT
Brick Columns with Concrete Foundations	5 EA	Ballinger: 184+65 RT, 185+10 RT, 185+25 RT, 186+50 RT, 186+70 RT
Wood Fence	80 LF	184th: 76+00 to 76+80 LT

The quantities listed above are to be included in the lump sum bid price for "Removal and Structure and Obstruction". They are estimates only and are provided for Contractor convenience only. The Contractor shall verify the above quantities before bidding. The lump sum bid price for "Removal and Structure and Obstruction" shall include all work specified in Section 2-02 (Removal of Structure and Obstruction) whether listed in the table above or not.

The Contractor shall remove and/or abandon all utilities as shown on the Plans and as necessary to complete the work. The Contractor shall field-verify the location of utilities prior to any excavation. Contractor is advised that the Plans may not show all underground utilities and structures in the areas of construction and that location, depth and condition of utilities and structures may not be as shown or implied. Prior to any excavation in any area of construction, Contractor shall make reasonable efforts to verify the presence, or absence, and location of utilities and structures as deemed necessary or prudent by potholing and other physical investigative measures necessary in advance of the actual construction work.

Some obstructions may not be shown. The removal and replacement of minor obstructions shall be anticipated and accomplished by the Contractor. Major obstructions encountered that are not shown on the Plans, or could not have been foreseen by visual inspection of the site prior to bidding, should immediately be brought to the attention of the Engineer in writing. The Engineer will then make a determination for proceeding with the work. If the Engineer finds that the obstruction adversely affects the Contractor's costs or schedule for completion, a proper adjustment to the Contract will be made in accordance with Section 1-04.4 as amended in the Special Provisions.

Salvageable material shall become the property of the City, unless otherwise noted on the Plans. Such material shall be handled carefully to prevent damage and shall be relocated or removed from the project site as directed by the Engineer and/or Owner. Waste material shall be disposed of in accordance with Section 2-01.2.

Removal of Piping, Structures and Appurtenances

When removing or abandoning existing catch basins, the Contractor shall completely fill, compact, and grade all excavations to match the surrounding ground with Common Borrow in accordance with Section 2-09, as shown on the Plans or as otherwise directed. Common Borrow materials shall meet the requirements of Section 9-03.14(3) and shall be placed in successive layers not exceeding a nominal compacted depth of 0.75 feet, or as otherwise approved by the Engineer. Each layer shall be compacted to either 90-percent or 95-percent of the maximum density in accordance with Section 2-03.3(14)C, Method B. The Contractor

shall add water and compact materials as needed to produce a finished grade. The cost for providing Common Borrow material shall be included in the cost of this Work.

2-02.3(3) Removal of Pavement, Sidewalks, Curbs and Ramps

Section 2-02.3(3) is supplemented with the following:

(*****)
Asphalt pavement shall be saw cut, full depth, and removed as indicated in the Plans to facilitate driveway access installation and for pavement section improvements.

Anticipated depth of existing asphalt is 4 to 8-inches.

Contractor shall protect saw cut edges from damage. Edges damaged shall be re-cut to form neat vertical edge. Any necessary re-cutting shall be at the Contractor's expense.

Asphalt removed shall be disposed of off-site

In removing pavement, sidewalks, curbs, and gutters, the Contractor shall:

1. Haul and dispose of all removed pavement, sidewalk, curb, gutter, and other materials from the project site in accordance with Section 2-01, as amended in the Special Provisions.

2. Mark the horizontal location of all planned pavement cuts. All planned horizontal cut lines shall be neat-line, continuous, and linear in nature. Offset horizontal cut lines will not be permitted. All pavement cut markings shall be pre-approved by the Engineer prior to sawcutting of pavement. Wheel cutting or jack hammering will not be considered an acceptable means of pavement "cutting," unless the Engineer approves otherwise.

3. Make a vertical full depth saw cut between any existing pavement, sidewalk, curb, or gutter that is to remain and the portion to be removed. For concrete pavement removal, a second vertical full depth relief saw cut offset 12-inches from and parallel to the initial saw cut shall also be required, unless the Engineer approves otherwise.

4. All horizontal and vertical cuts shall be continuous and shall be made with saws specifically equipped for this purpose. No skip cutting will be allowed.

5. Replace at no expense to the Contracting Agency any pavement, sidewalk, curb, or gutter, which is damaged and not designated for removal on the Plans and these Specifications or otherwise pre-approved for removal by the Engineer.

Saw Cutting
The Contractor shall be responsible for ensuring that special precautions are undertaken so that in accordance with Department of Ecology guidelines no concrete (asphalt or cement) or concrete by-products are discharged into any storm drain or surface water. Cutting operations will increase the pH of water, therefore filtering is not acceptable.

Collecting and disposal of wasted water shall be considered incidental to and included in the various bid items involved with the operation.

2-02.4 Measurement

Section 2-02.4 is added with the following:

(*****)

There is no unit of measurement for the lump sum item of Removal of Structures and Obstructions.

Removing Existing Drainage Pipe shall be measured per linear foot.
Removing Existing Drainage Structure shall be measured per each.
Removing PCC Pavement Panels shall be measured per square yard.
Removing Asphalt Conc. Pavement shall be measured per square yard.
Removing Cement Conc. Sidewalk shall be measured per square yard.
Removing Cement Conc. Curb and Gutter shall be measured per linear foot.
Removing Cement Conc. Curb shall be measured per linear foot.
Removing Existing Water Pipe shall be measured per linear foot.
Removing Existing Water Valve shall be measured per each.
Removing Existing Hydrant Assembly shall be measured per each.

2-02.5 Payment

Section 2-02.5 is supplemented with the following:

(*****)

"Removal of Structures and Obstructions", per lump sum.

The lump sum price for "Removal of Structure and Obstructions" shall be full compensation for furnishing all tools, labor, equipment, materials, necessary or incidental, and includes but is not limited to the removal of pavement markings, removal of a portions of or all of an existing wall, and other items, including, but not limited to excavation, removal, storage, haul and disposal of the material. Backfill is considered incidental to the lump sum bid item.

Removal of existing underground facilities and obstructions not specifically identified for in the Plans or Specifications but required for new construction shall be incidental to the new construction, and the cost of the removal and disposal including haul shall be included under the lump sum bid item "Removal of Structure and Obstructions", and no additional compensation shall be made.

"Removing Existing Drainage Pipe" shall be measured per linear foot.

"Removing Existing Drainage Pipe" shall be measured per linear foot along the line and slope of the drainage pipe prior to removal. Any existing drainage pipe removed within the limits of Roadway Excavation or Structure Excavation will not be measured and will be included in the pay item for Roadway Excavation or the item being installed (storm drainage, water, or utilities) in which Structure Excavation is incidental to the item being installed.

"Removing Existing Drainage Structure" shall be measured per each.

"Removing PCC Pavement Panels", per square yard.
"Removing Asphalt Conc. Pavement", per square yard.
"Removing Cement Conc. Pavement", per square yard.
"Removing Cement Conc. Sidewalk", per square yard.
"Removing Cement Conc. Curb, per linear foot.
"Removing Cement Conc. Curb and Gutter", per linear foot.
"Removing Cement Conc. Curb", per linear foot.
"Removing Existing Drainage Pipe", per linear foot.

"Removing Existing Water Valve", per each.
"Removing Existing Hydrant Assembly, per each.

The unit contract price per square yard for "Removing _____" shall be full pay for all labor, equipment and materials necessary to remove and dispose of the material (off-site), as indicated in the Plans and these Specifications or as directed by the Engineer.

The unit contract price per linear foot for "Removing _____" shall be full pay for all labor, equipment and materials necessary to remove and dispose of the material (off-site), as indicated in the Plans and these Specifications or as directed by the Engineer.

The unit contract price per each for "Removing _____" shall be full pay for all labor, equipment and materials necessary to remove and dispose of the material (off-site), as indicated in the Plans and these Specifications or as directed by the Engineer.

Removing asphalt concrete pavement, cement concrete sidewalk, and cement concrete curb and gutter are NOT included in the roadway excavation quantities. The cost for all sawcutting required for the removal of these items shall be included in the unit contract price of the item being removed.

2-03 ROADWAY EXCAVATION AND EMBANKMENT

2-03.1 Description

Section 2-03.1 is supplemented with the following:

(*****)

Work in this section includes necessary excavation for pavement section improvements including stripping organics in fill sections as indicated in the contract documents.

Excavated material shall be disposed of off-site. The Contractor is responsible for providing a waste disposal site. The Contractor is responsible for any cost that may be associated with improving, maintaining, and restoring any disposal site.

2-03.4 Measurement

Section 2-03.4 is supplemented with the following:

(*****)

Measurement of roadway excavation, including haul, will be by the cubic yard in place as stated below.

Measurement for roadway excavation will be based on the original ground elevations determined previous to the award of this contract. If discrepancies are found in the ground elevations that will materially affect the quantities of excavation, the original computations of earthwork quantities will be adjusted accordingly. Excavation quantities will be computed manually or by means of electronic data processing equipment, by use of the average end area method, or by finite element analysis utilizing digital terrain modeling techniques.

Necessary over-excavation due to unsuitable materials, not specifically indicated to be included in the roadway excavation cost, will be measured in place and paid as Roadway Excavation Incl. Haul.

2-03.5 Payment
Section 2-03.5 is modified as follows:

(*****)
"Roadway Excavation Incl. Haul", per cubic yard.

The unit contract price per cubic yard for "Roadway Excavation Incl. Haul" shall be full pay for all labor, equipment, and materials necessary to remove and waste unsuitable materials to establish final subgrade for the pavement sections and access approach, including sawcutting, haul, and providing and maintaining a disposal site.

2-04 HAUL

2-04.1 Description
Section 2-04.1 is modified as follows:

(*****)
The second and third paragraph are deleted.

2-04.5 Payment
Section 2-04.5 is modified as follows:

(*****)
This section is deleted and replaced with the following:

All haul costs shall be included in the unit contract prices for items involving haul.

2-06 SUBGRADE PREPARATION

2-06.3 Construction Requirements

2-06.3(1) Subgrade for Surfacing

Section 2-06.3(1) is modified as follows:

(*****)
The first sentence in item #6 is revised to read:

Compact the subgrade to a depth of 12-inches.

2-06.5 Payment
Section 2-06.5 is modified as follows:

(*****)
This section is deleted and replaced with the following:

All costs for subgrade preparation, including watering, in accordance with this section shall be included in the unit contract price for roadway excavation, including haul.

Crushed surfacing base and/or top course used for establishing design subgrade elevations shall be measured and paid as described in Section 4-04 of these Specifications.

2-09 STRUCTURE EXCAVATION

2-09.1 Description

Section 2-09.1 is supplemented as follows:

(******)

Work in this section consists of excavation work related to the storm sewer and waterline pipe and structure installations.

Excavation for the storm sewer pipe and waterline pipe and associated structures consists of excavation to place pipe to indicated line and grade, including added depth for pipe bedding, and excavation necessary to install the storm structure at the end of an existing pipe.

2-09.3 Construction Requirements

2-09.3(1)D Disposal of Excavated Material

Section 2-09.3(1)D is supplemented with the following:

(******)

All material excavated for installation of the pipes and structures shall be wasted off-site. All costs for disposing of excavated material shall be included in the contract price for installing pipes and structures.

2-09.3(1) General Requirements

2-09.3(1)E Backfilling

Section 2-09.3(1)E is supplemented as follows:

(******)

Backfill material (above the bedding zone) for pipe trench work (any type) and structures (any type), and for backfilling to the bottom of the road section crushed rock limits and other areas indicated in the contract documents, shall consist of:

1. Gravel borrow conforming to Section 9-03.14(1) of the Standard Specifications except that the percentage passing the No. 200 sieve shall be <5%.

2-09.5 Payment

Section 2-09.5 is modified as follows:

(******)

All cost for structure excavation, waste, bedding and backfill shall be included in the unit contract prices for installation of storm sewer pipes, waterline pipes, and associated structures. No separate payment will be made for structure excavation associated with storm sewer pipe, waterline pipe, and associated structures.

END OF DIVISION 2

DIVISION 3
AGGREGATE PRODUCTION AND ACCEPTANCE

DIVISION 3 - AGGREGATE PRODUCTION AND ACCEPTANCE

3-01 PRODUCTION FROM QUARRY AND PIT SITES

3-01.4 Contractor Furnished Material Sources

Section 3-01.4 is supplemented as follows:

(*****)

No source has been provided for any materials necessary for the construction of this improvement.

The Contractor shall make arrangements to obtain the necessary materials at no expense to the City, and all costs of acquiring, producing, and placing this material in the finished work shall be included in the unit contract prices for the various items involved.

END OF DIVISION 3

DIVISION 4
BASES

DIVISION 4 - BASES

4-04 BALLAST AND CRUSHED SURFACING

4-04.4 Measurement

Section 4-04.4 is supplemented with the following:

(*****)

Crushed surfacing base course and top course will be measured by the ton for material delivered and placed where shown on the Plans or as directed by the Engineer. The number of tons shall be as shown on the load tickets for each load of crushed surfacing delivered and placed, as shown on the Plans and as directed by the Engineer.

Each truck shall be clearly numbered, to the satisfaction of the Engineer, and there shall be no duplication of numbers. It will be the Contractor's responsibility to see that a certified load ticket is given to the Engineer's representative on the project and receipted by the representative at the time of delivery for each truckload of delivered aggregate material. Load tickets not delivered to and receipted by the Engineer's representative at the time of delivery will not be honored for payment.

No specific unit of measurement will apply for aggregates placed in association with pipe bedding or trench backfill. All such aggregates shall be incidental to the bid item requiring pipe placement or trench excavation.

END OF DIVISION 4

DIVISION 5
SURFACE TREATMENTS AND PAVEMENTS

DIVISION 5 - SURFACE TREATMENTS AND PAVEMENTS

5-04 HOT MIX ASPHALT

(July 18, 2018 APWA GSP)

Delete Section 5-04 and amendments, Hot Mix Asphalt and replace it with the following:

5-04.1 Description

This Work shall consist of providing and placing one or more layers of plant-mixed hot mix asphalt (HMA) on a prepared foundation or base in accordance with these Specifications and the lines, grades, thicknesses, and typical cross-sections shown in the Plans. The manufacture of HMA may include warm mix asphalt (WMA) processes in accordance with these Specifications. WMA processes include organic additives, chemical additives, and foaming.

HMA shall be composed of asphalt binder and mineral materials as may be required, mixed in the proportions specified to provide a homogeneous, stable, and workable mixture.

Section 5-04.1 is supplemented with the following:

(*****)

Hot mix asphalt (HMA) Class ½", PG 58H-22, shall be used for all applications, including repairs, replacement, driveway approach, and mainline paving.

5-04.2 Materials

Materials shall meet the requirements of the following sections:

Asphalt Binder	9-02.1(4)
Cationic Emulsified Asphalt	9-02.1(6)
Anti-Stripping Additive	9-02.4
HMA Additive	9-02.5
Aggregates	9-03.8
Recycled Asphalt Pavement	9-03.8(3)B
Mineral Filler	9-03.8(5)
Recycled Material	9-03.21
Portland Cement	9-01
Sand	9-03.1(2).
(As noted in 5-04.3(5)C for crack sealing)	
Joint Sealant	9-04.2
Foam Backer Rod	9-04.2(3)A

The Contract documents may establish that the various mineral materials required for the manufacture of HMA will be furnished in whole or in part by the Contracting Agency. If the documents do not establish the furnishing of any of these mineral materials by the Contracting Agency, the Contractor shall be required to furnish such materials in the amounts required for the designated mix. Mineral materials include coarse and fine aggregates, and mineral filler.

The Contractor may choose to utilize recycled asphalt pavement (RAP) in the production of HMA. The RAP may be from pavements removed under the Contract, if any, or pavement material from an existing stockpile.

The Contractor may use up to 20 percent RAP by total weight of HMA with no additional sampling or testing of the RAP. The RAP shall be sampled and tested at a frequency of one sample for every 1,000 tons produced and not less than ten samples per project. The asphalt content and gradation test data shall be reported to the Contracting Agency when submitting the mix design for approval on the QPL. The Contractor shall include the RAP as part of the mix design as defined in these Specifications.

The grade of asphalt binder shall be as required by the Contract. Blending of asphalt binder from different sources is not permitted.

The Contractor may only use warm mix asphalt (WMA) processes in the production of HMA with 20 percent or less RAP by total weight of HMA. The Contractor shall submit to the Engineer for approval the process that is proposed and how it will be used in the manufacture of HMA.

Production of aggregates shall comply with the requirements of Section 3-01. Preparation of stockpile site, the stockpiling of aggregates, and the removal of aggregates from stockpiles shall comply with the requirements of Section 3-02.

5-04.2(1) How to Get an HMA Mix Design on the QPL

If the contractor wishes to submit a mix design for inclusion in the Qualified Products List (QPL), please follow the WSDOT process outlined in Standard Specification 5-04.2(1).

5-04.2(1)A – Vacant

5-04.2(2) Mix Design – Obtaining Project Approval

No paving shall begin prior to the approval of the mix design by the Engineer.

Nonstatistical evaluation will be used for all HMA not designated as Commercial HMA in the contract documents.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Project Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Project Engineer. The Proposal quantity of HMA that is accepted by commercial evaluation will be excluded from the quantities used in the determination of nonstatistical evaluation.

Nonstatistical Mix Design. Fifteen days prior to the first day of paving the contractor shall provide one of the following mix design verification certifications for Contracting Agency review;

- The WSDOT Mix Design Evaluation Report from the current WSDOT QPL, or one of the mix design verification certifications listed below.
- The proposed HMA mix design on WSDOT Form 350-042 with the seal and certification (stamp & sig-nature) of a valid licensed Washington State Professional Engineer.
- The Mix Design Report for the proposed HMA mix design developed by a qualified City or County laboratory that is within one year of the approval date.**

The mix design shall be performed by a lab accredited by a national authority such as Laboratory Accreditation Bureau, L-A-B for Construction Materials Testing, The Construction Materials Engineering Council (CMEC's) ISO 17025 or AASHTO Accreditation Program (AAP) and shall supply evidence of participation in the AASHTO: resource proficiency sample program.

Mix designs for HMA accepted by Nonstatistical evaluation shall;

- Have the aggregate structure and asphalt binder content determined in accordance with WSDOT Standard Operating Procedure 732 and meet the requirements of Sections 9-03.8(2), except that Hamburg testing for ruts and stripping are at the discretion of the Engineer, and 9-03.8(6).
- Have anti-strip requirements, if any, for the proposed mix design determined in accordance with AASHTO T 283 or T 324, or based on historic anti-strip and aggregate source compatibility from previous WSDOT lab testing.

At the discretion of the Engineer, agencies may accept verified mix designs older than 12 months from the original verification date with a certification from the Contractor that the materials and sources are the same as those shown on the original mix design.

Commercial Evaluation Approval of a mix design for "Commercial Evaluation" will be based on a review of the Contractor's submittal of WSDOT Form 350-042 (For commercial mixes, AASHTO T 324 evaluation is not required) or a Mix Design from the current WSDOT QPL or from one of the processes allowed by this section. Testing of the HMA by the Contracting Agency for mix design approval is not required.

For the Bid Item Commercial HMA, the Contractor shall select a class of HMA and design level of Equivalent Single Axle Loads (ESAL's) appropriate for the required use.

5-04.2(2)B Using Warm Mix Asphalt Processes

The Contractor may elect to use additives that reduce the optimum mixing temperature or serve as a compaction aid for producing HMA. Additives include organic additives, chemical additives and foaming processes. The use of Additives is subject to the following:

- Do not use additives that reduce the mixing temperature more than allowed in Section 5-04.3(6) in the production of mixtures.
- Before using additives, obtain the Engineer's approval using WSDOT Form 350-076 to describe the proposed additive and process.

5-04.3 Construction Requirements

5-04.3(1) Weather Limitations

Do not place HMA for wearing course on any Traveled Way beginning October 1st through March 31st of the following year without written concurrence from the Engineer.

Do not place HMA on any wet surface, or when the average surface temperatures are less than those specified below, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

Minimum Surface Temperature for Paving

Compacted Thickness (Feet)	Wearing Course	Other Courses
Less than 0.10	55◦F	45◦F
0.10 to 0.20	45◦F	35◦F
More than 0.20	35◦F	35◦F

5-04.3(2) Paving Under Traffic

When the Roadway being paved is open to traffic, the requirements of this Section shall apply.

The Contractor shall keep intersections open to traffic at all times except when paving the intersection or paving across the intersection. During such time, and provided that there has been an advance warning to the public, the intersection may be closed for the minimum time required to place and compact the mixture. In hot weather, the Engineer may require the application of water to the pavement to accelerate the finish rolling of the pavement and to shorten the time required before reopening to traffic.

Before closing an intersection, advance warning signs shall be placed and signs shall also be placed marking the detour or alternate route.

During paving operations, temporary pavement markings shall be maintained throughout the project. Temporary pavement markings shall be installed on the Roadway prior to opening to traffic. Temporary pavement markings shall be in accordance with Section 8-23.

All costs in connection with performing the Work in accordance with these requirements, except the cost of temporary pavement markings, shall be included in the unit Contract prices for the various Bid items involved in the Contract.

5-04.3(3)Equipment

5-04.3(3)A Mixing Plant

Plants used for the preparation of HMA shall conform to the following requirements:

1. **Equipment for Preparation of Asphalt Binder** – Tanks for the storage of asphalt binder shall be equipped to heat and hold the material at the required temperatures. The heating shall be accomplished by steam coils, electricity, or other approved means so that no flame shall be in contact with the storage tank. The circulating system for the asphalt binder shall be designed to ensure proper and continuous

circulation during the operating period. A valve for the purpose of sampling the asphalt binder shall be placed in either the storage tank or in the supply line to the mixer.

2. **Thermometric Equipment** – An armored thermometer, capable of detecting temperature ranges expected in the HMA mix, shall be fixed in the asphalt binder feed line at a location near the charging valve at the mixer unit. The thermometer location shall be convenient and safe for access by Inspectors. The plant shall also be equipped with an approved dial-scale thermometer, a mercury actuated thermometer, an electric pyrometer, or another approved thermometric instrument placed at the discharge chute of the drier to automatically register or indicate the temperature of the heated aggregates. This device shall be in full view of the plant operator.
3. **Heating of Asphalt Binder** – The temperature of the asphalt binder shall not exceed the maximum recommended by the asphalt binder manufacturer nor shall it be below the minimum temperature required to maintain the asphalt binder in a homogeneous state. The asphalt binder shall be heated in a manner that will avoid local variations in heating. The heating method shall provide a continuous supply of asphalt binder to the mixer at a uniform average temperature with no individual variations exceeding 25°F. Also, when a WMA additive is included in the asphalt binder, the temperature of the asphalt binder shall not exceed the maximum recommended by the manufacturer of the WMA additive.
4. **Sampling and Testing of Mineral Materials** – The HMA plant shall be equipped with a mechanical sampler for the sampling of the mineral materials. The mechanical sampler shall meet the requirements of Section 1-05.6 for the crushing and screening operation. The Contractor shall provide for the setup and operation of the field testing facilities of the Contracting Agency as provided for in Section 3-01.2(2).
5. **Sampling HMA** – The HMA plant shall provide for sampling HMA by one of the following methods:
    a. A mechanical sampling device attached to the HMA plant.
    b. Platforms or devices to enable sampling from the hauling vehicle without entering the hauling vehicle.

5-04.3(3)B Hauling Equipment

Trucks used for hauling HMA shall have tight, clean, smooth metal beds and shall have a cover of canvas or other suitable material of sufficient size to protect the mixture from adverse weather. Whenever the weather conditions during the work shift include, or are forecast to include, precipitation or an air temperature less than 45°F or when time from loading to unloading exceeds 30 minutes, the cover shall be securely attached to protect the HMA.

The contractor shall provide an environmentally benign means to prevent the HMA mixture from adhering to the hauling equipment. Excess release agent shall be drained prior to filling hauling equipment with HMA. Petroleum derivatives or other coating material that contaminate or alter the characteristics of the HMA shall not be used. For live bed trucks, the conveyer shall be in operation during the process of applying the release agent.

5-04.3(3)C Pavers

HMA pavers shall be self-contained, power-propelled units, provided with an internally heated vibratory screed and shall be capable of spreading and finishing courses of HMA plant mix material in lane widths required by the paving section shown in the Plans.

The HMA paver shall be in good condition and shall have the most current equipment available from the manufacturer for the prevention of segregation of the HMA mixture installed, in good condition, and in working order. The equipment certification shall list the make, model, and year of the paver and any equipment that has been retrofitted.

The screed shall be operated in accordance with the manufacturer's recommendations and shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, segregating, or gouging the mixture. A copy of the manufacturer's recommendations shall be provided upon request by the Contracting Agency. Extensions will be allowed provided they produce the same results, including ride, density, and surface texture as obtained by the primary screed. Extensions without augers and an internally heated vibratory screed shall not be used in the Traveled Way.

When specified in the Contract, reference lines for vertical control will be required. Lines shall be placed on both outer edges of the Traveled Way of each Roadway. Horizontal control utilizing the reference line will be permitted. The grade and slope for intermediate lanes shall be controlled automatically from reference lines or by means of a mat referencing device and a slope control device. When the finish of the grade prepared for paving is superior to the established tolerances and when, in the opinion of the Engineer, further improvement to the line, grade, cross-section, and smoothness can best be achieved without the use of the reference line, a mat referencing device may be substituted for the reference line. Substitution of the device will be subject to the continued approval of the Engineer. A joint matcher may be used subject to the approval of the Engineer. The reference line may be removed after the completion of the first course of HMA when approved by the Engineer. Whenever the Engineer determines that any of these methods are failing to provide the necessary vertical control, the reference lines will be reinstalled by the Contractor.

The Contractor shall furnish and install all pins, brackets, tensioning devices, wire, and accessories necessary for satisfactory operation of the automatic control equipment.

If the paving machine in use is not providing the required finish, the Engineer may suspend Work as allowed by Section 1-08.6. Any cleaning or solvent type liquids spilled on the pavement shall be thoroughly removed before paving proceeds.

5-04.3(3)D Material Transfer Device or Material Transfer Vehicle

A Material Transfer Device/Vehicle (MTD/V) shall only be used with the Engineer's approval, unless other-wise required by the contract.

Where an MTD/V is required by the contract, the Engineer may approve paving without an MTD/V, at the request of the Contractor. The Engineer will determine if an equitable adjustment in cost or time is due.

When used, the MTD/V shall mix the HMA after delivery by the hauling equipment and prior to laydown by the paving machine. Mixing of the HMA shall be sufficient to obtain a uniform temperature throughout the mixture. If a windrow elevator is used, the length of the windrow may be limited in urban areas or through intersections, at the discretion of the Engineer.

To be approved for use, an MTV:

1. Shall be self-propelled vehicle, separate from the hauling vehicle or paver.
2. Shall not be connected to the hauling vehicle or paver.
3. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
4. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.
5. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

To be approved for use, an MTD:

1. Shall be positively connected to the paver.
2. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
3. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.
4. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

5-04.3(3)E Rollers

Rollers shall be of the steel wheel, vibratory, oscillatory, or pneumatic tire type, in good condition and capable of reversing without backlash. Operation of the roller shall be in accordance with the manufacturer's recommendations. When ordered by the Engineer for any roller planned for use on the project, the Contractor shall provide a copy of the manufacturer's recommendation for the use of that roller for compaction of HMA. The number and weight of rollers shall be sufficient to compact the mixture in compliance with the requirements of Section 5-04.3(10). The use of equipment that results in crushing of the aggregate will not be permitted. Rollers producing pickup, washboard, uneven compaction of the surface, displacement of the mixture or other undesirable results shall not be used.

5-04.3(4) Preparation of Existing Paved Surfaces

When the surface of the existing pavement or old base is irregular, the Contractor shall bring it to a uniform grade and cross-section as shown on the Plans or approved by the Engineer.

Preleveling of uneven or broken surfaces over which HMA is to be placed may be accomplished by using an asphalt paver, a motor patrol grader, or by hand raking, as approved by the Engineer.

Compaction of preleveling HMA shall be to the satisfaction of the Engineer and may require the use of small steel wheel rollers, plate compactors, or pneumatic rollers to avoid bridging across preleveled areas by the compaction equipment. Equipment used for the compaction of preleveling HMA shall be approved by the Engineer.

Before construction of HMA on an existing paved surface, the entire surface of the pavement shall be clean. All fatty asphalt patches, grease drippings, and other objectionable matter shall be entirely removed from the existing pavement. All pavements or bituminous surfaces shall be thoroughly cleaned of dust, soil, pavement grindings, and other foreign matter. All holes and small depressions shall be filled with an appropriate class of HMA. The surface of the patched area shall be leveled and compacted thoroughly. Prior to the application of tack coat, or paving, the condition of the surface shall be approved by the Engineer.

A tack coat of asphalt shall be applied to all paved surfaces on which any course of HMA is to be placed or abutted; except that tack coat may be omitted from clean, newly paved surfaces at the discretion of the Engineer. Tack coat shall be uniformly applied to cover the existing pavement with a thin film of residual asphalt free of streaks and bare spots at a rate between 0.02 and 0.10 gallons per square yard of retained asphalt. The rate of application shall be approved by the Engineer. A heavy application of tack coat shall be applied to all joints. For Roadways open to traffic, the application of tack coat shall be limited to surfaces that will be paved during the same working shift. The spreading equipment shall be equipped with a thermometer to indicate the temperature of the tack coat material.

Equipment shall not operate on tacked surfaces until the tack has broken and cured. If the Contractor's operation damages the tack coat it shall be repaired prior to placement of the HMA.

The tack coat shall be CSS-1, or CSS-1h emulsified asphalt. The CSS-1 and CSS-1h emulsified asphalt may be diluted once with water at a rate not to exceed one part water to one part emulsified asphalt. The tack coat shall have sufficient temperature such that it may be applied uniformly at the specified rate of application and shall not exceed the maximum temperature recommended by the emulsified asphalt manufacturer.

5-04.3(4)A Crack Sealing

5-04.3(4)A1 General

When the Proposal includes a pay item for crack sealing, seal all cracks ¼ inch in width and greater.

Cleaning: Ensure that cracks are thoroughly clean, dry and free of all loose and foreign material when filling with crack sealant material. Use a hot compressed air lance to dry and

warm the pavement surfaces within the crack immediately prior to filling a crack with the sealant material. Do not overheat pavement. Do not use direct flame dryers. Routing cracks is not required.

Sand Slurry: For cracks that are to be filled with sand slurry, thoroughly mix the components and pour the mixture into the cracks until full. Add additional CSS-1 cationic emulsified asphalt to the sand slurry as needed for workability to ensure the mixture will completely fill the cracks. Strike off the sand slurry flush with the existing pavement surface and allow the mixture to cure. Top off cracks that were not completely filled with additional sand slurry. Do not place the HMA overlay until the slurry has fully cured.

The sand slurry shall consist of approximately 20 percent CSS-1 emulsified asphalt, approximately 2 percent portland cement, water (if required), and the remainder clean Class 1 or 2 fine aggregate per section 9-03.1(2). The components shall be thoroughly mixed and then poured into the cracks and joints until full. The following day, any cracks or joints that are not completely filled shall be topped off with additional sand slurry. After the sand slurry is placed, the filler shall be struck off flush with the existing pavement surface and allowed to cure. The HMA overlay shall not be placed until the slurry has fully cured. The requirements of Section 1-06 will not apply to the portland cement and sand used in the sand slurry.

In areas where HMA will be placed, use sand slurry to fill the cracks.

In areas where HMA will not be placed, fill the cracks as follows:

1. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
2. Cracks greater than 1 inch in width – fill with sand slurry.

Hot Poured Sealant: For cracks that are to be filled with hot poured sealant, apply the material in accordance with these requirements and the manufacturer's recommendations. Furnish a Type 1 Working Drawing of the manufacturer's product information and recommendations to the Engineer prior to the start of work, including the manufacturer's recommended heating time and temperatures, allowable storage time and temperatures after initial heating, allowable reheating criteria, and application temperature range. Confine hot poured sealant material within the crack. Clean any overflow of sealant from the pavement surface. If, in the opinion of the Engineer, the Contractor's method of sealing the cracks with hot poured sealant results in an excessive amount of material on the pavement surface, stop and correct the operation to eliminate the excess material.

5-04.3(4)A2 Crack Sealing Areas Prior to Paving

In areas where HMA will be placed, use sand slurry to fill the cracks.

5-04.3(4)A3 Crack Sealing Areas Not to be Paved

In areas where HMA will not be placed, fill the cracks as follows:

A. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
B. Cracks greater than 1 inch in width – fill with sand slurry.

5-04.3(4)B Vacant

5-04.3(4)C Pavement Repair

The Contractor shall excavate pavement repair areas and shall backfill these with HMA in accordance with the details shown in the Plans and as marked in the field. The Contractor shall conduct the excavation operations in a manner that will protect the pavement that is to remain. Pavement not designated to be removed that is damaged as a result of the Contractor's operations shall be repaired by the Contractor to the satisfaction of the Engineer at no cost to the Contracting Agency. The Contractor shall excavate only within one lane at a time unless approved otherwise by the Engineer. The Contractor shall not excavate more area than can be completely finished during the same shift, unless approved by the Engineer.

Unless otherwise shown in the Plans or determined by the Engineer, excavate to a depth of 1.0 feet. The Engineer will make the final determination of the excavation depth required. The minimum width of any pavement repair area shall be 40 inches unless shown otherwise in the Plans. Before any excavation, the existing pavement shall be sawcut or shall be removed by a pavement grinder. Excavated materials will become the property of the Contractor and shall be disposed of in a Contractor-provided site off the Right of Way or used in accordance with Sections 2-02.3(3) or 9-03.21.

Asphalt for tack coat shall be required as specified in Section 5-04.3(4). A heavy application of tack coat shall be applied to all surfaces of existing pavement in the pavement repair area.

Placement of the HMA backfill shall be accomplished in lifts not to exceed 0.35-foot compacted depth. Lifts that exceed 0.35-foot of compacted depth may be accomplished with the approval of the Engineer. Each lift shall be thoroughly compacted by a mechanical tamper or a roller.

5-04.3(5) Producing/Stockpiling Aggregates and RAP

Aggregates and RAP shall be stockpiled according to the requirements of Section 3-02. Sufficient storage space shall be provided for each size of aggregate and RAP. Materials shall be removed from stockpile(s) in a manner to ensure minimal segregation when being moved to the HMA plant for processing into the final mixture. Different aggregate sizes shall be kept separated until they have been delivered to the HMA plant.

5-04.3(5)A Vacant

5-04.3(6) Mixing

After the required amount of mineral materials, asphalt binder, recycling agent and anti-stripping additives have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials is ensured.

When discharged, the temperature of the HMA shall not exceed the optimum mixing temperature by more than 25°F as shown on the reference mix design report or as approved by the Engineer. Also, when a WMA additive is included in the manufacture of HMA, the discharge temperature of the HMA shall not exceed the maximum recommended by the manufacturer of the WMA additive. A maximum water content of 2 percent in the mix, at discharge, will be allowed providing the water causes no problems with handling, stripping, or flushing. If the water in the HMA causes any of these problems, the moisture content shall be reduced as directed by the Engineer.

Storing or holding of the HMA in approved storage facilities will be permitted with approval of the Engineer, but in no event shall the HMA be held for more than 24 hours. HMA held for more than 24 hours after mixing shall be rejected. Rejected HMA shall be disposed of by the Contractor at no expense to the Contracting Agency. The storage facility shall have an accessible device located at the top of the cone or about the third point. The device shall indicate the amount of material in storage. No HMA shall be accepted from the storage facility when the HMA in storage is below the top of the cone of the storage facility, except as the storage facility is being emptied at the end of the working shift.

Recycled asphalt pavement (RAP) utilized in the production of HMA shall be sized prior to entering the mixer so that a uniform and thoroughly mixed HMA is produced. If there is evidence of the recycled asphalt pavement not breaking down during the heating and mixing of the HMA, the Contractor shall immediately suspend the use of the RAP until changes have been approved by the Engineer. After the required amount of mineral materials, RAP, new asphalt binder and asphalt rejuvenator have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials, and RAP is ensured.

5-04.3(7) Spreading and Finishing

The mixture shall be laid upon an approved surface, spread, and struck off to the grade and elevation established. HMA pavers complying with Section 5-04.3(3) shall be used to distribute the mixture. Unless otherwise directed by the Engineer, the nominal compacted depth of any layer of any course shall not exceed the following:

HMA Class 1”		0.35 feet
HMA Class ¾” and HMA Class ½”		
	wearing course	0.30 feet
	other courses	0.35 feet
HMA Class ⅜”		0.15 feet

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the paving may be done with other equipment or by hand.

When more than one JMF is being utilized to produce HMA, the material produced for each JMF shall be placed by separate spreading and compacting equipment. The intermingling of

HMA produced from more than one JMF is prohibited. Each strip of HMA placed during a work shift shall conform to a single JMF established for the class of HMA specified unless there is a need to make an adjustment in the JMF.

5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA

For HMA accepted by nonstatistical evaluation the aggregate properties of sand equivalent, uncompacted void content and fracture will be evaluated in accordance with Section 3-04. Sampling and testing of aggregates for HMA accepted by commercial evaluation will be at the option of the Engineer.

5-04.3(9) HMA Mixture Acceptance

Acceptance of HMA shall be as provided under nonstatistical, or commercial evaluation.

Nonstatistical evaluation will be used for the acceptance of HMA unless Commercial Evaluation is specified.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, temporary pavement, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Engineer.

The mix design will be the initial JMF for the class of HMA. The Contractor may request a change in the JMF. Any adjustments to the JMF will require the approval of the Engineer and may be made in accordance with this section.

HMA Tolerances and Adjustments

1. **Job Mix Formula Tolerances** – The constituents of the mixture at the time of acceptance shall be within tolerance. The tolerance limits will be established as follows:

   For Asphalt Binder and Air Voids (Va), the acceptance limits are determined by adding the tolerances below to the approved JMF values. These values will also be the Upper Specification Limit (USL) and Lower Specification Limit (LSL) required in Section 1-06.2(2)D2

Property	Non-Statistical Evaluation	Commercial Evaluation
Asphalt Binder	+/- 0.5%	+/- 0.7%
Air Voids, Va	2.5% min. and 5.5% max	N/A

For Aggregates in the mixture:

a. First, determine preliminary upper and lower acceptance limits by applying the following tolerances to the approved JMF.

Aggregate Percent Passing	Non-Statistical Evaluation	Commercial Evaluation
1", ¾", ½", and 3/8" sieves	+/- 6%	+/- 8%
No. 4 sieve	+/-6%	+/- 8%
No. 8 Sieve	+/- 6%	+/-8%
No. 200 sieve	+/- 2.0%	+/- 3.0%

b. Second, adjust the preliminary upper and lower acceptance limits determined from step (a) the minimum amount necessary so that none of the aggregate properties are outside the control points in Section 9-03.8(6). The resulting values will be the upper and lower acceptance limits for aggregates, as well as the USL and LSL required in Section 1-06.2(2)D2.

2. Job Mix Formula Adjustments – An adjustment to the aggregate gradation or asphalt binder content of the JMF requires approval of the Engineer. Adjustments to the JMF will only be considered if the change produces material of equal or better quality and may require the development of a new mix design if the adjustment exceeds the amounts listed below.

   a. **Aggregates** –2 percent for the aggregate passing the 1½″, 1″, ¾″, ½″, ⅜″, and the No. 4 sieves, 1 percent for aggregate passing the No. 8 sieve, and 0.5 percent for the aggregate passing the No. 200 sieve. The adjusted JMF shall be within the range of the control points in Section 9-03.8(6).

   b. **Asphalt Binder Con**tent – The Engineer may order or approve changes to asphalt binder content. The maximum adjustment from the approved mix design for the asphalt binder content shall be 0.3 percent

5-04.3(9)A Vacant

5-04.3(9)B Vacant

5-04.3(9)C Mixture Acceptance – Nonstatistical Evaluation

HMA mixture which is accepted by Nonstatistical Evaluation will be evaluated by the Contracting Agency by dividing the HMA tonnage into lots.

5-04.3(9)C1 Mixture Nonstatistical Evaluation – Lots and Sublots

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A sublot shall be equal to one day's production or 800 tons, whichever is less except that the final sublot will be a minimum of 400 tons and may be increased to 1200 tons.

All of the test results obtained from the acceptance samples from a given lot shall be evaluated collectively. If the Contractor requests a change to the JMF that is approved, the material produced after the change will be evaluated on the basis of the new JMF for the remaining sublots in the current lot and for acceptance of subsequent lots. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced.

Sampling and testing for evaluation shall be performed on the frequency of one sample per sublot.

5-04.3(9)C2 Mixture Nonstatistical Evaluation Sampling

Samples for acceptance testing shall be obtained by the Contractor when ordered by the Engineer. The Contractor shall sample the HMA mixture in the presence of the Engineer and in accordance with AASH-TO T 168. A minimum of three samples should be taken for each class of HMA placed on a project. If used in a structural application, at least one of the three samples shall to be tested.

Sampling and testing HMA in a Structural application where quantities are less than 400 tons is at the discretion of the Engineer.

For HMA used in a structural application and with a total project quantity less than 800 tons but more than 400 tons, a minimum of one acceptance test shall be performed. In all cases, a minimum of 3 samples will be obtained at the point of acceptance, a minimum of one of the three samples will be tested for conformance to the JMF:

- If the test results are found to be within specification requirements, additional testing will be at the Engineer's discretion.
- If test results are found not to be within specification requirements, additional testing of the remaining samples to determine a Composite Pay Factor (CPF) shall be performed.

5-04.3(9)C3 Mixture Nonstatistical Evaluation – Acceptance Testing

Testing of HMA for compliance of V_a will at the option of the Contracting Agency. If tested, compliance of V_a will use WSDOT SOP 731.

Testing for compliance of asphalt binder content will be by WSDOT FOP for AASHTO T 308.

Testing for compliance of gradation will be by FOP for WAQTC T 27/T 11.

5-04.3(9)C4 Mixture Nonstatistical Evaluation – Pay Factors

For each lot of material falling outside the tolerance limits in 5-04.3(9), the Contracting Agency will determine a Composite Pay Factor (CPF) using the following price adjustment factors:

Table of Price Adjustment Factors	
Constituent	**Factor "f"**
All aggregate passing: 1½″, 1″, ¾″, ½″, ⅜″ and No.4 sieves	2
All aggregate passing No. 8 sieve	15
All aggregate passing No. 200 sieve	20
Asphalt binder	40
Air Voids (Va) (where applicable)	20

Each lot of HMA produced under Nonstatistical Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the nonstatistical tolerance limits in the Job Mix Formula shown in Table of Price Adjustment Factors, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The nonstatistical tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the Roadway shall be tested to provide a minimum of three sets of results for evaluation.

5-04.3(9)C5 Vacant

5-04.3(9)C6 Mixture Nonstatistical Evaluation – Price Adjustments

For each lot of HMA mix produced under Nonstatistical Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The total job mix compliance price adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).

5-04.3(9)C7 Mixture Nonstatistical Evaluation - Retests

The Contractor may request a sublot be retested. To request a retest, the Contractor shall submit a written request within 7 calendar days after the specific test results have been received. A split of the original acceptance sample will be retested. The split of the sample will not be tested with the same tester that ran the original acceptance test. The sample will be tested for a complete gradation analysis, asphalt binder content, and, at the option of the agency, V_a. The results of the retest will be used for the acceptance of the HMA in place of the original sublot sample test results. The cost of testing will be deducted from any monies due or that may come due the Contractor under the Contract at the rate of $500 per sample.

5-04.3 (9)D Mixture Acceptance – Commercial Evaluation

If sampled and tested, HMA produced under Commercial Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the commercial tolerance limits in the Job Mix Formula shown in 5-04.3(9), the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The commercial tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the street shall be tested to provide a minimum of three sets of results for evaluation.

For each lot of HMA mix produced and tested under Commercial Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The Job Mix Compliance Price Adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).

5-04.3(10) HMA Compaction Acceptance

HMA mixture accepted by nonstatistical evaluation that is used in traffic lanes, including lanes for intersections, ramps, truck climbing, weaving, and speed change, and having a specified compacted course thickness greater than 0.10-foot, shall be compacted to a specified level of relative density. The specified level of relative density shall be a Composite Pay Factor (CPF) of not less than 0.75 when evaluated in accordance with Section 1-06.2, using a LSL of 92.0 (minimum of 92 percent of the maximum density). The maximum density shall be determined by WSDOT FOP for AASHTO T 729. The specified level of density attained will be determined by the evaluation of the density of the pavement. The density of the pavement shall be determined in accordance with WSDOT FOP for WAQTC TM 8, except that gauge correlation will be at the discretion of the Engineer, when using the nuclear density gauge and WSDOT SOP 736 when using cores to determine density.

Tests for the determination of the pavement density will be taken in accordance with the required procedures for measurement by a nuclear density gauge or roadway cores after completion of the finish rolling.

If the Contracting Agency uses a nuclear density gauge to determine density the test procedures FOP for WAQTC TM 8 and WSDOT SOP T 729 will be used on the day the mix is placed and prior to opening to traffic.

Roadway cores for density may be obtained by either the Contracting Agency or the Contractor in accordance with WSDOT SOP 734. The core diameter shall be 4-inches minimum, unless otherwise approved by the Engineer. Roadway cores will be tested by the Contracting Agency in accordance with WSDOT FOP for AASHTO T 166.

If the Contract includes the Bid item “Roadway Core” the cores shall be obtained by the Contractor in the presence of the Engineer on the same day the mix is placed and at locations designated by the Engineer. If the Contract does not include the Bid item “Roadway Core” the Contracting Agency will obtain the cores.

For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor’s request after the Engineer is satisfied that material conforming to the Specifications can be produced.

HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test point evaluation shall be performed in accordance with instructions from the Engineer. The number of passes with an approved compaction train, required to attain the maximum test point density, shall be used on all subsequent paving.

HMA for preleveling shall be thoroughly compacted. HMA that is used for preleveling wheel rutting shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

Test Results

For a sublot that has been tested with a nuclear density gauge that did not meet the minimum of 92 percent of the reference maximum density in a compaction lot with a CPF below 1.00 and thus subject to a price reduction or rejection, the Contractor may request that a core be used for determination of the relative density of the sublot. The relative density of the core will replace the relative density determined by the nuclear density gauge for the sublot and will be used for calculation of the CPF and acceptance of HMA compaction lot.

When cores are taken by the Contracting Agency at the request of the Contractor, they shall be requested by noon of the next workday after the test results for the sublot have been provided or made available to the Contractor. Core locations shall be outside of wheel paths and as determined by the Engineer. Traffic control shall be provided by the Contractor as requested by the Engineer. Failure by the Contractor to provide the requested traffic control will result in forfeiture of the request for cores. When the CPF for the lot based on the results of the HMA cores is less than 1.00, the cost for the coring will be deducted from any monies due or that may become due the Contractor under the Contract at the rate of $200 per core and the Contractor shall pay for the cost of the traffic control.

5-04.3(10)A HMA Compaction – General Compaction Requirements

Compaction shall take place when the mixture is in the proper condition so that no undue displacement, cracking, or shoving occurs. Areas inaccessible to large compaction equipment shall be compacted by other mechanical means. Any HMA that becomes loose, broken, contaminated, shows an excess or deficiency of asphalt, or is in any way defective, shall be removed and replaced with new hot mix that shall be immediately compacted to conform to the surrounding area.

The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option, provided the specified densities are attained. Unless the Engineer has approved otherwise, rollers shall only be operated in the static mode when the internal temperature of the mix is less than 175°F. Regardless of mix temperature, a roller shall not be operated in a mode that results in checking or cracking of the mat. Rollers shall only be operated in static mode on bridge decks.

5-04.3(10)B HMA Compaction – Cyclic Density

Low cyclic density areas are defined as spots or streaks in the pavement that are less than 90 percent of the theoretical maximum density. At the Engineer's discretion, the Engineer may evaluate the HMA pavement for low cyclic density, and when doing so will follow WSDOT SOP 733. A $500 Cyclic Density Price Adjustment will be assessed for any 500-foot section with two or more density readings below 90 percent of the theoretical maximum density.

5-04.3(10)C Vacant

5-04.3(10)D HMA Nonstatistical Compaction

5-04.3(10)D1 HMA Nonstatistical Compaction – Lots and Sublots

HMA compaction which is accepted by nonstatistical evaluation will be based on acceptance testing performed by the Contracting Agency dividing the project into compaction lots.

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A sublot shall be equal to one day's production or 400 tons, whichever is less except that the final sublot will be a minimum of 200 tons and may be increased to 800 tons. Testing for compaction will be at the rate of 5 tests per sublot per WSDOT T 738.

The sublot locations within each density lot will be determined by the Engineer. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced.

HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test point evaluation shall be performed in accordance with instructions from the Engineer. The number of passes with an approved compaction train, required to attain the maximum test point density, shall be used on all subsequent paving.

HMA for preleveling shall be thoroughly compacted. HMA that is used to prelevel wheel ruts shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

5-04.3(10)D2 HMA Compaction Nonstatistical Evaluation – Acceptance Testing

The location of the HMA compaction acceptance tests will be randomly selected by the Engineer from within each sublot, with one test per sublot.

5-04.3(10)D3 HMA Nonstatistical Compaction – Price Adjustments

For each compaction lot with one or two sublots, having all sublots attain a relative density that is 92 percent of the reference maximum density the HMA shall be accepted at the unit Contract price with no further evaluation. When a sublot does not attain a relative density that is 92 percent of the reference maximum density, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The maximum CPF shall be 1.00, however, lots with a calculated CPF in excess of 1.00 will be used to offset lots with CPF values below 1.00 but greater than 0.90. Lots with CPF lower than 0.90 will be evaluated for compliance per 5-04.3(11). Additional testing by either a nuclear moisture-density gauge or cores will be completed as required to provide a minimum of three tests for evaluation.

For compaction below the required 92% a Non-Conforming Compaction Factor (NCCF) will be determined. The NCCF equals the algebraic difference of CPF minus 1.00 multiplied by 40 percent. The Compaction Price Adjustment will be calculated as the product of CPF, the quantity of HMA in the compaction control lot in tons, and the unit Contract price per ton of mix.

5-04.3(11) Reject Work

5-04.3(11)A Reject Work General

Work that is defective or does not conform to Contract requirements shall be rejected. The Contractor may propose, in writing, alternatives to removal and replacement of rejected material. Acceptability of such alternative proposals will be determined at the sole discretion of the Engineer. HMA that has been rejected is subject to the requirements in Section 1-06.2(2) and this specification, and the Contractor shall submit a corrective action proposal to the Engineer for approval.

5-04.3(11)B Rejection by Contractor

The Contractor may, prior to sampling, elect to remove any defective material and replace it with new material. Any such new material will be sampled, tested, and evaluated for acceptance.

5-04.3(11)C Rejection Without Testing (Mixture or Compaction)

The Engineer may, without sampling, reject any batch, load, or section of Roadway that appears defective. Material rejected before placement shall not be incorporated into the pavement. Any rejected section of Roadway shall be removed.

No payment will be made for the rejected materials or the removal of the materials unless the Contractor requests that the rejected material be tested. If the Contractor elects to have the rejected material tested, a minimum of three representative samples will be obtained and tested. Acceptance of rejected material will be based on conformance with the nonstatistical acceptance Specification. If the CPF for the rejected material is less than 0.75, no payment will be made for the rejected material; in addition, the cost of sampling and testing shall be borne by the Contractor. If the CPF is greater than or equal to 0.75, the cost of sampling and testing will be borne by the Contracting Agency. If the material is rejected before placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at a CPF of 0.75. If rejection occurs after placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at the calculated

CPF with an addition of 25 percent of the unit Contract price added for the cost of removal and disposal.

5-04.3(11)D Rejection - A Partial Sublot

In addition to the random acceptance sampling and testing, the Engineer may also isolate from a normal sublot any material that is suspected of being defective in relative density, gradation or asphalt binder content. Such isolated material will not include an original sample location. A minimum of three random samples of the suspect material will be obtained and tested. The material will then be statistically evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)E Rejection - An Entire Sublot

An entire sublot that is suspected of being defective may be rejected. When a sublot is rejected a minimum of two additional random samples from this sublot will be obtained. These additional samples and the original sublot will be evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)F Rejection - A Lot in Progress

The Contractor shall shut down operations and shall not resume HMA placement until such time as the Engineer is satisfied that material conforming to the Specifications can be produced:

1. When the Composite Pay Factor (CPF) of a lot in progress drops below 1.00 and the Contractor is taking no corrective action, or
2. When the Pay Factor (PF) for any constituent of a lot in progress drops below 0.95 and the Contractor is taking no corrective action, or
3. When either the PFi for any constituent or the CPF of a lot in progress is less than 0.75.

5-04.3(11)G Rejection - An Entire Lot (Mixture or Compaction)

An entire lot with a CPF of less than 0.75 will be rejected.

5-04.3(12) Joints

5-04.3(12)A HMA Joints

5-04.3(12)A1 Transverse Joints

The Contractor shall conduct operations such that the placing of the top or wearing course is a continuous operation or as close to continuous as possible. Unscheduled transverse joints will be allowed and the roller may pass over the unprotected end of the freshly laid mixture only when the placement of the course must be discontinued for such a length of time that the mixture will cool below compaction temperature. When the Work is resumed, the previously compacted mixture shall be cut back to produce a slightly beveled edge for the full thickness of the course.

A temporary wedge of HMA constructed on a 20H:1V shall be constructed where a transverse joint as a result of paving or planing is open to traffic. The HMA in the temporary wedge shall be separated from the permanent HMA by strips of heavy wrapping paper or

other methods approved by the Engineer. The wrapping paper shall be removed and the joint trimmed to a slightly beveled edge for the full thickness of the course prior to resumption of paving.

The material that is cut away shall be wasted and new mix shall be laid against the cut. Rollers or tamping irons shall be used to seal the joint.

5-04.3(12)A2 Longitudinal Joints

The longitudinal joint in any one course shall be offset from the course immediately below by not more than 6 inches nor less than 2 inches. All longitudinal joints constructed in the wearing course shall be located at a lane line or an edge line of the Traveled Way. A notched wedge joint shall be constructed along all longitudinal joints in the wearing surface of new HMA unless otherwise approved by the Engineer. The notched wedge joint shall have a vertical edge of not less than the maximum aggregate size or more than ½ of the compacted lift thickness and then taper down on a slope not steeper than 4H:1V. The sloped portion of the HMA notched wedge joint shall be uniformly compacted.

5-04.3(12)B Bridge Paving Joint Seals

5-04.3(12)B1 HMA Sawcut and Seal

Prior to placing HMA on the bridge deck, establish sawcut alignment points at both ends of the bridge paving joint seals to be placed at the bridge ends, and at interior joints within the bridge deck when and where shown in the Plans. Establish the sawcut alignment points in a manner that they remain functional for use in aligning the sawcut after placing the overlay.

Submit a Type 1 Working Drawing consisting of the sealant manufacturer's application procedure.

Construct the bridge paving joint seal as specified ion the Plans and in accordance with the detail shown in the Standard Plans. Construct the sawcut in accordance with the detail shown in the Standard Plan. Construct the sawcut in accordance with Section 5-05.3(8)B and the manufacturer's application procedure.

5-04.3(12)B2 Paved Panel Joint Seal

Construct the paved panel joint seal in accordance with the requirements specified in section 5-04.3(12)B1 and the following requirement:

1. Clean and seal the existing joint between concrete panels in accordance with Section 5-01.3(8) and the details shown in the Standard Plans.

5-04.3(13) Surface Smoothness

The completed surface of all courses shall be of uniform texture, smooth, uniform as to crown and grade, and free from defects of all kinds. The completed surface of the wearing course shall not vary more than ⅛ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline. The transverse slope of the completed surface of the wearing course shall vary not more than ¼ inch in 10 feet from the rate of transverse slope shown in the Plans.

When deviations in excess of the above tolerances are found that result from a high place in the HMA, the pavement surface shall be corrected by one of the following methods:

1. Removal of material from high places by grinding with an approved grinding machine, or
2. Removal and replacement of the wearing course of HMA, or
3. By other method approved by the Engineer.

Correction of defects shall be carried out until there are no deviations anywhere greater than the allowable tolerances.

Deviations in excess of the above tolerances that result from a low place in the HMA and deviations resulting from a high place where corrective action, in the opinion of the Engineer, will not produce satisfactory results will be accepted with a price adjustment. The Engineer shall deduct from monies due or that may become due to the Contractor the sum of $500.00 for each and every section of single traffic lane 100 feet in length in which any excessive deviations described above are found.

When utility appurtenances such as manhole covers and valve boxes are located in the traveled way, the utility appurtenances shall be adjusted to the finished grade prior to paving. This requirement may be waived when requested by the Contractor, at the discretion of the Engineer or when the adjustment details provided in the project plan or specifications call for utility appurtenance adjustments after the completion of paving.

Utility appurtenance adjustment discussions will be included in the Pre-Paving planning (5-04.3(14)B3). Submit a written request to waive this requirement to the Engineer prior to the start of paving.

5-04.3(14) Planing (Milling) Bituminous Pavement

The planning plan must be approved by the Engineer and a pre planning meeting must be held prior to the start of any planing. See Section 5-04.3(14)B2 for information on planning submittals.

Locations of existing surfacing to be planed are as shown in the Drawings.

Where planing an existing pavement is specified in the Contract, the Contractor must remove existing surfacing material and to reshape the surface to remove irregularities. The finished product must be a prepared surface acceptable for receiving an HMA overlay.

Use the cold milling method for planing unless otherwise specified in the Contract. Do not use the planer on the final wearing course of new HMA.

Conduct planing operations in a manner that does not tear, break, burn, or otherwise damage the surface which is to remain. The finished planed surface must be slightly grooved or roughened and must be free from gouges, deep grooves, ridges, or other

imperfections. The Contractor must repair any damage to the surface by the Contractor's planing equipment, using an Engineer approved method.

Repair or replace any metal castings and other surface improvements damaged by planing, as determined by the Engineer.

A tapered wedge cut must be planed longitudinally along curb lines sufficient to provide a minimum of 4 inches of curb reveal after placement and compaction of the final wearing course. The dimensions of the wedge must be as shown on the Drawings or as specified by the Engineer.

A tapered wedge cut must also be made at transitions to adjoining pavement surfaces (meet lines) where butt joints are shown on the Drawings. Cut butt joints in a straight line with vertical faces 2 inches or more in height, producing a smooth transition to the existing adjoining pavement.

After planing is complete, planed surfaces must be swept, cleaned, and if required by the Contract, patched and preleveled.

The Engineer may direct additional depth planing. Before performing this additional depth planing, the Contractor must conduct a hidden metal in pavement detection survey as specified in Section 5-04.3(14)A.

5-04.3(14)A Pre-Planing Metal Detection Check

Before starting planing of pavements, and before any additional depth planing required by the Engineer, the Contractor must conduct a physical survey of existing pavement to be planed with equipment that can identify hidden metal objects.

Should such metal be identified, promptly notify the Engineer.

See Section 1-07.16(1) regarding the protection of survey monumentation that may be hidden in pavement.

The Contractor is solely responsible for any damage to equipment resulting from the Contractor's failure to conduct a pre-planing metal detection survey, or from the Contractor's failure to notify the Engineer of any hidden metal that is detected.

5-04.3(14)B Paving And Planing Under Traffic

5-04.3(14)B1 General

In addition the requirements of Section 1-07.23 and the traffic controls required in Section 1-10, and unless the Contract specifies otherwise or the Engineer approves, the Contractor must comply with the following:

1. Intersections:

a. Keep intersections open to traffic at all times, except when paving or planing operations through an intersection requires closure. Such closure must be kept to the minimum time required to place and compact the HMA mixture, or plane as appropriate. For paving, schedule such closure to individual lanes or portions thereof that allows the traffic volumes and schedule of traffic volumes required in the approved traffic control plan. Schedule work so that adjacent intersections are not impacted at the same time and comply with the traffic control restrictions required by the Traffic Engineer. Each individual intersection closure or partial closure, must be addressed in the traffic control plan, which must be submitted to and accepted by the Engineer, see Section 1-10.2(2).

b. When planing or paving and related construction must occur in an intersection, consider scheduling and sequencing such work into quarters of the intersection, or half or more of an intersection with side street detours. Be prepared to sequence the work to individual lanes or portions thereof.

c. Should closure of the intersection in its entirety be necessary, and no trolley service is impacted, keep such closure to the minimum time required to place and compact the HMA mixture, plane, remove asphalt, tack coat, and as needed.

d. Any work in an intersection requires advance warning in both signage and a number of Working Days advance notice as determined by the Engineer, to alert traffic and emergency services of the intersection closure or partial closure.

e. Allow new compacted HMA asphalt to cool to ambient temperature before any traffic is allowed on it. Traffic is not allowed on newly placed asphalt until approval has been obtained from the Engineer.

2. Temporary centerline marking, post-paving temporary marking, temporary stop bars, and maintaining temporary pavement marking must comply with Section 8-23.

3. Permanent pavement marking must comply with Section 8-22.

5-04.3(14)B2 Submittals - Planing Plan And HMA Paving Plan

The Contractor must submit a separate planing plan and a separate paving plan to the Engineer at least 5 Working Days in advance of each operation's activity start date. These plans must show how the moving operation and traffic control are coordinated, as they will be discussed at the pre-planing briefing and pre-paving briefing. When requested by the Engineer, the Contractor must provide each operation's traffic control plan on 24 x 36 inch or larger size Shop Drawings with a scale showing both the area of operation and sufficient detail of traffic beyond the area of operation where detour traffic may be required. The scale on the Shop Drawings is 1 inch = 20 feet, which may be changed if the Engineer agrees sufficient detail is shown.

The planing operation and the paving operation include, but are not limited to, metal detection, removal of asphalt and temporary asphalt of any kind, tack coat and drying, staging of supply trucks, paving trains, rolling, scheduling, and as may be discussed at the briefing.

When intersections will be partially or totally blocked, provide adequately sized and noticeable signage alerting traffic of closures to come, a minimum 2 Working Days in

advance. The traffic control plan must show where police officers will be stationed when signalization is or may be, countermanded, and show areas where flaggers are proposed.

At a minimum, the planing and the paving plan must include:

1. A copy of the accepted traffic control plan, see Section 1-10.2(2), detailing each day's traffic control as it relates to the specific requirements of that day's planing and paving. Briefly describe the sequencing of traffic control consistent with the proposed planing and paving sequence, and scheduling of placement of temporary pavement markings and channelizing devices after each day's planing, and paving.
2. A copy of each intersection's traffic control plan.
3. Haul routes from Supplier facilities, and locations of temporary parking and staging areas, including return routes. Describe the complete round trip as it relates to the sequencing of paving operations.
4. Names and locations of HMA Supplier facilities to be used.
5. List of all equipment to be used for paving.
6. List of personnel and associated job classification assigned to each piece of paving equipment.
7. Description (geometric or narrative) of the scheduled sequence of planing and of paving, and intended area of planing and of paving for each day's work, must include the directions of proposed planing and of proposed paving, sequence of adjacent lane paving, sequence of skipped lane paving, intersection planing and paving scheduling and sequencing, and proposed notifications and coordinations to be timely made. The plan must show HMA joints relative to the final pavement marking lane lines.
8. Names, job titles, and contact information for field, office, and plant supervisory personnel.
9. A copy of the approved Mix Designs.
10. Tonnage of HMA to be placed each day.
11. Approximate times and days for starting and ending daily operations.

5-04.3(14)B3 Pre-Paving And Pre-Planing Briefing

At least 2 Working Days before the first paving operation and the first planing operation, or as scheduled by the Engineer for future paving and planing operations to ensure the Contractor has adequately prepared for notifying and coordinating as required in the Contract, the Contractor must be prepared to discuss that day's operations as they relate to other entities and to public safety and convenience, including driveway and business access, garbage truck operations, Metro transit operations and working around energized overhead wires, school and nursing home and hospital and other accesses, other contractors who may be operating in the area, pedestrian and bicycle traffic, and emergency services. The Contractor, and Subcontractors that may be part of that day's operations, must meet with the Engineer and discuss the proposed operation as it relates to the submitted planing plan and paving plan, approved traffic control plan, and public convenience and safety. Such discussion includes, but is not limited to:

1. General for both Paving Plan and for Planing Plan:

a. The actual times of starting and ending daily operations.
b. In intersections, how to break up the intersection, and address traffic control and signalization for that operation, including use of peace officers.
c. The sequencing and scheduling of paving operations and of planing operations, as applicable, as it relates to traffic control, to public convenience and safety, and to other con-tractors who may operate in the Project Site.
d. Notifications required of Contractor activities, and coordinating with other entities and the public as necessary.
e. Description of the sequencing of installation and types of temporary pavement markings as it relates to planning and to paving.
f. Description of the sequencing of installation of, and the removal of, temporary pavement patch material around exposed castings and as may be needed
g. Description of procedures and equipment to identify hidden metal in the pavement, such as survey monumentation, monitoring wells, street car rail, and castings, before planning, see Section 5-04.3(14)B2.
h. Description of how flaggers will be coordinated with the planing, paving, and related operations.
i. Description of sequencing of traffic controls for the process of rigid pavement base repairs.
j. Other items the Engineer deems necessary to address.

2. Paving – additional topics:

a. When to start applying tack and coordinating with paving.
b. Types of equipment and numbers of each type equipment to be used. If more pieces of equipment than personnel are proposed, describe the sequencing of the personnel operating the types of equipment. Discuss the continuance of operator personnel for each type equipment as it relates to meeting Specification requirements.
c. Number of JMFs to be placed, and if more than one JMF how the Contractor will ensure different JMFs are distinguished, how pavers and MTVs are distinguished if more than one JMF is being placed at the time, and how pavers and MTVs are cleaned so that one JMF does not adversely influence the other JMF.
d. Description of contingency plans for that day's operations such as equipment breakdown, rain out, and Supplier shutdown of operations.
e. Number of sublots to be placed, sequencing of density testing, and other sampling and testing.

5-04.3(15) Sealing Pavement Surfaces

Apply a fog seal where shown in the plans. Construct the fog seal in accordance with Section 5-02.3. Unless otherwise approved by the Engineer, apply the fog seal prior to opening to traffic.

5-04.3(16) HMA Road Approaches

HMA approaches shall be constructed at the locations shown in the Plans or where staked by the Engineer. The Work shall be performed in accordance with Section 5-04.

5-04.4 Measurement

HMA Cl. ___ PG ___, HMA for ___ Cl. ___ PG ___, and Commercial HMA will be measured by the ton in accordance with Section 1-09.2, with no deduction being made for the weight of asphalt binder, mineral filler, or any other component of the mixture. If the Contractor elects to remove and replace mix as allowed by Section 5-04.3(11), the material removed will not be measured.

Roadway cores will be measured per each for the number of cores taken.

Preparation of untreated roadway will be measured by the mile once along the centerline of the main line Roadway. No additional measurement will be made for ramps, Auxiliary Lanes, service roads, Frontage Roads, or Shoulders. Measurement will be to the nearest 0.01 mile.

Soil residual herbicide will be measured by the mile for the stated width to the nearest 0.01 mile or by the square yard, whichever is designated in the Proposal.

Pavement repair excavation will be measured by the square yard of surface marked prior to excavation.

Asphalt for prime coat will be measured by the ton in accordance with Section 1-09.2.

Prime coat aggregate will be measured by the cubic yard, truck measure, or by the ton, whichever is designated in the Proposal.

Asphalt for fog seal will be measured by the ton, as provided in Section 5-02.4.

Longitudinal joint seals between the HMA and cement concrete pavement will be measured by the linear foot along the line and slope of the completed joint seal.

Planing bituminous pavement will be measured by the square yard.

Temporary pavement marking will be measured by the linear foot as provided in Section 8-23.4.

Water will be measured by the M gallon as provided in Section 2-07.4.

5-04.5 Payment

Payment will be made for each of the following Bid items that are included in the Proposal:

“HMA Cl. ___ PG ___”, per ton.

“HMA for Approach Cl. ___ PG ___”, per ton.

"HMA for Preleveling Cl. ___ PG ___", per ton.

"HMA for Pavement Repair Cl. ___ PG ___", per ton.

"Commercial HMA", per ton.

The unit Contract price per ton for "HMA Cl. ___ PG ___", "HMA for Approach Cl. ___ PG ___", "HMA for Preleveling Cl. ___ PG ___", "HMA for Pavement Repair Cl. ___ PG ___", and "Commercial HMA" shall be full compensation for all costs, including anti-stripping additive, incurred to carry out the requirements of Section 5-04 except for those costs included in other items which are included in this Subsection and which are included in the Proposal.

"Preparation of Untreated Roadway", per mile.

The unit Contract price per mile for "Preparation of Untreated Roadway" shall be full pay for all Work described under 5-04.3(4) , with the exception, however, that all costs involved in patching the Roadway prior to placement of HMA shall be included in the unit Contract price per ton for "HMA Cl. ___ PG ___" which was used for patching. If the Proposal does not include a Bid item for "Preparation of Untreated Roadway", the Roadway shall be prepared as specified, but the Work shall be included in the Contract prices of the other items of Work.

"Preparation of Existing Paved Surfaces", per mile.

The unit Contract Price for "Preparation of Existing Paved Surfaces" shall be full pay for all Work described under Section 5-04.3(4) with the exception, however, that all costs involved in patching the Roadway prior to placement of HMA shall be included in the unit Contract price per ton for "HMA Cl. ___ PG ___" which was used for patching. If the Proposal does not include a Bid item for "Preparation of Untreated Roadway", the Roadway shall be prepared as specified, but the Work shall be included in the Contract prices of the other items of Work.

"Crack Sealing", by force account.

"Crack Sealing" will be paid for by force account as specified in Section 1-09.6. For the purpose of providing a common Proposal for all Bidders, the Contracting Agency has entered an amount in the Proposal to become a part of the total Bid by the Contractor.

"Pavement Repair Excavation Incl. Haul", per square yard.

The unit Contract price per square yard for "Pavement Repair Excavation Incl. Haul" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(4) with the exception, however, that all costs involved in the placement of HMA shall be included in the unit Contract price per ton for "HMA for Pavement Repair Cl. ___ PG ___", per ton.

"Asphalt for Prime Coat", per ton.

The unit Contract price per ton for "Asphalt for Prime Coat" shall be full payment for all costs incurred to obtain, provide and install the material in accordance with Section 5-04.3(4).

"Prime Coat Agg.", per cubic yard, or per ton.

The unit Contract price per cubic yard or per ton for "Prime Coat Agg." shall be full pay for furnishing, loading, and hauling aggregate to the place of deposit and spreading the aggregate in the quantities required by the Engineer.

"Asphalt for Fog Seal", per ton.

Payment for "Asphalt for Fog Seal" is described in Section 5-02.5.

"Longitudinal Joint Seal", per linear foot.

The unit Contract price per linear foot for "Longitudinal Joint Seal" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(12).

"Planing Bituminous Pavement", per square yard.

The unit Contract price per square yard for "Planing Bituminous Pavement" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(14).

"Temporary Pavement Marking", per linear foot.

Payment for "Temporary Pavement Marking" is described in Section 8-23.5.

"Water", per M gallon.

Payment for "Water" is described in Section 2-07.5.

"Job Mix Compliance Price Adjustment", by calculation.

"Job Mix Compliance Price Adjustment" will be calculated and paid for as described in Section 5-04.3(9)C6.

"Compaction Price Adjustment", by calculation.

"Compaction Price Adjustment" will be calculated and paid for as described in Section 5-04..3(10)D3.

"Roadway Core", per each.

The Contractor's costs for all other Work associated with the coring (e.g., traffic control) shall be incidental and included within the unit Bid price per each and no additional payments will be made.

"Cyclic Density Price Adjustment", by calculation.

"Cyclic Density Price Adjustment" will be calculated and paid for as described in Section 5-04.3(10)B.

SECTION 5-05 CEMENT CONCRETE PAVEMENT

5-05.1 Description

Section 5-05.1 is supplemented with the following:

(August 6, 2012)
This Work consists of furnishing and placing pigmented, textured, or textured and pigmented cement concrete pavement at the locations and depth as shown in the Plans.

5-05.2 Materials

Section 5-05.2 is supplemented with the following:

(******)
Concrete for patterned colored truck apron and splitter islands shall be constructed of class 4000 concrete.

Concrete pattern and color for truck apron and splitter islands shall be:

- Pattern: Permacolor Running Bond PT-515 – 12 In. Slate Tile PT-330 or Approved Equal
- Color 1: Permacolor Victorian Red or Approved Equal

Epoxy-coated dowel bars shall be in accordance with Section 9-07.

All tie bars shall be epoxy-coated in accordance with Section 9-07.3 and shall be epoxy-coated 100% on all surfaces including the ends.

Grout shall be an epoxy resin in accordance with Section 9-26.

Use of a water reducing agent is required. The amount used shall be within the manufacturer's recommended dose range and approve by the Engineer.

5-05.3 Construction Requirements

Section 5-05.3 is supplemented with the following:

(******)

Concrete for patterned colored concrete shall be constructed as detailed in the contract documents and per the manufacturer's recommendation.

The contractor shall provide color and pattern samples to the Engineer for approval prior to construction.

Release agent for stamped concrete is required and shall be approved by the Engineer.

(August 6, 2012)

Pigmented Cement Concrete

Curing shall be in accordance with Section 5-05.3(13) and be applied to the surface in accordance with the manufacturer's recommendations. If liquid membrane-forming concrete curing compound is used it shall meet the requirements of ASTM C 309 Type 1-D.

The Contractor shall provide a 2 foot by 2 foot sample panel, that has been cured a minimum seven days, showing the color of cement concrete to the Engineer for acceptance before placing any pigmented cement concrete pavement.

5-05.3(7) Placing, Spreading, and Compacting Concrete

This Section 5-05.3(7) is supplemented with the following:

(******)

All of the requirements for concrete mix, finish, and surface smoothness apply, regardless of the methods used to place the pavement.

5-05.3(8) Joints

This Section 5-05.3(8) is supplemented with the following:

(******)

When cement concrete pavement is placed adjacent to existing cement concrete (i.e. existing curb), lightweight roofing paper shall be placed between the existing and new concrete to provide a bond breaker. In addition, the joint next to the existing curbing shall be finished with a ½ inch radius edger.

5-05.3(10) Tie Bars and Corrosion Resistant Dowel Bars

This Section is supplemented with the following:

(******)

The dowel bars to be placed at new transverse contraction joints shall be coated with parting compound on all sides before the bar is placed in a chair or approved device.

Tie bars shall not be placed within 18 inches of a transverse joint.

Dowel baskets shall be secured to the base material with steel stakes having a minimum diameter of ¼ inches. These stakes should be embedded into the vase a minimum depth of 10 inches for untreated aggregate base or natural subgrade. A minimum of 8 stakes per

basket is recommended. The Contracting Agency will not require the Contractor to secure dowel baskets provided the Contractor demonstrates movement will not occur during concrete pour and vibration.

Surface Smoothness

The third paragraph of Section 5-05.3(12) is replaced with the following:

(January 7, 2019)
Operate the inertial profiler in accordance with AASHTO R 57. Collect two longitudinal traces, one in each wheel path. Collect profile data in a continuous pass including areas excluded from pay adjustments for each section paved. The Contractor shall determine when each section is to be tested except that the minimum length to be tested shall be 528 feet unless accepted by the Engineer. Where a completed section of concrete pavement abuts a segment to be completed later in the project, the 50 feet adjacent to uncompleted section shall be included in the testing and incentive/disincentive for the uncompleted segment. Provide seven calendar days notice to the Engineer prior to testing.

5-05.3(17) Opening to Traffic

Replace the last paragraph of Section 5-05.3(17) with the following:

(******)
All costs associated with furnishing molds, fabrication, curing, and testing of early strength cylinders shall be at the Contractor's expense.

The use of the maturity meter for concrete acceptance will not be permitted.

5-05.4 Measurement

Section 5-05.4 is supplemented with the following:

(******)
Textured and Pigmented Concrete Pavement 9-Inch Thick – Splitter Island and Truck Apron shall be measured by the square yard for completed work.

5-05.5 Payment

Section 5-05.5 is supplemented with the following:

(******)

"Textured and Pigmented Concrete Pavement 9-Inch Thick – Splitter Island and Truck Apron", per square yard

The unit bid price for "Textured and Pigmented Concrete Pavement 9-Inch Thick – Splitter Island and Truck Apron" shall be full pay for furnishing all labor, tools, materials, and equipment necessary to perform the work as specified and as indicated in the contract documents.

END OF DIVISION 5

DIVISION 6
STRUCTURES

DIVISION 6 - STRUCTURES

6-16 SOLDIER PILE AND SOLDIER PILE TIEBACK WALLS

6-16.3 Construction Requirements

Shotcrete Finishing

Section 6-16.3(4), is supplemented with the following:

(*****)

Where the plans call for a W18x181 within Wall 3, clear cover may be reduced to 2" min.

6-16.4 Measurement

Section 6-16.4 is supplemented with the following:

(*****)

Soldier Pile Wall will be measured by the square foot of completed wall in place. The vertical limits for measurement are from the top of wall fascia to the bottom of the wall fascia. The horizontal limits for measurement are from the end to the end of the wall. The unit Contract price per square foot for "Soldier Pile Wall" shall be full pay to construct the wall according to the contract documents including all costs associated with furnishing, fabricating, drilling and excavation, including casings if necessary, and installing soldier piles, painting for soldier piles, timber lagging, shotcrete fascia, including carved finish or strike-off finish and graffiti-resistant coating, steel reinforcement bars, all concrete associated with the wall construction, underdrain system, cleanouts, cast iron ring and cover for cleanouts, drain connections, gravel backfill for walls, gravel backfill for drains, construction geotextile for underground drainage, cement concrete gutter, and all labor and other materials required to complete the wall.

6-16.5 Payment

Section 6-16.5 is supplemented with the following:

(*****)

"Soldier Pile Wall - _____", per square foot

6-18 SHOTCRETE

6-18.2 Materials

Section 6-16.2 is supplemented with the following:

(August 3, 2015)

Shotcrete Facing

(******)

Coloration for Shotcrete Facing Finishing Alternative C

The Contractor shall provide shotcrete coloration for finishing the sculptured shotcrete to match the color of the sample rock provided by the City of Lake Forest Park. Acceptance of the final appearance of the coloration will be based on the pre-production test panel. Acceptance of the long-term properties of the coloration material will be based on a manufacturer's certification, submitted as a Tyle 1 Working Drawing which verifies the following to be true about the product:

1. Resistance to alkalis in accordance with ASTM D 543.

2. Demonstrates no change in coloration after 1,000 hours of testing in accordance with ASTM D 822.

3. Does not oxidize when tested in accordance with ASTM D 822.

4. Demonstrates resistance to gasoline and mineral spirits when tested in accordance with ASTM D 543.

Additionally, the certification shall provide the product name, proposed mix design and application method, and evidence of at least one project where the product, using the proposed mix and application method, was applied and which has provided at least five years or more of acceptable durability and color permanency.

6-18.3 Construction Requirements

Section 6-18.3 is supplemented with the following:

(******)

Shotcrete Finishing

Section 6-18.3(8), is supplemented with the following:

Alternative C

Hand-sculptured finish shall be an angular, multi-planar configuration resembling natural rock. The finish shall be similar to the shotcrete facing on the wall located on NE Bothell Way in the City of Bothell. Sculpting work shall be performed to the satisfaction of the City.

Shotcrete sculpting shall be performed so that the facing is textured but not weakened by excessive thinning or by exposing the reinforcing. The relief in the sculpturing shall extend a maximum of 3" beyond the nominal minimum fascia thickness indicated in the Plans and Specifications. The minimum nominal thickness shall be maintained throughout the fascia after finishing.

The exposed surface of the shotcrete facing shall be sealed with a graffiti-resistant coating. The sealer shall be "Rainguard Vandi-Guard" or approved equal.

END OF DIVISION 6

DIVISION 7
DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND CONDUITS

DIVISION 7 - DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND CONDUITS

7-04 STORM SEWERS

7-04.1 Description

Replace this section with the following:

(******)

This Work consists of construction storm sewer lines and storm cleanouts in accordance with the Plans, these Specifications, and the Standard Plans, as staked.

7-04.2 Materials

Section 7-04.2 is supplemented with the following:

(******)

Ductile iron storm sewer pipe shall be Class 50 in accordance with the requirements of Section 9-05.13.

Steel Spiral Rib Storm Sewer Pipe and Aluminum Spiral Rib Storm Sewer Pipe are not permitted on this project.

7-04.3 Construction Requirements

Section 7-04.3 is supplemented as follows:

(******)

All connections to existing sewer pipe or different materials than specified shall be made with adapters, which are specifically manufactured for this purpose and shall use elastomeric gasket joints.

All lines shall be pressure jetted of all debris prior to acceptance. The debris shall be intercepted and collected at the nearest downstream point of access. The material shall then be hauled and disposed of at a permitted disposal site. All costs of performing this work item shall be considered incidental to the unit bid price for storm sewer pipe.

CPE pipe shall have integral gasketed ends and be capable of passing low air pressure test in accordance with section 7-04.3(1) F. The joints shall be water and airtight.

7-04.4 Measurement

Section 7-04.4 is supplemented with the following:

(******)

No separate measurement shall be made for bedding, backfill and compaction, extra excavation or testing. These elements of work will be considered incidental to the item of work being performed.

7-04.5 Payment

Section 7-04.5 shall be supplemented with the following:

(******)

All costs of maintaining storm sewer flows and connections to existing pipes shall be included in the unit price bid for pipe in place.

No payment shall be made for testing of storm sewer pipe. Testing shall be incidental to and included in the contract unit price for the pipe.

No payment shall be made for dewatering trenches to accommodate placement of the bedding or any other aspect of the Work. Dewatering shall be included in the contract unit price for the pipe.

The unit Contract price per linear foot for sewer pipe of the kind and size specified shall be full pay for furnishing, hauling, and assembling in place the completed installation including all wyes, tees, special fittings, joint materials, bedding and backfill material, and adjustment of inverts to structures for the completion of the installation to the required lines and grades.

7-05 Manholes, Inlets, Catch Basins, and Drywells

7-05.3 Construction Requirements

(******)

Section 7-05.3 shall be supplemented with the following:

The Contractor shall construct all catch basins from precast concrete bases and risers. Precast sections with damaged joint surfaces or with cracks or damage that would permit infiltration shall not be installed.

Precast base sections shall be set on a prepared bedding material. Before the precast base is set in place, the bedding material shall be carefully leveled to provide full bearing for the entire base section.

Catch basin frames shall be set carefully to the established surface grade in a full bed of cement grout. The contact surfaces of the frames and covers shall be machined finished to a common plane or have other adequate provisions to prevent rocking. The catch basin rim elevation shall be set flush with the existing pavement or grade in paved and improved areas. In unimproved areas catch basin rim elevations shall be set 2 inches above grade unless otherwise shown on the Plans to be set higher.

Frames shall be grouted to the body of catch basins. The catch basins shall be set to line and grade as shown on the Plans or approved in the field by the Engineer. All pipes shall be securely grouted into the manholes. The cost of the catch basin shall include “straddling” the existing storm system, removing the existing pipeline within the new basin, and connecting the new pipeline within the basin.

When excavating at or near existing catch basins, special measures shall be taken to stabilize the existing structures in order to prevent lateral loading.

Each catch basin containing a grate shall include a button plaque installed per the direction of the Engineer. The buttons will be provided by the Contracting Agency.

7-05.3(1) Adjusting Manholes and Catch Basins to Grade

Section 7-05.3(1) is supplemented with the following:

(******)
The existing manholes, catch basins, and inlets shall be lowered prior to planing, and adjusted to the finished grade after the HMA overlay is complete.

Manholes, catch basins, and inlets shall be lowered sufficiently to allow the planer to maintain a continuous profile and grade.

Manholes, catch basins, and inlets to be adjusted, shall have their frames and grates marked as identifiable pairs.

Debris from lowering and adjusting of the manholes, catch basins, and inlets shall be removed from the project.

To minimize pavement damage, the Contractor shall reference the location of each manhole, catch basin, and inlet to be adjusted. The Contractor may use location devices, offsets, or any locating method approved by the Engineer.

Where manhole or catch basin lids fall within the sidewalk and curb ramps, the cover shall be replaced with a slip-resistant cover having a slip-resistant coating meeting ADA standards.

7-05.3(5) Adjust and Replace Catch Basin Frame and Grate

Add the following new subsection:

(******)
Where shown on the Plans, the Contractor shall remove and replace catch basin frame and grates in accordance with Standard Plans. Sawcut and remove asphalt concrete pavement a minimum of 2-feet from gutter line to ensure adequate compaction of new HMA.

7-05.3(6) Connection to Existing Pipe, Catch Basin, Curb Inlet, or Manhole

Add the following new subsection:

(******)
It shall be the responsibility of the Contractor to determine the exact location and ascertain the type and size of the existing facilities prior to starting work on each connection, and to provide any alterations, as required at no additional cost to the Contracting Agency.

Where shown on the Plans, new stormwater pipes shall be connected to existing pipe, catch basins, curb inlets, and/or manholes. The Contractor shall not tap directly into stormwater main pipes but shall install a structure to make said connection. The Contractor shall be

required to core drill into the structure, shape the new pipe to fit, and regrout the opening in a workmanlike manner. Where directed by the Engineer or where shown on the Plans, additional structure channeling may be required.

7-05.4 Measurement

Section 7-05.4 is supplemented with the following:

(******)
Connection to Drainage Structure shall be measured per each.

Adjustments of existing manholes, catch basins, and inlets will be per each. Adjustment of existing inlets and storm drain cleanouts will be considered as if it were a catch basin.

Catch Basin Type ___ shall be measured per each.

No separate measurement shall be made for bedding, backfill and compaction, adjusting new catch basin, drainage structure or sewer structure, connecting existing pipes to new catch basins or sewer structures, or replacement of existing structures (if damaged by Contractor's activities). These elements of work will be considered incidental to the item of work being performed.

7-05.5 Payment

Section 7-05.5 is supplemented with the following:

(******)
"Catch Basin Type ___" per each.

The unit contract price for "Catch Basin Type ___" per each shall be full pay for all work to complete the installation including sawcutting, excavation, bedding, backfill, and connection to the storm water pipe. The unit contract price for "Catch Basin Type ___" per each also includes the frame, grate, riser, lid, and locking mechanism identified in the Plans and/or Standard Details.

Temporary pavement patch shall be considered incidental to and included in the unit cost for the bid item installed. No separate payment will be made for installation of, maintenance of, or removal of, Commercial HMA and imported or backfill, as part of the temporary pavement patch for the utility installed.

The unit Contract price per each for "Adjust Manhole" and "Adjust Catch Basin" shall be full pay for all costs necessary to make the adjustments once per each structure including referencing and restoring the adjusted items to their original locations, sawcutting, and restoration of adjacent areas in a manner acceptable to the Engineer.

The unit Contract price per each for "Adjust Manhole" shall also include all costs to furnish and install new lids on all sanitary sewer manholes to be adjusted to grade.

The unit Contract price per each for “Adjust Catch Basin” shall also include all costs to furnish and install new frames and grates on catch basins to be adjusted to grade as identified in the Plans.

The unit Contract price per each for “Connection to Drainage Structure” shall be full pay for all Work to connect new storm sewer pipe to existing catch basins.

Temporary pavement patch shall be considered incidental to and included in the unit cost for the bid item installed. No separate payment will be made for installation of, maintenance of, or removal of, Commercial HMA and imported or backfill, as part of the temporary pavement patch for the utility installed.

7-07 CLEANING EXISTING DRAINAGE STRUCTURES

7-07.3 Construction Requirements

Section 7-07.3 is supplemented with the following:

(******)
If upon inspection of a stormwater facility, the water in the catch basin appears excessively oily, exhibits an unusual color or odor, or if staining or corrosion is observed, the Contractor shall notify the Engineer. The water shall not be disposed or discharged of until it is determined if toxic or hazardous contaminants are present. The Engineer may direct the water to be removed and stored during testing to prevent a discharge to waters of the State.

All catch basins, manholes, and inlet structures shall be kept clean of all debris associated with grinding, paving, or other operations associated with the work. Existing drainage facilities containing debris from the Contractor’s operations shall be cleaned prior to final acceptance of the work.

7-07.5 Payment

In Section 7-07.5, the first sentence in the third paragraph is supplemented with the following:

(******)
No separate payment shall be made for the incidental work of “Cleaning Existing Drainage Structure”. All costs for Performing the work as specified including all work required to contain, treat, and dispose of all water and debris encountered during the cleaning operations shall be considered incidental and included with the cost of other bid items.

7-08 GENERAL PIPE INSTALLATION REQUIREMENTS

7-08.3 Construction Requirements

7-08.3(1) Excavation and Preparation of Trench

7-08.3(1)A Trenches

Section 7-08.3(1)A is supplemented with the following:

(******)
Upon completion of work each day, all open trenches shall be completely backfilled, leveled and temporarily patched, graveled, or otherwise protected (as approved by the contracting agency) as herein specified. No open trenches shall be permitted during non-work hours.

Trench Excavation shall include removal and waste haul of all excess and/or unsuitable material encountered, including but not limited to, abandoned pipelines, concrete, asphalt, tree stumps, trees, logs, abandoned rail ties, piling, riprap, and dewatering.

The width of the trench in the vicinity of the pipe shall be carefully controlled and maintained to ensure the strength of the pipe and prevent pipe failures.

(******)

7-08.3(1)D Dewatering

It shall be the sole responsibility of the Contractor to determine the full extent of dewatering measures and efforts that will be required. All costs for preparing a dewatering plan, dewatering operations, including but not limited to wells, wellpoints, pipes, pumps, sumps treatment, pumps and storage tanks, materials, equipment, and labor, all as required to perform dewatering of the site in accordance with this specification, shall be included in the contract price for the structure or pipe being installed.

Direct discharge to the storm drain system without settling out all sediment by the use of Baker tanks with baffles will not be allowed. Discharge to existing sanitary sewer mains will not be allowed. Discharge to privately owned sanitary sewer mains will not be allowed.

It shall be the sole responsibility of the Contractor to control the rate and effect of the dewatering in such a manner as to avoid all objectionable settlement and subsidence. The Contractor shall comply with all codes, regulations, and ordinances of applicable governing authorities with regards to drilling, dewatering, and erosion control.

The Contractor shall submit to the Engineer for review and approval prior to dewatering activities, a dewatering plan describing proposed methods, equipment sizes, anticipated volume and rate of dewatering, treatment, and discharge procedures (Construction Stormwater Pollution Prevention Plan) and contingency plans should greater volumes of water be encountered, or dewatering cause settlement of adjacent facilities. The dewatering plan shall show specific locations, in plan and section, where dewatering is expected as well as a general description of means and methods to achieve successful dewatering of the site, should water be encountered in other locations. The dewatering plan must address the collection and removal of water, incidental seepage, and accumulation within or entering the excavations, including incident rainfall and any surface runoff, which should be prevented by appropriate means.

Before operations begin, the Contractor shall have available on site sufficient pumping equipment and/or other machinery to ensure that the operation of the dewatering system can be maintained in continuous uninterrupted operation at all times. The Contractor shall provide direct power drops for the dewatering process and is responsible for coordinating and furnishing all power drops.

During excavation, installing of pipes and structures, and the placing of backfill, excavations shall be kept free of water. The Contractor shall furnish all equipment necessary to dewater the excavation and shall dispose of the water in such a manner that complies with all federal, state, and local regulations as not to cause a nuisance or menace to the public. The dewatering system shall be installed and operated by the contractor so that the groundwater level outside the excavation is not reduced to the extent that would damage or endanger adjacent structures or property. The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soil, prevent disturbance of backfill and prevent movement of structures and pipelines.

Dewatering shall only be done by such method as approved by the Engineer. Dewatering sufficient to maintain the groundwater level at or 1 foot below the surface of trench bottom, base of the bedding course or other foundation shall be accomplished prior to the placement of pipes or structures. The dewatering operation, however accomplished, shall be carried out so that it does not destroy or weaken the strength of the soil under or alongside the excavation. If wellpoints or wells are used, they shall be adequately spaced to provide the necessary dewatering and shall be sandpacked or provided with other means to prevent pumping of fine sands or silts from the subsurface. A continual check by the Contractor shall be maintained to ensure that the subsurface soil is not being removed by the dewatering operation. Where critical structures or facilities exist immediately adjacent to areas of proposed dewatering, survey reference points shall be established and measured by state-licensed surveyor at frequent intervals to detect any settlement which may develop.

Should settlement be observed, the Contractor shall cease dewatering operations and implement contingency plans as outlined in the approved dewatering plan. The responsibility for conducting the dewatering operation in a manner which shall protect adjacent structures and facilities rests solely with the Contractor. The cost of repairing any damage to adjacent structures and restoration of facilities shall be the responsibility of the Contractor. The Contractor’s dewatering system shall not utilize any existing or permanent piping systems to collect or transport untreated water.

All wells shall be installed and abandoned in accordance with the Washington Administrative Code Section 173-160-415. Contractor shall procure and pay for any approval(s) and/or permit(s) required by the Department of Ecology in regards to the construction, use and abandonment of dewatering wells. The Contractor shall also be required to comply with all conditions and requirements mandated by the Department of Ecology and is encouraged to familiarize himself/herself with current regulations in this regard.

No separate payment shall be made for dewatering trenches to accommodate placement of the bedding or any other aspect of the Work.

7-08.3(2) Laying Pipe

7-08.3(2)B Pipe Laying – General

Section 7-08.3(2)B shall be supplemented with the following:

(******)

Care shall be taken to properly align, clean and lubricate the spigot, ring and socket area of the pipe before joining. The pipe spigot shall be forced into the socket until the reference mark on the spigot is flush with the bell end. Forcing the pipes together beyond this point prevents proper contraction and expansion at the joints. Spigots shall be so entered in the bells that the space between the end of the spigot and the seat of the bell is not greater than one-half inch (1/2"). Pipes shall be accurately centered.

Bell holes shall be excavated in the bedding material to allow for unobstructed assembly of the joint. Care should be taken that the bell hole is no larger than necessary to accomplish proper joint assembly. When the joint has been made, the bell hole should be carefully filled with bedding or haunching material to provide for adequate support of the pipe throughout its entire length.

Care shall be taken to avoid contact between the pipe and compaction equipment. Compaction of haunching, initial backfill and backfill material should generally be done in such a way so the compaction equipment is not used directly above the pipe, until sufficient backfill has been placed to insure that such compaction will not have a damaging effect on the pipe.

If sheeting or other trench protection is removed, take care so as not to disturb previously constructed foundation bedding, haunching and initial backfill. If it has been necessary to place or drive sheeting or other trench protection below the top of the pipe, consideration should be given to leaving in place this portion of the sheeting or trench protection, since its removal could jeopardize the side support necessary for "flexible conduits".

The cutting of pipe for inserting fittings or closure pieces shall be done in a neat and workmanlike manner, without damage to the pipe, and so as to leave a smooth end at right angles to the axis of the pipe. Pipe shall be laid with bell ends facing in the direction of the laying.

For connection of mechanical joints, the socket, plain end of each pipe and gasket shall be cleaned of dirt before jointing and shall be jointed according to manufacturer's directions. Bolts shall be tightened alternately at top, bottom and sides, so pressure on gasket is even.

7-08.3(3) Backfilling

Section 7-08.3(3) is supplemented as follows:

(******)

If pipe is being placed under existing paved areas, or roadways, backfill above the pipe zone shall be placed in horizontal layers no more than 6 inches thick and shall be compacted to 95 percent maximum density. If pipe is being placed in non-traffic areas, backfill above the pipe zone shall be placed in horizontal layers no more than 6 inches thick and shall be compacted to 90 percent maximum density.

Detectable marking tape shall be installed during backfill. The detectable marking tape shall meet the requirements of Section 9-15.18. All costs for furnishing and installing detectable marking tape shall be incidental to backfilling.

The Contractor shall maintain a minimum of 2 inches of cold mix asphalt in all backfilled trench areas which are subject to vehicular or pedestrian traffic until the time of final restoration. Any surface irregularities will be remedied at the direction of the Engineer. The cost of installation, maintenance and removal of cold mix asphalt, CSTC, and CSBC used in temporary trench restoration will be incidental to the pipe for which the trench Work is being performed.

7-08.4 Measurement

Section 7-08.4 is supplemented with the following:

(******)
No separate measurement will be made for structure excavation.

No separate measurement will be made for pipe zone bedding.

No separate measurement will be made for plugging pipes.

No separate measurement will be made for trench backfill.

7-08.5 Payment

Section 7-08.5 is supplemented with the following:

(******)
All costs for Structure Excavation for pipe trenching in accordance with all provisions of Section 2-09 (Structure Excavation) shall be included in the unit contract price for the type and size pipe installed, and no separate payment will be made.

All costs for Gravel Backfill for Pipe Zone bedding shall be included in the linear foot unit price for the type and size of pipe and no separate payment will be made.

All costs for plugging existing pipe shall be included in the linear foot unit price for the type and size of pipe installed.

All costs for trench backfill shall be included in the linear foot unit price for the type and size of pipe installed.

7-09 WATER MAINS

7-09.1 Description

Section 7-09.1 is supplemented as follows:

(******)
The Lake Forest Park Water District's construction requirements and specifications shall supersede any conflicting requirements in the Standard Specifications.

7-09.2 Materials

(******)

The materials designated under “Pipe for Main Line” in this section is replaced with the following:

Ductile iron pipe shall be new, Class 52, cement-mortar lined, centrifugally cast pipe conforming to the requirements of AWWA C-151 and WSDOT standard spec. 9.30.1(1). Non restrained joints shall be rubber gasket, push on type, or mechanical type meeting the requirements of AWWA C111. Restrained joints shall be as specified in section 9-30.2(6) of Washington State Standard Specifications for Road, Bridge and Municipal Construction. All pipe shall be clearly marked with the manufacturer's name, type, class and thickness as applicable. All fittings shall be per WSDOT standard specification 9-30.2 and 9-30.2(1).

7-09.3 Construction Requirements

Supplement this section with the following:

(******)

All water mains shall be pressure tested and disinfected in accordance with the most current addition of the Washington State Standard Specifications for Road, Bridge and Municipal Construction, NFPA 24 and the Lake Forest Park Water District requirements. All pressure testing shall be done in the presence of a representative of the Lake Forest Park Water District. All mains shall be sterilized and flushed prior to placing lines into services. The main shall be inspected by the Lake Forest Park Water District inspector prior to backfill. An as-built copy shall be provided to the Lake Forest Park Water District prior to Public Works acceptance.

Bedding for pipe shall be per WSDOT Standard Plan No. B-55.20-02. Backfill shall be placed per Section 7-09 of the Washington State Standard Specifications for Road, Bridge and Municipal Construction, approved plans and Lake Forest Park Water District Specifications and standards.

All water mains to maintain a minimum cover of 36 inches below finish grade. Twelve (12) inches minimum separation is required between utilities crossing perpendicularly, (18 inches for sanitary sewer). At no point should these depths exceed 6 feet except when specifically approved on the plans or by the Engineer.

All pipe is to be laid at true line and grade unless otherwise approved by the Engineer. At no time shall the maximum pipe deflection exceed the manufactures requirements. The maximum permissible deflection per stick is as follows:

Pipe Diameter	Max Deflection per 18 ft
4"	21"
6"	19"
8"	19"
10"	19"
12"	19"

7-09.5 Payment

Section 7-09.5 is supplemented with the following:

(******)

The unit Contract price per linear foot for “Ductile Iron Pipe for Water Main __ In Diam.” shall also include all fittings in accordance with LFPWD Detail Specifications in Appendix B.

The unit Contract price per each for “(size) Tee, Reducer, Bend, Coupler MJ,” shall also include all fittings in accordance with LFPWD Detail Specifications in Appendix B.

The unit Contract price per each for “Gate Value (size)” shall also include all fittings in accordance with LFPWD Detail Specifications in Appendix B.

"Sand Bedding", per ton.

The unit contract price per ton for "Sand Bedding" shall include all equipment, labor and materials necessary to furnish and install in accordance with the Plans and Specifications.

The unit Contract price per each for “Connection to Water Line” shall be full pay for all Work to connect new water pipe to existing water pipe.

No payment shall be made for dewatering trenches to accommodate placement of the bedding or any other aspect of the Work. Dewatering shall be included in the contract unit price for the pipe and related Work.

7-12 VALVES FOR WATER MAINS

7-12.1 Description

Section 7-12.1 is supplemented with the following:

(******)

The Lake Forest Park Water District’s construction requirements and specifications shall supersede any conflicting requirements in the Standard Specifications. Schedule B work consists of furnishing equipment and constructing a waterline system.

Schedule A work consists of adjusting existing water or gas utility valve boxes and covers to the finished grade or as designated by the Engineer.

This work shall consist of adjusting and replacing water valve boxes to interim and finish grade at locations shown on the Plans, or as directed by the Engineer.

7-12.2 Materials

Section 7-12.2 is supplemented with the following:

(******)

Riser rings shall be cast iron and shall be designed for HS-20 loading.

7-12.3 Construction Requirements

Section 7-12.3 is supplemented with the following:

(******)

Adjust Water Valve Box

The Contractor shall adjust water valve boxes to grade by removing and resetting the valve boxes and covering to final grade. Removal and resetting operations shall be conducted to prevent damage to the valves, valve boxes and covers. All parts or materials damaged as a result of the Contractor's operations shall be replaced at no expense to the Project.

For all adjustment items, the Contractor shall dispose of all excavated material including items that are being replaced. The boxes shall be adjusted and backfill shall be carefully compacted toward the undisturbed face of the excavation.

Reused boxes shall be cleared of all debris and left in a fully operable condition. If the existing box is not centered over the valve or meter, the Contractor shall excavate toward the utility valve or meter and center the box over the valve nut or meter face.

For boxes that are removed and reset, the patch material used shall be the same as the adjacent pavement. For asphalt concrete pavement roadways, boxes located in the traveled way shall be adjusted to final grade after final paving in accordance with Section 5-04.3(13). For Portland cement concrete pavement roadways, valve boxes shall be adjusted prior to the surface finish.

7-12.4 Measurement

Section 7-12.4 is supplemented with the following:

(******)

Measurement for “Adjust Water Valve Box” will be per each for each box adjusted.

Measurement for “Air Release Valve” will be per each.

7-12.5 Payment

Section 7-12.5 is supplemented with the following:

(******)

"Adjust Water Valve Box", per each.

The unit contract price per each for "Adjust Valve Box" shall be full pay for all work to make adjustments including utility coordination, temporary lowering and final adjustments, including op nut extension risers in areas where grade has changed, removing and resetting, replacing and disposing of valve boxes and casing, furnishing and installing the riser ring(s) if applicable, removal and disposal of debris, locating, backfilling, compaction, cleanup and restoration of adjacent areas in a manner acceptable to the Engineer.

"Air Release Valve", per each.

The unit contract price per each for "Air Release Valve" shall be full pay for all work to furnish and install, including locating, backfilling, compaction, cleanup and restoration of adjacent areas in a manner acceptable to the Engineer.

7-14 HYDRANTS

7-14.1 Description

Section 7-14.1 is supplemented as follows:

(******)

The Lake Forest Park Water District's construction requirements and specifications shall supersede any conflicting requirements in the Standard Specifications.

7-14.5 Payment

Replace the seventh paragraph with the following:

(******)

The unit Contract price per each for "Hydrant Assembly" shall be full pay for all Work in accordance with the LFPWD Detail Specifications in Appendix B.

7-15 SERVICE CONNECTIONS

7-15.1 Description

Section 7-15.1 is supplemented as follows:

(******)

The Lake Forest Park Water District's construction requirements and specifications shall supersede any conflicting requirements in the Standard Specifications.

7-15.3 Construction Requirements

Section 7-15.3 is supplement as follows:

(******)

The contractor shall install service line, customer meter, and meter box for locations indicated in the Plans. The contractor shall coordinate with Lake Forest Park Water District (LFPWD) a minimum 5 working days in advance of construction for verification of customer service connections and condition of each existing meter and meter-setter.

The contractor shall give LFPWD 5-day advance notice prior to needing to temporarily shut off water service to make service-transfer connections.

Existing water meter boxes shall be adjusted flush with finished grade.

Unless otherwise shown on the Plans or as directed by the Engineer, new service lines connecting to the water main and to the existing meter setter shall be open cut method.

Adjusting existing meter box's to grade may require the installation of a re-setter to meet the specified clearance between the top of meter box to locking ball valve. If a re-setter is required to make the adjustment the Contractor shall coordinate with the LFPWD to provide.

Where shown on the Plans for relocation of meter, contractor shall extend the existing service line with same pipe size and type to new meter box location. Contractor shall re-use existing

box and setter. Box shall be set to finish grade. A representative from the LFPWD shall be on site when relocation work is taking place.

New service installations shall be per details in the contract documents. Meter Boxes shall match finished grade. When a new meter box and or new meter setter will replace the existing, the Contractor shall remove existing meter box and/or setter and return to the LFPWD. Where a new meter box and setter are being installed, the LFPWD shall transfer the existing meter to new setter and furnish and install any adapters necessary to make the connection to new setter. The Contractor shall replace existing service lines with new copper lines from existing corporation stop at main to existing or new meter location identified in the contract documents. Contractor shall be responsible for re-connecting the customer's service line to the new meter setter with existing customer service pipe size and material type or as directed by the City. Connection to existing main shall be coordinated with the LFPWD.

Add the following new section:

7-15.3(2) New Meter Setters and Boxes (New Section)

New meter setters and boxes shall be installed at the locations set forth on the Plans or as directed by the City/LFPWD, as applicable, in accordance with the appropriate Standard Detail. Meter Boxes shall match finished grade and be located where the meter can be easily read. When a new meter box and or new meter setter will replace the existing, the Contractor shall remove existing meter box and/or setter and return to LFPWD.

The LFPWD shall re-install the existing meter and furnish and install any adapters needed to make the connections.

The LFPWD, as applicable, shall also re-connect the customer's service line to the new meter setter. The LFPWD shall furnish and install any adapters needed to make the connections.

7-15.4 Measurement

Section 7-15.4 is supplemented as follows:

(******)

Service Connection for address #_____ will be measured per each.

7-15.5 Payment

Section 7-15.5 is supplemented as follows:

(******)

The last paragraph of Section 7-15.5 is replaced with the following:

The unit Contract price per each for "Service Connection for address #_____." shall be full pay for all Work to install the service connection, including but not limited to removal of existing service connections, excavation, tapping the main, laying and jointing the pipe and fittings and appurtenances, saddles, meter setters, connection to the saddle and meter setter, repair bands, backfilling, testing, flushing and disinfection of the service connection.

Add the following new section:

7-16 STORMWATER DETENTION AND TREATMENT VAULTS

7-16.1 Description

The Contractor shall furnish and install the stormwater detention and treatment vaults, complete and operable as shown and as specified herein, in accordance with the requirements of the contract documents.

7-16.1(1) Manufacturer

The Oil/Water Separator (OWS) Vault for stormwater shall be furnished in accordance with the contract documents and shall be of a type that has been installed and in use successfully for a minimum of five (5) years. The OWS vault shall be supplied by Oldcastle Infrastructure, 1-888-965-3227, or approved equal.

The BayFilter Stormwater Vault for water quality treatment shall be furnished in accordance with the contract documents and shall be of a type that has been installed and in use successfully for a minimum of five (5) years. The BayFilter Stormwater Vault for water quality treatment shall be supplied by Advanced Drainage Systems (ADS), 1-800-821-6710, or approved equal.

The Biopod Biofilter Vault for enhanced treatment shall be furnished in accordance with the Plans and shall be of a type that has been installed and in use successfully for a minimum of five (5) years. The Biopod Biofilter Vault for enhanced treatment shall be supplied by Oldcastle Infrastructure, 1-888-965-3227, or approved equal.

7-16.1(2) Submittals

A. Structural design calculations and shop drawings shall be provided for the Stormwater Detention Vault. Drawings shall include principal dimensions, access riser placement, location of piping and unit foundation, and relevant information to the Project.
B. Supplier and/or manufacturer of the Stormwater Detention Vault shall provide an Operation and Maintenance Manual for the device
C. Advanced Drainage Systems (ADS), or authorized supplier, shall provide shop drawings for the BayFilter Stormwater Vault for water quality treatment with structure, filters cartridges and accessory equipment. Drawings shall include principal dimensions, filter placement, location of piping and unit foundation, and relevant information to the Project.
D. Advanced Drainage Systems (ADS), or authorized supplier, shall provide an Operation and Maintenance Manual for the Bayfilter Stormwater Vault for water quality treatment.
E. Oldcastle Infrastructure, or authorized supplier, shall provide shop drawings for the Oil/Water Separator Vault for stormwater and the Biopod Biofilter Vault for enhanced treatment vault with structures and accessory equipment. Drawings to shall include principal dimensions, treatment characteristics as outlined in the Plans, locations of piping and accessory equipment, and relevant information to the Project.
F. Oldcastle Infrastructure, or authorized supplier, shall provide an Operation and Maintenance Manual for the Oil/Water Separator Vault for stormwater and the Biopod Biofilter Vault for enhanced treatment.

7-16.2 Materials

Crushed surfacing base course shall be used for bedding and backfill.

7-16.2(1) Manhole Components

A. Manhole shall be precast concrete similar to WSDOT Standard Plans shall be designed to withstand AASHTO HS-20 wheel loads.
B. Manhole Solid Lid: Solid lid shall be gray cast iron, treated with non slip surfacing, and shall meet AASHTO HS-20 loading requirements, and shall be provided according to ASTM A48.

7-16.2(2) Contractor-Provided Components

A. Concrete: Shall be a minimum 4000 psi, 28 day strength, ¾-inch round rock, 4-inch slump maximum, placed within 90 minutes of initial mixing, or as otherwise specified in the general technical specifications.
B. Rebar: Shall meet ASTM A-615M Grade 420 (60 ksi) or as otherwise specified in the general technical specifications.
C. Sub-Base: Shall be 6-inch minimum of ¾-inch minus rock or as otherwise specified in the general technical specifications.
D. Backfill: Shall be ¾-inch minus rock or as otherwise specified in the general technical specifications.

7-16.3 Construction Requirements

7-16.3(1) Stormwater Detention Vault

A cement concrete detention vault shall be constructed as shown on the plans and details. The Contractor shall submit shop drawings for the vault, including base requirements, for approval by the City. The structural design for vaults shall be stamped by a structural engineer licensed in the state of Washington.

Excavation and equipment required to set the vault shall be limited to the right-of-way. No extra excavation may extend beyond the right-of-way.

7-16.3(2) Oil/Water Separator Vault

An oil/water separator (OWS) vault for stormwater shall be constructed as shown on the plans and details. The Contractor shall submit shop drawings for the vault, including base requirements, for approval by the City. The structural design for vaults shall be stamped by a structural engineer licensed in the state of Washington.

Excavation and equipment required to set the vault shall be limited to the right-of-way. No extra excavation may extend beyond the right-of-way.

7-16.3(3) Bayfilter Stormwater Vault

A Bayfilter Stormwater vault for treatment shall be constructed as shown on the plans and details. The Contractor shall submit shop drawings for the vault, including base requirements, for approval by the City. The structural design for vaults shall be stamped by a structural engineer licensed in the state of Washington.

Excavation and equipment required to set the vault shall be limited to the right-of-way. No extra excavation may extend beyond the right-of-way.

7-16.3(4) Biopod Biofilter Vault

A Biopod Biofilter vault shall be constructed as shown on the plans and details. The Contractor shall submit shop drawings for the vault, including base requirements, for approval by the City. The structural design for vaults shall be stamped by a structural engineer licensed in the state of Washington.

Excavation and equipment required to set the vault shall be limited to the right-of-way. No extra excavation may extend beyond the right-of-way.

7-16.4 Measurement

No specific unit of measurement will apply to the lump sum item of “Stormwater Detention Vault”.

No specific unit of measurement will apply to the lump sum item of “Oil/Water Separator Vault”.

No specific unit of measurement will apply to the lump sum item of “Bayfilter Stormwater Vault”.

No specific unit of measurement will apply to the lump sum item of “Biopod Biofilter Vault”.

7-16.5 Payment

“Stormwater Detention Vault”, per lump sum.

“Oil/Water Separator Vault”, per lump sum.

“Bayfilter Stormwater Vault”, per lump sum.

“Biopod Biofilter Vault”, per lump sum.

The lump sum contract payment for “_____ Vault” shall be full compensation for all costs incurred by the Contractor including dewatering, bedding, native backfill, footing drains, rebar, cement concrete, access manholes, flow restrictor, shear gate, ventilation pipes, connections to new drainage system and all items and appurtenances necessary to construct the vault as shown on the Plans and in accordance with the Contract Documents.

END OF DIVISION 7

DIVISION 8
MISCELLANEOUS CONSTRUCTION

DIVISION 8 - MISCELLANEOUS CONSTRUCTION

8-01 EROSION CONTROL AND WATER POLLUTION CONTROL

8-01.1 Description

Section 8-01.1 is supplemented with the following:

(******)

This Work consists of furnishing, installing, maintaining, removing and disposing of best management practices (BMPs), as defined in the Washington Administrative Code (WAC) 173-201A, to manage erosion and water quality in accordance with these Specifications and as shown in the Plans or as designated by the Engineer."

The Contracting Agency will obtain a National Pollution Discharge Elimination System Construction Stormwater General Permit (CSWGP) and will transfer coverage of the CSWGP to the Contractor prior to starting construction. The Contracting Agency may have other water quality related permits that will require the project to be subject to applicable laws for the Work. Section 8-01 covers all of these conditions.

(*****)

Section 1-07.15, Temporary Water Pollution/Erosion Control, of the Standard Specifications, and as amended by these specifications, shall be referenced and made part of this section.

Work in this section consists of providing, installing, maintenance and removal of inlet protection, street cleaning and other applicable BMP's.

(*****)

Erosion Control shall include but not be limited to preventing storm water which has come in contact with disturbed or excavated areas from entering the storm drainage system. The Contractor will not allow flow from existing ditches or ground water to come in contact with disturbed or excavated areas. The Contractor shall be required to take any means necessary to prevent, control and stop water pollution or erosion within the project limits.

8-01.3 Construction Requirements

Section 8-01.3(1) is supplemented with the following:

(******)

The Contractor shall bear sole responsibility for damage to completed portions of the project and to property located off the project caused by erosion, siltation, runoff, or other related items during the construction of the project. The Contractor shall also bear sole responsibility for any pollution of rivers, streams, groundwater, or other water that may occur as a result of construction operations.

Any area not covered with established, stable vegetation where no further work is anticipated for a period of 15 days, shall be immediately stabilized with the approved erosion and sedimentation control methods (e.g., seeding and mulching, straw). Where seeding for temporary erosion control is required, fast germinating grasses shall be applied at an appropriate rate (e.g., perennial rye applied at approximately 80 pounds per acre).

Construction entrances or wheel washes shall be installed at locations that allow the traveling public to enter and exit the construction site without crossing the construction entrance or wheel wash.

At no time shall more than 1 foot of sediment be allowed to accumulate within a catch basin. All catch basins and conveyance lines shall be cleaned at a time designated by the City Construction Inspector. The cleaning operation shall not flush sediment-laden water into the downstream system. The cleaning shall be conducted using an approved vacuum truck capable of jet-rodding the lines. The collection and disposal of the sediment shall be the responsibility of the Contractor at no cost to the City.

Paved street surfaces shall be thoroughly cleaned with a vacuum-type street sweeper upon completion of work within the area, and shall require daily cleaning if dust or mud exists. Prior to job acceptance, all streets shall be checked and cleaned as required due to construction work performed in this contract.

8-01.3(1) General

Section 8-01.3(1) is supplemented with the following:

(******)

Appropriate sedimentation and erosion control measures BMPs, as required, shall be constructed as a first step in grading and shall be functional before land-disturbing activities take place to prevent silt laden runoff from exiting the project site.

The Contractor shall construct and install all temporary and permanent erosion areas and sedimentation control measures and shall fully stabilize all graded and disturbed areas in accordance with the Plans, Specifications and as directed by the Engineer. The Contractor shall minimize and limit construction operations to areas within the right of way and temporary construction easements as shown on the Plans, and shall revegetate any areas disturbed by construction outside these areas at the Engineer's direction and the Contractor's sole expense.

During construction, the Contractor shall maintain adequate drainage conveyance features downstream of the construction area to provide controlled conveyance of runoff. The Contractor shall be fully responsible for damage to existing or constructed features as a result of failure to provide proper construction period drainage features.

8-01.3(1)A Submittals

Section 8-01.3(1)A is supplemented with the following:

(*****)

The second paragraph of Section 8-01.3(1)A1 is revised to read:

The Contractor shall either adopt the TESC Plan in the Contract or develop a new TESC Plan. If the Contractor adopts the Contracting Agency TESC Plan, the Contractor shall modify the TESC Plan to meet the Contractor's schedule, method of construction and include off-site areas that will be used to directly support construction activity such as equipment staging yards, material storage areas, or borrow areas. Contractor TESC Plans shall include all high visibility fence delineation shown in the Contracting Agency Contract Plans. All TESC Plans shall meet the requirements of the current edition of the King County Surface Water Design Manual, current edition, and be adaptively managed as needed throughout construction

based on site inspections. The Contractors shall develop a schedule for implementation of the TESC work and incorporate it into the Contractor's progress schedule.

8-01.3(1)B Erosion and Sediment Control (ESC) Lead

Item number 3 and 4 in the second paragraph of Section 8-01.3(1)B are revised to read:

(*****)

3. Submit to the Engineer no later than the end of the next working day following the inspection a TESC Inspection Report that includes:

a. When, where, and how BMPs were installed, maintained, modified, and removed.

b. Observations of BMP effectiveness and proper placement.

c. Recommendations for improving future BMP performance with upgraded or replacement BMPs when inspections reveal TESC BMP deficiencies.

d. Identify for each discharge point location whether there is compliance with state water quality standards in WAC 173-201A for turbidity and pH.

8-01.3(8) Street Cleaning

Section 8-01.3(8) is supplemented with the following:

(******)

The Contractor shall be responsible for controlling dust and mud within the project. The Contractor shall be prepared to use watering trucks equipped with high-velocity water jets and low-head sprinkling devices, power sweepers, and any other pieces of equipment necessary to avoid creating a nuisance. All streets used by the Contractor during the execution of the work under this contract shall be maintained in a clean condition. Any damage caused by dust and/or mud shall be the sole responsibility of the Contractor. In no case shall sediment-laden water be allowed to enter drainage facilities without prior filtration or sedimentation.

Streets shall be cleaned daily with vacuum sweeper.

(******)

Routine Cleaning

General

1. Retain all stored materials and equipment in an orderly fashion allowing maximum access, not impeding drainage or traffic, and providing protection.
2. Do not allow the accumulation of scrap, debris, waste material, and other items not required for this work.
3. At least twice each month and more often if necessary, completely remove all scrap, debris, and waste material from the project site.
4. Provide adequate storage for all materials awaiting removal from the project site, observing all requirements for fire protection and protection of the environment.

Site

1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage until it can be disposed of.
2. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site, re-stack, tidy or otherwise service all arrangements to meet the requirements above.
3. Maintain the site in a neat and orderly condition at all times so as to meet the approval of the Owner.

Final Cleaning

Prior to final inspection, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. The Contractor shall thoroughly comb and search the surrounding area and remove any construction material thrown or discarded amongst the trees, such as cartons, broken pipe, bottles, etc., and as such clean the surrounding area to make it neat in appearance, including removal of debris not deposited by the Contractor's operation.

8-01.3(9)A Fencing

New Section 8-01.3(9)A4 is added as follows:

Tree protection fencing shall be installed in accordance with City of Lake Forest Park Municipal Code 16.14 and Ordinance No. 23-1277 at the locations shown in the Plans or as determined by the Engineer. Tree protection fencing shall be installed prior to clearing activities.

8-01.3(15) Maintenance

(*****)

The first paragraph of Section 8-01.3(15) is revised to read:

Erosion and sediment control BMPs shall be maintained or adaptively managed until the Engineer determines they are no longer needed. When deficiencies in functional performance are identified the deficiencies shall be rectified immediately.

8-01.3(16) Removal

(*****)

The last two paragraphs of Section 8-01.3(16) are deleted.

8-01.4 Measurement

Section 8-01.4 is supplemented with the following:

Tree protection fence will be measured per linear foot.

8-01.5 Payment

Section 8-01.5 is supplemented with the following:

(*****)

The unit contract price per each for “Inlet Protection” shall be full pay for all the costs to furnish, install, maintain, remove, and dispose of the items as specified.

“Tree Protection Fence”, per linear foot.

The unit bid item for “Tree Protection Fence” shall be full compensation for all costs associated with furnishing and installing the tree protection fencing as shown on the plans and as specified herein including, but not limited to, furnishing and installing the posts, fence fabric and all hardware in accordance with the Plans and these Special provisions. The unit price shall also include the cost of removing and disposal upon project completion.

8-02 ROADSIDE RESTORATION

8-02.1 Description

The first sentence of Section 8-02.1 is deleted and replaced with the following:

(******)
This work consists of restoring areas disturbed during construction activities by placing and grading topsoil, preserving, maintaining, establishing and augmenting vegetation, and applying hydroseed or bark mulch in landscaped areas and roadway shoulders.

8-02.3 Construction Requirements

Section 8-02.3 is supplemented with the following:

(******)
The Contractor shall take necessary measures to prevent erosion and siltation of downstream facilities and adjacent properties.

After all work has been completed and before Final Acceptance of the contract, the entire roadway, sidewalks, driveways, shoulders, and drainage systems that have been soiled as a result of the construction work, shall be cleaned. Dirt, dust and other debris shall be removed and disposed of in accordance with Section 2-01.2. The area behind the sidewalk shall be uniformly graded to provide an even and smooth finished grade. Mechanical grading equipment shall be supplemented by handwork if necessary. Areas adjacent to the construction limits that have been damaged as a result of the Contractor's work shall be repaired and any material deposited there during the construction work shall be removed and cleaned up to the satisfaction of the Engineer. Areas adjacent to constructed roadway, sidewalks, and curb ramps shall be landscaped to match existing adjacent landscaped areas.

Landscaped Areas Within Rights-of-Way and Private Properties

Restoration of landscaping within the public right-of-way and on private property shall be in accordance with this special provision as supplemented by the City of Lake Forest Park Municipal Code which controls over this special provision and the Standard Specifications. Work shall include but not be limited to the following items:

1. Grading to reconstruct existing planting areas.
2. Placement of topsoil.
3. Removal of existing native and ornamental plants and shrubbery and replacement with new materials of the same species, size and appearance, or removal of existing native and ornamental plants and shrubbery and replanting of same.

4. Replacement of existing lawn with new sod (Plant Establishment in accordance with Section 8-02 of the Standard Specifications).
5. After completion of placement and compaction of backfill, the disturbed area shall be graded with suitable, small power equipment and by hand shoveling and raking to recreate the shape and form of the existing landscape area. All rocks larger than 2 inches maximum dimension shall be raked from the surface and removed.
6. Placement of crushed surfacing in gravel driveways and roadway shoulders.

After completion of grading, topsoil type C shall be placed over the entire disturbed area to a depth of at least three (3) inches and shall be rototilled into the native soil to a depth of five (5) inches.

Existing plants and shrubs shall be removed and replanted in accordance with standard horticultural practices. Removal and replanting shall be done under the direct supervision of a person experienced in horticultural practice.

Plants and shrubs shall be replanted as soon as possible after removal and the Contractor shall plan and execute the work to cause immediate replanting of existing plants and shrubs. The Contractor shall root prune plants and shrubs, to be removed, at the drip line prior to removal. Digging shall be by hand or by approved mechanical equipment. Root balls shall be properly protected and shall be burlapped and tied as required. All plants and shrubs removed shall be continuously protected before replanting to prevent the roots from drying. Sod shall be placed in accordance with standard horticultural practice.

8-02.3(1) Responsibility During Construction

(******)

Section 8-02.3(1) is supplemented with the following:

This Work shall include keeping the planted and seeded areas free from insect infestation, weeds or unwanted vegetation, litter, and other debris along with retaining the finished grades and mulch in a neat uniform condition.

8-02.3(2)A Roadside Work Plan

(******)

Section 8-02.3(2)A is supplemented with the following:

Before starting any Work that disturbs the earth and as described in Sections 8-01, 8-02 and 8-03, the Contractor shall submit a roadside work plan. The roadside work plan shall be submitted as a Type 2 Working Drawing and shall define the Work necessary to provide all Contract requirements, including: wetland excavation, soil preparation, habitat structure placement, planting area preparation, seeding area preparation, bark mulch and compost placement, seeding, planting, plant replacement, irrigation, and weed control in narrative form.

The Roadside Work Plan shall also include a copy of the approved progress schedule.

8-02.3(2)B Weed and Pest Control Plan

(******)

Section 8-02.3(2)B is supplemented with the following:

The Weed and Pest Control Plan shall be submitted as a Type 2 Working Drawing. The weed and pest control plan shall include scheduling and methods of all control measures required under the Contract or proposed by the Contractor including soil preparation methods to meet the required soil surface conditions in the planting, bark mulch, and wetland areas. The weed control plan shall show general weed control including hand, mechanical and chemical methods, timing, application of herbicides including type, rate, use and timing, mowing, and noxious weed control. Target weeds and unwanted vegetation to be removed shall be identified and listed in the weed control plan.

The plan shall be prepared and signed by a licensed Commercial Pest Control Operator or Consultant when chemical pesticides are proposed. The plan shall include methods of weed control; dates of weed control operations; and the name, application rate, and Material Safety Data Sheets of all proposed herbicides. In addition, the Contractor shall furnish the Engineer with a copy of the current product label for each pesticide and spray adjuvant to be used. These product labels shall be submitted with the weed control plan for approval.

8-02.3(2)C Plant Establishment Plan

(******)

Section 8-02.3(2)C is supplemented with the following:

The Plant Establishment Plan shall be prepared in accordance with the requirements of Section 8-02.3(13) and submitted as a Type 2 Working Drawing. The Plan shall show the proposed scheduling of activities, materials, equipment to be utilized for the first-year plant establishment, and an emergency contact person. The Plan shall include the management of the irrigation system, when applicable. Should the plan become unworkable at any time during the first-year plant establishment, the Contractor shall submit a revised plan prior to proceeding with further Work.

8-02.3(3) Weed and Pest Control

(******)

Section 8-02.3(3) is supplemented with the following:

This section is supplemented with the following new paragraph:

Grass, including grass applied in accordance with Section 8-01, growing within the mulch ring of a plant shall be considered a weed and be controlled on the project in accordance with the weed and pest control plan.

8-02.3(4) Topsoil

(******)

The new paragraph is inserted after the first paragraph in Section 8-02.3(4):

Topsoil stockpiled for project use shall be protected to prevent erosion and weed growth. Weed growth on topsoil stockpile sites shall be immediately eliminated in accordance with the approved Weed and Pest Control Plan.

(******)

The last sentence of the first paragraph in Section 8-02.3(4) is revised to read:

After the topsoil has been spread, all large clods, hard lumps, and rocks 2 inches in diameter and larger, and litter shall be raked up, removed, and disposed of by the Contractor.

8-02.3(4)C Topsoil Type C

(******)

Section 8-02.3(4)C is deleted and replaced with:

Topsoil Type C shall be naturally occurring topsoil obtained from a source provided by the Contractor outside of the Contracting Agency-owned Right of Way or property. Topsoil Type C shall meet the requirements of Sections 8-02.3(4), 8-02.3(4)B, and 9-14.1(3). The Contractor shall not begin removal of Topsoil Type C from the proposed source until the material has been allowed for use by the Engineer.

8-02.3(12) Completion of Initial Planting

(******)

Item number 4 in the last paragraph of Section 8-02.3(12) is deleted.

8-02.3(13) Plant Establishment

(******)

The first sentence of the second paragraph of Section 8-02.3(13) is deleted.

(******)

The second paragraph of Section 8-02.3(13) is supplemented with the following new sentence:

The 1 calendar year shall be extended an amount equal to any periods where the Contractor does not comply with the plant establishment plan.

(******)

The first sentence of the fourth paragraph of Section 8-02.3(13) is revised to read:

During the first year of plant establishment under PSIPE (Plant Selection Including Plant Establishment), the Contractor shall meet monthly with the Engineer or Owner for the purpose of joint inspection of the planting material on a mutually agreed upon schedule.

(******)

The last two paragraphs of Section 8-02.3(13) are deleted.

8-02.4 Measurement

Section 8-02.4 is supplemented with the following:

(******)

Delete paragraph 1 and replace with the following:

“Topsoil Type A – Planting Beds” will be measured by the cubic yard in the haul conveyance at the point of delivery.

“Wood Chip Mulch” will be measured by the cubic yard in the haul conveyance at the point of delivery.

8-02.5 Payment

(******)

The paragraph following the bid item “Topsoil Type ____”, per acre in Section 8-02.5 is revised to read:

The unit Contract price for “Topsoil Type A – Planting Beds”, per cubic yard shall be full payment for all costs for the specified Work.

The unit Contract price for “Wood Chip Mulch”, per cubic yard shall be full payment for all costs for the specified Work.

The bid item “PSIPE ___”, per each and the paragraph following the bid item are revised to read:

“PSIPE ___”, per each.

The unit Contract price for “Plant Selection ___”, per each, and “PSIPE ___”, per each, shall be full pay for all Work necessary for weed control within the planting area, planting area preparation including topsoil, fine grading, planting, cultivating, plant storage, mulch ring at depth specified in plans and protection, fertilizer and root dip, staking, cleanup, and water necessary to complete planting operations as specified to the end of first year plant establishment.

(******)

The bid item “Plant Establishment - ____ Year” in Section 8-02.5 is deleted.

8-03 IRRIGATION SYSTEMS

8-03.1 Description

Section 8-03.1 is supplemented with the following:

(******)

Furnish and install temporary and permanent irrigation systems in conformance with the drawings and specifications, complete and ready for use. The work consists of furnishing all materials necessary for a complete installation, including, wire, sleeves, pipe, valves, fittings, sprinklers, valves, back-flow prevention device, and all appurtenances related thereto. Included shall be all labor of installation, including trenching, plumbing, back-filling, electrical work, adjustments, landscape restoration and all other items of labor necessary for a satisfactory operating system.

8-03.3 Construction Requirements

8-03.3(6) Electrical Wire Installation

Section 8-03.3(6) is supplemented with the following:

(******)

delete paragraph 2 and replace with the following:

All wiring shall be placed in an electrical conduit. Electrical conduit shall not be less than 2 inches in diameter and shall meet conduit specifications for PVC conduit as required in Section 9-29.1.

8-03.3(7)B Irrigation Sleeves

Section 8-03.7(7)B is deleted and replaced with:

(******)

Irrigation sleeving shall be Schedule 40 PVC unless otherwise indicated in the Plans. The minimum diameter of the sleeve shall be twice as large as the proposed piping size being buried. When the plans indicate a sleeve larger than twice the diameter, the larger sleeve shall be installed. Irrigation wiring shall be sleeved in separate sleeving or conduit unless indicated otherwise in the Plans.

Irrigation sleeving installed under existing or new pavement shall use Class 350 Ductile Iron Pipe in lieu of Schedule 80 PVC sleeves and shall be installed in accordance with Section 8-20.3(5)E3, Section 8-20.3(5)E4, or Section 8-20.3(5)E5.

8-03.3(10) As Built Plans

Section 8-03.3(10) is supplemented with the following:

(******)

Digitally photograph all pipe, equipment placement, and installation progress on a daily basis. Note photograph locations on a separate record drawing. Include measuring tape, ruler, or other device in photograph to set scale. Digital photographs shall be .jpg format and minimum 72 dpi. Photographs shall be available to Owner's representative as needed. Upon completion of the irrigation system and prior to release of final payment, provide digital photograph files on dvd(s) or USB drive along with legible record drawing of the photograph locations. Place in maintenance manual.

8-03.4 Measurement

Section 8-03.4 is supplemented with the following:

(******)

No specific unit of measurement will apply to the lump sum item of "Temporary Irrigation".

No specific unit of measurement will apply to the lump sum item of "Irrigation Controller".

No specific unit of measurement will apply to the lump sum item of "Irrigation Meter".

No specific unit of measurement will apply to the lump sum item of "Irrigation System".

8-03.5 Payment

Section 8-03.5 is supplemented with the following:

(******)

"Temporary Irrigation", per lump sum.

"Irrigation Controller", per lump sum.

"Irrigation Meter", per lump sum.

The lump sum Contract price for “Temporary Irrigation”, “Irrigation Controller”, and “Irrigation Meter” shall be full pay to furnish and install the bid item in accordance with the Plans and Specifications.

"Irrigation System", per lump sum.

The lump sum Contract price for “Irrigation System" shall be full pay to furnish and install a complete an operational irrigation system as shown in the Plans and in accordance with City standards, including excavation, backfilling, extension of existing piping, restoring facilities destroyed or damaged during construction, and for making all required tests.

8-04 CURBS, GUTTERS, AND SPILLWAYS

8-04.3 Construction Requirements

Section 8-04.3 is supplemented with the following:

(******)
New cement concrete curb and gutter, roundabout central island cement concrete curb and gutter, roundabout cement concrete curb and gutter, cement concrete valley gutter, and cement concreate pedestrian curb mod 1 shall not be placed until forms have been checked and approved for line, grade, and compaction by the Engineer.

The Curb shall be protected against damage or defacement of any kind until it has been accepted by the Engineer. Work that is not acceptable to the Engineer because of damage or defacement shall be removed and replaced by the Contractor at their own expense.

Pigmented curing compounds shall not be used on curb, gutter, roundabout central island curb and gutter, and roundabout curb and gutter, valley gutter, and cement concreate pedestrian curb mod 1. Only clear curing compounds will be permitted.

8-04.3(1) Cement Concrete Curbs, Gutters, and Spillways

Section 8-04.3(1) is supplemented with the following:

(*****)
Concrete placement shall be accomplished with line and grade control such that a 10 foot long straight edge placed on the concrete surface in the gutter or against the top of the gutterline of the curb shows no variance greater than 1/8 inch in grade or 1/4 inch on line except at a designated angle point. Under no circumstances shall variances be allowed which cause drainage away from the catch basin or other drainage structures.

The Specifications and Standard Plans shall be strictly adhered to in regard to cross-sectional dimension and slope, and finish of concrete.

(*****)
The Contractor shall provide at least 72-hour notice of concrete pours so that the businesses and residents can be notified. The Contractor shall coordinate with the businesses and residents regarding any special access considerations.

Concrete related work in this project occurs in pedestrian areas. The Contractor shall make concrete pours at such times during the day that by the end of the work day, the concrete has had the maximum amount of time to cure and thus be less susceptible to damage.

New curb and gutter shall not be placed until forms have been checked and approved for line, grade, and base course compaction by the Engineer.

8-05 ADJUSTMENT OF UTILITY BOXES

Section 8-05 is added as follows:

8-05.1 Description

This Work consists of adjusting existing utility boxes to final grade. When in the roadway, the top section, ring and cover shall be lowered prior to planning operations and then raised to finished grade following paving operations in accordance with the Plans and these Specifications at the locations shown in the Plans.

8-05.3 Construction Requirements

Adjustment operations shall be conducted to prevent damage to the valve, valve box top section, ring or cover. All parts or materials damaged as a result of the Contractor's operations shall be replaced at no expense to the Contracting Agency or utility owner.

Per the pipeline safety regulations contained in WAC 480-93, valves must be maintained during construction and the corrosion protection for steel gas piping must be periodically monitored. It is essential to coordinate the adjustment of valve boxes and cathodic protection test lead boxes. PSE (Gas) requires a representative/Inspector on-site when any Work is being performed where PSE gas facilities are known to exist.

8-05.4 Measurement

"Adjust Utility Box" will be measured per each for each utility box top section, ring, and cover adjusted by lowering and raising adjustments.

8-05.5 Payment

"Adjust Utility Box", per each

The unit Contract price per each for "Adjust Utility Box" shall be full pay for all costs necessary to make the lowering and raising adjustments.

8-06 CEMENT CONCRETE DRIVEWAY ENTRANCES

8-06.1 Description

Section 8-06.2 is supplemented with the following:

(*****)

This Work consists of furnishing and constructing a brick driveway entrance to replace the existing one to be removed. The new brick driveway shall be constructed in accordance with

the Plans and these Specifications at the locations shown in the Plans and in conformity with the lines as staked.

8-06.2 Materials

Section 8-06.2 is supplemented with the following:

(*****)

Materials for brick driveway entrance shall be equivalent in size, strength, and color to the existing brick driveway entrance and its concrete border curb that is being reconstructed.

8-06.3 Construction Requirements

Section 8-06.3 is supplemented with the following:

(******)

Cement Concrete Class 4000 for Cement Concrete Driveways shall produce 3000 psi in 3 days.

The Contractor shall make every attempt to minimize the time access to businesses and private properties are disrupted.

The Contractor shall provide at least 72-hours' notice of concrete pours so that the businesses and private residences can be notified. The Contractor shall coordinate with the businesses and private residences regarding any special access considerations.

The temporary construction agreements identify the construction limitations for driveways including duration of closure. The Contractor shall maintain property access at all times by constructing driveways in two or more segments unless noted otherwise in the temporary construction agreements.

Construction of each driveway entrance shall be done in accordance with the contract documents.

8-06.4 Measurement

Section 8-06.4 is supplemented with the following:

Brick Driveway Entrance will be measured by the square yard of the completed driveway.

8-06.5 Payment

Section 8-06.5 is supplemented with the following:

"Brick Driveway Entrance", per square yard. The unit contract price per square yard shall be full payment for all costs for a complete driveway including furnishing and installing concrete border curb, weed barrier, bedding material, compaction, sand backfill, andinterlocking bricks.

8-12 CHAIN LINK FENCE AND WIRE FENCE

8-12.1 Description

Section 8-12.2 is supplemented with the following:

(*****)
This Work consists of furnishing and constructing fall protection fence in the types specified in accordance with the Plans and these Specifications at the locations shown in the Plans and in conformity with the lines as staked.

Fall protection shall be of diamond woven wire mesh mounted on steel posts.

8-12.2 Materials

Section 8-12.2 is supplemented with the following:

(*****)
Materials for fall protection fence shall be black vinyl coated.

8-12.4 Measurement

Section 8-12.4 is supplemented with the following:

Fall Protection will be measured by the linear foot along the line and slope at the base of the completed fence.

8-12.5 Payment

Section 8-12.5 is supplemented with the following:

"Fall Protection", per linear foot. The unit contract price per linear foot shall be full payment for all costs for the specified Work.

8-13 MONUMENT CASES

8-13.1 Description

Section 8-13.1 is supplemented with the following:

(******)
This work consists of furnishing and placing and replacing monuments and monument case and covers in accordance with the Plans and Specifications and DNR requirements for disturbance of existing monuments. The contractor shall have a licensed surveyor complete the work as required.

8-13.3 Construction Requirements

Section 8-13.3 is supplemented with the following:

(******)
The Contractor shall reference the existing monument cases prior to replacing the monuments. References shall be placed in locations not impacted by construction activities and in sufficient numbers so that if some of the references are disturbed prior to completion of this item of work the Contractor can re-establish the monument case in its original location.

No work shall be done which may disturb the monument until the referencing methods have been received and approved by the Engineer.

The monument, and monument case and cover will be furnished and set by the Contractor.

8-13.4 Measurement

Section 8-13.4 is supplemented with the following:

(******)

Measurement of "Monument, and Monument Case and Cover" will be by the unit for each monument, and monument case and cover furnished and set.

8-13.5 Payment

Section 8-13.5 is supplemented with the following:

(******)

The unit contract price for " Monument, and Monument Case and Cover", per each shall be full payment for all costs for the specified Work.

8-14 CEMENT CONCRETE SIDEWALKS

8-14.3 Construction Requirements

Section 8-14.3 is supplemented with the following:

(October 3, 2022 WSDOT GSP)

The Contractor shall request a pre-construction meeting with the Engineer to be held two to five working days before any work can start on cement concrete sidewalks, curb ramps or other pedestrian access routes to discuss construction requirements. Those attending shall include:

1. The Contractor and subcontractor in charge of constructing forms, and placing, and finishing the cement concrete.

2. Engineer (or representative) and Project Inspectors for the cement concrete sidewalk, curb ramp or pedestrian access route Work.

Items to be discussed in this meeting shall include, at a minimum, the following:

1. Slopes shown on the Plans.

2. Inspection

3. Traffic control

4. Pedestrian control, access routes and delineation

5. Accommodating utilities

6. Form work

7. Installation of detectable warning surfaces

8. Contractor ADA survey and ADA Feature as-built requirements

9. Cold Weather Protection

(January 7, 2019 WSDOT GSP)
Timing Restrictions
Curb ramps shall be constructed on one leg of the intersection at a time. The curb ramps shall be completed and open to traffic within five calendar days before construction can begin on another leg of the intersection unless otherwise allowed by the Engineer.

Unless otherwise allowed by the Engineer, the five calendar day time restriction begins when an existing curb ramp for the quadrant or traffic island/median is closed to pedestrian use and ends when the quadrant or traffic island/median is fully functional and open for pedestrian access.

(January 7, 2019 WSDOT GSP)
Layout and Conformance to Grades
Using the information provided in the Contract documents, the Contractor shall lay out, grade, and form each new curb ramp, sidewalk, and curb and gutter.

(*****)
The Contractor shall provide at least 72-hour notice of concrete pours so that the businesses can be notified. The Contractor shall coordinate with the businesses regarding any special access considerations.

Concrete related work in this project occurs in pedestrian areas. The Contractor shall make concrete pours at such times during the day that by the end of the work day, the concrete has had the maximum amount of time to cure and thus be less susceptible to damage.

New concrete sidewalk shall not be placed until forms have been checked and approved for line, grade, and base course compaction by the Engineer.

The first paragraph of Section 8-14.3(5) is revised to read:

(January 13, 2021)
The detectable warning surface shall be located as shown in the Contract Plans or Standard Plans. Placement of the detectable warning surface shall be in accordance with the manufacturer's recommendation for placement in fresh concrete, before the concrete has reached initial set, or on a hardened cement concrete surface Glued or stick down Detectable Warning Surfaces are allowed on asphalt surfaces only for temporary work zone applications.

8-14.4 Measurement
Section 8-14.4 is supplemented with the following:

(*****)
Cement Conc. Curb Ramp Type ___shall be measured per each.

Cement Conc. Flatwork, 6-Inch Thick, shall be measured per square yard.

Cement Conc. Stairs, shall be measured per square yard.

Stair Handrail, shall be measured per linear foot measured along the top of the handrail.

8-14.5 Payment

Section 8-14.5 is supplemented with the following:

(*****)

"Cement Conc. Curb Ramp Type ___", per each

The unit Contract price per each for "Cement Conc. Curb Ramp Type ___" shall be full compensation for all labor, material, tools and equipment necessary to construct the curb ramp as specified, including the cast-in-place detectable warning surface.

"Cement Conc. Flatwork", per square yard

The unit Contract price per square yard for "Cement Conc. Flatwork" shall be full compensation for all labor, material, tools and equipment necessary to construct the flatwork as specified, including the cast-in-place detectable warning surface.

"Cement Conc. Stairs", per square yard

The unit Contract price per square yard for "Cement Conc. Stairs" shall be full compensation for all labor, material, tools and equipment necessary to construct the stairway as specified.

"Stair Handrail", per linear foot

The unit Contract price per linear foot for "Stair Handrail" shall be full compensation for all labor, material, tools and equipment necessary to construct the stair handrail as specified.

8-18 MAILBOX SUPPORT

8-18.1 Description

Section 8-18.1 is supplemented with the following:

(*****)

This Work includes relocation of existing mailboxes to temporary locations for access during construction. This Work also includes the installation of existing mailboxes on new mailbox support stands in accordance with the details and final permanent locations shown on the Plans and with the approval of the Engineer.

8-18.3 Construction Requirements

Section 8-1.3 is supplemented with the following:

(*****)

Where specified in the plans, mailboxes shall be relocated to the permanent location shown in the Plans and furnished with new mailbox support stands in accordance with the Contract Documents.

8-18.4 Measurement

Section 8-18.4 is supplemented with the following:

"Mailbox Stand" will be measured per each location.

8-18.5 Payment

Section 8-18.5 is supplemented with the following:

"Mailbox Stand", per each. All costs for relocations of existing mailboxes to temporary locations, for relocations of temporary mailboxes to accommodate the Work, for coordination

associated with this bid item, and for installation of mailboxes at permanent locations, regardless of mailbox stand type, shall be included in the unit price.

8-19 WOOD FENCE (New Section)

8-19.1 Description

This Work consists of furnishing and constructing wood fence as shown on the Plans and in accordance with Section 6-04 Timber Structures.

8-19.1 Materials

Materials shall meet the requirements of the following sections:

Structural Steel and Related Material	9-06
Bolts, Washers, Other Hardware	9-06.22
Timber and Lumber	9-09
Wood Fence Posts and Braces	9-16.2(1)B
Concrete	9-16.2(1)J
Fasteners	9-32.5

8-19.3 Construction Requirements

The Contractor shall notify the Engineer no less than seven (7) calendar days prior to beginning any work associated with construction of the wood fence in order to allow the Engineer time to notify the adjacent parcel owner the schedule of the work.

Foundation brackets at the base of each wood fence post, where applicable, shall be wet set in to the concrete.

8-19.4 Measurement

"Wood Fence" will be measured per linear foot.

8-19.5 Payment

The unit Contract price per linear foot for “Wood Fence” shall be full compensation for for all labor, material, tools and equipment necessary to furnish and install the fence and one (1) hinged and latching gate in accordance with the Plans and Specifications.

8-21 PERMANENT SIGNING

8-21.1 Description

Section 8-21.1 is supplemented with the following:

(*****)

This work includes the replacement of existing signs and posts, where indicated, within the project limits.

8-21.5 Payment

Section 8-21.5 is supplemented with the following:

(*****)

"Permanent Signing", lump sum.

The lump sum bid item "Permanent Signing" shall be full compensation for all labor, material, tools and equipment required to furnish and install new signs and removing, relocating, and replacing existing signs, including new metal posts and all hardware, in the locations shown and in accordance with the plans and specifications.

8-22 PAVEMENT MARKING

8-22.1 Description

Section 8-22.1 is supplemented with the following:

(*****)

This work shall consist of furnishing and installing permanent pavement markings upon the roadway surface in accordance with the contract documents.

8-22.2 Materials

Section 8-22.2 is supplemented with the following:

(*****)

Plastic lines shall be Type D, MMA.

Paint for pavement marking shall be the waterborne traffic paint equal to PERVO or approved equal.

8-22.3 Construction Requirements

8-22.3(1) Preliminary Spotting

(*****)

The Contractor shall be responsible for preliminary spotting of lines to be marked. Approval by the Engineer is required before marking begins.

8-22.3(3)G Glass Beads

(*****)

Glass beads shall be applied at a rate of 8 pounds of beads per 100 square feet of coating. The beads shall have a minimum refractive index of 1.5 and a size range of 0.1 to 0.75 mm. The bead application system shall provide a uniform bead distribution over the entire surface of the marking. Beads shall be applied while the film is in a semi-liquid state on the roadway.

8-24 ROCK AND GRAVITY BLOCK WALL AND GABION CRIBBING

8-24.1 Description

Section 8-24.1 is supplemented with the following:

(*****)

Gravity/Modular Block Walls are gravity retaining wall systems consisting of a column of segmental concrete facing units retaining compacted soil backfill or a native ground cut. Work shall consist of furnishing all materials, labor, equipment, field supervision and installing the gravity wall system in accordance with given specifications. All installations shall conform to Contract Plans.

8-24.2 Materials

Section 8-24.2 is supplemented with the following:

(*****)

Gravity blocks shall be segmental concrete units with shear keys. The gravity block wall blocks shall be rectangular concrete blocks with concrete unit weight greater than 145pcf.

The gravity blocks shall have a 28-day compressive strength of at least 2,500 psi.

Except as otherwise specified, gravity block wall blocks will be accepted by the Engineer based on visual inspection, with no air content requirements for the concrete used in the block.

The block dimensions shall be as dimensioned in the Plans. All dimensions shall be ± 1”. Block dimensions other than those stated on the plans shall be reviewed by the Engineer before placing fabrication order.

The architectural finish on the exposed wall surface shall be "split faced" and have minimum beveling at block edges. Embedded portions of wall may have any architectural finish.

Drainage

Gravel Backfill for Block Wall material shall consist of free draining, all-weather, coarse-grained materials that are placed behind the Gravity Block Wall units as specified on the plans.

Construction Geotextile for Underground Drainage shall be a non-woven geosynthetic conforming to the requirements in Section 9-33.1, for Construction Geotextile for Underground Drainage, Moderate Survivability, Class B.

Underdrain Pipe shall be placed as shown on the plans. The pipe shall be a perforated or slotted, PVC or corrugated HDPE pipe. The pipe shall be wrapped in filter fabric. The pipe shall be manufactured in accordance with ASTM D3034.

8-24.3 Construction Requirements

Section 8-24.3 is supplemented with the following:

(*****)

Gravity blocks shall be segmental concrete units with shear keys. The gravity block wall blocks shall be rectangular concrete blocks with concrete unit weight greater than 145pcf.

8-24.3(2) Gravity Block Wall

(*****)

Submittals

The Contractor shall submit working drawings of the gravity block wall to the Engineer for approval in accordance with Section 6-01.9. The working drawings shall include, but not be limited to, the following:

1. Plan, elevation, and section views of the wall, showing the layout, batter, and orientation of the blocks.

2. The dimensions and details of the blocks, including details and locations of block erection lifting loops and inserts, and the features designed to interlock blocks together if the blocks have such features.

3. Method and equipment used to erect the blocks.

4. Erection sequence.

The Contractor shall not begin fabricating gravity block wall blocks until receiving the Engineer's approval of the working drawing submittal.

Gravity Block Wall Delivery and Storage

The contractor shall store and handle all materials in accordance with the manufacturer's recommendations. The contractor shall avoid excessive mud, wet concrete, epoxy, or other deleterious materials from coming in contact with and affixing to materials.

The contractor shall discard all damaged materials and shall not use them in wall construction.

Excavation

The subgrade shall be excavated to meet design requirements shown on plans. The contractor shall grade the excavation allowing for the wall base, drainpipe, and placement of geotextile fabric.

The width of excavation should allow for the wall base, drainpipe, and placement of geotextile fabric.

Start excavation at the lowest wall level. If the wall steps up in one block height, the base block should be installed at the lowest level in order to establish grade and face location of the second level.

Foundation Preparation

Foundation for the wall shall be graded as shown in the Plans.

The contractor shall construct the CSTC levelling pad as shown in the Plans in accordance with section 4-04 and as shown on Plans.

The bottom of wall shall be stepped as necessary to conform to the finished grade. Minimum wall embedment shall be 3'-0". A qualified geotechnical engineer shall inspect and approve levelling pad subgrade to ensure adequate bearing capacity. Subgrade soil areas not meeting the required bearing strength shall be removed per WSDOT Standard Specifications.

Gravity Block Wall Erection

The gravity block wall shall be installed in accordance with manufacturer's specifications and recommendations.

The Contractor shall erect the gravity block wall and place the backfill in accordance with the erection sequence as approved by the Engineer. The top of the gravity block wall shall be within one half inch of the line and grade shown in the Plans.

The Contractor shall repair all large blemishes, honeycombed areas, and chipped surfaces, (25 square inches and larger) on the exposed face of the erected wall using methods and materials as approved by the Engineer.

Gravel Backfill and Underdrain Placement

The backfill shall be placed as specified on Plans and in accordance with section 9-03.12(2). The gravel backfill shall be compacted in accordance with Section 2-03.3(14)C, Method C.

The drainage collection pipe shall be placed immediately behind the wall at the bottom of the wall as shown on Plans and in accordance with section 7-01.3(2) with a minimum of 1.5% gradient to maintain a positive gravity flow, as shown on Plans. Underdrain shall be covered by Gravel Backfill for Drains as per section 9-03.12(4) and wrapped with Construction Geotextile for Underground Drainage as shown on Plans.

"Constructton Geotextile for Underground Drainage" including geotextile fabric for underdrain pipe as shown in the Plans shall be placed in accordance with section 2-12.3(1)."

8-24.4 Measurement

Section 8-24.4 is supplemented with the following:

(*****)

Gravity Block Wall will be measured per square foot of completed wall in place. The vertical limits for measurement are from the bottom of the bottom layer of blocks to the top of the top layer of blocks. The horizontal limits for measurement are from the end of wall to the end of wall.

8-24.5 Payment

Section 8-24.5 is supplemented with the following:

(*****)

"Gravity Block Wall", per square foot.

The unit Contract price per square foot for "Gravity Block Wall" shall be full compensation for all labor, material, tools and equipment necessary to construct the wall as specified in the Contract Documents.

END OF DIVISION 8

DIVISION 9
MATERIALS

DIVISION 9 - MATERIALS

9-03 AGGREGATES

9-03.8 Aggregates for Hot Mix Asphalt

9-03.8(2) HMA Test Requirements

(*****)

Section 9-03.8(2) is supplemented with the following:

In the table in, item number 3, the heading “Statistical” is revised to read “Statistical and Nonstatistical”.

(May 25, 2006 APWA GSP)

Section 9-03.8(2) is supplemented with the following:

ESAL’s

The number of ESAL’s for the design and acceptance of the HMA shall be 0.3 to 3 million.

9-03.8(7) HMA Tolerances and Adjustments

(*****)

In Section 9-03.8(7), all table headings reading heading “Statistical Evaluation” are revised to read “Statistical and Nonstatistical Evaluation”.

9-14 EROSION CONTROL AND ROADSIDE PLANTING

9-14.2(1) Topsoil Type A

(******)

Replace this section with the following:

Work in this Section

A. Section includes:

1. Soil amendments.
2. Soil preparation.
3. Preparation and finish grading of planting and lawn areas.
4. Mulching

9-14.2(1)A References

A. Washington State Department of Ecology, Western Washington Stormwater Manual, BMP T5.13: Post-Construction Soil Quality and Depth

B. WAC Chapter 173-350, Definitions and Section 220

C. United States Department of Agriculture (USDA) Soil Texture System of Classification

9-14.2(1)B Submittals

A. Soil Management Plan: Prior to commencement of site work, submit a copy of the project Soil Management Plant and an attached implementation schedule that have been approved by localjurisdiction for permit.

B. Samples: Submit samples of all soil amendments include a list of sources and certification asspecified. Soil amendments shall be submitted in one-gallon containers.

C. At the time of Post-Construction Inspection, furnish copies of material verifications such as loadtickets, invoices, sales slips, test results and similar items as specified.

9-14.2(1)C Quality Assurance

A. Qualifications of Contractor: The Contractor shall be active and experienced in work of the type specified, and upon request by the Contracting Agency, be able to show evidence of successfulcompletion of projects of similar scope.

B. Regulatory Requirements: Obtain and pay for all permits and testing related to the work of thissection

C. Pre-Grading Inspection: In conjunction with the soil preparation specified herein, meet with the Contracting Agency to discuss and verify requirements, schedule, and proposed soil preparationmethods.

9-14.2(1)D Guarantee

A. Guarantee: Guarantee materials and workmanship for a period of two-year following Owner's final acceptance.

9-14.2(1)E Sequencing and Scheduling

A. Coordinate work of other trades specified elsewhere.

B. Do not perform soil preparation work in areas subject to the subsequent work of other sections,unless approved otherwise.

9-14.2(1)F Maintenance

A. Maintain the work as specified in this section until final acceptance of the work.

9-14.2(1)G Compost

A. Composted material must be in compliance with WAC Chapter 173-350

Section 220; plus the following additional requirements.

B. Additional Requirements

1. The carbon to nitrogen ratio of the compost shall be below 25:1, or below 35:1 if the proposed plantings are composed entirely of plants native to the Puget Sound Lowlandsregion.

2. The compost shall have an organic matter content of 35% to 65% as determined by "losson ignition" test method.

C. Alternative organic materials may be used in lieu of the specified compost if they meet the criteria for carbon to nitrogen ratio, contaminants (as defined in WAC Chapter 173-350 Section 220), and when mixed with existing native soil can achieve a calculated organic content of 10% for planting beds.

D. Submit one-gallon sample, source, and letter of certification from the supplier to the Contracting Agency for approval prior to installation.

9-14.2(1)H Mulch

A. Mulch shall be Wood Chip Mulch as specified in 9-14.5(3) and installed as specified in 8-02.3(11)B.

B. Submit one-gallon sample, source, and letter of certification from the supplier to the Contracting Agency for approval prior to installation

9-14.2(1)I Imported Topsoil

A. A mixture of compost, meeting requirements of Section 2.1 above, and sand or sandy loam per USDA soil texture classification. The mixture shall contain a minimum of approximately 10% organic matter for planting beds. The sand or sandy loam shall be free of weeds, deleterious materials, rocks, and debris. 100% of the imported topsoil shall pass through a 3/4" screen, less than 25% shall pass through a #200 sieve.

B. Submit one-gallon sample, source, and letter of certification from the supplier to the Contracting Agency for approval prior to installation.

9-14.2(1)K Preparation

A. Protect surrounding construction from damage caused by the work of this section.

9-14.2(1)L Subgrades

A. Prepare subgrades to accommodate material depths as indicated on the Drawings.

9.-4.2(1)M Amendment

A. Planting Beds shall be prepared in accordance with Option 4 and as indicated on the Drawings.

OPTION 4: Import topsoil meeting organic matter content standards.	
Scarify or till subgrade in two directions to 6 inches depth. Entire surface should be disturbed by scarification. Do not scarify within drip line of existing trees to be retained.	
A. Planting Beds: Use imported topsoil mix containing 10% organic matter (typically around 40% compost).	**B. Hydroseed Areas:** Use imported topsoil mix containing 5% organic matter (typically around25% compost)
Place 3 inches of imported topsoil mix on surface and till into 2 inch depth of prepared subgrade.	Place 3 inches of imported topsoil mix on surface and till into 2 inch depth of prepared subgrade.
Place 3 inches of imported topsoil mix on surface and till into 5 inch depth of tilled soil.	Place 3 inches of imported topsoil mix on surface and till into 5 inch depth of tilled soil.
Place 3 inches topsoil mix on surface	Place 3 inches topsoil mix on surface.
Rake beds to smooth, and remove surface rocks over 2 inches diameter	Water or roll to compact soil to 85% of maximum.
Mulch planting beds with 3 inches of organic mulch.	Rake to level and remove surface rocks larger than 1 inches diameter.

9-14.2(1)N Inspection and Verification

A. Pre-Grading Inspection: Prior to the commencement of site work, contact the Contracting Agency to provide an inspection to verify the delineation and protection of native soils and vegetation to remain undisturbed, and to verify the proposed location for topsoil and material stockpiling. Makecorrections and adjustments as directed by the Inspector.

B. Interim Grading Inspection: Prior to the placement of soil amendments, contact the Contracting Agency to provide an inspection to verify that specified erosion control methods have been implemented, the location of stockpiled soil and materials, and that subgrades are consistent with the Soil Management Plan. Make corrections and adjustment as directed by the Inspector.

C Post-Installation Inspection: Prior to planting, contact the Contracting Agency to provide an inspection to verify that the placement of amendments and soil preparation is consistent with the Soil Management Plan. Provide delivery tickets for soil amendments to verify the quantity of material specified on the Soil Management Plan. Make corrections and adjustments as directed bythe Inspector.

D Mulch Placement Verification: At the completion of planting, contact the Contracting Agency toprovide a review to verify that mulch has been installed as specified.

E. Secondary Verification for Failing Sites: If the Contracting Agency determines that the installation does not meet the conditions of the approved Soil Management Plan, additional testing by an independent

certified soil consultant will be ordered by the Contracting Agency and paid for by the Contractor. Make corrections and adjustment as directed by the Contracting Agency.

9-14.2(1)O Final Acceptance

A. Final acceptance by the Contracting Agency for soil preparation will be contingent on the approval of all inspections, and that the soil preparation is consistent with these specifications and with the approved Soil Management Plan.

9-14.8 Stakes, Guys, and Wrapping

(******)

Replace this section with the following:

Guying and strapping material shall be soft polypropylene material and weaved to provide rounded edges, ¾ inch width and 900 lb break strength. Color shall be Green for deciduous trees and White for conifer trees.

Hose for guying shall be vinyl and shall have an inside diameter of at least 1 inch.

Tree stakes for deciduous trees shall be 2 inch diameter and shall be comprised of Lodgepole Pine.

Tree stakes for conifer trees shall be 2 inch diameter, 18 inch minim length, and shall be comprised of Cedar.

Tree wrap shall be a crinkled waterproof paper weighing not less than 4 pounds per 100 square feet and shall be made up of two sheets cemented together with asphalt.

9-15 IRRIGATION SYSTEM

9-15.1(2) Polyvinyl Chloride Pipe and Fittings

(******)

Delete paragraph 2 and replace with the following:

PVC solvent weld pipe shall be of PVC 1120 material and shall be schedule 40 which conforms to ASTM D1785. PVC threaded pipe shall be of PVC 1120 material and shall be schedule 40 which conforms to ASTM D1785 and ASTM D2466

END OF DIVISION 9

APPENDICES
(January 2, 2012)

The following appendices are attached and made a part of this contract:

APPENDIX A:
Prevailing Wage Rates – King County
APPENDIX B:
LFPWD Specifications
APPENDIX C:
Standard Plans
APPENDIX D:
Geotechnical Information
APPENDIX E:
Utility Relocation Work by Others Information
APPENDIX F:
Contract Plans

(November 4, 2024)
Standard Plans

The Washington State Department of Transportation *Standard Plans* M21-01, published September 2024, is made a part of this Contract with the following revisions:

A-10.30
RISER RING detail (Including SECTION view and RISER RING DIMENSIONS table): The RISER RING detail is deleted from the plan.

INSTALLATION detail, SECTION A: The “1/4”” callout is revised to read “+/- 1/4" (SEE CONTRACT ~ Note: The + 1/4" installation is shown in the Section A view)”

A-40.20
Sheet 1, NOTES 1, 2, 3, and 4 are replaced with the following:

1. Use the ½ inch joint details for bridges with expansion length less than 100 feet and for bridges with L type abutments. Use the 1 inch joint details for other applications.

2. Use detail 5, 6, 7 on steel trusses and timber bridges with concrete bridge deck panels.

3. For details 1, 2, 3, and 4, the item “HMA Joint Seal at Bridge End” shall be used for payment. For details 5 and 6, the item “HMA Joint Seal at Bridge Deck Panel Joint” shall be used for payment. For detail 7, the item “Clean and Seal Bridge Deck Panel Joint” shall be used for payment.

Sheet 2, Detail 8 reference to “6-09.3(6)” is revised to read “6-21.3(7)”.

A-50.40
Sheet 1, Plan View: The callout “BEAM GUARDRAIL TYPE 31 TRANSITION SECTION TYPE 21 OR TYPE 24 (SEE STANDARD PLAN C-25.20 OR C-25.30)” is revised to read “BEAM GUARDRAIL TYPE 31 TRANSITION SECTION TYPE 21, 24, OR 25 (SEE STANDARD PLAN C-25.20, C-25.30, OR C-25.32)”

A-60.40
Note 2 reference to “6-09.3(6)” is revised to read “6-21.3(7)”.

B-90.40
Valve Detail – DELETED

C-23.70
Sheet 2, ANCHOR BRACKET ASSEMBLY DETAIL, dimension, “R. 5/16” is revised to read; R. 15/16”
ANCHOR PLATE DETAIL, weld callout (fillet), 1/4" is revised to read; 3/16”

C-60.20
Sheet 1, Plan view, callout – “1/2” (IN) DIAMETER X 6 1/2" (IN) LONG ANCHOR BOLT ~ PER STD. SPEC. SECT. 9-06.5(4) (TYPICAL) (SEE NOTE 7)” is revised to read: “5/8” DIAMETER x 6 1/2" (IN) LONG ANCHOR BOLT ~ PER STD. SPEC. SECT. 9-06.5(4) (TYPICAL) (SEE NOTE 7)”

C-81.15
Sheet 1, General Notes, Add Note 7, to read;"7. The concrete class for the moment slab shall be class 4000 typically and class 4000A when the top of the slab is used as the roadway, or sidewalk, surface. The concrete class for the barrier is defined in Standard Specification Section 6-10.3."

C-85.11
On Section B, the callout "3" EXPANDED POLYSTYRENE AROUND COLUMN (TYP.)" is revised to read "3" EXPANDED POLYSTYRENE OR POLYETHYLENE FOAM AROUND COLUMN (TYP.)"

D-3.09
Sheet 1, Geosynthetic Wall with 2 FT Traffic Surcharge detail, callout – "BARRIER ON WALL ~ SEE Standard Plan D-3.15 or D-3.16" is revised to read: "BARRIER ON WALL ~ SEE Standard Plan C-81.10 and/or C-81.15"

D-3.10
Sheet 1, Typical Section, callout – "FOR WALLS WITH SINGLE SLOPE TRAFFIC BARRIER. USE THE DETAILS ABOVE THE MATCH LINE ON STANDARD PLAN D-3.15" is revised to read; "FOR WALLS WITH SINGLE SLOPE TRAFFIC BARRIER, SEE CONTRACT PLANS"
Sheet 1, Typical Section, callout – "FOR WALLS WITH F-SHAPE TRAFFIC BARRIER. USE THE DETAILS ABOVE THE MATCH LINE ON STANDARD PLAN D-3.16" is revised to read; "FOR WALLS WITH F-SHAPE TRAFFIC BARRIER, SEE CONTRACT PLANS"

D-3.11
Sheet 1, Typical Section, callout – ""B" BRIDGE APPROACH SLAB (SEE BRIDGE PLANS) OR PERMANENT GEOSYNTHETIC WALL BARRIER ~ SEE STANDARD PLANS D-3.15 OR D-3.16" is revised to read; "B" BRIDGE APPROACH SLAB OR MOMENT SLAB (SEE CONTRACT PLANS)
Sheet 1, Typical Section, callout – "TYPICAL BARRIER ON BRIDGE APPROACH SLAB (SEE BRIDGE PLANS) OR PERMANENT GEOSYNTHETIC WALL BARRIER ~ SEE STANDARD PLANS D-3.15 OR D-3.16" is revised to read; "TYPICAL BARRIER ON BRIDGE APPROACH SLAB OR MOMENT SLAB (SEE CONTRACT PLANS)

D-10.10
Note 7, "If Traffic Barriers are required, See Standard Plans D-15.10, D-15.20 and D-15.30" is revised to read "Traffic Barriers shall not be structurally connected to the Reinforced Concrete Retaining Wall Type 1 and 1SW".

D-10.15
Note 7, "If Traffic Barriers are required, See Standard Plans D-15.10, D-15.20 and D-15.30" is revised to read "Traffic Barriers shall not be structurally connected to the Reinforced Concrete Retaining Wall Type 2 and 2SW".

D-10.30
Wall Type 5 may be used in all cases.

D-10.35
Wall Type 6 may be used in all cases.

D-10.40

Note 5, “If Traffic Barriers are required, See Standard Plans D-15.10, D-15.20 and D-15.30” is revised to read “Traffic Barriers shall not be structurally connected to the Reinforced Concrete Retaining Wall Type 7”.

D-10.45

Note 5, “If Traffic Barriers are required, See Standard Plans D-15.10, D-15.20 and D-15.30” is revised to read “Traffic Barriers shall not be structurally connected to the Reinforced Concrete Retaining Wall Type 8”.

F-10.18

General Note 1; “Construct curb joints at concrete pavement transverse joint locations. If all adjacent pavement is HMA, see Standard Plam F-30.10 for Curb Expansion and Contraction Joint Spacing.” Is revised to read – “See Standard Plan F-30.10 and Standard Specification Section 8-04.3 for Curb Expansion and Contraction Joint details and spacing.”

F-30.10

All five instances of the “2.0% MAX.” are replaced with “2.1% MAX.”

F-40.12

The one instance of “2.0% MAX.” is replaced with “2.1% MAX.”
Note 7 is replaced with the following:
7. The running slope of curb ramps shall not exceed 8.3% maximum except as noted herein. If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for details. Use a single constant slope from bottom of ramp to top of ramp to match into the landing. Do not include the abutting landing in the Curb Ramp length measurement. When a ramp is constructed on a radius, the Curb Ramp length is measured on the inside radius along the back of the walkway.
Section B is amended as follows:
Delete: “15’ – 0” MAX. (TYP.)”
Section C is amended as follows:
Delete: “15’ – 0” MAX. (TYP.)”

F-40.14

The one instance of “2.0% MAX.” is replaced with “2.1% MAX.”
Note 7 is replaced with the following:
7. The running slope of curb ramps shall not exceed 8.3% maximum except as noted herein. If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for details. Use a single constant slope from bottom of ramp to top of ramp to match into the landing. Do not include the abutting landing in the Curb Ramp length measurement. When a ramp is constructed on a radius, the Curb Ramp length is measured on the inside radius along the back of the walkway.
Section A is amended as follows:
Delete: “15’ – 0” MAX. (TYP.)”
Section C is amended as follows:
Delete: “15’ – 0” MAX. (TYP.)”

F-40.15

The one instance of “2.0% MAX.” is replaced with “2.1% MAX.”
Note 7 is replaced with the following:
7. The running slope of curb ramps shall not exceed 8.3% maximum except as noted herein. If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for details. Use a

single constant slope from bottom of ramp to top of ramp to match into the landing. Do not include the abutting landing in the Curb Ramp length measurement.
Section A is amended as follows:
Delete: “15’ – 0” MAX. (TYP.)”

F-40.16
The one instance of “2.0% MAX.” is replaced with “2.1% MAX.”
Note 8 is replaced with the following:
7. The running slope of curb ramps shall not exceed 8.3% maximum except as noted herein. If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for details. Use a single constant slope from bottom of ramp to top of ramp to match into the landing. Do not include the abutting landing in the Curb Ramp length measurement.
Section A is amended as follows:
Delete: “15’ – 0” MAX. (TYP.)”
Section B is amended as follows:
Delete: “15’ – 0” MAX. (TYP.)”

F-80.10
The one instance of “2.0% MAX.” is replaced with “2.1% MAX.”
Note 6 is replaced with the following:
The running slope of the Pedestrian Ramp shall not exceed 8.3% maximum except as noted herein. If the 8.3% running slope creates a ramp that exceeds 15ft, see contract plans for details. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk.
Section A is amended as follows:
Delete: “15” Max.”

J-10.10
Sheet 4 of 6, “Foundation Size Reference Table”, PAD WIDTH column, Type 33xD=6’ – 3” is revised to read: 7’ – 3”. Type 342LX / NEMA P44=5’ – 10” is revised to read: 6’ – 10”
Sheet 5 of 6, Plan View, “FOR EXAMPLE PAD SHOWN HERE:, “first bullet” item, “-SPACE BETWEEN TYPE B MOD. CABINET AND 33x CABINET IS 6” (IN)” IS REVISED TO READ: “SPACE BETWEEN TYPE B MOD. CABINET (BACK OF ALL CHANNEL STEEL) AND 33x CABINET IS 6” (IN) (CHANNEL STEEL ADDS ABOUT 5” (IN)”

J-10.16
Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14

J-10.17
Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14

J-10.18
Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14

J-20.10
DELETED

J-20.11
DELETED

J-20.26
Add Note 1, “1. One accessible pedestrian pushbutton station per pedestrian pushbutton post.”
Add General Note 2, to read: “Signs shown are for locations with pedestrian signal displays (Accessible Pedestrian Signals/APS). Accessible information device (AID) pushbuttons signs not shown.”
Revise View Titles (Both Sheets) to read: “ACCESSIBLE PEDESTRIAN PUSHBUTTON ASSEMBLY”

J-20.16
View A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE

J-21.10
Sheet 1, Anchor Bolt Template, callout; “9” (IN) BOLT CIRCLE” is revised to read: “9” (IN) DIA.BOLT CIRCLE”
Base Plate Detail, callout; “3/4” (IN) STEEL PLATE WITH HOLE = POLE BASE + 1/6” (IN)” IS REVISED TO READ; “3/4” (IN) STEEL PLATE WITH HOLE = POLE BASE + 1/16” (IN)”
Flat Foundation Detail – Elevation, callout; “ANCHOR BOLTS ~ ¾” (IN) x 30” (IN) FULL THREAD ~ THREE REQ’D. PER ASSEMBLY” is revised to read; “ANCHOR BOLTS ~ ¾” (IN) x 30” (IN) FULL THREAD ~ FOUR REQ’D. PER ASSEMBLY”
Flat Foundation Detail – Elevation, dimension; 4’ – 0” is revised to read; “4’ – 0” ROUND OR 3’ – 0” SQUARE”

J-21.15
Partial View, callout, was – LOCK NIPPLE ~ 1 ½” DIAM., is revised to read; CHASE NIPPLE ~ 1 ½” (IN) DIAM.

J-28.30
General Note 13 – “See Standard Plans C-8b and C-85.14 for steel light standards on traffic barrier” is revised to read; “See Standard Plan C-85.15 for steel light standards on traffic barrier.”

J-40.10
Sheet 2 of 2, Detail F, callout, “12 – 13 x 1 ½” S.S. PENTA HEAD BOLT AND 12” S. S. FLAT WASHER” is revised to read; “12 – 13 x 1 ½” S.S. PENTA HEAD BOLT AND 1/2” (IN) S. S. FLAT WASHER”

J-40.36
Note 1, second sentence; ”Finish shall be # 2B for backbox and # 4 for the cover.” Is revised to read; ”Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled) for the cover.

J-40.37
Note 1, second sentence; ”Finish shall be # 2B for backbox and # 4 for the cover.” Is revised to read; ”Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled) for the cover.

J-75.20
Key Notes, note 16, second bullet point, was: “1/2” (IN) x 0.45” (IN) Stainless Steel Bands”, add the following to the end of the note: “Alternate: Stainless steel cable with stainless steel ends, nuts, bolts, and washers may be used in place of stainless steel bands and associated hardware.”

J-75.55

Notes, Note A1, Revise reference, was – G-90.29, should be – G-90.20.

L-5.10

Add new general Note 9 on sheet 1 – "9. The top of wall in Section A on Sheet 1 shall be located as follows: 1) flush with the finished grade when placed within the deflection distance of the long span guardrail system (Std. Plan C-20.40), 2) Two inches maximum above finished grade when placed behind a box culvert guardrail steel post system (Std. Plan C-20.41 or C-20.43), 3) Six inches minimum for all other applications. The bottom rail shall be located at mid height between the top rail and the top of structure."

M-20.30

Wide Dotted Lane Line Detail, reference below title, (SEE NOTE 6) is revised to read: (SEE NOTE 5)

M-40.10

Guide Post Type ~ Reflective Sheeting Applications Table, remove reference - "(SEE NOTE 5)"

The following are the Standard Plan numbers applicable at the time this project was advertised. The date shown with each plan number is the publication approval date shown in the lower right-hand corner of that plan. Standard Plans showing different dates shall not be used in this contract.

