ADVERTISEMENT FOR BID

CEDAROAK BOAT RAMP RE-CONSTRUCTION

IN WEST LINN, CLACKAMAS COUNTY, OREGON

CITY OF WEST LINN, OREGON

Sealed bids for the Cedaroak Boat Ramp Re-construction Project in the City of West Linn, Clackamas County, Oregon, will be received by Ken Worcester, Parks and Recreation Director at City Hall, 22500 Salamo Road, West Linn, Oregon, 97068. Telephone (503) 557-4700, Fax (503) 656-4106) until 2:00 PM, April 20, 2016, after which time, the bids shall be publicly opened and read. Bids received after 2:00 PM will not be considered. First Tier Subcontractors Disclosure forms shall be submitted not later than 4:00 PM, April 20, 2016. Bids shall be clearly marked Cedaroak Boat Ramp Re-construction Project.

Work generally consists of Removal and disposal of existing floats, piling and ramp, in order to construct new ramp and install new pilings and new owner provided floats, consistent with permits and in-water work period which must be completed by November 30, 2016.

The project plans, specifications and proposed contract provisions may be reviewed at no cost through the City of West Linn's website at http://bids.westlinnoregon.gov/ and at Parks and Recreation Department located at 22500 Salamo Road West Linn, Oregon, 97068

All bidders must submit a three year relevant experience form.

Each bidder must identify whether the bidder is a resident bidder, as defined in ORS 279A.120. The contract to be awarded pursuant to this solicitation is a public improvement contract, no offer will be received or considered unless the bidder is registered with the Construction Contractors Board or is licensed with the State Landscape Contractors Board, as applicable. The contract to be awarded pursuant to this solicitation is a contract for a public work subject to ORS 279C.800 through 279C.870 or the Davis-Bacon Act (40 U.S.C. 3141 to 3148), the bidder agrees to be bound by and will comply with the provisions of ORS 279C. 838, ORS 279C.840 or 40 U.S.C. 3141 to 3148. Each bidder shall certify that the bidder has not discriminated and will not discriminate against any minority, women or emerging small business enterprise in obtaining any required subcontract for this project.

Bids shall be accompanied by a Certified Check or bond in the amount of ten percent (10%) of the total amount of the bids to be forfeited to the Owner in the event of a breach of contract. A one hundred percent (100%) performance bond will be required to guarantee the faithful performance of the contract. A one hundred percent (100%) payment bond will be required to guarantee the faithful payment of lien holders and subcontractors etc.

All bids shall be submitted on the prescribed form and in said manner as indicated in the bids documents. Use of recycled material is encouraged.

The approximate budget range for this project is $1,000,000 to $1,250,000.

The West Linn City Council may reject any bid not in compliance with all prescribed Public Contracting procedures and requirements, and may reject for good cause all bids upon the Contracting Agency's finding that it is in the public interest to do so, or may waive immaterial informalities and irregularities.

Dated this March 22, 2016

Ken Worcester
Project Manager

Publication Date
Daily Journal of Commerce: March 24, 25 and 28, 2016

City of West Linn	**INVITATION FOR BID**	**Parks Department** 22500 Salamo Road West Linn, Oregon 97068 Telephone: (503) 557-4700 Fax: (503) 656-4106
	CONSTRUCTION PROJECT	

City of West Linn

Plans and Bid Documents

Project Number: **PRK017**

Project Description: **CEDAROAK BOAT RAMP RE-CONSTRUCTION PROJECT**

Due Date: April 20, 2016 2:00 p.m. local time

Plans and Specifications are available for download at no charge from the City's website at http://bids.westlinnoregon.gov/

Plans and Specifications may also be reviewed at the Parks and Recreation Department located at 22500 Salamo Road West Linn, Oregon, 97068

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APPENDIX A

FORMS REQUIRED FOR SUBMITTAL WITH BID

1. NOTICE OF INVITATION TO BID AND CONTRACT
2. BID FORM
3. BID BOND
4. NONCOLLUSION AFFADAVIT
5. THREE YEAR EXPERIENCE RECORD
6. FIRST-TIER SUBCONTRACTOR DISCLOSURE (WH-179)
   Submit within 2 hours of bid closing.
7. AFFIDAVIT OF COMPLIANCE WITH TAX LAWS
8. SIGNED ADDENDA (IF ANY)

FORMS NOT REQUIRED AT TIME OF BID

1. PERFORMANCE BOND
2. PAYMENT BOND
3. CONTRACTOR'S AFFADAVIT, SETTLEMENT OF CLAIMS
4. PUBLIC WORKS FEE INFORMATION FORM (WH-39)
   To be completed and paid by City upon award
5. NOTICE OF PUBLIC WORKS (WH-81)
   To be completed by City upon award.
6. PUBLIC WORKS FEE ADJUSTMENT FORM (WH-40)
   To be completed by City after final completion of project.
7. PAYROLL INSTRUCTIONS (WH-38A)
8. PAYROLL/CERTIFIED STATEMENT FORM (WH-38)
9. CURRENT PREVAILING WAGE RATE COVER AND AMENDMENTS
   The complete prevailing wage rate documents can be downloaded from the Oregon Bureau of Labor and Industries website at http://www.oregon.gov/boli/WHD/PWR/pages/pwr_state.aspx

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PERMITS

City of West Linn, Oregon

Notice of Invitation for Bid and Contract

Project Number:	**PRK017**	Bid Due Date:	**April 20, 2016**
Project Name:	Cedaroak Boat Ramp Re-construction Project	Bid Due Time:	2:00 p.m.
		Contact:	Ken Worcester
Bid Opening Location:	City of West Linn – City Hall Council Chambers 22500 Salamo Rd., West Linn, OR 97068	Title:	Parks & Rec Director
Time of Completion:	180 calendar days	Phone:	(503) 557-4700
Project Description:	Removal and disposal of existing floats, piling and ramp, in order to construct new ramp and install new pilings and new owner provided floats, consistent with permits and in-water work period.		

Sealed bids for the project identified and described above will be received by the City of West Linn at the specified location above until the date and time cited above. Bids received by the correct date and time shall be publicly opened and the bid price read. Bids shall be in the actual possession of the identified bidding department on or prior to the exact date and time indicated above. Late bids will not be considered, except as provided in the City of West Linn Procurement Policy. ***Bids shall be submitted in a sealed envelope with the Invitation for Bid Project Number, Project Description, and the bidder's name and address clearly indicated on the front of the envelope***. All bids shall be completed in ink or typewritten. This Bid is for a public works project subject to ORS 279C.800 to 279C.870. Bidders are strongly encouraged to carefully read the ***entire*** Invitation for Bid Package.

BIDDER

To the City of West Linn:

The undersigned hereby Bids and agrees to furnish materials and/or services in compliance with all terms, conditions, specifications and addenda in the Notice of Invitation for Bid except for any written exceptions in the Bid. The signature below also certifies his or her understanding and compliance with The City of West Linn Standard Terms and Conditions.

Is the Bidder a "Resident" Bidder per ORS 279A.120? _____ Yes/No

Construction Contractors Board Registration Number: _____

Federal Employer Identification Number: _____

For clarification of this Bid contact:

Name: _____

Telephone: _____

_____
Company Name

_____
Address

_____
City State Zip Code

_____
Authorized Signature for Bidder

_____
Printed Name

_____
Title

ACCEPTANCE OF BID AND CONTRACT AWARD (For City of West Linn Use Only)

Your bid is hereby accepted. The Contractor is now bound to sell the materials and/or services listed by the attached award notice based upon the solicitation, including all terms, conditions, specifications, plans, addendum, amendments, etc., and the Contractor's Bid as accepted by the City.

Approved as to form:

_____
Megan Thornton
Assistant City Attorney

City of West Linn, Oregon.

Awarded on _____, _____.

_____
Don Otterman, Interim City Manager

Parks Department
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1. **PREPARATION OF BID:**

   a. All bids shall be submitted on the forms provided in this *Invitation to Bid* package. It is permissible to copy these forms if required. Telegraphic (facsimile), electronic or mailgram bids will not be considered.

   b. The Bid and Contract Award document shall be submitted with an original ink signature by a person authorized to sign the Bid.

   c. Erasures, interlineations, or other modifications in the bid shall be initialed in original ink by the authorized person signing the Bid.

   d. If price is a consideration and in case of error in the extension of prices in the bid, the unit price shall govern. No bid shall be altered, amended, or withdrawn after the specified bid due date and time.

   e. Periods of time, stated as a number of days, shall be calendar days.

   f. Bid due date and time is stated as local Oregon time.

   g. The following items must be completed as part of the Bid submittal; Notice of Invitation for Bid and Contract (indicating Oregon Construction Contractors Board License Number), Bid Form, Bid Guaranty (Bond), Non-Collusion Affidavit, Three-Year Experience, and Addenda. Within two (2) hours of the Bid submittal, or with the Bid submittal, the First Tier Subcontractor Disclosure Form must be submitted if the bid is greater than $100,000.

   h. It is the responsibility of all Bidders to examine the entire *Invitation For Bid* package and seek clarification of any item or requirement that may not be clear and to check all responses for accuracy before submitting a bid. Negligence in preparing a Bid confers no right of withdrawal after bid due date and time.

2. **INQUIRIES:** Any question related to the *Invitation For Bid* (*IFB*) shall be directed to the Buyer whose name appears as the Contact on the *IFB*. The Bidder shall not contact or ask questions of the department for which the requirement is being procured. Questions should be submitted in writing when time permits. The Buyer may require any and all questions be submitted in writing at the Buyer's sole discretion. Any correspondence related to an *Invitation For Bid* should refer to the appropriate *IFB* number, page, and paragraph number. All requests for additional information or interpretation of the *IFB* shall be submitted to the Buyer no later than five (5) calendar days before the deadline for submission of bids. If, in the opinion of the City, additional information or clarification is required, an addendum will be issued to all plan holders on record. Any addenda issued by the City seventy-two (72) hours or more before the scheduled closing time for filing bids shall be binding upon the Bidder. Addenda may be downloaded from the City's website. Bidders shall frequently check the City's website until closing including at least daily the week of the closing. Failure of the Bidder to receive or obtain such addenda shall not excuse them from compliance therewith if they are awarded the contract. Oral instructions or information given by City Officers, employees or agents to Bidders concerning this *IFB* or the work in general shall not bind the City.

3. **PROSPECTIVE BIDDERS CONFERENCE:** A prospective Bidders conference will not be held. Bidders shall visit the site and review the bid documents on their own. Any doubt as to the requirements of this *Invitation For Bid* or any apparent omission or discrepancy should be presented to the City at http://bids.westlinnoregon.gov/ The City will then determine if any action is necessary and may issue a written addendum to the *IFB*.

4. **LATE BIDS:** Late Bids received after the scheduled bid due date and time will be returned to the Bidder unopened.

5. **WITHDRAWAL OF BID:** At any time prior to the specified bid due date and time, a Bidder (or designated representative) may withdraw the bid.

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6. **ADDENDUM OF BID:** Receipt of Addendum shall be acknowledged by signing and returning the document with the Bid at the specified bid due date and time.

7. **CONSTRUCTION CONTRACTORS REGISTRATION:** A person shall not submit a bid or proposal to work as a construction contractor unless that person is first registered with the Construction Contractors Board as required by ORS 701.021 or licensed by the State Landscape Contractor's Board as required by ORS 671.530. Bids from persons who fail to comply with this requirement shall be deemed non-responsive and be rejected.

8. **AWARD OF CONTRACT:**

   a. Notwithstanding any other provision of this *Invitation For Bid*, The City expressly reserves the right to: waive any immaterial defect or informality, reject any bids that do not comply with the prescribed public contracting procedures (including the requirement to demonstrate the bidder's responsibility under ORS 279C.375 (3)(b)), reject all bids for good cause if in the public interest, or reissue an *Invitation For Bid*.

   b. A response to an *Invitation For Bid* is a Bid to contract with the City based upon the terms, conditions and specifications contained in the City's *Invitation For Bid* and the written addenda thereto, if any. Bids do not become contracts unless and until they are accepted and executed by the **City Local Contract Review Board, City Manager or Department Director** in accordance with the City of West Linn Procurement Policy. A contract is formed when written notice of award(s) is provided to the successful Bidder(s). The contract has its inception in the award document, eliminating a formal signing of a separate contract. For that reason, all of the terms and conditions of the procurement contract are contained in the *Invitation For Bid*; unless modified by an Addendum.

THE FOLLOWING TERMS AND CONDITIONS ARE AN EXPLICIT PART OF THE SOLICITATION AND ANY RESULTANT CONTRACT.

1. **APPLICABLE LAW:** In the performance of this agreement, contractors shall abide by and conform to any and all laws of the United States, State of Oregon and City of West Linn including but not limited to federal and state executive orders providing for equal employment and procurement opportunities, the Federal Occupational Safety and Health Act and any other federal or state laws applicable to this agreement.

   Attention is called to the requirements of Oregon Revised Statutes (O.R.S.) Chapter 279A, 279B, and 279C. This contract shall be governed by the laws of the State of Oregon. Any action or suits pertaining to this contract may be brought only in courts in the Circuit Court of Clackamas County or the U.S. District Court in Portland. Each and every provision of law and any clause required by law to be in the contract will be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the contract will forthwith be physically amended to make such insertion or correction.

   The City may cancel this contract without penalty or further obligations by the City or any of its departments or agencies if any person significantly involved in initiating, negotiating, securing, drafting or creating the contract on behalf of the City or any of its departments or agencies, is at any time while the contract or any extension of the contract is in effect, an employee of any other party to the contract in any capacity or a consultant to any other party of the contract with respect to the subject matter of the contract.

2. **AMERICANS WITH DISABILITIES ACT, DISCRIMINATION & AFFIRMATIVE ACTION:** Bidders agree that if awarded a contract, the successful Bidder will comply with all applicable provisions of the Americans with Disabilities Act of 1990, 42 UFC Section 12101 et seq. If any Bidder requires special assistance or auxiliary aids during the bidding process, please notify the City of West Linn, 503-657-0331 or TDD 503-657-7845 at least two (2) business days prior to the required assistance. To the extent applicable, the Contractor represents that it will comply with Executive Order 11246 as amended, Executive Order 11141, Section 503 of the Vocational Rehabilitation Act of 1973 as amended and the Age Discrimination Act of 1975, and all rules and regulations issued pursuant to the Acts. It is the policy of the City of West Linn that suppliers of goods or services to the City adhere to a policy of equal employment opportunity and demonstrate an affirmative effort to recruit, hire, and promote regardless of race, color, religion, gender, national origin, age or disability. By submitting the first

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tier subcontractor disclosure form, Bidder certifies that it has complied with ORS 279A.110(1), which states that a bidder may not discriminate against a subcontractor in awarding a subcontract because the subcontractor is a minority, women or emerging business enterprise certified under ORS 200.055 or a business enterprise that is owned or controlled by, or that employs a disabled veteran.

3. **BUSINESS LICENSE:** A current business license is required before doing business with the City. Information related to complying with the business license requirements is available by contacting the City Finance Department at 503-657-0331 or online at https://westlinnoregon.gov/finance/online-business-license-registration.

4. **CONSTRUCTION AND LANDSCAPE CONTRACTORS BOARDS:** Construction contractors must be licensed with the State of Oregon Construction Contractors Board in accordance with O.R.S. 701.005 and any other specialty licensing as required in the bid specification prior to submitting a bid to the City. For information contact:

   CONSTRUCTION CONTRACTORS BOARD
   700 Summer St. NE, Suite #300, Salem, OR 97310
   (503) 378-4621 (website) http://www.ccb.state.or.us

   A Landscape Contractors Board license is required in accordance with O.R.S. 671.510 if the bid specification includes landscape work as defined by O.R.S. 671.510. For information contact:

   LANDSCAPE CONTRACTORS BOARD
   2111 Front St. NE, Suite #2-101, Salem, OR 97310
   (503) 378-5909 (website) http://www.oregon.gov/LCB/

5. **LEGAL REMEDIES:** All claims and controversies shall be subject to resolution according to the terms of the City of West Linn Procurement Policy.

6. **BID GUARANTY:** All construction contracts shall be accompanied by a bid guaranty. No bid for construction will be considered unless accompanied by a certified check, cashier's check, or a bid bond for an amount not less than ten percent (10%) of the aggregate amount of the bid by a surety company authorized to issue such bonds in the State of Oregon. It shall be payable to the City of West Linn as a guaranty that the bid shall be irrevocable for a period of sixty (60) calendar days, unless otherwise specified, after the bid opening date and time and as liquidated damages should the Bidder fail or neglect to furnish the required performance bond and insurance and execute a contract within ten (10) calendar days after receiving said contract from the City for execution. The City will hold all bid security during the evaluation process. As soon as is practical after the completion of the evaluation, the City will issue a contract award notice for those Bids accepted by the City and return all checks to those who have not been issued a contract award notice.

   All bid security from contractors who have been issued an award notice shall be held until the successful execution of all required contractual documents and bonds (performance bond, insurance, etc.). If the contractor fails to execute the required contractual documents and bonds within the time specified, or ten (10) days after notice of award if no period is specified, the contractor may be found to be in default and the contract terminated by the City. In case of default, the City reserves all rights inclusive of, but not limited to, the right to purchase material and/or to complete the required work in accordance with the City of West Linn Procurement Policy and to recover any actual excess costs from the contractor. Collection against the bid security shall be one of the measures available toward the recovery of any excess costs.

7. **CONFLICT OF INTEREST:** A Bidder submitting a bid hereby certifies that no officer, agent or employee of the City who has a pecuniary interest in this bid has participated in the contract negotiations on the part of the City, that the bid is made in good faith without fraud, collusion, or connection of any kind with any other Bidder of the same Invitation for Bids, and that the Bidder is competing solely in its own behalf without connection with, or obligation to, any undisclosed person or firm. No bid will be considered unless accompanied by the notarized Non-Collusion Affidavit form included in the Invitation for Bid.

8. **PRE-BID REQUIREMENTS:** Before submitting a bid, each Bidder shall visit the site and carefully examine the Drawings, read the Specifications and all Addenda and visit the work site, if applicable. Each Bidder shall fully inform themselves prior

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to submitting a bid as to all existing conditions and limitations under which the Work is to be performed, and shall include in the bid a sum to cover all costs of all items necessary to perform the Work as set forth in the Bid Documents. No allowance will be made to any Bidder because of lack of such examination or knowledge. Submission of a bid will be construed as conclusive evidence that the Bidder has made such examination.

9. **LOCAL BUSINESS PREFERENCE:** ORS 279A.120 requires that, in all public contracts, the public contracting agency shall prefer good or services that have been manufactured or produced in this State if price, fitness, availability and quality are otherwise equal. As such the City desires to employ local businesses in the purchase, lease, or sale of any personal property, public improvements or services that have been manufactured or produced by a local business if price, fitness, availability and quality are otherwise equal. When a public contract is awarded to a nonresident bidder and the contract price exceeds $10,000, the bidder shall promptly report to the Department of Revenue on forms provided by the department all information as required by ORS 279A.120(3).

10. **COST OF BID/PROPOSAL PREPARATION:** The City shall not reimburse the cost of developing, presenting, or providing any response to this solicitation. Bids submitted for consideration should be prepared simply and economically, providing adequate information in a straightforward and concise manner. The Invitation For Bid does not commit the City to pay any costs incurred by a Bidder in the submission of their bid, or in making any necessary studies or designs for the preparation thereof.

11. **CONTRACT:** The contract between the City and the Contractor shall consist of (1) the Invitation for Bid, including instructions, all terms and conditions, specifications, scopes of work, attachments, price sheet(s) and any amendments thereto, and (2) the Bid submitted by the Contractor in response to the Invitation for Bid (IFB). In the event of a conflict in language between the IFB and the Bid, the provisions and requirements in the IFB shall govern. However, the City reserves the right to clarify, in writing, any contractual terms with the concurrence of the Contractor, and such written contract shall govern in case of conflict with the applicable requirements stated in the IFB or the Vendor's Bid. The IFB shall govern in all other matters not affected by the written contract. The contract, if awarded, will be made to the lowest, responsive and responsible Bidder offering the lowest unit price base bid. Determination of the lowest responsive, responsible bid is subject to review by the City. Adversely affected or aggrieved bidders shall have seven calendar days after notice of award to submit to the City a written protest of the notice of award. Any written protest must be submitted in accordance with the adopted City Local Contract Review Board Rules.

12. **CONTRACT AMENDMENTS:** This contract may be modified only by a written Contract Amendment signed by persons duly authorized to enter into contracts on behalf of the City and the Contractor.

13. **CONTRACT APPLICABILITY:** The Bidder shall substantially conform to the terms, conditions, specifications and other requirements found within the text of this IFB. All previous agreements, contracts, or other documents, which have been executed between the Bidder and the City are not applicable to this IFB or any resultant contract.

14. **DRUG TESTING PROGRAM:** Pursuant to O.R.S. 279.505 (2) (1), the Contractor awarded the contract shall demonstrate that an employee drug-testing program is in place. The Contractor demonstrates that a drug-testing program is in place by signing of the contact. The drug testing program will apply to all employees and will be maintained for the duration of the Contract awarded. Failure to maintain a program shall constitute a material breach of contract.

15. **RELATIONSHIP TO PARTIES:** It is clearly understood that each party will act in its individual capacity and not as an agent, employee, partner, joint venturer, or associate of the other. An employee or agent of one party shall not be deemed or construed to be the employee or agent of the other for any purpose whatsoever. The Contractor is advised that taxes or Social Security payments will not be withheld from any City payments issued hereunder and that the Contractor should make arrangements to directly pay such expenses, if any.

16. **INTERPRETATION-PAROL EVIDENCE:** This contract represents the entire agreement of the Parties with respect to its subject matter, and all previous agreements, whether oral or written, entered into prior to this contract are hereby revoked and superseded by this contract. No representations, warranties, inducements or oral agreements have been made by any of the

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Parties except as expressly set forth herein, or in any other contemporaneous written agreement executed for the purposes of carrying out the provisions of this contact. This contract may not be changed, modified or rescinded except as provided for herein, absent a written agreement signed by both Parties. Any attempt at oral modification of this contract shall be void and of no effect.

17. **SUBCONTRACTS – ASSIGNMENT & DELEGATION:** Contractor shall submit a list of Subcontractors for approval by the City, and Contractor shall be fully responsible for the acts or omissions of any Subcontractors and of all persons employed by them, and neither the approval by City of any Subcontractor nor anything contained herein shall be deemed to create any contractual relation between the Subcontractor and City.

    This agreement, and all of the covenants and conditions hereof, shall inure to the benefit of and be binding upon the City and the Contractor respectively and their legal representatives. Contractor shall not assign any rights nor delegate any duties incurred by this contract, or any part hereof without the written consent of City, and any assignment or delegation in violation hereof shall be void.

18. **APPROVAL OF SUBSTITIONS:** The materials, products, and equipment described in the Documents and Addenda establish a standard or required function, dimension, appearance, and quality to be met by any proposed substitution. No substitute will be considered unless written request for approval has been received by the City or its representative at least five (5) days prior to the scheduled closing time for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including any drawings, cuts, performance, and test data and any other information necessary for evaluation of the substitute. If a substitute is approved, the approval shall be acknowledged in writing. Bidder shall not consider approvals made in any other manner.

19. **RIGHTS AND REMEDIES:** No provision in this document or in the vendor's Bid shall be construed, expressly or by implication, as waiver by the City of any existing or future right and/or remedy available by law in the event of any claim of default or breach of contract. The failure of the City to insist upon the strict performance of any term or condition of the contract or to exercise or delay the exercise of any right or remedy provided in the contract, or by law, or the City's acceptance of and payment for materials or services, shall not release the Contractor from any responsibilities or obligations imposed by this contract or by law, and shall not be deemed a waiver of any right of the City to insist upon the strict performance of the Contract.

20. **INDEMNIFICATION:** Contractor warrants that all its work will be performed in accordance with generally accepted professional practices and standards as well as the requirements of applicable federal, state and local laws, it being understood that acceptance of a contractor's work by City shall not operate as a waiver or release.

    Contractor agrees to indemnify and defend the City, its officers, agents and employees and hold them harmless from any and all liability, causes of action, claims, losses, damages, judgments or other costs or expenses including attorney's fees and witness costs and (at both trial and appeal level, whether or not a trial or appeal ever takes place) that may be asserted by any person or entity which in any way arise from, during or in connection with the performance of the work described in this contract, except liability arising out of the sole negligence of the City and its employees. If any aspect of this indemnity shall be found to be illegal or invalid for any reason whatsoever, such illegality or invalidity shall not affect the validity of the remainder of this indemnification. The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

21. **EARLY TERMINATION:** This agreement may be terminated without cause prior to the expiration of the agreed upon term by mutual written consent of the parties and for the following reasons:

    a. If work under the Contract is suspended by an order of a public agency for any reason considered to be in the public interest other than by a labor dispute or by reason of any third party judicial proceeding relating to the work other than a suit or action filed in regard to a labor dispute; or

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b. If the circumstances or conditions are such that it is impracticable within a reasonable time to proceed with a substantial portion of the Contract.

Payment of Contractor shall be as provided by ORS 279C.660 and shall be prorated to and include the day of termination and shall be in full satisfaction of all claims by Contractor against City under this Contract. Termination under any provision of this paragraph shall not affect any right, obligation, or liability of Contractor or City which accrued prior to such termination.

22. **CANCELLATION WITH CAUSE:** City may terminate this Contract effective upon delivery of written notice to Contractor, or at such later date as may be established by City, under any of the following conditions:

a. If City funding from federal, state, local, or other sources is not obtained and continued at levels sufficient to allow for the purchase of the indicated quantity of services. This Contract may be modified to accommodate a reduction in funds,

b. If Federal or State regulations or guidelines are modified, changed, or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this Contract,

c. If any license or certificate required by law or regulation to be held by Contractor, its subcontractors, agents, and employees to provide the services required by this Contract is for any reason denied, revoked, or not renewed,

d. If Contractor becomes insolvent, if voluntary or involuntary petition in bankruptcy is filed by or against Contractor, if a receiver or trustee is appointed for Contractor, or if there is an assignment for the benefit of creditors of Contractor, or

e. If Contractor fails to maintain reasonable relations with the public. Verbal abuse, threats, or other inappropriate behavior towards members of the public constitutes grounds for termination.

Any such termination of this agreement under this section shall be without prejudice to any obligations or liabilities of either party already accrued prior to such termination.

City, by written notice of default (including breach of contract) to Contractor, may terminate the whole or any part of this Contract:

f. If Contractor fails to provide services called for by this Contract within the time specified herein or any extension thereof, or

g. If Contractor fails to perform any of the other provisions of this Contract, or so fails to pursue the work as to endanger performance of this Contract in accordance with its terms, and after receipt of written notice from City, fails to correct such failures within ten (10) days or such other period as City may authorize.

The rights and remedies of City provided in the above clause related to defaults (including breach of contract) by Contractor shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

If City terminates this Contract per clause f or g above, Contractor shall be entitled to receive as full payment for all services satisfactorily rendered and expenses incurred, an amount which bears the same ratio to the total fees specified in this Contract as the services satisfactorily rendered by Contractor bear to the total services otherwise required to be performed for such total fee; provided, that there shall be deducted from such amount the amount of damages, if any, sustained by City due to breach of contract by Contractor. Damages for breach of contract shall be those allowed by Oregon law, reasonable and necessary attorney fees, and other costs of litigation at trial and upon appeal.

23. **SEVERABILITY:** In the event any provision or portion of this Contract is held to be unenforceable or invalid by any court of competent jurisdiction, the remainder of this Contract shall remain in full force and effect and shall in no way be affected or invalidated thereby.