A-10.10-00	8/7/07	A-30.35-00	10/12/07	A-50.10-02	7/18/24
A-10.20-00	10/5/07	A-40.00-01	7/6/22	A-50.40-01	8/17/21
A-10.30-00	10/5/07	A-40.10-04	7/31/19	A-60.10-03	12/23/14
A-20.10-00	8/31/07	A-40.15-00	8/11/09	A-60.20-03	12/23/14
A-30.10-00	11/8/07	A-40.20-04	1/18/17	A-60.30-01	6/28/18
A-30.30-01	6/16/11	A-40.50-03	9/12/23	A-60.40-00	8/31/07
B-5.20-03	9/9/20	B-30.50-03	2/27/18	B-75.20-03	8/17/21
B-5.40-02	1/26/17	B-30.60-00	9/9/20	B-75.50-02	3/15/22
B-5.60-02	1/26/17	B-30.40-03	2/27/18	B-70.60-01	1/26/17
B-10.20-03	8/23/23	B-30.70-04	2/27/18	B-75.60-00	6/8/06
B-10.40-02	8/17/21	B-30.80-01	2/27/18	B-80.20-00	6/8/06
B-10.70-03	8/23/23	B-30.90-02	1/26/17	B-80.40-00	6/1/06
B-15.20-01	2/7/12	B-35.20-00	6/8/06	B-85.10-01	6/10/08
B-15.40-01	2/7/12	B-35.40-01	8/23/23	B-85.20-00	6/1/06
B-15.60-02	1/26/17	B-40.20-00	6/1/06	B-85.30-00	6/1/06
B-20.20-02	3/16/12	B-40.40-02	1/26/17	B-85.40-00	6/8/06
B-20.40-04	2/27/18	B-45.20-01	7/11/17	B-85.50-01	6/10/08
B-20.60-03	3/15/12	B-45.40-01	7/21/17	B-90.10-00	6/8/06
B-25.20-02	2/27/18	B-50.20-00	6/1/06	B-90.20-00	6/8/06
B-25.60-03	8/23/23	B-55.20-03	8/17/21	B-90.30-00	6/8/06
B-30.05-00	9/9/20	B-60.20-02	9/9/20	B-90.40-01	1/26/17
B-30.10-03	2/27/18	B-60.40-01	2/27/18	B-90.50-00	6/8/06
B-30.15-00	2/27/18	B-65.20-01	4/26/12	B-95.20-02	8/17/21
B-30.20-04	2/27/18	B-65.40-00	6/1/06	B-95.40-01	6/28/18
B-30.30-03	2/27/18	B-70.20-01	3/15/22		

C-1	9/8/22	C-23.70-01	10/16/23	C-70.10-04	10/16/23
C-1b	10/12/23	C.24.10-05	7/21/24	C-70.15-01	7/21/24
C-1d	10/31/03	C-24.15-00	3/15/22	C-75.10-02	9/16/20
C-6a	9/8/22	C-25.20-07	8/20/21	C-75.20-03	8/20/21
C-7	9/8/22	C-25.22-06	8/20/21	C-75.30-03	8/20/21
C-7a	9/8/22	C-25.26-05	8/20/21	C-80.10-03	10/16/23
C-20.10-09	10/12/23	C-25.30-01	8/20/21	C-80.20-01	6/11/14
C-20.14-05	9/8/22	C-25.32-00	7/29/24	C-80.30-02	8/20/21
C-20.15-03	10/12/23	C-25.80-05	8/12/19	C-80.40-01	6/11/14
C-20.18-04	9/8/22	C-60.10-04	7/21/24	C-85.10-00	4/8/12
C-20.40-10	10/12/23	C-60.15-01	7/21/24	C-85.11-01	9/16/20
C-20.41-05	7/18/24	C-60.20-01	9/8/22	C-85.15-03	10/17/23
C-20.43-01	7/18/24	C-60.30-02	7/21/24	C-85-18-03	9/8/22
C-20.44-00	8/13/24	C-60.40-01	7/21/24	C-81.10-00	9/12/23
C-20.45-03	9/8/22	C-60.45-01	7/21/24	C-81.15-00	9/12/23
C-20.55-00	7/30/24	C-60.50-01	7/21/24		
C-22.16-08	10/17/23	C-60.60-01	7/21/24		
C-22.40-11	7/21/24	C-60.70-01	9/8/22		
C-22.45-07	7/21/24	C-60.80-02	7/21/24		

1

D-2.36-03	6/11/14	D-3.11-03	6/11/14	D-10.25-01	8/7/19
D-2.46-02	8/13/21	D-4	12/11/98	D-10.30-00	7/8/08
D-2.84-00	11/10/05	D-6	6/19/98	D-10.35-00	7/8/08
D-2.92-01	4/26/22	D-10.10-01	12/2/08	D-10.40-01	12/2/08
D-3.09-00	5/17/12	D-10.15-01	12/2/08	D-10.45-01	12/2/08
D-3.10-01	5/29/13	D-10.20-01	8/7/19	D-20.10-00	10/9/23

2

E-1	2/21/07	E-4	8/27/03	E-20.10-00	9/12/23
E-2	5/29/98	E-4a	8/27/03	E-20.20-00	10/4/23

3

F-10.12-04	9/24/20	F-10.62-02	4/22/14	F-40.15-04	9/25/20
F-10.16-00	12/20/06	F-10.64-03	4/22/14	F-40.16-03	6/29/16
F-10.18-04	6/28/24	F-30.10-04	9/25/20	F-45.10-05	6/4/24
F-10.40-04	9/24/20	F-40.12-03	6/29/16	F-80.10-04	7/15/16
F-10.42-00	1/23/07	F-40.14-03	6/29/16		

4

G-10.10-00	9/20/07	G-24.50-05	8/7/19	G-90.10-03	7/11/17
G-20.10-03	8/20/21	G-24.60-05	6/28/18	G-90.20-05	7/11/17
G-22.10-04	6/28/18	G-25.10-05	9/16/20	G-90.30-04	7/11/17
G-24.10-00	11/8/07	G-26.10-00	7/31/19	G-95.10-02	6/28/18
G-24.20-01	2/7/12	G-30.10-04	6/23/15	G-95.20-03	6/28/18
G-24.30-02	6/28/18	G-50.10-03	6/28/18	G-95.30-03	6/28/18
G-24.40-07	6/28/18				

5

H-10.10-01	6/2/24	H-30.10-00	10/12/07	H-70.10-02	8/17/21
H-10.11-00	6/2/24	H-32.10-00	9/20/07	H-70.20-02	8/17/21
H-10.15-01	6/2/24	H-60.10-01	7/3/08		
H-10.16-00	6/2/24	H-60.20-01	7/3/08		

6

I-10.10-01	8/11/09	I-30.20-00	9/20/07	I-40.20-00	9/20/07
I-30.10-02	3/22/13	I-30.30-02	6/12/19	I-50.20-02	7/6/22

I-30.15-02	3/22/13	I-30.40-02	6/12/19	I-60.10-01	6/10/13
I-30.16-01	7/11/19	I-30.60-02	6/12/19	I-60.20-01	6/10/13
I-30.17-01	6/12/19	I-40.10-00	9/20/07	I-80.10-02	7/15/16

1

J-05.50-00	8/30/22	J-26.10-03	7/21/16	J-50.05-00	7/21/17
J-10 7/18/97		J-26.15-01	5/17/12	J-50.10-01	.7/31/19
J-10.10-04	9/16/20	J-26.20-01	6/28/18	J-50.11-02	7/31/19
J-10.12-00	9/16/20	J-27.10-01	7/21/16	J-50.12-02	8/7/19
J-10.14-00	9/16/20	J-27.15-00	3/15/12	J-50.13-01	8/30/22
J-10.15-01	6/11/14	J-28.01-00	8/30/22	J-50.15-01	7/21/17
J-10.16-02	8/18/21	J-28.10-02	8/7/19	J-50.16-01	3/22/13
J-10.17-02	8/18/21	J-28.22-00	8/07/07	J-50.18-00	8/7/19
J-10.18-02	8/18/21	J-28.24-02	9/16/20	J-50.19-00	8/7/19
J-10.20-04	8/18/21	J-28.26-01	12/02/08	J-50.20-00	6/3/11
J-10.21-02	8/18/21	J-28.30-04	6/18/24	J-50.25-00	6/3/11
J-10.22-03	10/4/23	J-28.40-02	6/11/14	J-50.30-00	6/3/11
J-10.25-01	6/21/24	J-28.42-01	6/11/14	J-60.05-01	7/21/16
J-10.26-00	.8/30/22	J-28.43-01	6/28/18	J-60.11-00	5/20/13
J-12.15-00	6/28/18	J-28.45-03	7/21/16	J-60.12-00	5/20/13
J-12.16-00	6/28/18	J-28.50-03	7/21/16	J-60.13-00	6/16/10
J-15.10-01	6/11/14	J-28.60-03	8/27/21	J-60.14-01	7/31/19
J-15.15-02	7/10/15	J-28.70-04	8/30/22	J-75.10-02	7/10/15
J-20.01-01	.6/21/24	J-29.10-02	8/26/22	J-75.20-01	7/10/15
J-20.05-00	6/21/24	J-29.15-01	7/21/16	J-75.30-02	7/10/15
J-20.10-05	10/4/23	J-29.16-02	7/21/16	J-75.50-00	8/30/22
J-20.11-03	7/31/19	J-30.10-01	8/26/22	J-75.55-00	8/30/22
J-20.15-04	6/21/24	J-40.01-00	8/30/22	J-80.05-00	8/30/22
J-20.16-02	6/30/14	J-40.05-00	7/21/16	J-80.10-01	8/18/21
J-20.20-02	5/20/13	J-40.10-04	4/28/16	J-80.12-00	8/18/21
J-20.26-01	7/12/12	J-40.20-03	4/28/16	J-80.15-00	6/28/18
J-21.10-05	6/21/24	J-40.30-04	4/28/16	J-81.10-02	8/18/21
J-21.15-01	6/10/13	J-40.35-01	5/29/13	J-81.12-00	9/3/21
J-21.16-02	6/21/24	J-40.36-02	7/21/17	J-84.05-00	8/30/22
J-21.17-01	6/10/13	J-40.37-02	7/21/17	J-86.10-00	6/28/18
J-21.20-01	6/10/13	J-40.38-01	5/20/13	J-90.10-03	6/28/18
J-22.15-03	6/21/24	J-40.39-00	5/20/13	J-90.20-03	6/28/18
J-22.16-03	7/10/15	J-40.40-02	7/31/19	J-90.21-02	6/28/18
J-22.17-00	6/21/24	J-45.36-00	7/21/17	J-90.50-00	6/28/18

2

K-70.20-01	6/1/16	K-80.32-00	8/17/21	K-80.35-01	9/16/20
K-80.10-02	9/25/20	K-80.34-00	8/17/21	K-80.37-01	9/16/20

3

L-5.10-02	6/5/24	L-20.10-03	7/14/15	L-40.20-02	6/21/12
L-5.15-00	9/19/22	L-30.10-02	6/11/14	L-70.10-01	5/21/08
L-10.10-02	6/21/12	L-40.15-01	6/16/11	L-70.20-01	5/21/08

4

M-1.20-04	9/25/20	M-9.60-00	2/10/09	M-24.66-00	7/11/17
M-1.40-03	9/25/20	M-11.10-04	8/2/22	M-40.10-04	10/17/23
M-1.60-03	9/25/20	M-12.10-04	6/28/24	M-40.20-00	10/12/07
M-1.80-03	6/3/11	M-15.10-02	7/17/23	M-40.30-01	7/11/17
M-2.20-03	7/10/15	M-17.10-02	7/3/08	M-40.40-00	9/20/07

M-2.21-00	7/10/15	M-20.10-04	8/2/22	M-40.50-00	9/20/07
M-3.10-04	9/25/20	M-20.20-02	4/20/15	M-40.60-00	9/20/07
M-3.20-04	8/2/22	M-20.30-05	6/28/24	M-60.10-01	6/3/11
M-3.30-04	9/25/20	M-20.40-03	6/24/14	M-60.20-03	8/17/21
M-3.40-04	9/25/20	M-20.50-02	6/3/11	M-65.10-03	8/17/21
M-3.50-03	9/25/20	M-24.20-02	4/20/15	M-80.10-01	6/3/11
M-5.10-03	9/25/20	M-24.40-02	4/20/15	M-80.20-00	6/10/08
M-7.50-01	1/30/07	M-24.60-04	6/24/14	M-80.30-00	6/10/08
M-9.50-02	6/24/14	M-24.65-00	7/11/17		

(*****)
The Standard Plans are revised as follows:

H-10.10-014
DELETED and REPLACED with Details in Drawings

APPENDIX A:
Prevailing Wage Rates – King County

State of Washington
Department of Labor & Industries
Prevailing Wage Section - Telephone 360-902-5335
PO Box 44540, Olympia, WA 98504-4540

Washington State Prevailing Wage
The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 7/9/2025

King County

Trade	Job Classification	Wage	Holiday	Overtime	Note	Risk Class
Asbestos Abatement Workers	Journey Level	$63.87	**5D**	**1H**		**View**
Boilermakers	Journey Level	$78.89	**5N**	**1C**		**View**
Brick Mason	Journey Level	$71.82	**7E**	**1N**		**View**
Brick Mason	Pointer-Caulker-Cleaner	$71.82	**7E**	**1N**		**View**
Building Service Employees	Janitor	$30.33	**5S**	**2F**		**View**
Building Service Employees	Traveling Waxer/Shampooer	$30.78	**5S**	**2F**		**View**
Building Service Employees	Window Cleaner (Non-Scaffold)	$32.93	**5S**	**2F**		**View**
Building Service Employees	Window Cleaner (Scaffold)	$33.93	**5S**	**2F**		**View**
Cabinet Makers (In Shop)	Journey Level	$22.74		**1**		**View**
Carpenters	Acoustical Worker	$78.96	**15J**	**11U**		**View**
Carpenters	Bridge Dock and Wharf Carpenter	$80.50	**15J**	**11U**	**9L**	**View**
Carpenters	Floor Layer & Floor Finisher	$78.96	**15J**	**11U**		**View**

Carpenters	General Carpenter	$78.96	**15J**	**11U**	**View**
Carpenters	Scaffold Erector	$78.96	**15J**	**11U**	**View**
Cement Masons	Application of all Composition Mastic	$77.30	**15J**	**4U**	**View**
Cement Masons	Application of all Epoxy Material	$76.78	**15J**	**4U**	**View**
Cement Masons	Application of all Plastic Material	$77.30	**15J**	**4U**	**View**
Cement Masons	Application of Sealing Compound	$76.78	**15J**	**4U**	**View**
Cement Masons	Application of Underlayment	$77.30	**15J**	**4U**	**View**
Cement Masons	Building General	$76.78	**15J**	**4U**	**View**
Cement Masons	Composition or Kalman Floors	$77.30	**15J**	**4U**	**View**
Cement Masons	Concrete Paving	$76.78	**15J**	**4U**	**View**
Cement Masons	Curb & Gutter Machine	$77.30	**15J**	**4U**	**View**
Cement Masons	Curb & Gutter, Sidewalks	$76.78	**15J**	**4U**	**View**
Cement Masons	Curing Concrete	$76.78	**15J**	**4U**	**View**
Cement Masons	Finish Colored Concrete	$77.30	**15J**	**4U**	**View**
Cement Masons	Floor Grinding	$77.30	**15J**	**4U**	**View**
Cement Masons	Floor Grinding/Polisher	$76.78	**15J**	**4U**	**View**
Cement Masons	Green Concrete Saw, self-powered	$77.30	**15J**	**4U**	**View**
Cement Masons	Grouting of all Plates	$76.78	**15J**	**4U**	**View**
Cement Masons	Grouting of all Tilt-up Panels	$76.78	**15J**	**4U**	**View**
Cement Masons	Gunite Nozzleman	$77.30	**15J**	**4U**	**View**

Cement Masons	Hand Powered Grinder	$77.30	15J	4U		View
Cement Masons	Journey Level	$76.78	15J	4U		View
Cement Masons	Patching Concrete	$76.78	15J	4U		View
Cement Masons	Pneumatic Power Tools	$77.30	15J	4U		View
Cement Masons	Power Chipping & Brushing	$77.30	15J	4U		View
Cement Masons	Sand Blasting Architectural Finish	$77.30	15J	4U		View
Cement Masons	Screed & Rodding Machine	$77.30	15J	4U		View
Cement Masons	Spackling or Skim Coat Concrete	$76.78	15J	4U		View
Cement Masons	Troweling Machine Operator	$77.30	15J	4U		View
Cement Masons	Troweling Machine Operator on Colored Slabs	$77.30	15J	4U		View
Cement Masons	Tunnel Workers	$77.30	15J	4U		View
Divers & Tenders	Bell/Vehicle/Submersible Operator (not under pressure)	$156.25	15J	11T	9I	View
Divers & Tenders	Dive Supervisor	$157.75	15J	11T	9I	View
Divers & Tenders	Diver	$156.25	15J	11T	9I	View
Divers & Tenders	Diver Tender	$86.86	15J	11T	9I	View
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	$109.76	15J	11U		View
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 31.01-44.00 PSI	$118.99	15J	11U		View
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 44.01 -	$128.22	15J	11U		View

	54.00 PSI					
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	$137.45	**15J**	**11U**		**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	$146.67	**15J**	**11U**		**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	$155.90	**15J**	**11U**		**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 68.01 - 70.00 PSI	$165.13	**15J**	**11U**		**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI	$174.36	**15J**	**11U**		**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	$183.59	**15J**	**11U**		**View**
Divers & Tenders	Lead Diver (Dive Master)	$101.32	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Manifold Operator (Life Support Technician)	$86.86	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Remote Operated Vehicle Operator/Technician	$86.86	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Remote Operated Vehicle Operator/Technician	$86.86	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Remote Operated Vehicle Tender	$80.55	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Stand-by Diver	$96.32	**15J**	**11T**	**9I**	**View**
Dredge Workers	Assistant Engineer	$85.37	**5D**	**3F**		**View**
Dredge Workers	Assistant Mate (Deckhand)	$84.71	**5D**	**3F**		**View**

Dredge Workers	Boatmen	$85.37	**5D**	**3F**	**View**
Dredge Workers	Engineer Welder	$87.02	**5D**	**3F**	**View**
Dredge Workers	Leverman, Hydraulic	$88.77	**5D**	**3F**	**View**
Dredge Workers	Mates	$85.37	**5D**	**3F**	**View**
Dredge Workers	Oiler	$84.71	**5D**	**3F**	**View**
Drywall Applicator	Journey Level	$78.76	**15O**	**11S**	**View**
Drywall Tapers	Journey Level	$78.76	**15O**	**11S**	**View**
Electrical Fixture Maintenance Workers	Journey Level	$40.69	**5L**	**1E**	**View**
Electricians - Inside	Cable Splicer	$115.15	**7C**	**4E**	**View**
Electricians - Inside	Cable Splicer (tunnel)	$123.64	**7C**	**4E**	**View**
Electricians - Inside	Certified Welder	$111.30	**7C**	**4E**	**View**
Electricians - Inside	Certified Welder (tunnel)	$119.41	**7C**	**4E**	**View**
Electricians - Inside	Construction Stock Person	$54.03	**7C**	**4E**	**View**
Electricians - Inside	Journey Level	$107.44	**7C**	**4E**	**View**
Electricians - Inside	Journey Level (tunnel)	$115.15	**7C**	**4E**	**View**
Electricians - Motor Shop	Journey Level	$48.68	**5A**	**1B**	**View**
Electricians - Powerline Construction	Cable Splicer	$102.42	**5A**	**4D**	**View**
Electricians - Powerline Construction	Certified Line Welder	$93.99	**5A**	**4D**	**View**
Electricians - Powerline Construction	Groundperson	$59.30	**5A**	**4D**	**View**

Electricians - Powerline Construction	Heavy Line Equipment Operator	$93.99	**5A**	**4D**		**View**
Electricians - Powerline Construction	Journey Level Lineperson	$93.99	**5A**	**4D**		**View**
Electricians - Powerline Construction	Line Equipment Operator	$80.96	**5A**	**4D**		**View**
Electricians - Powerline Construction	Meter Installer	$59.30	**5A**	**4D**	**8W**	**View**
Electricians - Powerline Construction	Pole Sprayer	$93.99	**5A**	**4D**		**View**
Electricians - Powerline Construction	Powderperson	$69.84	**5A**	**4D**		**View**
Electronic Technicians	Journey Level	$69.69	**7E**	**1E**		**View**
Elevator Constructors	Mechanic	$115.14	**7D**	**4A**		**View**
Elevator Constructors	Mechanic In Charge	$124.53	**7D**	**4A**		**View**
Fabricated Precast Concrete Products	All Classifications - In-Factory Work Only	$21.34	**5B**	**1R**		**View**
Fence Erectors	Fence Erector	$54.65	**15J**	**11P**	**8Y**	**View**
Fence Erectors	Fence Laborer	$54.65	**15J**	**11P**	**8Y**	**View**
Flaggers	Journey Level	$54.65	**15J**	**11P**	**8Y**	**View**
Glaziers	Journey Level	$82.16	**7L**	**1Y**		**View**
Heat & Frost Insulators And Asbestos Workers	Journey Level	$91.81	**15H**	**11C**		**View**
Heating Equipment Mechanics	Journey Level	$102.92	**7F**	**1E**		**View**
Hod Carriers & Mason Tenders	Journey Level	$67.38	**15J**	**11P**	**8Y**	**View**
Industrial Power Vacuum Cleaner	Journey Level	$16.66		**1**		**View**

Inland Boatmen	Boat Operator	$71.28	**5B**	**1K**		**View**
Inland Boatmen	Cook	$69.70	**5B**	**1K**		**View**
Inland Boatmen	Deckhand	$70.00	**5B**	**1K**		**View**
Inland Boatmen	Deckhand Engineer	$69.55	**5B**	**1K**		**View**
Inland Boatmen	Launch Operator	$71.23	**5B**	**1K**		**View**
Inland Boatmen	Mate	$89.12	**5B**	**1K**		**View**
Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator	$51.27	**15M**	**11O**		**View**
Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Foamer Operator	$51.27	**15M**	**11O**		**View**
Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	$51.27	**15M**	**11O**		**View**
Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	$49.20	**15M**	**11O**		**View**
Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	$42.99	**15M**	**11O**		**View**
Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	TV Truck Operator	$46.10	**15M**	**11O**		**View**
Insulation Applicators	Journey Level	$78.96	**15J**	**11U**		**View**
Ironworkers	Journeyman	$90.82	**15K**	**11N**		**View**
Laborers	Air, Gas Or Electric Vibrating Screed	$63.87	**15J**	**11P**	**8Y**	**View**

Laborers	Airtrac Drill Operator	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Ballast Regular Machine	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Batch Weighman	$54.65	**15J**	**11P**	**8Y**	**View**
Laborers	Brick Pavers	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Brush Cutter	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Brush Hog Feeder	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Burner	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Caisson Worker	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Carpenter Tender	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Cement Dumper-paving	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Cement Finisher Tender	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Change House Or Dry Shack	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Chipping Gun (30 Lbs. And Over)	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Chipping Gun (Under 30 Lbs.)	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Choker Setter	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Chuck Tender	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Clary Power Spreader	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Clean-up Laborer	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Concrete Dumper/Chute Operator	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Concrete Form Stripper	$63.87	**15J**	**11P**	**8Y**	**View**

Laborers	Concrete Placement Crew	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Concrete Saw Operator/Core Driller	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Crusher Feeder	$54.65	**15J**	**11P**	**8Y**	**View**
Laborers	Curing Laborer	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Ditch Digger	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Diver	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Drill Operator (Hydraulic, Diamond)	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Dry Stack Walls	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Dump Person	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Epoxy Technician	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Erosion Control Worker	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Faller & Bucker Chain Saw	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Fine Graders	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Firewatch	$54.65	**15J**	**11P**	**8Y**	**View**
Laborers	Form Setter	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Gabian Basket Builders	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	General Laborer	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Grade Checker & Transit Person	$67.38	**15J**	**11P**	**8Y**	**View**
Laborers	Grinders	$63.87	**15J**	**11P**	**8Y**	**View**

Laborers	Grout Machine Tender	$63.87	15J	11P	8Y	View
Laborers	Groutmen (Pressure) Including Post Tension Beams	$64.98	15J	11P	8Y	View
Laborers	Guardrail Erector	$63.87	15J	11P	8Y	View
Laborers	Hazardous Waste Worker (Level A)	$65.75	15J	11P	8Y	View
Laborers	Hazardous Waste Worker (Level B)	$64.98	15J	11P	8Y	View
Laborers	Hazardous Waste Worker (Level C)	$63.87	15J	11P	8Y	View
Laborers	High Scaler	$65.75	15J	11P	8Y	View
Laborers	Jackhammer	$64.98	15J	11P	8Y	View
Laborers	Laserbeam Operator	$64.98	15J	11P	8Y	View
Laborers	Maintenance Person	$63.87	15J	11P	8Y	View
Laborers	Manhole Builder-Mudman	$64.98	15J	11P	8Y	View
Laborers	Material Yard Person	$63.87	15J	11P	8Y	View
Laborers	Mold Abatement Worker	$63.87	15J	11P	8Y	View
Laborers	Motorman-Dinky Locomotive	$67.48	15J	11P	8Y	View
Laborers	nozzleman (concrete pump, green cutter when using combination of high pressure air & water on concrete & rock, sandblast, gunite, shotcrete, water blaster, vacuum blaster)	$67.38	15J	11P	8Y	View
Laborers	Pavement Breaker	$64.98	15J	11P	8Y	View
Laborers	Pilot Car	$54.65	15J	11P	8Y	View

Laborers	Pipe Layer (Lead)	$67.38	**15J**	**11P**	**8Y**	**View**
Laborers	Pipe Layer/Tailor	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Pipe Pot Tender	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Pipe Reliner	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Pipe Wrapper	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Pot Tender	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Powderman	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Powderman's Helper	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Power Jacks	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Power Washer	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Railroad Spike Puller - Power	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Raker - Asphalt	$67.38	**15J**	**11P**	**8Y**	**View**
Laborers	Re-timberman	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Remote Equipment Operator	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Rigger/Signal Person	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Rip Rap Person	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Rivet Buster	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Rodder	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Scaffold Erector	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Scale Person	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Sloper (Over 20")	$64.98	**15J**	**11P**	**8Y**	**View**

Laborers	Sloper Sprayer	$63.87	15J	11P	8Y	View
Laborers	Spreader (Concrete)	$64.98	15J	11P	8Y	View
Laborers	Stake Hopper	$63.87	15J	11P	8Y	View
Laborers	Stock Piler	$63.87	15J	11P	8Y	View
Laborers	Swinging Stage/Boatswain Chair	$54.65	15J	11P	8Y	View
Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	$64.98	15J	11P	8Y	View
Laborers	Tamper (Multiple & Self-propelled)	$64.98	15J	11P	8Y	View
Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	$64.98	15J	11P	8Y	View
Laborers	Toolroom Person (at Jobsite)	$63.87	15J	11P	8Y	View
Laborers	Topper	$63.87	15J	11P	8Y	View
Laborers	Track Laborer	$63.87	15J	11P	8Y	View
Laborers	Track Liner (Power)	$64.98	15J	11P	8Y	View
Laborers	Traffic Control Laborer	$58.20	15J	11P	9C	View
Laborers	Traffic Control Supervisor	$61.47	15J	11P	9C	View
Laborers	Truck Spotter	$63.87	15J	11P	8Y	View
Laborers	Tugger Operator	$64.98	15J	11P	8Y	View
Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	$200.40	15J	11P	9B	View
Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	$205.43	15J	11P	9B	View
Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	$209.11	15J	11P	9B	View

Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	$214.81	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	$216.93	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	$222.03	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	$223.93	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	$225.93	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	$227.93	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Guage and Lock Tender	$67.48	**15J**	**11P**	**8Y**	**View**
Laborers	Tunnel Work-Miner	$67.48	**15J**	**11P**	**8Y**	**View**
Laborers	Vibrator	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Vinyl Seamer	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Watchman	$49.97	**15J**	**11P**	**8Y**	**View**
Laborers	Welder	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Well Point Laborer	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Window Washer/Cleaner	$49.97	**15J**	**11P**	**8Y**	**View**
Laborers - Underground Sewer & Water	General Laborer & Topman	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers - Underground Sewer & Water	Pipe Layer	$64.98	**15J**	**11P**	**8Y**	**View**
Landscape Construction	Landscape Construction/Landscaping Or Planting Laborers	$49.97	**15J**	**11P**	**8Y**	**View**

Landscape Construction	Landscape Operator	$87.54	**15J**	**11G**	**8X**	**View**
Landscape Maintenance	Groundskeeper	$17.87		**1**		**View**
Lathers	Journey Level	$78.76	**15O**	**11S**		**View**
Marble Setters	Journey Level	$71.82	**7E**	**1N**		**View**
Metal Fabrication (In Shop)	Fitter/Certified Welder	$42.17	**15I**	**11E**		**View**
Metal Fabrication (In Shop)	General Laborer	$30.07	**15I**	**11E**		**View**
Metal Fabrication (In Shop)	Mechanic	$43.63	**15I**	**11E**		**View**
Metal Fabrication (In Shop)	Welder/Burner	$39.28	**15I**	**11E**		**View**
Millwright	Journey Level	$80.28	**5A**	**1B**		**View**
Modular Buildings	Cabinet Assembly	$16.66		**1**		**View**
Modular Buildings	Electrician	$16.66		**1**		**View**
Modular Buildings	Equipment Maintenance	$16.66		**1**		**View**
Modular Buildings	Plumber	$16.66		**1**		**View**
Modular Buildings	Production Worker	$16.66		**1**		**View**
Modular Buildings	Tool Maintenance	$16.66		**1**		**View**
Modular Buildings	Utility Person	$16.66		**1**		**View**
Modular Buildings	Welder	$16.66		**1**		**View**
Painters	Journey Level	$54.71	**6Z**	**11J**		**View**
Pile Driver	Crew Tender	$86.81	**15J**	**11U**	**9L**	**View**
Pile Driver	Journey Level	$80.50	**15J**	**11U**	**9L**	**View**
Plasterers	Journey Level	$73.54	**7Q**	**1R**		**View**

Plasterers	Nozzleman	$77.54	7Q	1R		View
Playground & Park Equipment Installers	Journey Level	$16.66		1		View
Plumbers & Pipefitters	Journey Level	$107.59	6Z	1G		View
Power Equipment Operators	Asphalt Plant Operators	$89.02	15J	11G	8X	View
Power Equipment Operators	Assistant Engineer	$83.69	15J	11G	8X	View
Power Equipment Operators	Barrier Machine (zipper)	$88.22	15J	11G	8X	View
Power Equipment Operators	Batch Plant Operator: concrete	$88.22	15J	11G	8X	View
Power Equipment Operators	Boat Operator	$87.82	7A	11H	8X	View
Power Equipment Operators	Bobcat	$83.69	15J	11G	8X	View
Power Equipment Operators	Brokk - Remote Demolition Equipment	$83.69	15J	11G	8X	View
Power Equipment Operators	Brooms	$83.69	15J	11G	8X	View
Power Equipment Operators	Bump Cutter	$88.22	15J	11G	8X	View
Power Equipment Operators	Cableways	$89.02	15J	11G	8X	View
Power Equipment Operators	Chipper	$88.22	15J	11G	8X	View
Power Equipment Operators	Compressor	$83.69	15J	11G	8X	View
Power Equipment Operators	Concrete Finish Machine - Laser Screed	$83.69	15J	11G	8X	View
Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$87.54	15J	11G	8X	View
Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$89.02	15J	11G	8X	View

Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Conveyors	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Cranes Friction: 200 tons and over	$90.46	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes, A-frame: 10 tons and under	$82.59	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$88.67	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: 20 tons through 44 tons with attachments	$87.03	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$89.60	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	$90.46	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	$87.82	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: Friction cranes through 199 tons	$89.60	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: through 19 tons with attachments, a-frame over 10 tons	$86.36	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Crusher	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Deck Engineer/Deck Winches (power)	$88.22	**15J**	**11G**	**8X**	**View**

Power Equipment Operators	Derricks, On Building Work	$87.82	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Dozers D-9 & Under	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Drilling Machine	$89.91	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Elevator and man-lift: permanent and shaft type	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Forklift: 3000 lbs and over with attachments	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Forklifts: under 3000 lbs. with attachments	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Gradechecker/Stakeman	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Guardrail Punch	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Horizontal/Directional Drill Locator	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Horizontal/Directional Drill Operator	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	$86.36	**7A**	**11H**	**8X**	**View**

Power Equipment Operators	Hydralifts/boom trucks: 10 tons and under	$82.59	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Leverman	$90.84	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Loaders, Overhead Under 6 Yards	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Loaders, Plant Feed	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Loaders: Elevating Type Belt	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Locomotives, All	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Material Transfer Device	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Mechanics: All (Leadmen - $0.50 per hour over mechanic)	$89.91	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Motor Patrol Graders	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Overhead, bridge type Crane: 20 tons through 44 tons	$87.03	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Overhead, bridge type: 100 tons and over	$88.67	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Overhead, bridge type: 45 tons through 99 tons	$87.82	**7A**	**11H**	**8X**	**View**

Power Equipment Operators	Pavement Breaker	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Pile Driver (other Than Crane Mount)	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Plant Oiler - Asphalt, Crusher	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Posthole Digger, Mechanical	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Power Plant	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Pumps - Water	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Quad 9, Hd 41, D10 And Over	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Quick Tower: no cab, under 100 feet in height base to boom	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Rigger and Bellman	$82.59	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Rigger/Signal Person, Bellman(Certified)	$86.36	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Rollagon	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Roller, Other Than Plant Mix	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Roto-mill, Roto-grinder	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Saws - Concrete	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Scrapers - Concrete & Carry All	$87.54	**15J**	**11G**	**8X**	**View**

Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Service Engineers: Equipment	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shotcrete/Gunite Equipment	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$89.91	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$90.84	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Slipform Pavers	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Spreader, Topsider & Screedman	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Subgrader Trimmer	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Tower Bucket Elevators	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Tower Crane: over 175' through 250' in height, base to boom	$89.60	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Tower crane: up to 175' in height base to boom	$88.67	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Tower Cranes: over 250' in height from base to boom	$90.46	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Transporters, All Track Or Truck Type	$89.02	**15J**	**11G**	**8X**	**View**

Power Equipment Operators	Trenching Machines	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Truck Crane Oiler/Driver: 100 tons and over	$87.03	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Truck crane oiler/driver: under 100 tons	$86.36	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Truck Mount Portable Conveyor	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Vac Truck (Vactor Guzzler, Hydro Excavator)	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Welder	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Wheel Tractors, Farmall Type	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Yo Yo Pay Dozer	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Asphalt Plant Operators	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Assistant Engineer	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Barrier Machine (zipper)	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Batch Plant Operator, Concrete	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Boat Operator	$87.82	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Bobcat	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Brokk - Remote Demolition Equipment	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Brooms	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Bump Cutter	$88.22	**15J**	**11G**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Cableways	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Chipper	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Compressor	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Concrete Finish Machine - Laser Screed	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Conveyors	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes Friction: 200 tons and over	$90.46	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes, A-frame: 10 tons and under	$82.59	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$88.67	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: 20 tons through 44 tons with attachments	$87.03	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$89.60	**7A**	**11H**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Cranes: 300 tons and over or 300' of boom including jib with attachments	$90.46	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	$87.82	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: Friction cranes through 199 tons	$89.60	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: through 19 tons with attachments, a-frame over 10 tons	$86.36	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Crusher	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Deck Engineer/Deck Winches (power)	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Derricks, On Building Work	$87.82	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Dozers D-9 & Under	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Drilling Machine	$89.91	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Elevator and man-lift: permanent and shaft type	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Forklift: 3000 lbs and over with attachments	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Forklifts: under 3000 lbs. with attachments	$83.69	**15J**	**11G**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Gradechecker/Stakeman	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Guardrail Punch	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Locator	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Operator	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: 10 tons and under	$82.59	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: over 10 tons	$86.36	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Leverman	$90.84	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Loaders, Overhead Under 6 Yards	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Loaders, Plant Feed	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Loaders: Elevating Type Belt	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Locomotives, All	$88.22	**15J**	**11G**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Material Transfer Device	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Mechanics: All (Leadmen - $0.50 per hour over mechanic)	$89.91	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Motor Patrol Graders	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type Crane: 20 tons through 44 tons	$87.03	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 100 tons and over	$88.67	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 45 tons through 99 tons	$87.82	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Pavement Breaker	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Pile Driver (other Than Crane Mount)	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Posthole Digger, Mechanical	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Power Plant	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Pumps - Water	$83.69	**15J**	**11G**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Quad 9, Hd 41, D10 And Over	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Quick Tower: no cab, under 100 feet in height base to boom	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Rigger and Bellman	$82.59	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Rigger/Signal Person, Bellman(Certified)	$86.36	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Rollagon	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Roller, Other Than Plant Mix	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Roto-mill, Roto-grinder	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Saws - Concrete	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Scraper, Self Propelled Under 45 Yards	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Scrapers - Concrete & Carry All	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Scrapers, Self-propelled: 45 Yards And Over	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Shotcrete/Gunite Equipment	$83.69	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$87.54	**15J**	**11G**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$89.91	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$90.84	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Slipform Pavers	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Spreader, Topsider & Screedman	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Subgrader Trimmer	$88.22	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Tower Bucket Elevators	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Tower Crane: over 175' through 250' in height, base to boom	$89.60	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Tower crane: up to 175' in height base to boom	$88.67	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Tower Cranes: over 250' in height from base to boom	$90.46	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Transporters, All Track Or Truck Type	$89.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Trenching Machines	$87.54	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Truck Crane Oiler/Driver: 100 tons and over	$87.03	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Truck crane oiler/driver: under 100 tons	$86.36	**7A**	**11H**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Truck Mount Portable Conveyor	$88.22	15J	11G	8X	View
Power Equipment Operators-Underground Sewer & Water	Vac Truck (Vactor Guzzler, Hydro Excavator)	$88.22	15J	11G	8X	View
Power Equipment Operators-Underground Sewer & Water	Welder	$89.02	15J	11G	8X	View
Power Equipment Operators-Underground Sewer & Water	Wheel Tractors, Farmall Type	$83.69	15J	11G	8X	View
Power Equipment Operators-Underground Sewer & Water	Yo Yo Pay Dozer	$88.22	15J	11G	8X	View
Power Line Clearance Tree Trimmers	Journey Level In Charge	$64.20	5A	4A		View
Power Line Clearance Tree Trimmers	Spray Person	$60.74	5A	4A		View
Power Line Clearance Tree Trimmers	Tree Equipment Operator	$64.20	5A	4A		View
Power Line Clearance Tree Trimmers	Tree Trimmer	$57.29	5A	4A		View
Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	$43.05	5A	4A		View
Refrigeration & Air Conditioning Mechanics	Journey Level	$100.35	6Z	1G		View
Residential Brick Mason	Journey Level	$71.82	7E	1N		View
Residential Carpenters	Journey Level	$36.44		1		View
Residential Cement Masons	Journey Level	$46.64		1		View
Residential Drywall Applicators	Journey Level	$78.76	15J	4C		View
Residential Drywall Tapers	Journey Level	$36.36		1		View
Residential Electricians	Journey Level	$48.80		1		View

Residential Glaziers	Journey Level	$28.93		1	View
Residential Insulation Applicators	Journey Level	$28.18		1	View
Residential Laborers	Journey Level	$29.73		1	View
Residential Marble Setters	Journey Level	$27.38		1	View
Residential Painters	Journey Level	$23.47		1	View
Residential Plumbers & Pipefitters	Journey Level	$61.87		1	View
Residential Refrigeration & Air Conditioning Mechanics	Journey Level	$102.92	7F	1E	View
Residential Sheet Metal Workers	Journey Level	$102.92	7F	1E	View
Residential Soft Floor Layers	Journey Level	$59.52	7C	3J	View
Residential Sprinkler Fitters (Fire Protection)	Journey Level	$63.61		1	View
Residential Stone Masons	Journey Level	$71.82	7E	1N	View
Residential Terrazzo Workers	Journey Level	$67.51	7E	1N	View
Residential Terrazzo/Tile Finishers	Journey Level	$24.39		1	View
Residential Tile Setters	Journey Level	$21.04		1	View
Roofers	Journey Level	$67.45	5A	3H	View
Roofers	Using Irritable Bituminous Materials	$70.45	5A	3H	View
Sheet Metal Workers	Journey Level (Field or Shop)	$102.92	7F	1E	View
Shipbuilding & Ship Repair	New Construction Boilermaker	$58.93	7X	4J	View
Shipbuilding & Ship Repair	New Construction Carpenter	$51.85	7X	4J	View

Shipbuilding & Ship Repair	New Construction Crane Operator	$43.00	**7V**	**1**	**View**
Shipbuilding & Ship Repair	New Construction Electrician	$58.98	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Heat & Frost Insulator	$91.81	**15H**	**11C**	**View**
Shipbuilding & Ship Repair	New Construction Laborer	$58.60	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Machinist	$58.79	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Operating Engineer	$43.00	**7V**	**1**	**View**
Shipbuilding & Ship Repair	New Construction Painter	$58.72	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Pipefitter	$59.07	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Rigger	$58.93	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Sheet Metal	$58.68	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Shipwright	$51.85	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Warehouse/Teamster	$43.00	**7V**	**1**	**View**
Shipbuilding & Ship Repair	New Construction Welder / Burner	$58.93	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Boilermaker	$58.93	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Carpenter	$51.85	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Crane Operator	$45.06	**7Y**	**4K**	**View**
Shipbuilding & Ship Repair	Ship Repair Electrician	$58.98	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Heat & Frost Insulator	$91.81	**15H**	**11C**	**View**
Shipbuilding & Ship Repair	Ship Repair Laborer	$58.60	**7X**	**4J**	**View**

Shipbuilding & Ship Repair	Ship Repair Machinist	$58.79	7X	4J		View
Shipbuilding & Ship Repair	Ship Repair Operating Engineer	$45.06	7Y	4K		View
Shipbuilding & Ship Repair	Ship Repair Painter	$58.72	7X	4J		View
Shipbuilding & Ship Repair	Ship Repair Pipefitter	$59.07	7X	4J		View
Shipbuilding & Ship Repair	Ship Repair Rigger	$58.93	7X	4J		View
Shipbuilding & Ship Repair	Ship Repair Sheet Metal	$58.68	7X	4J		View
Shipbuilding & Ship Repair	Ship Repair Shipwright	$51.85	7X	4J		View
Shipbuilding & Ship Repair	Ship Repair Warehouse / Teamster	$45.06	7Y	4K		View
Sign Makers & Installers (Electrical)	Journey Level	$60.46	0	1		View
Sign Makers & Installers (Non-Electrical)	Journey Level	$38.53	0	1		View
Soft Floor Layers	Journey Level	$63.29	15J	4C		View
Solar Controls For Windows	Journey Level	$16.66		1		View
Sprinkler Fitters (Fire Protection)	Journey Level	$98.99	5C	1X		View
Stage Rigging Mechanics (Non Structural)	Journey Level	$16.66		1		View
Stone Masons	Journey Level	$71.82	7E	1N		View
Street And Parking Lot Sweeper Workers	Journey Level	$19.09		1		View
Surveyors	Assistant Construction Site Surveyor	$86.36	7A	11H	8X	View
Surveyors	Chainman	$82.59	7A	11H	8X	View
Surveyors	Construction Site Surveyor	$87.82	7A	11H	8X	View

Surveyors	Drone Operator (when used in conjunction with survey work only)	$82.59	**7A**	**11H**	**8X**	**View**
Surveyors	Ground Penetrating Radar Operator	$82.59	**7A**	**11H**	**8X**	**View**
Telecommunication Technicians	Journey Level	$69.69	**7E**	**1E**		**View**
Telephone Line Construction - Outside	Cable Splicer	$41.35	**5A**	**2B**		**View**
Telephone Line Construction - Outside	Hole Digger/Ground Person	$27.31	**5A**	**2B**		**View**
Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	$34.53	**5A**	**2B**		**View**
Telephone Line Construction - Outside	Telephone Lineperson	$39.07	**5A**	**2B**		**View**
Terrazzo Workers	Journey Level	$67.51	**7E**	**1N**		**View**
Tile Setters	Journey Level	$65.51	**7E**	**1N**		**View**
Tile, Marble & Terrazzo Finishers	Finisher	$56.34	**7E**	**1N**		**View**
Traffic Control Stripers	All cleanup required in connection with traffic control stripers work (Group 1)	$92.44	**15L**	**1K**		**View**
Traffic Control Stripers	Handling, painting and installing of all car stops, stop signs and any other type sign (Group 2)	$62.69	**15L**	**1K**		**View**
Traffic Control Stripers	Installation of guard rail and posts and similar protective devices (Group 2)	$62.69	**15L**	**1K**		**View**
Traffic Control Stripers	Installation of parking gates, ticket spitters and other mechanical and automatic control devices (Group 2)	$62.69	**15L**	**1K**		**View**

Traffic Control Stripers	Installation of plastic metal or composition button, or lines used instead of paint (Group 1)	$92.44	**15L**	**1K**		**View**
Traffic Control Stripers	Line removal; chemical sand and hydro-blast, paint and button (Group 1)	$92.44	**15L**	**1K**		**View**
Traffic Control Stripers	Manufacturing and installation of all car stops and control devices and similar traffic regulators (Group 2)	$62.69	**15L**	**1K**		**View**
Traffic Control Stripers	Manufacturing, painting, stenciling, servicing, repairing, placing and removal of traffic safety and control devices/barricades (Group 2)	$62.69	**15L**	**1K**		**View**
Traffic Control Stripers	Painting and installing lines, arrows, bumpers, curbs, etc., on parking lots, air fields, highways, game courts (Group 1)	$92.44	**15L**	**1K**		**View**
Traffic Control Stripers	Preparation and maintenance of all surfaces (Group 1)	$92.44	**15L**	**1K**		**View**
Traffic Control Stripers	Seal coating, slurry coating and other surface protection (Group 2)	$62.69	**15L**	**1K**		**View**
Truck Drivers	Asphalt Mix Over 16 Yards	$79.40	**15J**	**11M**	**8L**	**View**
Truck Drivers	Asphalt Mix To 16 Yards	$78.56	**15J**	**11M**	**8L**	**View**
Truck Drivers	Dump Truck	$78.56	**15J**	**11M**	**8L**	**View**
Truck Drivers	Dump Truck & Trailer	$79.40	**15J**	**11M**	**8L**	**View**
Truck Drivers	Other Trucks	$79.40	**15J**	**11M**	**8L**	**View**
Truck Drivers - Ready Mix	Transit Mix	$79.40	**15J**	**11M**	**8L**	**View**

Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	$17.71	**1**	**View**
Well Drillers & Irrigation Pump Installers	Oiler	$16.66	**1**	**View**
Well Drillers & Irrigation Pump Installers	Well Driller	$18.00	**1**	**View**

Washington State Department of Labor and Industries
Policy Statement
(Regarding the Production of "Standard" or "Non-standard" Items)

Below is the department's (State L&I's) list of criteria to be used in determining whether a prefabricated item is "standard" or "non-standard". For items not appearing on WSDOT's predetermined list, these criteria shall be used by the Contractor (and the Contractor's subcontractors, agents to subcontractors, suppliers, manufacturers, and fabricators) to determine coverage under RCW 39.12. The production, in the State of Washington, of non-standard items is covered by RCW 39.12, and the production of standard items is not. The production of any item outside the State of Washington is not covered by RCW 39.12.

1. Is the item fabricated for a public works project? If not, it is not subject to RCW 39.12. If it is, go to question 2.

2. Is the item fabricated on the public works jobsite? If it is, the work is covered under RCW 39.12. If not, go to question 3.

3. Is the item fabricated in an assembly/fabrication plant set up for, and dedicated primarily to, the public works project? If it is, the work is covered by RCW 39.12. If not, go to question 4.

4. Does the item require any assembly, cutting, modification or other fabrication by the supplier? If not, the work is not covered by RCW 39.12. If yes, go to question 5.

5. Is the prefabricated item intended for the public works project typically an inventory item which could reasonably be sold on the general market? If not, the work is covered by RCW 39.12. If yes, go to question 6.

6. Does the specific prefabricated item, generally defined as standard, have any unusual characteristics such as shape, type of material, strength requirements, finish, etc? If yes, the work is covered under RCW 39.12.

Any firm with questions regarding the policy, WSDOT's Predetermined List, or for determinations of covered and non-covered workers shall be directed to State L&I at (360) 902-5330.

WSDOT's
Predetermined List for
Suppliers - Manufactures - Fabricator

Below is a list of potentially prefabricated items, originally furnished by WSDOT to Washington State Department of Labor and Industries, that may be considered non-standard and therefore covered by the prevailing wage law, RCW 39.12. Items marked with an X in the "YES" column should be considered to be non-standard and therefore covered by RCW 39.12. Items marked with an X in the "NO" column should be considered to be standard and therefore not covered. Of course, exceptions to this general list may occur, and in that case shall be evaluated according to the criteria described in State and L&I's policy statement.

	ITEM DESCRIPTION	YES	NO
1.	Metal rectangular frames, solid metal covers, herringbone grates, and bi-directional vaned grates for Catch Basin Types 1, 1L, 1P, and 2 and Concrete Inlets. See Std. Plans		X
2.	Metal circular frames (rings) and covers, circular grates, and prefabricated ladders for Manhole Types 1, 2, and 3, Drywell Types 1, 2, and 3 and Catch Basin Type 2. See Std. Plans		X
3.	Prefabricated steel grate supports and welded grates, metal frames and dual vaned grates, and Type 1, 2, and 3 structural tubing grates for Drop Inlets. See Std. Plans.		X
4.	Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes smaller than 60 inch diameter.		X
5.	Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes larger than 60 inch diameter.		X
6.	Corrugated Steel Pipe - Steel lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, 1 thru 5.		X
7.	Corrugated Aluminum Pipe - Aluminum lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, #5.		X

	ITEM DESCRIPTION	YES	NO
8.	Anchor Bolts & Nuts - Anchor Bolts and Nuts, for mounting sign structures, luminaries and other items, shall be made from commercial bolt stock. See Contract Plans and Std. Plans for size and material type.		X
9.	Aluminum Pedestrian Handrail - Pedestrian handrail conforming to the type and material specifications set forth in the contract plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).	X	
10.	Major Structural Steel Fabrication - Fabrication of major steel items such as trusses, beams, girders, etc., for bridges.	X	
11.	Minor Structural Steel Fabrication - Fabrication of minor steel Items such as special hangers, brackets, access doors for structures, access ladders for irrigation boxes, bridge expansion joint systems, etc., involving welding, cutting, punching and/or boring of holes. See Contact Plans for item description and shop drawings.	X	
12.	Aluminum Bridge Railing Type BP - Metal bridge railing conforming to the type and material specifications set forth in the Contract Plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).		X
13.	Concrete Piling--Precast-Prestressed concrete piling for use as 55 and 70 ton concrete piling. Concrete to conform to Section 9-19.1 of Std. Spec..	X	
14.	Precast Manhole Types 1, 2, and 3 with cones, adjustment sections and flat top slabs. See Std. Plans.		X
15.	Precast Drywell Types 1, 2, and with cones and adjustment Sections. See Std. Plans.		X
16.	Precast Catch Basin - Catch Basin type 1, 1L, 1P, and 2 With adjustment sections. See Std. Plans.		X

	ITEM DESCRIPTION	YES	NO
17.	Precast Concrete Inlet - with adjustment sections, See Std. Plans		X
18.	Precast Drop Inlet Type 1 and 2 with metal grate supports. See Std. Plans.		X
19.	Precast Grate Inlet Type 2 with extension and top units. See Std. Plans		X
20.	Metal frames, vaned grates, and hoods for Combination Inlets. See Std. Plans		X
21.	Precast Concrete Utility Vaults - Precast Concrete utility vaults of various sizes. Used for in ground storage of utility facilities and controls. See Contract Plans for size and construction requirements. Shop drawings are to be provided for approval prior to casting		X
22.	Vault Risers - For use with Valve Vaults and Utilities X Vaults.		X
23.	Valve Vault - For use with underground utilities. See Contract Plans for details.		X
24.	Precast Concrete Barrier - Precast Concrete Barrier for use as new barrier or may also be used as Temporary Concrete Barrier. Only new state approved barrier may be used as permanent barrier.		X
25.	Reinforced Earth Wall Panels – Reinforced Earth Wall Panels in size and shape as shown in the Plans. Fabrication plant has annual approval for methods and materials to be used. See Shop Drawing. Fabrication at other locations may be approved, after facilities inspection, contact HQ. Lab.	X	
26.	Precast Concrete Walls - Precast Concrete Walls - tilt-up wall panel in size and shape as shown in Plans. Fabrication plant has annual approval for methods and materials to be used	X	

	ITEM DESCRIPTION	YES	NO
27.	Precast Railroad Crossings - Concrete Crossing Structure Slabs.	X	
28.	12, 18 and 26 inch Standard Precast Prestressed Girder – Standard Precast Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
29.	Prestressed Concrete Girder Series 4-14 - Prestressed Concrete Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A .	X	
30.	Prestressed Tri-Beam Girder - Prestressed Tri-Beam Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
31.	Prestressed Precast Hollow-Core Slab – Precast Prestressed Hollow-core slab for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A.	X	
32.	Prestressed-Bulb Tee Girder - Bulb Tee Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
33.	Monument Case and Cover See Std. Plan.		X

	ITEM DESCRIPTION	YES	NO
34.	Cantilever Sign Structure - Cantilever Sign Structure fabricated from steel tubing meeting AASHTO-M-183. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	X	
35.	Mono-tube Sign Structures - Mono-tube Sign Bridge fabricated to details shown in the Plans. Shop drawings for approval are required prior to fabrication.	X	
36.	Steel Sign Bridges - Steel Sign Bridges fabricated from steel tubing meeting AASHTO-M-138 for Aluminum Alloys. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	X	
37.	Steel Sign Post - Fabricated Steel Sign Posts as detailed in Std Plans. Shop drawings for approval are to be provided prior to fabrication		X
38.	Light Standard-Prestressed - Spun, prestressed, hollow concrete poles.	X	
39.	Light Standards - Lighting Standards for use on highway illumination systems, poles to be fabricated to conform with methods and materials as specified on Std. Plans. See Specia Provisions for pre-approved drawings.	X	
40.	Traffic Signal Standards - Traffic Signal Standards for use on highway and/or street signal systems. Standards to be fabricated to conform with methods and material as specified on Std. Plans. See Special Provisions for pre-approved drawings	X	
41.	Precast Concrete Sloped Mountable Curb (Single and DualFaced) See Std. Plans.		X

	ITEM DESCRIPTION	YES	NO
42.	Traffic Signs - Prior to approval of a Fabricator of Traffic Signs, the sources of the following materials must be submitted and approved for reflective sheeting, legend material, and aluminum sheeting. **NOTE:** *** Fabrication inspection required. Only signs tagged "Fabrication Approved" by WSDOT Sign Fabrication Inspector to be installed	X	X
		Custom Message	Std Signing Message
43.	Cutting & bending reinforcing steel		X
44.	Guardrail components	X	X
		Custom End Sec	Standard Sec
45.	Aggregates/Concrete mixes	Covered by WAC 296-127-018	
46.	Asphalt	Covered by WAC 296-127-018	
47.	Fiber fabrics		X
48.	Electrical wiring/components		X
49.	treated or untreated timber pile		X
50.	Girder pads (elastomeric bearing)	X	
51.	Standard Dimension lumber		X
52.	Irrigation components		X

ITEM DESCRIPTION	YES	NO
53. Fencing materials		X
54. Guide Posts		X
55. Traffic Buttons		X
56. Epoxy		X
57. Cribbing		X
58. Water distribution materials		X
59. Steel "H" piles		X
60. Steel pipe for concrete pile casings		X
61. Steel pile tips, standard		X
62. Steel pile tips, custom	X	

Prefabricated items specifically produced for public works projects that are prefabricated in a county other than the county wherein the public works project is to be completed, the wage for the offsite prefabrication shall be the applicable prevailing wage for the county in which the actual prefabrication takes place.

It is the manufacturer of the prefabricated product to verify that the correct county wage rates are applied to work they perform.

See RCW 39.12.010
(The definition of "locality" in RCW 39.12.010(2) contains the phrase "wherein the physical work is being performed." The department interprets this phrase to mean the actual work site.

WSDOT's List of State Occupations not applicable to Heavy and Highway Construction Projects

This project is subject to the state hourly minimum rates for wages and fringe benefits in the contract provisions, as provided by the state Department of Labor and Industries.
The following list of occupations, is comprised of those occupations that are not normally used in the construction of heavy and highway projects.
When considering job classifications for use and / or payment when bidding on, or building heavy and highway construction projects for, or administered by WSDOT, these Occupations will be excepted from the included "Washington State Prevailing Wage Rates For Public Work Contracts" documents.

- Building Service Employees
- Electrical Fixture Maintenance Workers
- Electricians - Motor Shop
- Heating Equipment Mechanics
- Industrial Engine and Machine Mechanics
- Industrial Power Vacuum Cleaners
- Inspection, Cleaning, Sealing of Water Systems by Remote Control
- Laborers - Underground Sewer & Water
- Machinists (Hydroelectric Site Work)
- Modular Buildings
- Playground & Park Equipment Installers
- Power Equipment Operators - Underground Sewer & Water
- Residential *** ALL ASSOCIATED RATES ***
- Sign Makers and Installers (Non-Electrical)
- Sign Makers and Installers (Electrical)
- Stage Rigging Mechanics (Non Structural)

The following occupations may be used only as outlined in the preceding text concerning "WSDOT's list for Suppliers - Manufacturers - Fabricators"

- Fabricated Precast Concrete Products
- Metal Fabrication (In Shop)

Definitions for the Scope of Work for prevailing wages may be found at the Washington State Department of Labor and Industries web site and in WAC Chapter 296-127.

Washington State Department of Labor and Industries
Policy Statements
(Regarding Production and Delivery of Gravel, Concrete, Asphalt, etc.)

WAC 296-127-018 Agency filings affecting this section

Coverage and exemptions of workers involved in the production and delivery of gravel, concrete, asphalt, or similar materials.

(1) The materials covered under this section include but are not limited to: Sand, gravel, crushed rock, concrete, asphalt, or other similar materials.

(2) All workers, regardless of by whom employed, are subject to the provisions of chapter 39.12 RCW when they perform any or all of the following functions:

(a) They deliver or discharge any of the above-listed materials to a public works project site:

(i) At one or more point(s) directly upon the location where the material will be incorporated into the project; or

(ii) At multiple points at the project; or

(iii) Adjacent to the location and coordinated with the incorporation of those materials.

(b) They wait at or near a public works project site to perform any tasks subject to this section of the rule.

(c) They remove any materials from a public works construction site pursuant to contract requirements or specifications (e.g., excavated materials, materials from demolished structures, clean-up materials, etc.).

(d) They work in a materials production facility (e.g., batch plant, borrow pit, rock quarry, etc.,) which is established for a public works project for the specific, but not necessarily exclusive, purpose of supplying materials for the project.

(e) They deliver concrete to a public works site regardless of the method of incorporation.

(f) They assist or participate in the incorporation of any materials into the public works project.

(3) All travel time that relates to the work covered under subsection (2) of this section requires the payment of prevailing wages. Travel time includes time spent waiting to load, loading, transporting, waiting to unload, and delivering materials. Travel time would include all time spent in travel in support of a public works project whether the vehicle is empty or full. For example, travel time spent returning to a supply source to obtain another load of material for use on a public works site or returning to the public works site to obtain another load of excavated material is time spent in travel that is subject to prevailing wage. Travel to a supply source, including travel from a public works site, to obtain materials for use on a private project would not be travel subject to the prevailing wage.

(4) Workers are not subject to the provisions of chapter 39.12 RCW when they deliver materials to a stockpile.

(a) A "stockpile" is defined as materials delivered to a pile located away from the site of incorporation such that the stockpiled materials must be physically moved from the stockpile and transported to another location on the project site in order to be incorporated into the project.

(b) A stockpile does not include any of the functions described in subsection (2)(a) through (f) of this section; nor does a stockpile include materials delivered or distributed to multiple locations upon the project site; nor does a stockpile include materials dumped at the place of incorporation, or adjacent to the location and coordinated with the incorporation.

(5) The applicable prevailing wage rate shall be determined by the locality in which the work is performed. Workers subject to subsection (2)(d) of this section, who produce such materials at an off-site facility shall be paid the applicable prevailing wage rates for the county in which the off-site facility is located. Workers subject to subsection (2) of this section, who deliver such materials to a public works project site shall be paid the applicable prevailing wage rates for the county in which the public works project is located.

[Statutory Authority: Chapter 39.12 RCW, RCW 43.22.051 and 43.22.270. 08-24-101, § 296-127-018, filed 12/2/08, effective 1/2/09. Statutory Authority: Chapters 39.04 and 39.12 RCW and RCW 43.22.270. 92-01-104 and 92-08-101, § 296-127-018, filed 12/18/91 and 4/1/92, effective 8/31/92.]

****

Overtime Codes

Overtime calculations are based on the hourly rate actually paid to the worker. On public works projects, the hourly rate must be not less than the prevailing rate of wage minus the hourly rate of the cost of fringe benefits actually provided for the worker.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.

E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.

J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.

K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

1. N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

O. The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.

P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.

R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.

U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.

W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer)) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.

Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.

Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.

Overtime Codes Continued

2. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

   F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.

   M. This code appears to be missing. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.

   R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.

   U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.

3. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   F. All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.

   H. All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.

   J. All hours worked between the hours of 10:00 pm and 5:00 am, Monday through Friday, and all hours worked on Saturdays shall be paid at a one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   K. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

   After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the eight (8) hours rest period.

Overtime Codes Continued

4. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

A. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage

C. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay. On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay. All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.

D. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturday, Sundays and holidays shall be paid at double the hourly rate of pay. Rates include all members of the assigned crew.

EXCEPTION:
On all multipole structures and steel transmission lines, switching stations, regulating, capacitor stations, generating plants, industrial plants, associated installations and substations, except those substations whose primary function is to feed a distribution system, will be paid overtime under the following rates:

The first two (2) hours after eight (8) regular hours Monday through Friday of overtime on a regular workday, shall be paid at one and one-half times the hourly rate of wage. All hours in excess of ten (10) hours will be at two (2) times the hourly rate of wage. The first eight (8) hours worked on Saturday will be paid at one and one-half (1-1/2) times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday, and all hours worked on Sundays and holidays will be at the double the hourly rate of wage.

All overtime eligible hours performed on the above described work that is energized, shall be paid at the double the hourly rate of wage.

E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one and one half (1½) times the regular shift rate for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

G. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

I. The First eight (8) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) per day on Saturdays shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. J. The first eight (8) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on a Saturday shall be paid at double the hourly rate of wage. All hours worked over twelve (12) in a day, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

K. All hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked over twelve (12) in a day Monday through Saturday, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

L. The first twelve (12) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on a Saturday in excess of twelve (12) hours shall be paid at double the hourly rate of pay. All hours worked over twelve (12) in a day Monday through Friday, and all hours worked on Sundays shall be paid at double the hourly rate of wage. All hours worked on a holiday shall be paid at one and one-half times the hourly rate of wage, except that all hours worked on Labor Day shall be paid at double the hourly rate of pay.

S. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, work performed in excess of (10) hours shall be paid at one and one half (1-1/2) times the hourly rate of pay. On Monday through Friday, work performed outside the normal work hours of 6:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations).

All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Multiple Shift Operations: When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. Special Shifts: The Special Shift Premium is the basic hourly rate of pay plus $2.00 an hour. When due to conditions beyond the control of the employer or when an owner (not acting as the contractor), a government agency or the contract specifications require more than four (4) hours of a special shift can only be performed outside the normal 6am to 6pm shift then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid the special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday).

U. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. (Except on makeup days if work is lost due to inclement weather, then the first eight (8) hours on Saturday may be paid the regular rate.) All hours worked over twelve (12) hours Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. X. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. Work performed outside the normal shift of 6 am to 6pm shall be paid at one and one-half the straight time rate, (except for special shifts or three shift operations). All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. Shifts may be established when considered necessary by the Employer.

   The Employer may establish shifts consisting of eight (8) or ten (10) hours of work (subject to WAC 296-127-022), that shall constitute a normal forty (40) hour work week. The Employer can change from a 5-eight to a 4-ten hour schedule or back to the other. All hours of work on these shifts shall be paid for at the straight time hourly rate. Work performed in excess of eight hours (or ten hours per day (subject to WAC 296-127-022) shall be paid at one and one-half the straight time rate.

   When due to conditions beyond the control of the Employer, or when contract specifications require that work can only be performed outside the regular day shift, then by mutual agreement a special shift may be worked at the straight time rate, eight (8) hours work for eight (8) hours pay. The starting time shall be arranged to fit such conditions of work.

   When an employee returns to work without at a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Overtime Codes Continued

11. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   B After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

   C The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, and all hours on Sunday shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage. All non-overtime and non-holiday hours worked between 4:00 pm and 5:00 am, Monday through Friday, shall be paid at a premium rate of 15% over the hourly rate of wage.

   D. All hours worked on Saturdays and holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays shall be paid at double the hourly rate of wage.

   After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

   E. The first two (2) hours after eight (8) regular hours Monday through Friday, the first ten (10) hours on Saturday, and the first ten (10) hours worked on Holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, and Sundays shall be paid at double the hourly rate of wage.

   After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

Overtime Codes Continued

11. F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one-half times the hourly rate of wage for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

G. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.

All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of nine (9) hours or more. When an employee returns to work without at least nine (9) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the nine (9) hours rest period.

H. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.

All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of ten (10) hours or more. When an employee returns to work without at least ten (10) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the ten (10) hours rest period.

J. All hours worked on holidays shall be paid at double the hourly rate of wage.

K. On Monday through Friday hours worked outside 4:00 am and 5:00 pm, and the first two (2) hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked over 10 hours per day Monday through Friday, and all hours worked on Saturdays, Sundays, and Holidays worked shall be paid at double the hourly rate of wage.

L. An employee working outside 5:00 am and 5:00 pm shall receive an additional two dollar ($2.00) per hour for all hours worked that shift. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

Overtime Codes Continued

11. M. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.

Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 am to 6:00 pm, then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shift shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten shifts.

On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay. All work performed after 6:00 pm Saturday to 5:00 am Monday, all work performed over twelve (12) hours, and all work performed on holidays shall be paid at double the straight time rate of pay.

Shift Pay Premium: In an addition to any overtime already required, all hours worked between the hours of 6:00 pm and 5:00 am shall receive an additional two dollars ($2.00) per hour.

N. All work performed over twelve hours in a shift and all work performed on Sundays and Holidays shall be paid at double the straight time rate.

Any time worked over eight (8) hours on Saturday shall be paid double the straight time rate, except employees assigned to work six 10-hour shifts per week shall be paid double the straight time rate for any time worked on Saturday over 10 hours.

O. All work performed on Saturdays, Sundays, and Holidays shall be paid at one and one half (1-1/2) times the straight time rate of pay.

Overtime Codes Continued

11. P. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.

Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 a.m. to 6:00 p.m., then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shifts shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten-hour shifts.

In the event the job is down due to weather conditions, then Saturday may, be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All work performed on Sundays and holidays and work in excess of twelve (12) hours per day shall be paid at double (2x) the straight time rate of pay.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Q. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 35% over the hourly rate of wage. Work performed on Sundays shall be paid at double time. All hours worked on holidays shall be paid at double the hourly rate of wage.

R On Monday through Saturday hours worked outside 6:00 am and 7:00 pm, and all hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

When a holiday falls on a Saturday, the Friday before shall be the observed holiday. When a holiday falls on a Sunday, the following Monday shall be the observed holiday.

S. The first ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. In the event the job is down due to weather conditions, or other conditions beyond the control of the Employer, then Saturday may be worked at the straight time rate, for the first eight (8) hours, or the first ten (10) hours when a four day ten hour workweek has been established.

All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

11. T. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.

On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay.

All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.

U. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.

On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay.

All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.

If, due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift, then a Special Shift may be worked, Monday through Friday, at the straight-time rate. The starting time of work for the Special Shift will be arranged to fit such conditions of work. Such Special Shift shall consist of eight (8) hours of work for eight (8) hours of pay or ten (10) hours of work for ten(10) hours of pay on a four-ten workday schedule.

Holiday Codes

5. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas Day (7).

B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day (8).

C. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

D. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8).

H. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Day after Thanksgiving Day, And Christmas (6).

Holiday Codes Continued

5. I. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).

K. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9).

L. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (8).

N. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (9).

P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday And Saturday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9). If A Holiday Falls On Sunday, The Following Monday Shall Be Considered As A Holiday.

Q. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).

R. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving Day, One-Half Day Before Christmas Day, And Christmas Day. (7 1/2).

S. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, And Christmas Day (7).

Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

Holiday Codes Continued

6. G. Paid Holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Christmas Eve Day (11).

H. Paid Holidays: New Year's Day, New Year's Eve Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, Christmas Day, The Day After Christmas, And A Floating Holiday (10).

T. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Last Working Day Before Christmas Day, And Christmas Day (9).

Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.

Holiday Codes Continued

7. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

D. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Unpaid Holidays: President's Day. Any paid holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any paid holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Holiday Codes Continued

7. G. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Holiday Codes Continued

7. K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.

P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

W. Holidays: New Year's Day, Day After New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before New Year's Day, and a Floating Holiday.

X. Holidays: New Year's Day, Day before or after New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.

Y. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.

Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, Christmas Eve, and Christmas Day (9). Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday. Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Holiday Codes Continued

15. G. New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, the last scheduled workday before Christmas, and Christmas Day (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

J. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

L. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

M. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

O. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, the day before Christmas day, and Christmas Day (10). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Note Codes

8. D. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $0.75, Level B: $0.50, And Level C: $0.25.

M. Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: $1.00, Levels C & D: $0.50.

N. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $1.00, Level B: $0.75, Level C: $0.50, And Level D: $0.25.

S. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

T. Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

U. Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: $2.00, Class B Suit: $1.50, And Class C Suit: $1.00. Workers performing underground work receive an additional $0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional $0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do “pioneer” work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional $0.50 per hour.

8. V. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.

Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - $2.00 per foot for each foot over 50 feet. Over 101' to 150' - $3.00 per foot for each foot over 101 feet. Over 151' to 220' - $4.00 per foot for each foot over 220 feet. Over 221' - $5.00 per foot for each foot over 221 feet.

Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25’ to 300’ - $1.00 per foot from entrance. 300’ to 600’ - $1.50 per foot beginning at 300’. Over 600’ - $2.00 per foot beginning at 600’.

W. Meter Installers work on single phase 120/240V self-contained residential meters. The Lineman/Groundmen rates would apply to meters not fitting this description.

Note Codes Continued

X. Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: $2.00, Class B Suit: $1.50, Class C Suit: $1.00, and Class D Suit: $0.50. Special Shift Premium: Basic hourly rate plus $2.00 per hour.

When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications requires that work can only be performed outside the normal 5 am to 6pm shift, then the special shift premium will be applied to the basic hourly rate. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in OT or Double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Y. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.

Swinging Stage/Boatswains Chair: Employees working on a swinging state or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

Z. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

Special Shift Premium: Basic hourly rate plus $2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as a contractor), a government agency or the contract specifications require that more than (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they will be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Note Codes Continued

9. A. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

Special Shift Premium: Basic hourly rate plus $2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications require that more than four (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Certified Crane Operator Premium: Crane operators requiring certifications shall be paid $0.50 per hour above their classification rate.

Boom Pay Premium: All cranes including tower shall be paid as follows based on boom length:

(A) – 130’ to 199’ – $0.50 per hour over their classification rate.
(B) – 200’ to 299’ – $0.80 per hour over their classification rate.
(C) – 300’ and over – $1.00 per hour over their classification rate.

Note Codes Continued

9. B. The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

C. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. These classifications are only effective on or after August 31, 2012.

D. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, bridges, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

E. Heavy Construction includes construction, repair, alteration or additions to the production, fabrication or manufacturing portions of industrial or manufacturing plants, hydroelectric or nuclear power plants and atomic reactor construction. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $1.00, Level B: $0.75, Level C: $0.50, And Level D: $0.25.

F. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

H. One (1) person crew shall consist of a Party Chief. (Total Station or similar one (1) person survey system). Two (2) person survey party shall consist of a least a Party Chief and a Chain Person. Three (3) person survey party shall consist of at least a Party Chief, an Instrument Person, and a Chain Person.

9. I. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.

Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - $2.00 per foot for each foot over 50 feet. Over 101' to 150' - $3.00 per foot for each foot over 101 feet. Over 151' to 220' - $4.00 per foot for each foot over 220 feet. Over 221' - $5.00 per foot for each foot over 221 feet.

Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25’ to 300’ - $1.00 per foot from entrance. 300’ to 600’ - $1.50 per foot beginning at 300’. Over 600’ - $2.00 per foot beginning at 600’.

Employees may be required to perform any combination of work within the Diving team/crew, (with the exception of dive Supervisor) provided they are paid at the highest rate at which he/she has worked for the shift.

L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $0.75, Level B: $0.50, And Level C: $0.25.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.

Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

APPENDIX B:
LFPWD Specifications

LAKE FOREST PARK WATER DISTRICT
DETAILED SPECIFICATIONS

The following section specifies the use of materials and methods of construction acceptable to the Lake Forest Park Water District (LFPWD or District). The work may also be required to meet other applicable Washington State and local codes including:

- Washington Department of Health standards
- Washington Labor and Industries (L&I). All work is to be completed in accordance with Washington State Prevailing Wage standards. A current copy of prevailing wage rates is included in Appendix A.
- Specific instructions not identified here shall meet City of Seattle Standard Specifications for Road Bridge and Municipal Construction 2017 or later
- Seattle City Light – Standards for Electrical Service 2017 edition or later

SECTION VI.1. WATERWORKS MATERIALS

VI.1.a GENERAL

All contractor supplied materials shall be new and undamaged. Unless otherwise approved by the Inspector, the same manufacturer of each item shall be used throughout the Work. All reference specifications herein shall be of the latest revision.

VI.1.b PIPE

1. Ductile Iron Pipe (Preferred)

a. Standard:	AWWA C151
b. Cement lining:	AWWA Standard C104
c. Exterior Coating:	Bituminous coated per AWWA C104
d. Class:	Class 52 or as specified in the Special Provisions/Contract Drawings
e. Type of Joint:	Tyton joint or as specified in the Special Provisions/Contract Drawings

2. HDPE (High Density PolyEthylene)

a. Standard:	AWWA C906 and NSF 61.
b. Class:	DR 11
c. Standard Dimension Ratio:	DR 11
I. d. Joints:	Flange ends by fusion Fusion joints to be carried out by trained technicians in accordance with manufacturer's requirements. Submittal required of fusion records to include date, temperature, personnel and other as recommended by manufacturer.

3. Copper Service Pipe

Type "K" annealed, use standard brass compression fittings.

4. Poly Water Service Tube (HDPE)

a. Standards:	High molecular weight polyethylene (AWWA C901, ASTM 1248) type 3, grade 3 (PE3408) DRISCO, of all virgin material (CS-255-63). Must carry NSF seal of approval. Two sizes will be permitted for permanent piping: 1" and 2" size. 1" pipe shall be iron pipe size and 2" pipe shall be iron pipe size.
b. Type of Joint:	Standard brass compression fittings.
c. Working pressure:	200 psi at 73.4$^{o}_{F}$.

VI.1.c FITTINGS

1. Cast or Ductile Iron

a. Standard:	AWWA C110
b. Compact (Ductile Iron):	Per AWWA C153.
c. Class:	At least equal to class of pipe.
d. Type of Joints:	Compatible with pipe or with an adapter or as specified in the Special Provision/Contract Drawings
e. Lining:	Cement lining per AWWA C104.

2. Fittings for PVC Pipe

"Ring Tite" as manufactured by Tifco or equal.

3. Special

Special fittings shall be as specified in the Special Provisions/Contract Drawings

VI.1.d VALVES

1. Gate Valves

a. Standard:	AWWA C515
b. Description:	Gate valves shall be ductile iron body, resilient wedge valves. Stem nuts shall be identical with District's existing equipment. All valves shall open counter-clockwise and be of the non-rising stem type.
c. Working pressure:	150 psi unless specified otherwise.
d. Type of Joint:	Unless otherwise noted valves shall be flanged with machined flange faces or mechanical joint.

2. Butterfly Valves

Butterfly valves shall in design, material, and workmanship, conform to the standards of AWWA C504. All other specifications shall be provided in the Special Provisions/Contract Drawings.

3. Double Check Valves (Back Flow Prevention)

All back flow prevention devices shall meet Washington State Department of Health "Approved Cross-Connection Control Devices" Listings. They shall be tested and certified at time of installation.

4. Air and Vacuum Release Valves

Air and vacuum release valves shall be Rennselear Figure 372, or equal, as approved by the Engineer.

5. Control Valves

Pressure Reducing, Pressure Relief, Pump Control and other controlling Globe Valves shall be CLA-VAL Automatic Valve or approved equal.

a. Pressure reducing and pressure sustaining valves shall be CLA-VAL Model 92-01 BCS (Auxiliary valve 92-01 BCS) with epoxy coating, a valve position indicator, open & close speed control, a sight gage, spring range 30 - 300 psi.

VI. Valve Boxes

Valve boxes and tops shall be cast iron City of Seattle standard cover with drop handle. Bottom section length shall be 42" minimum adjusted to fit field condition for the particular project or as specified in the Special Provision/Contract Drawings.

VI.1.e FIRE HYDRANT ASSEMBLIES

1. Hydrant

Standard: AWWA C502

2. Description (See also Detail for Fire Hydrant)

Hydrants shall be American Darling or Mueller 5-1/4" type or other approved equal, with MJ end. Operating nuts shall be identical with District's existing equipment. **Connection on pumper ports shall match the standards of Northshore Fire District**. The hydrants shall be equipped with one (1) 5" pumper nozzle including 4" Stortz Fitting, two (2) 2½" hose ports NS . thread, 1¼" pentagon operating nuts, and open by turning counter clockwise. Hydrant valve diameter shall be a minimum of 5-1/4". Hydrants shall be flanged at ground line. Hydrant shall be so constructed that the direction of pumper connection may be rotated to face the roadway. Hydrant shall be of traffic type with designed replaceable break points and shall have a variable length riser. All nozzles shall be equipped with bronze nipples screwed into the hydrant and locked in place. Minimum depth of clear cover over the pipe shall be three (3) feet. An area of minimum 5' radius behind the hydrant shall be kept clear of all natural or man-made obstructions.

3. Piping

a. All hydrant laterals shall be thickness class 52 ductile iron (Or approved equal).

b. Lateral pipelines to Hydrants under 50' in length shall be a minimum of 6" diameter. Laterals over 50' in length shall be a minimum of 8" in diameter.

c. MEGALUG retainer glands required at all lateral pipe to fitting or approved equal.

d. Pipe to pipe shall be mechanical joint with Field-Lok gaskets or approved equal. Where Field-Lok gaskets are used, paint bell blue for future identification.

4. Auxiliary Valve

a. For piping, the auxiliary valve shall conform to D1.d.

VI.1.f SERVICE CONNECTION EQUIPMENT

1. Water Meters

Meters shall be furnished by the District.

2. Corporation Stops

Corporation stops shall be bronze alloy, ball valve type with 1" I.P. thread inlet and 1" IPS Pac Joint Ford, Mueller, or equal, as approved by the Inspector.

3. Saddles

Pipe saddles shall be bronze or ductile iron, suitable for installation on the type and class of pipe being used. Bands shall be flattened and properly formed to fit the outside diameter of the pipe. Bands, bolts, and nuts shall be hot-dip or electro-galvanized. Double bands shall be employed on pipe 8" and larger. Single wide flat bands shall be used on pipe 6" and smaller. Gaskets shall be good quality red rubber, or neoprene. (Ford 202 for 1" service preferred.)

4. Oversized Service Connections

Where the District deems it necessary, 2" copper tube size poly pipe, single service lines, a 2" resilient seat gate valve with a valve box shall be utilized.

5. Tracer Wire

Tracer wire shall be stripped and laid with a positive connection at the corp, spiraled around pipe and brought to surface at termination of service. Wire shall be 12 gauge copper solid strand

VI.1.g JOINTING MATERIALS

1. Rubber Gaskets

a. Standard: AWWA C111

VI.1.h GUARD POSTS

1. Hydrant Guard Post

a. Standard: State of Washington Department of Transportation "Standard Specifications," 1998, Section 9-30.5(6).

b. Description: 9" diameter by 6 feet long precast concrete. Exposed surfaces shall be free from honeycomb or other serious defects.

VI.1.i CONCRETE

1. Bedding Concrete

Concrete for pipe bedding shall be Portland cement concrete containing not less than four (4) sacks of cement per cubic yard. The water/cement ratio shall be 8.2 gallons per sack of cement. The fine aggregate shall not be less than 30% or more than 50% of the total weight of the aggregate.

2. Miscellaneous Concrete Structures

Concrete for encasement, blocking and other structures shall be Portland cement concrete containing not less than six (6) sacks of cement per cubic yard and produce a 28-day compressive strength of not less than 3,000 psi. The fine aggregate shall not be less than 30% or more than 50% of the total weight of the aggregate. The concrete shall have a maximum slump of five (5) inches.

Core samples and testing of the concrete may be required as directed by the Inspector.

VI.1.j GRAVEL

1. Foundation Gravel

a. General
Foundation gravel to be used shall be a type and gradation to provide a solid compact bedding in the trench. Since trench conditions vary, foundation gravel requirements will change. Bedding requirements for two trench bottom conditions are described as follows:

b. Condition One
Where silty soil or fine sandy soil is encountered that will flow in a stream of water, the gravel should consist of clean bank run sand and gravel, free from dirt, topsoil, and debris, and containing not less than 35% retained on a 3” mesh sieve and 100% passing a 2” screen. This foundation gravel shall be used only in a dry trench bottom, free from quick and/or running sand.

c. Condition Two
Where clay, peat or other soft materials are encountered which may be saturated with water but which will not break down into fine particles and flow as silt or sand will, the trench shall be over excavated 24” and foundation gravel used. The foundation gravel shall be of such gradation that 100% will pass a 3” screen with at least 90% retained on a 1” screen. The foundation thus stabilized shall be leveled to provide a uniform pipe foundation by using a well-graded gravel ranging in size from 1/4” to 3/4”.

2. Bedding Material

Bedding material (other than CDF) shall consist of clean, granular, well graded sand and gravel material as approved by the District Engineer. Imported bedding material will have the following properties:

- 100% will pass the U.S. Standard 3/4" opening
- not more than 3% will pass the U.S. No. 200 (wet sieve),
- minimum sand equivalent of 50 per the test methods of the Materials Laboratory of the Department of Highways, Olympia, Washington (unless otherwise approved by the District Engineer).

Controlled Density Fill (CDF) shall be used in right-of-way crossings and other locations as required by City of Lake Forest Park.

3. Backfill Material

Backfill material will vary depending on the location and availability of suitable approved granular fill material. Unless noted otherwise on the plans, backfill material shall be 100% 3" diameter or less, and may be bank run which has been passed through a 3" screen with a binder content of not more than 20% and reasonable grading from fine to coarse (unless otherwise approved by Engineer). **All trafficked crossings of City of Lake Forest Park rights-of-way shall be backfilled to City specifications, which require the use of Controlled Density Fill (CDF) under travelled portion**.

SECTION VI.2 WATERWORKS CONSTRUCTION

VI.2.a GENERAL

Except as otherwise noted herein, all work shall be accomplished as recommended in applicable American Water Works Association (AWWA) Specifications, and according to the recommendations of the manufacturer of the material or equipment used.

VI.2.b CLEARING AND GRUBBING

Clearing and grubbing work shall be performed within the confines of the area indicated on the plans, and as staked out in the field. All resulting debris shall be disposed of by the Contractor and the right-of-way cleaned up in a neat and workmanlike manner. No logs, stumps, rocks, etc., shall be left lying in the right-of-way or an adjacent property without specified written approval by the District, or the Engineer, and the affected adjacent property owner.

VI.2.c EXCAVATION

1. Normal Conditions

Trenches shall be excavated to the line and depth designated by the Inspector to provide a minimum cover of 36” for pipe 12” and less and 48” for pipe over 12”, over the top of the pipe unless otherwise specified in the plans. Except where approved by the Inspector, the trench sides shall be excavated vertically. Trench widths shall be only as necessary for adequate working space. The maximum trench width at the top of the pipe shall normally be the outside diameter of the pipe barrel plus 16 inches. The top width of the trench shall not exceed the outside diameter of the pipe plus 30 inches. All excavation and shoring shall conform to WAC 296.

No more than 500 feet of open ditch will be permitted unless so authorized in writing by the Engineer. All trenches shall be backfilled at the end of each work day, or as otherwise secured, as approved by the Inspector.

2. Special Conditions

a. Pavement Cutting (per appropriate governmental agency standards):

In trenching through an existing pavement, the open cut shall be a neat-line cut by either saw cutting or jack hammering a continuous line.

1) Concrete - pavement shall be cut one foot outside the edge of the trench on each side. The concrete shall be cut on a straight line and shall be beveled so that the cut will be approximately 1-1/2 inches wider at the top than at the bottom.

2) Asphalt -. Pavement shall be cut ahead of the trenching equipment to prevent excessive tearing up of the surface and to eliminate ragged edges.

b. Rock Excavation:

All ledge rock that requires systematic drilling and blasting for its removal, and boulders exceeding one-half cubic yard in volume, shall be removed to provide a minimum clearance of six inches (6”) under the pipe.

c. Dewatering:

Pipe trenches shall be kept free from water, during excavation, pipe laying, and jointing, and the pipe embedment, in a manner acceptable to the Inspector. Surface water shall be diverted, and ground water shall be kept pumped down, or otherwise removed, to the extent necessary to keep the trench free from water and the bottom stable.

Before trenching operations begin, the Contractor shall have available on the site of the Work sufficient pumping equipment and/or other machinery to insure that the provisions of the above paragraph can be maintained.

d. Shoring and Movable Shields

The Contractor shall provide shoring and movable shields as necessary to protect workmen, the Work, and existing structures, utilities and other properties in accordance with title 296 WAC. Trench excavation shall be in compliance with OSHA and WISHA regulations and requirements.

e. Tunneling:

When tunneling is required, tunnels shall not be less than 4 feet high and 2 feet wide and not less than 1 foot wider than the outside diameter of the pipe. Tunnels shall be backfilled with materials acceptable to the Inspector and backfill shall be mechanically compacted. When tunneling is used under pavements, subsequent low pressure grouting may be required.

f. Highway Crossing:

The Contractor may use any method which provides satisfactory results and is acceptable to the Inspector and the governmental agency having control of the highway, provided that the Contractor restores the roadway to a condition acceptable to the governmental agency having control of the road and the Inspector.

Normally, highway crossings require the placing of a steel, cast iron or concrete pipe casing by jacking or tunneling and laying the water pipe within this casing.

g. Over-Excavation:

Over-excavation for purposes of these specifications will be deemed to include the loosening of subgrade material below the grade of the pipe or appurtenance, as well as the physical removal of material below the grade of the pipe or appurtenance. In the event of over-excavation, the Contractor shall when required, provide at this own expense, suitably compacted bedding and foundation material (VI.2.d), in place, to the required grade.

VI.2.d FOUNDATION AND BEDDING

1. General

Proper preparation of foundation, placement of foundation material where required, and placement of bedding material shall precede the installation of all pipe. This shall include necessary leveling of the native trench bottom or the top of the foundation material as well as placement and compaction of required bedding material to a uniform grade. The entire length of pipe will rest firmly on a well compacted material.

2. Foundation

Where over-excavation has been necessary, foundation material shall be placed and compacted to form a suitable base for the replacement of the required thickness of bedding material. Imported foundation material may be required in some instances at the direction of the site inspector or engineer..

3. Bedding

Bedding shall consist of the leveling of the bottom of the trench or the top of the foundation material and the furnishing, placing, and compaction of bedding materials under the pipe and along the sides to a minimum depth of six (6) inches over the top of the pipe or as required by the Inspector. If imported bedding is required the minimum thickness of the layer of bedding material required is 4 inches for all pipe sizes. Bedding material shall be thoroughly rammed and tamped around the pipe with the proper tools, so as to provide firm and uniform support over the full length of all pipe and fittings. Care shall be taken to prevent any damage to the pipe or its protective coating.

VI.2.e INSTALLATION OF PIPE AND FITTINGS

1. Alignment

Alignment shall be within 0.5 feet of the specified alignment.

2. Pipe Laying

Pipe laying shall be done in accordance with the specifications and instructions of the manufacturer of the kind of pipe used, subject to the approval of the Inspector. Tools designed especially for installing each particular type and kind of pipe shall be used. All pipe ends shall be square with the longitudinal axis of the pipe, maximum 2" out of square as measured across the diameter of the pipe, and shall be reamed and otherwise smoothed so that good connections can be made. All operations for any special type of pipe, joint or connection shall be carefully done in accordance with the manufacturer's instructions.

Any installation, or repair which involves Asbestos-Cement pipe shall be in accordance with Puget Sound Air Pollution Control Agency guidelines for handling, removal and disposal of asbestos materials.

3. Contamination Prevention

Dirt or other foreign material shall be prevented from entering the pipe or appurtenances during handling or laying operations. Any pipe or fitting that has been installed with dirt or foreign material in it shall be removed, cleaned and relayed. The open ends of pipe and fittings shall be plugged with a temporary watertight plug whenever work is stopped and/or whenever water in the trench threatens to enter the pipe.

4. Blocking or Bracing

Concrete for Blocking or Bracing shall:

1) Be in accordance with the Standard Details.
2) Be placed in back of all fittings having unbalanced thrust.
3) Be placed so as to secure bearing on undisturbed earth.
4) Bear against fittings only, shall be clear of joints and have plastic wrapping so as to permit taking up or dismantling joint.
5) Be formed with lumber or timber.
6) Be free of entrapped air pockets, removal method as approved by District/Engineer.
7) Shall have a smooth finish.

Precast blocking shall not be used without prior written approval from the Inspector. Blocking shall not be covered up without approval of the Inspector.

VI.2.f INSTALLATION OF AUXILIARY EQUIPMENT

1. Valves

a. General

Valves shall be set at places designated by the District Engineer. Before placing in the trench in a vertical position, each valve shall be carefully inspected for defects. The stuffing boxes shall be packed with good quality of packing and adjusted so as to permit easy operation and at the same time show leakage. The valve shall be bedded similar to pipe and fittings.

b. Valve Box

Cast iron valve boxes shall be set so they will be in a vertical alignment to the gate valve operating stem. The operating stem shall extend such that the operating nut is no more than 36" from finished grade. The lower casting of the unit is to be installed using ETHAFOAM pad ring, and shall not rest directly upon the body of the gate valve or upon the water main. The upper casting of the unit is to be placed in proper alignment and to such an elevation that its top will be at final grade.

c. Air and Vacuum Relief Valve Assemblies

Installation shall be as shown in the Standard Detail. The assembly shall be set at the high point of the line. A valve guard post shall be placed where there is danger of damage. The relief valve shall be suitable for installation by direct burial.

d. Blow-off Valve Assemblies

Installation shall be as shown in the Standard Detail. The valve shall be enclosed in a standard valve box. The blow-off shall be installed in such a position and location that waste water can be disposed of without damage to surrounding property.

2. Fire Hydrant Assemblies

a. Hydrant

Fire hydrant assemblies shall be made and installed according to Standard Details. Special attention shall be directed to construction of the drainwell and silt barrier. Each hydrant assembly shall be inspected and adjusted as above specified for valves. Hydrant trenches shall be excavated to not more than two (2) feet beyond the back side of the hydrant. The stuffing boxes shall be packed with good quality packing and shall be adjusted as above specified for valves.

b. Piping

Hydrant laterals shall consist of a section of thickness class 52 D.I. (or approved equal) 6 or 8 inch pipe from the main to the hydrant and shall include an auxiliary gate valve set vertically and placed in the line as indicated in the standard drawing for hydrant settings.

c. Auxiliary Gate Valve

See VI.2.f.

d. Retainer Glands

Use MEGALUG retainer glands or Field-Loc gaskets at all joints within hydrant lateral. Where Field-Loc gaskets are used, paint bell blue for future identification.

e. Hydrant Guard Posts

Hydrant guard posts to be used only as directed by District Inspector

3. Service Connection Equipment

All service connections to water mains shall be made using saddles of the size and type suitable for use with the pipe being installed. Care shall be exercised to assure that the main is not damaged by installation of the saddle.

Service pipe shall be polyethylene (HDPE) water service tube as specified in Paragraph VI.1.b. The depth of trenching for service connection piping shall provide 24 inches of cover over the top of the pipe for that portion of the service connection located in public rights-of-way. That portion of the service connection located on private property shall also have a minimum of 24 inches of cover. All connections to conform to the Uniform Plumbing Code, individual pressure reducing valves are recommended if supply pressure exceeds 80 psi. Connections of di-similar metals must be approved by the inspector prior to installation.

VI.2.g CONNECTION TO EXISTING SYSTEM

1. General

Where connections to the existing system are to be made in existing pipes, the Work shall be conducted at such a time and in such a manner as to minimize the interruption of service. Necessary pipe, fittings, and valves shall be assembled at the site ready for installation prior to shutting-off of water in the existing main. Once the water has been cut-off, the Work shall be prosecuted vigorously and shall not be halted until the line is restored to service. Installation shall be as shown in the Standard Details.

No direct connections to the existing system will be allowed without an approved backflow prevention device until the newly constructed mains have been tested for pressure and purity and approved in accordance with District Standards.

The Contractor shall discuss the proposed interruption schedule with the District Superintendent a minimum of 48 hours prior to the requested time of interruption. The Contractor shall notify each of the affected water users in writing a minimum of 24 hours prior to the interruption.

2. "Cut-in" Connection

The cut-in shall be as shown in the Standard Details, and shall be made only with the approval of and under direct inspection by the Inspector. The tee shall be cast or ductile iron with mechanical joint. The couplings shall be Romac 501 12" long center ring or equal or as approved by the District/Engineer.

3. "Tapping" Connection

The tap shall be as shown in the Standard Details. a standard Cast Iron or Stainless Steel Standard split Tapping Sleeve shall be used. For 12" and larger main diameters a neoprene gasketed joint shall be used. For 10" and smaller main diameters a mechanical joint type shall be used (for tapping connection to AC mains, use split cast iron MJ tapping sleeve). The gate valve shall be resilient seat with "O" rings, non-rising stem, mechanical joint one end, other as required, per AWWA Specifications 7 F 1 (Tapping Valve). The Tapping Sleeve, connected and tested (normal main pressure), in place with valve connected to tee shall be completed before tap is started in existing main.

VI.2.h BACKFILLING

1. General

Compaction and restoration must be done as detailed below and immediately after the trench is backfilled, so as to cause least disruption to traffic. Backfilling of trenches can be made with the same materials excavated from the trenches unless these materials are found to be unsuitable by the Engineer or Inspector or where CDF is required. Prior to the backfilling, all form of lumber and debris shall be removed from the trench. Care shall be exercised to see that large rock, stumps, logs, etc., are excluded from material used for backfill. Machine backfilling shall be carried on so that the trench is continually filled from the end.

2. Consolidation, Grading, and Compaction

At locations where paved streets, driveways, or sidewalk will be constructed or reconstructed over the trench, or where the trench is greater than four (4) feet deep, or where provided for in the Special Provisions or directed by the Inspector, the backfill shall be mechanically compacted to 95% of maximum density. Throughout the length of any pipe run, backfill at depths over 4 feet shall be compacted to 90% maximum density by mechanical compaction. The top 4 feet of the trench line shall then be mechanically compacted to 95%. All densities shall be determined by testing specified in Section 2-03.3(14)D of WSDOT 2002 Standard Specifications. Contractors shall provide weekly reports to the District and the Engineer verifying the required compaction, prepared by a civil engineer registered in the State of Washington. **A minimum of one compaction test shall be taken for each 1000 linear feet of main line trench, or as designated by the District Engineer; one test at subgrade and one at 50% of trench depth.**

In any trench in which 95% density cannot be achieved with existing backfill, the top 4 feet shall be replaced with gravel base as specified in the WSDOT 2002 Standard Specifications, Section 9-03.10. This new material shall then be mechanically compacted to 95%.

Restoration of asphalt pavement shall include a minimum of 6-1/2 inches of crushed surfacing material and 4 inches of asphalt concrete Class B or comparable surfacing approved by the Engineer. Concrete pavement shall be restored consistent with Section 5-05 of the WSDOT 2002 Standard Specifications.

3. Cuts Across Road Alignment

In general, utility trenching through existing pavement across the road alignment will be discouraged, except for service lines.

Trenches in the traveled roadway shall be backfilled with a minimum 24"Controlled Density Fill (CDF), with formulation as directed by City of Lake Forest Park unless directed otherwise by the Engineer (see trench detail). On asphalt pavement, a permanent hot mix patch the same thickness as the original asphalt or a minimum of 4 inches, whichever is greater, shall be placed and sealed with a paving grade asphalt within 30 calendar days. Cement concrete pavement

shall be restored with a 8-sack mix, using either Type II or Type III cement, within 30 calendar days.

4. Excess or Insufficient Material

In all cases where it is not necessary to re-establish original ground level, excess material shall be heaped over the trench as additional mounding. Where necessary, excess material shall be removed and disposed of at the Contractor's expense and in a manner satisfactory to the District and the Engineer.

Imported materials required to properly complete backfilling shall be hauled in and placed by the Contractor at his own expense.

5. Holding Backfill on Steep Slopes

Where, in the opinion of the Inspector, there is a danger of backfill being washed away due to steepness of the slope in the direction of the trench, material will be held in place with hill holders.

6. Barricades

Newly backfilled and/or soft areas shall be immediately and adequately barricaded and marked to warn motorists and pedestrians. All driveways and road crossings shall be graveled when necessary. Proper and sufficient warning signs shall be so placed as to adequately warn the public away from hazardous areas. See Standard Details – Traffic Plans.

VI.2.i PAVEMENT RESTORATION

1. General

Pavement restoration requirements will vary depending on the specific project and location. In general, open trenches shall be backfilled and immediately covered with a temporary patch. The temporary patch to seal the surface until settlement and final paving. Asphalt pavement shall be restored consistent with the WSDOT 2002 Standard Specifications.

2. Time Interval

Final re-paving shall not be attempted until after the backfill has been mechanically compacted and allowed to settle to a degree of compaction satisfactory to the Inspector. During the period of settlement, the trench surface shall be sealed with a temporary asphalt patch and maintained by the Contractor in such a manner as may be necessary to safely accommodate traffic.

3. Base Course

Where asphaltic concrete pavement has been cut for trenching, backfill shall be removed the width of the trench and to such depth as required to permit installation

of six and one-half (6-1/2) inch compacted depth of sub-grade gravel. The top surface shall be rolled or tamped to proper elevation to receive the final paving as called for. Where Portland Cement concrete paving has been cut for trenching, backfill shall be removed the width of the trench and to such depth as required to permit the installation of sub-grade material as may be required by the authority having jurisdiction.

4. Paving

a. Bituminous (Asphalt)

Bituminous paving shall be of the same type and quality as the original pavement. Materials and method of construction shall be subject to approval by the Inspector. Cold patch asphalt shall be immediately placed in traveled areas with minimum thickness 2" to seal surface until favourable conditions exist for final pavement patch. Final pavement patch shall be applied with minimum thickness 4" or as required to match existing pavement. Application of final pavement patch may be delayed for favorable weather conditions.

b. Portland Cement Concrete

Concrete repavement shall be undertaken at such time as may be fixed by the authority having jurisdiction. Temporary repavement shall be six and one-half (6-1/2) inches of crushed rock with a "Light Bituminous Surface Treatment" placed as soon after completion of backfill as the Inspector may direct. Final concrete repavement shall be made using Hi-early strength cement in the concrete, and shall provide the full original thickness. The surface shall be finished to match the existing pavement. Headers shall be installed at the junction with all existing pavement and expansion and contraction joints constructed where directed by the Inspector.

VI.2.k RECOMMEND STANDARD ASESTOS CEMENT PIPE WORK PRACTICE, PROCEDURES AND TRAINING REQUIREMENTS

All personnel on any asbestos project who directly handles asbestos/cement water pipe or asbestos-containing waste materials will be certified per Chapter 296-65 WAC. Provide proof of certification to Owner prior to work on asbestos cement pipe.

SECTION VI.3. WATERWORKS TESTING

VI.3.a GENERAL

All pipe and appurtenances shall be cleaned, disinfected and flushed, and shall be tested for leakage after backfill has been completed as specified. The Contractor shall furnish all labor, tools, equipment and materials necessary to make the tests and to perform any work incidental thereto.

The Contractor shall conduct preliminary tests and assure himself that the section to be tested is in an acceptable condition before requesting the Inspector to witness the test.

The District/Engineer at all times shall have access to the Work and to the locations where the Work is in preparation. The Developer at all times shall maintain proper facilities for such access.

Inspection and testing shall be in accordance with Control of Work Section of the Contract Documents.

Note: ***Due to the recent Endangered Species Act the sequence in which the various steps of Waterworks Testing are to occur has been revised. In particular, the pressure testing is to occur after the pipe has been flushed of all chlorinated water to assure that, in the event of a pressure failure, no chlorinated water will be released from the system into the environment.***

VI.3.b DISINFECTION OF WATER MAINS

1. Procedure During Construction

In addition to the procedures for preventing contamination during pipe laying described in paragraph VI.2.e.3, the following procedures shall be maintained:

a. The interior of all pipe, fittings, and auxiliary equipment stockpiled on the project shall be kept free of dirt and other foreign matter at all times.

b. Prior to lowering the pipe or auxiliary equipment into the trench each item shall be carefully inspected inside and thoroughly cleaned of any dirt or foreign matter.

c. Cleaning shall consist of brushing or sweeping of fittings and the use of tight-fitting swabs for pipe cleaning.

d. Water used for rinsing or lubricating during construction shall contain 50 ppm chlorine.

e. A tight stopper or bulkhead shall be placed at the open end of the pipe at all times when pipe is not being inserted into the section already laid.

2. Procedure Prior to Operation

Before being placed into service, all new mains and repaired portions of, or extensions to existing mains shall be disinfected by chlorination. Dosage shall not be less than 50 ppm of available chlorine. A chlorine residual of not less than 10 ppm free chlorine shall remain in the water after standing 24 hours in the pipe. The chlorine shall be applied by placement of dry crystals directly in the pipe **or** the following method:

a. A solution containing approximately 5 percent available chlorine by weight shall be prepared by first making a paste of a chlorine-bearing compound and water and then thinning to the proper proportions with water to insure that all active ingredients are dissolved.

If HTH or Perchloren is used at 70 percent available chlorine, the proportions shall be six (6) pounds of compound per ten (10) gallons of water.

If Clor is used at 15 percent available chlorine, the proportions shall be one (1) part Clor per two (2) parts water.

b. The solution shall be applied through a corporation cock inserted in the horizontal axis of the pipe located at the beginning of the Extension or any valved section thereof. Injection of the solution shall be by means of a hypochlorinator, hand operated pump or motor operated pump approved by the District/Engineer.

c. Water from the existing distribution system, or other source of supply approved by the District/Engineer, shall be controlled to flow very slowly into the newly laid pipe line during application of the chlorine. A color comparator set will be used to determine the chlorine residual of the entering water.

d. No connections shall be made between the existing distribution system and the pipelines not pressure tested and approved for purity constructed under this Contract without a Washington State Department of Health approved backflow prevention device installed in the connecting line. Any connection must be witnessed by the District/Engineer.

e. In the process of chlorinating newly laid pipe, all valves or other appurtenances shall be operated while the pipe line is filled with chlorinating agent and under normal operating pressure.

f. After the twenty-four hour detention period, all treated water shall be thoroughly flushed from the newly laid pipe at its extremity until the replacement water throughout its length shows, upon test, the absence of chlorine in excess of that carried in source of supply for flushing. All flushing methods shall conform to District standard D3.c.1.

VI.3.c FLUSHING

1. Flushing Mains

After disinfection of all new mains and repaired portions of, or extension to existing mains, all pipes shall be thoroughly flushed through all hydrants, blow-offs or other approved means to assure that all solids and contaminated materials have been removed. Water required for the flushing will be paid for by the District.

When flushing after disinfection, the Contractor shall be responsible for the disposal of treated water flushed from the mains, and shall completely neutralize the wastewater for protection of aquatic life in the receiving water before disposal into any natural drainage channel. Neutralize implies removal of available chlorine by chemical means. The preferred method of chlorine removal is with Ascorbic Acid, which will be supplied by the District). The Contractor shall be responsible for disposing of disinfecting solution to the satisfaction of state and local authorities. Should the Contractor choose to flush to the sewage collection system, these activities must be approved by the District.

Clear, clean, uncontaminated water used in flushing shall be directed to approved storm water runoff conveyance systems. Contractor shall use care to minimize erosion caused by flushing procedures.

Flushing shall be accomplished as follows:

a. The Contractor shall schedule and organize his work so as to use flushing water during off-peak hours only.

b. The District and the Engineer shall be notified a minimum of 48 hours prior to the time of water main flushing.

c. Flushing shall be done only in the presence of a representative of the District.

d. Flushing shall be done through hydrant ports. Where hydrant ports are not available (dead ends) then a tap shall be provided large enough to develop a velocity of at least 2.5 fps in the main.

e. Each section of newly laid pipes between valves or dead ends shall be flushed independently.

f. Fire hydrants and other dead end appurtenances shall be flushed simultaneously with the main line.

VI.3.d HYDROSTATIC PRESSURE TEST

1. General

After the water mains have been disinfected and flushed, they shall be hydrostatically tested. Water mains shall be tested in lengths not to exceed 1000-ft. plus the additional length of main to the nearest valve or to the closest valve.

The mains shall be pressure tested prior to achieving purity after completion of flushing of highly chlorinated water as approved by the Inspector. The system to be tested must be physically separated from the District's Water System during such tests.

Hydrostatic pressure test equipment shall be cleaned, disinfected and flushed prior to connection to pipe system to be tested. Test equipment shall be kept clean of dirt and foreign matter at all times. The test equipment shall be rinsed or swabbed as necessary using a water solution containing a minimum of 50 ppm chlorine. Following disinfection the pressure test equipment shall be flushed with potable water prior to connection to system to be tested. A potable water source shall be used to pump system to test pressure. Potable water shall also be used throughout the hydrostatic test procedure and to serve as a source of make-up water between hydrostatic pressure tests.

2. Equipment

The pumps, saddles, corporation stops, miscellaneous hose and piping, and measuring equipment necessary for performing the test shall be furnished by the Contractor. The District will provide the gauge for the witnessed pressure test. Water meters used to measure water used to re-pressurize the line shall be positive displacement with a sweep unit hand registering 1 gallon per revolution as approved by the Inspector. Also water used to re-pressurize shall be pumped from a container sized and graduated appropriately to measure the amount of water used.

Where the District has water available for testing, it will be furnished without charge. Where water is not available from the District, the Contractor shall provide water for testing from a source approved by the Inspector.

3. Procedure

a. Preparation

1) Tests shall be made after corporation stops and service lines are installed.

2) Insofar as is practicable, tests shall be made prior to backfilling over any joints or fittings.

3) At points where pressure reaction and movement may occur, the pipe shall be properly blocked or braced. Where permanent blocking is not required, the Contractor shall furnish and install temporary blocking and remove it after testing.

4) Prior to calling out the Inspector to witness the pressure test, the Contractor shall have all equipment set up completely ready for operation and shall have successfully performed the test to assure himself that the pipe is in a satisfactory condition.

b. Test

1) The mains shall be filled with water and all air removed prior to starting the test.

2) The main shall then be pumped up to a hydrostatic pressure equal to 250 psi at all elevations tested. In no case shall the test pressure exceed 200 percent of the safe working pressure of the class of pipe tested.

3) The pump shall then be stopped for a period of 15 minutes.

4) The main shall then be pumped up again to the test pressure.

5) The quantity of water required to restore the pressure shall then be recorded.

4. Acceptance

Acceptability of the test will be determined by two factors:

a. The quantity of water lost from the main during the 15 minute test period shall not exceed the quantities shown in the following table:

Pipe Diameter (inches)	6	8	10	12	14	16
Water Loss (GPH/1000 L.F. Pipe)	0.71	0.95	1.19	1.42	1.66	1.90
Water Loss/1000 L.F. Pipe (15 minute test)	0.18	0.24	0.30	0.36	0.42	0.48

These figures are established by the Ductile Iron Pipe Research Association and apply only to ductile iron pipe. Specific testing requirements will apply to other materials as directed by the Engineer.

b. There shall not be an appreciable or abrupt loss in pressure during the fifteen (15) minute test period.

VI.3.e PURITY TESTING

1. Sampling

After acceptance of pressure testing, the Inspector will arrange for taking samples for bacterial tests.

2. Laboratory testing

The Inspector shall arrange with the District to perform the laboratory testing for purity, which normally takes 2 to 5 working days.

3. Unsatisfactory test results

Should the initial treatment result in an unsatisfactory bacterial test, the original chlorination and flushing procedure shall be repeated by the Contractor until satisfactory results are obtained. Failure to get a satisfactory result on the bacterial test shall be considered as a failure of the Contractor to keep the pipe clean during construction, or to properly chlorinate the main, and Contractor shall be required to clean, repair or replace the newly constructed main until a satisfactory test is achieved. Water required for retesting and flushing shall be paid for by the developer.

VI.3.f SITE CLEANUP

1. Schedule

Final cleanup work shall be completed as closely behind the construction work as it is physically possible to do so.

2. Materials disposal

All excess material, rocks, logs, etc., shall be disposed of by the Contractor to the satisfaction of the Inspector. No debris shall be disposed of by dumping on private property without permission.

3. Drainage ditches

Drainage ditches affected by the construction operation shall be left in as good or better condition than what existed prior to beginning work.

4. Cleanup Completion

Upon completion of all cleanup work, the entire site shall have a neat and workmanlike appearance.

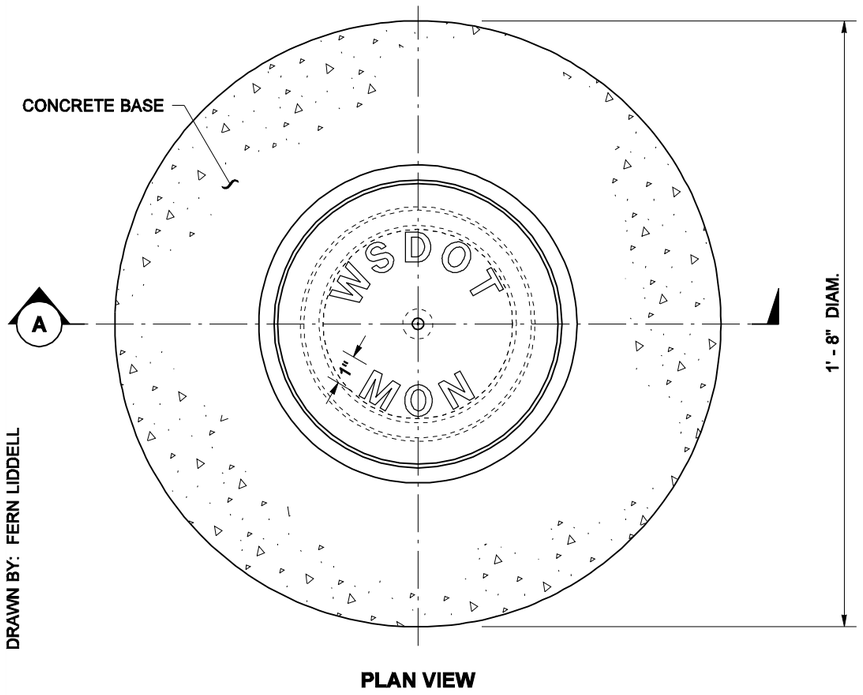
VI.3.g OPERATIONAL TEST

After the Extension has been disinfected, passed the hydrostatic test and before final acceptance, the entire system shall be operated by the Contractor at normal pressure for a period of not less than ten (10) days. Any leaks or defects discovered in the system shall be repaired and the operational test continued until the system is satisfactory to the Inspector. Contractor shall verify that all service lines are active prior to final acceptance. No provision of this section shall be construed as waiving any provision of the Contractor's guarantee.

SECTION VI.4. WATERWORKS CONSTRUCTION STANDARD DETAILS PROVIDED ON PLANS

Please refer to the project plans for Standard Details.

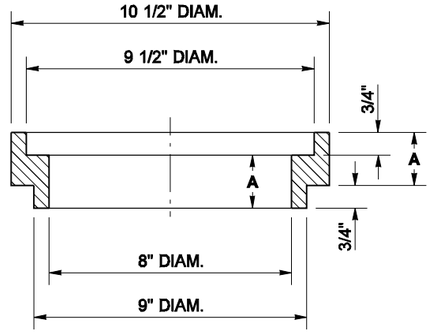
APPENDIX C:
Standard Plans



PLAN VIEW

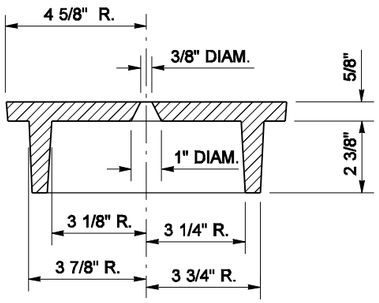
DRAWN BY: FERN LIDDELL

RISER RING DIMENSIONS			
A (SIZE)	1 1/2"	2"	3"



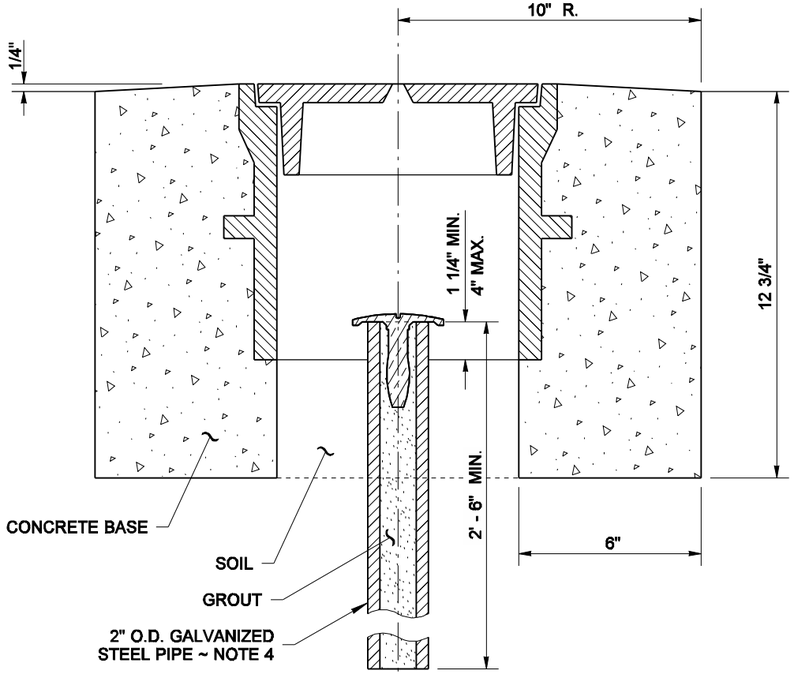
SECTION

RISER RING



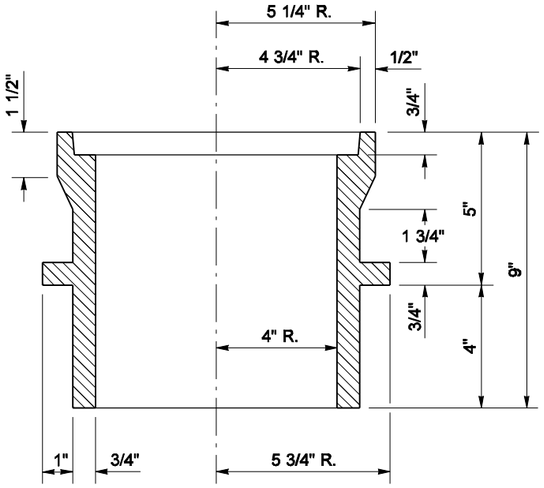
SECTION

COVER



SECTION (A)

INSTALLATION



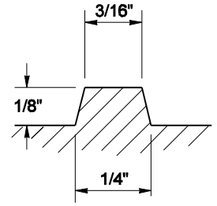
SECTION

CASE

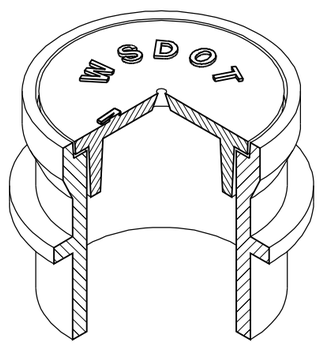
NOTES

1. Dimensions may vary according to manufacturer.
2. Base to be placed on a well compacted foundation.
3. Monument case to be installed by contractor.
4. See Standard Plan A-10.20 for Monument (brass disc) type to place in 2" O.D. galvanized pipe.

APPROXIMATE WEIGHTS	
CASE	60 LBS
COVER	19 LBS
TOTAL	79 LBS



SECTION OF LETTER



ISOMETRIC

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

MONUMENT CASE AND COVER

STANDARD PLAN A-10.30-00

SHEET 1 OF 1 SHEET

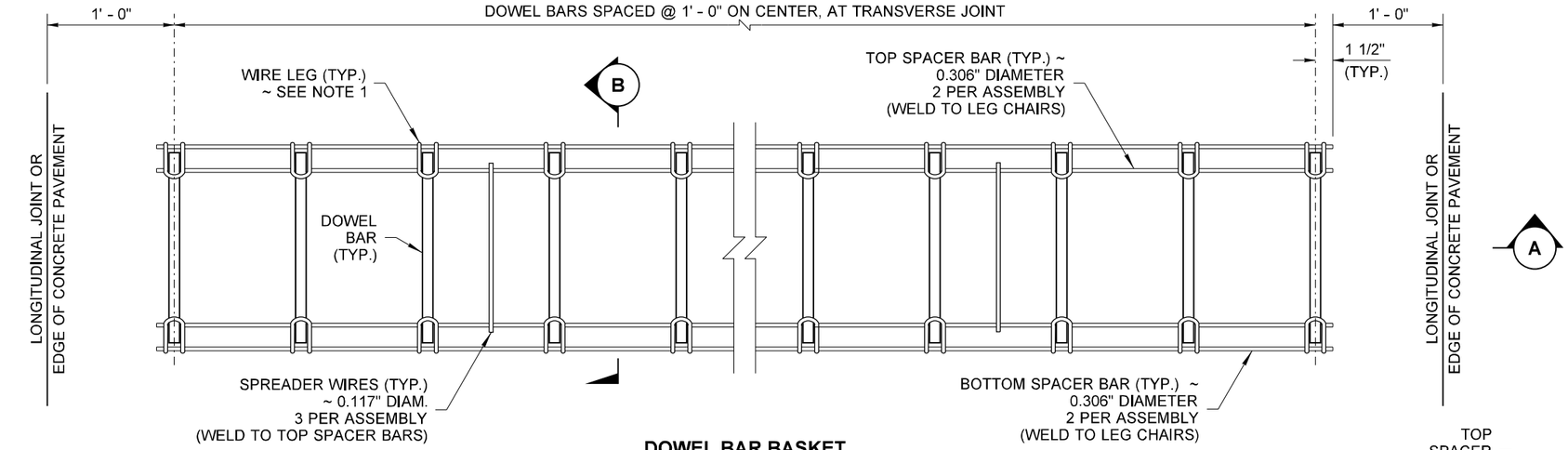
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

10-05-07 — DATE

Washington State Department of Transportation

DRAWN BY: LISA CYFORD



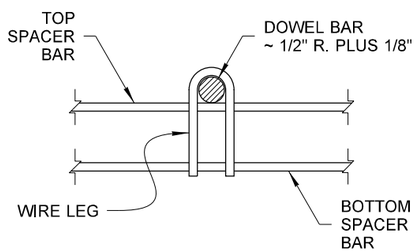
DOWEL BAR BASKET

PLAN VIEW

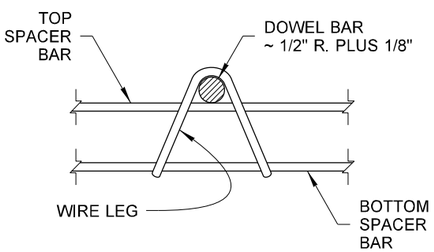
"U" SHAPE ASSEMBLY SHOWN

NOTES

1. The "U" shape or "V" shape are both acceptable.
2. Wire sizes shown are minimum required.
3. All wire intersections are to be welded.
4. Basket must be anchored to existing or new base.
5. Dowels and Tie Bars shall be held firmly in the above welded assembly.
6. Do not clip Spreader Wires.



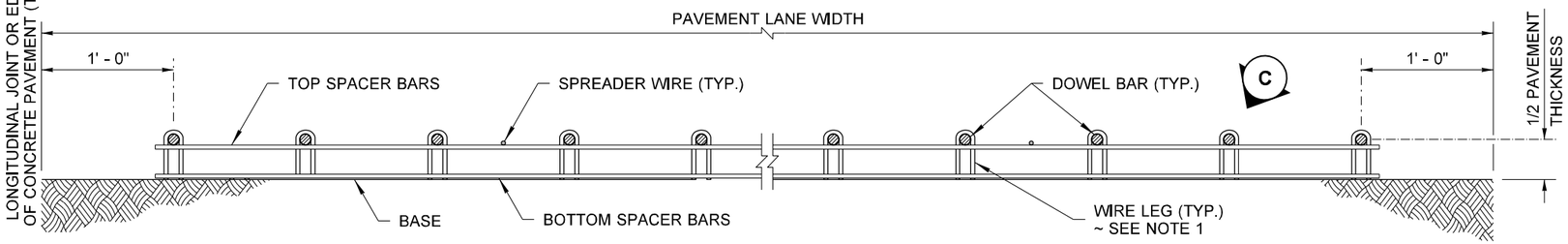
"U" SHAPE



"V" SHAPE

DETAIL C

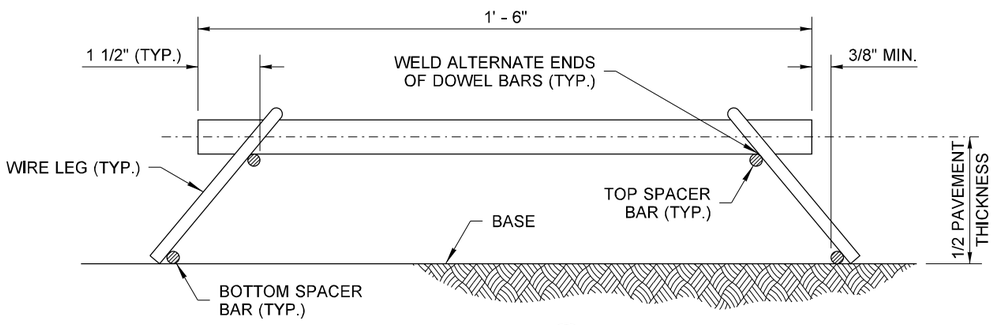
WIRE LEG DETAILS



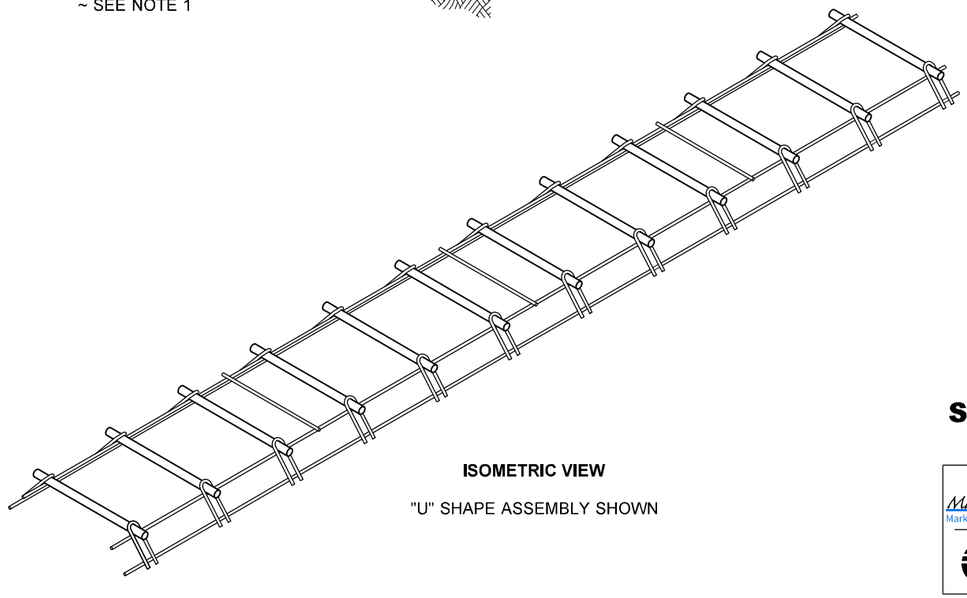
SECTION A

ELEVATION VIEW

"U" SHAPE ASSEMBLY SHOWN



SECTION B



ISOMETRIC VIEW

"U" SHAPE ASSEMBLY SHOWN

KIMBERLY A. SCHOFIELD
STATE OF WASHINGTON
39933
REGISTERED
PROFESSIONAL ENGINEER

Kim Schofield (Jul 6, 2022 08:48 PDT)

Jul 6, 2022

DOWEL BAR BASKETS

STANDARD PLAN A-40.00-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

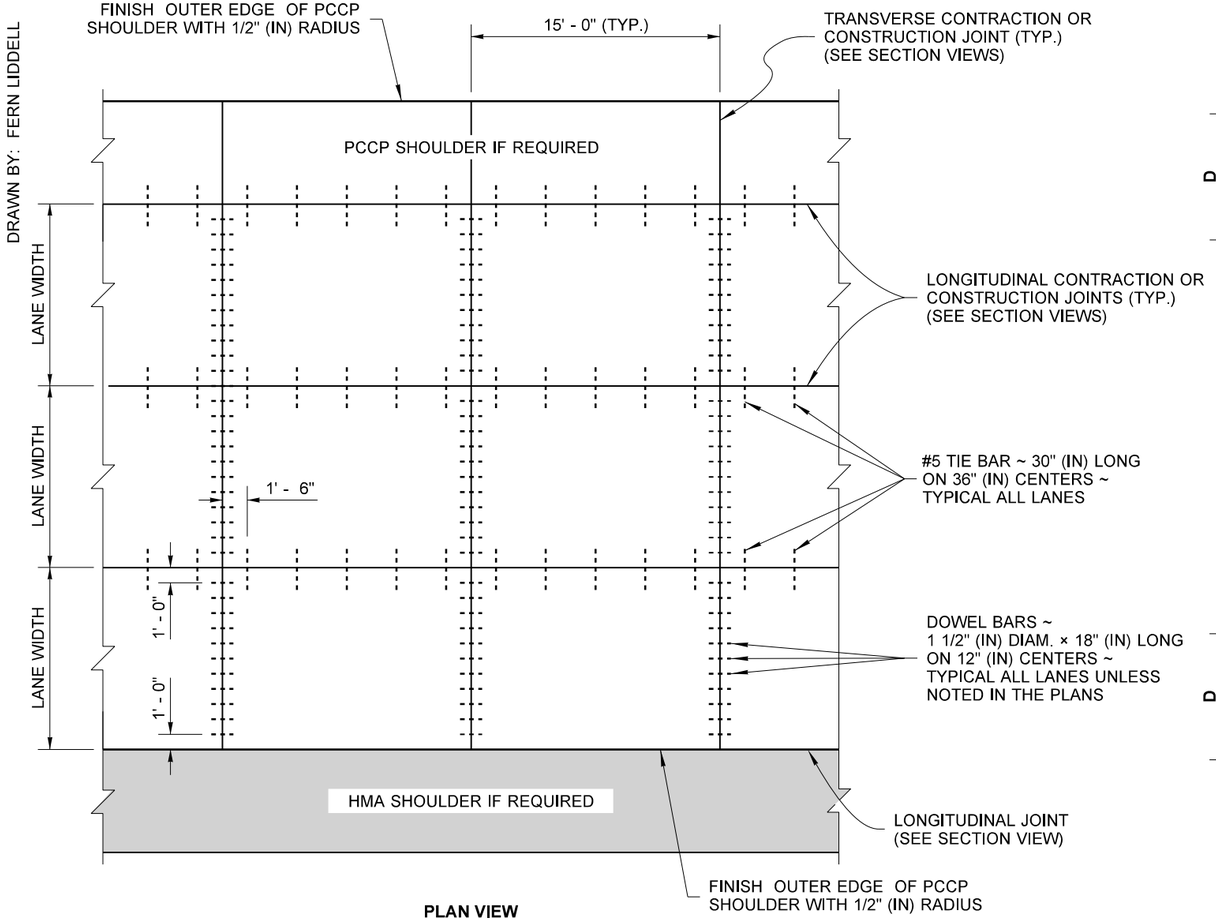
Mark Gaines (Jul 6, 2022 08:48 PDT)

Jul 6, 2022

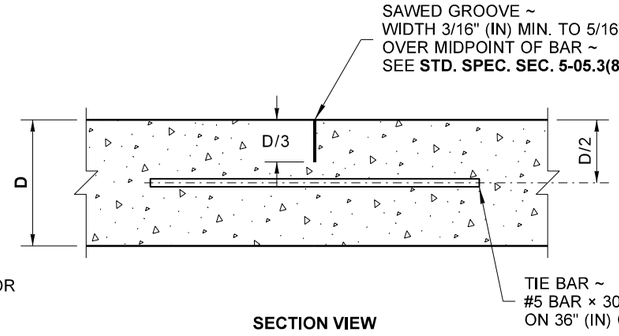
STATE DESIGN ENGINEER

Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

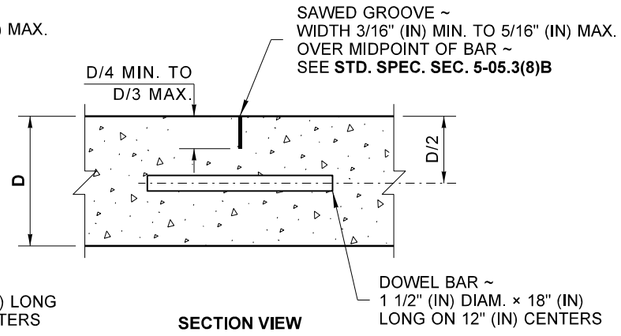


PLAN VIEW



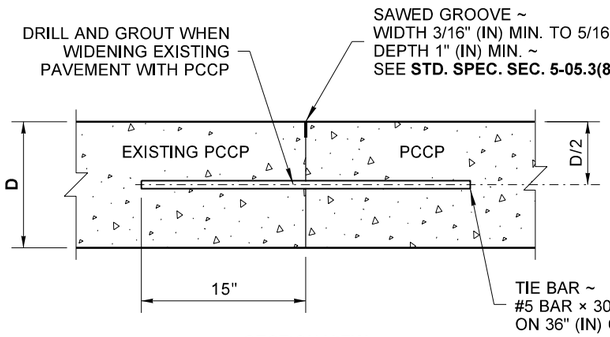
SECTION VIEW

LONGITUDINAL CONTRACTION JOINT



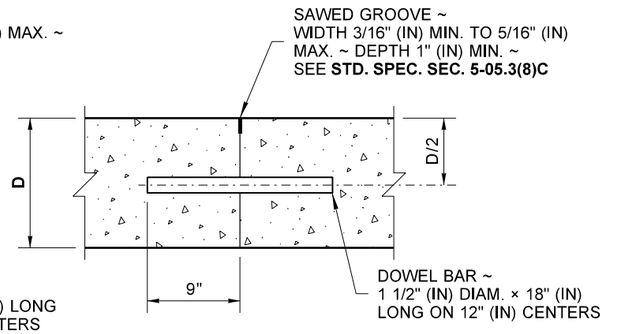
SECTION VIEW

TRANSVERSE CONTRACTION JOINT



SECTION VIEW

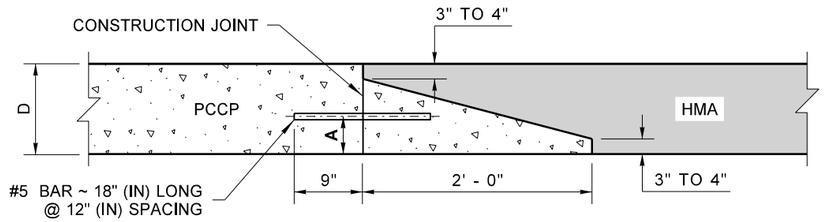
PCCP TO PCCP LONGITUDINAL CONSTRUCTION JOINT



SECTION VIEW

TRANSVERSE CONSTRUCTION JOINT

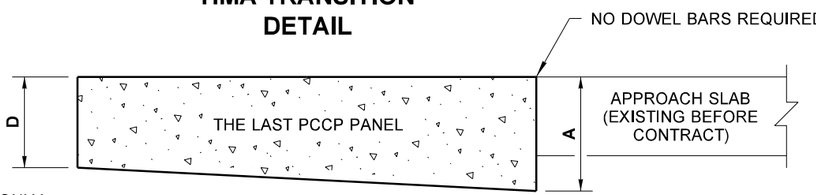
SLAB THICKNESS (D)	A
12"	5"
D	D/2 - 1"



ELEVATION VIEW

HMA TRANSITION DETAIL

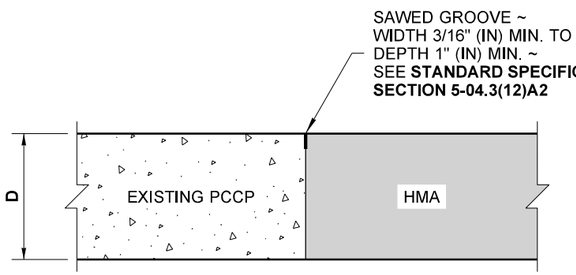
DEPTH OF PCCP (D)	A
12"	15"
D	1.25 × D



USE ON GRANULAR BASES ONLY ~
NO TAPER REQUIRED ON ASPHALT BASES

ELEVATION VIEW

EXISTING APPROACH SLAB TRANSITION DETAIL



SECTION VIEW

PCCP TO HMA LONGITUDINAL JOINT

CEMENT CONCRETE PAVEMENT JOINTS

STANDARD PLAN A-40.10-04

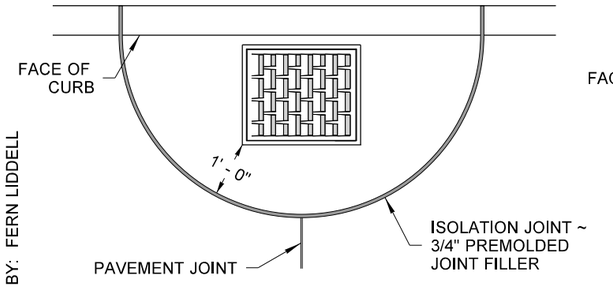
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

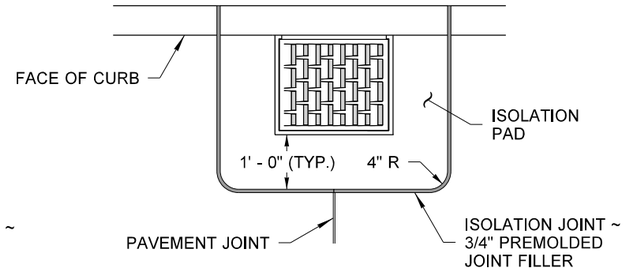
STATE DESIGN ENGINEER

Washington State Department of Transportation

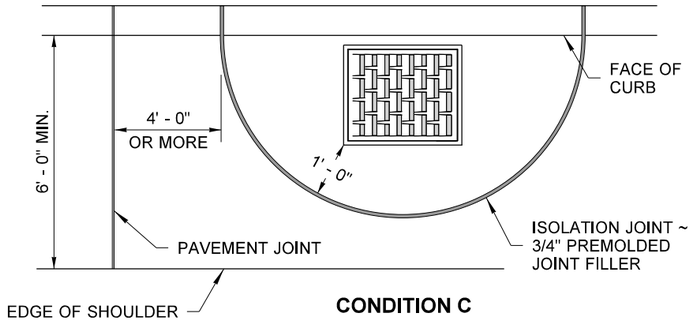
DRAWN BY: FERN LIDDELL



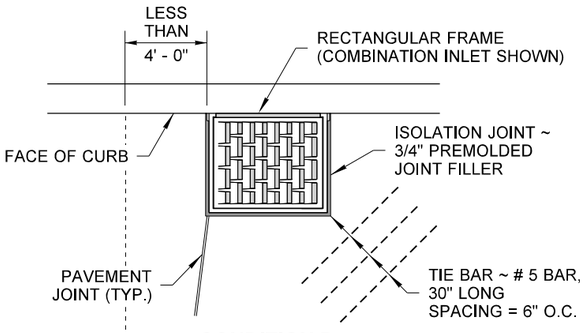
CONDITION A



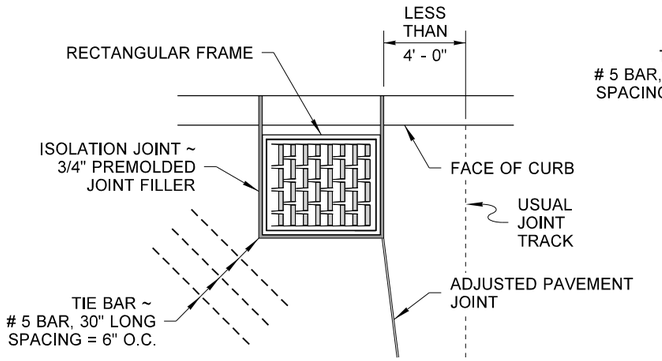
CONDITION B



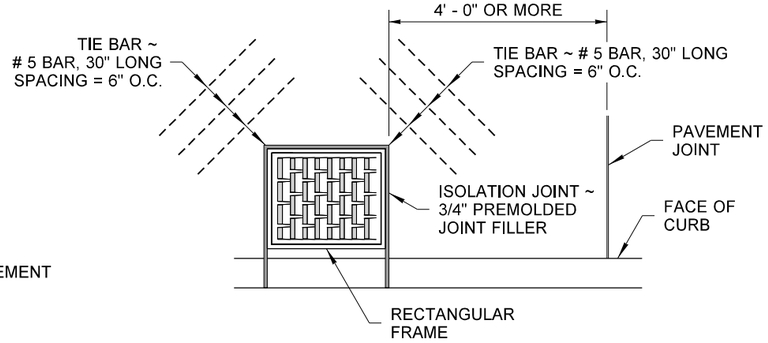
CONDITION C
(SHOULDER USE ONLY)



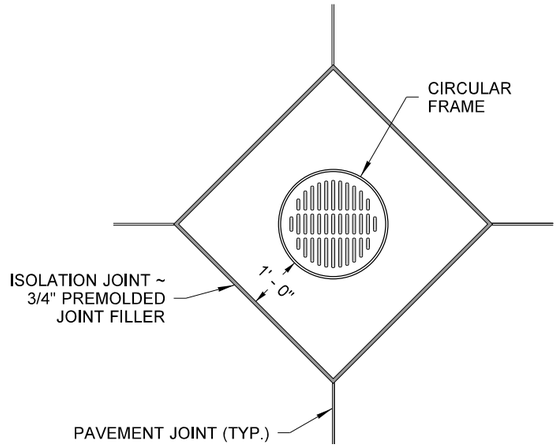
CONDITION D



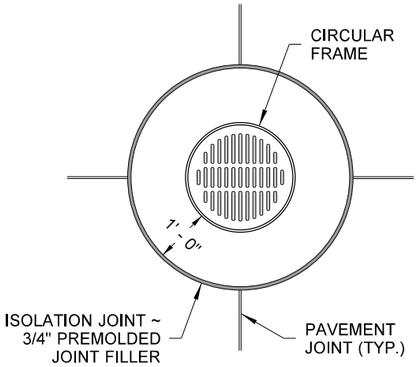
CONDITION E



CONDITION F



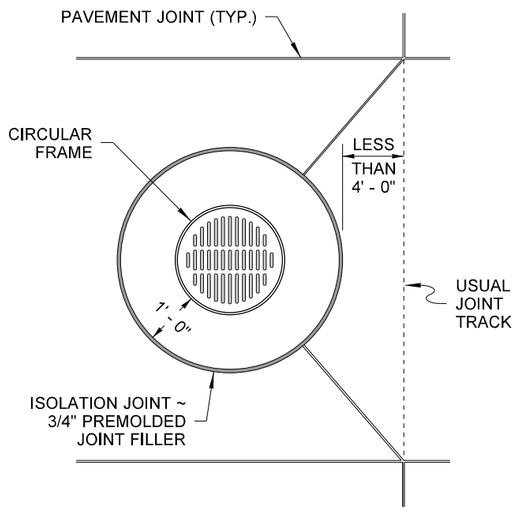
CONDITION G

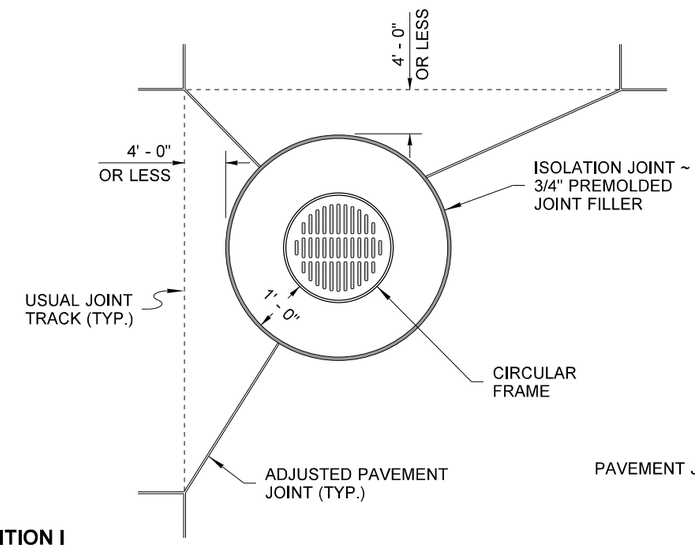


CONDITION H

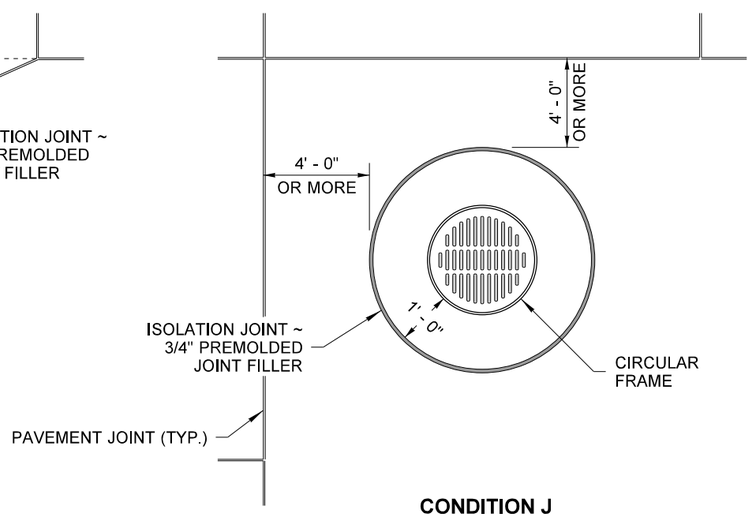
NOTE

ALL CONDITIONS ARE SHOWN IN PLAN VIEW.

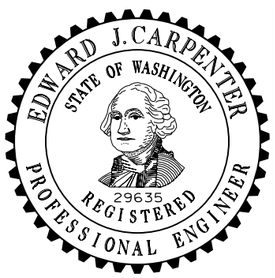




CONDITION I



CONDITION J



NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

PCC PAVEMENT ISOLATION JOINTS

STANDARD PLAN A-40.15-00

SHEET 1 OF 2 SHEETS

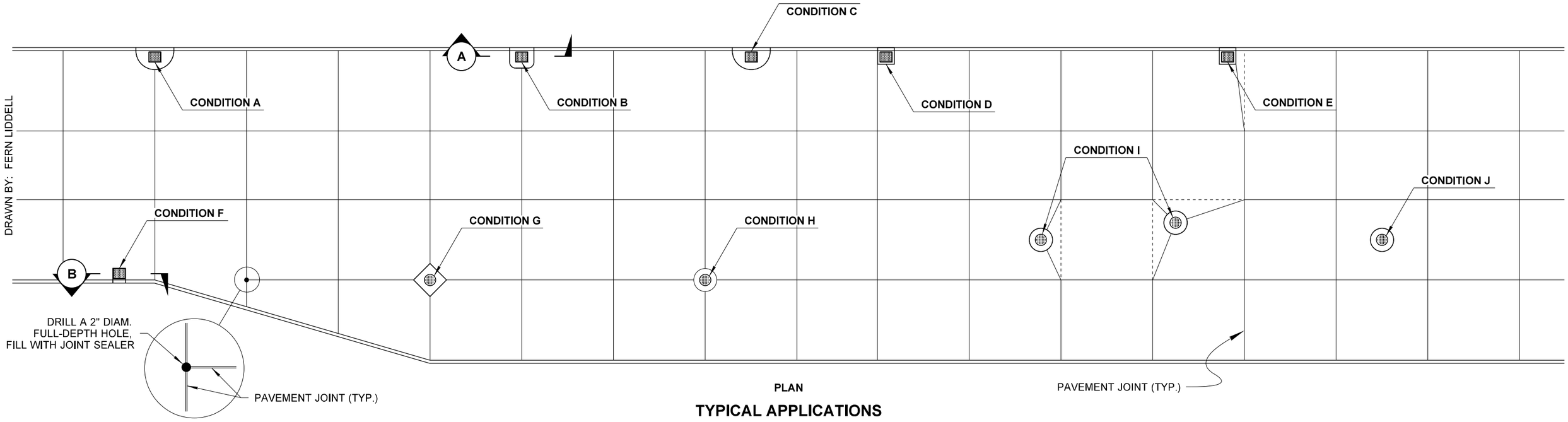
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

08-11-09 — DATE

Washington State Department of Transportation

DRAWN BY: FERN LIDDELL



T - JOINT DETAIL

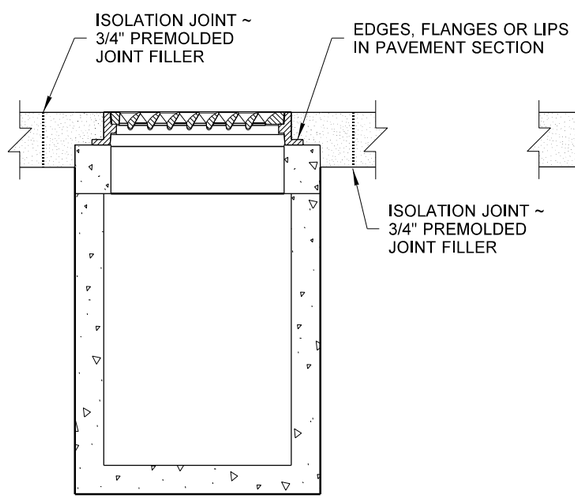
PLAN

TYPICAL APPLICATIONS

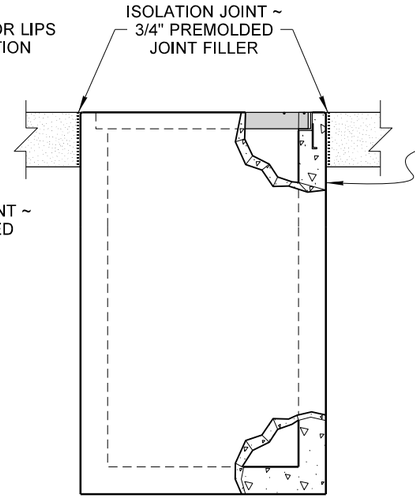
TYPICAL ISOLATION JOINT GUIDELINES

CONDITION	FEATURE	EDGES, FLANGES OR LIPS IN THE PAVEMENT SECTION ◇1	CONTINUOUS VERTICAL FACE THROUGH THE PAVEMENT SECTION ◇2	DISTANCE FROM NEAREST TRANSVERSE JOINT
A	CATCH BASIN OR COMBINATION GRATE	USE	-----	-----
B	CATCH BASIN OR COMBINATION GRATE	USE	-----	-----
C	CATCH BASIN OR COMBINATION GRATE	USE	-----	> 4 FT FROM JOINT
D	GRATE INLET, CATCH BASIN OR CONCRETE INLET ✶	-----	USE	< 4 FT FROM JOINT
E	GRATE INLET, CATCH BASIN OR CONCRETE INLET ✶	-----	USE	< 4 FT FROM JOINT
F	GRATE INLET, CATCH BASIN OR CONCRETE INLET ✶	-----	USE	> 4 FT FROM JOINT
G	MANHOLE OR CATCH BASIN TYPE 2	USE	-----	-----
H	MANHOLE OR CATCH BASIN TYPE 2	USE	-----	-----
I	MANHOLE OR CATCH BASIN TYPE 2	USE	-----	< 4 FT FROM JOINT
J	MANHOLE OR CATCH BASIN TYPE 2	USE	-----	> 4 FT FROM JOINT

✶ WITH RECTANGULAR GRATE CAST INTO ADJUSTMENT SECTION.



SECTION (A)



SECTION (B)

EDWARD J. CARPENTER
STATE OF WASHINGTON
29635
REGISTERED
PROFESSIONAL ENGINEER

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

PCC PAVEMENT ISOLATION JOINTS

STANDARD PLAN A-40.15-00

SHEET 2 OF 2 SHEETS

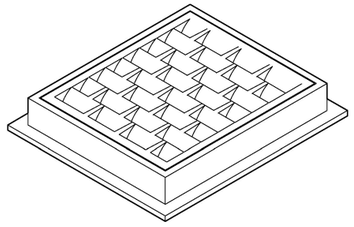
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

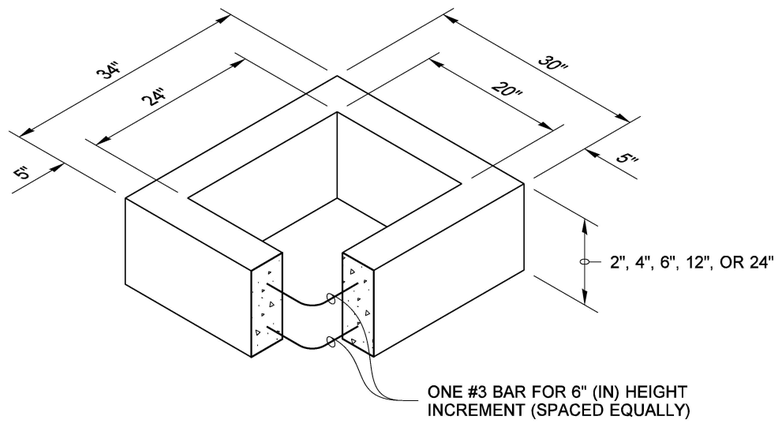
08-11-09 — DATE

Washington State Department of Transportation

DRAWN BY: FERN LIDDELL



FRAME AND VANED GRATE



RECTANGULAR ADJUSTMENT SECTION

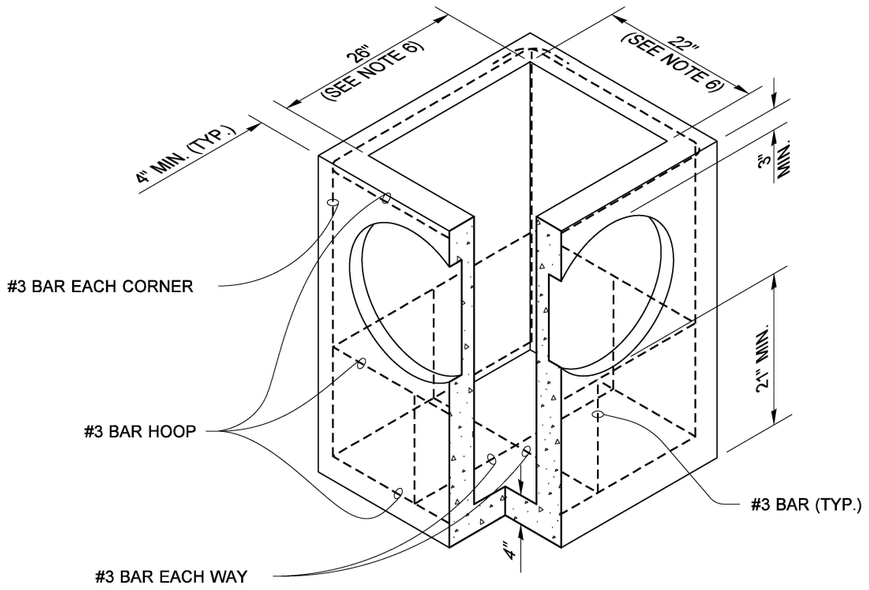
PIPE ALLOWANCES

PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * **(STD. SPEC. SECT. 9-05.20)**	12"
SOLID WALL PVC **(STD. SPEC. SECT. 9-05.12(1))**	15"
PROFILE WALL PVC **(STD. SPEC. SECT. 9-05.12(2))**	15"

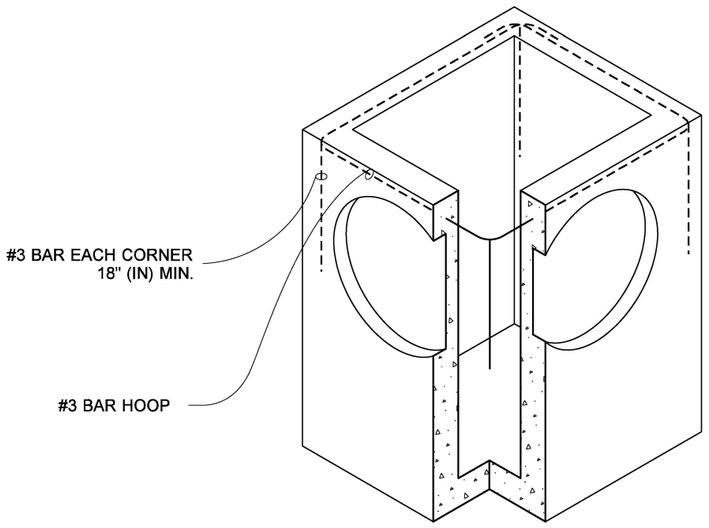
* CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
6. The opening shall be measured at the top of the **Precast Base Section**.
7. All pickup holes shall be grouted full after the basin has been placed.



PRECAST BASE SECTION



(SEE NOTE 1)

ALTERNATIVE PRECAST BASE SECTION

JULIE HEILMAN
STATE OF WASHINGTON
41819
REGISTERED
PROFESSIONAL ENGINEER

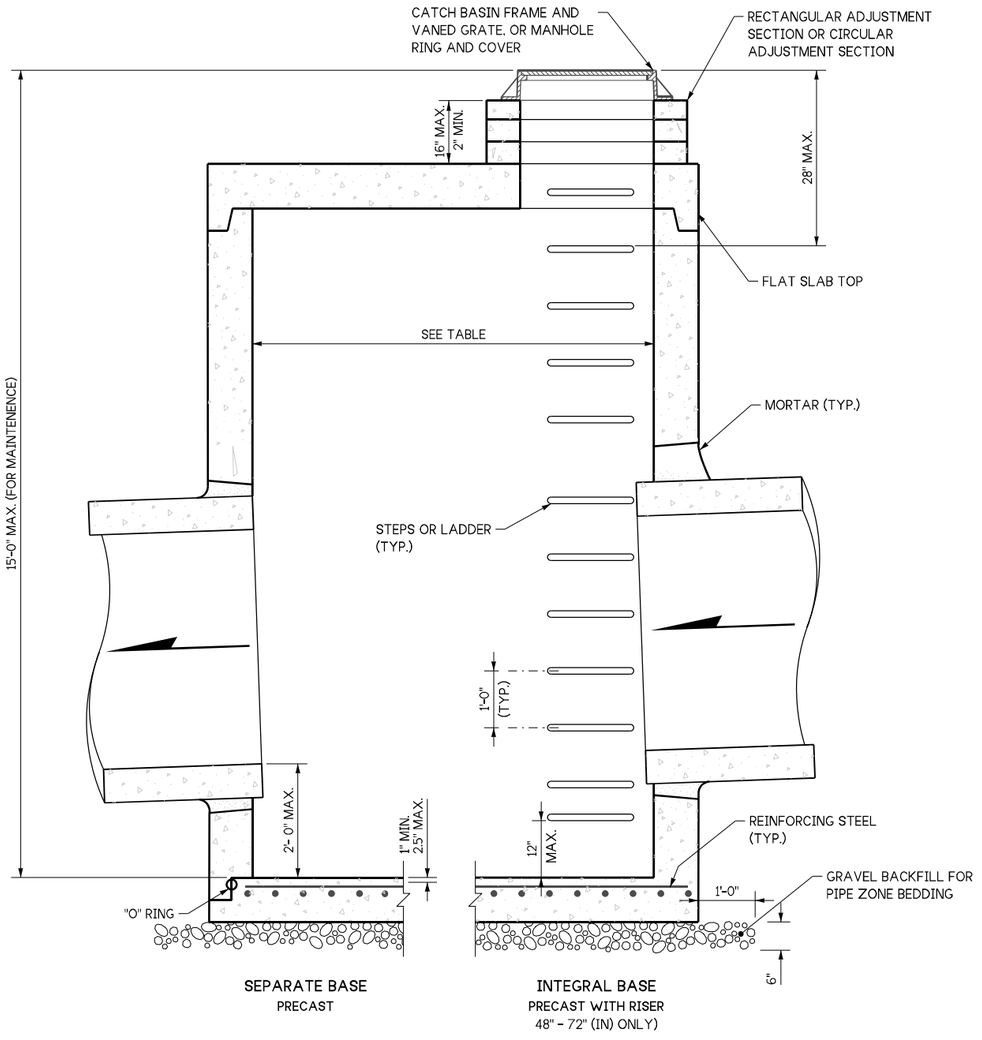
Julie Heilman
Julie Heilman
2020.09.01 07:52:50 -07'00'

CATCH BASIN TYPE 1

STANDARD PLAN B-5.20-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Roark, Steve
Digitally signed by Roark, Steve
Date: 2020.09.09 09:45:23 -07'00'
STATE DESIGN ENGINEER
Washington State Department of Transportation



SEPARATE BASE
PRECAST

INTEGRAL BASE
PRECAST WITH RISER
48" – 72" (IN) ONLY)

NOTES:

1. No steps are required when height is 4' or less.
2. The bottom of the precast catch basin may be sloped to facilitate cleaning.
3. The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
4. Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3.**
5. Pipe allowances will vary depending on the pipe material used. Contact the Region Hydraulics Engineer for assistance.

CATCH BASIN DIMENSIONS				
CATCH BASIN DIAMETER	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144"	12"	12"	108"	12"

PIPE ALLOWANCES					
CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSSP ① PP ④	SOLID WALL PVC ②	PROFILE WALL PVC ③
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

① Corrugated Polyethylene Storm Sewer Pipe
(See **Standard Specification** Section 9-05.20)
② (See **Standard Specification** Section 9-05.12(1))
③ (See **Standard Specification** Section 9-05.12)2))
④ Polypropolyne Pipe (See **Standard Specification** Section 9-05.24)

JULIE HEILMAN
STATE OF WASHINGTON
41819
REGISTERED
PROFESSIONAL ENGINEER

Aug 23, 2023

CATCH BASIN TYPE 2

STANDARD PLAN B-10.20-03

SHEET 1 OF 1 SHEET

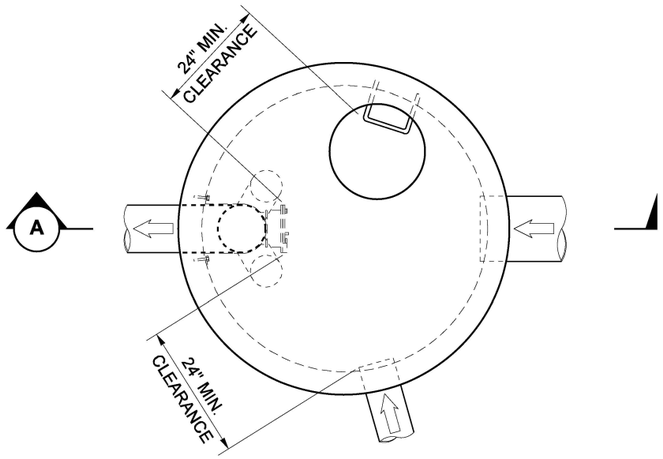
APPROVED FOR PUBLICATION

Mark A Gaines Aug 23, 2023

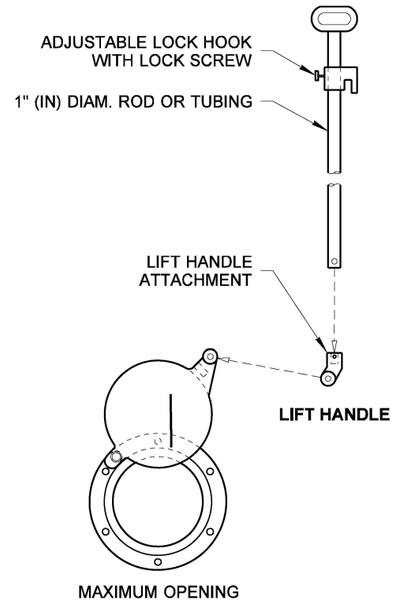
STATE DESIGN ENGINEER

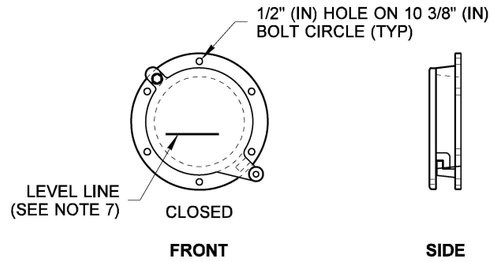
Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

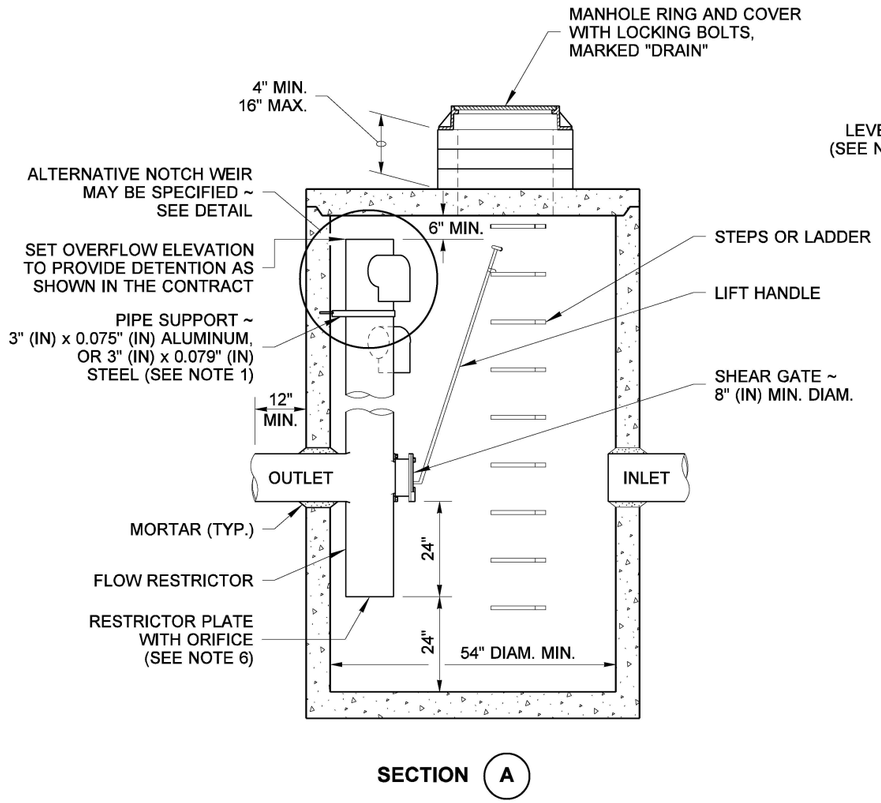


PLAN VIEW

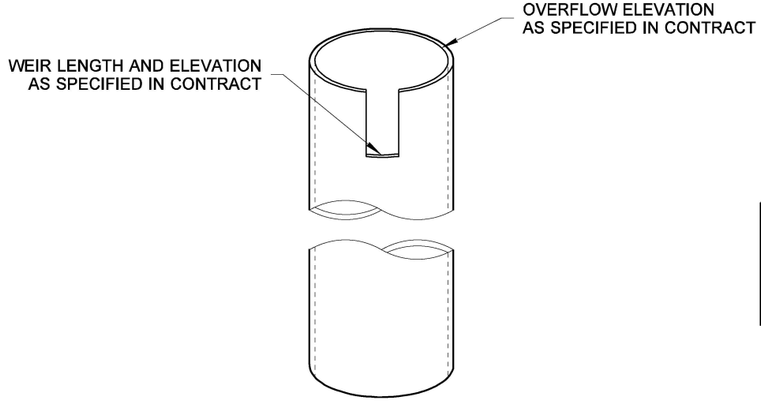




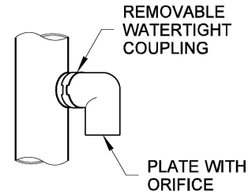
SHEAR GATE DETAILS



SECTION (A)



NOTCH WEIR DETAIL



ELBOW DETAIL

NOTES

1. The pipe supports and the flow restrictor shall be constructed of the same material and be anchored at a maximum spacing of 36" (in). Attach the pipe supports to the manhole with 5/8" (in) stainless steel expansion bolts or embed the supports into the manhole wall 2" (in).
2. The vertical riser stem of the flow restrictor shall be the same diameter as the horizontal outlet pipe with a minimum diameter of 12" (in).
3. The flow restrictor shall be fabricated from one of the following materials:

   0.060" (in) Corrugated Aluminum Alloy Drain Pipe
   0.064" (in) Corrugated Galvanized Steel Drain Pipe with Treatment 1
   0.064" (in) Corrugated Aluminized Steel Drain Pipe
   0.060" (in) Aluminum alloy flat sheet, in accordance with **ASTM B 209, 5052 H32 or EPS**
   High Density Polyethylene Storm Sewer Pipe
4. The frame and ladder or steps are to be offset so that: the shear gate is visible from the top; the climb-down space is clear of the riser and gate; the frame is clear of the curb.
5. The multi-orifice elbows may be located as shown, or all placed on one side of the riser to assure ladder clearance. The size of the elbows and their placement shall be specified in the Contract.
6. Restrictor plate with orifice as specified in the Contract. The opening is to be cut round and smooth.
7. The shear gate shall be made of aluminum alloy in accordance with **ASTM B 26 and ASTM B 275**, designation **ZG32A**; or cast iron in accordance with **ASTM A 48, Class 30B**.

   The lift handle shall be made of a similar metal to the gate (to prevent galvanic corrosion), it may be of solid rod or hollow tubing, with adjustable hook as required.

   A neoprene rubber gasket is required between the riser mounting flange and the gate flange.

   Install the gate so that the level-line mark is level when the gate is closed.

   The mating surfaces of the lid and the body shall be machined for proper fit.

   All shear gate bolts shall be stainless steel.
8. The shear gate maximum opening shall be controlled by limited hinge movement, a stop tab, or some other device.
9. Alternative shear gate designs are acceptable if material specifications are met.

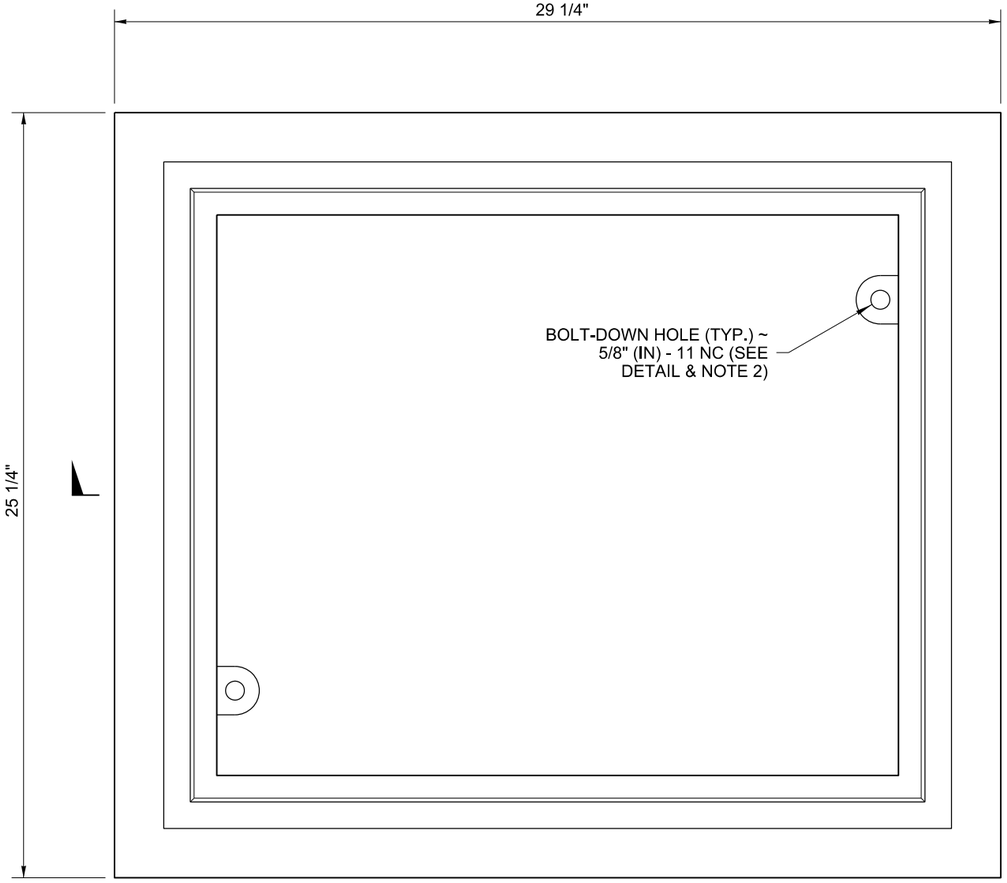
Aug 17, 2021

CATCH BASIN TYPE 2 WITH FLOW RESTRICTOR

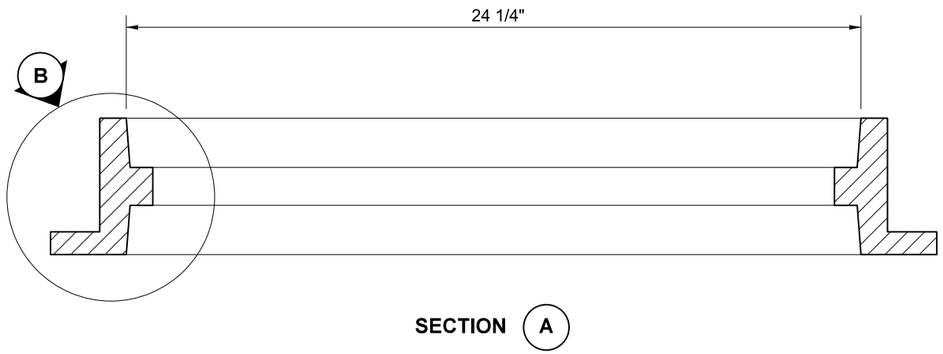
STANDARD PLAN B-10.40-02

SHEET 1 OF 1 SHEET

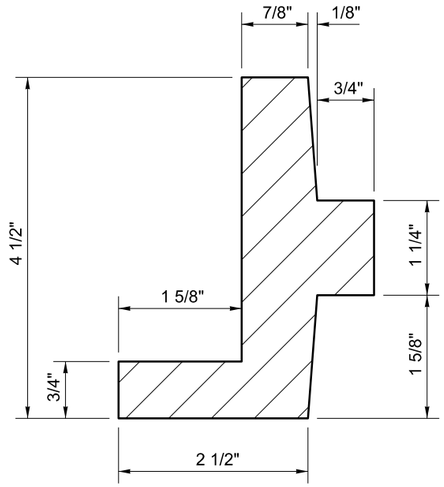
APPROVED FOR PUBLICATION
Aug 17, 2021
STATE DESIGN ENGINEER
Washington State Department of Transportation



TOP



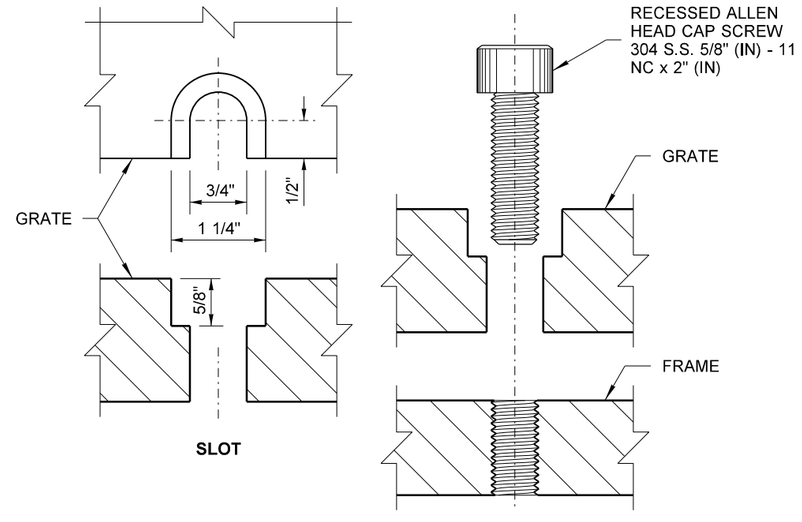
SECTION A



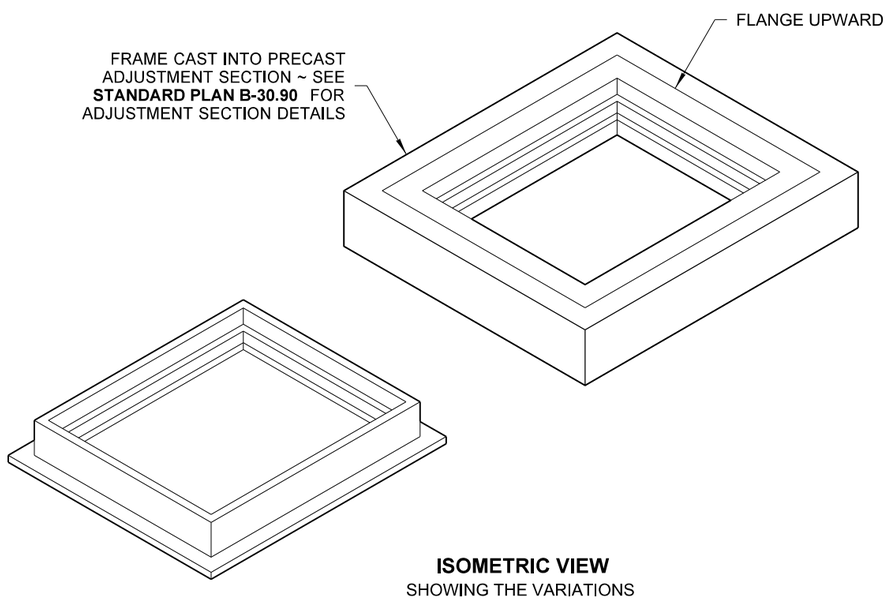
DETAIL B

NOTES

1. This frame is designed to accommodate 20" (in) × 24" (in) grates or covers as shown on **Standard Plans B-30.20, B-30.30, B-30.40,** and **B-30.50.**
2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
3. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.