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24. **FORCE MAJEURE:** Neither City nor Contractor shall be considered in default because of any delays in completion of responsibilities hereunder due to causes beyond the control and without fault or negligence on the part of the party so disenabled, including, but not restricted to, an act of God or of a public enemy, volcano, earthquake, fire, flood, epidemic, quarantine, restriction, area-wide strike, freight embargo, unusually severe weather or delay of Subcontractor or suppliers due to such cause; provided that the party so disenabled shall within ten (10) days from the beginning of such delay, notify the other party in writing of the causes of delay and its probable extent. Such notification shall not be the basis for a claim for additional compensation. Each party shall, however, make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon cessation of the cause, diligently pursue performance of its obligation under Contract.

25. **RIGHT TO ASSURANCE:** Whenever one party to this contract in good faith has reason to question the other party's intent to perform he may demand that the other party give a written assurance of this intent to perform. In the event that a demand is made and no written assurance is given within five (5) days, the demanding party may treat this failure as an anticipatory repudiation of the Contract.

26. **RIGHT TO ACCESS RECORDS:** City shall have access to such books, documents, papers and records of Contractor and Subcontractors as are directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcripts.

27. **WARRANTIES:** All work shall be guaranteed by the Contractor for a period of 18 months after the date of final acceptance of the work by the Owner. Contractor warrants that all practices and procedures, workmanship, and materials shall be the best available unless otherwise specified in the profession. Neither acceptance of the work nor payment therefore shall relieve Contractor from liability under warranties contained in or implied by this contract. Additional warranty requirements may be set forth in the solicitation.

28. **TITLE AND RISK OF LOSS:** The title and risk of loss of material and/or service shall not pass to the City until the City actually receives the material or service at the point of delivery, unless otherwise provided within this Contract.

29. **CONFLICT BETWEEN TERMS:** It is expressly agreed by and between the parties hereto that should there be any conflict between the terms of this instrument and the bid of the Contractor, this instrument shall control and nothing herein shall be considered as an acceptance of the said terms of said bid conflicting herewith.

30. **NONWAIVER:** The failure of the City to insist upon or enforce strict performance by Contractor of any of the terms of this contract or to exercise any rights hereunder shall not be construed as a waiver or relinquishment to any extent of its right to assert or rely upon such terms or rights on any future occasion.

31. **LIENS:** All materials, service or construction shall be free of all liens, and if the City requests, a formal release of all liens shall be delivered to the City.

32. **LICENSES:** Contractor shall have at the time of bid submittal, and shall maintain in current status, all Federal, State and Local licenses and permits required for the operation of the business conducted by the Contractor as applicable to this Contract. The conclusion of the issuing authority in each case is to be deemed conclusive for the purposes of complying with this provision. By submitting a bid for this public contract, you agree that, with respect to the contract, substantial compliance does not meet the minimum requirements of this or any provision hereof, or of any applicable law or other authority, and that strict compliance alone is adequate to meet those requirements, unless the City consents to such substantial compliance in writing at the time of bid submittal. The determination shall be made by the City.

33. **ATTORNEY'S FEES:** In case suit or action is instituted to enforce the provisions of this contract, the parties agree that the losing party shall pay such sum as the Court may adjudge reasonable attorney's fees and court costs including attorney's fees and court costs on appeal.

34. **PUBLIC RECORD:** All Bids submitted in response to this solicitation shall become the property of the City and shall become a matter of public record available for review, subsequent to the award notification, in accordance with the City's Procurement Policy.

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35. **WORK IS PROPERTY OF THE CITY:** All work performed by Contractor under this Contract shall be the property of the City.

36. **ADVERTISING:** Contractor shall not advertise or publish information concerning this Contract, without prior written consent of the City.

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1. **DEFINITIONS**: The terms, as used in or pertaining to the contract, are defined as follows:

   CITY: The word *"City"* shall refer to the City of West Linn, Oregon.

   CONTRACTOR: The word *"Contractor"* is defined as the person, firm or corporation with whom the contract is made by the City.

   CONTRACT: The word *"Contract"* will include; the Invitation to Bid Notice and Contract, Instructions to Bidders, Bid Form, Bid Guaranty, Performance Bond, Payment Bond, Notice of Award, Notice to Proceed, Change Order, Certificate of Insurance, Certificate of Completion, Contractor's Affidavit Regarding Settlement of Claims, Contractor's Affidavit Certifying Non-Collusion in Bidding, Standard Terms & Conditions, General Terms & Conditions, Special Terms & Conditions, Technical Provisions, Plans and Addenda thereto.

   ENGINEER: The word *"Engineer"* is defined as the person, firm or corporation duly authorized by the City to act as agent in providing professional services including studies, planning, engineering design and construction administration services, inspecting materials and construction, and interpreting plans and specifications.

   MATERIALS: The word *"Materials"* will include, in addition to materials incorporated in the project, equipment and other material used and/or consumed in the performance of the work.

   SUBCONTRACTOR: The word *"Subcontractor"* is defined as those persons or groups of persons having a direct contract with the contractor and those who furnish material worked to a special design according to the plans and/or specifications for this work, and includes those who merely furnish materials not so worked.

   WORK: The word *"Work"* shall include all labor necessary to accomplish the construction required by the Contract and all materials and equipment incorporated or to be incorporated in said construction.

2. **REFERENCE STANDARDS**:
   a. The "2010 City of West Linn Public Works Standards" which are sponsored and distributed by the City of West Linn Engineering Division, and which are hereinafter referred to as the *"COWL Specifications,"* are hereby adopted as part of these contract documents.
   b. The "2015 Oregon Standard Specifications for Construction" and the latest edition of the "Oregon Standard Drawings and Standard Details" which are sponsored and distributed by the Oregon Department of Transportation (ODOT), and which are hereinafter referred to as the "ODOT Specifications" are hereby adopted as part of these contract documents.
   c. If any contradiction exists between "COWL Specifications" or "ODOT Specifications" and this solicitation document, the solicitation language shall prevail.

3. **LAWS AND REGULATIONS**: The Contractor shall keep himself fully informed of all existing and future City and County ordinances and regulations and state and federal laws and Occupational Safety and Health Standards (OSHA) in any manner affecting the work herein specified. He shall at all times observe and protect and indemnify the City of West Linn, Oregon, and its officers and agents against any claim or liability arising from or based on the violation of any such ordinances, regulations or laws. It is the responsibility of the Contractor to obtain any and all information regarding the laws and regulations which may be referenced in the Specifications.

4. **RIGHTS OF WAY:** The Contractor shall not enter or occupy with workers, tools, equipment or materials any private ground outside the property or easement right of the City of West Linn, without the consent of the owner.

   The Contractor, at his own expense, is responsible for the acquisition of any additional easements or rights-of-way that he may desire to complete the work of this contract.

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5. **PROPOSAL QUANTITIES**: It is expressly understood and agreed by the parties hereto that the quantities of the various classes of work to be done and the material to be furnished under this Contract, have not been estimated. The Contractor further agrees that they have visited and familiarized themselves with the site and the construction documents and the City of West Linn will not be held responsible if any of the quantities shall be found incorrect; and the Contractor will not make any claim for damages or for loss of profits because of a difference between the quantities of the various classes of work as estimated and the work actually done. If any error, omission, or misstatement is found to occur in the estimated quantities, the same shall not invalidate this Contract or the whole or any part of the work in accordance with the Specifications and Plans herein mentioned, and for the prices herein agreed upon and fixed therefore, or excuse him from any of the obligations or liabilities hereunder, or entitle him to any damage or compensation except as may be provided in this contract.

6. **PREVAILING WAGE RATE DETERMINATION**: The Contractor shall pay the applicable prevailing wage rates that are in effect at the time the Contract is bid. If the contract price exceeds $50,000 and is not otherwise exempt, workers shall be paid not less than the specified minimum hourly rate of wage in accordance with ORS 279C.838 and ORS 279C.840. Hard copies of the prevailing wage rates publication may be obtained by contacting the Oregon Bureau of Labor and Industries via telephone at: (971) 673-0839. The applicable prevailing wage rates may be accessed via the internet at: http://www.oregon.gov/BOLI/WHD/PWR/pwr_book.shtml. If the Project is subject to the Davis-Bacon Act and the state prevailing rate of wage is higher than the federal prevailing rate of wage, the contractor and every subcontractor on the Project shall pay at least the state prevailing rate of wage as determined under ORS 279C.815.

   The Contractor and all subcontractors must have a public works bond filed with the Oregon Construction Contractors Board before starting work on the Project, unless exempt under ORS 279C.836(4), (7), (8) or (9). If the contractor fails to pay for labor or services, the City can pay and withhold these amounts from payments due the contractor in accordance with ORS 279C.515. Daily, weekly, weekend, and holiday overtime will be paid as required in ORS 279C.540. The Contractor shall provide workers with a written schedule showing the number of hours per day and days per week the employee may be required to work in accordance with ORS 279C.520. Contractor must promptly pay for any medical services they have agreed to pay per ORS 279C.530.

   The City will not receive or consider a bid unless the bid contains a statement by the bidder that the bidder will comply with ORS 279C.838, ORS 279C.840, or 40 U.S.C. 3141. By signing and submitting the Bid, the Contractor agrees to comply with ORS 279C.838 or 279C.840 and/or 40 U.S.C. 3141 et seq. for a public works project subject to the state prevailing wage rates under ORS 279C.800 to 279C.870, the federal prevailing wage rates under the Davis-Bacon Act (40 U.S.C. 3141 et seq.) or both.

   For contracts $50,000 or greater, the City shall pay a fee to the Bureau of Labor and Industries and shall be mailed or otherwise delivered to the Bureau in accordance with Form WH-81 & WH-39.

7. **PAYMENTS TO CONTRACTOR**: City agrees to pay Contractor for performance of those services provided hereunder, which payment shall be based upon the following applicable terms:

   a. Payment: Payment shall be based upon the unit prices bid by the Contractor, as listed in attached bid. Contractor shall prepare and submit each month to the Buyer identified in the Invitation for Bid at the address listed, a statement of services rendered, (indicating the description of each service used in the bid and the dollar amount of each service completed through the stated date), together with a request for payment duly verified by the Contractor's Representative.

      Payment by the City shall release the City from any further obligation for payment to Contractor for services performed or expenses incurred as of the date of the statement of services. Payment of installments shall not be considered acceptance or approval of any work or waiver of any defects therein. City certifies that sufficient funds are available and authorized for expenditure to finance costs of this contract. Contractor shall include proof of payment to any and all subcontractors and suppliers with each statement submitted to the City. The City shall retain the right to withhold payments if required proof of payment to subcontractor and suppliers is not included with a statement.

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b. Timing of Payments: Progress payments, less a five percent retainage as authorized by ORS 279C.555, shall be made to the Contractor within twenty (20) days of the City's receipt of the statement of services.

c. Final Payment: The Contractor shall notify the City in writing when the Contractor considers the project complete, and the City shall, within 15 days after receiving the written notice, either accept the work or notify the Contractor of work yet to be performed on the contract. If accepted by the City, the remaining balance due to the Contractor, including the retained percentage, shall be paid to the Contractor by the City within 30 days after the date of said acceptance.

The City shall pay to the Contractor interest at the rate of one and one-half percent per month on the final payment due the Contractor, to commence 30 days after the work under the Contract has been completed and accepted and to run until the date when final payment is tendered to the Contractor. If the City does not, within 15 days after receiving written notice of completion, notify the Contractor of work yet to be performed to fulfill contractual obligations, the interest provided by this subsection shall commence to run 30 days after the end of the 15-day period.

As a further condition of final acceptance, the City may require the Contractor to submit evidence, satisfactory to the City's Representative, that all payrolls, material bills, and other indebtedness connected with the project have been paid. If any indebtedness or liens are in dispute, the Contractor may submit a surety bond satisfactory to the City guaranteeing payment of all such disputed amounts if such payment has not already been guaranteed by surety bond.

All notices, bills and payments shall be made in writing and may be given by personal delivery or by mail. Notices, bills and payments sent by mail should be addressed to the attention of the Buyer and/or Authorized Bidder at the addresses identified in the Invitation for Bid and shall be deemed given upon deposit in the United States mail, postage paid. In all other instances, notices, bills and payments shall be deemed given at the time of actual delivery. Changes may be made in the names and addresses of the person to whom notices, bills, and payments are to be given by giving written notice pursuant to this paragraph.

8. **LIQUIDATED DAMAGES:** The Contractor agrees that the "Time of Completion" is defined in the Bid and agrees to complete the work by said date. The Contractor and City agree that the City will suffer damages each day the work remains uncompleted after the Time of Completion and that the amounts of those damages are difficult to calculate. Contractor and City agree that a reasonable amount of damages for late completion is **$300.00 per calendar day** and Contractor agrees to pay such amounts as liquidated damages if the work is not completed by the Time of Completion. Contractor agrees that the liquidated damages specified herein are a fair way of ascertaining damages to the City and are not a penalty for late completion.

9. **STATUS OF CONTRACTOR AS INDEPENDENT CONTRACTOR:** Contractor certifies that:

a. Contractor acknowledges that for all purposes related to this Agreement, Contractor is and shall be deemed to be an Independent Contractor as defined by ORS 670.600 and not an employee of City, shall not be entitled to benefits of any kind to which an employee of City is entitled and shall be solely responsible for all payments and taxes required by law. Furthermore, in the event that Contractor is found by a court of law or any administrative agency to be an employee of City for any purpose, City shall be entitled to offset compensation due, or to demand repayment of any amounts paid to Contractor under the terms of this Agreement, to the full extent of any benefits or other remuneration Contractor receives (from City or third party) as a result of said finding and to the full extent of any payments that City is required to make (to Contractor or to a third party) as a result of said finding.

b. The Contractor hereby represents that no employee of the City, or any partnership or corporation in which a City employee has an interest, has or will receive any remuneration of any description from Contractor, either directly or indirectly, in connection with the letting or performance of this Agreement, except as specifically declared in writing.

c. If payment is to be charged against Federal funds, Contractor certifies that he or she is not currently employed by the Federal Government and the amount charged does not exceed his or her normal charge for the type of service provided.

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d. Contractor and its employees, if any, are not active members of the Oregon Public Employees Retirement System and are not employed for a total of 600 hours or more in the calendar year by any public employer participating in the Retirement System.

e. Contractor certifies that it currently has a City business license or will obtain one prior to delivering services under this Agreement.

f. Contractor is not an officer, employee, or agent of the City as those terms are used in ORS 30.265.

10. **CERTIFIED PAYROLL:** The Contractor shall make payment promptly, as due, to all persons supplying to such Contractor labor or material for the performance of the work provided for in this contract. The Contractor will pay all contributions or amounts due the Industrial Accident Fund under the Worker's Compensation Law from such Contractor or Subcontractor incurred in the performance of this contract. The Contractor will pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167. The Contractor shall not permit any lien or claim to be filed or prosecuted against the City of West Linn on account of any labor or material furnished.

The Contractor or the Contractor's Surety and every Subcontractor or the Subcontractor's Surety shall file certified statements with the City in writing on a form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker which the Contractor or the Subcontractor has employed upon such public work, and further certifying that no worker employed upon such public work has been paid less than the prevailing rate of wage or less that the minimum hourly rate of wage specified in the contract, which certificate and statement shall be verified by the oath of the Contractor or the Contractor's Surety or Subcontractor or the Subcontractor's Surety that the Contractor or Subcontractor has read such statement and certificate and knows the contents thereof and that the same is true to the Contractor's or Subcontractor's knowledge.

a. The certified statements shall set out accurately and completely the payroll records, including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, and the gross wages the worker earned during each week identified in the certified statement.

b. Each certified statement required herein shall be delivered or mailed by the Contractor or Subcontractor to the City. A true copy of the certified statements shall also be filed at the same time with the Commissioner of the Bureau of Labor and Industries. Certified statements shall be submitted as set forth in ORS 279C.845.

c. The City shall retain 25 percent of any amount earned by Contractor until the certified statements as required by this section have been filed. City shall pay Contractor the amount retained under this subsection within 14 days after Contractor files the certified statements as required by this section, regardless of whether a subcontractor has failed to file certified statements as required by this section. City is not required to verify the truth of the contents of certified statements filed by Contractor.

The Contractor agrees that if the Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a Subcontractor by any person in connection with this contract as such claim becomes due, the proper office of the City of West Linn may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due to the Contractor by reason of such contract. Payment of a claim in this manner shall not relieve the Contractor or the Contractor's Surety from obligation with respect to any unpaid claims.

Contractor agrees that no person shall be employed for more than ten (10) hours in any one day, or forty (40) hours in any one week, except in cases of necessity, emergency or when public policy absolutely requires it, and in such cases the laborer shall be paid at least time and a half pay for all overtime in excess of eight (8) hours in any one day or forty (40) hours in any one week when the workweek is five consecutive days, Monday through Friday, or ten (10) hours in any one day and or forty (40)

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hours in any one week when the workweek is four consecutive days, Monday through Friday and for all work performed on Saturday and on any legal holiday as specified in ORS 279C.540.

Contractor agrees to pay promptly as due, to any person, co partnership, association or corporation furnishing medical, surgical, and hospital care or other needed care and attention incident to sickness or injury to the Contractor's employees, of all sums which the Contractor agreed to pay for such services and all money and sums which the Contractor collected or deducted from employee wages pursuant to any law, contract or agreement for the purpose of providing or paying for such service.

11. **PRE-CONSTRUCTION CONFERENCE:** Within 30 days of the issuance of the Notice of Award, the Contractor is required to attend a Pre-construction Conference. The City will contact the Contractor to schedule a specific date, time and location for the Pre-construction conference. The purpose of the meeting is to outline specific construction items and procedures and to address items which require special attention on the part of the Contractor. The Contractor may also present proposed variations in procedures which the Contractor believes may improve constructability of the project, reduce cost, or will reduce inconvenience to the public. Any necessary coordination and procedures for Construction inspection and staking will be addressed during the Pre-construction Conference. The Contractor will be required to provide the following information at the Pre-construction Conference:

    a. Names and emergency telephone numbers of key personnel involved in the project.

    b. Names and telephone numbers of all subcontractors proposed for use on the project.

    c. A construction progress schedule showing the estimated time for start and completion of the major items of work.

    d. A written proposal outlining the intended plans for maintaining continuous access to residences and businesses along the construction site, and traffic control.

    e. An itemized list of all required shop drawings, material and equipment submittals and a schedule indicating the dates each of these items will be transmitted to the City for review.

    Each of the above items is subject to the review and approval by the City.

12. **INSURANCE REQUIREMENTS:** The Contractor, at Contractor's own expense, shall purchase and maintain the herein stipulated minimum insurance with companies licensed to do business in the State of Oregon with policies and forms satisfactory to the City. The City reserves the right to reject all or any insurance carrier(s) with an unacceptable financial rating. All insurance required herein shall be maintained in full force and effect until all work required to be performed under the terms of the Contract is satisfactorily completed and formally accepted; failure to do so may, at the sole direction of the City, constitute a material breach of this Contract. The Contractor's insurance shall be primary insurance, and any insurance or self insurance maintained by the City shall not contribute to it.

    Any failure to comply with the claim reporting provisions of the policies or any breach of an insurance policy warranty shall not affect coverage afforded under the policy to protect the City. The insurance policies shall contain a waiver of transfer rights of recovery (subrogation) against the City, its agents, representatives, directors, officers, and employees for any claims arising out of the Contractor's work or service.

    The City reserves the right to request and to receive, within 10 working days, certified copies of any or all of the herein required insurance policies and/or endorsements. The City shall not be obligated, however, to review same or to advise Contractor of any deficiencies in such policies and endorsements, and such receipt shall not relieve Contractor from, or be deemed a waiver of the City's right to insist on, strict fulfillment of Contractor's obligations under this Contract.

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The insurance policies required by this Contract shall name the City, its agents, representatives, officers, directors, officials and employees as Additional Insured with respect to this contract. All Liability Insurance policies will be endorsed to show this additional coverage. A cross-liability clause or separation of insured clause will be included in general liability policy.

The policy or policies of insurance maintained by the Contractor and its subcontractors shall provide at least the following limits and coverage:

a. Commercial General Liability Insurance: Includes all liability including all major divisions of coverage, but not limited to, Premises/Operations, Completed Operations, Independent Contractors' Protective, Products-Completed Operations, Contractual Liability (including coverage for the Contractor's indemnity obligations and other contractual indemnity obligations assumed by the Contractor), Personal Injury, and Broad Form Property Damage (including coverage for Explosion, Collapse, and Underground Hazards). The following insurance will be carried:

   Employer's Liability Insurance
   $ 2,000,000.00 Each Occurrence
   $ 2,000,000.00 Disease Each Employee
   $ 2,000,000.00 Disease – Policy

   Commercial General Liability insurance
   $ 2,000,000.00 Each Occurrence Limit
   $ 3,000,000.00 General Aggregate
   $ 3,000,000.00 Products/Completed Operations Aggregate
   $ 3,000,000.00 Personal and Advertising Injury
   $ 2,000,000.00 Limited Job Site Pollution Occurrence Sub-Limit

   Comprehensive Automobile Liability Insurance including coverage for all owned, hired and non-owned vehicles
   $ 2,000,000.00 Each Occurrence Combined Single Limit
   $ 3,000,000.00 Aggregate Bodily Injury & Property Damage
   or
   $ 2,000,000.00 Each Person Bodily Injury
   $ 2,000,000.00 Each Occurrence Bodily Injury
   $ 2,000,000.00 Each Occurrence Property Damage
   $ 2,000,000.00 Each Occurrence Pollution Occurrence Sub-Limit

b. "All risk" Builder's Risk Insurance (including earthquake and flood) covering the real and personal property of others in the care, custody, and control of the contractor, if applicable. Coverage shall include theft and damage to building interiors, exterior, in transit and offsite storage. The minimum amount of coverage to be carried shall be equal to the full amount of the contract.

The policy shall be endorsed to have the General Aggregate apply to this Project Only.

The insurance policies may provide coverage which contains deductibles or self-insured retentions. Such deductible and/or self insured retentions shall not be applicable with respect to the coverage provided to the City under such policies. The Contractor shall be solely responsible for deductible and/or self insured retention and the City, at its option, may require the Contractor to secure the payment of such deductible or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit.

Certificates of Insurance: Prior to commencing Services under this Contract, Contractor shall furnish the City with Certificates of Insurance, or formal endorsements as required by the Contract, issued by Contractor's insurer(s), as evidence that policies providing the required coverage, conditions and limits required by this Contract are in full force and effect. Certificates of

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Insurance should read "Insurance certificate pertaining to (this contract). The City of West Linn, its officers, directors and employees shall be added as additional insured with respects to this contract. Insured coverage is primary" in the description portion of the certificate.

If a policy does expire during the life of the contract, a renewal certificate must be sent to the City ten (10) days prior to the expiration date. Insurance required herein shall not expire, be canceled, or materially changed without thirty (30) days prior written notice to the City. The procuring of such required insurance shall not be construed to limit contractor's liability hereunder. Notwithstanding said insurance, Contractor shall be obligated for the total amount of any damage, injury, or loss caused by negligence or neglect connected with this Contract.

13. **PERFORMANCE BOND:** The contractor shall be required to furnish non-revocable security binding the contractor to provide faithful performance of the contract in the amount of 100% of the total contract price payable to the City of West Linn.

    Performance security shall be in the form of a performance bond, certified check or cashier's check. This security must be in the possession of the City within the time specified or ten (10) days after notice of award if no period is specified. If the contractor fails to execute the security document as required, the contractor may be found in default and the contract terminated by the City. In case of default the City reserves all rights.

    All performance bonds shall be executed on the Performance Bond form included in the Bid Document, duly executed by the Bidder as Principal and having as Surety thereon a Surety company approved by the owner and holding a Certificate of Authority to transact surety business in the State of Oregon, by the Oregon Department of Insurance. Individual sureties are unacceptable. All Insurers and Sureties shall have at the time of submission of the proposal an A.M. Best's Key Rating Guide of "A-" or better as currently listed in the most recent Best Key Guide, published by the A.M. Best Company, payable without condition to the Owner.

14. **PAYMENT BOND:** The contractor shall be required to furnish non-revocable security for the protection of all persons supplying labor and material to the contractor or any subcontractor for the performance of any work related to the contract. Payment security shall be in the amount of 100% of the total contract price and be payable to the City of West Linn. Payment security shall be in the form of a payment bond, certified check or cashier's check.

    All payment bonds shall be executed on the Payment Bond form included in the Bid Document, duly executed by the Bidder as Principal and having as Surety thereon a Surety company approved by the owner and holding a Certificate of Authority to transact surety business in the State of Oregon, by the Oregon Department of Insurance. Individual sureties are unacceptable. All Insurers and Sureties shall have at the time of submission of the proposal and A.M. Best's Key Rating Guide of "A-" or better as currently listed in the most recent Best Key Guide, published by the A.M. Best Company, payable without condition to the Owner.

15. **NOTICE TO PROCEED**: Within 45 days of the issuance of the Notice of Award the City may issue a written Notice to Proceed. The Notice to Proceed shall stipulate the actual contract start date, the contract duration and the contract completion date. The time required for the Contractor to obtain permits, licenses and easements shall be included in the contract duration and shall not be justification for a delay claim by the Contractor. The time required for the Contractor to prepare, transmit and obtain approval of applicable submittals shall be included in the contract duration and shall not be justification for a delay claim by the Contractor.

    No work shall be started until after all required permits, licenses, and easements have been obtained.

    No work shall be started until all applicable submittals have been submitted and returned approved by the City's Representative.

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16. **PROTECTION OF FINISHED OR PARTIALLY FINISHED WORK**: The Contractor shall properly guard and protect all finished or partially finished work, and shall be responsible for the same until the entire contract is completed and accepted by the City Engineer. The Contractor shall turn over the entire work in full accordance with these Specifications before final settlement shall be made.

17. **CHANGE ORDERS**: The City may at any time, and without notice, issue a written Change Order requiring additional work within the general scope of this Contract, or any amendment thereto, or directing the omission of or variation in work. If such Change Order results in a material change in the amount or character of the work, an equitable adjustment in the Contract price and other provisions of this Contract as may be affected may be made. Any claim by Contractor for an adjustment under this section shall be asserted in writing within thirty (30) days from the date of receipt by Contractor of the notification of change or the claim will not be allowed. Whether made pursuant to this section or by mutual agreement, no change shall be binding upon City until a Change Order is executed by the Authorized Representative of City, which expressly states that it constitutes a Change Order to this Contract. The issuance of information, advice, approvals, or instructions by City's Representative or other City personnel shall not constitute an authorized change pursuant to this section. Nothing contained in this section shall excuse the Contractor from proceeding with the prosecution of the work in accordance with the Contract, as changed.

18. **STOCKPILE OF MATERIALS**: The Contractor may, if approved by the City Engineer, place or stockpile materials in the public right-of-way provided they **do not** prevent access to adjacent properties or prevent compliance with traffic regulations. Traffic shall not be required to travel over stockpiled materials, and proper dust control shall be maintained.

19. **EXCESS MATERIALS**: When excavations are made, resultant loose earth shall be utilized for filling by compacting in place or disposed of off the site. Excess or unsuitable material, broken asphaltic concrete and broken portland cement concrete excavated from the right-of-way shall be removed from the project and disposed of by the Contractor.

    Waste material shall not be placed on private property without express permission of the property owner.

    The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the work, he shall remove all equipment, tools and surplus materials, and shall completely clean the premises, removing and disposing of all debris and rubbish, and cleaning all stains, spots, marks, dirt, smears, etc. When work premises are turned over to the City, they shall be thoroughly clean and ready for immediate use.

    Clean-up shall include removal of all excess pointing mortar materials within pipes and removal of oversized rocks and boulders left after finish grading. The Contractor shall provide for the legal disposal of all waste products debris, etc., and shall make necessary arrangements for such disposal.