BOLT-DOWN DETAILS
SEE NOTE 2



ISOMETRIC VIEW
SHOWING THE VARIATIONS

JULIE HEILMAN
STATE OF WASHINGTON
41819
REGISTERED
PROFESSIONAL ENGINEER

RECTANGULAR FRAME (REVERSIBLE)

STANDARD PLAN B-30.10-03

SHEET 1 OF 1 SHEET

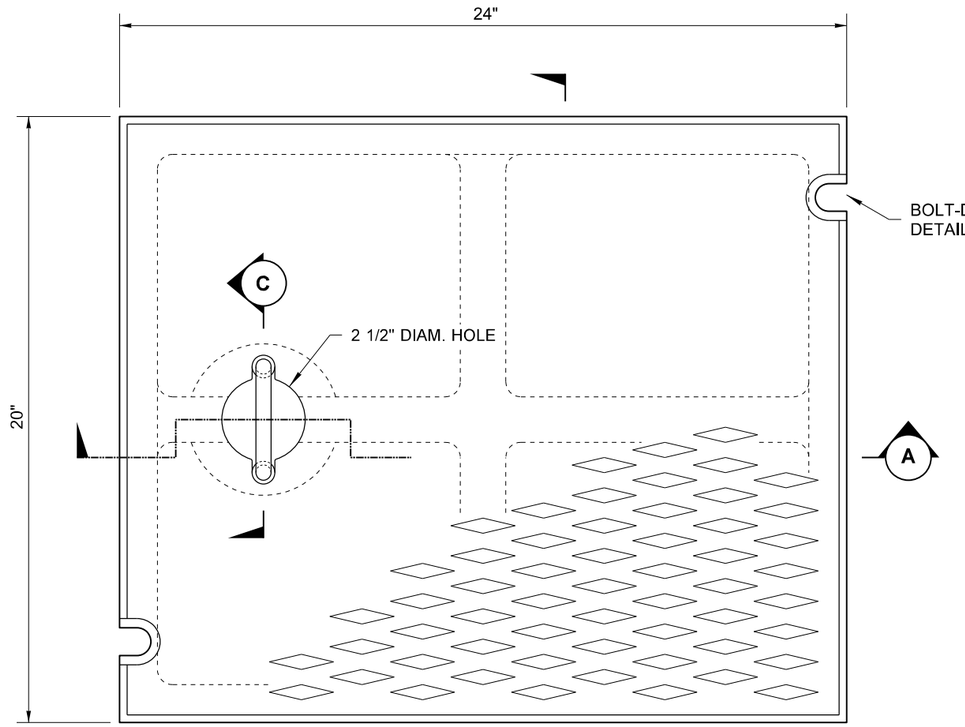
APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER

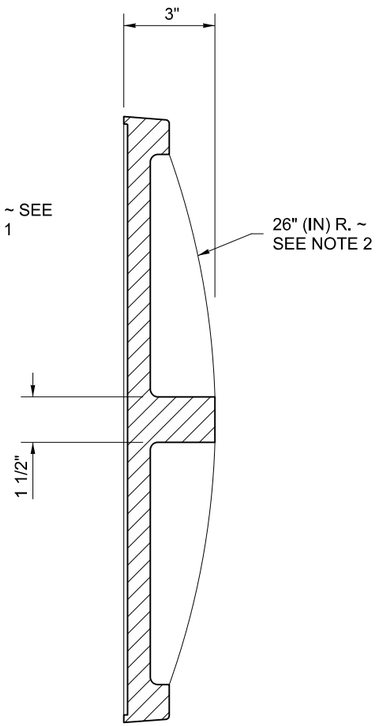
Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

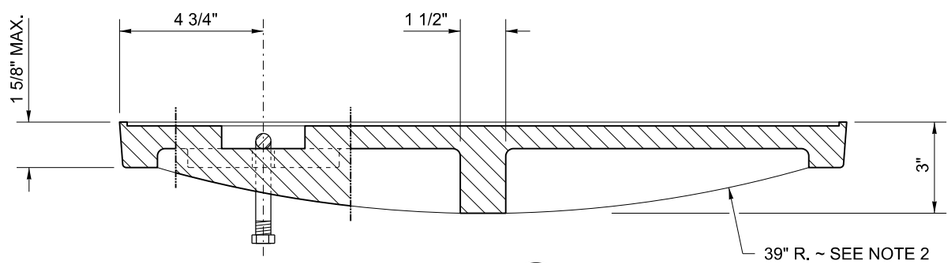
DRAWN BY: FERN LIDDELL



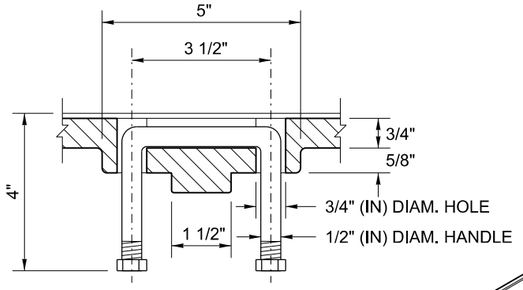
TOP



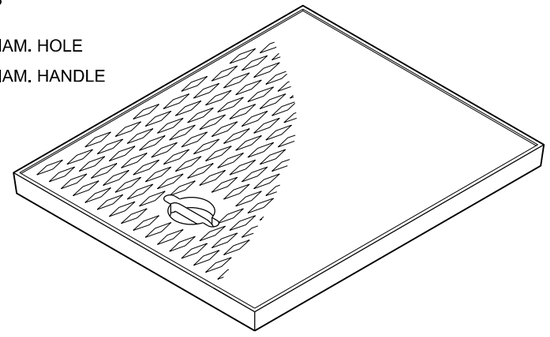
SECTION B



SECTION A



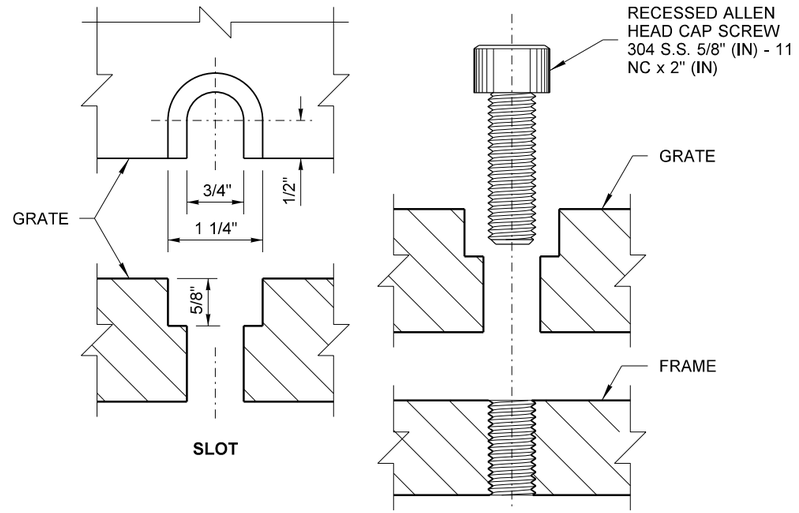
SECTION C



ISOMETRIC

NOTES

1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Alternative reinforcing designs are acceptable in lieu of the rib design.
3. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.
4. For frame details, see **Standard Plan B-30.10.**



BOLT-DOWN DETAILS
SEE NOTE 1

JULIE HEILMAN
STATE OF WASHINGTON
41819
REGISTERED
PROFESSIONAL ENGINEER

RECTANGULAR SOLID METAL COVER

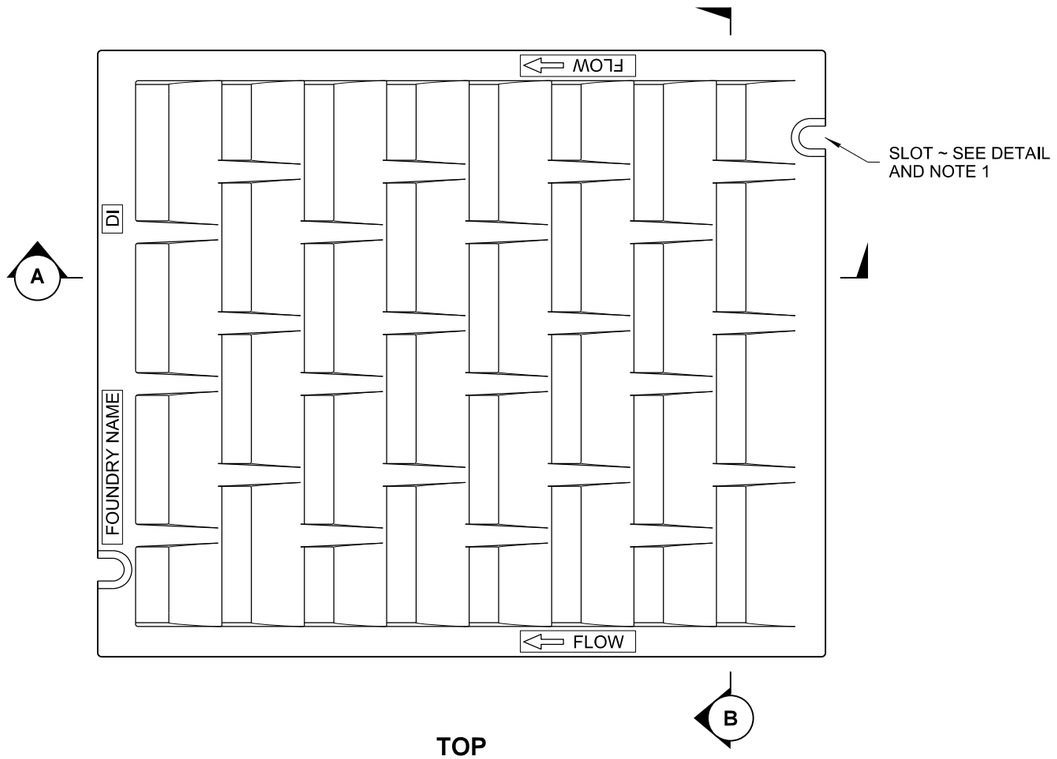
STANDARD PLAN B-30.20-04

SHEET 1 OF 1 SHEET

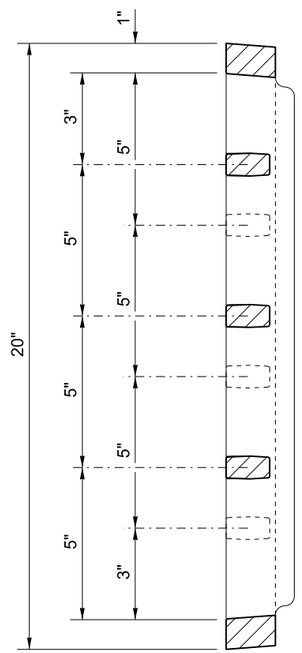
APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER

Washington State Department of Transportation



TOP

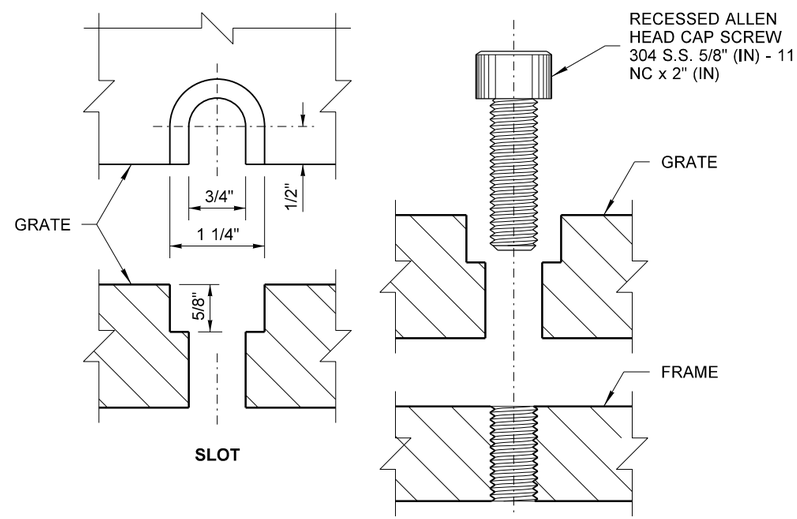


SECTION B

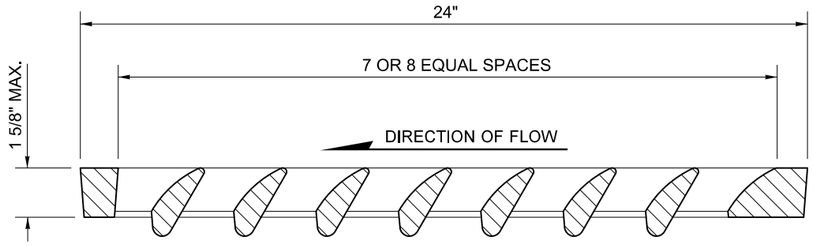
DRAWN BY: FERN LIDDELL

NOTES

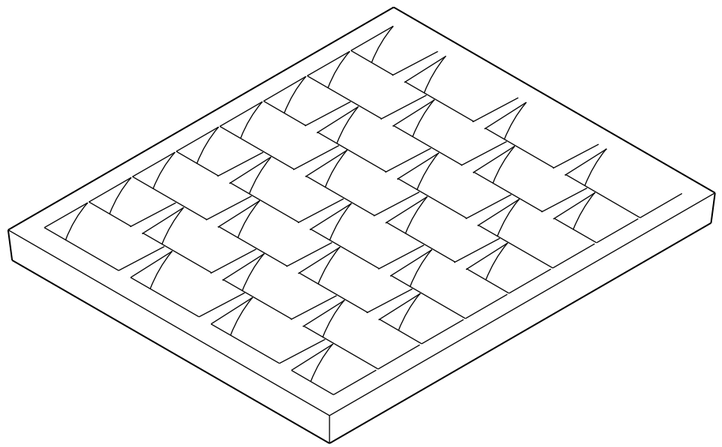
1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.
3. For frame details, see **Standard Plan B-30.10**.



BOLT-DOWN DETAILS
SEE NOTE 1



SECTION A



ISOMETRIC

RECTANGULAR VANED GRATE

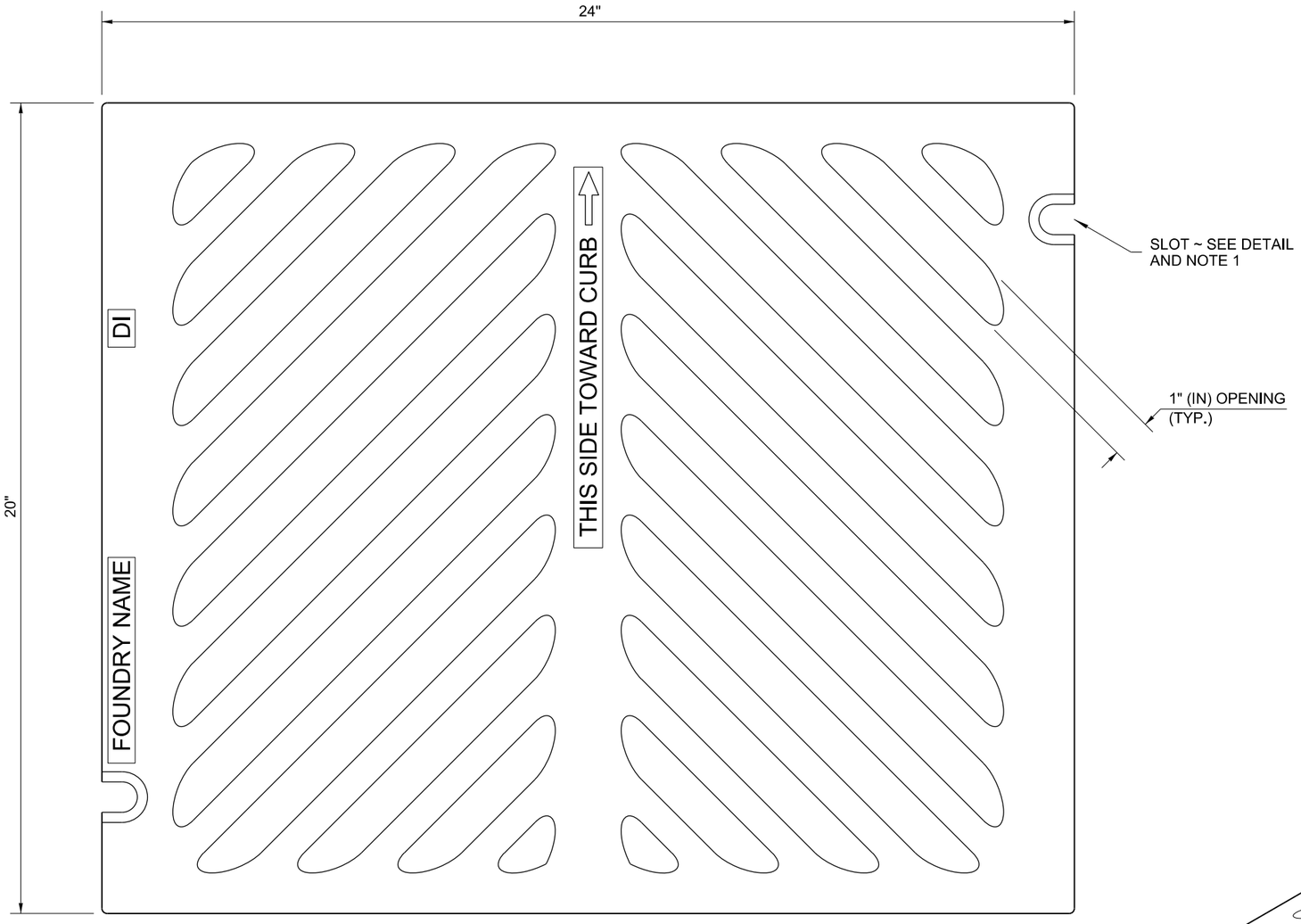
STANDARD PLAN B-30.30-03

SHEET 1 OF 1 SHEET

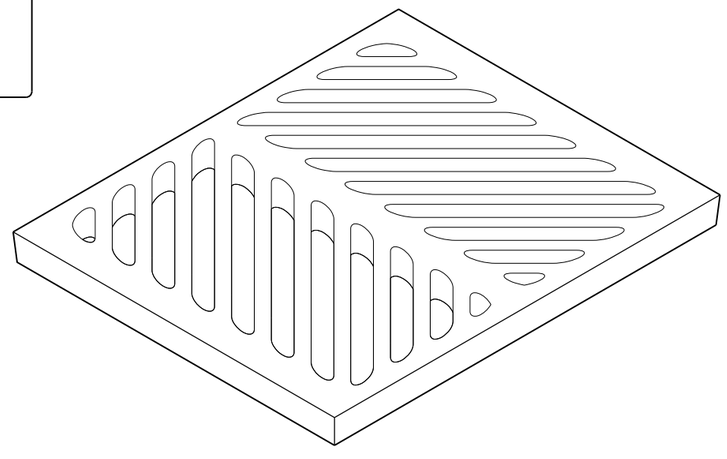
APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER

Washington State Department of Transportation



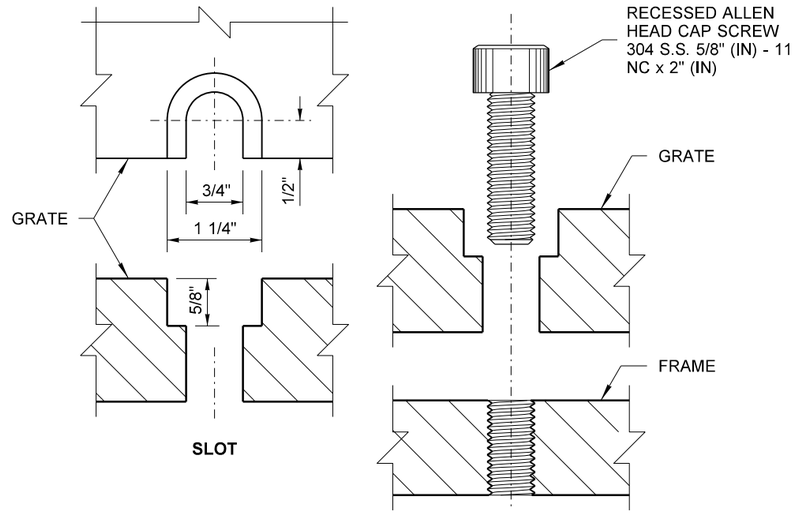
TOP



ISOMETRIC

NOTES

1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Refer to **Standard Specification section 9-05.15,** and **9-05.15(2)** for additional requirements.
3. For frame details, see **Standard Plan B-30.10**.
4. The thickness of the grate shall not exceed 1 5/8" (in).



BOLT-DOWN DETAILS
SEE NOTE 1

RECTANGULAR HERRINGBONE GRATE

STANDARD PLAN B-30.50-03

SHEET 1 OF 1 SHEET

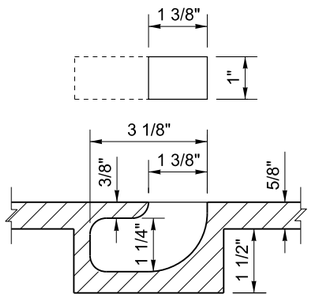
APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER

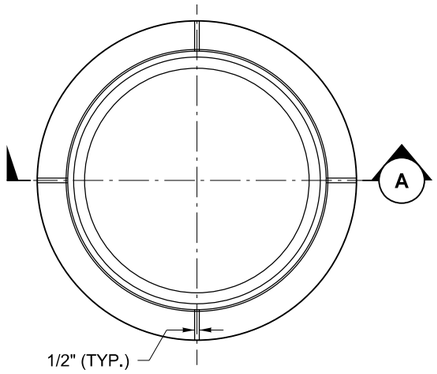
Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

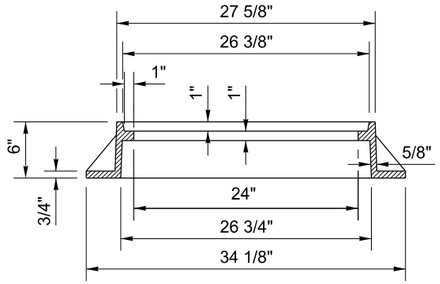
DRAWN BY: FERN LIDDELL



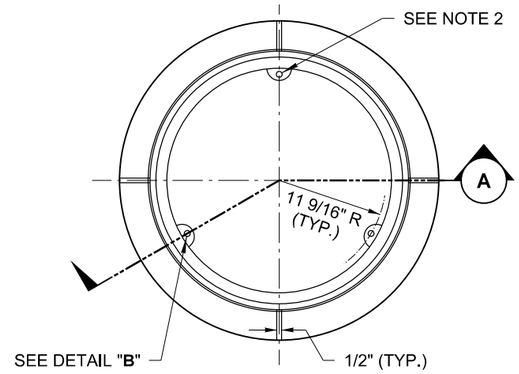
BLIND PICK NOTCH
DETAIL "A"



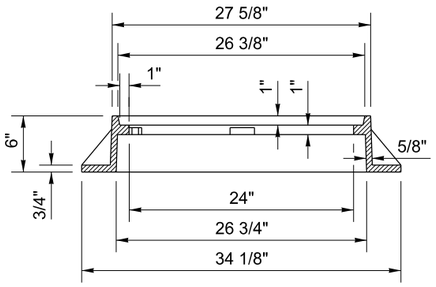
RING PLAN



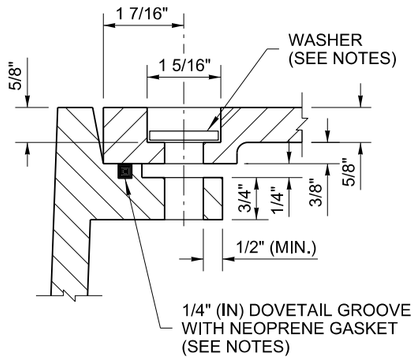
RING SECTION (A)



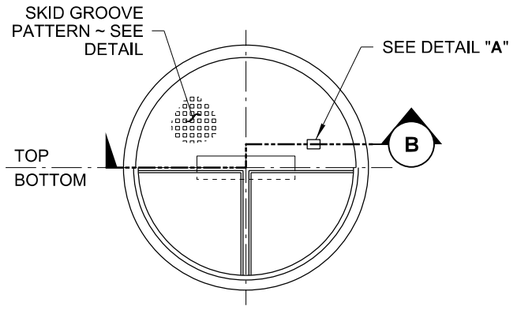
RING PLAN



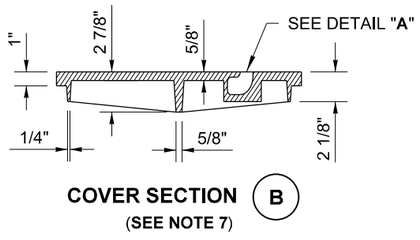
RING SECTION (A)



BOLT-DOWN / WATERTIGHT
DETAIL "B"

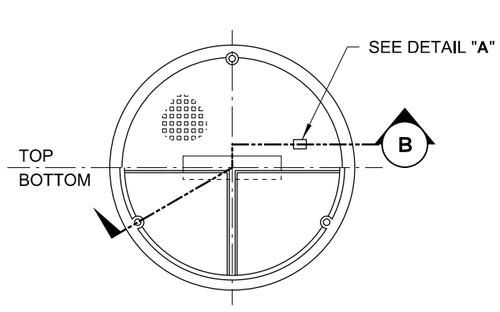


COVER PLAN

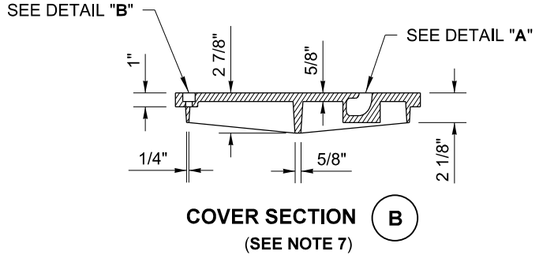


COVER SECTION (B)
(SEE NOTE 7)

STANDARD
TYPE 1



COVER PLAN

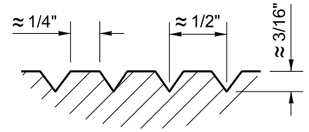


COVER SECTION (B)
(SEE NOTE 7)

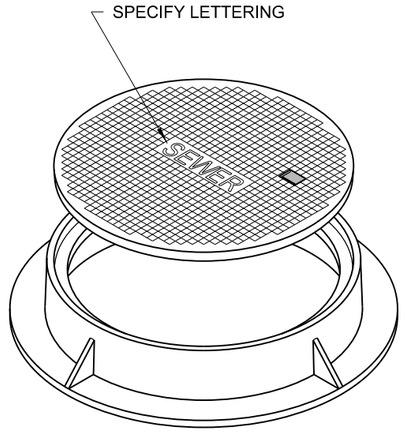
BOLT-DOWN / WATERTIGHT
TYPE 2

NOTES

1. The gasket and groove may be in the seat (frame) or in the underside of the cover. The gasket may be "T" shaped in section. The groove may be cast or machined.
2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 3 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S) 5/8" - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt down holes varies by manufacturer.
3. For bolt-down manhole ring and covers that are not designated "Watertight," the neoprene gasket, groove, and washer are not required.
4. Washer shall be neoprene (Detail "B").
5. In lieu of blind pick notch for manhole covers, a single 1" (in) pick hole is acceptable. Hole location and number of holes may vary by manufacturer.
6. Alternative reinforcing designs are acceptable in lieu of the rib design.
7. For clarity, the vertical scale of the Cover Section has been exaggerated, it is 1.5 times the horizontal scale (1H:1.5V).



SKID GROOVE PATTERN
DETAIL



ISOMETRIC VIEW

JULIE HEILMAN
STATE OF WASHINGTON
41819
REGISTERED
PROFESSIONAL ENGINEER

CIRCULAR FRAME (RING) AND COVER

STANDARD PLAN B-30.70-04

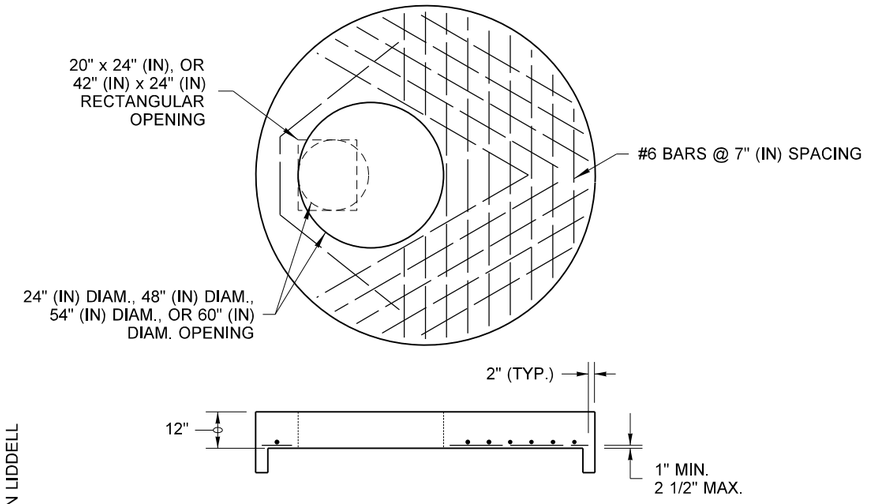
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

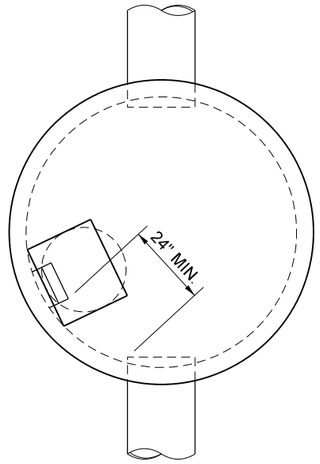
STATE DESIGN ENGINEER

Washington State Department of Transportation

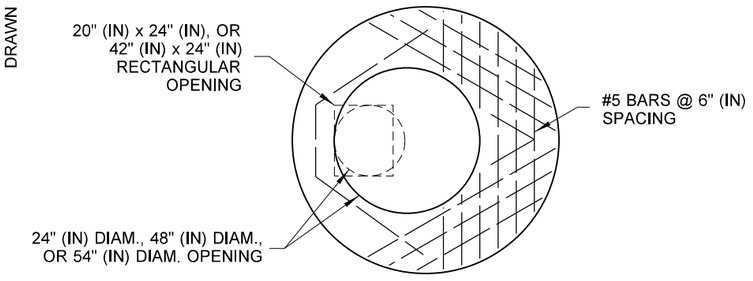
DRAWN BY: FERN LIDDELL

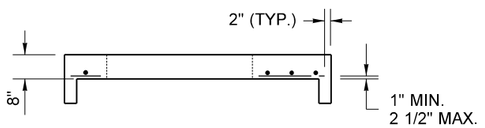


84" (IN) or 96" (IN) FLAT SLAB TOP

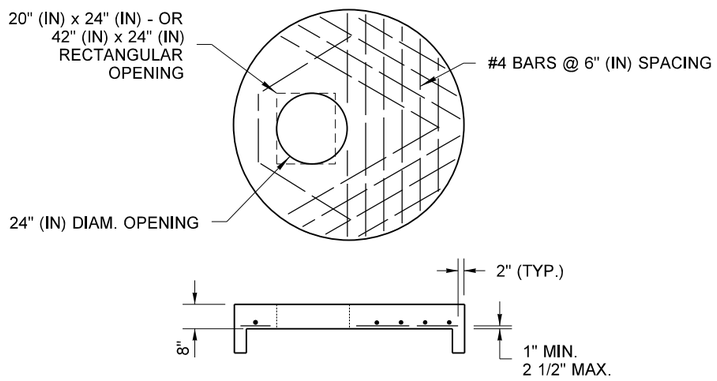


TYPICAL ORIENTATION FOR ACCESS AND STEPS

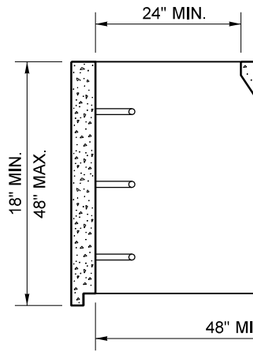




72" (IN) FLAT SLAB TOP



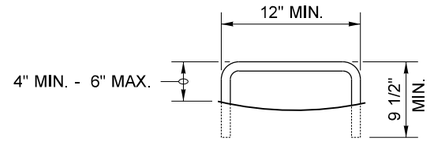
48" (IN), 54", or 60" (IN) FLAT SLAB TOP



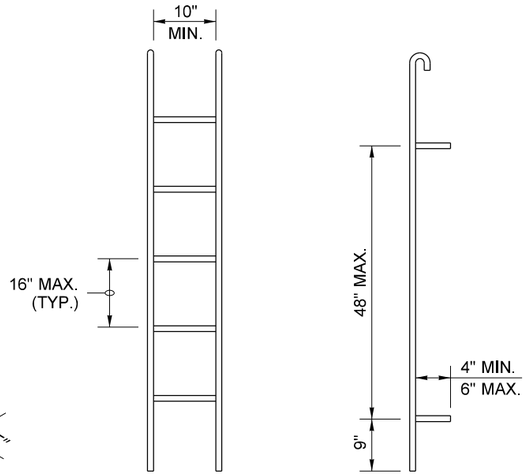
ECCENTRIC CONE SECTION

NOTE

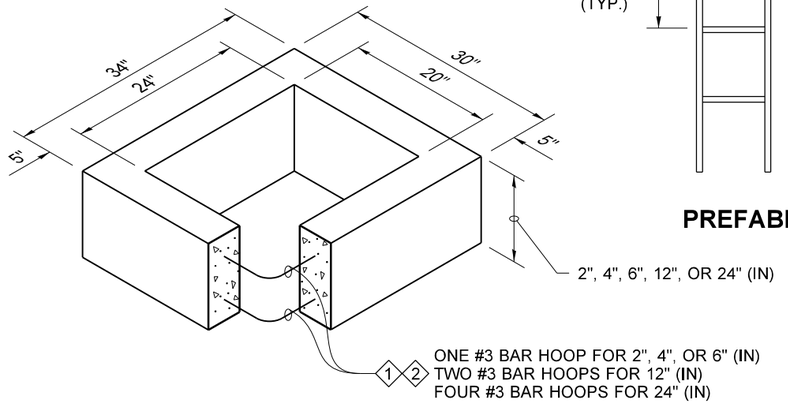
1. Ladder rungs for manholes and catch basins shall meet the requirements of **AASHTO M 199.**



STEP

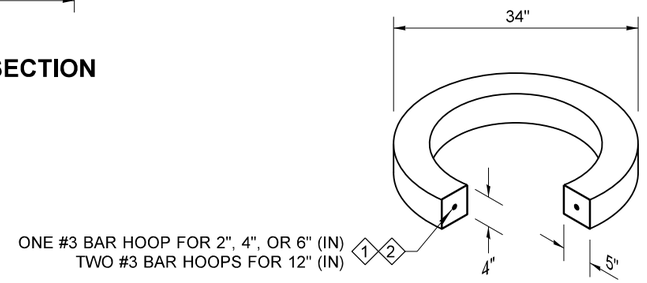


PREFABRICATED LADDER



RECTANGULAR ADJUSTMENT SECTION

1. As an acceptable alternative to rebar, wire mesh having a minimum area of 0.12 square inches per foot may be used for adjustment sections.
2. As an acceptable alternative to conventional steel reinforcment, manufacturers shall use Synthetic Structural Fibers meeting the requirements of **Standard Specification Section 9-05.50(10)**.



CIRCULAR ADJUSTMENT SECTION

For rectangular and circular adjustment sections, approved alternate material compositions are acceptable in lieu of precast concrete designs

JULIE HEILMAN
STATE OF WASHINGTON
41819
REGISTERED
PROFESSIONAL ENGINEER

MISCELLANEOUS DETAILS FOR DRAINAGE STRUCTURES STANDARD PLAN B-30.90-02

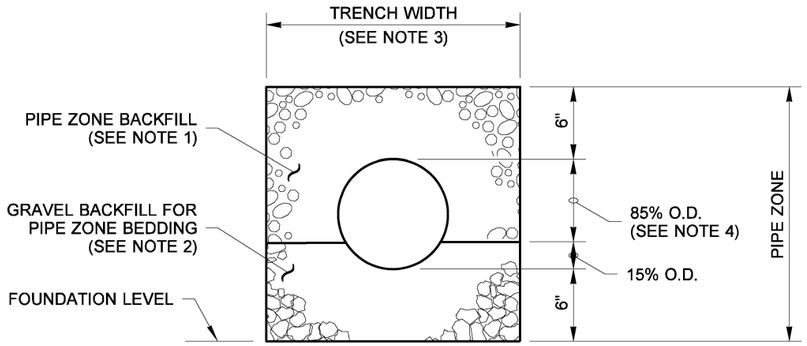
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

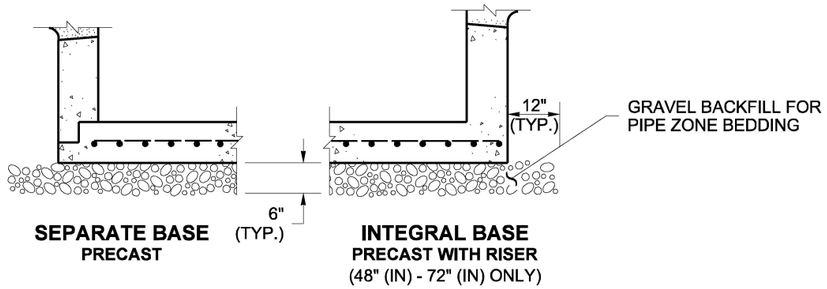
STATE DESIGN ENGINEER

Washington State Department of Transportation

DRAWN BY: FERN LIDDELL



CONCRETE AND DUCTILE IRON PIPE

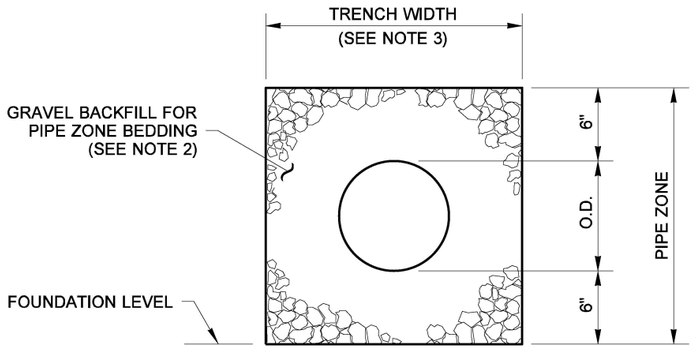


TYPICAL CONDITION FOR DRAINAGE STRUCTURE

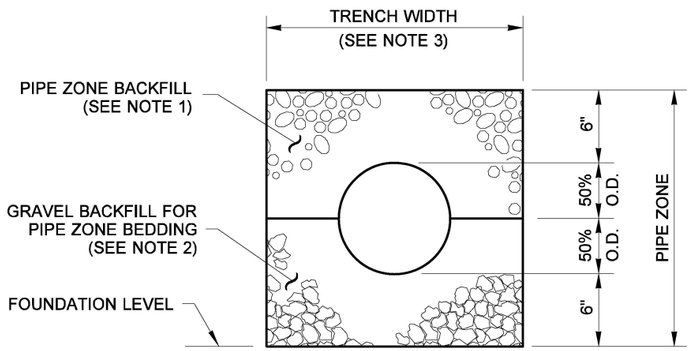
THIS DETAIL APPLIES TO **STANDARD PLANS B-5.20, B-5.40, B-5.60, B-10.20, B-10-40, B-15.20,B-15.40, B-15.60, B-25.20, B-25.60, B-35.20** AND **B-35.40.**

NOTES

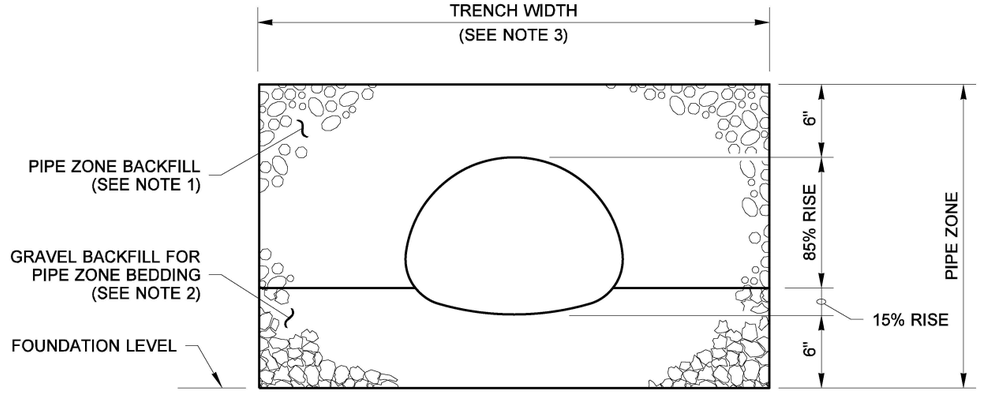
1. See **Standard Specifications Section 7-08.3(3)** for Pipe Zone Backfill.
2. See **Standard Specifications Section 9-03.12(3)** for Gravel Backfill for Pipe Zone Bedding.
3. See **Standard Specifications Section 2-09.4** for Measurement of Trench Width.
4. For sanitary sewer installation, concrete pipe shall be imbedded to spring line.



THERMOPLASTIC PIPE



METAL AND STEEL RIB REINFORCED POLYETHYLENE PIPE



PIPE ARCHES

CLEARANCE BETWEEN PIPES FOR MULTIPLE INSTALLATIONS		
PIPE	**SIZE**	**MINIMUM DISTANCE BETWEEN BARRELS**
CIRCULAR PIPE (DIAMETER)	**UP TO 48"**	**24"**
METAL PIPE ARCH (SPAN)	**48" AND LARGER**	**DIAMETER/2 OR 36" WHICHEVER IS LESS**

Aug 17, 2021

PIPE ZONE BEDDING AND BACKFILL

STANDARD PLAN B-55.20-03

SHEET 1 OF 1 SHEET

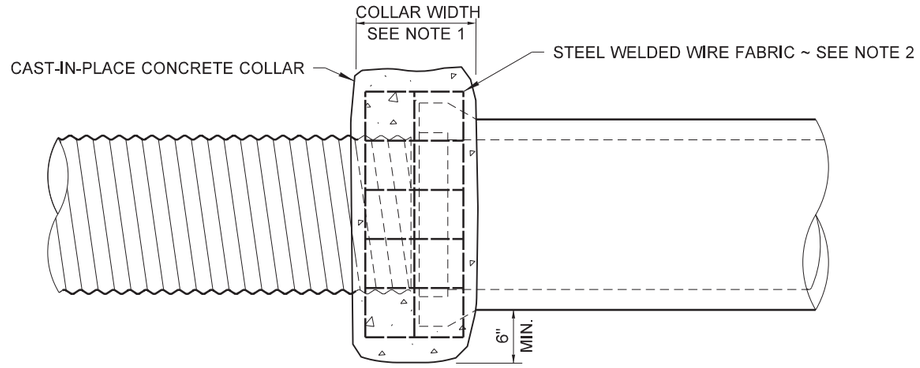
APPROVED FOR PUBLICATION

Aug 17, 2021

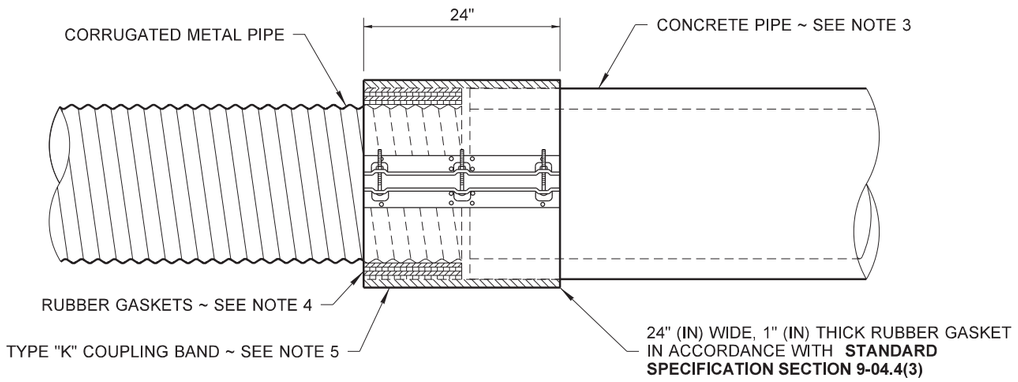
STATE DESIGN ENGINEER

Washington State Department of Transportation

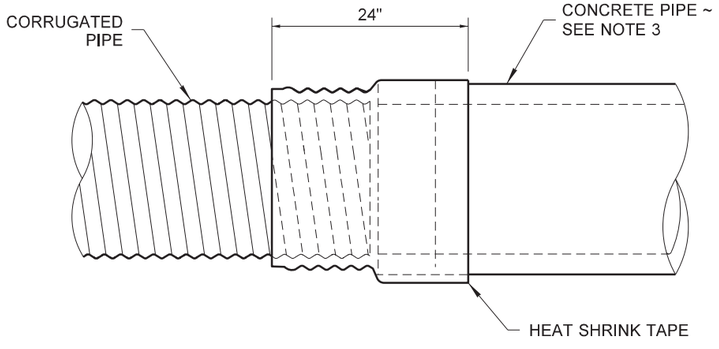
DRAWN BY: FERN LIDDELL



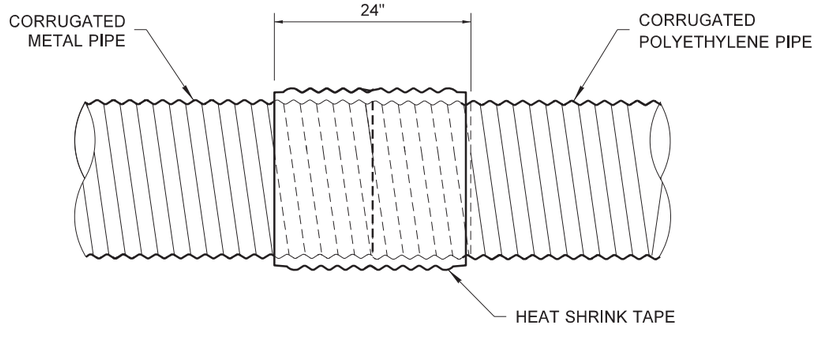
CONCRETE COLLAR OPTION



COUPLING BAND OPTION



HEAT SHRINK OPTION
CORRUGATED PIPE TO CONCRETE PIPE



HEAT SHRINK OPTION
CORRUGATED METAL PIPE TO CORRUGATED POLYETHYLENE PIPE

NOTES

1. The Concrete Collar width shall be one half of the outside pipe diameter of the largest pipe. The minimum Concrete Collar width shall be 12" (in). Concrete Collars may be used with all pipe materials and diameters. The Concrete Collar option shall only be used to extend existing pipes. Concrete shall be Commercial Concrete in accordance with **Standard Specification Section 6-02.3(2).**

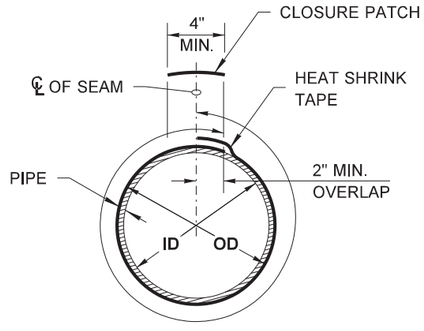
2. Steel Welded Wire Fabric shall be in accordance with **Standard Specification Section 9-07.7**. Install two wraps for size 6 × 6 W1.4 × W1.4 (10 Gage) Steel Welded Wire Fabric or one wrap for any of the following sizes:
   6 × 6 W2.1 × W2.1 (8 Gage)
   6 × 6 W2.9 × W2.9 (6 Gage)
   4 × 4 W2.9 × W2.9 (6 Gage)
   4 × 4 W4.0 × W4.0 (4 Gage)
   Provide 1 1/2" min. covering over wire fabric.

3. When a Coupling Band connection requires attachment to the bell end of a concrete pipe, the bell end of the pipe shall be removed before the connection is installed.

4. Increase the outside diameter of the metal pipe to match the outside diameter of the concrete pipe by installing 12" (in) wide rubber gaskets, thickness as required (Coupling Band only). The rubber gaskets shall be in accordance with **Standard Specification Section 9-04.4(3).**

5. Use a flat Type K Coupling Band. Type K Coupling Bands with dimples are not allowed for the installation detail shown. The Coupling Band option shall only be used for extending existing pipes that have an inside diameter of 36" (in) or less.

6. Heat shrink shall have a width of 24" (in). The material shall be wrapped around the outside of the pipe with a 2" (in) minimum overlap.There shall also be a 4" (in) minimum closure patch of material centered along the entire length of the seam.



SECTION DETAIL

JULIE HEILMAN
STATE OF WASHINGTON
41819
REGISTERED PROFESSIONAL ENGINEER

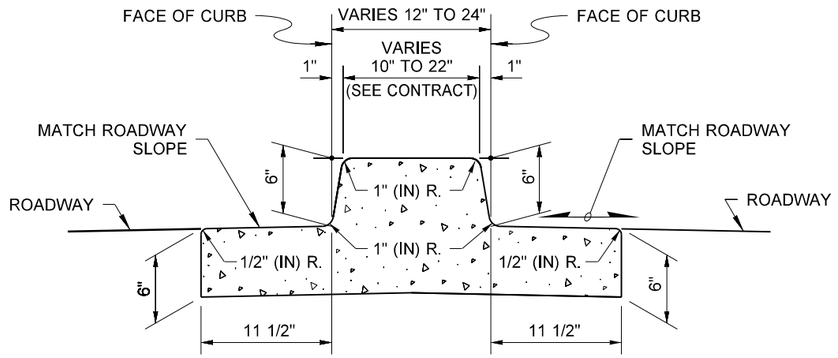
Julie Heilman
Julie Heilman
2020.09.01 07:54:03 -07'00'

CONNECTION DETAILS FOR DISSIMILAR CULVERT PIPE

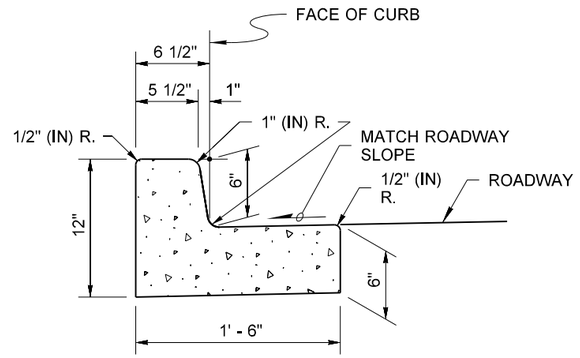
STANDARD PLAN B-60.20-02

SHEET 1 OF 1 SHEET

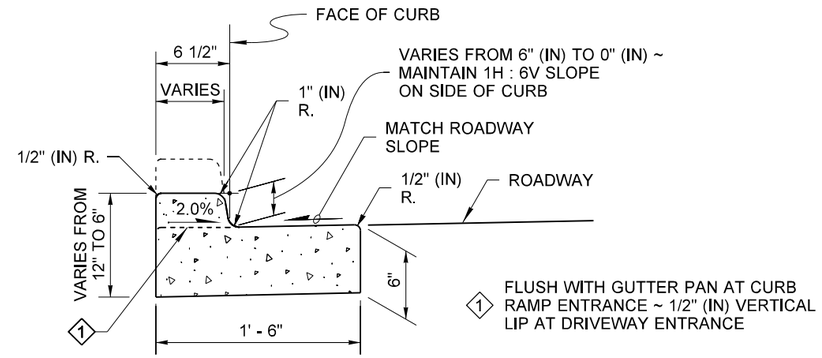
APPROVED FOR PUBLICATION
Roark, Steve
Digitally signed by Roark, Steve
Date: 2020.09.09 09:52:35 -07'00'
STATE DESIGN ENGINEER
Washington State Department of Transportation



DUAL-FACED CEMENT CONCRETE TRAFFIC CURB AND GUTTER



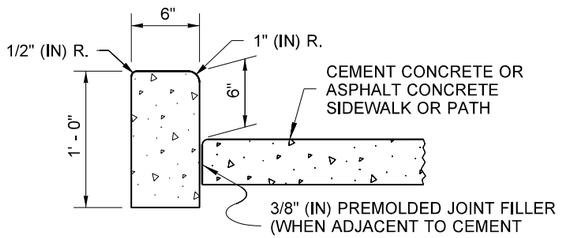
CEMENT CONCRETE TRAFFIC CURB AND GUTTER



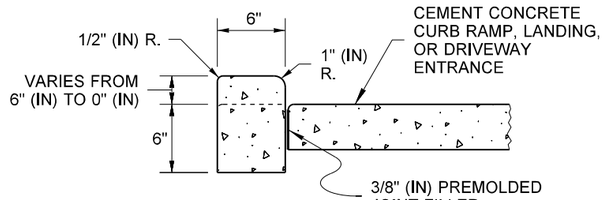
DEPRESSED CURB AND GUTTER SECTION

AT CURB RAMPS AND DRIVEWAY ENTRANCES

DRAWN BY: FERN LIDDELL



CEMENT CONCRETE PEDESTRIAN CURB

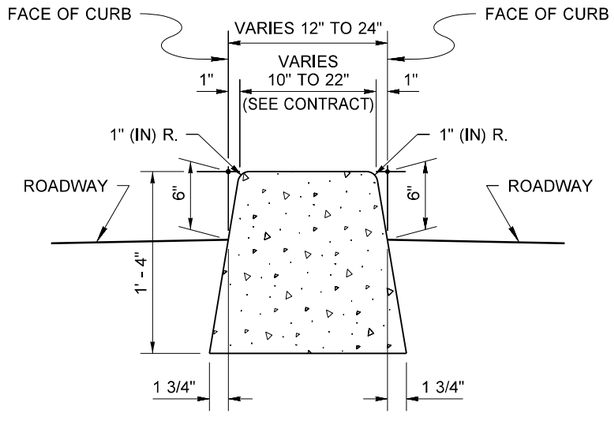


CEMENT CONCRETE PEDESTRIAN CURB

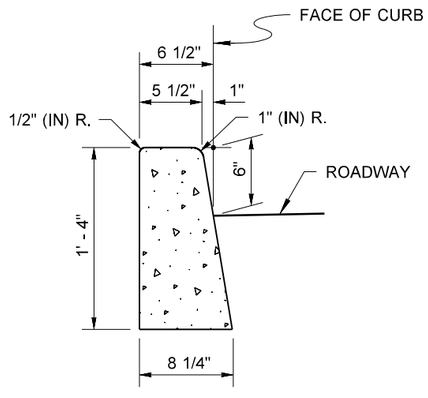
AT CURB RAMPS, LANDINGS, AND DRIVEWAY ENTRANCES

NOTE

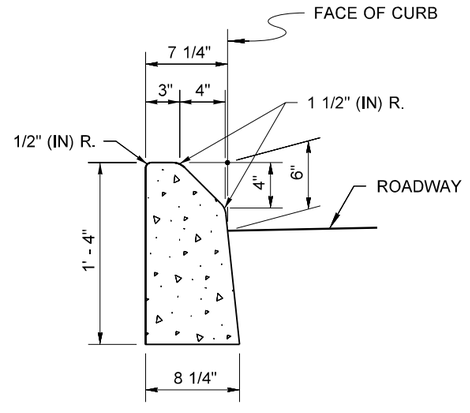
1. See **Standard Plan F-30.10** for Curb Expansion and Contraction Joint spacing. See **Standard Specification, Sections 8-04 and 9-04** for additional requirements.



DUAL-FACED CEMENT CONCRETE TRAFFIC CURB



CEMENT CONCRETE TRAFFIC CURB



MOUNTABLE CEMENT CONCRETE TRAFFIC CURB

Michael S Fleming

Digitally signed by Michael S Fleming
Date: 2020.09.24 07:39:38 -07'00'

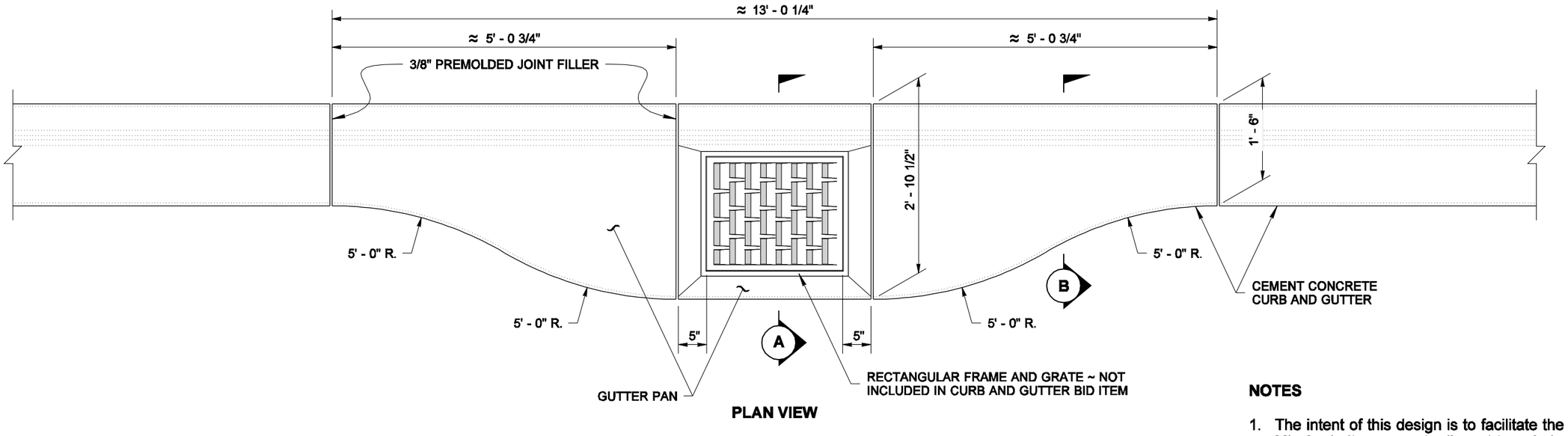
CEMENT CONCRETE CURBS

STANDARD PLAN F-10.12-04

SHEET 1 OF 1 SHEET

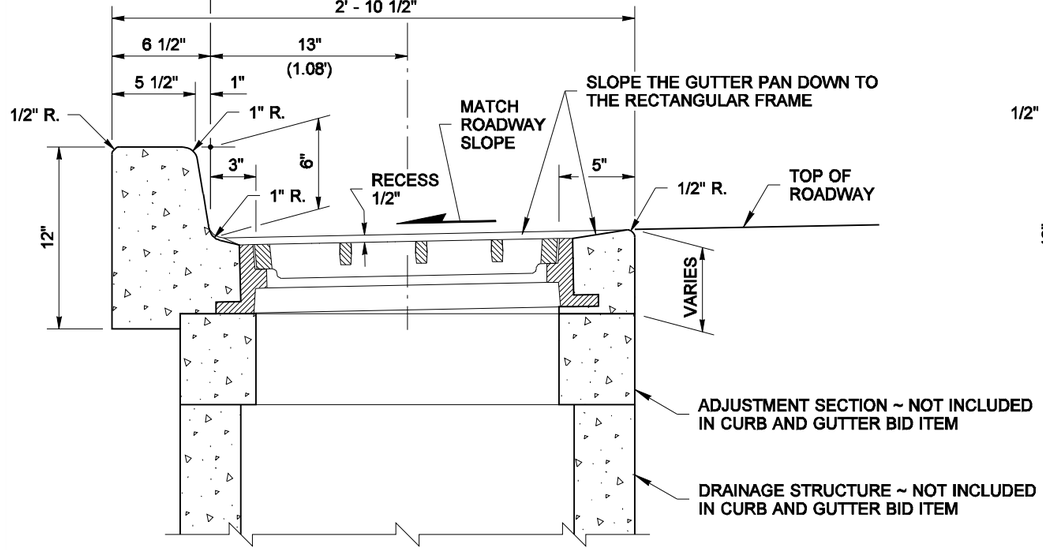
APPROVED FOR PUBLICATION
Date: 2020.09.24 07:57:43 -07'00'
STATE DESIGN ENGINEER
Washington State Department of Transportation

DRAWN BY: MARK SUJKA

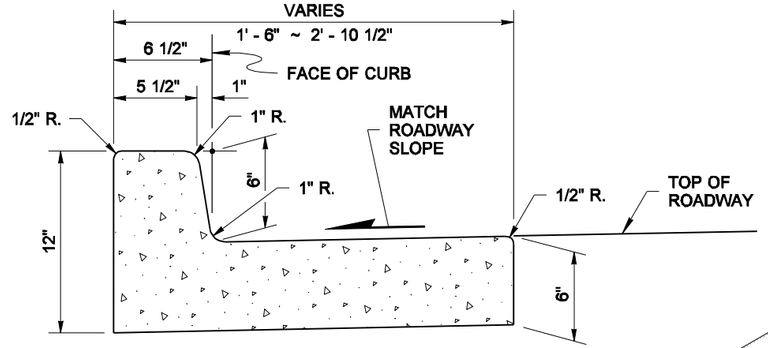


PLAN VIEW

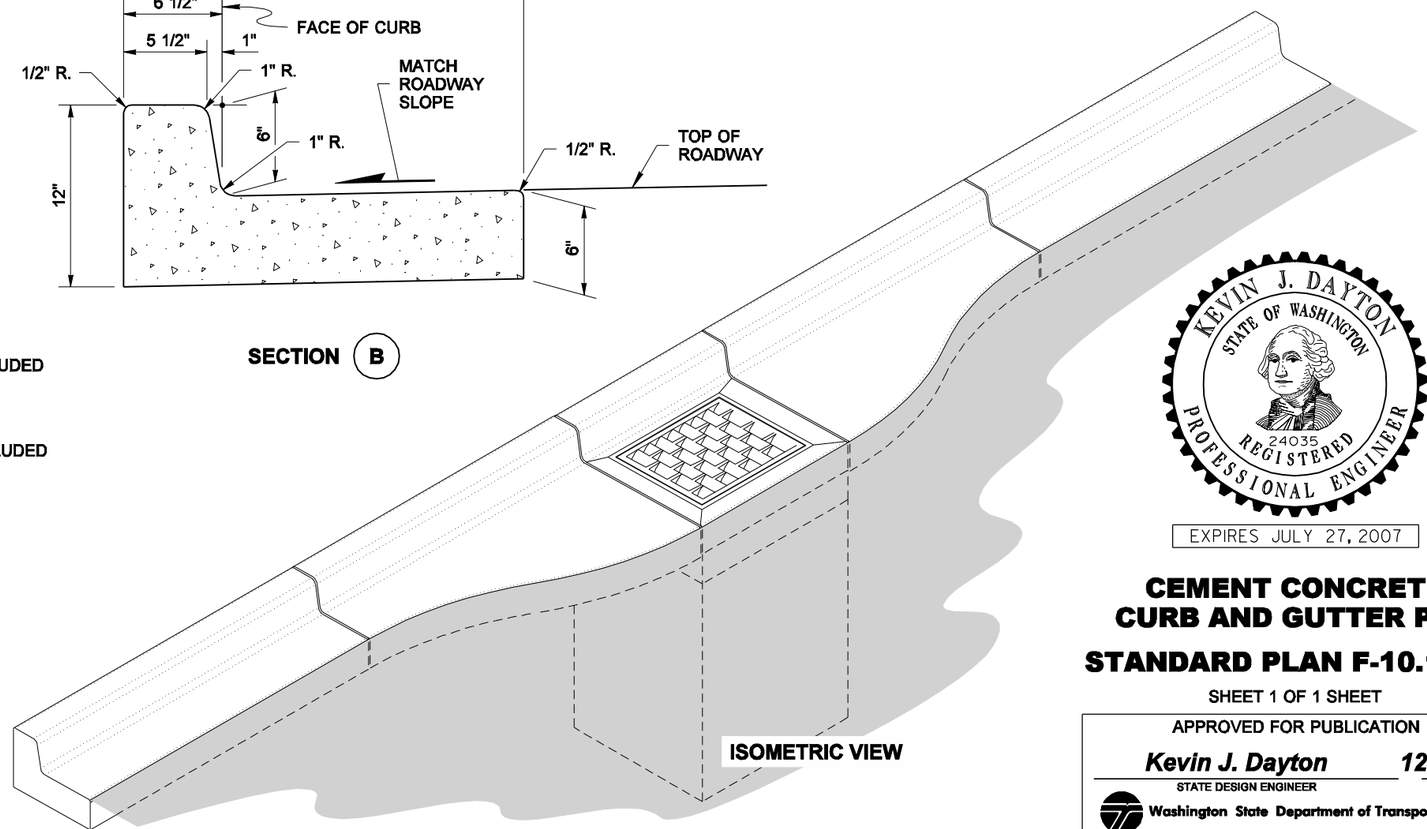
CATCH BASIN GUTTER PAN



SECTION (A)



SECTION (B)



ISOMETRIC VIEW

NOTES

1. The intent of this design is to facilitate the compaction of Hot Mix Asphalt pavement adjacent to a drainage structure.
2. The centerline of the drainage structure may differ from the centerline of the frame and grate.

EXPIRES JULY 27, 2007

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

CEMENT CONCRETE CURB AND GUTTER PAN

STANDARD PLAN F-10.16-00

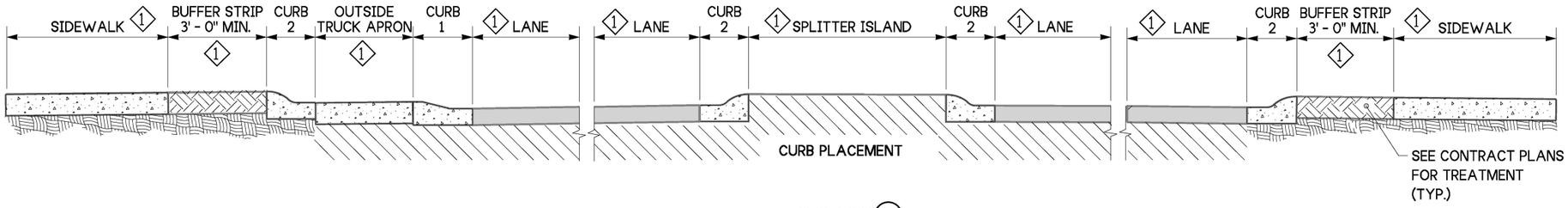
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

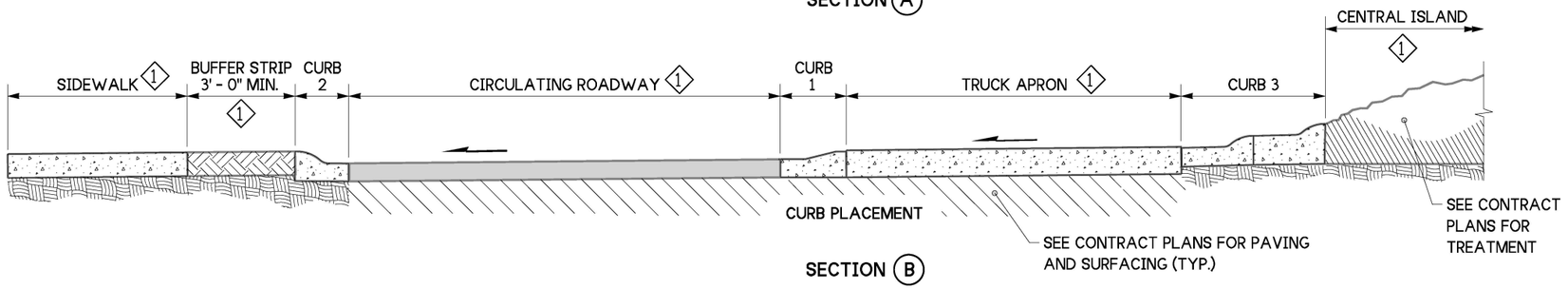
Kevin J. Dayton — *12-20-06*

STATE DESIGN ENGINEER — DATE

Washington State Department of Transportation

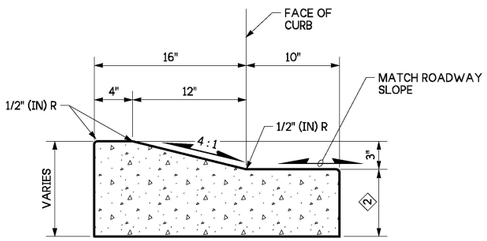


SECTION (A)



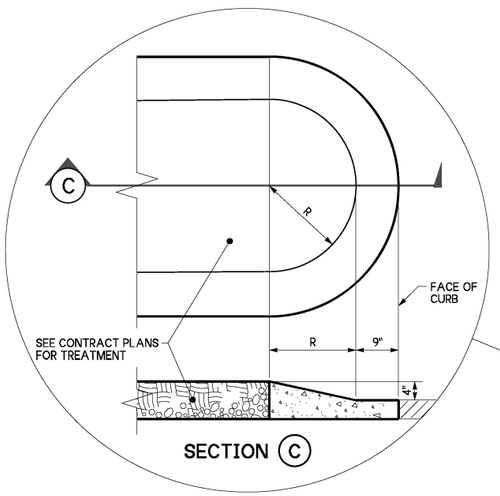
SECTION (B)

ROUNDABOUT CONFIGURATION WILL VARY DEPENDING ON CONTRACT PLANS



CURB 1

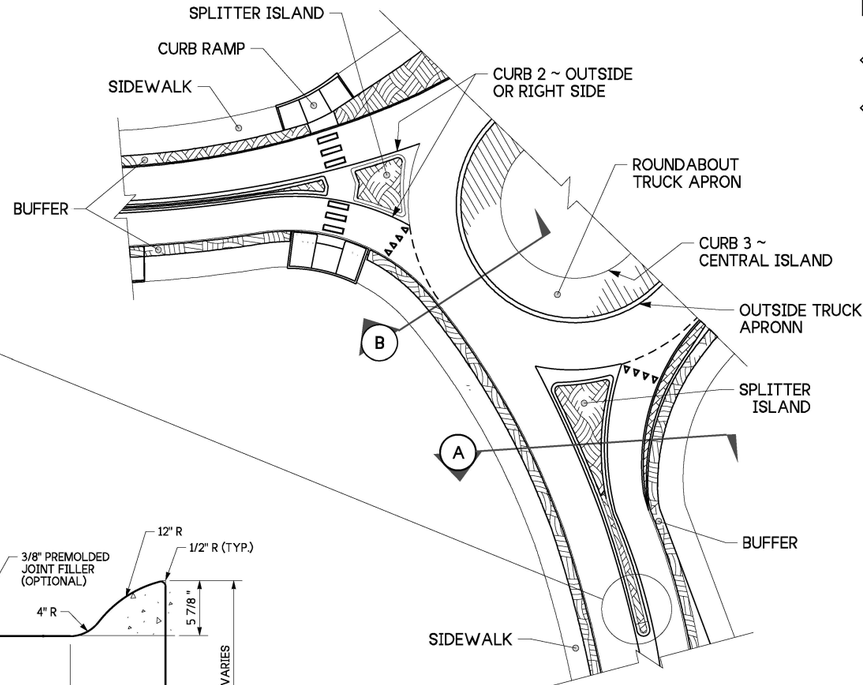
ROUNDABOUT TRUCK APRON
CEMENT CONCRETE CURB AND GUTTER
(SINGLE SLOPE CURB)



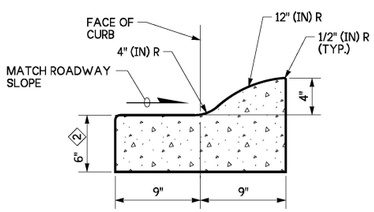
SECTION (C)

ROUNDABOUT SPLITTER ISLAND
NOSING CURB DETAIL

(SEE CONTRACT PLANS FOR RADIUS (R))

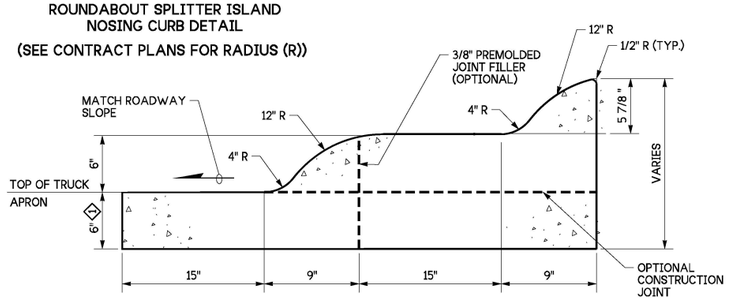


PARTIAL VIEW



CURB 2

(OUTSIDE, RIGHT SIDE OR SPLITTER ISLAND)
ROUNDABOUT CEMENT CONCRETE CURB AND GUTTER
(SINGLE SLOPE CURB)



CURB 3

ROUNDABOUT CENTRAL ISLAND
CEMENT CONCRETE CURB
(SINGLE SLOPE CURB)

NOTES:

1. Construct curb joints at cement concrete pavement transverse joint locations. If all adjacent pavement is HMA, see **Standard Plan F-30.10** for Curb Expansion and Contraction Joint Spacing.
2. See Standard Plan F-45.10 for placement of Detectable Warning Surfaces (DWS).
3. See **Contract Plans** and **Standard Plan M-15.10** for locations and layout of crosswalks,

LEGEND

1 Width varies ~ See Contract Plans.

2 Match adjacent pavement thickness but not less than 6 inches.

SCOTT ANDREW DAVIS
STATE OF WASHINGTON
Scott A. Davis (Jun 28, 2024 08:18 PDT)
37361
REGISTERED
PROFESSIONAL ENGINEER

Jun 28, 2024

ROUNDABOUT CEMENT CONCRETE CURBS

STANDARD PLAN F-10.18-04

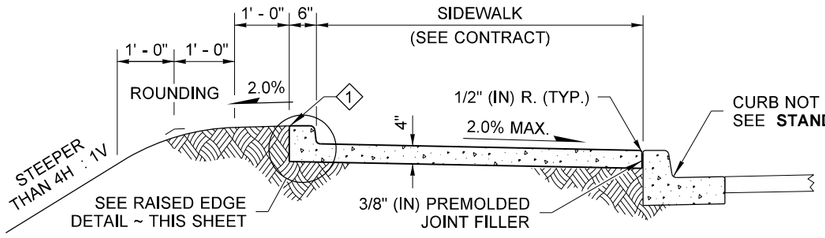
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

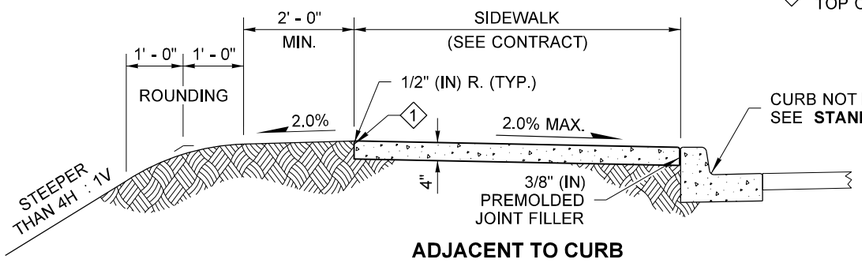
Mark A Gaines Jun 28, 2024

STATE DESIGN ENGINEER

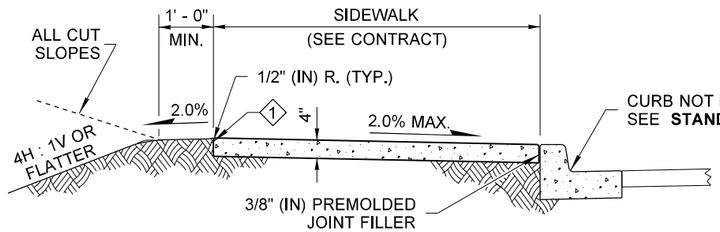
Washington State Department of Transportation



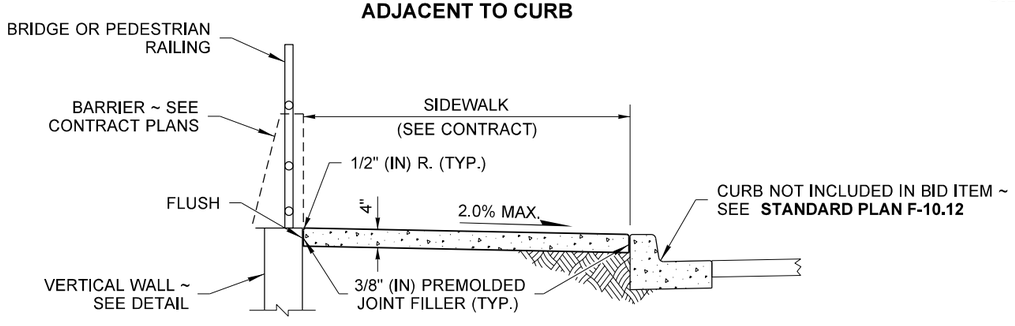
WITH RAISED EDGE



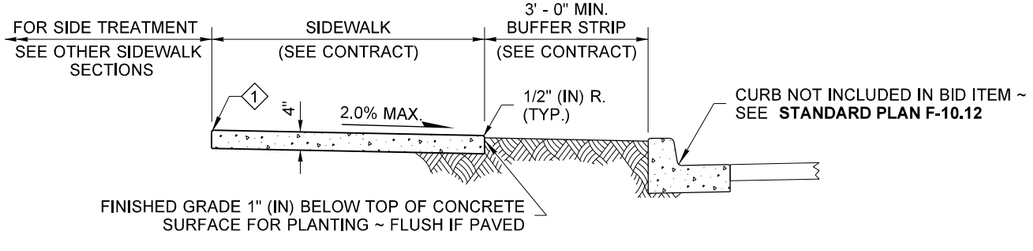
ADJACENT TO CURB
(STEEP FILL SLOPES)



ADJACENT TO CURB

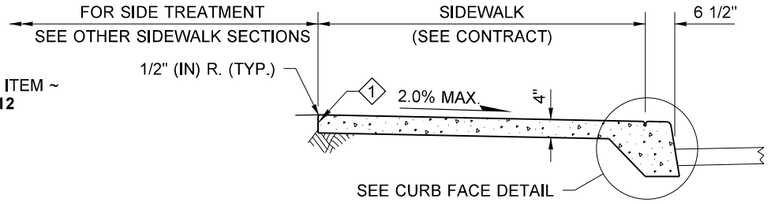


ADJACENT TO CURB AND RAILING OR WALL



ADJACENT TO BUFFER STRIP

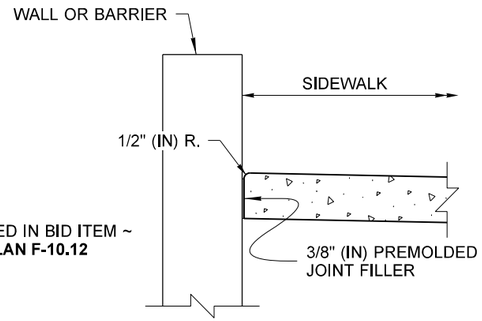
1 FINISHED GRADE 1" (IN) BELOW TOP OF CONCRETE SURFACE



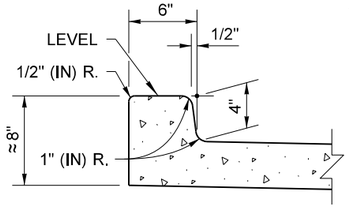
MONOLITHIC CEMENT CONCRETE CURB AND SIDEWALK

NOTE

1. Gratings, Access Covers, Junction Boxes, Cable Vaults, Pull Boxes and other appurtenances within the sidewalk must have slip resistant surfaces, be flush with surface, and match grade of the sidewalk.

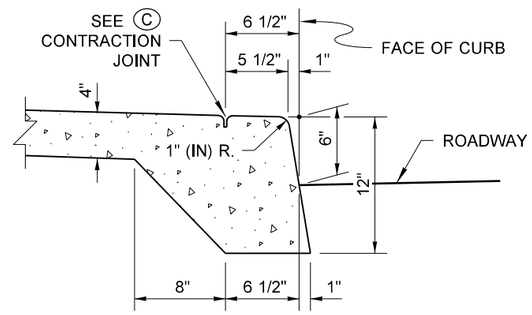


SIDEWALK ADJACENT TO WALL DETAIL



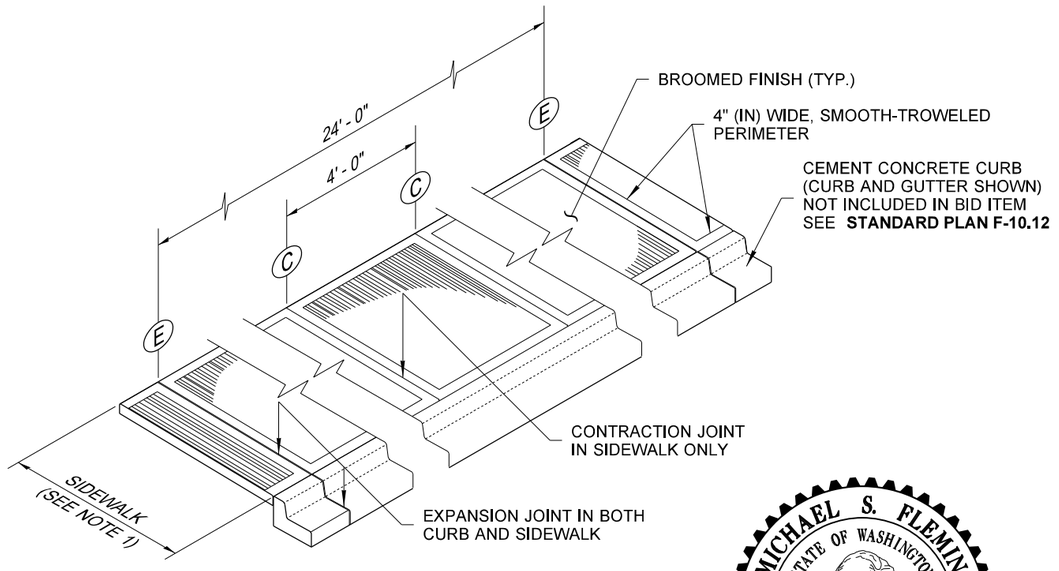
RAISED EDGE DETAIL

EXTEND SIDEWALK TRANSVERSE JOINTS TO INCLUDE RAISED EDGE



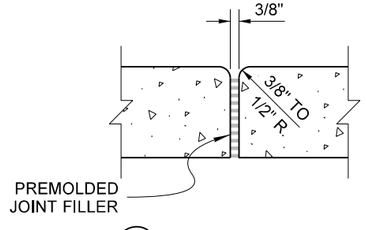
CURB FACE DETAIL

EXTEND SIDEWALK TRANSVERSE EXPANSION JOINTS TO INCLUDE CURB (FULL DEPTH)

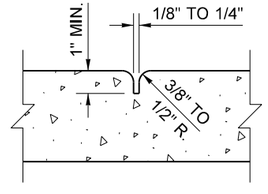


ISOMETRIC VIEW

JOINT AND FINISH DETAIL



E EXPANSION JOINT



C CONTRACTION JOINT

DRAWN BY: LISA CYFORD

MICHAEL S. FLEMING
STATE OF WASHINGTON
38777
REGISTERED
PROFESSIONAL ENGINEER

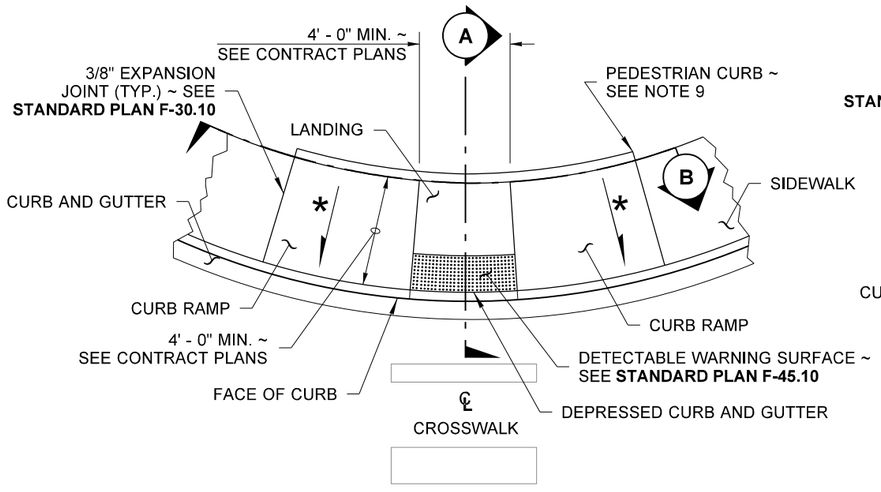
Michael S Fleming
Digitally signed by Michael S Fleming
Date: 2020.09.24 07:40:16 -07'00'

CEMENT CONCRETE SIDEWALK

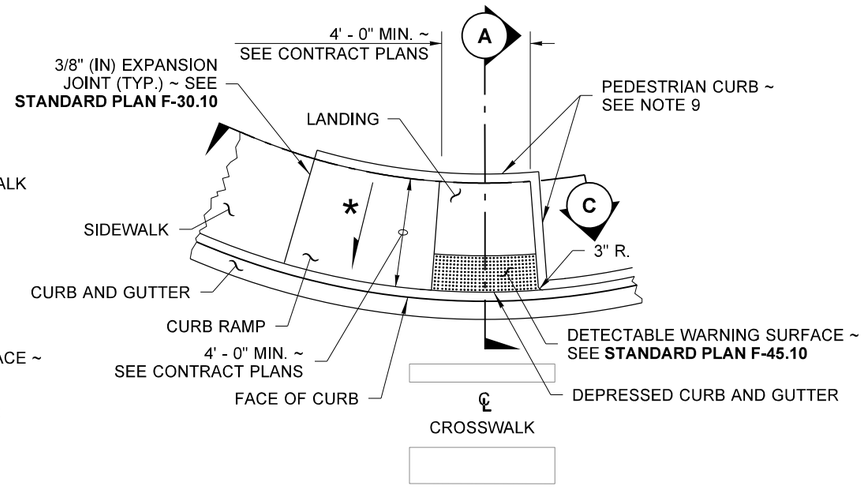
STANDARD PLAN F-30.10-04

SHEET 1 OF 1 SHEET

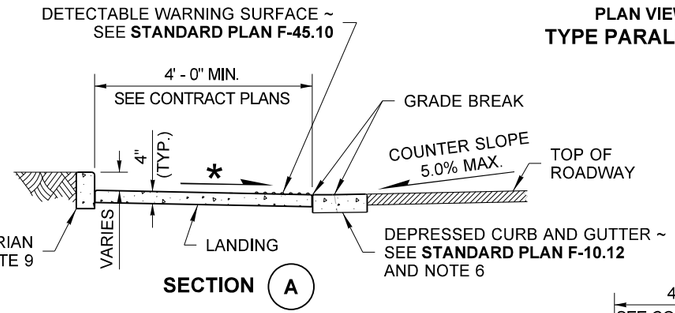
APPROVED FOR PUBLICATION
Date: 2020.09.25 15:43:50 -07'00'
STATE DESIGN ENGINEER
Washington State Department of Transportation



PLAN VIEW
TYPE PARALLEL A

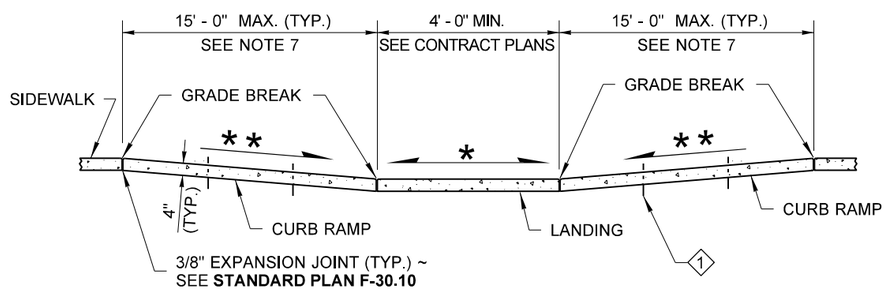


PLAN VIEW
TYPE PARALLEL B



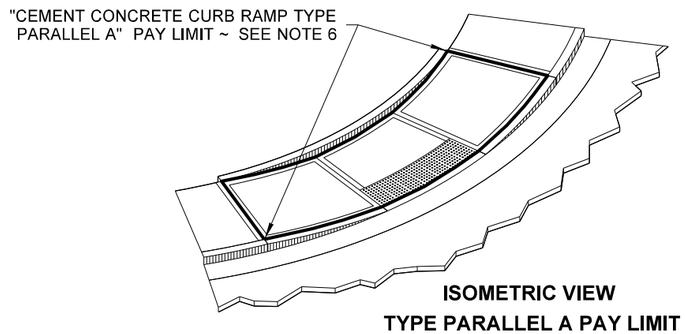
SECTION (A)

① CONTRACTION JOINT (TYP.) ~ SEE **STANDARD PLAN F-30.1** FOR CURB RAMP LENGTHS GREATER THAN 8' - 0"PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.

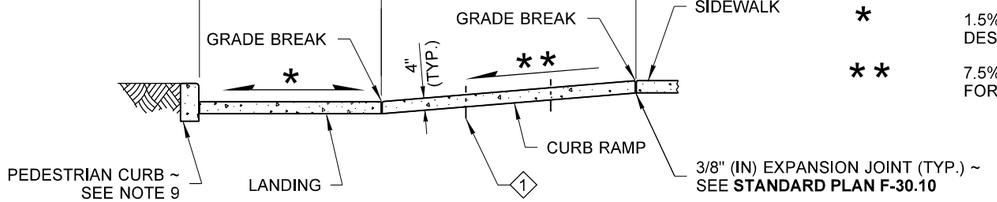


SECTION (B)

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)

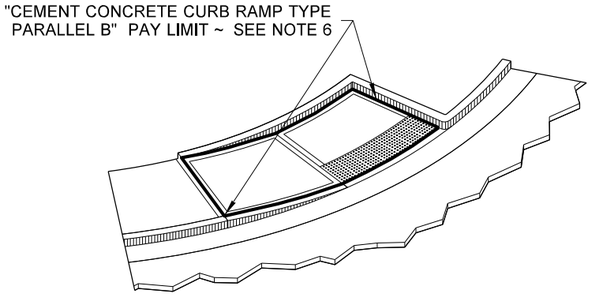


ISOMETRIC VIEW
TYPE PARALLEL A PAY LIMIT



SECTION (C)

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)



ISOMETRIC VIEW
TYPE PARALLEL B PAY LIMIT

NOTES

1. At marked crosswalks, the connection between the landing and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the Landing connects to the roadway.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not include abutting landing(s) in the15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the walkway.
8. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14.**
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

LEGEND

SLOPE IN EITHER DIRECTION

* 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)

** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/ FORMWORK (8.3% MAX.) ~ SEE NOTE 7

R. SCOTT ZELLER
STATE OF WASHINGTON
28680
REGISTERED
PROFESSIONAL ENGINEER

PARALLEL CURB RAMP

STANDARD PLAN F-40.12-03

SHEET 1 OF 1 SHEET

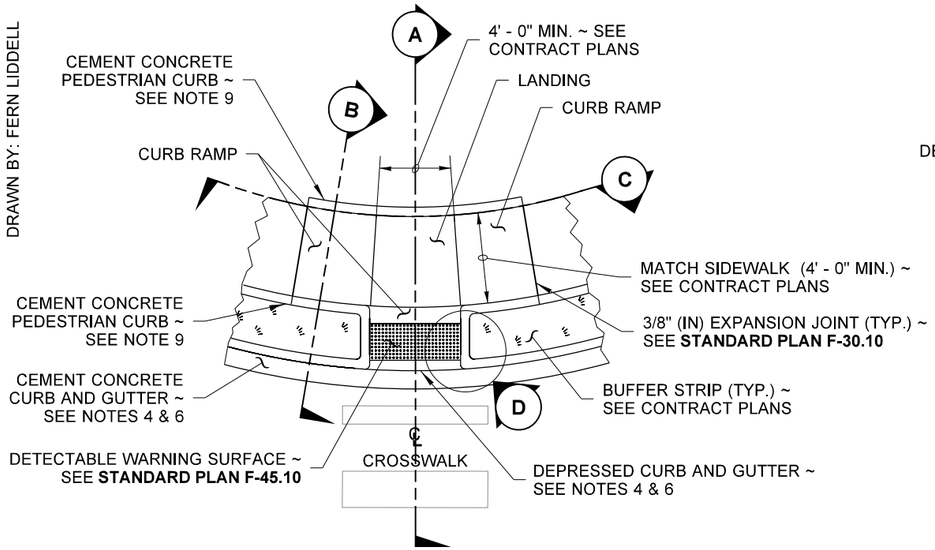
APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER

Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

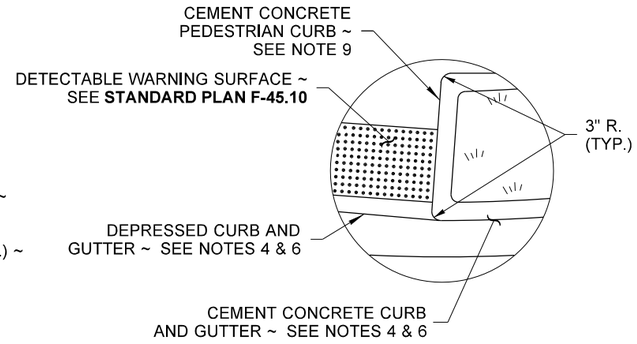
DRAWN BY: FERN LIDDELL



PLAN VIEW

TYPE COMBINATION

WITH BUFFER



DETAIL (D)

CURB RADIUS DETAIL

NOTES

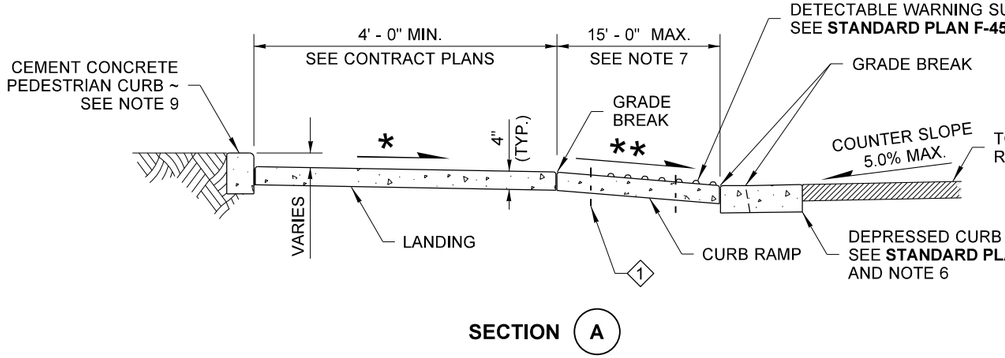
1. At marked crosswalks, the connection between the curb ramp and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the landing connects to the roadway.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb, Gutter and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not included the abutting landing in the 15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the walkway.
8. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14.**
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.

LEGEND

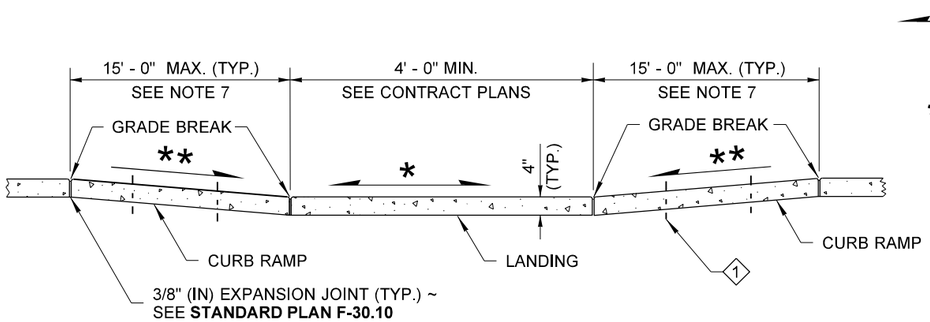
SLOPE IN EITHER DIRECTION

* 1.5 OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)

** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.)



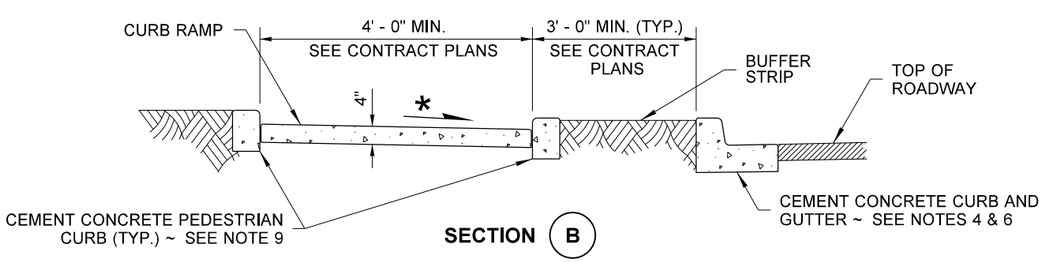
SECTION (A)



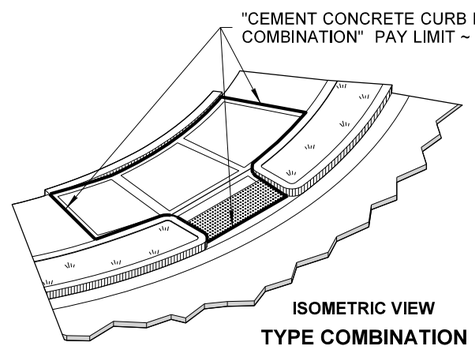
SECTION (C)

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)

1 CONTRACTION JOINT (TYP.) ~ SEE **STANDARD PLAN F-30.10** FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.



SECTION (B)



ISOMETRIC VIEW

TYPE COMBINATION PAY LIMIT

R. SCOTT ZELLER
STATE OF WASHINGTON
28680
REGISTERED
PROFESSIONAL ENGINEER

COMBINATION CURB RAMP

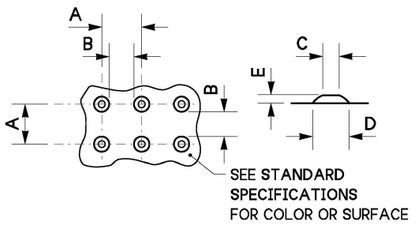
STANDARD PLAN F-40.14-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

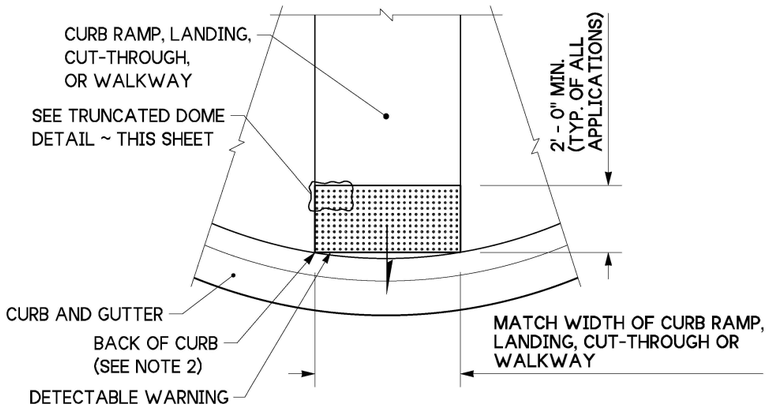
STATE DESIGN ENGINEER

Washington State Department of Transportation

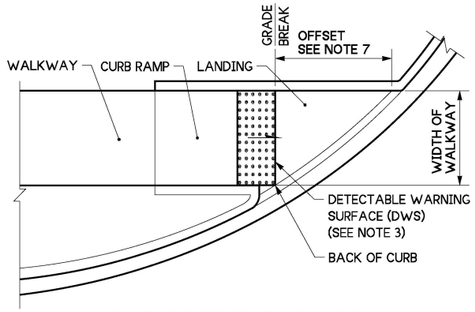


	MIN.	MAX.
A	1.60"	2.40"
B	0.65"	
C	0.45"	0.90"
D	0.90"	1.40"
E	0.20"	0.20"

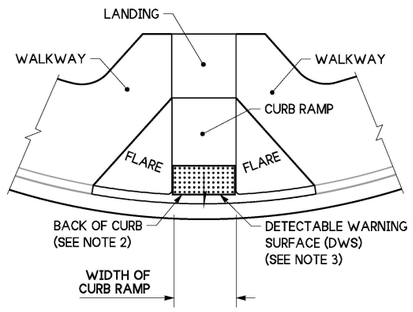
TRUNCATED DOME DETAILS
(SEE NOTE 3)



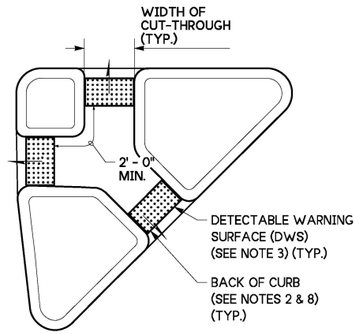
DETECTABLE WARNING SURFACE DETAIL



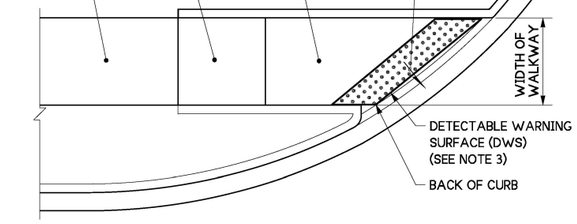
SINGLE DIRECTION CURB RAMP
(GRADE BREAK BETWEEN CURB AND LANDING < 5 FEET FROM BACK OF CURB)
(SEE NOTE 5)



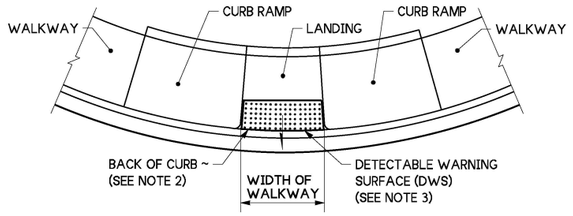
PERPENDICULAR CURB RAMP
(SEE NOTE 6)



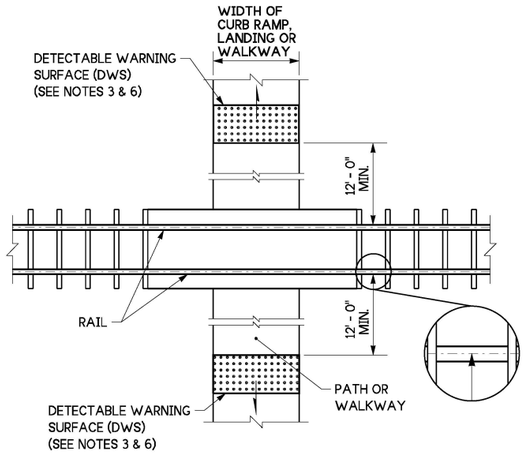
ISLAND CUT-THROUGH



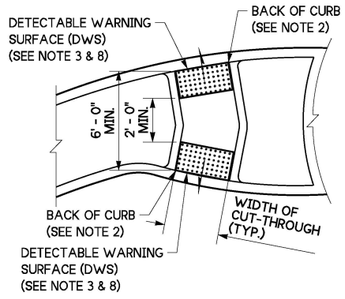
SINGLE DIRECTION CURB RAMP
(GRADE BREAK BETWEEN CURB AND LANDING > 5 FEET FROM BACK OF CURB)
(SEE NOTE 5)



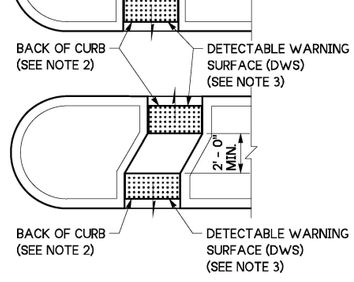
PARALLEL CURB RAMP
(SEE NOTE 6)



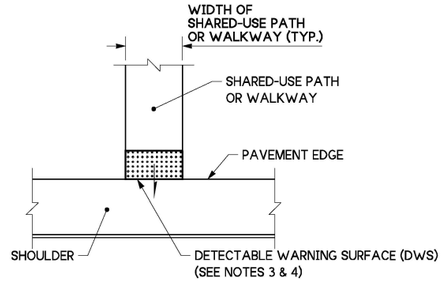
PEDESTRIAN PAILROAD CROSSING



ROUNDABOUT SPLITTER ISLAND



MEDIAN CUT-THROUGH



SHARED-USE PATH CONNECTION

NOTES:

1. Permanent Detectable Warning Surfaces (DWS) shall extend the full width of the curb ramp, landing, or other roadway entrance as applicable. Exception: If the manufacturer of the DWS requires a concrete border around the DWS, a variance of up to 2" (in) on each side of the DWS is permitted.

2. Permanent Detectable Warning Surfaces (DWS) shall be placed on a minimum 4" (in) thick concrete pad. The DWS panel shall be placed adjacent to the back of the curb and with no more than a 2" (in) gap between the DWS and the back of the curb measured at the center of the DWS panel. Exception: If the Manufacturer of the selected DWS requires a concrete border around the DWS, a variance of up to 2" (in) from the back of the curb is permitted (measured at the leading corners of the DWS panel).

3. The rows of truncated domes shall be aligned to be parallel to the direction of travel, and perpendicular to the grade break at the back of curb.

4. If curb and gutter are not present, such as a shared-use path connection, the Detectable Warning Surface shall be placed at the pavement edge.

5. See **Standard Plans** for sidewalk and curb ramp details.

6. If a curb ramp is required, the location of the Detectable Warning Surface must be at the bottom of the ramp and within the required distance from the rail crossing.

7. When the grade break between the curb ramp and the landing is less than or equal to 5 feet from the back of curb at all points, place the Detectable Warning Surface on the bottom of the curb ramp directly above the grade break.

8. Glued or stick down Detectable Warning Surfaces are allowed only for temporary work zone applications.

LEGEND
DIRECTION OF TRAVEL

JOANNA W. LOWREY
STATE OF WASHINGTON
42015
REGISTERED
PROFESSIONAL ENGINEER

Jun 4, 2024

DETECTABLE WARNING SURFACE

STANDARD PLAN F-45.10-05

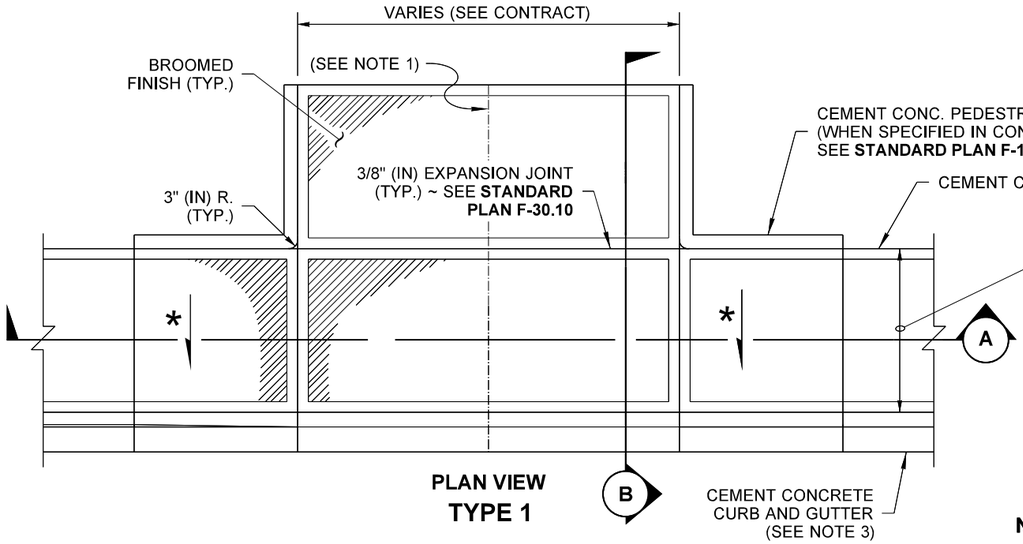
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

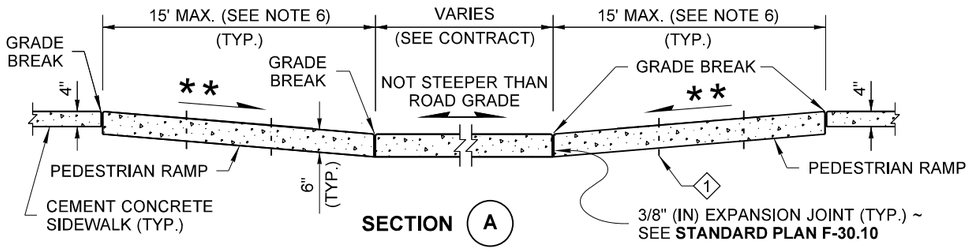
Mark A Doires Jun 4, 2024

STATE DESIGN ENGINEER

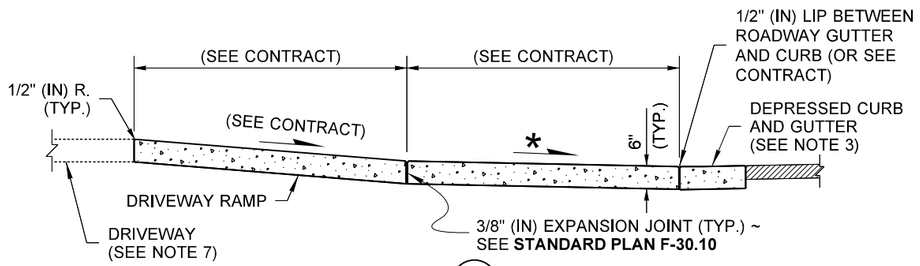
Washington State Department of Transportation



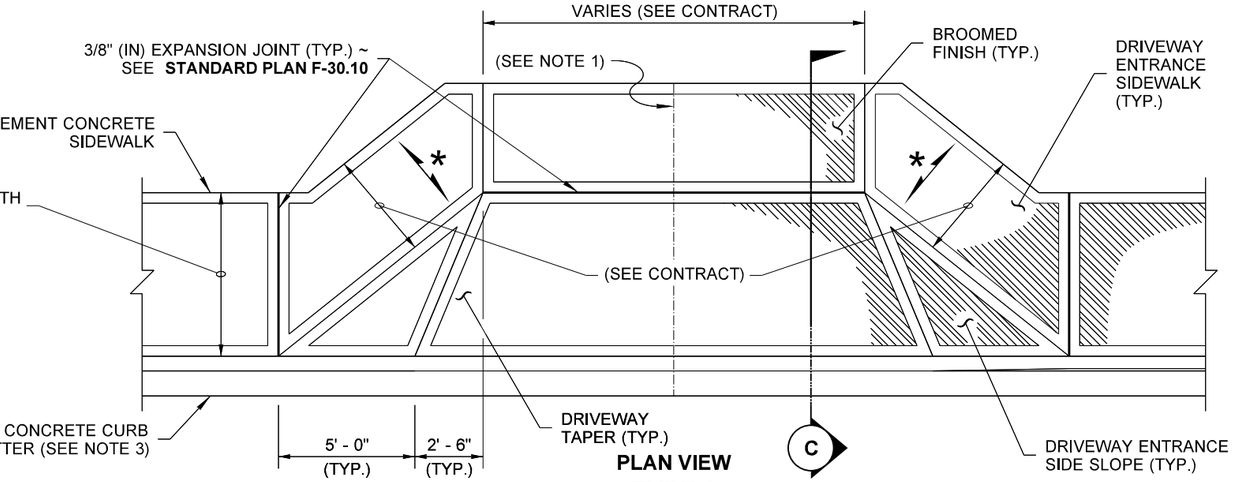
PLAN VIEW
TYPE 1



SECTION A



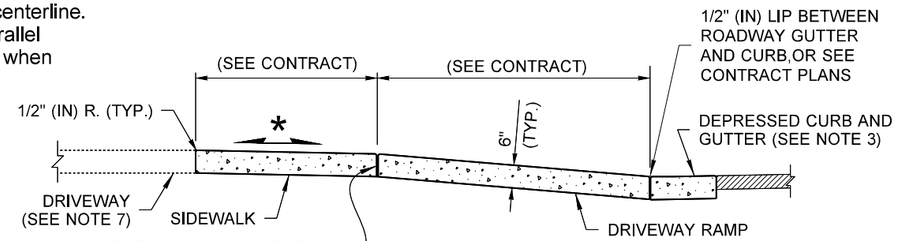
SECTION B



PLAN VIEW
TYPE 2

NOTES

1. When the driveway width exceeds 15' (ft), construct a full depth expansion joint with 3/8" (in) joint filler along the driveway centerline. See **Standard Plan F-30.10.** Construct expansion joints parallel with the centerline as required at 15' (ft) maximum spacing when driveway widths exceed 30' (ft).
2. See **Standard Plan F-30.10** for sidewalk details.
3. Curb and Gutter shown; see the Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb Details.
4. Avoid placing drainage structures, junction boxes or other obstructions in front of driveway entrances.
5. Where "GRADE BREAK" is called out, the entire length of the line between the two adjacent surface planes shall be flush.
6. The Pedestrian Ramp length is not required to exceed15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length (measured from back of sidewalk) the running slope of the pedestrian ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet.
7. Beyond limits shown. Pay item does not include driveway. See Contract Plans.



SECTION C

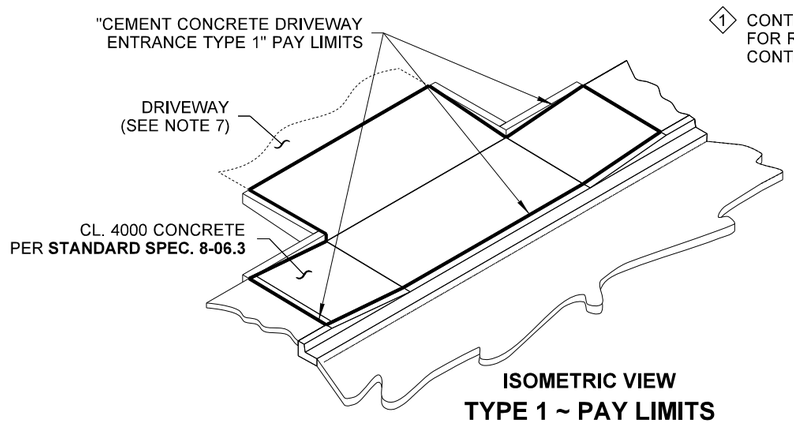
LEGEND

SLOPE IN EITHER DIRECTION

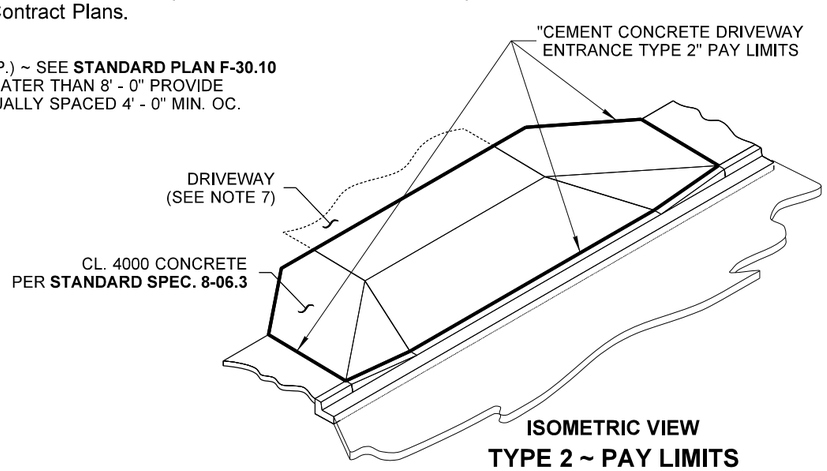
* 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)

** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) (SEE NOTE 6)

1 CONTRACTION JOINT (TYP.) ~ SEE **STANDARD PLAN F-30.10** FOR RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.



ISOMETRIC VIEW
TYPE 1 ~ PAY LIMITS



ISOMETRIC VIEW
TYPE 2 ~ PAY LIMITS

DRAWN BY: FERN LIDDELL

R. SCOTT ZELLER
STATE OF WASHINGTON
28680
REGISTERED
PROFESSIONAL ENGINEER

CEMENT CONCRETE DRIVEWAY ENTRANCE TYPES 1, 2, 3, & 4

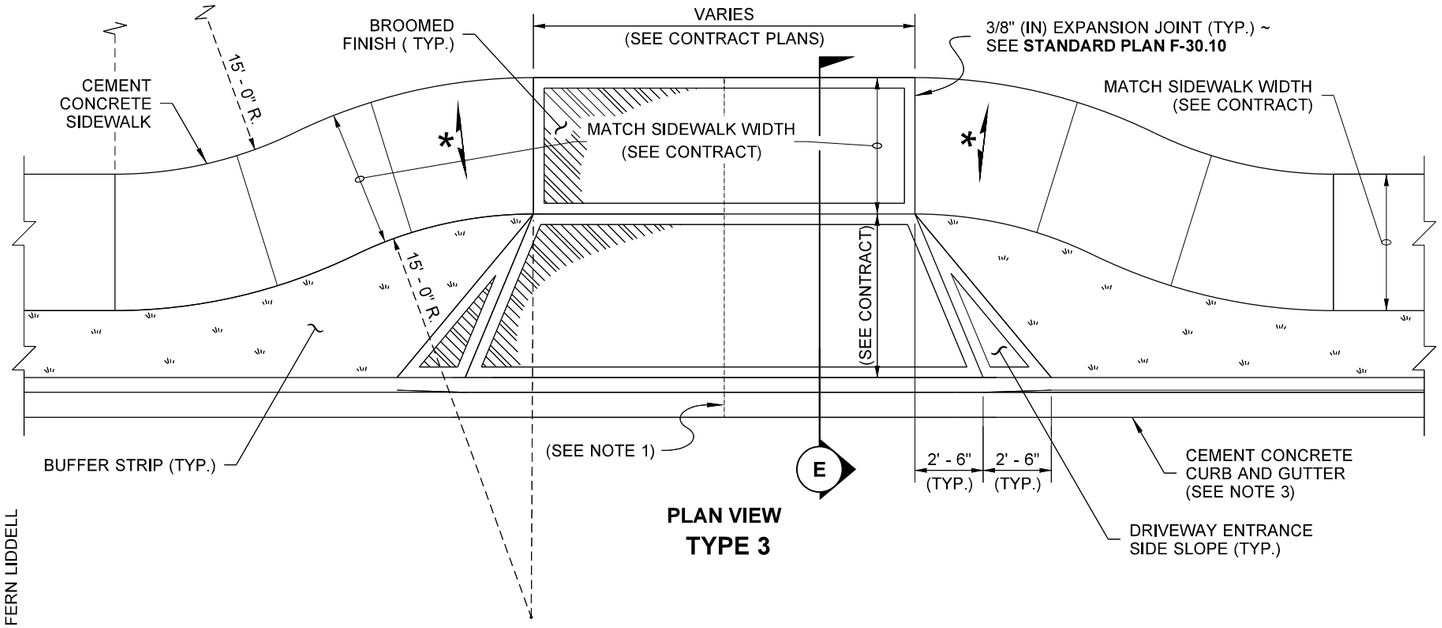
STANDARD PLAN F-80.10-04

SHEET 1 OF 2 SHEETS

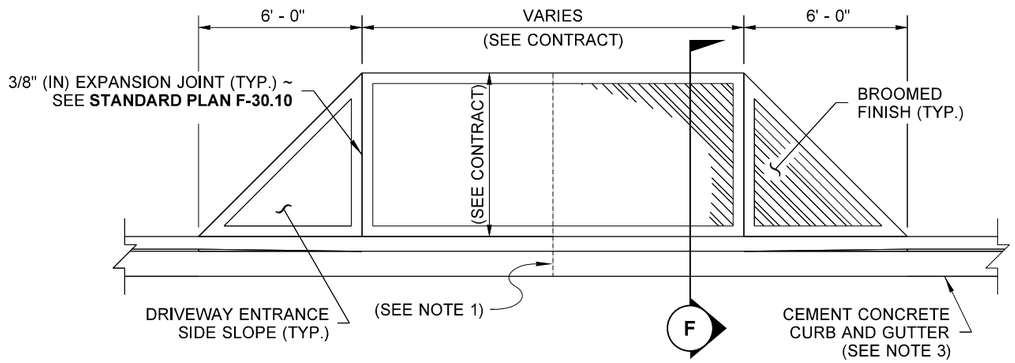
APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER

Washington State Department of Transportation



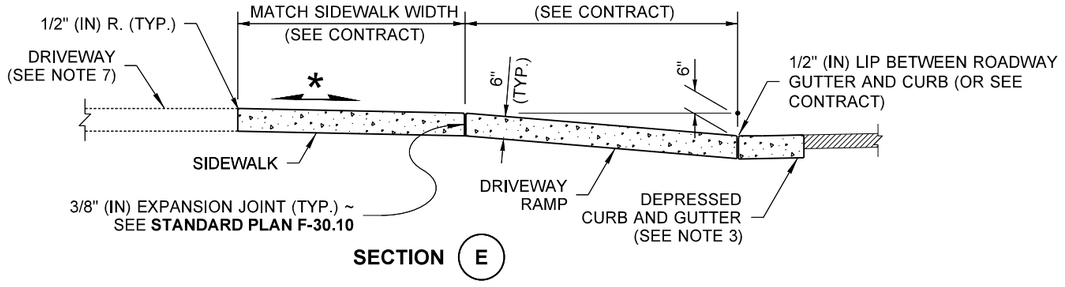
PLAN VIEW
TYPE 3



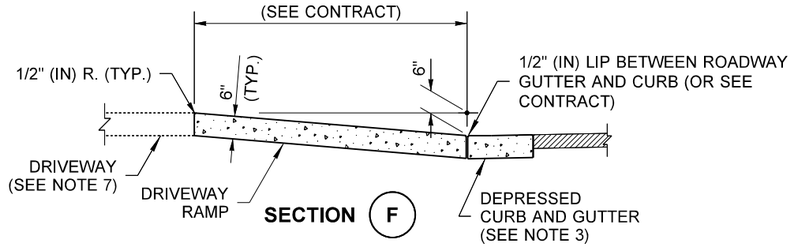
PLAN VIEW
TYPE 4 ✳

✳ THIS ENTRANCE TYPE SHALL NOT BE USED ALONG A PEDESTRIAN ROUTE

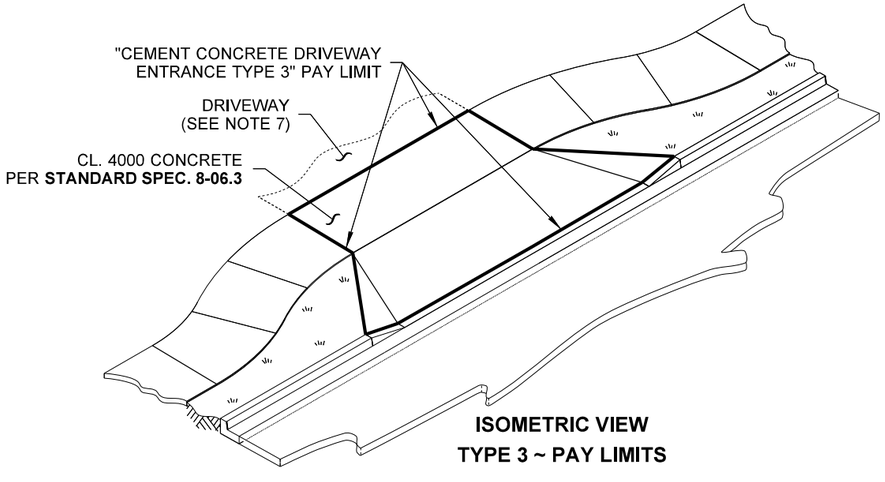
DRAWN BY: FERN LIDDELL



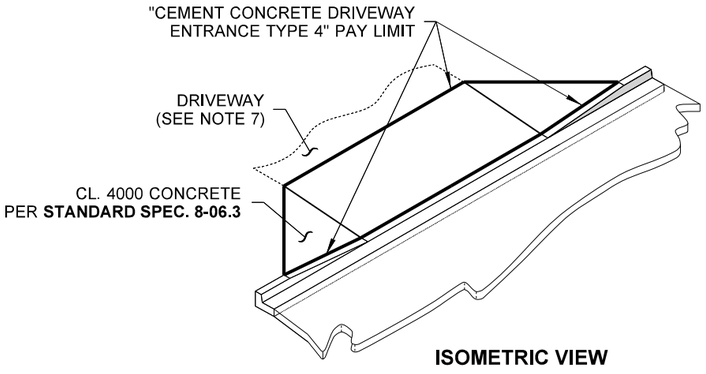
SECTION (E)



SECTION (F)



ISOMETRIC VIEW
TYPE 3 ~ PAY LIMITS



ISOMETRIC VIEW
TYPE 4 ~ PAY LIMITS

R. SCOTT ZELLER
STATE OF WASHINGTON
28680
REGISTERED
PROFESSIONAL ENGINEER

CEMENT CONCRETE DRIVEWAY ENTRANCE TYPES 1, 2, 3, & 4

STANDARD PLAN F-80.10-04

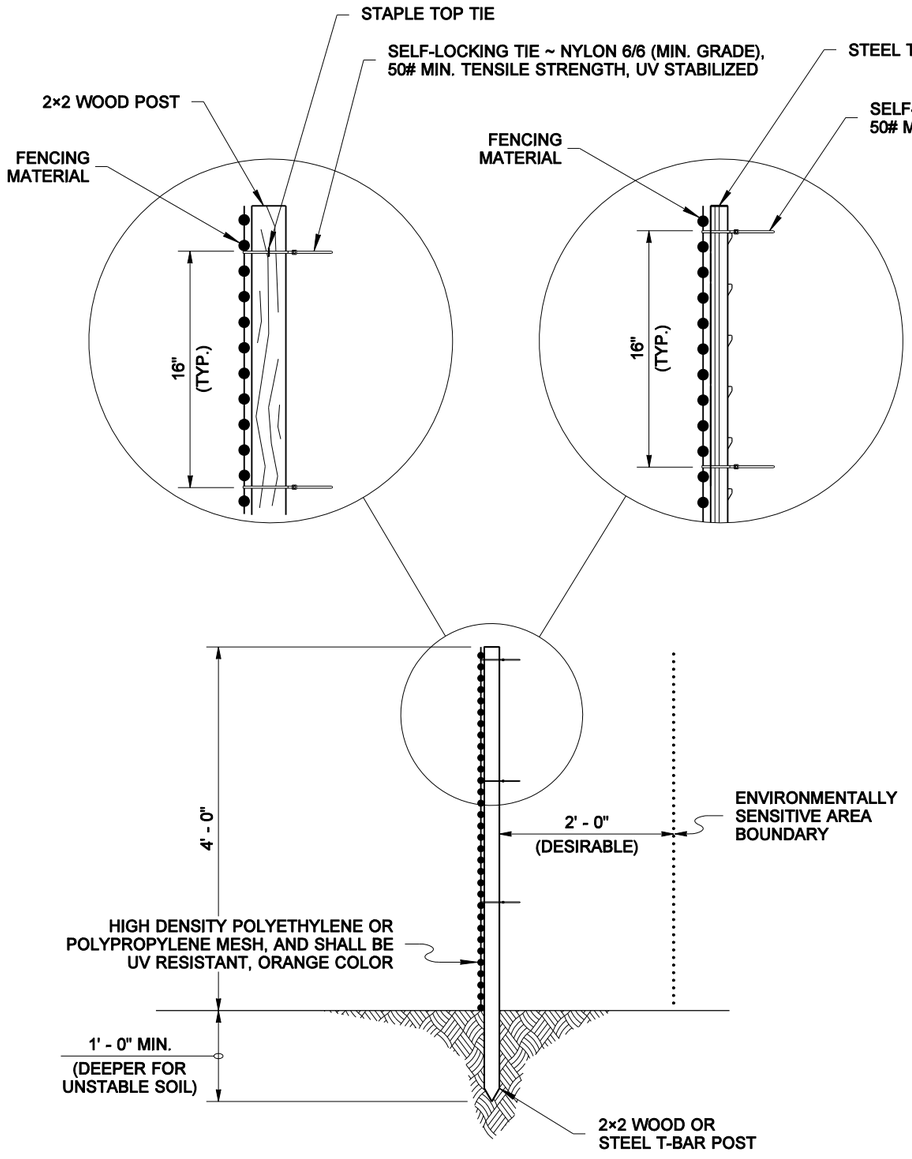
SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

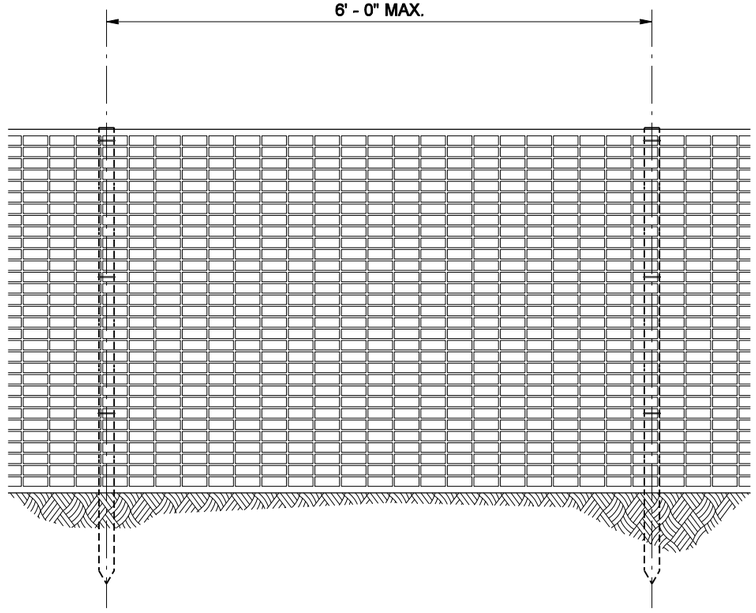
STATE DESIGN ENGINEER

Washington State Department of Transportation

DRAWN BY: BILL BERENS



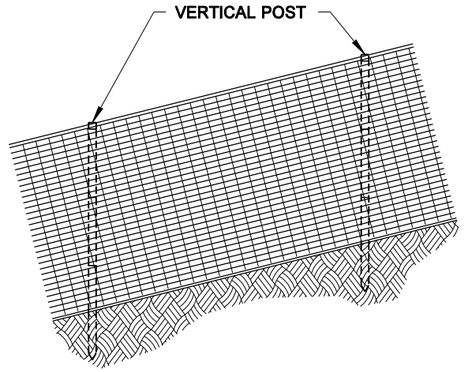
TYPICAL SECTION



ELEVATION

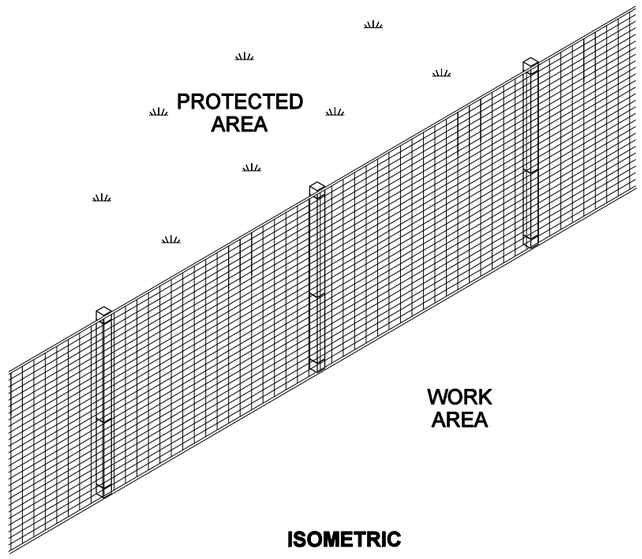
NOTE

1. Post shall have sufficient strength and durability to support the fence through the life of the project.



ELEVATION

FENCE ON SLOPE



ISOMETRIC

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

MARK W. MAURER
CERTIFICATE NO. 000598

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

HIGH VISIBILITY FENCE

STANDARD PLAN I-10.10-01

SHEET 1 OF 1 SHEET

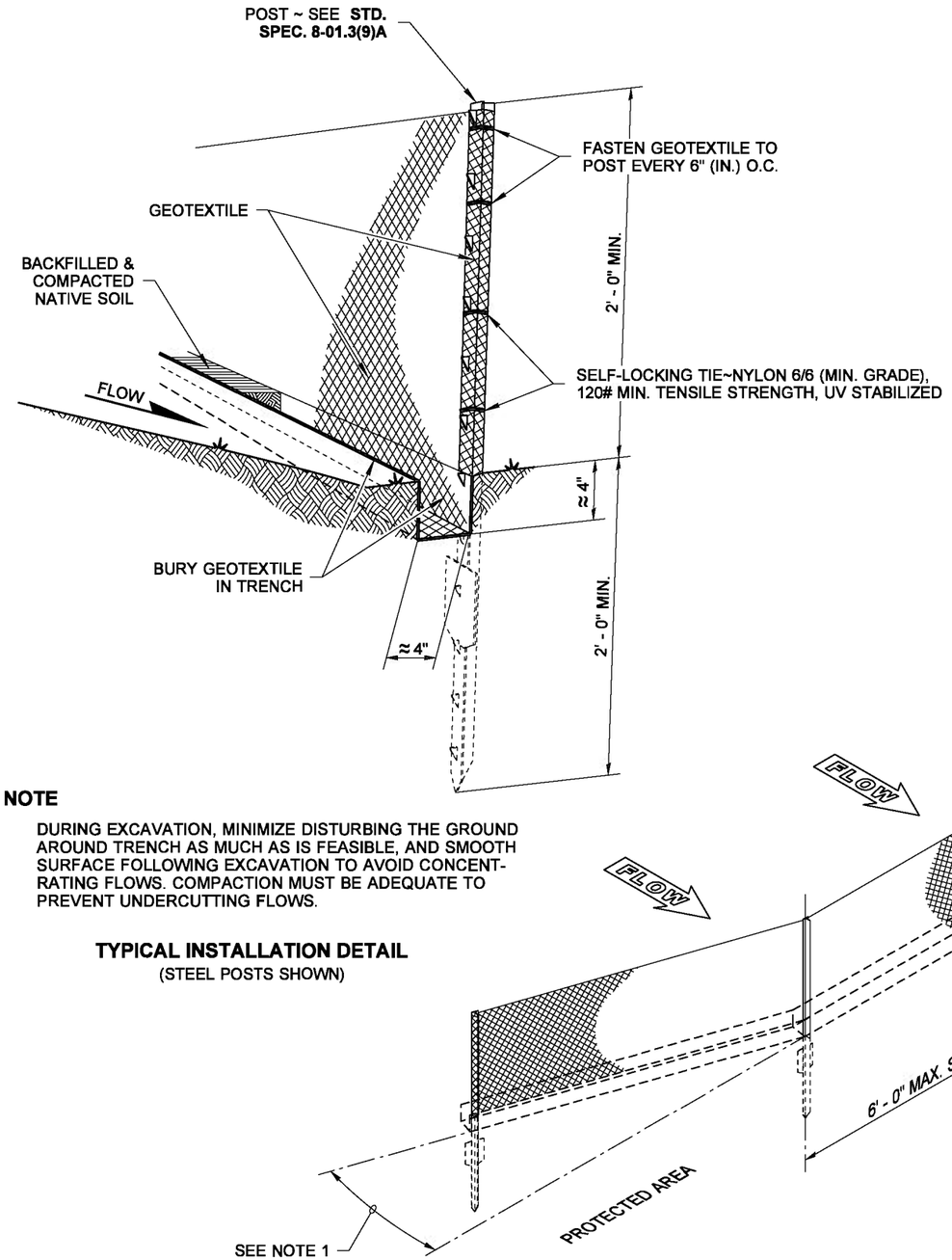
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

08-11-09 — DATE

Washington State Department of Transportation

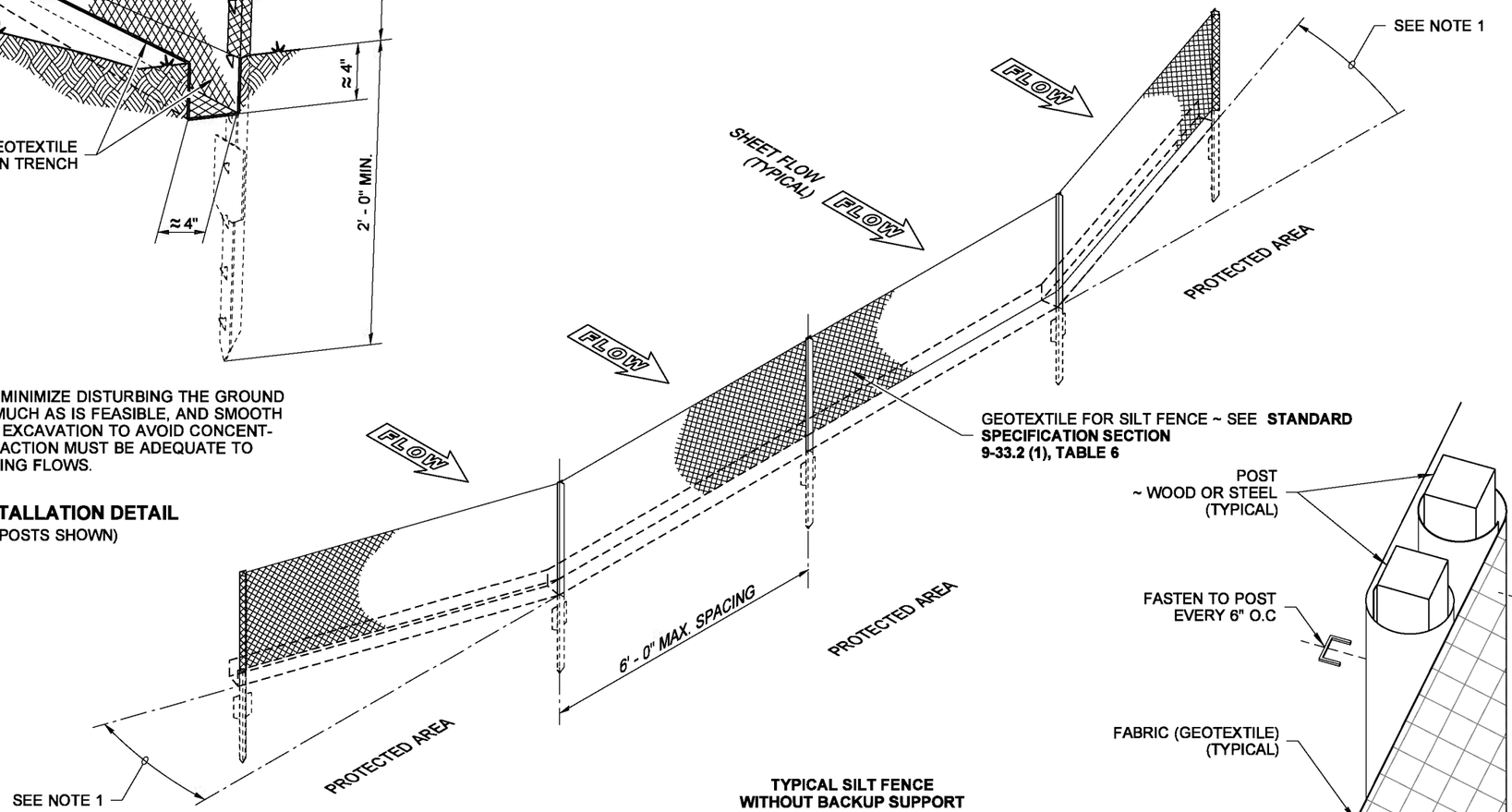
DRAWN BY: BILL BERENS



NOTE

DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

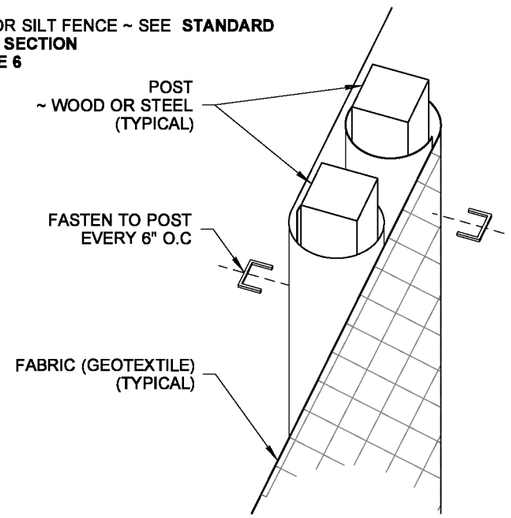
TYPICAL INSTALLATION DETAIL
(STEEL POSTS SHOWN)



TYPICAL SILT FENCE WITHOUT BACKUP SUPPORT
ISOMETRIC
(STEEL POSTS SHOWN)

NOTES

1. Install the ends of the silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
2. Perform maintenance in accordance with **Standard Specifications 8-01.3(9)A and 8-01.3(15)**.
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.



SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

SPLICE DETAIL
(WOOD POSTS SHOWN)

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

SANDRA L. SALISBURY
CERTIFICATE NO. 000860

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

SILT FENCE

STANDARD PLAN I-30.15-02

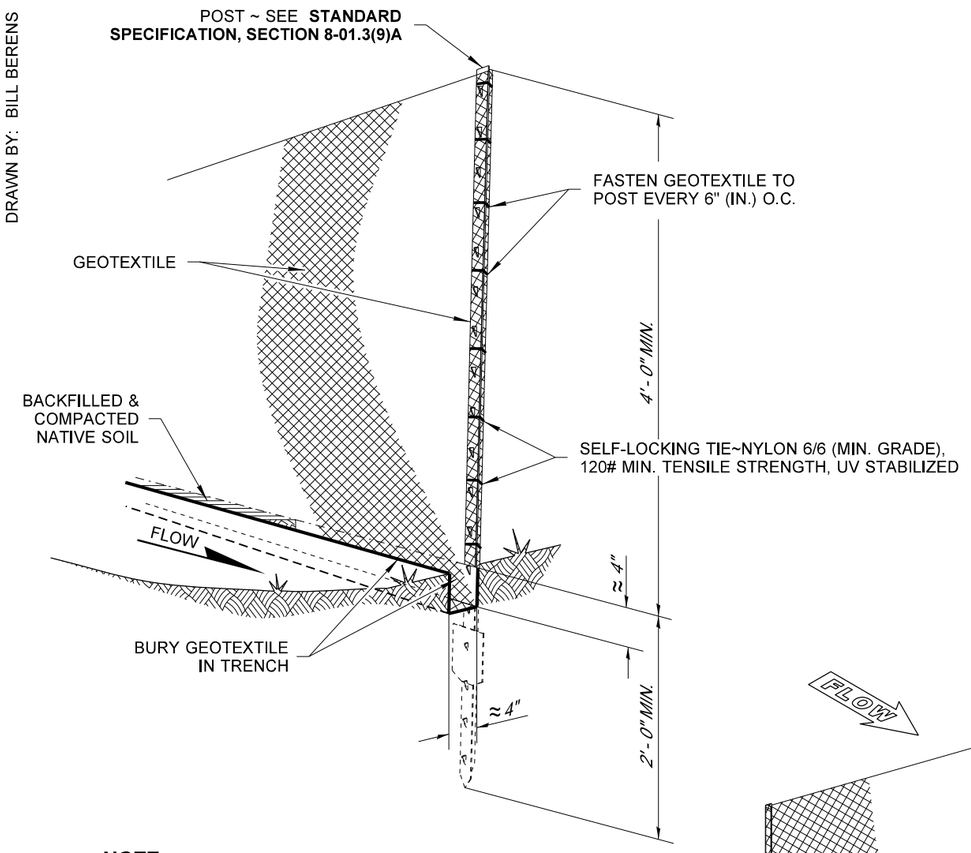
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER
3/22/13 — DATE

Washington State Department of Transportation

DRAWN BY: BILL BERENS

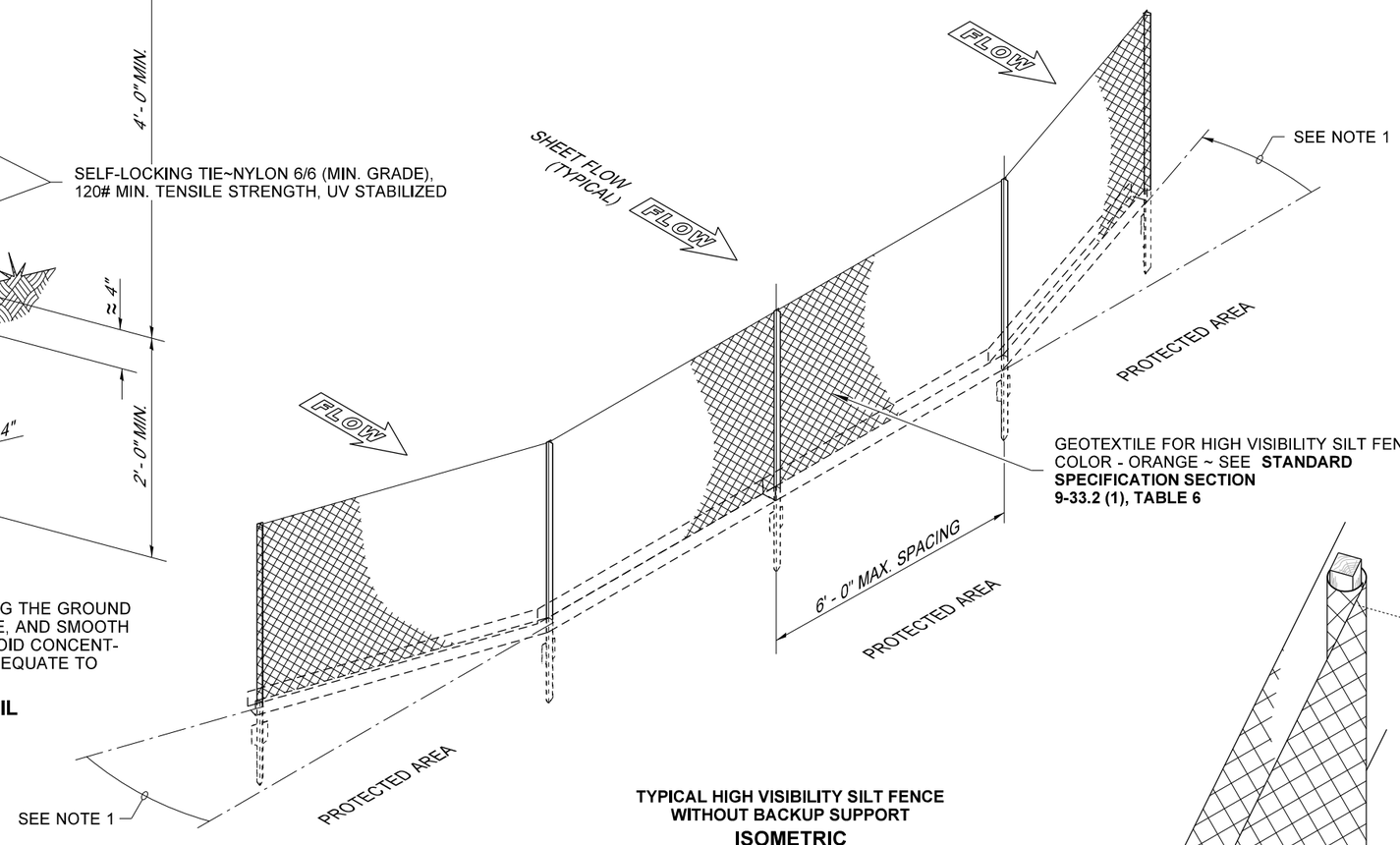


NOTE

DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENT-RATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

TYPICAL INSTALLATION DETAIL

(STEEL POSTS SHOWN)



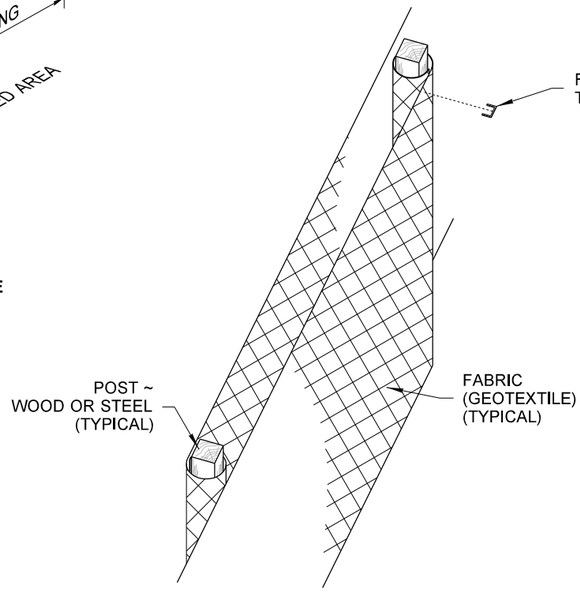
TYPICAL HIGH VISIBILITY SILT FENCE WITHOUT BACKUP SUPPORT

ISOMETRIC

(STEEL POSTS SHOWN)

NOTES

1. Angle Terminal end uphill 24" (in) to 48" (in) to prevent flow around fence (Typical).
2. Perform maintenance in accordance with **Standard Specification, Sections 8-01.3(9)A and 8-01.3(15)**.
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.



SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP. JOINING SECTIONS SHALL NOT BE PLACED IN LOW SPOTS OR IN SUMP LOCATIONS.

SPLICE DETAIL

(WOOD POSTS SHOWN)

STATE OF WASHINGTON · JULI DEE HARTWIG · NO. 1422 EXP. 06/21/2021 · LANDSCAPE ARCHITECT

HIGH VISIBILITY SILT FENCE

STANDARD PLAN I-30.17-01

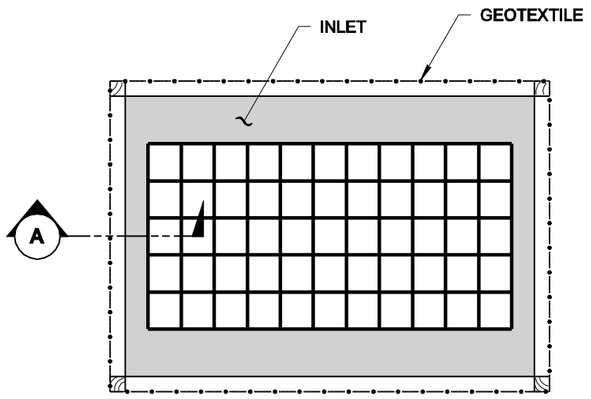
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

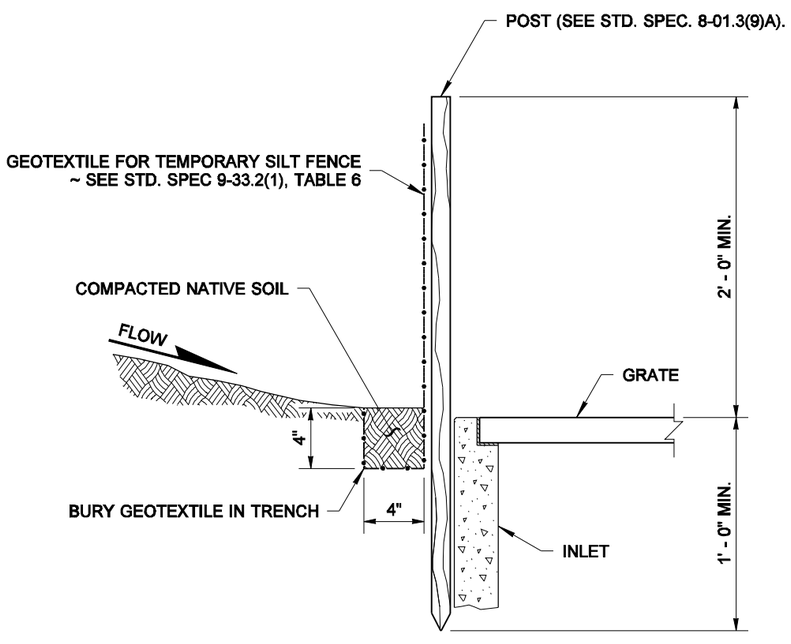
STATE DESIGN ENGINEER

Washington State Department of Transportation

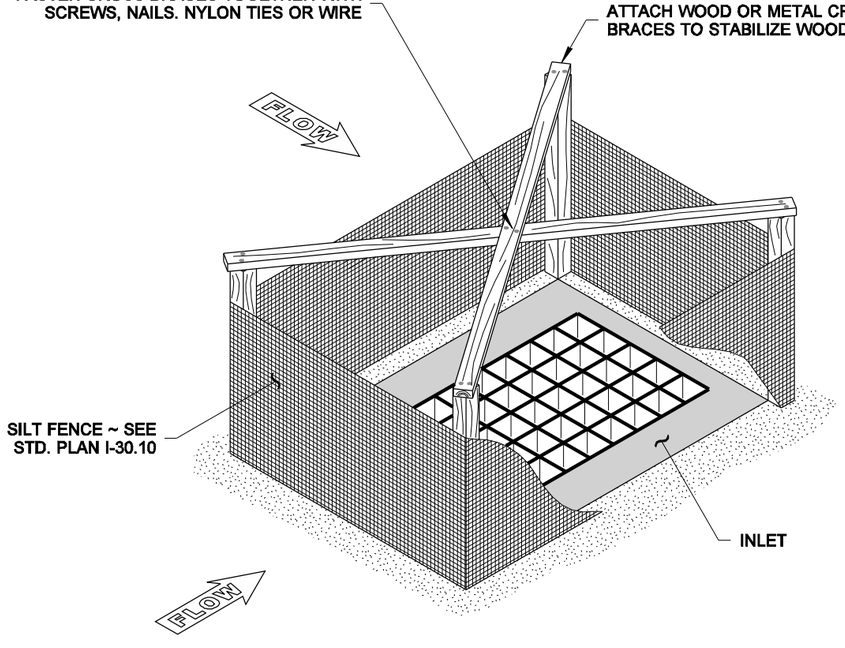
DRAWN BY: LISA CYFORD



PLAN VIEW
(CROSS BRACES NOT SHOWN)



SECTION (A)



ISOMETRIC VIEW
(ENTIRE FENCE NOT SHOWN
FOR ILLUSTRATIVE PURPOSES)

NOTES

1. Prefabricated units may be used in lieu of the design shown on this plan upon approval of the Engineer.
2. Structure shall be constructed such that geotextile material shall be fastened to posts creating a seamless joint.
3. Ensure that ponding height of water does not cause flooding on adjacent roadways or private property.
4. Perform maintenance in accordance with Standard Specification 8-01.3(15).

STATE OF
WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

MARK W. MAURER
CERTIFICATE NO. 000598

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

TEMPORARY SILT FENCE FOR INLET PROTECTION IN UNPAVED AREAS

STANDARD PLAN I-40.10-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

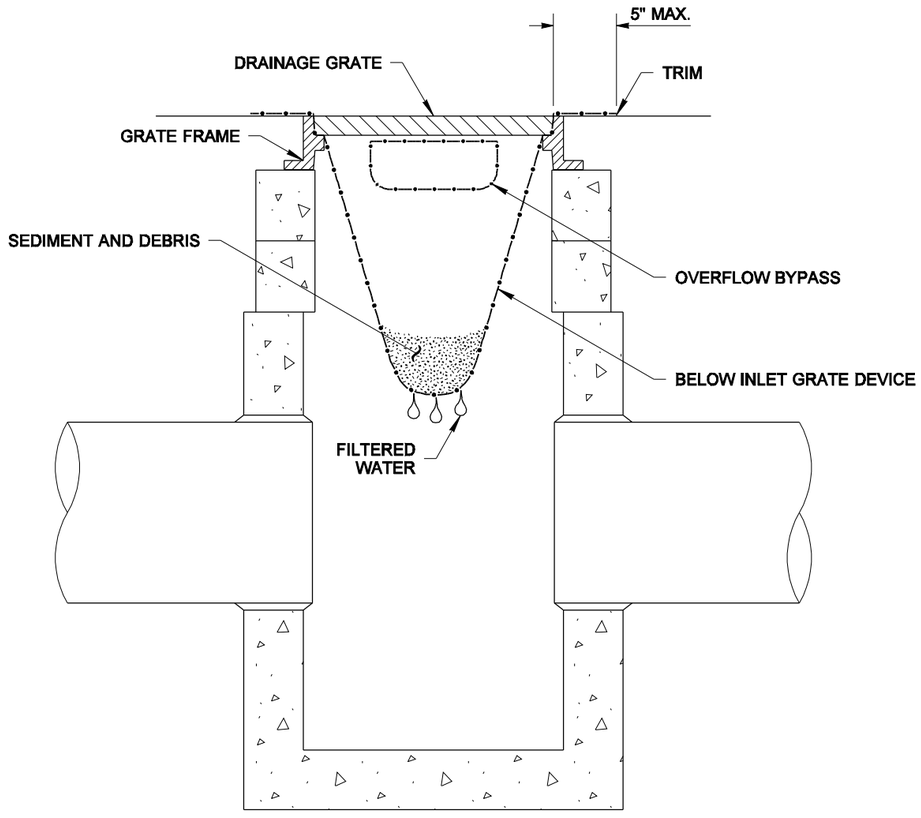
Pasco Bakotich III — STATE DESIGN ENGINEER
09-20-07 — DATE

Washington State Department of Transportation

DRAWN BY: LISA CYFORD

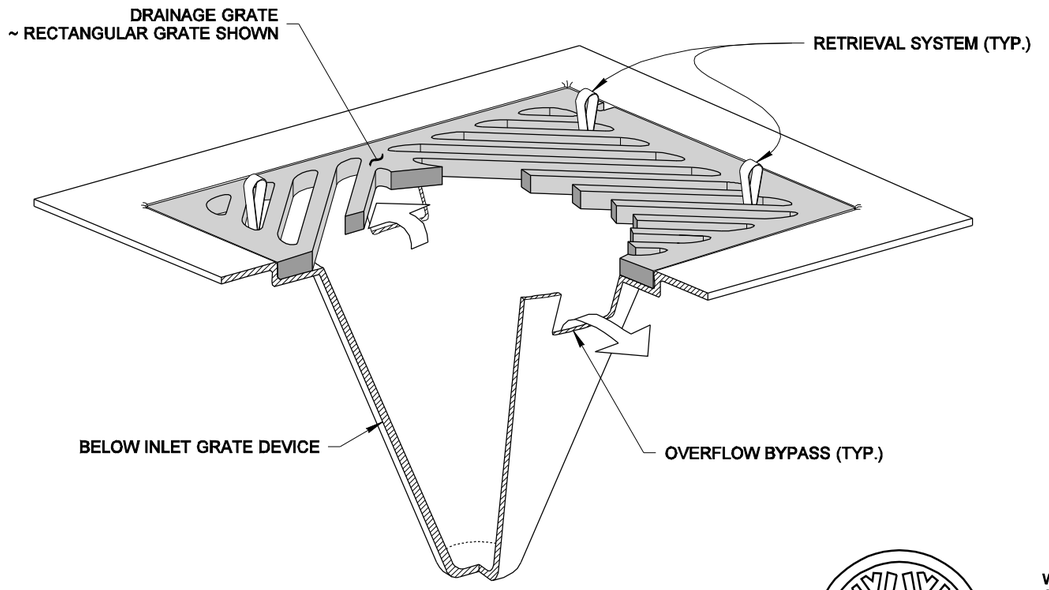
NOTES

1. Size the Below Inlet Grate Device (BIGD) for the storm water structure it will service.
2. The BIGD shall have a built-in high-flow relief system (overflow bypass).
3. The retrieval system must allow removal of the BIGD without spilling the collected material.
4. Perform maintenance in accordance with Standard Specification 8-01.3(15).



SECTION VIEW

NOT TO SCALE



ISOMETRIC VIEW

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

MARK W. MAURER
CERTIFICATE NO. 000598

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

STORM DRAIN INLET PROTECTION

STANDARD PLAN I-40.20-00

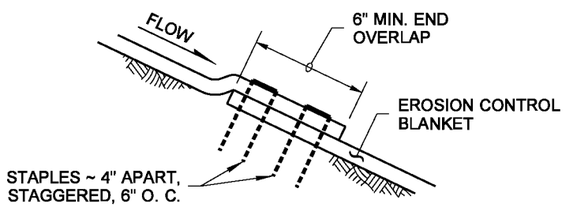
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

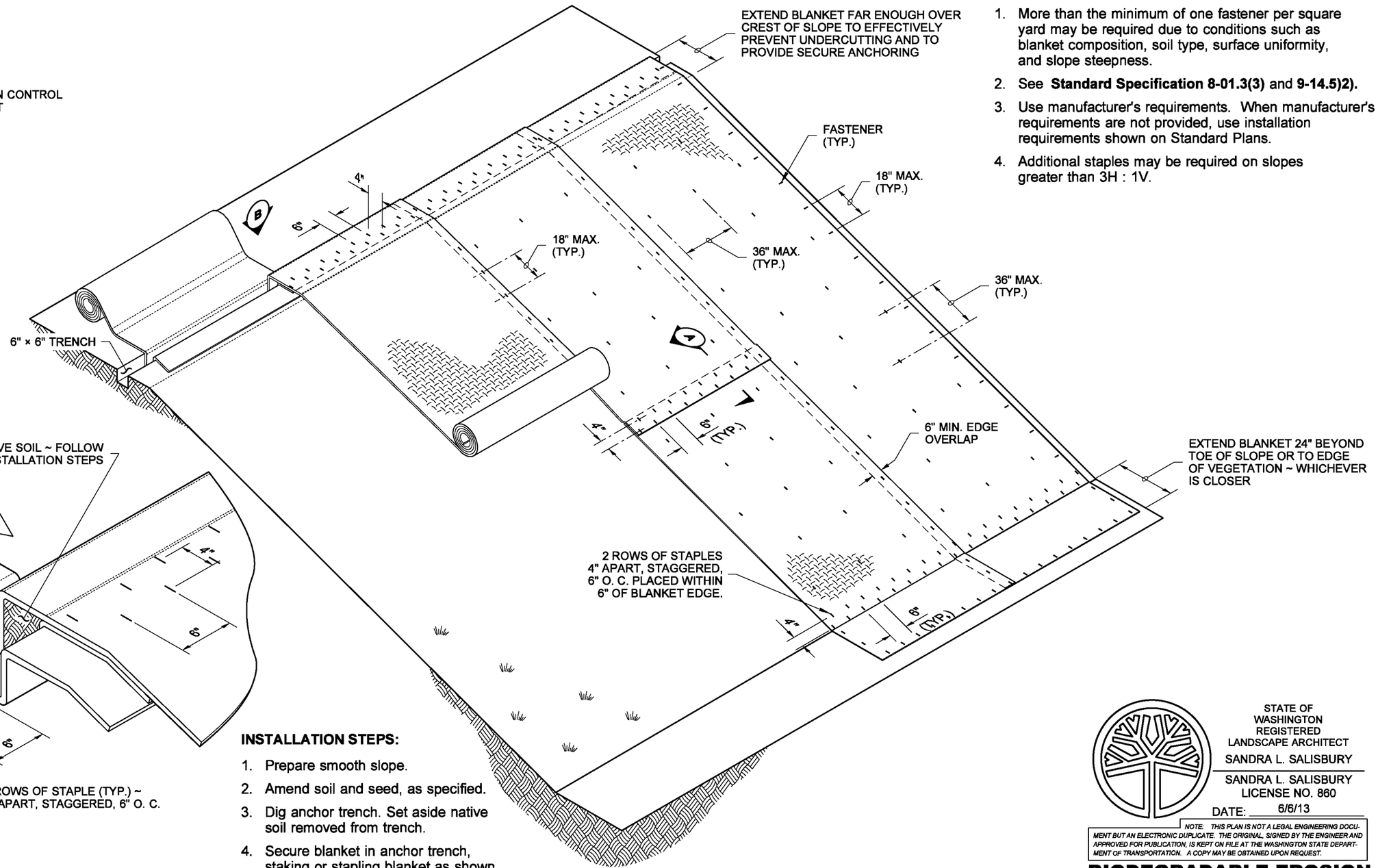
Pasco Bakotich III — STATE DESIGN ENGINEER

09-20-07 — DATE

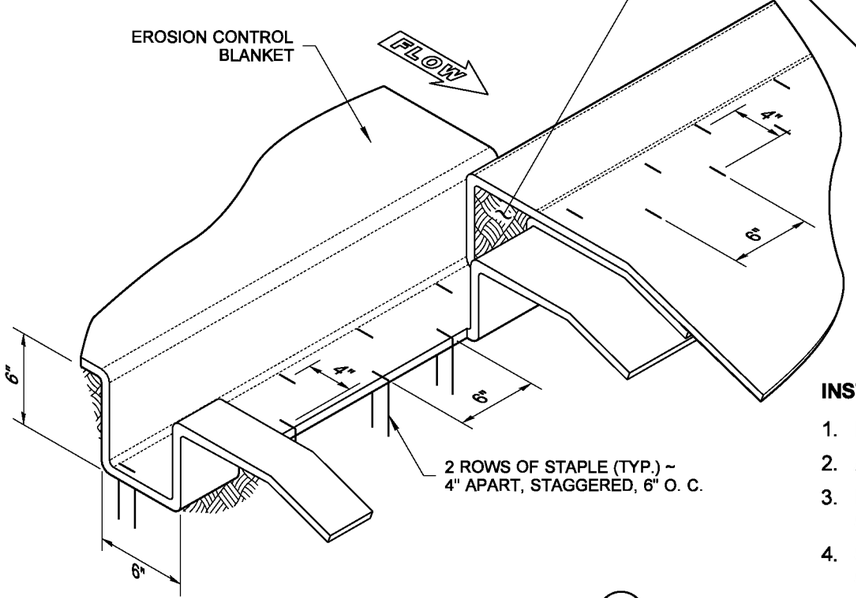
Washington State Department of Transportation



SHINGLE SPLICE ~ SECTION (A)



ISOMETRIC VIEW



INITIAL ANCHOR ~ DETAIL (B)

INSTALLATION STEPS:

1. Prepare smooth slope.
2. Amend soil and seed, as specified.
3. Dig anchor trench. Set aside native soil removed from trench.
4. Secure blanket in anchor trench, staking or stapling blanket as shown.
5. Replace native soil previously removed from trench.
6. Roll blanket down the slope in a controlled manner, taking care to remove excess slack, and taking care not to stretch blanket.
7. Stake or staple blanket as shown so there are no gaps between the blanket and the soil. Staple while unrolling blanket to minimize walking on blanket.

NOTES

1. More than the minimum of one fastener per square yard may be required due to conditions such as blanket composition, soil type, surface uniformity, and slope steepness.
2. See **Standard Specification 8-01.3(3)** and **9-14.5)2).**
3. Use manufacturer's requirements. When manufacturer's requirements are not provided, use installation requirements shown on Standard Plans.
4. Additional staples may be required on slopes greater than 3H : 1V.

DRAWN BY: LISA CYFORD

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
SANDRA L. SALISBURY

SANDRA L. SALISBURY
LICENSE NO. 860
DATE: 6/6/13

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

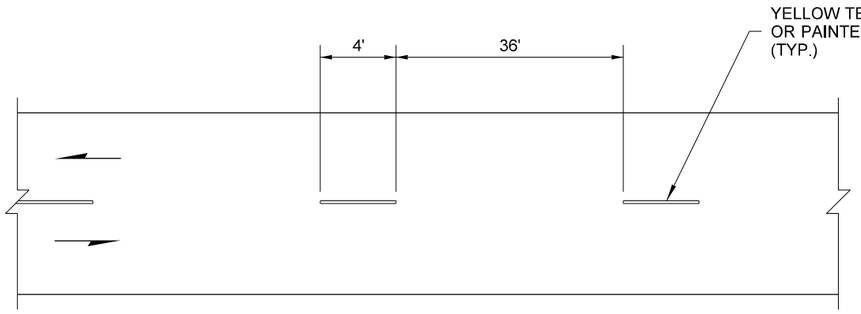
BIODEGRADABLE EROSION CONTROL BLANKET PLACEMENT FOR SLOPES STANDARD PLAN I-60.10-01

SHEET 1 OF 1 SHEET

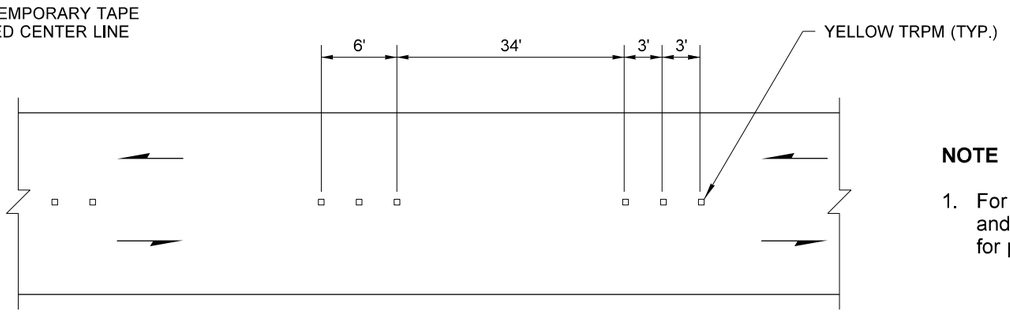
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER
6/10/13 — DATE

Washington State Department of Transportation



HOT MIX ASPHALT PAVEMENT



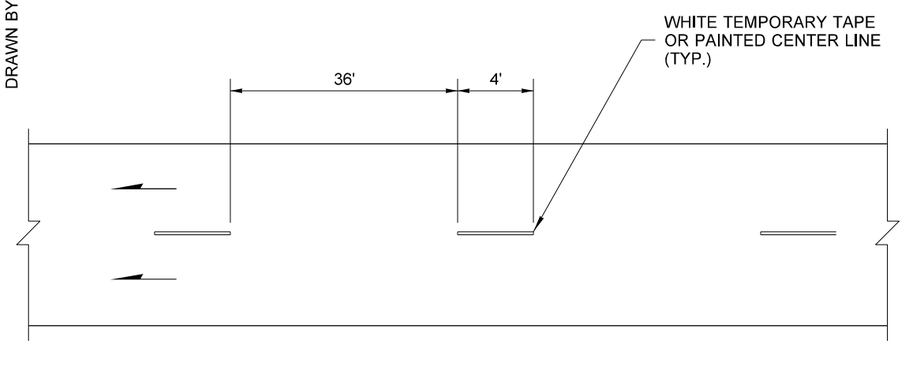
BITUMINOUS SURFACE TREATMENT

TWO-LANE ROADWAY

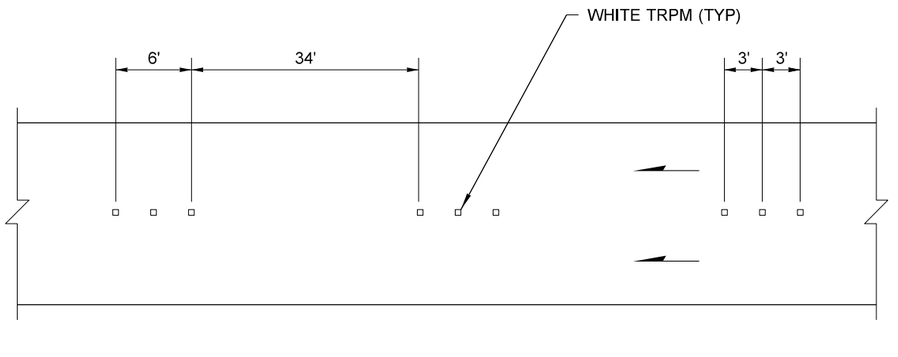
NOTE

1. For Hot Mix Asphalt Paving projects ~ "DO NOT PASS" and "PASS WITH CARE" signs shall be included for passing zones.

DRAWN BY: FERN LIDDELL

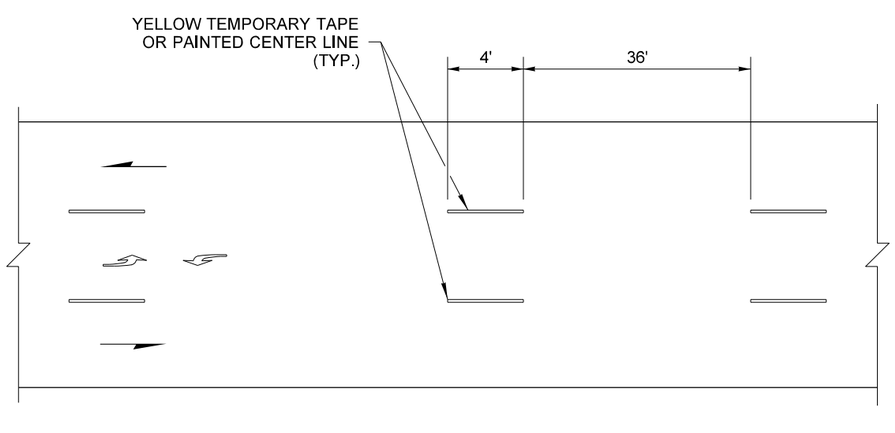


HOT MIX ASPHALT PAVEMENT

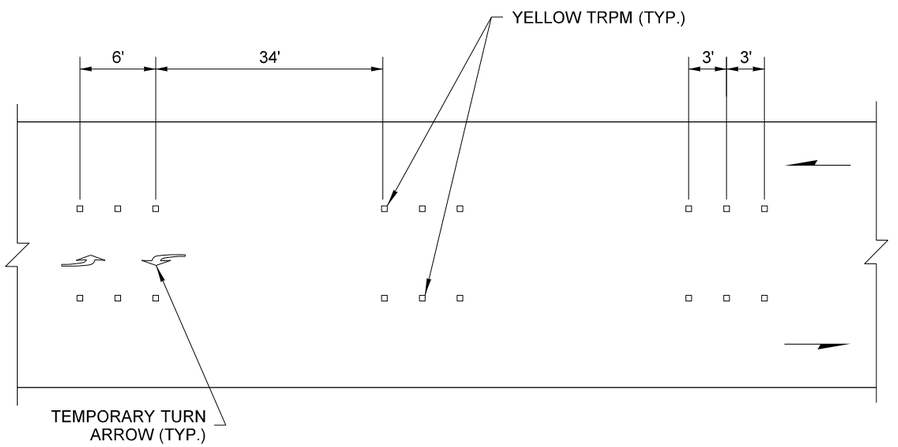


BITUMINOUS SURFACE TREATMENT

ONE-WAY TWO-LANE ROADWAY



HOT MIX ASPHALT PAVEMENT



BITUMINOUS SURFACE TREATMENT

TWO-WAY TWO-LANE LEFT TURN ROADWAY

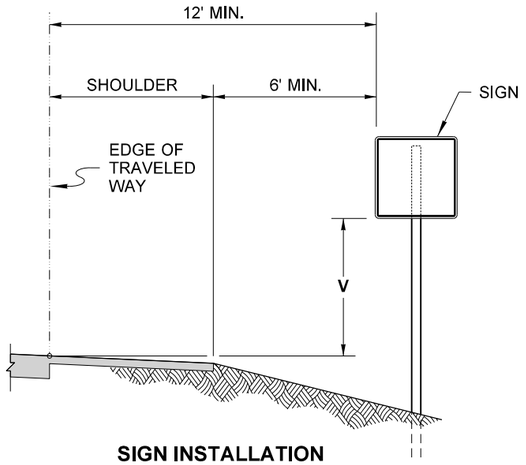
TEMPORARY PAVEMENT MARKING ~ SHORT DURATION STANDARD PLAN K-70.20-01

SHEET 1 OF 1 SHEET

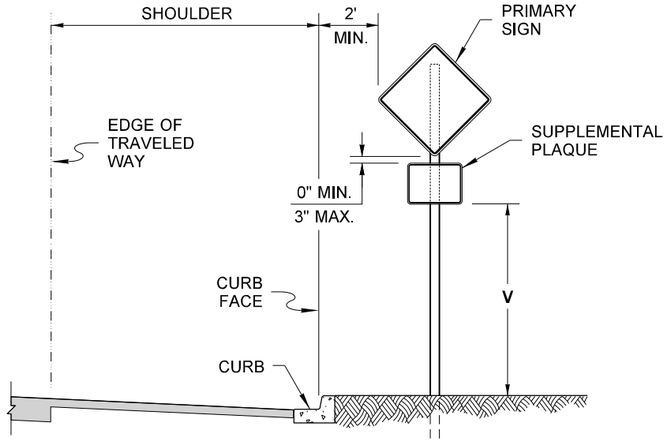
APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER

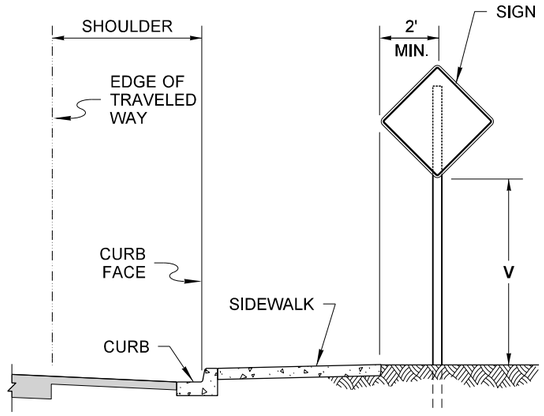
Washington State Department of Transportation



SIGN INSTALLATION (FILL SECTION)



SIGN INSTALLATION (CURB SECTION)



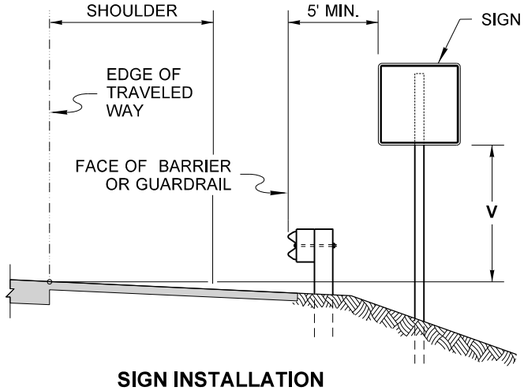
SIGN INSTALLATION (SIDEWALK AND CURB SECTION)

NOTES

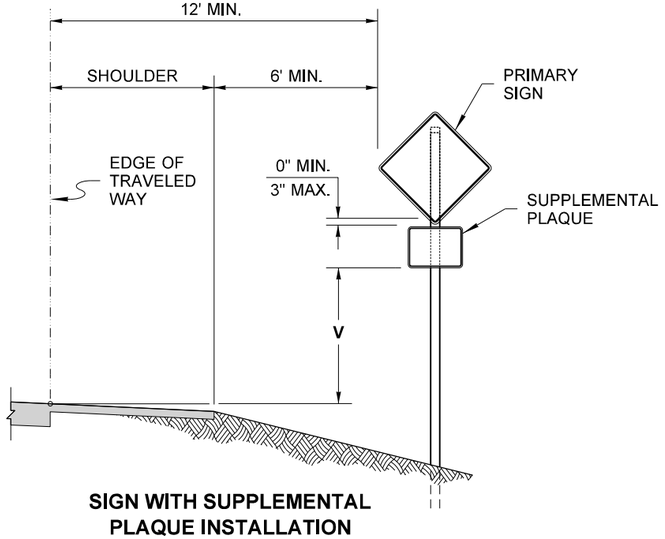
1. For sign installation details, see **Standard Plan G - series.**
2. Where it is impractical to locate a sign with the lateral offset, a minimum of 2'(ft) offset may be used. A 1'(ft) lateral offset may be used in business, commercial or residential areas.
3. The "**V**" height for signs, with an area of more than 50 square feet and two or more sign supports, is 7 feet in both rural and urban areas.

HEIGHT V		
	TO BOTTOM OF SIGN (NO SUPPLEMENTAL PLAQUE)	**TO BOTTOM OF SUPPLEMENTAL PLAQUE** (WHEN REQUIRED)
RURAL	5' MINIMUM	4' MINIMUM
URBAN	7' MINIMUM	6' MINIMUM

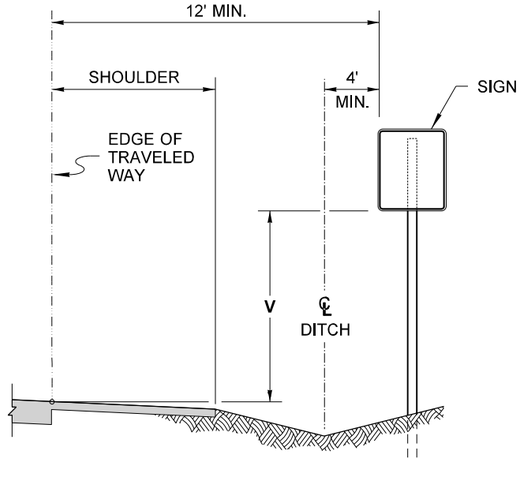
DRAWN BY: FERN LIDDELL



SIGN INSTALLATION (BEHIND TRAFFIC BARRIER)



SIGN WITH SUPPLEMENTAL PLAQUE INSTALLATION (FILL SECTION)



SIGN INSTALLATION (DITCH SECTION)

BRIAN J. WALSH
STATE OF WASHINGTON
36103
REGISTERED
PROFESSIONAL ENGINEER

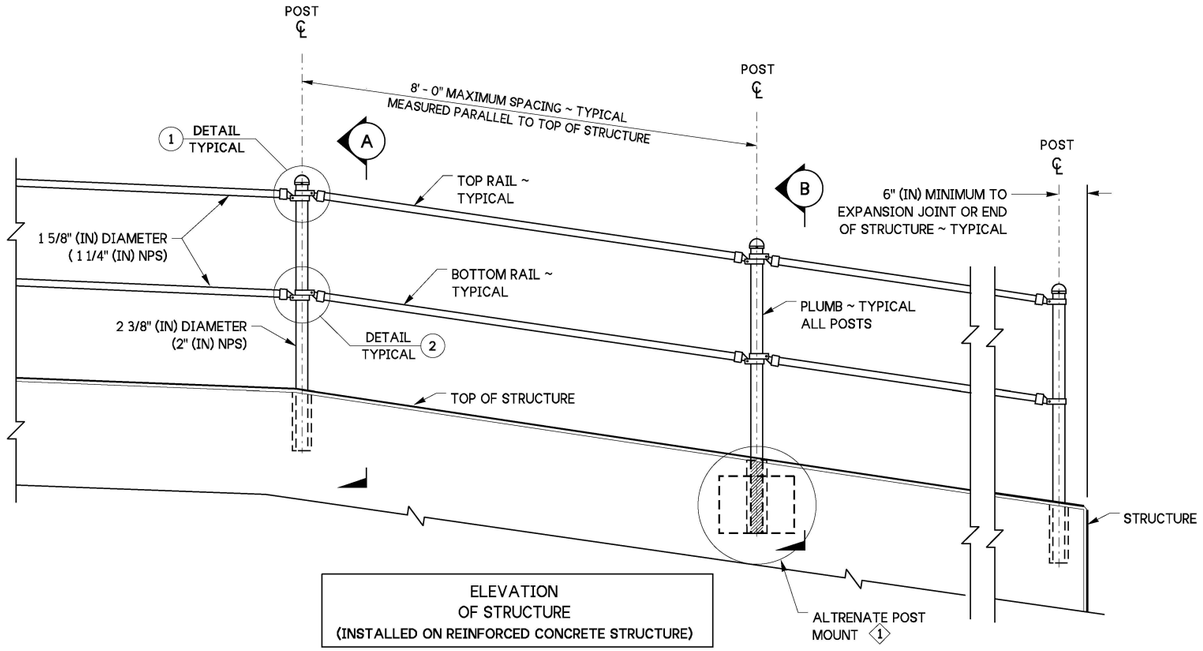
2020.09.23 13:48:58 -07'00'

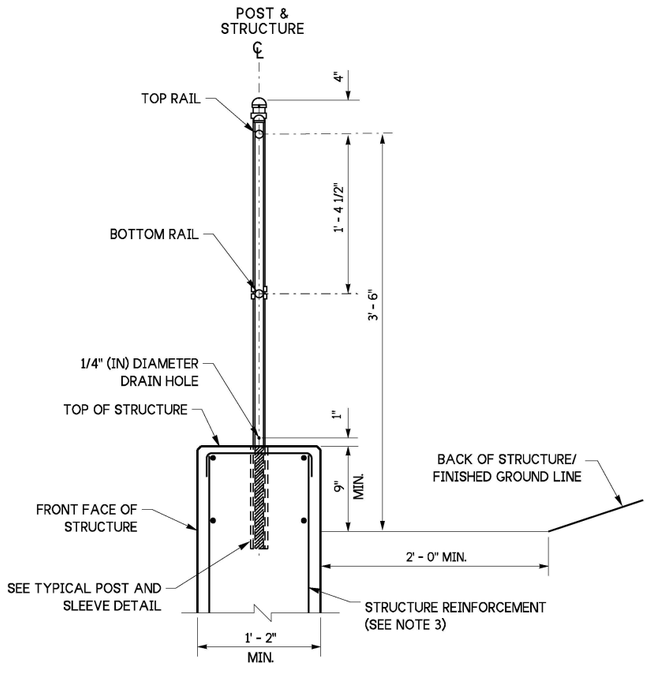
CLASS A CONSTRUCTION SIGNING INSTALLATION

STANDARD PLAN K-80.10-02

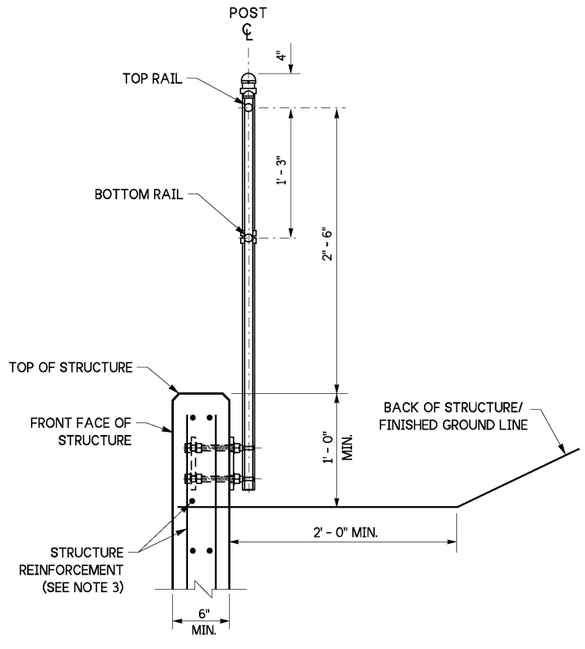
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Date: 2020.09.25 14:46:01 -07'00'
STATE DESIGN ENGINEER
Washington State Department of Transportation





SECTION A



SECTION B

NOTES

1. This chain link pipe rail fence meets the requirements for worker fall protection in accordance with **WAC 296-880** and shall not be used for pedestrian applications. Chain link fabric shall not be attached to this chain link pipe rail fence.

2. This structure has been designed in accordance with the requirements of **AASHTO LRFD Bridge Design Specifications** 9th Edition 2020, and loading in accordance with WAC 296-880.

3. Supporting structure shall account for the attachments shown here and be designed for fall protection loading in accordance with WAC 296-880 or as specified in the contract.

4. Unless otherwise shown in the plans, concrete cover measured from the face of the concrete to the face of any reinforcing steel shall be 2" (in) min. clearance.

5. Post and Rail elements shall conform to **Standard Specifications Section 9-16.1(1)A** and shall be schedule 40 (minimum yield strength of 50 KSI). Fittings and hardware shall conform to **Standard Specifications Section 9-16.1(1)D**. Fittings shall be pressed steel. Carriage bolts and associated nuts and washers shall conform to **Standard Specifications Section 9-06.5(1)**. Anchor bolts and associated nuts and washers shall conform to **Section 9-06.5(4)**. All plates shall conform to **ASTM A36**.

6. All steel parts shall be hot dip galvanized in accordance with **AASHTO M111, M232 or ASTM F2329** after fabrication, unless noted otherwise.

7. All tubes, pipes, and hardware shall be shop painted or powder coated after galvanizing in accordance with **Standard Specifications Section 6-07.3(11)**. The color of the finish coat, when dry, shall match the color SAE AMS Standard color No. 20045 or as specified in the contract. After installation, any surfaces with paint or powder coating damage shall be repaired in accordance with **Standard Specification Section 6-07.3(10)P or Section 6-07.3(11)B6**, respectively.

8. The chain link pipe rail fence shall be placed outside the roadway design clear zone, or shielded by a traffic barrier. The chain Link pipe rail fence shall be placed outside the deflection distance of all traffic barrier types except for the long span guardrail system, (See **Standard Plan C-20.40** for placement conditions.). For traffic barrier having no deflection distance, the fence shall be placed a minimum horizontal distance of 3' - 6' as measured from the top front face of the barrier.

KEY NOTE

1 The same post mounting detail shall be used for each structure and shall not be interchanged within one structure.

LEGEND

NPS Nominal pipe size

Jun 4, 2024

BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL

STANDARD PLAN L-5.10-02

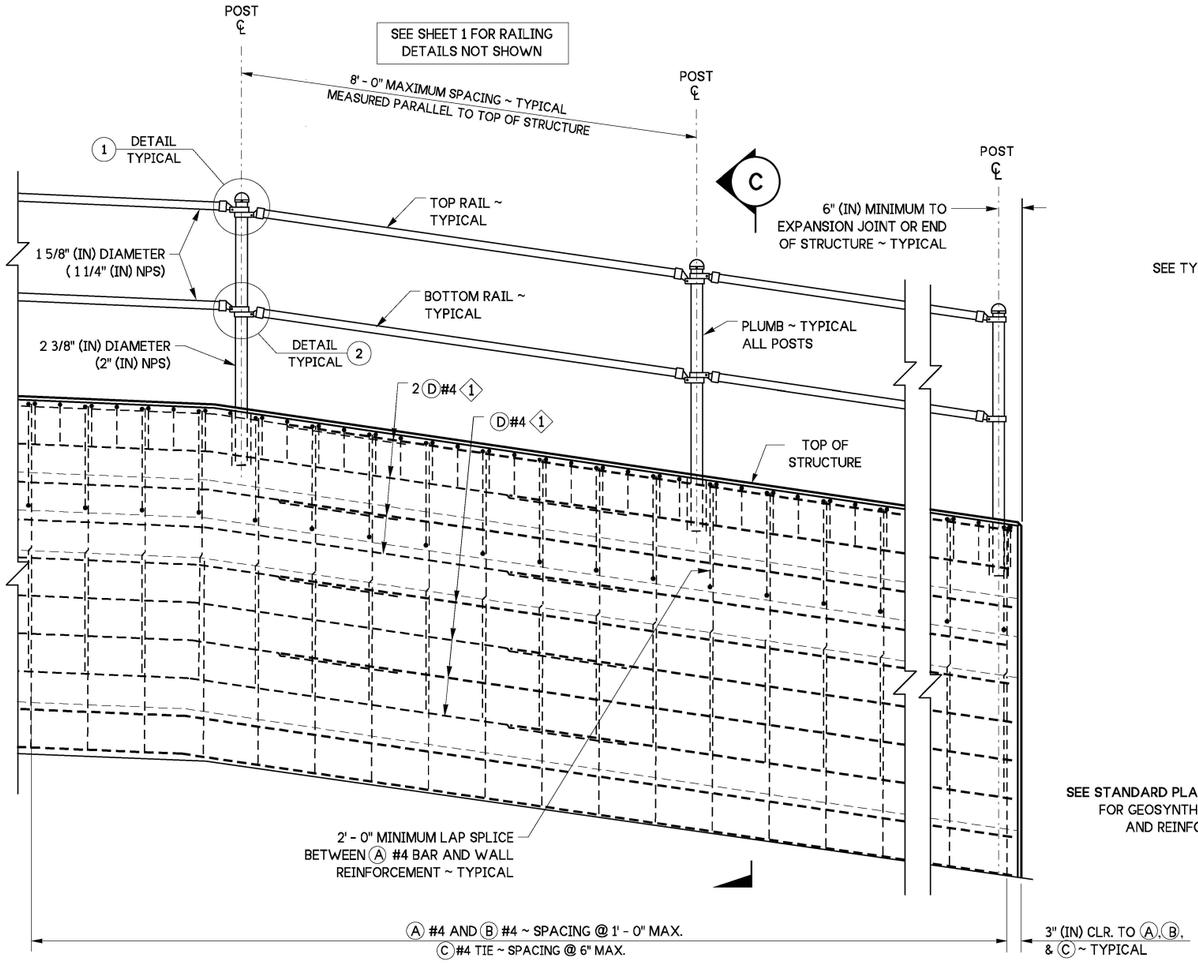
SHEET 1 OF 5 SHEETS

APPROVED FOR PUBLICATION

Mark A Hoines Jun 5, 2024

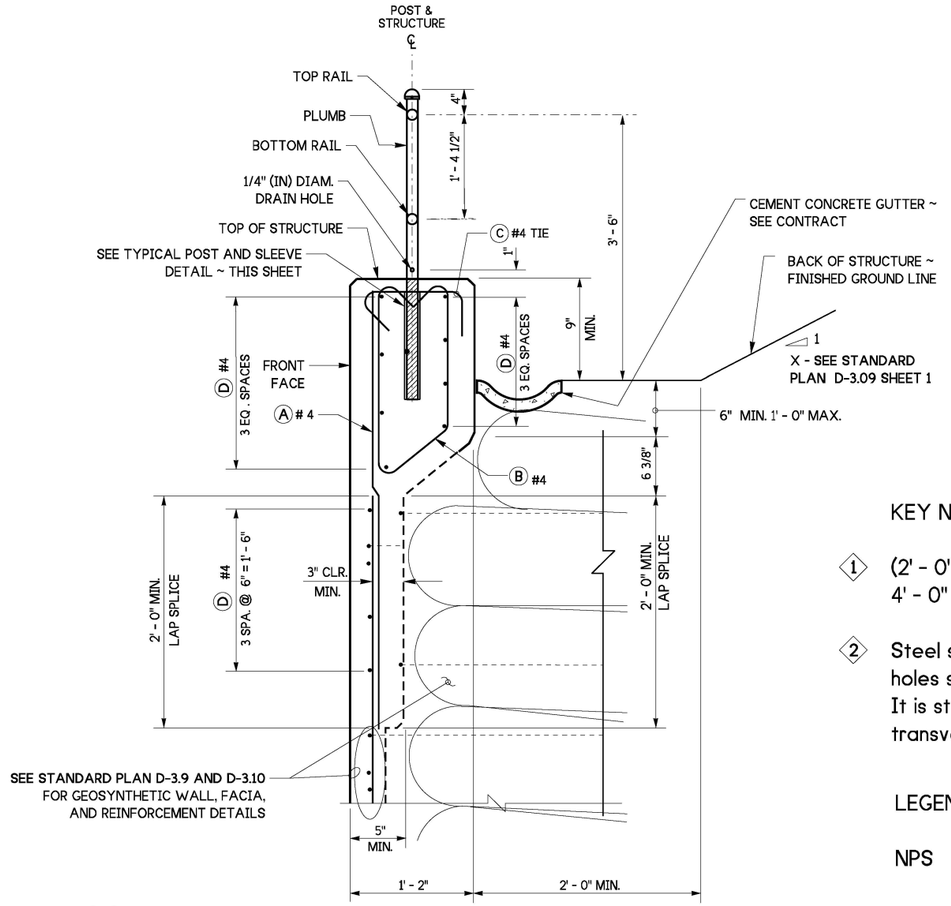
STATE DESIGN ENGINEER

Washington State Department of Transportation



TYPICAL ELEVATION

(INSTALLED ON CAST-IN-PLACE PERMANENT GEOSYNTHETIC WALL FACIA AND FACING. SEE **STANDARD PLAN D-3.10** FOR FACIA DETAILS AND REINFORCEMENT)



SECTION C

KEY NOTES

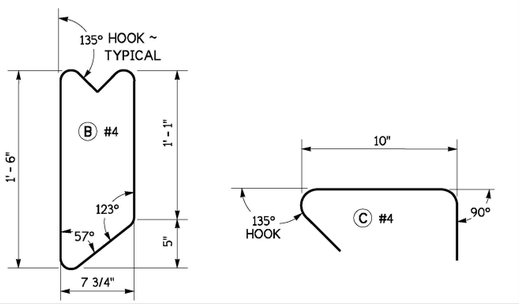
1. (2' - 0" min. splice when required) Stagger splice 4' - 0" horizontal between adjacent rebar.
2. Steel sleeve may be omitted if hole is cored. Cored holes shall be 3" (in) diameter and walls roughened. It is structurally acceptable to core through top transverse ties.

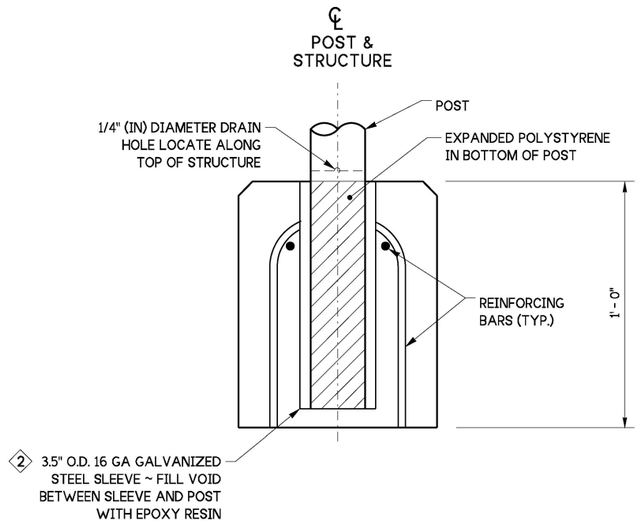
LEGEND

NPS Nominal pipe size

REINFORCING STEEL BENDING DIAGRAM

SEE **STANDARD SPECIFICATION 9-07.12(2)** FOR BENDING DIAGRAM





TYPICAL POST AND SLEEVE DETAIL

MICHAEL A. ROSA
STATE OF WASHINGTON
43707
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Jun 4, 2024

BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL

STANDARD PLAN L-5.10-02

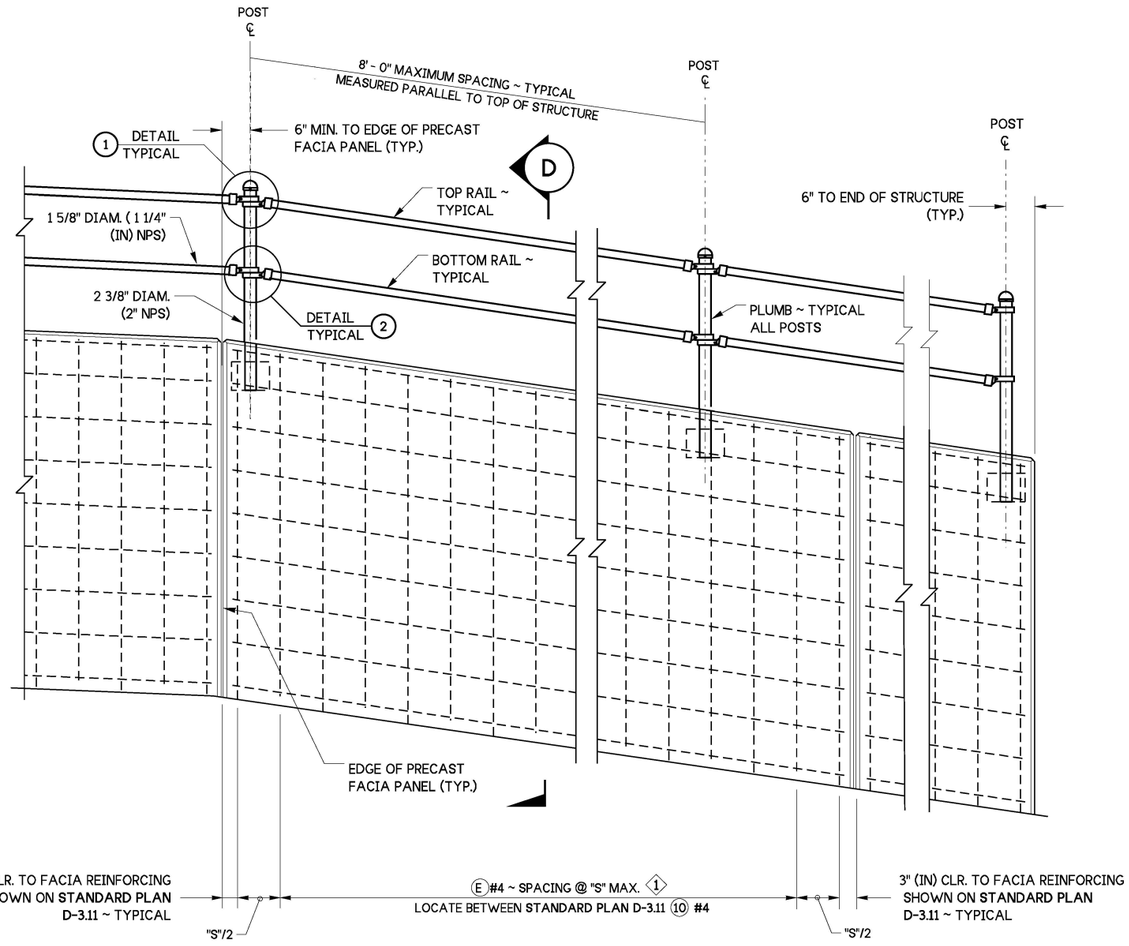
SHEET 2 OF 5 SHEETS

APPROVED FOR PUBLICATION

Jun 5, 2024

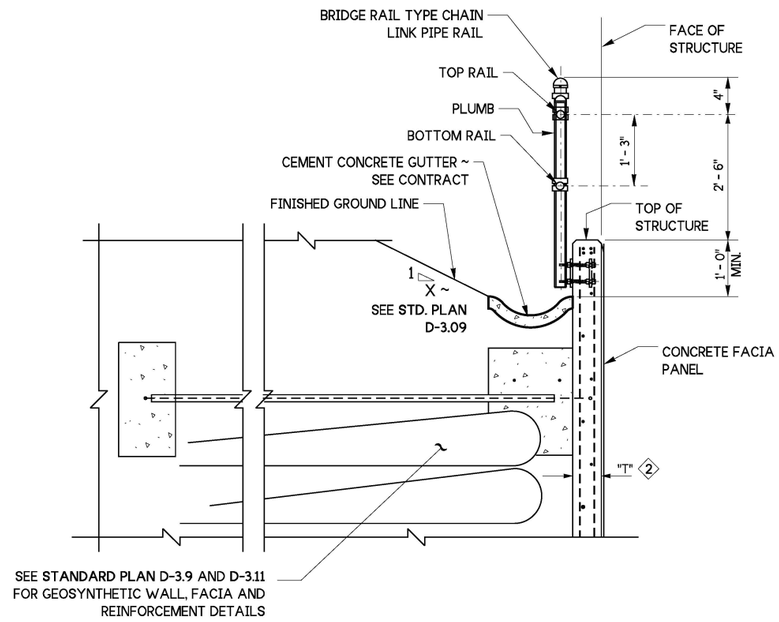
STATE DESIGN ENGINEER

Washington State Department of Transportation



TYPICAL ELEVATION

INSTALLED ON PRECAST PERMANENT GEOSYNTHETIC WALL FACIA
SEE STANDARD PLAN D-3.11 FOR FACIA DETAILS AND REINFORCEMENT



SECTION D

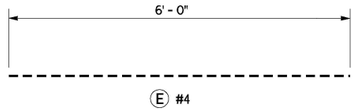
KEY NOTES

1 SEE STANDARD PLAN D-3.11 FOR SPACING "S"

2 SEE STANDARD PLAN D-3.11 FOR PANNEL THICKNESS "T"

REINFORCING STEEL BENDING DIAGRAM

SEE STANDARD SPECIFICATION 9-07.12(2) FOR BENDING DIAGRAM



Jun 4, 2024

BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL

STANDARD PLAN L-5.10-02

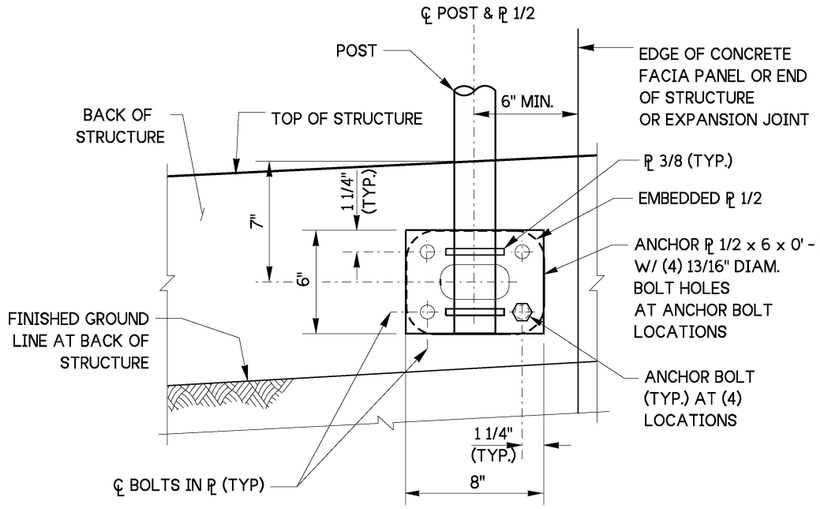
SHEET 3 OF 5 SHEETS

APPROVED FOR PUBLICATION

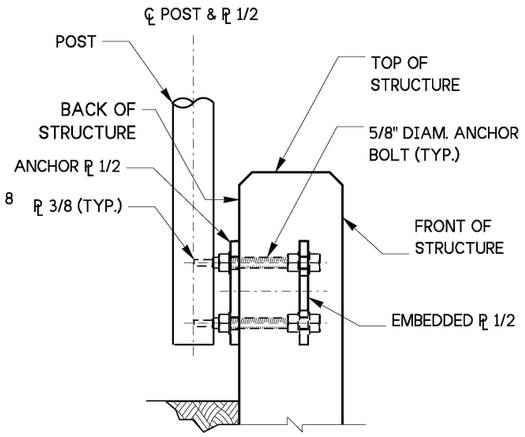
Mark A Hoines Jun 5, 2024

STATE DESIGN ENGINEER

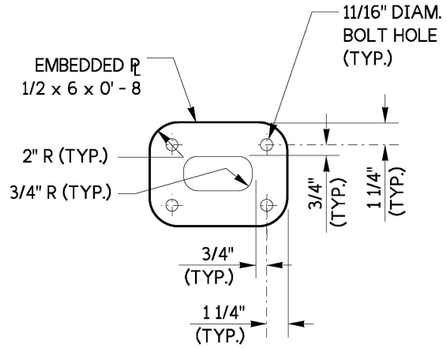
Washington State Department of Transportation



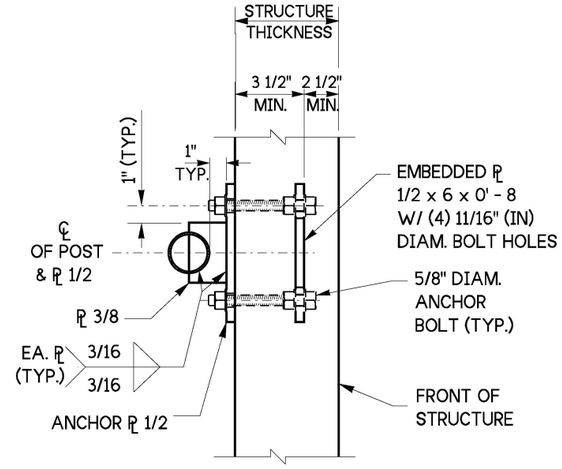
ELEVATION VIEW



SIDE VIEW

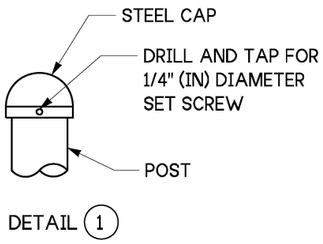


EMBEDDED PLATE DETAILS

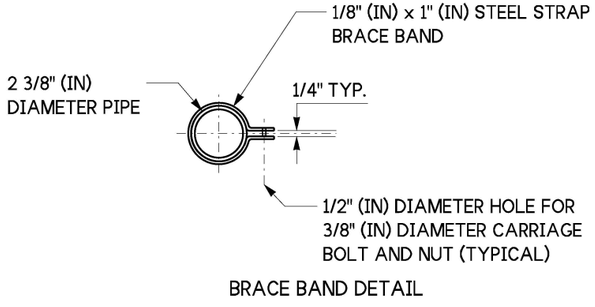


PLAN VIEW

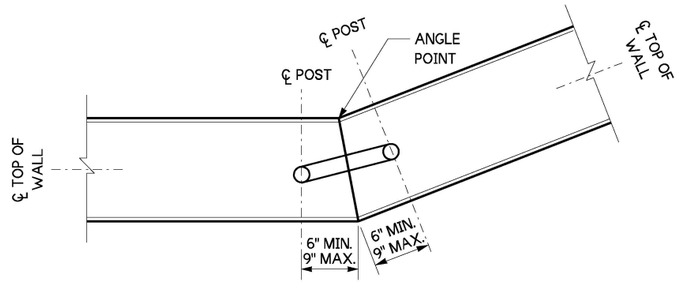
POST SIDE MOUNT ATTACHMENT DETAILS



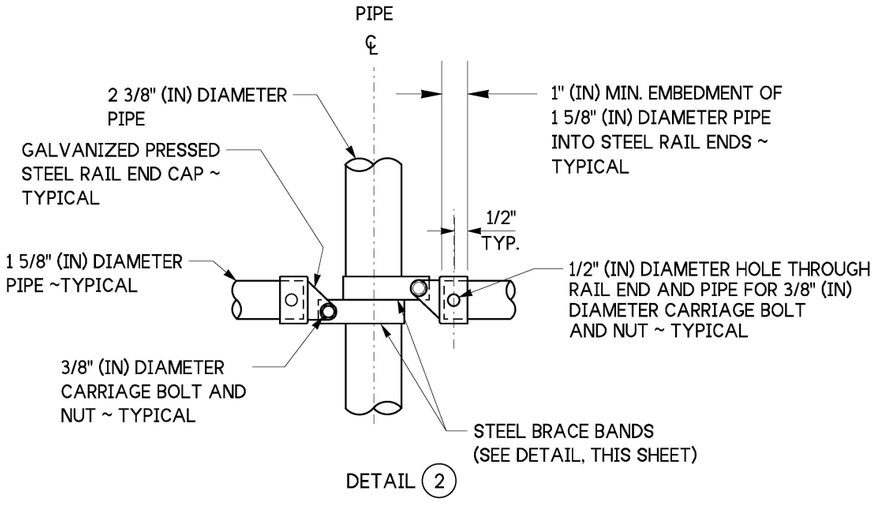
DETAIL (1)



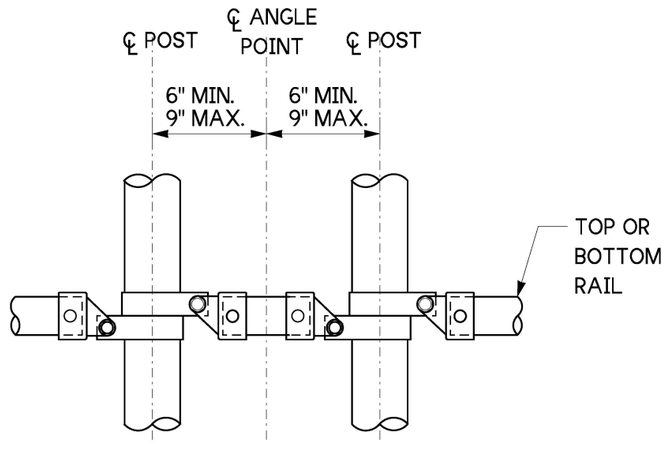
BRACE BAND DETAIL



HORIZONTAL ANGLE PLAN



DETAIL (2)



HORIZONTAL ANGLE ELEVATION

(FOR INFORMATION NOT SHOWN SEE DETAIL 2)

Jun 4, 2024

BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL

STANDARD PLAN L-5.10-02

SHEET 4 OF 5 SHEETS

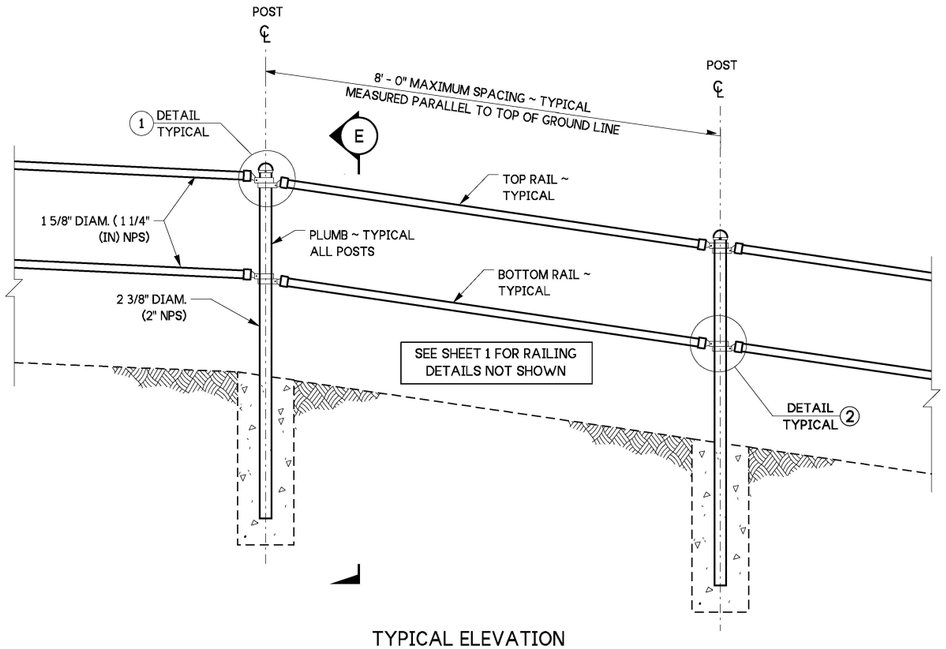
APPROVED FOR PUBLICATION

Mark A Hoines Jun 5, 2024

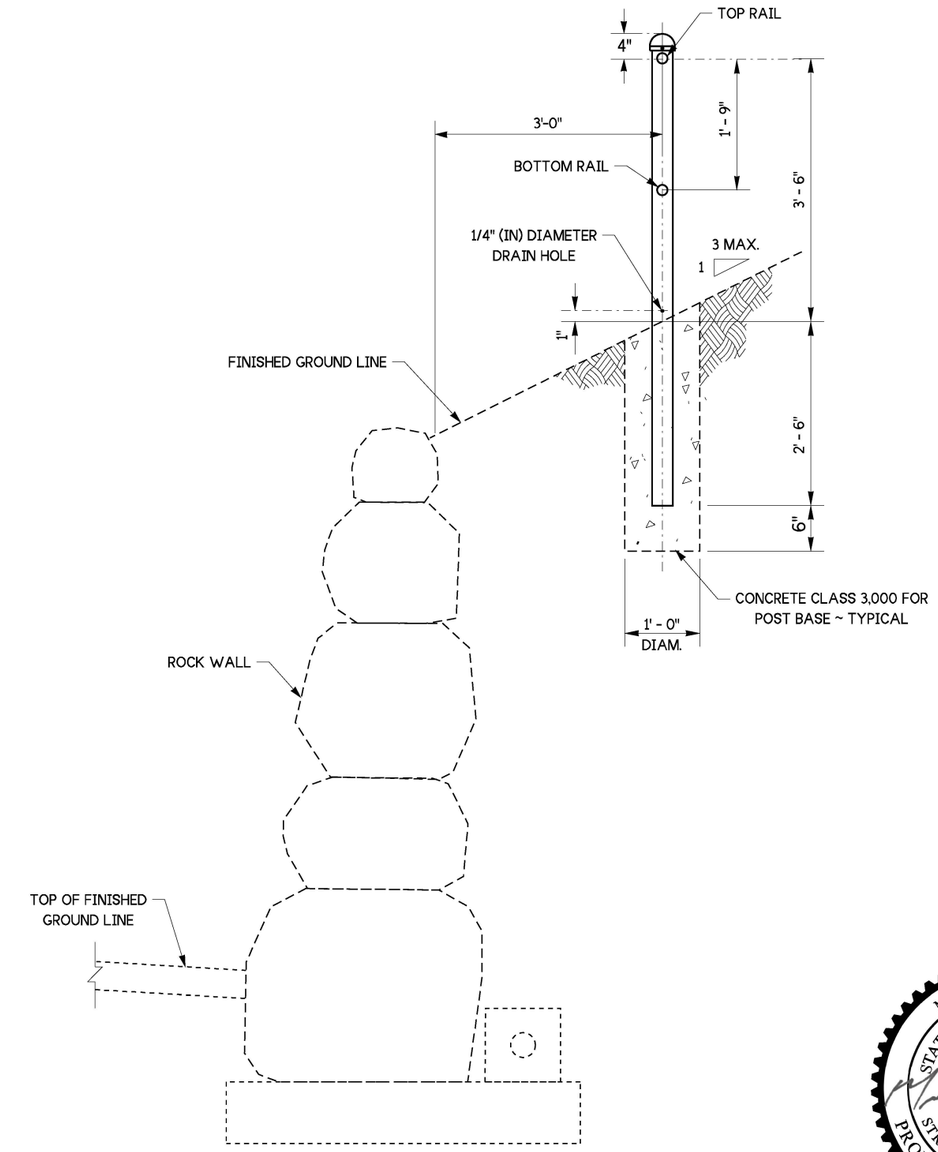
STATE DESIGN ENGINEER

Washington State Department of Transportation

NOTE: These details are applicable to rock walls only.



TYPICAL ELEVATION
(INSTALLED IN GROUND BEHIND ROCK WALL)



SECTION E

MICHAEL A. ROSA
STATE OF WASHINGTON
43707
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Jun 4, 2024

BRIDGE RAILING TYPE CHAIN LINK PIPE RAIL

STANDARD PLAN L-5.10-02

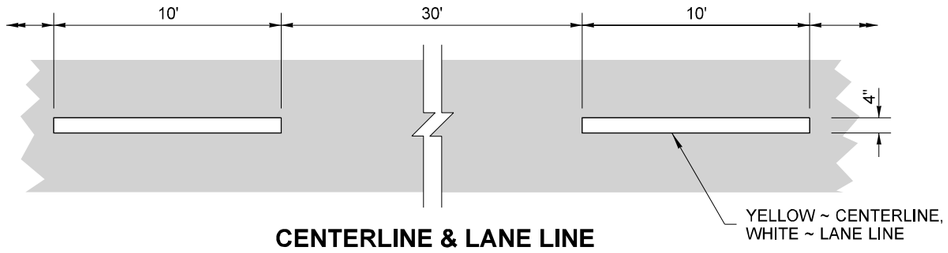
SHEET 5 OF 5 SHEETS

APPROVED FOR PUBLICATION

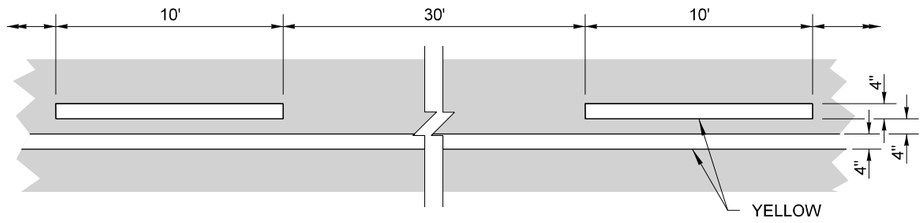
Mark A Gaines Jun 5, 2024

STATE DESIGN ENGINEER

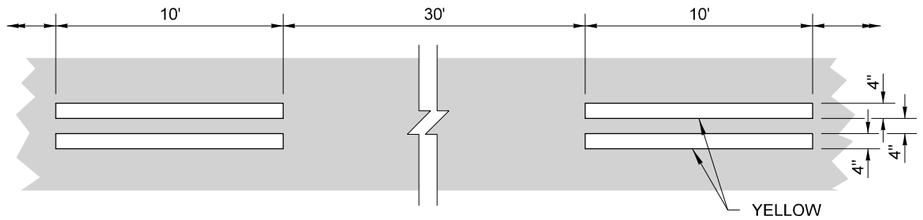
Washington State Department of Transportation



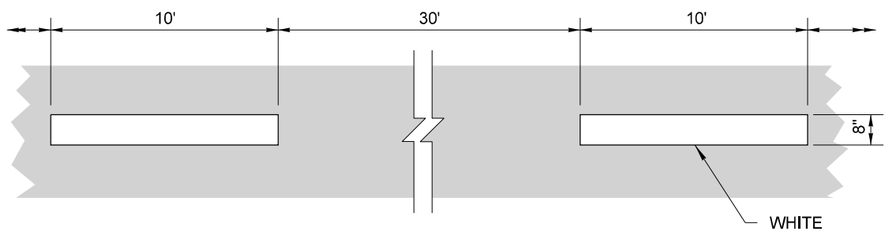
CENTERLINE & LANE LINE



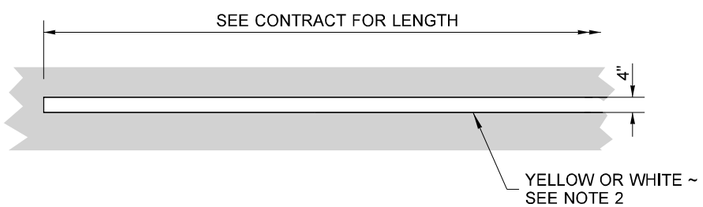
NO-PASS LINE & TWO-WAY LEFT-TURN CENTERLINE



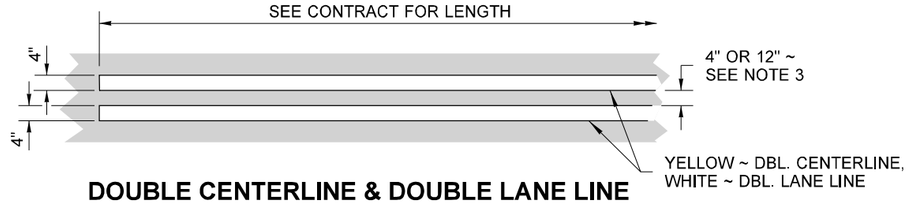
REVERSIBLE LANE LINE



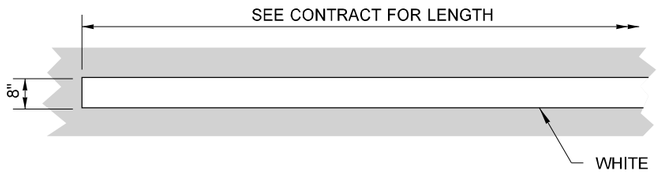
WIDE BROKEN LANE LINE



EDGE LINE & SOLID LANE LINE

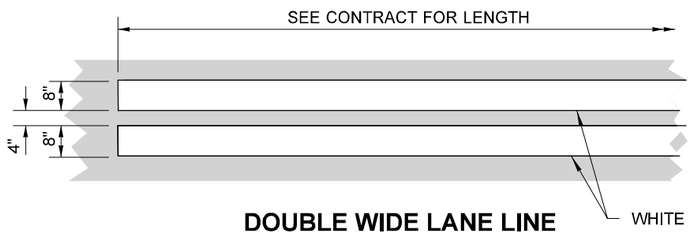


DOUBLE CENTERLINE & DOUBLE LANE LINE

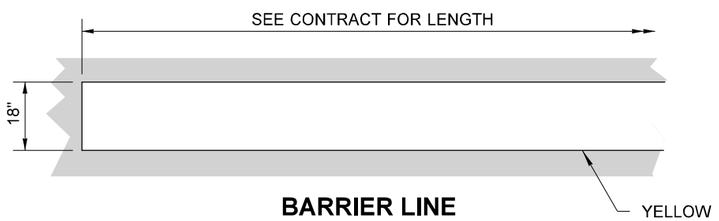


WIDE EDGE LINE & WIDE SOLID LANE LINE

OPTION TO USE AS CIRCULATORY ON ROUNDABOUT APPLICATIONS



DOUBLE WIDE LANE LINE



BARRIER LINE

NOTES

1. Dotted Extension Line shall be the same color as the line it is extending.
2. Edge Line shall be white on the right edge of traveled way, and yellow on the left edge of traveled way (on one-way roadways). Solid Lane Line shall be white.
3. The distance between the lines of the Double Centerline shall be 12" everywhere, except 4" for left-turn channelization and narrow roadways with lane widths of 10 feet or less. Local Agencies (on non-state routes) may specify a 4" distance for all locations.

   The distance between the lines of the Double Lane Line shall be 4".

DRAWN BY: FERN LIDDELL

BRIAN J. WALSH
STATE OF WASHINGTON
36103
REGISTERED
PROFESSIONAL ENGINEER

Brian J Walsh
Brian J Walsh (Aug 1, 2022 PDT)

Aug 1, 2022

LONGITUDINAL MARKING PATTERNS

STANDARD PLAN M-20.10-04

SHEET 1 OF 4 SHEETS

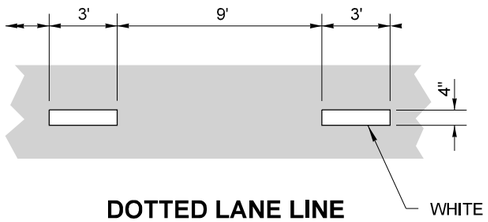
APPROVED FOR PUBLICATION

Mark Gaines
Mark Gaines (Aug 2, 2022 10:17 PDT)

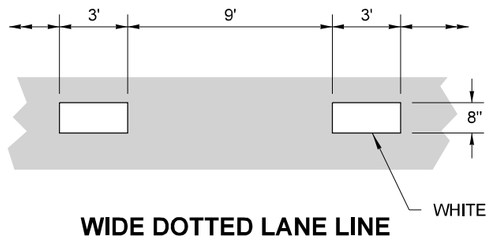
Aug 2, 2022

STATE DESIGN ENGINEER

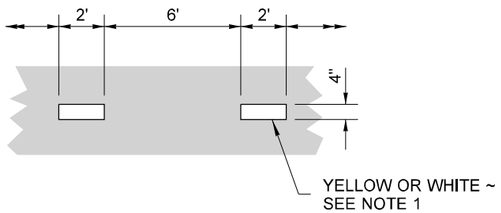
Washington State Department of Transportation



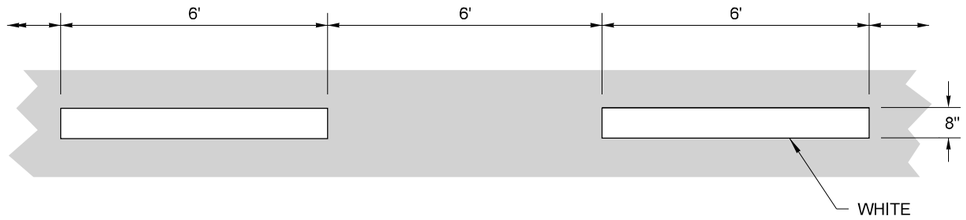
DOTTED LANE LINE



WIDE DOTTED LANE LINE



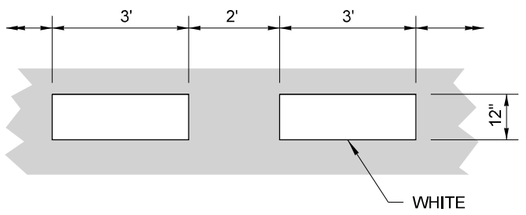
DOTTED EXTENSION LINE



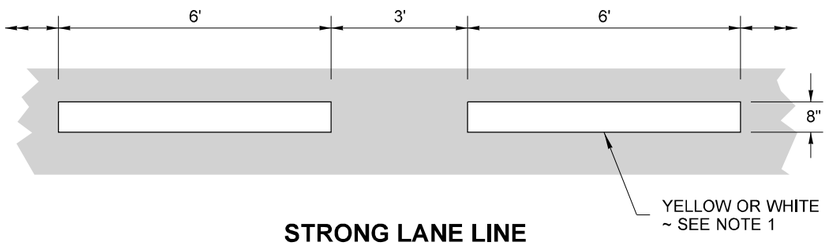
WIDE DOTTED EXTENSION LINE

DRAWN BY: FERN LIDDELL

ROUNDABOUT SPECIFIC LINES

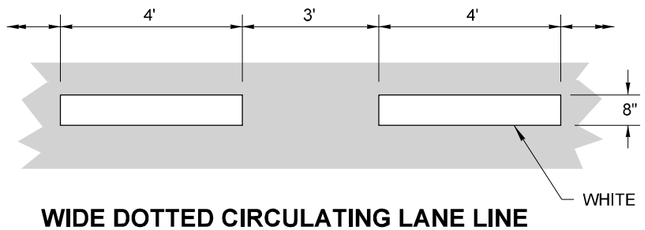


WIDE DOTTED ENTRY LINE



STRONG LANE LINE

OPTION TO USE AS CIRCULATORY ON ROUNDABOUT APPLICATIONS



WIDE DOTTED CIRCULATING LANE LINE

BRIAN J. WALSH
STATE OF WASHINGTON
36103
REGISTERED
PROFESSIONAL ENGINEER

Brian J Walsh
Brian J Walsh (Aug 1, 2022 PDT)

Aug 1, 2022

LONGITUDINAL MARKING PATTERNS

STANDARD PLAN M-20.10-04

SHEET 2 OF 4 SHEETS

APPROVED FOR PUBLICATION

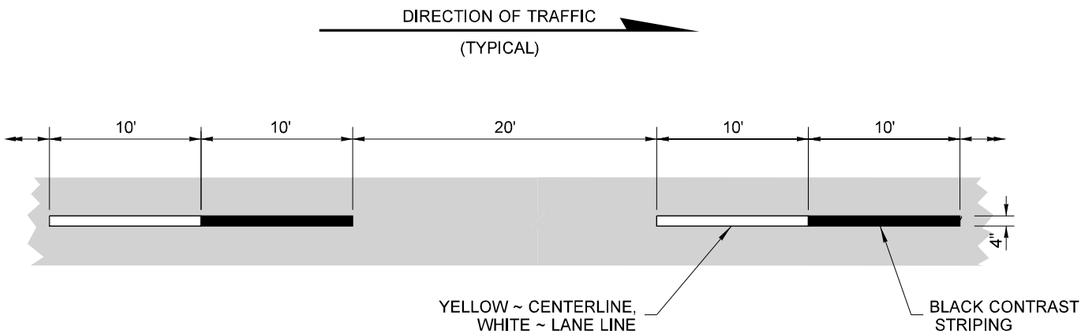
Mark Gaines
Mark Gaines (Aug 2, 2022 10:17 PDT)

Aug 2, 2022

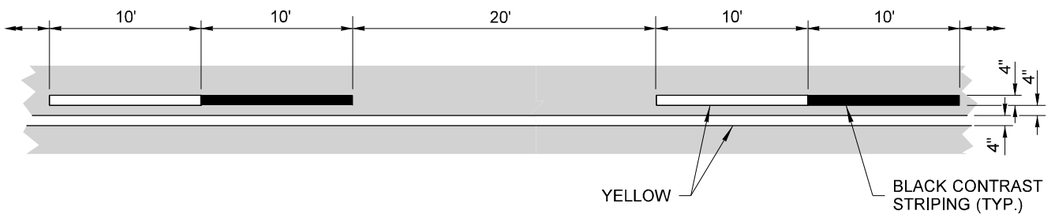
STATE DESIGN ENGINEER

Washington State Department of Transportation

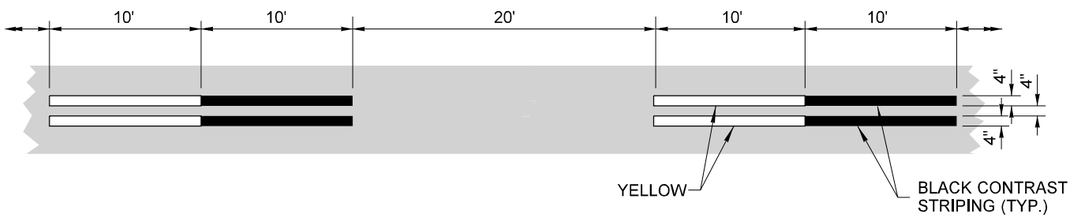
DRAWN BY: FERN LIDDELL



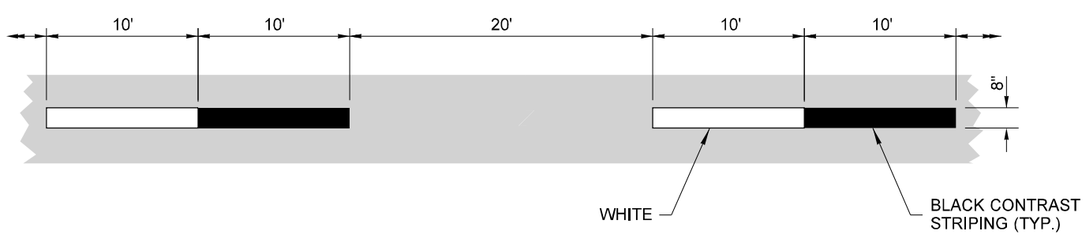
CENTERLINE & LANE LINE



NO-PASS LINE & TWO-WAY LEFT-TURN CENTERLINE



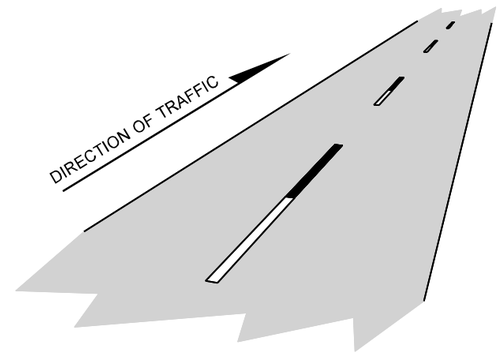
REVERSIBLE LANE LINE



WIDE BROKEN LANE LINE

NOTE

1. Dotted Extension Line shall be the same color as the line it is extending.



ISOMETRIC VIEW

BRIAN J. WALSH
STATE OF WASHINGTON
36103
REGISTERED
PROFESSIONAL ENGINEER

Brian J Walsh
Brian J Walsh (Aug 1, 2022 [illegible] PDT)

Aug 1, 2022

LONGITUDINAL MARKING PATTERNS

STANDARD PLAN M-20.10-04

SHEET 3 OF 4 SHEETS

APPROVED FOR PUBLICATION

Mark Gaines
Mark Gaines (Aug 2, 2022 10:17 PDT)

Aug 2, 2022

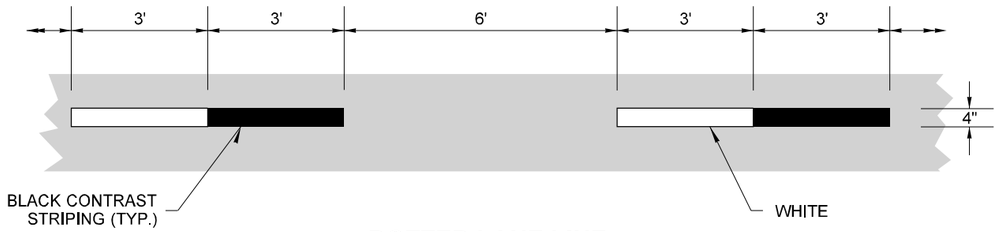
STATE DESIGN ENGINEER

Washington State Department of Transportation

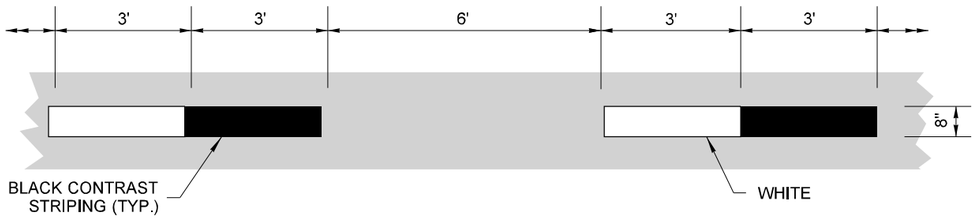
DRAWN BY: FERN LIDDELL

DIRECTION OF TRAFFIC

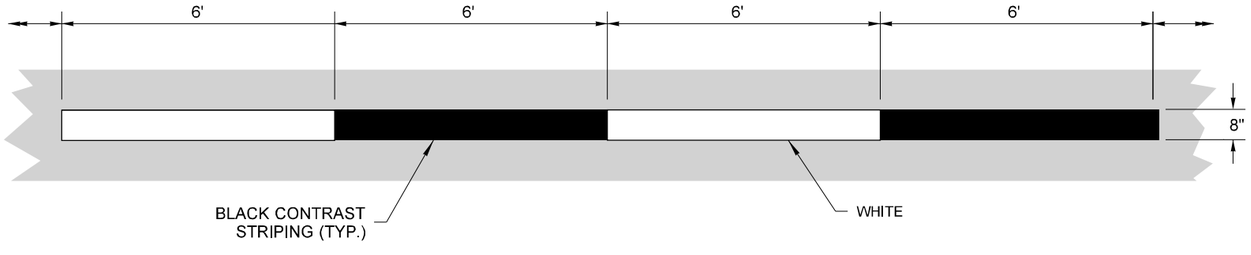
(TYPICAL)



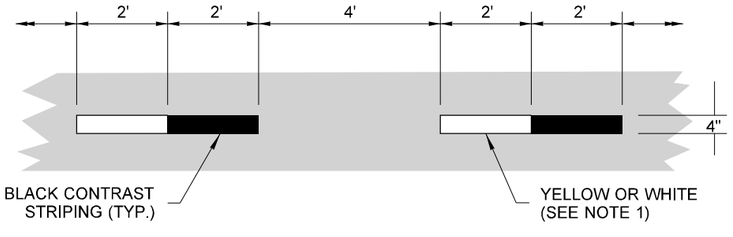
DOTTED LANE LINE



WIDE DOTTED LANE LINE

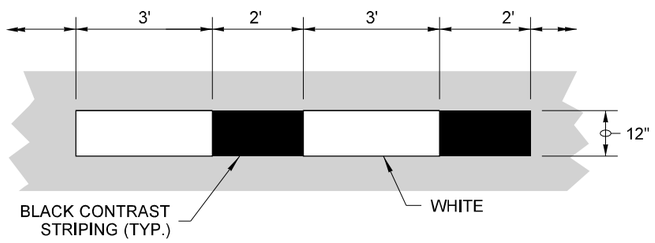


WIDE DOTTED EXTENSION LINE

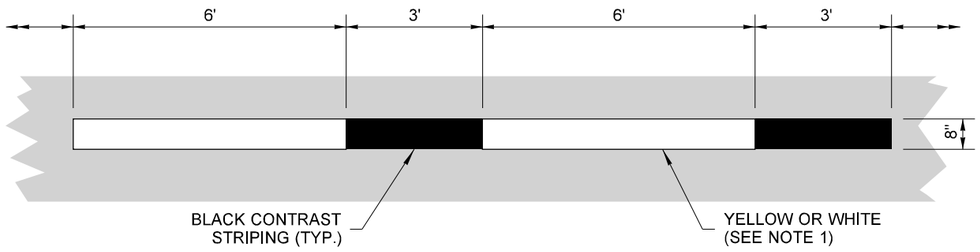


DOTTED EXTENSION LINE

ROUNDABOUT SPECIFIC LINES

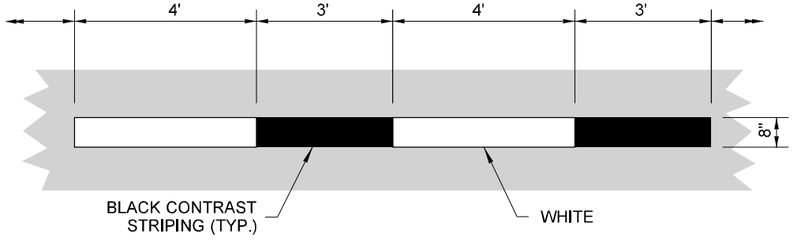


WIDE DOTTED ENTRY LINE



STRONG LANE LINE

OPTION TO USE AS CIRCULATORY ON ROUNDABOUT APPLICATIONS



WIDE DOTTED CIRCULATING LANE LINE

BRIAN J. WALSH
STATE OF WASHINGTON
36103
REGISTERED
PROFESSIONAL ENGINEER
Brian J Walsh
Brian J Walsh (Aug 1, 2022 15:58 PDT)

Aug 1, 2022

LONGITUDINAL MARKING PATTERNS

STANDARD PLAN M-20.10-04

SHEET 4 OF 4 SHEETS

APPROVED FOR PUBLICATION

Mark Gaines
Mark Gaines (Aug 2, 2022 10:17 PDT)

Aug 2, 2022

STATE DESIGN ENGINEER

Washington State Department of Transportation

APPENDIX D:
Geotechnical Information

Geotechnical Engineering Services

SR-104 and 40th Place NE Roundabout
Lake Forest Park, Washington

for
City of Lake Forest Park and
Transportation Solutions, Inc.

March 6, 2025

17425 NE Union Hill Road, Suite 250
Redmond, Washington 98052
425.861.6000

GeoEngineers

Geotechnical Engineering Services

SR-104 and 40th Place Roundabout
Lake Forest Park, Washington

File No. 0197-009-00
March 6, 2025

Prepared for:

City of Lake Forest Park
c/o Transportation Solutions, Inc.
16932 Woodinville Redmond Road NE, Suite A206
Woodinville, Washington 98072

Attention: Kirk Harris, PE

Prepared by:

GeoEngineers, Inc.
17425 NE Union Hill Road, Suite 250
Redmond, Washington 98052
425.861.6000

Jonathan S. Owen
Project Engineer

Debra C. Overbay, PE
Associate Geotechnical Engineer

JSO:DCO:atk

Disclaimer: Any electronic form, facsimile, or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

Table of Contents

1.0 Introduction 1
2.0 Field Exploration and Laboratory Testing 1
2.1 Field Explorations 1
2.2 Laboratory Testing 1
3.0 Site Conditions 2
3.1 Geology 2
3.2 Surface Conditions 2
3.3 Subsurface Conditions 2
3.4 Groundwater Conditions 3
4.0 Conclusions and Recommendations 3
4.1 Earthwork Recommendations 3
4.1.1 Earthwork Considerations 3
4.1.2 Clearing and Grubbing 3
4.1.3 Subgrade Preparation 3
4.1.4 Structural Fill Materials 4
4.1.5 On-site Soils 4
4.1.6 Fill Placement and Compaction Criteria 5
4.1.7 Weather Considerations 5
4.2 Preliminary Infiltration Feasibility 6
4.3 Mechanically Stabilized Earth Walls Recommendations 6
4.3.1 Design Height, Bearing Capacity and Lateral Earth Pressures 7
4.3.2 Wall Backfill and Drainage 9
4.4 Cantilever Soldier Pile Retaining Wall Recommendations 9
4.4.1 Soldier Pile Walls 9
4.5 Illumination Pole Foundation Recommendations 11
4.6 Erosion and Steep Slope Hazards 11
5.0 Recommended Additional Geotechnical Services 11
6.0 Limitations 12
7.0 References 12

List of Figures

Figure 1. Vicinity Map
Figure 2. Site Plan
Figure 3. Earth Pressure Diagram

Appendices

Appendix A. Field Explorations and Laboratory Testing
Figure A-1 – Key to Exploration Logs
Figures A-2 through A-3 – Log of Explorations
Figure A-4 Sieve Analysis Results
Appendix B. Previous Explorations
Appendix C. Report Limitations and Guidelines for Use

1.0 Introduction

This report presents the results of GeoEngineers, Inc. (GeoEngineers') geotechnical engineering services for the proposed SR-104 and NE 40th Place NE roundabout project. The project site is located at the intersection of SR-104, 40th Place NE and NE 184th Street in Lake Forest Park, Washington as shown in the Vicinity Map, Figure 1.

The project includes construction of a single lane roundabout with a raised central island and sidewalks. The intersection is set in a primarily residential area, although it is the intersection of two primary roadways. SR 104 is an east-west State Highway connecting SR 522 to the Edmonds Ferry Terminal, and 40th Place NE is a major local north-south route. The east side of the roundabout connects a residential dead-end roadway (NE 184th Street).

GeoEngineers provided preliminary geotechnical engineering services as summarized in our technical memorandum dated July 8, 2022. Preliminary services included hand auger explorations for the planned MSE walls. We understand taller cut walls are now planned up to about 15 feet in height. This final report incorporates our previous recommendations, additional borings at the taller wall section and recommendations for permanent soldier pile walls.

Our geotechnical engineering services were completed in accordance with Supplemental Agreement No. 1 executed on February 7, 2023 in accordance with the terms and conditions of the Professional Services Agreement between GeoEngineers, Inc. (GeoEngineers) and Transportation Solutions, Inc. (TSI) dated July 30, 2021.

2.0 Field Exploration and Laboratory Testing

2.1 FIELD EXPLORATIONS

Subsurface conditions at the site were evaluated by completing two borings (GEI-1 and GEI-2) using hollow-stem auger limited access equipment and reviewing subsurface conditions in our previous hand augers (HA-1 through HA-7). The hand augers were advanced to depths ranging from approximately 3.5 to 5.5 feet below the ground surface (bgs) and the borings were advanced to depths of 21 to 31.5 feet bgs. The locations of the explorations are shown in Figure 2. Details of the field exploration program and logs of the current borings are included in Appendix A. Logs of the previous hand auger explorations are included in Appendix B.

2.2 LABORATORY TESTING

Soil samples were obtained during the field exploration program and taken to our laboratory for further evaluation. Selected samples were tested for the determination of moisture content and gradation characteristics. A description of the laboratory testing and the test results are presented in Appendix A.

3.0 Site Conditions

3.1 GEOLOGY

Published geologic information for the project vicinity includes the "Geologic Map of King County, Compiled by Derek B. Booth, Kathy A. Troost and Aaron P. Wisher," dated March 2007. Mapped soils in the immediate project vicinity consist of Vashon recessional outwash and advance outwash. Fan deposits are mapped on the west side of SR-104.

Recessional outwash is generally a non-sorted, non-stratified mixture of sand and gravel with minor amounts of silt and clay. The Vashon outwash was deposited by meltwater as the Vashon lobe of the Fraser Glaciation retreated northwards. It typically has low to moderate shear strength and moderate to high permeability characteristics in its undisturbed state.

Advance outwash deposits generally consist of dense to very dense clean to silty sand with variable amounts of gravel. The Vashon advance outwash was deposited and then over-ridden by the Vashon lobe as it advanced southward and therefore has higher shear strength and lower permeability than the recessional deposits.

Fan deposits consist of boulders, cobbles and sand deposited where streams emerge from confining valleys onto areas of reduced gradients. Deposition occurs due to an abrupt change in gradient from a steep source area upslope to a lower gradient receiving area below (Lake Washington).

3.2 SURFACE CONDITIONS

Existing roadways at the intersection are two-lane asphalt concrete, primarily with narrow shoulders. An existing concrete sidewalk borders the east side of SR-104. To the north and east, 40th Place NE and NE 184th Street slope up at roughly 8 to 12 percent grade, and SR-104 slopes up to the north at about 7 to 9 percent grade. Retaining walls will be required to retain up to 8 feet of cut in the southeast, and up to 15 feet of cut in the northeast. Vegetation in the residential areas varies from second-growth conifer and large deciduous trees, to bushes and grass. An existing rockery is present along the north portion of NE 184th Street within the adjacent residential property.

3.3 SUBSURFACE CONDITIONS

Subsurface conditions encountered in our explorations are consistent with the mapped geology. Our explorations encountered surficial fill overlying native sand and gravel deposits (recessional and advance outwash).

- **Topsoil** was encountered in four of the hand augers, HA-2 and HA-5 through HA-7. The topsoil consists of a dark brown silty sand with variable gravel and organic matter content. The topsoil was 6 to 12 inches thick.
- **Surficial Silty Sand or sand with silt fill** was encountered in GEI-1, HA-2, HA-3, HA-4 and HA-6. The fill was evaluated as loose to medium dense and contains variable gravel. The thickness varied from 1 to 4 feet and extended to the depth explored in HA-6.

- **Recessional outwash** deposits were encountered below the fill with the exception of HA-6 where it was encountered below the topsoil and HA-1 and GEI-2 where it was encountered at the ground surface. The recessional outwash deposits generally consist of medium dense to dense sand and silty sand with variable gravel content.
- **Advance outwash**. We interpret the very dense soils encountered in the bottom of the borings as advance outwash (beginning at a depth of about 13 to 18 feet below existing site grade.) The advance outwash consists of sand with variable silt and gravel, and occasional cobbles based on drilling action.

3.4 GROUNDWATER CONDITIONS

Groundwater was not encountered in the explorations completed at the site. However, the explorations were not left open for an extended period to allow potential groundwater to stabilize. Perched groundwater is common in glacial deposits where water from precipitation infiltrates through the upper more permeable or weathered layers and moves laterally or down gradient within the cleaner sand lenses.

4.0 Conclusions and Recommendations

We conclude that the planned improvements can be successfully completed from a geotechnical perspective, provided that the considerations and recommendations summarized in the following sections are incorporated into the project planning and design.

4.1 EARTHWORK RECOMMENDATIONS

4.1.1 Earthwork Considerations

Loose to medium dense silty sand and sand with silt were encountered near the existing ground surface in our explorations. We anticipate that these soils can be excavated with conventional excavation equipment, such as trackhoes or dozers. Cobbles and boulders are frequently encountered in glacial soils. Larger horsepower excavators will be more efficient for excavating the very dense, native soils, or if large cobbles and boulders are encountered in the deeper excavations. The contractor should be prepared to handle debris in fill, and cobbles and boulders in the native soils.

4.1.2 Clearing and Grubbing

The existing ground surface outside the existing roadways is heavily vegetated as discussed in the “Surface Conditions” section of this report. Vegetation should be cleared and grubbed in accordance with Section 2-01 of the 2023 Washington State Department of Transportation (WSDOT) Standard Specifications.

4.1.3 Subgrade Preparation

Prior to placing new fill, subbase or base course materials, larger subgrade areas should be proof-rolled to locate areas of loose, soft or pumping soils. Smaller subgrade areas should be evaluated by probing. Proof-rolling can be completed using a piece of heavy tire-mounted equipment or a loaded dump truck. If soft, unsuitable soils are observed, they should be recompacted or overexcavated and replaced at the direction of the geotechnical engineer.

Where existing fill is present in proposed foundation and pavement areas, we recommend that the upper 18 inches of fill be re-compacted to a minimum of 95 percent of the maximum dry density (MDD) estimated in general accordance with ASTM D 1557.

If deeper pockets of soft or pumping soils are encountered, it may be possible to limit the depth of overexcavation by utilizing a geotextile for separation or soil stabilization (WSDOT Standard Specification 9-33.2). We recommend using the specified woven fabric for soil stabilization. The need for geotextile fabric and overexcavation should be evaluated by GeoEngineers during construction when the subgrade soils are exposed.

GeoEngineers should monitor subgrade preparation to help determine the depth of removal of soft or pumping soils, and to evaluate whether subgrade disturbance or progressive deterioration is occurring. Subgrade disturbance or deterioration could occur if the subgrade is wet and cannot be dried. If the subgrade deteriorates during proof-rolling or compaction, it may become necessary to modify the proof-rolling or compaction criteria or methods.

Backfill in old utility trenches or existing subgrade in areas of surface settlement or pavement distress should be tested and recompacted if necessary. Where new fill is required, it should be placed and compacted as structural fill as described below.

4.1.4 Structural Fill Materials

Materials used to construct roadways, placed to support structures or foundations or placed behind retaining structures is classified as structural fill for the purpose of this report. Structural fill material quality varies depending upon its use, as described below:

1. As a minimum, structural fill placed to construct embankments and roadways, to backfill utility trenches and to support foundations should meet the criteria for common borrow, WSDOT 9-03.14(3). Common borrow will be suitable for use as structural fill during dry weather conditions only. If structural fill is placed during wet weather, the structural fill should consist of gravel borrow, WSDOT 9-03.14(1) with the added restriction that it contains less than 5 percent passing the U.S. No. 200 sieve.
2. Structural backfill for walls should meet the criteria for gravel backfill for walls, WSDOT 9-03.12(2).
3. Structural fill placed to surround collector pipe (drain rock) should meet the criteria for gravel backfill for drains, WSDOT 9-03.12(4).
4. Structural fill placed as crushed surfacing base course below pavements should conform to WSDOT 9-03.9(3).

4.1.5 On-site Soils

The recessional outwash deposits observed in the explorations likely meet the criteria for common borrow and may be suitable for use during dry weather construction only, provided the soil has a moisture content near optimum. Existing fill with organic matter or other debris does not meet the criteria for common borrow and should not be used.

4.1.6 Fill Placement and Compaction Criteria

Structural fill should be mechanically compacted to the following criteria. Structural fill should be placed in loose lifts not exceeding 1 foot in thickness. Each lift should be conditioned to the proper moisture content and compacted to the specified density before placing subsequent lifts. Structural fill should be compacted to the following criteria:

1. Structural fill placed behind retaining walls should be compacted to at least 90 percent of the MDD in general accordance with ASTM D 1557. Care should be taken when compacting fill near the face of retaining walls to avoid overcompaction and hence, overstressing the walls. Where a sidewalk will be present at the top of the wall, the upper 18 inches should be compacted to 95 percent of the MDD (ASTM D 1557) using small equipment.
2. Structural fill in embankment and new pavement areas, including utility trench backfill, should be compacted to 90 percent of the MDD (ASTM D 1557), except that the upper 2 feet of fill below final subgrade should be compacted to 95 percent of the MDD (ASTM D 1557).
3. Structural fill placed below foundations or retaining structures should be compacted to 95 percent of the MDD (ASTM D 1557).
4. Structural fill placed as crushed rock base course below pavements should be compacted to 95 percent of the MDD (ASTM D 1557).

We recommend that a representative of GeoEngineers be present during proof-rolling and/or probing of the exposed subgrade and pavement subgrade soils, and during placement of structural fill. GeoEngineers will evaluate the adequacy of the subgrade soils and identify areas needing further work, perform in-place moisture-density tests in the fill to evaluate whether the work is being done in accordance with the compaction specifications and advise on any modifications to procedure that may be appropriate for the prevailing conditions.

4.1.7 Weather Considerations

The surficial silty sand soils encountered at the surface of the explorations contain a moderate percentage of fines (silt and clay) and are moisture-sensitive. When the moisture content of these soils is more than a few percent above the optimum moisture content, these soils become muddy and unstable, operation of equipment on these soils will be difficult and it will be difficult or impossible to meet the required compaction criteria. Additionally, disturbance of near-surface soils should be expected if earthwork is completed during periods of wet weather. The contractor will need to take precautions to protect the subgrade during periods of wet weather.

The wet weather season in western Washington generally begins in October and continues through May; however, periods of wet weather may occur during any month of the year. The optimum earthwork period for these types of soils is typically June through September. If wet weather earthwork is unavoidable, we recommend the following:

- The ground surface in and around the work area should be sloped so that surface water is directed away from the work area. The ground surface should be graded such that areas of ponded water do not develop. The contractor should take measures to prevent surface water from collecting in excavations and trenches. Measures should be implemented to remove surface water from the work area.

- Erosion control techniques should be implemented to prevent sediment from leaving the site.
- Earthwork activities should not take place during periods of heavy precipitation.
- Slopes with exposed soils should be covered with plastic sheeting.
- The contractor should take necessary measures to prevent on-site soils and soils to be used as fill from becoming wet or unstable. These measures may include the use of plastic sheeting, sumps with pumps and grading. The site soils should not be left uncompacted and exposed to moisture. Sealing the surficial soils by rolling with a smooth-drum roller prior to periods of precipitation will help reduce the extent that these soils become wet or unstable.
- Construction activities should be scheduled so that the length of time that soils are left exposed to moisture is reduced to the extent practical.

4.2 PRELIMINARY INFILTRATION FEASIBILITY

Preliminary infiltration feasibility was evaluated using the 2019 Department of Ecology (DOE) Stormwater Management Manual for Western Washington (SMMWW). Per the manual, design infiltration rates can be determined using one of three methodologies outlined in Volume V, Chapter 5. These methods include Large Scale Pilot Infiltration Test (PIT), Small Scale PIT or Soil Grain Size Analysis Method. For the preliminary evaluation, the Soil Grain Size Analyses Method was utilized on a sand with silt sample obtained in HA-4 at a depth of 2 feet. Additional grain size analyses testing and potential on-site pilot infiltration testing is appropriate during final design depending on the selected location, elevation and type of stormwater management facilities.

Results of the calculated initial saturated hydraulic conductivity of the sample obtained in HA-4 is provided below.

TABLE 1. INFILTRATION RATE BASED ON GRAIN SIZE METHODOLOGY

EXPLORATION	TOTAL CORRECTION FACTOR	K_{SAT} (IN/HR) DESIGN
HA-4, 2 feet below ground surface	0.119[1]	3.37

Notes:

[1] Total Correction Factor based on CF_v = 0.33, Cf_t = 0.4 and long-term conductivity loss factor = 0.9

It is our experience that the saturated hydraulic conductivity obtained by the grain size methodology can be significantly higher than the measured values obtained during small scale pilot infiltration testing (by a factor of 10 or more). As previously discussed, it will be appropriate to complete on-site pilot infiltration testing depending on the selected type, location and elevation of proposed stormwater management facilities.

4.3 MECHANICALLY STABILIZED EARTH WALLS RECOMMENDATIONS

Site grading will require grade changes up to 8 feet in the southeast, and up to 15 feet in the northeast. We understand that MSE (mechanically stabilized earth) walls are being considered for some of the lower-height walls.

Mechanically stabilized earth (MSE) walls, also known as structural earth walls per WSDOT, consist of alternating layers of backfill soil and reinforcing material with facing elements. Commonly used reinforcing elements include steel strips and geosynthetic products such as geogrid and geotextile sheets. In the sections below, we provide recommended soil parameters and reinforcement considerations to be used in the wall design. MSE walls should be designed in accordance with the AASHTO LRFD Bridge Design Manual and the WSDOT Geotechnical Design Manual (GDM).

The values assume the backfill soils in the reinforced zone and the retained soil behind the reinforced zone are compacted to at least 95 percent of the MDD in accordance with Method C, Section 2-03.3(14)C of the WSDOT Standard Specifications. Wall backfill within the reinforced zone should consist of gravel borrow for structural earth walls as described in Section 9-03.14(4) of the WSDOT Standard Specifications or CSBC as described in Section 9 03.9(3) of the WSDOT Standard Specifications.

Where existing fill or loose soils are exposed at foundation subgrade, the wall should be founded on a minimum of 2 feet of compacted structural fill. We recommend that the wall designs be reviewed by GeoEngineers to verify that valid assumptions were made relative to material properties and other factors.

4.3.1 Design Height, Bearing Capacity and Lateral Earth Pressures

The design height of the retaining walls should include the above ground wall height as well as the full embedment depth of the wall.

The minimum embedment depth for walls founded on sloping ground should be provided as presented in Table 2 below. The minimum embedment depth should be provided below a theoretical 4-foot-wide horizontal bench that extends from the face of the wall and intersects the sloping ground in front of the wall.

TABLE 2. MINIMUM EMBEDMENT DEPTHS FOR RETAINING WALLS

SLOPE IN FRONT OF WALL	MINIMUM EMBEDMENT DEPTH[1] (FEET)
Horizontal	H/20 or 2 feet, whichever is greater
3H:1V	H/10 or 2 feet, whichever is greater
2H:1V	H/7 or 2 feet, whichever is greater

Note:

[1] H equals the retained wall height

We recommend the lateral earth pressures in Table 3 be utilized for wall design. These parameters were developed per AASHTO LRFD Bridge Design Manual and the GDM.

TABLE 3. LATERAL EARTH PRESSURES AND SOIL PARAMETERS FOR WALLS

PARAMETER	VALUE
Backfill Soil Unit Weight, γ [1]	130 pcf
Backfill Soil Friction Angle, ϕ[1]	35°
Active Earth Pressure [2] – Level Backslope	33 pcf
Active Earth Pressure [2] – 2H:1V Backslope	50 pcf
Wall Foundation Coefficient of Sliding – Unfactored	0.50
Traffic Surcharge Lateral Pressure[3]	70 psf
Seismic Earth Pressure [3,4] – Level Backslope	9 pcf
Seismic Earth Pressure [3,4] – Level 2H:1V Backslope	27 pcf
Passive Earth Pressure[5] – Level Foreslope	325
Passive Earth Pressure[5] – Unfactored – Level Foreslope	425

Notes:

[1] Assumes backfill consists of material and compacted per recommendations in Section 3.5.4

[2] Equivalent Fluid Density – triangular pressure distribution

[3] Rectangular pressure distribution

[4] Active earth pressure and traffic surcharge should be added to the seismic earth pressure using appropriate load factors for extreme limit state.

[5] Assumes all soil extending out from the face of the foundation element for a distance at least equal to two and one-half times the depth of the element consists of structural fill compacted to at least 95 percent of MDD (ASTM D-1557). A passive pressure of 250 pcf should be used if new footings are poured directly against existing fill or loose native soils.

pcf – pounds per cubic foot, psf – pounds per square foot

4.3.1.1 LATERAL RESISTANCE

The lateral earth pressures on shallow foundations may also be resisted by friction on the base of the footings. The ultimate frictional resistance presented in Table 3 assumes that the foundation soils consist of medium dense sand or gravel. If unsuitable soils (loose fill, colluvium or disturbed soils) are exposed at the footing subgrade these materials should be recompacted or removed and replaced with structural fill.

The passive resistance may be computed using the unfactored (nominal) passive pressures shown in Table 3. The appropriate resistance factors for passive resistance and sliding resistance are shown in Table 4.

TABLE 4. LRFD REDUCTION FACTORS FOR PASSIVE AND SHEAR RESISTANCE TO SLIDING

LIMIT STATE	PASSIVE RESISTANCE TO SLIDING	SHEAR RESISTANCE TO SLIDING
Strength	0.5	0.8
Service	1.0	1.0
Extreme	0.9	0.9

4.3.2 Wall Backfill and Drainage

The recommended equivalent fluid densities presented in Table 3 assume a free-draining condition behind the wall. Retaining wall backfill materials should consist of Gravel Backfill for Walls as described in Section 9-03.12(2) of the WSDOT Standard Specifications. Placement and compaction of fill behind the walls should be in accordance with WSDOT Section 2-09.3(1) E. Drainage behind CIP walls should be designed and constructed in accordance with 2020 WSDOT Standard Plan Sheet D-4.

4.4 CANTILEVER SOLDIER PILE RETAINING WALL RECOMMENDATIONS

Soldier pile retaining walls will be designed for the larger cuts required in the northeast portion of the site. Recommended design parameters for soldier pile walls are presented below.

4.4.1 Soldier Pile Walls

Soldier pile walls consist of steel beams that are concreted into drilled vertical holes located along the wall alignment, typically 6 to 10 feet on center. Temporary timber lagging is used between the piles along with a permanent cast-in-place (CIP) concrete facing, or permanent concrete lagging can be used. Cantilever soldier pile walls can typically be used up to about 15 feet in height. For taller walls, tiebacks consisting of steel strand drilled anchors can be installed for additional lateral capacity. Based on the soil conditions encountered and height of the wall, tiebacks are not anticipated.

4.4.1.1 DESIGN RECOMMENDATIONS

The design earth pressures for soldier pile walls should be developed using attached Figure 3. Surcharge loads such as construction equipment, or construction staging should also be considered on a case-by-case basis, if applicable.

The embedded portion of the soldier piles must be at least 2 feet in diameter and extend a minimum distance of 10 feet below the base of the wall to resist "kick-out." The axial capacity of the soldier pile must resist the downward component of any vertical loads, as appropriate. The axial capacities of soldier pile shafts can be evaluated using an ultimate end-bearing value of 35 kips per square foot (ksf) for piles embedded in undisturbed medium dense to very dense glacially consolidated soils.

The Load and Resistance Factor Design (LRFD) resistance factors listed in Table 5 are consistent with the 9th Edition of American Association of State Highway and Transportation Officials (AASHTO) LRFD Bridge Design (2020) and should be used when evaluating the three limit states for soldier pile/shaft foundations.

TABLE 5. LRFD REDUCTION FACTORS FOR SOLDIER PILE FOUNDATION RESISTANCE FACTORS

LIMIT STATE	RESISTANCE FACTOR – PASSIVE EARTH PRESSURE	RESISTANCE FACTOR – END BEARING	RESISTANCE FACTOR - SHAFT FRICTION
Strength	0.75	0.5	0.55
Service	1.0	1.0	1.0
Extreme	1.0	1.0	1.0

Lateral load response of the drilled shafts can be evaluated using the L-Pile parameters presented in Table 6.

TABLE 6. LPILE INPUT PARAMETERS

DEPTH (FEET)	SOIL UNIT	USCS SOIL TYPE	FRICTION ANGLE (DEGREES)	COHESION, C (PSF)	LPILE PARAMETERS			
					P-Y CURVE MODEL	EFFECTIVE UNIT WEIGHT (PCF)	SOIL MODULUS, K (PCI)	STRAIN FACTOR, ε_{50}
0 to 5	Loose to medium dense soil	SP-SM/SM	32	--	Sand	125	25	--
5 to 30	Medium dense to very dense	SP-SM/SM	33	--	Sand	125	60	--

Notes:
psf – pounds per square foot; pcf – pounds per cubic foot; pci – pounds per cubic inch

A P-multiplier of 1.0 may be used as the soils are not subject to liquefaction.

4.4.1.2 LAGGING

Permanent lagging may consist of timber, CIP concrete or pre-cast concrete. If timber is used for the permanent lagging, it must be adequately treated for protection against water and decay. We recommend that the permanent lagging be designed for uniform pressures equal to one-half the full static earth pressure (Strength Limit) or one-half the full combined active and seismic earth pressure (Extreme I Limit). This pressure reduction is based on a maximum center-to-center pile spacing of 8 feet. If a wider spacing is desired, GeoEngineers should provide guidance on modifying the lagging pressures.

The space behind the lagging should be packed full with soil as soon as practical. Placement of this material will help reduce the risk of voids developing behind the wall. The workmanship associated with lagging installation is important for maintaining the integrity of the excavation. Lagging should be installed promptly after excavation, especially in areas where perched groundwater is present or where clean sand and gravel soils are present and caving soils conditions are likely.

If a facia wall is constructed in front of the soldier piles that is designed to resist the lagging pressures described above, and timber lagging is used for temporary support, then we recommend that the temporary timber lagging be sized using the procedures outlined in the Federal Highway Administration's Geotechnical Engineering Circular No. 4. The upper loose to medium dense soils encountered in the borings are best described as difficult soils. The recommended lagging thicknesses (rough-cut) are presented in Table 7 below as a function of soldier pile clear span and depth.

TABLE 7. TEMPORARY TIMBER LAGGING THICKNESS (ROUGH-CUT) FOR SOLDIER PILE WALLS

HEIGHT (FEET)	RECOMMENDED LAGGING THICKNESS (ROUGH-CUT) FOR CLEAR SPANS OF:					
	5 FEET	6 FEET	7 FEET	8 FEET	9 FEET	10 FEET
0 to 15 (difficult soils)	3 inches	3 inches	3 inches	4 inches	4 inches	5 inches

4.4.1.3 DRAINAGE

A suitable drainage system should be installed to prevent the buildup of hydrostatic groundwater pressures behind the soldier pile and lagging wall. This can be accomplished by spacing the timbers and placing a drainage mat between the temporary lagging and permanent wall facing and connecting the mat to a pipe along the base of the wall and suitable discharge. Alternatively, weep holes can be considered at the base of the drainage mat but may result in some staining of the outer fascia wall.

4.4.1.4 CONSTRUCTION CONSIDERATIONS

Temporary casing or drilling fluid may be required to install the soldier piles where:

- Loose fill is present;
- The native soils do not have adequate cementation or cohesion to prevent caving or raveling; and/or
- The soldier pile extends below perched or static groundwater levels.

We recommend that a tremie pipe or hose be placed into the drilled shafts to deliver the concrete to the bottoms of the shafts.

Cobbles and boulders are frequently encountered in glacially deposited soils. The contractor should be prepared to remove cobbles and boulders encountered during drilling.

4.5 ILLUMINATION POLE FOUNDATION RECOMMENDATIONS

We understand that drilled and cast-in-place concrete caisson foundations might be used for support of illumination poles. Assuming the worst case condition of the base of the caisson in loose fill soils, we recommend using an allowable end-bearing value of 2 kips per square foot (ksf) and an allowable lateral bearing pressure of 1,000 pounds per square foot (psf) for caissons which extend a minimum of 4 feet below existing grade. The allowable end bearing value should be applied to the base area of the drilled hole into which the reinforcement is concreted. The allowable capacity may be increased by one-third for short-term loads, such as seismic forces.

4.6 EROSION AND STEEP SLOPE HAZARDS

Based on review of King County environmentally sensitive area mapping, the site is not located within an area mapped as steep slopes or erosion hazards. Steep slopes are defined as slopes greater than 40 percent grade and greater than 10 feet in height.

5.0 Recommended Additional Geotechnical Services

GeoEngineers should be retained to review the project plans and specifications when complete to confirm that our design recommendations have been implemented as intended and provide construction observation services during construction as described in the Earthwork section of this report. The purpose of GeoEngineers construction phase services is to confirm that the conditions are consistent with those observed in the field, that earthwork is performed in accordance with the plans/specifications and our recommendations and other reasons described in Appendix C, Report Limitations and Guidelines for Use.

6.0 Limitations

We have prepared this report for the exclusive use of City of Lake Forest Park, Transportation Solutions, Inc., and their authorized agents for the project site. The data should be provided to prospective contractors for their bidding or estimating purposes, but our report and interpretations should not be construed as a warranty of the subsurface conditions.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Any electronic form, facsimile or hard copy of the original document (email, text, table and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please refer to Appendix C, Report Limitations and Guidelines for Use, for additional information pertaining to use of this report.

We appreciate the opportunity to participate in this project. Should you have any questions concerning this report or if we can be of additional service, please call.

7.0 References

American Association of State Highway and Transportation Officials (AASHTO). 2020. "LRFD Bridge Design Specifications, 9th Edition.

International Code Council. 2021. International Building Code.

Booth, D. et al. "Geologic Map of King County", 2007.

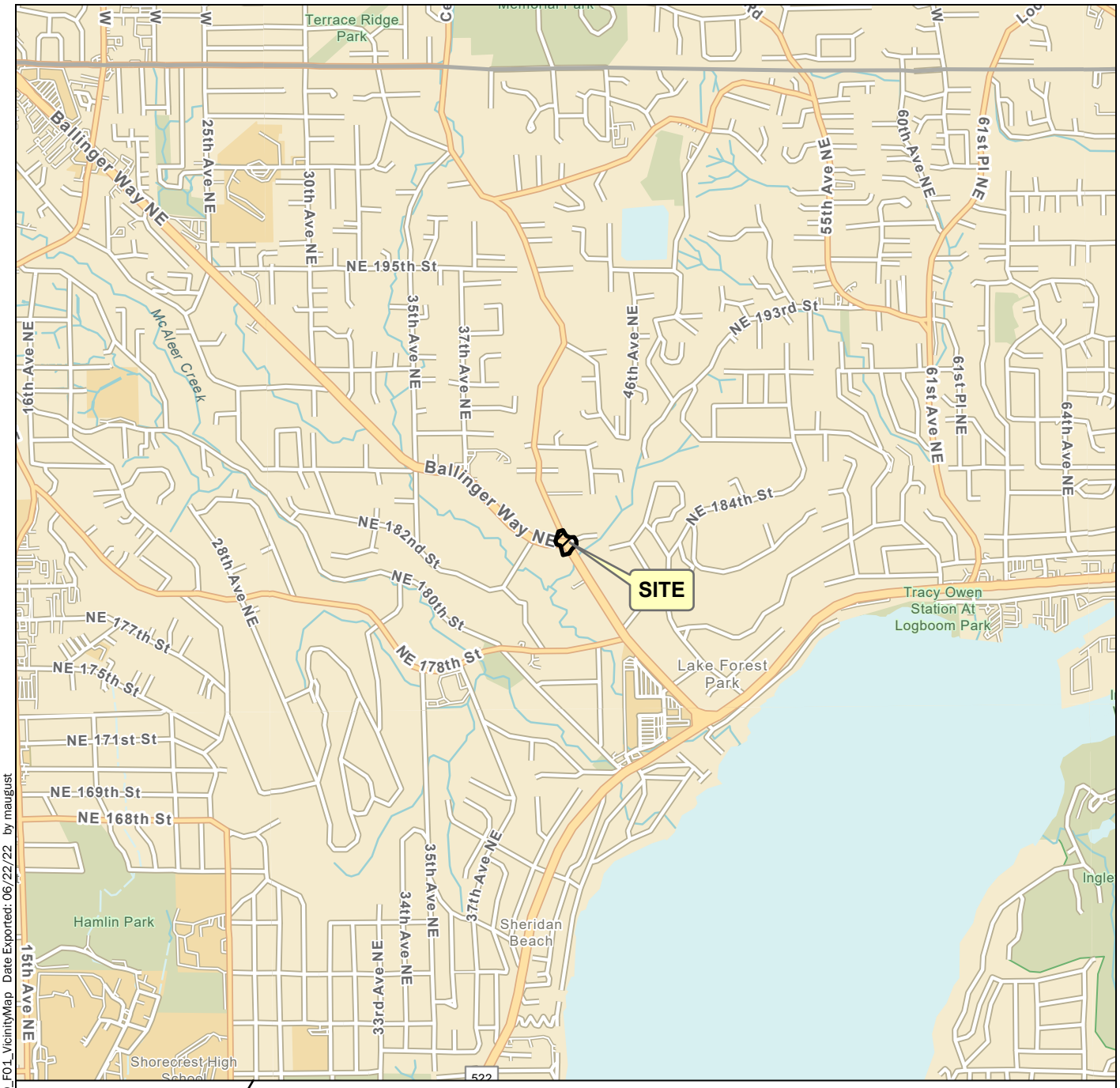
Washington State Department of Transportation (WSDOT). 2022. Geotechnical Design Manual, M 46-03.11.

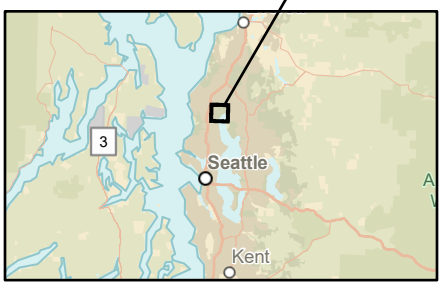
Washington State Department of Transportation (WSDOT). 2020. Standard Plans M 21-01.

Washington Administrative Code Title 296, Part N, "Excavation, Trenching and Shoring."

Washington State Department of Transportation, "Standard Specifications for Road, Bridge and Municipal Construction," 2024.

Figures





N
W E
S

2,000 0 2,000

Feet

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ESRI

Projection: NAD 1983 UTM Zone 10N

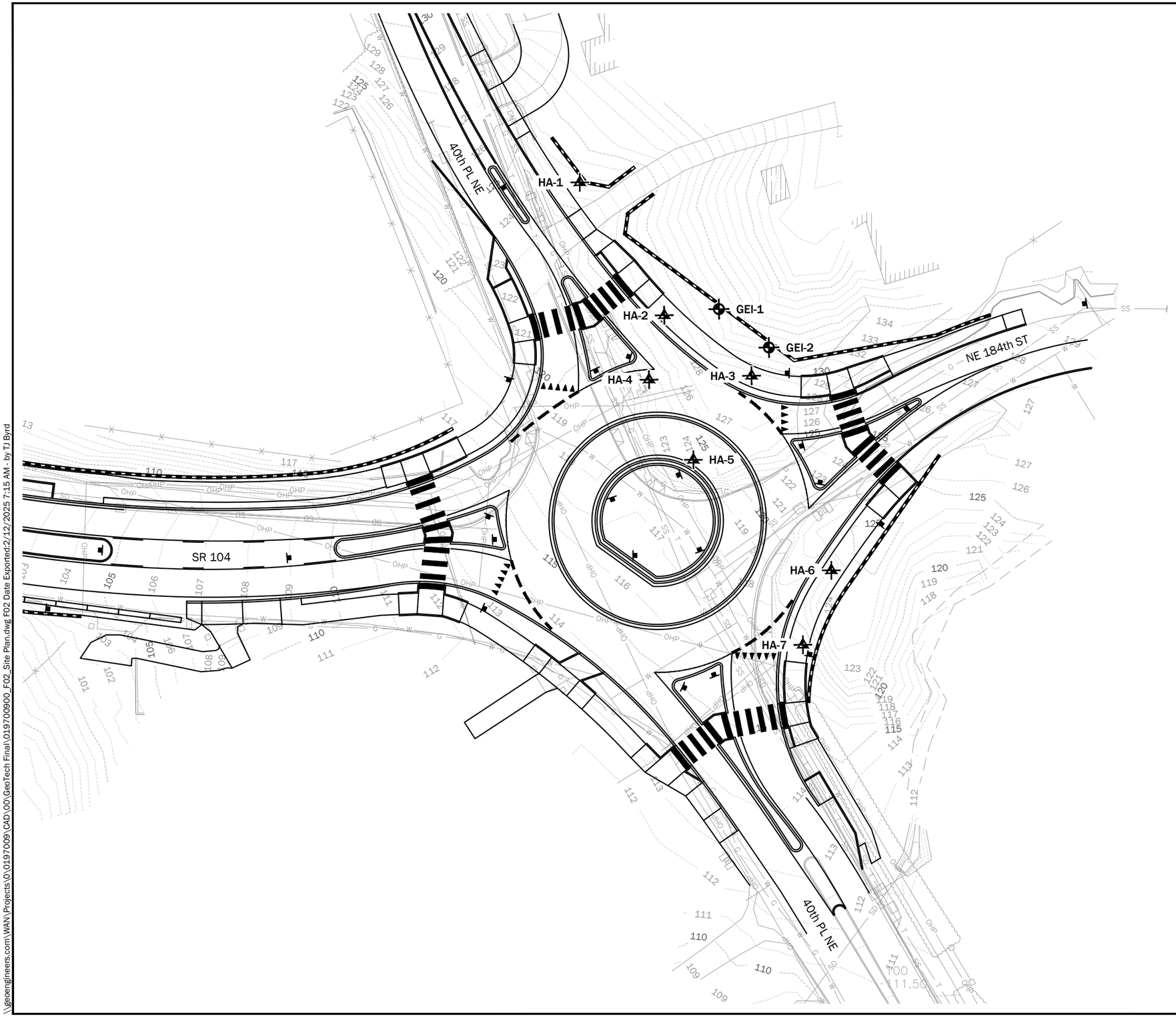
Vicinity Map

SR104 and 40th Pl NE Roundabout
Lake Forest Park, Washington

GeoEngineers

Figure 1

P:\0\0197009\GIS\0197009900_Project\0197009900_Project.aprx\0197009900_F01_VicinityMap Date Exported: 06/22/22 by maugust



Legend

HA-1 — Hand Auger by GeoEngineers, Inc., 2022

GEI-1 — Boring by GeoEngineers, Inc., 2023

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Sources:

- Background survey by Alliance Geomatics Surveying & Mapping, dated 6/14/22.
- Proposed layout by Transportation Solutions, dated 1/10/22

Projection: WA State Plane, North Zone, NAD83, US Foot

N W E S

40 0 40
Feet

Site Plan

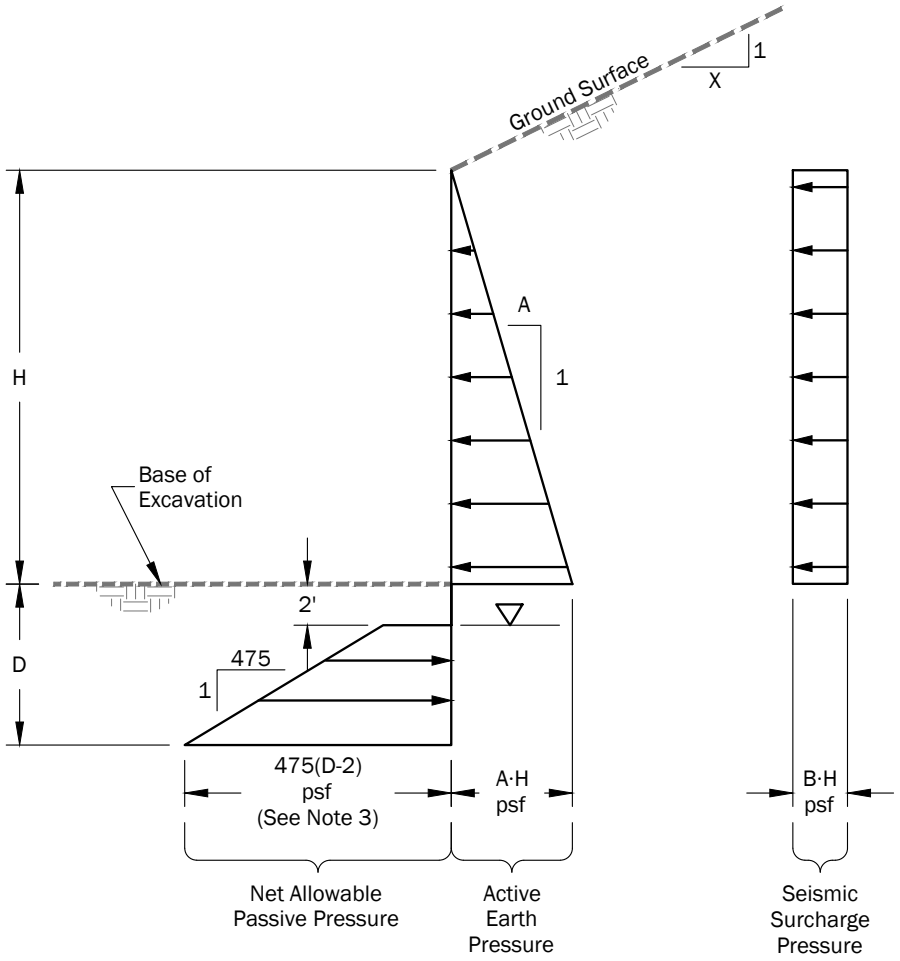
SR104 and 40th Pl NE Roundabout
Lake Forest Park, Washington

GeoEngineers

Figure 2

\\geoengineers.com\WAN\Projects\0\0197009\CAD\00\GeoTech Final\0197009_F02_Site Plan.dwg F02 Date Exported:2/12/2025 7:15 AM - by TJ Byrd

Cantilever Concrete or Soldier Pile



Earth Pressure Factor for Backslope (A)	
Backslope, X:1	Earth Pressure Factor, A
Flat	38
3:1	46
2:1	55

Seismic Factor (B)	
Backslope, X:1	Earth Pressure Factor, B
Flat	9
3:1	16
2:1	27

Notes:

1. Apparent earth pressure and surcharge act over the pile spacing above the base of the excavation.
2. Passive earth pressure acts over 2.5 times the concreted diameter of the soldier pile, or the pile spacing, whichever is less.
3. Passive earth pressure is a nominal (unfactored) value.

Earth Pressure Diagram - Soldier Pile Wall

SR104 and 40th Pl NE Roundabout
Lake Forest Park, Washington

GeoEngineers

Figure 3

P:\0\0197009\CAD\00\GeoTech\0197009000_F03_EPD.dwg TAB:EPD Date Exported: 06/27/23 - 14:46 by tbyrd

Appendices

Appendix A
Field Explorations and Laboratory Testing

Appendix A

Field Explorations and Laboratory Testing

FIELD EXPLORATIONS

Subsurface conditions were explored at the site by drilling two borings (GEI-1 through GEI-2) and previously completing hand augers. The borings were completed to depths of up to 31.5 feet below the ground surface using a limited access mini track rig. The locations of the explorations were estimated by measuring distances from site features in the field by taping and pacing and should be considered approximate. Surface elevations were interpreted from a site survey drawing provided by Transportation Solutions, Inc. and should be considered approximate.

Borings

A geotechnical engineer from our firm continually monitored drilling operations, examined and classified the soils encountered, obtained representative soil samples, observed groundwater conditions, and prepared a detailed log of each boring. The soils encountered in the borings were sampled at 2½ or 5-foot vertical intervals with a 1.4-inch inside diameter split-barrel standard penetration test (SPT) sampler. The samples were obtained by driving the sampler 18 inches into the soil with a 140-pound automatic hammer free-falling 30 inches. The number of blows required for each 6 inches of penetration was recorded. The blow count ("N-value") of the soil was calculated as the number of blows required for the final 12 inches of penetration. This resistance, or N-value, provides a measure of the relative density of granular soils and the relative consistency of cohesive soils. Where very dense soil conditions preclude driving the full 18 inches, the penetration resistance for the partial penetration is entered on the logs. The blow counts are shown on the boring logs at the respective sample depths.

Soils encountered in the explorations were visually classified in general accordance with the classification system described in Figure A-1. A key to the log symbols is also presented in Figure A-1. The logs of the explorations are presented in Figures A-2 through A-3. The logs are based on our interpretation of the field and laboratory data and indicate the various types of soils and groundwater conditions encountered. The logs also indicate the depths at which these soils or their characteristics change; although, the change may actually be gradual. If the change occurred between samples in the borings, it was interpreted. The densities noted on the boring log are based on the blow count data obtained in the boring and judgment based on the conditions encountered.

Observations of groundwater conditions were made during drilling. The groundwater conditions encountered during drilling are presented on the boring logs. Groundwater conditions observed during drilling represent a short term condition and may or may not be representative of the long term groundwater conditions at the site. Groundwater conditions observed during drilling should be considered approximate.

LABORATORY TESTING

Soil samples obtained from the explorations were transported to GeoEngineers' laboratory and evaluated to confirm or modify field classifications, as well as to evaluate engineering properties of the soil samples. Representative samples were selected for laboratory testing consisting of percent passing U.S. No. 200

Sieve (%F), moisture content testing and sieve analyses (SA). The tests were performed in general accordance with test methods of ASTM International (ASTM) or other applicable procedures.

Percent Passing U.S. No. 200 Sieve (%F)

Selected samples were "washed" through the U.S. No. 200 mesh sieve to estimate the relative percentages of coarse- and fine-grained particles in the soil. The percent passing value represents the percentage by weight of the sample finer than the U.S. No. 200 sieve. These tests were conducted to verify field descriptions and to estimate the fines content for analysis purposes. The tests were conducted in accordance with ASTM D 1140, and the results are shown on the exploration logs in Appendix A at the respective sample depths.

Sieve Analyses

Full sieve analyses were performed on selected samples in general accordance with ASTM C 136. The wet sieve analysis method was used to determine the percentage of soil greater than the U.S. No. 200 mesh sieve. The results of the sieve analyses were plotted, classified in general accordance with the Unified Soil Classification System (USCS), and presented in Figure A-4.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	SOD	Sod/Forest Duff
	TS	Topsoil

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata

Approximate contact between soil strata

Material Description Contact

Contact between geologic units

Contact between soil of the same geologic unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel / Dames & Moore (D&M)

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Continuous Coring

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

"P" indicates sampler pushed using the weight of the drill rig.

"WOH" indicates sampler pushed using the weight of the hammer.

Laboratory / Field Tests

%F	Percent fines
%G	Percent gravel
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DD	Dry density
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
Mohs	Mohs hardness scale
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PL	Point load test
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
UU	Unconsolidated undrained triaxial compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

Key to Exploration Logs

GeoEngineers

Figure A-1

Drilled Start 5/11/2023 End 5/11/2023	Total Depth (ft) 21	Logged By JSO Checked By DCO	Driller Geologic Drill Partners	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) 133 Vertical Datum NAVD88		Hammer Data Rope and Cathead		Drilling Equipment Mini-track	
Easting (X) 1283707 Northing (Y) 280718		System Datum WA State Plane North NAD83 (feet)		Groundwater not observed at time of exploration	

Notes:

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
	0					SP-SM	Brown fine to medium sand with silt (loose, moist) (fill)			
130		18	7	1 %F		SP-SM	Brown fine to medium sand with silt, gravel and occasional cobbles (medium dense to dense, moist) (recessional outwash)	5	6	
	5	18	44	2						
125		18	18	3		SP-SM	Gray fine to medium sand with silt and occasional gravel (dense, moist)			
	10	18	34	4 MC				6		
120						SP-SM	Gray fine to medium sand with silt, gravel and occasional cobbles (very dense, moist) (advance outwash)			
	15	18	52	5						
115										
	20	11	67/11"	6						
							Boring terminated at 21 feet below ground surface due to refusal			

Notes: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Topographic Survey. Vertical approximated based on Topographic Survey.

Date:6/26/23 Path:P:\0\0197009\GINT\0197009.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_GEOTECH_STANDARD_%F_NO_GW

Log of Boring GEI-1

GeoEngineers

Project: SR104 and 40th PL NE Roundabout
Project Location: Lake Forest Park, Washington
Project Number: 0197-009-00

Figure A-2
Sheet 1 of 1

Drilled Start 5/11/2023 End 5/11/2023	Total Depth (ft) 31.5	Logged By JSO Checked By DCO	Driller Geologic Drill Partners	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) 132 Vertical Datum NAVD88		Hammer Data Rope and Cathead		Drilling Equipment Mini-track	
Easting (X) 1283727 Northing (Y) 280703		System Datum WA State Plane North NAD83 (feet)		Groundwater not observed at time of exploration	

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
130	0					SP-SM	Brown fine to medium sand with silt (medium dense, moist) (recessional outwash)			
		6	21	1 MC				5		
	5	9	31	2 MC			Becomes dense with occasional gravel	4		
125		18	22	3			Becomes medium dense without gravel			
	10	18	19	4 MC				9		
120										
	15	18	22	5						
115						SM	Gray silty fine to coarse sand with gravel and occasional cobble (very dense, moist) (advance outwash)			
	20	18	60	6 %F				8	14	
110						SP-SM	Brown fine to medium sand with silt and occasional gravel (medium dense, moist)			
	25	18	29	7						
105						SP-SM	Brown fine to medium sand with silt (very dense, moist)			
	30	18	60	8						

Boring terminated at 31½ feet below ground surface

Notes: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Topographic Survey. Vertical approximated based on Topographic Survey.

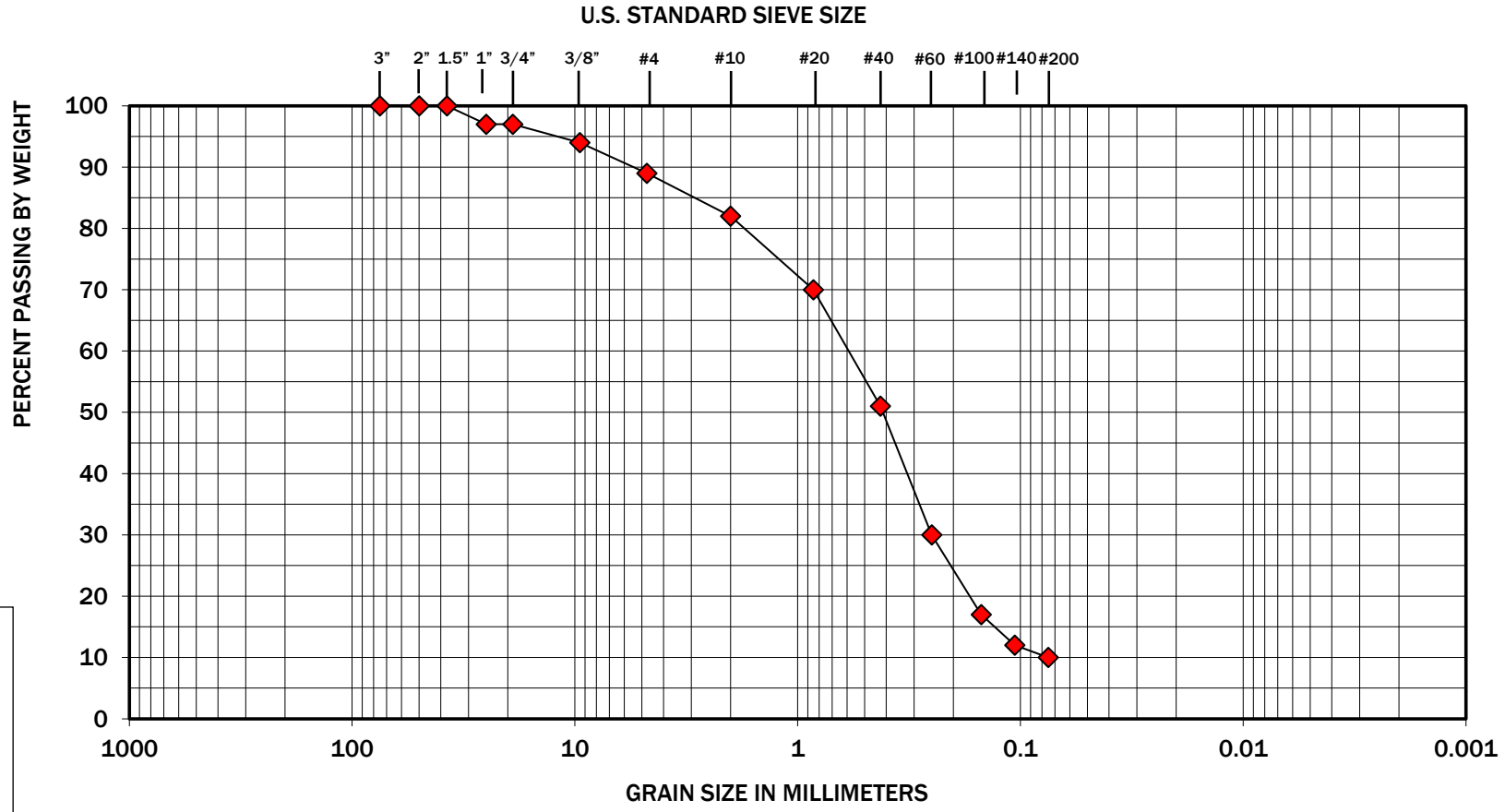
Log of Boring GEI-2

GeoEngineers

Project: SR104 and 40th PL NE Roundabout
Project Location: Lake Forest Park, Washington
Project Number: 0197-009-00

Figure A-3
Sheet 1 of 1

Date:6/26/23 Path:P:\0\0197009\GINT\0197009.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_GEOTECH_STANDARD_%F_NO_GW



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	HA-4	2	8	Poorly graded sand with silt (SP-SM)

GeoEngineers

Figure A-4

SR104 and 40th PL NE Roundabout
Lake Forest Park, Washington

Sieve Analysis Results

AASHTO ACCREDITED

Note: This report may not be reproduced, except in full, without written approval of GeoEngineers, Inc. Test results are applicable only to the specific sample on which they were performed and should not be interpreted as representative of any other samples obtained at other times, depths or locations, or generated by separate operations or processes.

The grain size analysis results were obtained in general accordance with ASTM C 136. GeoEngineers 17425 NE Union Hill Road Ste 250, Redmond, WA 98052

Appendix B
Previous Explorations

Date Excavated 5/19/2022	Total Depth (ft) 4	Logged By RN Checked By YNAN	Excavator GeoEngineers, Inc. Equipment Hand auger	Groundwater not observed Caving not observed
Surface Elevation (ft) 127 Vertical Datum NAVD88		Easting (X) 1283652 Northing (Y) 280768		Coordinate System WA State Plane North Horizontal Datum NAD83 (feet)

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
126	0		1		SM	Light brown silty fine to medium sand with organic matter (very loose, moist) (recessional outwash)			Probes 36 inches
	1					Becomes moist to wet at 16 inches			Probes 20 inches
125	2		2			Becomes medium dense at 2 feet			
124	3								
123	4		3 MC				12		Some chatter, grinding on gravel at 4 feet

Notes: See Figure A-1 for explanation of symbols.
The depths on the hand-augered boring logs are based on an average of measurements across the hand-auger and should be considered accurate to ½ foot.
Coordinates Data Source: Horizontal approximated based on Topographic Survey. Vertical approximated based on Topographic Survey.

Log of Hand Auger HA-1

GeoEngineers

Project: SR104 and 40th PL NE Roundabout
Project Location: Lake Forest Park, Washington
Project Number: 0197-009-00

Figure A-2
Sheet 1 of 1

Date:6/29/22 Path:P:\0\0197009\GINT\0197009.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated 5/19/2022	Total Depth (ft) 4.5	Logged By RN Checked By YNAN	Excavator GeoEngineers, Inc. Equipment Hand auger	Groundwater not observed Caving not observed
Surface Elevation (ft) 128 Vertical Datum NAVD88		Easting (X) 1283686 Northing (Y) 280716	Coordinate System WA State Plane North Horizontal Datum NAD83 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
					TS	Brown silty fine to medium sand with organic matter (loose, moist) (topsoil)			Probes 36 inches
					SM	Dark brown silty fine to medium sand with organic matter (loose, moist) (fill)			
127	1		1						Probes 16 inches
						Becomes medium dense with gravel, no organic matter			Probes 10 inches
126	2								Probes 6 inches
						Becomes medium dense to dense			Probes 3 inches
125	3		2 MC		SM	Light brown silty fine to medium sand with occasional gravel (medium dense to dense, moist) (recessional outwash)	5		
124	4		3						Very hard to advance

Notes: See Figure A-1 for explanation of symbols.
The depths on the hand-augered boring logs are based on an average of measurements across the hand-auger and should be considered accurate to ½ foot.
Coordinates Data Source: Horizontal approximated based on Topographic Survey. Vertical approximated based on Topographic Survey.

Log of Hand Auger HA-2

GeoEngineers

Project: SR104 and 40th PL NE Roundabout
Project Location: Lake Forest Park, Washington
Project Number: 0197-009-00

Figure A-3
Sheet 1 of 1

Date:6/29/22 Path:P:\0\0197009\GINT\0197009.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated 5/19/2022	Total Depth (ft) 3.5	Logged By RN Checked By YNAN	Excavator GeoEngineers, Inc. Equipment Hand auger	Groundwater not observed Caving not observed
Surface Elevation (ft) 129 Vertical Datum NAVD88		Easting (X) 1283720 Northing (Y) 280692		Coordinate System WA State Plane North Horizontal Datum NAD83 (feet)

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
128	1		1		SM	Dark brown silty fine to medium sand with gravel and organic matter (loose to medium dense, moist) (fill)			Probes 20 inches
						Increased content			Hard to advance the auger; Probes 5 inches
127	2				SP-SM	Brown fine to medium sand with gravel (medium dense to dense, moist) (recessional outwash)			
126	3		2 %F				6	4	

Notes: See Figure A-1 for explanation of symbols.
The depths on the hand-augered boring logs are based on an average of measurements across the hand-auger and should be considered accurate to ½ foot.
Coordinates Data Source: Horizontal approximated based on Topographic Survey. Vertical approximated based on Topographic Survey.

Log of Hand Auger HA-3

GeoEngineers

Project: SR104 and 40th PL NE Roundabout
Project Location: Lake Forest Park, Washington
Project Number: 0197-009-00

Figure A-4
Sheet 1 of 1

Date:6/29/22 Path:P:\0\0197009\GINT\0197009.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated 5/19/2022	Total Depth (ft) 5	Logged By RN Checked By YNAN	Excavator GeoEngineers, Inc. Equipment Hand auger	Groundwater not observed Caving not observed
Surface Elevation (ft) 124 Vertical Datum NAVD88		Easting (X) 1283680 Northing (Y) 280690	Coordinate System WA State Plane North Horizontal Datum NAD83 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
					SM	Dark brown silty fine to medium sand with organic matter and occasional gravel (very loose, moist) (fill)			Probes 24 inches
123	1		1		SP-SM	Brown fine to medium sand with occasional gravel and occasional organic debris (loose to medium dense, moist) (recessional outwash)			
122	2		2 SA				8	10	Probes 12 inches
121	3								
120	4				SP-SM	Brown fine to coarse sand with silt and gravel (medium dense, moist)			
119	5		3						

Notes: See Figure A-1 for explanation of symbols.
The depths on the hand-augered boring logs are based on an average of measurements across the hand-auger and should be considered accurate to ½ foot.
Coordinates Data Source: Horizontal approximated based on Topographic Survey. Vertical approximated based on Topographic Survey.

Log of Hand Auger HA-4

GeoEngineers

Project: SR104 and 40th PL NE Roundabout
Project Location: Lake Forest Park, Washington
Project Number: 0197-009-00

Figure A-5
Sheet 1 of 1

Date:6/29/22 Path:P:\0\0197009\GINT\0197009.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GE8_TESTPIT_1P_GEOTEC_%F

Date Excavated	5/19/2022	Total Depth (ft)	5.5	Logged By RN Checked By YNAN	Excavator GeoEngineers, Inc. Equipment Hand auger	Groundwater not observed Caving not observed
Surface Elevation (ft) Vertical Datum	124 NAVD88	Easting (X) Northing (Y)	1283697 280659	Coordinate System Horizontal Datum	WA State Plane North NAD83 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
123	0				TS	Dark brown silty fine to medium sand with organic matter and occasional gravel (moist) (topsoil)			Probes 36 inches
					SM	Brown silty fine to medium sand with organic matter and occasional gravel (very loose, moist) (recessional outwash)			
	1		1						Probes 12 inches
122	2		2 MC				7		
						Becomes with gravel, no organic matter			
121	3								Hard to advance auger
120	4				SP-SM	Brown fine to medium sand with silt and gravel (medium dense to dense, moist)			
119	5		3						

Notes: See Figure A-1 for explanation of symbols.
The depths on the hand-augered boring logs are based on an average of measurements across the hand-auger and should be considered accurate to ½ foot.
Coordinates Data Source: Horizontal approximated based on Topographic Survey. Vertical approximated based on Topographic Survey.

Log of Hand Auger HA-5

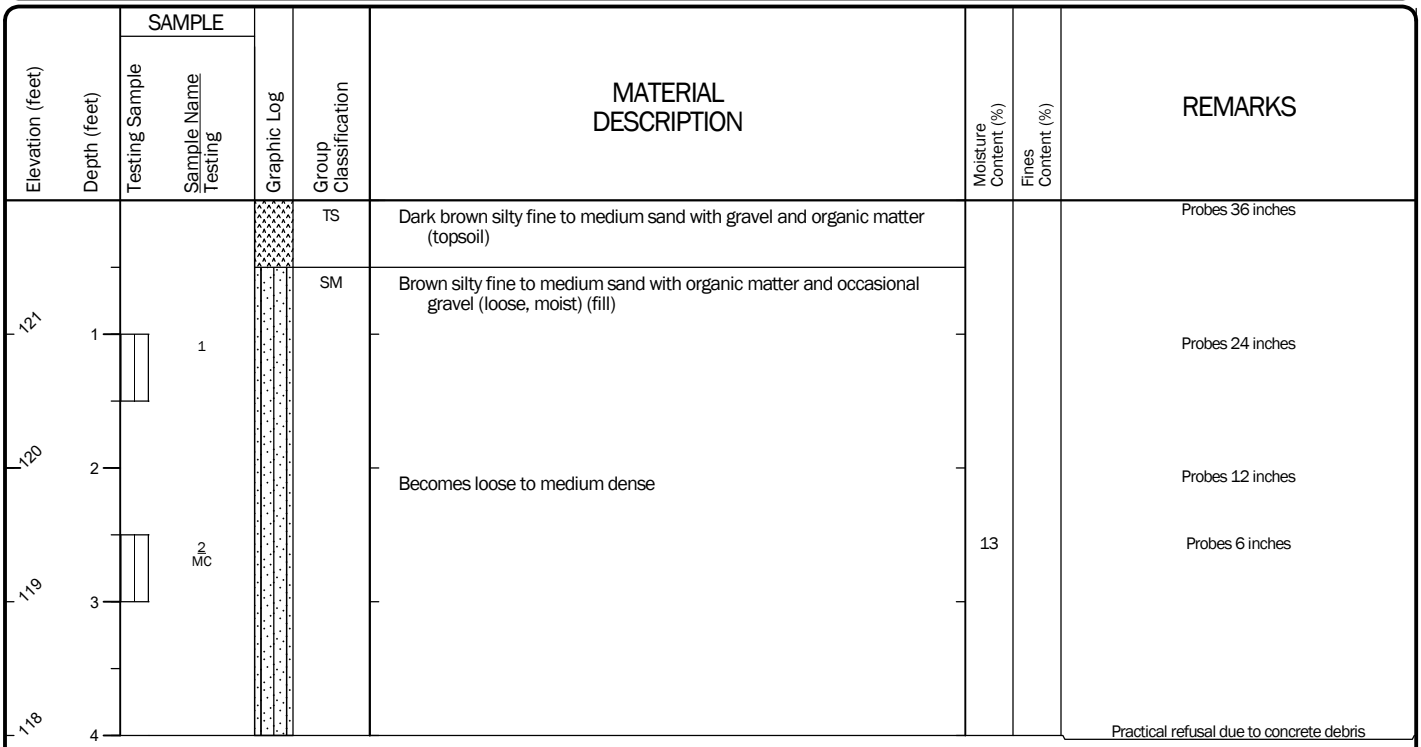
GeoEngineers

Project: SR104 and 40th PL NE Roundabout
Project Location: Lake Forest Park, Washington
Project Number: 0197-009-00

Figure A-6
Sheet 1 of 1

Date:6/29/22 Path:P:\0\0197009\GINT\0197009.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated 5/19/2022	Total Depth (ft) 4	Logged By RN Checked By YNAN	Excavator GeoEngineers, Inc. Equipment Hand auger	Groundwater not observed Caving not observed
Surface Elevation (ft) 122 Vertical Datum NAVD88		Easting (X) 1283752 Northing (Y) 280615	Coordinate System WA State Plane North Horizontal Datum NAD83 (feet)	



Notes: See Figure A-1 for explanation of symbols.
The depths on the hand-augered boring logs are based on an average of measurements across the hand-auger and should be considered accurate to ½ foot.
Coordinates Data Source: Horizontal approximated based on Topographic Survey. Vertical approximated based on Topographic Survey.

Log of Hand Auger HA-6

GeoEngineers

Project: SR104 and 40th PL NE Roundabout
Project Location: Lake Forest Park, Washington
Project Number: 0197-009-00

Figure A-7
Sheet 1 of 1

Date:6/29/22 Path:P:\0\0197009\GINT\0197009.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated 5/19/2022	Total Depth (ft) 4.5	Logged By RN Checked By YNAN	Excavator GeoEngineers, Inc. Equipment Hand auger	Groundwater not observed Caving not observed	
Surface Elevation (ft) 119 Vertical Datum NAVD88		Easting (X) 1283741 Northing (Y) 280585		Coordinate System WA State Plane North Horizontal Datum NAD83 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
					TS	Dark brown silty fine to medium sand with occasional gravel and organic debris (loose, moist) (topsoil)			Probes 36 inches
118	1		1		SP-SM	Brown silty fine to medium sand with silt and gravel (medium dense, moist) (recessional outwash)			Probes 18 inches
									Probes 15 inches
117	2		2						Probes 9 inches
116	3		3 %F				5	11	Very hard to advance the auger
						With gravel, becomes dense			
115	4		4						

Notes: See Figure A-1 for explanation of symbols.
The depths on the hand-augered boring logs are based on an average of measurements across the hand-auger and should be considered accurate to ½ foot.
Coordinates Data Source: Horizontal approximated based on Topographic Survey. Vertical approximated based on Topographic Survey.

Log of Hand Auger HA-7

GeoEngineers

Project: SR104 and 40th PL NE Roundabout
Project Location: Lake Forest Park, Washington
Project Number: 0197-009-00

Figure A-8
Sheet 1 of 1

Date:6/29/22 Path:P:\0\0197009\GINT\0197009.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Appendix C

Report Limitations and Guidelines for Use

Appendix C

REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This appendix provides information to help you manage your risks with respect to the use of this report.

Read These Provisions Closely

It is important to recognize that the geoscience practices (geotechnical engineering, geology, and environmental science) rely on professional judgment and opinion to a greater extent than other engineering and natural science disciplines, where more precise and/or readily observable data may exist. To help clients better understand how this difference pertains to our services, GeoEngineers includes the following explanatory "limitations" provisions in its reports. Please confer with GeoEngineers if you need to know more how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

This report has been prepared for the City of Lake Forest Park, Transportation Solutions, Inc., and other project team members for the SR-104 and 40th Pl NE Roundabout project in Lake Forest Park, Washington. The information contained herein is not applicable to other sites or projects.

GeoEngineers structures its services to meet the specific needs of its clients. No party other than the party to whom this report is addressed may rely on the product of our services unless we agree to such reliance in advance and in writing. Within the limitations of the agreed scope of services for the Project, and its schedule and budget, our services have been executed in accordance with our Agreement with the City of Lake Forest Park, Transportation Solutions, Inc. dated July 8, 2022 and generally accepted geotechnical practices in this area at the time this report was prepared. We do not authorize, and will not be responsible for, the use of this report for any purposes or projects other than those identified in the report.

A Geotechnical Engineering or Geologic Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for the SR-104 and 40th Pl NE Roundabout project in Lake Forest Park, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, it is important not to rely on this report if it was:

- Not prepared for you,
- Not prepared for your project,
- Not prepared for the specific site explored, or
- Completed before important project changes were made.

1 Developed based on material provided by GBA, GeoProfessional Business Association; www.geoprofessional.org.

For example, changes that can affect the applicability of this report include those that affect:

- The function of the proposed structure;
- Elevation, configuration, location, orientation, or weight of the proposed structure;
- Composition of the design team; or
- Project ownership.

If changes occur after the date of this report, GeoEngineers cannot be responsible for any consequences of such changes in relation to this report unless we have been given the opportunity to review our interpretations and recommendations. Based on that review, we can provide written modifications or confirmation, as appropriate.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by man-made events such as construction on or adjacent to the site, new information or technology that becomes available subsequent to the report date, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. If more than a few months have passed since issuance of our report or work product, or if any of the described events may have occurred, please contact GeoEngineers before applying this report for its intended purpose so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Geotechnical and Geologic Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies the specific subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied its professional judgment to render an informed opinion about subsurface conditions at other locations. Actual subsurface conditions may differ, sometimes significantly, from the opinions presented in this report. Our report, conclusions and interpretations are not a warranty of the actual subsurface conditions.

Geotechnical Engineering Report Recommendations Are Not Final

We have developed the following recommendations based on data gathered from subsurface investigation(s). These investigations sample just a small percentage of a site to create a snapshot of the subsurface conditions elsewhere on the site. Such sampling on its own cannot provide a complete and accurate view of subsurface conditions for the entire site. Therefore, the recommendations included in this report are preliminary and should not be considered final. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for the recommendations in this report if we do not perform construction observation.

We recommend that you allow sufficient monitoring, testing and consultation during construction by GeoEngineers to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes if the conditions revealed during the work differ from those anticipated, and to evaluate whether earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction observation for this project is the most effective means of managing the risks associated with unanticipated conditions. If another party performs field observation and confirms our expectations, the other party must take full responsibility for both the observations and recommendations. Please note, however, that another party would lack our project-specific knowledge and resources.

A Geotechnical Engineering or Geologic Report Could Be Subject to Misinterpretation

Misinterpretation of this report by members of the design team or by contractors can result in costly problems. GeoEngineers can help reduce the risks of misinterpretation by conferring with appropriate members of the design team after submitting the report, reviewing pertinent elements of the design team's plans and specifications, participating in pre-bid and preconstruction conferences, and providing construction observation.

Do Not Redraw the Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. The logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Photographic or electronic reproduction is acceptable, but separating logs from the report can create a risk of misinterpretation.

Give Contractors a Complete Report and Guidance

To help reduce the risk of problems associated with unanticipated subsurface conditions, GeoEngineers recommends giving contractors the complete geotechnical engineering or geologic report, including these "Report Limitations and Guidelines for Use." When providing the report, you should preface it with a clearly written letter of transmittal that:

- Advises contractors that the report was not prepared for purposes of bid development and that its accuracy is limited; and
- Encourages contractors to conduct additional study to obtain the specific types of information they need or prefer.

Contractors Are Responsible for Site Safety on Their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule, or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and adjacent properties.

Geotechnical, Geologic and Environmental Reports Should Not Be Interchanged

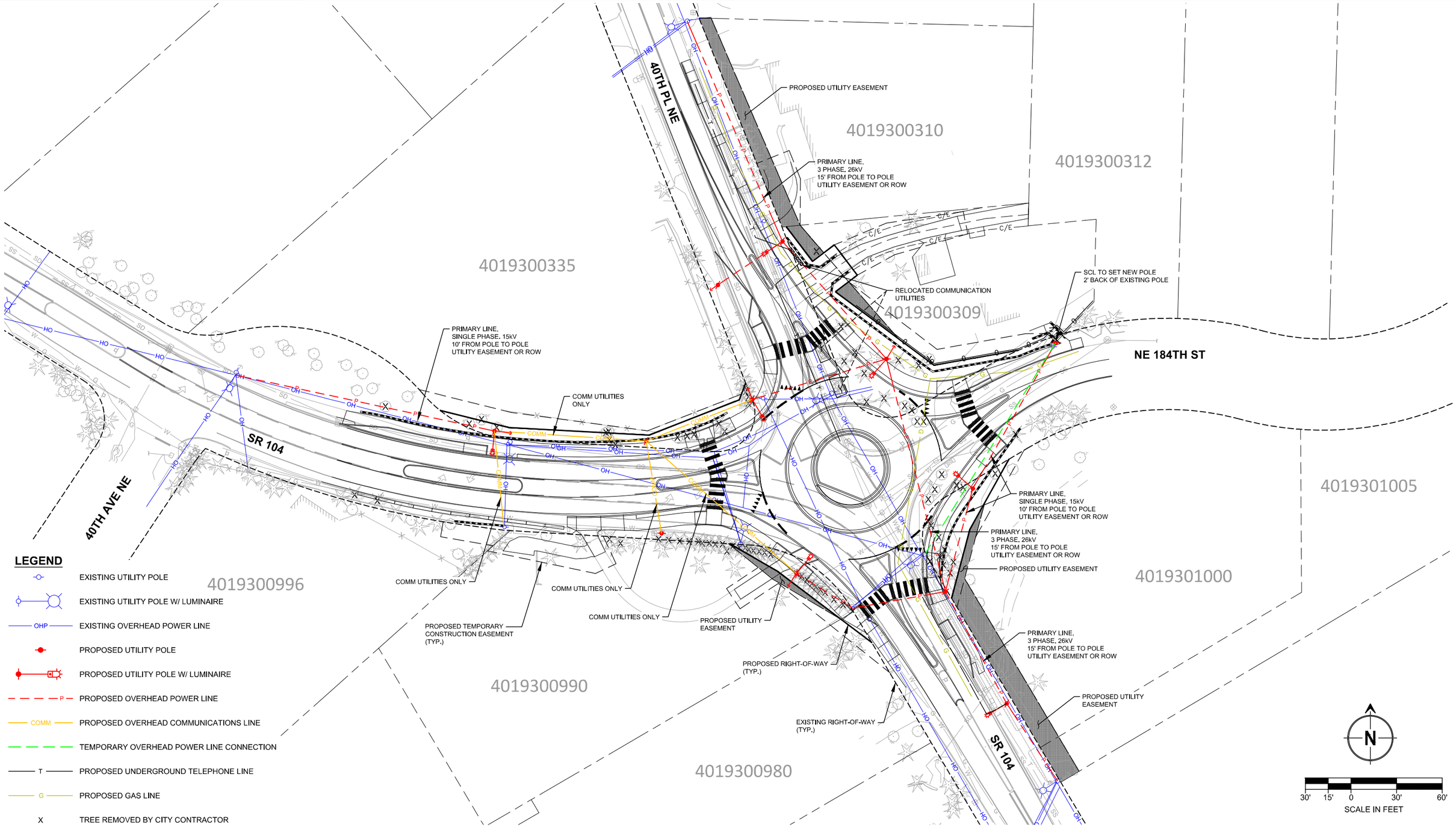
The equipment, techniques, and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention, or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants, and no conclusions or inferences should be drawn regarding Biological Pollutants as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.

A Client that desires these specialized services is advised to obtain them from a consultant who offers services in this specialized field.

APPENDIX E:
Utility Relocation Work By Others Information



NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	4-25
Designed	KAH	4-25
Reviewed	VLS	4-25
Approved	VLS	4-25

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road | Suite A206 | Woodinville, WA 98072 | 425-883-4134

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

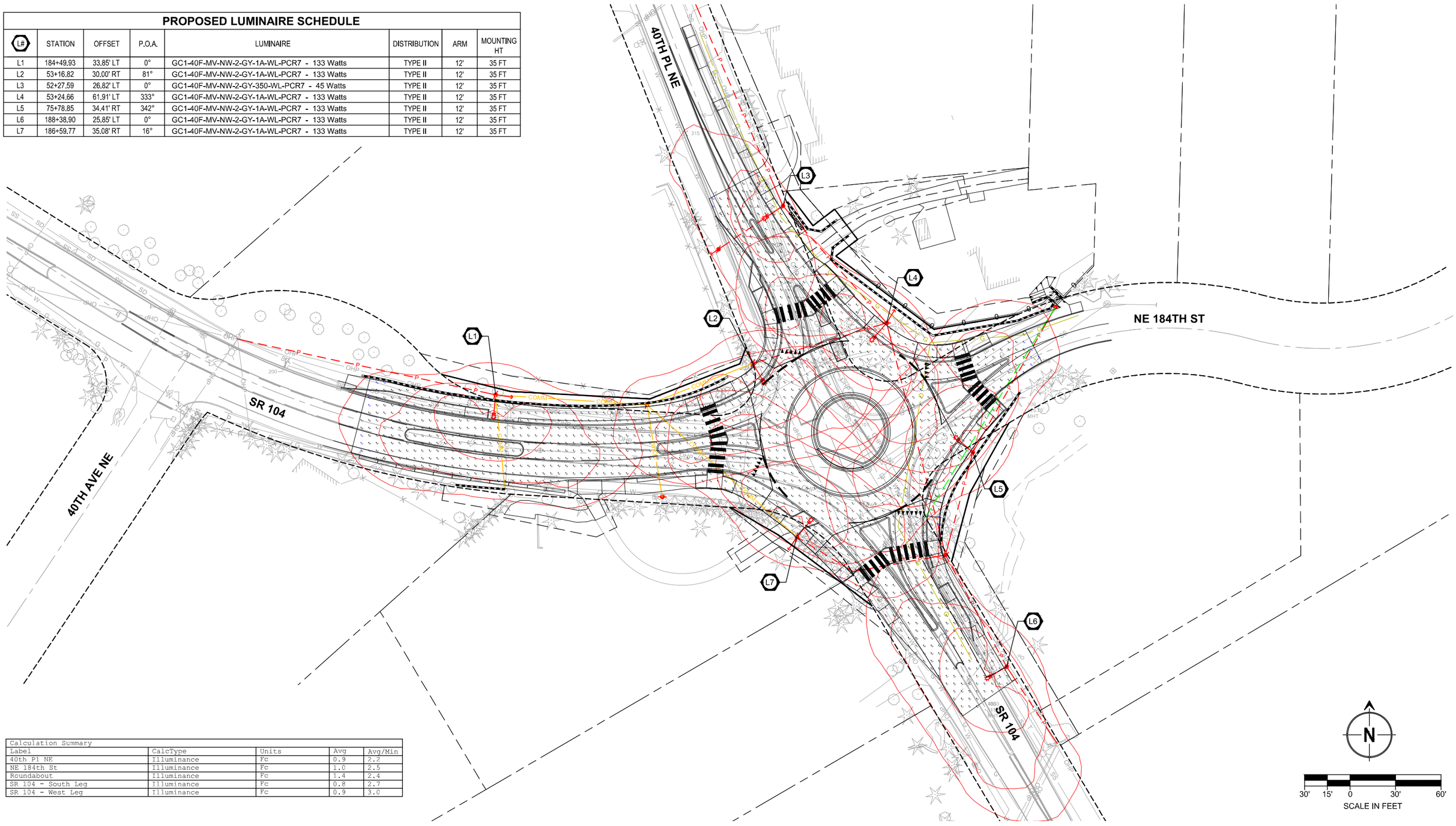
PROPOSED UTILITY RELOCATIONS FOR INSTALLATION BY OTHERS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	
SHEET	1 OF 1

G:\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CAD\PS&E\Figures\Prelim Utility Relocation.dwg, 04/09/25 04:30:15pm

PROPOSED LUMINAIRE SCHEDULE

L#	STATION	OFFSET	P.O.A.	LUMINAIRE	DISTRIBUTION	ARM	MOUNTING HT
L1	184+49.93	33.85' LT	0°	GC1-40F-MV-NW-2-GY-1A-WL-PCR7 - 133 Watts	TYPE II	12'	35 FT
L2	53+16.82	30.00' RT	81°	GC1-40F-MV-NW-2-GY-1A-WL-PCR7 - 133 Watts	TYPE II	12'	35 FT
L3	52+27.59	26.82' LT	0°	GC1-40F-MV-NW-2-GY-350-WL-PCR7 - 45 Watts	TYPE II	12'	35 FT
L4	53+24.66	61.91' LT	333°	GC1-40F-MV-NW-2-GY-1A-WL-PCR7 - 133 Watts	TYPE II	12'	35 FT
L5	75+78.85	34.41' RT	342°	GC1-40F-MV-NW-2-GY-1A-WL-PCR7 - 133 Watts	TYPE II	12'	35 FT
L6	188+38.90	25.85' LT	0°	GC1-40F-MV-NW-2-GY-1A-WL-PCR7 - 133 Watts	TYPE II	12'	35 FT
L7	186+59.77	35.08' RT	16°	GC1-40F-MV-NW-2-GY-1A-WL-PCR7 - 133 Watts	TYPE II	12'	35 FT



Calculation Summary				
Label	CalcType	Units	Avg	Avg/Min
40th Pl NE	Illuminance	Fc	0.9	2.2
NE 184th St	Illuminance	Fc	1.0	2.5
Roundabout	Illuminance	Fc	1.4	2.4
SR 104 - South Leg	Illuminance	Fc	0.8	2.7
SR 104 - West Leg	Illuminance	Fc	0.9	3.0

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	4-25
Designed	KAH	4-25
Reviewed	VLS	4-25
Approved	VLS	4-25

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road | Suite A206 | Woodinville, WA 98072 | 425-883-4134

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

PROPOSED LIGHTING LAYOUT FOR INSTALLATION BY OTHERS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	
SHEET	1 OF 1

G:\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CAD\PS&E\Figures\Prelim Lighting Layout.dwg, 04/09/25 03:32:25pm

CITY OF LAKE FOREST PARK - PROJECT No. 221007
SEATTLE, WA

SR 104 & 40TH PL NE ROUNDABOUT PROJECT

Lumen Civil Base Map

Plans Prepared For:

LUMEN®

Plans Prepared By:

TERRA
A CONGRUEX® COMPANY

Index of Sheets:

1 Cover Sheet
2 Legend
~~3 Title Sheet~~
4-8 Drainage Plan

Estimated % Design Drawings:

60% Submittal

Jurisdiction File Name:
60% Plans - Aug2022.pdf

Received File from Jurisdiction Date:
1-04-2023

Civil Base Map Color Key:

Existing Facilities
Conflict Mitigation Action
(Proposed Facilities)
Removals and abandonment
Additional Information Needed/Notes

Contact Information:

Project Manager
TT Eng: Beth Tan
Phone: 206-660-6330
E-mail: btan@terratechllc.net
TT #: 1009985
http://www.terratechllc.net

Field Engineer
TT Eng: Cory Coate
Phone: 503-961-5023
E-mail: ccoate@terratechllc.net
TT #: 1009985
http://www.terratechllc.net

NOTES:

ALL EXISTING AND PROPOSED CONDITIONS ARE BASED ON INFORMATION PROVIDED BY OTHERS. LUMEN CANNOT BE RESPONSIBLE FOR THE ACCURACY OF INFORMATION AND/OR PLANS PROVIDED BY OUTSIDE PARTIES. FACILITY LOCATIONS, DEPTHS AND ELEVATIONS SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

PROPOSED DESIGN MODIFICATIONS ARE RECOMMENDATIONS ONLY AND SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.

811 Know what's below. Call before you dig.

LOCATION MAP ↑ N
NOT TO SCALE

FOR REFERENCE ONLY

LUMEN JOB: P.078280
GEO CODE: 5411 [SEATTLE]
WC CLLI: STTLWA04
ENGINEER: RYAN MAYS
PHONE: 602-571-6068
EMAIL: Ryan.Mays@lumen.com
CPA: CHRISTIAN MARSHALL
PHONE: 808-722-1579
EMAIL: Christian.Marshall@lumen.com

REV.	DATE	DESCRIPTION
1	01-23-23	Initial TT Draft Issued - LSB

SHEET 1 of 8
DATE: 01-23-2023

LEGEND

Symbols

- or — Existing Lumen pedestal
- or — New Lumen pedestal
- or — Existing Lumen pedestal to be removed
- Existing Lumen SAI (serving area interface)
- New Lumen SAI (serving area interface)
- Existing Lumen SAI to be removed or abandoned
- HH — Existing Lumen handhole
- HH — New Lumen handhole
- Existing Lumen handhole to be removed
- Existing Lumen manhole (various sizes)
- New Lumen manhole (various sizes)
- Existing Lumen double lidded manhole (various sizes)
- New Lumen double lidded manhole (various sizes)
- Existing Lumen manhole to be removed or abandoned (all sizes and types)
- P — Existing Lumen power pedestal
- P — New Lumen power pedestal
- Existing Lumen repeater
- New Lumen repeater
- Existing Lumen repeater to be removed
- CP — Existing Lumen cool ped. - fiber/electronics
- CP — New Lumen cool ped. - fiber/electronics
- Existing Lumen RT (remote terminal)
- New Lumen RT (remote terminal)
- Existing Lumen pole
- New Lumen pole
- Existing Lumen pole to be removed
- Existing Lumen down guy and anchor
- New Lumen down guy and anchor
- New Lumen sidewalk down guy and anchor
- J — Existing joint use pole
- J — New joint use pole
- Existing foreign owned (e.g. power)
- New foreign owned (e.g. power)

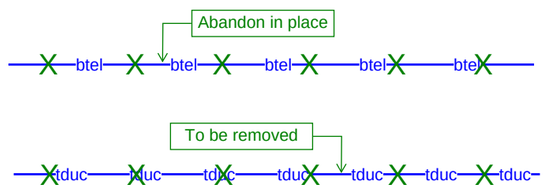
Line Types

- fo-exist — Existing buried fiber optic
- FO-NEW — New buried fiber optic
- afo-exist — Existing aerial fiber optic
- AFO-NEW — New aerial fiber optic
- aer-tel — Existing overhead telephone line
- AER-TEL — New overhead telephone line
- btel — Existing buried telephone line
- BTEL — New buried telephone line
- tduc — Existing telephone duct run
- TDUC — New telephone duct run
- bsw-ex — Existing buried service wire
- BSW-NEW — New buried service wire
- asw-ex — Existing aerial service wire
- ASW-NEW — New aerial service wire
- Existing buried splice
- New buried splice
- Existing Lumen cable or conduit to be removed or abandoned
- Lower Lower — Lower cable or conduit
- Raise Raise — Raise cable or conduit
- BORE BORE — New underground bore
- TEMP TEMP — Temporary ground lay

Abbreviations

ct. = Count
pr. = Pair
pp = Pending Placement
ug. = Underground
ex. = Existing

Cable to be removed or abandoned as shown.



NOTES:

ALL DUCT ELEVATIONS ARE BASED ON POTHOLE INFORMATION, UNLESS NOTED OTHERWISE, AND HAVE BEEN PROVIDED BY OTHERS. ELEVATIONS SHOWN ARE TOP OF DUCT. DEPTHS SHOWN ARE DISTANCE BELOW EXISTING FINISHED GRADE.

PROPOSED VAULT AND DUCT LOCATIONS SHALL BE FIELD VERIFIED AGAINST EXISTING AND PROPOSED UTILITIES. ENGINEER IN CHARGE DURING CONSTRUCTION SHALL BE NOTIFIED OF CONFLICTS

ALL METHODS, MATERIALS, CONTENT AND FORM CONTAINED IN THIS MATERIAL ARE THE INTELLECTUAL PROPERTY OF TERRA TECHNOLOGIES LLC, AND MAY NOT BE COPIED, REPRODUCED, DISTRIBUTED, OR DISPLAYED WITH THE EXPRESS PERMISSION OF TERRA TECHNOLOGIES LLC.

THE TECHNOLOGY PRESENTED IN THIS MATERIAL IS PROTECTED UNDER VARIOUS U.S. AND INTERNATIONAL PATENTS AND PENDING PATENTED APPLICATIONS, INCLUDING WITHOUT LIMITATION, U.S. PATENT NOS. 7,771,140; 8,016,518; AND 8,061,934.

Lumen Civil Base Map

Project No. Date:
File:

TERRA A CONGRUEX COMPANY

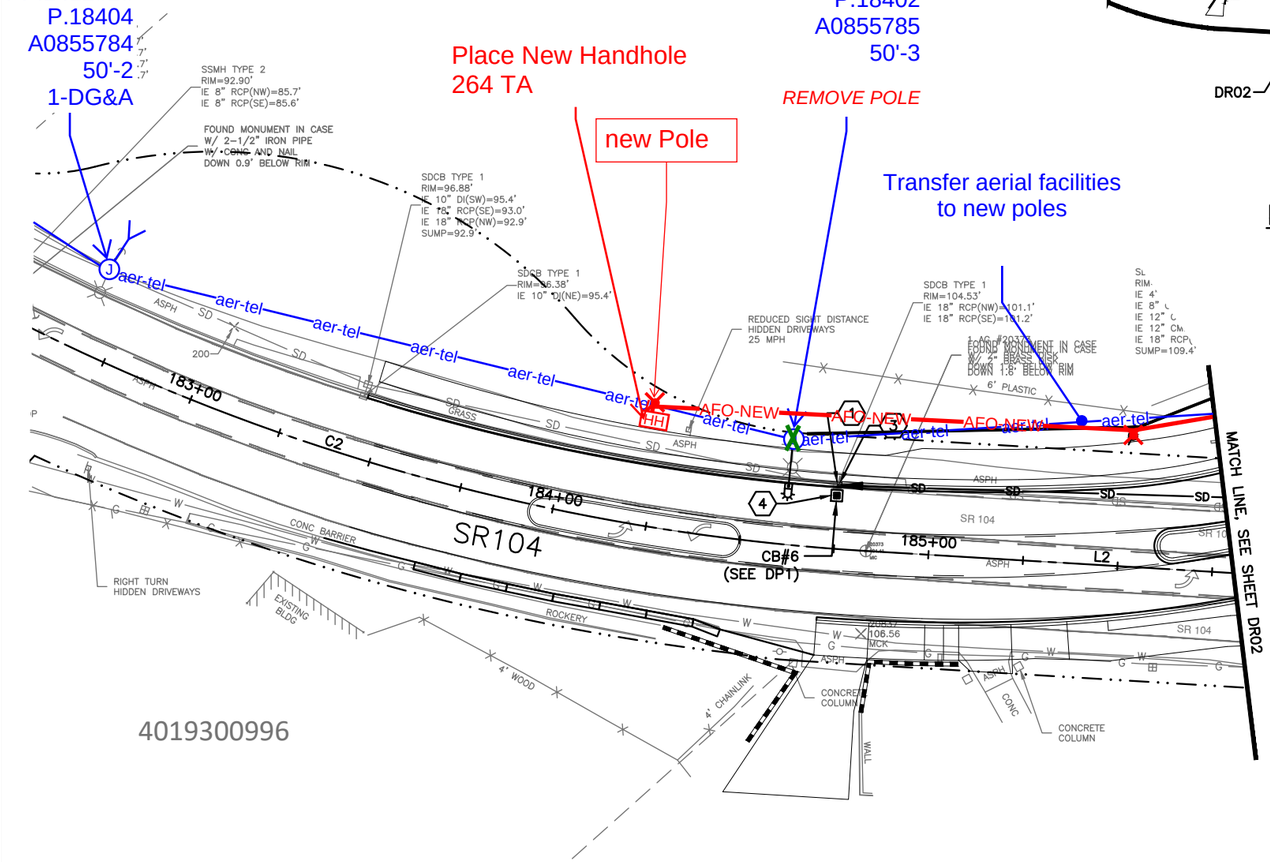
LUMEN®

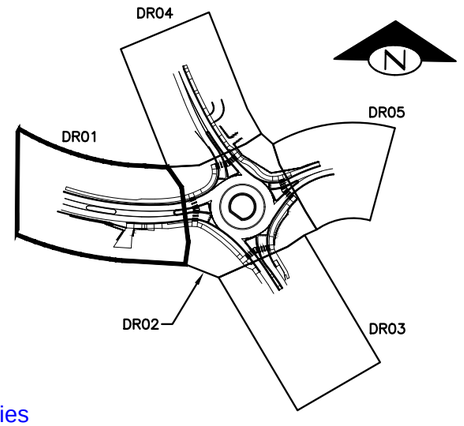
PERMITS NEEDED: _____

LUMEN ENGINEER: P.078280 LUMEN JOB: P.078280
PHONE: RYAN MAYS WC CLLI: STTLWA04
E-MAIL: 602-571-6068 GEO CODE: 5411
ISSUE #: _____ ISSUE DATE: ___/___/_____ NDS SHEET: OF

Sheet 2 of 8

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

N

0 20 40
Scale in Feet

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.

LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

811 Know what's **below.** **Call** before you dig.

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **DR01**
SHEET 4 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:27:54am

SEC 10, TWP 26 N, RGE 4 E

Place Aerial copper & Aerial Fiber on relocated poles

Place Aerial copper & Aerial Fiber on relocated poles

Add down guide to pole

PP.1412960
P.18402
A0855799
Pole to be removed

PP.1412910
P.18402.A7
A0855801
40'-5:
Place Down guide

Placed new fiber & copper on to new poles

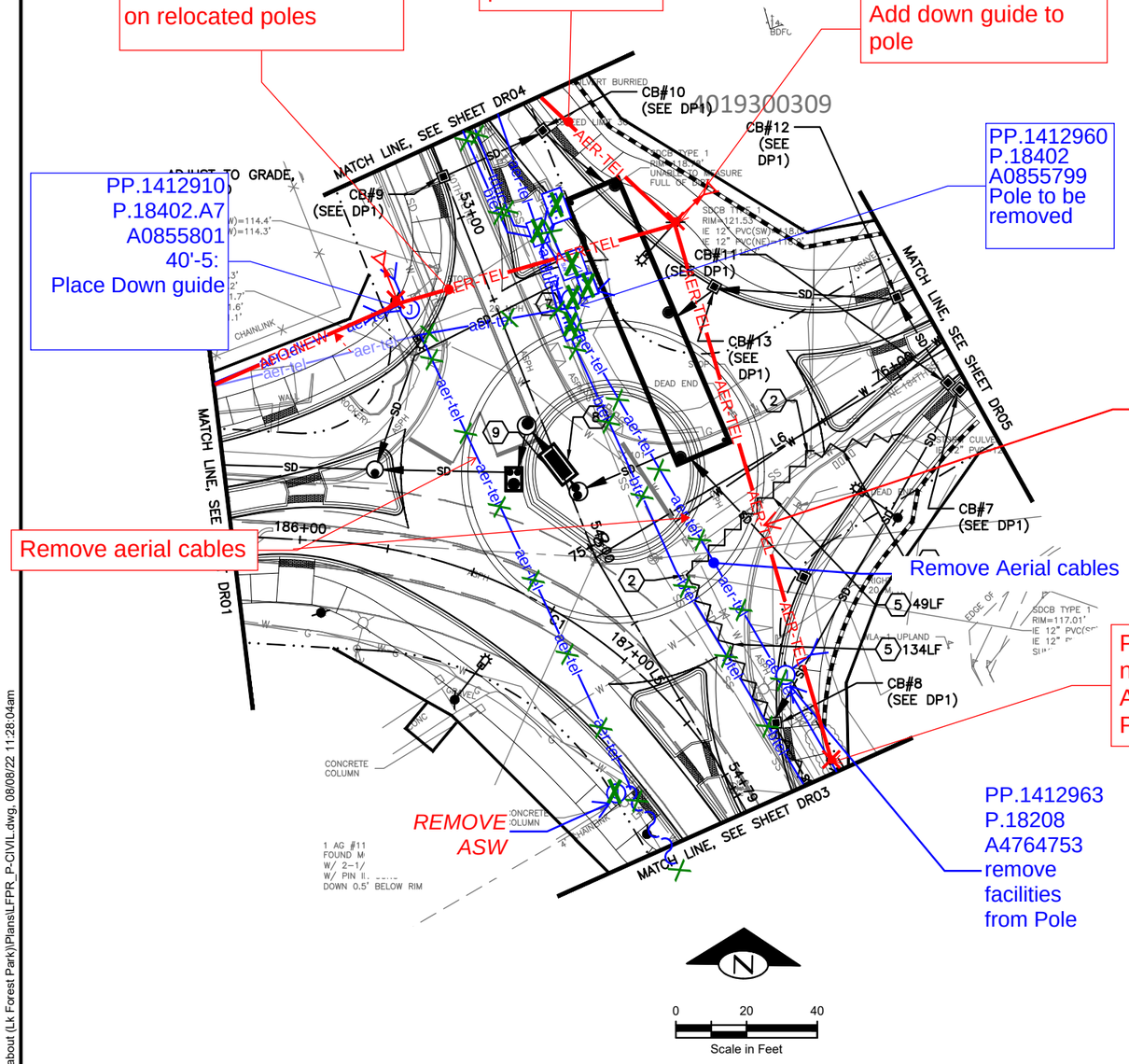
Remove aerial cables

Remove Aerial cables

Pole 2
new pole
A4764753
P.1412963

PP.1412963
P.18208
A4764753
remove facilities from Pole

REMOVE ASW



0 20 40
Scale in Feet

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.

LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

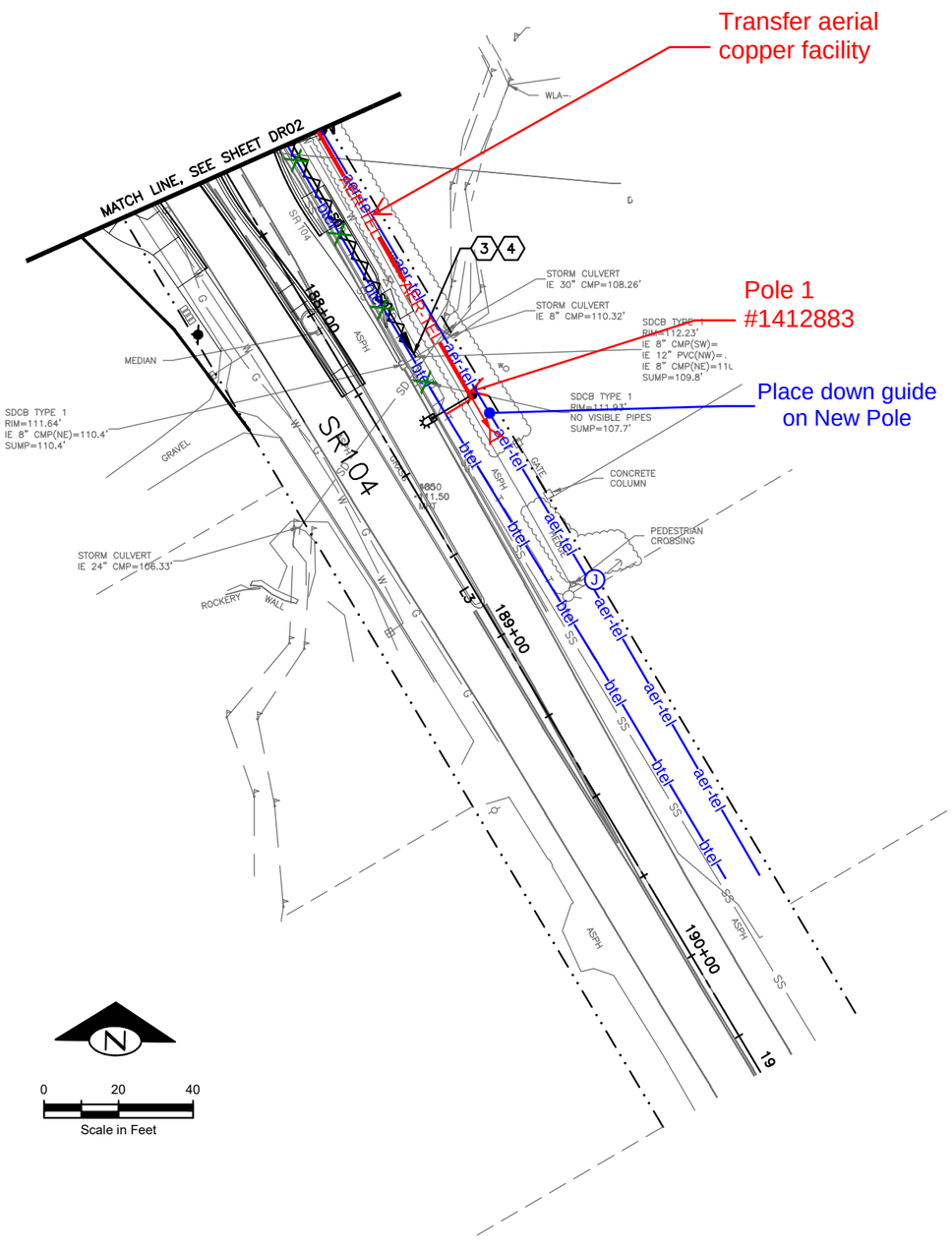
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

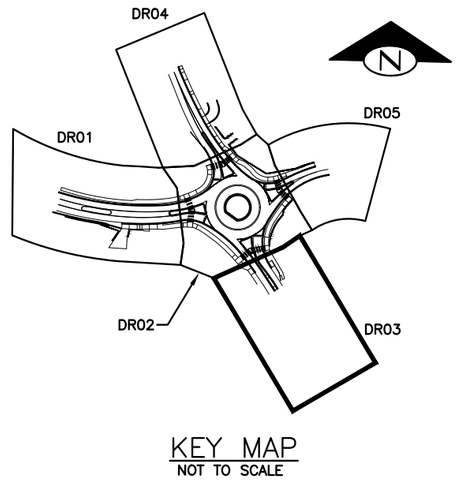
DRAINAGE PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **DR02**
SHEET 5 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:28:04am

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.

LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

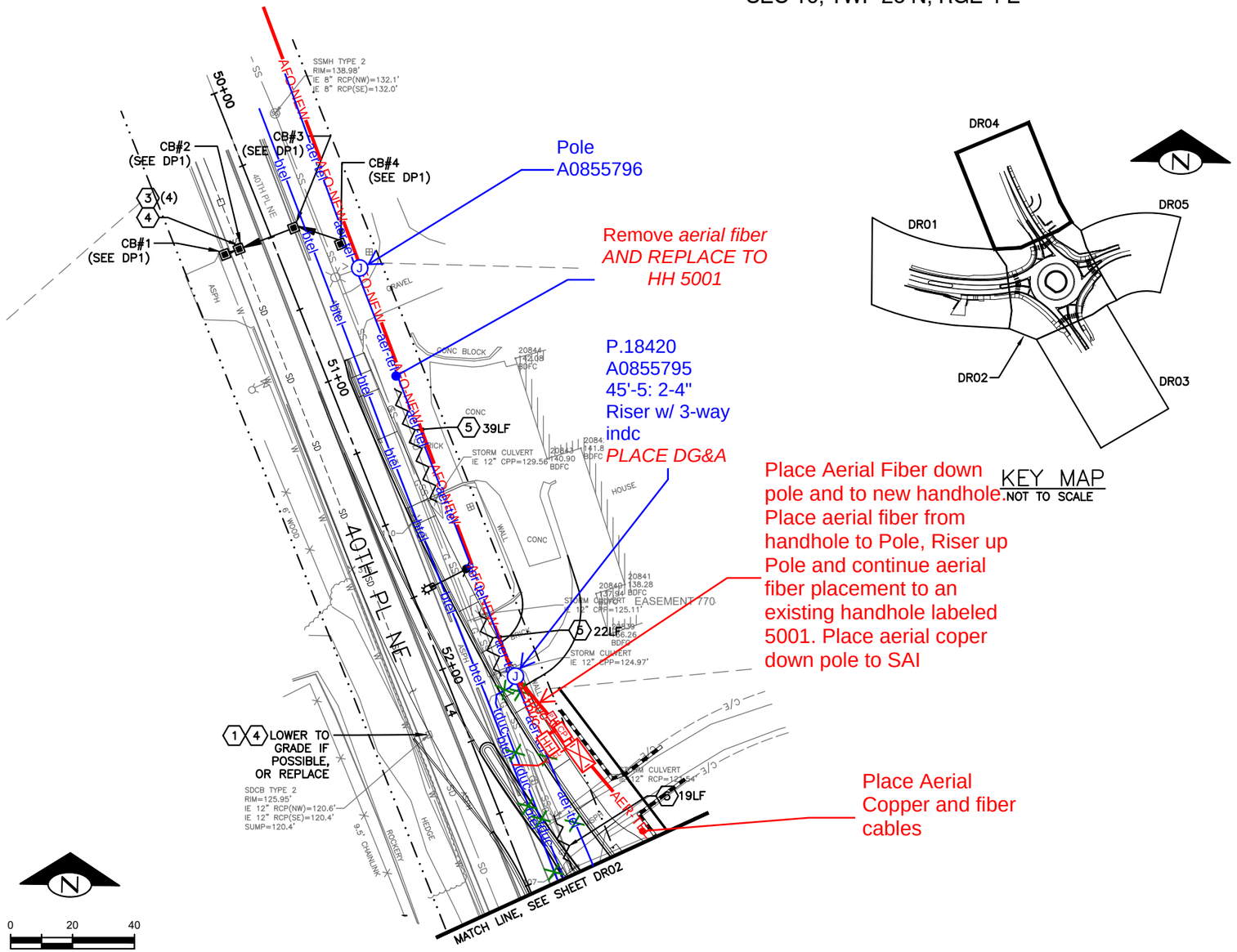
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **DR03**
SHEET 6 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:28:14am

SEC 10, TWP 26 N, RGE 4 E



KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.

LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

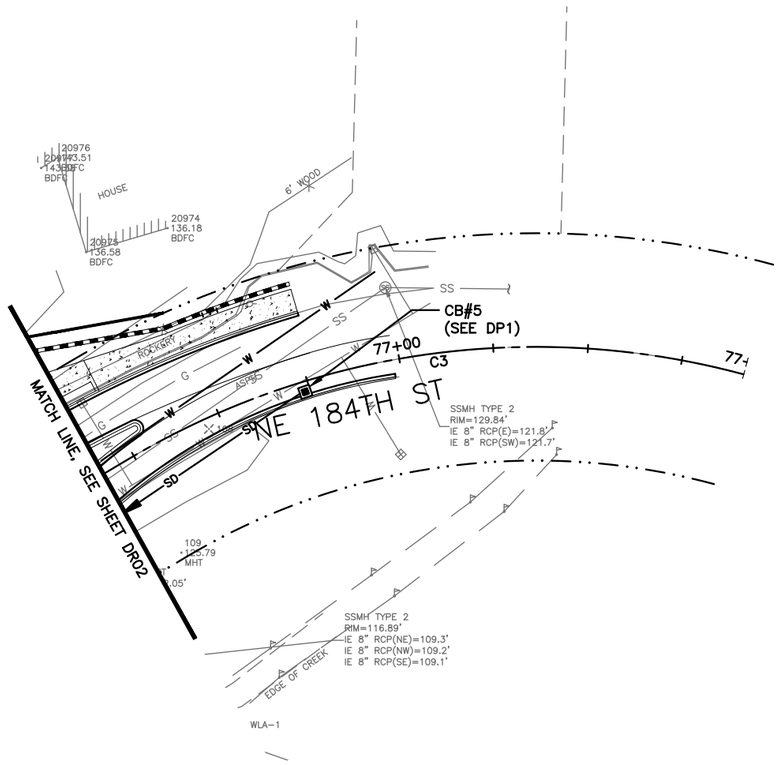
DRAINAGE PLAN

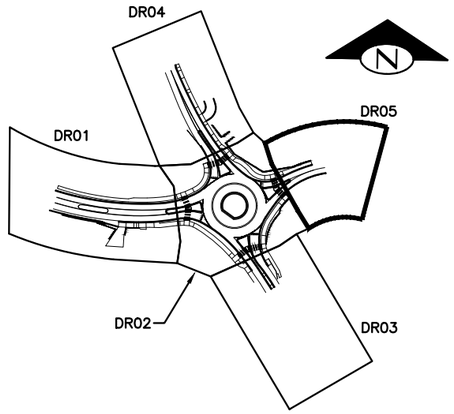
PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. DR04
SHEET 7 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:28:24am

SEC 10, TWP 26 N, RGE 4 E

NO LUMEN FACILITIES





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.

LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

0 20 40
Scale in Feet

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

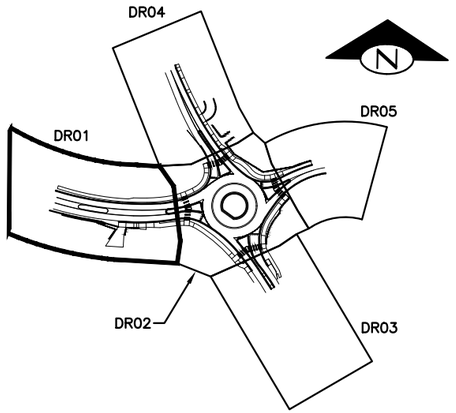
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **DR05**
SHEET 8 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:28:34am

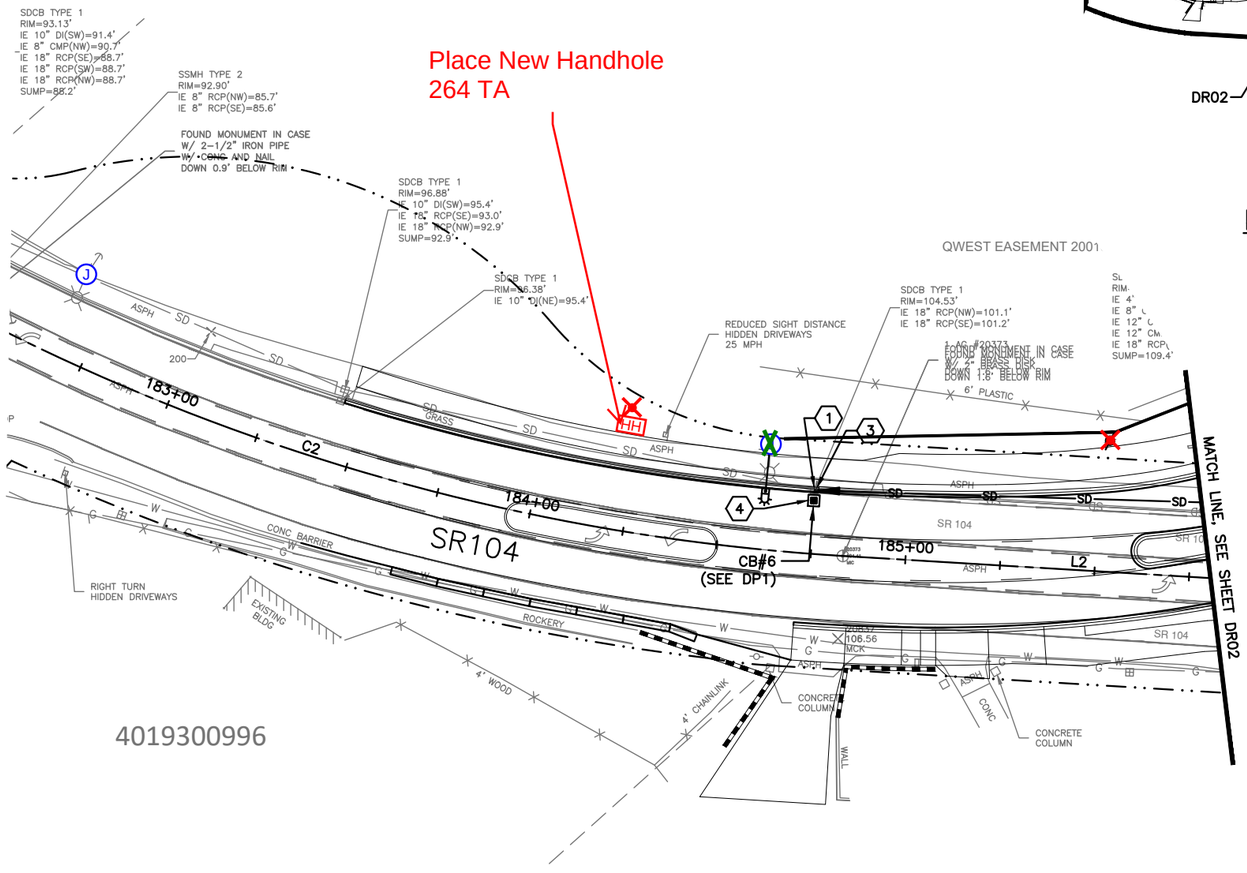
SEC 10, TWP 26 N, RGE 4 E



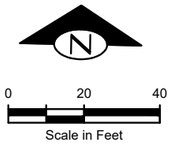
KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.