20. **ENVIRONMENTAL POLLUTION**: As provided by ORS 279C.525, all applicable provisions of federal, state or local statutes, ordinances and regulations dealing with the prevention of environmental pollution and the preservation of natural resources that affect the work under this contract are by reference incorporated herein to the same force and affect as if set forth herein in full. If the Contractor must undertake additional work due to the enactment of new or the amendment of existing statutes, ordinances or regulations occurring after the submission of the successful bid, the City shall issue a Change Order setting forth the additional work that must be undertaken. The Change Order shall not invalidate the Contract and there shall be, in addition to a reasonable extension, if necessary, of the contract time, a reasonable adjustment in the contract price, if necessary, to compensate the Contractor for all costs and expenses incurred, including overhead and profits, as a result of the delay or additional work.

21. **SALVAGE, COMPOSTING OR MULCHING**: If this is a contract for demolition work, the Contractor shall salvage or recycle construction and demolition debris, if feasible and cost-effective. If this is a contract for lawn and landscape maintenance, Contractor shall compost or mulch yard waste material at an approved site, if feasible and cost-effective.

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22. **LOSSES AND DAMAGES**: All loss or damage arising out of the nature of the work to be done or from the action of the elements or from any unforeseen circumstances in the prosecution of the same, or from any unusual obstructions or difficulties which may be encountered in and/or during the prosecution of the work, or from any casualty whatsoever of every description, shall be sustained and borne by the Contractor at his own cost and expense.

23. **CHARACTER AND STATUS OF WORKMEN**: Only skilled foremen and workmen shall be employed on work requiring special qualifications. When required by the City, the Contractor shall discharge any person who is, in the opinion of the City Engineer, disorderly, dangerous, insubordinate, incompetent, or otherwise objectionable. The Contractor shall keep the City harmless from damages or claims for compensation that may occur in the enforcement of this section.

24. **WORK METHODS:** The methods, equipment and appliances used on the work shall be such as will produce a satisfactory quality of work, and shall be adequate to complete the contract within the time limit specified.

    Except as is otherwise specified, the Contractor's procedure and methods of construction may, in general, be of his own choosing, provided they follow best general practice and are calculated to secure results which will satisfy the requirements of the specifications and the supervision of the work.

    The work covered by this Contract shall be carefully laid out in advance and performed in a manner to minimize interference with normal operation and utilization of the roads. The Contractor shall exercise caution during the course of this construction work to avoid damage to all known existing or possible unknown existing underground utilities. He shall conduct his construction operations in such a manner as to avoid injury to his personnel and to avoid damage to all utilities. Any damage done will be repaired without delay and at the expense of the Contractor.

25. **INSPECTION:** All material and/or services are subject to inspection and acceptance by the City. Materials and/or services failing to conform to the specifications of this Contract will be held at Contractor's risk and may be returned to the Contractor. If so returned, all costs are the responsibility of the Contractor. The City may elect to do any or all of the following per written determination:

    a. Waive the non-conformance.

    b. Stop the work immediately.

    c. Bring material into compliance.

26. **TRAFFIC REGULATIONS**: All traffic affected by this construction shall be regulated in accordance with the *Oregon Temporary Traffic Control Handbook*, latest edition, as prepared by the Oregon Department of Transportation and any questions shall be referred to the City of West Linn City Engineer for interpretation.

    At the time of the pre-construction conference, the Contractor shall designate an employee who is well qualified and experienced in construction traffic control and safety to be responsible for implementing, monitoring and altering traffic control measure, as necessary. At the same time the City will designate a representative who will be responsible to see that all traffic control and any alterations are implemented and monitored to the extent that traffic is carried through the work area in an effective manner and that motorists, pedestrians, bicyclists and workers are protected from hazard and accidents.

    a. All traffic control devices required for this project shall be the responsibility of the Contractor. The Contractor shall place advance warnings signs in accordance with the Traffic Control Handbook.

    b. The Contractor shall provide, erect and maintain all necessary flashing arrow boards, barricades, suitable and sufficient warning lights, signals and signs, and shall take all necessary precautions for the protection of the work and safety of the

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public. The Contractor shall provide, erect and maintain acceptable and adequate detour signs at all closures and along detour routes.

c. All barricades and obstructions shall be illuminated at night, and all safety lights shall be kept burning from sunset until sunrise. All barricades and signs used by the Contractor shall conform to the standard design, generally accepted for such purposes, and payment for all such services and materials shall be considered as included in the other pay items of the Contract unless specifically listed and identified.

d. The Contractor shall insure that all existing traffic signs are erect, clean and in full view of the intended traffic at all times. Street name signs at major street intersections shall be maintained erect at all times. If these signs should interfere with construction, the Contractor shall notify the Inspector at least forty eight (48) hours in advance for City personnel to temporarily relocate said signs. The City will re-set all traffic and street name signs to permanent locations when notified by the Contractor that construction is complete unless otherwise stated in the specifications.

e. When construction activities or traffic hazards at the construction site require the use of flagmen, it shall be the Contractor's responsibility to provide adequate personnel including flagmen to direct traffic safely.

f. Equipment used and/or directed by the Contractor shall travel with traffic at all times. Supply trucks shall travel with traffic except when being spotted. Provide a flagman to assist with this operation.

g. During construction, it may be necessary to alter traffic control. Alterations shall be in accordance with the Traffic Control Handbook.

h. **NO STREET WITHIN THIS PROJECT MAY BE CLOSED TO THROUGH TRAFFIC OR TO LOCAL EMERGENCY TRAFFIC WITHOUT THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER PER DIRECTION OF THE CITY MANAGER OF THE CITY OF WEST LINN.** Written approval may be given if sufficient time exists to allow for notification of the public at least two (2) days in advance of such closing. Partial closure of streets within the project shall be done in strict conformity with written directions to be obtained from the City Engineer.

i. The Contractor shall address how local access to adjacent properties will be handled in accordance with the specification herein.

j. Where crossings of existing pavements occur, no open trenches shall be permitted overnight, but plating may be permitted if conditions allow as determined by the City Engineer or his authorized representative. If plates cannot be used, crossings shall be appropriately back-filled to provide a safe smooth travelling surface.

27. **OUTDOOR CONSTRUCTION RESTRICTIONS:** Outdoor construction is restricted to the times listed below in the following table:

	Weekdays (Mon.-Fri.)	**Weekends (Sat.-Sun.), Holidays**
All Outdoor Construction Work	7:00 a.m. to 7:00 p.m.	9:00 a.m. to 5:00 p.m.

Holidays include: New Year's Day, Martin Luther King Jr. Birthday, Washington's Birthday/President's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, and Christmas Day.

28. **FIRST TIER SUBCONTRACTOR DISCLOSURE:** If a Bid for the Project is greater than $100,000, within two working hours of the date and time the Bids are due, the Bidder must submit a written disclosure for all First Tier Subcontractors furnishing labor or labor and materials whose subcontracts are equal to or greater in value than 5% of the total Project Bid or $15,000, whichever is greater, or $350,000 regardless of the percentage of the total project bid in accordance with ORS

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279C.370. The Bidder must disclose the following information about their first-tier subcontracts either in its Bid submission or within two (2) working hours after the date and time of the deadline when bids are due:

a. The subcontractor's name, address, Construction Contractor's Board Number (as applicable), and

b. The dollar value of the subcontract, and

c. The category of work that the subcontractor will be performing.

If the bidder will not be using any subcontractors that are subject to the above disclosure requirements, the bidder is required to indicate "NONE" on the accompanying form. Failure to submit this form by the disclosure deadline will result in a non-responsive bid. A non-responsive bid will not be considered for award. It is the Bidder's responsibility to determine all the documents are must be submitted to the City.

29. **USE OF EQUALS:** When the specifications for materials, articles, products, and equipment state "or equal", Contractor may bid upon, and use materials, articles, products, and equipment which will perform equally the duties imposed by the general design. The Engineer will have the final approval of all materials, articles, products, and equipment proposed to be used as an "equal." It shall not be purchased or installed without prior written approval from the City or its representative.

30. **HAZARDOUS MATERIALS**: The Contractor shall supply the City with a list of any and all hazardous substances used in performance of this Contract. That list shall identify the location of storage and use of all such hazardous substances and identify the amounts stored and used at each location. Contractor shall provide City with material safety data sheets for all hazardous substances brought onto City property, created on City property or delivered to City pursuant to this Contract. For the purpose of this section, "hazardous substance" means hazardous substance as defined by ORS 453.307(5). Contractor shall complete the State Fire Marshall's hazardous substance survey as required by ORS 453.317 and shall assist City to complete any such survey that it may be required to complete because of substances used in the performance of this Contract.

31. **HAZARDOUS WASTE**: If, as a result of performance of this Contract, Contractor generates any hazardous wastes, Contractor shall be responsible for disposal of any such hazardous wastes in compliance with all applicable federal and state requirements. Contractors shall provide City with documentation, including all required manifests, demonstrating proper transportation and disposal of any such hazardous wastes. Contractor shall defend, indemnify, and hold harmless City for any disposal or storage of hazardous wastes generated pursuant to this Contract and any releases or discharges of hazardous materials.

32. **TEMPORARY SANITARY FACILITIES**: The Contractor shall provide facilities for the use of workmen employed on the work site in accordance with the requirements of ORS 654.150, (Sanitary facilities at construction projects; standards, exemptions) and the rules adopted pursuant thereto. Whether or not ORS 654.150 is applicable to the project is the sole responsibility of the Contractor. Contractor shall be responsible for all costs that may be incurred in complying with or in securing exemption or partial exemption from the requirements as incidental to this contract.

33. **ELECTRIC POWER, WATER AND TELEPHONE**: Unless otherwise specified, the Contractor shall make his own arrangements for electric power, water and telephone. Subject to the convenience of the utility, he may be permitted to connect to existing facilities where available, but he shall meter and bear the cost of such power or water, and installation and disconnect of such power, water and telephone services.

34. **UTILITIES AND ELECTRICAL POWER LINES**: The electric utility company may maintain energized aerial electrical power lines in the immediate vicinity of this project. Do not consider these lines to be insulated. Construction personnel working in proximity to these lines are exposed to an extreme hazard from electrical shock. Contractors, their employees and all other construction personnel working on this project must be warned of the danger and instructed to take adequate protective

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measure, including maintaining a minimum ten (10) feet clearance between the lines and all construction equipment and personnel. (see: OSHA Std. 1926.550 (a) 15).

Electrical utility companies may maintain energized underground electrical power lines in the immediate vicinity of this project. These power lines represent an extreme hazard of electrical shock to any construction personnel or equipment coming in contact with them. Contractors, their employees, and all other personnel working near any underground power lines must be warned to take adequate protective measure. (see: OSHA Std. 1926-651 (A)).

Oregon law requires all parties planning excavations in public rights-of-way to contact utilities for locations of their underground facilities in accordance with the rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center at (503) 232-1987.

35. **COOPERATIVE PURCHASING**: Any publicly funded city, county, district, agency or similar entity shall have the authority to purchase specified goods/services directly from the contractor under the terms and conditions of this contract as indicated below:

    a. The bidder agrees to extend identical pricing to local public agencies for the same terms. Quantities listed in this document reflect the City of West Linn's estimated usage only.

    b. Each contracting agency will execute a separate contract with the successful bidder for its requirements.

    c. Any bidder, by written notification at the time of the bid due date and time, may decline to extend the prices and terms of this bid to any, and/or all other public agencies.

    d. Additional costs may be incurred by the successful bidder in contracting with another public agency. All demonstrable costs (shipping, etc.) may be passed on to that public agency.

    Contractor shall provide information regarding total usage of contract upon request of the City of West Linn.

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Purpose: The City of West Linn intends to establish a contract for the **PRK017Cedaroak Boat Ramp Re-construction Project**. For the Technical Provisions of this contract see Appendix B.

1. **Clarifications:** Any doubt as to the requirements of this Invitation For Bid or any apparent omission or discrepancy should be presented to the City as a question at this web site http://bids.westlinnoregon.gov/ The City will then determine the appropriate action necessary, if any, and issue a written addendum to the Invitation For Bid. Oral statements or instructions shall not constitute an amendment to the Invitation For Bid.

2. **Bid Acceptance Period:** In order to allow for an adequate evaluation, the City requires a Bid in response to this Solicitation to be valid and irrevocable for sixty (60) days after the opening time and date.

3. **Time of Completion:** The Contractor shall commence work for this project on or before the fifth (5) day following the project start date indicated on the "Notice to Proceed" issued by the City of West Linn and shall fully complete all work under the project within the "Time of Completion" stated on the "Notice of Invitation to Bid and Contract." The Contractor shall, at all times, during the continuance of the Contract, prosecute the work with such force and equipment as is sufficient to complete all work within the time specified.

4. **Plans and Specifications to Successful Bidder:** The successful Bidder may obtain five (5) sets of Plans and Specifications for this project from the City at no cost.

5. **City of West Linn Permit:** As a City project, the Contractor is not required to obtain a City Public Works Construction, Improvement, Blasting, or Erosion Control permit. The City will be responsible for any other required agency permits.

6. **Key Personnel:** It is essential that the Contractor provide adequate experienced personnel, capable of and devoted to the successful accomplishment of work to be performed under this contract. The Contractor must agree to assign specific individuals to the key positions.

    a. The Contractor agrees that, once assigned to work under this contract, key personnel shall not be removed or replaced without written notice to the City.

    b. If key personnel are not available for work under this contract for a continuous period exceeding 30 calendar days, or are expected to devote substantially less effort to the work than initially anticipated, the Contractor shall immediately notify the City, and shall, subject to the concurrence of the City, replace such personnel with personnel of substantially equal ability and qualifications.

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Appendix A

FORMS

BID FORM

Solicitation Number: PRK017

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	Description	Unit	Quantity	Unit Cost	Item Cost
1.	Mobilization	LS			
2.	Temporary Erosion and Sediment Control (Furnish, install, maintain, remove, including turbidity control)	LS			
3.	Clearing and Grubbing (Including Tree Removal)	LS			
4.	Sawcut and Remove Existing Asphalt Concrete	SY			
5.	Demolish and Remove Existing Concrete Boat Ramp (Including Pre-cast Concrete Planks and Rails, Concrete Abutments)	LS			
6.	Remove Existing Steel Piles	EA			
7.	Remove Existing Boarding Floats and Store Upland at Direction of City	LS			
8.	Prepare Parking Lot and Ramp Subgrade	SY			
9.	Furnish and Install Structural Fill	CY			
10.	Furnish and Install Rip Rap	CY			
11.	Furnish and Install Rip Rap Geotextile Fabric	SY			
12.	Furnish and Install 18-inch Diameter Steel Support Piles (Including Pile Cap)	EA			
13.	Furnish and Install Round River Cobble Overlay	CY			
14.	Furnish and Install Standard Vertical Curb (Including Base Gravel)	LF			
15.	Furnish and Install Low Profile Mountable Curb (Including Base Gravel)	LF			
16.	Furnish and Install 3” Thick HMAC Paving (Including Base Gravel)	SF			
17.	Furnish and Install Cast-In-Place Concrete Boat Ramp (Including Base Gravel)	SF			
18.	Furnish and Install Concrete Boarding Float Abutment	LS			
19.	Furnish and Install Precast Concrete Plank Ramp (Including Rail System and Base Gravel)	SY			
20.	Furnish and Install Subgrade Separation Geotextile	SY			

21.	Furnish and Install Concrete Sidewalks (Including Base Gravel)	EA			
22.	Furnish and Install Tactile Warning Strips for Sidewalk Ramps	LS			
23.	Furnish and Install Precast Concrete Curb Stops	EA			
24.	Furnish and Install Pavement Markings per Plan (Including directional arrows, ADA striping, Crosswalk Markings, and Parking striping)	LS			
25.	Furnish Materials and Construct Stormwater Infiltration Swale Adjacent to Parking Stalls in Center Island	LS			
26.	Furnish and Install GrassPave Reinforced Staging Area (Including Base Layer and Soil Fill)	SY			
27.	Furnish and Install Site Signage (Including Signs, Posts, and Footings)	LS			
28.	Furnish and Install Water Service From Flush Restroom to Center Island (Including Trenching, Piping, Connection to Existing Service, Valve Box, and Trench Patching Through Parking Lot)	LS			
29.	Furnish and Install Gravel Kayak Path	LS			
30.	Furnish, Install, and Maintain Grass Seed in GrassPave Area	SF			
31.	Furnish, Install, and Maintain Live Stakes on Planting Slopes Per Landscaping Plan	EA			
32.	Furnish, Install, and Maintain Shrubs Per Landscaping Plan	EA			
	Total:				

BID SCHEDULE

The undersigned bidder proposes to perform the work in strict compliance with the contract documents, for the following amounts:

Abbreviations:

CY	Cubic Yard
EA	Each
LF	Linear Foot
LS	Lump sum
SY	Square Yard
SF	Square Foot
Ton	US Ton (2,000 pounds)

_____
NAME OF BIDDER (Firm)

_____
SIGNATURE OF AUTHORIZED OFFICIAL

_____
AUTHORIZED OFFICIAL (Print)

City of West Linn	**BID BOND** Solicitation Number: PRK017	**Parks Department** 22500 Salamo Road West Linn, Oregon 97068 Telephone: (503) 557-4700 Fax: (503) 656-4106

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____, as "Principal,"
(Name of Principal)

and _____, an _____ Corporation,
(Name of Surety)
authorized to transact Surety business in Oregon, as "Surety," hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns to pay unto the City of West Linn ("Obligee") the sum of ($_____) _____ dollars.

WHEREAS, the condition of the obligation of this bond is that Principal has submitted its proposal or bid to an agency of the Obligee in response to Obligee's procurement document for the project identified in the Solicitation Number indicated above which proposal or bid is made a part of this bond by reference, and Principal is required to furnish bid security in an amount equal to ten (10%) percent of the total amount of the bid pursuant to the procurement document and ORS 279C.365(4) for competitive bidding or 279C.400(5) for competitive proposals.

NOW, THEREFORE, if the proposal or bid submitted by Principal is accepted, and if a contract pursuant to the proposal or bid is awarded to Principal, and if Principal enters into and executes such contract within the time specified in the procurement document and executes and delivers to Obligee its good and sufficient performance and payment bonds required by Obligee, as well as any required proof of insurance, within the time fixed by Obligee, then this obligation shall be void; otherwise, it shall remain in full force and effect.

IN WITNESS WHEREOF, we have caused this instrument to be executed and sealed by our duly authorized legal representatives this _____day of _____, 20__.

PRINCIPAL: _____

By_____
Signature

_____
Official Capacity

Attest: _____
Corporation Secretary

SURETY: _____

BY ATTORNEY-IN-FACT:

_____
Name

_____
Signature

_____
Address

_____
City State Zip

_____ _____
Phone Fax

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	Solicitation Number: PRK017	

NONCOLLUSION AFFIDAVIT

I, (Type/Print Name)_____**,** state that I am **(Position Title)** _____of **(Name of Firm)**_____ and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and, officers. I am the person responsible in my firm for the price(s) and the amount of this bid.

I state that:

1. The price(s) and the amount of this bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder.

2. Neither the price(s) nor the amount of this bid, and neither the approximate price(s) nor approximate amount of this bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.

3. No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or noncompetitive bid or other form of complementary bid.

4. The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive bid.

5. **(Name of Firm)**_____**,** its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last four (4) years been convicted or found liable for any act prohibited by state or federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as follows:

I state that **(Name of Firm)**_____ understands and acknowledges that the above representations are material and important, and will be relied on by **THE CITY OF WEST LINN, OREGON** in awarding the contract(s) for which this bid is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from **THE CITY OF WEST LINN, OREGON** of the true facts relating to the submission of bids for this contract.

_____
(Signature) (Signatory's Name)

_____
(Signatory's Title)

STATE OF _____)
)§
COUNTY OF _____)

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____DAY OF _____**, 20**____

_____
Notary Public

My Commission Expires _____

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West Linn, Oregon 97068
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Fax: (503) 656-4106

THREE YEAR EXPERIENCE RECORD

Recent projects first

#1 (Project Name, Location, Contract Cost)

_____

Project description: _____

_____

_____

Project completion date: (contract) _____ (actual) _____

Contact name: _____

Telephone: _____

#2 (Project Name, Location, Contract Cost)

_____

Project description: _____

_____

_____

Project completion date: (contract) _____ (actual) _____

Contact name: _____

Telephone: _____

#3 (Project Name, Location, Contract Cost)

_____

Project description: _____

_____

_____

Project completion date: (contract) _____ (actual) _____

Contact name: _____

Telephone: _____

#4 (Project Name, Location, Contract Cost)

_____

Project description: _____

_____

_____

Project completion date: (contract) _____ (actual) _____

Contact name: _____

Telephone: _____

#5 (Project Name, Location, Contract Cost)

_____

Project description: _____

_____

_____

Project completion date: (contract) _____ (actual) _____

Contact name: _____

Telephone: _____

Attach additional sheets if needed.

FIRST-TIER SUBCONTRACTOR DISCLOSURE

PROJECT NAME: _____

BID #: _____

BID CLOSING: Date: _____Time:_____

This form must be submitted at the location specified in the Invitation to Bid on the advertised bid closing date and within two working hours after the advertised bid closing time.

List below the name of each subcontractor that will be furnishing labor or will be furnishing labor and materials and that is required to be disclosed, the category of work that the subcontractor will be performing and the dollar value of the subcontract. Enter "NONE" if there are no subcontractors that need to be disclosed. (ATTACH ADDITIONAL SHEETS IF NEEDED.)

NAME	DOLLAR VALUE	CATEGORY OF WORK
(1) _____	$ _____	_____
(2) _____	$ _____	_____
(3) _____	$ _____	_____
(4) _____	$ _____	_____
(5) _____	$ _____	_____
(6) _____	$ _____	_____
(7) _____	$ _____	_____
(8) _____	$ _____	_____
(9) _____	$ _____	_____

Failure to submit this form by the disclosure deadline will result in a non-responsive bid. A non-responsive bid will not be considered for award.

Form submitted by (bidder name):_____

Contact name: Phone no.: ( )

ORS 279C.370 First-tier subcontractor disclosure. (1)(a) Within two working hours after the date and time of the deadline when bids are due to a contracting agency for a public improvement contract, a bidder shall submit to the contracting agency a disclosure of the first-tier subcontractors that:

(A) Will be furnishing labor or will be furnishing labor and materials in connection with the public improvement contract; and

(B) Will have a contract value that is equal to or greater than five percent of the total project bid or $15,000, whichever is greater, or $350,000 regardless of the percentage of the total project bid.

(b) For each contract to which this subsection applies, the contracting agency shall designate a deadline for submission of bids that has a date on a Tuesday, Wednesday or Thursday and a time between 2 p.m. and 5 p.m., except that this paragraph does not apply to public contracts for maintenance or construction of highways, bridges or other transportation facilities.

(c) This subsection applies only to public improvement contracts (**"projects"**) with a value, estimated by the contracting agency, of more than **$100,000**.

(d) This subsection does not apply to public improvement contracts that have been exempted from competitive bidding requirements under ORS 279C.335 (2).

(2) The disclosure of first-tier subcontractors under subsection (1) of this section must include the name of each subcontractor, the category of work that each subcontractor will perform and the dollar value of each subcontract. The information shall be disclosed in substantially the following [above] form:

(3) A contracting agency shall accept the subcontractor disclosure. The contracting agency shall consider the bid of any contractor that does not submit a subcontractor disclosure to the contracting agency to be a non-responsive bid and may not award the contract to the contractor. A contracting agency is not required to determine the accuracy or the completeness of the subcontractor disclosure.

(4) After the bids are opened, the subcontractor disclosures must be made available for public inspection.

(5) A contractor may substitute a first-tier subcontractor under the provisions of ORS 279C.585.

(6) A subcontractor may file a complaint under ORS 279C.590 based on the disclosure requirements of subsection (1) of this section.

WH-179 (08-10-10)

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AFFIDAVIT OF COMPLIANCE WITH TAX LAWS

_____ ("Affiant"), being first duly sworn under oath and representing

_____[insert Bidder/Proposer Name] ("Bidder"), deposes and swears or affirms under penalty of perjury that:

1. I am an employee of Bidder, I have knowledge of the Invitation to Bid, and I have full authority from the Bidder to submit this affidavit and accept the responsibilities stated below.
2. I am aware that the Bidder has submitted a Bid, dated on or about _____[insert date] (the "Bid"), to the City of West Linn (City) in response to Invitation to Bid **PRK017Cedaroak Boat Ramp Re-construction Project**, and I am familiar with the contents of the Invitation to Bid and Bid.
3. The number shown on this form is Bidder's correct taxpayer identification.
   3.1. Federal Tax Number: _____
   3.2. Oregon Tax Number: _____
4. Bidder is not subject to backup withholding because:
   4.1. Bidder is exempt from backup withholding,
   4.2. Bidder has not been notified by the IRS that Bidder is subject to backup withholding as a result of a failure to report all interest or dividends, or
   4.3. The IRS has notified Bidder that Bidder is no longer subject to backup withholding.
5. I am authorized to act on behalf of Bidder, and have authority and knowledge regarding Bidder's payment of taxes, and to the best of my knowledge, Bidder is not in violation of any Oregon tax laws, including, without limitation, those tax laws listed in ORS 305.380(4), namely ORS Chapters 118, 314, 316, 317, 318, 320, 321 and 323 and Sections 10 to 20, Chapter 533,Oregon Laws 1981, as amended by Chapter 16, Oregon Laws 1982 (first special session); the elderly rental assistance program under ORS 310.630 to 310.706; and any local taxes administered by the Oregon Department of Revenue under ORS 305.620.

_____
Affiant's Signature

STATE OF _____)
)§
COUNTY OF _____)

Signed and sworn to before me on _____ (date) by _____ (Affiant's name).

_____
Notary Public for the State of Oregon

My Commission Expires: _____

City of West Linn	**PERFORMANCE BOND** Solicitation Number: PRK017	**Parks Department** 22500 Salamo Road West Linn, Oregon 97068 Telephone: (503) 557-4700 Fax: (503) 656-4106

KNOW ALL MEN BY THESE PRESENTS, that we, _____
(Official Name & Form of Organization)

Whose address is: _____
(Street Address) *(City)* *(State)* *(Zip)*

as Principal, and, _____
(Name of Surety) *(Print - Agent / Contact Name)* *(Phone Number)*

_____
(Street Address of Surety) *(City)* *(State)* *(Zip)*

a corporation duly authorized to conduct a general surety business in the State of Oregon, as Surety, are jointly and severally held and bound unto the City of West Linn, Oregon, a municipality of the State of Oregon, hereinafter called Obligee, in the sum of _____ and _____/100 DOLLARS ($_____),*(The Contract Price, Both in Words & Figures)* lawful money of the United State of America, for the payment of which we, as Principal, and as Surety, jointly and severally bind ourselves, our successors and assigns firmly by these presents,

TERMS AND CONDITIONS

On the _____ *(Day)* of _____*(Month)*, _____*(Year)*, _____
(Name of Contractor)

Principal, entered into a contract with the City of West Linn, Oregon, Obligee, to construct certain public improvements and to provide material, labor and equipment for the construction of those improvements. The public improvements and work to be performed by Principal are more fully described in the contract documents between Principal and Obligee. Those contract documents are incorporated herein by reference.

In the event that Principal fails to complete the work as required under the contract, Surety shall either complete the work or pay Obligee the costs of completion of the work. Work is only complete when it meets the standards required by the Contract and applicable City standards. Surety's obligation shall remain in effect until the work is accepted by Obligee, but shall terminate on acceptance by Obligee. The total amount of the Surety's liability to Obligee under this bond shall in no event exceed the amount stated above.

Surety agrees that no change, extension of time, alternation, or addition to the terms of the contract, or to the work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the contract or to the work or the specifications.

IN WITNESS WHEREOF, the parties hereto have caused this Bond to be executed in _____, Oregon, this ____ *(Day)* of _____*(Month)*, _____*(Year)*.

_____
Contractor

_____
Principal Signature

Witnesses:

_____

_____
Principal Printed Name

_____

_____
Surety

(A true copy of the Power of Attorney must be attached to the original of this bond)

Countersigned:

_____
Surety Attorney of Fact

_____
Resident Agent

City of West Linn	**PAYMENT BOND** Solicitation Number: PRK017	**Parks Department** 22500 Salamo Road West Linn, Oregon 97068 Telephone: (503) 557-4700 Fax: (503) 656-4106

KNOW ALL MEN BY THESE PRESENTS, that we, _____
(Official Name & Form of Organization)

Whose address is: _____
(Street Address) *(City)* *(State)* *(Zip)*

as Principal, and, _____
(Name of Surety) *(Print - Agent / Contact Name)* *(Phone Number)*

_____
(Street Address of Surety) *(City)* *(State)* *(Zip)*

a corporation duly authorized to conduct a general surety business in the State of Oregon, as Surety, are jointly and severally held and bound unto the City of West Linn, Oregon, a municipality of the State of Oregon, hereinafter called Obligee, in the sum of _____ and ___/100 DOLLARS ($_____),*(The Contract Price, Both in Words & Figures)* lawful money of the United State of America, for the payment of which we, as Principal, and as Surety, jointly and severally bind ourselves, our successors and assigns firmly by these presents,

TERMS AND CONDITIONS

On the _____ *(Day)* of _____*(Month)*, _____*(Year)*, _____
(Name of Contractor)

Principal, entered into a contract with the City of West Linn, Oregon, Obligee, for the construction of certain public improvements. As part of the contract, Principal is required to furnish materials, labor, and equipment to construct the improvements. The contract documents between Principal and Obligee are incorporated herein by this reference.

In the event that Principal fails to make payments when due to suppliers of labor, equipment or materials, Surety shall pay the suppliers the amounts they are due. In the event that Obligee pays any amounts to suppliers that Principal was required to pay, Surety shall reimburse Obligee for those payments. In the event that Principal permits any lien or claim to be filed or prosecution against the City on account of any labor or material furnished, Surety shall take such steps as are necessary to clear the lien, claim or prosecution. In the event that Principal fails to (1) promptly pay all contributions or amounts due the State Unemployment Compensation Trust Fund incurred to the performance of the contract, (2) promptly, as due, make payments to the person, co-partnership, association, or corporation entitled thereto of the money and sums mentioned in Section 279C.600 of the Oregon Revised Statutes, or (3) promptly pay to the Oregon State Tax Commission all sums required to be deducted and retained from wages of employees of the Principal and his sub-Contractors, pursuant to the Section 316.711, Oregon Revised Statues, Surety shall make the required payments. Surety's obligations under this bond shall terminate when all payments required of Principal described in this paragraph are made in full.

The total amount of the Surety's liability under this bond both to the Obligee and to the persons furnishing labor or materials, provisions and goods to any person or persons, shall in no event exceed the amount stated above.

Surety agrees that no change, extension of time, alternation, or addition to the terms of the contract, or to the work to be performed there under or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the contract or to the work or the specifications.

IN WITNESS WHEREOF, the parties hereto have caused this Bond to be executed in _____, Oregon, this ____ *(Day)* of _____*(Month)*, _____*(Year)*.

_____
Contractor

_____
Principal Signature

Witnesses:

_____
Principal Printed Name

_____

_____
Surety

(A true copy of the Power of Attorney must be attached to the original of this bond)

Countersigned:

_____
Surety Attorney of Fact

_____
Resident Agent

CONTRACTOR'S AFFIDAVIT
SETTLEMENT OF CLAIMS

DATE:_____

PROJECT: PRK017 Cedaroak Boat Ramp Reconstruction Project.

TO: City of West Linn

Persons:

This is to certify that all lawful claims for materials, rental of equipment, and labor used in connection with the construction of the above, whether by subcontractor or claimant in person, have been duly discharged.

The undersigned, for the consideration of $_____, as set forth in the final pay estimate, as full and complete payment under the terms of the contract, hereby waives and relinquishes any and all further claims or right of lien under, in connection with, or as a result of this project. The undersigned further agrees to indemnify and hold harmless _____against any and all liens, claims of liens, suits, actions, damages, charges and expenses whatsoever, which _____ may suffer arising out of the failure of the undersigned to pay for all labor performance and materials furnished for the performance of said project.

Signed at _____, this _____ day of _____, 20_____

_____
(CONTRACTOR)

BY:_____

STATE OF _____)
)§
COUNTY OF _____)

The foregoing instrument was subscribed and sworn to before me this _____ day of _____, 20___

_____
Notary Pubic

My Commission Expires:_____

CONTRACT FEE SECTION
PREVAILING WAGE RATE UNIT
BUREAU OF LABOR AND INDUSTRIES
800 N.E. OREGON ST., #1045
PORTLAND, OR 97232-2180
PHONE: (971) 673-0852
FAX: (971) 673-0769

For Office Use Only:

Project DB #:_____

PUBLIC WORKS FEE INFORMATION FORM

For use by public agencies that have contracted with a contractor on a public works project regulated by ORS 279C.800 to 279C.870, in compliance with ORS 279C.825. Also for use by public agencies that are a party to a public works project pursuant to ORS 279C.800(6)(a)(B) or (C).

PUBLIC AGENCIES: Please complete and mail this form to BOLI at the above address, along with the public works fee of one-tenth of one percent of the contract price (contract amount x .001), payable to BOLI. **The minimum fee is $250.00; the maximum fee is $7,500.00.** Without the following completed information, the bureau may be unable to properly credit you for payment received.

PUBLIC AGENCY: _____ **AGENCY #:**_____

AGENCY MAILING ADDRESS: _____

CITY, STATE, ZIP_____

AGENCY CONTACT PERSON: _____ **PHONE:** ( )_____

PROJECT MANAGER NAME:_____ **PHONE:** ( )_____

PROJECT NAME: _____

CONTRACT NAME (if part of larger project):_____

PROJECT LOCATION: _____

PROJECT NO: _____ **DATE CONTRACT FIRST ADVERTISED:** _____

DATE CONTRACT AWARDED: _____ **CONTRACTOR CCB#:** _____

CONTRACTOR BUSINESS NAME (DBA): _____

CONTRACTOR ADDRESS: _____

CITY, STATE ZIP _____

CONTRACT AMOUNT: $_____ **FEE AMOUNT DUE/PAID: $**_____

If less than $50K is it part of a larger project? ☐**yes** ☐**no** **Contract amount x .001 = fee due**

(Please duplicate this form for future use.)

For Office Use Only:
Project DB #: _____

BUREAU OF LABOR AND INDUSTRIES
NOTICE OF PUBLIC WORKS
(For use by public agencies in complying with ORS 279C.835)

NOTE: ORS 279C.835 requires that public contracting agencies include with this form a copy of the disclosure of first-tier subcontractors submitted pursuant to ORS 279C.370.

PUBLIC AGENCY INFORMATION

Agency Name: _____ Agency Number (if known): _____

Address: _____ Agency Division: _____

City, State, Zip: _____

Agency Representative: _____ Phone: _____

SECTION A: To be completed when a public agency awards a contract to a contractor for a public works project, including CM/GC projects. (See reverse for public works projects in which no public agency awards a contract to a contractor.)

CONTRACT INFORMATION:

Project Name: _____ Project Number: _____

Contract Name (if part of larger project): _____ Contract Number: _____

Project Manager Name: _____ Phone #: _____ Fax #: _____

Project Location (Street(s), City): _____ Project County: _____

Contract Amount: $_____ If under $50,000, is this contract part of a larger project? YES____ NO____

If yes, total project amount: $_____

Will project use federal funds that require compliance with the Davis-Bacon Act? YES____ NO____

Date Contract Specifications First Advertised for Bid (if not advertised, date of RFP or first contact with contractor): _____

If CM/GC Contract, Date Contract Became a Public Works Contract (see OAR 839-025-0020(6)): _____

Date Contract Awarded: _____ Date Work Expected to Begin: _____

Date Work Expected to be Complete: _____

PRIME CONTRACTOR INFORMATION:

Name: _____

Address: _____

City, State Zip: _____ Phone: _____

Construction Contractors Board Registration Number: _____

Name of Bonding Company: _____

Address: _____

Agent Name and Phone Number: _____

Payment Bond Number: _____

☐ Copy of first-tier subcontractors attached (**see NOTE above**).

THIS FORM WILL BE RETURNED TO THE PUBLIC AGENCY FOR CORRECTION AND RESUBMITTAL IF INCOMPLETE.

SECTION B: To be completed when a project is a public works pursuant to ORS 279C.800(6)(a)(B) (a project for the construction, reconstruction, major renovation or painting of a privately owned road, highway, building, structure or improvement of any type that uses funds of a private entity and $750,000 or more of funds of a public agency) and no public agency awards a contract to a contractor.

CONTRACT INFORMATION:

Name of Project Owner:_____ Phone #: _____ Fax #: _____

Project Name: _____ Project Number:_____

Project Location (Street(s), City): _____ Project County:_____

Total Project Amount: $_____ Amount of Public Funds Provided for the project: $_____

Name(s) of Public Agency (ies) Providing Public Funds: _____

Date the public agency or agencies commit to the provision of funds for the project: _____

Will project use federal funds that require compliance with the Davis-Bacon Act? YES____NO____

Date Work Expected to Begin: _____

Date Work Expected to be Complete: _____

SECTION C: To be completed when a project is a public works pursuant to ORS 279C.800(6)(a)(C) (a project for the construction of a privately owned road, highway, building, structure or improvement of any type that uses funds of a private entity and in which 25 percent or more of the square footage of the completed project will be occupied or used by a public agency) and no public agency awards a contract to a contractor.

CONTRACT INFORMATION:

Name of Project Owner: _____ Phone #: _____ Fax #: _____

Project Name: _____ Project Number:_____

Project Location (Street(s), City): _____ Project County: _____

Total Project Amount: $_____ Amount of Public Funds Provided for the project: $_____

Name(s) of Public Agency(ies) Providing Public Funds: _____

Total square footage of privately owned road, highway, building, structure or improvement: _____

Percent of total square footage of the completed project that will be occupied or used by a public agency: _____

Date the public agency or agencies entered into an agreement to occupy or use the completed project: _____

Will project use federal funds that require compliance with the Davis-Bacon Act? YES____NO____

Date Work Expected to Begin: _____

Date Work Expected to be Complete: _____

THIS FORM WILL BE RETURNED TO THE PUBLIC AGENCY FOR CORRECTION AND RESUBMITTAL IF INCOMPLETE.

Signature of agency representative completing form: _____

Printed Name: _____ Phone #: _____ Date:_____

RETURN THIS COMPLETED FORM TO:
Prevailing Wage Rate Unit • Bureau of Labor and Industries • 800 NE Oregon Street, #1045 • Portland, OR 97232-2180
Telephone (971) 673-0852 • FAX (971) 673-0769 • pwremail@boli.state.or.us

CONTRACT FEE SECTION
PREVAILING WAGE RATE UNIT
BUREAU OF LABOR AND INDUSTRIES
800 N.E. OREGON ST., #1045
PORTLAND, OR 97232-2180
PHONE: (971) 673-0852
FAX: (971) 673-0769

For Office Use Only:

Project DB #:_____

PUBLIC WORKS FEE ADJUSTMENT FORM

THIS FORM TO BE USED FOR RECONCILIATION OF FEES UPON COMPLETION OF PUBLIC WORKS PROJECTS

(As required by ORS 279C.825 and OAR 839-025-0210)

PUBLIC AGENCIES: Complete and mail this form to BOLI at the above address after completion of the public work project and not less than 30 days after the final progress payment is made to the contractor. Public agencies are required to determine the final contract price, including all change orders or other adjustments to the original contract price, and to calculate the adjusted prevailing wage rate fee based on the revised contract price. Documentation must be included to support the final contract price. Documentation of the final contract price may consist of change orders or other contract documents substantiating the amount of the contract. The prevailing wage rate fee of one-tenth of one percent (.001) shall be applied to the final contract price, with credit taken for fees already submitted. The public agency must submit any additional fee payable to BOLI, or submit any request for refund, with this adjustment form. **THE MINIMUM FEE IS $250.00; THE MAXIMUM FEE IS $7,500.00. NO ADDITIONAL FEE IS REQUIRED TO BE PAID, AND REFUNDS WILL NOT BE MADE, IF THE BALANCE DUE OR THE REFUND DUE IS LESS THAN $100.00.**

PUBLIC AGENCY: _____ **AGENCY #:** _____

AGENCY CONTACT PERSON: _____ **PHONE :(___)** _____

MAILING ADDRESS: _____

PROJECT NAME: _____

CONTRACT NAME (if part of larger project): _____

PROJECT NUMBER: _____ **PROJECT LOCATION:** _____

CONTRACTOR/BUSINESS NAME (DBA): _____

CONTRACTOR CCB#: _____ **DATE AWARDED:** _____

FINAL CONTRACT/PROJECT AMOUNT: _____ **FINAL FEE DUE:** _____
(Include all change orders and adjustments to the contract price) **(Final Contract amount X .001)**

ORIGINAL CONTRACT AMOUNT: _____ **INITIAL FEE PAID:** _____
(Original Contract amount X .001)

TOTAL ADJUSTMENT: _____ **BALANCE DUE*:** _____
or
REFUND DUE*: _____
***Final contract fee less initial fee paid**

Sample Calculation:			
Final Contract Amount:	**$ 400,000.00**	**Final Fee Due:**	**$ 400.00**
Original Contract Amount:	**- 300,000.00**	**Initial Fee Paid:**	**- 300.00**
Total Adjustment:	**$ 100,000.00**	**Additional Amount Due:**	**$ 100.00**

(Please duplicate this form for future use)

BUREAU OF LABOR AND INDUSTRIES, PREVAILING WAGE RATE UNIT

INSTRUCTIONS FOR COMPLETING THE PREVAILING WAGE RATE PAYROLL/CERTIFIED STATEMENT FORM (WH-38)

The Payroll/Certified Statement form (WH-38) may be used by contractors for reporting their payroll as required by ORS 279C.845 on public works projects subject to the Prevailing Wage Rate (PWR) Law. Although this form has not been officially approved by the U.S. Department of Labor (US DOL), it is designed to meet the requirements of the federal Davis-Bacon Act. For projects associated with the U.S. Department of Housing and Urban Development (HUD), contact the public agency (owner) associated with the project for assistance with payroll reporting.

Contractors are not required to use the WH-38 form in reporting their payroll; however, the contractor must provide all of the information contained in the form, including the certified statement on page two. The certified statement must be signed by the contractor, certifying the accuracy of the information reported on the payroll, including representations pertaining to the provision of fringe benefits to employees by third parties, and must be submitted with each weekly payroll report. Detailed instructions concerning the preparation of the form follow:

Complete the top third of the form. Be sure to enter the date the contract was first advertised for bid. If you are not sure of this date, contact the public agency (owner) associated with the project. The "Payroll No." is a US DOL requirement and represents the week number for the reporting period.

Column 1 – NAME AND ADDRESS: The employee's full name must be shown on each payroll submitted. The employee's address must also be shown on the first payroll submitted. The address need not be shown on subsequent payrolls submitted unless the address changes. The US DOL requires an employee identification number for each individual employee, on each payroll submitted. This number may be, but does not have to be, the last four digits of the employee's social security number.

Column 2 – CLASSIFICATION: For assistance in determining the correct classification, use the Bureau of Labor and Industries' publication "Definitions of Covered Occupations for Public Works Contracts in Oregon." On the WH-38, list the classification that is most descriptive of the work actually performed by the employee. Give the group number for those classifications that include such information. Indicate which workers are apprentices, if any, and give their current percentage, classification, and group number when applicable. If an employee works in more than one classification, use the highest rate for all hours worked, or use separate line entries to show hours worked and hourly rates for each classification.

Column 3 – **DAY AND DATE**: Enter the day of the week (M, T, W, Th, F, S, and Sn) in the top row of boxes, and the corresponding date below.

HOURS WORKED EACH DAY: Enter the total number of straight time hours worked in the row marked "ST." Generally, hours worked over 8 in a day or work performed on Saturdays, Sundays, and legal holidays should be entered as overtime ("OT") hours worked. Contractors who have adopted and followed a written work schedule of four consecutive ten-hour days (Monday through Thursday or Tuesday through Friday) may enter hours worked over 10 in a day as overtime hours. For more information on overtime requirements, see the Contractor Responsibilities section of the Bureau of Labor and Industries' publication "Prevailing Wage Rate Laws" handbook.

Column 4 – **TOTAL HOURS**: Enter separately the total number of straight time and overtime hours worked by the employee (in each classification, if applicable) on the PWR project during the week. The total number of straight time hours worked should be entered in the lower box ("ST"); the total number of overtime hours worked should be entered in the top box ("OT").

Column 5 – HOURLY BASE RATE: Enter the hourly base rate (plus zone pay, if any) and the hourly overtime rate (plus zone pay, if any) paid to the employee in the appropriate straight time and overtime boxes. (Payment of not less than one and one half times the base rate of pay, including zone pay but not

including fringe benefits, is required to be paid for overtime hours pursuant to ORS 279C.540). Generally, use the appropriate prevailing wage rates in effect at the time the contract was first advertised for bid by the public agency. If this date is not known, or if the project was not advertised for bid, contact the public agency (owner) associated with the project for assistance with applicable rates.

Column 6 – HOURLY FRINGE BENEFIT AMOUNT PAID AS WAGES TO THE EMPLOYEE: Enter hourly fringe benefit amounts paid directly to the employee as wages. (For overtime hours worked, it is not necessary to pay time and one half for the fringe benefit portion of the prevailing wage rate.)

Column 7 – GROSS AMOUNT EARNED: Enter the gross amount earned for work on the PWR project during the week. If part of the employee's wages for the pay period were earned on projects other than the project described on the WH-38, or if the employee is paid less often than on a weekly basis, enter in column 7 first the gross amount earned on the PWR project for the week, then the total gross amount earned for the pay period. For example: $567.84 / $1,267.27.

Column 8 – ITEMIZED DEDUCTIONS, FICA, FED, STATE, ETC.: Enter deductions withheld from wages for the pay period. All deductions must be in accordance with the provisions of ORS 652.610 (and as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. Stat. 967, 76 Stat. 357; 40 U.S.C 276c) on projects subject to Davis-Bacon Act). For projects subject to the Davis-Bacon Act, itemize the deductions.

Column 9 – NET WAGES PAID: Enter the total amount of net wages actually paid to the employee for the pay period. This figure can be calculated by subtracting the total deductions reported in Column 8 from the gross amount of wages for the pay period reported in the bottom portion of Column 7.

Column 10 – HOURLY FRINGE BENEFITS PAID TO BENEFITS PARTY, PLAN, FUND OR PROGRAM: Enter the hourly amount of fringe benefits paid to each individually approved party, plan, fund, or program, for each employee. List these amounts separately on the lines provided. Any contractor who is making payments to approved parties, plans, funds or programs in amounts less than the required hourly fringe benefit is obligated to pay the difference directly to the employee as wages in lieu of fringe benefits, and to show that amount in Column 6 of this form. For information on how to calculate hourly fringe benefit credits, see Appendix A in the Bureau of Labor and Industries' publication "Prevailing Wage Rate Laws" handbook.

Column 11 – NAME OF BENEFIT PARTY, PLAN, FUND OR PROGRAM: Enter the name of the party, plan, fund, or program that corresponds to the amount paid as an hourly fringe benefit in Column 10.

CALCULATION CHECK

In order to determine whether the wages and fringe benefits paid are sufficient to meet prevailing wage rate requirements, the following check may be performed:

1. For each classification listed in column 2, compute the sum of:
   a) the hourly base rate of pay shown in Column 5,
   b) the hourly fringe benefit amount paid as wages to employee shown in Column 6, and
   c) the hourly fringe benefits paid to benefit party, plan, fund or program shown in Column 10.

2. This sum must equal or exceed the total of the hourly base rate (including zone pay) and the hourly fringe benefit rate for that classification as listed in the appropriate issue of the Bureau of Labor and Industries publications Prevailing Wage Rates for Public Works Contracts in Oregon.

IF YOU HAVE QUESTIONS REGARDING COMPLETION OF THIS FORM, CONTACT THE PREVAILING WAGE RATE UNIT OF THE BUREAU OF LABOR AND INDUSTRIES AT (971) 673-0838.

NOTE: PAYROLL/CERTIFIED STATEMENTS ARE ONLY REQUIRED TO BE SUBMITTED TO THE PUBLIC AGENCY ASSOCIATED WITH THE PROJECT.

CERTIFIED PAYROLL AND OTHER FORMS ARE AVAILABLE ON OUR WEBSITE: WWW.OREGON.GOV/BOLI

BUREAU OF LABOR AND INDUSTRIES
WAGE AND HOUR DIVISION

PAYROLL/CERTIFIED STATEMENT FORM WH-38
FOR USE IN COMPLYING WITH ORS 279C.845*

PRIME CONTRACTOR ☐ SUBCONTRACTOR ☐ PAYROLL NO._____

Business Name (DBA): Phone: ( ) CCB Registration Number:

Project Name: Project Number: Type of Work:

Street Address: Project Location:

Mailing Address: Project County:

Date Pay Period Began: Date Pay Period Ended:

THIS SECTION FOR PRIME CONTRACTORS ONLY

Public Contracting Agency Name:
Phone: ( )
Date Contract Specifications First Advertised for Bid:
Contract Amount:

THIS SECTION FOR SUBCONTRACTORS ONLY

Subcontract Amount:
Prime Contractor Business Name (DBA):
Prime Contractor Phone: ( )
Prime Contractor's CCB Registration Number:
Date You Began Work on the Project:

(1)	(2)		(3) DAY AND DATE							(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
NAME , ADDRESS AND EMPLOYEE'S IDENTIFICATION NUMBER	CLASSIFICATION (INCLUDE GROUP # AND APPRENTICESHIP STEP IF APPLICABLE)		HOURS WORKED EACH DAY							TOTAL HOURS	HOURLY BASE RATE	HOURLY FRINGE BENEFIT AMOUNTS PAID AS WAGES TO EMPLOYEE	GROSS AMOUNT EARNED (see directions)	ITEMIZED DEDUCTIONS FICA, FED, STATE, ETC.	NET WAGES PAID	HOURLY FRINGE BENEFITS PAID TO BENEFIT PARTY, PLAN, FUND, OR PROGRAM	NAME OF BENEFIT PARTY, PLAN, FUND, OR PROGRAM
		OT															
		ST															
		OT															
		ST															
		OT															
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		ST															
		OT															
		ST															

*Although this form has not been officially approved by the U.S. Department of Labor, it is designed to meet the requirements of both the state PWR law and the federal Davis-Bacon Act.

WH-38 (Rev. 11-09)

THIS FORM CONTINUED ON REVERSE

CERTIFIED STATEMENT

Date: _____

I, _____, _____
(NAME OF SIGNATORY PARTY) (TITLE)
do hereby state:
(1) That I pay or supervise the payment of the persons employed by:

_____
(CONTRACTOR, SUBCONTRACTOR OR SURETY)
on the _____; that during the payroll period
(BUILDING OR WORK)
commencing on the _____ day of _____, _____, and ending the _____ day
(MONTH) (YEAR)
of _____, _____, all persons employed on said project have been paid the
(MONTH) (YEAR)
full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said _____
(CONTRACTOR, SUBCONTRACTOR OR SURETY)
from the full weekly wages earned by any person, and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as specified in ORS 652.610, and as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. 276c), and described below:

_____

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for workers contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each worker conform with work performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a state apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a state, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

I HAVE READ THIS CERTIFIED STATEMENT, KNOW THE CONTENTS THEREOF AND IT IS TRUE TO MY KNOWLEDGE:

_____
(NAME AND TITLE)

_____
(SIGNATURE AND DATE)

In addition to completing sections (1) - (3), if your project is subject to the federal Davis-Bacon Act requirements, complete the following section as well:

(4) That:
(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS OR PROGRAMS

☐ - In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ - Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in Section 4(c) below.

(c) EXCEPTIONS:

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

FILE THIS FORM WITH THE PUBLIC AGENCY ASSOCIATED WITH THE PROJECT
NOTE TO CONTRACTORS: YOU MUST ATTACH COPIES OF THIS FORM TO EACH OF YOUR PAYROLL SUBMISSIONS ON THIS PROJECT.
INSTRUCTIONS AND ADDITIONAL FORMS ARE AVAILABLE ON OUR WEBSITE: WWW.OREGON.GOV/BOLI.

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Brad Avakian
Commissioner
Bureau of Labor and Industries

Effective: January 1, 2016

Parks Department
22500 Salamo Road
West Linn, Oregon 97068
Telephone: (503) 557-4700
Fax: (503) 656-4106

Appendix B

TECHNICAL PROVISIONS
Specifications

SECTION 00 01 01

PROJECT TITLE PAGE

SUPPLEMENTAL TECHNICAL SPECIFICATIONS
FOR
CEDAROAK BOAT LAUNCH
RIVER MILE 23.2
ELMRAN AVENUE
WEST LINN, OREGON

CITY OF WEST LINN PARKS AND RECREATION
22500 SALAMO ROAD, PO BOX 1100
WEST LINN, OREGON 97068

THESE SPECIFICATIONS ARE SUPPLEMENTAL TO THE CITY OF WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS. REFER TO THE CONTRACT DRAWINGS FOR APPLCIABLE SPECIFICATION SECTIONS FOR EACH UNIT OF WORK.

-- END OF PROJECT TITLE PAGE --

SECTION 03 40 12

STRUCTURAL PRECAST CONCRETE PLANKS

PART 1 GENERAL

1.1 SUMMARY

A. This Section includes specifications for the construction of precast concrete planks for a boat launch ramp.

1. Size and number of planks is as shown on the Contract Drawings.

1.2 SUBMITTALS

A. Submit shop drawings and/or manufacturer's literature for products and methods for ENGINEER’s approval at least ten (10) days prior to fabrication or ordering. Drawings or literature must be marked to show the exact number, size, etc., the CONTRACTOR proposes for use.

B. Concrete Mix Design: At least ten (10) days prior to fabrication, submit concrete mix design, with all concrete additives proposed, to ENGINEER for approval. If concrete supplier, aggregate source, or any additives change at any time, submit a new concrete design to ENGINEER for approval.

C. Submit one copy of samples and three copies of printed material. One copy of all submittals will be returned to the CONTRACTOR.

PART 2 PRODUCTS

2.1 FORM MATERIALS

A. Forms shall be constructed of plywood, lumber, or steel sheets or plates free of defects that could cause blemishes. Forms must be removable without injuring the concrete and must be constructed to maintain close tolerances between the mating surfaces of adjacent precast components.

2.2 CONCRETE REINFORCEMENT

A. Reinforcing steel shall meet the requirements of ASTM A615, grade 60, and shall be placed as shown on the Contract Drawings.

B. All reinforcement shall be new and free from dirt, oil, paint, grease, loose mill scale, and loose or thick rust when placed.

2.3 CONCRETE MIX DESIGN

A. Concrete shall be supplied by a ready-mix or precast concrete products firm regularly engaged in the business.

B. Cement, aggregate, and water shall be proportioned to obtain concrete with good workability.

C. The mix design shall meet ASTM C33, with a designated size of coarse aggregate No. 67 (3/4-inch to No. 4), Section 00540.14 of ODOT, and the following requirements:

1. Minimum cement content: 600 pounds of cement per cubic yard.

2. Cement type: ASTM 150 Type II or IIA.
3. Maximum water-cement ratio: 0.48 (lb./lb.) or 6.0 gallons per sack.
4. Slump: 3 to 5 inches by ASTM C143.
5. Air content: 4.0 to 7.0 percent by ASTM C231.
6. Minimum strength concrete: 4,000 psi at 28 days.
7. Water shall be potable.