4019300996



LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

811 Know what's **below.** **Call** before you dig.

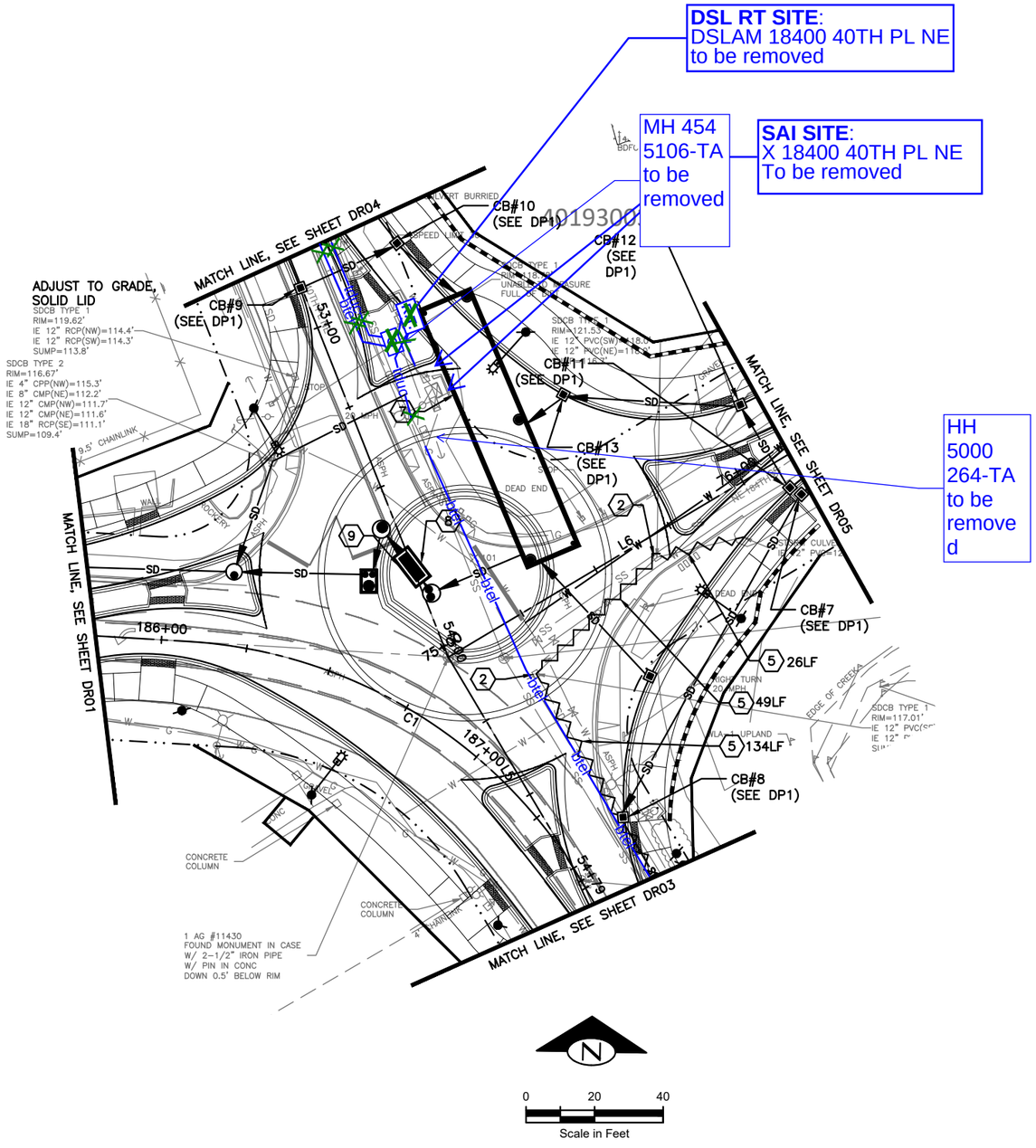
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **DR01**
SHEET 4 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:27:54am

SEC 10, TWP 26 N, RGE 4 E



CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.

LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

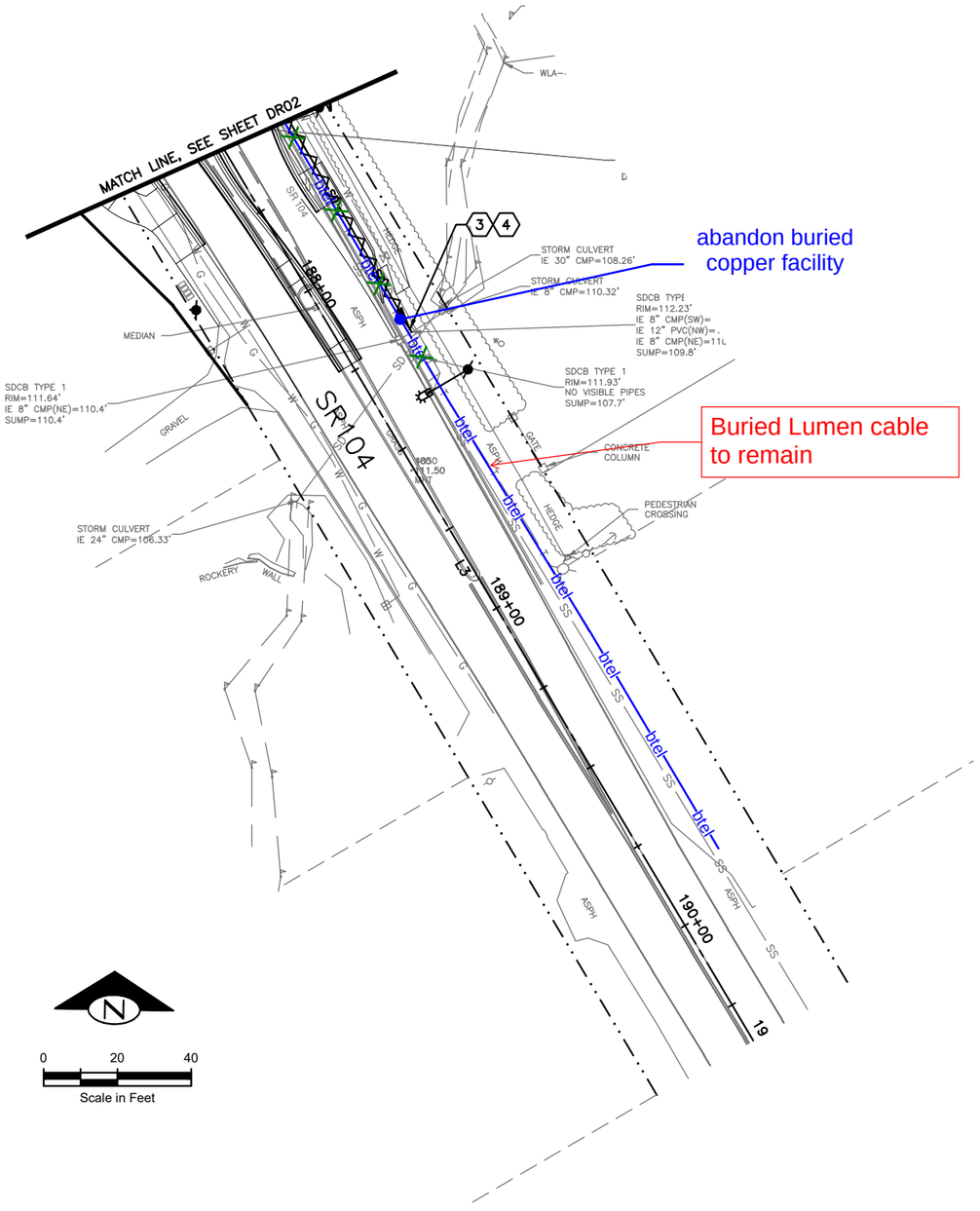
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

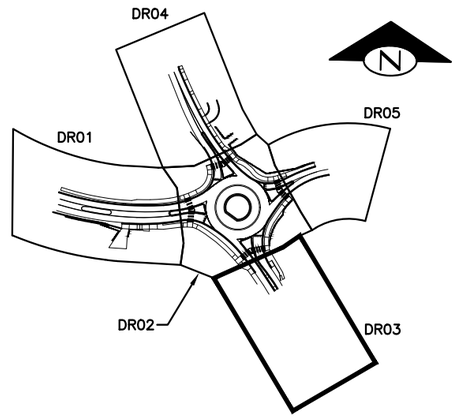
DRAINAGE PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **DR02**
SHEET 5 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:28:04am

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.

LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

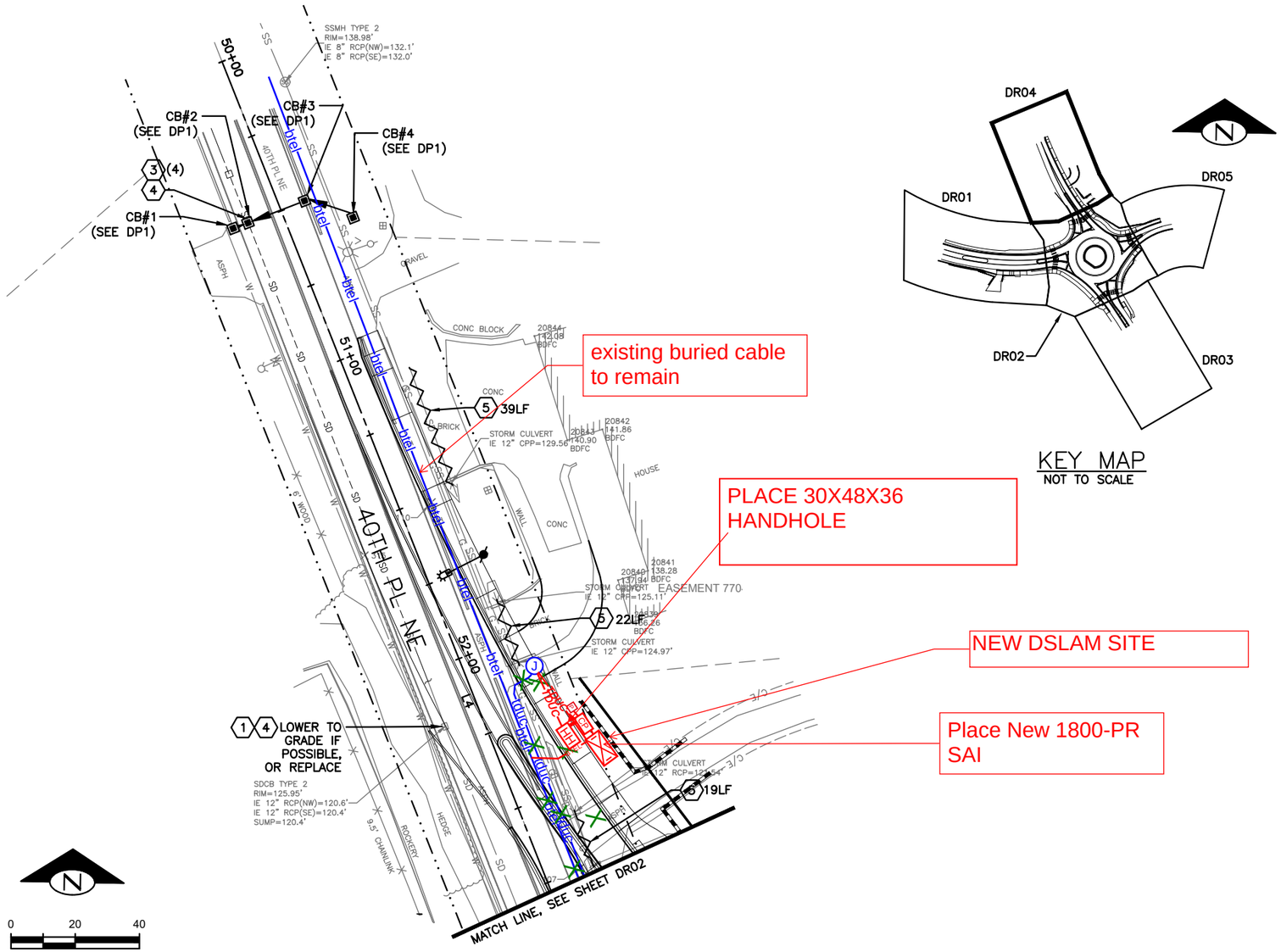
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **DR03**
SHEET 6 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:28:14am

SEC 10, TWP 26 N, RGE 4 E



KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.

LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

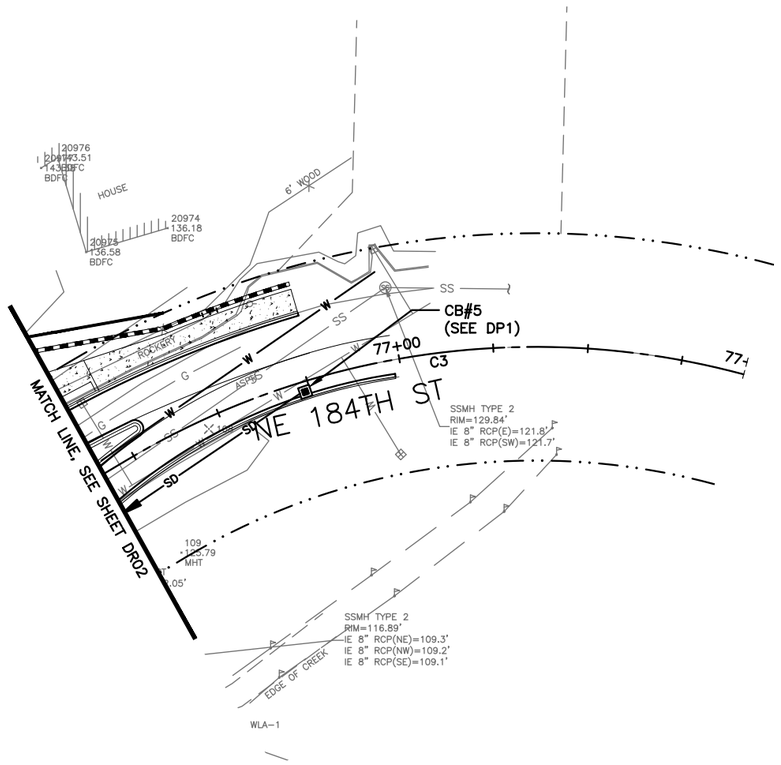
DRAINAGE PLAN

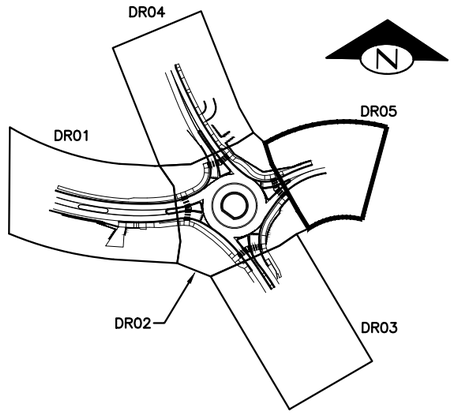
PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **DR04**
SHEET 7 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:28:24am

SEC 10, TWP 26 N, RGE 4 E

NO LUMEN FACILITIES





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. REMOVE EXISTING DRAINAGE STRUCTURE.
3. CONNECTION TO DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. REMOVE EXISTING DRAINAGE PIPE.
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx80'Lx7'H).
8. TYPE 2 72" CONTROL STRUCTURE.
9. BAYFILTER STORMWATER TREATMENT VAULT.
10. NOT USED.
11. NOT USED.
12. NOT USED.

LEGEND

- EXISTING DRAINAGE FEATURE TO BE REMOVED
- SD — SD — PROPOSED STORM DRAIN, SEE DWG DP1 FOR TYPE OF STORM DRAINAGE PIPE
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- (X) NUMBER OF DRAINAGE CONNECTIONS

0 20 40
Scale in Feet

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE OFFSET OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTES. SEE SHEET DWG DP1 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION

60% SUBMITTAL
NOT FOR CONSTRUCTION

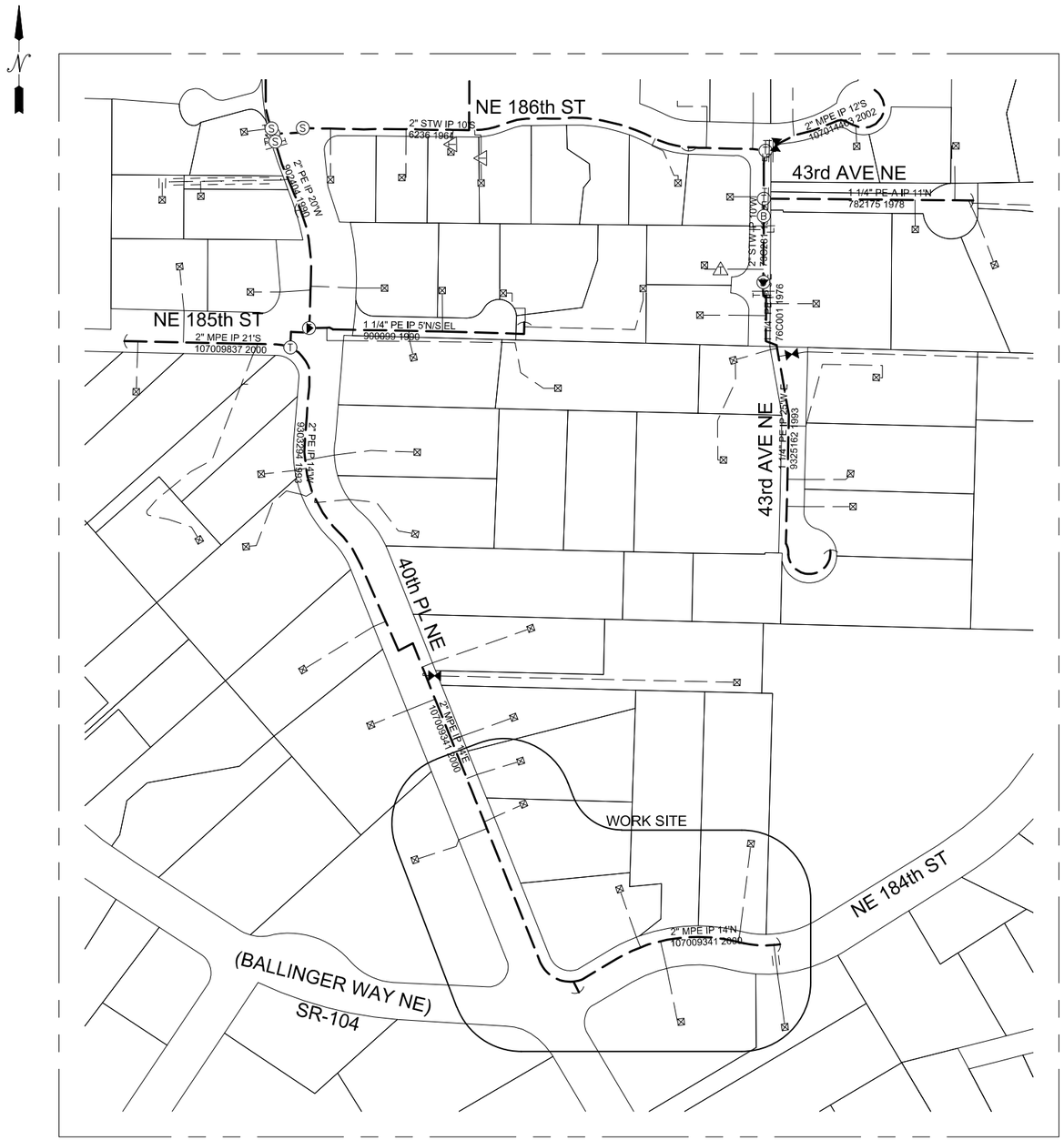
811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **DR05**
SHEET 8 of 8

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 08/08/22 11:28:34am



GAS SYSTEM PLAN

SCALE: 1" = 100'-0"

STANDARD IP & LP GAS REPLACEMENT CONSTRUCTION NOTES

1. NOTIFY GAS CUSTOMERS, OR DISTRIBUTE FLYER #1443 A MINIMUM OF TWO WORKING DAYS PRIOR TO A PLANNED OUTAGE.
2. INSTALL ONE POUND ANODE FOR EVERY 1000' OF LOCATING WIRE. INSTALL ANODE AND TEST LEAD WIRES PER PSE GAS OPERATING STANDARD 2525.2300.
3. MAINTAIN CATHODIC PROTECTION FOR STEEL MAINS BY THE USE OF CONTINUITY BONDS OR OTHER MEANS DETERMINED BY THE PSE CORROSION ENGINEER PER PSE GAS OPERATING STANDARD 2600,1300.
4. INSTALL ANODES AND TEST LEAD WIRES AS REQUIRED PER PSE GAS FIELD PROCEDURES 4515.1000 AND 4515.1020 AND PSE GAS OPERATING STANDARD 2600.1200. TEST LEAD WIRES ARE REQUIRED ON ALL TRANSITION FITTINGS.
5. INSTALL CURB VALVE AT PROPERTY LINE OR 5/8" PE WHIP AT MAIN (AS REQUIRED) ON NEW AND EXISTING SERVICES PER PSE GAS OPERATING STANDARD 2550.1600.
6. REFER TO PSE GAS OPERATING STANDARD 2525.1700 FOR MAIN AND SERVICE COVER REQUIREMENTS.
7. MAINS AND SERVICES SHALL BE TESTED AND PURGED PER PSE GAS OPERATING STANDARDS 2525.3300 AND 2525.3400 AND PSE GAS FIELD PROCEDURE 4700.1500.
8. PROJECT MANAGER TO MAKE AN ACTIVE SERVICE RUN IMMEDIATELY PRIOR TO STARTING CONSTRUCTION.
9. INSTALL REPLACEMENT MAINS PER PSE GAS OPERATING STANDARD 2525.2100.
10. PLUG ENDS OF DEACTIVATED OR INSERTED MAINS AND SERVICES IN ACCORDANCE WITH PSE GAS OPERATING STANDARDS 2525.2100 AND 2525.3600.
11. REMOVE OR RENDER INOPERABLE DEACTIVATED VALVES ON CASING WHERE MPE PIPE IS INSERTED.
12. INSIDE METER SETS SHALL BE MOVED OUTSIDE WHENEVER POSSIBLE OR SET REGULATORS AND VENTS OUTSIDE PER PSE GAS OPERATING STANDARDS 2575.2300 AND 2550.1700.
13. REPLACE EXISTING ACTIVE SERVICES PER PSE GAS OPERATING STANDARDS 2525.2100 AND 2575.2300.
14. REPLACE ALL "NO RECORD" SERVICES AND 1-1/8" PE SERVICES INSTALLED PRIOR TO 1985.
15. ACTIVE SERVICES TO BE REPLACED DENOTED BY: ###
16. MAINS AND SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH 2525.1200.
17. PIPE SQUEEZING SHALL BE DONE IN ACCORDANCE WITH GOS 2525.1200 AND GAS FIELD PROCEDURES 4700.1300 AND 4700.1310.
18. WHEN INSTALLING, DEACTIVATING, REPAIRING, OR OTHERWISE MODIFYING A PIPELINE THAT IS LOCATED WITHIN 200 FEET OF ANY ACTIVE REGULATING STATION, PRESSURE RELIEF AND LIMITING DEVICE, OR SINGLE SERVICE FARM TAP WHERE GAS SYSTEM ENGINEERING REVIEW AND APPROVAL IS REQUIRED PER GAS OPERATING STANDARDS. SEE REVIEW DOCUMENTS, PROVIDED BY ENGINEERING.
19. FIELD TO VERIFY THAT ALL PROPER SERVICE ACTIONS (FOLLOWING THE KEY TO SERVICE ACTION LEGEND) HAVE BEEN ACCOUNTED FOR PER THE "SERVICE CHECKLIST". IF A RISER IS FOUND IN THE FIELD AND WASN'T ACCOUNTED FOR, FIELD PERSONNEL SHALL CONFIRM WHETHER THE RISER IS AN ABANDONED OR IDLE RISER:
    - 19.1 IF IT' IS AN ABANDONED RISER, CONTACT THE POINT DESK TO REQUEST GFR TO REMOVE IT.
    - 19.2 IF IT IS AN IDLE RISER, REPORT THE RISER TO THE PROJECT MANAGER SO THAT THE PROJECT MANAGER MAY CONFIRM WITH THE CUSTOMER WHETHER THEY WOULD LIKE TO KEEP THE SERVICE AND RISER. THE PROJECT MANAGER MAY INSTRUCT TO TEST AND TIE THE SERVICE IF THE CUSTOMER WANTS GAS OR DOESN'T PROVIDE PSE A RESPONSE IN A TIMELY MANNER.

HOLE HOG TABLE

CALLOUT		LOCATION	DEPTH	LENGTH
BP1	START			
BP2	END			
BP3	START			
BP4	END			
BP5	START			
BP6	END			
BP7	START			
BP8	END			
BP9	START			
BP10	END			
BP11	START			
BP12	END			
BP13	START			
BP14	END			
BP15	START			
BP16	END			
BP17	START			
BP18	END			
BP19	START			
BP20	END			
BP21	START			
BP22	END			
BP23	START			
BP24	END			
BP25	START			
BP26	END			
BP27	START			
BP28	END			
BP29	START			
BP30	END			

STANDARD GAS CONSTRUCTION NOTES:

1. FIELD LOCATE ALL UNDERGROUND UTILITIES. EXCAVATOR TO CALL "ONE-CALL" TWO WORKING DAYS PRIOR TO CONSTRUCTION, IN WESTERN WASHINGTON CALL: 1-800-424-5555. OR CALL NATIONWIDE: 811
2. NOTIFY APPROPRIATE PERMITTING AGENCY PRIOR TO JOB START (SEE PERMIT REQUIREMENTS).
3. ALL CONSTRUCTION IS TO CONFORM TO PSE GAS OPERATING STANDARDS AND GAS FIELD PROCEDURES.
4. EROSION AND SEDIMENT CONTROL SHALL BE PER PSE STANDARD PRACTICE 0150.3200 TECHNIQUES FOR TEMPORARY EROSION AND SEDIMENT CONTROL AND ANY ADDITIONAL LOCAL JURISDICTION REQUIREMENTS.
5. NOTIFY PROPERTY OWNERS ADJACENT TO PROPOSED CONSTRUCTION ACTIVITIES A MINIMUM OF TWO WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION. USE iGi TO DISTRIBUTE FLYERS IF JOB IS LARGE, OTHERWISE HAND DELIVER FLYERS BE SURE TO INCLUDE THE LIST OF FREQUENTLY ASKED QUESTIONS AND INFORMATION ABOUT THE OPPORTUNITY TO PURCHASE AN EXCESS FLOW VALVE WHEN THEIR SERVICE IS INSTALLED OR REPLACED PER GAS OPERATING STANDARD 2550.1600. ALLOW ADEQUATE TIME FOR CUSTOMER DECISION AND RESPONSE.
6. ANY CHANGE IN ROUTE, PIPE SIZE/TYPE, TIE-IN METHOD OR ADDITIONAL MAIN FOOTAGE MUST BE APPROVED BY THE APPROPRIATE PSE ENGINEER OR PSE REPRESENTATIVE.
7. COMPLETE "PIPE CONDITION REPORT" ON ALL METALLIC PSE FACILITIES. CHECK BOX ON REPORT FOR WIRE BOX (TEST LEAD) INSTALLATION.
8. PIPELINE MARKERS AND WARNING SIGNS SHALL BE INSTALLED AND RECORDED BY THE CONTRACTOR PER PSE GAS OPERATING STANDARD 2525.2500.
9. INSTALL MAIN VALVES OUT OF TRAFFIC WHERE POSSIBLE. VALVE MARKERS SHALL BE INSTALLED AND RECORDED BY THE CONTRACTOR PER PSE GAS OPERATING STANDARD 2525.2600 FOR ALL HP VALVES IF THE LOCATION IS NOT READILY ACCESSIBLE, AND FOR ALL VALVES WHERE PERSISTENT SNOWFALL MAY OBSCURE THE VALVE BOX.
10. TO PREVENT ACCIDENTAL OVERPRESSURE OF ADJOINING SYSTEMS, NO TWO MAINS SHALL BE CONNECTED EXCEPT AS SHOWN ON THIS DESIGN UNLESS APPROVED BY APPROPRIATE PSE ENGINEER OR PSE REPRESENTATIVE.
11. SYSTEM MAOP DENOTED BY: SYSTEM MAOP = 45 PSIG
12. GAUGE AND MONITOR USE OF ALL STOPPERS TO ENSURE ADEQUATE FEED.
13. RESTORE ALL DRIVEWAYS SUBJECT TO OPEN CUT TO ORIGINAL OR BETTER CONDITION.
14. PURGE POINTS TO BE INSTALLED PER PSE GAS OPERATING STANDARDS 2525.3400.
15. MAINS AND SERVICES SHALL BE TESTED AND PURGED PER PSE GAS OPERATING STANDARDS 2525.3300 AND 2525.3400.
16. IF METALLIC PIPE IS INVOLVED, COORDINATE INSTALLATION WITH CP TECH. _____ PHONE:_____
17. NOTE ALL ACTUAL FOOTAGE, LOCATION AND MATERIAL CHANGES ON THE AS-BUILT IN RED. (') DENOTES FOOTAGE BETWEEN FITTINGS.
18. EXCESS FLOW VALVE TO BE INSTALLED ON ALL NEW RESIDENTIAL SERVICES PER GOS 2500.2200. (RECORD ALL INFORMATION ON D-4 CARD)

SAP BATCH YEAR & FOOTAGE

SIZE OF RETIRED MAIN	MATERIAL RETIRED	ORIGINAL JOB	ORIGINAL YEAR	PROPOSED LENGTH OF RETIREMENT	ACTUAL LENGTH OF RETIREMENT
2"	MPE	107099341	2000	480'	

GAS MAIN INSTALLATION/RETIREMENT

Type/Work	Pipe Size	Type	Est Length	Act Lgth	Manufacturer
INSTALL	2"	MPE-__	433'		
RETIRE	2"	MPE	480'		

Verify Testing Requirements, Chart vs Gauge
GOS 2525.3300 sec. 5, Table 5-1 and sec. 5.5

GAS MAIN PRESSURE & TESTING

TYPE TEST	☐ SOAP	☐ AIR	☐ NITROGEN	☐ WATER
DATE ON	/ /	START TIME		TESTED BY
DATE OFF	/ /	STOP TIME		
PRESSURE		TEST RESULTS	☐ P	☐ F
TYPE TEST	☐ SOAP	☐ AIR	☐ NITROGEN	☐ WATER
DATE ON	/ /	START TIME		TESTED BY
DATE OFF	/ /	STOP TIME		
PRESSURE		TEST RESULTS	☐ P	☐ F

☐ TESTED BY PSE PRESSURE CONTROL, SEE FORM 1928

DESIGN PRESS	60	SYS MAOP	45

2023 02/18

GASSED UP PIPELINE

DATE	FOREMAN'S NAME	PIPE SEGMENT

PROJECT PHASE		Notification #	Order #
GAS	SAP Superior	11899824	109150082
	Service/Meter		
	Service/Meter		
	Service/Meter		
	Service/Meter		
	Ind. Service		
	Ind. MSA		
	Dis. Reg. / FT		
	HP Svc/MSA		
	Relocate		
	Retirement		108643969

Project Manager Contact Information:
Manager: ERIC LIAW
Cell Phone: 425-495-3297
E-Mail: eric.liaw@pse.com

"Locates Required" Yes ☐ No ☐
"Flagging Required" Yes ☐ No ☐

Owner / Developer Contact Info
N/A
N/A
N/A
ATTN: N/A N/A office

For contacts below dial 1-888-CALL PSE (225-5773)

CALL 811 AT LEAST 2 BUSINESS DAYS BEFORE YOU DIG

THIS SKETCH NOT TO BE RELIED UPON FOR EXACT LOCATION OF EXISTING FACILITIES

REV#	DATE	BY	DESCRIPTION
1			
2			
3	9-4-24	JM	NEW SURVEY FILES

REAL ESTATE/EASEMENT	PERMIT
N/A	LAKE FOREST PARK

FUNCTION	CONTACT	PHONE NO	DATE
PROJECT MGR	E.LIAW	425-495-3297	
ENGR - GAS	A.HINES	253-307-0767	
DRAWN BY	J.MOSS	425-748-6345	9-20-23
CHECKED BY	C.WESTHOFF	425-748-6323	9-20-23
APPROVED BY	E.LIAW	425-495-3297	
CP APPROVAL			
PC APPROVAL			
MAPPING			

COUNTY	Emer Sect	GAS WK CTR
KING	025C	CSPFGPI
1/4 SEC	OP MAP	PLAT MAP
NW 10-26-4	168.074	170.074

JOINT FACILITIES ARRANGEMENTS

UTILITIES	N/A	N/A	N/A	N/A
CONTACT	N/A	N/A	N/A	N/A
PHONE#	N/A	N/A	N/A	N/A

FITTER'S CHECKLIST (CHECK BOX TO CONFIRM COMPLETION)

- ☐ Inspected Steel and PE pipe per GOS 2450.1400 and 2450.1500
- ☐ Reviewed and complied with all construction notes.
- ☐ Recorded all required information on the as-built per GOS 2500.1700.
- ☐ Completed post installation inspection per GOS 2525.1200 and 2525.2700.
- ☐ Left the work area in a clean and safe condition.

Foreman's Signature_____
Foreman's Name (printed) _____
Company: _____ Date _____

4680 06/11

PUGET SOUND ENERGY

DESIGNED BY PSE

SR-104 & 40th PL NE ROUNDABOUT

2" MPE IP MAIN RELOCATION

SR-104 & 40th AVE NE, LAKE FOREST PARK, WA 98155

SAP Sup Order Nbr 109150082

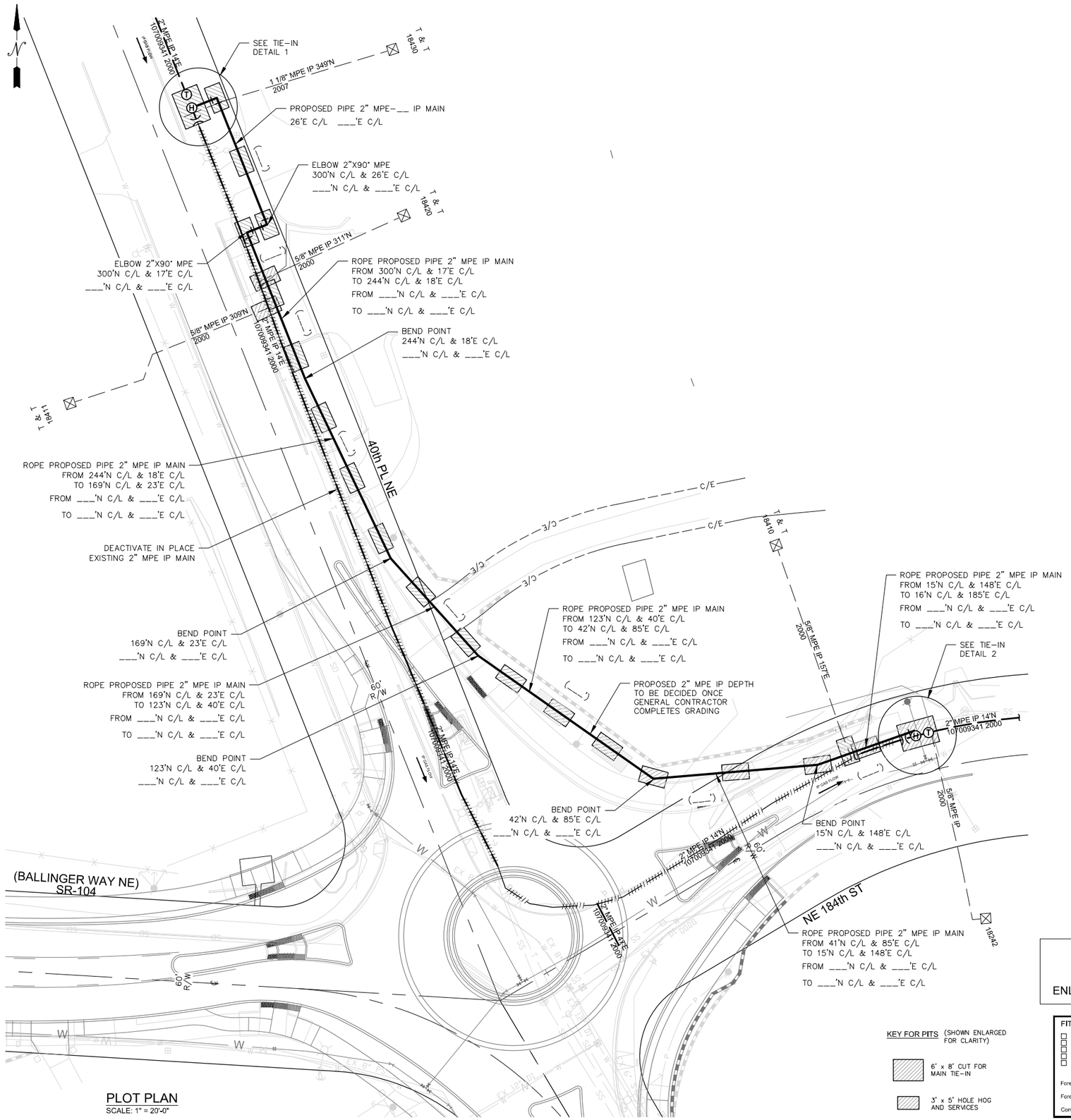
Drawing Number

SCALE	PAGE
1"= 100'	1 of 2

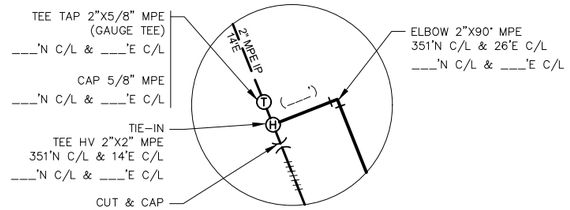
109150082

R1

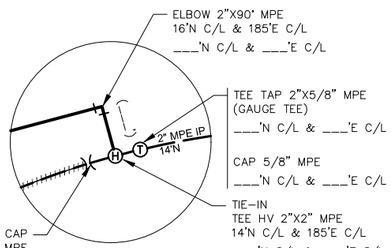
Sep. 04, 2024 — 7:37am C:\pwworking\projectwise\jmoss\dms77513\ 109150082.dwg



PLOT PLAN
SCALE: 1" = 20'-0"



1 TIE-IN DETAIL
Scale: NONE



2 TIE-IN DETAIL
Scale: NONE

GAUGE TEES TO BE MONITORED DURING ALL ACTIVITIES WHERE FLOW OF GAS WILL BE INTERRUPTED

ALL SURFACE CUTS ARE SHOWN ENLARGED FOR CLARITY. DO NOT SCALE.

FITTER'S CHECKLIST (CHECK BOX TO CONFIRM COMPLETION)

- ☐ Inspected Steel and PE pipe per GOS 2450.1400 and 2450.1500
- ☐ Reviewed and complied with all construction notes.
- ☐ Recorded all required information on the as-built per GOS 2500.1700.
- ☐ Completed post installation inspection per GOS 2525.1200 and 2525.2700.
- ☐ Left the work area in a clean and safe condition.

Foreman's Signature_____

Foreman's Name (printed) _____

Company: _____ Date _____

4680 08/11

REAL ESTATE/EASEMENT				PERMIT	
N/A				LAKE FOREST PARK	
REV#	**DATE**	**BY**	**DESCRIPTION**	**FUNCTION**	**CONTACT**	**PHONE NO**	**DATE**
3				PROJECT MGR	E.LIAW	425-495-3297	
2				ENGR - GAS	A.HINES	253-307-0767	
1	9-4-24	JM	NEW SURVEY FILES	DRAWN BY	J.MOSS	425-748-6345	9-20-23
				CHECKED BY	C.WESTHOFF	425-748-6323	9-20-23

COUNTY	Emer Sect	GAS WK CTR	APPROVED BY	E.LIAW	425-495-3297	
KING	025C	CSPFGPI	CP APPROVAL			
1/4 SEC	OP MAP	PLAT MAP	PC APPROVAL			
NW 10-26-4	168.074	170.074	MAPPING			

JOINT FACILITIES ARRANGEMENTS				
UTILITIES	N/A	N/A	N/A	N/A
CONTACT	N/A	N/A	N/A	N/A
PHONE#	N/A	N/A	N/A	N/A

PUGET SOUND ENERGY

DESIGNED BY PSE

SR-104 & 40th PL NE ROUNDABOUT

2" MPE IP MAIN RELOCATION

SR-104 & 40th AVE NE, LAKE FOREST PARK, WA 98155

SAP Sup Order Nbr 109150082

Drawing Number

SCALE 1"=20'

PAGE 2 of 2

Sep 04, 2024 - 7:38am C:\pwworking\projectwise\jmoss\dms77513\ 109150082.dwg

APPENDIX F:
Contract Plans

SECTION 10, TOWNSHIP T 26 N, RANGE R 4 E, W.M.

CITY OF LAKE FOREST PARK

SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

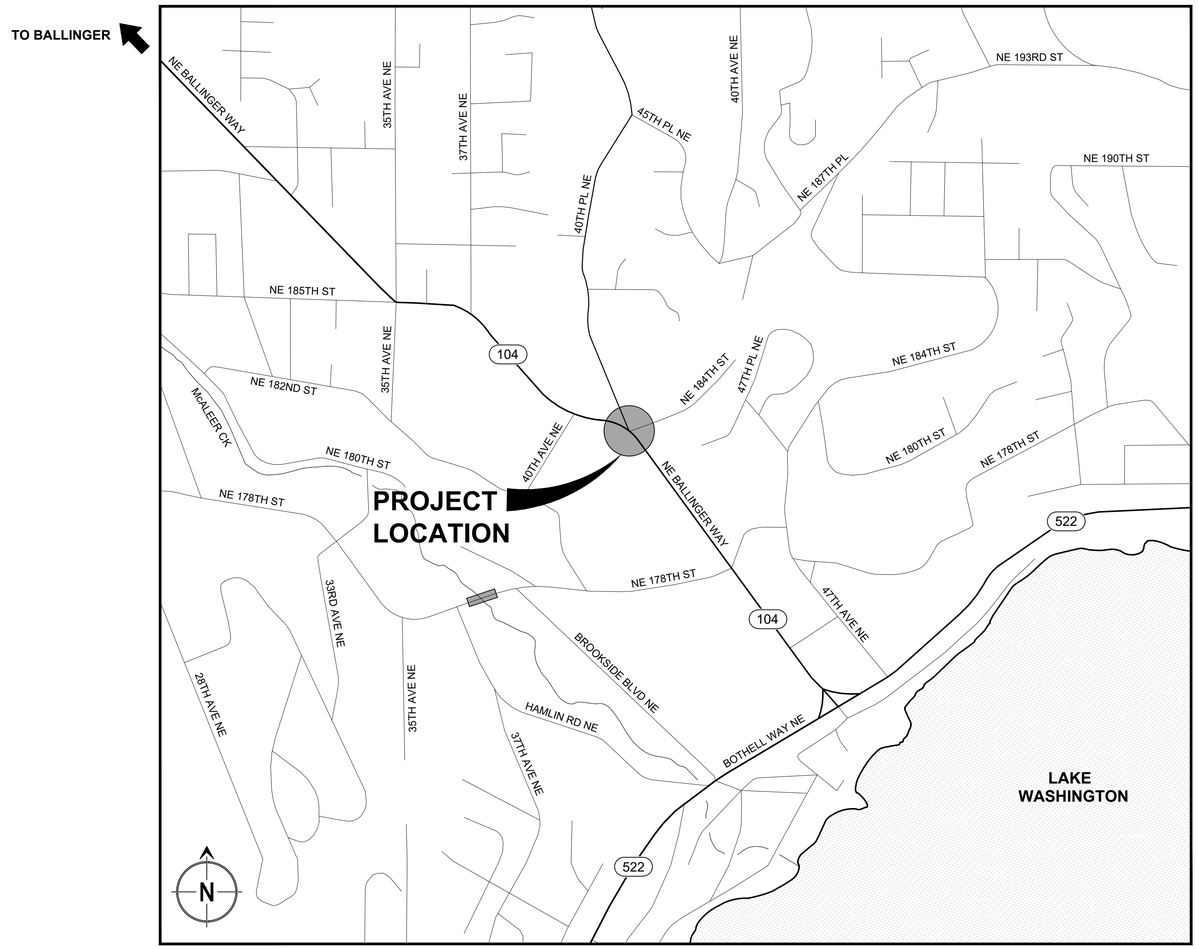
PLAN SET 1 OF 3

MAYOR:
THOMAS FRENCH

CITY COUNCIL:
SEMRA RIDDLE
JON LEBO
ELLYN SAUNDERS
TRACY FURUTANI
PAULA GOODE
LARRY GOLDMAN

CITY ADMINISTRATOR:
PHILLIP HILL, ICMA-CM

PUBLIC WORKS DIRECTOR:
REBECCA DICKINSON



VICINITY MAP
N.T.S.

SHEET INDEX

SHEET NO.	DRAWING ABBR.	DESCRIPTION
1	GN01	COVER, VICINITY MAP AND SHEET INDEX
2	GN02	LEGEND AND ABBREVIATIONS
3 - 5	EC01 - EC03	EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY
6	AL01	ALIGNMENT PLAN
7 - 9	RS1 - RS3	ROADWAY SECTIONS
10 - 15	TC01 - TC06	TRAFFIC CONTROL PLANS
16 - 20	SP01 - SP05	SITE PREPARATION AND EROSION CONTROL PLANS
21 - 27	GR01 - GR07	GRADING PLANS
28 - 29	GP01 - GP02	CURB FLOWLINE PROFILES
30	GP03	GRADING PROFILES
31 - 32	DRP01 - DRP02	DRIVEWAY PROFILES
33	WD01	WALLS 1 AND 2 PLAN AND PROFILES
34	WD02	WALLS 3 AND 4 PLAN AND PROFILES
35	WD03	WALLS 5 PLAN AND PROFILE
36 - 37	WD04 - WD05	SOLDIER PILE WALL DETAILS
38	WD06	SOLDIER PILE WALL PILE SCHEDULES
39	WD07	MODULAR BLOCK WALL DETAILS
40 - 44	DR01 - DR05	DRAINAGE PLAN
45 - 46	DP01 - DP02	DRAINAGE PROFILES
47 - 52	SD01 - SD06	DRAINAGE DETAILS
53 - 57	PV01 - PV05	PAVING PLANS
58 - 61	CH01 - CH04	CHANNELIZATION AND SIGNING PLANS
62	CH05	SIGN SCHEDULE
63 - 64	ID01 - ID02	ISLAND DETAILS
65 - 67	CR01 - CR03	CURB RAMP DETAILS
68 - 74	LA01 - LA07	PLANTING PLANS
75 - 76	LD01 - LD02	PLANTING DETAILS - SCHEDULE & NOTES
77	IR01	IRRIGATION PLAN
78	IR02	IRRIGATION SCHEDULE AND NOTES
79 - 81	IR03 - IR05	IRRIGATION DETAILS
82	MB01	MAILBOX RELOCATION PLAN
83 - 84	SI01 - SI02	SITE IMPROVEMENT PLANS
85 - 86	SI03 - SI04	SITE IMPROVEMENT DETAILS
87	TP01	SECTION SUBDIVISION AND TOTAL PARCEL DETAIL
88 - 89	RW01 - RW02	RIGHT-OF-WAY PLANS

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 54403 — REGISTERED PROFESSIONAL ENGINEER
6/9/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

COVER, VICINITY MAP AND SHEET INDEX

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GN01
SHEET	1
OF	89

C:\Users\MikeSchaefer\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CADD\PS&E\221007-GN.dwg, 06/09/25 10:06:26am

WATER SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		CAP/PLUG
		COUPLING
		GUARD POST
		REDUCER
		THRUST BLOCK
		WATER METER
		2-NOZZLE
		3-NOZZLE
		FLANGE/BLIND FL
		MECHANICAL
		PUSH-ON/HUB
		THREAD
		AIR RELIEF
		BLOW-OFF
		BUTTERFLY
		CHECK
		GATE/GENERAL
		PLUG VALVE

GAS/POWER/TELEPHONE SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		GAS METER
		GAS VALVE
		PAD MOUNTED TRANSFORMER
P	P	POWER VAULT
		TRANSMISSION TOWER
		UTILITY POLE
		UTILITY POLE ANCHOR
		TELEPHONE RISER
T	T	TELEPHONE VAULT

SURVEY SYMBOLS

SYMBOL THEOR./ EXIST.	SYMBOL FOUND/ PROP.	DESCRIPTION
		ANGLE POINT
		BENCH MARK
		BLOCK CORNER
		IRON PIPE
		MONUMENT (IN CASE)
		OWNERSHIP TIE
		SECTION CENTER
		SECTION CORNER
		QUARTER CORNER
		SIXTEENTH CORNER
		CLOSING CORNER
MC	MC	MEANDER CORNER
WC	WC	WITNESS CORNER
		SOIL BORING
		SPOT ELEVATION
		TAX LOT / PARCEL NUMBER

NORTH ARROW

DATUM

SIGNALIZATION SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		AERIAL DISCONNECT
		AERIAL TERMINAL COMPARTMENT
		TYPE 3A ADVANCED LOOP
		TYPE 3S STOP LINE LOOP ARRAY
		EMERGENCY VEHICLE DETECTOR
		INDICATOR LIGHTS
		WAVETRONIX VEHICLE DETECTOR
		OPTICOM SENSOR W/ INDICATOR LIGHTS
		FLASHING WARNING SYSTEM
		JUNCTION BOX (TYPE 1, 2 & 8)
		R/R CROSSING GATE
		R/R CROSSING SIGNAL
		PEDESTRIAN SIGNAL HEAD
		VEHICLE SIGNAL HEAD
		VEHICLE SIGNAL HEAD W/ARROW INDICATOR
		SIGNAL CONTROLLER
		SIGNAL SERVICE CABINET
		STREET LIGHT ASSEMBLY
		SIGNAL POLE
		TRAFFIC SIGNAL POLE LUMINAIRE
		PS SIGNAL POLE (AT PEDESTRIAN CURB)
		PS SIGNAL POLE
		PEDESTRIAN PUSHBUTTON POST
		STREET NAME SIGN
		LANE CONTROL SIGN
		VEHICLE SIGNAL HEAD TENON
		VIDEO DETECTION CAMERA
		CCTV CAMERA
		RECTANGULAR RAPID FLASHING BEACON
		WIRE NOTE
		POLE NOTE

CHANNELIZATION SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		BIKE PATH
		HANDICAP SYMBOL
		H.O.V. LANE SYMBOL
ONLY	ONLY	ONLY
R R	R R	RAILROAD CROSSING
SCHOOL	SCHOOL	SCHOOL
STOP	STOP	STOP
YIELD	YIELD	YIELD
		STRAIGHT ARROW
		LT.RT.STR.ARROW
		LEFT-RIGHT ARROW
		2-WAY LEFT TURN
		LEFT TURN ARROW
		RIGHT TURN ARROW
		LEFT-SRAIGHT ARROW
		RIGHT-STRAIGHT ARROW
		SHARROW
		LANE MARKERS TYPE I
		LANE MARKERS TYPE II

SURFACE FEATURES/LANDSCAPING

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		MAIL BOX
		RIP RAP
		ROCKERY
		SHRUB
		SIGN
		TREE (Conifer)
		TREE (Deciduous)
		YARD LIGHT

SANITARY/STORM SEWER SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		SAN. SEWER CLEAN OUT
		SAN. SEWER MANHOLE
		STORM DRAIN CATCH BASIN
		STORM DRAIN CULVERT
		STORM DRAIN MANHOLE

LINETYPES

LINETYPE	DESCRIPTION
	SURFACE FEATURES:
	BUILDING LINE (EXISTING)
	BUILDING LINE (PROPOSED)
	CREEK/DITCH CENTERLINE (EXIST.)
	CREEK/DITCH CENTERLINE (PROP.)
	CURB/PAVEMENT/SIDEWALK (EX)
	CURB/PAVEMENT/SIDEWALK (PROP)
	FENCE (EXISTING)
	FENCE (PROPOSED)
	GUARDRAIL (EXISTING)
	GUARDRAIL (PROPOSED)
	RETAINING WALL (EXISTING)
	RETAINING WALL (PROPOSED)
	SURVEY:
	CENTERLINE (EXISTING)
	CENTERLINE (PROPOSED)
	CONTOUR (EXISTING)
	CONTOUR (INDEX)
	CONTOUR (PROPOSED)
	TEMPORARY CONSTRUCTION EASEMENT
	PROPERTY LINE (EXISTING)
	RIGHT-OF-WAY (EXISTING)
	RIGHT-OF-WAY (PROPOSED)
	SECTION LINE
	UTILITIES (EXISTING):
T T	COMM LINE (BURIED)
OHC OHC	COMM LINE (AERIAL)
G	GAS
OHP OHP	POWER (AERIAL)
P	POWER (BURIED)
SS SS	SANITARY SEWER
FO FO	FIBER OPTIC POWER (BURIED)
SD SD	STORM DRAINAGE
W	WATER

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 54403 — REGISTERED PROFESSIONAL ENGINEER

5/14/25

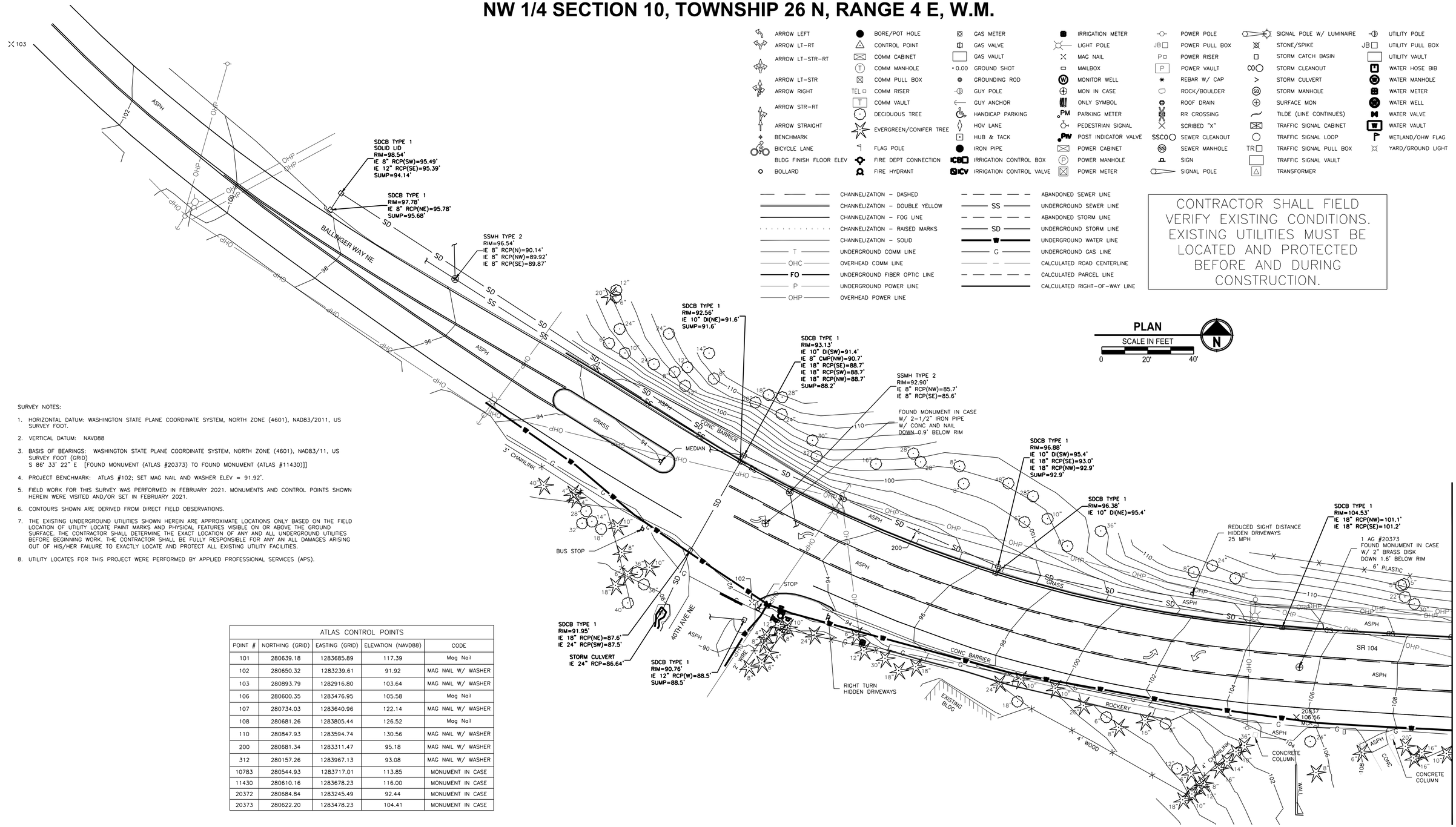
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

LEGEND AND ABBREVIATIONS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GN-02
SHEET	2
OF	89

C:\Users\MikeSchaefer\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CAD\PS&E\221007-GN.dwg, 05/14/25 07:01:09am

NW 1/4 SECTION 10, TOWNSHIP 26 N, RANGE 4 E, W.M.



PLAN
SCALE IN FEET
0 20' 40'

ARROW LEFT
ARROW LT-RT
ARROW LT-STR-RT
ARROW LT-STR
ARROW RIGHT
ARROW STR-RT
ARROW STRAIGHT
BENCHMARK
BICYCLE LANE
BLDG FINISH FLOOR ELEV
BOLLARD
BORE/POT HOLE
CONTROL POINT
COMM CABINET
COMM MANHOLE
COMM PULL BOX
COMM RISER
COMM VAULT
DECIDUOUS TREE
EVERGREEN/CONIFER TREE
FLAG POLE
FIRE DEPT CONNECTION
FIRE HYDRANT
GAS METER
GAS VALVE
GAS VAULT
0.00 GROUND SHOT
GROUNDING ROD
GUY POLE
GUY ANCHOR
HANDICAP PARKING
HOV LANE
HUB & TACK
IRON PIPE
IRRIGATION CONTROL BOX
IRRIGATION CONTROL VALVE
IRRIGATION METER
LIGHT POLE
MAG NAIL
MAILBOX
MONITOR WELL
MON IN CASE
ONLY SYMBOL
PARKING METER
PEDESTRIAN SIGNAL
POST INDICATOR VALVE
POWER CABINET
POWER MANHOLE
POWER METER
POWER POLE
POWER PULL BOX
POWER RISER
POWER VAULT
REBAR W/ CAP
ROCK/BOULDER
ROOF DRAIN
RR CROSSING
SCRIBED "X"
SEWER CLEANOUT
SEWER MANHOLE
SIGN
SIGNAL POLE
SIGNAL POLE W/ LUMINAIRE
STONE/SPIKE
STORM CATCH BASIN
STORM CLEANOUT
STORM CULVERT
STORM MANHOLE
SURFACE MON
TILDE (LINE CONTINUES)
TRAFFIC SIGNAL CABINET
TRAFFIC SIGNAL LOOP
TRAFFIC SIGNAL PULL BOX
TRAFFIC SIGNAL VAULT
TRANSFORMER
UTILITY POLE
UTILITY PULL BOX
UTILITY VAULT
WATER HOSE BIB
WATER MANHOLE
WATER METER
WATER WELL
WATER VALVE
WATER VAULT
WETLAND/OHW FLAG
YARD/GROUND LIGHT

CHANNELIZATION - DASHED
CHANNELIZATION - DOUBLE YELLOW
CHANNELIZATION - FOG LINE
CHANNELIZATION - RAISED MARKS
CHANNELIZATION - SOLID
UNDERGROUND COMM LINE
OVERHEAD COMM LINE
UNDERGROUND FIBER OPTIC LINE
UNDERGROUND POWER LINE
OVERHEAD POWER LINE
ABANDONED SEWER LINE
UNDERGROUND SEWER LINE
ABANDONED STORM LINE
UNDERGROUND STORM LINE
UNDERGROUND WATER LINE
UNDERGROUND GAS LINE
CALCULATED ROAD CENTERLINE
CALCULATED PARCEL LINE
CALCULATED RIGHT-OF-WAY LINE

CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS. EXISTING UTILITIES MUST BE LOCATED AND PROTECTED BEFORE AND DURING CONSTRUCTION.

SURVEY NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE (4601), NAD83/2011, US SURVEY FOOT.
2. VERTICAL DATUM: NAVD88
3. BASIS OF BEARINGS: WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE (4601), NAD83/11, US SURVEY FOOT (GRID)
   S 86° 33' 22" E [FOUND MONUMENT (ATLAS #20373) TO FOUND MONUMENT (ATLAS #11430)]]
4. PROJECT BENCHMARK: ATLAS #102; SET MAG NAIL AND WASHER ELEV = 91.92'.
5. FIELD WORK FOR THIS SURVEY WAS PERFORMED IN FEBRUARY 2021. MONUMENTS AND CONTROL POINTS SHOWN HEREIN WERE VISITED AND/OR SET IN FEBRUARY 2021.
6. CONTOURS SHOWN ARE DERIVED FROM DIRECT FIELD OBSERVATIONS.
7. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREIN ARE APPROXIMATE LOCATIONS ONLY BASED ON THE FIELD LOCATION OF UTILITY LOCATE PAINT MARKS AND PHYSICAL FEATURES VISIBLE ON OR ABOVE THE GROUND SURFACE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL UNDERGROUND UTILITIES BEFORE BEGINNING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AN ALL DAMAGES ARISING OUT OF HIS/HER FAILURE TO EXACTLY LOCATE AND PROTECT ALL EXISTING UTILITY FACILITIES.
8. UTILITY LOCATES FOR THIS PROJECT WERE PERFORMED BY APPLIED PROFESSIONAL SERVICES (APS).

ATLAS CONTROL POINTS

POINT #	NORTHING (GRID)	EASTING (GRID)	ELEVATION (NAVD88)	CODE
101	280639.18	1283685.89	117.39	Mag Nail
102	280650.32	1283239.61	91.92	MAG NAIL W/ WASHER
103	280893.79	1282916.80	103.64	MAG NAIL W/ WASHER
106	280600.35	1283476.95	105.58	Mag Nail
107	280734.03	1283640.96	122.14	MAG NAIL W/ WASHER
108	280681.26	1283805.44	126.52	Mag Nail
110	280847.93	1283594.74	130.56	MAG NAIL W/ WASHER
200	280681.34	1283311.47	95.18	MAG NAIL W/ WASHER
312	280157.26	1283967.13	93.08	MAG NAIL W/ WASHER
10783	280544.93	1283717.01	113.85	MONUMENT IN CASE
11430	280610.16	1283678.23	116.00	MONUMENT IN CASE
20372	280684.84	1283245.49	92.44	MONUMENT IN CASE
20373	280622.20	1283478.23	104.41	MONUMENT IN CASE

MATCHLINE - SHEET 4

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MM	4/25
Designed	MG	4/25
Reviewed	MG	4/25
Approved	VLS	4/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

ATLAS
17619 NE 67TH CT #100
Redmond, Washington 98052
Ph: (425) 429-7800

MARK A. GROOT STATE OF WASHINGTON 43143 REGISTERED PROFESSIONAL LAND SURVEYOR
4/03/2025

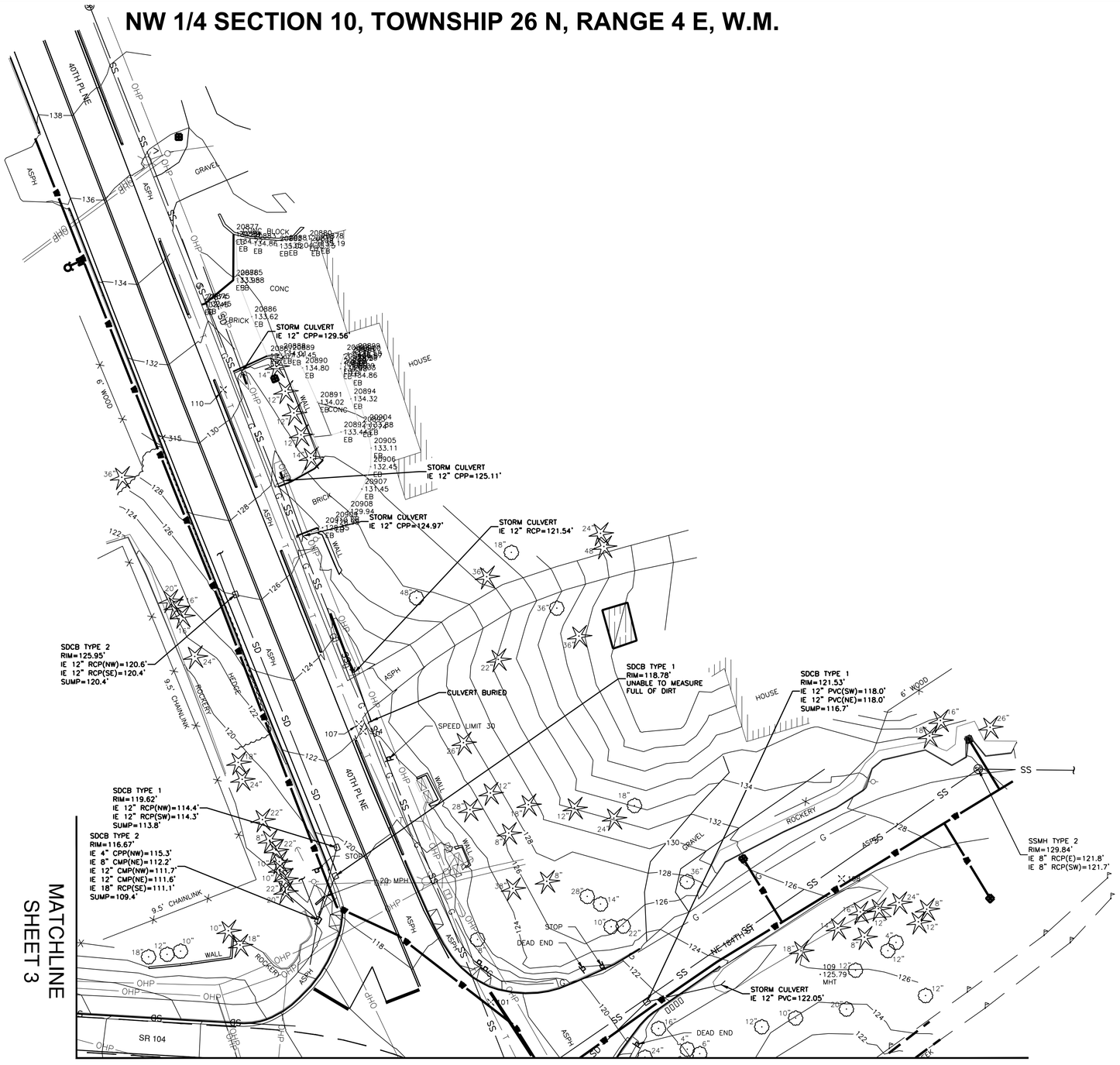
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT
EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	EC01
SHEET	3
OF	89

L:\TSIX_20-139 SR 104 Roundabout\0300CADIBASES\20139-SV-BS.dwg, 05/19/25 12:40:22pm

NW 1/4 SECTION 10, TOWNSHIP 26 N, RANGE 4 E, W.M.

PLAN
SCALE IN FEET
0 20' 40'



NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MM	4/25
Designed	MG	4/25
Reviewed	MG	4/25
Approved	VLS	4/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

ATLAS
17619 NE 67TH CT #100
Redmond, Washington 98052
Ph: (425) 429-7800

MARK A. GROOT — STATE OF WASHINGTON — 14343 — REGISTERED PROFESSIONAL LAND SURVEYOR
4/03/2025

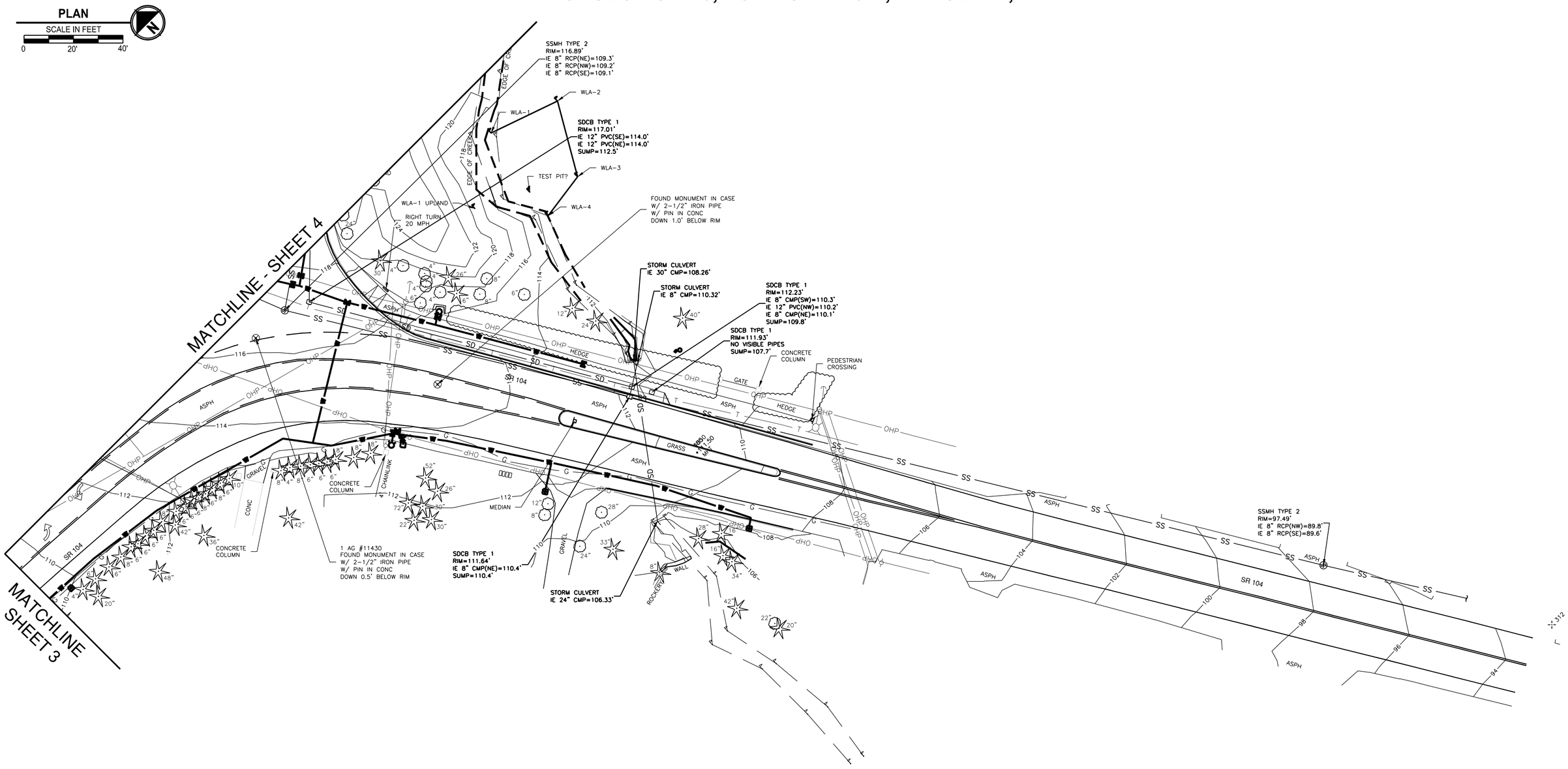
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT
EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	EC02
SHEET	4
OF	89

L:\TSIX_20-139 SR 104 Roundabout\0300CAD\BASES\20139-SV-BS.dwg, 05/19/25 12:43:28pm

NW 1/4 SECTION 10, TOWNSHIP 26 N, RANGE 4 E, W.M.

PLAN
SCALE IN FEET
0 20' 40'



NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MM	4/25
Designed	MG	4/25
Reviewed	MG	4/25
Approved	VLS	4/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

ATLAS
17619 NE 67TH CT #100
Redmond, Washington 98052
Ph: (425) 429-7800

MARK A. GROOT
STATE OF WASHINGTON
44343
REGISTERED
PROFESSIONAL LAND SURVEYOR
4/03/2025

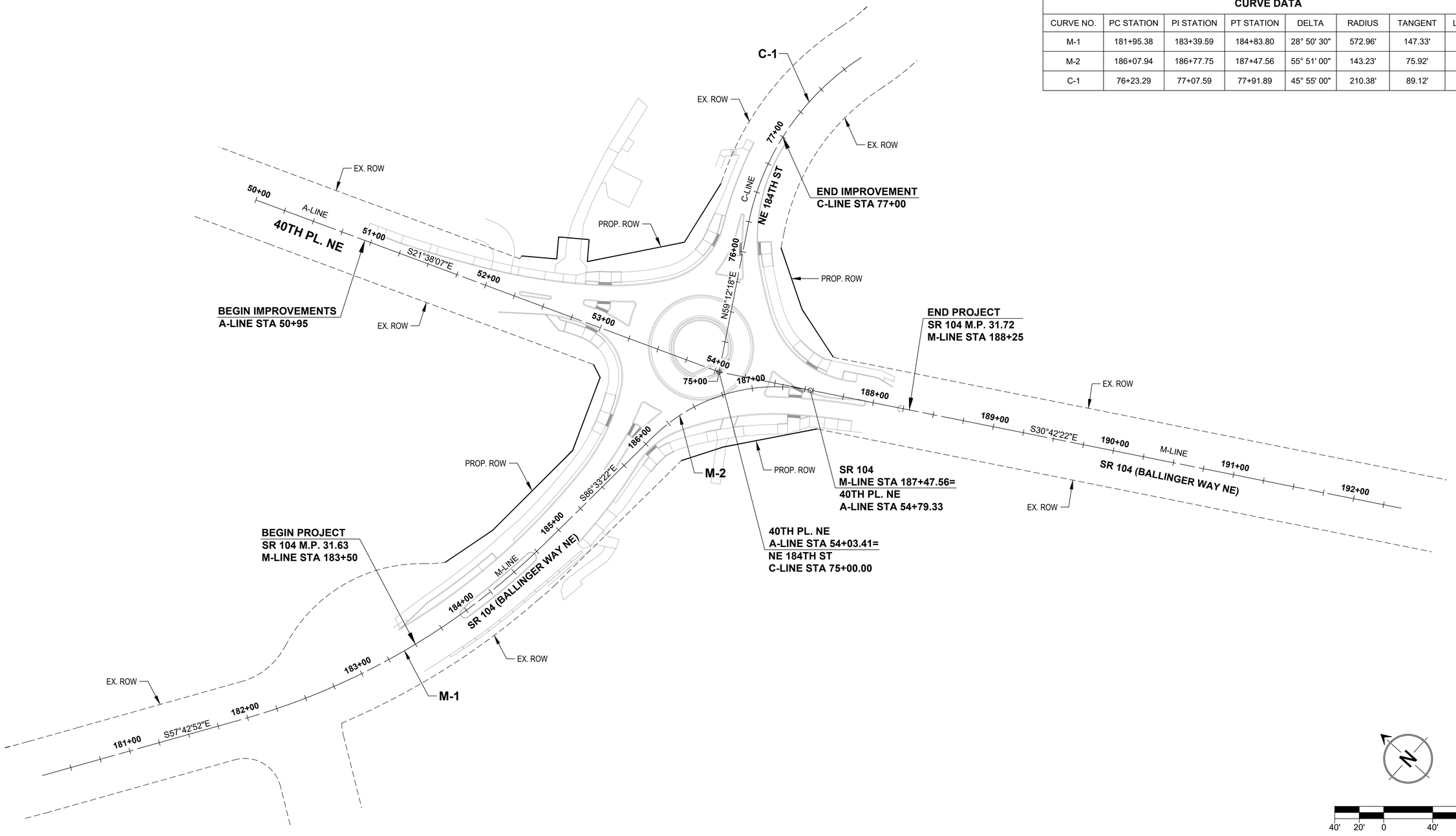
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT
EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	EC03
SHEET	5
OF	89

L:\TSIX_20-139 SR 104 Roundabout\0300CADBASES\20139-SV-BS.dwg, 05/19/25 12:55:36pm

SECTION 10, T 26 N, R 4 E, WM

CURVE DATA							
CURVE NO.	PC STATION	PI STATION	PT STATION	DELTA	RADIUS	TANGENT	LENGTH
M-1	181+95.38	183+39.59	184+83.80	28° 50' 30"	572.96'	147.33'	288.42'
M-2	186+07.94	186+77.75	187+47.56	55° 51' 00"	143.23'	75.92'	139.62'
C-1	76+23.29	77+07.59	77+91.89	45° 55' 00"	210.38'	89.12'	168.60'



NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS
STATE OF WASHINGTON
24403
REGISTERED
PROFESSIONAL ENGINEER
5/14/25

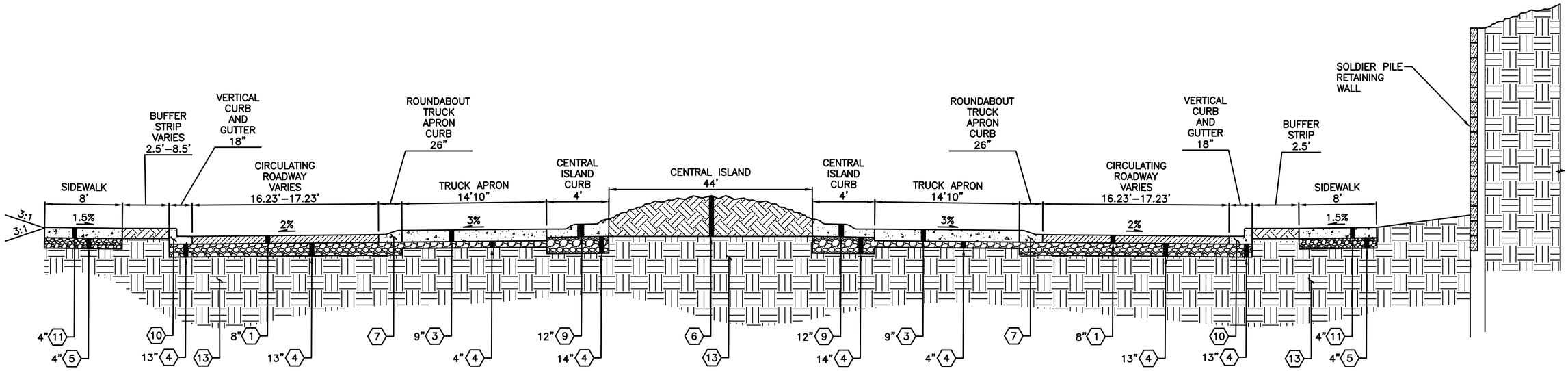
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

ALIGNMENT PLAN

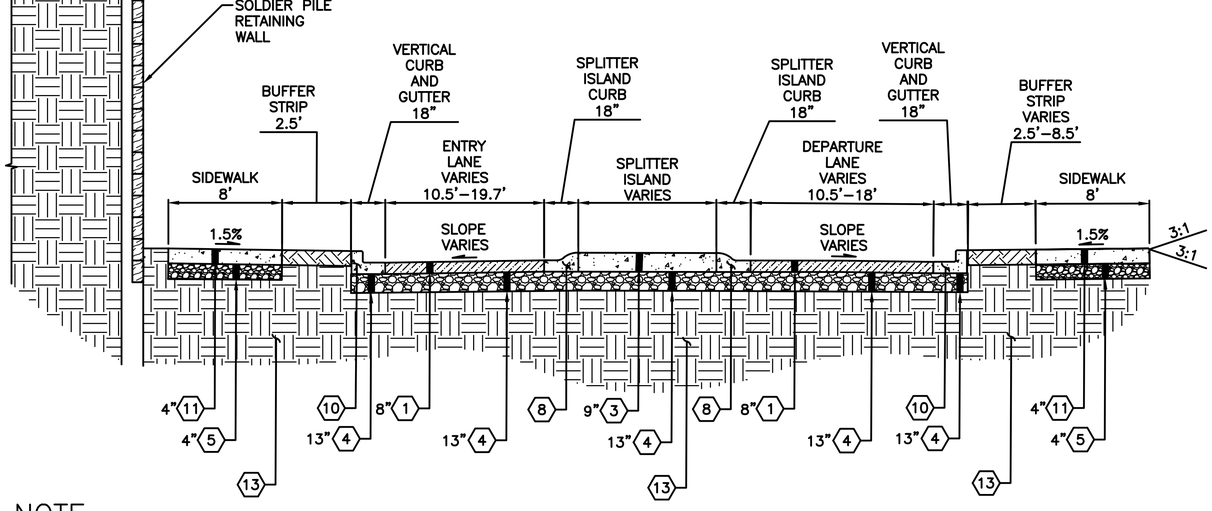
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	AL01
SHEET	6
OF	89

C:\Users\MikeSchaefer\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CADIPS&E\221007-AL.dwg, 05/14/25 07:03:35am

SEC 10, TWP 26 N, RGE 4 E



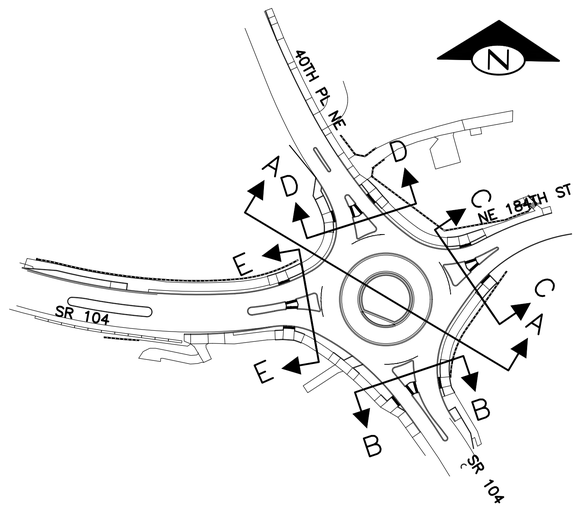
ROADWAY SECTION A–A
NOT TO SCALE



NOTE

1. EXISTING PCC PAVEMENT PANELS ARE PRESENT IN SOME ROAD SECTIONS. SEE SITE PREP SHEETS FOR APPROXIMATE LOCATIONS AND AREA OF REMOVAL.

ROADWAY SECTION B–B
NOT TO SCALE



SR 104 & 40TH PL NE
NOT TO SCALE

CONSTRUCTION NOTES

1. HMA CL. 1/2" PG 58H–22 (2–INCH MAX LIFT)
2. NOT USED
3. TEXTURED AND PIGMENTED CONCRETE PAVEMENT WITH DOWEL BARS, SPLITTER ISLANDS AND TRUCK APRON. SEE PV SHEETS FOR DOWEL BAR JOINT SPACING.
4. CRUSHED SURFACING BASE COURSE
5. CRUSHED SURFACING TOP COURSE
6. NOT USED
7. ROUNDABOUT TRUCK APRON CEMENT CONCRETE CURB AND GUTTER #1 PER WSDOT STD. PLAN F–10.18–04.
8. ROUNDABOUT SPLITTER ISLAND CEMENT CONCRETE CURB AND GUTTER #2 PER WSDOT STD. PLAN F–10.18–04.
9. ROUNDABOUT CENTRAL ISLAND CEMENT CONCRETE CURB #3 PER WSDOT STD. PLAN F–10.18–04.
10. CEMENT CONCRETE TRAFFIC CURB AND GUTTER PER WSDOT STD. PLAN F–10.12–04.
11. CEMENT CONCRETE SIDEWALK PER WSDOT STD. PLAN F–30.10–04.
12. NOT USED
13. COMPACTED SUBGRADE, GRAVEL BORROW, UNDISTURBED NATIVE SOIL.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360–691–9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

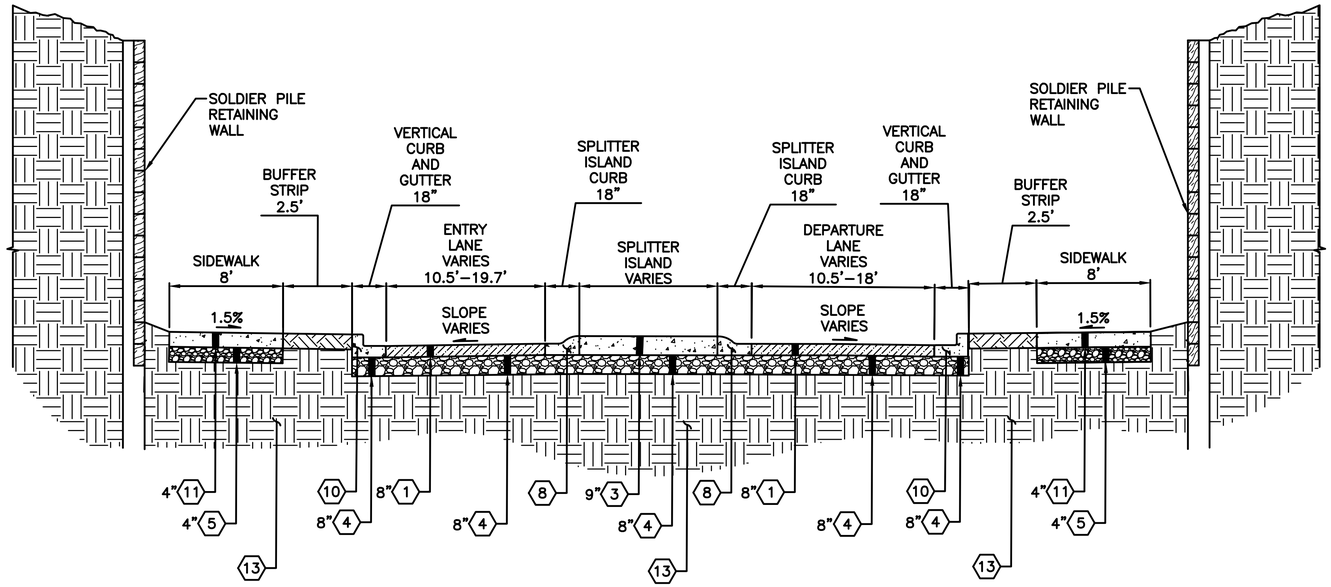
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

ROADWAY SECTIONS

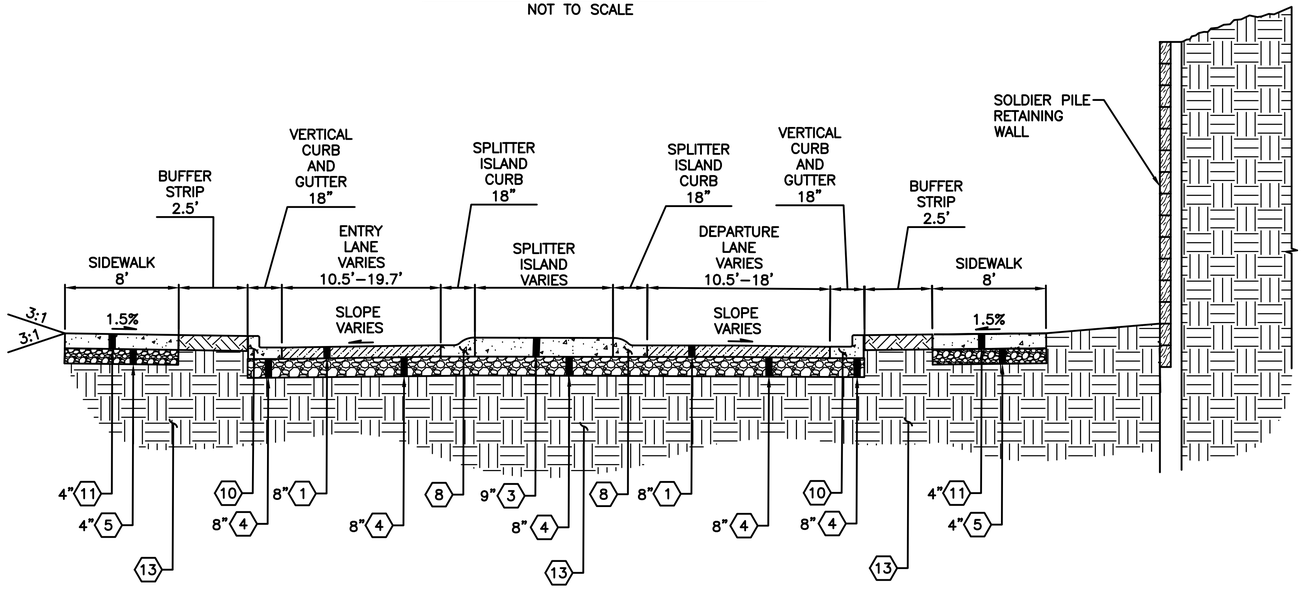
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	RS01
SHEET	7
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:45:35pm

SEC 10, TWP 26 N, RGE 4 E



ROADWAY SECTION C–C
NOT TO SCALE



ROADWAY SECTION D–D
NOT TO SCALE

NOTE

1. EXISTING PCC PAVEMENT PANELS ARE PRESENT IN SOME ROAD SECTIONS. SEE SITE PREP SHEETS FOR APPROXIMATE LOCATIONS AND AREA OF REMOVAL.

CONSTRUCTION NOTES

(1) HMA CL. 1/2" PG 58H–22 (2–INCH MAX LIFT)

(2) NOT USED

(3) TEXTURED AND PIGMENTED CONCRETE PAVEMENT WITH DOWEL BARS, SPLITTER ISLANDS AND TRUCK APRON. SEE PV SHEETS FOR DOWEL BAR JOINT SPACING.

(4) CRUSHED SURFACING BASE COURSE

(5) CRUSHED SURFACING TOP COURSE

(6) NOT USED

(7) ROUNDABOUT TRUCK APRON CEMENT CONCRETE CURB AND GUTTER #1 PER WSDOT STD. PLAN F–10.18–04.

(8) ROUNDABOUT SPLITTER ISLAND CEMENT CONCRETE CURB AND GUTTER #2 PER WSDOT STD. PLAN F–10.18–04.

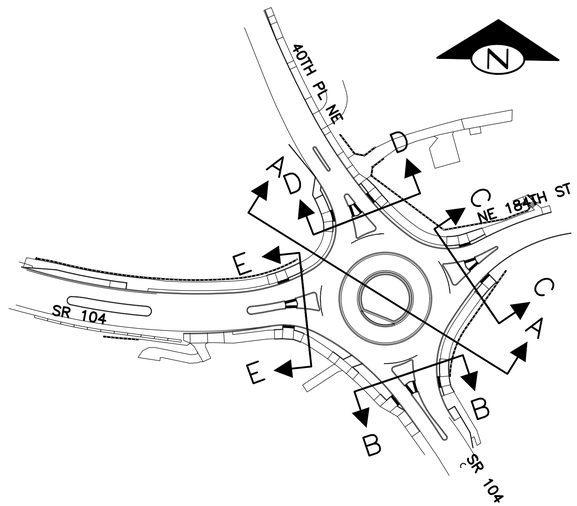
(9) ROUNDABOUT CENTRAL ISLAND CEMENT CONCRETE CURB #3 PER WSDOT STD. PLAN F–10.18–04.

(10) CEMENT CONCRETE TRAFFIC CURB AND GUTTER PER WSDOT STD. PLAN F–10.12–04.

(11) CEMENT CONCRETE SIDEWALK PER WSDOT STD. PLAN F–30.10–04.

(12) NOT USED

(13) COMPACTED SUBGRADE, GRAVEL BORROW, UNDISTURBED NATIVE SOIL.



SR 104 & 40TH PL NE
NOT TO SCALE

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SHOKEY POINT DR. #207
ARLINGTON, WA 98223
360–691–9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT — STATE OF WASHINGTON — 36704 — REGISTERED PROFESSIONAL ENGINEER
5/25/25

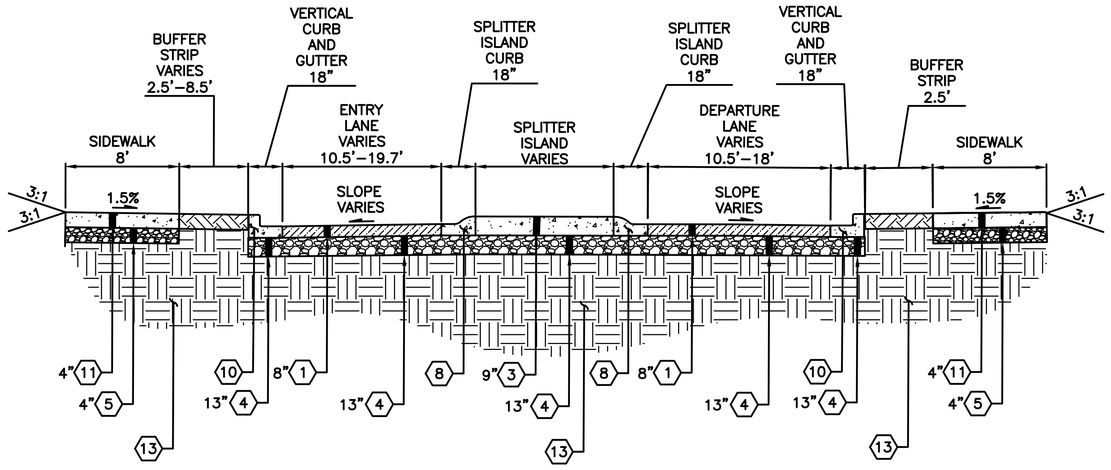
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

ROADWAY SECTIONS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	RS02
SHEET	8
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:45:45pm

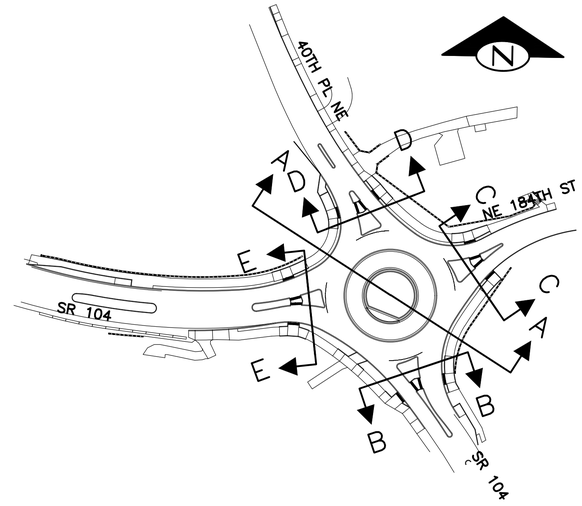
SEC 10, TWP 26 N, RGE 4 E



ROADWAY SECTION E–E
NOT TO SCALE

CONSTRUCTION NOTES

1. HMA CL. 1/2" PG 58H–22 (2–INCH MAX LIFT)
2. NOT USED
3. TEXTURED AND PIGMENTED CONCRETE PAVEMENT WITH DOWEL BARS, SPLITTER ISLANDS AND TRUCK APRON. SEE PV SHEETS FOR DOWEL BAR JOINT SPACING.
4. CRUSHED SURFACING BASE COURSE
5. CRUSHED SURFACING TOP COURSE
6. NOT USED
7. ROUNDABOUT TRUCK APRON CEMENT CONCRETE CURB AND GUTTER #1 PER WSDOT STD. PLAN F–10.18–04.
8. ROUNDABOUT SPLITTER ISLAND CEMENT CONCRETE CURB AND GUTTER #2 PER WSDOT STD. PLAN F–10.18–04.
9. ROUNDABOUT CENTRAL ISLAND CEMENT CONCRETE CURB #3 PER WSDOT STD. PLAN F–10.18–04.
10. CEMENT CONCRETE TRAFFIC CURB AND GUTTER PER WSDOT STD. PLAN F–10.12–04.
11. CEMENT CONCRETE SIDEWALK PER WSDOT STD. PLAN F–30.10–04.
12. NOT USED
13. COMPACTED SUBGRADE, GRAVEL BORROW, UNDISTURBED NATIVE SOIL.



SR 104 & 40TH PL NE
NOT TO SCALE

NOTE

1. EXISTING PCC PAVEMENT PANELS ARE PRESENT IN SOME ROAD SECTIONS. SEE SITE PREP SHEETS FOR APPROXIMATE LOCATIONS AND AREA OF REMOVAL.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360–691–5272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

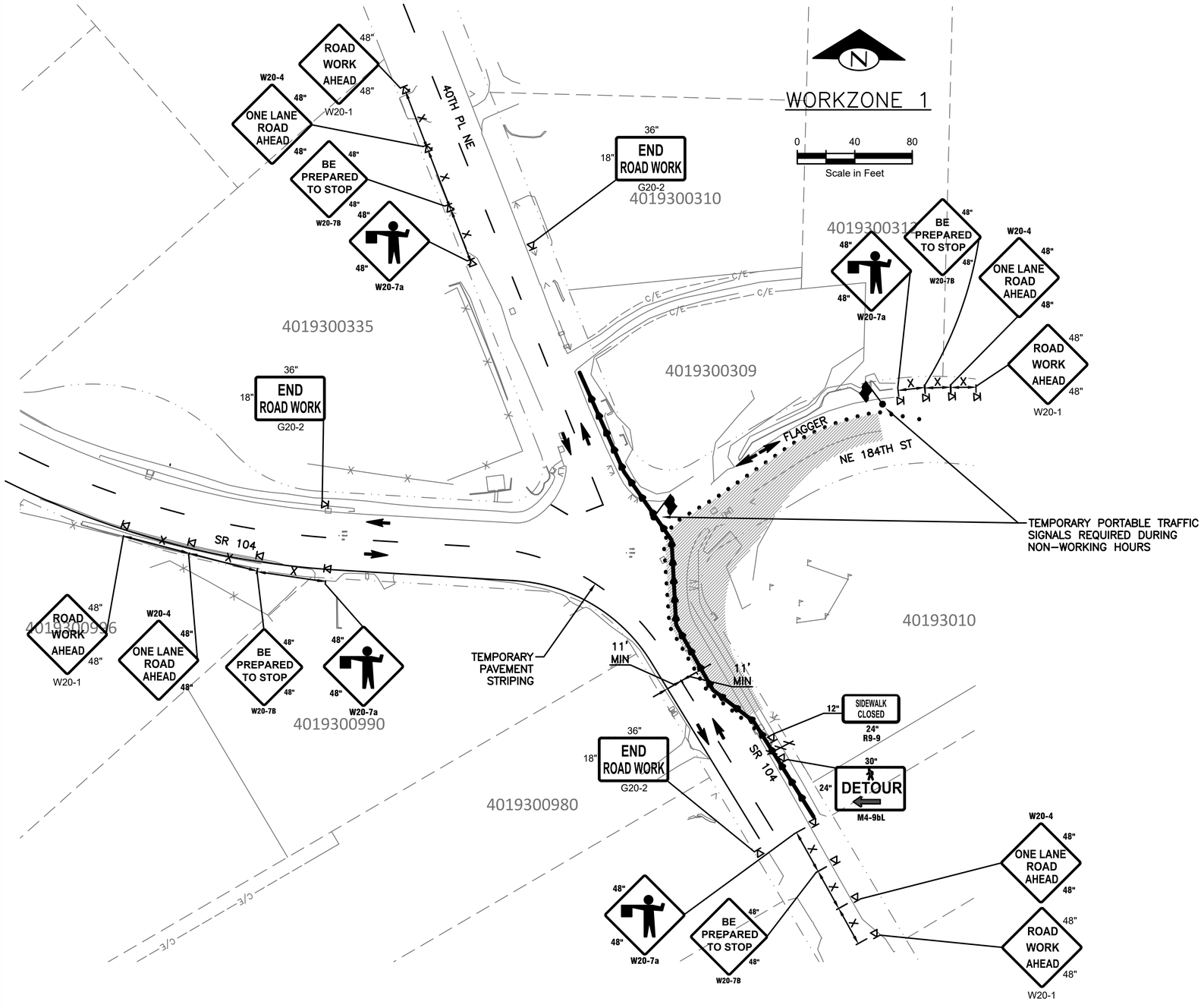
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

ROADWAY SECTIONS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	RS03
SHEET	9
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:45:55pm

SEC 10, TWP 26 N, RGE 4 E



CHANNELIZATION DEVICE SPACING (feet)

MPH	TAPER	TANGENT
35/45	30	60
25/30	20	40

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)

LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)

SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240
USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.										

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R

HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

SIGN SPACING = X (1)

RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CONSTRUCTION NOTES

- SEE SHEET TC06 FOR DETOUR SIGNING PLAN

LEGEND

- PROPOSED WORKZONE AREA
- PROPOSED CHANNELIZATION DEVICES
- DIRECTION OF TRAVEL
- PEDESTRIAN ACCESS ROUTE
- TYPE III BARRICADE LOCATION
- FLAGGING STATION
- TEMPORARY PAVEMENT MARKING

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

TRAFFIC CONTROL PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	TC01
SHEET	10
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/03/25 12:32:52pm

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)

LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

CHANNELIZATION DEVICE SPACING (feet)

MPH	TAPER	TANGENT
35/45	30	60
25/30	20	40

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)

SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R

HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

SIGN SPACING = X (1)

RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

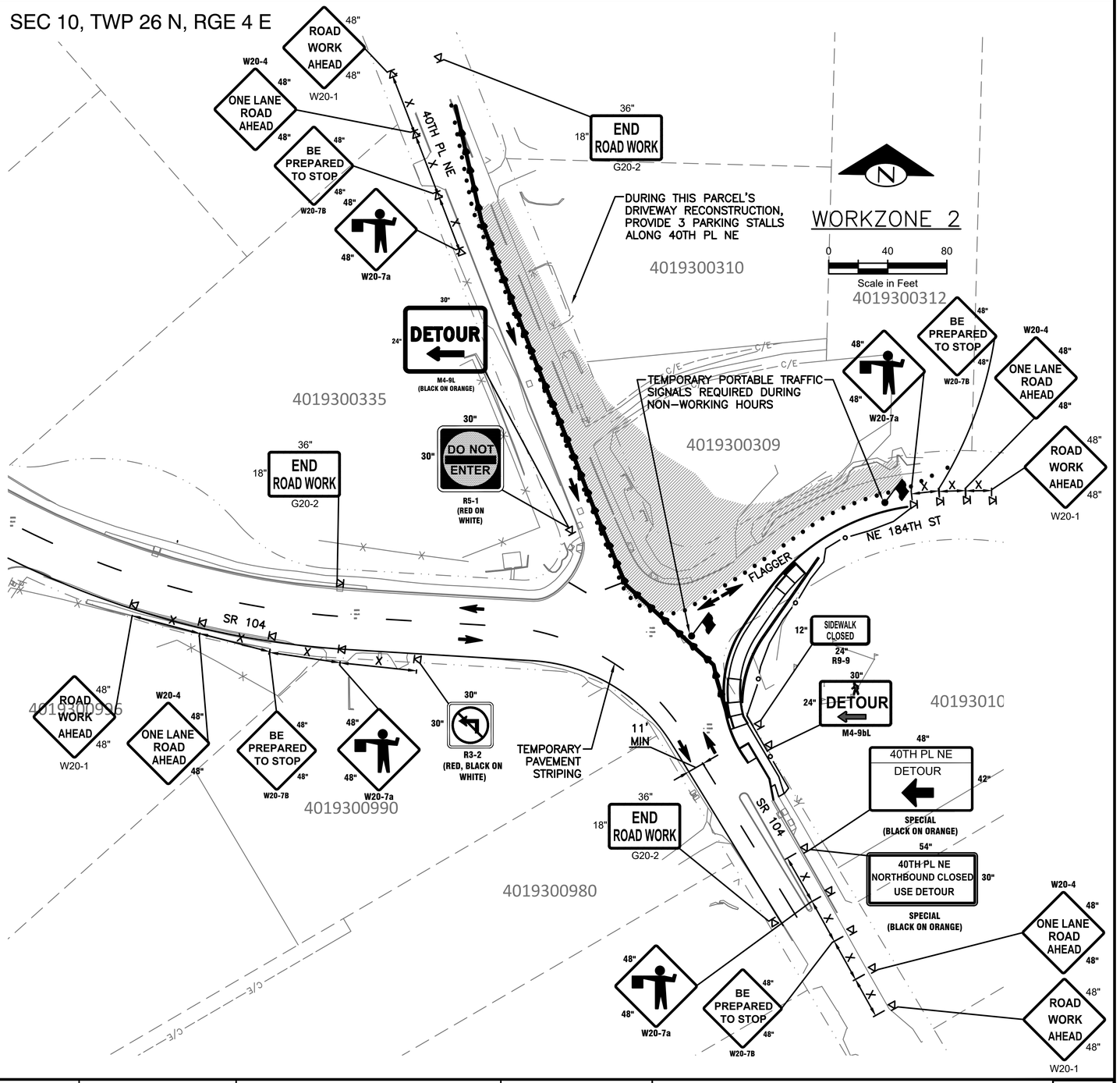
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CONSTRUCTION NOTES

- SEE SHEET TC06 FOR DETOUR SIGNING PLAN

LEGEND

- PROPOSED WORKZONE AREA
- PROPOSED CHANNELIZATION DEVICES
- DIRECTION OF TRAVEL
- PEDESTRIAN ACCESS ROUTE
- TYPE III BARRICADE LOCATION
- FLAGGING STATION
- TEMPORARY PAVEMENT MARKING



NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR. #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

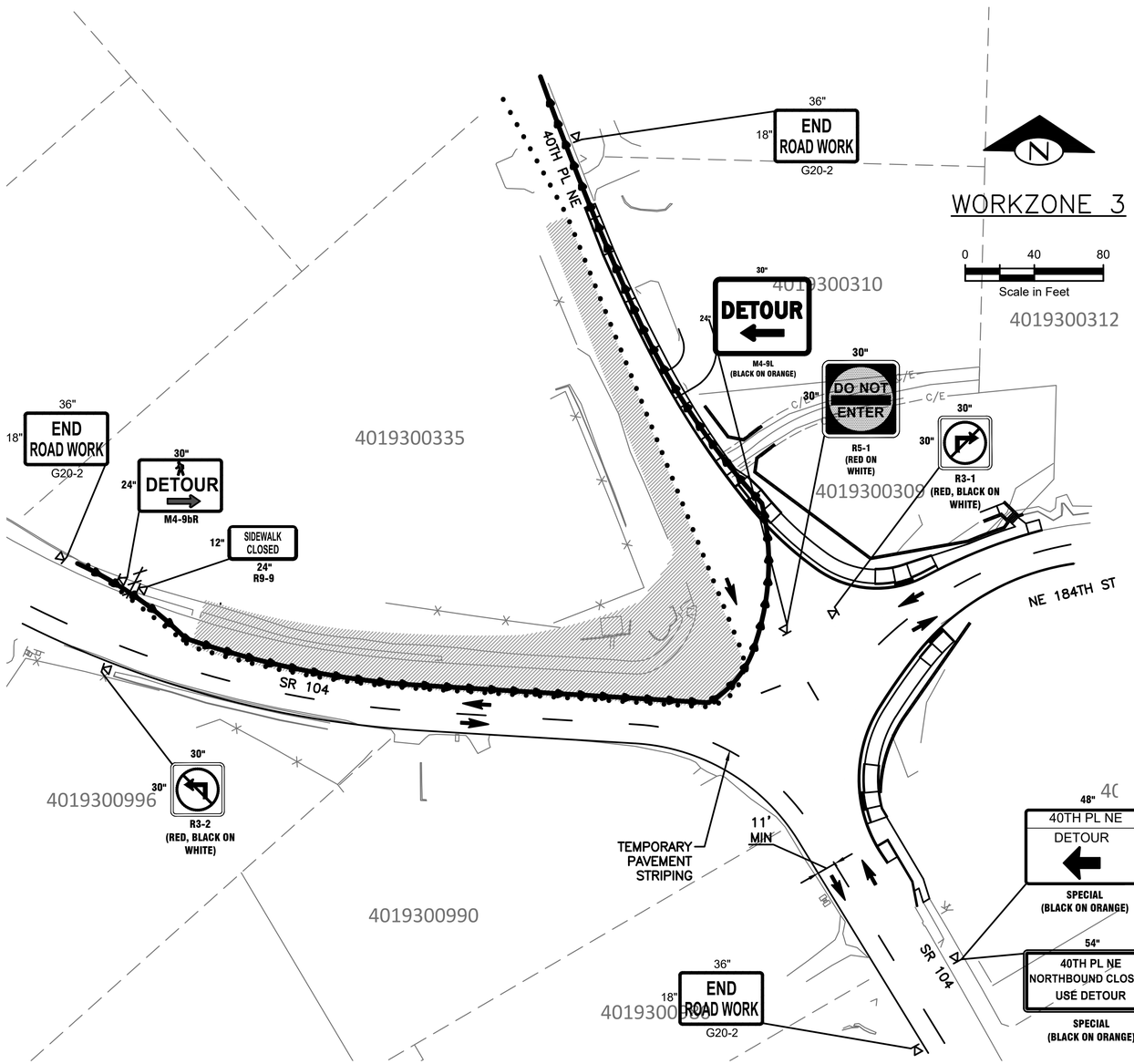
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

TRAFFIC CONTROL PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	TC02
SHEET	11
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/03/25 12:33:02pm

SEC 10, TWP 26 N, RGE 4 E



CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
35/45	30	60
25/30	20	40

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240
USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.										

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R										
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.				HOST VEHICLE WEIGHT > 22,000 lbs.						
< 45 MPH	45-55 MPH		> 55 MPH	< 45 MPH		45-55 MPH		> 55 MPH		
100'	123'		172'	74'		100'		150'		

SIGN SPACING = X (1)		
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS. (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.		

CONSTRUCTION NOTES

- SEE SHEET TC06 FOR DETOUR SIGNING PLAN

LEGEND

- PROPOSED WORKZONE AREA
- PROPOSED CHANNELIZATION DEVICES
- DIRECTION OF TRAVEL
- PEDESTRIAN ACCESS ROUTE
- TYPE III BARRICADE LOCATION
- FLAGGING STATION
- TEMPORARY PAVEMENT MARKING

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

TRAFFIC CONTROL PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	TC03
SHEET	12
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/03/25 12:33:07pm

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)

LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)

SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R

HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

SIGN SPACING = X (1)

RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

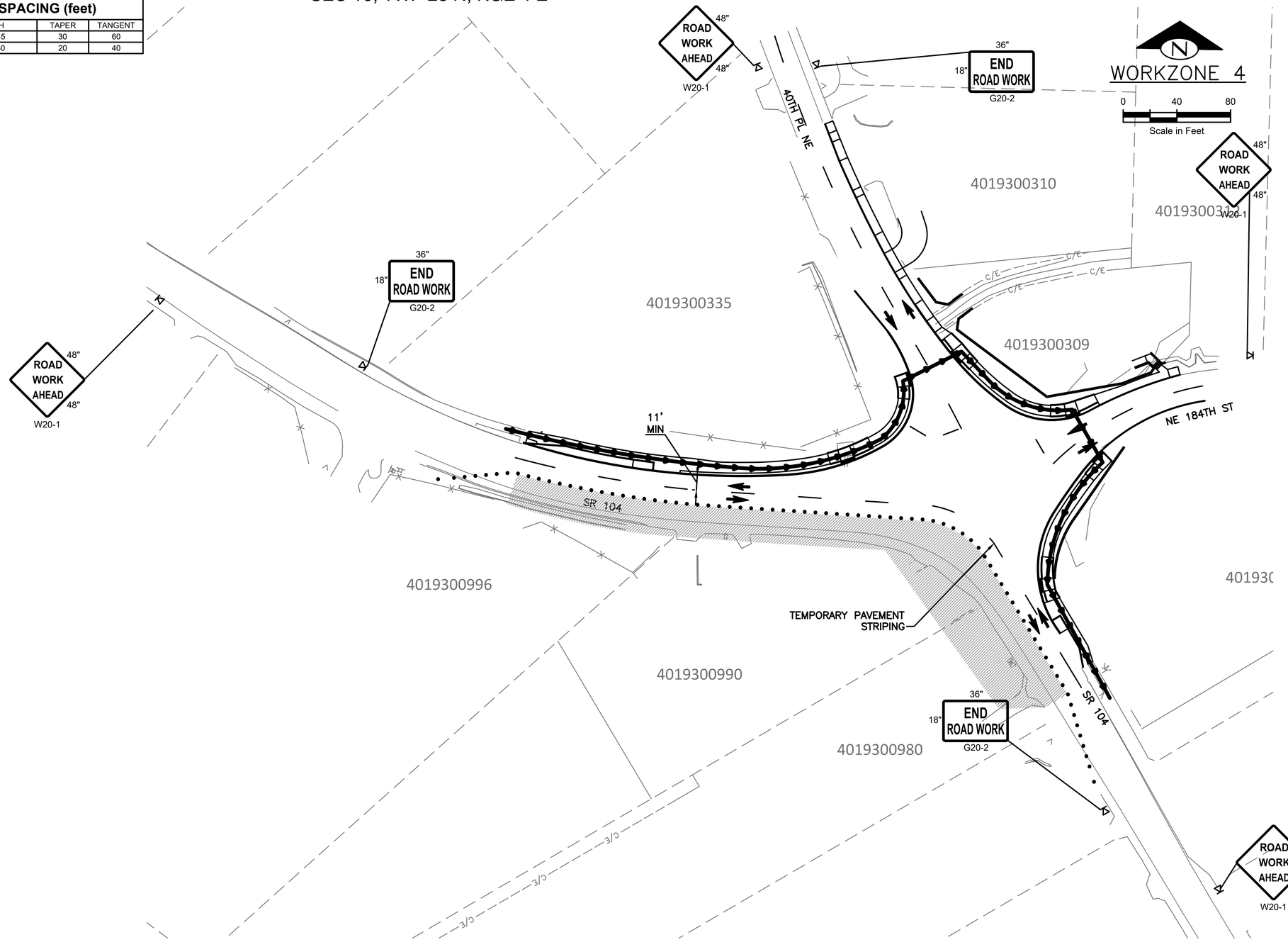
CHANNELIZATION DEVICE SPACING (feet)

MPH	TAPER	TANGENT
35/45	30	60
25/30	20	40

CONSTRUCTION NOTES

- SEE SHEET TC06 FOR DETOUR SIGNING PLAN

SEC 10, TWP 26 N, RGE 4 E



LEGEND

- PROPOSED WORKZONE AREA
- PROPOSED CHANNELIZATION DEVICES
- DIRECTION OF TRAVEL
- PEDESTRIAN ACCESS ROUTE
- TYPE III BARRICADE LOCATION
- FLAGGING STATION
- TEMPORARY PAVEMENT MARKING

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT — STATE OF WASHINGTON — 36704 — REGISTERED PROFESSIONAL ENGINEER
5/25/25

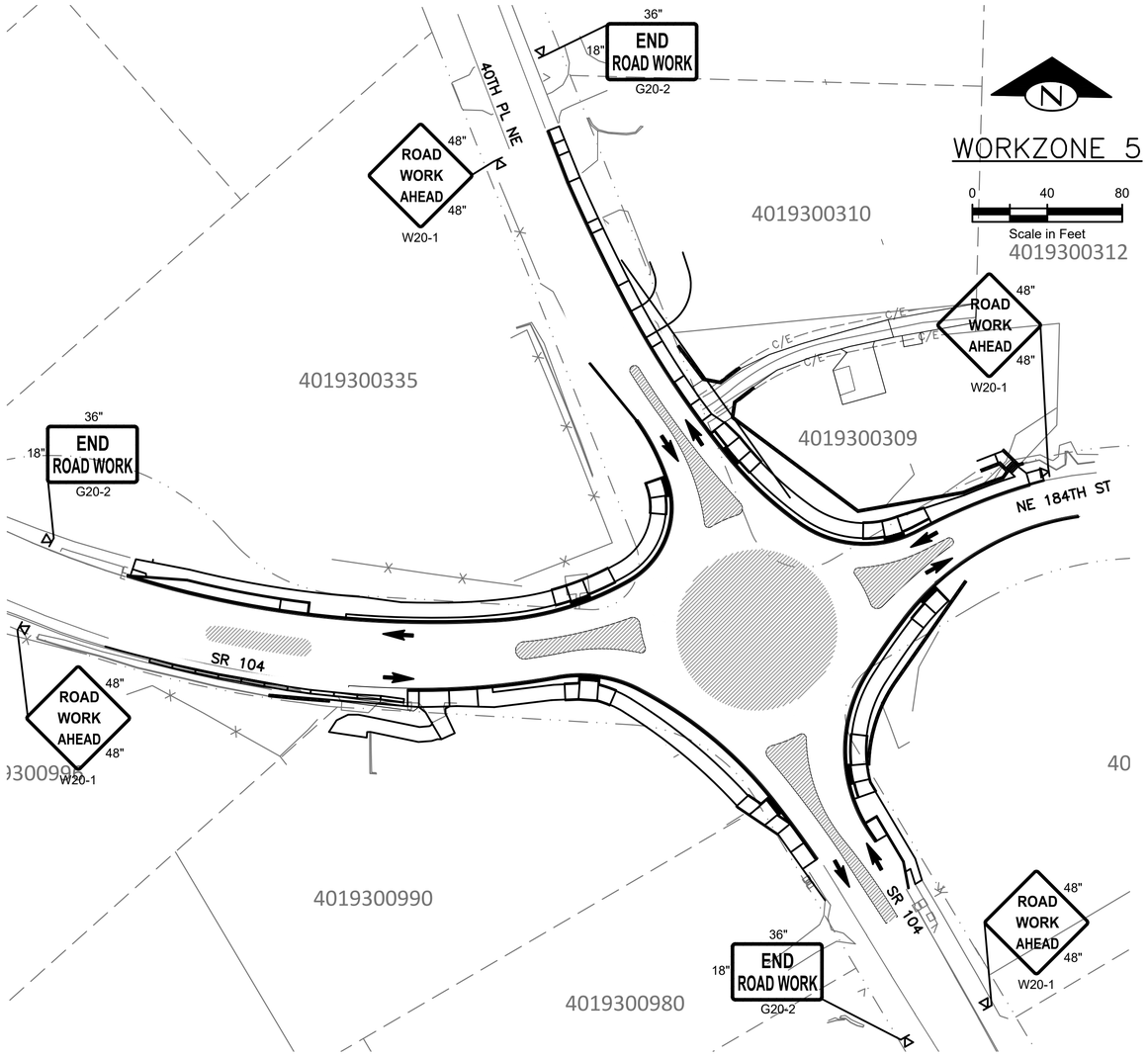
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

TRAFFIC CONTROL PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	TC04
SHEET	13
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/03/25 12:33:12pm

SEC 10, TWP 26 N, RGE 4 E



CHANNELIZATION DEVICE SPACING (feet)

MPH	TAPER	TANGENT
35/45	30	60
25/30	20	40

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)

LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)

SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240
USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.										

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R

HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

SIGN SPACING = X (1)

RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CONSTRUCTION NOTES

- SEE SHEET TC06 FOR DETOUR SIGNING PLAN

LEGEND

- PROPOSED WORKZONE AREA
- PROPOSED CHANNELIZATION DEVICES
- DIRECTION OF TRAVEL
- PEDESTRIAN ACCESS ROUTE
- TYPE III BARRICADE LOCATION
- FLAGGING STATION
- TEMPORARY PAVEMENT MARKING

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

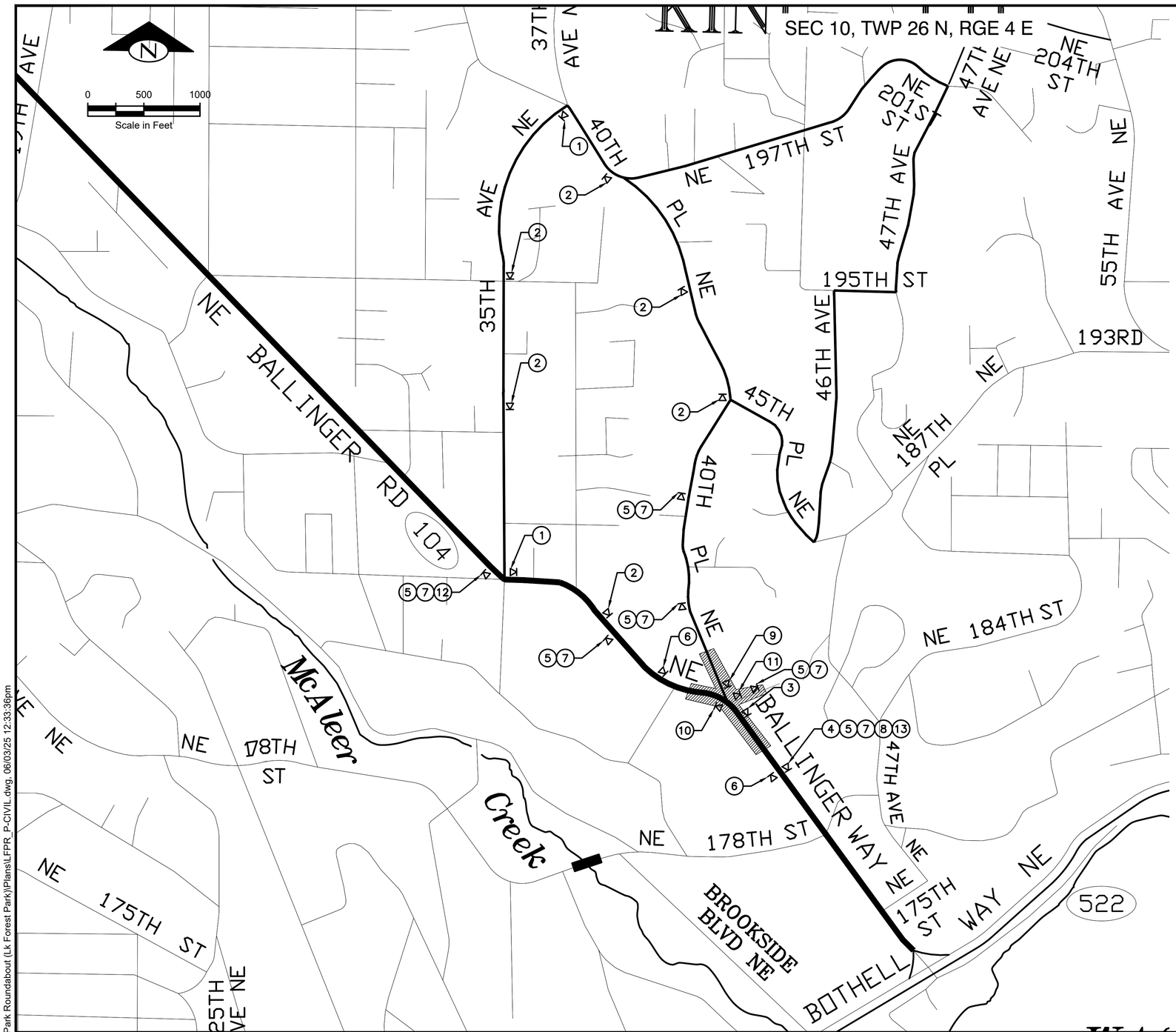
ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

TRAFFIC CONTROL PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	TC05
SHEET	14
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/03/25 12:33:17pm



GENERAL NOTES

1. CONTRACTOR SHALL MAINTAIN A PEDESTRIAN PATHWAY AT ALL TIMES.
2. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AT ALL TIMES.
3. ALL SIGNS SHALL BE BLACK ON ORANGE UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL SUBMIT DETAILED SCHEDULE AND CONSTRUCTION STAGING PLAN AT PRECONSTRUCTION MEETING.
5. ADVANCED NOTIFICATION OF ROAD CLOSURE SHALL BE POSTED A MINIMUM OF SEVEN CALENDAR DAYS PRIOR TO ROAD CLOSURE.
6. CONFLICTING PERMANENT SIGNS SHALL BE COVERED DURING CLOSURE.
7. SIGN SPACING DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
8. ALTERNATE TEMPORARY TRAFFIC CONTROL PLANS SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE.
9. REFER TO WSDOT STANDARD PLAN K–80.10–02 FOR CONSTRUCTION SIGN INSTALLATION.
10. THE CITY MAY REQUIRE CONTRACTOR TO DEPLOY PORTABLE VARIABLE MESSAGE SIGNS TEMPORARILY TO ADVISE ROAD USERS OF IMPENDING CONSTRUCTION AND DETOUR.

LEGEND

PROPOSED WORKZONE AREA

SIGN LOCATION – TEMPORARY MOUNT

(X) SIGN NUMBER

SIGN SPACING = X (1)		
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

SIGNS:

1. 30" × 24" DETOUR — M4-9R (BLACK ON ORANGE)
2. 30" × 24" DETOUR — M4-9U (BLACK ON ORANGE)
3. 30" × 24" DETOUR — M4-9L (BLACK ON ORANGE)
4. 48" × 48" DETOUR AHEAD — W20-2 (BLACK ON ORANGE)
5. 48" × 48" ROAD WORK AHEAD — W20-1
6. 36" × 18" END ROAD WORK — G20-2
7. 48" × 48" BE PREPARED TO STOP — W20-7B
8. 48" × 48" ROAD CLOSED AHEAD — W20-3 (BLACK ON ORANGE)
9. 30" × 30" DO NOT ENTER — R5-1 (RED ON WHITE)
10. 30" × 30" — R3-2 (RED, BLACK ON WHITE)
11. 30" × 30" — R3-1 (RED, BLACK ON WHITE)
12. 48" × 42" 40TH PL NE / DETOUR — SPECIAL (BLACK ON ORANGE)
13. 54" × 30" 40TH PL NE NORTHBOUND CLOSED USE DETOUR — SPECIAL (BLACK ON ORANGE)

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360–691–9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT — STATE OF WASHINGTON — 36704 — REGISTERED PROFESSIONAL ENGINEER
5/25/25

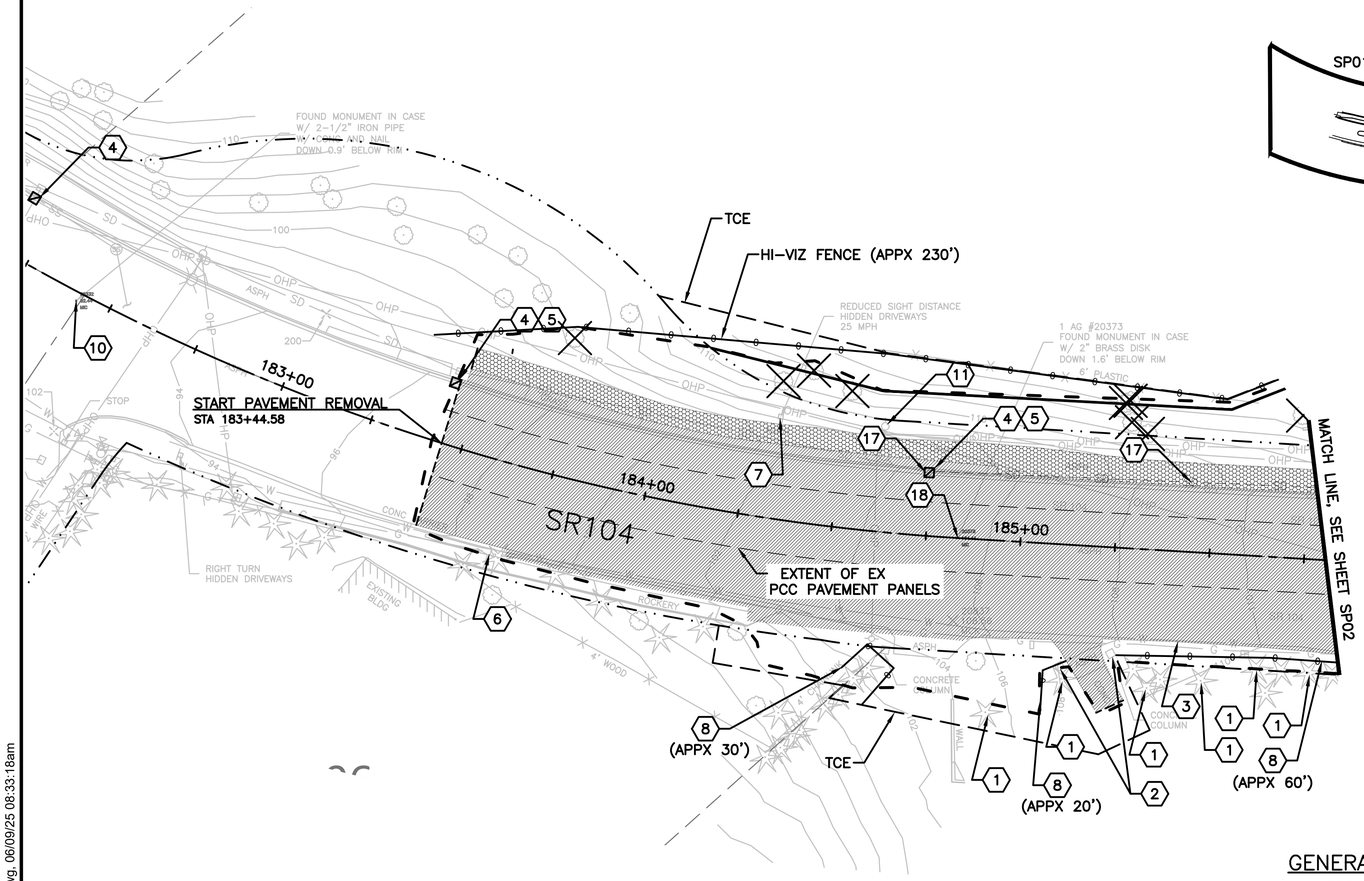
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

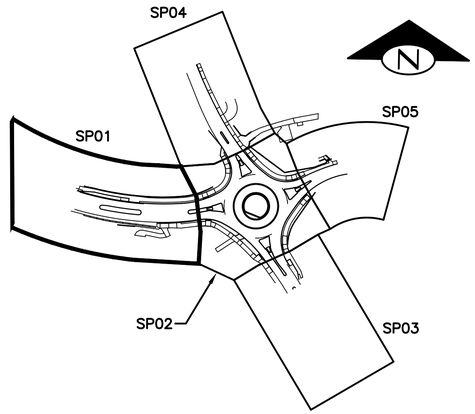
TRAFFIC CONTROL PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	TC06
SHEET	15
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/03/25 12:33:36pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

0 20 40
Scale in Feet

CONSTRUCTION NOTES

1. PROTECT EXISTING TREE.
2. REMOVE EXISTING BRICK COLUMN AND FOUNDATION
3. PROTECT EXISTING WATER MAIN AND VALVES.
4. INSTALL INLET PROTECTION PER WSDOT STD PLAN I-40.20-00.
5. PROTECT EXISTING CATCH BASIN.
6. PROTECT EXISTING CONCRETE TRAFFIC BARRIER.
7. REMOVE AND RELOCATE EXISTING SIGN AND FOUNDATION. SEE PV SHEETS FOR FINAL LOCATION.
8. TREE PROTECTION FENCE PER DETAIL ON SHEET SI03.
9. REMOVE/RELOCATE EXISTING MAILBOXES AS DIRECTED BY ENGINEER. SEE SPECIAL PROVISIONS AND MAILBOX RELOCATION PLAN.
10. ADJUST MONUMENT CASE AND COVER.
11. REMOVE EXISTING STREET LIGHT POLE, FOUNDATION, LUMINAIRE ARM, AND FIXTURE BY OTHERS (SCL).
12. REMOVE EXISTING TRAFFIC CURB.
13. EXISTING UTILITY POLE TO BE RELOCATED BY OTHERS.
14. PROTECT EXISTING LUMINAIRE AND FOUNDATION.
15. EXISTING LUMINAIRE TO REMAIN.
16. EXISTING KING COUNTY METRO PROPERTY TO BE REMOVED AND RELOCATED. CONTRACTOR TO COORDINATE WITH KING COUNTY METRO.
17. REMOVE EXISTING DRAINAGE STRUCTURE AND FEATURE.
18. MONUMENT, AND MONUMENT CASE AND COVER.

LEGEND

- ROADWAY EXCAVATION INCL HAUL
- REMOVE EX PCC PAVEMENT PANELS
- REMOVING CEMENT CONC. SIDEWALK
- SAWCUT FULL DEPTH
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING
- TREE AND ROOT REMOVAL
- RIGHT-OF-WAY

GENERAL NOTES

1. APPROXIMATE CLEARING AND GRUBBING LIMITS ARE SHOWN ON THE PLAN, ACTUAL CLEARING AND GRUBBING LIMITS WILL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. TREES WITHIN THE CLEARING AND GRUBBING LIMITS SHALL BE PROTECTED UNLESS SHOWN ON THE PLANS AS TO BE REMOVED. TREE REMOVAL IS COVERED UNDER THE BID ITEM CLEARING AND GRUBBING.
2. TREES AND THEIR ROOT STRUCTURES SHALL BE REMOVED IN A MANNER THAT IS NOT DESTRUCTIVE TO THE TREES THAT ARE TO REMAIN.
3. CATCH BASIN INLET PROTECTION IS SHOWN ON THE PLAN EXISTING STRUCTURES ONLY FOR CLARITY. THE CONTRACTOR SHALL PROVIDE CATCH BASIN INLET PROTECTION FOR ALL EXISTING AND PROPOSED STRUCTURES WITHIN THE PROJECT LIMITS AND 200' DOWNSTREAM.
4. EXISTING PAVEMENT MARKINGS AND SIGNS THAT CONFLICT WITH THE CHANNELIZATION AND SIGNING PLAN SHALL BE REMOVED.
5. ALL UTILITIES SHALL BE PROTECTED UNLESS OTHERWISE NOTED.
6. SEE CHANNELIZATION AND SIGNING PLAN FOR SIGN REMOVALS.
7. NOT USED
8. SEE PROJECT MANUAL, APPENDIX A, FOR FRANCHISE UTILITY REMOVALS AND RELOCATIONS PLANS.
9. NOT USED
10. SEE PROJECT MANUAL, APPENDIX A, FOR WATER PIPE ABANDONMENTS AND REMOVALS PLANS.
11. CEMENT CONC. CURB, GUTTER, AND SIDEWALK SHALL BE SAWCUT AT REMOVAL LIMITS NOTED DN THE PLAN OR REMOVED TO NEAREST EXPANSION JOINT.
12. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AT PROJECT COMPLETION OR AT THE DIRECTION OF THE ENGINEER.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

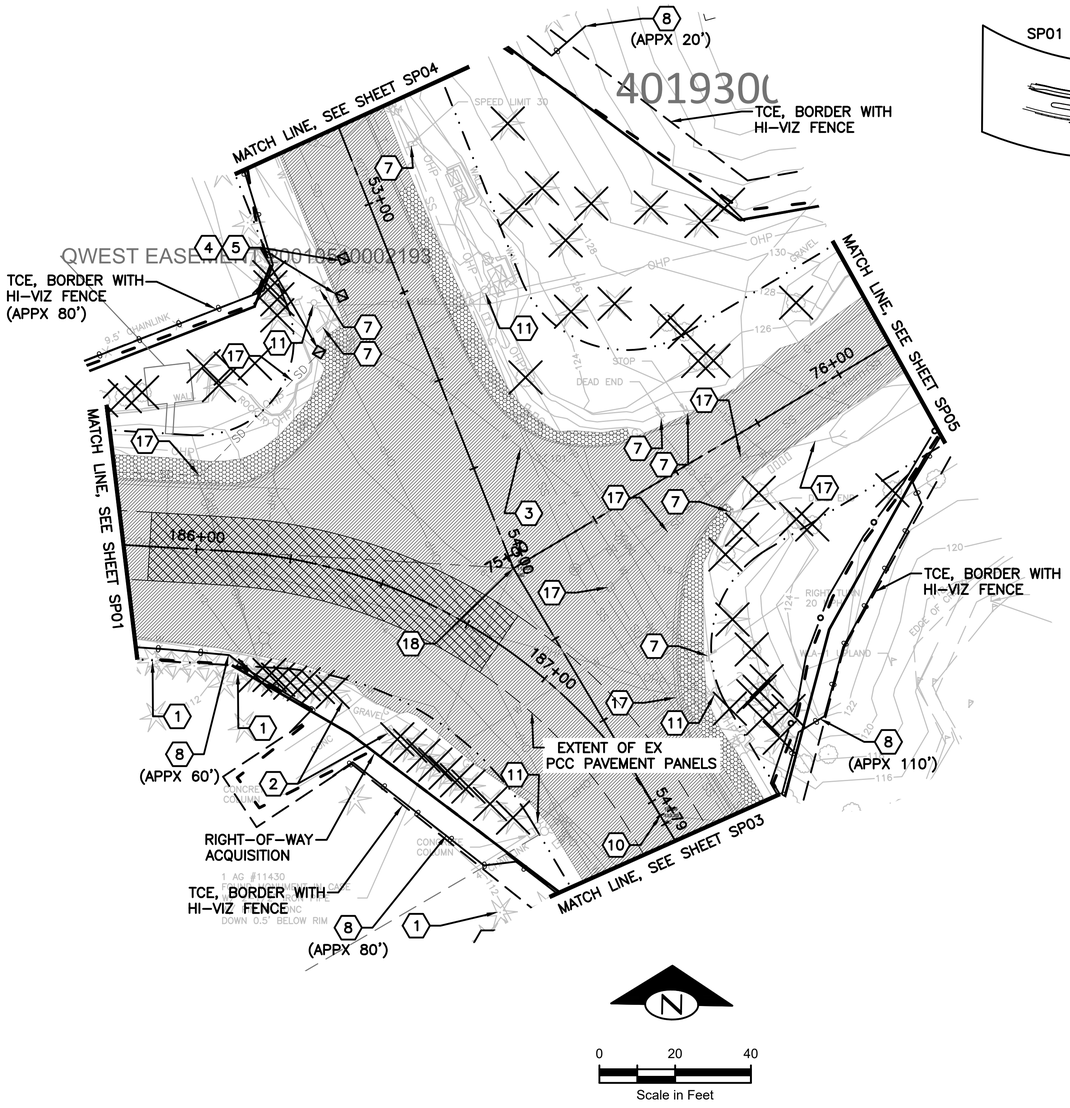
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

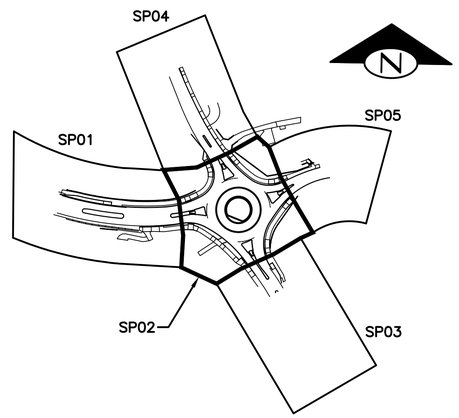
SITE PREPARATION AND EROSION CONTROL

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SP01
SHEET	16
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/09/25 08:33:18am

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. PROTECT EXISTING TREE.
2. REMOVE EXISTING BRICK COLUMN AND FOUNDATION
3. PROTECT EXISTING WATER MAIN AND VALVES.
4. INSTALL INLET PROTECTION PER WSDOT STD PLAN I-40.20-00.
5. PROTECT EXISTING CATCH BASIN.
6. PROTECT EXISTING CONCRETE TRAFFIC BARRIER.
7. REMOVE AND RELOCATE EXISTING SIGN AND FOUNDATION. SEE PV SHEETS FOR FINAL LOCATION.
8. TREE PROTECTION FENCE PER DETAIL ON SHEET SI03.
9. REMOVE/RELOCATE EXISTING MAILBOXES AS DIRECTED BY ENGINEER. SEE SPECIAL PROVISIONS AND MAILBOX RELOCATION PLAN.
10. ADJUST MONUMENT CASE AND COVER.
11. REMOVE EXISTING STREET LIGHT POLE, FOUNDATION, LUMINAIRE ARM, AND FIXTURE BY OTHERS (SCL).
12. REMOVE EXISTING TRAFFIC CURB.
13. EXISTING UTILITY POLE TO BE RELOCATED BY OTHERS.
14. PROTECT EXISTING LUMINAIRE AND FOUNDATION.
15. EXISTING LUMINAIRE TO REMAIN.
16. EXISTING KING COUNTY METRO PROPERTY TO BE REMOVED AND RELOCATED. CONTRACTOR TO COORDINATE WITH KING COUNTY METRO.
17. REMOVE EXISTING DRAINAGE STRUCTURE AND FEATURE.
18. MONUMENT, AND MONUMENT CASE AND COVER.

LEGEND

- ROADWAY EXCAVATION INCL HAUL
- REMOVE EX PCC PAVEMENT PANELS
- REMOVING CEMENT CONC. SIDEWALK
- SAWCUT FULL DEPTH
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING
- TREE AND ROOT REMOVAL
- RIGHT-OF-WAY

GENERAL NOTES

1. APPROXIMATE CLEARING AND GRUBBING LIMITS ARE SHOWN ON THE PLAN, ACTUAL CLEARING AND GRUBBING LIMITS WILL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. TREES WITHIN THE CLEARING AND GRUBBING LIMITS SHALL BE PROTECTED UNLESS SHOWN ON THE PLANS AS TO BE REMOVED. TREE REMOVAL IS COVERED UNDER THE BID ITEM CLEARING AND GRUBBING.
2. TREES AND THEIR ROOT STRUCTURES SHALL BE REMOVED IN A MANNER THAT IS NOT DESTRUCTIVE TO THE TREES THAT ARE TO REMAIN.
3. CATCH BASIN INLET PROTECTION IS SHOWN ON THE PLAN EXISTING STRUCTURES ONLY FOR CLARITY. THE CONTRACTOR SHALL PROVIDE CATCH BASIN INLET PROTECTION FOR ALL EXISTING AND PROPOSED STRUCTURES WITHIN THE PROJECT LIMITS AND 200' DOWNSTREAM.
4. EXISTING PAVEMENT MARKINGS AND SIGNS THAT CONFLICT WITH THE CHANNELIZATION AND SIGNING PLAN SHALL BE REMOVED.
5. ALL UTILITIES SHALL BE PROTECTED UNLESS OTHERWISE NOTED.
6. SEE CHANNELIZATION AND SIGNING PLAN FOR SIGN REMOVALS.
7. NOT USED
8. SEE PROJECT MANUAL, APPENDIX A, FOR FRANCHISE UTILITY REMOVALS AND RELOCATIONS PLANS.
9. NOT USED
10. SEE PROJECT MANUAL, APPENDIX A, FOR WATER PIPE ABANDONMENTS AND REMOVALS PLANS.
11. CEMENT CONC. CURB, GUTTER, AND SIDEWALK SHALL BE SAWCUT AT REMOVAL LIMITS NOTED DN THE PLAN OR REMOVED TO NEAREST EXPANSION JOINT.
12. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AT PROJECT COMPLETION OR AT THE DIRECTION OF THE ENGINEER.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

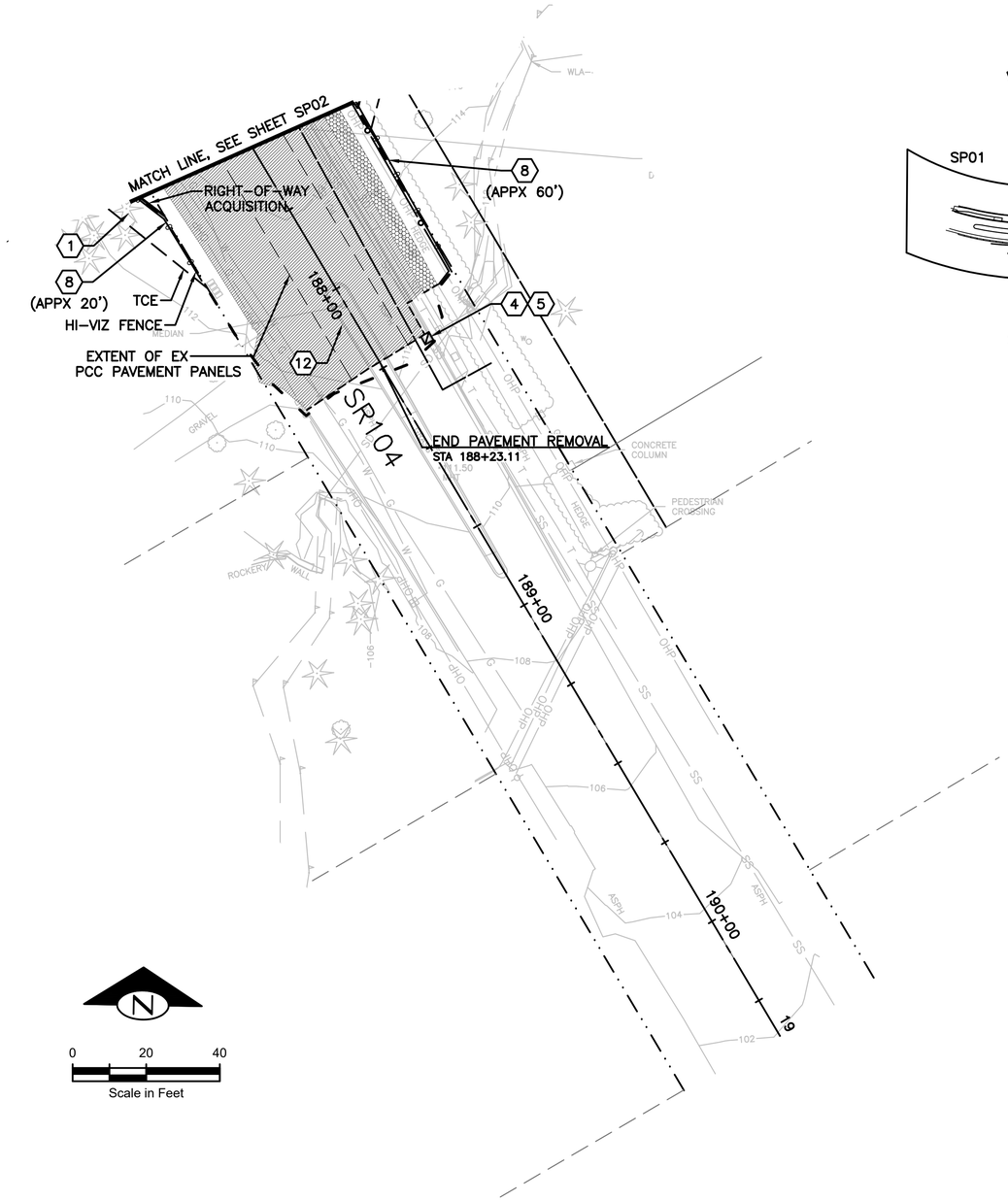
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

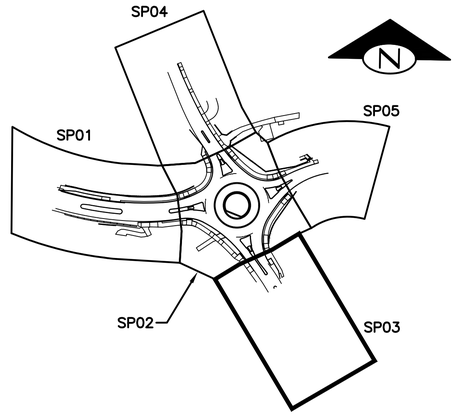
SITE PREPARATION AND EROSION CONTROL

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SP02
SHEET	17
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/09/25 08:33:33am

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. PROTECT EXISTING TREE.
2. REMOVE EXISTING BRICK COLUMN AND FOUNDATION
3. PROTECT EXISTING WATER MAIN AND VALVES.
4. INSTALL INLET PROTECTION PER WSDOT STD PLAN I-40.20-00.
5. PROTECT EXISTING CATCH BASIN.
6. PROTECT EXISTING CONCRETE TRAFFIC BARRIER.
7. REMOVE AND RELOCATE EXISTING SIGN AND FOUNDATION. SEE PV SHEETS FOR FINAL LOCATION.
8. TREE PROTECTION FENCE PER DETAIL ON SHEET SI03.
9. REMOVE/RELOCATE EXISTING MAILBOXES AS DIRECTED BY ENGINEER. SEE SPECIAL PROVISIONS AND MAILBOX RELOCATION PLAN.
10. ADJUST MONUMENT CASE AND COVER.
11. REMOVE EXISTING STREET LIGHT POLE, FOUNDATION, LUMINAIRE ARM, AND FIXTURE BY OTHERS (SCL).
12. REMOVE EXISTING TRAFFIC CURB.
13. EXISTING UTILITY POLE TO BE RELOCATED BY OTHERS.
14. PROTECT EXISTING LUMINAIRE AND FOUNDATION.
15. EXISTING LUMINAIRE TO REMAIN.
16. EXISTING KING COUNTY METRO PROPERTY TO BE REMOVED AND RELOCATED. CONTRACTOR TO COORDINATE WITH KING COUNTY METRO.
17. REMOVE EXISTING DRAINAGE STRUCTURE AND FEATURE.
18. MONUMENT, AND MONUMENT CASE AND COVER.

LEGEND

- ROADWAY EXCAVATION INCL HAUL
- REMOVE EX PCC PAVEMENT PANELS
- REMOVING CEMENT CONC. SIDEWALK
- SAWCUT FULL DEPTH
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING
- TREE AND ROOT REMOVAL
- RIGHT-OF-WAY

GENERAL NOTES

1. APPROXIMATE CLEARING AND GRUBBING LIMITS ARE SHOWN ON THE PLAN, ACTUAL CLEARING AND GRUBBING LIMITS WILL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. TREES WITHIN THE CLEARING AND GRUBBING LIMITS SHALL BE PROTECTED UNLESS SHOWN ON THE PLANS AS TO BE REMOVED. TREE REMOVAL IS COVERED UNDER THE BID ITEM CLEARING AND GRUBBING.
2. TREES AND THEIR ROOT STRUCTURES SHALL BE REMOVED IN A MANNER THAT IS NOT DESTRUCTIVE TO THE TREES THAT ARE TO REMAIN.
3. CATCH BASIN INLET PROTECTION IS SHOWN ON THE PLAN EXISTING STRUCTURES ONLY FOR CLARITY. THE CONTRACTOR SHALL PROVIDE CATCH BASIN INLET PROTECTION FOR ALL EXISTING AND PROPOSED STRUCTURES WITHIN THE PROJECT LIMITS AND 200' DOWNSTREAM.
4. EXISTING PAVEMENT MARKINGS AND SIGNS THAT CONFLICT WITH THE CHANNELIZATION AND SIGNING PLAN SHALL BE REMOVED.
5. ALL UTILITIES SHALL BE PROTECTED UNLESS OTHERWISE NOTED.
6. SEE CHANNELIZATION AND SIGNING PLAN FOR SIGN REMOVALS.
7. NOT USED
8. SEE PROJECT MANUAL, APPENDIX A, FOR FRANCHISE UTILITY REMOVALS AND RELOCATIONS PLANS.
9. NOT USED
10. SEE PROJECT MANUAL, APPENDIX A, FOR WATER PIPE ABANDONMENTS AND REMOVALS PLANS.
11. CEMENT CONC. CURB, GUTTER, AND SIDEWALK SHALL BE SAWCUT AT REMOVAL LIMITS NOTED DN THE PLAN OR REMOVED TO NEAREST EXPANSION JOINT.
12. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AT PROJECT COMPLETION OR AT THE DIRECTION OF THE ENGINEER.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

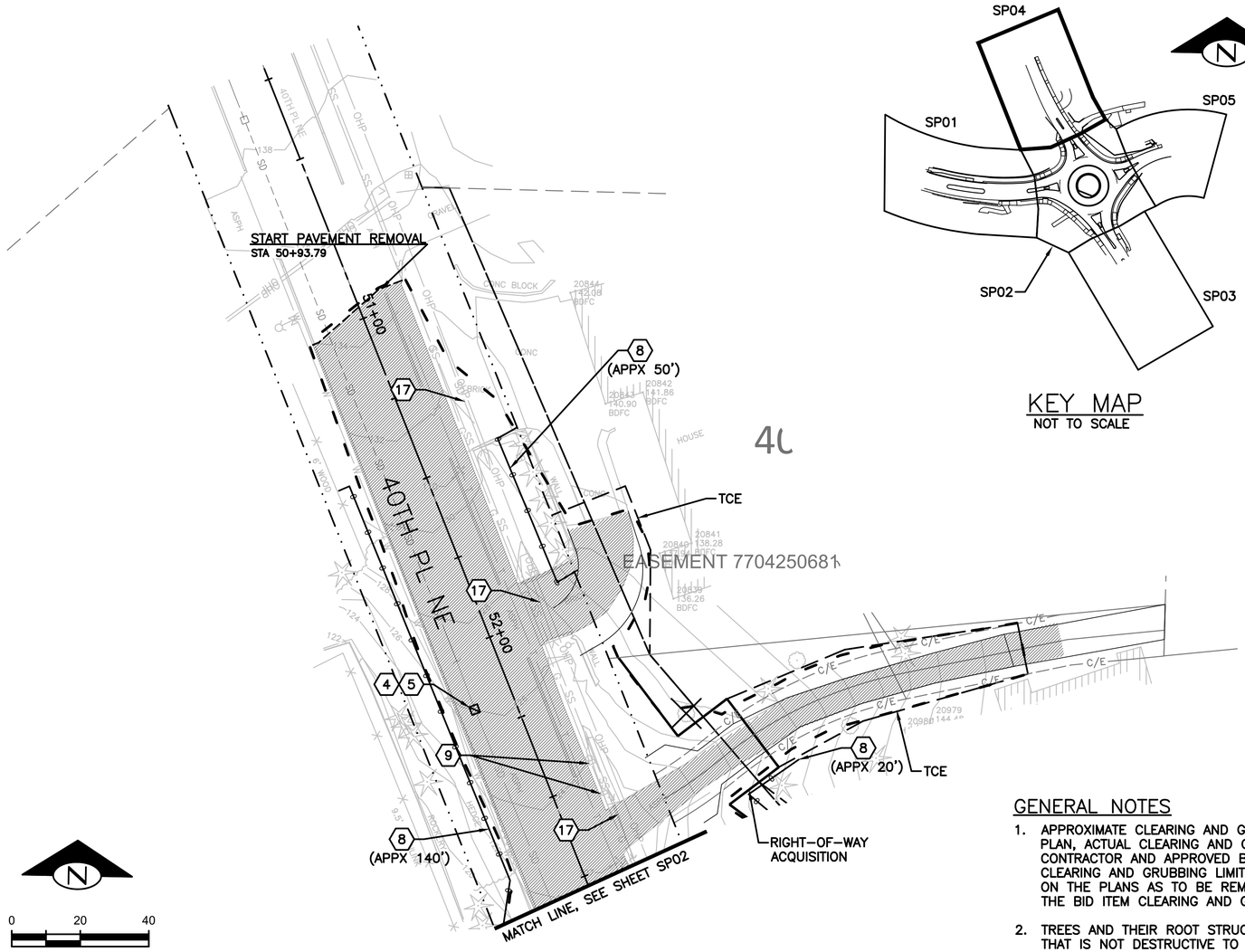
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

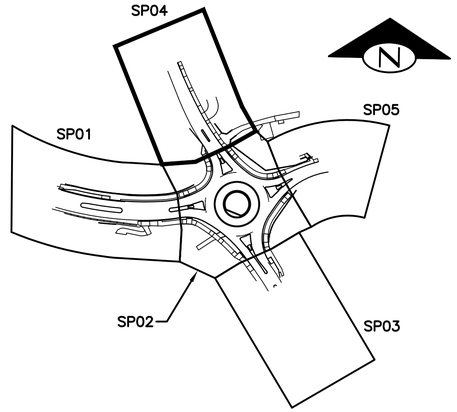
SITE PREPARATION AND EROSION CONTROL

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SP03
SHEET	18
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/09/25 08:33:43am

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

0 20 40
Scale in Feet

CONSTRUCTION NOTES

1. PROTECT EXISTING TREE.
2. REMOVE EXISTING BRICK COLUMN AND FOUNDATION
3. PROTECT EXISTING WATER MAIN AND VALVES.
4. INSTALL INLET PROTECTION PER WSDOT STD PLAN I-40.20-00.
5. PROTECT EXISTING CATCH BASIN.
6. PROTECT EXISTING CONCRETE TRAFFIC BARRIER.
7. REMOVE AND RELOCATE EXISTING SIGN AND FOUNDATION. SEE PV SHEETS FOR FINAL LOCATION.
8. TREE PROTECTION FENCE PER DETAIL ON SHEET SI03.
9. REMOVE/RELOCATE EXISTING MAILBOXES AS DIRECTED BY ENGINEER. SEE SPECIAL PROVISIONS AND MAILBOX RELOCATION PLAN.
10. ADJUST MONUMENT CASE AND COVER.
11. REMOVE EXISTING STREET LIGHT POLE, FOUNDATION, LUMINAIRE ARM, AND FIXTURE BY OTHERS (SCL).
12. REMOVE EXISTING TRAFFIC CURB.
13. EXISTING UTILITY POLE TO BE RELOCATED BY OTHERS.
14. PROTECT EXISTING LUMINAIRE AND FOUNDATION.
15. EXISTING LUMINAIRE TO REMAIN.
16. EXISTING KING COUNTY METRO PROPERTY TO BE REMOVED AND RELOCATED. CONTRACTOR TO COORDINATE WITH KING COUNTY METRO.
17. REMOVE EXISTING DRAINAGE STRUCTURE AND FEATURE.
18. MONUMENT, AND MONUMENT CASE AND COVER.

LEGEND

- ROADWAY EXCAVATION INCL HAUL
- REMOVE EX PCC PAVEMENT PANELS
- REMOVING CEMENT CONC. SIDEWALK
- SAWCUT FULL DEPTH
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING
- TREE AND ROOT REMOVAL
- RIGHT-OF-WAY

GENERAL NOTES

1. APPROXIMATE CLEARING AND GRUBBING LIMITS ARE SHOWN ON THE PLAN, ACTUAL CLEARING AND GRUBBING LIMITS WILL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. TREES WITHIN THE CLEARING AND GRUBBING LIMITS SHALL BE PROTECTED UNLESS SHOWN ON THE PLANS AS TO BE REMOVED. TREE REMOVAL IS COVERED UNDER THE BID ITEM CLEARING AND GRUBBING.
2. TREES AND THEIR ROOT STRUCTURES SHALL BE REMOVED IN A MANNER THAT IS NOT DESTRUCTIVE TO THE TREES THAT ARE TO REMAIN.
3. CATCH BASIN INLET PROTECTION IS SHOWN ON THE PLAN EXISTING STRUCTURES ONLY FOR CLARITY. THE CONTRACTOR SHALL PROVIDE CATCH BASIN INLET PROTECTION FOR ALL EXISTING AND PROPOSED STRUCTURES WITHIN THE PROJECT LIMITS AND 200' DOWNSTREAM.
4. EXISTING PAVEMENT MARKINGS AND SIGNS THAT CONFLICT WITH THE CHANNELIZATION AND SIGNING PLAN SHALL BE REMOVED.
5. ALL UTILITIES SHALL BE PROTECTED UNLESS OTHERWISE NOTED.
6. SEE CHANNELIZATION AND SIGNING PLAN FOR SIGN REMOVALS.
7. NOT USED
8. SEE PROJECT MANUAL, APPENDIX A, FOR FRANCHISE UTILITY REMOVALS AND RELOCATIONS PLANS.
9. NOT USED
10. SEE PROJECT MANUAL, APPENDIX A, FOR WATER PIPE ABANDONMENTS AND REMOVALS PLANS.
11. CEMENT CONC. CURB, GUTTER, AND SIDEWALK SHALL BE SAWCUT AT REMOVAL LIMITS NOTED DN THE PLAN OR REMOVED TO NEAREST EXPANSION JOINT.
12. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AT PROJECT COMPLETION OR AT THE DIRECTION OF THE ENGINEER.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

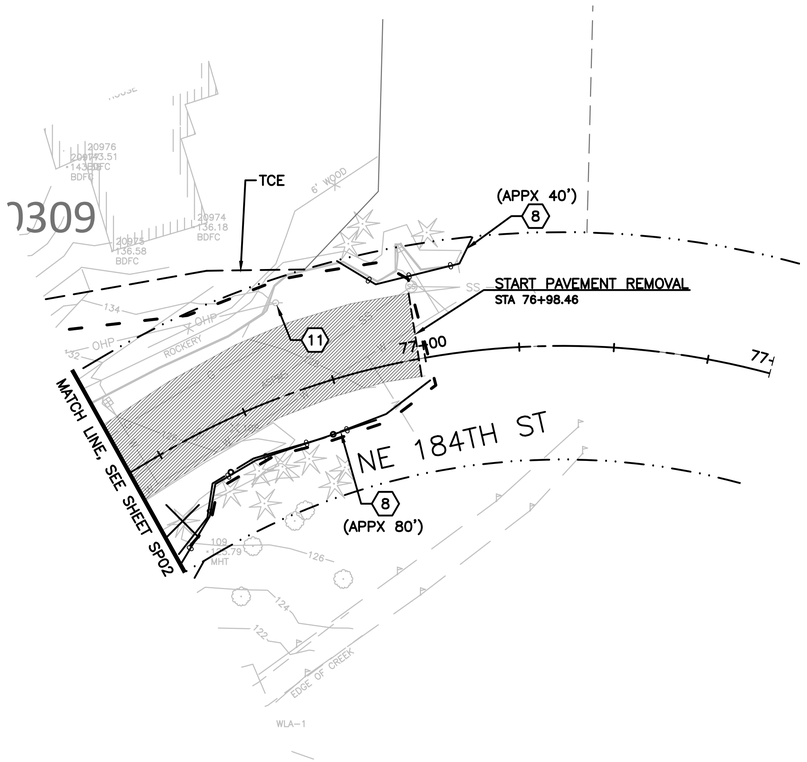
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

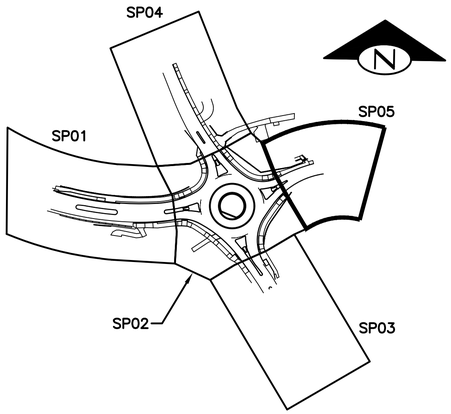
SITE PREPARATION AND EROSION CONTROL

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SP04
SHEET	19
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/09/25 08:33:58am

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

N

0 20 40
Scale in Feet

CONSTRUCTION NOTES

1. PROTECT EXISTING TREE.
2. REMOVE EXISTING BRICK COLUMN AND FOUNDATION
3. PROTECT EXISTING WATER MAIN AND VALVES.
4. INSTALL INLET PROTECTION PER WSDOT STD PLAN I-40.20-00.
5. PROTECT EXISTING CATCH BASIN.
6. PROTECT EXISTING CONCRETE TRAFFIC BARRIER.
7. REMOVE AND RELOCATE EXISTING SIGN AND FOUNDATION. SEE PV SHEETS FOR FINAL LOCATION.
8. TREE PROTECTION FENCE PER DETAIL ON SHEET SI03.
9. REMOVE/RELOCATE EXISTING MAILBOXES AS DIRECTED BY ENGINEER. SEE SPECIAL PROVISIONS AND MAILBOX RELOCATION PLAN.
10. ADJUST MONUMENT CASE AND COVER.
11. REMOVE EXISTING STREET LIGHT POLE, FOUNDATION, LUMINAIRE ARM, AND FIXTURE BY OTHERS (SCL).
12. REMOVE EXISTING TRAFFIC CURB.
13. EXISTING UTILITY POLE TO BE RELOCATED BY OTHERS.
14. PROTECT EXISTING LUMINAIRE AND FOUNDATION.
15. EXISTING LUMINAIRE TO REMAIN.
16. EXISTING KING COUNTY METRO PROPERTY TO BE REMOVED AND RELOCATED. CONTRACTOR TO COORDINATE WITH KING COUNTY METRO.
17. REMOVE EXISTING DRAINAGE STRUCTURE AND FEATURE.
18. MONUMENT, AND MONUMENT CASE AND COVER.