2.4 CONCRETE CURING COMPOUND

A. Curing compound shall be colorless, complying with ASTM C-309, Type I or 1-D.

PART 3 EXECUTION

3.1 PRECAST CONCRETE FORMWORK

A. Support and brace forms sufficiently to prevent distortion of forms due to pressure of the concrete during concrete placement; vibrating of the concrete; and the curing period.

B. Remove all snow, ice, dirt, sawdust, shavings, and other debris in the forms before placing concrete.

3.2 REMOVAL OF FORMS

A. The CONTRACTOR shall assume all responsibility for determining when to remove the concrete planks from the forms without causing structural damage to the planks. Damaged planks will be rejected.

3.3 CONCRETE REINFORCEMENT

A. Details of reinforcement not shown on the Drawings or as herein specified shall be in accordance with ACI 318.

B. Steel reinforcement shall be centered in the cross-sectional area of the planks and shall have at least 3 inches of concrete cover.

C. Accurately place and adequately support reinforcing steel or strand in the final position prior to starting placement of concrete. The maximum allowable variation for center-to-center spacing of reinforcing steel is ½ inch.

D. Use full lengths of reinforcing steel whenever possible and keep the number of splices to a minimum. When splices are necessary on long runs, splices shall be alternated from opposite sides of the component for adjacent steel bars. Lap bars #4 or smaller shall be a minimum of 12 inches. Lap bars larger than #4 shall be a minimum of 24 bar diameters.

E. Bend bars cold unless otherwise approved by the ENGINEER. No bars partially embedded in concrete shall be field bent except as shown on the Drawings or approved by the ENGINEER.

3.4 STRUCTURAL DESIGN

A. The plank supplier shall provide fabricator shop drawings for ENGINEER approval prior to fabrication.

3.5 COLD WEATHER CONCRETE

A. Cold weather concrete placement shall be in accordance with ACI 306 and as herein specified.

B. Do not place concrete if ambient temperature is expected to be below 40° F during the curing period unless heating equipment is readily available to maintain the concrete surface temperature of at least 45° F.

C. Materials containing frost or lumps of frozen materials shall not be used.

3.6 HOT WEATHER CONCRETE

A. The temperature of the concrete shall not exceed 80°F at time of placement, and when the ambient temperature reaches 90°F, the concrete shall be protected with moist covering or other methods approved by the ENGINEER.

3.7 MIXING AND DELIVERY OF READY MIX CONCRETE

A. Mixing and delivery shall be in accordance with ASTM C94, Sections 10.6 through 10.9, with the following additions:

1. Adjust the quantities of aggregate and water to compensate for differences from the saturated surface-dry condition.
2. Concrete must be in final place within 90 minutes or before 300 revolutions of the drum after introduction of the mixing water to the cement and aggregates, or introduction of the cement to the aggregates. If ambient air temperature is above 80°F, the above limits shall be one hour or 200 revolutions.
3. If long hauling distance does not permit meeting the requirements above, add cement and water at the fabrication site.

3.8 PLACING AND CONSOLIDATING CONCRETE

A. The ENGINEER must be given the opportunity to inspect forms after placement of reinforcing steel in the forms. Notify the ENGINEER at least 24 hours before any concrete placement to permit inspection.

B. Avoid segregation. Do not move concrete with vibrators or tampers.

C. Consolidate the concrete with suitable mechanical vibrators operating within the concrete or attached to steel forms. Vibrate at any point sufficiently to accomplish compaction, but do not prolong to a point where segregation occurs.

3.9 FINISHING CONCRETE

A. Finish the precast section of the concrete boat ramp with the deep V-grooved finish as shown on the Plans.

B. The CONTRACTOR shall demonstrate previous acceptable experience with this type of finish or shall construct a test panel as specified and approved by the ENGINEER.

3.10 CURING AND HARDENING CONCRETE

A. Keep all concrete surfaces wet for at least six days after placement. Acceptable methods include ponding, wet burlap, curing paper, plastic sheets, and membrane curing compound. Other methods must be approved by the ENGINEER.

3.11 QUALITY CONTROL TESTING

A. The OWNER will be responsible for completing the following tests on concrete. Sampling shall be in accordance with AASHTO T-141 or ASTM C172.

1. Slump of Portland Cement Concrete, AASHTO T-119 or ASTM C143: one for each truck delivery or batch.
2. Air Content of Freshly Mixed Concrete, AASHTO T-152 or ASTM C231: one for each truck delivery or batch.
3. Compressive Strength of Cylindrical Concrete Specimens, AASHTO T-23 and AASHTO T-22 or ASTM C39: two cylinders per 20 C.Y. placed.

3.12 TESTS AND CERTIFICATION OF CONCRETE

A. A concrete batch ticket for each load shall record and attest to the source, day, time and batch, size of load, and quality of individual constituents in the load. These shall be completed and furnished to the ENGINEER.

B. The CONTRACTOR is responsible for testing and reporting the results.

C. Additional tests may be run by the ENGINEER, a designated representative, or a testing firm, and will be the responsibility of the OWNER.

D. The CONTRACTOR shall provide at least 24-hour notice to the ENGINEER prior to placing of any concrete so that test arrangements may be made.

-- END OF SECTION --

SECTION 31 05 19

PART 1 GENERAL

1.1 SUMMARY

A. This section covers the technical requirements for the furnishing and installation of the geotextiles specified for fill underlay.

1.2 RELATED SECTIONS

A. Section 35 42 00 – AGGREGATES AND FILL

1.3 REFERENCES

A. ASTM STANDARDS:

1. D3786 Standard Test Method for Bursting Strength of Textile Fabrics – Diaphragm Burst Strength Testing Method
2. D4355 Standard Test Method for deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus
3. D4491 Standard Test Methods for Water Permeability of Geotextiles by Permittivity
4. D4632 Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
5. D4833 Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products
6. D6524 Standard Test Method for Measuring the Resiliency of Turf Reinforcement Mats
7. D6525 Standard Test Method for Measuring Nominal Thickness of Rolled Erosion Control Products

B. Oregon Standard Specifications for Construction, 2015 EDITION (OSSC)

1. Section 02320 Geosynthetics
2. Section 00350 Geosynthetic Installation

C. Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP)

1.4 SUBMITTALS

A. The CONTRACTOR shall submit the following to the ENGINEER:

1. Product samples, data sheets, and complete description of products meeting or exceeding the specifications in this Section.
2. Manufacturer's instructions for storage, installation, and repair.

1.5 COORDINATION

A. The CONTRACTOR shall notify the ENGINEER of all shipment deliveries prior to shipment arrival at the Site.

B. The CONTRACTOR shall inform the ENGINEER prior to installation so that the ENGINEER may be present to observe installation.

1.6 WARRANTY

A. One year non pro rata manufacturer’s warranty for geotextile material.

PART 2 MATERIALS

2.1 TEMPORARY STOCKPILE COVER (PLASTIC SHEETING)

A. Temporary stockpile cover (less than 30 days)shall have the following MINIMUM material properties:

1. Material: polyethylene sheeting (ASTM D 4397)
2. Thickness: 6 mil
3. Elongation: 200 percent in any direction
4. Water Vapor Transmission: 0.23 gram/100 square inches
5. Puncture Resistance: 260 gram (grams by dart drop)
6. Density: 0.92 gram/100 sq. in.

2.2 SEDIMENT FENCE GEOTEXTILE MATERIAL

A. Sediment fence material shall have the following minimum properties:

1. Average Opening Size: 30 U.S. Std. Sieve (0.600 mm), maximum, when tested in accordance with ASTM D4751.
2. Permittivity: 0.05 sec^-1, minimum, when tested in accordance with ASTM D4491.
3. Ultraviolet Resistance: Retaining at least 70 percent of tensile strength, when tested in accordance with ASTM D4355 after 500 hours’ exposure.
4. Tensile Strength: 100 lb-f (450 N), minimum, in cross-machine direction; 124 lb-f (550 N), minimum, in machine direction; when tested in accordance with ASTM D4632.
5. Elongation: 15 to 30 percent, when tested in accordance with ASTM D4632.
6. Tear Strength: 55 lb-f (245 N), minimum, when tested in accordance with ASTM D4533.
7. Color: Manufacturer's standard, with embedment and fastener lines preprinted.

2.3 NON-WOVEN GEOTEXTILE FABRIC

A. Non-woven geotextile fabric material shall have the following minimum properties:

1. Riprap Geotextile: Material shall conform to the requirements of Oregon Standard Specifications for Construction Section 02320, Table 02320-2, Type 2 non-woven riprap geotextile.
2. Subgrade Geotextile: Material shall conform to the requirements of Oregon Standard Specifications for Construction, Section 02320, Table 02320-4, non-woven subgrade geotextile.

2.4 LABELING, DELIVERY, STORAGE, AND HANDLING

2.4.1 LABELING

A. If subsequent rolls are needed to complete the project, each roll delivered to the site shall be wrapped and labeled by the manufacturer. The label will identify:

1. Manufacturer's name
2. Product identification
3. Length
4. Width
5. Roll number

2.4.2 DELIVERY

A. Do not ship the material prior to acceptance by the ENGINEER. The CONTRACTOR shall notify the ENGINEER of material shipment no less than 48 hours prior to the estimated date of arrival on site.

B. The CONTRACTOR shall provide the ENGINEER with the following:

1. Copy of packing list.
2. List of inventoried materials, with roll numbers and weights, cross-checked with packing list.
3. Record and separate damaged or rejected rolls.

2.4.3 STORAGE AND HANDLING

A. Ship rolls with waterproof opaque protective cover inside closed trailer. Replace damaged protective cover, or cover rolls with plastic sheeting.

B. A visual inspection of each roll should be made by the ENGINEER during unloading to determine if any packaging has been damaged. Rolls with damaged packaging should be marked and set aside for further inspection. The packaging should be repaired prior to placement in storage.

C. Geotextile and plastic sheeting rolls shall be unloaded in an area that is away from site construction activity. Prepare a level, smooth, and dry bedding area in this location.

D. Rolls shall be secured and packaged with straps or banding such that storage or handling does not pose a hazard.

E. Rolls shall be stacked no more than three rolls high, with a 3-foot-wide access path between each row of rolls.

F. The integrity and legibility of the labels shall be preserved during storage.

PART 3 EXECUTION

3.1 PREPARATION

A. Immediately prior to geosynthetic deployment, the surface specified in the Plans for geosynthetic placement shall be approved by the ENGINEER.

B. It shall be the Installer’s responsibility thereafter to indicate to the ENGINEER any change in the conditions of the surface that could cause it to be out of compliance with any of the requirements listed in this Section.

3.2 NON-WOVEN GEOTEXTILE FABRIC

A. Installation shall be in accordance with Oregon Standard Specifications for Construction Section 00350.

B. Material shall be laid flat and smooth so that it is in direct contact with the prepared subgrade.

C. The ENGINEER shall verify adequate placement and coverage prior to placement of riprap and gravel base material.

-- END OF SECTION --

SECTION 31 05 19

PART 1 GENERAL

1.1 SUMMARY

A. This section covers the technical requirements for the furnishing and installation of the geotextiles specified for fill underlay.

1.2 RELATED SECTIONS

A. Section 35 42 00 – AGGREGATES AND FILL

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A. The CONTRACTOR shall submit the following to the ENGINEER:

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1.5 COORDINATION

A. The CONTRACTOR shall notify the ENGINEER of all shipment deliveries prior to shipment arrival at the Site.

B. The CONTRACTOR shall inform the ENGINEER prior to installation so that the ENGINEER may be present to observe installation.

1.6 WARRANTY

A. One year non pro rata manufacturer’s warranty for geotextile material.

PART 2 MATERIALS

2.1 TEMPORARY STOCKPILE COVER (PLASTIC SHEETING)

A. Temporary stockpile cover (less than 30 days)shall have the following MINIMUM material properties:

1. Material: polyethylene sheeting (ASTM D 4397)
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1. Average Opening Size: 30 U.S. Std. Sieve (0.600 mm), maximum, when tested in accordance with ASTM D4751.
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2.4 LABELING, DELIVERY, STORAGE, AND HANDLING

2.4.1 LABELING

A. If subsequent rolls are needed to complete the project, each roll delivered to the site shall be wrapped and labeled by the manufacturer. The label will identify:

1. Manufacturer's name
2. Product identification
3. Length
4. Width
5. Roll number

2.4.2 DELIVERY

A. Do not ship the material prior to acceptance by the ENGINEER. The CONTRACTOR shall notify the ENGINEER of material shipment no less than 48 hours prior to the estimated date of arrival on site.

B. The CONTRACTOR shall provide the ENGINEER with the following:

1. Copy of packing list.
2. List of inventoried materials, with roll numbers and weights, cross-checked with packing list.
3. Record and separate damaged or rejected rolls.

2.4.3 STORAGE AND HANDLING

A. Ship rolls with waterproof opaque protective cover inside closed trailer. Replace damaged protective cover, or cover rolls with plastic sheeting.

B. A visual inspection of each roll should be made by the ENGINEER during unloading to determine if any packaging has been damaged. Rolls with damaged packaging should be marked and set aside for further inspection. The packaging should be repaired prior to placement in storage.

C. Geotextile and plastic sheeting rolls shall be unloaded in an area that is away from site construction activity. Prepare a level, smooth, and dry bedding area in this location.

D. Rolls shall be secured and packaged with straps or banding such that storage or handling does not pose a hazard.

E. Rolls shall be stacked no more than three rolls high, with a 3-foot-wide access path between each row of rolls.

F. The integrity and legibility of the labels shall be preserved during storage.

PART 3 EXECUTION

3.1 PREPARATION

A. Immediately prior to geosynthetic deployment, the surface specified in the Plans for geosynthetic placement shall be approved by the ENGINEER.

B. It shall be the Installer’s responsibility thereafter to indicate to the ENGINEER any change in the conditions of the surface that could cause it to be out of compliance with any of the requirements listed in this Section.

3.2 NON-WOVEN GEOTEXTILE FABRIC

A. Installation shall be in accordance with Oregon Standard Specifications for Construction Section 00350.

B. Material shall be laid flat and smooth so that it is in direct contact with the prepared subgrade.

C. The ENGINEER shall verify adequate placement and coverage prior to placement of riprap and gravel base material.

-- END OF SECTION --

SECTION 32 92 19

SEEDING

PART 1 GENERAL

1.1 SUMMARY

A. Work specified in this section includes soil preparation and seeding areas, as shown and specified by the Plans.

1.2 RELATED SECTIONS

A. Section 32 93 00 PLANTING

1.3 REFERENCES

A. [NOT USED]

1.4 SUBMITTALS

A. Proposed seed mixes

B. Hydro-seed slurry mixes

C. Certificates of inspection: Provide certificates of inspection as required by governmental authorities and certified analyses for soil amendments and fertilizer materials. Submit other data substantiating that materials comply with specified requirements. Certificates will not be returned unless an error is observed.

1.5 QUALITY ASSURANCE

A. Seeding work shall be performed only after approval by ENGINEER when other work affecting ground surface has been completed.

B. CONTRACTOR shall provide only personnel trained and experienced in use of seeding equipment for seed and hydromulch application.

1.6 LIMITS OF WORK

A. Seeding shall be completed on the finished grade within the limits of work as shown on the Contract Drawings.

B. The boundaries may be altered in the field under the OWNER’s or ENGINEER’s field direction and, in such a case, the preceding paragraph will apply to the field-adjusted boundaries. The CONTRACTOR will be compensated for the final area of seed installed.

1.7 WARRANTY

A. In addition to a one-year warranty specified in Contract Conditions, warrant work listed below as follows:

1. Provide a uniform stand of seeded vegetation by watering, optional mowing, and maintaining seeded areas in compliance with the seed supplier’s recommendations for a period of one year. Reseed, with specified materials, any area that fails to provide a uniform stand of vegetation until all affected areas are approved by the ENGINEER or OWNER at the end of the warranty period.

2. Provide a minimum of 95 percent vegetated coverage of soil in seeded areas at the end of the warranty period.

PART 2 PRODUCTS

2.1 MATERIALS

A. Seed: Use fresh, clean, and new crop seed mixture. Seed is to be free of noxious weed and other locally unacceptable grass seed types. Each seed type shall be certified. All seed mixes, areas to be seeded, and application rates are identified on the Planting Plan.

B. Fertilizer:

1. Do not add fertilizer to vegetated stormwater system.
2. For lawn areas, use Slow Release Formula: 15-5-4 by ”Webfoot,” or other approved.
3. Deliver fertilizer to site in original, unopened containers, each meeting manufacturer's guaranteed analysis.

C. Mulch/Tackifier: Rainier BFM or ENGINEER-approved equivalent.

D. Water: Spigot connection and water to be provided by OWNER. Hoses or other methods of transportation shall be furnished by CONTRACTOR.

E. Herbicide & Pesticide: Integrated Pest Management (IPM) that avoids use of herbicides, fungicides, pesticides, and insecticides in vegetated stormwater system shall be implemented.

2.2 DELIVERY, STORAGE, AND HANDLING

A. Seed and fertilizer materials shall be delivered in original, unopened containers, showing weight, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.

B. Materials at the site shall be stored in an orderly manner at location acceptable to the ENGINEER.

PART 3 EXECUTION

3.1 PREPARATION

A. CONTRACTOR shall verify the limits of each seeding with the ENGINEER in the field before starting seed application work.

3.2 PREPARING TOPSOIL

A. All topsoil must be free of subsoil, clay lumps, brush, weeds, litter, roots, stumps, stones over one inch in diameter in any direction, and other matter harmful to plant growth.

B. Fine Grading: After soil preparation, bring all planting areas to a smooth, even surface with a loose, uniformly fine texture. Remove ridges and fill depressions as needed in all areas to meet finish grades. Water thoroughly to ensure complete settling. Limit fine grading to areas that can be planted immediately after grading.

3.3 PREPARATION OF SEEDED AREAS

A. The ENGINEER shall inspect all areas to be seeded immediately prior to planting and shall reject the work if, in his or her opinion, the areas do not meet the standards and requirements of this section, or there are any obstructions that will interfere with the formation of a satisfactory seedbed.

B. Prior to planting, the CONTRACTOR shall communicate with the ENGINEER and OWNER for purposes of coordination and verification that all areas affected by the decision to proceed with planting have received adequate preparations for watering and maintenance.

C. The CONTRACTOR shall provide hose and lawn-watering equipment as required.

D. Areas to be seeded shall be graded to a smooth, free-draining, even surface with a loose, moderately coarse texture. Roll, scarify, and level as necessary to obtain true, even surfaces and fill depressions as required for drainage. Correct irregularities in the surface resulting from tillage operations to prevent formation of depressions or water pockets.

E. The CONTRACTOR shall cultivate the soil to provide a firm bed a minimum of 4" deep, free of clods, stones, or foreign matter over 1" in diameter from the top 4" of soil. CONTRACTOR to level undulations or irregularities in the finished bed prior to seeding.

F. Prepared areas shall be restored by the CONTRACTOR to the specified condition if eroded, settled, or otherwise disturbed after fine grading and prior to seeding.

3.4 INSTALLATION

A. Seeding:

1. Seeding shall be conducted immediately after preparation of the bed. The CONTRACTOR shall seed during periods generally accepted by the local nursery trade for the specific seed blend. Seeding times other than those locally recognized shall be reviewed and approved by the ENGINEER before work begins. Use drop seeding method or hydro-seed where appropriate. No seeding shall take place between October 31, 2016 and March 15, 2017.

2. Seeding shall be in indicated areas within contract limits and in areas adjoining contract limits disturbed as a result of construction operations.

3. Seeding operations shall be performed when the soil is not saturated and when winds do not exceed five miles per hour velocity. Seeding should not be conducted immediately prior to a rain event.

4. Hydroseeding areas directly to soil:

   a. The CONTRACTOR shall apply appropriate seed mix and mulch slurry mixture with approved hydroseeding equipment. Slurry shall be composed of approved seed blend, colorant, mycorrhizae root stimulant, and mulch/tackifier. Mulch slurry shall be applied at a rate of 3,000 pounds of mulch per acre. Strictly comply with equipment manufacturer and

mulch/tackifier manufacturer’s installation instructions and recommendations. Use approved hydro-spraying machines with fan-type nozzle (50-degree tip). Apply seed and mulch slurry from opposing directions to the soil surface. Slurry shall be directed to evenly cover designated seed areas. Repair ruts, depressions, and all damage caused by hydro-seeding equipment.

5. Reseed all areas that show poor germination within 15 days of the initial hydroseed event.

B. During germination period, seeded areas shall be protected from any activity that would hinder proper seed growth. Taking the weather into consideration, water frequently and lightly to maintain the top 1/2- to 1-inch-deep to keep the soil layer moist. Water at a rate that will not cause erosion.

3.5 RESEEDING

A. All disturbed soils shall be reseeded in the spring after plant installation is complete as described in Section 32 93 00.

3.6 MAINTENANCE

A. The CONTRACTOR shall maintain new installed seeded areas, including watering, spot weeding, and reseeding until a full, uniform stand of seeded area free of weed, undesirable grass species, disease, and insects is achieved and accepted by the OWNER or ENGINEER.

B. During the warranty period, the CONTRACTOR shall repair, rework, and reseed all respective areas that have washed out or are eroded, or where vegetation has not been established.

-- END OF SECTION --

SECTION 32 93 00

PLANTING

PART 1 GENERAL

1.1 SUMMARY

A. Planting includes trees, shrubs, groundcovers, fertilizers, and mulches.

B. Work under this specification includes:

1. Procurement, transportation, and installation of plant material
2. Live stakes
3. Mulch
4. Irrigation
5. Plant material warranty
6. Maintenance and planting performance standards

1.2 RELATED SECTIONS

A. Section 32 92 19 SEEDING

1.3 REFERENCES

A. ANSI Z60.1 – American Standard for Nursery Stock; 2004

1.4 SUBMITTALS

A. The CONTRACTOR shall submit the following to the ENGINEER for approval:

B. Material test from qualified, independent testing agency providing and interpreting test results relative to compliance of the following materials (with requirements indicated below):

1. Analysis of the existing soil in proposed planting areas.
2. Analysis of imported vegetated stormwater system soil.
3. Analysis of the imported topsoil for proposed planting areas.

C. Submit a landscaping installation schedule 30 days prior to commencement, showing scheduled dates for all landscaping work. Update as needed to indicate changes in the schedule. Work done at an unscheduled time may be rejected by the ENGINEER. Schedule changes must be communicated to the OWNER and ENGINEER at least 48 hours prior to performance of the indicated work.

D. Product certificates signed by manufacturers certifying that their products comply with specified requirements.

1. Manufacturers’ certified analyses for standard products.
2. Analysis for other materials by a recognized laboratory, made according to methods established by the Association of Official Analytical Chemists, where applicable.

E. Label data verifying that plants, trees, shrubs, and planting materials comply with specified requirements.

F. Within 30 days following the signing of the Contract, submit names and locations of sources and proof of deposit or other method of reserving all plant material required for this project. Proof of non-availability and requests for plant material substitutions must be submitted within 21 days following the signing of the Contract. Submit proof of having reserved substitute materials within seven days of receiving the Change Order approval.

G. Irrigation plan – 30 days prior to mobilizing to the site, the CONTRACTOR shall submit an Irrigation Plan for the ENGINEER’s approval. The plan shall include the method by which irrigation water will be delivered. These methods can include a hand-watering system, an automatic temporary irrigation system, or another CONTRACTOR-proposed approach. The Irrigation Plan will outline the procedures for installation of the system (if any), programming and maintenance of the system (if any), description of labor and equipment involved, and a guarantee that the Irrigation Plan will be conducted as required to ensure that the plant material will thrive. The watering plan shall provide an estimate of the monthly water use.

    1. If an automatic temporary irrigation system is proposed, the CONTRACTOR shall submit an irrigation plan for approval. The manufacturer’s product data and installation instructions for the proposed irrigation system shall be included.

H. Samples of each of the following:

    1. Two (2) lbs. of wood fiber mulch required for the project, in a labeled plastic bag.

I. Maintenance instructions recommending procedures to be established by the OWNER for maintenance of landscaping during an entire year. Submit before expiration of the required CONTRACTOR warranty period(s).

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who has completed landscaping work similar in material, design, and extent to that indicated for the Project and with a record of successful landscape establishment.

B. Installer's Field Supervision: Require Installer to maintain an experienced, full-time supervisor on the Project site while landscaping is in progress.

C. Testing Agency Qualifications: To qualify for acceptance, an independent testing agency must demonstrate to the ENGINEER's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the work.

D. Provide quality, size, genus, species, and variety of trees and shrubs indicated, complying with applicable requirements of ANSI Z60.1 "American Standard for Nursery Stock."

E. Measurements: Measure trees and shrubs according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune

to obtain required sizes. Measure the main body of the tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

F. Pre-installation Conference: Conduct a conference at the Project site prior to beginning of planting operations and activities.

1.6 DELIVERY, STORAGE AND HANDLING

A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at the site.

B. Trees and Shrubs: Deliver freshly dug trees and shrubs. Do not prune before delivery, except as approved by the ENGINEER. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy natural shape. Provide protective covering during delivery. Do not drop trees and shrubs during delivery.

C. Handle balled and burlapped stock by the root ball.

D. Deliver trees, shrubs, seedlings, live stakes and plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set planting materials in shade, protect from weather and mechanical damage, and keep roots moist.

1. Set balled stock on the ground and cover the ball with soil, peat moss, sawdust, or other acceptable material.
2. Do not remove container-grown stock from containers before time of planting.
3. Protect and maintain plant life as instructed by the plant supplier until it is planted.
4. Water root systems, shrubs, and seedlings on site with a fine-mist spray. Water as often as necessary to keep root systems moist.
5. Live stake plant material shall be stored for no longer than 2 days.

1.7 WARRANTY

A. The CONTRACTOR shall warrant the following living planting materials for a period of one year after the date of Substantial Completion, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by OWNER; abnormal weather conditions unusual for the warranty period; or incidents that are beyond the CONTRACTOR's control.

1. Trees
2. Shrubs
3. Ground covers
4. Live stakes
5. Plants

B. The OWNER will withhold 5 percent of the planting costs until the end of the warranty period. Payment will be made to the CONTRACTOR within

30 days of the OWNER’s acceptance of the vegetated coverage at the end of the warranty period.

1.8 PERFORMANCE

A. The CONTRACTOR shall meet or exceed all performance standards for all living planting materials for a period of one year after the date of Substantial Completion. The CONTRACTOR will be responsible for all plant replacement required by the OWNER or ENGINEER to meet or exceed the performance standards for all planting areas.

B. Performance Standards:

1. Remove and replace all dead planting materials with like kind immediately unless required to plant in the succeeding planting season.
2. Replace with like kind all planting materials that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
3. A limit of one replacement of each plant will be required, except for losses or replacements due to failure to comply with requirements.
4. Nonnative invasive plant species shall not exceed 10 percent areal cover during the warranty period.

PART 2 MATERIALS

2.1 TREE AND SHRUB MATERIAL

A. General: Furnish nursery-grown trees and shrubs conforming to ANSI Z60.1 with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully-branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Grade: Provide trees and shrubs of sizes and grades conforming to ANSI Z60.1 for required type of trees and shrubs. Trees and shrubs of a larger size may be used if acceptable to the ENGINEER, with a proportionate increase in the size of roots or balls.

C. Label each tree and shrub with a securely attached, waterproof tag bearing a legible designation of the botanical and common names.

D. Label at least one tree and one shrub of each variety, and caliper with a securely attached, waterproof tag bearing a legible designation of the botanical and common names.

E. The CONTRACTOR shall locate and secure plant materials of the species indicated in the plans. Live materials shall be obtained from a source in the same climatic and elevation zone as the project site.

2.2 ROOTED SEEDLINGS

A. Provide established and well-rooted seedlings from an approved nursery.

B. Seedlings should be planted as soon as they are received from the nursery. If storing the seedlings is required before planting, keep seedlings in their original package until time for planting. Keep the

bag or box tightly sealed to keep moisture inside the package. Tape over any tears or holes in the packaging immediately.

C. Store seedlings in a cool, damp, and shaded location that is sheltered from the wind. Do not allow seedlings to freeze or to come into contact with direct sunlight.

D. Do not prune or cut off any parts of the seedling, especially the roots.

E. Examine each seedling before planting. Discard seedlings that have any of these characteristics:

1. Broken stem or primary root
2. Bark is skinned off or easily rubs off
3. Mold or mildew on the foliage
4. Dried-out roots
5. An undersized stem thickness at the stem/root transition

2.3 LIVE STAKE CUTTINGS

A. Live stake cuttings shall be approximately three-quarter inch to one inch (.75" to 1.0") in diameter. Cuttings will not exceed two inches (2") in diameter or be less than half an inch (0.5”). Cuttings shall be four feet (4') to six feet (6') in length and reasonably straight. Live Stake cuttings shall consist of a mix of the approved plant species as specified in the plans.

2.4 FERTILIZATION

A. Complete Fertilizers: Approved brands meeting requirements of applicable state fertilizer laws.

1. Uniform in composition and draw, and free flowing.
2. Deliver to the site in original, unopened containers, each meeting manufacturer's guaranteed analysis.
3. Slow Release Formula: 15-5-4 by ”Webfoot,” or other approved.
4. Commercial Fertilizer: 16-4-8, or approved, with some of the nitrogen in slow-release form.

2.5 BAMBOO STAKES

A. Bamboo stakes shall be four feet (4’) long and have a minimum diameter of one-half inch (0.5”).

2.6 MULCH

A. Organic Mulch: Organic mulch, free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of the following:

1. Type: Shredded bark

PART 3 EXECUTION

3.1 GENERAL

A. All plant installation shall be completed in the presence of the CONTRACTOR's supervisor who is experienced in vegetated stormwater system planting.

B. The CONTRACTOR shall bring to the site only those plants that can be installed within 7 days. All material not planted within two days shall be stored in a cool, dark location provided by the CONTRACTOR. Do not allow plant material to sit inside a closed container and rot or be exposed to the elements and dry out.

C. Plant locations are shown in a typical planting plan and with each plant species located in an elevation zone along the bank. Before plant installation, the CONTRACTOR shall mark on the ground the planting areas and the elevations that define the planting zones.

D. Initial plant watering shall be performed within one (1) day (wet weather) or two (2) hours (arid weather) of planting, after which time regular irrigation/watering shall be provided consistent with the Irrigation Plan.

3.2 PLANTING TREES AND SHRUBS

A. Install plants as indicated in the plans.

B. Set bare root trees and shrubs in the center of the pit or trench with the crown of the roots raised one (1) inch above adjacent finish grades as indicated in the plans.

1. Remove one bare root tree or shrub at a time from its package or plant bag.
2. Carefully insert the root system into the bottom of the hole and lift it up slightly to its desired planting depth.
3. Hold the bare root stock upright while gently closing the hole and packing the soil.

C. Set the balled and burlapped stock on a layer of compacted planting soil, plumb and in the center of the pit or trench, with the top of the ball 1 inch above adjacent finish landscape grades.

1. When the ball is set, place additional backfill around the base and sides of the ball, and work each layer to settle backfill and eliminate voids and air pockets.
2. When the excavation is approximately 2/3 full, water thoroughly before placing the rest of the backfill. Repeat watering until no more is absorbed. Water again after placing the final layer of backfill.
3. Remove burlap from top and sides of ball prior to placing backfill around root ball.

D. Dish and tamp the top of the backfill to form a 3-inch-high mound around the rim of the pit on the downhill side. Do not cover the top of the root ball with backfill.

E. Excess excavated soil shall be removed from the bank slope and deposited in a location to be specified by the ENGINEER.

3.3 TREE AND SHRUB PRUNING

A. Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by ENGINEER, do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are size after pruning.

3.4 PLANTING BARE ROOT SEEDLINGS

A. Dig a fairly straight hole that is deep and wide enough for all the seedlings' roots to fit without forcing them in.

B. Remove only one seedling at a time from its package or planting bag. Carefully separate the seedlings to avoid damaging the roots. Examine each seedling to confirm that it is a quality seedling (refer to 2.2-E above).

C. Insert the root system into the bottom of the hole, and then slightly lift up the seedling to its desired planting depth.

D. Hold the seedling upright while gently closing the hole and packing the soil.

3.5 HARVESTING LIVE STAKE CUTTINGS

A. The CONTRACTOR shall locate and secure dormant plant materials of the species indicated in the plans. Live materials shall be obtained from a source within thirty-five (35) miles of the project site, and all cuttings will be installed on the same day on which they are harvested.

B. The CONTRACTOR is responsible for obtaining the necessary approvals for harvesting and for obtaining the permission of all landowners of the harvest sites.

C. The CONTRACTOR shall harvest the plant material and prepare/plant the Live Stakes during the plant material's dormant period.

D. Plant material shall be harvested such that maximum survival is obtained. All cuts shall be smooth and the cut surface shall be kept small. Harvesting may be done using hand tools (pruning shears) or power tools (chainsaws, power trimmers w/blades). Plant material with excessive damage or oblique cuts, or with excessive damage to the bark, will not be acceptable.

E. All live materials shall be properly stored to ensure viability. Plant material must be moved from the harvest site and planted within eight (8) hours of cutting.

F. The CONTRACTOR shall protect plant materials from drying and overheating during harvest, during transport, and during the construction process.

G. Shrubs and young trees used in preparation of live cuttings shall be cut directly above the ground. The basal (bottom) ends shall be tapered to a point to facilitate insertion into the soil. The top shall be cut smooth and square.

3.6 LIVE STAKE PLACEMENT

A. Live Stakes shall be installed according to the Planting Plan details and following specifications.

B. The Live Stakes shall be placed so that at least twelve (12) inches of their length is buried. The Live Stakes shall be tamped and backfilled with topsoil to ensure continuous soil-to-cutting contact, with no excessive voids in the surrounding soil material.

C. Live Stakes shall be installed at the spacing and density shown on the project Planting Plan and details. Spacing (i.e., triangular spacing) for Stakes typically will be three (3) feet apart.

D. In the event that bar is used to initiate a pilot hole for Live Stakes, the holes will be filled with loose soil after the Stake is installed. The CONTRACTOR shall use water, poured into each hole, to ensure that the cutting is in firm contact with the backfill.

E. Live Stakes shall not be split during installation. Stakes that are split shall be removed and replaced, or if the split is less than 1/6 of the cutting length, the top may be re-trimmed to remove the damaged portion.

3.7 MULCHING

A. Place two (2) inches of bark mulch (in depth) in a circular pattern around trees and shrubs (a 12-inch-diameter of mulch from tree/shrub). Pull mulch away from the base of the plant. Do not put mulch next to the plant crown.

3.8 STAKING

A. Place a bamboo stake next to each plant, without damaging the roots, to mark its location. Insert the stake at least 12 inches into the soil.

3.9 RESEEDING

A. The CONTRACTOR shall reseed the bank with the appropriate seed mix after all other plant installation work is complete and local climate conditions are acceptable.

B. The CONTRACTOR shall apply the seed by hand prior to placement of the mulch ring.

3.10 CLEAN UP

A. During installation, the work area shall be kept clean and free of debris such as unusable plant materials. Excess potting soil removed from plants during planting shall be dispersed on the upland site in a location directed by the ENGINEER. Final cleanup shall be the responsibility of the CONTRACTOR. Upon completion of the Project, and prior to the issue of the final planting payment, the CONTRACTOR shall remove all debris and trash from the site and dispose of such materials off site.

3.11 SITE INSPECTION

A. Upon completion of the planting, the CONTRACTOR and ENGINEER and/or OWNER will inspect all plantings. The CONTRACTOR shall correct all deficiencies within ten (10) calendar days of the inspection.

B. Upon completion of the warranty period, the CONTRACTOR and ENGINEER and/or OWNER will inspect all plantings. The CONTRACTOR shall correct all deficiencies within thirty (30) calendar days of the inspection.

3.12 MAINTENANCE

A. During the one-year warranty period, the CONTRACTOR will be responsible for all plant material replacement, watering, weeding, and other maintenance of the site vegetation to achieve the requirements as stated above in Part 1.8, Performance.

3.13 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the OWNER's property.

-- END OF SECTION --

SECTION 35 42 00

AGGREGATES AND FILL

PART 1 GENERAL

1.1 SUMMARY

A. This section specifies the technical requirements for general fill, subbase gravel, riprap, round river cobble, and topsoil as shown on the Contract Drawings. Placement of fill shall proceed consistent with the alignments, grades, and cross sections shown on the Contract Drawings and detailed in the Specifications.

1.2 REFERENCES

A. ASTM Standards:

1. D422: Standard Test Method for Particle-Size Analysis of Soils.
2. D698: Standard Method for Laboratory Compaction Characteristics of Soil Using Standard Effort.
3. D5268: Standard Specification for Topsoil Used for Landscaping Purposes.
4. D2974: Standard Test Method for Moisture, Ash, And Organic Matter of Peat and Other Organic Soils

B. Oregon Department of Transportation Standard Specifications for Construction, 2015 edition.

1.3 SUBMITTALS

A. A portion of the required CONTRACTOR’s Work Plan shall outline materials, equipment, and methods to be used to place fill in water and upland as shown on the Contract Drawings and described in these Specifications. Descriptions shall include:

1. Equipment and procedures to be used to place materials and demonstrate that they are appropriate to the described scope of work.
2. Equipment and temporary facility requirements and procedures to be used to stage, store, and transport materials prior to placement.
3. Proposed methods to systematically execute the material placement in required lift thicknesses.

(SD-01) The CONTRACTOR shall submit all fill material source information, including a contact name, address, and telephone number for each product and/or source, to the ENGINEER for approval.

1.4 EQUIPMENT

A. The CONTRACTOR shall propose equipment for material placement that has the ability to meet the following criteria:

1. Consistent placement of material to the alignments, grades, and cross sections shown on the Drawings and detailed in the Specifications.

B. The CONTRACTOR shall provide clean equipment for the placement and transport of all fill materials.

PART 2 PRODUCTS

2.1 GENERAL

A. Materials shall be of or equal to the quality, size, shape, and gradation of those specified herein.

B. The CONTRACTOR may, at his or her option, propose to use imported material with different gradation and quality characteristics than specified herein. The proposed material must be determined by the ENGINEER to be suitable for its intended use, and must satisfy the general requirements and intent of this Contract.

2.2 STRUCTURAL FILL FOR EMBANKMENT

A. Structural fill to be used for in-water and upland fill under the ramp shall be an imported, clean, structural common borrow material free of roots, large organic material, contaminants, and all other deleterious and objectionable material.

B. Structural fill shall consist of hard, well-graded, angular rock.

C. Grain Size and Gradation:

% Passing	U.S. Sieve
100	6 inch
60-100	2 inch
45-75	3/4 inch
25-50	No. 4
15-35	No. 10
0-5	No. 100
0-5	No. 200

2.3 SUBBASE GRAVEL

A. Subbase gravel for asphalt paving, cast-in-place concrete paving, and precast plank base rock shall conform to the City of West Linn Standard Specifications Section 503.2.04 for 3/4″-0 base aggregate.

B. Grain Size and Gradation:

% Passing	U.S. Sieve
100	1 inch
90-100	3/4 inch
55-75	3/8 inch
40-60	1/4 inch

2.4 RIPRAP

A. Riprap shall consist of clean, hard, angular rock that conforms to ODOT quality and gradation requirements for Class 700 riprap as outlined in Section 00390.11 of the 2015 ODOT standard Specifications.

2.5 ROUND RIVER COBBLE

A. The material to be used for construction of the round river cobble shall be an imported, washed, clean, granular material free of roots,

large organic material, contaminants, and all other deleterious and objectionable material.

B. Grain Size and Gradation:

% Passing	U.S. Sieve
100	6 inch
50	3 inch
10	0.75 to 1.25 inch

C. Physical characteristics: well-graded, rounded to subangular gravel/cobble.

D. Round River Cobble shall be of a quality suitable to ensure permanence in the structure and in the climate in which it is to be used. It shall be free from cracks, blast fractures, bedding, seams, and other defects that would tend to increase its deterioration from natural causes. Visual examination shall be made for cracks, fractures, seams, and defects. If, by visual examination, it is determined that twenty (20) percent or more of the round river cobble produced contains hairline cracks, then all round river cobble produced by the means and measures that caused the fractures shall be rejected. A hairline crack that is defined as being detrimental shall have a minimum width of 0.1 mm and shall be continuous for one-third of the dimension of at least two (2) sides of the rock.

E. The round river cobble shall be clean, without contamination, and free from foreign matter. Any foreign material adhering to or combined with the round river cobble as a result of stockpiling shall be removed prior to placement.

F. Quarry operations shall be conducted by the CONTRACTOR in a manner that shall produce round river cobble conforming to the requirements specified and may involve selective quarrying, handling, processing, blending, and loading as necessary.

G. Storage of round river cobble subsequent to shipment from the quarry and prior to permanent placement in the required work shall be subject to the approval of the ENGINEER.

2.6 TOPSOIL

A. The material to be used for topsoil overlay shall be an imported, clean, topsoil material.

B. Topsoil material shall consist of sandy-loam from approved sources, and shall be free of particles greater than 1 inch in diameter, admixtures of subsoil, clay, noxious weeds and grasses (such as horsetail, quackgrass, and Johnson grass and their roots), and other material deleterious to plant growth or that hinders grading, planting, or maintenance operations.

C. Topsoil shall conform to ASTM D 5268, with a pH range of 6 to 7.5.

D. Imported topsoil shall not be delivered in a frozen or muddy condition. Protect from erosion at all times during transport, stockpiling, and placement.

E. The CONTRACTOR shall provide an analysis of organic content from each borrow site. Acceptable organic content range: 2 to 10% (as determined by ASTM D 2974).

PART 3 EXECUTION

3.1 GENERAL

A. The CONTRACTOR shall protect utilities and subsurface features during all placement activities.

B. The CONTRACTOR shall inform and satisfy himself or herself as to the character, quantity, and quality of all material to be placed. If the material does not satisfy the quality and performance requirements specified herein as determined by the ENGINEER, the CONTRACTOR shall obtain material that does meet the requirements at the CONTRACTOR's expense. A change in material source due to errors by the CONTRACTOR shall not be grounds for an adjustment in unit cost.

C. The CONTRACTOR shall identify and verify with the Drawings the required lines, levels, contours, and datum locations. Any discrepancies shall be immediately reported to the ENGINEER.

D. The OWNER reserves the right to require the CONTRACTOR to remove, at the CONTRACTOR's expense, material placed above or outside the designated lines, grades, and tolerances, unless the work was directed by the ENGINEER.

E. The CONTRACTOR shall make all work areas safe. The CONTRACTOR shall stop work in an area until all unsafe conditions have been made safe.

F. The CONTRACTOR shall provide safe access to the placement areas for any inspections that may be required during placement activities.

3.2 PREPARATION

A. Remove brush, trees, stumps, and other organic material from slopes to be protected by structural fill as shown on the Drawings.

B. Prior to placement of riprap, geosynthetics, structural fill, or round river cobble, the subgrade surface shall be prepared as shown on the Project Drawings. All subgrade surfaces shall be prepared so as to be reasonably smooth, and free of significant protrusions, mounds, dips, etc.

C. After stripping to subgrade level in areas above the water line to receive fill, the upper 12 inches of exposed sand and gravel subgrade shall be compacted until well-keyed prior to placement of the structural fill.

D. No structural fill, geosynthetics, or fish mix rock shall be placed until the subgrade is inspected and approved by the ENGINEER.

3.3 PLACEMENT OF STRUCTURAL FILL

A. Construct structural fill to the lines and grades, and in a manner consistent with the Project Drawings.

B. Prior to structural fill placement activities, the CONTRACTOR shall obtain approval from the ENGINEER that the subgrade has been prepared satisfactorily.

C. The CONTRACTOR shall employ the most appropriate methods, equipment, and placement rates for placement of structural fill in the areas identified on the Drawings.

D. Structural fill shall be placed in loose lifts of 12 to 18 inches maximum and compacted until well-keyed with a large, smooth-drum vibratory roller.

E. In-water structural fill shall be placed using methods that will minimize segregation. In areas below the water surface or that are inaccessible to the roller, structural fill should be tamped into place with a bucket of a backhoe or walked in with track hoe until well-keyed.

F. The OWNER shall obtain a geotechnical engineer to observe placement of structural fill. The CONTRACTOR shall allow the geotechnical engineer to observe fill placement and perform compaction testing as necessary.

3.4 PLACEMENT OF ROUND RIVER COBBLE

A. Round river cobble shall be placed in a manner that will not cause segregation of the stone sizes and that will minimize voids.

B. The round river cobble shall be placed such that the deposited material does not significantly disrupt or penetrate the sediment subgrade.

C. The round river cobble layer shall not be less than the thickness specified on the Drawings and may not exceed 125% of the thickness specified on the Drawings. Placement of round river cobble (material and labor) in excess of the specified thickness will not be reimbursed.

3.5 QUALITY CONTROL

A. The CONTRACTOR shall inform and satisfy himself or herself that the fill materials have been placed to the thickness, grades, and locations specified in the Drawings by monitoring the placement of the materials. Monitoring may consist of performing topographic surveys prior to, during, and after placement, as appropriate.

B. The CONTRACTOR shall provide documentation of the final grades and extent of fill through standard surveying techniques.

3.6 WATER QUALITY MONITORING

A. In addition to measures required to prevent dispersion of fines into the Willamette River, the CONTRACTOR shall protect the environment using erosion- and sediment-control measures described on the Drawings.

B. Water quality monitoring shall be performed by the CONTRACTOR with visual observation during in-water work. If sediment release is observed, additional monitoring may be necessary.

C. The CONTRACTOR shall submit daily turbidity monitoring logs to the OWNER on a weekly basis.

-- END OF SECTION--

Parks Department
22500 Salamo Road
West Linn, Oregon 97068
Telephone: (503) 557-4700
Fax: (503) 656-4106

Appendix C

PLANS

CEDAROAK BOAT LAUNCH

PREPARED FOR:

CITY OF WEST LINN PARKS AND RECREATION

LOCATED AT RIVER MILE 23.2+/-

PROJECT CONTACTS

CLIENT	CIVIL ENGINEER
CITY OF WEST LINN PARKS AND RECREATION 22500 SALAMO ROAD, PO BOX 1100 WEST LINN, OREGON 97068 P: 503.557.4700 CONTACT: KEN WORCESTER	MAUL, FOSTER & ALONGI, INC. 2001 NW 19TH AVENUE, SUITE 200 PORTLAND, OREGON 97209 P: 971.544.2139 CONTACT: JACOB FAUST, PE
SURVEYOR MINISTER-GLAESER SURVEYING, INC. 2200 E. EVERGREEN BLVD. VANCOUVER, WASHINGTON 98661 P: 360.694.3313 CONTACT: DAN RENTON, PLS	

PROJECT SUMMARY

SITE ADDRESS:
4600 ELMRAN DRIVE
WEST LINN, OREGON 97068

NEW IMPROVEMENTS:
THE PROJECT WILL CONSIST OF PARTIAL DEMOLITION AND COMPLETE REPLACEMENT OF AN EXISTING TWO-LANE BOAT LAUNCH FACILITY OPERATED AND MAINTAINED BY THE CITY OF WEST LINN PARKS AND RECREATION DEPARTMENT. THE FACILITY WILL BE CONSTRUCTED APPROXIMATELY 115 FEET FURTHER INTO THE RIVER TO MITIGATE SEDIMENTATION BUILDUP OVER THE LOWER PORTION OF THE EXISTING RAMP.

VICINITY MAP

SCALE: 1"=1600'

SHEET INDEX

C0.0	COVER SHEET
C1.0	EXISTING CONDITIONS AND DEMO PLAN
C1.1	EROSION AND SEDIMENT CONTROL PLAN
C1.2	EROSION AND SEDIMENT CONTROL DETAILS
C2.0	PROPOSED SITE PLAN
C2.1	TYPICAL SECTIONS
C3.0	HORIZONTAL CONTROL PLAN
C4.0	GENERAL GRADING AND DRAINAGE PLAN
C4.1	UPLAND GRADING PLAN
C4.2	RAMP PLAN AND PROFILE
C4.3	GRADING CROSS SECTIONS
C4.4	CAST-IN-PLACE RAMP PLAN
C4.5	RAIL PLAN
C6.0	SITE DETAILS
C6.1	SITE DETAILS
C6.2	ABUTMENT DETAILS
C6.3	PRECAST PLANK DETAILS
L1.0	LANDSCAPE PLANTING PLAN
L1.1	PLANT SCHEDULE, NOTES, AND DETAILS

GENERAL NOTES

1. SURVEY PERFORMED BY MINISTER GLAESER-SURVEYING, INC. IN 2014.
2. HORIZONTAL DATUM: OREGON STATE PLANE COORDINATE SYSTEM NORTH ZONE, NAD 83 (INTERNATIONAL FEET). ELEVATION DATUM: NAVD 88
3. ALL MATERIALS AND CONSTRUCTION METHODS SHALL ADHERE TO THE MOST RECENT CITY OF WEST LINN STANDARD CONSTRUCTION SPECIFICATIONS AND OREGON STATE MARINE BOARD REQUIREMENTS.
4. ENTIRE SITE LOCATED WITH FEMA 100 YEAR FLOOD PLAIN
5. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION. A MINIMUM OF TWO FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CALL 811 (UTILITY NOTIFICATION CENTER) FOR LOCATION MARK-UP OF EXISTING UTILITIES.
6. ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE LATEST STANDARDS AND PRACTICES OF THE CITY OF WEST LINN AND THE LATEST EDITION OF THE THE "OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION" PREPARED BY ODOT.
7. IN CASE OF A CONFLICT BETWEEN THE REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.
8. ANY CHANGES TO THE DESIGN AND/OR CONSTRUCTION SHALL BE APPROVED BY THE OWNER OR ENGINEER.
9. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE AN APPROVAL OF ANY OTHER CONSTRUCTION NOT SPECIFICALLY SHOWN ON THE PLANS.
10. A COPY OF THESE APPROVED PLANS SHALL BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL CONSTRUCTION EASEMENTS AND PERMITS NECESSARY TO PERFORM THE WORK.
12. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKING.
13. PUBLIC AND PRIVATE DRAINAGE WAYS SHALL BE PROTECTED FROM POLLUTION. NO MATERIAL IS TO BE DISCHARGED TO OR DEPOSITED IN STORMWATER SYSTEMS THAT MAY RESULT IN VIOLATION OF STATE OR FEDERAL WATER QUALITY STANDARDS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES ON THE ADJACENT PUBLIC STREETS.
15. ANY PUBLIC OR PRIVATE CURB, GUTTER, SIDEWALK, OR ASPHALT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO CITY OF WEST LINN STANDARDS AND PRACTICES.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ADJACENT UTILITIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, WATER, SANITARY SEWER, STORMWATER, POWER, TELEPHONE, CABLE TV, GAS, IRRIGATION, AND STREET LIGHTING. THE CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES 48 HOURS IN ADVANCE OF ANY WORK AFFECTING ACCESS OR SERVICE AND SHALL MINIMIZE INTERRUPTIONS TO DRIVEWAYS FOR RESIDENTS AND BUSINESSES ADJACENT TO THE PROJECT.
17. ALL LAWN AND VEGETATED AREAS DISTURBED WILL BE RESTORED TO ORIGINAL CONDITION. ANY DISTURBANCE OR DAMAGE TO OTHER PROPERTY ON ADJACENT PARCELS OR IN THE PUBLIC RIGHT OF WAY SHALL ALSO BE REPAIRED OR RESTORED TO ORIGINAL CONDITION.
18. WORKS SHALL BE SEQUENCED AROUND RIVER LEVELS, TIDAL EFFECT, AND PERMIT RESTRICTIONS. THE OWNER IS NOT RESPONSIBLE FOR COORDINATING WORK OR CHANGING SITE CONDITIONS.

LEGEND

EXISTING GRADE MAJOR CONTOUR — 30
EXISTING GRADE MINOR CONTOUR — 29
PROPOSED GRADE MAJOR CONTOUR — 30
PROPOSED GRADE MINOR CONTOUR — 29
PROPOSED WATER LINE — W
EXISTING AC PAVEMENT
EXISTING CONCRETE SURFACING
EXISTING BUILDING
PROPOSED AC PAVEMENT
PROPOSED CONCRETE SURFACING
PROPOSED ROCK/COBBLE SURFACING
PROPOSED VEGETATED SURFACING

BID DOCUMENTS

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REGISTERED PROFESSIONAL ENGINEER 83172PE OREGON JUNE 7, 2011 JACOB M. FAUST
EXPIRES: 12/31/2017
This digital seal certifies the signatory and document content.