LEGEND

- ROADWAY EXCAVATION INCL HAUL
- REMOVE EX PCC PAVEMENT PANELS
- REMOVING CEMENT CONC. SIDEWALK
- SAWCUT FULL DEPTH
- SILT FENCE
- INLET PROTECTION
- CLEARING AND GRUBBING
- TREE AND ROOT REMOVAL
- RIGHT-OF-WAY

GENERAL NOTES

1. APPROXIMATE CLEARING AND GRUBBING LIMITS ARE SHOWN ON THE PLAN, ACTUAL CLEARING AND GRUBBING LIMITS WILL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. TREES WITHIN THE CLEARING AND GRUBBING LIMITS SHALL BE PROTECTED UNLESS SHOWN ON THE PLANS AS TO BE REMOVED. TREE REMOVAL IS COVERED UNDER THE BID ITEM CLEARING AND GRUBBING.
2. TREES AND THEIR ROOT STRUCTURES SHALL BE REMOVED IN A MANNER THAT IS NOT DESTRUCTIVE TO THE TREES THAT ARE TO REMAIN.
3. CATCH BASIN INLET PROTECTION IS SHOWN ON THE PLAN EXISTING STRUCTURES ONLY FOR CLARITY. THE CONTRACTOR SHALL PROVIDE CATCH BASIN INLET PROTECTION FOR ALL EXISTING AND PROPOSED STRUCTURES WITHIN THE PROJECT LIMITS AND 200' DOWNSTREAM.
4. EXISTING PAVEMENT MARKINGS AND SIGNS THAT CONFLICT WITH THE CHANNELIZATION AND SIGNING PLAN SHALL BE REMOVED.
5. ALL UTILITIES SHALL BE PROTECTED UNLESS OTHERWISE NOTED.
6. SEE CHANNELIZATION AND SIGNING PLAN FOR SIGN REMOVALS.
7. NOT USED
8. SEE PROJECT MANUAL, APPENDIX A, FOR FRANCHISE UTILITY REMOVALS AND RELOCATIONS PLANS.
9. NOT USED
10. SEE PROJECT MANUAL, APPENDIX A, FOR WATER PIPE ABANDONMENTS AND REMOVALS PLANS.
11. CEMENT CONC. CURB, GUTTER, AND SIDEWALK SHALL BE SAWCUT AT REMOVAL LIMITS NOTED DN THE PLAN OR REMOVED TO NEAREST EXPANSION JOINT.
12. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AT PROJECT COMPLETION OR AT THE DIRECTION OF THE ENGINEER.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR. #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

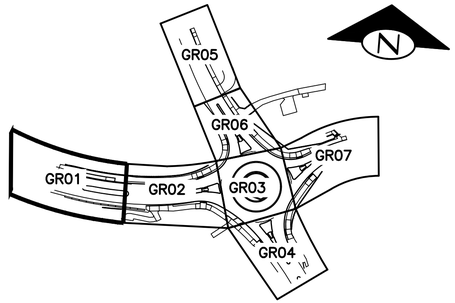
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

SITE PREPARATION AND EROSION CONTROL

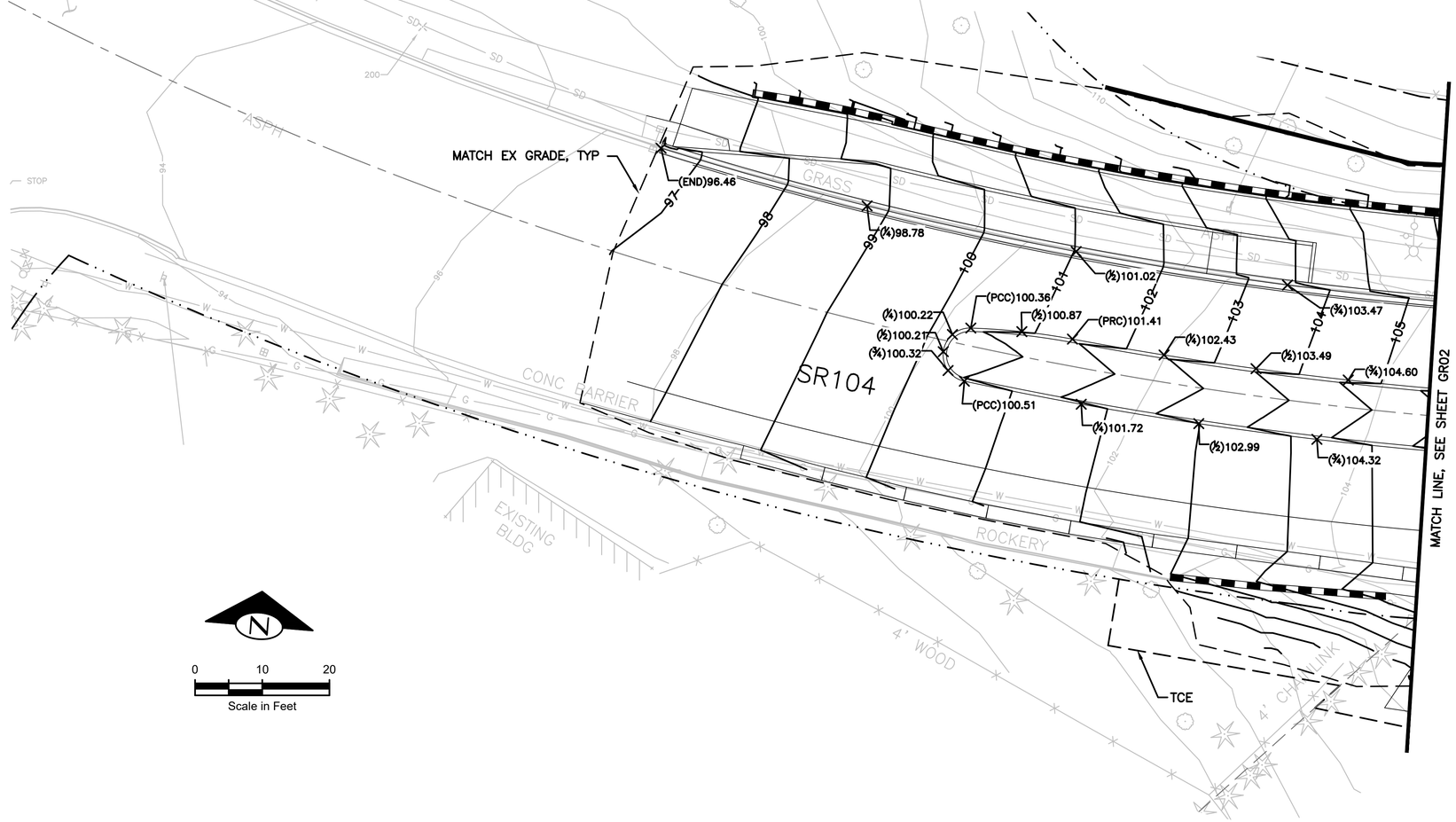
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SP05
SHEET	20
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/09/25 08:34:08am

SEC 10, TWP 26 N, RGE 4 E



KEY MAP
NOT TO SCALE



NOTE

1. SEE CURB RAMP DETAIL SHEETS FOR CURB RAMP GRADING.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR. #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

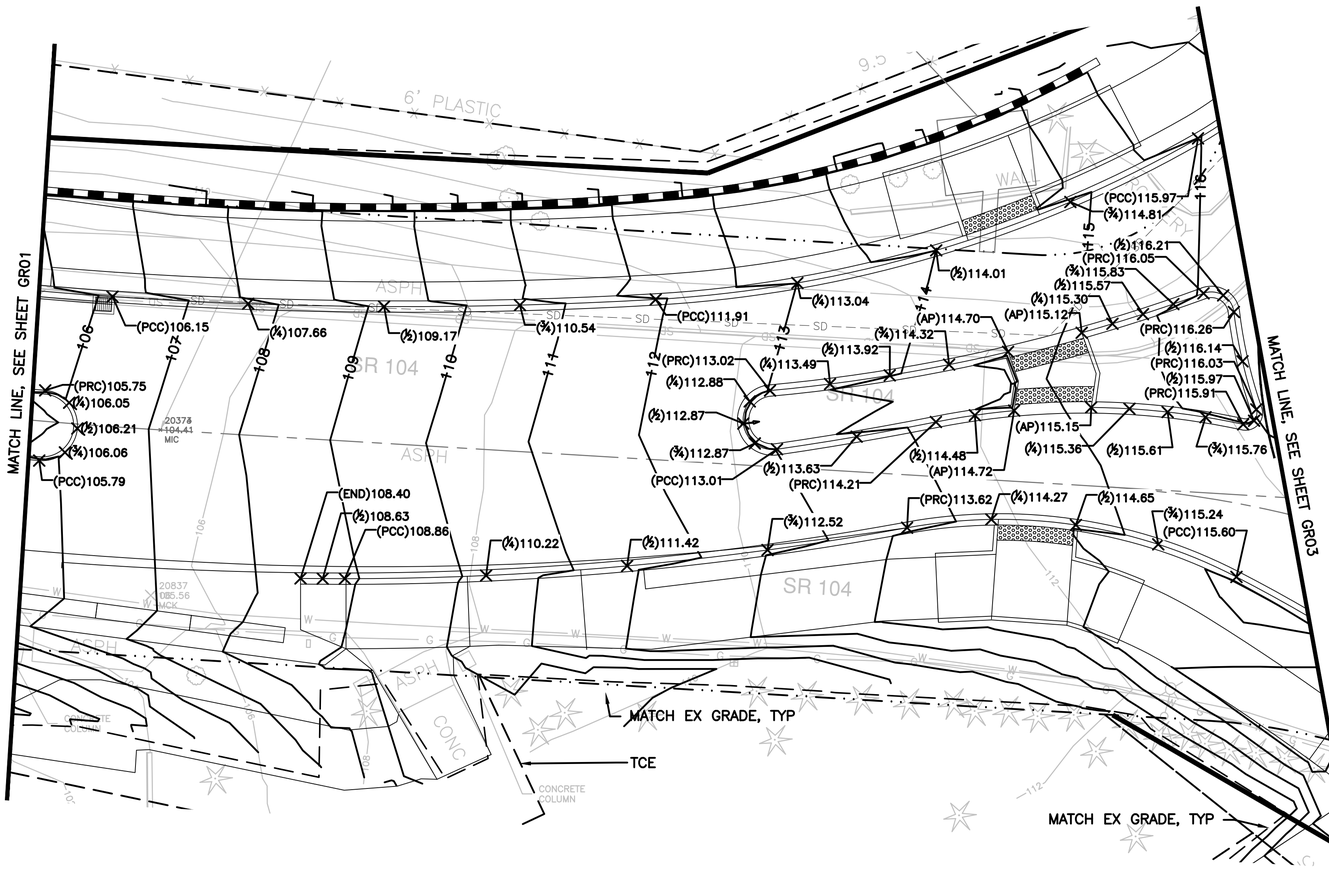
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

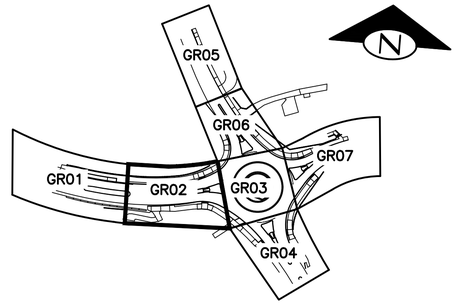
GRADING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GR01
SHEET	21
OF	89

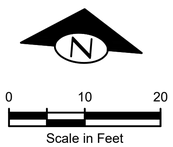
T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:48:14pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE



NOTE

1. SEE CURB RAMP DETAIL SHEETS FOR CURB RAMP GRADING.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

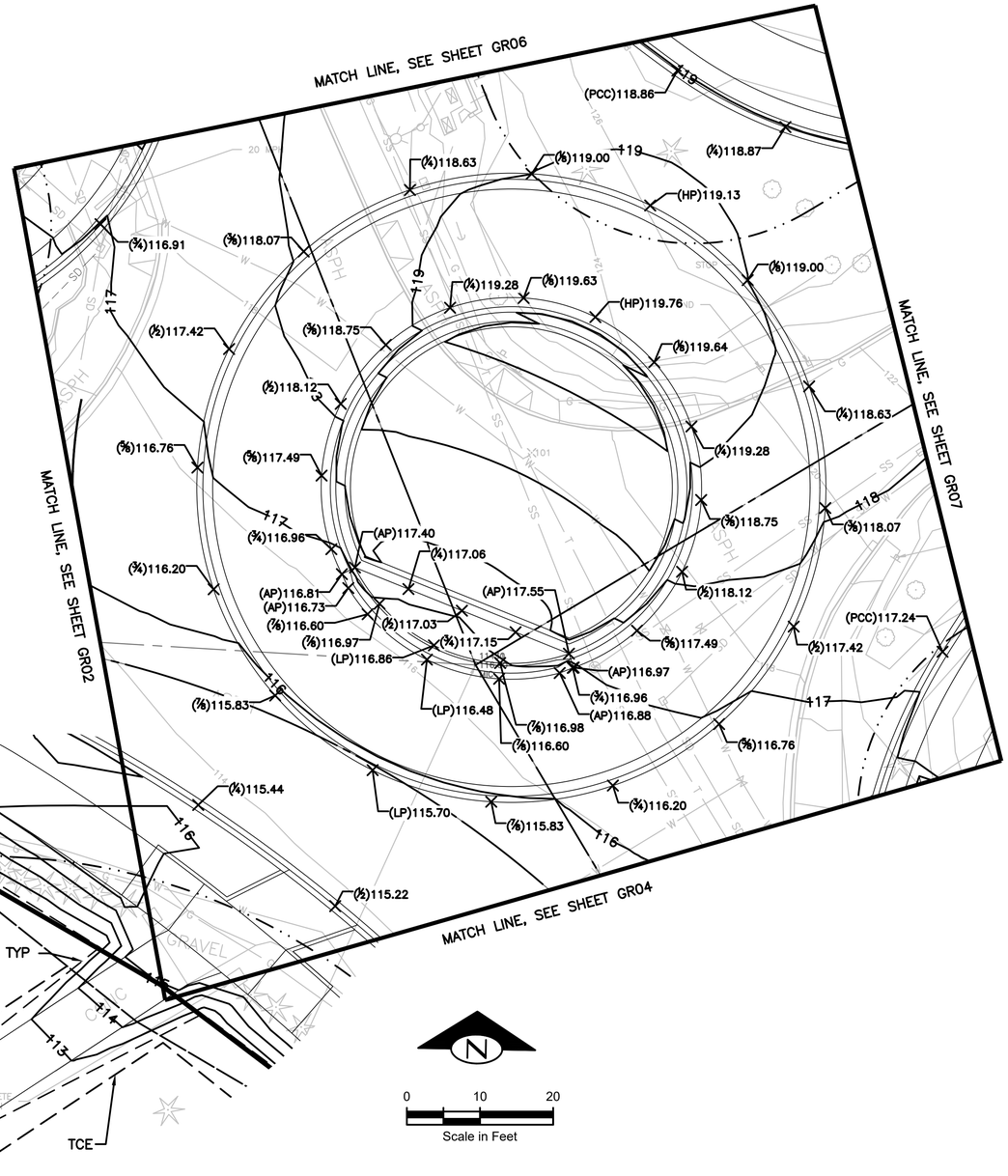
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

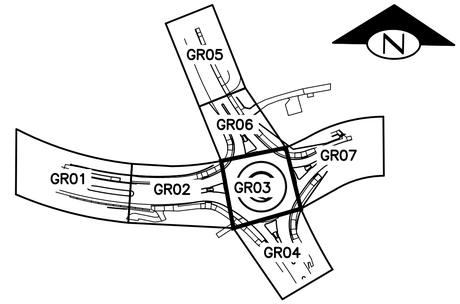
GRADING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GR02
SHEET	22
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:48:25pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

NOTE

1. SEE CURB RAMP DETAIL SHEETS FOR CURB RAMP GRADING.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

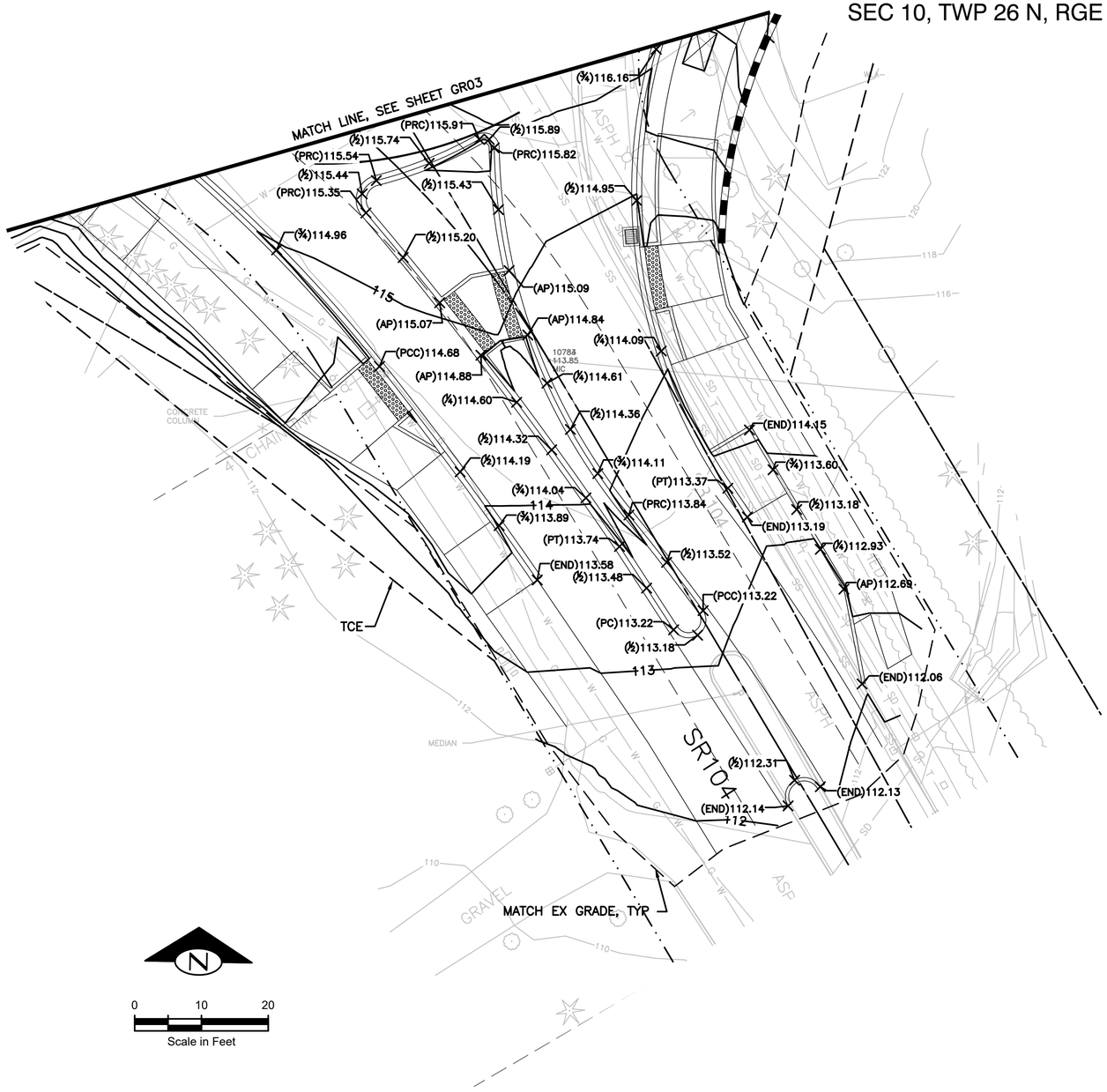
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

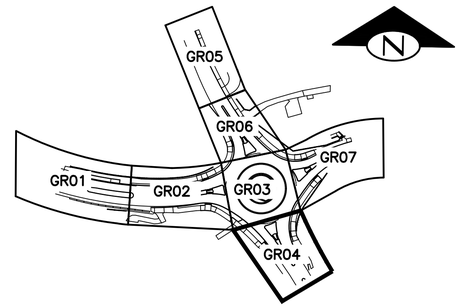
GRADING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GR03
SHEET	23
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:48:38pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

NOTE

1. SEE CURB RAMP DETAIL SHEETS FOR CURB RAMP GRADING.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED PROFESSIONAL ENGINEER
5/25/25

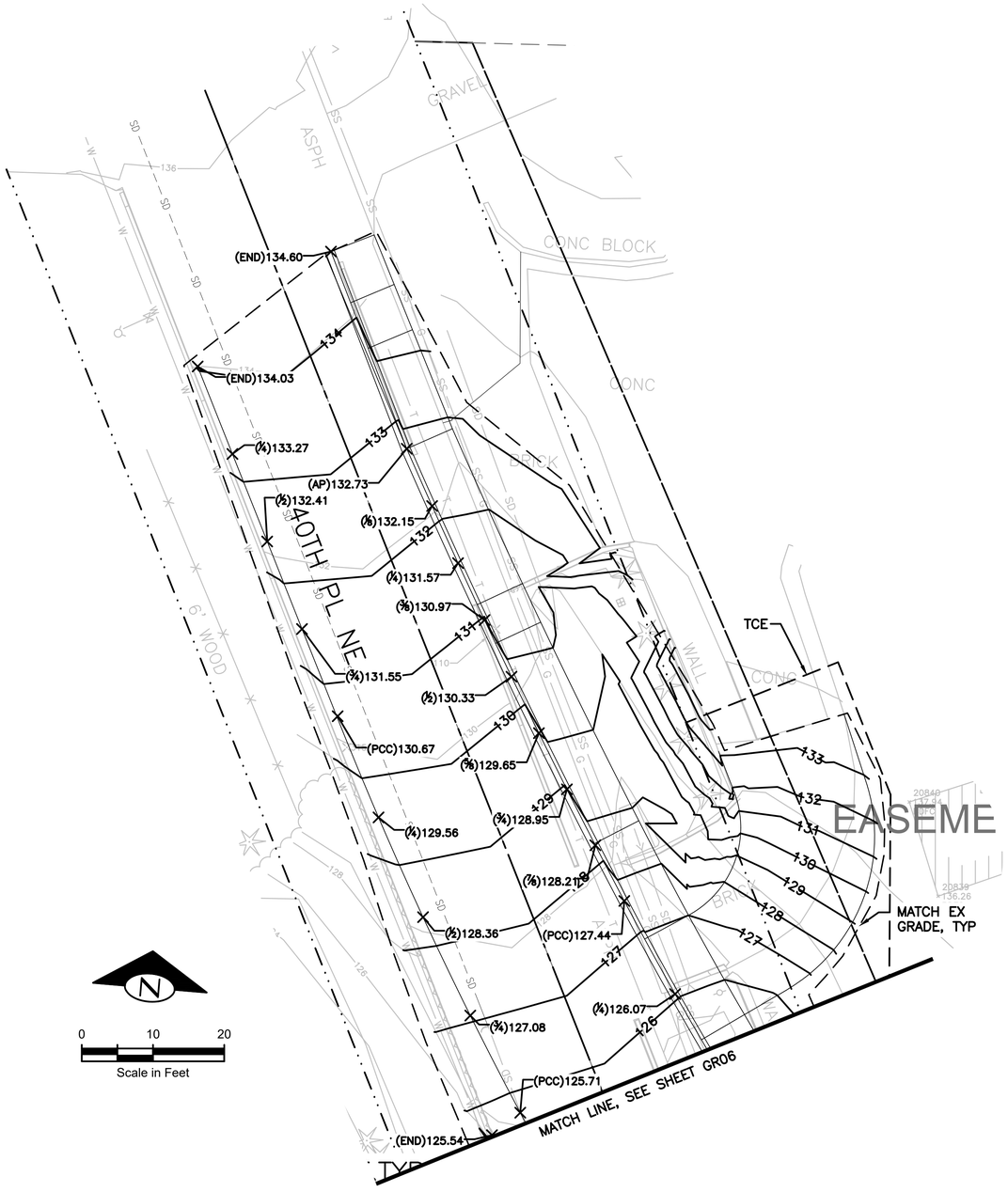
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

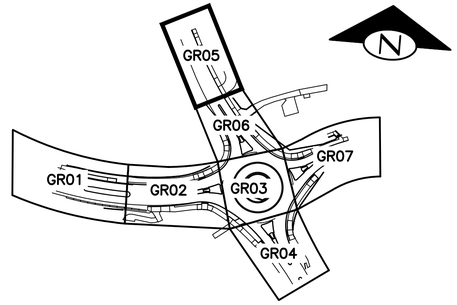
GRADING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GR04
SHEET	24
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:48:48pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

NOTE

1. SEE CURB RAMP DETAIL SHEETS FOR CURB RAMP GRADING.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

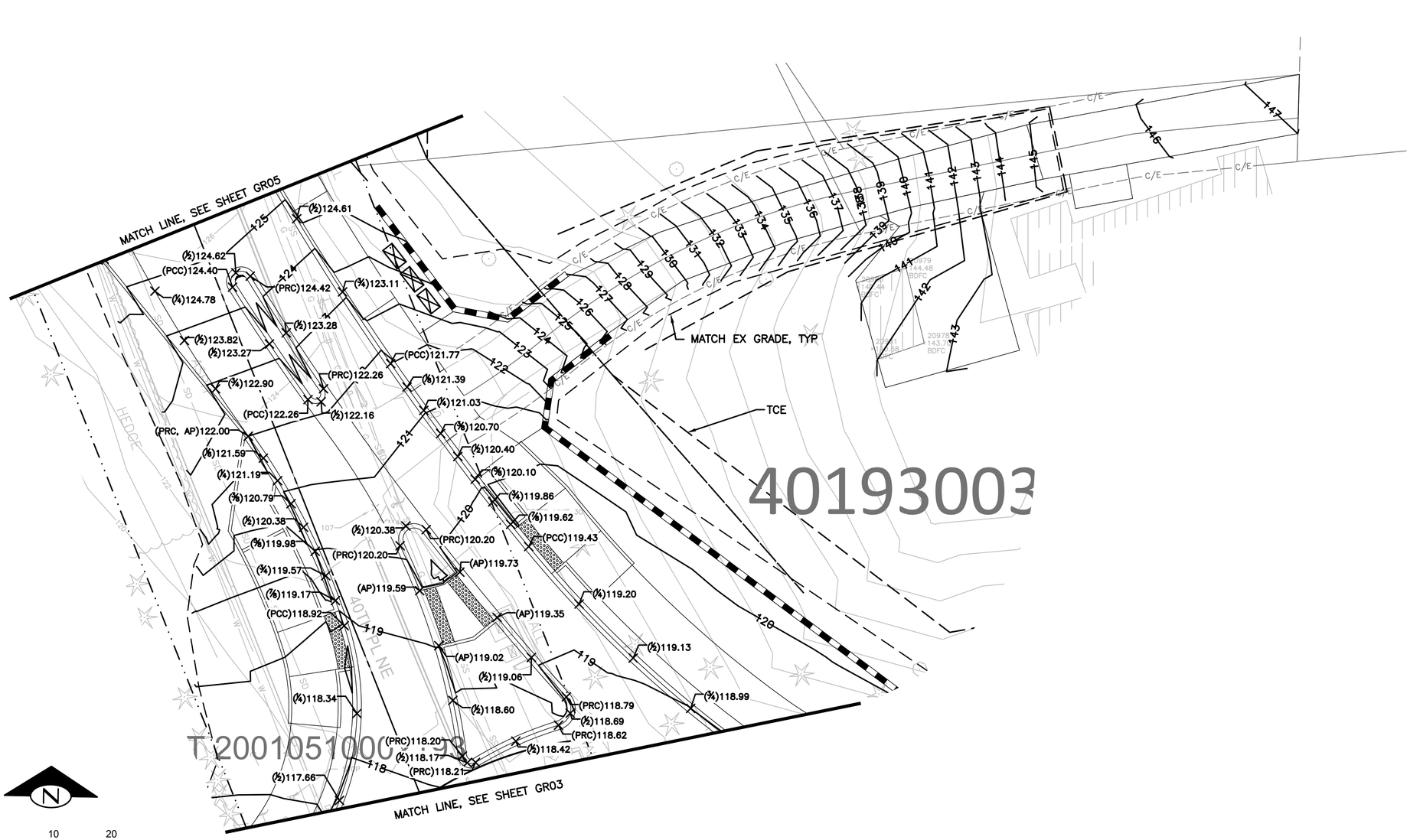
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

GRADING PLAN

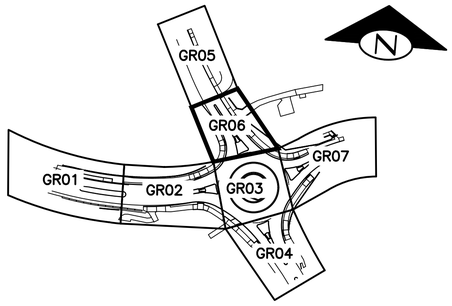
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GR05
SHEET	25
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:48:55pm

SEC 10, TWP 26 N, RGE 4 E



40193003
T 20010510001 93



KEY MAP
NOT TO SCALE

N

0 10 20
Scale in Feet

NOTE

1. SEE CURB RAMP DETAIL SHEETS FOR CURB RAMP GRADING.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's **below.** **Call** before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

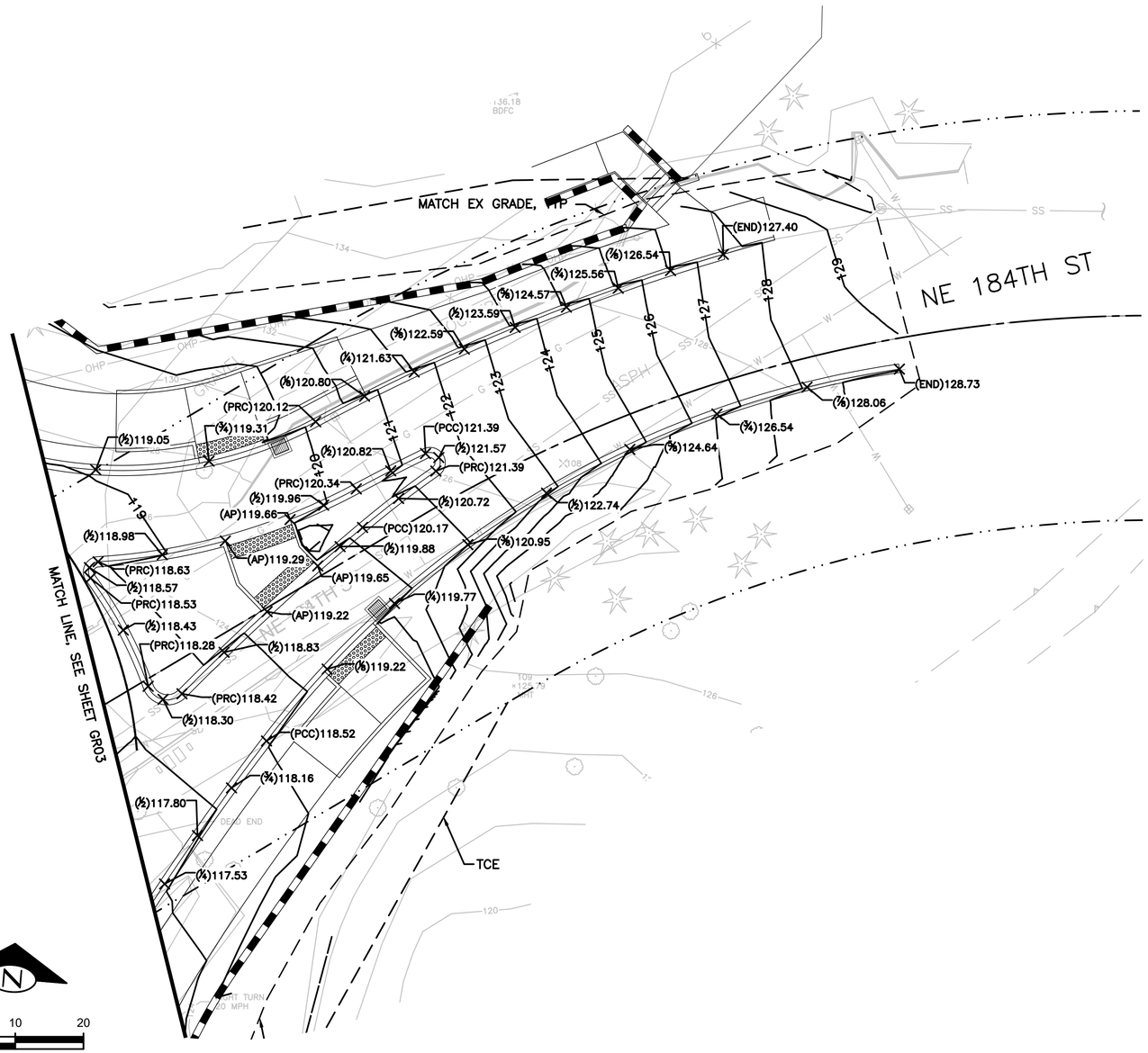
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

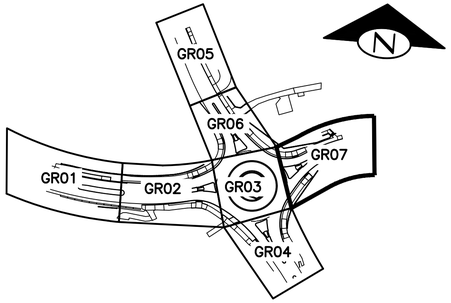
GRADING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GR06
SHEET	26
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:49:07pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

0 10 20
Scale in Feet

NOTE

1. SEE CURB RAMP DETAIL SHEETS FOR CURB RAMP GRADING.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

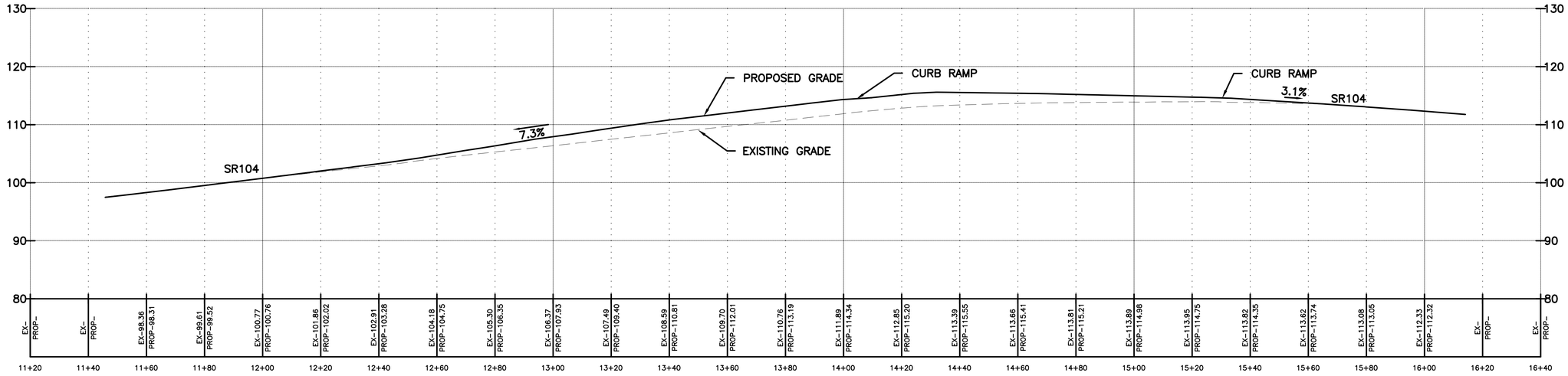
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

GRADING PLAN

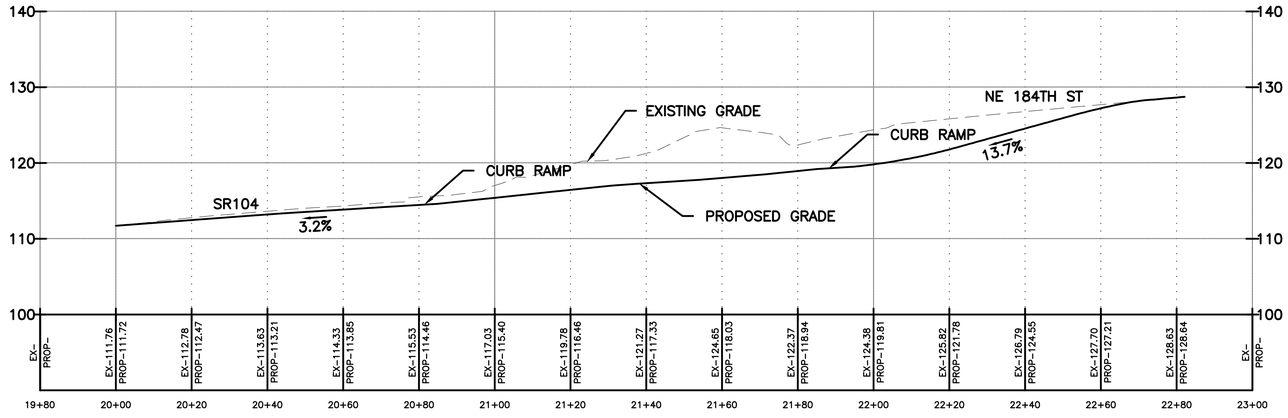
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GR07
SHEET	27
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:49:15pm

SEC 10, TWP 26 N, RGE 4 E



SOUTHWEST CURB RETURN



SOUTHEAST CURB RETURN

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 10 20

Scale in Feet

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's **below.** **Call** before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER

5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

CURB FLOWLINE PROFILES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GP01
SHEET	28
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:49:22pm

SEC 10, TWP 26 N, RGE 4 E

HORIZONTAL SCALE

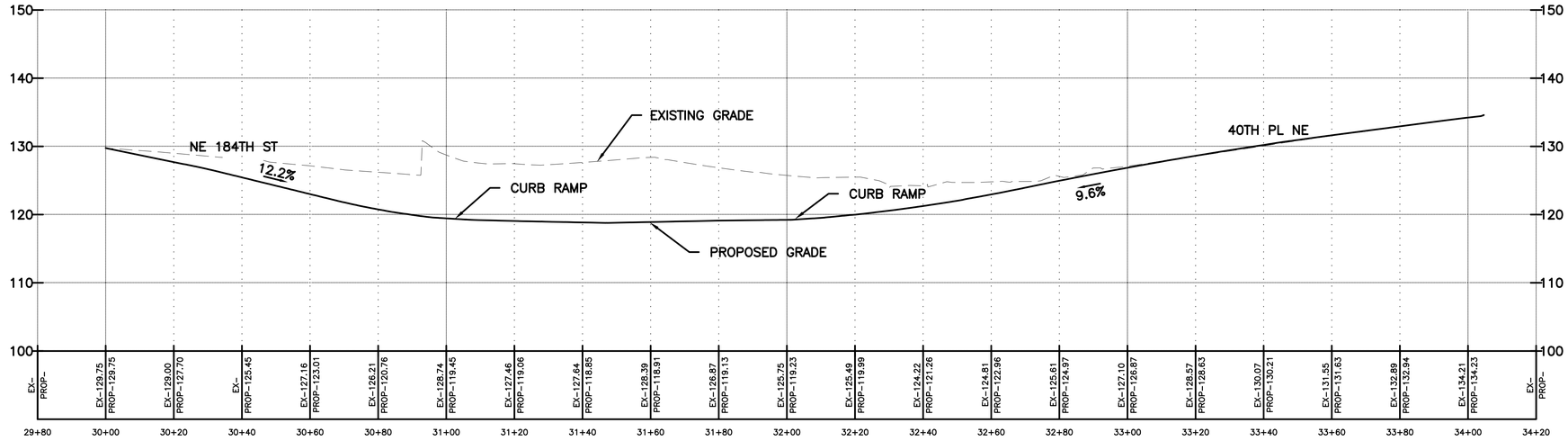
0 20 40

Scale in Feet

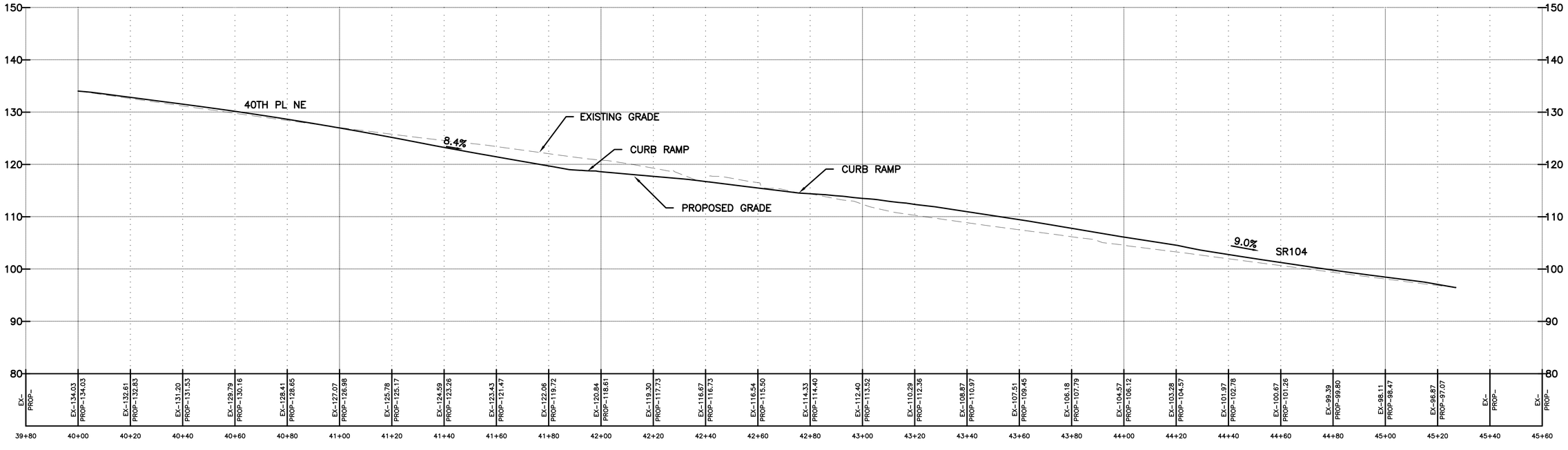
VERTICAL SCALE

0 10 20

Scale in Feet



NORTHEAST CURB RETURN



NORTHWEST CURB RETURN

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-5272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER

5/25/25

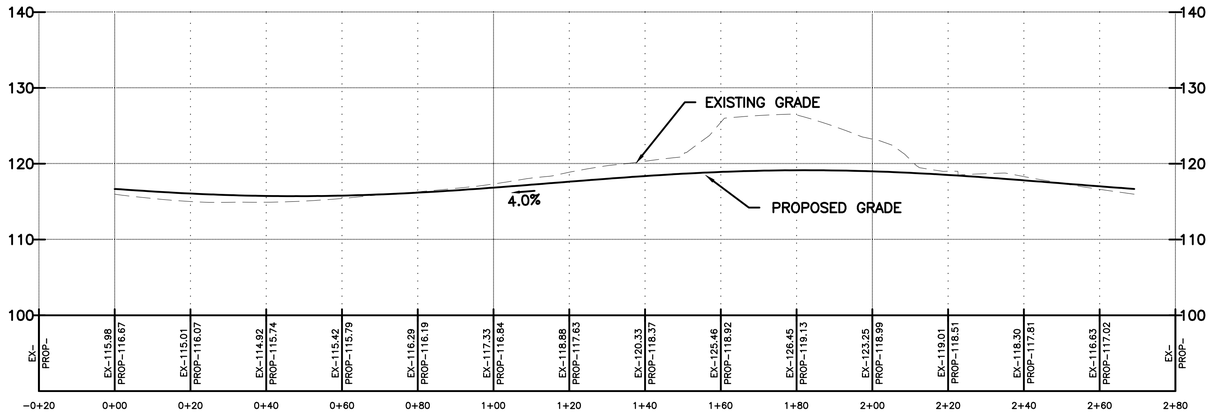
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

CURB FLOWLINE PROFILES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GP02
SHEET	29
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:49:29pm

SEC 10, TWP 26 N, RGE 4 E



CIRCULATORY ROADWAY PROFILE @ CENTER OF TRAVEL LANE

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 10 20

Scale in Feet

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's **below.** **Call** before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-3272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

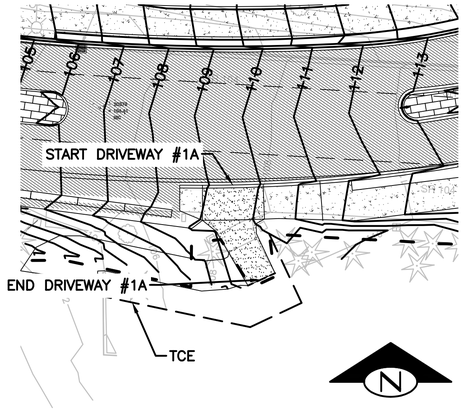
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

GRADING PROFILES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	GP03
SHEET	30
OF	89

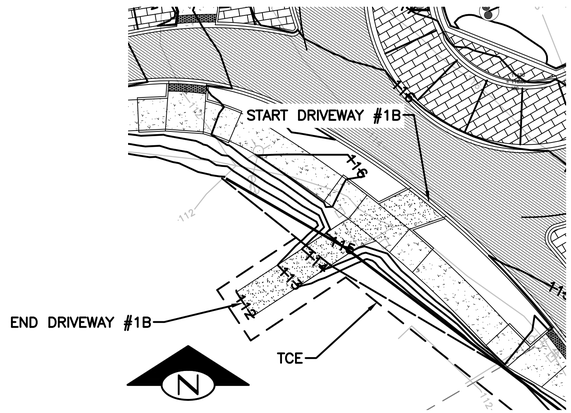
T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:49:38pm

SEC 10, TWP 26 N, RGE 4 E



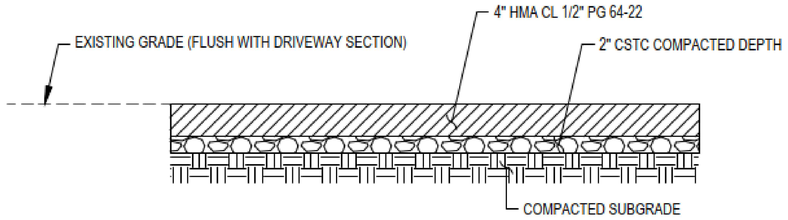
SR 104 DRIVEWAY #1A PLAN VIEW

HOR: 1"=20', VERT: 1"=20'



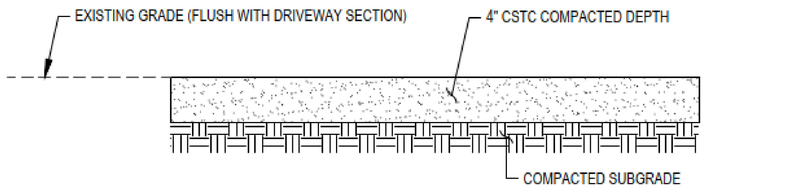
SR 104 DRIVEWAY #1B PLAN VIEW

HOR: 1"=20', VERT: 1"=20'



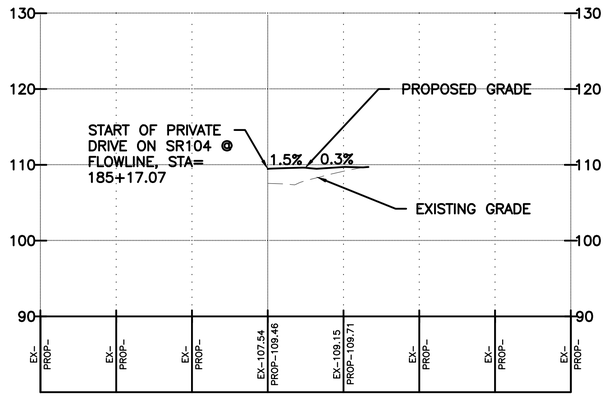
PAVED DRIVEWAY SECTION

NTS

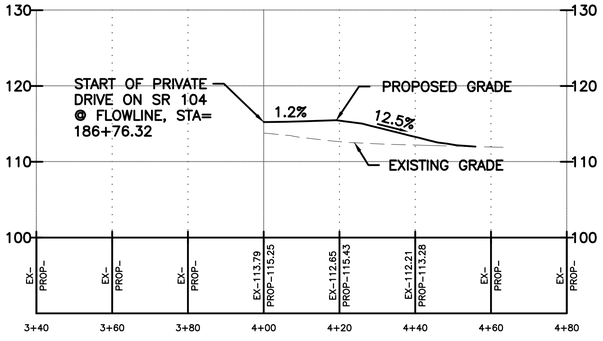


CRUSHED ROCK DRIVEWAY SECTION

NTS



SR 104 DRIVEWAY #1A PROFILE



SR 104 DRIVEWAY #1B PROFILE

CONCRETE DRIVEWAY SECTION

NTS

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 10 20

Scale in Feet

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 10 20

Scale in Feet

CONSTRUCTION NOTES

1. SEE PV SHEETS FOR DRIVEWAY MATERIALS LEGEND

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER

5/25/25

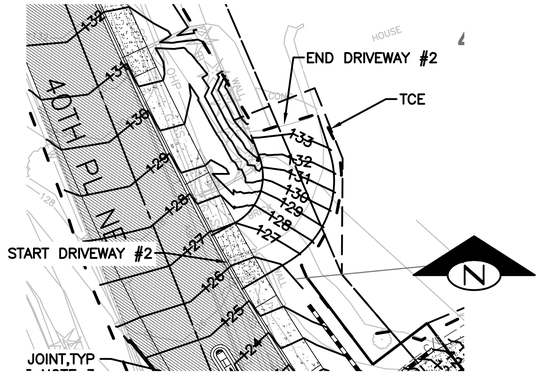
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRIVEWAY PROFILES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	DRP01
SHEET	31
OF	89

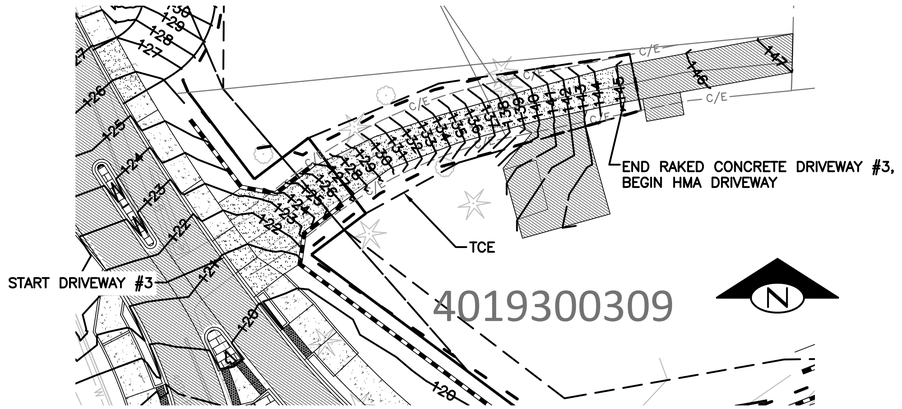
T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:49:48pm

SEC 10, TWP 26 N, RGE 4 E



40TH PL NE DRIVEWAY #2 PLAN VIEW

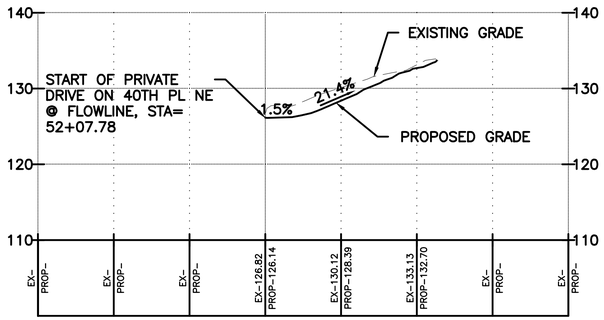
HOR: 1"=20', VERT: 1"=20'



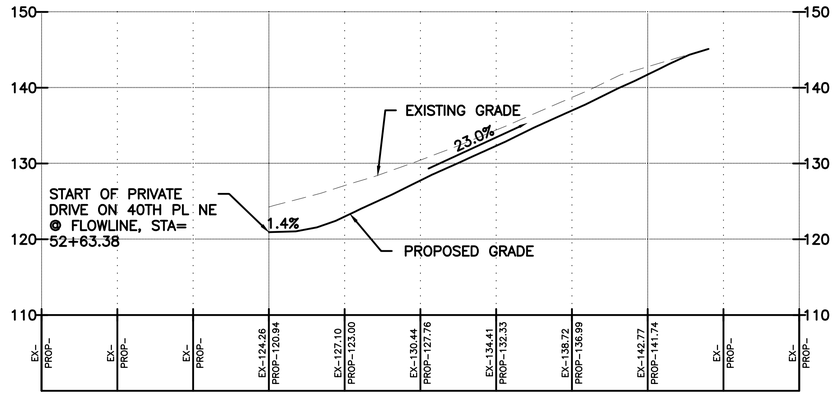
4019300309

40TH PL NE DRIVEWAY #3 PLAN VIEW

HOR: 1"=20', VERT: 1"=20'



40TH PL NE DRIVEWAY #2 PROFILE



40TH PL NE DRIVEWAY #3 PROFILE

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 10 20

Scale in Feet

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 10 20

Scale in Feet

CONSTRUCTION NOTES

1. CONSTRUCT DRIVEWAY #3 WITH A GRADE OF OVER 20% OUT OF CEMENT CONCRETE WITH A ROUGH RAKED FINISH AND IN A CHEVRON PATTERN WITH BOTTOM OF "V" UPGRADE. THE RAKE SHALL PRODUCE STRIATIONS APPROXIMATELY 1/8" TO 1/4" IN DEPTH. RANDOMLY SPACE THE STRIATIONS FROM 1/2" TO 1–1/4".
2. SEE PV SHEETS FOR DRIVEWAY MATERIALS LEGEND.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

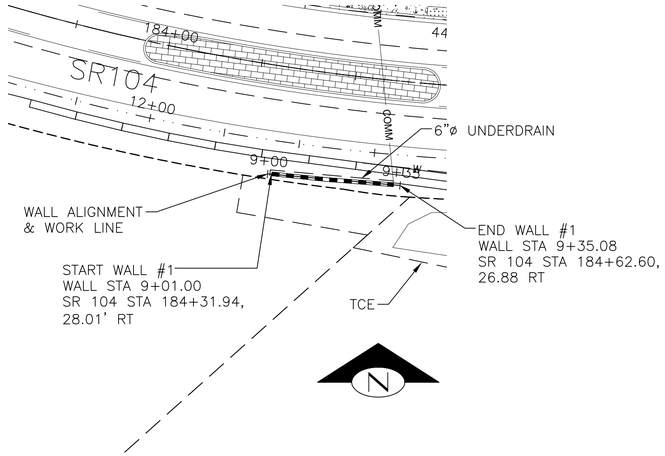
ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

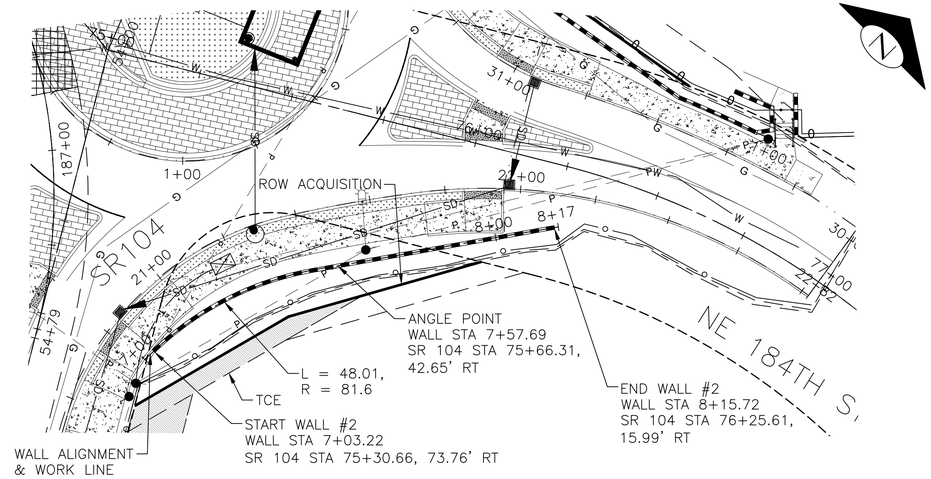
DRIVEWAY PROFILES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	DRP02
SHEET	32
OF	89

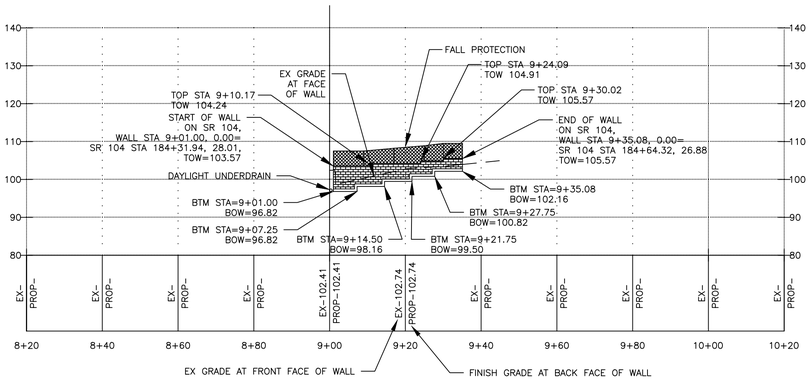
T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:49:58pm



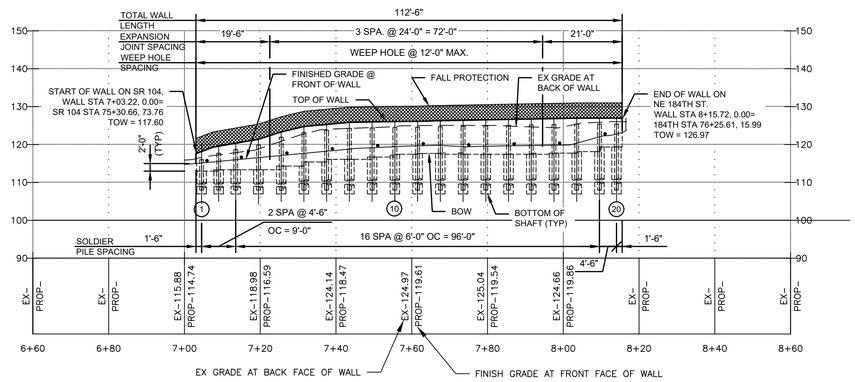
SR 104 WEST FILL WALL PLAN



SR 104/NE 184TH ST CUT WALL PLAN



SR 104 WEST FILL WALL PROFILE
REFLECTED WALL ELEVATION –
GRAVITY BLOCK WALL #1



SR 104/NE 184TH ST CUT WALL PROFILE
REFLECTED WALL ELEVATION –
SOLDIER PILE WALL #2

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 20 40

Scale in Feet

LEGEND

(1) PILE NUMBER

TOW = TOP OF WALL

BOW = BOTTOM OF WALL

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	CDS	6/25
Designed	PBSH	6/25
Reviewed	PDMO	6/25
Approved	PDMO	6/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

DAVID EVANS AND ASSOCIATES INC.
14432 SE Eastgate Way
Suite 400
Bellevue, WA 98007
425.519.6500

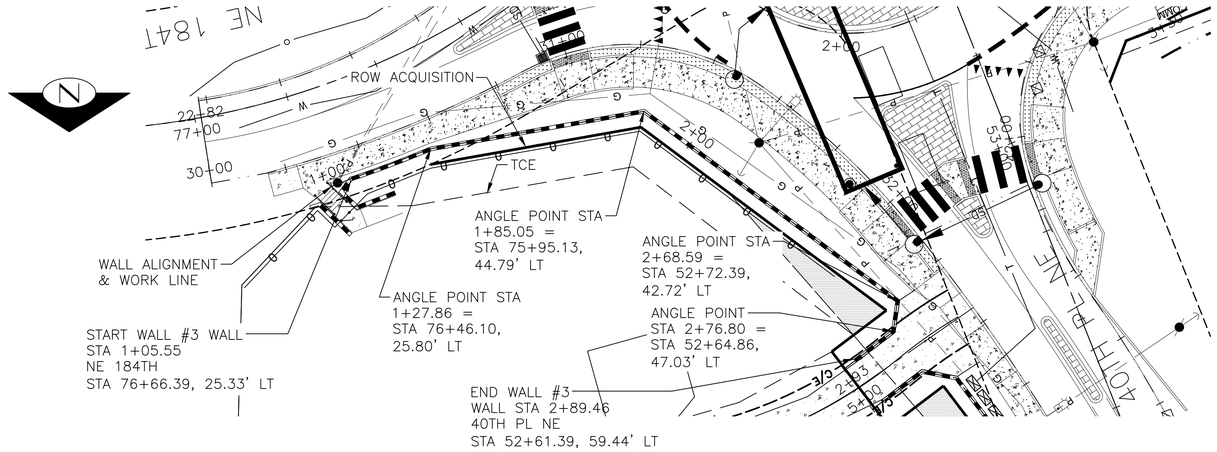
PATRICK DOUGLAS MONTEMURRO — STATE OF WASHINGTON — 49239 — REGISTERED PROFESSIONAL ENGINEER — 6/5/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

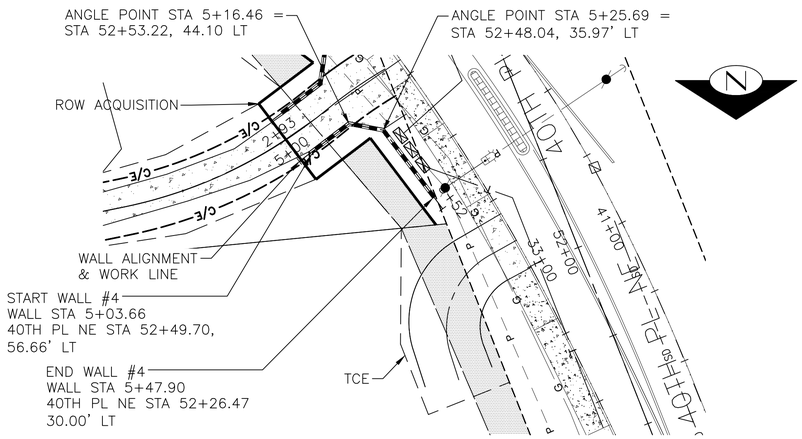
WALLS 1 AND 2 PLANS AND PROFILES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	WD-01
SHEET	33
OF	84

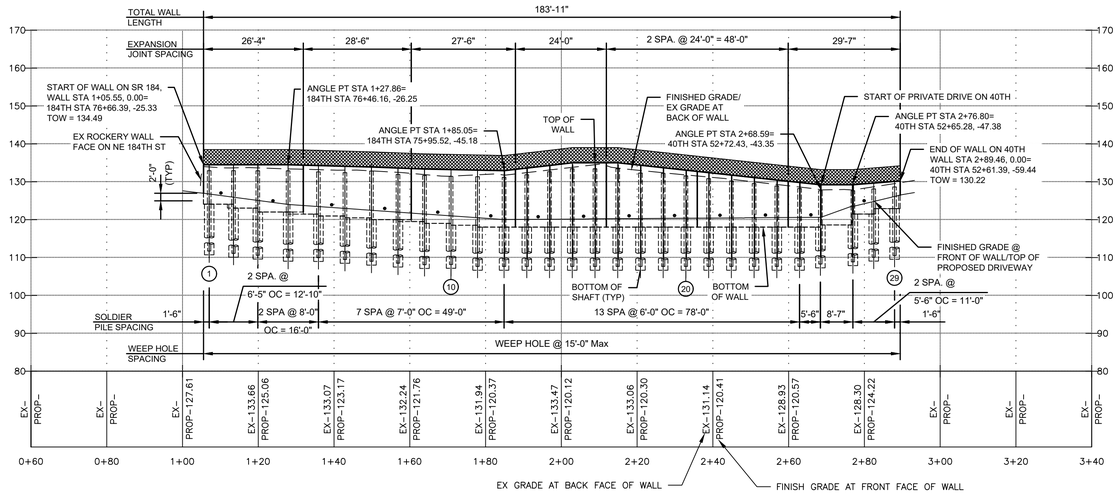
P:\1\TRS\0000000710400CAD\SHEETS\TRSI0007_WP01.dwg, 06/05/25 04:57:58pm



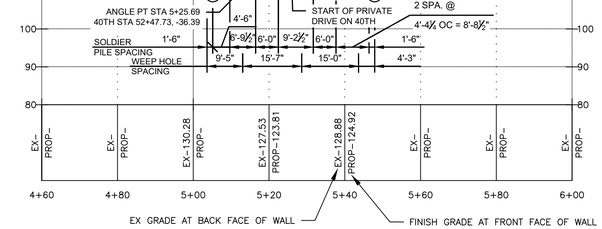
40TH PL NE/NE 184TH ST CUT WALL PLAN



40TH PL NE NORTH CUT WALL PLAN



40TH PL NE/NE 184TH ST CUT WALL PROFILE
REFLECTED WALL ELEVATION – SOLDIER PILE WALL #3



40TH PL NE NORTH CUT WALL PROFILE
REFLECTED WALL ELEVATION – SOLDIER PILE WALL #4

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 20 40

Scale in Feet

LEGEND

(1) PILE NUMBER

TOW = TOP OF WALL

BOW = BOTTOM OF WALL

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	CDS	6/25
Designed	PBSH	6/25
Reviewed	PDMO	6/25
Approved	PDMO	6/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

DAVID EVANS AND ASSOCIATES INC.
14432 SE Eastgate Way
Suite 400
Bellevue, WA 98007
425.519.6500

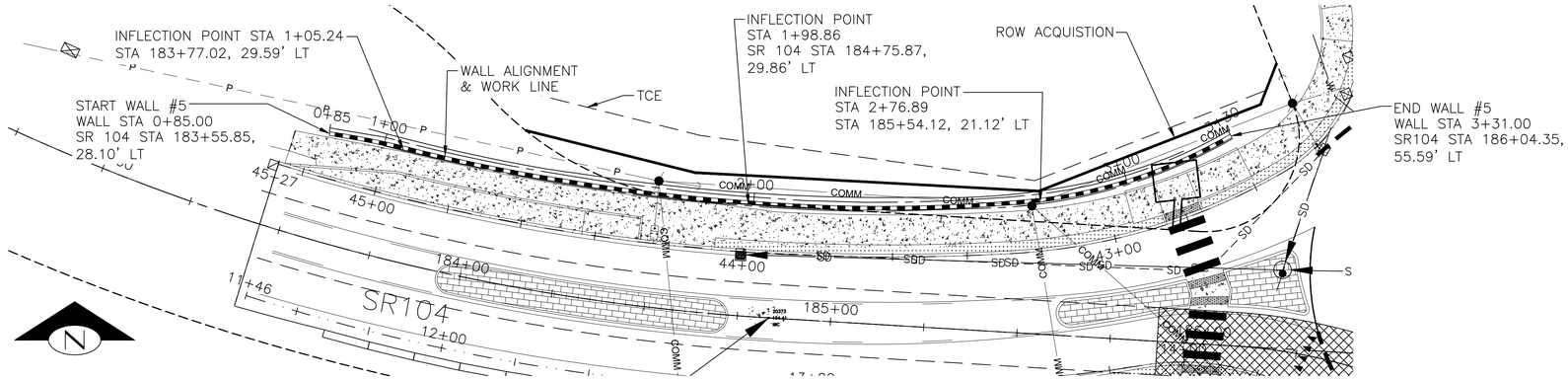
PATRICK DOUGLAS MONTGOMERY — STATE OF WASHINGTON — 19239 — REGISTERED PROFESSIONAL ENGINEER — 6/5/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

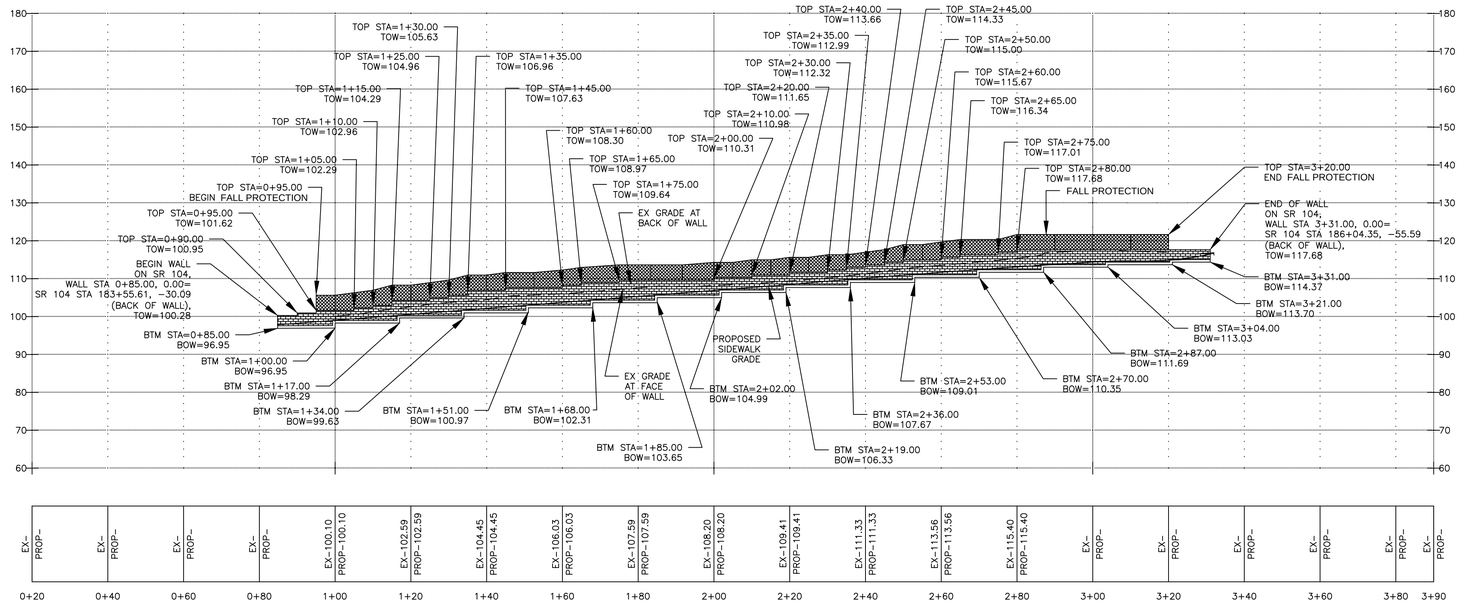
WALLS 3 AND 4 PLANS AND PROFILES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	WD-02
SHEET	34
OF	84

P:\TITRSI0000007\0400CAD\SHEETS\TRSI0007_WP01.dwg, 06/05/25 04:58:03pm



SR 104 NORTHWEST CUT WALL PLAN



SR 104 NORTHWEST CUT WALL PROFILE
REFLECTED WALL ELEVATION –
GRAVITY BLOCK WALL #5

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 20 40

Scale in Feet

LEGEND

(1) PILE NUMBER

TOW = TOP OF WALL

BOW = BOTTOM OF WALL

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	CDS	6/25
Designed	PBSH	6/25
Reviewed	PDMO	6/25
Approved	PDMO	6/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

DAVID EVANS AND ASSOCIATES INC.
14432 SE Eastgate Way
Suite 400
Bellevue, WA 98007
425.519.6500

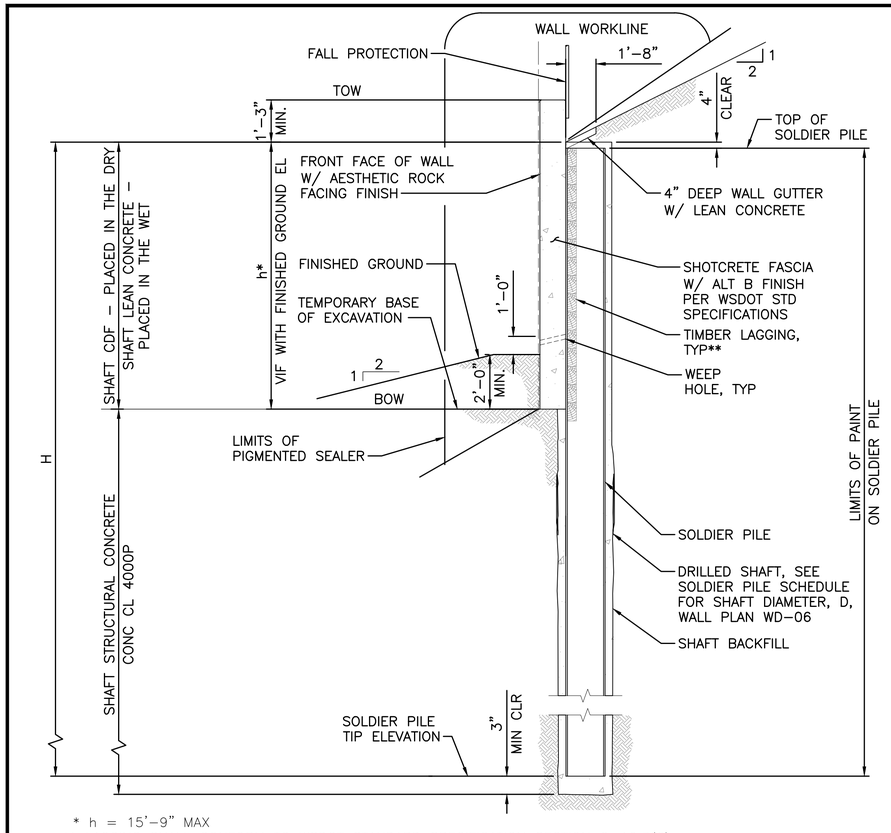
PATRICK DOUGLAS MONTEMURO
STATE OF WASHINGTON
49239
REGISTERED
PROFESSIONAL ENGINEER
6/5/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

WALL 5 PLAN AND PROFILE

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	WD-03
SHEET	35
OF	84

P:\TITRSI0000007\0400CAD\SHEET\STRSI0007_WP01.dwg, 06/05/25 04:58:06pm



* h = 15'–9" MAX

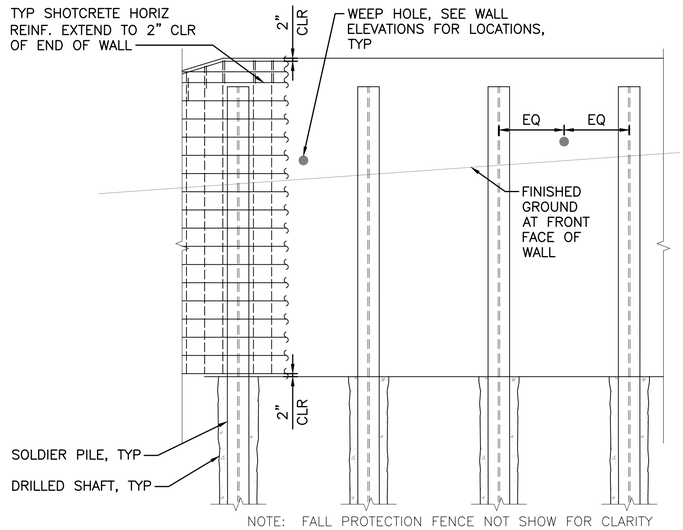
** LAGGING SHALL CONFORM TO WSDOT STANDARD SPECIFICATION SECTION 6–16.3(6)

TYPICAL SECTION

N.T.S.

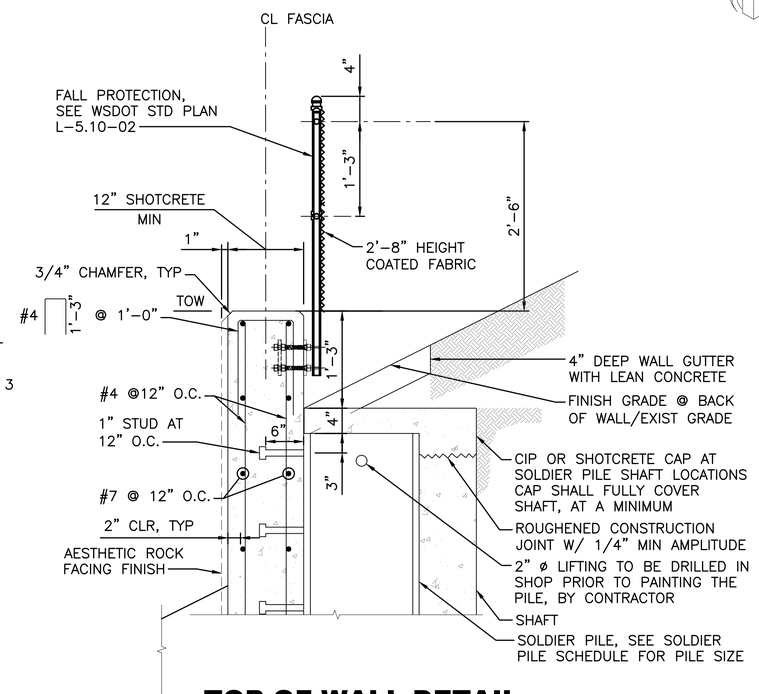
PLAN - SOILDIER PILE WALL

N.T.S.



ELEVATION - SOLDIER PILE WALL

N.T.S.

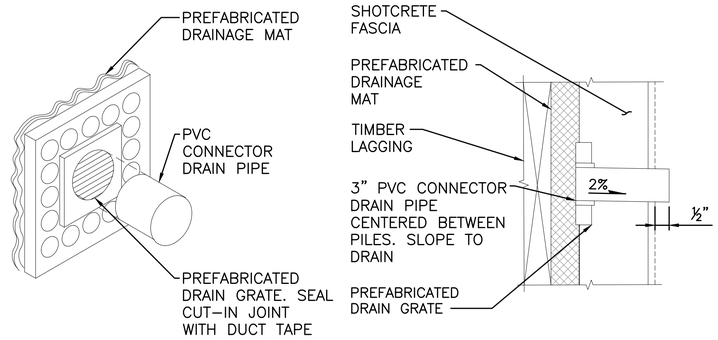


TOP OF WALL DETAIL

N.T.S.

GENERAL NOTES:

1. EXCAVATION IN FRONT OF WALL SHALL NOT EXTEND BELOW BOTTOM OF LAGGING OR FASCIA.
2. ALL WELDING SHALL BE PERFORMED TO MINIMIZE DISTORTION. WELDING SEQUENCE AND PROCEDURE USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WELDING.
3. SHAFTS SHALL BE BACKFILLED WITH STRUCTURAL CONCRETE WITH f'c = 4000 PSI AS SHOWN.
4. ANY OVERSPRAY OBSERVED AFTER COMPLETION OF THE WALL SHALL BE REMOVED BY THE CONTRACTOR AT ITS OWN EXPENSE.
5. SHOTCRETE FASCIA SHALL HAVE AN AESTHETIC ROCK FINISH, SEE THE SPECIAL PROVISION 6–16.2
6. NO LIVE LOAD SURCHARGE DURING CONSTRUCTION/TRAFFIC SURCHARGE SHALL BE PLACED ON BACKSIDE OF WALL.



WEEP HOLE DETAIL

N.T.S.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	CDS	6/25
Designed	PBSH	6/25
Reviewed	PDMO	6/25
Approved	PDMO	6/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

DAVID EVANS AND ASSOCIATES INC.
14432 SE Eastgate Way
Suite 400
Bellevue, WA 98007
425.519.6500

PATRICK DOUGLAS MONTEBELLO — STATE OF WASHINGTON — 49239 — REGISTERED PROFESSIONAL ENGINEER — 6/5/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

SOLDIER PILE WALL DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	WD-04
SHEET	36
OF	84

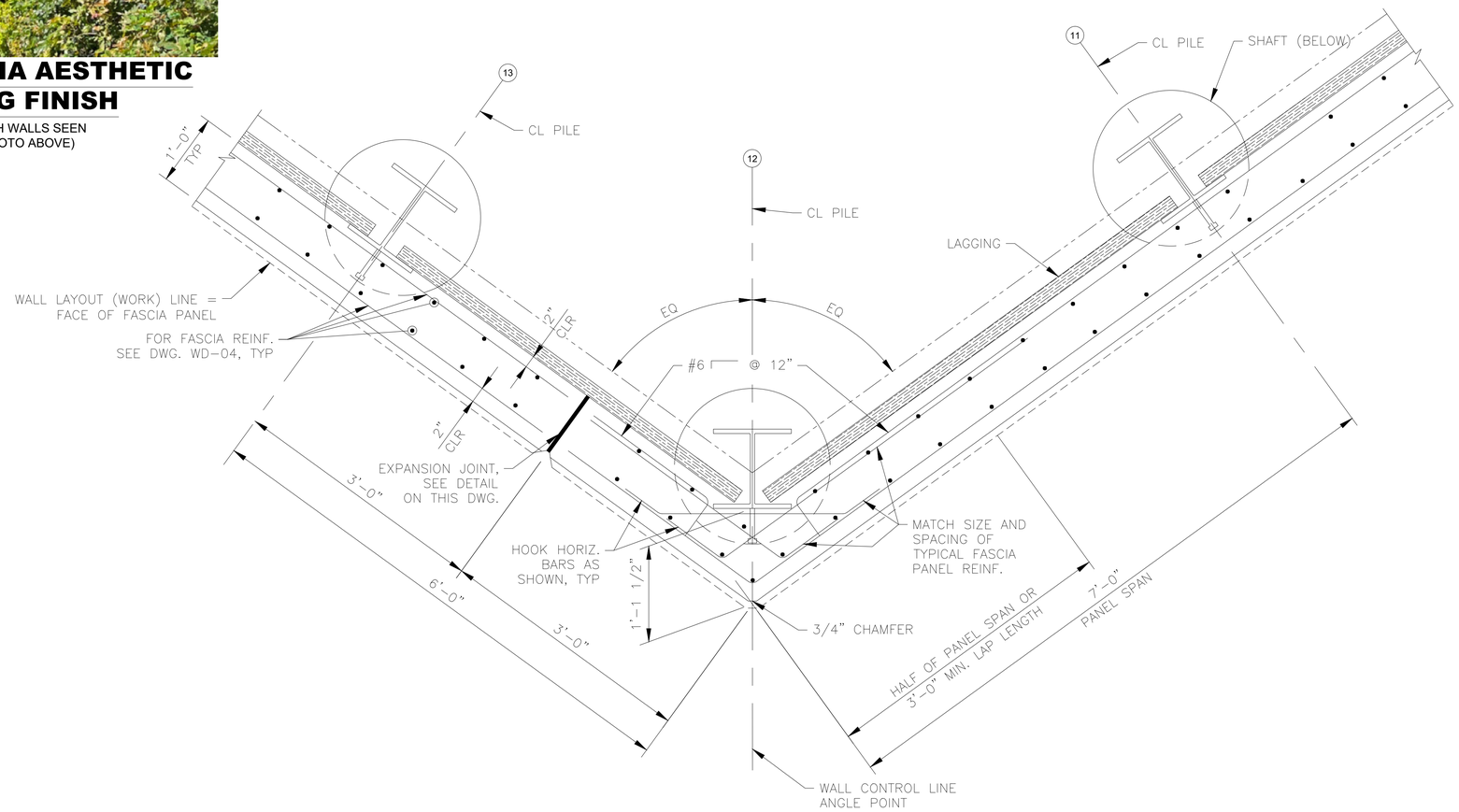
P:\TITRSI00000007\0400CAD\SHEET\STRSI0007_ST01.dwg, 06/05/25 04:58:17pm

SHOTCRETE FASCIA AESTHETIC ROCK FACING FINISH

(WALL AESTHETIC TO MATCH WALLS SEEN ON SR 522, SIMILAR TO PHOTO ABOVE)

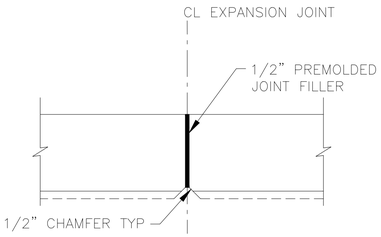
NOTES FOR CONCRETE FASCIA PANEL:

1. ALL CAST-IN-PLACE CONCRETE SHALL BE 4000 PSI, UNLESS OTHERWISE NOTED.
2. CONCRETE WALL PANEL FINISH SHALL BE AESTHETIC ROCK FACING FINISH WITH SHOTCRETE FASCIA IN ACCORDANCE WITH SPECIAL PROVISIONS.



TYPICAL WALL DETAIL AT ANGLE POINT

SCALE: 1"=10'
WALL #3, ANGLE POINT AT STA 1+85.05 SHOWN, OTHERS SIMILAR



EXPANSION JOINT DETAIL

SCALE: 1"=10'

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	CDS	6/25
Designed	PBSH	6/25
Reviewed	PDMO	6/25
Approved	PDMO	6/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

DAVID EVANS AND ASSOCIATES INC.
14432 SE Eastgate Way
Suite 400
Bellevue, WA 98007
425.519.6500

PATRICK DOUGLAS MONTGOMERY — STATE OF WASHINGTON — 49239 — REGISTERED PROFESSIONAL ENGINEER — 6/5/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

SOLDIER PILE WALL DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	WD-05
SHEET	37
OF	84

P:\1TVTRSI0000000710400CAD\SHEETS\1TRSI0007_ST02.dwg, 06/05/25 04:58:28pm

WALL NO.	PILE STATION	SOLDIER PILE SIZE	SHAFT DIAMETER	TOW EL.	TOP OF PILE EL.	BOT. OF LAGGING		FINISHED GRADE @ BACK OF WALL EL.	ESTIMATED PILE TIP EL.	TOTAL PILE LENGTH
						BACKWARD	FORWARD			
SOLDIER PILE WALL #2	7+04.72	HP12X53	2'-6"	118.15	116.56	112.98	112.98	116.90	100.78	15.78
	7+09.22	HP12X53	2'-6"	119.56	117.98	112.98	113.35	118.31	101.15	16.83
	7+13.72	HP12X53	2'-6"	120.38	118.79	113.35	113.35	119.13	101.15	17.64
	7+19.72	HP12X53	2'-6"	121.40	119.81	113.35	113.35	121.38	101.15	18.66
	7+25.72	HP12X53	2'-6"	123.31	121.73	113.35	114.31	122.06	102.11	19.62
	7+31.72	HP12X53	2'-6"	124.75	123.17	114.31	115.40	123.50	102.11	21.06
	7+37.72	HP12X53	2'-6"	125.29	123.71	115.40	116.10	124.04	103.20	20.51
	7+43.72	HP12X53	2'-6"	125.85	124.27	116.10	116.10	124.60	103.90	20.37
	7+49.72	HP12X53	2'-6"	125.96	124.38	116.10	116.71	124.71	104.51	19.87
	7+55.72	HP12X53	2'-6"	126.06	124.48	116.71	117.44	124.81	104.51	19.97
	7+61.72	HP12X53	2'-6"	126.13	124.54	117.44	117.65	124.88	105.45	19.10
	7+67.72	HP12X53	2'-6"	126.29	124.71	117.65	117.79	125.04	105.59	19.12
	7+73.72	HP12X53	2'-6"	126.40	124.81	117.79	117.79	125.15	105.59	19.22
	7+79.72	HP12X53	2'-6"	126.50	124.92	117.79	117.44	125.25	105.24	19.68
	7+85.72	HP12X53	2'-6"	126.63	125.04	117.44	117.44	125.38	105.24	19.80
	7+91.72	HP12X53	2'-6"	126.75	125.17	117.44	117.44	125.50	105.24	19.93
	7+97.72	HP12X53	2'-6"	126.81	125.23	117.44	117.73	125.56	105.53	19.70
	8+03.72	HP12X53	2'-6"	126.96	125.38	117.73	117.73	125.71	105.53	19.85
	8+09.72	HP12X53	2'-6"	126.98	125.40	117.73	119.35	125.73	107.15	18.24
	8+14.22	HP12X53	2'-6"	126.94	125.35	119.35	119.35	125.69	107.15	18.20

WALL NO.	PILE NO.	PILE STATION	SOLDIER PILE SIZE	SHAFT DIAMETER	TOW EL.	TOP OF PILE EL.	BOT. OF LAGGING		FINISHED GRADE @ BACK OF WALL EL.	ESTIMATED PILE TIP EL.	TOTAL PILE LENGTH
							BACKWARD	FORWARD			
SOLDIER PILE WALL #3	1	1+07.05	HP16x121	2'-6"	134.49	132.91	124.10	124.10	133.24	106.25	26.65
	2	1+13.46	HP16x121	2'-6"	134.49	132.91	124.10	123.04	133.24	105.19	27.72
	3	1+19.88	HP16x121	2'-6"	134.49	132.91	123.04	122.00	133.24	104.00	28.91
	4	1+27.88	HP16x121	2'-6"	134.49	132.91	122.00	121.46	133.24	103.46	29.45
	5	1+35.88	HP16x121	2'-6"	134.27	132.69	121.46	120.94	133.02	102.94	29.75
	6	1+42.88	HP16x121	2'-6"	134.08	132.50	120.94	120.48	132.83	102.63	29.87
	7	1+49.88	HP16x121	2'-6"	133.92	132.33	120.48	120.00	132.67	102.15	30.18
	8	1+56.88	HP18x181	2'-6"	133.63	132.04	120.00	119.50	132.38	100.40	31.64
	9	1+63.88	HP18x181	2'-6"	133.35	131.77	119.50	119.02	132.10	99.92	31.85
	10	1+70.88	HP18x181	2'-6"	133.23	131.65	119.02	118.54	131.98	99.44	32.20
	11	1+77.88	HP18x181	2'-6"	133.06	131.48	118.54	118.02	131.81	98.92	32.56
	12	1+84.88	HP18x181	2'-6"	132.94	131.35	118.02	118.02	131.69	98.92	32.43
	13	1+90.88	HP18x181	2'-6"	133.65	132.06	118.02	118.02	132.40	97.52	34.54
	14	1+96.88	HP18x181	2'-6"	134.31	132.73	118.02	118.02	133.06	97.52	35.21
	15	2+02.88	HP18x181	2'-6"	135.00	133.42	118.02	118.02	133.75	97.52	35.90
	16	2+08.88	HP18x181	2'-6"	135.00	133.42	118.02	118.02	133.75	97.52	35.90
	17	2+14.88	HP18x181	2'-6"	135.00	133.42	118.02	118.02	133.75	97.52	35.90
	18	2+20.88	HP18x181	2'-6"	134.35	132.77	118.02	118.02	133.10	97.52	35.25
	19	2+26.88	HP18x181	2'-6"	133.69	132.10	118.02	118.02	132.44	97.52	34.58
	20	2+32.88	HP18x181	2'-6"	133.04	131.46	118.02	118.02	131.79	97.52	33.94
	21	2+38.88	HP16x121	2'-6"	132.40	130.81	118.02	118.02	131.15	99.92	30.89
	22	2+44.88	HP16x121	2'-6"	131.75	130.17	118.02	118.02	130.50	99.92	30.25
	23	2+50.88	HP16x121	2'-6"	131.08	129.50	118.02	118.02	129.83	99.92	29.58
	24	2+56.88	HP16x121	2'-6"	130.46	128.88	118.02	118.02	129.21	99.92	28.95
	25	2+62.88	HP16x121	2'-6"	129.79	128.21	118.02	118.02	128.54	99.92	28.29
	26	2+68.38	HP16x121	2'-6"	129.21	127.63	118.02	118.60	127.96	100.50	27.12
	27	2+76.96	HP16x121	2'-6"	129.21	127.63	118.60	121.48	127.96	103.63	24.00
	28	2+82.46	HP16x121	2'-6"	129.67	128.08	121.48	122.92	128.42	105.07	23.02
	29	2+87.96	HP16x121	2'-6"	130.10	128.52	122.92	122.92	128.85	104.82	23.70

WALL NO.	PILE NO.	PILE STATION	SOLDIER PILE SIZE	SHAFT DIAMETER	TOW EL.	TOP OF PILE EL.	BOT. OF LAGGING PANEL/		FINISHED GRADE @ BACK OF WALL EL.	ESTIMATED PILE TIP EL.	TOTAL PILE LENGTH
							BACKWARD	FORWARD			
SOLDIER PILE WALL #4	1	5+05.16	HP10X42	2'-6"	130.00	128.42	123.60	123.60	128.75	112.98	15.43
	2	5+09.66	HP10X42	2'-6"	129.94	128.35	123.60	121.48	128.69	110.86	17.50
	3	5+16.45	HP10X42	2'-6"	129.85	128.27	121.48	121.48	128.60	110.86	17.41
	4	5+22.45	HP10X42	2'-6"	129.77	128.19	121.48	121.48	128.52	110.86	17.33
	5	5+31.66	HP10X42	2'-6"	129.69	128.10	121.48	121.48	128.44	110.86	17.25
	6	5+37.66	HP10X42	2'-6"	129.60	128.02	121.48	122.67	128.35	112.05	15.97
	7	5+42.01	HP10X42	2'-6"	129.56	127.98	122.67	123.27	128.31	112.65	15.33
	8	5+46.36	HP10X42	2'-6"	129.50	127.92	123.27	123.27	128.25	112.65	15.27

P:\1\TRS\00000007\10400CAD\SHEETS\TRSI0007_ST03.dwg, 06/05/25 04:58:30pm

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	CDS	6/25
Designed	PBSH	6/25
Reviewed	PDMO	6/25
Approved	PDMO	6/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

DAVID EVANS AND ASSOCIATES INC.
14432 SE Eastgate Way
Suite 400
Bellevue, WA 98007
425.519.6500

PATRICK DOUGLAS MONTGOMERY — STATE OF WASHINGTON — 49239 — REGISTERED PROFESSIONAL ENGINEER — 6/5/25

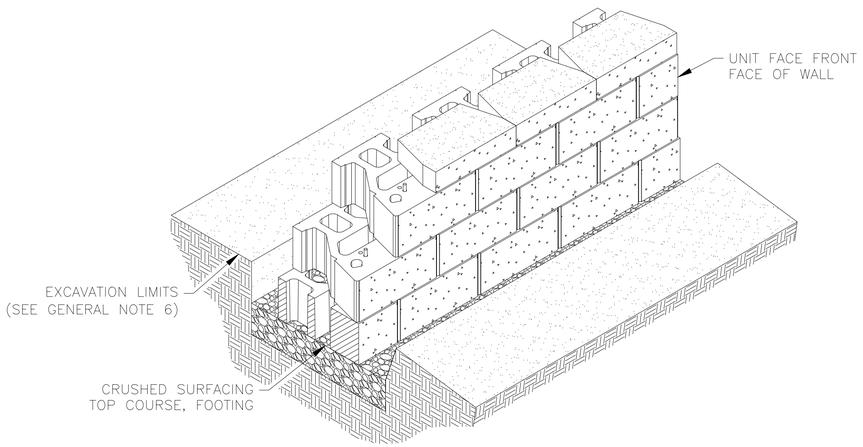
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

SOLDIER PILE WALL PILE SCHEDULES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	WD-06
SHEET	38
OF	84

BASE LEVELING PAD NOTES:

1. THE LEVELING PAD IS TO BE CONSTRUCTED OF CSTC.
2. THE BASE FOUNDATION IS TO BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE LEVELING PAD.
3. MINIMUM RADIUS FOR CURVED WALLS = WALL HEIGHT x 2.



STANDARD UNIT/BASE PAD ISOMETRIC SECTION VIEW

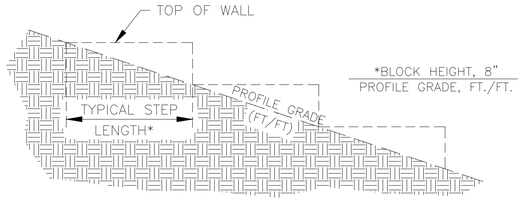
NTS

GENERAL NOTES

1. WALLS SHALL BE CONSTRUCTED PER WALL MANUFACTURER'S SPECIFICATIONS.
2. MAXIMUM EXPOSED WALL HEIGHTS SHOWN ON PROFILES.
3. ALL CAP BLOCKS SHALL HAVE A SOLID TOP SURFACE.
4. THE TOP ROW OF GRAVITY BLOCK WALLS SHALL BE INTERLOCKED WITH FULL SIDES ADJACENT TO ONE ANOTHER TO THE MAXIMUM EXTENT PRACTICAL.
5. PAYMENT FOR WALLS INCLUDES ALL COMPONENTS IN THE DETAILS ON WD-07. LABOR AND MATERIAL COSTS FOR GEOGRID, REBAR, SLEEVES OVER UTILITIES AND OTHER COMPONENTS ARE CONSIDERED INCIDENTAL TO THE COST OF THE WALL, UNLESS NOTED OTHERWISE.
6. EXCAVATION FOR ALL WALLS IS PAID FOR AS "STRUCTURAL EXCAVATION CLASS A". EXCAVATION LIMITS ARE TO THE BACK OF GRAVEL BACKFILL FOR WALLS AS SHOWN IN THIS SHEET.
7. FALL PROTECTION SHALL BE REQUIRED FOR THE WALL HEIGHTS GREATER THAN 2'-6".
8. WALL UNDERDRAIN AND GEOTEXTILE FABRIC IS NOT REQUIRED FOR WALLS WITH EXPOSED HEIGHT LESS THAN 2'-6".
9. ALL WALLS WITH HEIGHT, MEASURED FROM BOTTOM OF BASE BLOCK(S), OF 4' OR GREATER REQUIRE TYPE 3E SHOP DRAWINGS SUBMITTED BY THE CONTRACTOR.

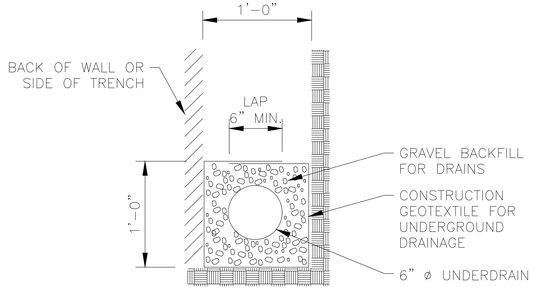
CONSTRUCTION NOTES:

1. CSTC, CRUSHED SURFACING TOP COURSE(COMPACTED DEPTH)
2. GRAVEL BORROW
3. PREPARE SOIL PER LANDSCAPE AND RESTORATION DETAILS
4. GRAVEL BACKFILL FOR WALLS



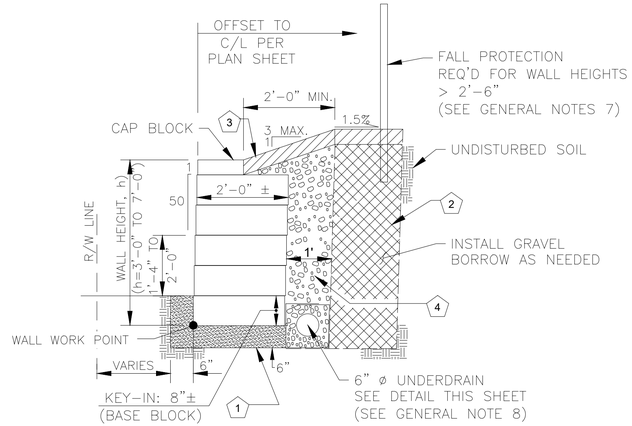
WALL STEPS - FILL CONDITION

NTS



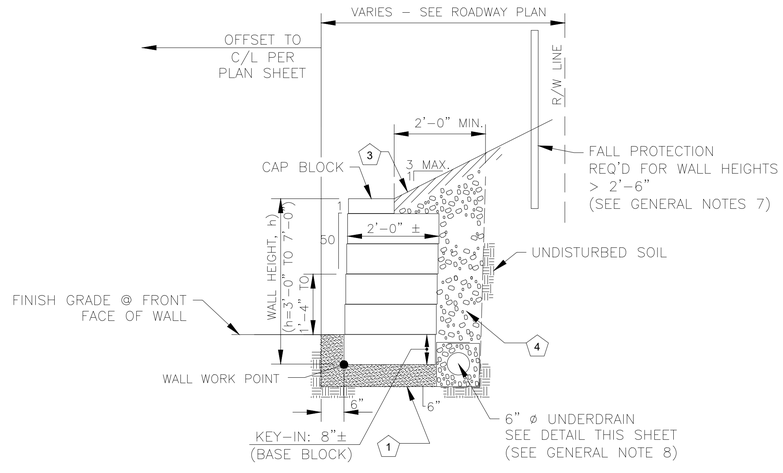
UNDERDRAIN DETAIL

NTS



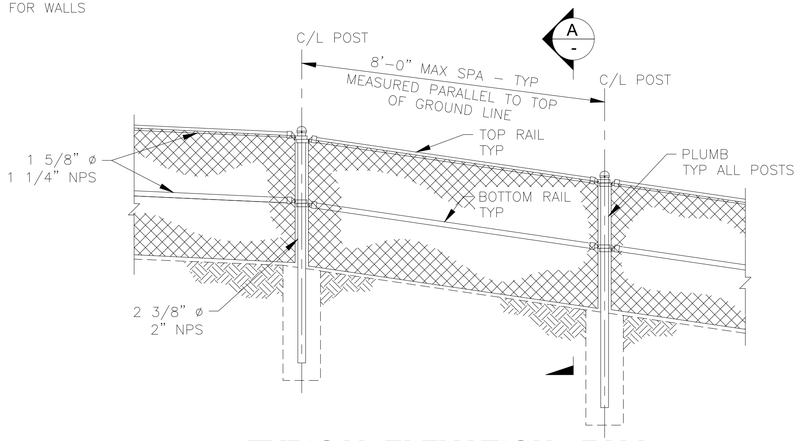
CONCRETE MODULAR RETAINING WALL - FILL CONDITION

(NEAR VERTICAL)
NTS



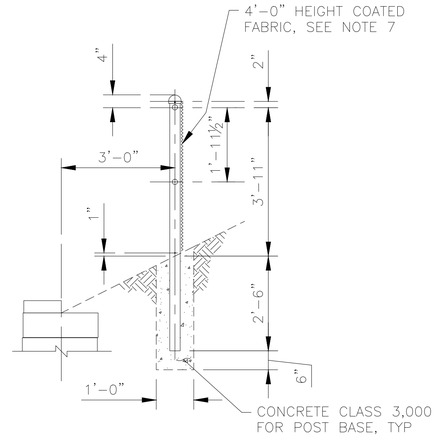
CONCRETE MODULAR RETAINING WALL - CUT CONDITION

(NEAR VERTICAL)
NTS



TYPICAL ELEVATION - FALL PROTECTION FENCE AT BLOCK WALL

SCALE: 1/2" = 1'-0"
INSTALLED IN GROUND BEHIND BLOCK WALL



SECTION A

SCALE: 1/2" = 1'-0"

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	CDS	6/25
Designed	PBSH	6/25
Reviewed	PDMO	6/25
Approved	PDMO	6/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

DAVID EVANS AND ASSOCIATES INC.
14432 SE Eastgate Way
Suite 400
Bellevue, WA 98007
425.519.6500

PATRICK DOUGLAS MONTEBELLO — STATE OF WASHINGTON — 49239 — REGISTERED PROFESSIONAL ENGINEER — 6/5/25

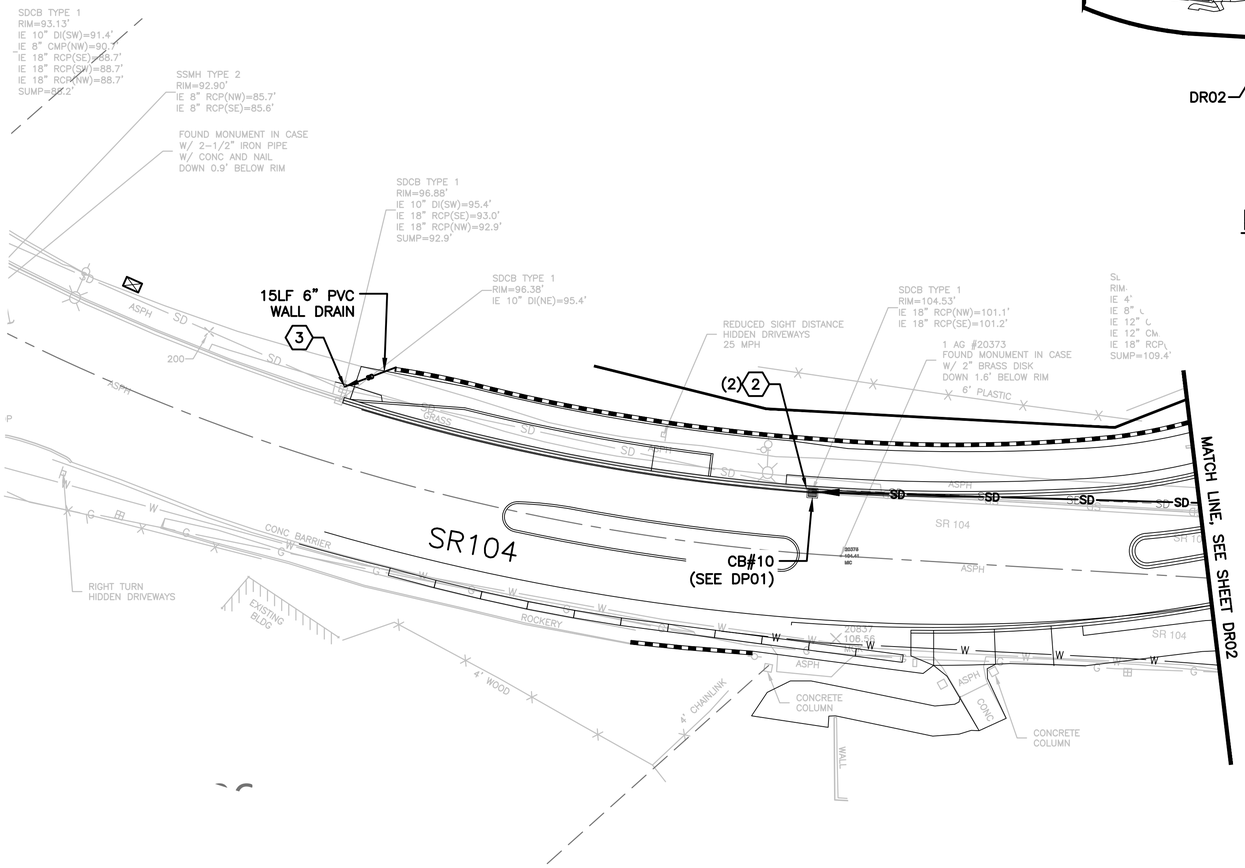
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

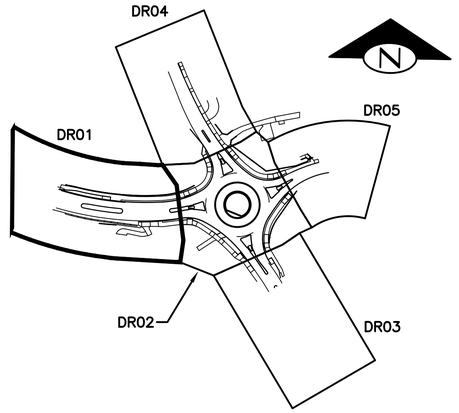
MODULAR BLOCK WALL DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	WD-07
SHEET	39
OF	84

P:\1TRSI0000007\0400CAD\SHEET\STRSI0007_ST04.dwg, 06/05/25 04:58:38pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. CONNECT TO EXISTING PIPE.
3. CONNECT TO EXISTING DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. NOT USED
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx82'Lx7.79'H), SEE VAULT DETAILS ON SHEET SD01.
8. TYPE 2 72" CONTROL STRUCTURE, SEE DETAILS ON SHEET SD02.
9. BAYFILTER STORMWATER TREATMENT MANHOLE, SEE DETAIL ON SHEET SD
10. OIL/WATER SEPARATOR (OWS) VAULT, SEE DETAIL ON SHEET SD03.
11. BIOPOD BIOFILTER VAULT, SEE DETAIL ON SHEET SD04.
12. NOT USED.

LEGEND

SD SD — PROPOSED STORM DRAIN

PROPOSED CATCH BASIN TYPE 1

PROPOSED CATCH BASIN TYPE 2

PROPOSED CATCH BASIN TYPE 2 W/SM94 FRAME & GRATE (SEE SHEET SD04)

(X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE DIMENSIONAL LOCATION OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED. SEE SHEET DWG DP01 & DP02 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.
5. THE LOCATION SPECIFIED IS SHOWN TO THE CENTER OF STORM DRAINAGE STRUCTURE. INSTALL FRAME AND GRATE TO PROPOSED FLOWLINE FOR STORM DRAINAGE STRUCTURES WITHIN THE ROADWAY. REFER TO WSDOT STANDARD PLAN F-10.16-00. CATCH BASIN COVER SHALL BE ADA COMPLIANT IF LOCATED IN SIDEWALK OR CURB RAMP.
6. TYPE 2 CATCH BASINS USING SM94 FRAME AND GRATE TO USE CIRCULAR ADJUSTMENT RISERS.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT — STATE OF WASHINGTON — 36704 — REGISTERED PROFESSIONAL ENGINEER
5/25/25

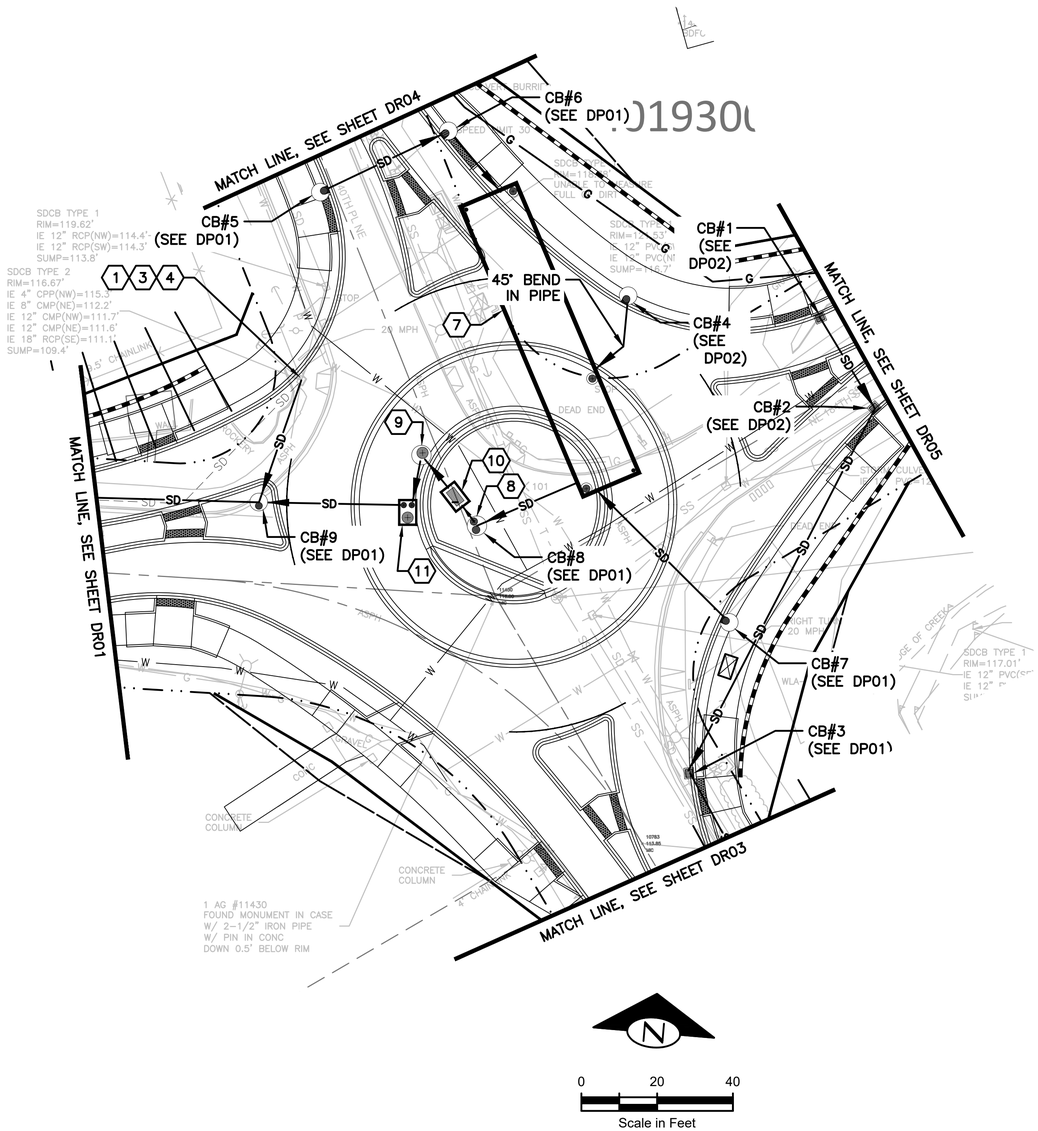
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

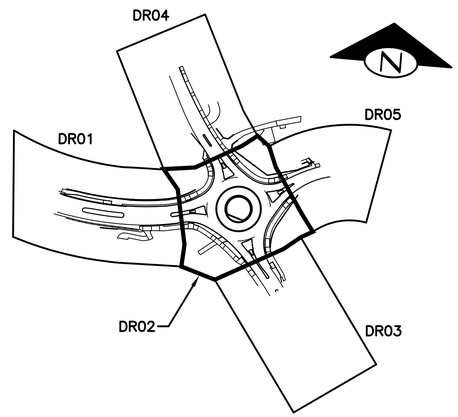
DRAINAGE PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. DR01
SHEET 40 OF 89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/09/25 08:36:33am

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. CONNECT TO EXISTING PIPE.
3. CONNECT TO EXISTING DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. NOT USED
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx82'Lx7.79'H), SEE VAULT DETAILS ON SHEET SD01.
8. TYPE 2 72" CONTROL STRUCTURE, SEE DETAILS ON SHEET SD02.
9. BAYFILTER STORMWATER TREATMENT MANHOLE, SEE DETAIL ON SHEET SD
10. OIL/WATER SEPARATOR (OWS) VAULT, SEE DETAIL ON SHEET SD03.
11. BIOPOD BIOFILTER VAULT, SEE DETAIL ON SHEET SD04.
12. NOT USED.

LEGEND

SD SD — PROPOSED STORM DRAIN

PROPOSED CATCH BASIN TYPE 1

PROPOSED CATCH BASIN TYPE 2

PROPOSED CATCH BASIN TYPE 2 W/SM94 FRAME & GRATE (SEE SHEET SD04)

(X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE DIMENSIONAL LOCATION OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED. SEE SHEET DWG DP01 & DP02 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.
5. THE LOCATION SPECIFIED IS SHOWN TO THE CENTER OF STORM DRAINAGE STRUCTURE. INSTALL FRAME AND GRATE TO PROPOSED FLOWLINE FOR STORM DRAINAGE STRUCTURES WITHIN THE ROADWAY. REFER TO WSDOT STANDARD PLAN F-10.16-00. CATCH BASIN COVER SHALL BE ADA COMPLIANT IF LOCATED IN SIDEWALK OR CURB RAMP.
6. TYPE 2 CATCH BASINS USING SM94 FRAME AND GRATE TO USE CIRCULAR ADJUSTMENT RISERS.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT — STATE OF WASHINGTON — 36704 — REGISTERED PROFESSIONAL ENGINEER
5/25/25

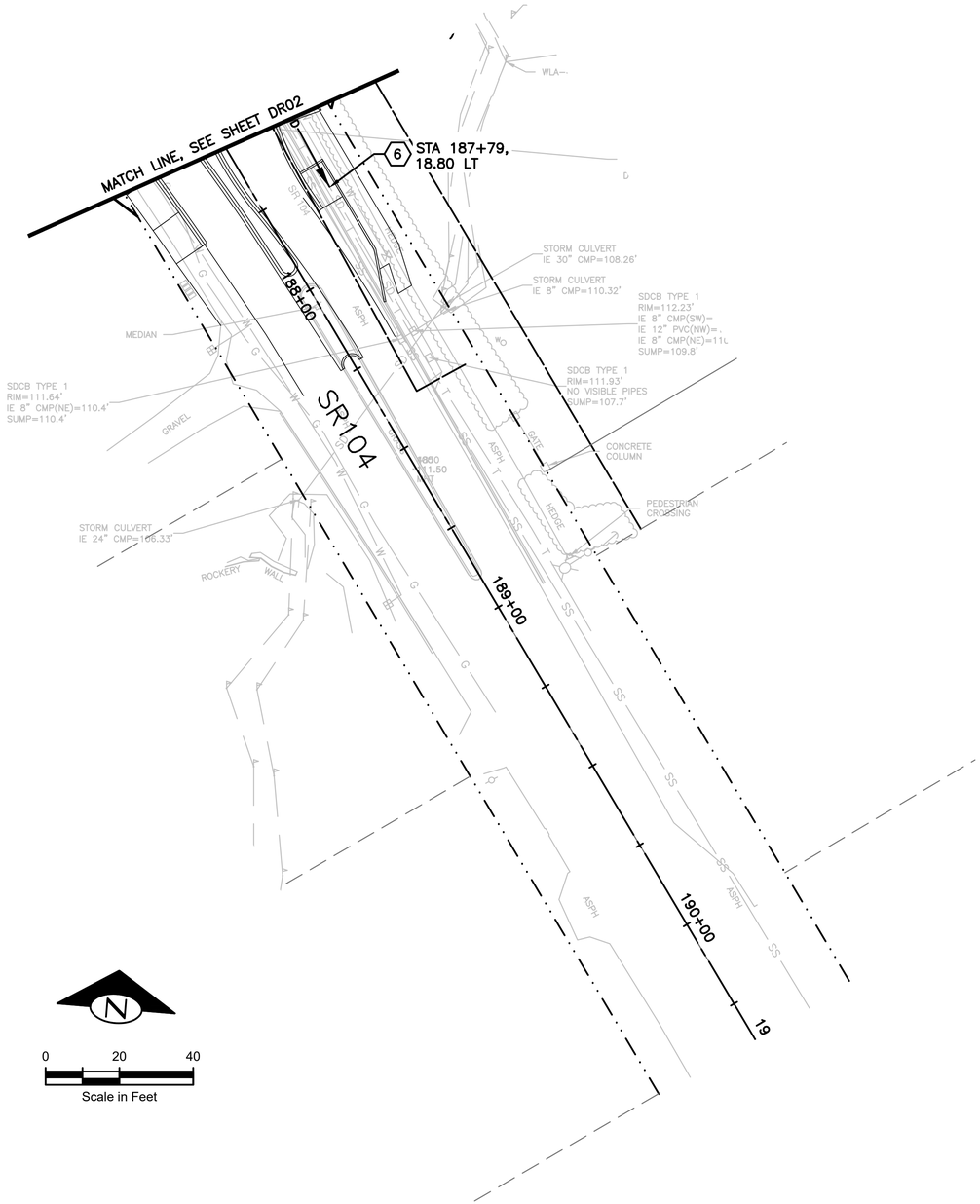
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

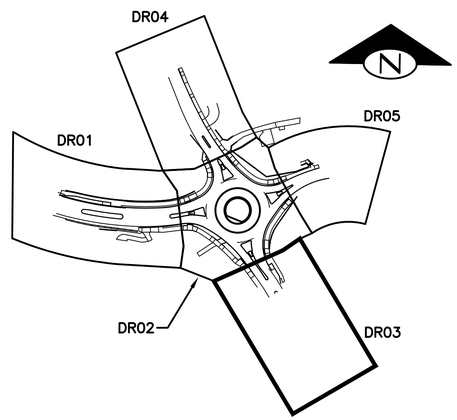
DRAINAGE PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	DR02
SHEET	41
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:50:16pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. CONNECT TO EXISTING PIPE.
3. CONNECT TO EXISTING DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. NOT USED
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx82'Lx7.79'H), SEE VAULT DETAILS ON SHEET SD01.
8. TYPE 2 72" CONTROL STRUCTURE, SEE DETAILS ON SHEET SD02.
9. BAYFILTER STORMWATER TREATMENT MANHOLE, SEE DETAIL ON SHEET SDC
10. OIL/WATER SEPARATOR (OWS) VAULT, SEE DETAIL ON SHEET SD03.
11. BIOPOD BIOFILTER VAULT, SEE DETAIL ON SHEET SD04.
12. NOT USED.

LEGEND

SD SD — PROPOSED STORM DRAIN

PROPOSED CATCH BASIN TYPE 1

PROPOSED CATCH BASIN TYPE 2

PROPOSED CATCH BASIN TYPE 2 W/SM94 FRAME & GRATE (SEE SHEET SD04)

(X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE DIMENSIONAL LOCATION OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED. SEE SHEET DWG DP01 & DP02 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.
5. THE LOCATION SPECIFIED IS SHOWN TO THE CENTER OF STORM DRAINAGE STRUCTURE. INSTALL FRAME AND GRATE TO PROPOSED FLOWLINE FOR STORM DRAINAGE STRUCTURES WITHIN THE ROADWAY. REFER TO WSDOT STANDARD PLAN F-10.16-00. CATCH BASIN COVER SHALL BE ADA COMPLIANT IF LOCATED IN SIDEWALK OR CURB RAMP.
6. TYPE 2 CATCH BASINS USING SM94 FRAME AND GRATE TO USE CIRCULAR ADJUSTMENT RISERS.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

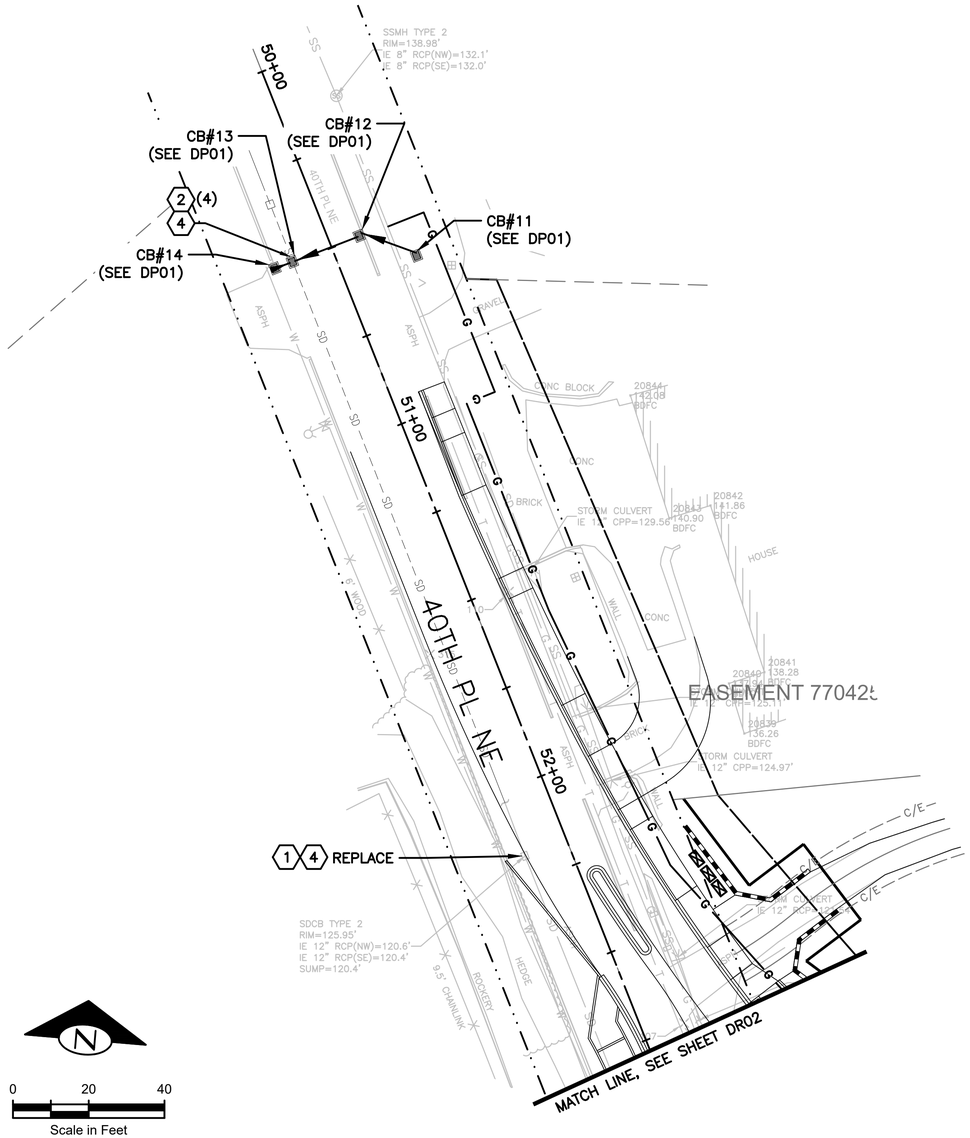
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

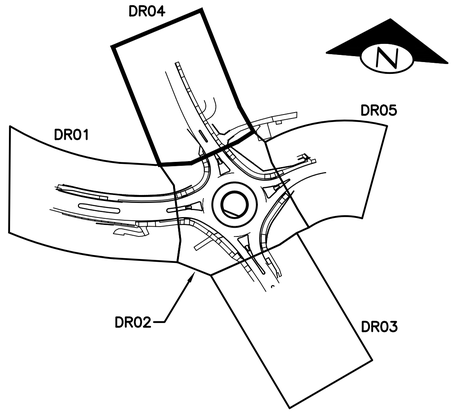
DRAINAGE PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	DR03
SHEET	42
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:50:28pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. CONNECT TO EXISTING PIPE.
3. CONNECT TO EXISTING DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. NOT USED
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx82'Lx7.79'H), SEE VAULT DETAILS ON SHEET SD01.
8. TYPE 2 72" CONTROL STRUCTURE, SEE DETAILS ON SHEET SD02.
9. BAYFILTER STORMWATER TREATMENT MANHOLE, SEE DETAIL ON SHEET SD
10. OIL/WATER SEPARATOR (OWS) VAULT, SEE DETAIL ON SHEET SD03.
11. BIOPOD BIOFILTER VAULT, SEE DETAIL ON SHEET SD04.
12. NOT USED.

LEGEND

SD SD PROPOSED STORM DRAIN

PROPOSED CATCH BASIN TYPE 1

PROPOSED CATCH BASIN TYPE 2

PROPOSED CATCH BASIN TYPE 2 W/SM94 FRAME & GRATE (SEE SHEET SD04)

(X) NUMBER OF DRAINAGE CONNECTIONS

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE DIMENSIONAL LOCATION OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED. SEE SHEET DWG DP01 & DP02 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.
5. THE LOCATION SPECIFIED IS SHOWN TO THE CENTER OF STORM DRAINAGE STRUCTURE. INSTALL FRAME AND GRATE TO PROPOSED FLOWLINE FOR STORM DRAINAGE STRUCTURES WITHIN THE ROADWAY. REFER TO WSDOT STANDARD PLAN F-10.16-00. CATCH BASIN COVER SHALL BE ADA COMPLIANT IF LOCATED IN SIDEWALK OR CURB RAMP.
6. TYPE 2 CATCH BASINS USING SM94 FRAME AND GRATE TO USE CIRCULAR ADJUSTMENT RISERS.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

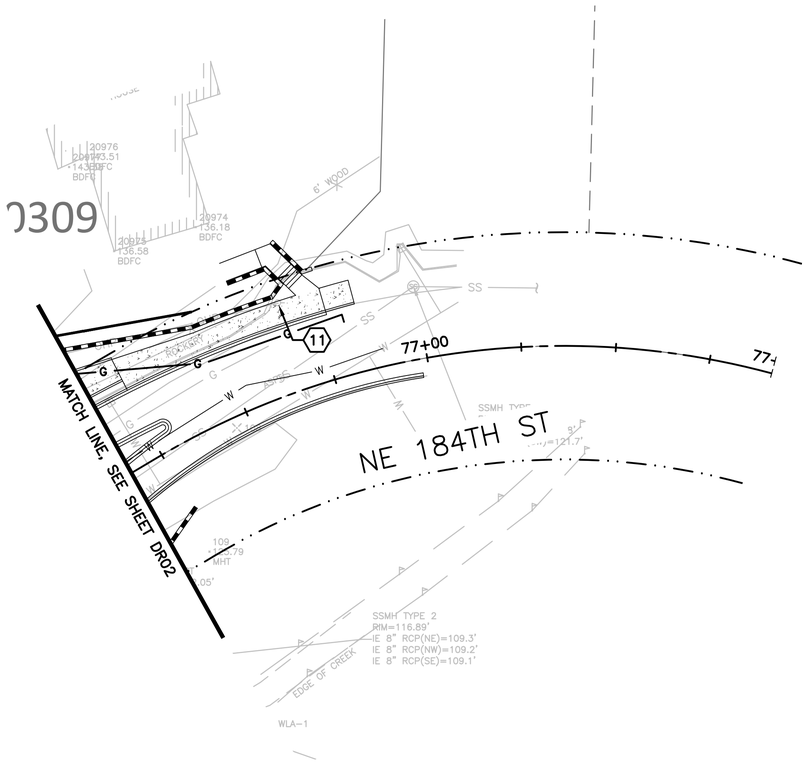
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

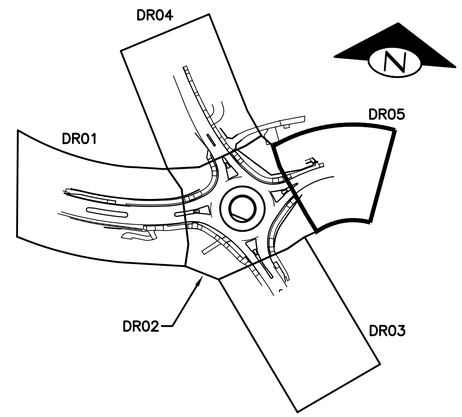
DRAINAGE PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	DR04
SHEET	43
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:50:36pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. ADJUST CATCH BASIN TO FINISHED GRADE.
2. CONNECT TO EXISTING PIPE.
3. CONNECT TO EXISTING DRAINAGE STRUCTURE.
4. INSTALL SOLID LOCKING LID PER WSDOT STD PLAN B-30.20-04.
5. NOT USED
6. CONNECT NEW PIPE TO EXISTING PIPE WITH PIPE COUPLER.
7. STORMWATER DETENTION VAULT (INTERNAL DIMS: 15'Wx82'Lx7.79'H), SEE VAULT DETAILS ON SHEET SD01.
8. TYPE 2 72" CONTROL STRUCTURE, SEE DETAILS ON SHEET SD02.
9. BAYFILTER STORMWATER TREATMENT MANHOLE, SEE DETAIL ON SHEET SD
10. OIL/WATER SEPARATOR (OWS) VAULT, SEE DETAIL ON SHEET SD03.
11. BIOPOD BIOFILTER VAULT, SEE DETAIL ON SHEET SD04.
12. NOT USED.

LEGEND

SD SD PROPOSED STORM DRAIN

PROPOSED CATCH BASIN TYPE 1

PROPOSED CATCH BASIN TYPE 2

PROPOSED CATCH BASIN TYPE 2 W/SM94 FRAME & GRATE (SEE SHEET SD04)

(X) NUMBER OF DRAINAGE CONNECTIONS

NOTE:

1. NO DRAINAGE IMPROVEMENTS ON THIS SHEET.

DRAINAGE GENERAL NOTES

1. ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS TO HAVE VANED GRATES PER WSDOT STD PLAN B-30.30-03, UNLESS OTHERWISE NOTED.
2. THE DIMENSIONAL LOCATION OF ALL NEW CATCH BASINS, STORM MANHOLES, AND CONCRETE INLETS ARE MEASURED TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED. SEE SHEET DWG DP01 & DP02 FOR STATION AND OFFSETS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO INSTALLATIONS.
4. ALL EXISTING STORM PIPE AND EXISTING CATCH BASINS SHOWN IN THESE PLANS ARE TO BE PROTECTED, UNLESS OTHERWISE NOTED.
5. THE LOCATION SPECIFIED IS SHOWN TO THE CENTER OF STORM DRAINAGE STRUCTURE. INSTALL FRAME AND GRATE TO PROPOSED FLOWLINE FOR STORM DRAINAGE STRUCTURES WITHIN THE ROADWAY. REFER TO WSDOT STANDARD PLAN F-10.16-00. CATCH BASIN COVER SHALL BE ADA COMPLIANT IF LOCATED IN SIDEWALK OR CURB RAMP.
6. TYPE 2 CATCH BASINS USING SM94 FRAME AND GRATE TO USE CIRCULAR ADJUSTMENT RISERS.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR. #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

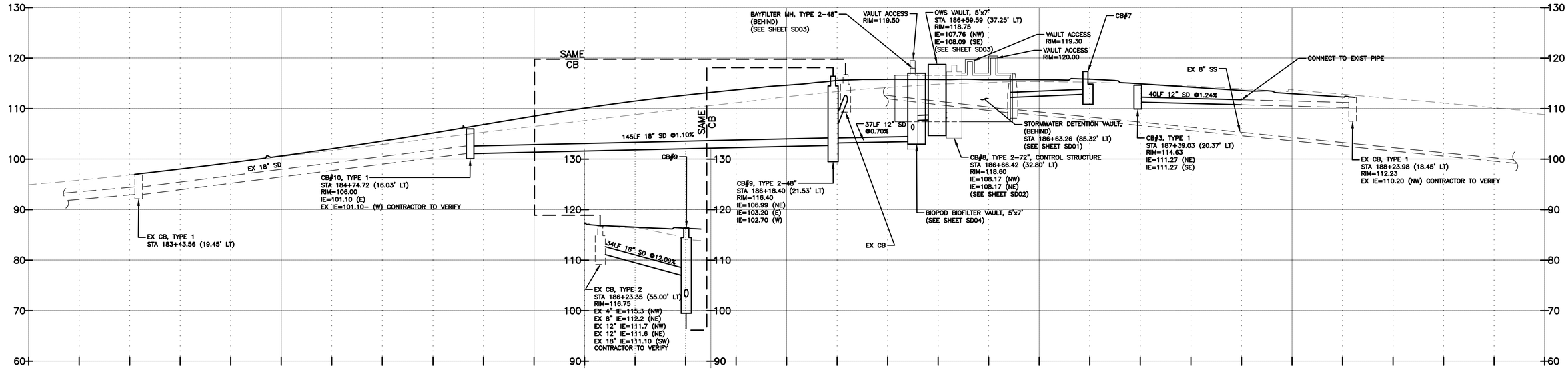
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	DR05
SHEET	44
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:50:46pm

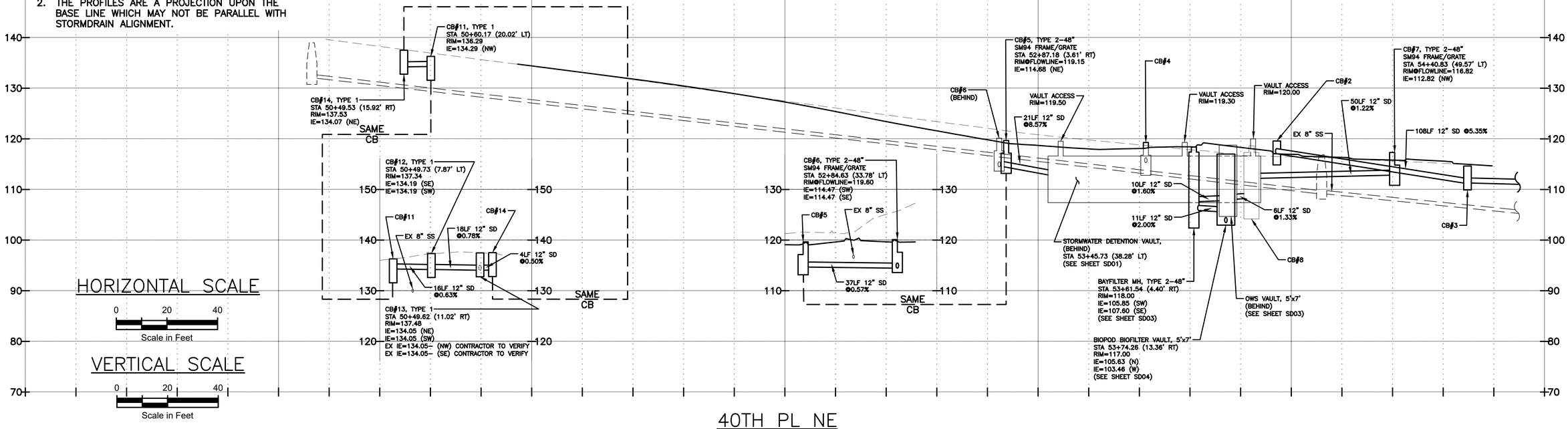
SEC 10, TWP 26 N, RGE 4 E



NOTES

1. ALL STATIONING AND OFFSETS ARE TO CENTER OF STRUCTURE.
2. THE PROFILES ARE A PROJECTION UPON THE BASE LINE WHICH MAY NOT BE PARALLEL WITH STORMDRAIN ALIGNMENT.

SR 104



HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 20 40

Scale in Feet

40TH PL NE

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

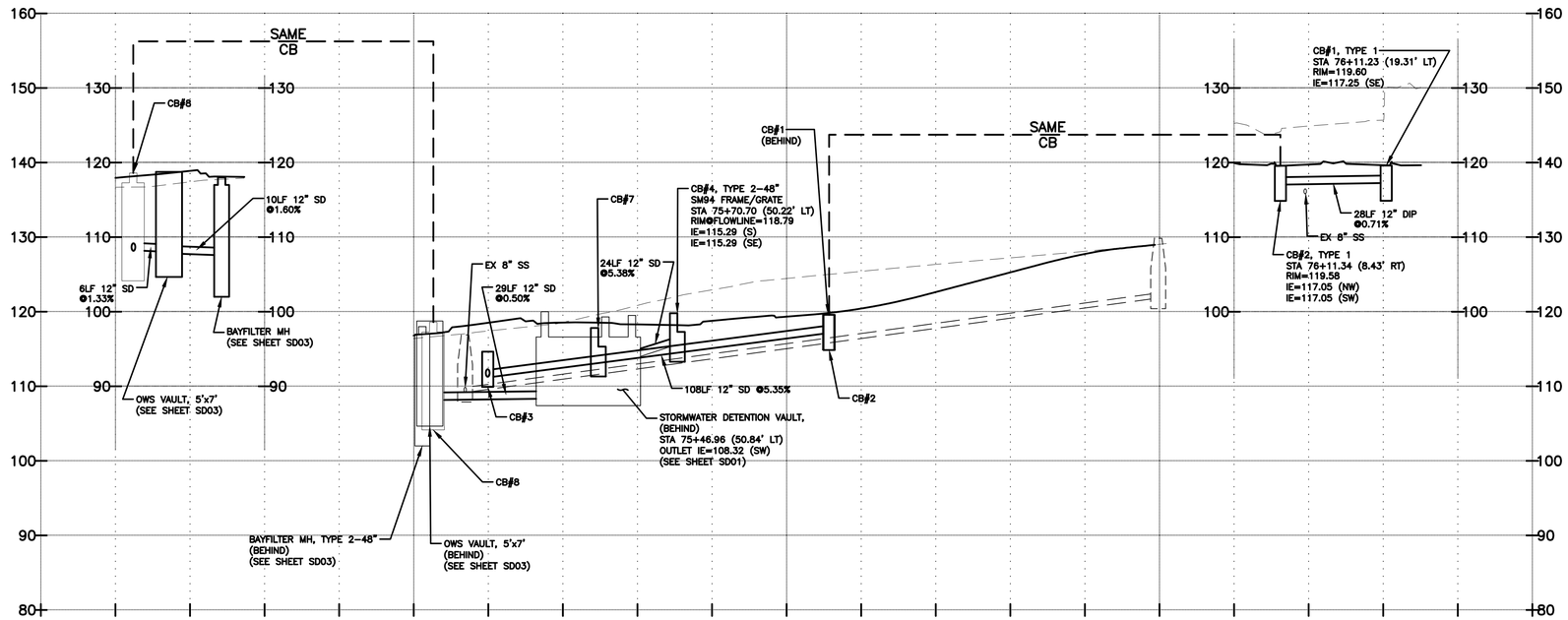
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE PROFILES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	DP01
SHEET	45
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:50:59pm

SEC 10, TWP 26 N, RGE 4 E



NE 184TH ST

NOTES

1. ALL STATIONING AND OFFSETS ARE TO CENTER OF STRUCTURE.
2. THE PROFILES ARE A PROJECTION UPON THE BASE LINE WHICH MAY NOT BE PARALLEL WITH STORMDRAIN ALIGNMENT.

HORIZONTAL SCALE

0 20 40

Scale in Feet

VERTICAL SCALE

0 20 40

Scale in Feet

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR. #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER

5/25/25

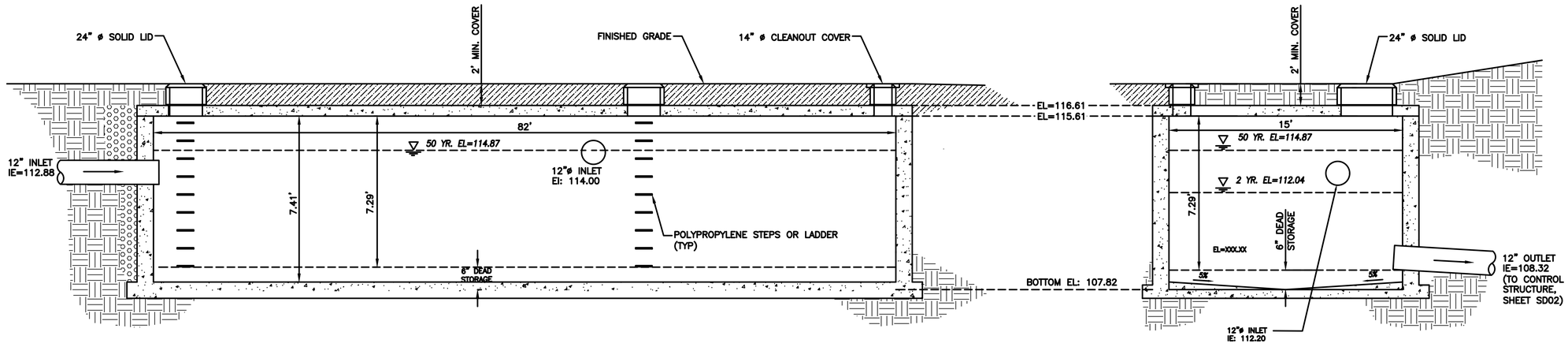
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

DRAINAGE PROFILES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	DP02
SHEET	46
OF	89

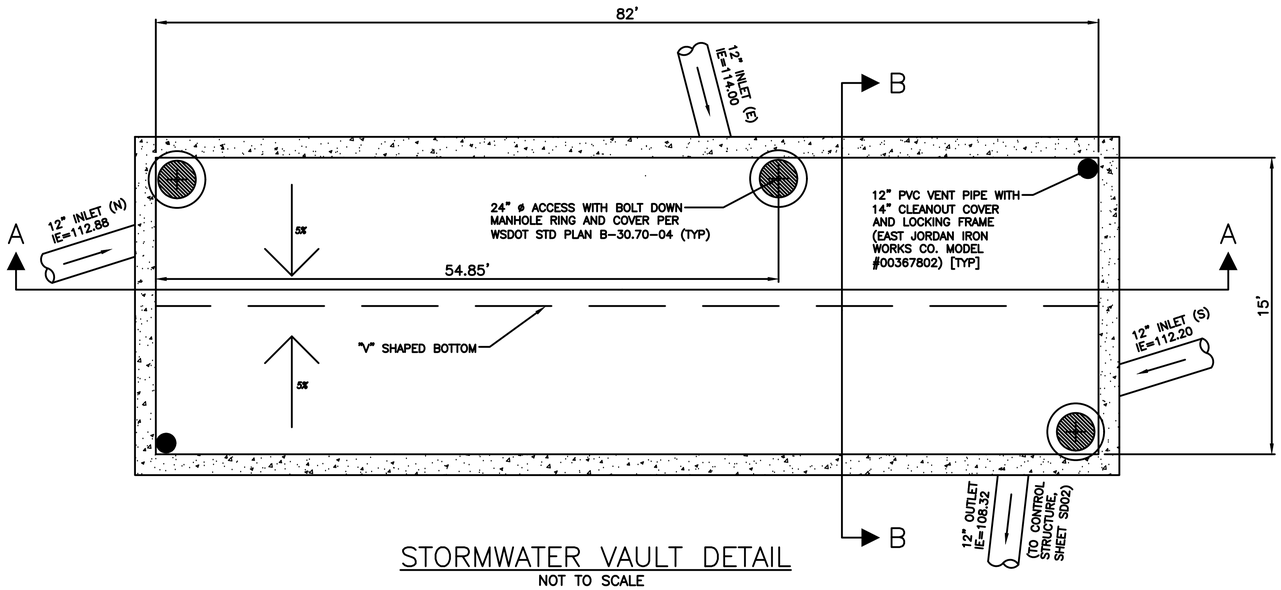
T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:51:09pm

SEC 10, TWP 26 N, RGE 4 E

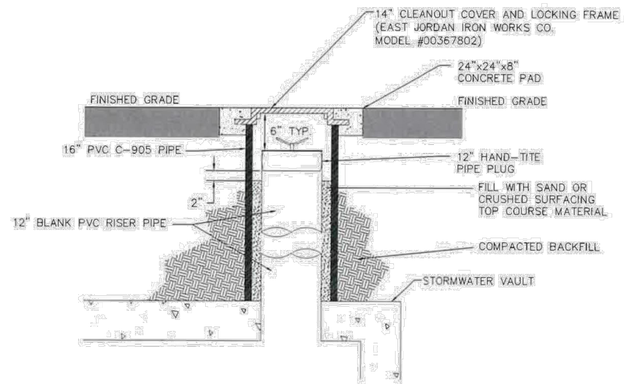


VAULT SECTION A–A
NOT TO SCALE

VAULT SECTION B–B
NOT TO SCALE



STORMWATER VAULT DETAIL
NOT TO SCALE



VENT PIPE DETAIL
NOT TO SCALE

STORMWATER VAULT NOTES:

1. ALL METAL PARTS SHALL BE CORROSION RESISTANT. STAINLESS STEEL OR ALUMINUM PARTS ARE ACCEPTABLE. NO GALVANIZED PARTS.
2. PROVIDE WATER STOP AT ALL CAST–IN–PLACE CONSTRUCTION JOINTS. PRECAST VAULTS SHALL HAVE AN APPROVED RUBBER GASKET SYSTEM.
3. MINIMUM 4000 PSI STRUCTURAL REINFORCED CONCRETE MUST BE USED FOR PRECAST VAULT. VAULT, LID. RISERS, AND ACCESS LIDS SHALL MEET HS–25 LOADING STANDARDS.
4. VAULTS MUST COMPLY WITH THE OSHA CONFINED SPACE REQUIREMENTS WHICH INCLUDES CLEARLY MARKING ENTRANCES TO CONFINED SPACE AREAS. THIS MAY BE ACCOMRLISHED BY HANGING A REMOVABLE SIGN IN THE ACCESS RISERS JUST UNDER THE ACCESS LID.
5. VENTILATION PIPES (MIN. 12" DIA. OR EQUIVALENT) SHALL BE PROVIDED IN ALL FOUR CORNERS OF THE VAULT (UNLESS ACCESS LIDS ARE PROVIDED) TO ALLOW FOR ARTIFICIAL VENTILATION PRIOR TO ENTRY OF MAINTENANCE PERSONNEL INTO THE VAULT.
6. ALL ACCESS OPENINGS SHALL HAVE ROUND, SOLID LOCKING LIDS MARKED "DRAIN".
7. EXCAVATE 12" MIN BELOW BASE OF VAULT, COMPACT SUBGRADE, AND PLACE PERMEABLE BALLAST.
8. STORMWATER VAULT SHALL BE PRECAST CONCRETE. INSIDE DIMENSIONS SHOWN ARE FOR MINIMUM STORAGE VOLUME REQUIRED. SUBMIT SHOP DRAWINGS FOR PROPOSED DIMENSIONS.
9. SHOP DRAWINGS AND PROFESSIONALLY SEALED CALCULATIONS FOR THE PRECAST STORMWATER VAULT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO FABRICATION OF VAULT COMPONENTS.
10. VAULT SHALL BE DESIGNED IN ACCORDANCE WITH ACI 350_06 FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES, INCLUDING DESIGN TO PREVENT BUOYANCY.
11. MANUFACTURER/SUPPLIER TO PROVIDE INSTALLATION RECOMMENDATIONS TO THE ENGINEER. CONTRACTOR SHALL INSTALL ACCORDING TO THE MANUFACTURER/SUPPLIER RECOMMENDATIONS.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360–691–9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

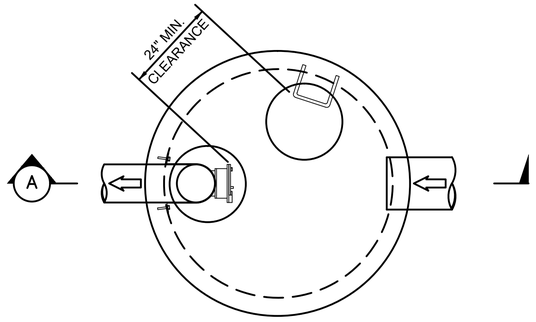
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE DETAILS

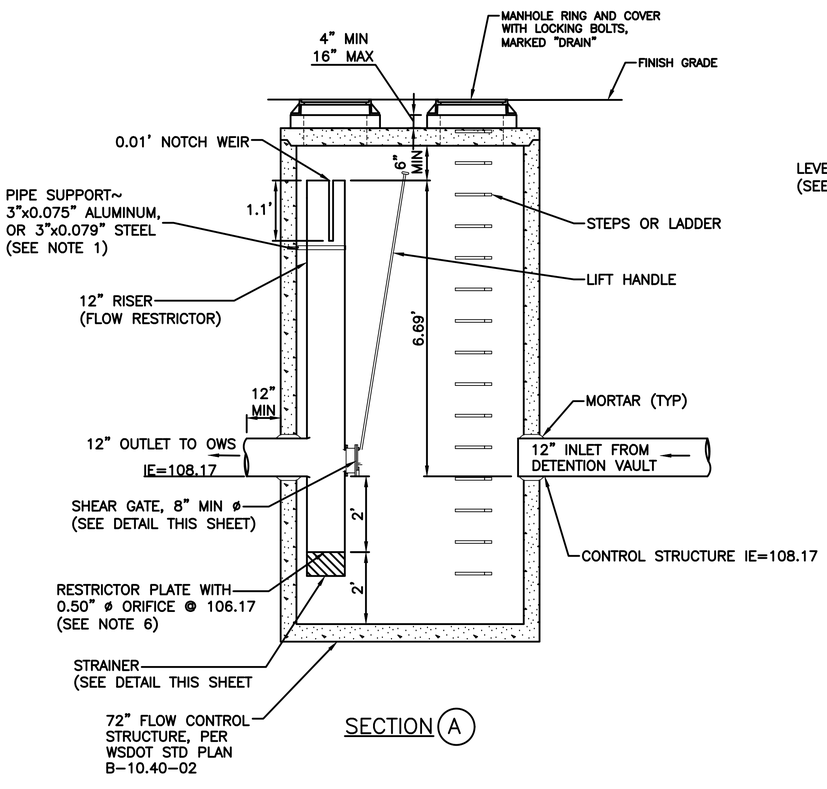
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SD01
SHEET	47
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:51:09pm

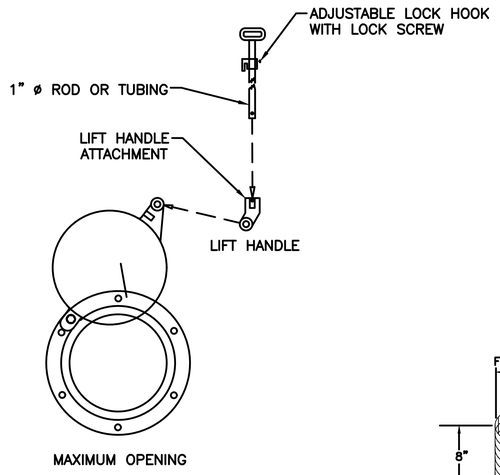
SEC 10, TWP 26 N, RGE 4 E

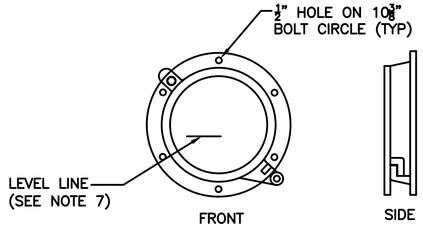


PLAN VIEW

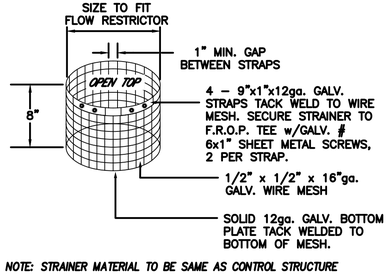


SECTION (A)



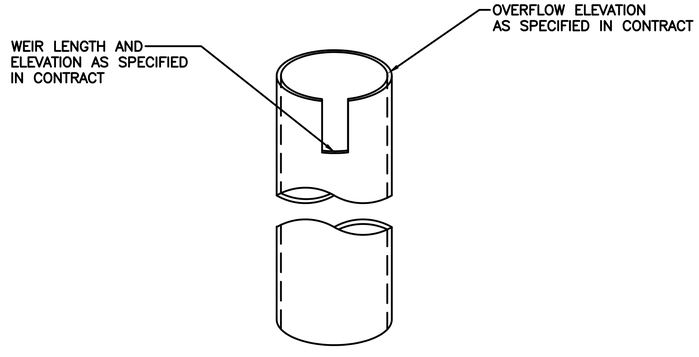


SHEAR GATE DETAILS



NOTE: STRAINER MATERIAL TO BE SAME AS CONTROL STRUCTURE

STRAINER DETAIL



NOTCH WEIR DETAIL

NOTES:

1. THE PIPE SUPPORTS AND THE FLOW RESTRICTOR SHALL BE CONSTRUCTED OF THE SAME MATERIAL AND BE ANCHORED AT A MAXIMUM SPACING OF 36" (IN). ATTACH THE PIPE SUPPORTS TO THE MANHOLE WITH 5/8" (IN) STAINLESS STEEL EXPANSION BOLTS OR EMBED THE SUPPORTS INTO THE MANHOLE WALL 2" (IN).
2. THE VERTICAL RISER STEM OF THE FLOW RESTRICTOR SHALL BE THE SAME DIAMETER AS THE HORIZONTAL OUTLET PIPE WITH A MINIMUM DIAMETER OF 12" (IN).
3. THE FLOW RESTRICTOR SHALL BE FABRICATED FROM ONE OF THE FOLLOWING MATERIALS:

   0.060" (IN) CORRUGATED ALUMINUM ALLOY DRAIN PIPE
   0.064" (IN) CORRUGATED GALVANIZED STEEL DRAIN PIPE WITH TREATMENT 1
   0.064" (IN) CORRUGATED ALUMINIZED STEEL DRAIN PIPE
   0.060" (IN) ALUMINUM ALLOY FLAT SHEET, IN ACCORDANCE WITH ASTM B 209, 5052 H32 OR EPS HIGH DENSITY POLYETHYLENE STORM SEWER PIPE
4. THE FRAME AND LADDER OR STEPS ARE TO BE OFFSET SO THAT: THE SHEAR GATE IS VISIBLE FROM THE TOP; THE CLIMB–DOWN SPACE IS CLEAR OF THE RISER AND GATE; THE FRAME IS CLEAR OF THE CURB.
5. THE MULTI–ORIFICE ELBOWS MAY BE LOCATED AS SHOWN, OR ALL PLACED ON ONE SIDE OF THE RISER TO ASSURE LADDER CLEARANCE. THE SIZE OF THE ELBOWS AND THEIR PLACEMENT SHALL BE SPECIFIED IN THE CONTRACT.
6. RESTRICTOR PLATE WITH ORIFICE AS SPECIFIED IN THE CONTRACT. THE OPENING IS TO BE CUT ROUND AND SMOOTH.
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26 AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B.

   THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED.

   A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE.

   INSTALL THE GATE SO THAT THE LEVEL–LINE MARK IS LEVEL WHEN THE GATE IS CLOSED.

   THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT.

   ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE SHEAR GATE MAXIMUM OPENING SHALL BE CONTROLLED BY LIMITED HINGE MOVEMENT, A STOP TAB, OR SOME OTHER DEVICE.
9. ALTERNATIVE SHEAR GATE DESIGNS ARE ACCEPTABLE IF MATERIAL SPECIFICATIONS ARE MET.

CATCH BASIN TYPE 2 WITH FLOW RESTRICTOR

NOT TO SCALE

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SD02
SHEET	48
OF	89

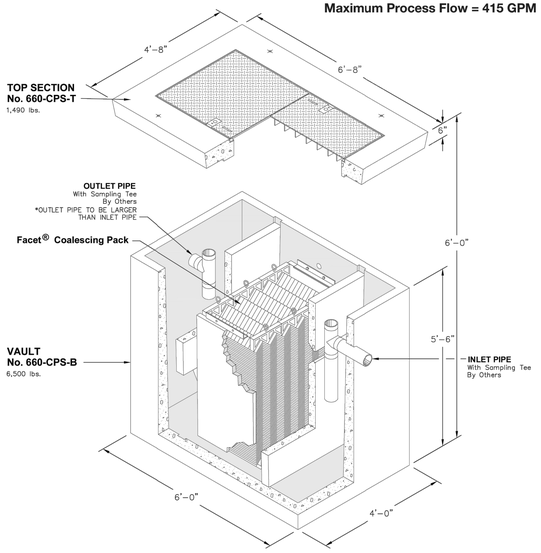
T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:51:14pm

SEC 10, TWP 26 N, RGE 4 E

Oldcastle Precast® *Delivering Reliability*

660-CPS OIL WATER SEPARATOR

Projected Plate Area = 444 Sq/ft
Maximum Process Flow = 415 GPM



FOR DETAILS, SEE REVERSE >>

Items Shown Are Subject To Change Without Notice
Issue Date: August 2012

127

©1985-2012 Oldcastle Precast, Inc.

Mailing Address
PO Box 188
Auburn, WA 98071

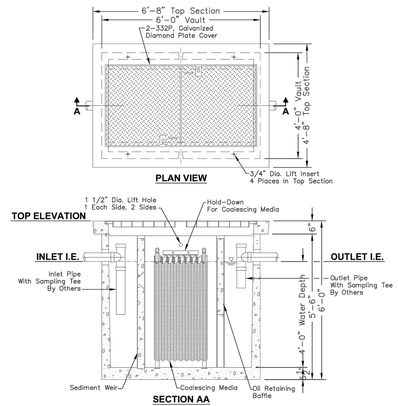
Phone: 800-892-1538
Fax: 253-735-4201
Email: opauburn@oldcastle.com

opauburn.com

Oldcastle Precast® *Delivering Reliability*

660-CPS

Projected Plate Area = 444 Sq/ft
Maximum Process Flow = 415 GPM



STRUCTURAL NOTES:
1. Concrete: 28 Day Compressive Strength f'c= 7000 psi
2. Rebar: ASTM A-615 Grade 60
3. Mesh: ASTM A-185 Grade 65
4. Design: ACI-318-05 Building Code
   ASTM C-890 "Minimum Structural Design
   Loading For Underground Precast Concrete
   Water and Wastewater Structures"
5. Loads: HS-20 Truck Wheel w/ 30% Impact Per AASHTO

GENERAL NOTES:
1. All Baffles and Weirs To Be Precast Concrete
2. Static Water Depth = 4'-0"
3. Contractor to:
   Supply and Install All Piping & Sampling Tees
   Grout In All Pipes
   Fill With Clean Water Prior To "Start-Up" Of System
   Verify All Blockout Sizes and Locations

INFORMATION NEEDED:
Top Of Separator Elevation:_____
Inlet Pipe Size:_____
Inlet Pipe Elevation:_____
Outlet Pipe Size:_____
Outlet Pipe Elevation:_____

BASIC DESIGN INFORMATION:
INFLUENT CHARACTERISTICS:
Oil Specific Gravity: 0.88
Operating Temperature: 50°
Influent Oil Concentration: 100 ppm
Mean Oil Droplet Size: 130 Microns
0.33 ft/min. Rise Rate
Designed Per Washington State Department Of Ecology

FLOW RATE	EFFLUENT QUALITY	COLLECTED SIZE
		100%
110 GPM	10 ppm	60 Micron

SCALE: 3/8" = 1'-0"

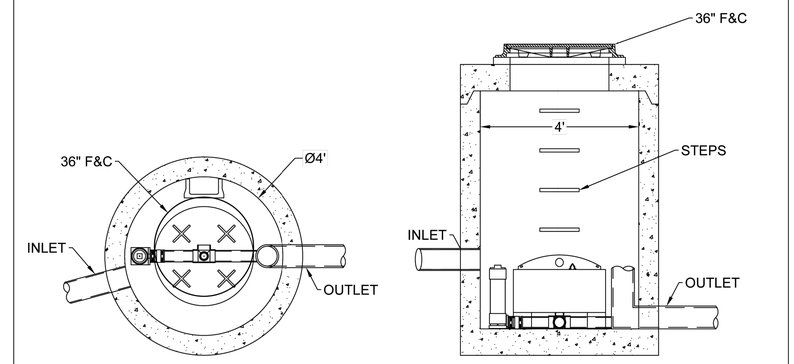
127.1

©1985-2012 Oldcastle Precast, Inc.

opauburn.com

OIL/WATER SEPARATOR (OWS) VAULT DETAIL

NOT TO SCALE



BAYSAVER TECHNOLOGIES
1030 Deer Hollow Drive 1-800-BAYSAVER
Mount Airy, MD 21771 1-800-229-7283

ADS ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

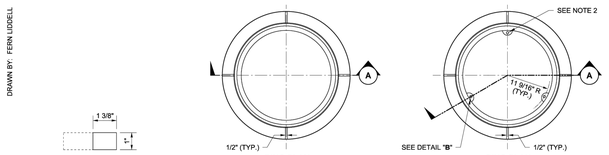
THE BAYFILTER STORMWATER MANAGEMENT SYSTEM IS A STORMWATER FILTRATION DEVICE DESIGNED TO REMOVE FINE SEDIMENTS, HEAVY METALS, AND PHOSPORUS. THE BAYFILTER SYSTEM RELIES ON A SPIRAL WOUND MEDIA FILTER CARTRIDGE WITH APPROXIMATELY 45 SQUARE FEET OF FILTRATION AREA. THE FILTER CARTRIDGES ARE HOUSED IN A CONCRETE STRUCTURE THAT EVENLY DISTRIBUTES THE FLOW BETWEEN CARTRIDGES. THE SYSTEM IS OFFLINE WITH AN EXTERNAL BYPASS THAT ROUTES HIGH INTENSITY STORMS AROUND THE SYSTEM. THE FILTER CARTRIDGES REMOVE POLLUTANTS FROM RUNOFF BY FILTRATION (INTERCEPTION/ATTACHMENT) AND ADSORPTION.

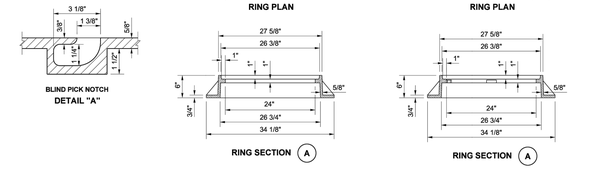
FLOW RATE	0.05 CFS
CARTRIDGE TYPE	622
QTY. CARTRIDGES	1
SEDIMENT CAPACITY	175 LBS
DATE	10/10/16
DRAWN	EKH
CHECKED	PR
SCALE	N.T.S.

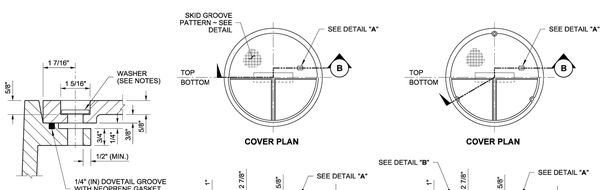
BAYFILTER BF-48-1

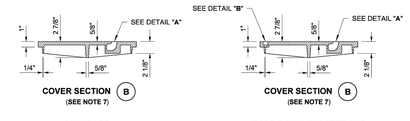
BAYFILTER BASIC TREATMENT MANHOLE DETAIL

NOT TO SCALE



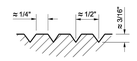




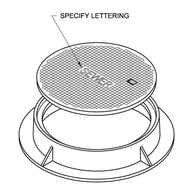


NOTES

1. The gasket and groove may be in the seat (frame) or in the underside of the cover. The gasket may be "T" shaped in section. The groove may be cast or machined.
2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 3 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S) 5/8" - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt down holes varies by manufacturer.
3. For bolt-down manhole ring and covers that are not designated "Watertight," the neoprene gasket, groove, and washer are not required.
4. Washer shall be neoprene (Detail "B").
5. In lieu of blind pick notch for manhole covers, a single 1" (in) pick hole is acceptable. Hole location and number of holes may vary by manufacturer.
6. Alternative reinforcing designs are acceptable in lieu of the rib design.
7. For clarity, the vertical scale of the Cover Section has been exaggerated, it is 1.5 times the horizontal scale (1H:1.5V).



SKID GROOVE PATTERN DETAIL



ISOMETRIC VIEW

CIRCULAR FRAME (RING) AND COVER

STANDARD PLAN B-30.70-04

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff
Feb 27 2018 7:39 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

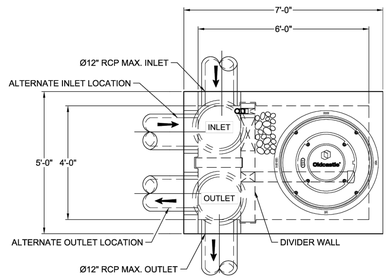
DRAINAGE DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SD03
SHEET	49
OF	89

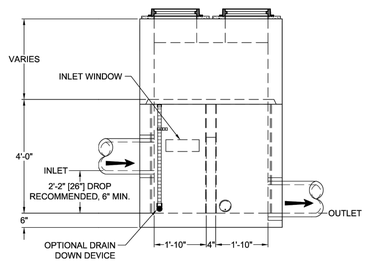
T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:51:20pm

SITE SPECIFIC DATA				
Structure ID				ID
Treatment Flow Rate (cfs)				-
Peak Flow Rate (cfs)				-
Rim Elevation				-
Top of Vault Elevation				-
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	-	-	-	-
Outlet	-	-	-	-
Notes:				

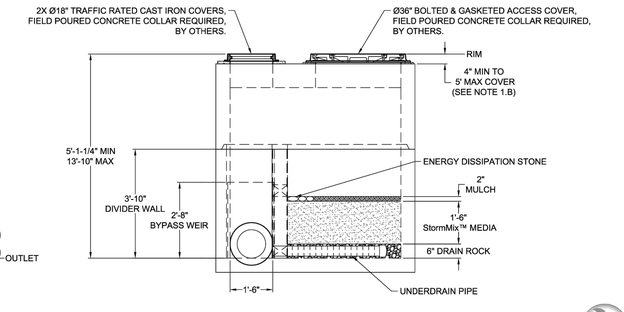
PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities.*	
NJDEP 80% Removal, 75 micron	0.064 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.057 cfs
Bypass Capactiy	5.0 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



PLAN VIEW



LEFT END VIEW



ELEVATION VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-25 (WITH IMPACT)
   B. DESIGN SOIL COVER: 5'-0" MAXIMUM
   C. ASSUMED WATER TABLE: BELOW BASE OF PRECAST (ENGINEER-OF-RECORD TO CONFIRM SITE WATER TABLE ELEVATION)
   D. LATERAL EARTH PRESSURE: 45 PCF (DRAINED).
   E. LATERAL LIVE LOAD SURCHARGE: 80 PSF (APPLIED TO 8'-0" BELOW GRADE)
   F. NO LATERAL SURCHARGE FROM ADJACENT BUILDINGS, WALLS, PIERS, OR FOUNDATIONS.
2. CONCRETE 28-DAY MINIMUM COMPRESSIVE STRENGTH: 5,000 PSI MINIMUM.
3. REINFORCING: REBAR, ASTM A615/A706, GRADE 60
4. CEMENT: ASTM C150
5. REQUIRED ALLOWABLE SOIL BEARING CAPACITY: 2,500 PSF
6. REFERENCE STANDARD:
   A. ASTM C890
   B. ASTM C913
   C. ACI 318-14
7. THIS STRUCTURE IS DESIGNED TO THE PARAMETERS NOTED HEREIN. ENGINEER-OF-RECORD SHALL VERIFY FV THAT NOTED PARAMETERS MEET OR EXCEED PROJECT REQUIREMENTS. IF DESIGN PARAMETERS ARE INCORRECT, REVIEWING ENGINEER/AUTHORITY SHALL NOTIFY OLDCASTLE INFRASTRUCTURE UPON REVIEW.
8. INLET AND OUTLET HOLES WILL BE FACTORY CORED/CAST PER PLANS AND CUSTOMER REQUIREMENTS. INLET AND OUTLET LOCATIONS CAN BE MIRRORED.
9. CONTRACTOR RESPONSIBLE TO VERIFY ALL SIZES, LOCATIONS, AND ELEVATIONS OF OPENINGS.
10. CONTRACTOR RESPONSIBLE TO ENSURE ADEQUATE BEARING SURFACE IS PROVIDED (I.E. COMPACTED AND LEVEL PER PROJECT SPECIFICATIONS).
11. SECTION HEIGHTS, SLAB/WALL THICKNESSES, AND KEYWAYS ARE SUBJECT TO CHANGE AS REQUIRED FOR SITE REQUIREMENTS AND/OR DUE TO PRODUCT AVAILABILITY AND PRODUCTION FACILITY CONSTRAINTS.
12. MAXIMUM PICK WEIGHTS*:
    A. TOP: XX,XXX LBS
    B. BASE: XX,XXX LBS*
    (* COMBINED WEIGHT OF BASE INCLUDES BYPASS WEIR, DIVIDER WALL, ROCK & MEDIA)
13. INTERNALS SHALL CONSIST OF UNDERDRAIN PIPE, ROCK, STORMMIX™ MEDIA, MULCH, DIVIDER WALL, BYPASS WEIR AND OPTIONAL DRAIN DOWN.

Oldcastle Infrastructure
A CRH COMPANY
Ph: 800.579.8818 | www.oldcastleinfrastructure.com/stormwater

THIS DOCUMENT IS THE PROPERTY OF OLDCASTLE INFRASTRUCTURE, INC. AND IS CONFIDENTIAL AND UNPUBLISHED. THIS DOCUMENT SHALL NOT BE USED IN ANY WAY DETRIMENTAL TO THE INTERESTS OF, OR WITHOUT THE WRITTEN PERMISSION OF OLDCASTLE INFRASTRUCTURE, INC. COPYRIGHT © 2021 OLDCASTLE INFRASTRUCTURE, INC. ALL RIGHTS RESERVED.

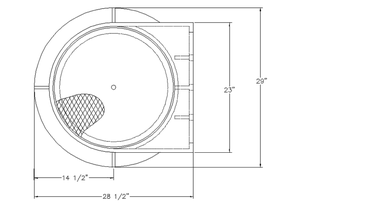
BioPod™ Biofilter System (STANDARD)
Underground Vault with Internal Bypass

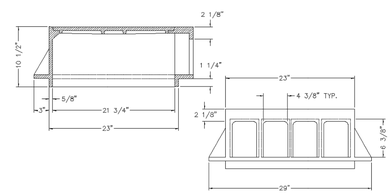
CUSTOMER: -
PROJECT NAME: -
SHEET NAME: Specifier Drawing BPU-46IB
REVISION: - REV DATE: -
SHEET: 1 OF 1

BioAttention/ BioRetention

BIOPOD BIOFILTER ENHANCED TREATMENT VAULT DETAIL

NOT TO SCALE





NOTES:

OLYMPIC FOUNDRY INC.

CURB INLET FRAME & COVER

MATL: Cast Iron ASTM A48, CL30 | RATING: N/A | PART NO. SM94

APPROX WT: Frame 210 Lbs, Cover 75 Lbs | REV: A DATE: 7/3/2003 New border | REV A

DOCUMENT APPROVED BY: DATE: | DWN: CL DATE: 7/3/2003 | CHKD: CL DATE: 7/3/2003 | TOLERANCE XX +- .1 XXX +- .06 XXXX +- .030 < +- 2 DEG | REV: DATE: | DWG #: SM94 | SCALE: N/A | SHEET: 1 OF 1

SM94 FRAME & GRATE DETAIL

NOT TO SCALE

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

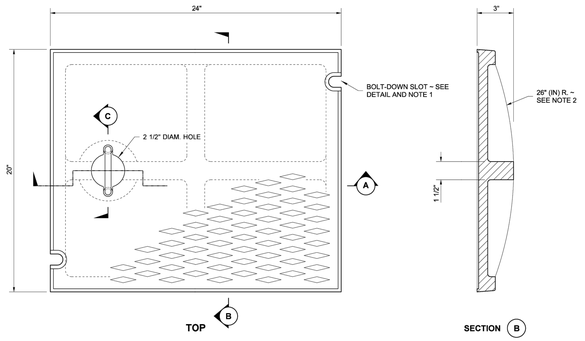
DRAINAGE DETAILS

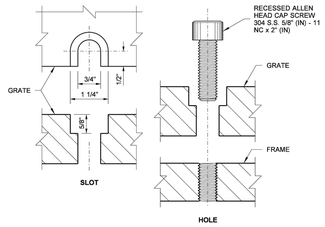
PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **SD04**
SHEET 50
OF 89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:51:29pm

SEC 10, TWP 26 N, RGE 4 E

DRAWN BY: FERN LIDDELL

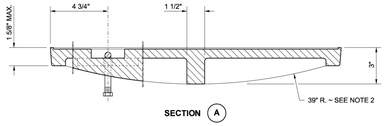


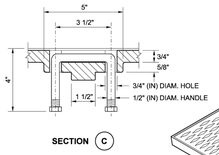


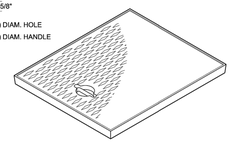
BOLT-DOWN DETAILS
SEE NOTE 1

NOTES

1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Alternative reinforcing designs are acceptable in lieu of the rib design.
3. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.
4. For frame details, see **Standard Plan B-30.10.**







JULIE HEILMAN STATE OF WASHINGTON 21851 REGISTERED PROFESSIONAL ENGINEER

Julie Heilman
Heilman, Julie
Feb 20 2018 12:53 PM
cosign

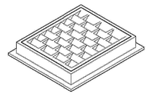
RECTANGULAR SOLID METAL COVER

STANDARD PLAN B-30.20-04

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff
Mar 2 2018 10:09 AM
cosign
STATE DESIGN ENGINEER
Washington State Department of Transportation

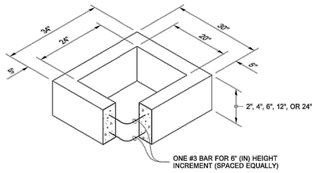
DRAWN BY: FERN LIDDELL



FRAME AND VANED GRATE

PIPE ALLOWANCES	
PIPE MATERIAL	**MAXIMUM INSIDE DIAMETER (INCHES)**
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP ★ **(STD. SPEC. SECT. 9-05.20)**	12"
SOLID WALL PVC **(STD. SPEC. SECT. 9-05.12(1))**	15"
PROFILE WALL PVC **(STD. SPEC. SECT. 9-05.12(2))**	15"

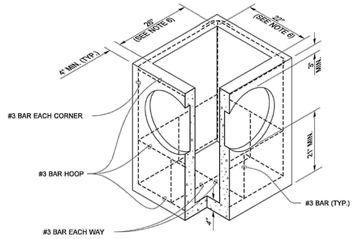
★ CORRUGATED POLYETHYLENE STORM SEWER PIPE

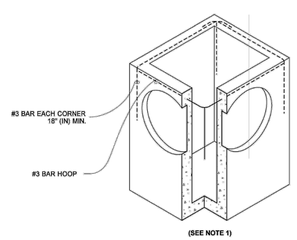


RECTANGULAR ADJUSTMENT SECTION

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
6. The opening shall be measured at the top of the **Precast Base Section.**
7. All pickup holes shall be grouted full after the basin has been placed.





JULIE HEILMAN STATE OF WASHINGTON 21851 REGISTERED PROFESSIONAL ENGINEER

Julie Heilman
2020.09.01 07:52:50 -07'00'

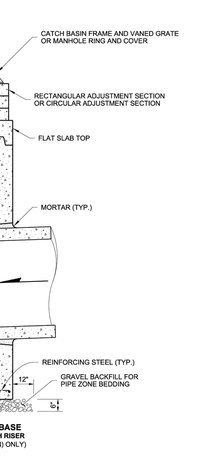
CATCH BASIN TYPE 1

STANDARD PLAN B-5.20-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Roark, Steve
Digitally signed by Roark, Steve
Date: 2020.09.09 09:45:23 -07'00'
STATE DESIGN ENGINEER
Washington State Department of Transportation

DRAWN BY: FERN LIDDELL



NOTES

1. No steps are required when height is 4' or less.
2. The bottom of the precast catch basin may be sloped to facilitate cleaning.
3. The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
4. Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3.**

CATCH BASIN DIMENSIONS				
CATCH BASIN DIAMETER	**MIN. WALL THICKNESS**	**MIN. BASE THICKNESS**	**MAXIMUM KNOCKOUT SIZE**	**MINIMUM DISTANCE BETWEEN KNOCKOUTS**
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144"	12"	12"	108"	12"

PIPE ALLOWANCES					
CATCH BASIN DIAMETER	**PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER**				
	CONCRETE	**ALL METAL**	**CPSSP PP ④**	**SOLID WALL PVC ②**	**PROFILE WALL PVC ③**
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

① Corrugated Polyethylene Storm Sewer Pipe **(See Standard Specification Section 9-05.20)**
② **(See Standard Specification Section 9-05.12(1))**
③ **(See Standard Specification Section 9-05.12(2))**
④ Polypropylene Pipe **(See Standard Specification Section 9-05.24)**

JULIE HEILMAN STATE OF WASHINGTON 21851 REGISTERED PROFESSIONAL ENGINEER

Julie Heilman
Heilman, Julie
Feb 20 2018 12:49 PM
cosign

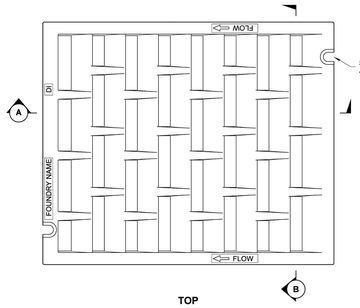
CATCH BASIN TYPE 2

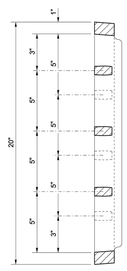
STANDARD PLAN B-10.20-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff
Mar 2 2018 10:09 AM
cosign
STATE DESIGN ENGINEER
Washington State Department of Transportation

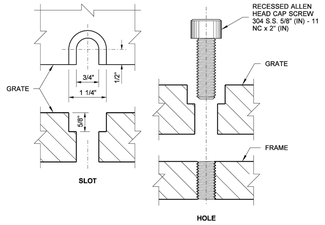
DRAWN BY: FERN LIDDELL



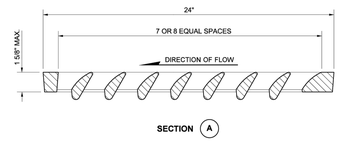


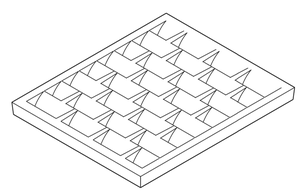
NOTES

1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.
3. For frame details, see **Standard Plan B-30.10**.



BOLT-DOWN DETAILS
SEE NOTE 1





JULIE HEILMAN STATE OF WASHINGTON 21851 REGISTERED PROFESSIONAL ENGINEER

Julie Heilman
Heilman, Julie
Feb 20 2018 12:54 PM
cosign

RECTANGULAR VANED GRATE

STANDARD PLAN B-30.30-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff
Feb 27 2018 7:58 AM
cosign
STATE DESIGN ENGINEER
Washington State Department of Transportation

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT STATE OF WASHINGTON 36704 REGISTERED PROFESSIONAL ENGINEER
5/25/25

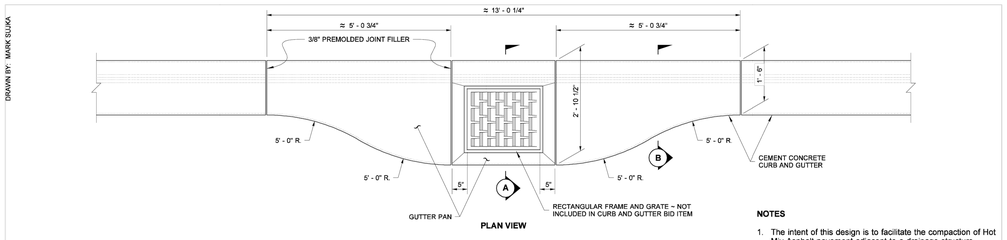
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

DRAINAGE DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SD05
SHEET	51
OF	89

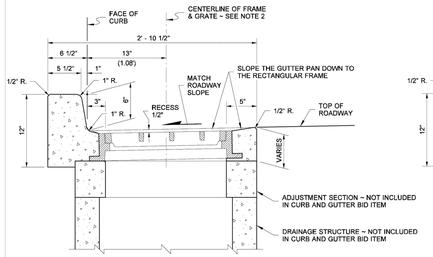
T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:51:34pm

DRAWN BY: MARK SUJKA

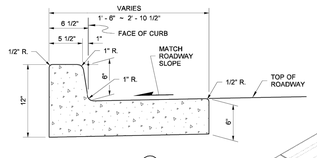


PLAN VIEW

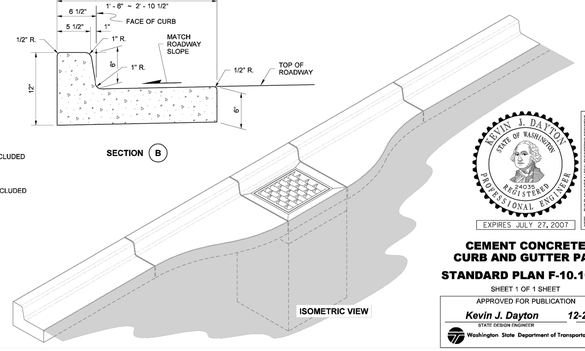
CATCH BASIN GUTTER PAN



SECTION (A)



SECTION (B)



ISOMETRIC VIEW

NOTES

1. The intent of this design is to facilitate the compaction of Hot Mix Asphalt pavement adjacent to a drainage structure.
2. The centerline of the drainage structure may differ from the centerline of the frame and grate.

KEVIN J. DAYTON
STATE OF WASHINGTON
12240355
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES JULY 27, 2007

ADDITIONAL STANDARD PLANS OR SPECIAL PROVISIONS MAY BE REQUIRED FOR PROJECT. THE USE OF THIS STANDARD PLAN DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR COMPLIANCE WITH ALL APPLICABLE LAWS, RULES AND REGULATIONS. APPROVED STANDARD PLANS ARE SUBJECT TO REVISION AT ANY TIME. ONLY THOSE STANDARD PLANS INCLUDED IN THE CONTRACT BY REFERENCE IN THE PROPOSAL FORM ARE A PART OF THE CONTRACT. CONTRACTOR SHALL USE LATEST REVISION OF STANDARD PLANS IN EFFECT ON THE DATE OF ADVERTISEMENT OF THE PROJECT, UNLESS OTHERWISE DIRECTED BY THE PROPOSAL. A COPY MAY BE OBTAINED UPON REQUEST.

CEMENT CONCRETE CURB AND GUTTER PAN

STANDARD PLAN F-10.16-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Kevin J. Dayton — STATE DESIGN ENGINEER — *12-20-06* — DATE

Washington State Department of Transportation

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:51:44pm

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-5272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER

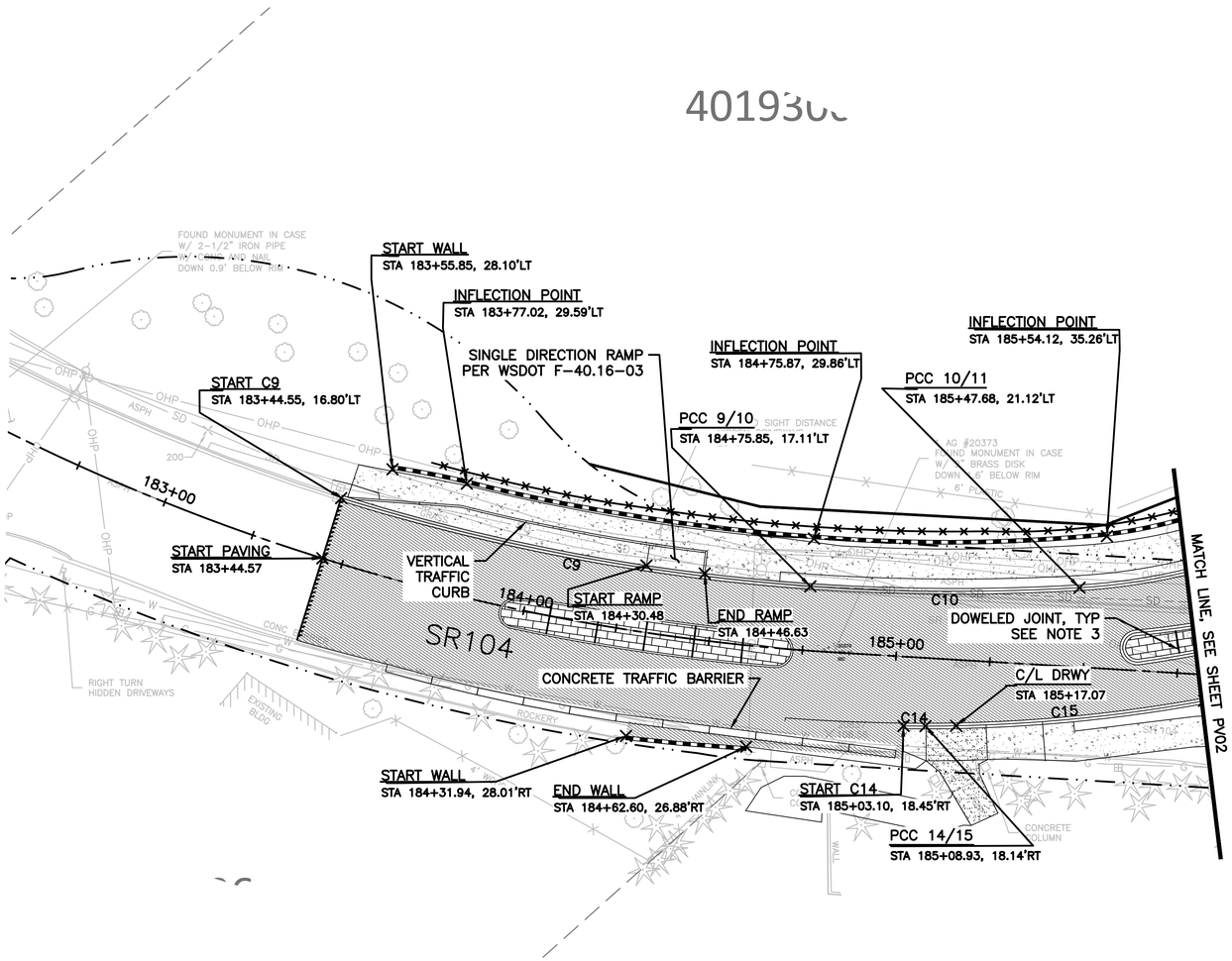
5/25/25

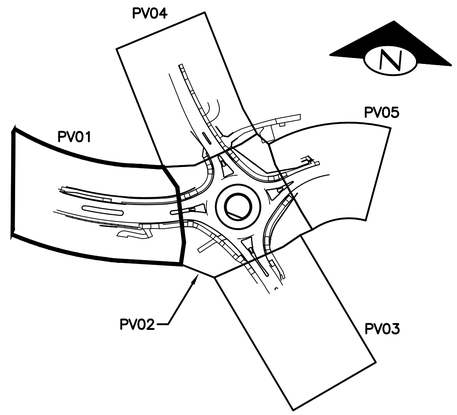
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

DRAINAGE DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SD06
SHEET	52
OF	89

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

NOTES:

1. REFER TO SHEETS SI01 AND SI02 FOR SPLITTER ISLANDS.
2. UNLESS OTHERWISE NOTED, ALL ADA CURB RAMPS TO BE COMBINATION CURB RAMPS PER WSDOT STANDARD PLAN F-40.14-03.
3. DOWEL BAR PCCP JOINT PER WSDOT STANDARD PLAN A-40.10-04.
4. REFER TO DRP SHEETS FOR DRIVEWAY PROFILES AND ADDITIONAL NOTES.