CEDAROAK BOAT LAUNCH
CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

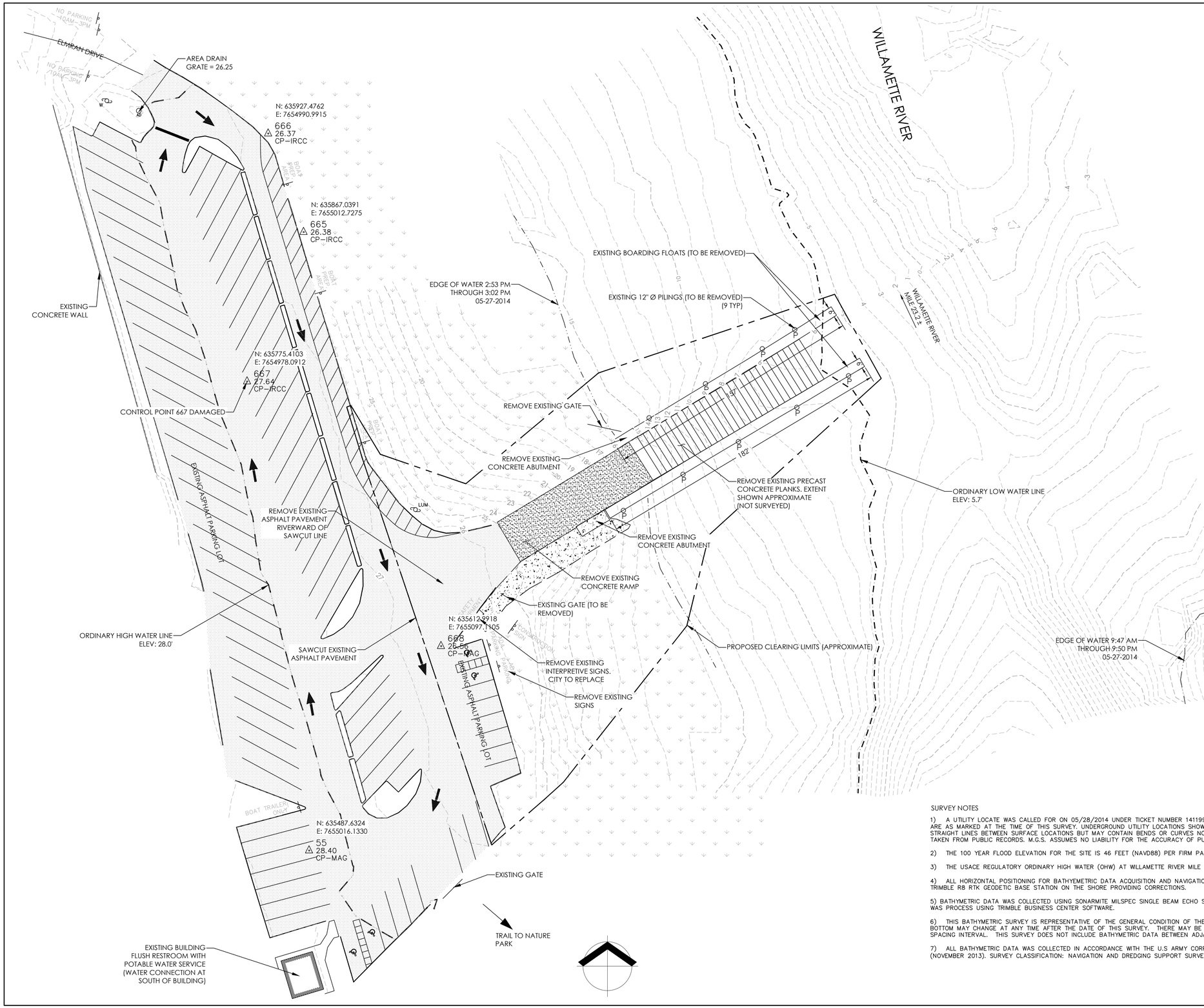
ISSUE	DATE	DESCRIPTION
1	3/15/2016	ISSUE FOR BID

PROJECT: 0161.01.05
DESIGNED: J. FAUST
DRAWN: J. FAUST
CHECKED: A. JANSKY
SCALE

SHEET TITLE
COVER

SHEET
C0

PLOTTED ON: 2016-03-15 12:51 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-COVER.dwg



LEGEND

- EXISTING AC PAVEMENT
- EXISTING CONCRETE SURFACING
- EXISTING GRAVEL SURFACING
- EXISTING BUILDING
- EXISTING VEGETATED AREA
- EXISTING GRADE CONTOUR (30)
- EXISTING FENCE
- EXISTING PILING
- EXISTING POWER POLE W/ DIRECTION OF OVERHEAD LINES (N,NE)
- EXISTING SIGN
- EDGE OF WATER
- PROPOSED CLEARING LIMITS
- CONTROL POINT

DEMOLITION NOTES

1. ALL UTILITIES SHALL BE PLUGGED AND/OR CAPPED TO PREVENT GROUNDWATER INTRUSION AND LEACHING.
2. CLEARING AND GRUBBING SHALL BE COMPLETED PER SECTION 203 OF THE CITY OF WEST LINN STANDARD SPECIFICATIONS.
3. CONTRACTOR SHALL CONFIRM SITE CONDITIONS BEFORE CONSTRUCTION AND NOTIFY THE ENGINEER OF CHANGED CONDITIONS FROM THE EXISTING CONDITIONS SURVEY.
4. CONTRACTOR TO DISPOSE OF ALL DEBRIS AND EXCESS MATERIAL ACCORDING TO LOCAL REQUIREMENTS.
5. CONTRACTOR SHALL REMOVE ALL TRESS, SHRUBS, RUBBISH, AND MAN-MADE STRUCTURES WHICH INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE SLABS, FOOTINGS, SIGNS, ASPHALT SURFACES, GRAVELED AREAS, FREE STANDING SHEDS, BUILDING FOUNDATIONS, OR FENCING WITHIN THE CLEARING LIMITS. THE ITEMS LISTED ABOVE SHALL BE DISPOSED OF OFF-SITE OR PRESERVED AT THE DIRECTION OF THE CITY OF WEST LINN. IT IS THE CONTRACTORS RESPONSIBILITY TO TO CONFIRM THE NUMBER OF STRUCTURES AND SITE TREES TO BE REMOVED.
6. VEGETATED AREAS AND AREAS TO RECEIVE STRUCTURAL FILL SHALL BE STRIPPED TO A DEPTH OF 4 TO 6 INCHES, WITH DEEPER STRIPPING AND GRUBBY NECESSARY TO REMOVE BRUSH, TREE ROOTS, OR OTHER LARGE DEBRIS.
7. CONTRACTOR SHALL SAW CUT AND REMOVE ASPHALT ONLY WHERE SHOWN.
8. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL PILINGS IN ACCORDANCE WITH THE USACE PERMIT.
9. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING BOARDING FLOATS AT DIRECTION OF THE CITY OF WEST LINN.
10. ALL UNSTABLE MATERIAL (SOIL AND VEGETATION) REMOVED DURING THE CLEARING, GRUBBING, AND STRIPPING OPERATIONS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE IN A SUITABLE LOCATION APPROVED BY THE ENGINEER.
11. ALL EXISTING REMAINING UTILITIES AND REMAINING IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE LOCAL AGENCY AND THE ENGINEER AT THE CONTRACTORS SOLE EXPENSE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT PRIOR DAMAGES.
12. ANY EXISTING PAVEMENT AREAS OFFSITE THAT ARE DAMAGED DUE TO HAULING OR TO ANY OTHER ACTIVITY OF THE CONTRACTOR, SHALL BE REPLACED AT THE CONTRACTORS EXPENSE AS DIRECTED BY THE ENGINEER.

SURVEY NOTES

1) A UTILITY LOCATE WAS CALLED FOR ON 05/28/2014 UNDER TICKET NUMBER 14119989. THE UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC MAP ARE AS MARKED AT THE TIME OF THIS SURVEY. UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN SURFACE LOCATIONS BUT MAY CONTAIN BENDS OR CURVES NOT SHOWN. SOME UNDERGROUND LOCATIONS HEREON MAY HAVE BEEN TAKEN FROM PUBLIC RECORDS. M.G.S. ASSUMES NO LIABILITY FOR THE ACCURACY OF PUBLIC RECORDS.

2) THE 100 YEAR FLOOD ELEVATION FOR THE SITE IS 46 FEET (NAVD88) PER FIRM PANEL MAP NUMBER #41005C0019D.

3) THE USACE REGULATORY ORDINARY HIGH WATER (OHW) AT WILLAMETTE RIVER MILE 23 IS 28 FEET (NAVD88).

4) ALL HORIZONTAL POSITIONING FOR BATHYEMETRIC DATA ACQUISITION AND NAVIGATION WAS SUPPLIED BY TRIMBLE R10 RTK GEODETIC RECIEVER WITH A TRIMBLE R8 RTK GEODETIC BASE STATION ON THE SHORE PROVIDING CORRECTIONS.

5) BATHYMETRIC DATA WAS COLLECTED USING SONARMITE MILSPEC SINGLE BEAM ECHO SOUNDER WITH A 200–KHZ FREQUENCY AND A 4–DEGREE BEAM. THE DATA WAS PROCESS USING TRIMBLE BUSINESS CENTER SOFTWARE.

6) THIS BATHYMETRIC SURVEY IS REPRESENTATIVE OF THE GENERAL CONDITION OF THE RIVER BOTTOM AT THE TIME OF THE SURVEY. THE CONDITION OF THE BOTTOM MAY CHANGE AT ANY TIME AFTER THE DATE OF THIS SURVEY. THERE MAY BE BOTTOM FEATURES THAT ARE NOT SHOWN ON THIS MAP DUE TO THE LINE SPACING INTERVAL. THIS SURVEY DOES NOT INCLUDE BATHYMETRIC DATA BETWEEN ADJACENT SURVEY LINES.

7) ALL BATHYMETRIC DATA WAS COLLECTED IN ACCORDANCE WITH THE U.S ARMY CORPS OF ENGINEERS HYDROGRAPHIC SURVEY MANUAL EM–1110–02–1003 (NOVEMBER 2013). SURVEY CLASSIFICATION: NAVIGATION AND DREDGING SUPPORT SURVEYS, BOTTOM CLASSIFICATION OF SOFT.

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EXPIRES: 12/31/2017
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CEDAROAK BOAT LAUNCH
CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

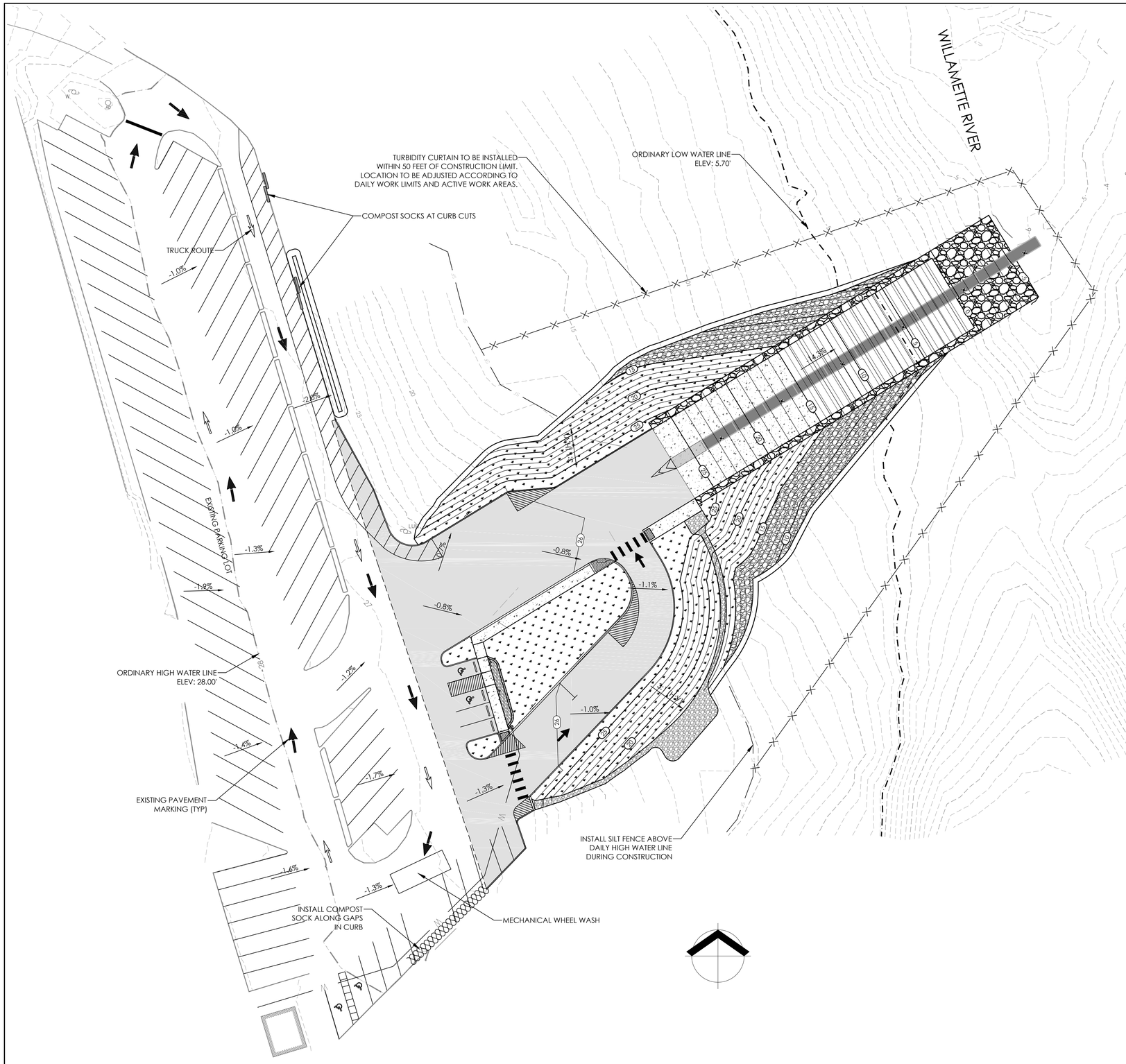
ISSUE	DATE	DESCRIPTION
1	3/10/2016	ISSUE FOR BID

PROJECT: 0161.01.05
DESIGNED: J. FAUST
DRAWN: L. CROSBY
CHECKED: A. JANSKY
SCALE: 0 30' 60'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
EXISTING CONDITIONS AND DEMO PLAN

SHEET
C1.0

PLOTTED ON: 2016-03-15 12:02 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C1.0-BIDDING.dwg



STANDARD EROSION CONTROL NOTES

1. TURBIDITY CURTAIN TO BE DEPLOYED FROM BANK INTO RIVER AROUND ALL IN-WATER WORK AREAS.
2. TURBIDITY CURTAIN SHALL EXTEND AT LEAST 50 FEET UPSTREAM AND DOWNSTREAM OF THE LIMITS OF GROUND DISTURBANCE AND CONNECT TO THE RIVER BANK ABOVE THE DAILY HIGH WATER ELEVATION.
3. SEDIMENT FENCE LOCATION TO BE ADJUSTED PER WATER ELEVATIONS AND WORK LIMITS AT TIME OF PROJECT CONSTRUCTION.
4. WHEN RAINFALL AND RUNOFF OCCURS DAILY INSPECTIONS OF THE EROSION AND SEDIMENT CONTROLS AND DISCHARGE OUTFALLS MUST BE PROVIDED BY SOME ONE KNOWLEDGEABLE AND EXPERIENCED IN THE PRINCIPLES, PRACTICES, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS WHO WORKS FOR THE PERMITTEE.
5. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31 EACH YEAR.
6. DURING WET WEATHER PERIOD, TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY.
7. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. THEY MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED.
8. ALL ACTIVE INLETS MUST HAVE SEDIMENT CONTROLS INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. UNLESS OTHERWISE APPROVED, A SURFACE MOUNTED AND ATTACHABLE, U-SHAPED FILTER BAG IS REQUIRED FOR ALL CURB INLET CATCH BASINS.
9. SIGNIFICANT AMOUNTS OF SEDIMENT WHICH LEAVES THE SITE MUST BE CLEANED UP WITHIN 24 HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PREFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIME FRAME.
10. SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES.
11. SEDIMENT MUST BE REMOVED FROM BEHIND ALL SEDIMENT CONTROL MEASURES WHEN IT HAS REACHED A HEIGHT OF 1/3RD THE BARRIER HEIGHT, AND PRIOR TO THE CONTROL MEASURES REMOVAL.
12. CLEANING OF ALL STRUCTURES WITH SUMPS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 50% AND AT COMPLETION OF PROJECT.
13. ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL.
14. THE PERMITTEE MUST PROPERLY MANAGE HAZARDOUS WASTES, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION.
15. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE MADE IN APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE.
16. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH CURRENT CLEAN WATER SERVICES STANDARDS AND STATE, AND FEDERAL REGULATIONS.
17. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD. UNLESS OTHERWISE APPROVED, NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE OWNER/PERMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.
18. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMPS THAT MUST BE INSTALLED ARE GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMPS MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
19. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAN SEPTEMBER 1ST; THE TYPE AND PERCENTAGES OF SEED IN THE MIX ARE AS IDENTIFIED ON THE PLANS OR AS SPECIFIED BY THE DESIGN ENGINEER.
20. WATER-TIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMPS; SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE.
21. ALL PUMPING OF SEDIMENT LADEN WATER MUST BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP (I.E. FILTER BAG).
22. THE ESC PLAN MUST BE KEPT ONSITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE WATER SYSTEM, ROADWAY, OR OTHER PROPERTIES.
23. THE ESC MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE MEASURES SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
24. WRITTEN ESC LOGS ARE SUGGESTED TO BE MAINTAINED ONSITE AND AVAILABLE TO DISTRICT INSPECTORS UPON REQUEST.
25. IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMPS MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING, OR OTHER APPROVED MEASURES.
26. ALL EXPOSED SOILS MUST BE COVERED DURING WET WEATHER PERIOD.
27. ALL VEHICLES LEAVING SITE MUST PASS OVER WHEEL WASH DURING EARTH MOVING AND GROUND DISTURBING ACTIVITIES. VEHICLES THAT REMAIN ON CLEAN ASPHALT WHILE ON SITE MAY BYPASS THE WHEEL WASH.
28. CONTRACTOR SHALL MEET CONDITIONS IN ARMY CORPS OF ENGINEERS AND OREGON DEPARTMENT OF STATE LANDS PERMIT REGARDING TURBIDITY FOR IN-WATER WORK.
29. COPIES OF OFF PERMITS MUST BE KEPT ONSITE AND ACCESSIBLE AT ALL TIMES.
30. CONTRACTOR SHALL PROVIDE DAILY TURBIDITY MONITORING AND COPIES OF LOGS TO THE OWNER ON A WEEKLY BASIS.

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REGISTERED PROFESSIONAL ENGINEER 83172PE OREGON JUNE 7, 2012 JACOB M. FAUST

EXPIRES: 12/31/2017

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CEDAROAK BOAT LAUNCH

CITY OF WEST LINN PARKS AND REC.

WEST LINN, OREGON

ISSUE	DATE	DESCRIPTION
1	3/13/2014	ISSUE FOR BID

PROJECT: 0161.01.05

DESIGNED: J. FAUST

DRAWN: L. CROSBY

CHECKED: A. JANSKY

SCALE

0 30' 60'

NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE

EROSION AND SEDIMENT CONTROL PLAN

SHEET

C1.1

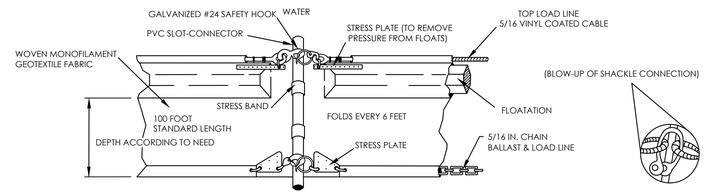
PLOTTED ON: 2014-03-15 12:03 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLAN\C-ESCP.dwg

GENERAL EROSION CONTROL NOTES

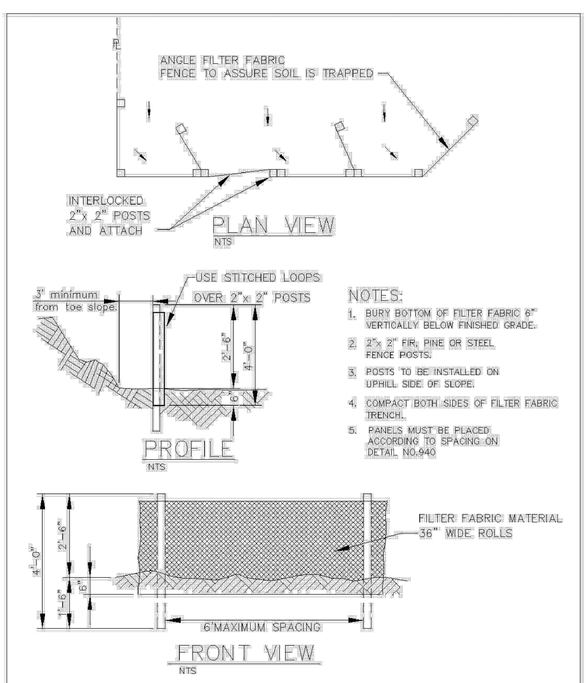
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE DEQ EROSION & SEDIMENT CONTROL MANUAL (2005) PRIOR TO THE START OF CONSTRUCTION AND INSTALLATION OF EROSION CONTROL BMPs.
2. ALL EROSION CONTROL BMPs SHALL BE INSTALLED AND MAINTAINED PER THE DEQ EROSION & SEDIMENT CONTROL MANUAL (APRIL 2005).
3. APPROVAL OF THIS EROSION, SEDIMENT AND POLLUTION CONTROL PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES)
4. THE IMPLEMENTATION OF THIS ESPCP AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESPCP FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND LANDSCAPING IS ESTABLISHED AND INSPECTED.
5. THE ESPCP FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
6. THE ESPCP FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESPCP FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
7. THE ESPCP FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
8. THE ESPCP FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF EVERY TWO WEEKS OR WITHIN THE 24 HOURS FOLLOWING A STORM EVENT AS DEFINED IN THE CITY OF PORTLAND EROSION CONTROL MANUAL.
9. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

STANDARD NOTES FOR SEDIMENT FENCES

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO MINIMIZE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST, OR OVERLAP 2 INCH X 2 INCH POSTS AND ATTACH AS SHOWN ON DETAIL SHEET 4.3-A.
2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES.
3. THE FILTER FABRIC SHALL HAVE A MINIMUM VERTICAL BURIAL OF 6 INCHES. ALL EXCAVATED MATERIAL FROM FILTER FABRIC FENCE INSTALLATION, SHALL BE BACKFILLED AND COMPACTED, ALONG THE ENTIRE DISTURBED AREA.
4. STANDARD OR HEAVY DUTY FILTER FABRIC FENCE SHALL HAVE MANUFACTURED STITCHED LOOPS FOR 2 INCH X 2 INCH POST INSTALLATION. STITCHED LOOPS SHALL BE INSTALLED ON THE UP HILL SIDE OF THE SLOPED AREA.
5. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY PROTECTED AND STABILIZED.
6. FILTER FABRIC FENCES SHALL BE INSPECTED BY AN OWNER APPROVED INSPECTOR IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.



C1.1 TYPE II TURBIDITY CURTAIN DETAIL
NOT TO SCALE



SEDIMENT FENCE

DETAIL DRAWING 4-23 REVISED 01-09

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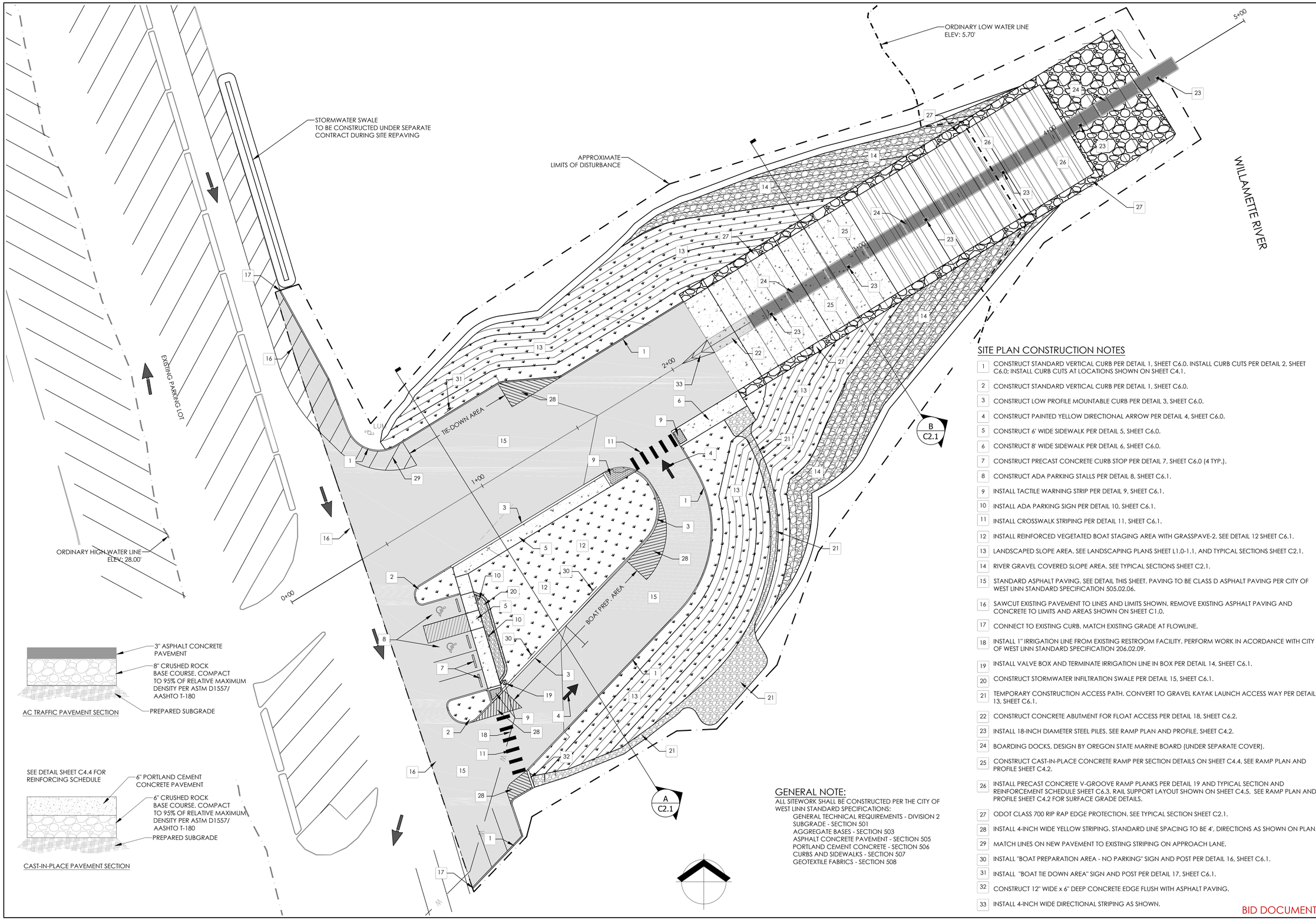
CHECKED: A. JANSKY
SCALE
DRAWING NOT TO SCALE
SHEET TITLE
EROSION AND SEDIMENT CONTROL DETAILS
SHEET
C1.2

BID DOCUMENTS

PLOTTED ON: 2014-03-15 12:03 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161\01 Cedar Oak Boat Launch\PLANS\C-ESCP.dwg



SITE PLAN CONSTRUCTION NOTES

1. CONSTRUCT STANDARD VERTICAL CURB PER DETAIL 1, SHEET C6.0. INSTALL CURB CUTS PER DETAIL 2, SHEET C6.0; INSTALL CURB CUTS AT LOCATIONS SHOWN ON SHEET C4.1.
2. CONSTRUCT STANDARD VERTICAL CURB PER DETAIL 1, SHEET C6.0.
3. CONSTRUCT LOW PROFILE MOUNTABLE CURB PER DETAIL 3, SHEET C6.0.
4. CONSTRUCT PAINTED YELLOW DIRECTIONAL ARROW PER DETAIL 4, SHEET C6.0.
5. CONSTRUCT 6' WIDE SIDEWALK PER DETAIL 5, SHEET C6.0.
6. CONSTRUCT 8' WIDE SIDEWALK PER DETAIL 6, SHEET C6.0.
7. CONSTRUCT PRECAST CONCRETE CURB STOP PER DETAIL 7, SHEET C6.0 (4 TYP.).
8. CONSTRUCT ADA PARKING STALLS PER DETAIL 8, SHEET C6.1.
9. INSTALL TACTILE WARNING STRIP PER DETAIL 9, SHEET C6.1.
10. INSTALL ADA PARKING SIGN PER DETAIL 10, SHEET C6.1.
11. INSTALL CROSSWALK STRIPING PER DETAIL 11, SHEET C6.1.
12. INSTALL REINFORCED VEGETATED BOAT STAGING AREA WITH GRASSPAVE-2. SEE DETAIL 12 SHEET C6.1.
13. LANDSCAPED SLOPE AREA. SEE LANDSCAPING PLANS SHEET L1.0-1.1, AND TYPICAL SECTIONS SHEET C2.1.
14. RIVER GRAVEL COVERED SLOPE AREA. SEE TYPICAL SECTIONS SHEET C2.1.
15. STANDARD ASPHALT PAVING. SEE DETAIL THIS SHEET. PAVING TO BE CLASS D ASPHALT PAVING PER CITY OF WEST LINN STANDARD SPECIFICATION 505.02.06.
16. SAWCUT EXISTING PAVEMENT TO LINES AND LIMITS SHOWN. REMOVE EXISTING ASPHALT PAVING AND CONCRETE TO LIMITS AND AREAS SHOWN ON SHEET C1.0.
17. CONNECT TO EXISTING CURB. MATCH EXISTING GRADE AT FLOWLINE.
18. INSTALL 1" IRRIGATION LINE FROM EXISTING RESTROOM FACILITY. PERFORM WORK IN ACORDANCE WITH CITY OF WEST LINN STANDARD SPECIFICATION 206.02.09.
19. INSTALL VALVE BOX AND TERMINATE IRRIGATION LINE IN BOX PER DETAIL 14, SHEET C6.1.
20. CONSTRUCT STORMWATER INFILTRATION SWALE PER DETAIL 15, SHEET C6.1.
21. TEMPORARY CONSTRUCTION ACCESS PATH. CONVERT TO GRAVEL KAYAK LAUNCH ACCESS WAY PER DETAIL 13, SHEET C6.1.
22. CONSTRUCT CONCRETE ABUTMENT FOR FLOAT ACCESS PER DETAIL 18, SHEET C6.2.
23. INSTALL 18-INCH DIAMETER STEEL PILES. SEE RAMP PLAN AND PROFILE, SHEET C4.2.
24. BOARDING DOCKS, DESIGN BY OREGON STATE MARINE BOARD (UNDER SEPARATE COVER).
25. CONSTRUCT CAST-IN-PLACE CONCRETE RAMP PER SECTION DETAILS ON SHEET C4.4. SEE RAMP PLAN AND PROFILE SHEET C4.2.
26. INSTALL PRECAST CONCRETE V-GROOVE RAMP PLANKS PER DETAIL 19 AND TYPICAL SECTION AND REINFORCEMENT SCHEDULE SHEET C6.3. RAIL SUPPORT LAYOUT SHOWN ON SHEET C4.5. SEE RAMP PLAN AND PROFILE SHEET C4.2 FOR SURFACE GRADE DETAILS.
27. ODOT CLASS 700 RIP RAP EDGE PROTECTION. SEE TYPICAL SECTION SHEET C2.1.
28. INSTALL 4-INCH WIDE YELLOW STRIPING. STANDARD LINE SPACING TO BE 4', DIRECTIONS AS SHOWN ON PLAN.
29. MATCH LINES ON NEW PAVEMENT TO EXISTING STRIPING ON APPROACH LANE.
30. INSTALL "BOAT PREPARATION AREA - NO PARKING" SIGN AND POST PER DETAIL 16, SHEET C6.1.
31. INSTALL "BOAT TIE DOWN AREA" SIGN AND POST PER DETAIL 17, SHEET C6.1.
32. CONSTRUCT 12" WIDE x 6" DEEP CONCRETE EDGE FLUSH WITH ASPHALT PAVING.
33. INSTALL 4-INCH WIDE DIRECTIONAL STRIPING AS SHOWN.