Curb Flowline Curve & Line Data

Line #/Curve #	Length	Direction/Delta	Radius	Tangent
C9	127.422	013°20'04"	547.511	64.00
C10	71.743	007°09'41"	574.000	35.92
C11	75.329	026°28'43"	163.000	38.35
C12	61.471	078°16'02"	45.000	36.61
C13	36.790	017°33'57"	120.000	18.54
C14	5.846	000°40'11"	500.000	2.92
C15	74.613	010°22'34"	412.000	37.41
C16	44.754	037°42'33"	68.000	23.22
C17	93.131	024°15'17"	220.000	47.27
C18	39.769	003°52'31"	588.000	19.89
C19	110.332	044°18'27"	142.674	58.09
C20	34.334	005°06'35"	385.000	17.18
C21	91.672	066°29'11"	79.000	51.78
C22	64.718	011°55'23"	311.000	32.48
C23	66.848	063°50'05"	60.000	37.37
C24	52.730	015°06'22"	200.000	26.52
C25	39.545	004°38'00"	489.000	19.78
C26	59.560	006°58'43"	489.000	29.82
C27	70.467	004°04'57"	989.000	35.25
L13	39.387	N39° 09' 46.50"W		
L14	5.202	S34° 11' 50.27"E		
L15	29.653	S21° 00' 50.90"E		

Curve Table

Curve #	Length	Radius	Delta	Tangent
C29	81.021	297.500	015°36'14"	40.76
C30	19.356	62.500	017°44'39"	9.76

LEGEND

- HMA PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE WALKWAY
- DECORATIVE CONCRETE PAVEMENT
- RETAINING WALL
- WOOD FENCING

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

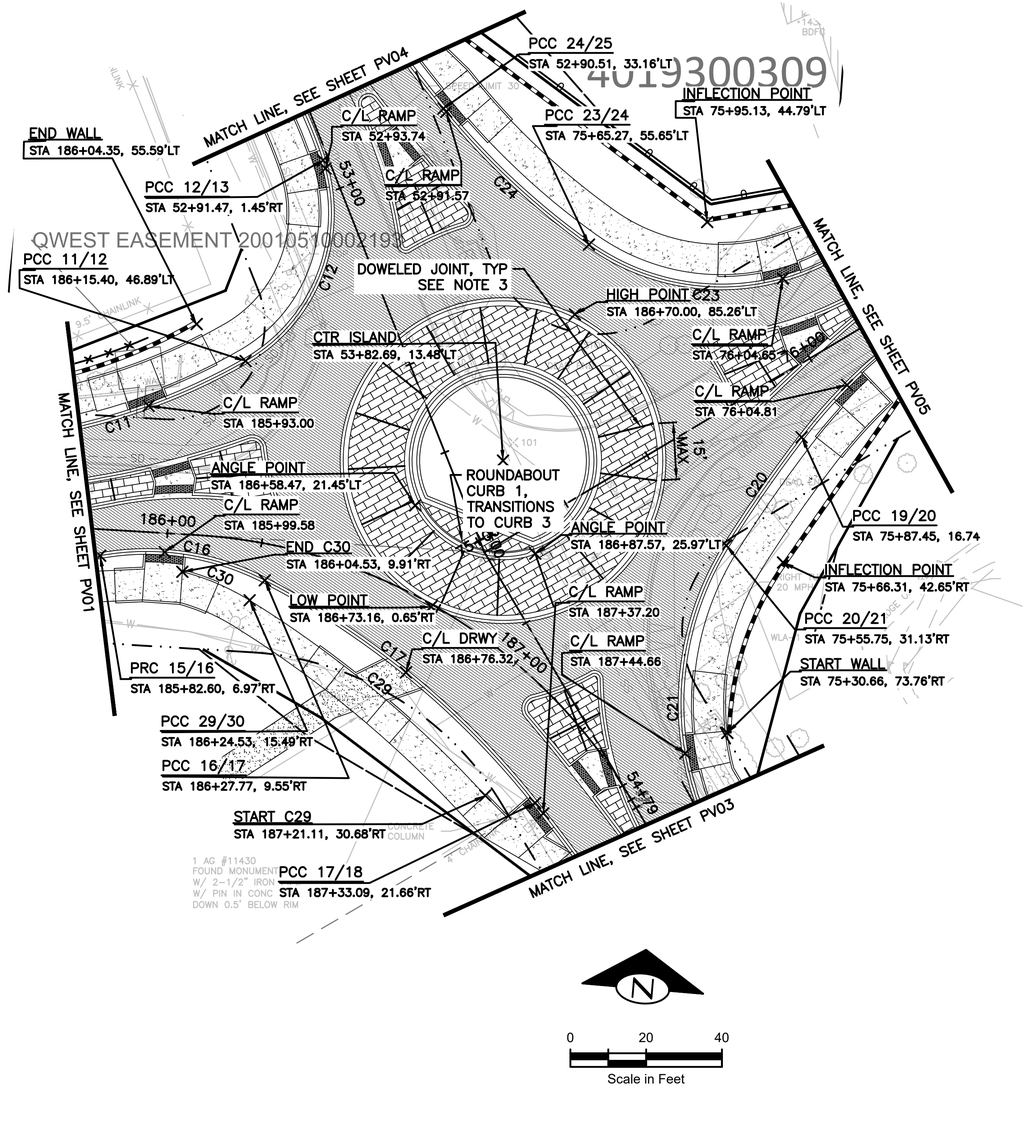
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

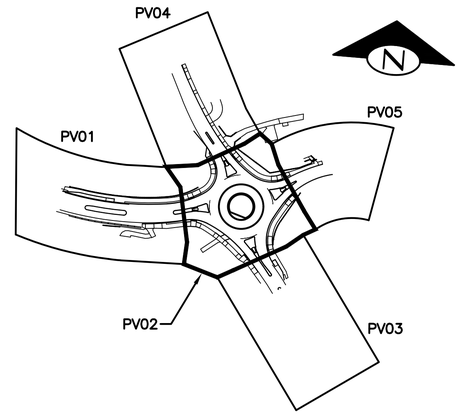
PAVING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	PV01
SHEET	53
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:52:02pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

NOTES:

1. REFER TO SHEETS SI01 AND SI02 FOR SPLITTER ISLANDS.
2. UNLESS OTHERWISE NOTED, ALL ADA CURB RAMPS TO BE COMBINATION CURB RAMPS PER WSDOT STANDARD PLAN F-40.14-03.
3. DOWEL BAR PCCP JOINT PER WSDOT STANDARD PLAN A-40.10-04.
4. REFER TO DRP SHEETS FOR DRIVEWAY PROFILES AND ADDITIONAL NOTES.

Curb Flowline Curve & Line Data

Line #/Curve #	Length	Direction/Delta	Radius	Tangent
C9	127.422	013°20'04"	547.511	64.00
C10	71.743	007°09'41"	574.000	35.92
C11	75.329	026°28'43"	163.000	38.35
C12	61.471	078°16'02"	45.000	36.61
C13	36.790	017°33'57"	120.000	18.54
C14	5.846	000°40'11"	500.000	2.92
C15	74.613	010°22'34"	412.000	37.41
C16	44.754	037°42'33"	68.000	23.22
C17	93.131	024°15'17"	220.000	47.27
C18	39.769	003°52'31"	588.000	19.89
C19	110.332	044°18'27"	142.674	58.09
C20	34.334	005°06'35"	385.000	17.18
C21	91.672	066°29'11"	79.000	51.78
C22	64.718	011°55'23"	311.000	32.48
C23	66.848	063°50'05"	60.000	37.37
C24	52.730	015°06'22"	200.000	26.52
C25	39.545	004°38'00"	489.000	19.78
C26	59.560	006°58'43"	489.000	29.82
C27	70.467	004°04'57"	989.000	35.25
L13	39.387	N39° 09' 46.50"W		
L14	5.202	S34° 11' 50.27"E		
L15	29.653	S21° 00' 50.90"E		

Curve Table

Curve #	Length	Radius	Delta	Tangent
C29	81.021	297.500	015°36'14"	40.76
C30	19.356	62.500	017°44'39"	9.76

LEGEND

- HMA PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE WALKWAY
- DECORATIVE CONCRETE PAVEMENT
- RETAINING WALL
- WOOD FENCING

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9222
WWW.TERRAVISTANW.COM

ERIC J. SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

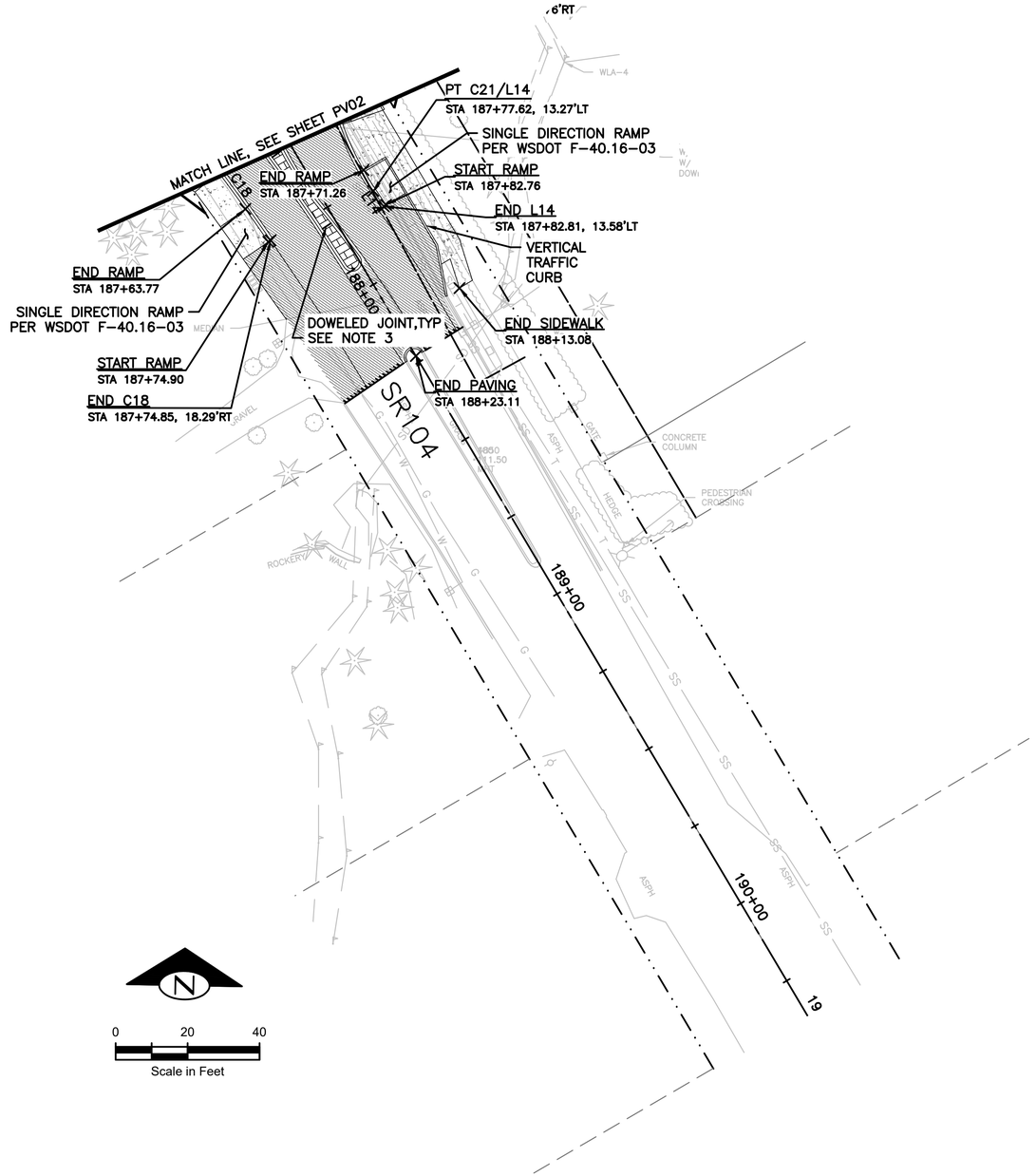
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

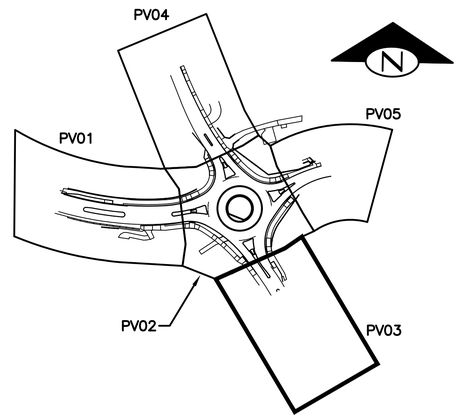
PAVING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	PV02
SHEET	54
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:52:14pm

SEC 10, TWP 26 N, RGE 4 E





KEY MAP
NOT TO SCALE

NOTES:

1. REFER TO SHEETS SI01 AND SI02 FOR SPLITTER ISLANDS.
2. UNLESS OTHERWISE NOTED, ALL ADA CURB RAMPS TO BE COMBINATION CURB RAMPS PER WSDOT STANDARD PLAN F-40.14-03.
3. DOWEL BAR PCCP JOINT PER WSDOT STANDARD PLAN A-40.10-04.
4. REFER TO DRP SHEETS FOR DRIVEWAY PROFILES AND ADDITIONAL NOTES.

Curb Flowline Curve & Line Data

Line #/Curve #	Length	Direction/Delta	Radius	Tangent
C9	127.422	013°20'04"	547.511	64.00
C10	71.743	007°09'41"	574.000	35.92
C11	75.329	026°28'43"	163.000	38.35
C12	61.471	078°16'02"	45.000	36.61
C13	36.790	017°33'57"	120.000	18.54
C14	5.846	000°40'11"	500.000	2.92
C15	74.613	010°22'34"	412.000	37.41
C16	44.754	037°42'33"	68.000	23.22
C17	93.131	024°15'17"	220.000	47.27
C18	39.769	003°52'31"	588.000	19.89
C19	110.332	044°18'27"	142.674	58.09
C20	34.334	005°06'35"	385.000	17.18
C21	91.672	066°29'11"	79.000	51.78
C22	64.718	011°55'23"	311.000	32.48
C23	66.848	063°50'05"	60.000	37.37
C24	52.730	015°06'22"	200.000	26.52
C25	39.545	004°38'00"	489.000	19.78
C26	59.560	006°58'43"	489.000	29.82
C27	70.467	004°04'57"	989.000	35.25
L13	39.387	N39° 09' 46.50"W		
L14	5.202	S34° 11' 50.27"E		
L15	29.653	S21° 00' 50.90"E		

Curve Table

Curve #	Length	Radius	Delta	Tangent
C29	81.021	297.500	015°36'14"	40.76
C30	19.356	62.500	017°44'39"	9.76

LEGEND

- HMA PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE WALKWAY
- DECORATIVE CONCRETE PAVEMENT
- RETAINING WALL
- WOOD FENCING
- CHAIN LINK FENCING

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

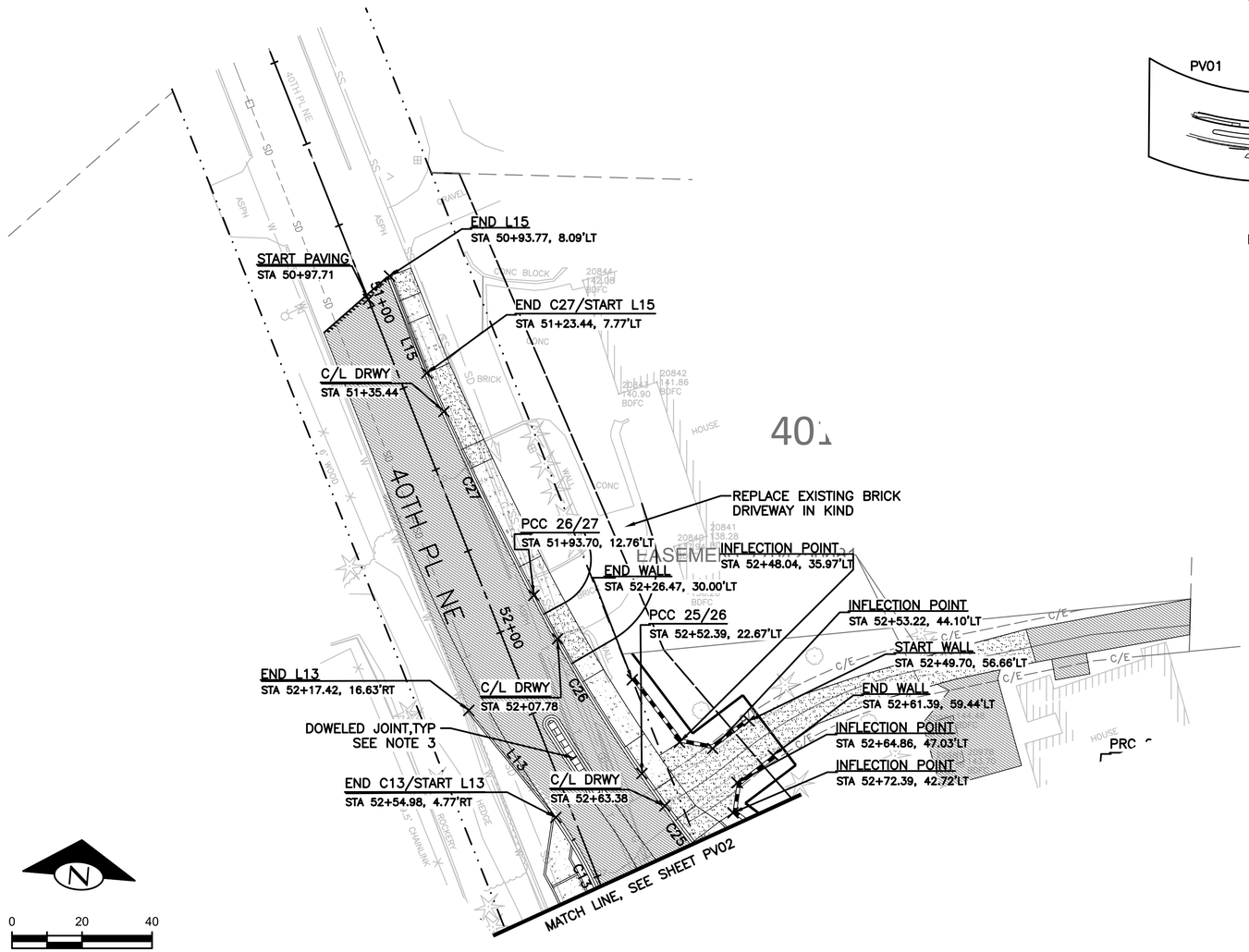
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

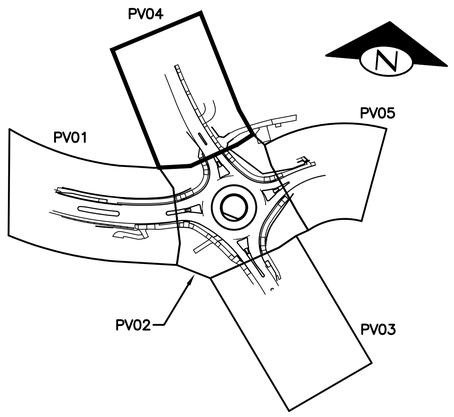
PAVING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	PV03
SHEET	55
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 06/03/25 12:40:02pm

SEC 10, TWP 26 N, RGE 4 E

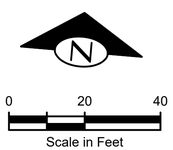




KEY MAP
NOT TO SCALE

NOTES:

1. REFER TO SHEETS SI01 AND SI02 FOR SPLITTER ISLANDS.
2. UNLESS OTHERWISE NOTED, ALL ADA CURB RAMPS TO BE COMBINATION CURB RAMPS PER WSDOT STANDARD PLAN F-40.14-03.
3. DOWEL BAR PCCP JOINT PER WSDOT STANDARD PLAN A-40.10-04.
4. REFER TO DRP SHEETS FOR DRIVEWAY PROFILES AND ADDITIONAL NOTES.



Curb Flowline Curve & Line Data

Line #/Curve #	Length	Direction/Delta	Radius	Tangent
C9	127.422	013°20'04"	547.511	64.00
C10	71.743	007°09'41"	574.000	35.92
C11	75.329	026°28'43"	163.000	38.35
C12	61.471	078°16'02"	45.000	36.61
C13	36.790	017°33'57"	120.000	18.54
C14	5.846	000°40'11"	500.000	2.92
C15	74.613	010°22'34"	412.000	37.41
C16	44.754	037°42'33"	68.000	23.22
C17	93.131	024°15'17"	220.000	47.27
C18	39.769	003°52'31"	588.000	19.89
C19	110.332	044°18'27"	142.674	58.09
C20	34.334	005°06'35"	385.000	17.18
C21	91.672	066°29'11"	79.000	51.78
C22	64.718	011°55'23"	311.000	32.48
C23	66.848	063°50'05"	60.000	37.37
C24	52.730	015°06'22"	200.000	26.52
C25	39.545	004°38'00"	489.000	19.78
C26	59.560	006°58'43"	489.000	29.82
C27	70.467	004°04'57"	989.000	35.25
L13	39.387	N39° 09' 46.50"W		
L14	5.202	S34° 11' 50.27"E		
L15	29.653	S21° 00' 50.90"E		

Curve Table

Curve #	Length	Radius	Delta	Tangent
C29	81.021	297.500	015°36'14"	40.76
C30	19.356	62.500	017°44'39"	9.76

LEGEND

- HMA PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE WALKWAY
- DECORATIVE CONCRETE PAVEMENT
- RETAINING WALL
- WOOD FENCING

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

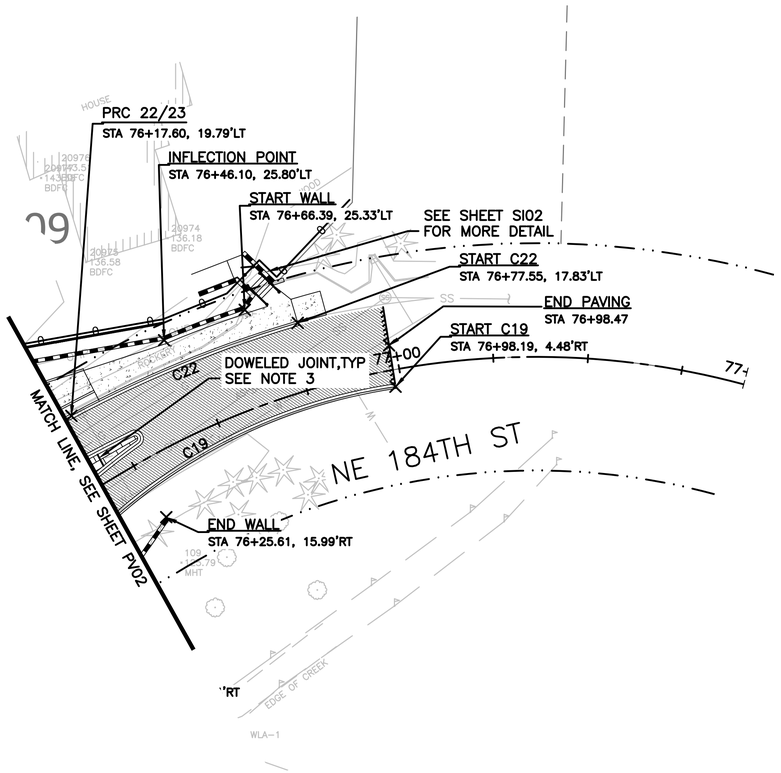
ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

PAVING PLAN

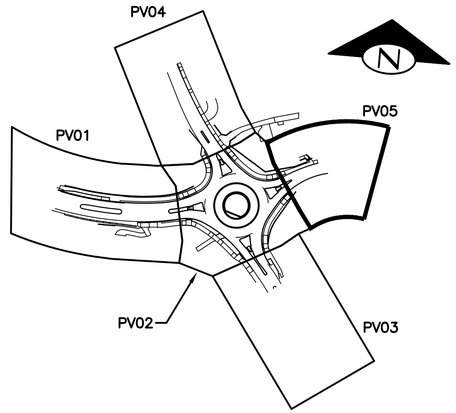
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	PV04
SHEET	56
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:52:39pm



0 20 40

Scale in Feet



KEY MAP
NOT TO SCALE

NOTES:

1. REFER TO SHEETS SI01 AND SI02 FOR SPLITTER ISLANDS.
2. UNLESS OTHERWISE NOTED, ALL ADA CURB RAMPS TO BE COMBINATION CURB RAMPS PER WSDOT STANDARD PLAN F-40.14-03.
3. DOWEL BAR PCCP JOINT PER WSDOT STANDARD PLAN A-40.10-04.
4. REFER TO DRP SHEETS FOR DRIVEWAY PROFILES AND ADDITIONAL NOTES.

Curb Flowline Curve & Line Data

Line #/Curve #	Length	Direction/Delta	Radius	Tangent
C9	127.422	013°20'04"	547.511	64.00
C10	71.743	007°09'41"	574.000	35.92
C11	75.329	026°28'43"	163.000	38.35
C12	61.471	078°16'02"	45.000	36.61
C13	36.790	017°33'57"	120.000	18.54
C14	5.846	000°40'11"	500.000	2.92
C15	74.613	010°22'34"	412.000	37.41
C16	44.754	037°42'33"	68.000	23.22
C17	93.131	024°15'17"	220.000	47.27
C18	39.769	003°52'31"	588.000	19.89
C19	110.332	044°18'27"	142.674	58.09
C20	34.334	005°06'35"	385.000	17.18
C21	91.672	066°29'11"	79.000	51.78
C22	64.718	011°55'23"	311.000	32.48
C23	66.848	063°50'05"	60.000	37.37
C24	52.730	015°06'22"	200.000	26.52
C25	39.545	004°38'00"	489.000	19.78
C26	59.560	006°58'43"	489.000	29.82
C27	70.467	004°04'57"	989.000	35.25
L13	39.387	N39° 09' 46.50"W		
L14	5.202	S34° 11' 50.27"E		
L15	29.653	S21° 00' 50.90"E		

Curve Table

Curve #	Length	Radius	Delta	Tangent
C29	81.021	297.500	015°36'14"	40.76
C30	19.356	62.500	017°44'39"	9.76

LEGEND

- HMA PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE WALKWAY
- DECORATIVE CONCRETE PAVEMENT
- RETAINING WALL
- WOOD FENCING

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED PROFESSIONAL ENGINEER
5/25/25

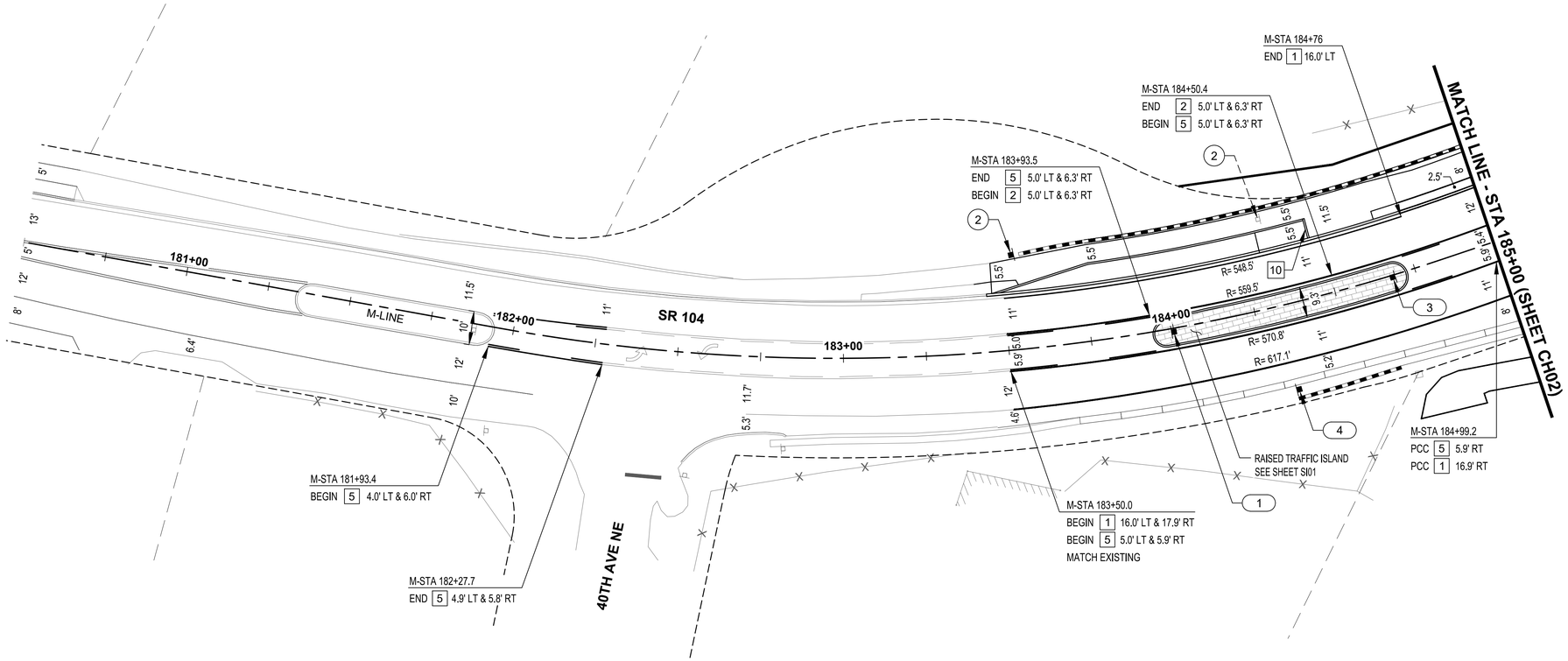
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

PAVING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	PV05
SHEET	57
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:52:54pm

SECTION 10, T 26 N, R 4 E, WM



CHANNELIZATION NOTES:

1. WHITE EDGE LINE, PER WSDOT STD. PLAN M-20.10.
2. YELLOW EDGE LINE, PER WSDOT STD. PLAN M-20.10.
3. WHITE WIDE DOTTED ENTRY LINE, PER WSDOT STD. PLAN M-20.10.
4. YELLOW DOUBLE CENTERLINE, PER WSDOT STD. PLAN M-20.10.
5. YELLOW TWO-WAY LEFT-TURN LINE, PER WSDOT STD. PLAN M-20.10.
6. TRAFFIC ARROW, PER WSDOT STD. PLAN M-24.40.
7. WHITE WIDE EDGE LINE, PER WSDOT STD. PLAN M-20.10.
8. YIELD LINE SYMBOL TYPE 2, PER WSDOT STD. PLAN M-24.60.
9. WHITE CROSSWALK MARKING, PER WSDOT STD. PLAN M-15.10. EXCEPT CHANGE CROSSWALK MARKING WIDTH FROM 8' TO 10'.
10. YELLOW LINEAR DETECTABLE STRIP.

GENERAL NOTES:

1. SEE SHEET CH05 AND CH06 FOR RAISED ISLAND DETAILS AND STRIPING CALLOUTS ADJACENT TO SPLITTER ISLANDS.
2. SEE SHEET CH05 FOR SIGN SCHEDULE.
3. CHANNELIZATION TO BE INSTALLED SHALL BE PER WSDOT STANDARD SECTION M.

SIGN LEGEND:

- (X) - NEW SIGN
- [XXR] - REMOVE EXISTING SIGN
- (X) NEW SIGN LOCATION / EXISTING SIGN LOCATION
- - EXISTING SIGN
- - NEW SIGN

20' 10' 0 20' 40'
SCALE IN FEET

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 34403 — REGISTERED PROFESSIONAL ENGINEER
6/9/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

CHANNELIZATION AND SIGNING PLAN

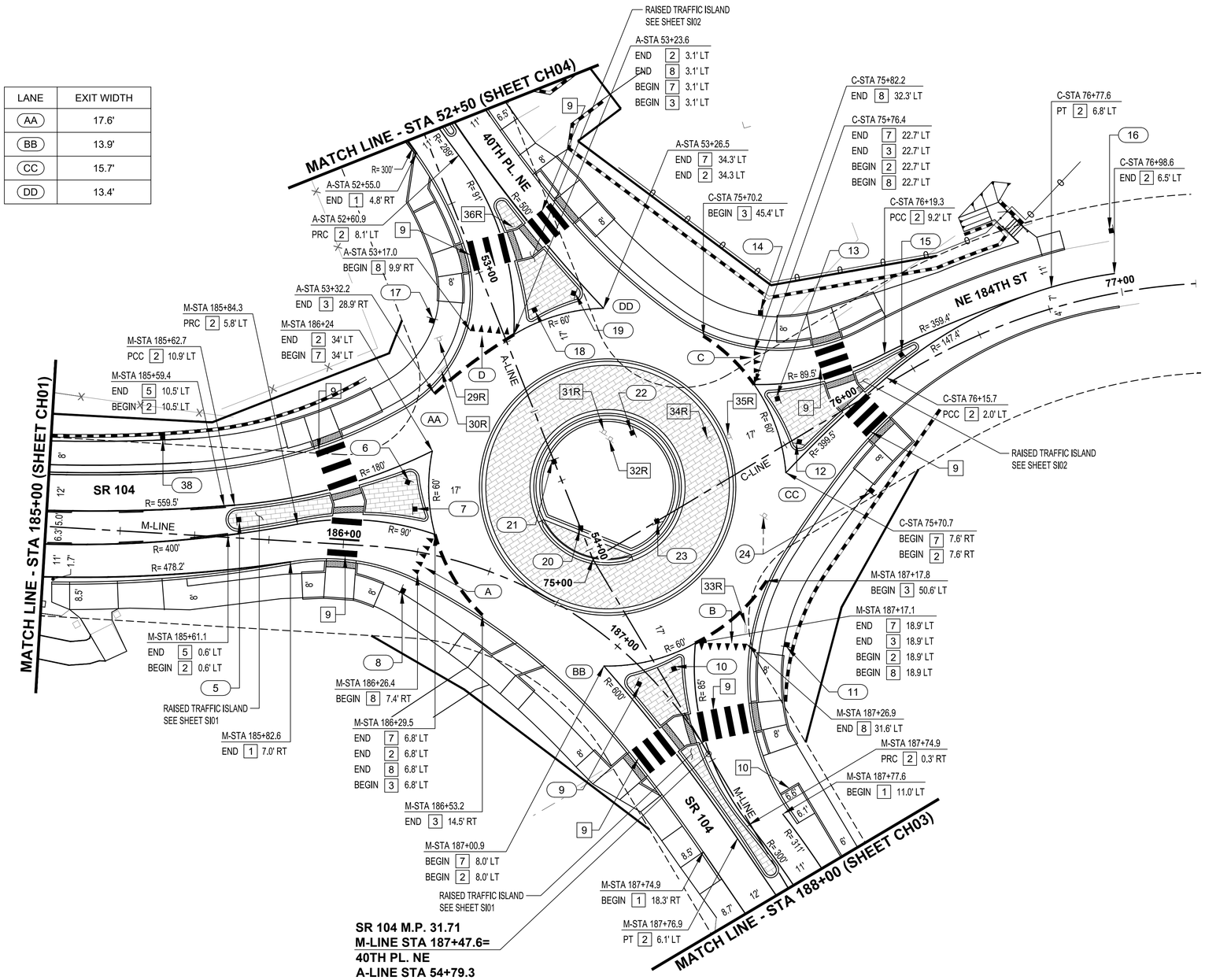
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	CH01
SHEET	58
OF	89

C:\Users\MIKESC~1\AppData\Local\Temp\AcPublish_24568\221007-CH.dwg, 06/09/25 07:29:21am

SECTION 10, T 26 N, R 4 E, WM

LANE	ENTRY WIDTH
A	17.0'
B	18.8'
C	13.1'
D	15.6'

LANE	EXIT WIDTH
AA	17.6'
BB	13.9'
CC	15.7'
DD	13.4'



CHANNELIZATION NOTES:

1. WHITE EDGE LINE, PER WSDOT STD. PLAN M-20.10.
2. YELLOW EDGE LINE, PER WSDOT STD. PLAN M-20.10.
3. WHITE WIDE DOTTED ENTRY LINE, PER WSDOT STD. PLAN M-20.10.
4. YELLOW DOUBLE CENTERLINE, PER WSDOT STD. PLAN M-20.10.
5. YELLOW TWO-WAY LEFT-TURN LINE, PER WSDOT STD. PLAN M-20.10.
6. TRAFFIC ARROW, PER WSDOT STD. PLAN M-24.40.
7. WHITE WIDE EDGE LINE, PER WSDOT STD. PLAN M-20.10.
8. YIELD LINE SYMBOL TYPE 2, PER WSDOT STD. PLAN M-24.60.
9. WHITE CROSSWALK MARKING, PER WSDOT STD. PLAN M-15.10. EXCEPT CHANGE CROSSWALK MARKING WIDTH FROM 8' TO 10'.
10. YELLOW LINEAR DETECTABLE STRIP.

GENERAL NOTES:

1. SEE SHEET CH05 AND CH06 FOR RAISED ISLAND DETAILS AND STRIPING CALLOUTS ADJACENT TO SPLITTER ISLANDS.
2. SEE SHEET CH05 FOR SIGN SCHEDULE.
3. CHANNELIZATION TO BE INSTALLED SHALL BE PER WSDOT STANDARD SECTION M.

SIGN LEGEND:

- (X) - NEW SIGN
- [XXR] - REMOVE EXISTING SIGN
- (X) NEW SIGN LOCATION / EXISTING SIGN LOCATION
- - EXISTING SIGN
- - NEW SIGN

SCALE IN FEET: 20' 10' 0 20' 40'

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 24403 — REGISTERED PROFESSIONAL ENGINEER
6/9/25

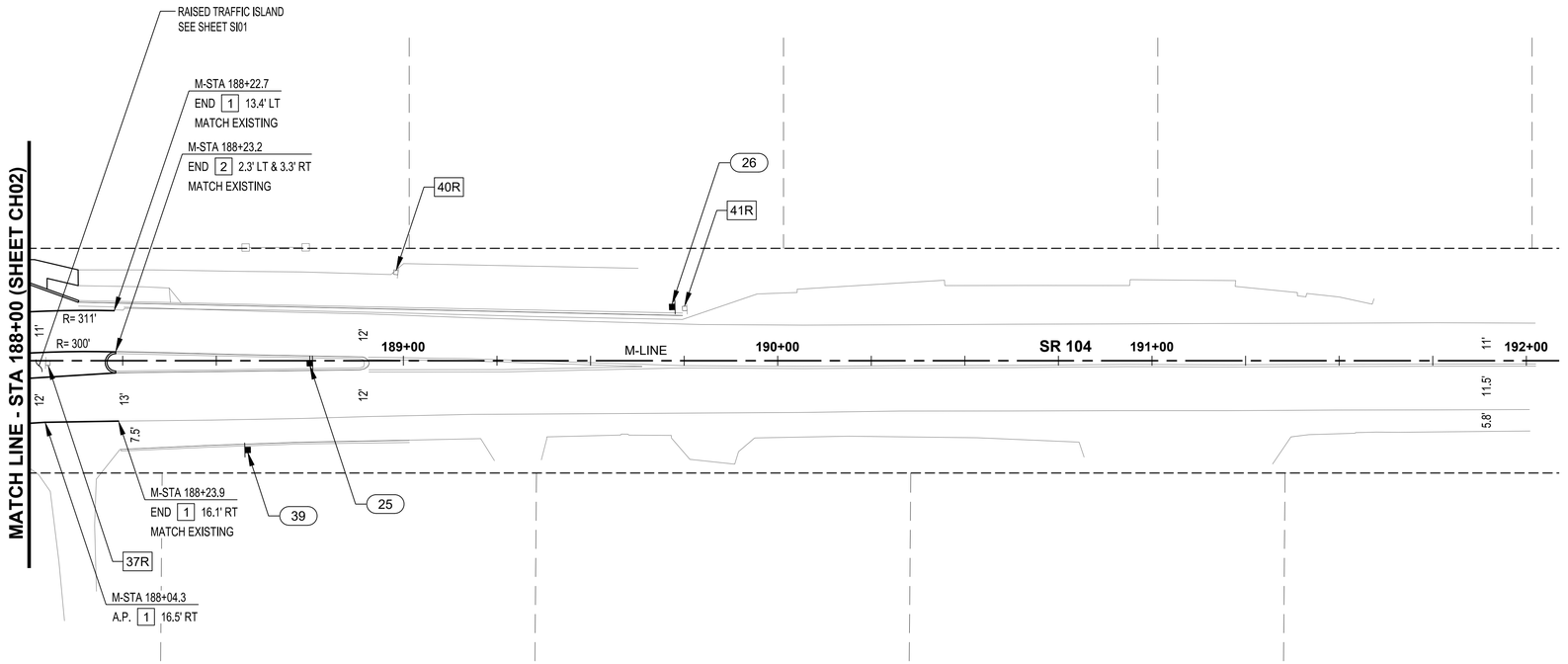
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

CHANNELIZATION AND SIGNING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	CH02
SHEET	59
OF	89

C:\Users\MIKESC~1\AppData\Local\Temp\AcPublish_24568\221007-CH.dwg, 06/09/25 07:29:22am

SECTION 10, T 26 N, R 4 E, WM



CHANNELIZATION NOTES:

1. WHITE EDGE LINE, PER WSDOT STD. PLAN M-20.10.
2. YELLOW EDGE LINE, PER WSDOT STD. PLAN M-20.10.
3. WHITE WIDE DOTTED ENTRY LINE, PER WSDOT STD. PLAN M-20.10.
4. YELLOW DOUBLE CENTERLINE, PER WSDOT STD. PLAN M-20.10.
5. YELLOW TWO-WAY LEFT-TURN LINE, PER WSDOT STD. PLAN M-20.10.
6. TRAFFIC ARROW, PER WSDOT STD. PLAN M-24.40.
7. WHITE WIDE EDGE LINE, PER WSDOT STD. PLAN M-20.10.
8. YIELD LINE SYMBOL TYPE 2, PER WSDOT STD. PLAN M-24.60.
9. WHITE CROSSWALK MARKING, PER WSDOT STD. PLAN M-15.10. EXCEPT CHANGE CROSSWALK MARKING WIDTH FROM 8' TO 10'.
10. YELLOW LINEAR DETECTABLE STRIP.

GENERAL NOTES:

1. SEE SHEET CH05 AND CH06 FOR RAISED ISLAND DETAILS AND STRIPING CALLOUTS ADJACENT TO SPLITTER ISLANDS.
2. SEE SHEET CH05 FOR SIGN SCHEDULE.
3. CHANNELIZATION TO BE INSTALLED SHALL BE PER WSDOT STANDARD SECTION M.

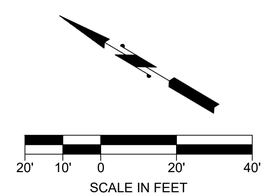
SIGN LEGEND:

(X) - NEW SIGN

[XXR] - REMOVE EXISTING SIGN

(X) NEW SIGN LOCATION
EXISTING SIGN LOCATION

- EXISTING SIGN
- NEW SIGN



NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 24403 — REGISTERED PROFESSIONAL ENGINEER
6/9/25

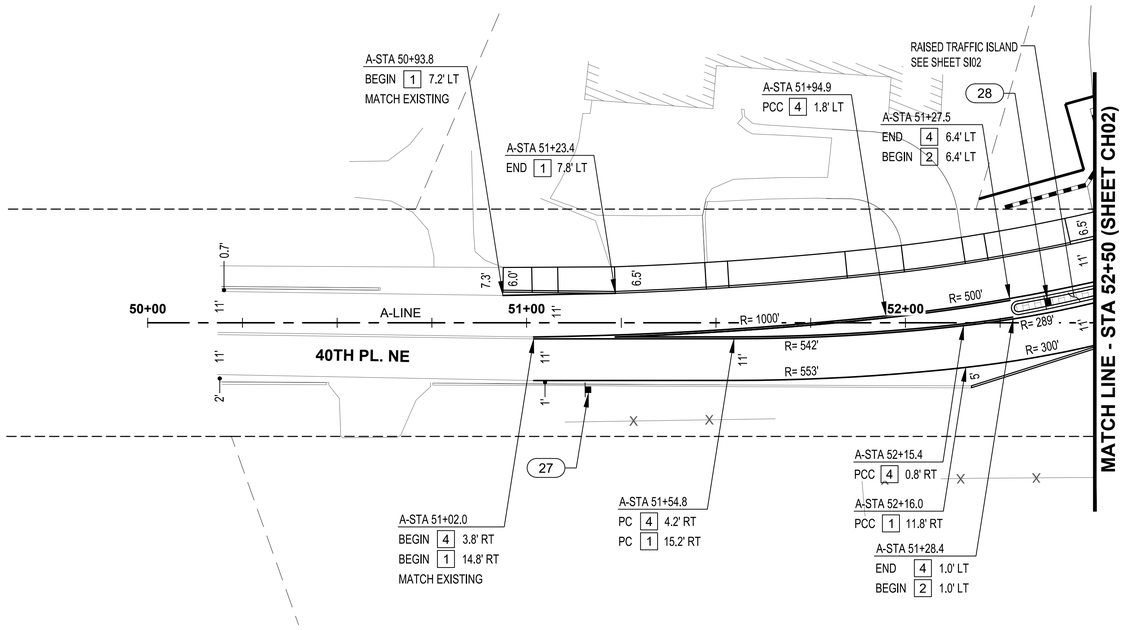
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

CHANNELIZATION AND SIGNING PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **CH03**
SHEET 60
OF 89

C:\Users\MIKESC~1\AppData\Local\Temp\AcPublish_24568\221007-CH.dwg, 06/09/25 07:29:23am

SECTION 10, T 26 N, R 4 E, WM



CHANNELIZATION NOTES:

1. WHITE EDGE LINE, PER WSDOT STD. PLAN M-20.10.
2. YELLOW EDGE LINE, PER WSDOT STD. PLAN M-20.10.
3. WHITE WIDE DOTTED ENTRY LINE, PER WSDOT STD. PLAN M-20.10.
4. YELLOW DOUBLE CENTERLINE, PER WSDOT STD. PLAN M-20.10.
5. YELLOW TWO-WAY LEFT-TURN LINE, PER WSDOT STD. PLAN M-20.10.
6. TRAFFIC ARROW, PER WSDOT STD. PLAN M-24.40.
7. WHITE WIDE EDGE LINE, PER WSDOT STD. PLAN M-20.10.
8. YIELD LINE SYMBOL TYPE 2, PER WSDOT STD. PLAN M-24.60.
9. WHITE CROSSWALK MARKING, PER WSDOT STD. PLAN M-15.10. EXCEPT CHANGE CROSSWALK MARKING WIDTH FROM 8' TO 10'.
10. YELLOW LINEAR DETECTABLE STRIP.

GENERAL NOTES:

1. SEE SHEET CH05 AND CH06 FOR RAISED ISLAND DETAILS AND STRIPING CALLOUTS ADJACENT TO SPLITTER ISLANDS.
2. SEE SHEET CH05 FOR SIGN SCHEDULE.
3. CHANNELIZATION TO BE INSTALLED SHALL BE PER WSDOT STANDARD SECTION M.

SIGN LEGEND:

(X) - NEW SIGN

[XXR] - REMOVE EXISTING SIGN

(X) NEW SIGN LOCATION / EXISTING SIGN LOCATION

- EXISTING SIGN

- NEW SIGN

20' 10' 0 20' 40'

SCALE IN FEET

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 34403 — REGISTERED PROFESSIONAL ENGINEER
6/9/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

CHANNELIZATION AND SIGNING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	CH04
SHEET	61
OF	89

C:\Users\MtKESC-1\AppData\Local\Temp\AcPublish_24568\221007-CH.dwg, 06/09/25 07:29:24am

SIGN SCHEDULE

SIGN NO.	STATION	OFFSET	SIGN TYPE	SIGN SIZE W (IN)	SIGN SIZE H (IN)	DESCRIPTION	REMARKS
1	184+00.0	1.0' RT	R4-7	18	24	KEEP RIGHT SYMBOL	NEW SIGN & POST
2	183+53.4	28.5' LT				REDUCED SIGHT DISTANCE HIDDEN DRIVEWAYS 25 MPH	RELOCATE (3) SIGNS ON NEW POST
3	184+67.9	0.6' RT	R4-7	18	24	KEEP RIGHT SYMBOL	NEW SIGN & POST
4	184+32.7	25.8' RT	W2-6P	30	18	ROUNDABOUT AHEAD	MOUNT ABOVE W2-6 SIGN
			W2-6	30	30	CIRCULAR INTERSECTION	NEW SIGN & POST
			W13-1P	18	18	20 MPH	MOUNT BELOW W2-6 SIGN
5	185+63.2	5.9' LT	R4-7	18	24	KEEP RIGHT SYMBOL	NEW SIGN & POST
6	186+18.6	22.5' LT	D3-1a	VARIES	12	SR 104 SYMBOL / BALLINGER WAY NE	NEW SIGN & POST
7	186+21.9	13.9' LT	R1-2	36	36	YIELD	NEW SIGN & POST
8	186+22.3	13.6' RT	R1-2	36	36	YIELD	NEW SIGN & POST
			R6-5P	30	30	ROUNDABOUT CIRCULATION	MOUNT BELOW R1-2 SIGN
9	187+14.1	4.3' RT	D3-1a	VARIES	12	SR 104 SYMBOL / BALLINGER WAY NE	NEW SIGN & POST
10	187+18.3	7.7' LT	R1-2	36	36	YIELD	NEW SIGN & POST
11	187+33.6	42.2' LT	R1-2	36	36	YIELD	NEW SIGN & POST
			R6-5P	30	30	ROUNDABOUT CIRCULATION	MOUNT BELOW R1-2 SIGN
12	75+79.6	1.6' RT	D3-302	VARIES	12	NE 184TH ST	NEW SIGN & POST
13	75+80.7	14.6' LT	R1-2	36	36	YIELD	NEW SIGN & POST
14	75+90.6	42.3' LT	R1-2	36	36	YIELD	NEW SIGN & POST
			R6-5P	30	30	ROUNDABOUT CIRCULATION	MOUNT BELOW R1-2 SIGN
15	76+24.0	6.0' LT	R4-7	18	24	KEEP RIGHT SYMBOL	NEW SIGN & POST
16	77+00.0	20.9' LT	W2-6P	30	18	ROUNDABOUT AHEAD	MOUNT ABOVE W2-6 SIGN
			W2-6	30	30	CIRCULAR INTERSECTION	NEW SIGN & POST
			W13-1P	18	18	20 MPH	MOUNT BELOW W2-6 SIGN
17	53+09.1	20.7'RT	R1-2	36	36	YIELD	NEW SIGN & POST
			R6-5P	30	30	ROUNDABOUT CIRCULATION	MOUNT BELOW R1-2 SIGN
18	53+18.4	12.6' LT	R1-2	36	36	YIELD	NEW SIGN & POST
19	53+18.1	26.8' LT	D3-302	VARIES	12	40TH PL NE	NEW SIGN & POST
20	186+70.1	26.0' LT	R6-1L	36	12	ONE WAY	NEW SIGN & POST
			OM1-3	18	18	OBJECT MARKER	MOUNT BELOW R6-1L SIGN
21	53+68.2	0.0' RT	R6-1L	36	12	ONE WAY	NEW SIGN & POST
			OM1-3	18	18	OBJECT MARKER	MOUNT BELOW R6-1L SIGN
22	75+33.1	29.7' LT	R6-1L	36	12	ONE WAY	NEW SIGN & POST
			OM1-3	18	18	OBJECT MARKER	MOUNT BELOW R6-1L SIGN
23	186+86.8	41.4' LT	R6-1L	36	12	ONE WAY	NEW SIGN & POST
			OM1-3	18	18	OBJECT MARKER	MOUNT BELOW R6-1L SIGN
24	75+92.0	28.1' RT	W14-1			DEAD END	RELOCATE SIGN ON NEW POST
25	188+75.0	0.7' RT	R4-7	18	24	KEEP RIGHT SYMBOL	NEW SIGN & POST
26	189+71.8	14.4' RT	W2-6P	30	18	ROUNDABOUT AHEAD	MOUNT ABOVE W2-6 SIGN
			W2-6	30	30	CIRCULAR INTERSECTION	NEW SIGN & POST
			W13-1P	18	18	20 MPH	MOUNT BELOW W2-6 SIGN
27	51+16.2	17.7' RT	W2-6P	30	18	ROUNDABOUT AHEAD	MOUNT ABOVE W2-6 SIGN
			W2-6	30	30	CIRCULAR INTERSECTION	NEW SIGN & POST
			W13-1P	18	18	20 MPH	MOUNT BELOW W2-6 SIGN

SIGN SCHEDULE

SIGN NO.	STATION	OFFSET	SIGN TYPE	SIGN SIZE W (IN)	SIGN SIZE H (IN)	DESCRIPTION	REMARKS
28	52+37.6	5.5' LT	R4-7	18	24	KEEP RIGHT SYMBOL	NEW SIGN & POST
29R			R1-1			STOP	REMOVE SIGN & POST
30R			SPECIAL			20 MPH WITH ARROW	REMOVE SIGN & POST(S)
31R			SPECIAL			ARROW	REMOVE SIGN & POST
32R			D3-302			STREET NAME SIGNS	REMOVE SIGN(S) & POST
33R			SPECIAL			20 MPH WITH ARROW	REMOVE SIGN & POST(S)
34R			W14-1			DEAD END	
35R			R1-1			STOP	REMOVE SIGN & POST
36R			R2-1			SPEED LIMIT 30	REMOVE SIGN & POST
37R			R4-7			KEEP RIGHT SYMBOL	REMOVE SIGN & POST
38	185+37.6	32.1' LT	M1-701	24	36	WEST, SR 104	NEW SIGN & POST
39	188+58.4	23.9' RT	M1-701	24	36	EAST, SR 104	NEW SIGN & POST
40R			W11-2			PEDESTRIAN CROSSING SYMBOL	REMOVE SIGN & POST
			W16-9P			AHEAD	
41R			W16-6P			CURVE AHEAD	REMOVE SIGN & POST
			R2-1			20 MPH	

SIGNING NOTES:

1. FOR SIGNS AND SIGN SUPPORT DETAILS, SEE WSDOT STANDARD PLANS, SECTION G.
2. SIGN CLEARANCE FROM BOTTOM OF SIGN - 7' ABOVE SIDEWALK. OFFSETS ARE NOTED ON PLAN.
3. EXISTING SIGNS SHALL MOUNTED ON NEW 2 1/4" I.D. PERFORATED SQUARE STEEL POSTS, UNLESS OTHERWISE NOTED. EXISTING FOUNDATIONS SHALL BE REMOVED AND BACKFILLED, UNLESS OTHERWISE NOTED.
4. PROTECT AND MAINTAIN ALL SIGNS NOT NOTED ON PLANS.
5. ALL SIGN LOCATIONS SHALL BE MARKED OR STAKED PRIOR TO INSTALLATION FOR APPROVAL BY THE ENGINEER.
6. ALL NEW PERFORATED SQUARE STEEL SIGN POSTS SHALL INCLUDE VIS-Z-SHIELD, OR APPROVED EQUAL, WITH A MATCHING COLOR TO THE SIGN(S) SUPPORTED, ALONG THE FULL EXPOSED LENGTH OF THE STEEL SIGN SUPPORT.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 34403 — REGISTERED PROFESSIONAL ENGINEER
6/9/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

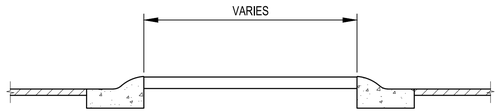
SIGN SCHEDULE

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. CH05
SHEET 62
OF 89

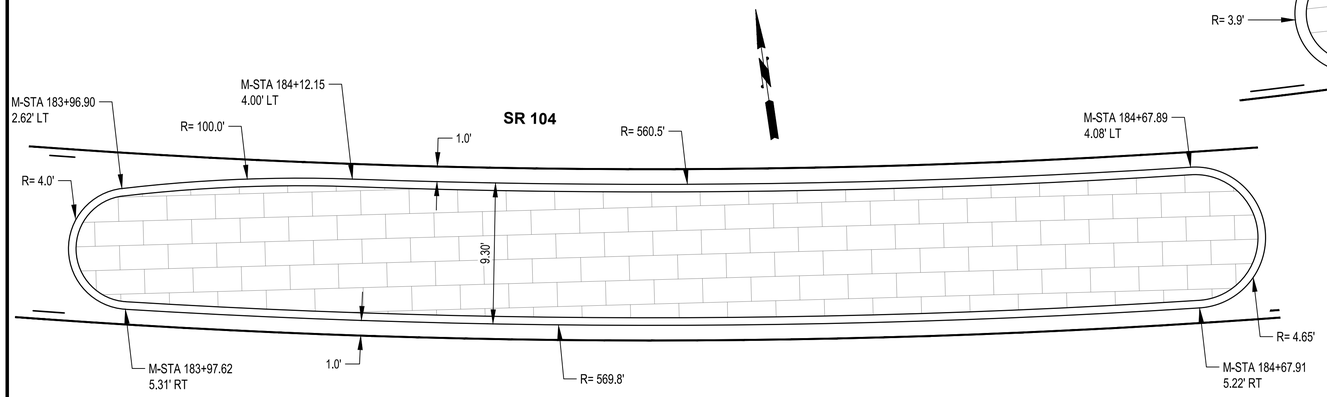
C:\Users\MIKESC~1\AppData\Local\Temp\AcPublish_24568\221007-CH.dwg, 06/09/25 07:29:25am

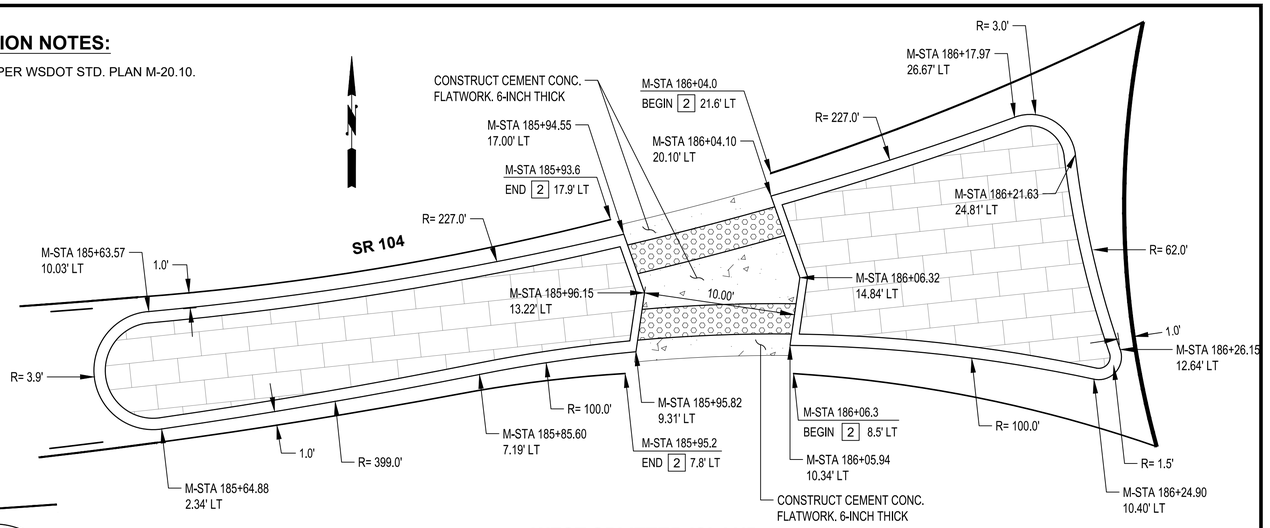
CHANNELIZATION NOTES:

2 YELLOW EDGE LINE, PER WSDOT STD. PLAN M-20.10.



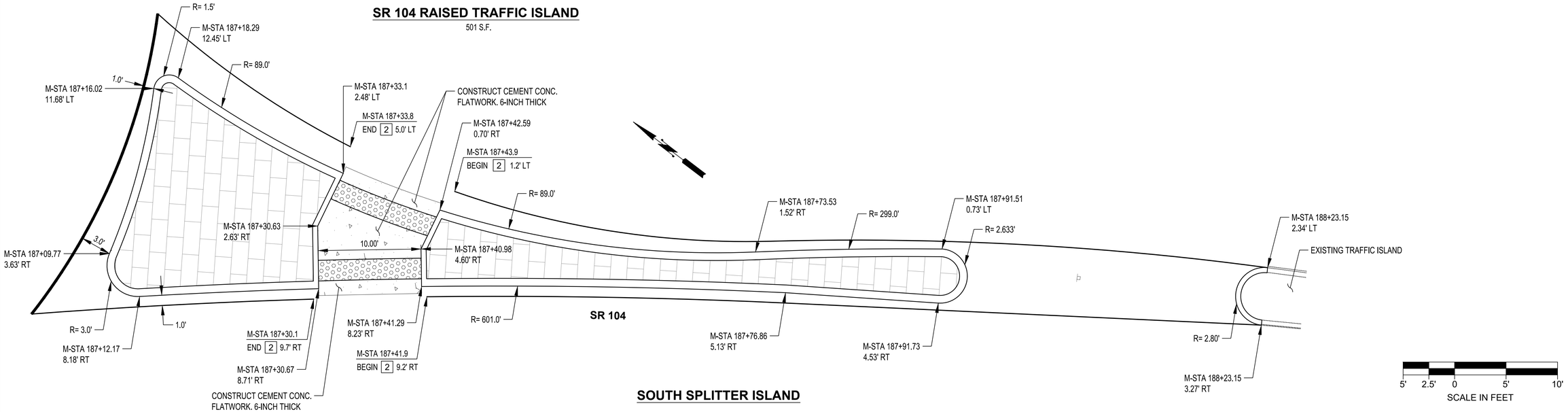
RAISED ISLAND CROSS SECTION





WEST SPLITTER ISLAND
633 S.F.

SR 104 RAISED TRAFFIC ISLAND
501 S.F.



SOUTH SPLITTER ISLAND

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 54403 — REGISTERED PROFESSIONAL ENGINEER
6/9/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

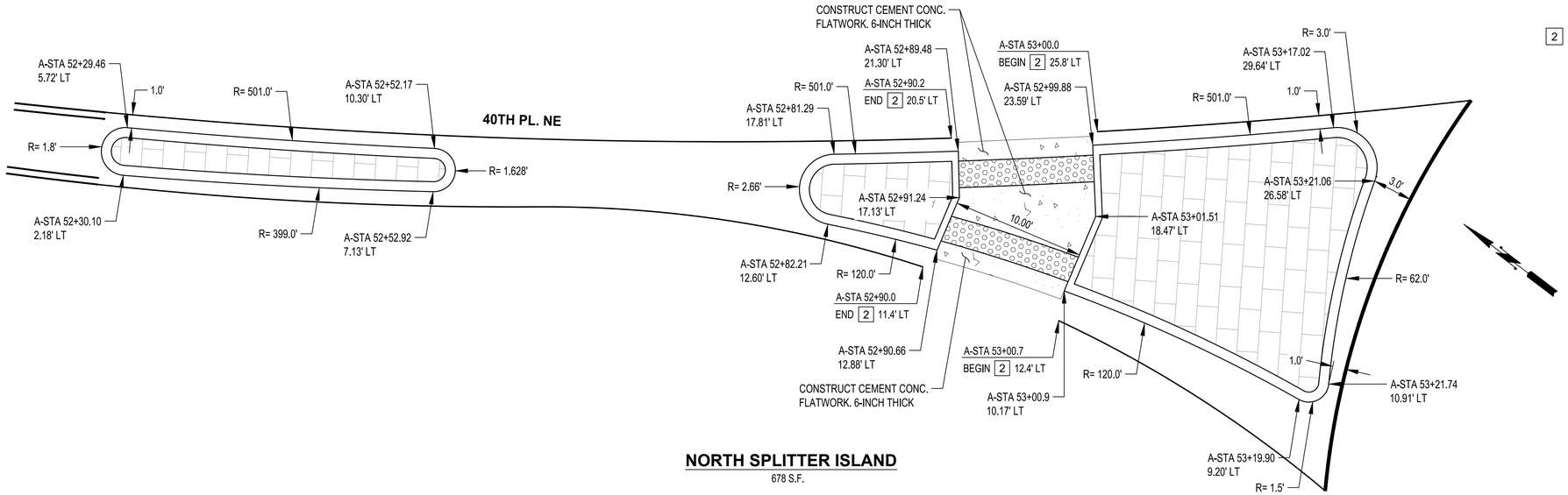
ISLAND DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	ID01
SHEET	63
OF	89

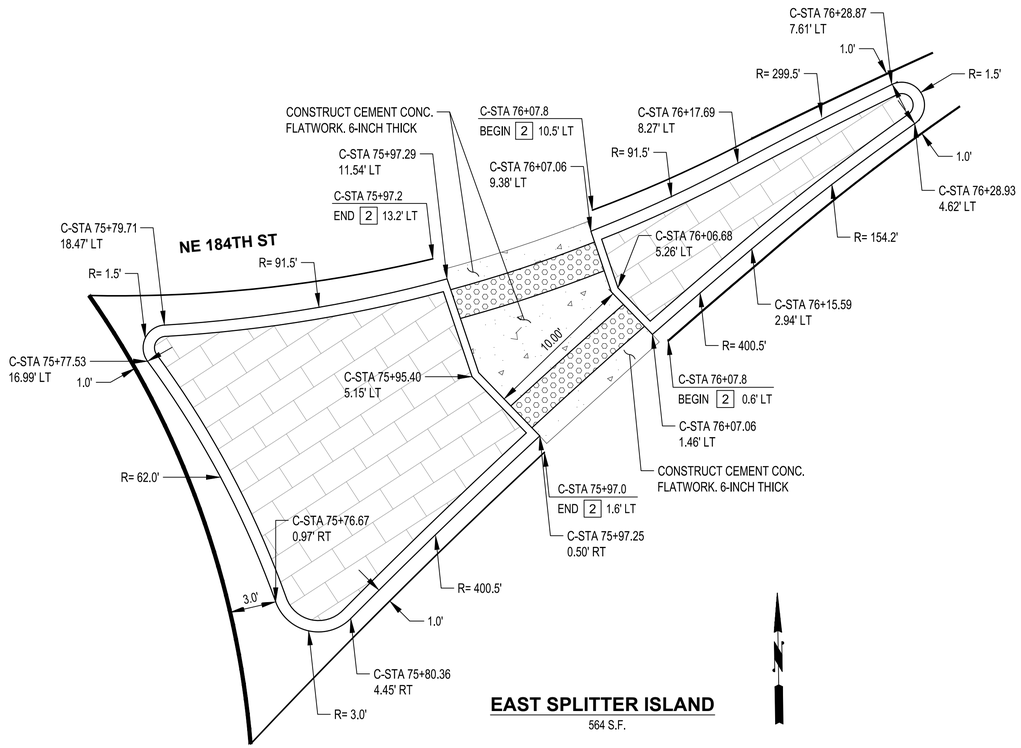
C:\Users\MIKESC~1\AppData\Local\Temp\AcPublish_24568\221007-CH.dwg, 06/09/25 07:29:26am

CHANNELIZATION NOTES:

2 YELLOW EDGE LINE, PER WSDOT STD. PLAN M-20.10.



NORTH SPLITTER ISLAND
678 S.F.



EAST SPLITTER ISLAND
564 S.F.

5' 2.5' 0 5' 10'
SCALE IN FEET

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 34403 — REGISTERED PROFESSIONAL ENGINEER
6/9/25

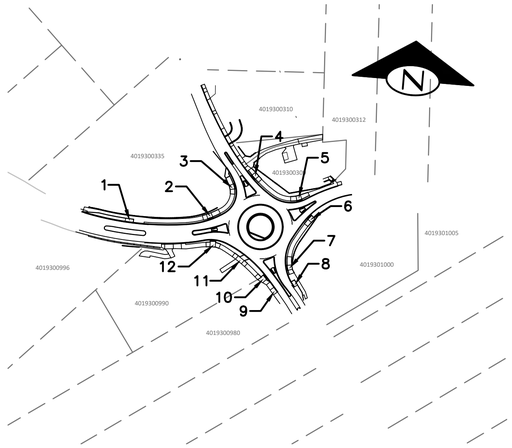
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

ISLAND DETAILS

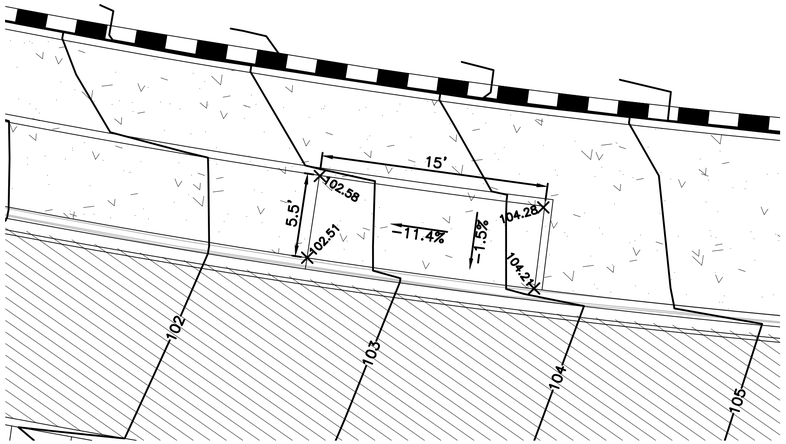
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	ID02
SHEET	64
OF	89

C:\Users\MIKESC~1\AppData\Local\Temp\AcPublish_24568\221007-CH.dwg, 06/09/25 07:29:28am

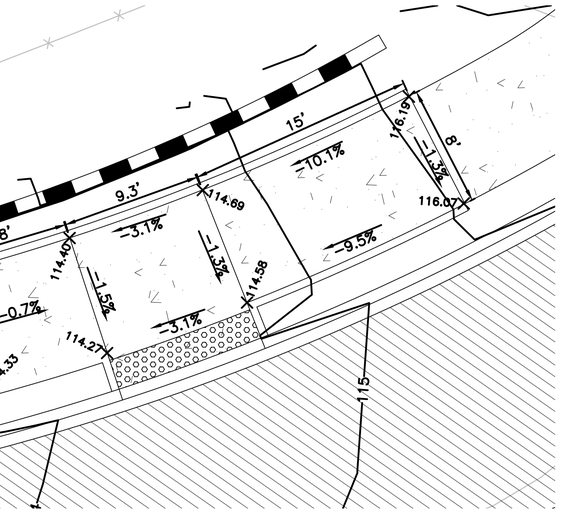
SEC 10, TWP 26 N, RGE 4 E



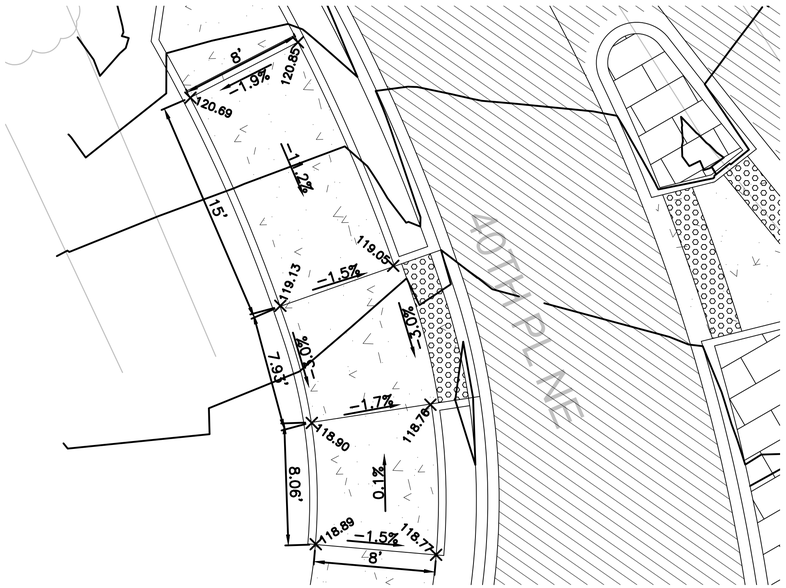
KEY MAP
NOT TO SCALE



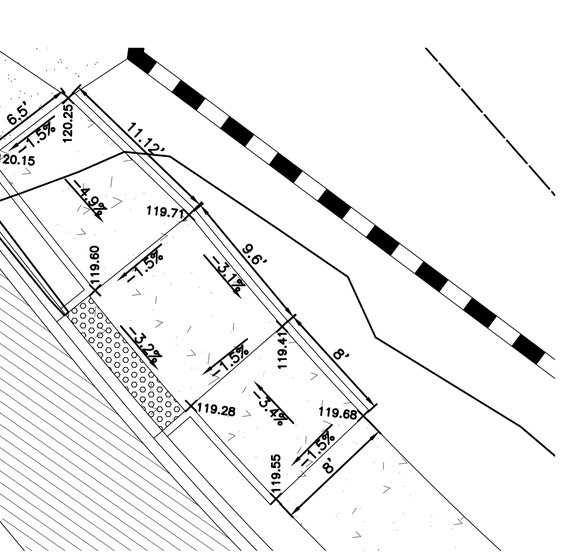
BIKE RAMP 1 DETAIL



CURB RAMP 2 DETAIL



CURB RAMP 3 DETAIL



CURB RAMP 4 DETAIL

N

0 5 10
Scale in Feet

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR. #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

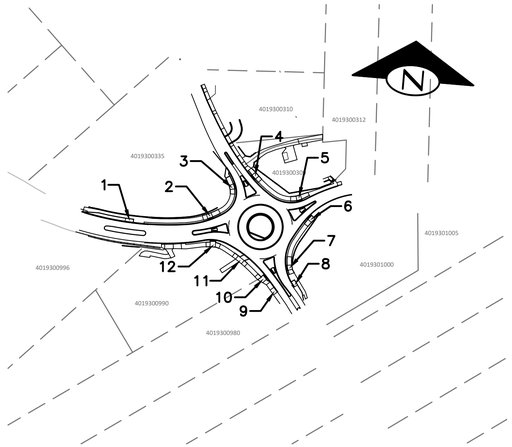
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

CURB RAMP DETAILS

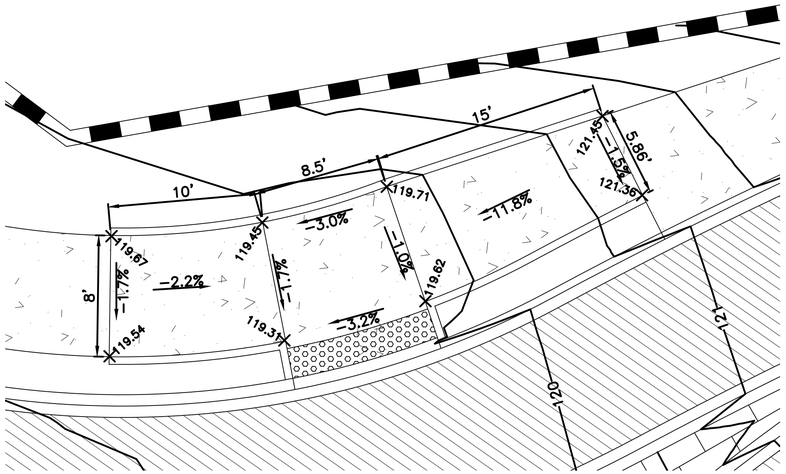
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	CR01
SHEET	65
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:53:13pm

SEC 10, TWP 26 N, RGE 4 E



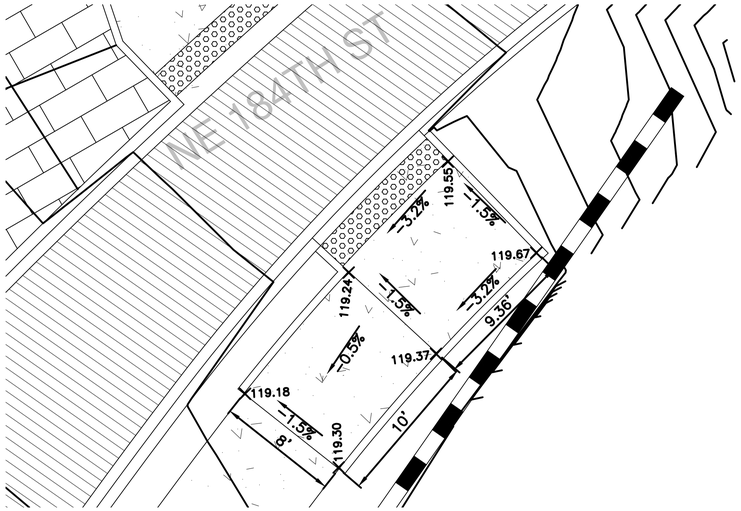
KEY MAP
NOT TO SCALE



CURB RAMP 5 DETAIL

N

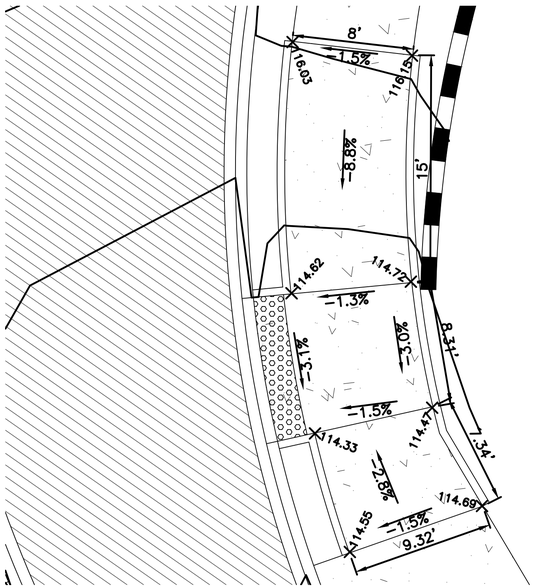
0 5 10
Scale in Feet



CURB RAMP 6 DETAIL

N

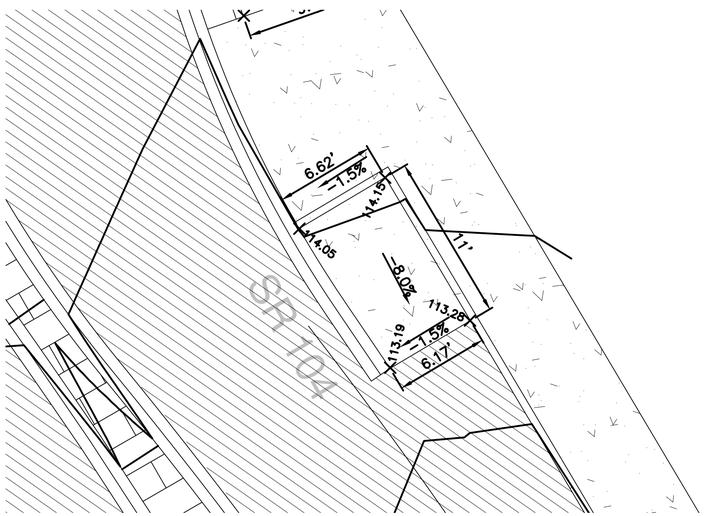
0 5 10
Scale in Feet



CURB RAMP 7 DETAIL

N

0 5 10
Scale in Feet



BIKE RAMP 8 DETAIL

N

0 5 10
Scale in Feet

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's **below.** **Call** before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR, #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

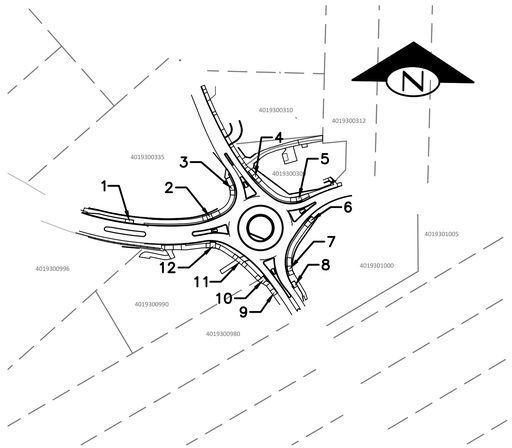
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

CURB RAMP DETAILS

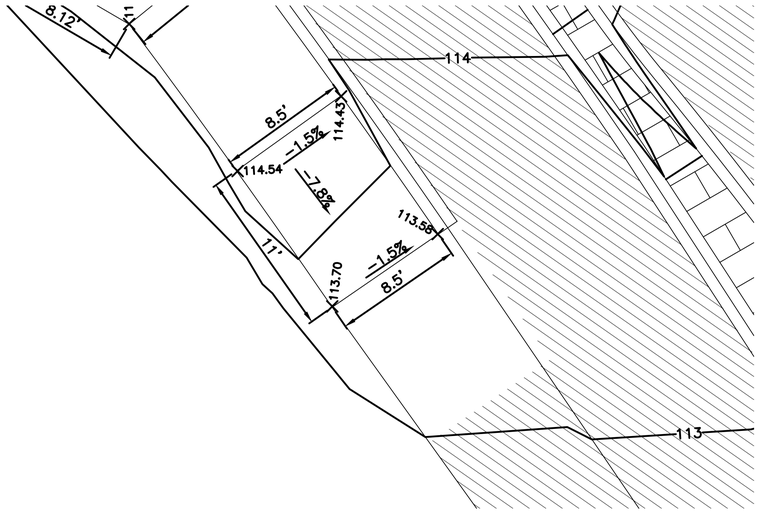
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	CR02
SHEET	66
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:53:28pm

SEC 10, TWP 26 N, RGE 4 E



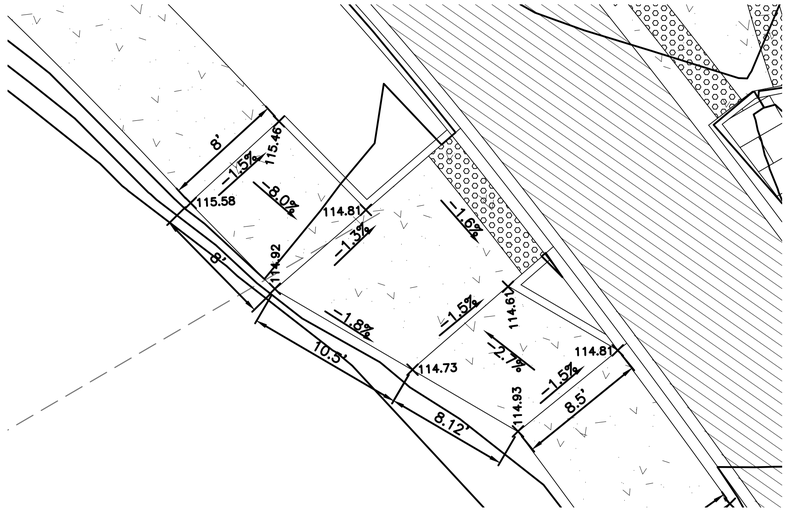
KEY MAP
NOT TO SCALE



BIKE RAMP 9 DETAIL

N

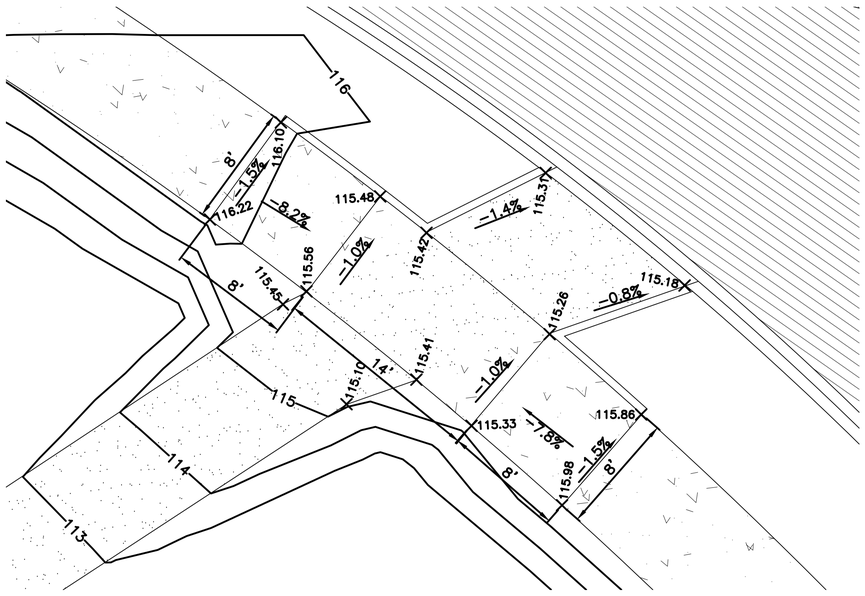
0 5 10
Scale in Feet



CURB RAMP 10 DETAIL

N

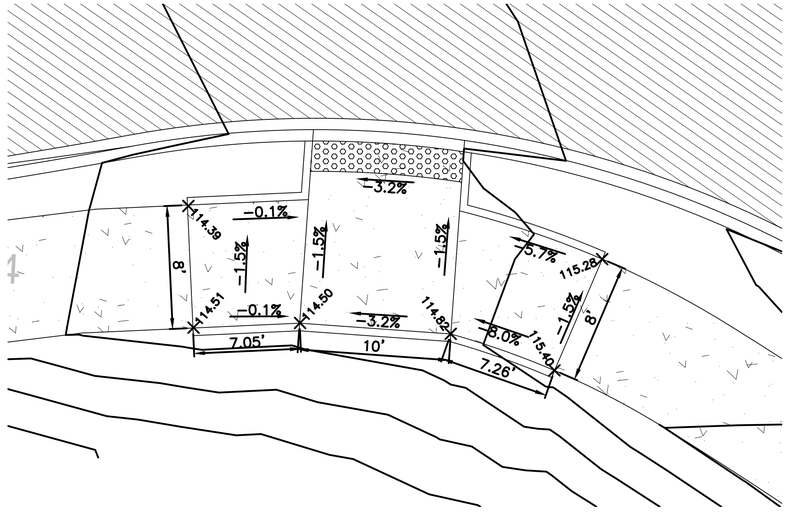
0 5 10
Scale in Feet



DRIVEWAY RAMPS 11 DETAIL

N

0 5 10
Scale in Feet



CURB RAMP 12 DETAIL

N

0 5 10
Scale in Feet

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	R. PFIEFLE	5/25/2025
Designed	R. PFIEFLE	5/25/2025
Reviewed	E. SCOTT	5/25/2025
Approved	E. SCOTT	5/25/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

TerraVista NW LLC
Consulting Engineers
3204 SMOKEY POINT DR. #207
ARLINGTON, WA 98223
360-691-9272
WWW.TERRAVISTANW.COM

ERIC J. SCOTT
STATE OF WASHINGTON
36704
REGISTERED
PROFESSIONAL ENGINEER
5/25/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

CURB RAMP DETAILS

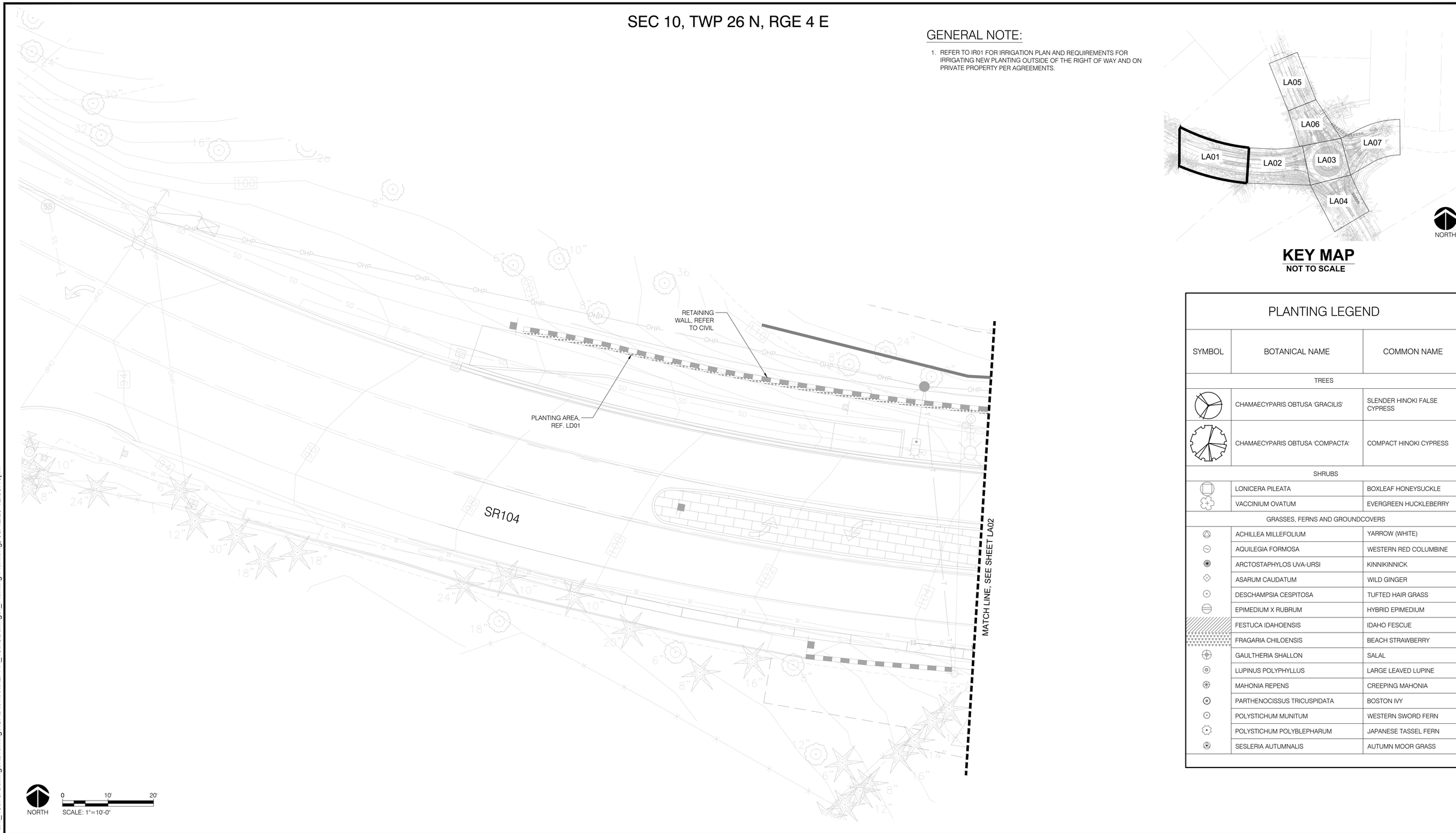
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	CR03
SHEET	67
OF	89

T:\Projects\200902 Lk Forest Park Roundabout (Lk Forest Park)\Plans\LFPR_P-CIVIL.dwg, 05/14/25 02:53:49pm

SEC 10, TWP 26 N, RGE 4 E

GENERAL NOTE:

1. REFER TO IR01 FOR IRRIGATION PLAN AND REQUIREMENTS FOR IRRIGATING NEW PLANTING OUTSIDE OF THE RIGHT OF WAY AND ON PRIVATE PROPERTY PER AGREEMENTS.



KEY MAP
NOT TO SCALE

PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
	TREES	
	CHAMAECYPARIS OBTUSA 'GRACILIS'	SLENDER HINOKI FALSE CYPRESS
	CHAMAECYPARIS OBTUSA 'COMPACTA'	COMPACT HINOKI CYPRESS
	SHRUBS	
	LONICERA PILEATA	BOXLEAF HONEYSUCKLE
	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY
	GRASSES, FERNS AND GROUNDCOVERS	
	ACHILLEA MILLEFOLIUM	YARROW (WHITE)
	AQUILEGIA FORMOSA	WESTERN RED COLUMBINE
	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK
	ASARUM CAUDATUM	WILD GINGER
	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS
	EPIMEDIUM X RUBRUM	HYBRID EPIMEDIUM
	FESTUCA IDAHOENSIS	IDAHO FESCUE
	FRAGARIA CHILOENSIS	BEACH STRAWBERRY
	GAULTHERIA SHALLON	SALAL
	LUPINUS POLYPHYLLUS	LARGE LEAVED LUPINE
	MAHONIA REPENS	CREEPING MAHONIA
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN
	POLYSTICHUM POLYBLEPHARUM	JAPANESE TASSEL FERN
	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LL/SW	05/07/2025
Designed	LL/SW/JM	05/07/2025
Reviewed	JF	05/08/2025
Approved	JM	05/08/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON · JONATHAN D. MORLEY · NO 736 EXP. 2/21/2027 · LANDSCAPE ARCHITECT
05/08/25

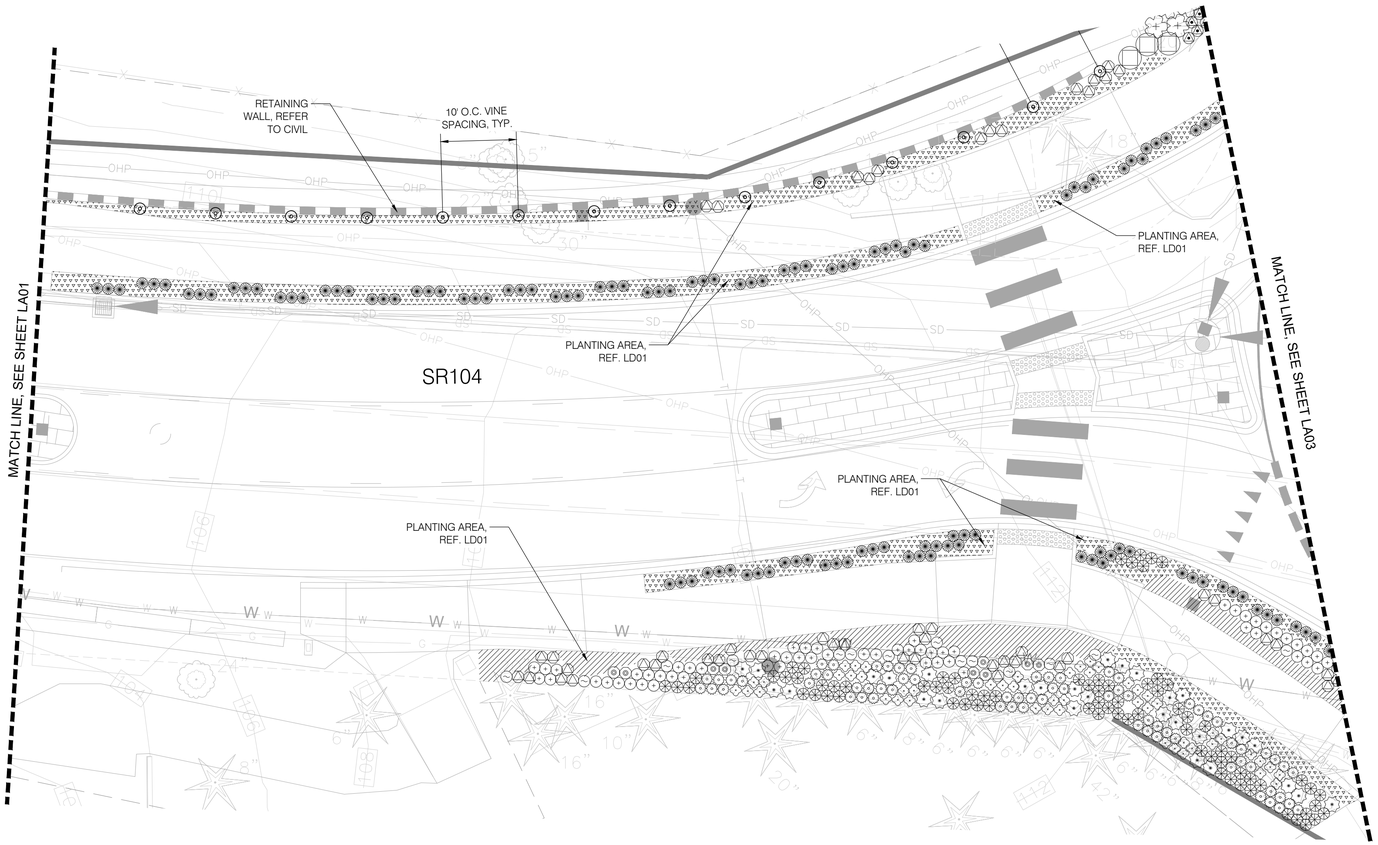
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

PLANTING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	LA01
SHEET	68
OF	89

G:\1PROJECT\LLake Forest Park_40th & Ballinger\Drawings\CAD\Sheets\LFPR_40th&Ballinger_ Planting Plan.dwg, 05/12/25 12:33:46pm

SEC 10, TWP 26 N, RGE 4 E

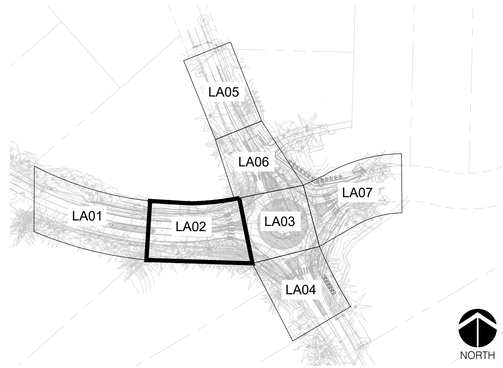


NORTH SCALE: 1"=10'-0"

0 10' 20'

GENERAL NOTE:

1. REFER TO IR01 FOR IRRIGATION PLAN AND REQUIREMENTS FOR IRRIGATING NEW PLANTING OUTSIDE OF THE RIGHT OF WAY AND ON PRIVATE PROPERTY PER AGREEMENTS.



KEY MAP
NOT TO SCALE

PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
	TREES	
	CHAMAECYPARIS OBTUSA 'GRACILIS'	SLENDER HINOKI FALSE CYPRESS
	CHAMAECYPARIS OBTUSA 'COMPACTA'	COMPACT HINOKI CYPRESS
	SHRUBS	
	LONICERA PILEATA	BOXLEAF HONEYSUCKLE
	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY
	GRASSES, FERNS AND GROUNDCOVERS	
	ACHILLEA MILLEFOLIUM	YARROW (WHITE)
	AQUILEGIA FORMOSA	WESTERN RED COLUMBINE
	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK
	ASARUM CAUDATUM	WILD GINGER
	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS
	EPIMEDIUM X RUBRUM	HYBRID EPIMEDIUM
	FESTUCA IDAHOENSIS	IDAHO FESCUE
	FRAGARIA CHILOENSIS	BEACH STRAWBERRY
	GAULTHERIA SHALLON	SALAL
	LUPINUS POLYPHYLLUS	LARGE LEAVED LUPINE
	MAHONIA REPENS	CREEPING MAHONIA
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN
	POLYSTICHUM POLYBLEPHARUM	JAPANESE TASSEL FERN
	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LL/SW	05/07/2025
Designed	LL/SW/JM	05/07/2025
Reviewed	JF	05/08/2025
Approved	JM	05/08/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON JONATHAN D. MORLEY NO. 736 EXP. 2/21/2027 LANDSCAPE ARCHITECT
05/08/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

PLANTING PLAN

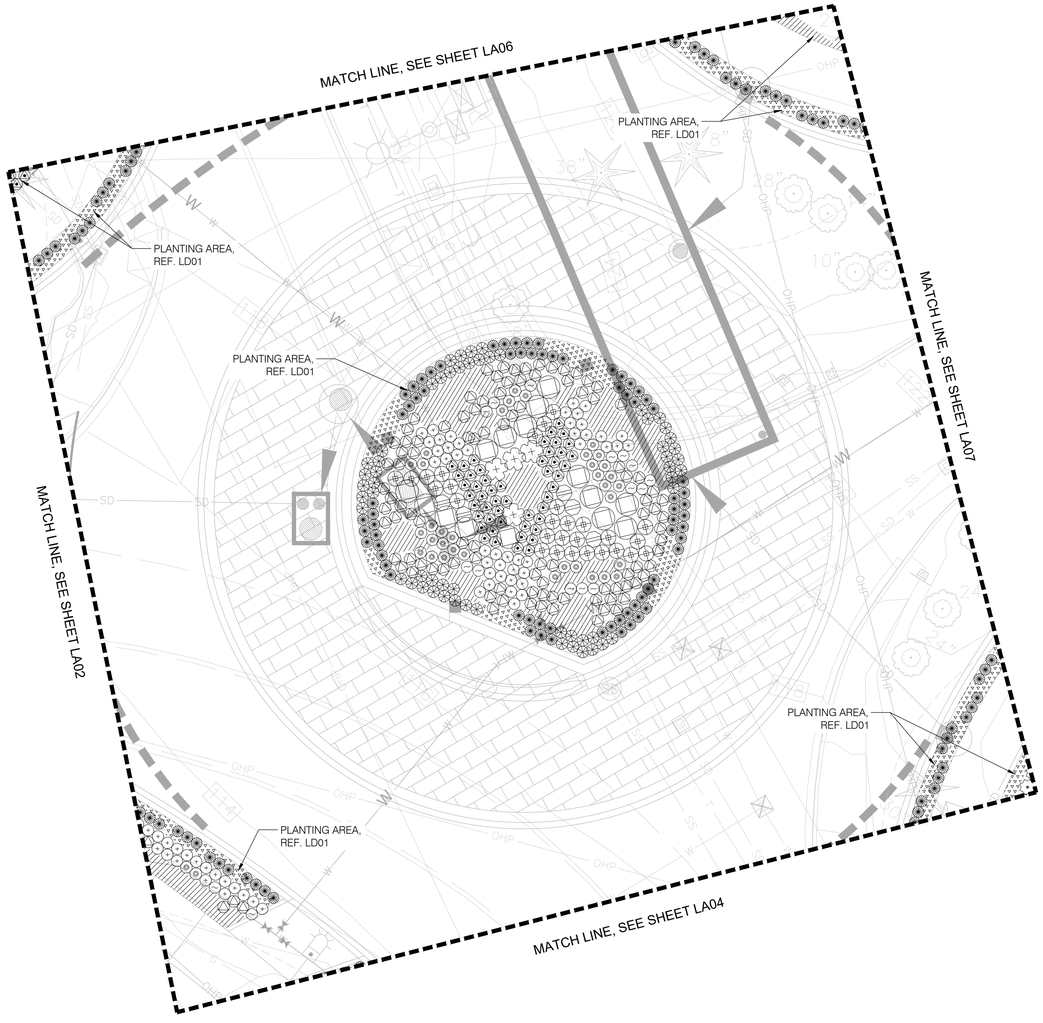
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	LA02
SHEET	69
OF	89

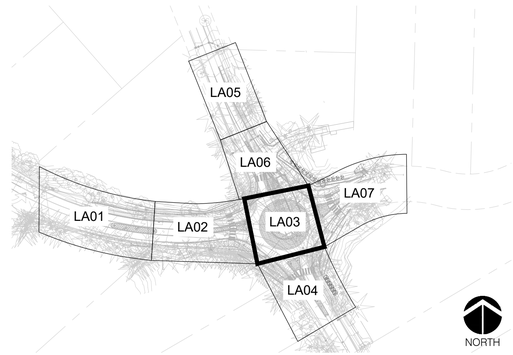
G:\1PROJECT\Lake Forest Park_40th & Ballinger\Drawings\CAD\Sheets\LFPR_40th&Ballinger_Planting Plan.dwg, 05/12/25 12:33:51pm

SEC 10, TWP 26 N, RGE 4 E

GENERAL NOTE:

1. REFER TO IR01 FOR IRRIGATION PLAN AND REQUIREMENTS FOR IRRIGATING NEW PLANTING OUTSIDE OF THE RIGHT OF WAY AND ON PRIVATE PROPERTY PER AGREEMENTS.





KEY MAP
NOT TO SCALE

PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
	TREES	
	CHAMAECYPARIS OBTUSA 'GRACILIS'	SLENDER HINOKI FALSE CYPRESS
	CHAMAECYPARIS OBTUSA 'COMPACTA'	COMPACT HINOKI CYPRESS
	SHRUBS	
	LONICERA PILEATA	BOXLEAF HONEYSUCKLE
	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY
	GRASSES, FERNS AND GROUNDCOVERS	
	ACHILLEA MILLEFOLIUM	YARROW (WHITE)
	AQUILEGIA FORMOSA	WESTERN RED COLUMBINE
	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK
	ASARUM CAUDATUM	WILD GINGER
	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS
	EPIMEDIUM X RUBRUM	HYBRID EPIMEDIUM
	FESTUCA IDAHOENSIS	IDAHO FESCUE
	FRAGARIA CHILOENSIS	BEACH STRAWBERRY
	GAULTHERIA SHALLON	SALAL
	LUPINUS POLYPHYLLUS	LARGE LEAVED LUPINE
	MAHONIA REPENS	CREEPING MAHONIA
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN
	POLYSTICHUM POLYBLEPHARUM	JAPANESE TASSEL FERN
	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS

NORTH
0 10' 20'
SCALE: 1"=10'-0"

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LL/SW	05/07/2025
Designed	LL/SW/JM	05/07/2025
Reviewed	JF	05/08/2025
Approved	JM	05/08/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON JONATHAN D. MORLEY NO. 736 EXP. 2/21/2027 LANDSCAPE ARCHITECT
05/08/25

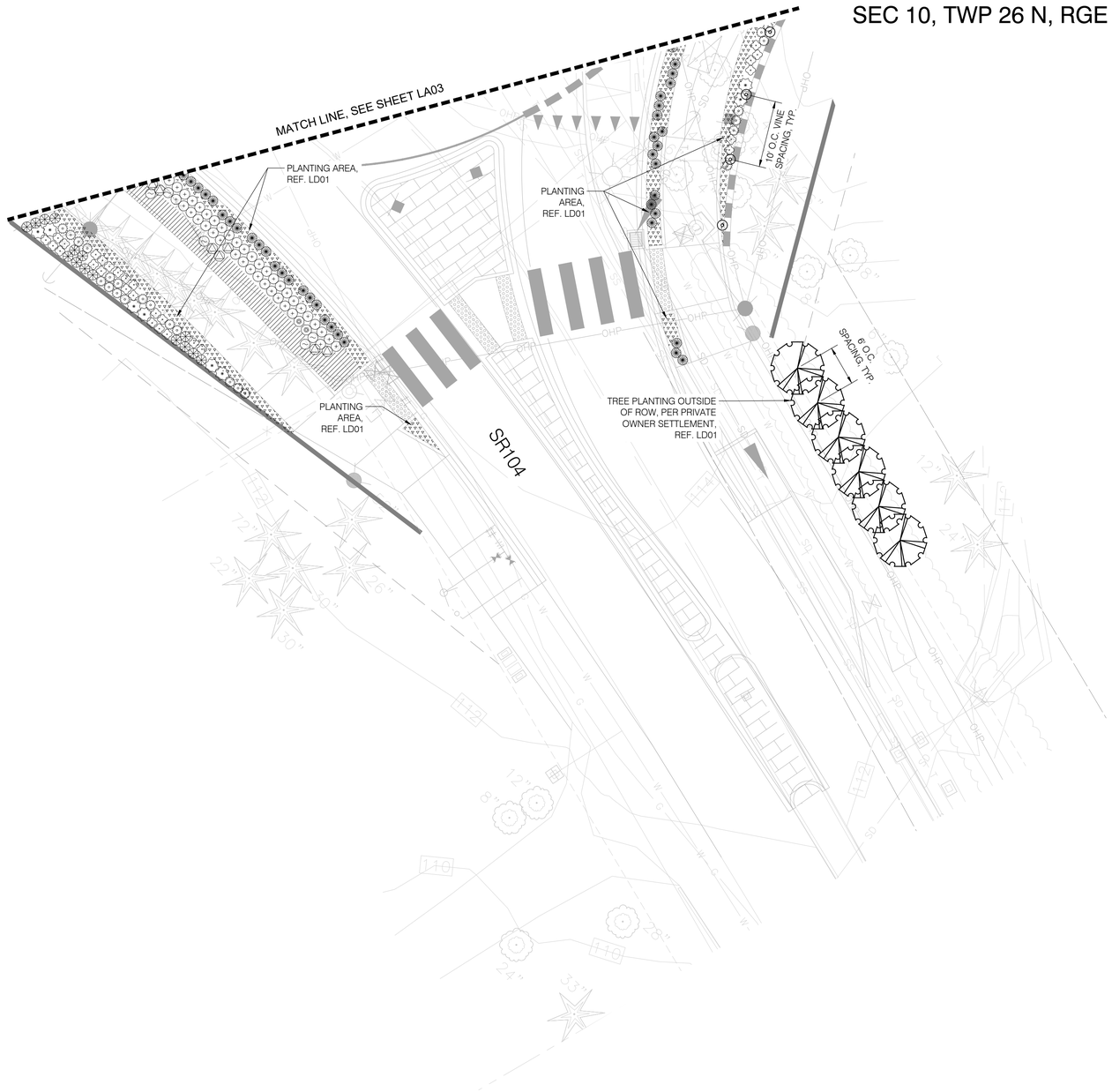
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

PLANTING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	LA03
SHEET	70
OF	89

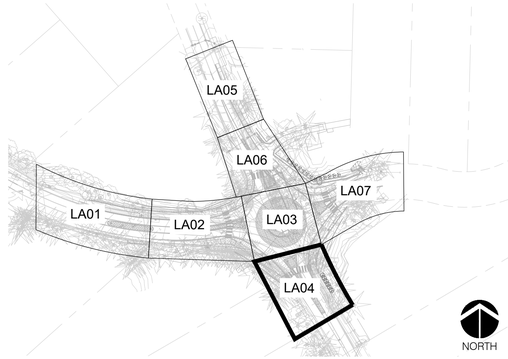
G:\1PROJECT\Lake Forest Park_40th & Ballinger\Drawings\CAD\Sheets\LFPR_40th&Ballinger_Planting Plan.dwg, 05/12/25 12:34:01pm

SEC 10, TWP 26 N, RGE 4 E



GENERAL NOTE:

1. REFER TO IR01 FOR IRRIGATION PLAN AND REQUIREMENTS FOR IRRIGATING NEW PLANTING OUTSIDE OF THE RIGHT OF WAY AND ON PRIVATE PROPERTY PER AGREEMENTS.



KEY MAP
NOT TO SCALE

PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
	TREES	
	CHAMAECYPARIS OBTUSA 'GRACILIS'	SLENDER HINOKI FALSE CYPRESS
	CHAMAECYPARIS OBTUSA 'COMPACTA'	COMPACT HINOKI CYPRESS
	SHRUBS	
	LONICERA PILEATA	BOXLEAF HONEYSUCKLE
	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY
	GRASSES, FERNS AND GROUNDCOVERS	
	ACHILLEA MILLEFOLIUM	YARROW (WHITE)
	AQUILEGIA FORMOSA	WESTERN RED COLUMBINE
	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK
	ASARUM CAUDATUM	WILD GINGER
	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS
	EPIMEDIUM X RUBRUM	HYBRID EPIMEDIUM
	FESTUCA IDAHOENSIS	IDAHO FESCUE
	FRAGARIA CHILOENSIS	BEACH STRAWBERRY
	GAULTHERIA SHALLON	SALAL
	LUPINUS POLYPHYLLUS	LARGE LEAVED LUPINE
	MAHONIA REPENS	CREEPING MAHONIA
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN
	POLYSTICHUM POLYBLEPHARUM	JAPANESE TASSEL FERN
	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS

NORTH
0 10' 20'
SCALE: 1"=10'-0"

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LL/SW	05/07/2025
Designed	LL/SW/JM	05/07/2025
Reviewed	JF	05/08/2025
Approved	JM	05/08/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON JONATHAN D. MORLEY NO. 736 EXP. 2/12/2027 LANDSCAPE ARCHITECT
05/08/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

PLANTING PLAN

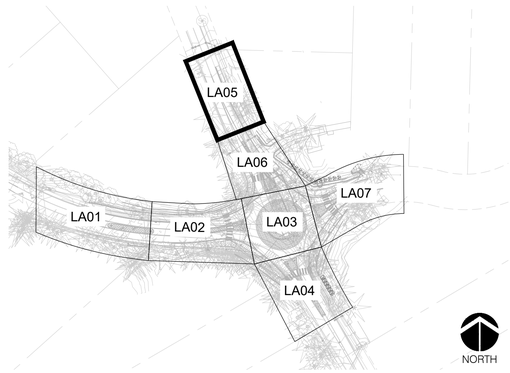
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	LA04
SHEET	71
OF	89

G:\1PROJECT\Lake Forest Park_40th & Ballinger\Drawings\CAD\Sheets\LFPR_40th&Ballinger_Planting Plan.dwg, 05/12/25 12:34:11pm

SEC 10, TWP 26 N, RGE 4 E

GENERAL NOTE:

1. REFER TO IR01 FOR IRRIGATION PLAN AND REQUIREMENTS FOR IRRIGATING NEW PLANTING OUTSIDE OF THE RIGHT OF WAY AND ON PRIVATE PROPERTY PER AGREEMENTS.



KEY MAP
NOT TO SCALE

PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
	TREES	
	CHAMAECYPARIS OBTUSA 'GRACILIS'	SLENDER HINOKI FALSE CYPRESS
	CHAMAECYPARIS OBTUSA 'COMPACTA'	COMPACT HINOKI CYPRESS
	SHRUBS	
	LONICERA PILEATA	BOXLEAF HONEYSUCKLE
	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY
	GRASSES, FERNS AND GROUNDCOVERS	
	ACHILLEA MILLEFOLIUM	YARROW (WHITE)
	AQUILEGIA FORMOSA	WESTERN RED COLUMBINE
	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK
	ASARUM CAUDATUM	WILD GINGER
	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS
	EPIMEDIUM X RUBRUM	HYBRID EPIMEDIUM
	FESTUCA IDAHOENSIS	IDAHO FESCUE
	FRAGARIA CHILOENSIS	BEACH STRAWBERRY
	GAULTHERIA SHALLON	SALAL
	LUPINUS POLYPHYLLUS	LARGE LEAVED LUPINE
	MAHONIA REPENS	CREEPING MAHONIA
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN
	POLYSTICHUM POLYBLEPHARUM	JAPANESE TASSEL FERN
	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LL/SW	05/07/2025
Designed	LL/SW/JM	05/07/2025
Reviewed	JF	05/08/2025
Approved	JM	05/08/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON JONATHAN D. MORLEY NO. 736 EXP. 2/21/2027 LANDSCAPE ARCHITECT
05/08/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

PLANTING PLAN

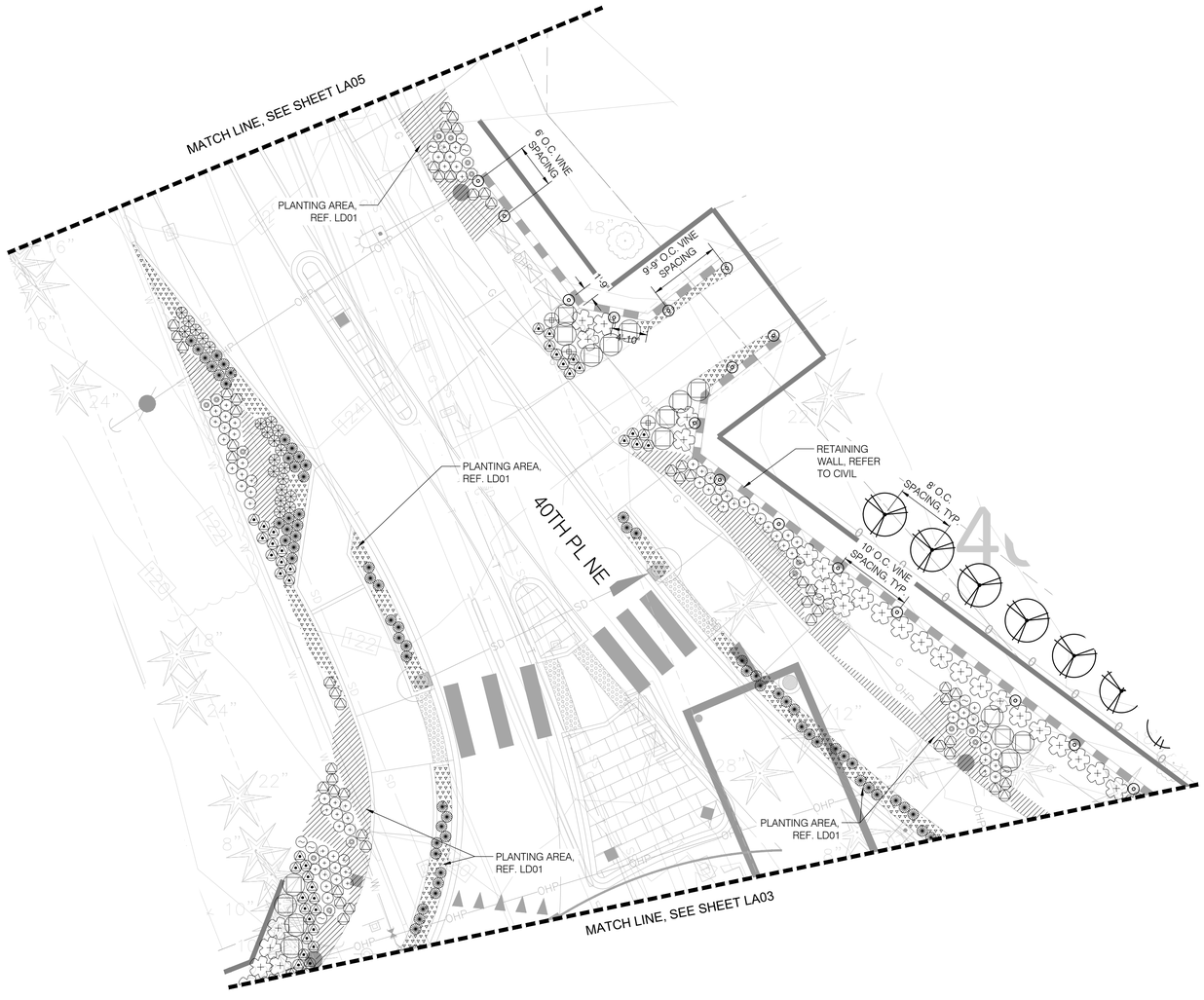
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	LA05
SHEET	72
OF	89

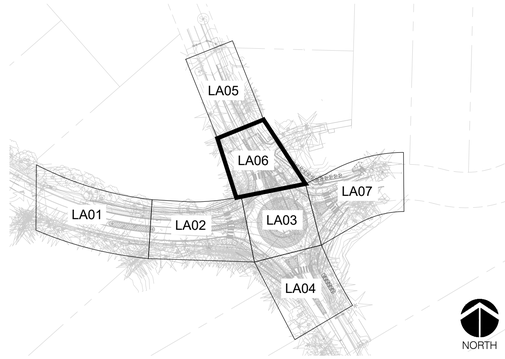
G:\1PROJECT\L\Lake Forest Park_40th & Ballinger\Drawings\CAD\Sheets\LFPR_40th&Ballinger_Planting Plan.dwg, 05/12/25 12:34:21pm

SEC 10, TWP 26 N, RGE 4 E

GENERAL NOTE:

1. REFER TO IR01 FOR IRRIGATION PLAN AND REQUIREMENTS FOR IRRIGATING NEW PLANTING OUTSIDE OF THE RIGHT OF WAY AND ON PRIVATE PROPERTY PER AGREEMENTS.





KEY MAP
NOT TO SCALE

PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
	TREES	
	CHAMAECYPARIS OBTUSA 'GRACILIS'	SLENDER HINOKI FALSE CYPRESS
	CHAMAECYPARIS OBTUSA 'COMPACTA'	COMPACT HINOKI CYPRESS
	SHRUBS	
	LONICERA PILEATA	BOXLEAF HONEYSUCKLE
	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY
	GRASSES, FERNS AND GROUNDCOVERS	
	ACHILLEA MILLEFOLIUM	YARROW (WHITE)
	AQUILEGIA FORMOSA	WESTERN RED COLUMBINE
	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK
	ASARUM CAUDATUM	WILD GINGER
	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS
	EPIMEDIUM X RUBRUM	HYBRID EPIMEDIUM
	FESTUCA IDAHOENSIS	IDAHO FESCUE
	FRAGARIA CHILOENSIS	BEACH STRAWBERRY
	GAULTHERIA SHALLON	SALAL
	LUPINUS POLYPHYLLUS	LARGE LEAVED LUPINE
	MAHONIA REPENS	CREEPING MAHONIA
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN
	POLYSTICHUM POLYBLEPHARUM	JAPANESE TASSEL FERN
	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS

NORTH
0 10' 20'
SCALE: 1"=10'-0"

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LL/SW	05/07/2025
Designed	LL/SW/JM	05/07/2025
Reviewed	JF	05/08/2025
Approved	JM	05/08/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON JONATHAN D. MORLEY NO 736 EXP. 2/21/2027 LANDSCAPE ARCHITECT
05/08/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

PLANTING PLAN

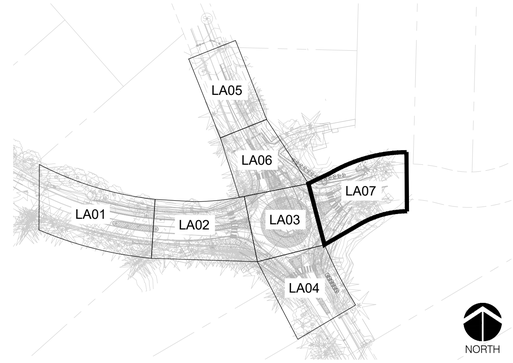
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	LA06
SHEET	73
OF	89

G:\1PROJECT\LLake Forest Park_40th & Ballinger\Drawings\CAD\Sheets\LFPR_40th&Ballinger_ Planting Plan.dwg, 05/12/25 12:34:32pm

SEC 10, TWP 26 N, RGE 4 E

GENERAL NOTE:

1. REFER TO IR01 FOR IRRIGATION PLAN AND REQUIREMENTS FOR IRRIGATING NEW PLANTING OUTSIDE OF THE RIGHT OF WAY AND ON PRIVATE PROPERTY PER AGREEMENTS.



KEY MAP
NOT TO SCALE

PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
	TREES	
	CHAMAECYPARIS OBTUSA 'GRACILIS'	SLENDER HINOKI FALSE CYPRESS
	CHAMAECYPARIS OBTUSA 'COMPACTA'	COMPACT HINOKI CYPRESS
	SHRUBS	
	LONICERA PILEATA	BOXLEAF HONEYSUCKLE
	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY
	GRASSES, FERNS AND GROUNDCOVERS	
	ACHILLEA MILLEFOLIUM	YARROW (WHITE)
	AQUILEGIA FORMOSA	WESTERN RED COLUMBINE
	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK
	ASARUM CAUDATUM	WILD GINGER
	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS
	EPIMEDIUM X RUBRUM	HYBRID EPIMEDIUM
	FESTUCA IDAHOENSIS	IDAHO FESCUE
	FRAGARIA CHILOENSIS	BEACH STRAWBERRY
	GAULTHERIA SHALLON	SALAL
	LUPINUS POLYPHYLLUS	LARGE LEAVED LUPINE
	MAHONIA REPENS	CREEPING MAHONIA
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN
	POLYSTICHUM POLYBLEPHARUM	JAPANESE TASSEL FERN
	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LL/SW	05/07/2025
Designed	LL/SW/JM	05/07/2025
Reviewed	JF	05/08/2025
Approved	JM	05/08/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON JONATHAN D. MORLEY NO 736 EXP. 2/21/2027 LANDSCAPE ARCHITECT
05/08/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

PLANTING PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	LA07
SHEET	74
OF	89

G:\1PROJECT\LLake Forest Park_40th & Ballinger\Drawings\CAD\Sheets\LFPR_40th&Ballinger_Planting Plan.dwg, 05/14/25 10:33:15am

SEC 10, TWP 26 N, RGE 4 E

GENERAL NOTES

1. EXISTING LANDSCAPE
   - 1.1. ALL LANDSCAPE OUTSIDE OF THE LIMITS OF WORK SHALL REMAIN UNLESS NOTED OTHERWISE OR IN LOCATION OF NEWLY PROPOSED HARSCAPE.
   - 1.2. ALL LANDSCAPE IN THE RIGHT-OF-WAY SHALL REMAIN UNLESS NOTED OTHERWISE.
   - 1.3. ANY LANDSCAPE OUTSIDE THE LIMITS OF WORK OR IN THE RIGHT-OF-WAY WHICH IS DISTURBED OR REMOVED SHALL BE RESTORED TO MEET LFPMC REQUIREMENTS.
2. ALL NEWLY PLANTED LANDSCAPE AREAS IN WITHIN THE LIMIT OF WORK SHALL BE MULCHED (REFER TO SPECS).
3. THE CONTRACTOR SHALL STAKE ALL TREE LOCATIONS IN THE FIELD PRIOR TO PLANTING. TREE LOCATIONS ARE SUBJECT TO MODIFICATION BY LANDSCAPE ARCHITECT OR OWNER.
4. ALL PLANT MATERIAL TO BE REVIEWED WITH LANDSCAPE ARCHITECT AND OWNER IN THE FIELD PRIOR TO PLANTING.
5. PLANT QUANTITIES SHOWN ON PLANS TAKE PRECEDENCE OVER PLANT QUANTITIES PROVIDED IN PLANT SCHEDULE.
6. ALL PLANTED AREAS SHALL RECEIVE SOIL AMENDMENTS, REFER TO DETAIL 06/LD02.
   - 6.1. ALL PLANTED AREAS TO RECEIVE IMPORT TOPSOIL, REFER TO SPECIFICATIONS FOR SOIL TYPE AND PREPARATION REQUIREMENTS.
7. RESTORE ALL DISTURBED AREAS TO THEIR PRE-CONSTRUCTION CONDITION IF NO OTHER CONDITION IS PROPOSED.
8. ALL NEWLY PLANTED AREAS SHALL RECEIVE FULLY AUTOMATIC IN-GROUND IRRIGATION ZONED APPROPRIATELY, UNLESS NOTED OTHERWISE; REF. IRRIGATION DRAWINGS.
9. ALL PLANTING AREA FINISH GRADES (TOP OF MULCH) SHALL BE 1" BELOW ADJACENT PAVED SURFACES UNLESS NOTED OR DIRECTED OTHERWISE.

PLANTING SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	INSTALL HT. / CONT. SIZE	SPACING (O.C.)	QUANTITY
TREES					
	CHAMAECYPARIS OBTUSA 'GRACILIS'	SLENDER HINOKI FALSE CYPRESS	#2	PER PLAN	14
	CHAMAECYPARIS OBTUSA 'COMPACTA'	COMPACT HINOKI CYPRESS	6' HT	PER PLAN	6
SHRUBS					
	LONICERA PILEATA	BOXLEAF HONEYSUCKLE	#5	PER PLAN	54
	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	#2	PER PLAN	43
GRASSES, FERNS AND GROUNDCOVERS					
	ACHILLEA MILLEFOLIUM	YARROW (WHITE)	#1	PER PLAN	232
	AQUILEGIA FORMOSA	WESTERN RED COLUMBINE	#1	PER PLAN	49
	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK	#1	PER PLAN	418
	ASARUM CAUDATUM	WILD GINGER	#1	PER PLAN	105
	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	#1	PER PLAN	302
	EPIMEDIUM X RUBRUM	HYBRID EPIMEDIUM	#1	PER PLAN	8
	FESTUCA IDAHOENSIS	IDAHO FESCUE	#1	18", TRIANGULAR	600
	FRAGARIA CHILOENSIS	BEACH STRAWBERRY	#1	18", TRIANGULAR	378
	GAULTHERIA SHALLON	SALAL	#2	PER PLAN	45
	LUPINUS POLYPHYLLUS	LARGE LEAVED LUPINE	#1	PER PLAN	73
	MAHONIA REPENS	CREEPING MAHONIA	#1	PER PLAN	509
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	4" POT	PER PLAN	52
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	#1	PER PLAN	118
	POLYSTICHUM POLYBLEPHARUM	JAPANESE TASSEL FERN	#1	PER PLAN	50
	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS	#1	PER PLAN	126

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LL/SW	05/07/2025
Designed	LL/SW/JM	05/07/2025
Reviewed	JF	05/08/2025
Approved	JM	05/08/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON · JONATHAN D. MORLEY · NO 736 EXP 2/12/2027 · LANDSCAPE ARCHITECT
05/08/25

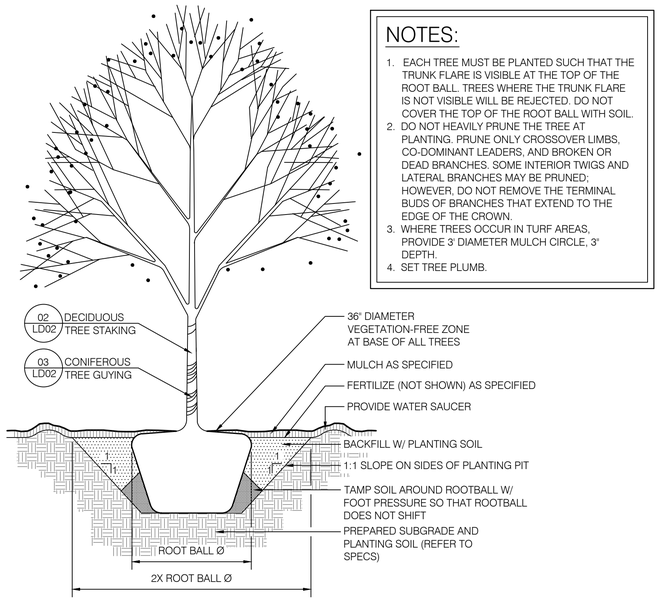
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

PLANTING DETAILS - SCHEDULE & NOTES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	LD01
SHEET	75
OF	89

G:\1PROJECTL\Lake Forest Park_40th & Ballinger\Drawings\CAD\Sheets\LFPR_40th&Ballinger_Planting Details.dwg, 05/12/25 12:35:06pm

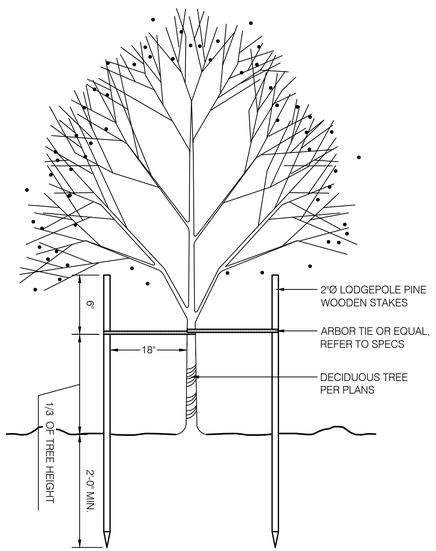
SEC 10, TWP 26 N, RGE 4 E



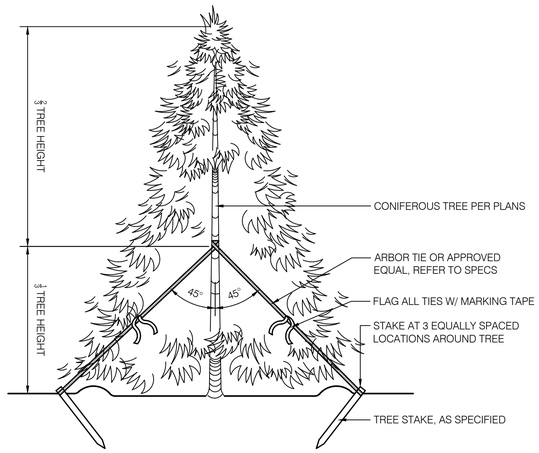
NOTES:

1. EACH TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE TRUNK FLARE IS NOT VISIBLE WILL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.
2. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
3. WHERE TREES OCCUR IN TURF AREAS, PROVIDE 3' DIAMETER MULCH CIRCLE, 3" DEPTH.
4. SET TREE PLUMB.

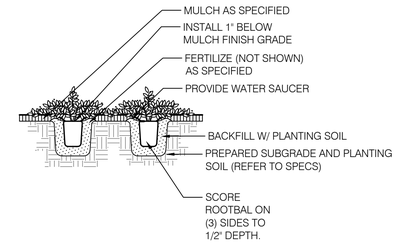
01 TREE PLANTING
SCALE: 1/2" = 1'-0"



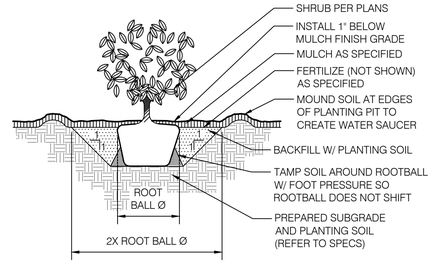
02 DECIDUOUS TREE STAKING
SCALE: 1/2" = 1'-0"



03 CONIFEROUS TREE GUYING
SCALE: 1/2" = 1'-0"



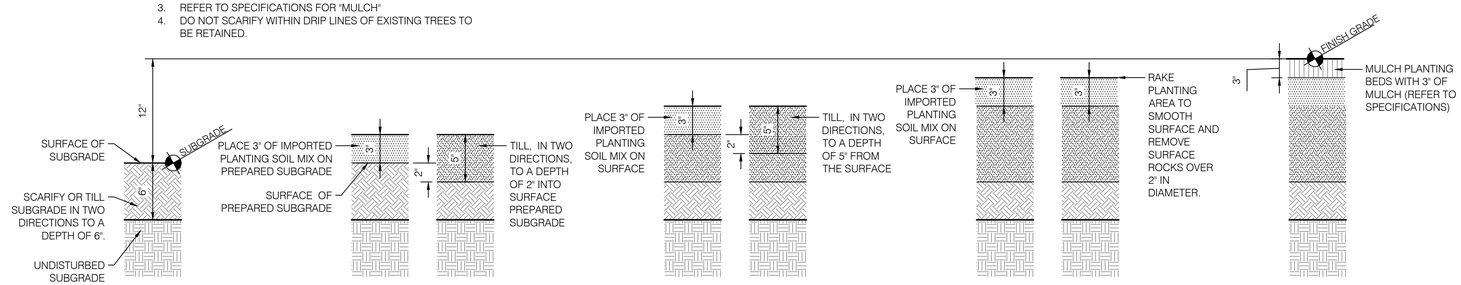
04 GROUNDCOVER PLANTING
SCALE: 1/2" = 1'-0"



05 SHRUB PLANTING
SCALE: 1/2" = 1'-0"

NOTES:

1. ALL SCARIFICATION OR TILLING SHALL BE CONDUCTED IN TWO DIRECTIONS AT 90 DEGREES TO EACH OTHER.
2. REFER TO SPECIFICATIONS FOR "PLANTING SOIL MIX"
   2.1. MIX SHALL COMPLY WITH WA DOE BMP T5.13 "POST-CONSTRUCTION SOIL QUALITY AND DEPTH"
3. REFER TO SPECIFICATIONS FOR "MULCH"
4. DO NOT SCARIFY WITHIN DRIP LINES OF EXISTING TREES TO BE RETAINED.



SOIL AMENDMENT: STEP 1 | SOIL AMENDMENT: STEP 2 | SOIL AMENDMENT: STEP 3 | SOIL AMENDMENT: STEP 4 | SOIL AMENDMENT: STEP 5

06 SOIL AMENDMENT
SCALE: 1 1/2" = 1'-0"

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LL/SW	05/07/2025
Designed	LL/SW/JM	05/07/2025
Reviewed	JF	05/08/2025
Approved	JM	05/08/2025

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON · JONATHAN D. MORLEY · NO 736 EXP. 2/21/2027 · LANDSCAPE ARCHITECT
05/08/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

PLANTING DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	LD02
SHEET	76
OF	89

G:\1PROJECT\LLake Forest Park_40th & Ballinger\Drawings\CAD\Sheets\LFPR_40th&Ballinger_Planting Details.dwg, 05/12/25 12:35:10pm

SEC 10, TWP 26 N, RGE 4 E

4019300310

4019300312

4019300335

EASEMENT 7704250681

4019300309

QWEST EASEMENT 9206190219

4019301000

9.99 3 1"

9.21 8 1"

7.83 2 1"

5.44 1 1"

4 14.7 1"

5 1.95 1"

6 5.09 1"

7 0.9 1"

TEMPORARY IRRIGATION OUTSIDE OF ROW. INSTALL AT GRADE, COVER WITH BARK MULCH.

TEMPORARY IRRIGATION OUTSIDE OF ROW. INSTALL AT GRADE, COVER WITH BARK MULCH.

0 20 40 60 feet

NORTH

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LZ/JA/AV	05/16/25
Designed	LZ/JA/AV	05/16/25
Reviewed	JA	05/16/25
Approved	JA	05/16/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 206 325 6877
Seattle, WA 98101 bergerpartnership.com

STATE OF WASHINGTON · JASON M. ANDERSON · NO. 0836 EXP. 08/24/2026 · LANDSCAPE ARCHITECT

05/16/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

IRRIGATION PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	IR01
SHEET	77
OF	89

SEC 10, TWP 26 N, RGE 4 E

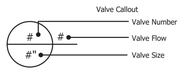
IRRIGATION NOTES:

1. PROVIDE & INSTALL ALL IRRIGATION IN CONFORMANCE WITH WSDOT STANDARDS & DETAILS. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, NOTES, OR DETAILS & WSDOT STANDARDS & DETAILS, THE STANDARDS & DETAILS SHALL TAKE PRECEDENCE.
2. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND APPROPRIATE SAFETY REGULATIONS.
3. IRRIGATION DRAWINGS ARE SCHEMATIC. ACTUAL LOCATIONS MAY VARY DUE TO UTILITIES OR EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
4. ALL IRRIGATION EQUIPMENT SHALL BE LOCATED WITHIN PROJECT PROPERTY LINES & WITHIN LANDSCAPE BEDS (EXCEPT RIGHT OF WAY IRRIGATION, SEE PLANS). ITEMS SHOWN OFF PROPERTY OR IN HARDSCAPE ARE FOR CLARITY ONLY.
5. WATER PRESSURE AT DOMESTIC WATER STUB OUT IS ANTICIPATED TO BE 50 PSI. PRIOR TO INSTALLATION OF IRRIGATION SYSTEM, CONTRACTOR SHALL FIELD VERIFY EXISTING P.S.I. PROVIDE WRITTEN RESULTS TO OWNER'S REPRESENTATIVE TWO (2) WEEKS PRIOR TO PROCEEDING W/ WORK.
6. SYSTEM DESIGNED TO 30 P.S.I. AT BUBBLER HEADS & 30 P.S.I. AT DRIP EMITTERS. SEE IRRIGATION SCHEDULE FOR HEAD DESIGN PRESSURES.
7. LOCATE QUICK COUPLING VALVE & AUTOMATIC CONTROL VALVES AT POINT OF EASY ACCESS. OWNER'S REPRESENTATIVE TO REVIEW & APPROVE FINAL LOCATION OF ALL QUICK COUPLERS & AUTOMATIC CONTROL VALVES PRIOR TO INSTALLATION.
8. HEAD LOCATION MUST BE ADJUSTED IN THE FIELD TO COMPLY W/ EXISTING SITE CONDITIONS AND PLANT MATERIALS. ADJUST SPRAY PATTERN FOR MAXIMUM COVERAGE.
9. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD & LOCATED ON DIMENSIONED "AS-BUILT" DRAWING TO ALLOW FUTURE LOCATION & USE.
11. ALL IRRIGATION SLEEVES SHALL BE TWICE THE DIAMETER OF THE INSERT PIPE(S). SLEEVES SHALL NOT EXCEED 6" DIAMETER.
12. PVC MAINLINE LOCATIONS ARE SCHEMATIC. NO BENDING OF MAINLINE PIPE.
13. NO VALVE MANIFOLDS. GROUP VALVES TOGETHER W/ TEES 3' APART.
14. VALVE BOXES SHALL BE LEVEL & OPEN SAME DIRECTION.
15. AIR BLOW IRRIGATION SYSTEM THROUGH QUICK COUPLERS TO WINTERIZE IRRIGATION SYSTEM.
16. PIPES TO SHARE TRENCHES WHERE POSSIBLE. SEPARATE COMMON PIPING BY 6" MIN.
17. WHERE PIPE SIZES ARE NOT SHOWN ON THE PLAN, PIPE SHALL BE SIZED TO THE NEXT LARGEST PIPE SIZE SHOWN UPSTREAM ON THE PLAN.
18. LETTERS ON PIPING SHALL BE ROTATED TO FACE UP.
19. GENERAL CONTRACTOR TO PROVIDE AND INSTALL ALL CONDUIT TO CONTROLLER LOCATIONS & POINTS OF CONNECTION.
20. GENERAL CONTRACTOR TO PROVIDE POWER SOURCE FOR IRRIGATION CONTROLLER. (VERIFY LOCATION W/ OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK)
21. IRRIGATION INSTALL FLOW SENSOR PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
◪	HUNTER HQ-44LRC-AW QUICK COUPLER VALVE, YELLOW RUBBER LOCKING COVER, RED BRASS AND STAINLESS STEEL, WITH 1" NPT INLET, 2-PIECE BODY. ACME KEY WITH ANTI-ROTATION WINGS.
⧗	MATCO-NORCA 514T 1/2"-4" BRASS GATE VALVE, FULL PORT, WITH SOLID WEDGE. IPS. WHEEL HANDLE. SAME SIZE AS MAINLINE PIPE.
MV	HUNTER ICV-G 1" PLASTIC ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.
BF	ZURN 950XLT 1" DOUBLE CHECK VALVE ASSEMBLY
C	HUNTER HCC-1600-M 16 STATION OUTDOOR WI-FI ENABLED, FULL-FUNCTIONING CONTROLLER WITH TOUCHSCREEN & ONE ICM-800 MODULE. COMMERCIAL USE. METAL CABINET.
FS	HUNTER HC-100-FLOW 1" FLOW METER FOR USE WITH HYDRAWISE ENABLED CONTROLLER TO MONITOR FLOW AND PROVIDE SYSTEM ALERTS. ALSO FUNCTIONS AS STAND ALONE FLOW TOTALIZER/SUB METER ON ANY RESIDENTIAL OR COMMERCIAL IRRIGATION SYSTEM.
M	WATER METER 3/4"
———	IRRIGATION LATERAL LINE: PVC SCHEDULE 40
— — — —	IRRIGATION MAINLINE: PVC SCHEDULE 40
—— v — v —— —— ^ — ^ ——	PIPE SLEEVE: DUCTILE IRON PIPE- CLASS 350
= = = = = = = =	PIPE SLEEVE: PVC SCHEDULE 40

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
◪	HUNTER ICZ-101-40-LF DRIP CONTROL ZONE KIT. 1IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM. PRESSURE REGULATION: 40 PSI. FLOW RANGE: .5 GPM - 15 GPM. 150 MESH STAINLESS STEEL SCREEN.
♻	HUNTER HDL-06-12-CV DRIP RING
	AREA TO RECEIVE DRIPLINE HUNTER HDL-06-18-CV HDL-06-18-CV: HUNTER DRIPLINE W/ 0.6 GPH EMITTERS AT 12" O.C. CHECK VALVE, DARK BROWN TUBING WITH GRAY STRIPING. DRIPLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. INSTALL WITH HUNTER PLD BARBED OR PLD-LOC FITTINGS.



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP
1	HUNTER ICZ-101-40-LF	1"	AREA FOR DRIPLINE	5.44	40	0.69	5.26	46.0	54.8	0.64 in/h
2	HUNTER ICZ-101-40-LF	1"	AREA FOR DRIPLINE	7.83	40	0.85	6.7	47.5	57.1	0.64 in/h
3	HUNTER ICZ-101-40-LF	1"	AREA FOR DRIPLINE	9.99	40	1.07	7.99	49.1	60.8	0.64 in/h
4	HUNTER ICZ-101-40-LF	1"	AREA FOR DRIPLINE	14.71	40	2.4	10.8	53.2	70.1	0.65 in/h
5	HUNTER ICZ-101-40-LF	1"	DRIP RING	1.95	15	0.14	3	18.1	26.4	0.51 in/h
6	HUNTER ICZ-101-40-LF	1"	AREA FOR DRIPLINE	5.09	40	0.34	5.05	45.4	55.8	0.65 in/h
7	HUNTER ICZ-101-40-LF	1"	DRIP RING	0.9	15	0.03	3	18.0	26.1	0.51 in/h
8	HUNTER ICZ-101-40-LF	1"	AREA FOR DRIPLINE	9.21	40	0.15	7.53	47.7	62.0	0.64 in/h

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LZ/JA/AV	05/16/25
Designed	LZ/JA/AV	05/16/25
Reviewed	JA	05/16/25
Approved	JA	05/16/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 206 325 6877
Seattle, WA 98101 bergerpartnership.com

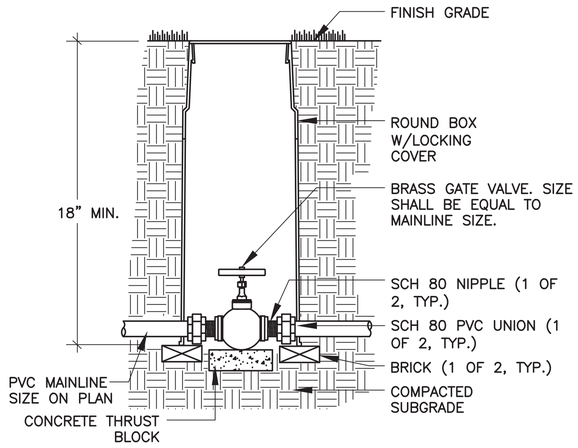
STATE OF WASHINGTON JASON M. ANDERSON NO. 9936 EXP. 08/24/2026 LANDSCAPE ARCHITECT
05/16/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

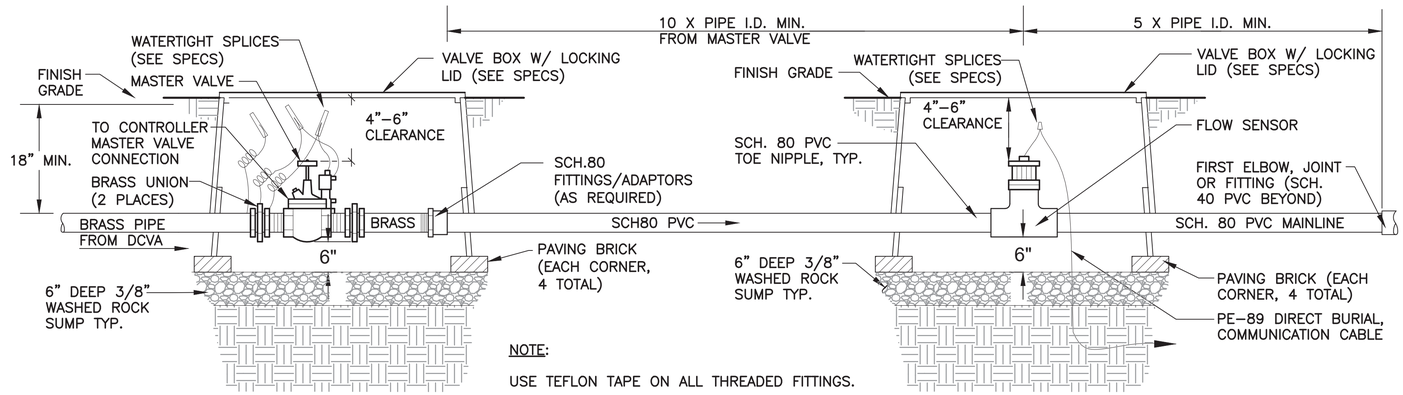
IRRIGATION SCHEDULE & IRRIGATION NOTES

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	IR02
SHEET	78
OF	89

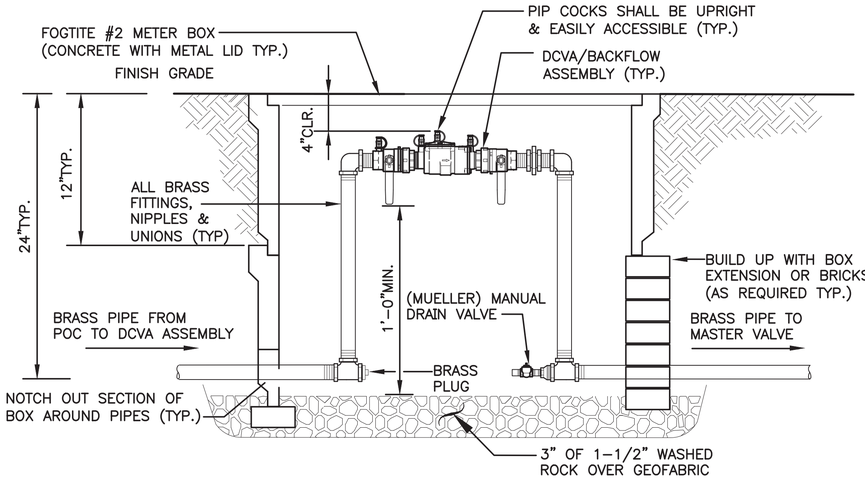
SEC 10, TWP 26 N, RGE 4 E



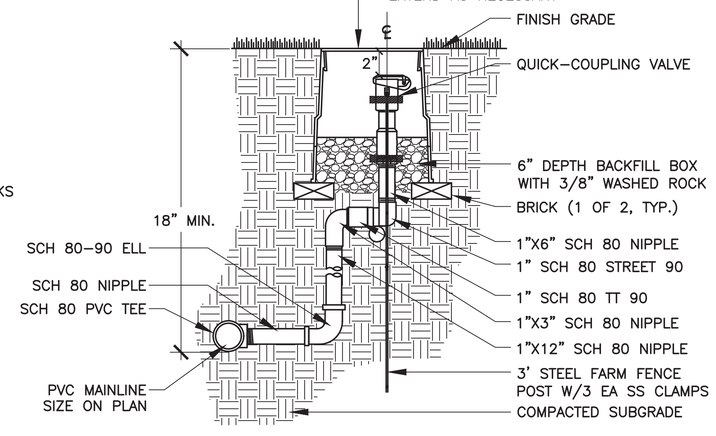
1 GATE WITH UNION



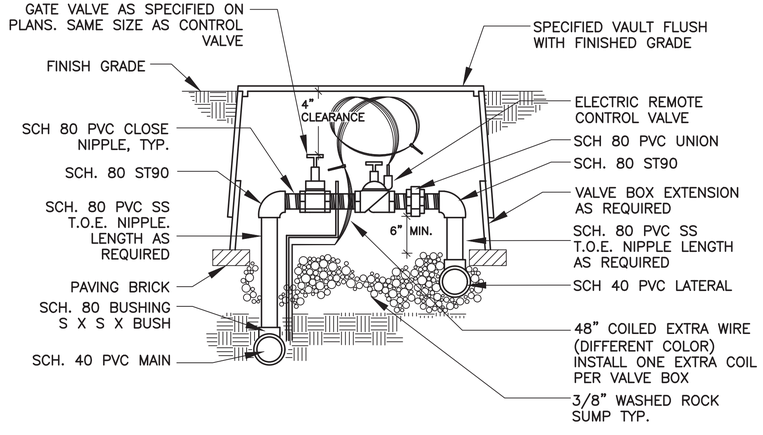
2 MASTER VALVE & FLOW SENSOR



3 DOUBLE CHECK VALVE ASSEMBLEY



4 QUICK COUPLER VALVE ASSEMBLY



5 AUTOMATIC VALVE ASSEMBLY

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LZ/JA/AV	05/16/25
Designed	LZ/JA/AV	05/16/25
Reviewed	JA	05/16/25
Approved	JA	05/16/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

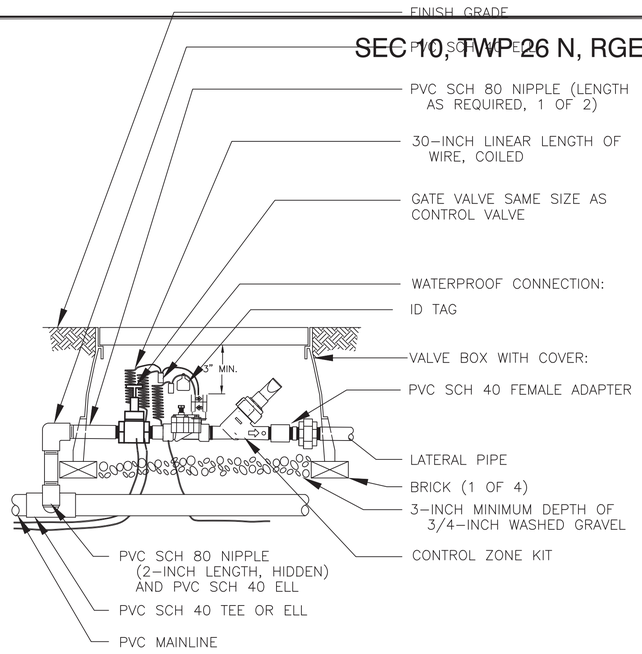
STATE OF WASHINGTON JASON M. ANDERSON NO. 9636 EXP. 08/24/2026 LANDSCAPE ARCHITECT
05/16/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

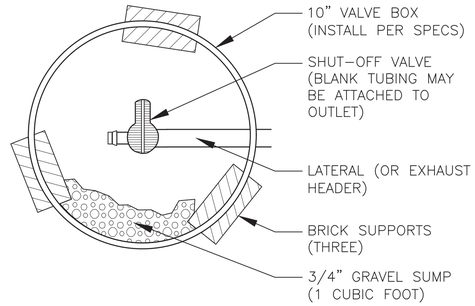
IRRIGATION DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	IR03
SHEET	79
OF	89

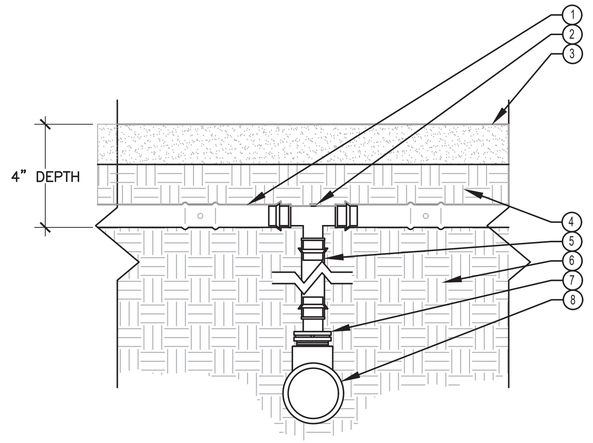
SEC 10, TWP 26 N, RGE 4 E



1 DRIP ZONE VALVE KIT



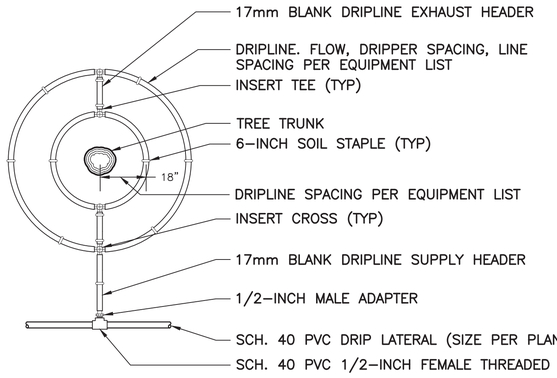
2 MANUAL DRAIN VALVE



LEGEND:

1. HUNTER DRIPLINE (HDL) PER PLAN
2. PLD OR PLD–LOC FITTING
3. FINISHED GRADE
4. MULCH (AS SPECIFIED)
5. HDL RISER – LENGTH AS REQUIRED
6. SOIL
7. PLD OR PLD–LOC FITTING
8. PVC SUPPLY HEADER – SIZE PER PLAN

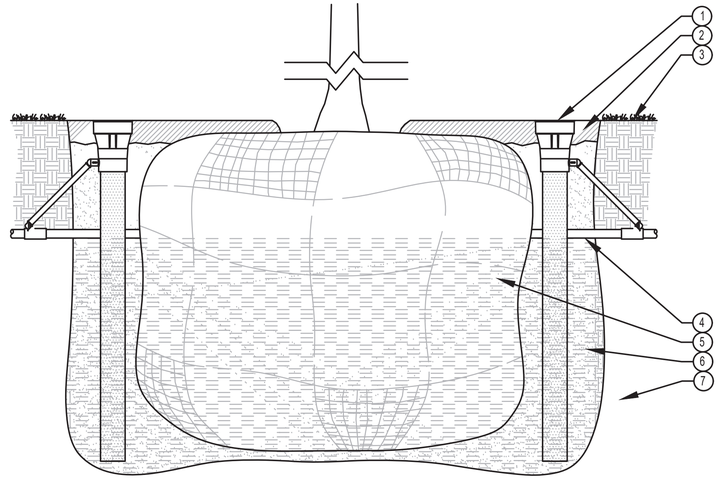
3 CONNECTION WITH DRIPLINE AND TEE



NOTES:

1. INSTALL FIRST DRIPLINE LOOP 18–INCHES FROM CENTER OF TREE TRUNK. INSTALL EACH ADDITIONAL LOOP PER EQUIPMENT LIST.
2. INSTALL DRIPLINE ON SURFACE, STAPLE IN PLACE PER MANUFACTURER'S RECOMMENDATIONS, BACKFILL AND SPREAD SURFACE TREATMENT AS DIRECTED BY OTHERS.

4 DOUBLE TREE RING LAYOUT



LEGEND:

1. ROOT ZONE WATERING SYSTEM PER PLAN
2. MULCH
3. FINISHED GRADE
4. LATERAL PIPE – SIZE PER PLAN
5. ROOT BALL
6. AMENDED SOIL
7. NATIVE SOIL

NOTES:
INSTALL RZWS SLEEVE OVER TUBE TO HELP PREVENT SOIL INTRUSION

5 ROOT ZONE WATERING SYSTEM - 36"

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LZ/JA/AV	05/16/25
Designed	LZ/JA/AV	05/16/25
Reviewed	JA	05/16/25
Approved	JA	05/16/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

PARTNERSHIP berger
1927 Post Alley, Ste. 2 206 325 6877
Seattle, WA 98101 bergerpartnership.com

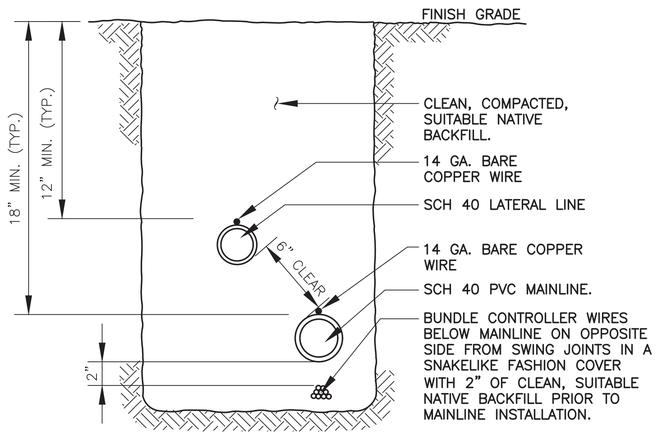
STATE OF WASHINGTON · JASON M. ANDERSON · NO. 0936 EXP. 08/24/2025 · LANDSCAPE ARCHITECT
05/16/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

IRRIGATION DETAILS

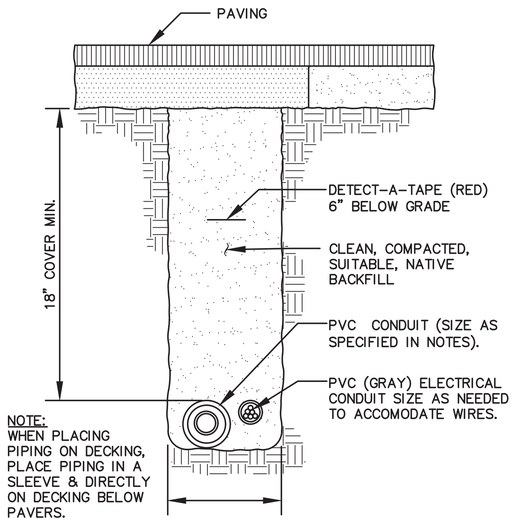
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	IR04
SHEET	80
OF	89

SEC 10, TWP 26 N, RGE 4 E



NOTE:
TAPE WIRES TOGETHER EVERY 10', BUT DO NOT TAPE BUNDLED WIRES TO MAINLINE.

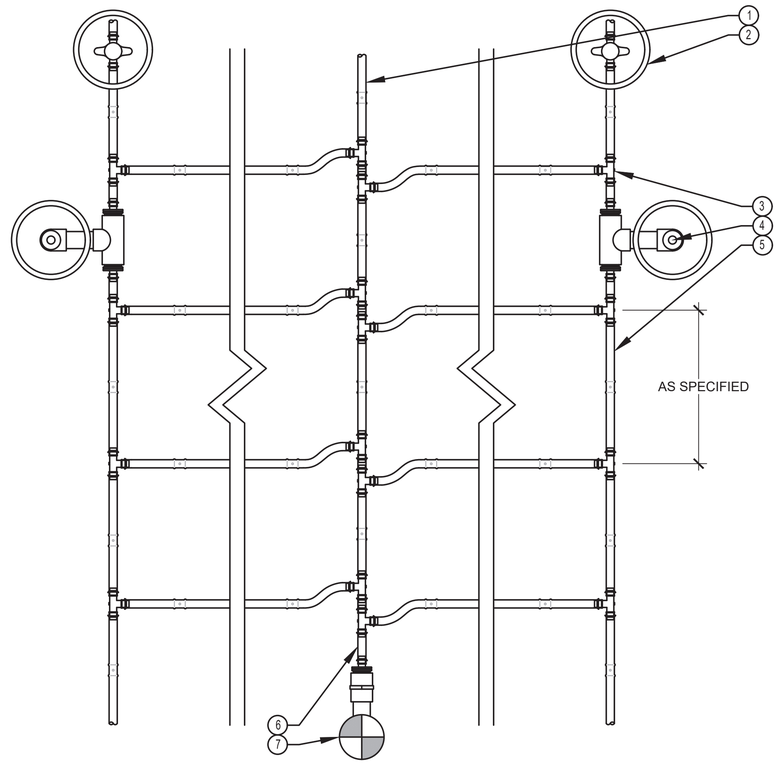
1 IRRIGATION TRENCH



NOTE:
WHEN PLACING PIPING ON DECKING, PLACE PIPING IN A SLEEVE & DIRECTLY ON DECKING BELOW PAVERS.

6" WIDE TRENCH
(OR AS REQUIRED TO ALLOW ADEQUATE COMPACTION OF BACKFILL)

2 TRENCH UNDER ASPHALT



3 DRIPLINE - PLANTING BED CENTER FEED

LEGEND:

1. HUNTER DRIPLINE (HDL) PER PLAN
2. FLUSH POINT (PLD–BV) IN SUBTERRANEAN BOX PER PLAN
3. PLD OR PLD–LOC FITTINGS TYP.
4. AIR RELIEF VALVE IN VALVE BOX (ONLY FOR CHANGES IN HEIGHT OF GREATER THAN 6' ON THE SAME ZONE)
5. PLD TUBING EXHAUST HEADER
6. HDL TUBING SUPPLY HEADER
7. DRIP CONTROL ZONE KIT PER PLAN

NOTES:
AIR RELIEF VALVE (PLD–AVR) INSTALLED IN VALVE BOX AT OPTIMAL HIGHEST POINT FROM CONTROL ZONE KIT. MULTIPLE AIR RELIEF VALVES MAY BE NEEDED TO ACCOMMODATE DIFFERENCES IN GRADE.

FLUSH POINT TO BE INSTALLED AT OPTIMAL FURTHEST POINT FROM CONTROL ZONE KIT TO ALLOW FOR MAXIMUM DEBRIS FLUSH IN SYSTEM.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	LZ/JA/AV	05/16/25
Designed	LZ/JA/AV	05/16/25
Reviewed	JA	05/16/25
Approved	JA	05/16/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

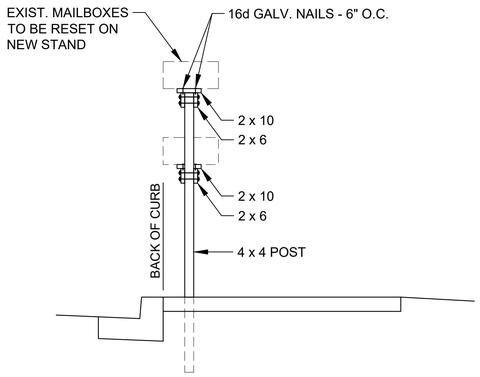
PARTNERSHIP berger
1927 Post Alley, Ste. 2 Seattle, WA 98101
206 325 6877 bergerpartnership.com

STATE OF WASHINGTON · JASON M. ANDERSON · NO 9936 EXP. 08/24/2026 · LANDSCAPE ARCHITECT
05/16/25

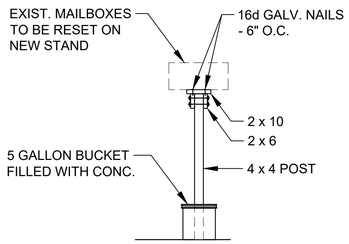
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

IRRIGATION DETAILS

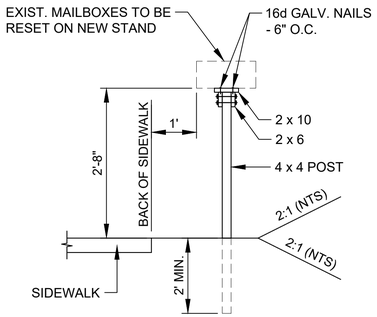
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	IR05
SHEET	81
OF	89



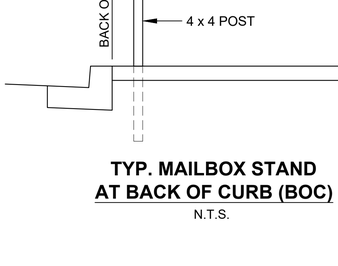
TYP. MAILBOX STAND
AT BACK OF CURB (BOC)
N.T.S.



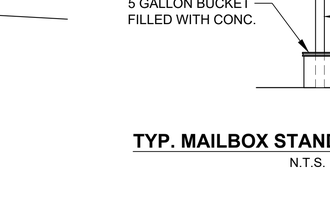
TYP. MAILBOX STAND (TEMPORARY)
N.T.S.



TYP. MAILBOX STAND
AT BACK OF SIDEWALK (BOS)
N.T.S.

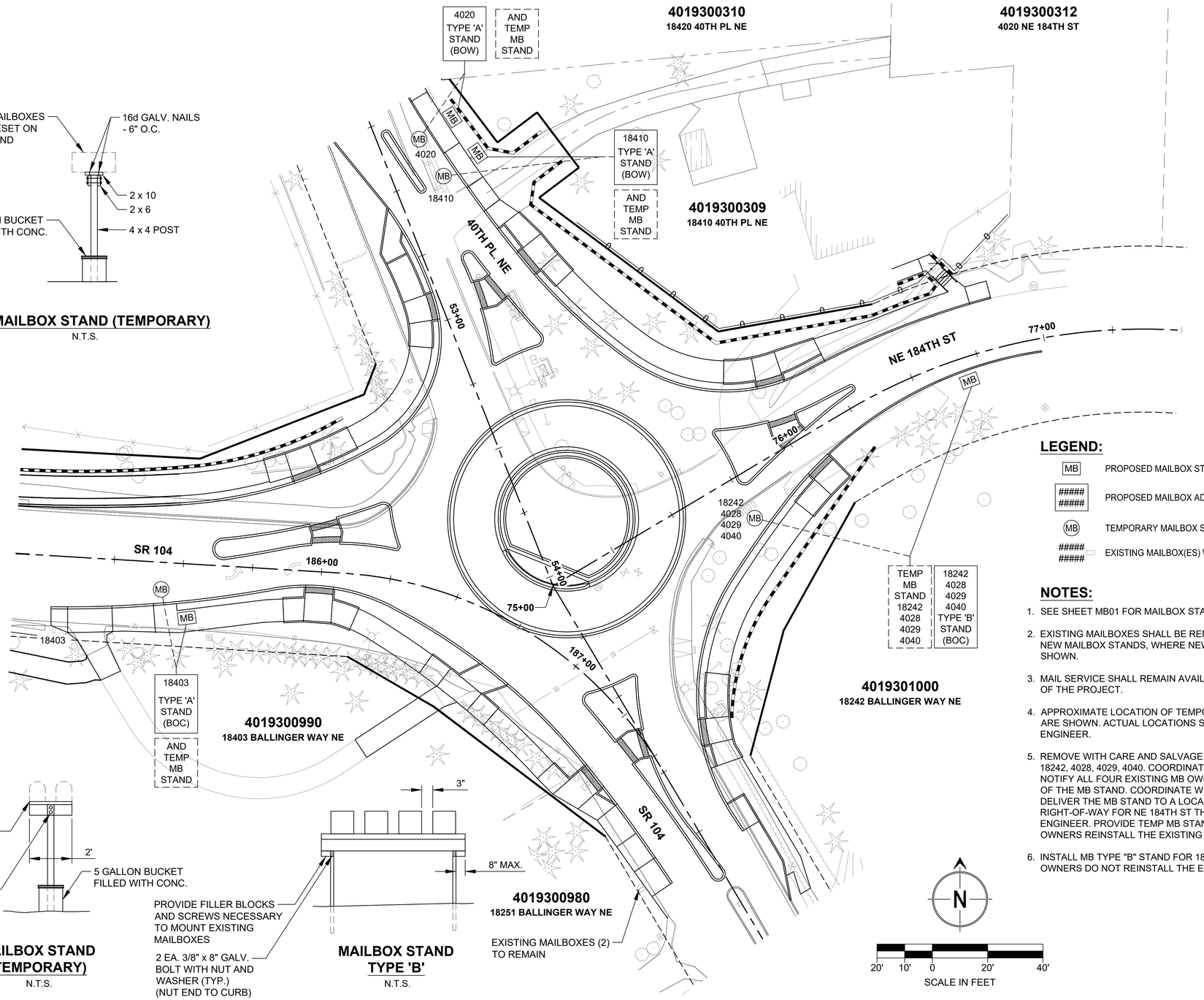


MAILBOX STAND
TYPE 'A'
N.T.S.



MAILBOX STAND
(TEMPORARY)
N.T.S.

MAILBOX STAND
TYPE 'B'
N.T.S.



LEGEND:

- MB — PROPOSED MAILBOX STAND
- ##### / ##### — PROPOSED MAILBOX ADDRESS(ES)
- (MB) — TEMPORARY MAILBOX STAND
- ##### / ##### — EXISTING MAILBOX(ES) WITH ADDRESS(ES)

NOTES:

1. SEE SHEET MB01 FOR MAILBOX STAND DETAILS.
2. EXISTING MAILBOXES SHALL BE REMOVED AND RELOCATED TO NEW MAILBOX STANDS, WHERE NEW MAILBOX STANDS ARE SHOWN.
3. MAIL SERVICE SHALL REMAIN AVAILABLE FOR THE DURATION OF THE PROJECT.
4. APPROXIMATE LOCATION OF TEMPORARY MAILBOX STANDS ARE SHOWN. ACTUAL LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
5. REMOVE WITH CARE AND SALVAGE EXISTING MB STAND FOR: 18242, 4028, 4029, 4040. COORDINATE WITH THE ENGINEER AND NOTIFY ALL FOUR EXISTING MB OWNERS PRIOR TO REMOVAL OF THE MB STAND. COORDINATE WITH THE OWNERS AND DELIVER THE MB STAND TO A LOCATION WITHIN THE EXISTING RIGHT-OF-WAY FOR NE 184TH ST THAT IS APPROVED BY THE ENGINEER. PROVIDE TEMP MB STANDS FOR USE UNTIL THE OWNERS REINSTALL THE EXISTING MB STAND.
6. INSTALL MB TYPE "B" STAND FOR 18242, 4028, 4029, 4040 IF OWNERS DO NOT REINSTALL THE EXISTING MB STAND.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 34403 — REGISTERED PROFESSIONAL ENGINEER
6/9/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

MAILBOX RELOCATION PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	MB01
SHEET	82
OF	89

C:\Users\MikeSchaefer\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CAD\PS&E\221007-MB.dwg, 06/09/25 09:47:16am

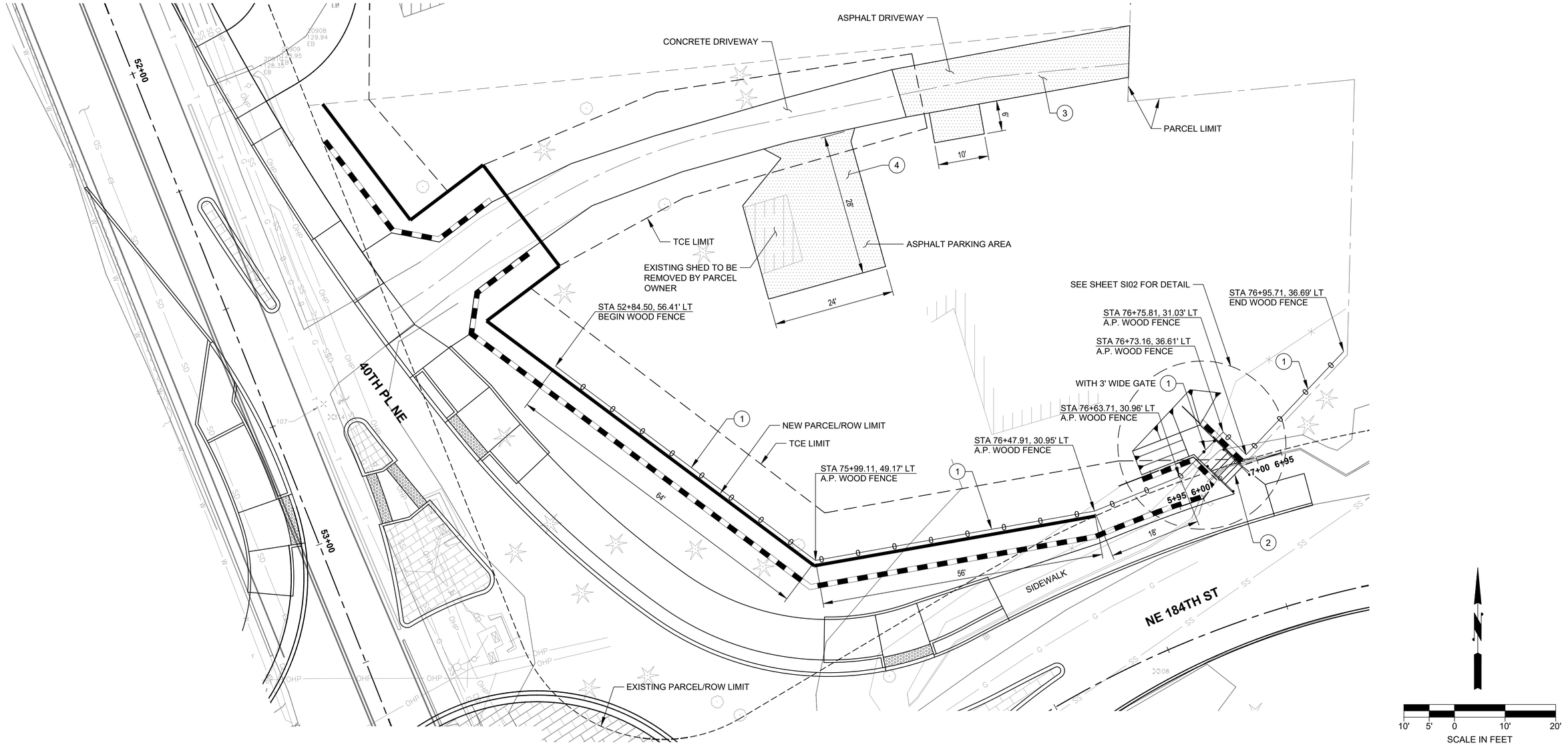
SECTION 10, T 26 N, R 4 E, WM

GENERAL NOTES:

1. FOR DRIVEWAY SECTIONS, SEE SHEET DRP01.
2. FOR DRIVEWAY PROFILE, SEE SHEET DRP02.
3. FOR WALL PROFILES, SEE SHEET SI02.
4. FOR WALL DETAILS, SEE SHEET WD07.
5. FOR STAIRWAY DETAILS, SEE SHEETS SI03-SI04.

CONSTRUCTION NOTES:

1. CONSTRUCT 6' HIGH WOOD FENCE PER DETAILS, ON SHEET SI03.
2. CONSTRUCT CONCRETE STAIRS PER DETAILS, ON SHEETS SI03-SI04.
3. CONSTRUCT ASPHALT DRIVEWAY PER DETAIL, ON SHEET DRP01.
4. CONSTRUCT ASPHALT PARKING AREA PER ASPHALT DRIVEWAY DETAIL, ON SHEET DRP01.



NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 34403 — REGISTERED PROFESSIONAL ENGINEER
5/14/25

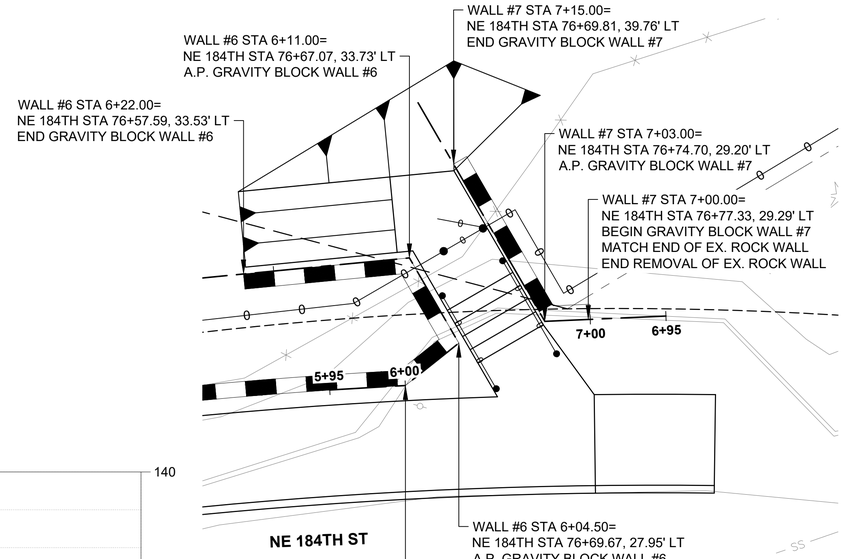
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

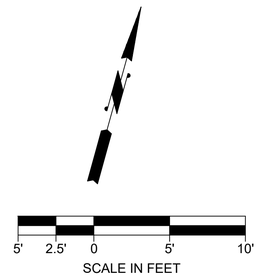
SITE IMPROVEMENT PLAN

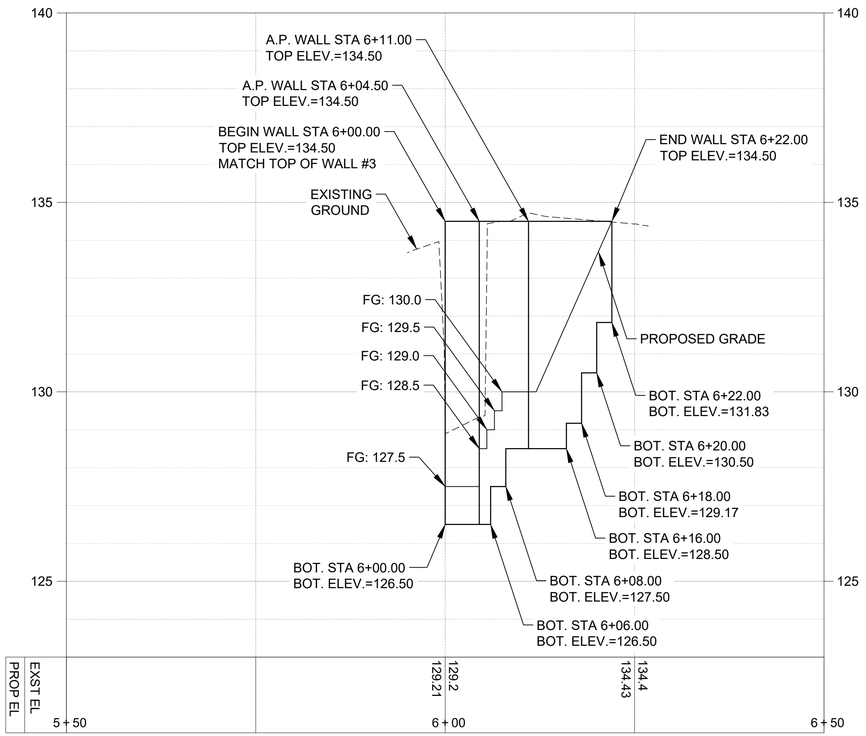
PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SI01
SHEET	83
OF	89

C:\Users\MikeSchaefer\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CAD\PS&E\221007-SI.dwg, 05/14/25 08:52:27am

SECTION 10, T 26 N, R 4 E, WM

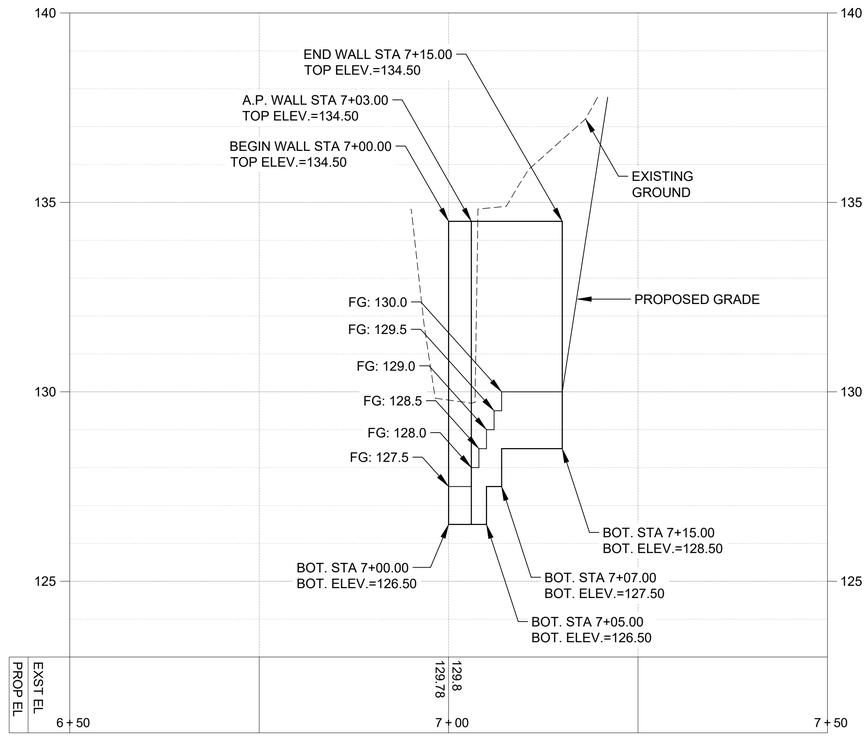






SITE PLAN CUT WALL PROFILE
REFLECTED WALL ELEVATION
GRAVITY BLOCK WALL #6

SCALE: 1"=10' HORIZ., 1"=2' VERT.



SITE PLAN CUT WALL PROFILE
REFLECTED WALL ELEVATION
GRAVITY BLOCK WALL #7

SCALE: 1"=10' HORIZ., 1"=2' VERT.

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

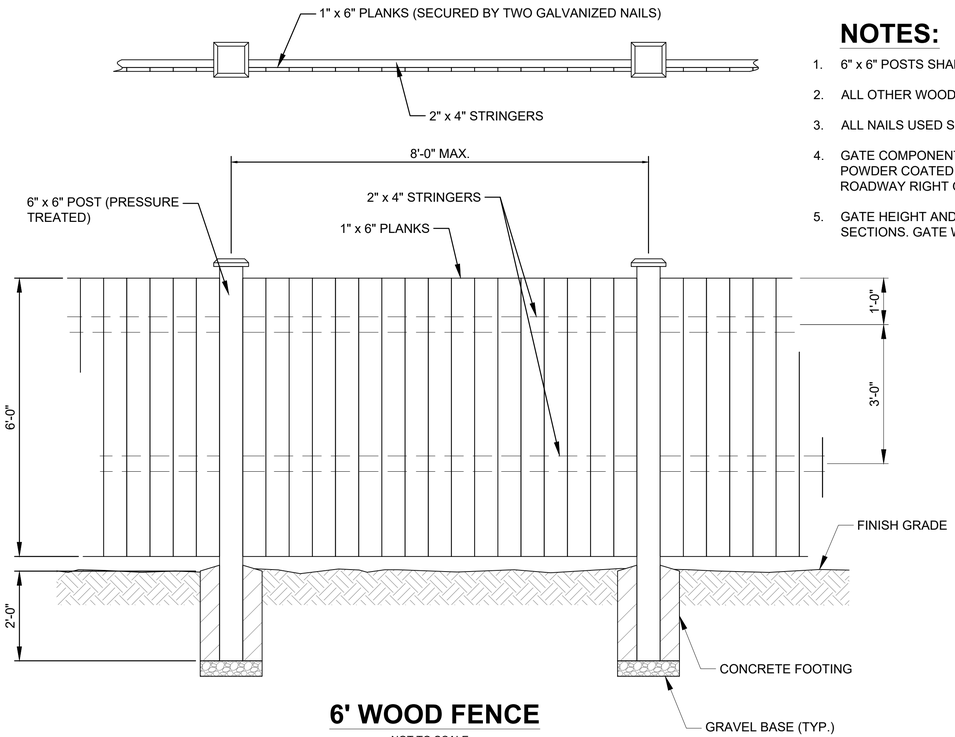
KIRK ANDREW HARRIS — STATE OF WASHINGTON — 34403 — REGISTERED PROFESSIONAL ENGINEER
5/14/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

SITE IMPROVEMENT PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. **SI02**
SHEET 84
OF 89

C:\Users\MikeSchaefer\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CAD\PS&E\221007-SI.dwg, 05/14/25 08:52:30am

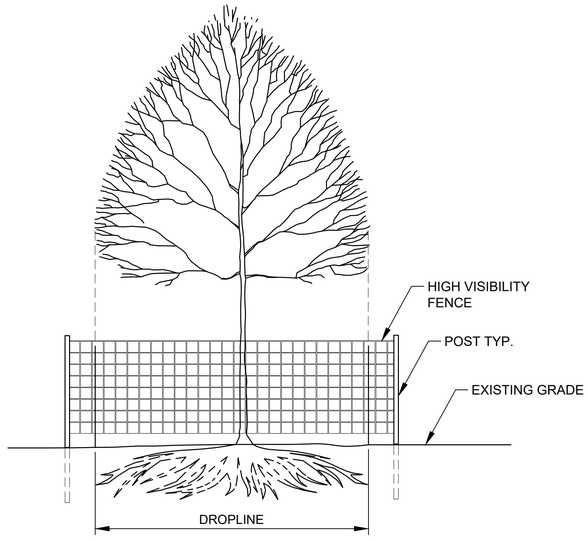


6' WOOD FENCE

NOT TO SCALE

NOTES:

1. 6" x 6" POSTS SHALL BE PRESSURE TREATED FIR.
2. ALL OTHER WOOD MEMBERS TO BE CEDAR.
3. ALL NAILS USED SHALL BE GALVANIZED.
4. GATE COMPONENTS, INCLUDING HINGES AND CATCHS, SHALL BE BLACK POWDER COATED STEEL AND INSTALL ON THE OPPOSITE SIDE OF THE ROADWAY RIGHT OF WAY.
5. GATE HEIGHT AND STYLE TYPE SHALL MATCH ADJACENT FENCE SECTIONS. GATE WIDTH SHALL BE AS NOTED ON THE PLANS.

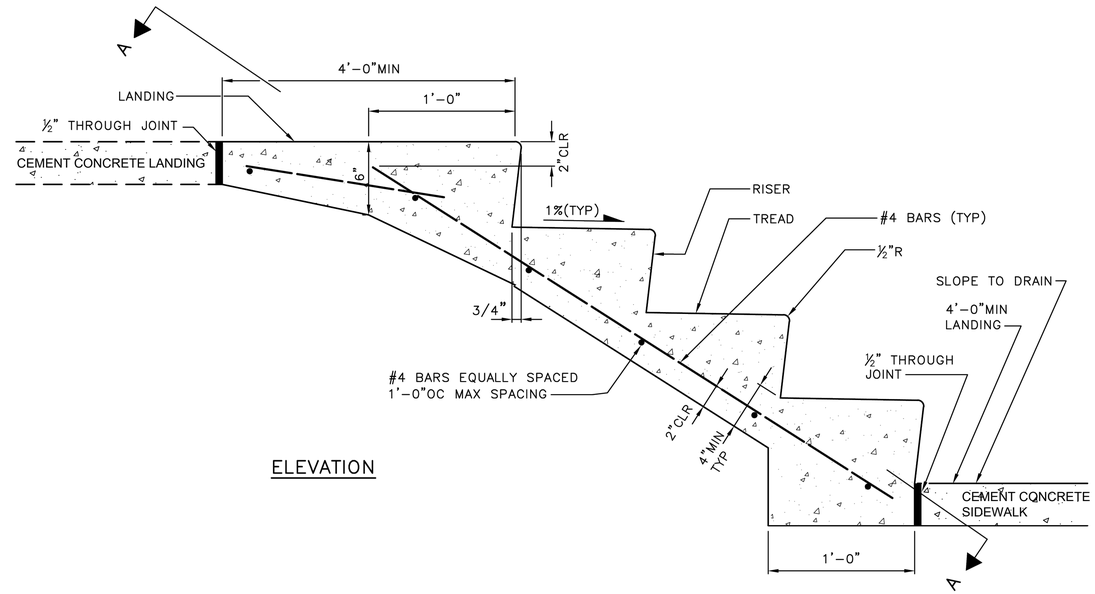


TREE PROTECTION

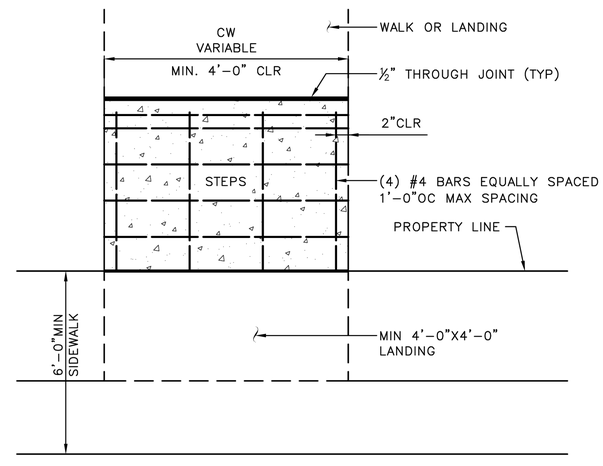
NOT TO SCALE

NOTES:

1. 3' HIGH VISIBILITY FENCE SHALL BE PLACED AT DRIPLINE OF TREE TO BE PROTECTED; FENCE SHALL COMPLETELY ENCIRCLE TREE(S); AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER 1" IN DIA., MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE COVERED WITH TOPSOIL IMMEDIATELY TO PREVENT DRYING.
3. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL NOT BE ALLOWED WITHIN THE LIMIT OF THE FENCING. SEE SPECIFICATIONS FOR SOIL AMENDMENT TREATMENT WITHIN TREE PROTECTION AREA.



ELEVATION



SECTION A–A

NOTES:

1. CEMENT CONCRETE MUST BE CL 3000 TROWEL FINISH
2. NUMBER OF STEPS MUST SUIT INDIVIDUAL CONDITIONS WITH UNIFORM TREAD AND RISER DIMENSIONS AS FOLLOWS:
   TREADS MUST BE 11"MIN – 1'–0"MAX
   RISERS MUST BE 5"MIN – 7"MAX
3. STEP WIDTH MUST MATCH WIDTH OF EXISTING WALK, BUT MUST BE NO LESS THAN 2'–6"WIDE
4. STAIRWAYS WITH 4 OR MORE RISERS MUST INCLUDE A HANDRAIL ON BOTH SIDES. SEE EXHIBITS 5 AND 6.
5. REINFORCING STEEL ASTM A 615 GR60
6. TREAD SLOPES OUTWARD @1%

CEMENT CONCRETE STAIRWAY DETAIL

NOT TO SCALE

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

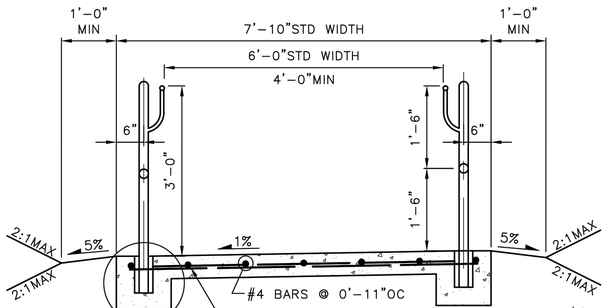
KIRK ANDREW HARRIS — STATE OF WASHINGTON — 34403 — REGISTERED PROFESSIONAL ENGINEER
6/3/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

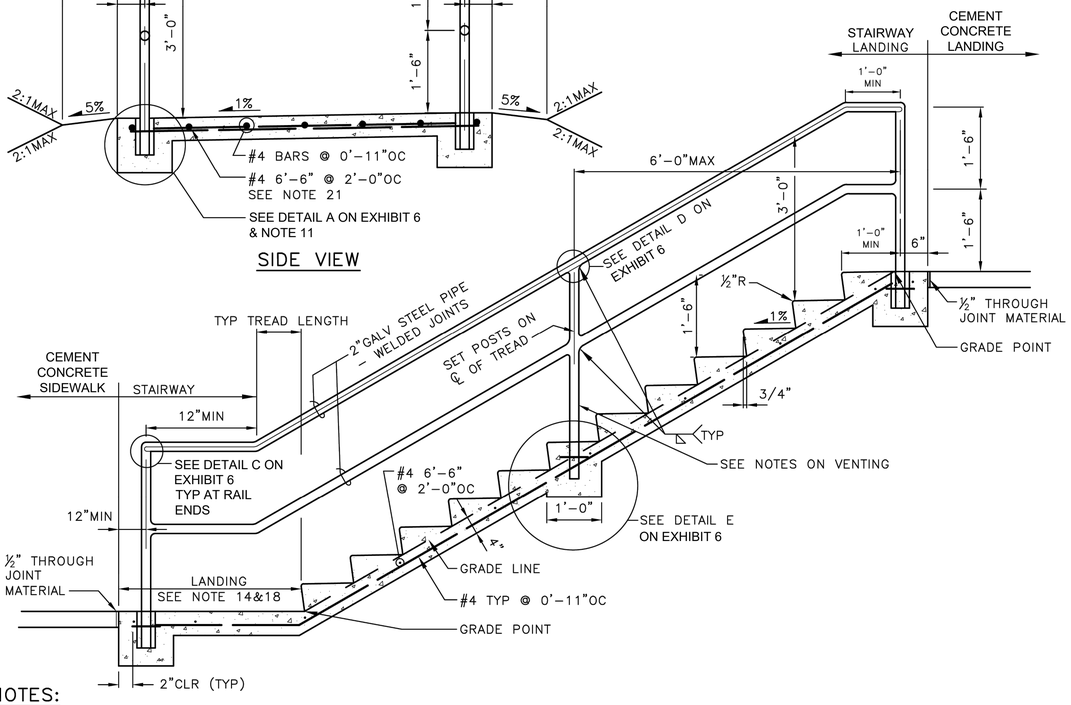
SITE IMPROVEMENT DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SI03
SHEET	85
OF	89

C:\Users\MikeSchaefer\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CAD\PS&E\221007-SI.dwg, 06/03/25 09:20:51am



SIDE VIEW

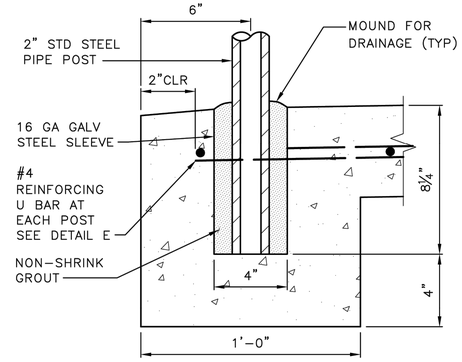


NOTES:

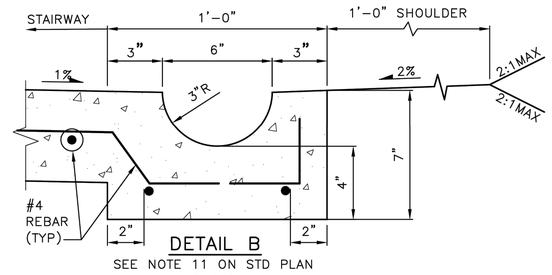
1. FLIGHTS OF STAIRS MUST HAVE MAX VERTICAL RISE OF 12' BEFORE A LANDING.
2. AVOID FEWER THAN 2 RISERS PER FLIGHT.
3. STEPS IN FLIGHT MUST HAVE UNIFORM TREAD RUNS AND UNIFORM RISER HEIGHTS WITH TOLERANCE OF ±3/8".
4. TREADS MUST BE 11"MIN, 12"MAX. RISERS MUST BE 5"MIN, 7"MAX.
5. LANDINGS BETWEEN FLIGHTS OF RISERS MUST HAVE SAME WIDTH AS STEPS AND A MIN LENGTH OF 4'–0".
6. STAIRWAYS WITH 1 OR MORE RISERS MUST HAVE HANDRAILS ON BOTH SIDES.
7. HANDRAILS MUST BE CONTINUOUS ACROSS LANDINGS BETWEEN FLIGHTS OF STEPS.
8. ALL STEEL MUST BE HOT DIPPED GALVANIZED.
9. PIPE MATERIAL MUST BE ASTM A53 AND ROUND BAR ASTM A36.
10. REINFORCING STEEL MUST BE ASTM A615 GR 60.
11. FOR FORMAL DRAINAGE PICK–UP SEE DETAIL B ON STD PLAN NO 440b (THIS IS OPTIONAL AND MUST BE CALLED OUT ON DRAWINGS).
12. PIPE DIAMETERS SHOWN CORRESPOND TO PIPE "SHAPE" AS DEFINED IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.
13. CONCRETE CLASS CL3000.
14. LANDINGS MUST BE 0.5%MIN FOR A MIN LENGTH OF 4', ADJACENT SIDEWALK MAY BE PART OF LANDING IF SLOPE CRITERIA AND SETBACKS FROM HANDRAILS ARE MET.
15. TREAD SURFACE MUST HAVE GROOVES AT THE NOSE FOR TRACTION.
16. IF LANDING IS ELEVATED, LANDING MUST HAVE VERTICAL RAILING PER RIGHT OF WAY IMPROVEMENT MANUAL.
17. STAIRWAYS DEVIATING FROM STANDARD PLAN TO ACCOMMODATE BICYCLE FEATURES MAY BE USED PER STD PLAN NO 440C OR 440D.
18. DIMENSION FROM THE BOTTOM LANDING RAILING TO THE NOSE OF THE TREAD MUST BE 12"MIN + 1 TREAD LENGTH.
19. HANDRAIL GRIPPING SURFACE AND ADJACENT SURFACES MUST BE FREE FROM SHARP OR ABRASIVE ELEMENTS AND MUST HAVE ROUNDED EDGES.
20. BOTTOM HANDRAIL EXTENSION MUST EXTEND ONE TREAD LENGTH MINIMUM PARALLEL TO THE SLOPE OF THE STAIR BEYOND BOTTOM STAIR NOSING.
21. TOP HANDRAIL EXTENSION MUST EXTEND HORIZONTALLY ABOVE LANDING 12" MINIMUM BEYOND TOP STAIR NOSING.
22. REBAR SIZING AND SPACING MAY CHANGE FOR WIDER OR NARROWER STAIRWAYS.
23. EXTERNAL VENT HOLES MUST BE AS CLOSE TO THE WELD AS POSSIBLE AND MUST BE 25% THE SIZE OF THE I.D. OF THE PIPE, BUT NOT LESS THAN ⅜" IN DIA.
24. VENT HOLES IN END SECTIONS OR IN SIMILAR SECTIONS MUST BE ½" IN DIA.
25. ENDS MUST BE LEFT COMPLETELY OPEN. ANY DEVICE USED FOR FIELD–ERECTION THAT PREVENTS FULL OPENINGS ON ENDS OF HORIZONTAL RAILS AND VERTICAL LEGS MUST BE GALVANIZED SEPARATELY AND ATTACHED AFTER GALVANIZING.

CEMENT CONCRETE STAIRWAY & HANDRAIL DETAILS

NOT TO SCALE

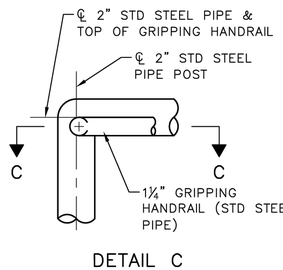


DETAIL A

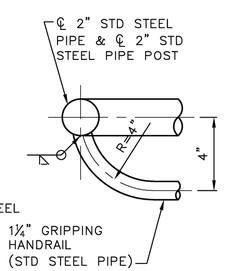


DETAIL B

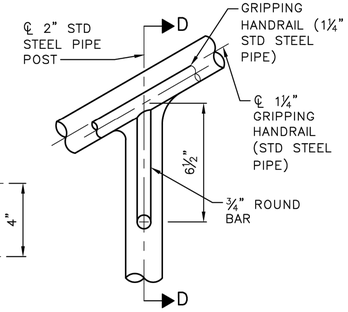
SEE NOTE 11 ON STD PLAN NO 440a



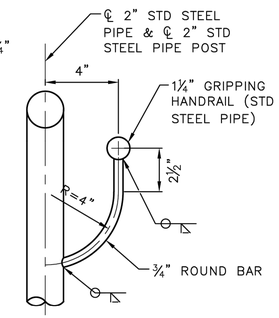
DETAIL C
HAND GRIP TERMINATION



SECTION C–C

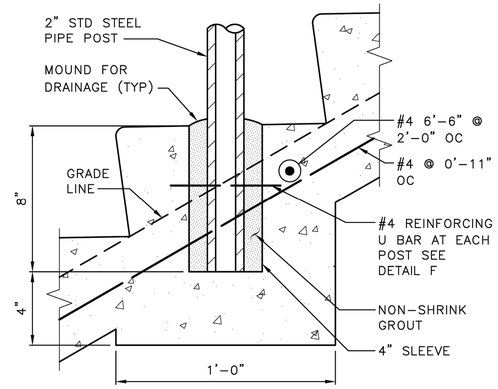


DETAIL D

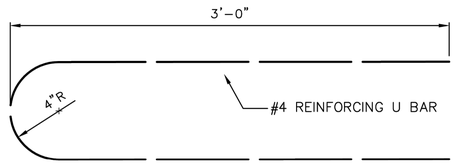


SECTION D–D

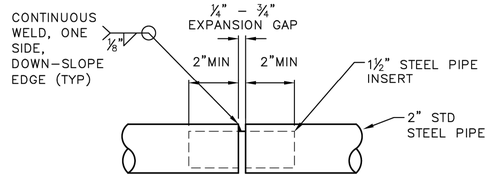
NOTE:
PIPE DIAMETERS SHOWN CORRESPOND TO PIPE "SHAPE" AS DEFINED IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.



DETAIL E



DETAIL F



DETAIL G
SLIP JOINT

STAIRWAY HANDRAIL DETAILS

NOT TO SCALE

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MJS	5/25
Designed	KAH	5/25
Reviewed	VLS	5/25
Approved	KAH	5/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

Transportation Solutions
INNOVATIVE | PRACTICAL | EQUITABLE
16932 Woodinville-Redmond Road, Suite A206
Woodinville, WA 98072
(425) 883-4134 | www.tsinw.com

KIRK ANDREW HARRIS — STATE OF WASHINGTON — 34403 — REGISTERED PROFESSIONAL ENGINEER
5/14/25

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

SITE IMPROVEMENT DETAILS

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	SI04
SHEET	86
OF	89

C:\Users\MikeSchaefer\TSI Dropbox\Mike Schaefer\TSI Projects\2021\221007 SR 104 and 40th Place NE Roundabout\0400CAD\PS&E\221007-SI.dwg, 05/14/25 08:52:33am

NW 1/4 SECTION 10, TOWNSHIP 26 N, RANGE 4 E, W.M.

SECTION - SUBDIVISION

1" = 200'

SECTION SUBDIVISION

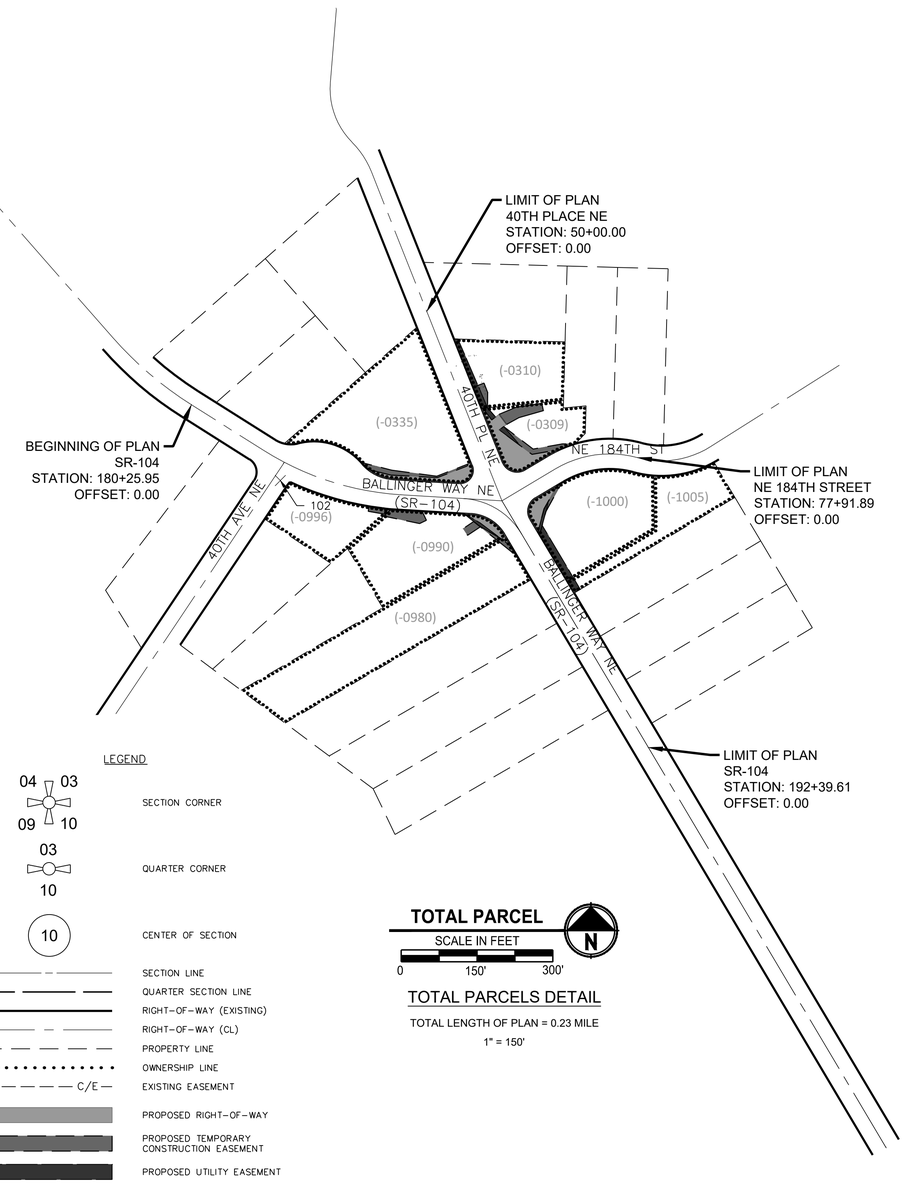
SCALE IN FEET

0 200' 400'

N

SURVEY NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE (4601), NAD83/2011, US SURVEY FOOT.
2. VERTICAL DATUM: NAVD88
3. BASIS OF BEARINGS: WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE (4601), NAD83/11, US SURVEY FOOT (GRID) S 86° 33' 22" E [FOUND MONUMENT (ATLAS #20373) TO FOUND MONUMENT (ATLAS 11430)]]
4. PROJECT BENCHMARK: ATLAS #102; SET MAG NAIL AND WASHER ELEV = 91.92'.
5. FIELD WORK FOR THIS SURVEY WAS PERFORMED IN FEBRUARY 2021. MONUMENTS AND CONTROL POINTS SHOWN HEREIN WERE VISITED AND/OR SET IN FEBRUARY 2021.
6. CONTOURS SHOWN ARE DERIVED FROM DIRECT FIELD OBSERVATIONS.
7. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREIN ARE APPROXIMATE LOCATIONS ONLY BASED ON THE FIELD LOCATION OF UTILITY LOCATE PAINT MARKS AND PHYSICAL FEATURES VISIBLE ON OR ABOVE THE GROUND SURFACE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL UNDERGROUND UTILITIES BEFORE BEGINNING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AN ALL DAMAGES ARISING OUT OF HIS/HER FAILURE TO EXACTLY LOCATE AND PROTECT ALL EXISTING UTILITY FACILITIES.
8. UTILITY LOCATES FOR THIS PROJECT WERE PERFORMED BY APPLIED PROFESSIONAL SERVICES (APS).



LEGEND

04 03 / 09 10	SECTION CORNER
03 / 10	QUARTER CORNER
10	CENTER OF SECTION
	SECTION LINE
	QUARTER SECTION LINE
	RIGHT-OF-WAY (EXISTING)
	RIGHT-OF-WAY (CL)
	PROPERTY LINE
	OWNERSHIP LINE
C/E	EXISTING EASEMENT
	PROPOSED RIGHT-OF-WAY
	PROPOSED TEMPORARY CONSTRUCTION EASEMENT
	PROPOSED UTILITY EASEMENT
X	FENCE LINE
	EXISTING PAVEMENT / CURB / CONCRETE
	EXISTING BUILDING

TOTAL PARCEL

SCALE IN FEET

0 150' 300'

N

TOTAL PARCELS DETAIL

TOTAL LENGTH OF PLAN = 0.23 MILE

1" = 150'

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MM	4/25
Designed	MG	4/25
Reviewed	MG	4/25
Approved	VLS	4/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

ATLAS

17619 NE 67TH CT #100
Redmond, Washington 98052

Ph: (425) 429-7800

MARK A. GROOT — STATE OF WASHINGTON — 44342 — REGISTERED PROFESSIONAL LAND SURVEYOR

4/03/2025

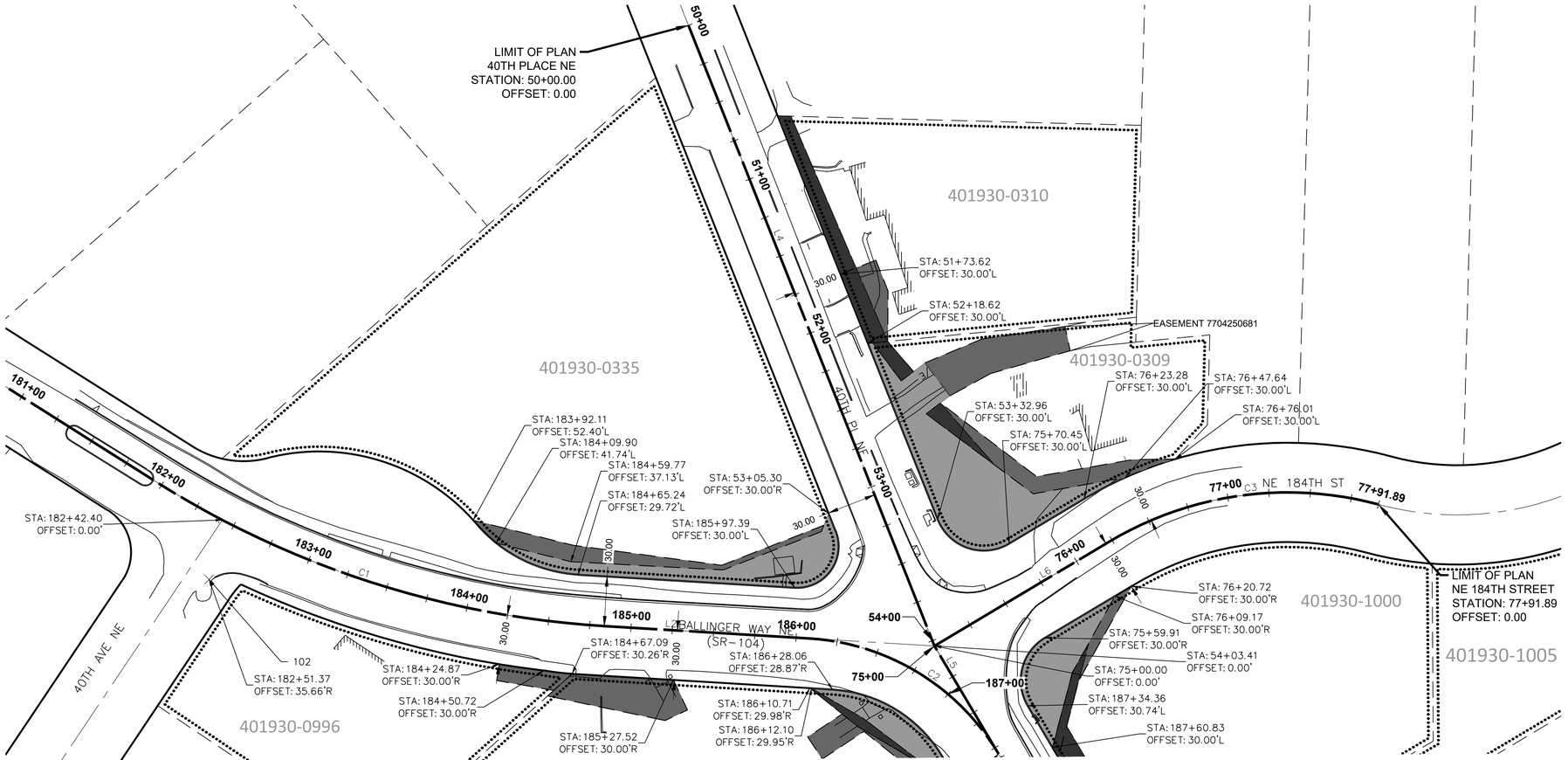
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

SECTION SUBDIVISION AND TOTAL PARCEL DETAIL

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	TP01
SHEET	87
OF	89

L:\TSIX_20-139 SR 104 Roundabout\0300CAD\BASES\right-of-way plan\20139-SV-ROW-PLAN.dwg, 05/15/25 06:00:21pm

NW 1/4 SECTION 10, TOWNSHIP 26 N, RANGE 4 E, W.M.



LEGEND

- SECTION CORNER (04 03 / 09 10)
- QUARTER CORNER (03 / 10)
- CENTER OF SECTION (10)
- SECTION LINE
- QUARTER SECTION LINE
- RIGHT-OF-WAY (EXISTING)
- RIGHT-OF-WAY (CL)
- PROPERTY LINE
- OWNERSHIP LINE
- EXISTING EASEMENT (C/E)
- PROPOSED RIGHT-OF-WAY
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED UTILITY EASEMENT
- FENCE LINE
- EXISTING PAVEMENT / CURB / CONCRETE
- EXISTING BUILDING

PLAN
SCALE IN FEET
0 40' 80'
N

ALIGNMENT TABLE					
LINE/CHORD NUMBER	RADIUS	LENGTH	LINE/CHORD BEARING	START STATION	END STATION
L1		169.43	S57° 42' 52"E	180+25.95	181+95.38
C1	572.96	288.42	S72° 08' 07"E	181+95.38	184+83.80
L2		124.14	S86° 33' 22"E	184+83.80	186+07.94
C2	143.23	139.62	S58° 37' 52"E	186+07.94	187+47.56
L3		492.05	S30° 42' 22"E	187+47.56	192+39.61
L4		403.41	S21° 38' 07"E	50+00.00	54+03.41
L5		75.92	S30° 42' 22"E	54+03.41	54+79.33
L6		123.29	N59° 12' 18"E	75+00.00	76+23.29
C3	210.38	168.60	N82° 09' 48"E	76+23.29	77+91.89

ATLAS MONUMENT/CONTROL TABLE						
POINT	RIGHT-OF-WAY C/L		PROJECT COORDINATES		ELEVATION	DESCRIPTION
	STATION	OFFSET	NORTHING	EASTING		
102	182+51.37	35.66 RT.	280650.32	1283239.61	91.92	MAG NAIL SET AT SE CORNER OF INTERSECTION OF 40TH AVE NE AND BALLINGER WAY NE 5' WEST OF STOP SIGN
302	SUBD		277723.20	1284531.59	33.50	3" BRASS DISK WITH PUNCH MARKED "WASH DOT MON GP 17522-236" ON NE CORNER INTERSECTION OF BOTHELL WAY NE AND NE 170TH ST
317	SUBD		279330.83	1284438.81	68.04	PIN IN CONC IN 2" IRON PIPE DOWN 1.4' IN CASE AT INTERSECTION OF BALLINGER WAY NE AND NE 178TH ST
318	SUBD		281527.11	1282386.46	136.33	2" IRON PIPE WITH PIN DOWN 1.15' IN CASE AT INTERSECTION OF BALLINGER WAY NE AND 37TH AVE NE
322	SUBD		281585.30	1283350.02	183.64	4" CONC MON WITH NAIL DOWN 1.15' IN CASE AT INTERSECTION OF 40TH PL NE AND NE 185TH ST
10783	54+79.30	0.03 LT.	280544.93	1283717.01	113.85	PIN IN CONC IN 2.5" IRON PIPE IN CASE IN TURN LANE OF BALLINGER WAY NE +/- 30' SE OF INTERSECTION WITH NE 184TH ST
11430	75+00.00	0.00 LT.	280610.16	1283678.23	116.00	PIN IN CONC IN 2.5" IRON PIPE DOWN 0.5' IN CASE AT INTERSECTION OF 40TH PL NE AND NE 184TH ST
20372	182+41.16	2.27 RT.	280684.84	1283245.49	92.44	NAIL IN CONC IN 2.5" IRON PIPE DOWN 0.95' IN CASE AT INTERSECTION OF BALLINGER WAY NE AND 40TH AVE NE
20373	184+83.49	0.00 RT.	280622.20	1283478.23	104.41	2" BRASS DISK AND NAIL DOWN 1.6' IN CASE IN TURN LANE ON CENTERLINE BALLINGER WAY NE +/- 120' WEST OF INTERSECTION WITH 40TH PL NE

ACQUISITION DOCUMENT (AUDITOR FILE NO.)	OWNERSHIP							
	PARCEL NO.	NAME	PROPERTY ADDRESS*	TOTAL AREA	R/W REQ'D.	EASEMENT TYPE	EASEMENT AREA	REMAINDER
	401930-0335	WRIGHT, VONNA & JONES, MICHAEL	18411 40TH PL NE	56,380 SF	2,547 SF			52,505 SF
						TEMP. CONSTRUCTION	1,328 SF	
	401930-0310	SUPAKUL, NATHAN & HUANG, BETTY	18420 40TH PL NE	24,344 SF		TEMP. CONSTRUCTION	930 SF	
						UTILITY	1,391 SF	
	401930-0309	CAMPBELL, ERIN	18410 40TH PL NE	19,399 SF	5,189 SF			14,210 SF
						TEMP. CONSTRUCTION	3,357 SF	
						UTILITY	494 SF	
	401930-1000	TAYLOR, CHRISTINA J & PATRICK	18242 BALLINGER WAY NE	37,078 SF	1,849 SF			35,229 SF
						TEMP. CONSTRUCTION	579 SF	
						UTILITY	1,893 SF	
	401930-1005	ORTHEL, JASON P & ANGIE F	4029 NE 184TH ST	20,105 SF		UTILITY	371 SF	
	401930-0980	NICKLES, DANITA M	18251 BALLINGER WAY NE	58,454 SF	115 SF			58,339 SF
						TEMP. CONSTRUCTION	295 SF	
	401930-0990	MATTOX, BARNEY	18403 BALLINGER WAY NE	33,941 SF	1,103 SF			32,838 SF
						TEMP. CONSTRUCTION	2,114 SF	
						UTILITY	277 SF	
	401930-0996	AKERSTROM, GALE E	18250 40TH AVE NE	19,777 SF		TEMP. CONSTRUCTION	417 SF	
			*LAKE FOREST PARK, WA 98155					

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MM	4/25
Designed	MG	4/25
Reviewed	MG	4/25
Approved	VLS	4/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

ATLAS
17619 NE 67TH CT #100
Redmond, Washington 98052
Ph: (425) 429-7800

MARK A. GROOT — STATE OF WASHINGTON — 14343 — REGISTERED PROFESSIONAL LAND SURVEYOR
4/03/2025

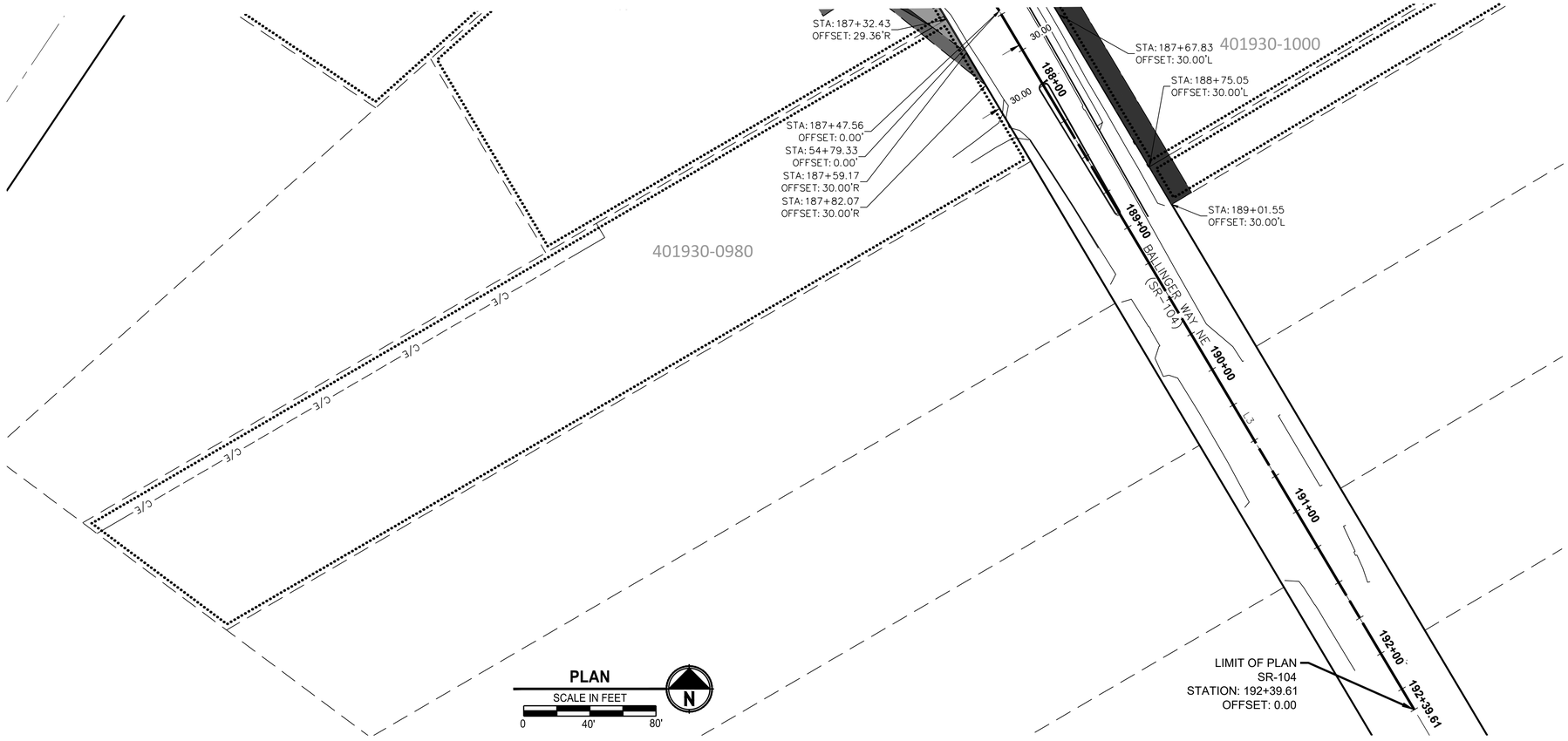
CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

RIGHT-OF-WAY PLAN

PROJECT NO. 221007
CONTRACT NO. -
DRAWING NO. RW01
SHEET 88
OF 89

L:\TSIX_20-139 SR 104 Roundabout\0300CADBASES\right-of-way plan\20139-SV-ROW-PLAN.dwg, 05/15/25 06:00:47pm

NW 1/4 SECTION 10, TOWNSHIP 26 N, RANGE 4 E, W.M.



LEGEND

- SECTION CORNER (04 03 / 09 10)
- QUARTER CORNER (03 / 10)
- CENTER OF SECTION (10)
- SECTION LINE
- QUARTER SECTION LINE
- RIGHT-OF-WAY (EXISTING)
- RIGHT-OF-WAY (CL)
- PROPERTY LINE
- OWNERSHIP LINE
- EXISTING EASEMENT — C/E —
- PROPOSED RIGHT-OF-WAY
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED UTILITY EASEMENT
- FENCE LINE
- EXISTING PAVEMENT / CURB / CONCRETE
- EXISTING BUILDING

ALIGNMENT TABLE					
LINE/CHORD NUMBER	RADIUS	LENGTH	LINE/CHORD BEARING	START STATION	END STATION
L1		169.43	S57° 42' 52"E	180+25.95	181+95.38
C1	572.96	288.42	S72° 08' 07"E	181+95.38	184+83.80
L2		124.14	S86° 33' 22"E	184+83.80	186+07.94
C2	143.23	139.62	S58° 37' 52"E	186+07.94	187+47.56
L3		492.05	S30° 42' 22"E	187+47.56	192+39.61
L4		403.41	S21° 38' 07"E	50+00.00	54+03.41
L5		75.92	S30° 42' 22"E	54+03.41	54+79.33
L6		123.29	N59° 12' 18"E	75+00.00	76+23.29
C3	210.38	168.60	N82° 09' 48"E	76+23.29	77+91.89

ATLAS MONUMENT/CONTROL TABLE

POINT	RIGHT-OF-WAY C/L		PROJECT COORDINATES		ELEVATION	DESCRIPTION
	STATION	OFFSET	NORTHING	EASTING		
102	182+51.37	35.66 RT.	280650.32	1283239.61	91.92	MAG NAIL SET AT SE CORNER OF INTERSECTION OF 40TH AVE NE AND BALLINGER WAY NE 5' WEST OF STOP SIGN
302	SUBD		277723.20	1284531.59	33.50	3" BRASS DISK WITH PUNCH MARKED "WASH DOT MON GP 17522-236" ON NE CORNER INTERSECTION OF BOTHELL WAY NE AND NE 170TH ST
317	SUBD		279330.83	1284438.81	68.04	PIN IN CONC IN 2" IRON PIPE DOWN 1.4' IN CASE AT INTERSECTION OF BALLINGER WAY NE AND NE 178TH ST
318	SUBD		281527.11	1282386.46	136.33	2" IRON PIPE WITH PIN DOWN 1.15' IN CASE AT INTERSECTION OF BALLINGER WAY NE AND 37TH AVE NE
322	SUBD		281585.30	1283350.02	183.64	4" CONC MON WITH NAIL DOWN 1.15' IN CASE AT INTERSECTION OF 40TH PL NE AND NE 185TH ST
10783	54+79.30	0.03 LT.	280544.93	1283717.01	113.85	PIN IN CONC IN 2.5" IRON PIPE IN CASE IN TURN LANE OF BALLINGER WAY NE +/- 30' SE OF INTERSECTION WITH NE 184TH ST
11430	75+00.00	0.00 LT.	280610.16	1283678.23	116.00	PIN IN CONC IN 2.5" IRON PIPE DOWN 0.5' IN CASE AT INTERSECTION OF 40TH PL NE AND NE 184TH ST
20372	182+41.16	2.27 RT.	280684.84	1283245.49	92.44	NAIL IN CONC IN 2.5" IRON PIPE DOWN 0.95' IN CASE AT INTERSECTION OF BALLINGER WAY NE AND 40TH AVE NE
20373	184+83.49	0.00 RT.	280622.20	1283478.23	104.41	2" BRASS DISK AND NAIL DOWN 1.6' IN CASE IN TURN LANE ON CENTERLINE BALLINGER WAY NE +/- 120' WEST OF INTERSECTION WITH 40TH PL NE

ACQUISITION DOCUMENT (AUDITOR FILE NO.)	OWNERSHIP							
	PARCEL NO.	NAME	PROPERTY ADDRESS*	TOTAL AREA	R/W REQ'D.	EASEMENT TYPE	EASEMENT AREA	REMAINDER
	401930-0335	WRIGHT, VONNA & JONES, MICHAEL	18411 40TH PL NE	56,380 SF	2,547 SF			52,505 SF
						TEMP. CONSTRUCTION	1,328 SF	
	401930-0310	SUPAKUL, NATHAN & HUANG, BETTY	18420 40TH PL NE	24,344 SF		TEMP. CONSTRUCTION	930 SF	
						UTILITY	1,391 SF	
	401930-0309	CAMPBELL, ERIN	18410 40TH PL NE	19,399 SF	5,189 SF			14,210 SF
						TEMP. CONSTRUCTION	3,357 SF	
						UTILITY	494 SF	
	401930-1000	TAYLOR, CHRISTINA J & PATRICK	18242 BALLINGER WAY NE	37,078 SF	1,849 SF			35,229 SF
						TEMP. CONSTRUCTION	579 SF	
						UTILITY	1,893 SF	
	401930-1005	ORTHEL, JASON P & ANGIE F	4029 NE 184TH ST	20,105 SF		UTILITY	371 SF	
	401930-0980	NICKLES, DANITA M	18251 BALLINGER WAY NE	58,454 SF	115 SF			58,339 SF
						TEMP. CONSTRUCTION	295 SF	
	401930-0990	MATTOX, BARNEY	18403 BALLINGER WAY NE	33,941 SF	1,103 SF			32,838 SF
						TEMP. CONSTRUCTION	2,114 SF	
						UTILITY	277 SF	
	401930-0996	AKERSTROM, GALE E	18250 40TH AVE NE	19,777 SF		TEMP. CONSTRUCTION	417 SF	
			*LAKE FOREST PARK, WA 98155					

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	MM	4/25
Designed	MG	4/25
Reviewed	MG	4/25
Approved	VLS	4/25

BID SET

811 Know what's below. Call before you dig.

CITY OF LAKE FOREST PARK

ATLAS
17619 NE 67TH CT #100
Redmond, Washington 98052
Ph: (425) 429-7800

MARK A. GROOT — STATE OF WASHINGTON — 45343 — REGISTERED PROFESSIONAL LAND SURVEYOR
4/03/2025

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

RIGHT-OF-WAY PLAN

PROJECT NO.	221007
CONTRACT NO.	-
DRAWING NO.	RW02
SHEET	89
OF	89

L:\TSIX_20-139 SR 104 Roundabout\0300CADIBASES\right-of-way plan\20139-SV-ROW-PLAN.dwg, 05/15/25 06:01:15pm

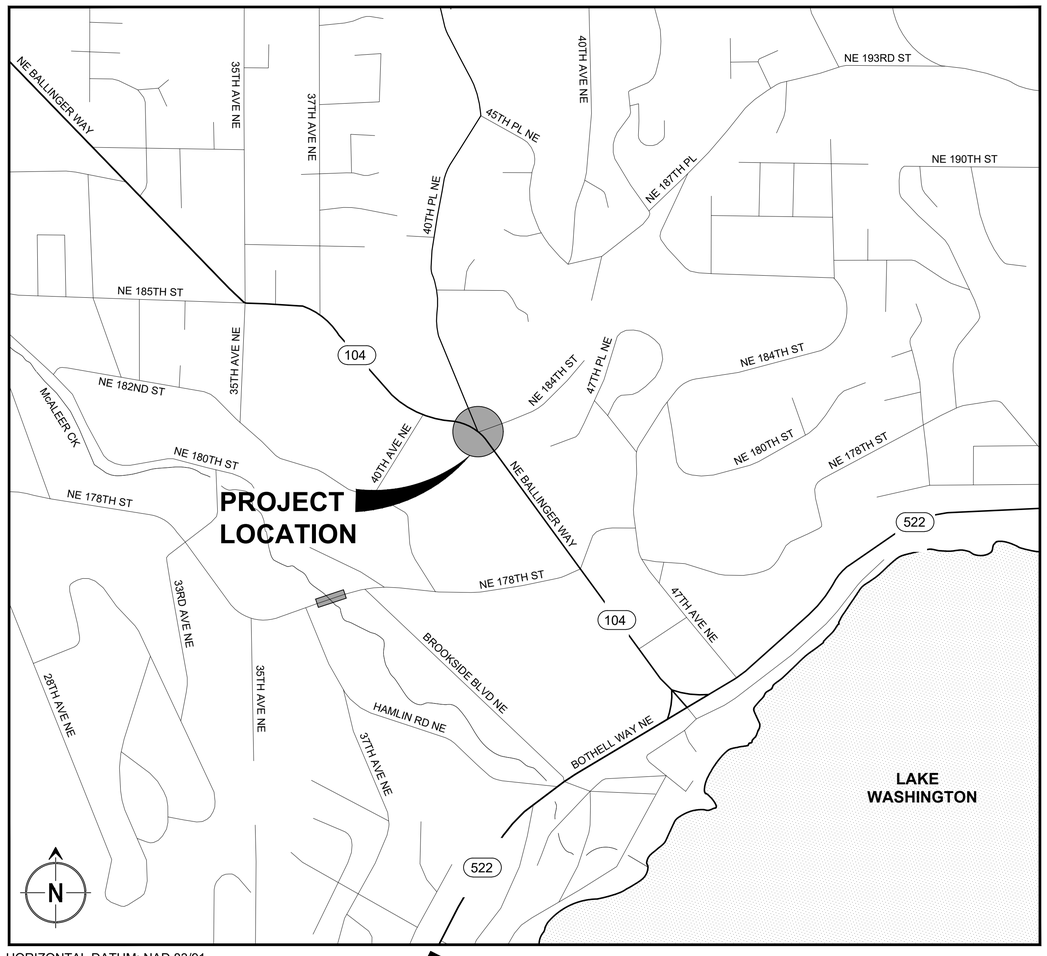
SECTION 10, TOWNSHIP T 26 N, RANGE R 4 E, W.M.

LFPWD WATERMAIN RELOCATION
CITY OF LFP SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

PLAN SET 2 OF 3

LAKE FOREST PARK WATER DISTRICT
GENERAL MANAGER:
ALAN KERLEY

LFPWD ENGINEER:
DAN MUNDALL P.E.



HORIZONTAL DATUM: NAD 83/91
VERTICAL DATUM: NAVD 88

VICINITY MAP
N.T.S.

SHEET INDEX

SHEET NO.	DRAWING ABBR.	DESCRIPTION
1	CP1	COVER, VICINITY MAP AND SHEET INDEX
2	WTS1	SITE PLAN AND PROFILE 184TH ST
3	WTS2	SITE PLAN AND PROFILE BALLINGER WAY
4	WTS3	SITE PLAN AND PROFILE 40TH PL NE AND BALLINGER HYDRANT
5	WTSD1	STANDARD DETAILS 1
6	WTSD2	STANDARD DETAILS 2 AND GENERAL NOTES

NO.	BY	DATE	REVISION

	BY:	DATE:
Drawn	SBM	2/25
Designed	KAH	12/24
Reviewed	DLM	2/25
Approved	DLM	2/25

BID SET
NOT FOR CONSTRUCTION

LAKE FOREST PARK WATER DISTRICT
GOOD WATER NATURALLY

MUNDALL ENGINEERING & CONSULTING
P.O. Box 799, Sumas Washington 98295 — Tel. (250)-455-0088, FAX (250)-455-2276
P.O. Box 50, Lytton, B.C. V0K 1Z0 — Cellular (360)-319-1285, E-Mail Dan@Mundall.com, (800)-313-4705

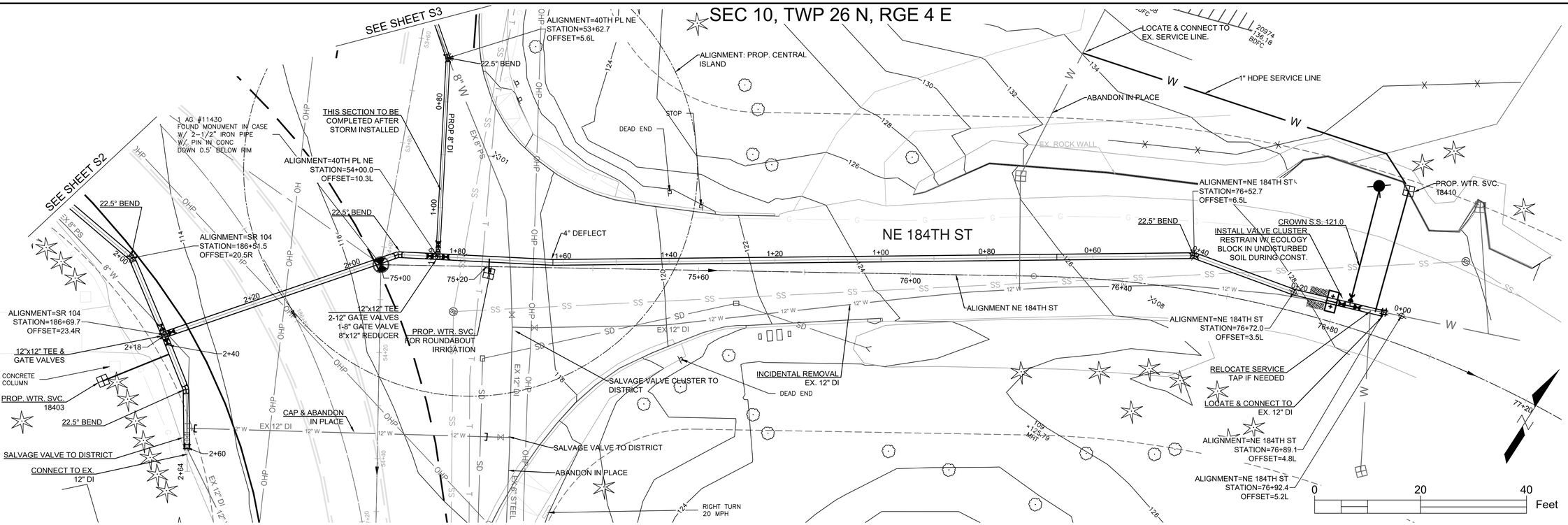
WA LIC #32196
DANIEL L. MUNDALL — STATE OF WASHINGTON — 32196 — REGISTERED PROFESSIONAL ENGINEER
DATE: 06/06/2025

CITY OF LAKE FOREST PARK
SR 104 AND 40TH PLACE NE ROUNDABOUT PROJECT

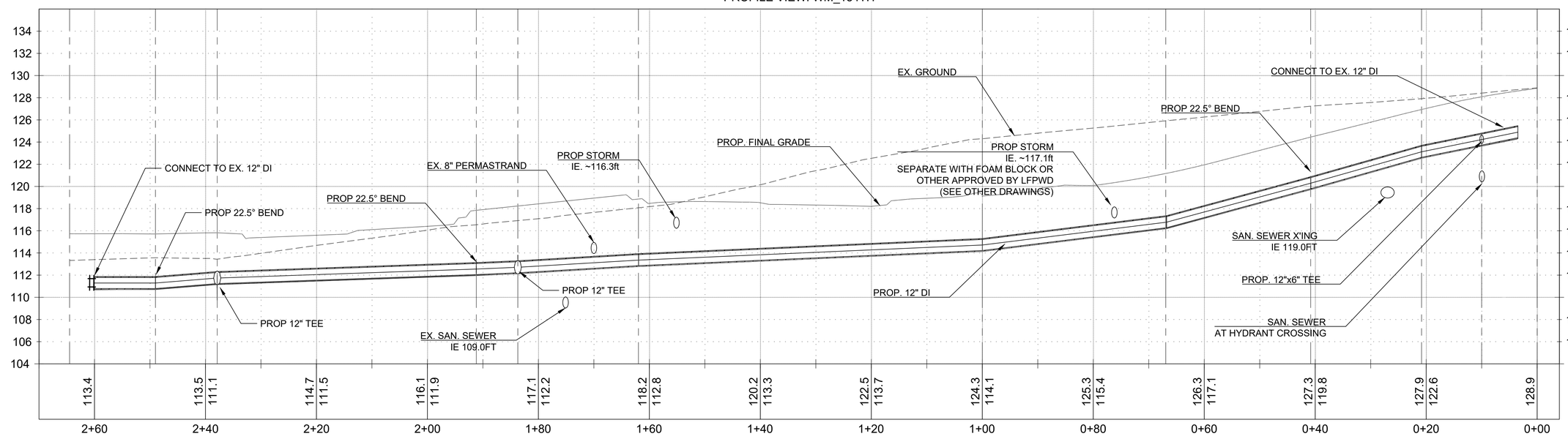
LFPWD WATERMAIN RELOCATION: COVER, VICINITY MAP AND SHEET INDEX

PROJECT NO.	
CONTRACT NO.	-
DRAWING NO.	CP1
SHEET	1
OF	6

SEC 10, TWP 26 N, RGE 4 E



PROFILE VIEW: WM_184TH



STA 0+10
CONNECT TO EX. 12"DI
1 - 12" SLEEVE COUPLER (LONG BARREL)
1 - 1" SERVICE LINE
1 - 12"x6" TEE FLxFL
2 - 12" GV FLxMJ
1 - 6" GV FLxMJ
1 - FIRE HYDRANT (SEE DETAIL)
THRUST BLOCK & MEGALUG (OR APPROVED EQUIV. TYP.) THROUGHOUT

STA 0+40
1 - 12" 22.5° BEND MJxMJ
THRUST BLOCK & MEGALUG THROUGHOUT

STA 1+83
1 - 12"x12" TEE FLxFL
1 - 12"X2" COMPANION FLANGE (TEMP DURING CONST.)
2 - 12" GV FLxMJ
1 - 8" GV FLxMJ
1 - 12"x8" REDUCER FLxFL
1 - 22.5° BEND MJxMJ
THRUST BLOCK & MEGALUG THROUGHOUT

STA 2+40
1 - 12"x12" TEE FLxFL
3 - 12" GV FLxMJ
2 - 22.5° BEND MJxMJ
1 - 12" SLEEVE COUPLING (LONG BARREL)
THRUST BLOCK & MEGALUG THROUGHOUT

NO.	BY	DATE	REVISIONS

	BY:	DATE:
Drawn	S.Mundall	5/15/2025
Designed	D.Mundall	5/15/2025
Reviewed	D.Mundall	5/15/2025
Approved	D.Mundall	5/15/2025

BID SET

811 Know what's below. Call before you dig.

LAKE FOREST PARK WATER DISTRICT
GOOD WATER NATURALLY

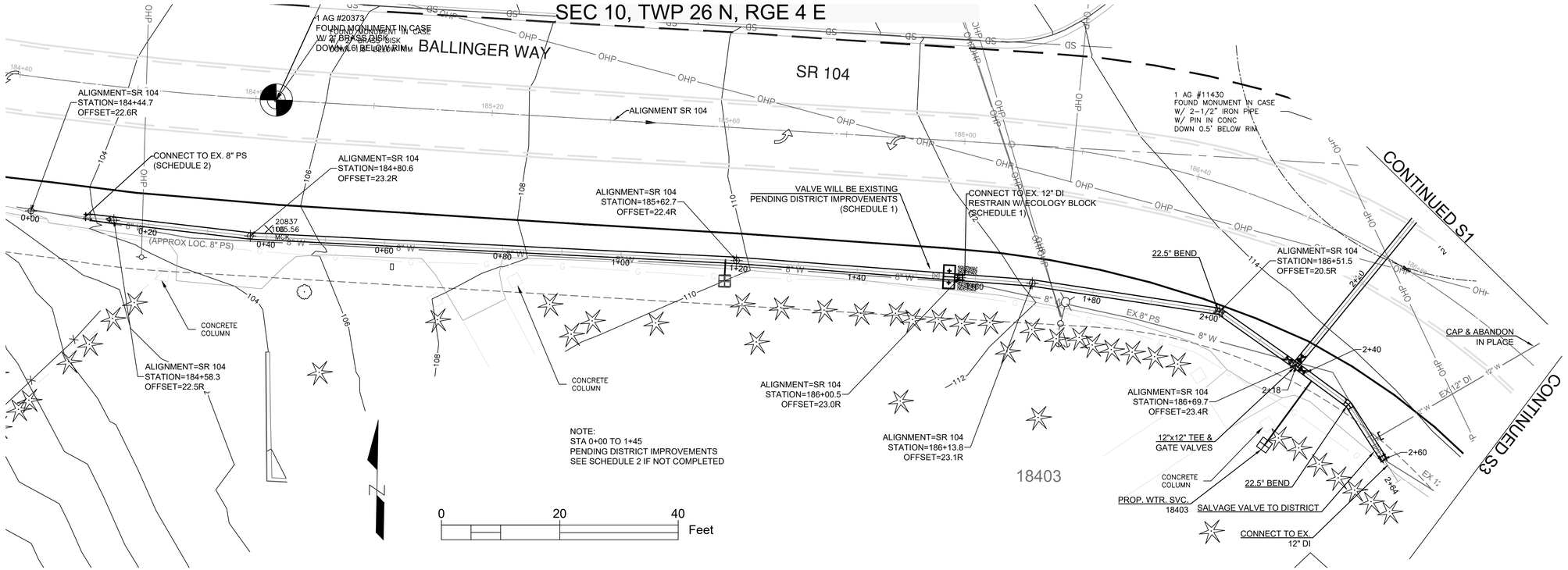
MUNDALL ENGINEERING & CONSULTING
P.O. Box 799, Sumas Washington 98295 — Tel. (360)-854-0086, FAX (250)-469-2276
P.O. Box 50, Lytton, B.C. V0K 1Z0 — Cellular (360)-319-1286, E-Mail: Don@MundallCom (800)-313-9705

WA LIC #32196
DANIEL J. MUNDALL — STATE OF WASHINGTON — 19766 — PROFESSIONAL ENGINEER
DATE: 06/06/2025

CITY OF LAKE FOREST PARK
SR104 AND 40TH PLACE NE ROUNDABOUT PROJECT

LFPWD WATERMAIN RELOCATION: NE 184TH ST

PROJECT NO.	
CONTRACT NO.	-
DRAWING NO.	WTS1
SHEET	2
OF	6

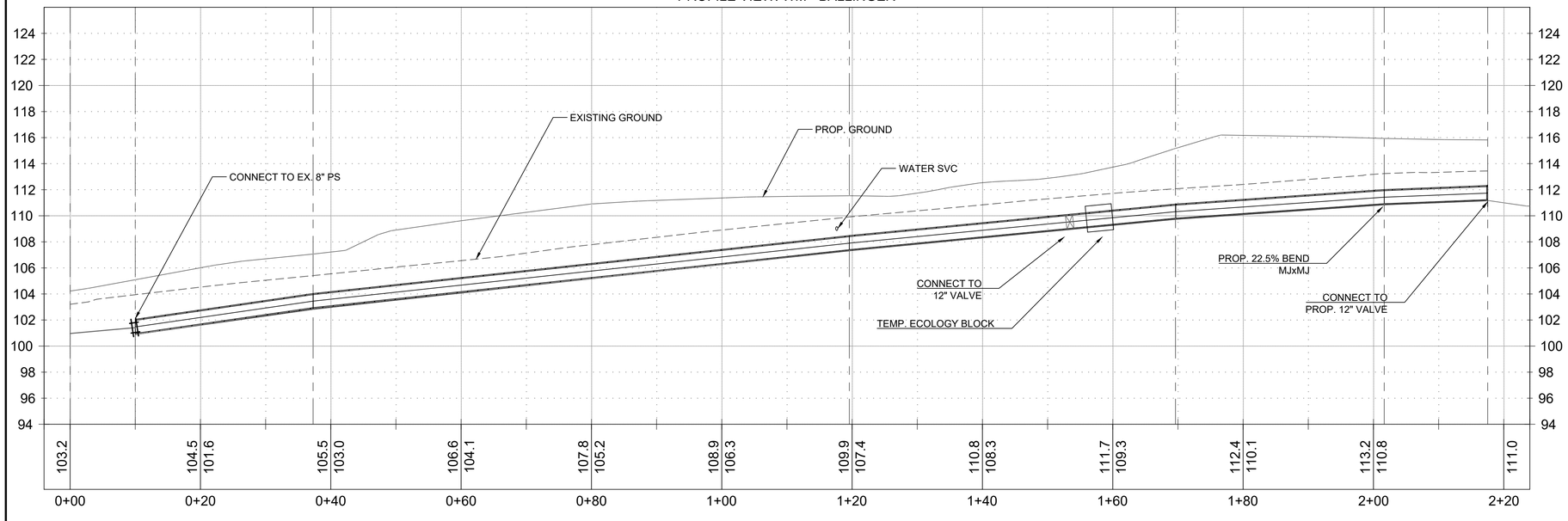


NOTE:
USE FIELD LOCK AND MEGALUG
JOINT RESTRAINT THROUGHOUT

STA 0+10 (SCHEDULE 2)
CONNECT TO EX. 8" PERMASTRAND
1 - 12" x 8" SLEEVE COUPLER
THRUST BLOCK &
MEGALUG THROUGHOUT

STA 1+55 (SCHEDULE 1)
CONNECT TO EX. 12" GATE VALVE
1 - 12" x 8" SLEEVE COUPLER
TEMP. ECOLOGY BLOCK DURING CONST.
THRUST BLOCK &
MEGALUG THROUGHOUT

PROFILE VIEW: WM - BALLINGER



NO.	BY	DATE	REVISIONS

	BY:	DATE:
Drawn	S.Mundall	5/15/2025
Designed	D.Mundall	5/15/2025
Reviewed	D.Mundall	5/15/2025
Approved	D.Mundall	5/15/2025

BID SET

811 Know what's below. Call before you dig.

LAKE FOREST PARK WATER DISTRICT
GOOD WATER NATURALLY

MUNDALL ENGINEERING & CONSULTING
P.O. Box 799, Sumas Washington 98295
P.O. Box 50, Lytton, B.C. V0K 1Z0
Bus. (360)-459-0265 Cellular (360)-319-1286
FAX (250)-455-2216 EMail: Don@Mundall.com (800)-313-4705

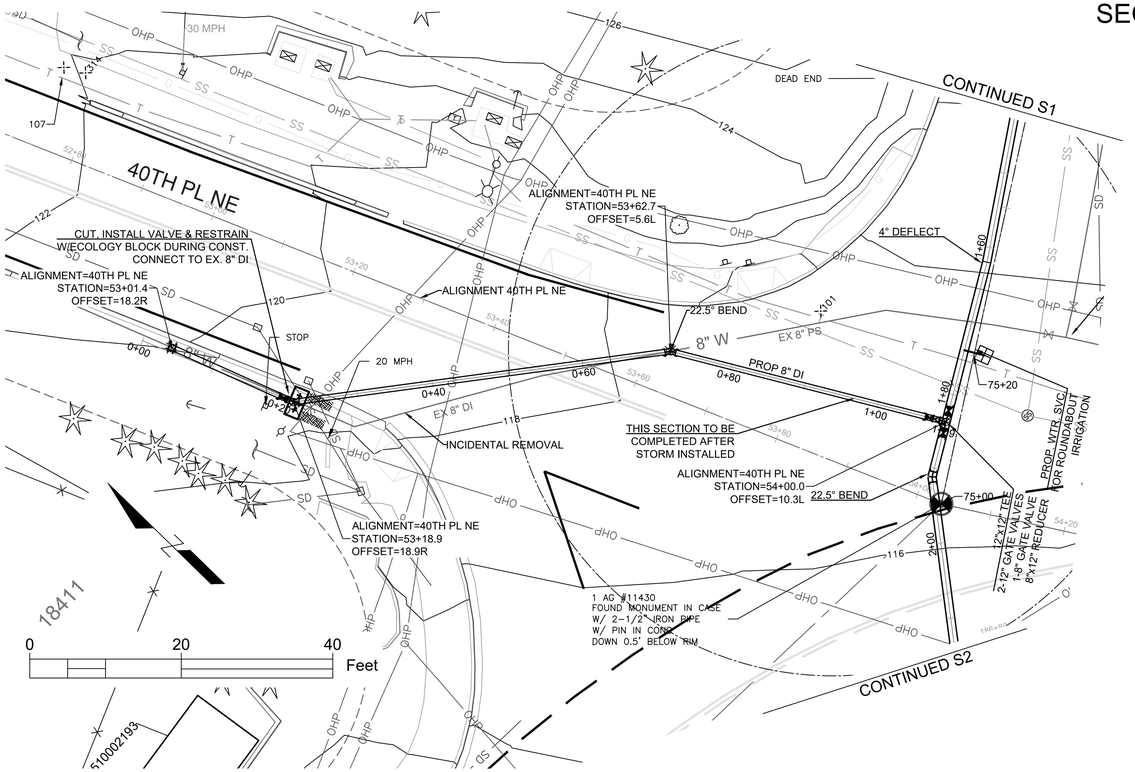
WA LIC #32196
DANIEL J. MUNDALL — STATE OF WASHINGTON — PROFESSIONAL ENGINEER
DATE: 06/06/2025

CITY OF LAKE FOREST PARK
SR104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

LFPWD WATERMAIN RELOCATION:
BALLINGER WAY

PROJECT NO.	
CONTRACT NO.	-
DRAWING NO.	WTS2
SHEET	3
OF	6

SEC 10, TWP 26 N, RGE 4 E

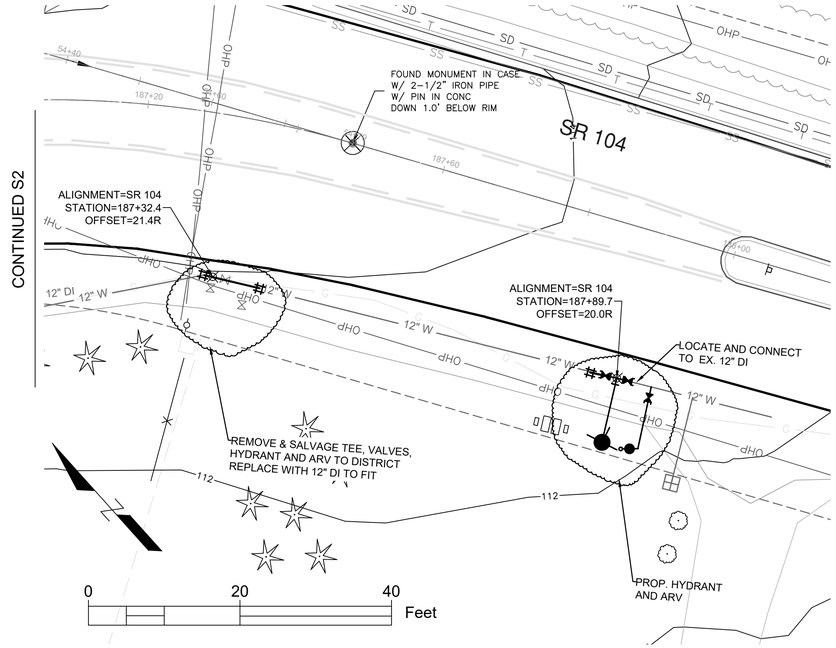


STA 0+4
CONNECT TO EX. 8" DI
1 - 8" x 8" SLEEVE COUPLER

STA 0+21
1 - 8" GATE VALVE (NRS) FLxMJ
1 - 8" 22.5° BEND FLxMJ
TEMP. ECOLOGY BLOCK DURING CONST.

STA 0+71
1 - 8" 22.5° BEND FLxMJ

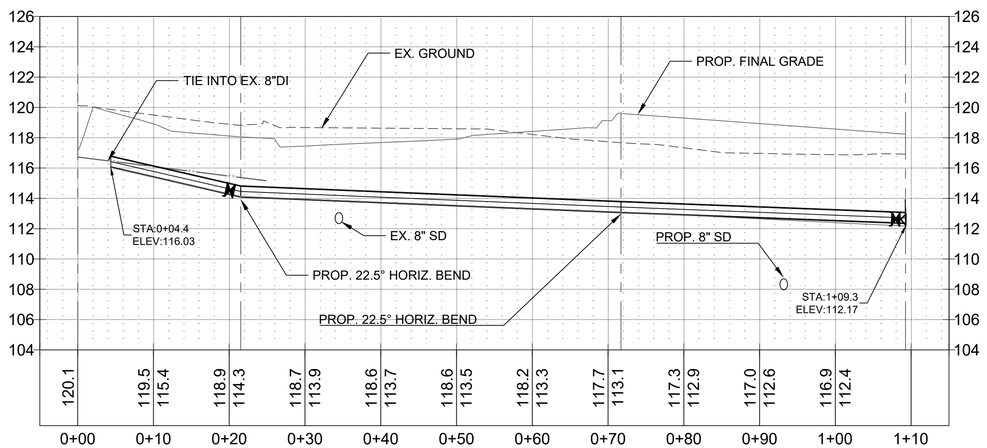
STA 1+09
CONNECT TO PROP. 8" GATE VALVE



(SR104) STA 187+32.4 OFFSET 21.4R
2 - 12" SLEEVE COUPLERS
(LONG BARREL)

(SR104) STA 187+89.7 OFFSET 20.0R
1 - 12" SLEEVE COUPLERS
(LONG BARREL)
1 - 12"x6" TEE FLxFL
1 - 6" GATE VALVE FLxMJ
1 - FH (SEE DETAIL)
2 - 12" GATE VALVE FLxMJ
1 - ARV (SEE DETAIL)

PROFILE VIEW: WM - 40TH PL NE



NO.	BY	DATE	REVISIONS

	BY:	DATE:
Drawn	S.Mundall	5/15/2025
Designed	D.Mundall	5/15/2025
Reviewed	D.Mundall	5/15/2025
Approved	D.Mundall	5/15/2025

BID SET

811 Know what's below. Call before you dig.

LAKE FOREST PARK WATER DISTRICT
GOOD WATER NATURALLY

MUNDALL ENGINEERING & CONSULTING
P.O. Box 799, Sumas Washington 98295 — P.O. Box 50, Lytton, B.C. V0K 1Z0
Bus. (250)-455-0265 Cellular (360)-319-1265
FAX (250)-455-2276 EMail DanMundall.com (800)-313-9705

WA LIC #32196
DANIEL L. MUNDALL — STATE OF WASHINGTON — 32196 — REGISTERED PROFESSIONAL ENGINEER
DATE: 06/06/2025

CITY OF LAKE FOREST PARK
SR104 AND 40TH PLACE NE ROUNDABOUT PROJECT

LFPWD WATERMAIN RELOCATION: 40TH PL NE & BALLINGER HYDRANT

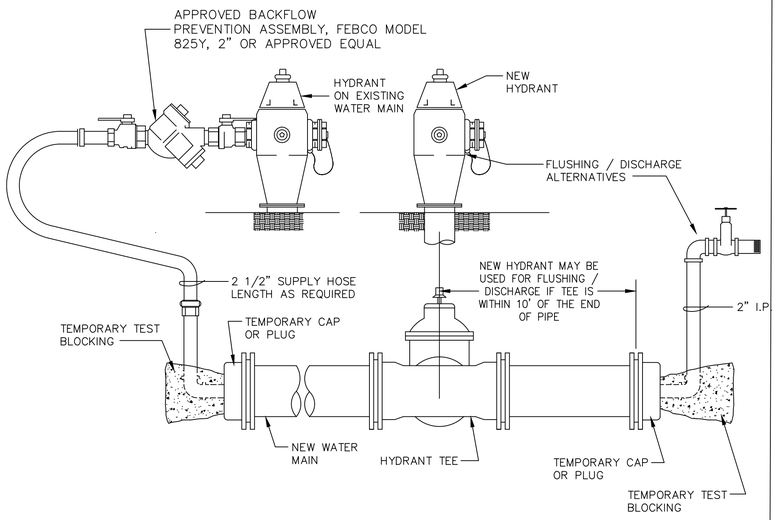
PROJECT NO.	
CONTRACT NO.	-
DRAWING NO.	WTS3
SHEET	4
OF	6

NOTES:

NEW SECTIONS OF WATER MAIN THAT ARE INSTALLED WHEN EXPANDING A DISTRIBUTION SYSTEM MUST BE SEPARATED FROM THE EXISTING SYSTEM. UNTIL SATISFACTORY FLUSHING, DISINFECTION AND BACTERIOLOGICAL SAMPLING HAS BEEN COMPLETED, THE NEW WATER MAIN MUST BE CONSIDERED CONTAMINATED. IN ADDITION, THE CHLORINE CONCENTRATION USED FOR DISINFECTION PROCEDURES (MINIMUM 25 mg/l) MAKES WATER NON-POTABLE.

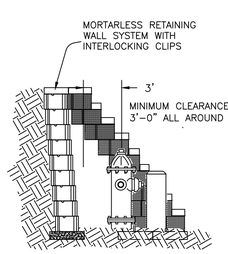
AN APPROVED BACKFLOW PREVENTION ASSEMBLY MUST BE USED ON THE SUPPLYING WATER LINE WHEN FILLING THE NEW WATER MAIN DURING DISINFECTION AND FLUSHING. THE BACKFLOW PREVENTION ASSEMBLY AND SUPPLY PIPING MUST BE REMOVED DURING HYDROSTATIC PRESSURE TESTING OF THE NEW WATER MAIN.

AFTER SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE OBTAINED FROM THE NEW WATER MAIN, SECTIONS OF CONNECTING PIPE MUST BE INSTALLED BETWEEN IT AND THE EXISTING SYSTEM. BEFORE INSTALLATION, THE INTERIORS OF ALL PIPE AND FITTINGS USED TO MAKE THE CONNECTION MUST BE SWABBED OR SPRAYED WITH A 1% AVAILABLE CHLORINE SOLUTION.

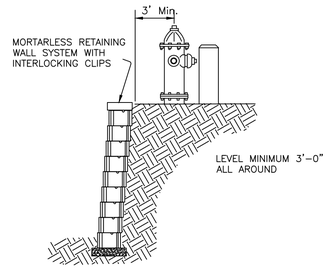


WATER FILLING DETAIL

NO SCALE

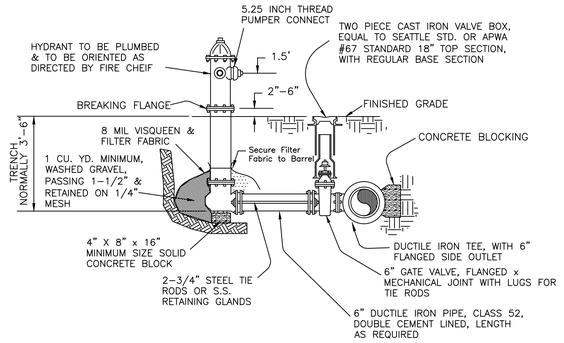


HYDRANT IN CUT



HYDRANT IN FILL

HYDRANT LOCATION IN CUT OR FILL



NOTES:
HYDRANT SHALL BE PRIME COATED WITH STEELCOTE SR-53 HEAVY DUTY-BRUSH TYPE OR APPROVED EQUAL. TOP COATS SHALL BE STEELCOTE ACID AND OIL RESISTANT ENAMEL NO. 44-68, COLOR-WHITE, BRUSH TYPE OR APPROVED EQUAL.
STEEL TIE RODS SHALL HAVE A LENGTH TO FIT BETWEEN LUGS. APPLY A HEAVY COATE OF COAL TAR PRESERVATIVE ON TIE RODS, NUTS AND BOLTS.

HYDRANT SHALL CONFORM TO AWWA STANDARD SPECIFICATION C-502 AND BE ONE OF THE FOLLOWING TYPES: AMERICAN DARLING B-62-B, CLOW MEDALLION, M & H 929 AND MUELLER SUPER CENTURION

HYDRANT ASSEMBLY

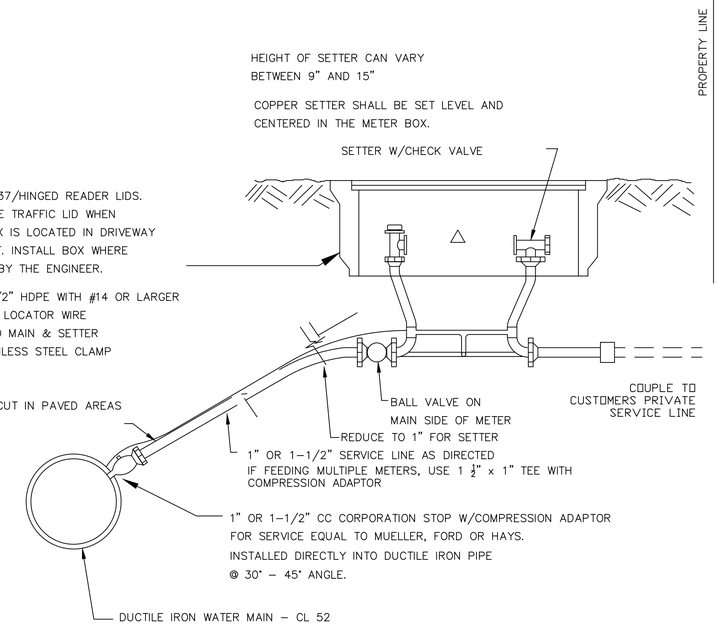
NO SCALE

(3)
Rev. 2/12/2020 DLM
FIRE HYDRANT ASSEMBLY.DWG

1" or 1-1/2" SERVICE LINE TO BE DRISCO D2239 SDR 7 200 PSI HDPE

1" COPPER SETTER EQUAL TO MUELLER, FORD,MCDONALD, OR HAYS, EQUIPPED AS FOLLOWS.

- PADLOCK WINGS ON BALL VALVE
- ANGLE CHECK ON METER OUTLET
- IRON PIPE CONNECTIONS ON SETTER INLET AND OUTLET
- COMPRESSION ADAPTOR ON SETTER INLET AND OUTLET
- INSTALL TYPE K COPPER AND MISC. BRASS FITTINGS FOR CONNECTION TO CUSTOMER'S LINE



METER BOX SHALL BE INSTALLED FLUSH W/FINAL GRADE AND MUST BE SIZED TO ALLOW FOR MIN. CLEARANCE REQUIREMENTS.

1" OR 1-1/2" - WATER SERVICE DETAIL

NO SCALE

Rev. 6/03
Service, One Inch.dwg

NO.	BY	DATE	REVISIONS

	BY:	DATE:
Drawn	S.Mundall	5/15/2025
Designed	D.Mundall	5/15/2025
Reviewed	D.Mundall	5/15/2025
Approved	D.Mundall	5/15/2025

BID SET

811 Know what's below. Call before you dig.

LAKE FOREST PARK WATER DISTRICT
GOOD NATURALLY WATER

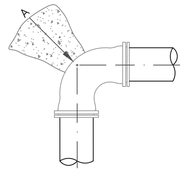
MUNDALL ENGINEERING & CONSULTING
P.O. Box 799, Sumas, Washington 98295
P.O. Box 50, Lytton, B.C. V0K 1Z0
Bus. (250)-855-0086 FAX (250)-855-2276
Celular (360)-319-1286 E-Mail Don@Mundall.com (800)-313-4705

WA LIC #32196
DANIEL L. MUNDALL — STATE OF WASHINGTON — 20130790 — PROFESSIONAL ENGINEER
DATE: 06/06/2025

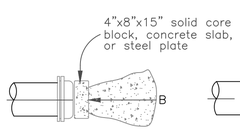
CITY OF LAKE FOREST PARK
SR104 AND 40TH PLACE NE ROUNDABOUT PROJECT

LFPWD WATERMAIN RELOCATION: STANDARD DETAILS 1

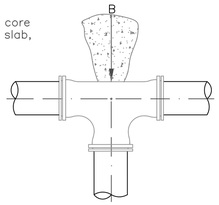
PROJECT NO.	
CONTRACT NO.	-
DRAWING NO.	WTSD1
SHEET	5
OF	6



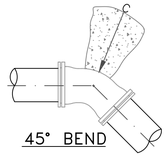
90° BEND



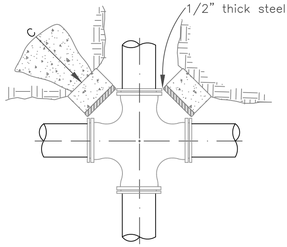
CAP



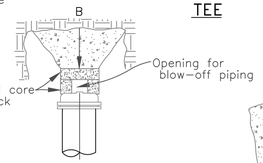
TEE



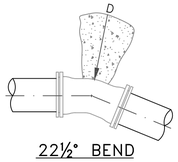
45° BEND



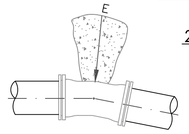
UNBALANCED CROSS



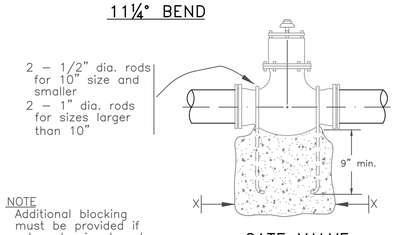
TAPPED TEE



22½° BEND



11¼° BEND



GATE VALVE

NOTE
Additional blocking must be provided if gate valve is at end of line during test.

THRUST BLOCK								
		MIN. BEARING AREA AGAINST UNDISTURBED SOIL–SQ.FT.					
PIPE SIZE	PRESSURE PSI	A	B	C	D	E	X (100 PSI)
4"	200	2/(1)	1/(NONE)	1/(NONE)	NONE	NONE	NONE
	300	3/(2)	2/(2)	2/(1)	1/(1)	NONE	
6"	200	4/(3)	3/(2)	3/(1)	1/(1)	1(NONE)	NONE
	300	6/(4)	4/(3)	3/(2)	2/(1)	1(NONE)	
8"	200	7/(5)	5/(3)	4/(3)	2/(2)	1/(1)	3/(2)
	300	11/(3)	8/(5)	6/(4)	3/(2)	2/(1)	
10"	200	11/(8)	8/(6)	6/(4)	3/(2)	2/(1)	4/(3)
	275	16/(11)	11/(7)	9/(6)	5/(3)	3/(2)	
12"	200	16/(11)	11/(8)	9/(6)	5/(3)	3/(2)	5/(4)
	250	24/(16)	17/(11)	13/(9)	7/(5)	4/(3)	
14"	200	22/(13)	16/(11)	12/(8)	6/(4)	3/(2)	7/(6)
	250	33/(22)	23/(16)	18/(12)	9/(6)	5/(3)	
16"	200	29/(19)	21/(14)	16/(11)	8/(6)	5/(3)	10/(7)
	225	23/(16)	23/(16)	17/(12)	9/(6)	5/(3)	
18"	200	36/(24)	26/(17)	20/(13)	10/(7)	5/(4)	13/(9)
20"	200	45/(29)	32/(21)	24/(16)	13/(8)	7/(4)	16/(11)
24"	200	64/(43)	46/(30)	35/(23)	18/(12)	9/(6)	23/(16)

NOTE

1. Square feet of concrete thrust – block area based on safe bearing load of 2000/(3000) pounds per square feet.
2. Areas must be adjusted for other size pipe, pressures and soil conditions.
3. Concrete blocking shall be cast in place and have a minimum of 1/2 square foot bearing against the fitting.
4. Block shall bear against fittings only and shall be clear of joints to permit taking up or dismantling joint.
5. Contractor shall install blocking adequate to withstand full test pressure as well as to continuously withstand operating pressure under all conditions of service.

SAFE BEARING LOADS IN LBS./SQ. FT.

The safe bearing loads given in the following table are for horizontal thrusts when the depth of cover over the pipe exceeds 2 feet.

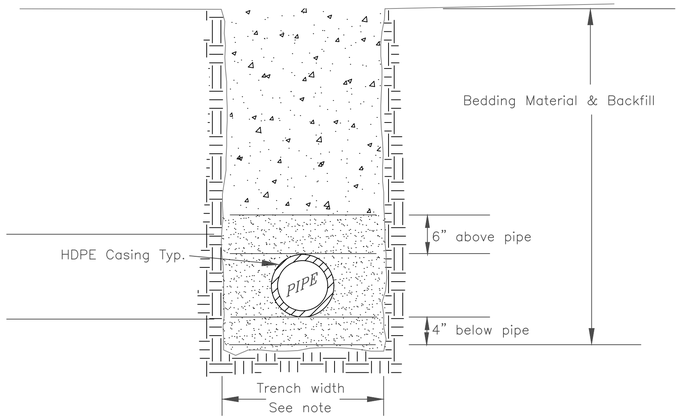
SOIL	SAFE BEARING LOAD LBS./SQ. FT.
*Muck, peat, etc.	0
Soft caly	1,000
Sand	2,000
Sand and gravel	3,000
Sand and gravel cemented with clay	4,000
Hard shale	10,000

*In muck or peat, all thrusts shall be restrained by piles or tie rods to solid foundations or by removal of muck or peat and replacement with ballast of sufficient stability to resist thrusts.

CONCRETE BLOCKING
NO SCALE

Rev. June 2003
Contrete Blocking.dwg

FOR SURFACING SEE PAVING PLANS



NOTE:
Minimum trench width shall be the pipe O.D. + 12" (6" each side of pipe)

Maximum trench width:
15" diameter and smaller: 40"
18" diameter and larger: 1–1/2 x I.D. + 18"

RIGID PIPE
SUB–BASE TRENCH SECTION
NO SCALE

Rev. 1/24
Trench Section.dwg

CONSTRUCTION NOTES
GENERAL NOTES:

1. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE DISTRICT AND ENGINEER.
2. A COMPLETE SET OF PLANS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION, AND SHALL REFLECT ANY VARIATION IN CONSTRUCTION FROM THE PLANS. THESE "AS-BUILT" PLANS SHALL BE PROVIDED TO THE DISTRICT AT THE COMPLETION OF CONSTRUCTION.
3. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH THE PERTINENT UTILITY COMPANIES TO ENSURE WATER METERS, TELEPHONE VAULTS, ETC., ARE BROUGHT TO GRADE PRIOR TO CONSTRUCTION OF CURB AND SIDEWALKS.
4. THE CONTRACTOR WILL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND WILL NEED FIELD VERIFICATION FOR EXACT ALIGNMENT AND DEPTH. THERE MAY BE EXISTING UTILITIES NOT SHOWN ON THE PLANS.
5. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH SEATTLE CITY POWER & LIGHT FOR UTILITY POLE STABILIZATION IF REQUIRED.
6. ALL EXCAVATION METHODS AND SHORING TECHNIQUES SHALL BE IN ACCORDANCE WITH WAC 296 TRENCH EXCAVATION SAFETY SYSTEMS.
7. THE DISTRICT SHALL AT ALL TIMES HAVE ACCESS TO THE WORK AND TO THE LOCATIONS WHERE THE WORK IS IN PREPARATION.
8. THE CONTRACTOR SHALL NOTIFY ONE CALL UTILITY LOCATING SERVICE PRIOR TO ANY CONSTRUCTION TO VERIFY LOCATION OF EXISTING UTILITIES, AT (800) 424-5555.

WATER NOTES:

1. ALL WORK, MATERIALS, CONCRETE BLOCKING AND TESTING OF WATER LINES SHALL CONFORM TO STANDARD DETAILS OF LAKE FOREST PARK WATER DISTRICT AND AWWA STANDARDS.
2. THE WATER MAIN SHALL BE INSTALLED WITH MINIMUM OF 36 INCHES OF COVER UNLESS OTHERWISE APPROVED. WHERE UTILITY CONFLICTS OCCUR, THE WATER MAIN SHALL BE LOWERED TO CLEAR AS APPROVED BY THE WATER DISTRICT. THIS INFORMATION SHALL BE REFLECTED ON THE "AS-BUILT" RECORD BY CONTRACTOR.
3. EXACT LOCATIONS AND CONFIGURATION OF WATER METERS AND VAULTS SHALL BE APPROVED BY THE DISTRICT PRIOR TO CONSTRUCTION.
4. BEDDING FOR WATER MAINS SHALL BE PROVIDED AS REQUIRED IN THE STANDARD DETAIL AND SPECIFICATIONS.
5. ALL SERVICE CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH LAKE FOREST PARK WATER DISTRICT REQUIREMENTS.
6. ALL FIRE HYDRANTS SHALL BE INSTALLED, INSPECTED AND ADJUSTED IN ACCORDANCE WITH THE DISTRICT'S STANDARD DETAILS.
7. AFTER THE PIPE AND APPURTENANCES ARE IN PLACE AND THE SYSTEM HAS BEEN SATISFACTORILY PRESSURE TESTED, IT SHALL BE FLUSHED WITH WATER OF SUFFICIENT VELOCITY TO REMOVE ALL DIRT AND OTHER FOREIGN MATERIALS AND DISINFECTED/CHLORINATED IN ACCORDANCE WITH RECOMMENDED AWWA STANDARDS. THE CONTRACTOR SHALL REQUEST A BACTERIOLOCICAL SAMPLE TO BE TAKEN AT LEAST 24 HOURS AFTER FLUSHING AND DISINFECTING.
8. DUCTILE IRON PIPE SHALL CONFORM TO AWWA C-151 WITH A STANDARD THICKNESS CLASS 52. FITTINGS FOR D.I. PIPE SHALL BE DUCTILE IRON OR CLASS 250 GRAY IRON CONFORMING TO AWWA C-110.
9. PRIOR TO BACKFILLING, ALL MAINS AND APPURTENANCES SHALL BE INSPECTED AND APPROVED FOR BACKFILLING BY THE DISTRICT.
10. NO CONNECTIONS TO THE EXISTING WATER SYSTEM SHALL BE MADE WITHOUT AN APPROVED BACKFLOW PREVENTION DEVICE AND THE DISTRICT'S OR LAKE FOREST PARK WATER DISTRICT'S APPROVAL. PERMANENT CONNECTION SHALL NOT BE MADE UNTIL NEW MAINS HAVE BEEN DISINFECTED, FLUSHED AND HAVE PURITY IN ACCORDANCE WITH DISTRICT REQUIREMENTS. ANY CONNECTION TO THE EXISTING WATER SYSTEM SHALL BE WITNESSED BY THE DISTRICT'S INSPECTOR.
11. ALL THRUST BLOCKS SHALL BE FORMED IN PLACE. BLOCKS SHALL NOT BE BACKFILLED PRIOR TO SPECIFIC APPROVAL OF THE DISTRICT AND THE FIRST AGES OF THE CONCRETE CURING PROCESS ARE EVIDENT.
12. WATER PIPE ABANDONMENT:
    - REMOVE WHERE DIRECTED AND SALVAGE TO DISTRICT (VALVES/FITTINGS ONLY)
    - OPEN ALL MAIN VALVES AND CAP ENDS OF PIPE
    - REMOVE VALVE BOX TOPS AND RESTORE SURFACE

NO.	BY	DATE	REVISIONS

	BY:	DATE:
Drawn	S.Mundall	5/15/2025
Designed	D.Mundall	5/15/2025
Reviewed	D.Mundall	5/15/2025
Approved	D.Mundall	5/15/2025

BID SET

811 Know what's below. Call before you dig.

LAKE FOREST PARK WATER DISTRICT
GOOD WATER NATURALLY

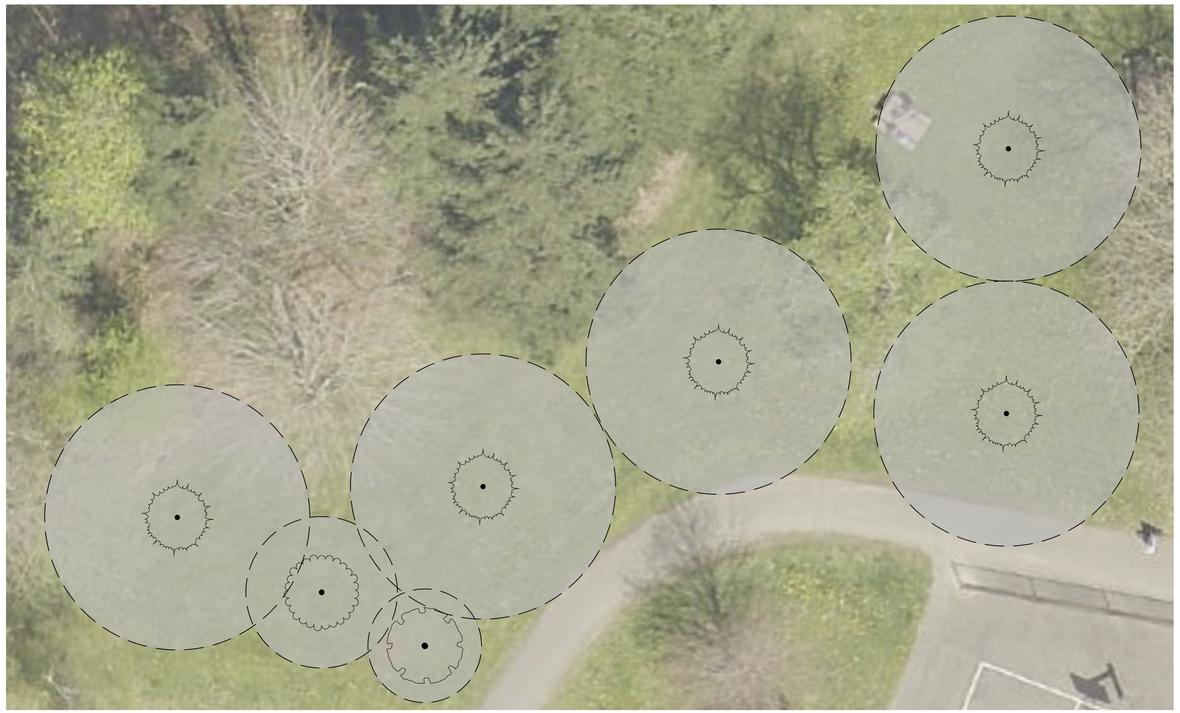
MUNDALL ENGINEERING & CONSULTING
P.O. Box 799, Sumas Washington 98295 | P.O. Box 50, Lytton, B.C. V0K 1Z0
Ph. (360)-855-0085 FAX (360)-466-2276 | Cell (360)-319-1085 E-Mail Dan@Mundall.com (800)-313-4705

WA LIC #32196
DANIEL L. MUNDALL STATE OF WASHINGTON 22400 REGISTERED PROFESSIONAL ENGINEER
DATE: 06/06/2025

CITY OF LAKE FOREST PARK
SR104 AND 40TH PLACE NE
ROUNDABOUT PROJECT

LFPWD WATERMAIN RELOCATION:
STANDARD DETAILS 2

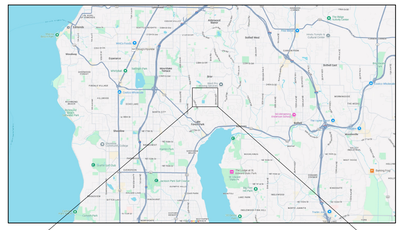
PROJECT NO.	
CONTRACT NO.	-
DRAWING NO.	WTSD2
SHEET	6
OF	6

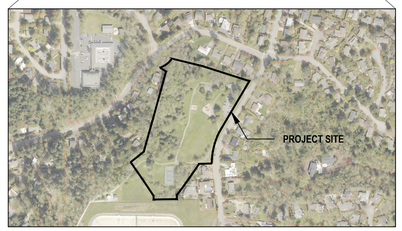


1 SITE 1

2 SITE 3

PLAN SET 3 OF 3





VICINITY MAP

LEGEND

- PROPERTY LINE
- MATURITY TREE CANOPY
- TREE CANOPY AREA - 15,521 SF (SEE NOTE 4)

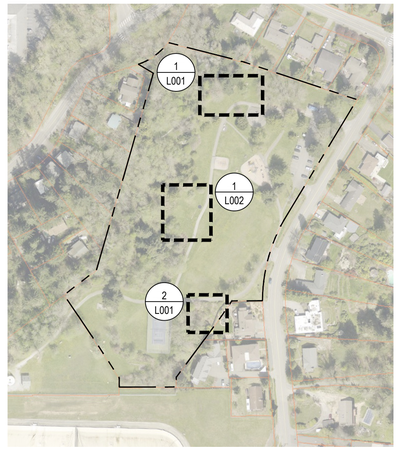
SHEET INDEX

L001	CANOPY REPLACEMENT PLAN (1 OF 2)
L002	CANOPY REPLACEMENT PLAN (2 OF 2)
L003	INSTALLATION NOTES AND DETAILS

NOTES

1. AERIAL IMAGE DERIVED FROM KING COUNTY IMAP.
2. SEE SHEET L002 FOR PLANT SCHEDULE.
3. REFER TO CANOPY REPLACEMENT PLAN NARRATIVE BY FACET DATED 01-08-2025 AND ARBORIST REPORT BY FACET DATED 10-17-2024.
4. TOTAL TREE CANOPY AREA FOR SITE 1, SITE 2, AND SITE 3.

KEY PLAN



10' 5' 0 10' 20'

SCALE 1" = 10'

NO.	DATE	BY	REVISION

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. FACET CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT FACET PRIOR TO CONSTRUCTION.

FACET

P: 206.523.0024
www.facetnw.com

9706 4th Ave NE
Suite 300
Seattle, WA 98115

FEDERAL WAY | KIRKLAND | MOUNT VERNON | SEATTLE | SPOKANE | WHIDBEY ISLAND

Lars Freeman-Wood

LARS FREEMAN-WOOD
ISA Certified Arborist® WE-8769AU
Tree Risk Assessment Qualified (TRAQ)
ISA Certified Utility Specialist®

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

LFP SR-104 ROUNDABOUT

40TH PL NE AND NE 184TH ST
LAKE FOREST PARK, WA
2301.0347.00

PERMIT

CANOPY REPLACEMENT PLAN
(1 OF 2)

DATE: 1-10-2025

PLAN NUMBER:
L001

SHEET 1 OF 3

PRINCIPAL: KB
PROJECT MANAGER: LFW
DESIGNED BY:
DRAWN BY: FH
CHECKED BY: AS

1 SITE 2

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY
TREES					
SITE 1					
	ACER CIRCINATUM	VINE MAPLE	2 GALLON	AS SHOWN	1
	AMELANCHIER ALNIFOLIA	SASKATOON SERVICEBERRY	2 GALLON	AS SHOWN	1
	PSEUDOTSUGA MENZIESII	DOUGLAS-FIR	2 GALLON	AS SHOWN	5
SITE 2					
	ACER CIRCINATUM	VINE MAPLE	2 GALLON	AS SHOWN	2
	AMELANCHIER ALNIFOLIA	SASKATOON SERVICEBERRY	2 GALLON	AS SHOWN	1
	PRUNUS VIRGINIANA 'CANADA RED'	CANADA RED CHOKECHERRY	2 GALLON	AS SHOWN	1
	PSEUDOTSUGA MENZIESII	DOUGLAS-FIR	2 GALLON	AS SHOWN	3
	QUERCUS GARRYANA	GARRY OAK	2 GALLON	AS SHOWN	1
	THUJA PLICATA	WESTERN RED CEDAR	2 GALLON	AS SHOWN	2
SITE 3					
	ACER CIRCINATUM	VINE MAPLE	2 GALLON	AS SHOWN	2
	AMELANCHIER ALNIFOLIA	SASKATOON SERVICEBERRY	2 GALLON	AS SHOWN	4
	PRUNUS VIRGINIANA 'CANADA RED'	CANADA RED CHOKECHERRY	2 GALLON	AS SHOWN	2
	QUERCUS GARRYANA	GARRY OAK	2 GALLON	AS SHOWN	1

NO.	DATE	BY	REVISION

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. FACET CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT FACET PRIOR TO CONSTRUCTION.

FACET
P: 206.523.0024
www.facetnw.com
9706 4th Ave NE
Suite 300
Seattle, WA 98115
FEDERAL WAY | KIRKLAND | MOUNT VERNON | SEATTLE | SPOKANE | WHIDBEY ISLAND

LARS FREEMAN-WOOD
ISA Certified Arborist® WE-8769AU
Tree Risk Assessment Qualified (TRAQ)
ISA Certified Utility Specialist®

CALL 811
2 BUSINESS DAYS BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

LFP SR-104 ROUNDABOUT

40TH PL NE AND NE 184TH ST
LAKE FOREST PARK, WA
2301.0347.00

PERMIT

CANOPY REPLACEMENT PLAN
(2 OF 2)

DATE: 1-10-2025
PLAN NUMBER:
L002
SHEET 2 OF 3

PRINCIPAL: KB PROJECT MANAGER: LFW DESIGNED BY: DRAWN BY: FH CHECKED BY: AS

PLANT INSTALLATION SPECIFICATIONS

GENERAL NOTES

QUALITY ASSURANCE
1. PLANTS SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND LOCAL LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
2. PLANTS SHALL BE HEALTHY, VIGOROUS, AND WELL-FORMED, WITH WELL DEVELOPED, FIBROUS ROOT SYSTEMS, FREE FROM DEAD BRANCHES OR ROOTS. PLANTS SHALL BE FREE FROM DAMAGE CAUSED BY TEMPERATURE EXTREMES, LACK OR EXCESS OF MOISTURE, INSECTS, DISEASE, AND MECHANICAL INJURY. PLANTS IN LEAF SHALL BE WELL FOLIATED AND OF GOOD COLOR. PLANTS SHALL BE HABITUATED TO THE OUTDOOR ENVIRONMENTAL CONDITIONS INTO WHICH THEY WILL BE PLANTED (HARDENED-OFF).
3. TREES WITH DAMAGED, CROOKED, MULTIPLE OR BROKEN LEADERS WILL BE REJECTED. WOODY PLANTS WITH ABRASIONS OF THE BARK OR SUN SCALD WILL BE REJECTED.
4. NOMENCLATURE: PLANT NAMES SHALL CONFORM TO FLORA OF THE PACIFIC NORTHWEST BY HITCHCOCK AND CRONQUIST, UNIVERSITY OF WASHINGTON PRESS, 2018 AND/OR TO A FIELD GUIDE TO THE COMMON WETLAND PLANTS OF WESTERN WASHINGTON & NORTHWESTERN OREGON, ED. SARAH SPEAR COOKE, SEATTLE AUDUBON SOCIETY, 1997.

DEFINITIONS
1. PLANTS/PLANT MATERIALS. PLANTS AND PLANT MATERIALS SHALL INCLUDE ANY LIVE PLANT MATERIAL USED ON THE PROJECT. THIS INCLUDES BUT IS NOT LIMITED TO CONTAINER GROWN, B&B OR BAREROOT PLANTS; LIVE STAKES AND FASCINES (WATTLES); TUBERS, CORMS, BULBS, ETC.; SPRIGS, PLUGS, AND LINERS.
2. CONTAINER GROWN. CONTAINER GROWN PLANTS ARE THOSE WHOSE ROOTBALLS ARE ENCLOSED IN A POT OR BAG IN WHICH THAT PLANT GREW.

SUBSTITUTIONS
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SPECIFIED MATERIALS IN ADVANCE IF SPECIAL GROWING, MARKETING OR OTHER ARRANGEMENTS MUST BE MADE IN ORDER TO SUPPLY SPECIFIED MATERIALS.
2. SUBSTITUTION OF PLANT MATERIALS NOT ON THE PROJECT LIST WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE RESTORATION CONSULTANT.
3. IF PROOF IS SUBMITTED THAT ANY PLANT MATERIAL SPECIFIED IS NOT OBTAINABLE, A PROPOSAL WILL BE CONSIDERED FOR USE OF THE NEAREST EQUIVALENT SIZE OR ALTERNATIVE SPECIES, WITH CORRESPONDING ADJUSTMENT OF CONTRACT PRICE.
4. SUCH PROOF WILL BE SUBSTANTIATED AND SUBMITTED IN WRITING TO THE CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION.

INSPECTION
1. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE RESTORATION CONSULTANT FOR CONFORMANCE TO SPECIFICATIONS, EITHER AT TIME OF DELIVERY ON-SITE OR AT THE GROWER'S NURSERY. APPROVAL OF PLANT MATERIALS AT ANY TIME SHALL NOT IMPAIR THE SUBSEQUENT RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE WORK.
2. PLANTS INSPECTED ON SITE AND REJECTED FOR NOT MEETING SPECIFICATIONS MUST BE REMOVED IMMEDIATELY FROM SITE OR RED-TAGGED AND REMOVED AS SOON AS POSSIBLE.
3. THE RESTORATION CONSULTANT MAY ELECT TO INSPECT PLANT MATERIALS AT THE PLACE OF GROWTH. AFTER INSPECTION AND ACCEPTANCE, THE RESTORATION CONSULTANT MAY REQUIRE THE INSPECTED PLANTS BE LABELED AND RESERVED FOR PROJECT. SUBSTITUTION OF THESE PLANTS WITH OTHER INDIVIDUALS, EVEN OF THE SAME SPECIES AND SIZE, IS UNACCEPTABLE.

MEASUREMENT OF PLANTS
1. PLANTS SHALL CONFORM TO SIZES SPECIFIED UNLESS SUBSTITUTIONS ARE MADE AS OUTLINED IN THIS CONTRACT.
2. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO MAIN BODY OF PLANT AND NOT BRANCH OR ROOT TIP TO TIP. PLANT DIMENSIONS SHALL BE MEASURED WHEN THEIR BRANCHES OR ROOTS ARE IN THEIR NORMAL POSITION.
3. WHERE A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND AT LEAST 50% OF THE PLANTS SHALL BE AS LARGE AS THE MEDIAN OF THE SIZE RANGE. (EXAMPLE: IF THE SIZE RANGE IS 12" TO 18", AT LEAST 50% OF PLANTS MUST BE 15" TALL.).

SUBMITTALS

PROPOSED PLANT SOURCES
1. WITHIN 45 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT A COMPLETE LIST OF PLANT MATERIALS PROPOSED TO BE PROVIDED DEMONSTRATING CONFORMANCE WITH THE REQUIREMENTS SPECIFIED. INCLUDE THE NAMES AND ADDRESSES OF ALL GROWERS AND NURSERIES.

PRODUCT CERTIFICATES
1. PLANT MATERIALS LIST - SUBMIT DOCUMENTATION TO CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION THAT PLANT MATERIALS HAVE BEEN ORDERED. ARRANGE PROCEDURE FOR INSPECTION OF PLANT MATERIAL WITH CONSULTANT AT TIME OF SUBMISSION.
2. HAVE COPIES OF VENDOR'S OR GROWERS' INVOICES OR PACKING SLIPS FOR ALL PLANTS ON SITE DURING INSTALLATION. INVOICE OR PACKING SLIP SHOULD LIST SPECIES BY SCIENTIFIC NAME, QUANTITY, AND DATE DELIVERED (AND GENETIC ORIGIN IF THAT INFORMATION WAS PREVIOUSLY REQUESTED).

DELIVERY, HANDLING, & STORAGE

NOTIFICATION
CONTRACTOR MUST NOTIFY CONSULTANT 48 HOURS OR MORE IN ADVANCE OF DELIVERIES SO THAT CONSULTANT MAY ARRANGE FOR INSPECTION.

PLANT MATERIALS
1. TRANSPORTATION - DURING SHIPPING, PLANTS SHALL BE PACKED TO PROVIDE PROTECTION AGAINST CLIMATE EXTREMES, BREAKAGE AND DRYING. PROPER VENTILATION AND PREVENTION OF DAMAGE TO BARK, BRANCHES, AND ROOT SYSTEMS MUST BE ENSURED.
2. SCHEDULING AND STORAGE - PLANTS SHALL BE DELIVERED AS CLOSE TO PLANTING AS POSSIBLE. PLANTS IN STORAGE MUST BE PROTECTED AGAINST ANY CONDITION THAT IS DETRIMENTAL TO THEIR CONTINUED HEALTH AND VIGOR.
3. HANDLING - PLANT MATERIALS SHALL NOT BE HANDLED BY THE TRUNK, LIMBS, OR FOLIAGE BUT ONLY BY THE CONTAINER, BALL, BOX, OR OTHER PROTECTIVE STRUCTURE, EXCEPT BAREROOT PLANTS SHALL BE KEPT IN BUNDLES UNTIL PLANTING AND THEN HANDLED CAREFULLY BY THE TRUNK OR STEM.
4. LABELS - PLANTS SHALL HAVE DURABLE, LEGIBLE LABELS STATING CORRECT SCIENTIFIC NAME AND SIZE. TEN PERCENT OF CONTAINER GROWN PLANTS IN INDIVIDUAL POTS SHALL BE LABELED. PLANTS SUPPLIED IN FLATS, RACKS, BOXES, BAGS, OR BUNDLES SHALL HAVE ONE LABEL PER GROUP.

WARRANTY

PLANT WARRANTY
PLANTS MUST BE GUARANTEED TO BE TRUE TO SCIENTIFIC NAME AND SPECIFIED SIZE, AND TO BE HEALTHY AND CAPABLE OF VIGOROUS GROWTH.

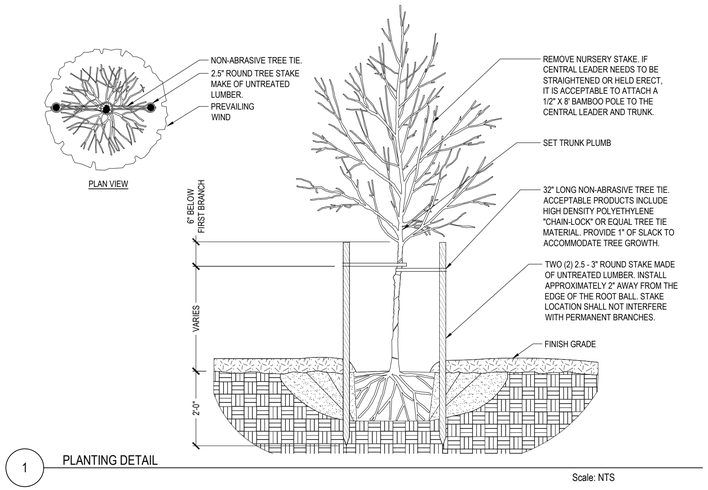
REPLACEMENT
1. PLANTS NOT FOUND MEETING ALL OF THE REQUIRED CONDITIONS AT THE CONSULTANT'S DISCRETION MUST BE REMOVED FROM SITE AND REPLACED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
2. PLANTS NOT SURVIVING AFTER ONE YEAR TO BE REPLACED AT THE CONTRACTOR'S EXPENSE.

PLANT MATERIAL

GENERAL
1. PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO OR MORE SEVERE THAN THOSE OF THE PROJECT SITE.
2. PLANTS SHALL BE TRUE TO SPECIES AND VARIETY OR SUBSPECIES. NO CULTIVARS OR NAMED VARIETIES SHALL BE USED UNLESS SPECIFIED AS SUCH.

QUANTITIES
SEE PLANT LIST ON ACCOMPANYING PLANS AND PLANT SCHEDULES.

ROOT TREATMENT
1. CONTAINER GROWN PLANTS (INCLUDES PLUGS): PLANT ROOT BALLS MUST HOLD TOGETHER WHEN THE PLANT IS REMOVED FROM THE POT, EXCEPT THAT A SMALL AMOUNT OF LOOSE SOIL MAY BE ON THE TOP OF THE ROOTBALL.
2. PLANTS MUST NOT BE ROOT-BOUND; THERE MUST BE NO CIRCLING ROOTS PRESENT IN ANY PLANT INSPECTED.
3. ROOTBALLS THAT HAVE CRACKED OR BROKEN WHEN REMOVED FROM THE CONTAINER SHALL BE REJECTED.



1 PLANTING DETAIL
Scale: NTS

PRINCIPAL: KB | PROJECT MANAGER: LFW | DESIGNED BY: | DRAWN BY: FH | CHECKED BY: AS

NO.	DATE	BY	REVISION

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS; FACET CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT FACET PRIOR TO CONSTRUCTION.

FACET
P: 206.523.0024
www.facetnw.com
9706 4th Ave NE
Suite 300
Seattle, WA 98115
FEDERAL WAY | KIRKLAND | MOUNT VERNON | SEATTLE | SPOKANE | WHIDBEY ISLAND

LARS FREEMAN-WOOD
ISA Certified Arborist® WE-8769AU
Tree Risk Assessment Qualified (TRAQ)
ISA Certified Utility Specialist®

CALL 811
2 BUSINESS DAYS BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

LFP SR-104 ROUNDABOUT

40TH PL NE AND NE 184TH ST
LAKE FOREST PARK, WA
2301.0347.00

PERMIT

PLANT SCHEDULE, INSTALLATION NOTES, AND DETAILS

DATE: 1-10-2025

PLAN NUMBER:
L003

SHEET 3 OF 3

EXHIBIT B

General Conditions

GENERAL CONDITIONS

1.01 ALTERATION OR MODIFICATION OF SPECIFICATIONS AND PLANS

A. No alteration or modification of the terms and conditions of the Contract will be binding unless outlined in detail in a separate written addendum, and then only when properly signed and attested by the City.

1.02 ADDITIONS OR DELETIONS

A. The City reserves the right to add or delete work from this Contract, subject to appropriate adjustments to the contract price.

1.03 NOTICE TO PROCEED

A. The Notice to Proceed will be given after the Contract has been executed and approved by the City or, where applicable, by State or Federal agencies responsible for funding any portion of the Project. The Contract Time allowed for Substantial Completion of the Work shall begin within 10 calendar days after the date the Notice to Proceed is issued. The Contractor shall not commence the Work until the Notice to Proceed has been given by the City.

1.04 HOURS OF WORK

A. Contractor shall work within the allowed work hours in the City of Lake Forest Park:

Monday – Friday 7:00 a.m. to 8:00 p.m.

Saturday and holidays 9:00 a.m. to 6:00 p.m.

Sundays No Construction.

Holidays: no construction will be allowed on New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and Christmas Day.

1.05 CONSTRUCTION TIME LIMIT

A. All of the work and materials contemplated to be included in this Project shall be completed within the time as stated in Contract ("Contract Time"). Contractor agrees to pursue completion of the Project at all reasonable times and to discontinue only if delayed by inclement weather. In the event that Contractor shall fail to proceed with the contemplated work for more than ten working days, Contractor shall be deemed to have abandoned the Project, and the City may elect to terminate the Contract and thereafter proceed to complete the Contract through its own forces or through an independent third party. In such event the Contractor herein shall be responsible for all expenses reasonably incurred by the City in

completing the work. The contractor will also be responsible for all legal, engineering or other costs caused by the Contractor's abandonment, failure or refusal to complete the Project within the time provided.

1.06 DELAYS & EXTENSION OF TIME

A. The Contractor herewith specifically waives claims for damages for any hindrance or delay, excepting unreasonable delays caused by the City. In Lieu thereof, the Contractor will be granted equitable extensions of time for which liquidated damages will not otherwise be claimed by the City under the following circumstances:

1. A delay caused the Contractor by any suit or other legal action against the City will entitle the Contractor to an equivalent extension of time, unless the period of such delay exceeds ninety (90) calendar days. When such period is exceeded, the City will, upon request of the Contractor, in writing, either negotiate a termination of the Contract or grant a further extension of time, whichever may at the time be in the best interests of the City.
2. Time lost due to inclement weather which could not have been anticipated by Contractor, subject to the approval of the City, will entitle the Contractor to an extension equivalent to the total time lost, whether it be a single continuous period or the accumulated total of several periods.
3 If the volume of the specified work, measured in dollars, is increased over the total value shown in the Contractor's Bid Proposal, at the time the award of the Contract is made, the Contractor will, if the City agrees, be granted an extension of time proportionately equal to the impact on the Contract Time caused by the increase in the total value.
4 Should other unforeseen conditions occur beyond the reasonable control of Contractor, or should performance of work under a Change Order make the work more complex or difficult than originally specified and shown on the Plans, and such work, in the Contractor's opinion, requires more time to execute than allowed by the Contract, the Contractor shall notify the City in writing prior to the performance of such work, setting forth in detail its estimate of the added time required for such work. The City will, if such estimate is approved, allow an equitable extension of the Contract Time.

B. Suspension of work by City

1. The City may order all or any of the Work suspended for such period as it deems proper because of unsuitable weather or such other conditions beyond the control of the Contractor that prevent satisfactory and timely performance of the Work, or because of the failure of the Contractor to perform any provisions of the Contract or orders given to him/her. The Contractor shall not suspend work unless ordered or authorized to do so by the City, and the Contractor shall immediately comply with such an order when given. The Contractor shall resume the suspended work when ordered by the City to do so.

2. Suspension of work by the City shall not be grounds for any claim by the Contractor for damages. The periods of suspension including but not limited to unsuitable weather conditions beyond the control of the Contractor that prevent satisfactory and timely performance of the Work, shall be allowed as non-working calendar days unless the City

concludes that the Contractor could have performed the suspended work if he/she had diligently prosecuted the Work prior to such suspension, and the Contract completion date shall be extended by such number of calendar days of parts thereof. This time extension shall be the Contractor's sole remedy and the Contractor shall not be entitled to any damages for delay associated with such suspension of work. Any suspension due to the failure of the Contractor to carry orders or perform work shall not be grounds for allowance of time but shall be counted as work days and not relieve the Contractor from any responsibility assigned under the Contract.

3. Upon encountering asbestos or materials suspected of containing asbestos, the Contractor shall stop work in the subject area and not remove, cut, or repair said material, nor shall the contractor enter or work in any area suspected of containing asbestos with damaged covering material, until so directed by the City or as specified by the Contract. The Contractor shall make every effort to minimize the impact of any disruption or stoppage of work, and promptly notify the City's Representative.

1.07 CONTRACT RESTRICTION

A. Time of Completion: The work of this Contract shall commence within ten (10) days the Notice to Proceed and shall be fully completed within the specified number of calendar days in the Contract. It is hereby understood and mutually agreed, by and between the Contractor and the City, that the date of beginning and the time for completion as specified in the Contract to be done hereunder are ESSENTIAL CONDITIONS of this Contract. The Contractor agrees that said Work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the City, that the time for the completion of the Work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

1.08 LIMITATIONS REGARDING CONTRACTOR'S CLAIMS FOR DAMAGES

A. All claims to the City for all work and damages of any kind arising from this Contract, shall be limited to the maximum amount appropriated by the City for this Project. Funds for this Project are limited and are public funds derived through Federal, State, Utility and or City taxes or property assessments appropriated for this Project through the budgeting process. The City's decision to award this Project is based upon the supposition that all costs will be held within the appropriated amount. The total Project appropriation shall be as stated in the City budget authorizing the Work herein. In the event the Project funding or appropriation equals the amount under Contract and an irreconcilable dispute between the City and the Contractor which the Contractor views as a breach of contract by the City excusing the Contractor from further performance, the Contractor and the City may agree to increase the Project appropriation and preserve the rights of both parties to future settlements or final resolution by a court of law.

B. Contractor agrees to limit all claims for extra work or damages of any kind whatsoever relating to this Contract to prices established by the units and lump sums bid herein and/or direct costs as provided under the force account provisions of WSDOT APWA, Section 1-09.6. By acceptance of a contract for the work herein, Contractor waives all claims for payment of damages which include or are computed on total costs of job performance, extended overhead, or other similar methods which do not relate to the prices stated herein or are not specific as to the actual, direct costs of contract work as defined in the WSDOT APWA force account provisions.

C. The above stated limitations on claims for damages shall apply only to disputed claims and shall not be construed to apply to payments for extra work pursuant to mutually agreed change orders or force account work in accordance with Sections 1-04.4 and 1-09.6 of the WSDOT APWA Standard Specifications incorporated herein; and is specifically understood that the City shall be responsible to appropriate funds for all work performed in accordance with Section 1-04 of the WSDOT APWA Standard Specifications.

1.09 EQUIPMENT AND MATERIALS SPECIFIED

A. Within these Contract Documents, certain items are specified by brand, style, trade name, or manufacturer in order to set forth a standard of quality, and/or preference by the City. It is not the intent of these General Conditions to exclude other processes or materials of a type and quality equal to those designated. Whenever a manufacturer's name, brand, or item designation is given, it shall be understood that the words "or equal" follow such name or designation whether in fact they do so or not. The phrase "or equal" is not to be construed so as to mean that material, equipment will be approved as equal by the City; such approval shall not be effective unless and until the item has been specifically approved in advance and in writing by the City. No additional compensation or extension of time will be allowed the Contractor for any changes required to adopt substitute material or equipment therefore, the Contractor's proposal, including any approved substitutions shall include all costs for any modifications to the Work which may be necessary for approval and adaptation of the proposed substituted equipment.

1.10 SAFETY MEASURES

A. All Work under this Contract shall be performed in a safe manner. The Contractor and all subcontractors shall observe all rules and regulations of the Washington State Department of Labor and Industries, rules and regulations of OSHA, WISHA or any other jurisdiction, and all other applicable safety standards. The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the Work. This requirement shall apply continuously and not be limited to normal working hours.

B. The City's Project Manager's review of the Contractor's work plan, sequence, schedule or performance does not and is not intended to include review or approval of the adequacy of the Contractor's safety measures in, on, or near the construction site. The Project Manager does not purport to be a safety expert, is not so engaged in that capacity under this Contract, and

has neither the authority nor the responsibility to enforce construction safety laws, rules, regulations, or procedures, or to order the stoppage of Work for claimed violations thereof.

C. The Contractor shall exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property. All exposed moving parts of equipment capable of inflicting injury by accidental contact shall be protected with sturdy removable guards in accordance with applicable safety regulations.

1.11 CHANGES IN THE WORK

A. The City may, at any time, without notice to the sureties, and without invalidating this Contract, by order designated or indicated to be a change order or directive, make any change, including modifications to, additions to or deletions from the Work within the general scope of the Contract, including but not limited to changes:

1. In the Plans and Specifications;
2. In the quantities or performance of the Work;
3. In the City-furnished facilities, equipment, materials, services or site; or
4. Directing acceleration or suspension of the performance of the Work.

B. If the Contractor intends to assert a claim for a change in work he/she shall, within 10 calendar days after the furnishing of its notice, submit to the City a written statement setting forth the general nature and monetary and other impact of such order, unless this period is extended, in writing, by the City.

C. Approval of certain changes and overruns must be made by the City. Therefore, it is imperative that changes or overruns be anticipated to allow enough time for approval prior to commencing the affected work.

D. Changes in the Work may be authorized in accordance with the General Conditions; charges for the work covered by approved change orders shall be submitted by the Contractor on an approved breakdown sheet and, unless otherwise agreed, the costs shall be determined in the following manner:

1. Additive Changes: Include direct labor costs, including foreman; direct costs of materials and equipment to be entered into the work; ownership or rental costs of any equipment during the time of use on the extra work per the current blue book; insurance; social security, old age and unemployment contributions; industrial insurance; direct contributions to labor as fringe benefits; subcontractor’s proposals; plus a maximum of 10% of the total of the items listed hereinbefore as overhead and profit, which shall include the cost of performance bonds, and the cost of all “offsite, extended, or unabsorbed” overhead. The markup for overhead and profit, including the cost of performance bonds, for work performed by major subcontractors including mechanical and electrical subcontractors, shall be limited to a maximum of 8%.

2. Deductive Changes: Include direct labor costs, including foreman; direct costs of materials and equipment to be entered into, or omitted from, the work; ownership or rental costs of any equipment during the time of use for the period of the change; insurance; social security, old age and unemployment contributions; industrial insurance; direct contributions to labor as fringe benefits; subcontractor's proposals; plus 8% of the total items listed hereinbefore as a factor for overhead and profit. The factor for overhead and profit which shall be deducted for the work of major subcontractors including mechanical and electrical subcontractors shall be 5%.

E. Subcontract Proposals: Where a proposal from a subcontractor is involved in a change in the Work, the Contractor shall require that the subcontractor's proposal for the extra work be governed by the same requirements that govern the Contractor's costs for the extra work.

F. The Contractor shall not be entitled to any claim for 'extended overhead' or 'unabsorbed overhead', or any off-site overhead.

G. Change Order Form: Use approved and provided by the City for change orders.

1.12 INCREASED OR DECREASED QUANTITIES

A. In the case of unit prices, when accepted quantities of Work vary from the original bid quantities, payment will be at the unit contract prices for accepted work unless the total quantity of any contract item increases or decreases by more than 25% of the original bid quantity.

1.13 ONE-YEAR WARRANTY

A. The Contractor shall and hereby does warranty the work for a period of one (1) year after the date of final acceptance by the City of the Work. The Contractor shall repair, remove and replace any and all such Work, together with any other Work which may be displaced in so doing, that is found to be defective in workmanship and/or materials within said one-year period, without expense whatsoever to the City, ordinary wear and tear and unusual abuse or neglect expected. In the event of failure to comply with the above-mentioned conditions within two (2) weeks after being notified in writing, the City is hereby authorized to proceed to have the defects remedied and made good at the expense of the Contractor who hereby agrees to pay the cost and charges thereof immediately on demand. Such action by the City will not relieve the Contractor of the warranties required by this section or elsewhere in the Contract.

B. If a Performance and Payment Bond is used rather than retainage, the bonds shall continue in full force and effect until Final Acceptance of the physical Work by the City.

C. If in the opinion of the City, defective Work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the City or to prevent interruption of the operation of the City, the City will attempt to give the notice required by this section. If the Contractor cannot be contacted or does not comply with the City's request for correction within a reasonable time as determined by the City, the City may, notwithstanding the provisions of this section, proceed to make such correction, the cost of which shall be charged against the Contractor. Such action by the City will not relieve the Contractor of the warranties required by this section or elsewhere in the Contract.

1.14 METHODS AND EQUIPMENT

A. The methods and equipment adopted by the Contractor shall be such as will secure a satisfactory quality of Work and will enable the Contractor to complete the Work in the time agreed upon. The selection and use of these methods and equipment is the responsibility of the Contractor.

1.15 LICENSES, INSPECTIONS, PERMITS, AND TAXES

A. The Contractor shall procure all permits and licenses, required inspections, pay all charges, fees and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the Work.

1.16 WORKER'S BENEFITS

A. The Contractor shall make all payments required for unemployment compensation under Title 50 RCW and for industrial insurance and medical aid required under Title 51 RCW. If any payment required by Title 50 or Title 51 is not made when due, the City may retain such payments from any money due the Contractor and pay the same into the appropriate fund.

B. The Contractor shall include in the various items in the Bid Proposal all costs for payment of unemployment compensation and for providing either or both of the insurance coverage's. The Contractor will not be entitled to any additional payment for: (1) failure to include such costs, or (2) determinations made by the US Department of Labor or the Washington State Department of Labor and industries regarding the insurance coverage.

C. After Final Completion of all Work on the Project, the Contractor shall submit a "Request for Release" to the Washington State Department of Labor and industries on the form they provide. The "Request for Release" form of the Department of Labor and Industries is also for the purpose of obtaining a release with respect to the payments of industrial insurance and medical aid premiums.

1.17 POSSESSION

A. The City reserves the right to use and occupy any portion of the improvements which have been completed sufficiently to permit use and occupancy, and such use and occupancy shall not be construed as an acceptance of the Work as a whole or any part thereby. Any claims which the City may have against the Contractor shall not be deemed to have been waived by such use and occupancy.

1.18 RISK OF LOSS

A. The Contractor will assume all risk of loss of materials, equipment or other supplies through theft, fire, act of God, or any other cause until the final acceptance of the Project has been submitted by the Engineer, and approval thereof by the City, which approval shall constitute acceptance of the Project by the City, and risk of loss shall thereafter transfer to the City. No partial payment or advance by the City shall change the risk of loss as herein provided.

1.19 APPLICABLE LAW AND FORUM

A. Except as hereinafter specifically provided, this Contract shall be governed by and construed according to the laws of the State of Washington. Any suit arising herefrom shall be brought in King County Superior Court, which forum shall have sole and exclusive jurisdiction and venue.

1.20 RETAINAGE

A. Retainage will be held back at 5% of each pay request. Retainage will be held in an account at the direction of the Contractor, per the forms included in these documents. Any costs associated with hold these funds in any account shall be borne by the Contractor. Retainage shall be available to the City to meet obligations which the Contractor incurs but does not meet, or to meet obligations to the City or City's Representative incurred through conditions of the Contract. Retainage does not relieve the Contractor of any obligations of the Contract, nor of any financial obligation which retainage is not sufficient to meet. Retainage or use of retainage shall not reduce the Contractor's requirements under this Contract.

1. Per RCW 60.28.050: "Upon final acceptance of a contract the officer disbursing the payment shall notify the Department of Revenue of the completion of contracts over $20,000. Such officer shall not make any payment until it has received from the Department of Revenue a certificate that all taxes, increases and penalties due from the contractor and all taxes due and to become due with respect to such contract have been paid in full."
2. Per RCW 60.28.011, requires the disbursing office must also observe a forty-five (45) day period from the date of semi-final acceptance, before the release of retainage to allow a reasonable period of public notification in order to place any liens or claims. The date of semi-final acceptance is the date the Council authorizes same.

B. It is the Contractor's responsibility to see that all subcontractors comply with the above. Progress payments will not be released until all subcontractors have complied.

C. If the Contractor wishes to set up an escrow account for retainage deposits, an escrow agreement must be submitted for review at least thirty (30) days prior to first deposit.

1.21 DISPUTE RESOLUTION

A. Should the parties be unable to resolve a dispute arising from the operation of the Contract, the parties agree to submit the dispute to binding arbitration as provided by RCW 7.04 et. seq. The arbitrator shall be as selected by the parties or, if the parties are unable to agree, as appointed by the presiding Judge of King County; the prevailing party shall be awarded costs as a part of the decision of the arbitrator.

B. "Costs" shall include, without limiting the generality of such term, expense of investigation of any claim, consulting engineering expense, expense of depositions, exhibits, witness fees, including reasonable expert witness fees and reasonable attorney's fees, and also includes all such costs and fees incurred in connection with any appeals. The obligation of payment under this clause shall be incorporated in any decision rendered in such action.

1.22 NONDISCRIMINATION AND AFFIRMATIVE ACTION

A. Unless the Contractor is exempt by Presidential Executive Order 11246 as amended by Executive Order 11375, the Contractor agrees not to discriminate against any client, employee, or applicant for employment of services because of race, creed, color, national origin, sex, marital status, age, or the presence of any sensory, mental or physical handicap with regard to, but not limited to, the following: employment upgrading; demotion or transfer; recruitment or recruitment advertising; lay-offs or termination's; rates of pay or other forms of compensation; selection for training; rendition of services. It is further understood that any Contractor who is in violation of this clause or an applicable Affirmative Action Program shall be barred forthwith from receiving awards of any purchase order from the City of Lake Forest Park unless a satisfactory showing is made that discriminatory practices or noncompliance with applicable Affirmative Action Programs have terminated and that a recurrence of such acts is unlikely; this includes the compliance with Sections 503 and 504 of the Vocational Rehabilitation Act of 1973 and Sections 2012 and 2014 of the Vietnam Era Veterans Readjustment Act of 1984.

1.23 MINORITY AND WOMEN BUSINESS ENTERPRISE

A. Contractor agrees that he/she shall actively solicit the employment of minority group members. Contractor further agrees that he shall actively solicit bids for the subcontracting of goods or services from qualified minority businesses. Contractor further agrees to consider the grant of subcontracts to said minority bidders on the basis of substantially equal proposals

in the light most favorable to said minority businesses. Upon request Contractor shall furnish evidence of his/her compliance with these requirements of minority employment and solicitation.

END OF SECTION

EXHIBIT C

Pricing Information

Proposal Form (continued)

For the complete performance of all Work required by Contract Documents for that project entitled "**SR 104 and 40th Place NE Roundabout Project**" the following Bid is submitted. Show prices in figures only (ink or typed). Show cents to 2 decimal points. Do not include applicable retail sales tax in unit price bid amounts as tax is entered separately in the bid schedule. Where conflict occurs between the unit price and the extended price specified for any item, the Unit Price shall prevail, and totals shall be corrected to conform thereto. If any Unit Price is left blank, it will be considered no charge for that bid item, regardless of what has been placed in the Extended Price column.

	BID SCHEDULE – SCHEDULE A					
			CONTRACTOR BID			
BID ITEM NO.	**SPEC. SECTION**	**DESCRIPTION**	**UNITS**	**SCHEDULE A QUANTITY (QTY)**	**UNIT PRICE**	**SCHEDULE A EXTENDED PRICE (UNIT PRICE x QTY)**
1 A	1-04 4 SP	UNEXPECTED SITE CHANGES	EST.	1	$100,000.00	$100,000.00
2 A	1-05 4 SP	ROADWAY SURVEYING	L.S.	1	$39,200.00	$39,200.00
3 A	1-05 4 SP	ADA FEATURES SURVEYING	L.S.	1	$3,951.00	$3,951.00
4 A	1-05 18 SP	RECORD DRAWINGS, (MIN. BID $5,000)	L.S.	1	$5,000.00	$5,000.00
5 A	1-07 15 SP	SPCC PLAN	L.S.	1	$2,500.00	$2,500.00
6 A	1-08 3 SP	TYPE A PROGRESS SCHEDULE (MIN. BID $5,000)	L.S.	1	$5,000.00	$5,000.00
7 A	1-09 7	MOBILIZATION	L.S.	1	$450,000.00	$450,000.00
8 A	1-10 SP	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	$114,000.00	$114,000.00

9 A	1-10.5	TRAFFIC CONTROL SUPERVISOR	L.S.	1	$110,000.00	$110,000.00
10 A	1-10.5	PEDESTRIAN TRAFFIC CONTROL	L.S.	1	$55,000.00	$55,000.00
11 A	1-10.5	FLAGGERS	HR	2,000	$80.30	$160,600.00
12 A	2-01.5 SP	CLEARING AND GRUBBING	L.S.	1	$3,175.00	$3,175.00
13 A	2-01.5	ROADSIDE CLEANUP	EST.	1	$5,000.00	$5,000.00
14 A	2-01.5 SP	TREE REMOVAL, OVER 6-INCH DIAM.	EACH	58	$1,930.00	$111,940.00
15 A	2-02.5 SP	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.S.	1	$14,575.00	$14,575.00
16 A	2-02.5 SP	REMOVING EXISTING DRAINAGE STRUCTURE	EACH	4	$765.00	$3,060.00
17 A	2-02.5 SP	REMOVING EXISTING DRAINAGE PIPE	L.F.	440	$16.60	$7,304.00
18 A	2-02.5 SP	REMOVING PCC PAVEMENT PANELS	S.Y.	200	$34.85	$6,970.00
19 A	2-02.5 SP	REMOVING ASPHALT CONC. PAVEMENT	S.Y.	4,200	$15.85	$66,570.00
20 A	2-02.5 SP	REMOVING CEMENT CONC. SIDEWALK	S.Y.	400	$22.40	$8,960.00
21 A	2-02.5 SP	REMOVING CEMENT CONC. CURB AND GUTTER	L.F.	584	$7.55	$4,409.20
22 A	2-02.5 SP	REMOVING CEMENT CONC. CURB	L.F.	495	$9.30	$4,603.50
26 A	2-03	ROADWAY EXCAVATION INCL. HAUL	C.Y.	4,390	$65.95	$289,520.50
27 A	2-03	GRAVEL BORROW INCL. HAUL	TON	800	$38.35	$30,680.00

28 A	2-09	STRUCTURE EXCAVATION CLASS A INCL. HAUL	C.Y.	197	$71.35	$14,055.95
29 A	2-09	SHORING OR EXTRA EXCAVATION CLASS A	S.F.	2,717	$22.00	$59,774.00
30 A	2-09	SHORING OR EXTRA EXCAVATION CLASS B	S.F.	3,520	$1.00	$3,520.00
31 A	4-04	CRUSHED SURFACING TOP COURSE	TON	315	$60.25	$18,978.75
32 A	4-04	CRUSHED SURFACING BASE COURSE	TON	2,435	$58.35	$142,082.25
33 A	5-04 SP	HMA CL. 1/2 IN. PG64-22	TON	1,455	$192.35	$279,869.25
34 A	5-04.5	PLANING BITUMINOUS PAVEMENT	S.Y.	350	$40.00	$14,000.00
35 A	5-05.5 SP	TEXTURED AND PIGMENTED CONCRETE PAVEMENT 9 INCH THICK - SPLITTER ISLAND AND TRUCK APRON	S.Y.	360	$295.75	$106,470.00
36 A	6-02	GRAVEL BACKFILL FOR WALL	C.Y.	57	$101.50	$5,785.50
37 A	6-16	REMOVING SOLDIER PILE SHAFT OBSTRUCTIONS	EST.	1	$14,700.00	$14,700.00
38 A	6-16 SP	SOLDIER PILE WALL	S.F.	3,795	$299.30	$1,135,843.50
39 A	7-01	UNDERDRAIN PIPE 6 IN. DIAM.	L.F.	290	$44.45	$12,890.50
40 A	7-04	CORRUGATED POLYETHYLENE STORM SEWER PIPE 12 IN. DIAM.	L.F.	420	$95.85	$40,257.00
41 A	7-04	CORRUGATED POLYETHYLENE STORM SEWER PIPE 18 IN. DIAM.	L.F.	180	$135.50	$24,390.00
42 A	7-04	DUCTILE IRON SEWER PIPE 12 IN. DIAM.	L.F.	30	$225.00	$6,750.00

43 A	7-05	ADJUST MANHOLE	EACH	1	$360.50	$360.50
44 A	7-05	ADJUST CATCH BASIN	EACH	2	$360.00	$720.00
45 A	7-05 SP	CATCH BASIN TYPE 1	EACH	8	$2,385.00	$19,080.00
46 A	7-05 SP	CATCH BASIN TYPE 2 48 IN. DIAM.	EACH	5	$4,500.00	$22,500.00
47 A	7-05.5 SP	CATCH BASIN TYPE 2 72 IN. DIAM. WITH FLOW CONTROL STRUCTURE	EACH	1	$23,900.00	$23,900.00
48 A	7-05 SP	CONNECTION TO DRAINAGE STRUCTURE	EACH	2	$4,675.00	$9,350.00
65 A	7-12 SP	ADJUST WATER VALVE BOX	EACH	5	$510.00	$2,550.00
73 A	7-16.5 SP	STORMWATER DETENTION VAULT	EACH	1	$459,000.00	$459,000.00
74 A	7-16.5 SP	OIL/WATER SEPARATOR VAULT	EACH	1	$38,000.00	$38,000.00
75 A	7-16.5 SP	BAYFILTER STORMWATER VAULT	EACH	1	$31,700.00	$31,700.00
76 A	7-16.5 SP	BIOPOD BIOFILTER VAULT	EACH	1	$38,850.00	$38,850.00
77 A	8-01	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	$34,500.00	$34,500.00
78 A	8-01	INLET PROTECTION	EACH	19	$123.00	$2,337.00
79 A	8-01	HIGH VISIBILITY SILT FENCE	L.F.	2,500	$8.00	$20,000.00
80 A	8-01	HIGH VISIBILITY FENCE	L.F.	400	$4.85	$1,940.00

81 A	8-01.5 SP	TREE PROTECTION FENCE	L.F.	800	$4.85	$3,880.00
82 A	8-02.5 SP	PSIPE TREE STAKING AND GUYING	L.S.	1	$620.00	$620.00
83 A	8-02.5	PSIPE COMPACT HINOKI CYPRESS, 6' HT./ 2" CAL. / B&B	EACH	11	$185.00	$2,035.00
84 A	8-02.5	PSIPE SLENDER HINOKI FALSE CYPRESS, 2 GAL.	EACH	14	$11.00	$154.00
85 A	8-02.5	PSIPE BOSTON IVY, 1 GAL.	EACH	52	$6.20	$322.40
86 A	8-02.5	PSIPE BEACH STRAWBERRY, 1 GAL.	EACH	347	$6.20	$2,151.40
87 A	8-02.5	PSIPE KINNIKINNICK, 1 GAL.	EACH	347	$6.20	$2,151.40
88 A	8-02.5	PSIPE BOXLEAF HONEYSUCKLE, 5 GAL.	EACH	54	$18.50	$999.00
89 A	8-02.5	PSIPE SALAL, 2 GAL.	EACH	45	$11.00	$495.00
90 A	8-02.5	PSIPE EVERGREEN HUCKLEBERRY, 2 GAL.	EACH	43	$11.00	$473.00
91 A	8-02.5	PSIPE AUTUMN MOOR GRASS, 1 GAL.	EACH	126	$6.20	$781.20
92 A	8-02.5	PSIPE HYBRID EPIMEDIUM, 1 GAL.	EACH	8	$6.20	$49.60
93 A	8-02.5	PSIPE TUFTED HAIR GRASS, 1 GAL.	EACH	302	$6.20	$1,872.40
94 A	8-02.5	PSIPE IDAHO FESCUE, 1 GAL.	EACH	600	$6.20	$3,720.00
95 A	8-02.5	PSIPE WESTERN COLUMBINE, 1 GAL.	EACH	49	$6.20	$303.80
96 A	8-02.5	PSIPE LARGE LEAVED LUPINE, 1 GAL.	EACH	73	$6.20	$452.60

97 A	8-02.5	PSIPE YARROW (WHITE), 1 GAL.	EACH	232	$6.20	$1,438.40
98 A	8-02.5	PSIPE WILD GINGER, 1 GAL.	EACH	105	$6.20	$651.00
99 A	8-02.5	PSIPE CREEPING MAHONIA, 1 GAL.	EACH	348	$6.20	$2,157.60
100 A	8-02.5	PSIPE WESTERN SWORD FERN, 1 GAL.	EACH	118	$6.20	$731.60
101 A	8-02.5	PSIPE JAPANESE TASSEL FERN, 1 GAL.	EACH	50	$6.20	$310.00
102 A	8-02.5 SP	TOPSOIL TYPE A - PLANTING BEDS	CY	418	$64.25	$26,856.50
109 A	8-02.5 SP	WOOD CHIP MULCH	CY	84	$70.50	$5,922.00
110 A	8-03.5 SP	TEMPORARY IRRIGATION	L.S.	1	$5,550.00	$5,550.00
111 A	8-03.5 SP	IRRIGATION CONTROLLER	L.S.	1	$1,235.00	$1,235.00
112 A	8-03.5 SP	IRRIGATION METER	L.S.	1	$3,975.00	$3,975.00
113 A	8-03.5 SP	IRRIGATION SYSTEM	L.S.	1	$48,250.00	$48,250.00
114 A	8-04	CEMENT CONC. TRAFFIC CURB AND GUTTER	L.F.	1,293	$58.40	$75,511.20
115 A	8-04	MOUNTABLE CEMENT CONC. TRAFFIC CURB	L.F.	742	$66.85	$49,602.70
116 A	8-04	CEMENT CONC. PEDESTRIAN CURB	L.F.	702	$45.60	$32,011.20
117 A	8-04	ROUNDABOUT CENTRAL ISLAND CEMENT CONCRETE CURB	L.F.	173	$140.00	$24,220.00

118 A	8-04	ROUNDABOUT TRUCK APRON CEMENT CONC. CURB AND GUTTER	L.F.	270	$120.50	$32,535.00
119 A	8-05.5 SP	ADJUST UTILITY BOX	EACH	5	$463.50	$2,317.50
120 A	8-06	CEMENT CONC. DRIVEWAY ENTRANCE TYPE	S.Y.	188	$197.00	$37,036.00
121 A	8-06 SP	BRICK DRIVEWAY ENTRANCE	S.Y.	77	$294.75	$22,695.75
122 A	8-12 SP	FALL PROTECTION	L.F	628	$72.50	$45,530.00
123 A	8-13	ADJUST MONUMENT CASE AND COVER	EACH	2	$1,035.00	$2,070.00
124 A	8-13 SP	MONUMENT, AND MONUMENT CASE AND COVER	EACH	2	$1,035.00	$2,070.00
125 A	8-14	CEMENT CONC. SIDEWALK	S.Y.	990	$115.00	$113,850.00
126 A	8-14 SP	CEMENT CONC. CURB RAMP TYPE PARALLEL	EACH	8	$3,820.00	$30,560.00
127 A	8-14 SP	CEMENT CONC. FLATWORK, 6-INCH THICK	S.Y.	49	$415.50	$20,359.50
128 A	8-14 SP	CEMENT CONC. STAIRS	S.Y.	8	$541.25	$4,330.00
129 A	8-14 SP	STAIR HANDRAIL	L.F.	14	$730.00	$10,220.00
130 A	8-18	MAILBOX SUPPORT	EACH	4	$845.00	$3,380.00
131 A	8-19 SP	WOOD FENCE	L.F.	184	$128.50	$23,644.00
132 A	8-21.5 SP	PERMANENT SIGNING	L.S.	1	$29,300.00	$29,300.00
133 A	8-22.5	PAINT LINE	L.F.	1,900	$1.05	$1,995.00

134 A	8-22.5	PAINTED WIDE LANE LINE	L.F.	250	$1.05	$262.50
135 A	8-22.5	PLASTIC CROSSWALK LINE	S.F	500	$12.30	$6,150.00
136 A	8-22.5	PLASTIC YIELD LINE SYMBOL	EACH	20	$365.85	$7,317.00
137 A	8-22.5	REMOVING PAINT LINE	L.F.	1,200	$4.30	$5,160.00
138 A	8-23.5	TEMPORARY PAVEMENT MARKING - SHORT DURATION	L.F.	2,100	$1.85	$3,885.00
139 A	8-24 SP	GRAVITY BLOCK WALL	S.F	1,365	$70.50	$96,232.50
		SCHEDULE A SUBTOTAL (sum of EXTENDED PRICE amounts above)				$4,985,955.15

	BID SCHEDULE – SCHEDULE B					
			CONTRACTOR BID			
BID ITEM NO.	SPEC. SECTION	DESCRIPTION	UNITS	SCHEDULE B QUANTITY (QTY)	UNIT PRICE	SCHEDULE B EXTENDED PRICE (UNIT PRICE x QTY)
1 B	1-04.4 SP	UNEXPECTED SITE CHANGES	1	EST.	$10,000.00	$10,000.00
4 B	1-05.18 SP	RECORD DRAWINGS, (MIN. BID $2,000)	1	L.S.	$2,000.00	$2,000.00
7 B	1-09.7 SP	MOBILIZATION	1	L.S.	$20,000.00	$20,000.00
8 B	1-10 SP	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	$14,000.00	$14,000.00
9 B	1-10.5	TRAFFIC CONTROL SUPERVISOR	1	L.S.	$13,250.00	$13,250.00
23 B	2-02.5 SP	REMOVE EXISTING WATER PIPE	280	L.F.	$16.50	$4,620.00
24 B	2-02.5 SP	REMOVE EXISTING WATER VALVE	5	EA.	$170.00	$850.00
25 B	2-02.5 SP	REMOVE EXISTING HYDRANT ASSEMBLY	2	EA.	$1,315.00	$2,630.00
49 B	7-09.5	DUCTILE IRON PIPE FOR WATER MAIN 8 IN. DIAM.	105	L.F.	$163.75	$17,193.75
50 B	7-09.5	DUCTILE IRON PIPE FOR WATER MAIN 12 IN. DIAM.	458	L.F.	$184.00	$84,272.00
51 B	7-09.5	SHORING OR EXTRA EXCAVATION TRENCH	2,248	S.F.	$1.00	$2,248.00
52 B	7-09.5	BANK RUN GRAVEL FOR TRENCH BACKFILL	562	L.F.	$34.75	$19,529.50

53 B	7-09.5 SP	SAND BEDDING	100	TON	$40.00	$4,000.00
54 B	7-09.5 SP	CONNECTION TO EXISTING WATER MAIN PIPE	4	EA.	$4,075.00	$16,300.00
55 B	7-09.5 SP	12" X 12" TEE FL x FL x FL	1	EA.	$2,515.00	$2,515.00
56 B	7-09.5 SP	12" X 8" TEE FL x FL x FL	1	EA.	$1,900.00	$1,900.00
57 B	7-09.5 SP	12" X 6" TEE FL x FL x FL	2	EA.	$1,820.00	$3,640.00
58 B	7-09.5 SP	12" X 8" REDUCER FL x FL	1	EA.	$1,285.00	$1,285.00
59 B	7-09.5 SP	12-INCH 22.5° BEND MJ x MJ	4	EA.	$1,230.00	$4,920.00
60 B	7-09.5 SP	8-INCH 22.5° BEND MJ x MJ	2	EA.	$655.00	$1,310.00
61 B	7-09.5 SP	COUPLER, 12-INCH, MJ	4	EA.	$1,255.00	$5,020.00
62 B	7-09.5 SP	COUPLER, 8-INCH, MJ	2	EA.	$685.00	$1,370.00
63 B	7-09.5 SP	GATE VALVE 12 IN. MJ x FL	9	EA.	$6,400.00	$57,600.00
64 B	7-09.5 SP	GATE VALVE 8 IN. MJ x FL	2	EA.	$4,275.00	$8,550.00
66 B	7-14.5	HYDRANT ASSEMBLY	2	EA.	$11,630.00	$23,260.00
67 B	7-14.5 SP	AIR RELEASE VALVE	1	EA.	$4,295.00	$4,295.00
68 B	7-15.5 SP	SERVICE CONNECTION FOR ADDRESS #18242	1	EA.	$2,835.00	$2,835.00
69 B	7-15.5 SP	SERVICE CONNECTION FOR ADDRESS #18410	1	EA.	$2,835.00	$2,835.00

70 B	7-15.5 SP	SERVICE CONNECTION FOR ADDRESS #18250	1	EA	$2,835.00	$2,835.00
71 B	7-15.5 SP	SERVICE CONNECTION FOR ADDRESS #18403	1	EA.	$2,835.00	$2,835.00
72 B	7-15.5 SP	SERVICE CONNECTION FOR ROUNDABOUT IRRIGATION	1	EA.	$2,835.00	$2,835.00
77 B	8-01	EROSION CONTROL AND WATER POLLUTION PREVENTION	1	L.S.	$4,275.00	$4,275.00
		SCHEDULE B SUBTOTAL (sum of EXTENDED PRICE amounts above)				$345,008.25
		10.3% WASHINGTON STATE RETAIL SALES TAX (multiply 0.103 x SUBTOTAL amount above)				$35,535.85
		SCHDULE B SUBTOTAL WITH TAX (sum of SUBTOTAL and WA STATE RETAIL SALES TAX amounts above)				$380,544.10

	BID SCHEDULE – SCHEDULE C					
			CONTRACTOR BID			
BID ITEM NO.	SPEC. SECTION	DESCRIPTION	UNITS	SCHEDULE C QUANTITY (QTY)	UNIT PRICE	SCHEDULE C EXTENDED PRICE (UNIT PRICE x QTY)
1 C	1-04.4 SP	UNEXPECTED SITE CHANGES	1	EST.	$5,000.00	$5,000.00
4 C	1-05.18 SP	RECORD DRAWINGS, (MIN. BID $1,000)	1	L.S.	$1,000.00	$1,000.00
7 C	1-09.7 SP	MOBILIZATION	1	L.S.	$4,000.00	$4,000.00
8 C	1-10 SP	PROJECT TEMPORARY TRAFFIC CONTROL	1	L.S.	$14,075.00	$14,075.00
9 C	1-10.5	TRAFFIC CONTROL SUPERVISOR	1	L.S.	$13,000.00	$13,000.00
77 C	8-01	EROSION CONTROL AND WATER POLLUTION PREVENTION	1	L.S.	$4,275.00	$4,275.00
103 C	8-02.5	PSIPE VINE MAPLE	5	EACH	$18.50	$92.50
104 C	8-02.5	PSIPE SASKATOON SERVICEBERRY	6	EACH	$18.50	$111.00
105 C	8-02.5	PSIPE DOUGLAS FIR	8	EACH	$18.50	$148.00
106 C	8-02.5	PSIPE CANADA RED CHOKECHERRY	3	EACH	$18.50	$55.50
107 C	8-02.5	PSIPE GARRY OAK	2	EACH	$18.50	$37.00

108 C	8-02.5	PSIPE WESTERN RED CEDAR	2	EACH	$18.50	$37.00
109 C	8-02.5 SP	TOPSOIL TYPE A - PLANTING BEDS	30	CY	$64.25	$1,927.50
110 C	8-02.5 SP	WOOD CHIP MULCH	30	CY	$70.00	$2,100.00
		SCHEDULE C SUBTOTAL (sum of EXTENDED PRICE amounts above)				$45,858.50

	BID SCHEDULE – SUMMARY OF BIDS	
	SCHEDULE A SUBTOTAL (sum of EXTENDED PRICE amounts)	$4,985,955.15
	SCHEDULE B SUBTOTAL WITH TAX (sum of EXTENDED PRICE amounts)	$380,544.10
	SCHEDULE C SUBTOTAL (sum of EXTENDED PRICE amounts)	$45,858.50
	SCHEDULE A, B, and C COMBINED TOTAL	$5,412,357.75

Unit key:

UNIT KEY	
CY	Cubic Yard
EA	Each
HR	Hour
LF	Linear Foot
LS	Lump Sum
SF	Square Foot

EXHIBIT D

W-9 Request for Taxpayer Identification Number and Certification

Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See *Specific Instructions* on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

Johansen Construction Company, LLC

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor ☐ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate

☑ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . . . **P**

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions)

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)

(Applies to accounts maintained outside the United States.)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

5 Address (number, street, and apt. or suite no.). See instructions.

PO Box 674

6 City, state, and ZIP code

Buckley, WA 98321

Requester's name and address (optional)

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

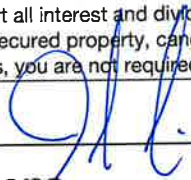
1	4	–	1	9	2	9	1	1	6

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person**  **Date** 5/5/2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

must obtain your correct taxpayer identification number (TIN), which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid).
- Form 1099-DIV (dividends, including those from stocks or mutual funds).
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds).
- Form 1099-NEC (nonemployee compensation).
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers).
- Form 1099-S (proceeds from real estate transactions).
- Form 1099-K (merchant card and third-party network transactions).
- Form 1098 (home mortgage interest), 1098-E (student loan interest), and 1098-T (tuition).
- Form 1099-C (canceled debt).
- Form 1099-A (acquisition or abandonment of secured property).

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

Caution: If you don't return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding*, later.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued);

2. Certify that you are not subject to backup withholding; or

3. Claim exemption from backup withholding if you are a U.S. exempt payee; and

4. Certify to your non-foreign status for purposes of withholding under chapter 3 or 4 of the Code (if applicable); and

5. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting is correct. See *What Is FATCA Reporting*, later, for further information.

Note: If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Establishing U.S. status for purposes of chapter 3 and chapter 4 withholding. Payments made to foreign persons, including certain distributions, allocations of income, or transfers of sales proceeds, may be subject to withholding under chapter 3 or chapter 4 of the Code (sections 1441–1474). Under those rules, if a Form W-9 or other certification of non-foreign status has not been received, a withholding agent, transferee, or partnership (payor) generally applies presumption rules that may require the payor to withhold applicable tax from the recipient, owner, transferor, or partner (payee). See Pub. 515, Withholding of Tax on Nonresident Aliens and Foreign Entities.

The following persons must provide Form W-9 to the payor for purposes of establishing its non-foreign status.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the disregarded entity.
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the grantor trust.
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust and not the beneficiaries of the trust.

See Pub. 515 for more information on providing a Form W-9 or a certification of non-foreign status to avoid withholding.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person (under Regulations section 1.1441-1(b)(2)(iv) or other applicable section for chapter 3 or 4 purposes), do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515). If you are a qualified foreign pension fund under Regulations section 1.897(l)-1(d), or a partnership that is wholly owned by qualified foreign pension funds, that is treated as a non-foreign person for purposes of section 1445 withholding, do not use Form W-9. Instead, use Form W-8EXP (or other certification of non-foreign status).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a saving clause. Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.

2. The treaty article addressing the income.

3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.

4. The type and amount of income that qualifies for the exemption from tax.

5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if their stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first Protocol) and is relying on this exception to claim an exemption from tax on their scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include, but are not limited to, interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third-party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester;

2. You do not certify your TIN when required (see the instructions for Part II for details);

3. The IRS tells the requester that you furnished an incorrect TIN;

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only); or

5. You do not certify to the requester that you are not subject to backup withholding, as described in item 4 under "*By signing the filled-out form*" above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

See also *Establishing U.S. status for purposes of chapter 3 and chapter 4 withholding*, earlier.

What Is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all U.S. account holders that are specified U.S. persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you are no longer tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account, for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of $50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a $500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

• **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note for ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040 you filed with your application.

• **Sole proprietor.** Enter your individual name as shown on your Form 1040 on line 1. Enter your business, trade, or "doing business as" (DBA) name on line 2.

• **Partnership, C corporation, S corporation, or LLC, other than a disregarded entity.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

• **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. Enter any business, trade, or DBA name on line 2.

• **Disregarded entity.** In general, a business entity that has a single owner, including an LLC, and is not a corporation, is disregarded as an entity separate from its owner (a disregarded entity). See Regulations section 301.7701-2(c)(2). A disregarded entity should check the appropriate box for the tax classification of its owner. Enter the owner's name on line 1. The name of the owner entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2. If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, enter it on line 2.

Line 3a

Check the appropriate box on line 3a for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3a.

IF the entity/individual on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation.
• Individual or • Sole proprietorship	Individual/sole proprietor.
• LLC classified as a partnership for U.S. federal tax purposes or • LLC that has filed Form 8832 or 2553 electing to be taxed as a corporation	Limited liability company and enter the appropriate tax classification: P = Partnership, C = C corporation, or S = S corporation.
• Partnership	Partnership.
• Trust/estate	Trust/estate.

Line 3b

Check this box if you are a partnership (including an LLC classified as a partnership for U.S. federal tax purposes), trust, or estate that has any foreign partners, owners, or beneficiaries, and you are providing this form to a partnership, trust, or estate, in which you have an ownership interest. You must check the box on line 3b if you receive a Form W-8 (or documentary evidence) from any partner, owner, or beneficiary establishing foreign status or if you receive a Form W-9 from any partner, owner, or beneficiary that has checked the box on line 3b.

Note: A partnership that provides a Form W-9 and checks box 3b may be required to complete Schedules K-2 and K-3 (Form 1065). For more information, see the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

If you are required to complete line 3b but fail to do so, you may not receive the information necessary to file a correct information return with the IRS or furnish a correct payee statement to your partners or beneficiaries. See, for example, sections 6698, 6722, and 6724 for penalties that may apply.

Line 4 Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

Exempt payee code.

• Generally, individuals (including sole proprietors) are not exempt from backup withholding.

• Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.

• Corporations are not exempt from backup withholding for payments made in settlement of payment card or third-party network transactions.

• Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space on line 4.

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2).

2—The United States or any of its agencies or instrumentalities.

3—A state, the District of Columbia, a U.S. commonwealth or territory, or any of their political subdivisions or instrumentalities.

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities.

5—A corporation.

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or territory.

7—A futures commission merchant registered with the Commodity Futures Trading Commission.

8—A real estate investment trust.

9—An entity registered at all times during the tax year under the Investment Company Act of 1940.

10—A common trust fund operated by a bank under section 584(a).

11—A financial institution as defined under section 581.

12—A middleman known in the investment community as a nominee or custodian.

13—A trust exempt from tax under section 664 or described in section 4947.

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
• Interest and dividend payments	All exempt payees except for 7.
• Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
• Barter exchange transactions and patronage dividends	Exempt payees 1 through 4.
• Payments over $600 required to be reported and direct sales over $5,000[1]	Generally, exempt payees 1 through 5.[2]
• Payments made in settlement of payment card or third-party network transactions	Exempt payees 1 through 4.

[1] See Form 1099-MISC, Miscellaneous Information, and its instructions.

[2] However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) entered on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37).

B—The United States or any of its agencies or instrumentalities.

C—A state, the District of Columbia, a U.S. commonwealth or territory, or any of their political subdivisions or instrumentalities.

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i).

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i).

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state.

G—A real estate investment trust.

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940.

I—A common trust fund as defined in section 584(a).

J—A bank as defined in section 581.

K—A broker.

L—A trust exempt from tax under section 664 or described in section 4947(a)(1).

M—A tax-exempt trust under a section 403(b) plan or section 457(g) plan.

Note: You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, enter "NEW" at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have, and are not eligible to get, an SSN, your TIN is your IRS ITIN. Enter it in the entry space for the Social security number. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note: See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at *www.SSA.gov*. You may also get this form by calling 800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at *www.irs.gov/EIN*. Go to *www.irs.gov/Forms* to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to *www.irs.gov/OrderForms* to place an order and have Form W-7 and/or Form SS-4 mailed to you within 15 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and enter "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, you will generally have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note: Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon. See also *Establishing U.S. status for purposes of chapter 3 and chapter 4 withholding*, earlier, for when you may instead be subject to withholding under chapter 3 or 4 of the Code.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third-party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account[1]
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor[2]
5. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee[1]
b. So-called trust account that is not a legal or valid trust under state law	The actual owner[1]
6. Sole proprietorship or disregarded entity owned by an individual	The owner[3]
7. Grantor trust filing under Optional Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))**	The grantor*
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity[4]
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing Form 1041 or under the Optional Filing Method 2, requiring Form 1099 (see Regulations section 1.671-4(b)(2)(i)(B))**	The trust

[1] List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

[2] Circle the minor's name and furnish the minor's SSN.

[3] You must show your individual name on line 1, and enter your business or DBA name, if any, on line 2. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

[4] List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.)

* **Note:** The grantor must also provide a Form W-9 to the trustee of the trust.

** For more information on optional filing methods for grantor trusts, see the Instructions for Form 1041.

Note: If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information, such as your name, SSN, or other identifying information, without your permission to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax return preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity, or a questionable credit report, contact the IRS Identity Theft Hotline at 800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 877-777-4778 or TTY/TDD 800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to *phishing@irs.gov*. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 800-366-4484. You can forward suspicious emails to the Federal Trade Commission at *spam@uce.gov* or report them at *www.ftc.gov/complaint*. You can contact the FTC at *www.ftc.gov/idtheft* or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see *www.IdentityTheft.gov* and Pub. 5027.

Go to *www.irs.gov/IdentityTheft* to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and territories for use in administering their laws. The information may also be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payors must generally withhold a percentage of taxable interest, dividends, and certain other payments to a payee who does not give a TIN to the payor. Certain penalties may also apply for providing false or fraudulent information.