GENERAL NOTE:

ALL SITEWORK SHALL BE CONSTRUCTED PER THE CITY OF WEST LINN STANDARD SPECIFICATIONS:

- GENERAL TECHNICAL REQUIREMENTS - DIVISION 2
- SUBGRADE - SECTION 501
- AGGREGATE BASES - SECTION 503
- ASPHALT CONCRETE PAVEMENT - SECTION 505
- PORTLAND CEMENT CONCRETE - SECTION 506
- CURBS AND SIDEWALKS - SECTION 507
- GEOTEXTILE FABRICS - SECTION 508

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CEDAROAK BOAT LAUNCH
CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

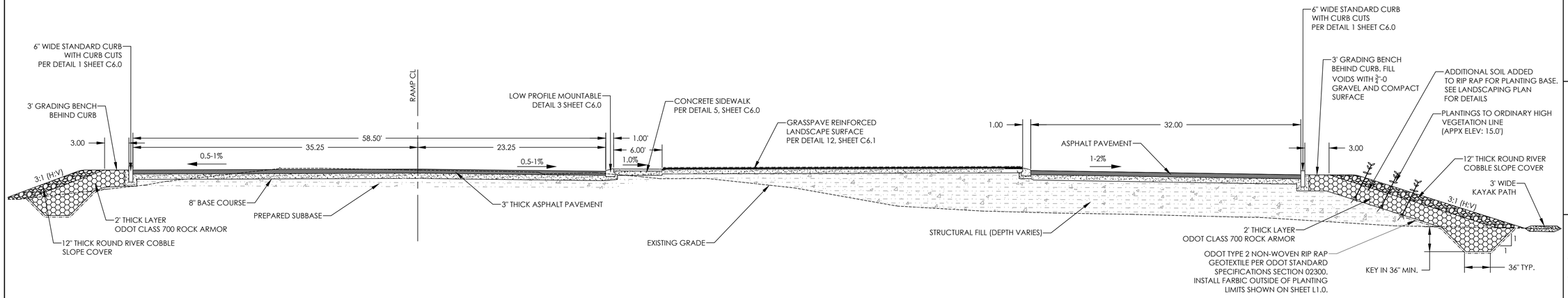
ISSUE	DATE	DESCRIPTION
1	3/15/2016	ISSUE FOR BID

PROJECT: 0161.01.05
DESIGNED: J. FAUST
DRAWN: J. FAUST
CHECKED: A. JANSKY
SCALE: 0 20' 40'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
PROPOSED SITE PLAN

SHEET
C2.0

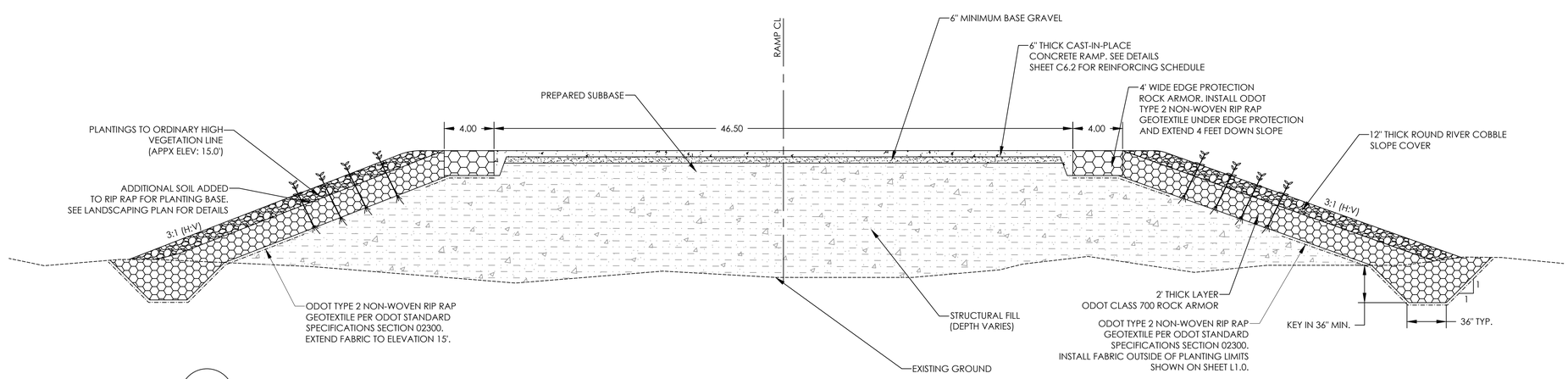
PLOTTED ON: 2016-03-15 12:03 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA CAD 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-SITE.dwg



A
C2.0

UPLAND AREA TYPICAL SECTION

NOT TO SCALE



B
C2.0

TYPICAL RAMP AND FILL SECTION

NOT TO SCALE

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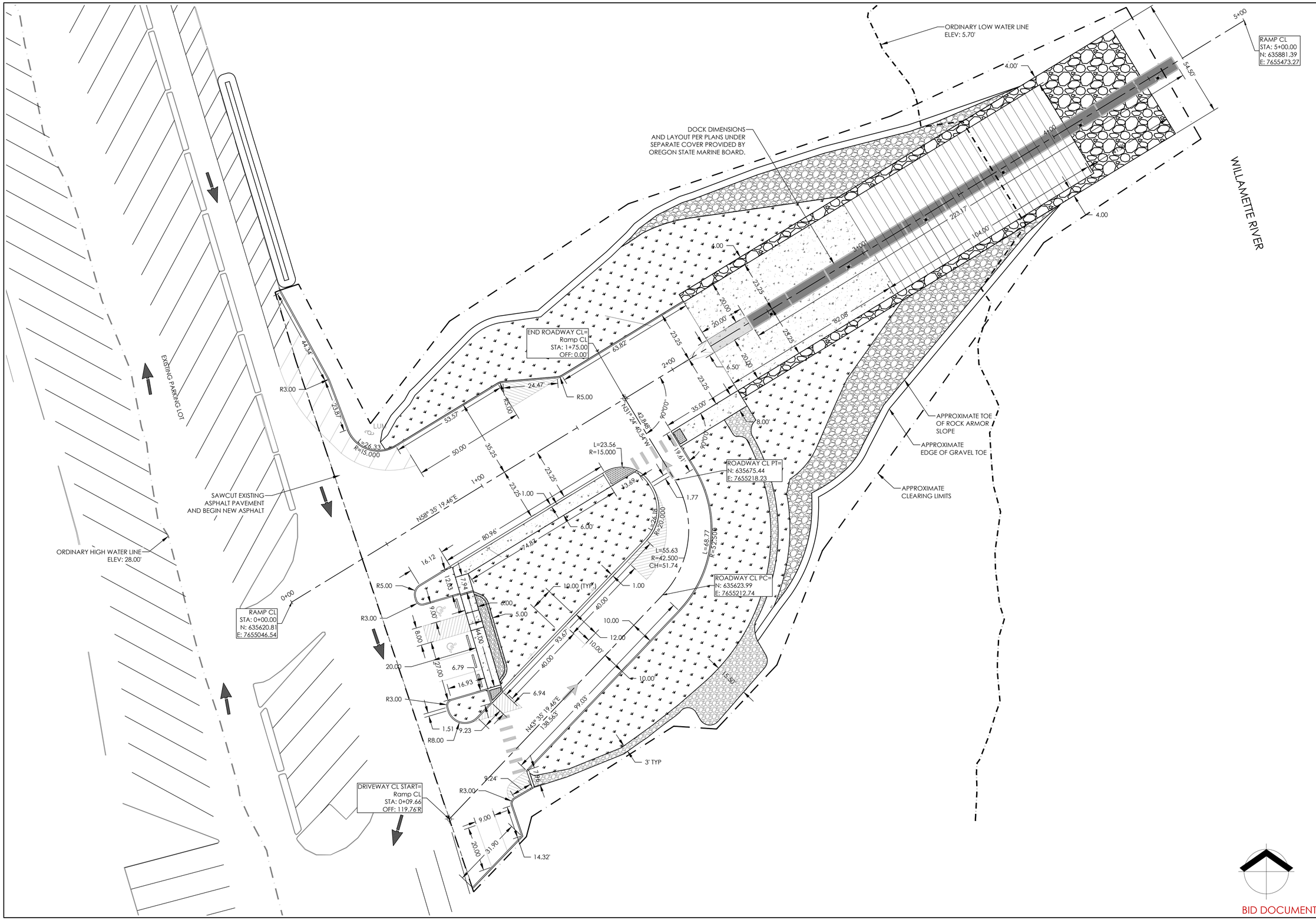
SHEET TITLE
TYPICAL SECTIONS
SHEET
C2.1

PLOTTED ON: 2016-03-15 12:03 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-SITE.dwg



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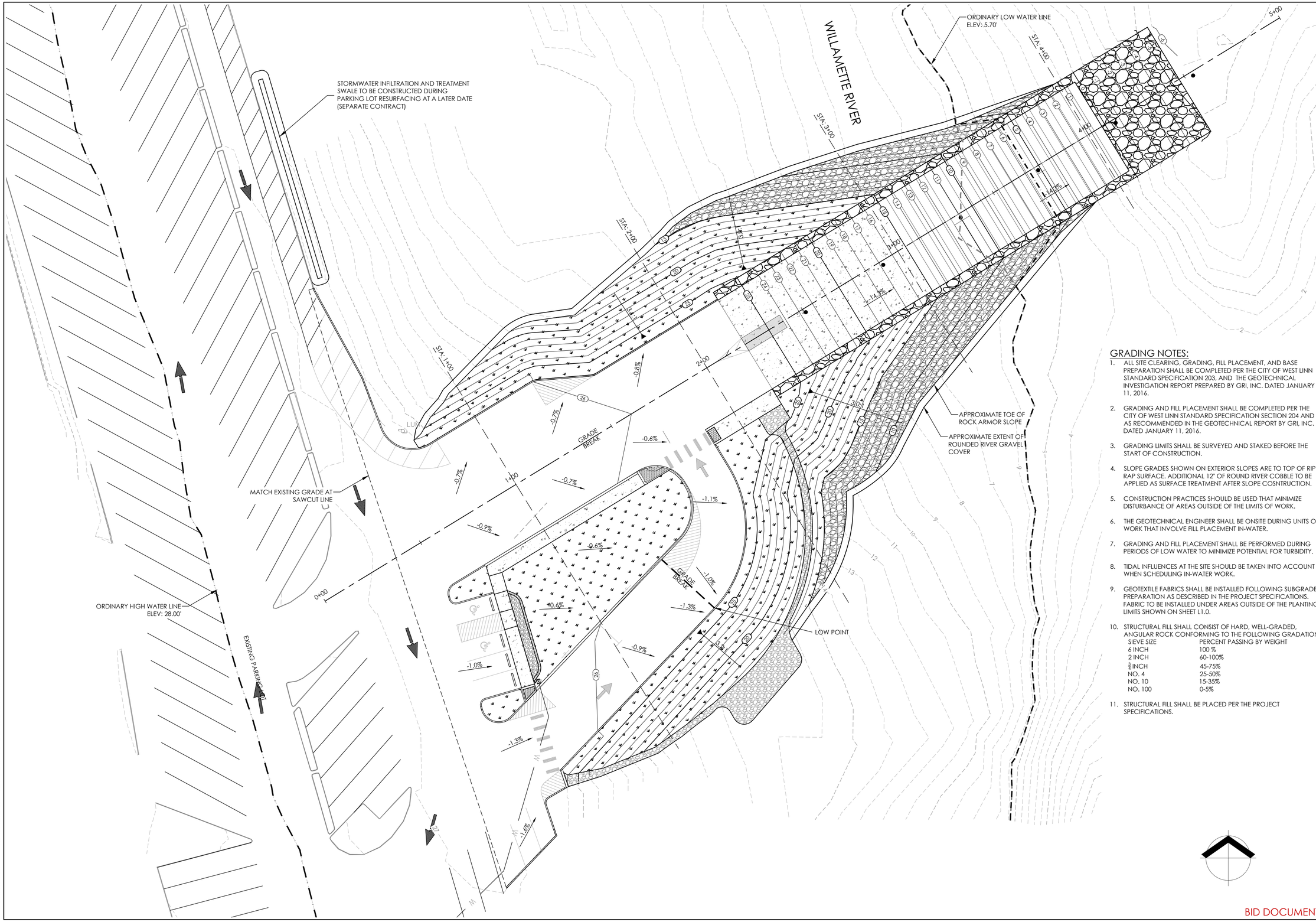
SHEET TITLE
HORIZONTAL CONTROL PLAN

SHEET
C3.0

PLOTTED ON: 2016-03-15 12:03 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA CIVIL\30\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-HR2NEL CNTRL.dwg



GRADING NOTES:

1. ALL SITE CLEARING, GRADING, FILL PLACEMENT, AND BASE PREPARATION SHALL BE COMPLETED PER THE CITY OF WEST LINN STANDARD SPECIFICATION 203, AND THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY GRI, INC. DATED JANUARY 11, 2016.
2. GRADING AND FILL PLACEMENT SHALL BE COMPLETED PER THE CITY OF WEST LINN STANDARD SPECIFICATION SECTION 204 AND AS RECOMMENDED IN THE GEOTECHNICAL REPORT BY GRI, INC. DATED JANUARY 11, 2016.
3. GRADING LIMITS SHALL BE SURVEYED AND STAKED BEFORE THE START OF CONSTRUCTION.
4. SLOPE GRADES SHOWN ON EXTERIOR SLOPES ARE TO TOP OF RIP RAP SURFACE. ADDITIONAL 12" OF ROUND RIVER COBBLE TO BE APPLIED AS SURFACE TREATMENT AFTER SLOPE CONSTRUCTION.
5. CONSTRUCTION PRACTICES SHOULD BE USED THAT MINIMIZE DISTURBANCE OF AREAS OUTSIDE OF THE LIMITS OF WORK.
6. THE GEOTECHNICAL ENGINEER SHALL BE ONSITE DURING UNITS OF WORK THAT INVOLVE FILL PLACEMENT IN-WATER.
7. GRADING AND FILL PLACEMENT SHALL BE PERFORMED DURING PERIODS OF LOW WATER TO MINIMIZE POTENTIAL FOR TURBIDITY.
8. TIDAL INFLUENCES AT THE SITE SHOULD BE TAKEN INTO ACCOUNT WHEN SCHEDULING IN-WATER WORK.
9. GEOTEXTILE FABRICS SHALL BE INSTALLED FOLLOWING SUBGRADE PREPARATION AS DESCRIBED IN THE PROJECT SPECIFICATIONS. FABRIC TO BE INSTALLED UNDER AREAS OUTSIDE OF THE PLANTING LIMITS SHOWN ON SHEET L1.0.
10. STRUCTURAL FILL SHALL CONSIST OF HARD, WELL-GRADED, ANGULAR ROCK CONFORMING TO THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
6 INCH	100 %
2 INCH	60-100%
¾ INCH	45-75%
NO. 4	25-50%
NO. 10	15-35%
NO. 100	0-5%

11. STRUCTURAL FILL SHALL BE PLACED PER THE PROJECT SPECIFICATIONS.

BID DOCUMENTS

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CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

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SHEET TITLE
GENERAL GRADING AND DRAINAGE PLAN

SHEET
C4.0

PLOTTED ON: 2016-03-15 12:03 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-GRAD.DWG

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CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

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DRAWN: J.FAUST
CHECKED: A. JANSKY
SCALE: 1" = 10' (20)

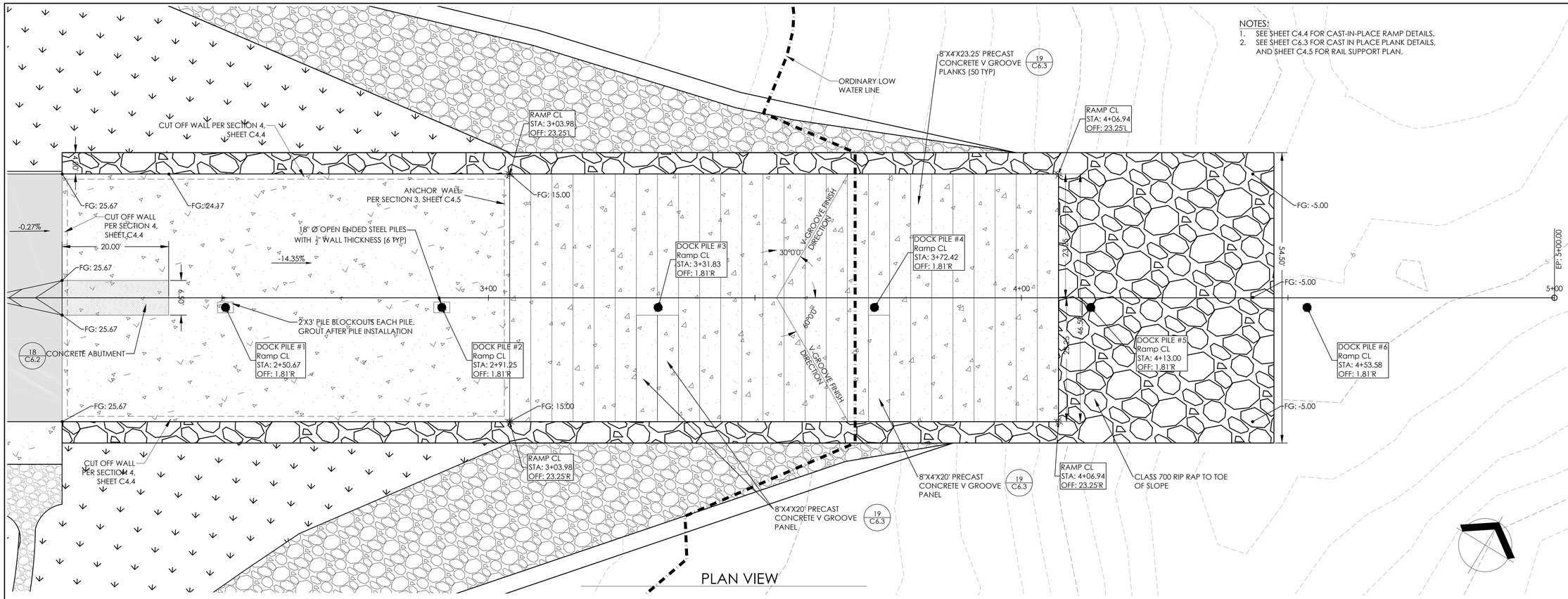
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH, ADJUST SCALES ACCORDINGLY.

SHEET TITLE: UPLAND GRADING PLAN

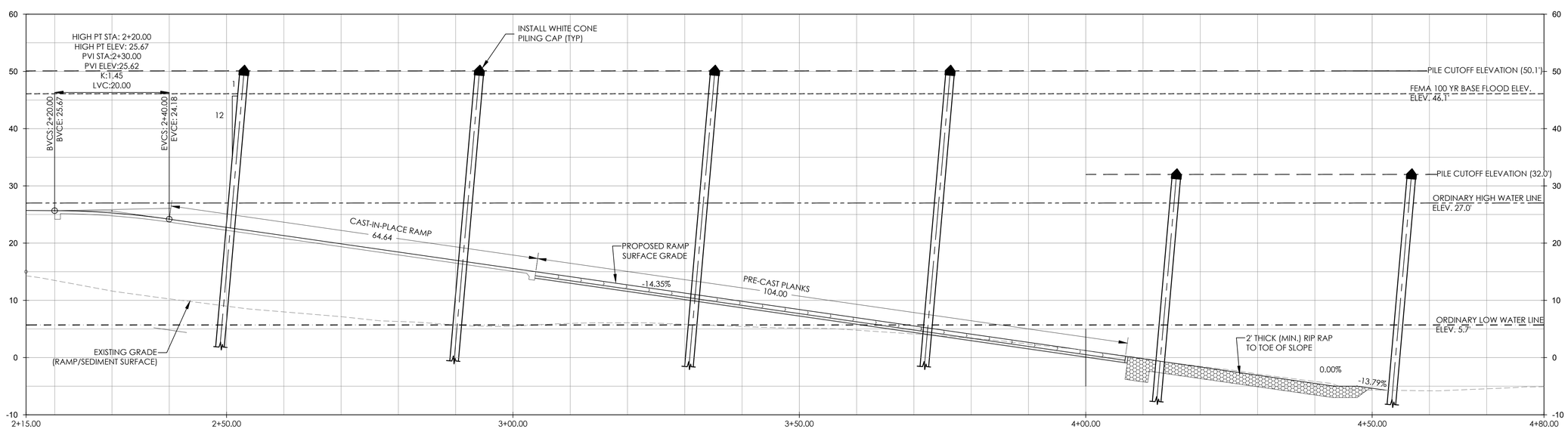
SHEET: C4.1

PLOTTED ON: 2016-03-15 12:00 PM
PLOTTED BY: Jacob Foust
FILENAME: G:\00_MFA CM 3D\00_PROJECTS\0141.01 Cedar Oak Boat Launch\PLANS\C-UPLAND.dwg

NOTES:
1. SEE SHEET C4.4 FOR CAST-IN-PLACE RAMP DETAILS.
2. SEE SHEET C6.3 FOR CAST IN PLACE PLANK DETAILS, AND SHEET C4.5 FOR RAIL SUPPORT PLAN.



PLAN VIEW



PROFILE VIEW

NOTES:
1. PILES TO BE DRIVEN WITH DOCKS IN PLACE TO ENSURE PILES ARE DRIVEN IN PROPER LCOATION.
2. PILE TO BE CAPPED WITH Ø18" POLYETHLENE CONE-SHAPED WHITE CAPS WITH A MINIMUM THICKNESS OF 1/2", CAPS TO BE SECURED WITH EPOXY ADHESIVE.
3. PILES ARE TO BE OPEN ENDED AND EMBEDDED A MINIMUM OF 18' BELOW THE EXISTING MUDLINE. REFER TO THE GEOTECHNICAL REPORT BY GRI, INC. DATED JANUARY 11, 2016 FOR BORING LOGS AND SUBSURFACE INFORMATION
4. STATION REFERENCE FOR PILE LOCATIONS ARE AT FINAL RAMP SURFACE GRADE.
5. PILES TO BE INSTALLED AT 1(H):12(V) BATTER AS SHOWN ON PROFILE.

BID DOCUMENTS

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REGISTERED PROFESSIONAL ENGINEER 83172PE OREGON JUNE 7, 2012 JACOB M. FAUST

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SCALE

0 10' 20'

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SHEET TITLE

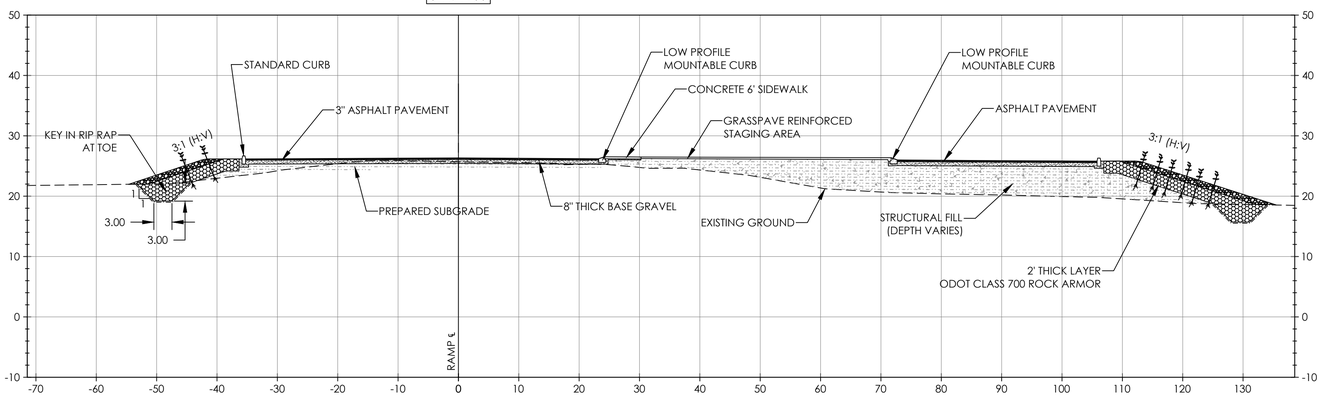
RAMP PLAN AND PROFILE

SHEET

C4.2

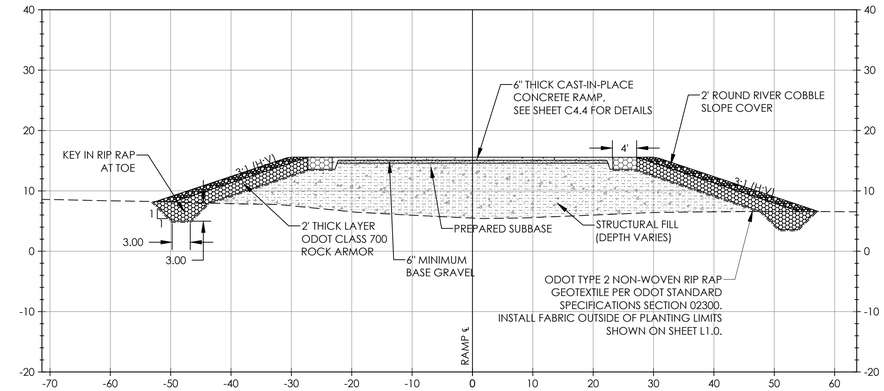
PLOTTED ON: 2016-03-15 12:04 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-RAMP PLAN.dwg

STA: 1+00



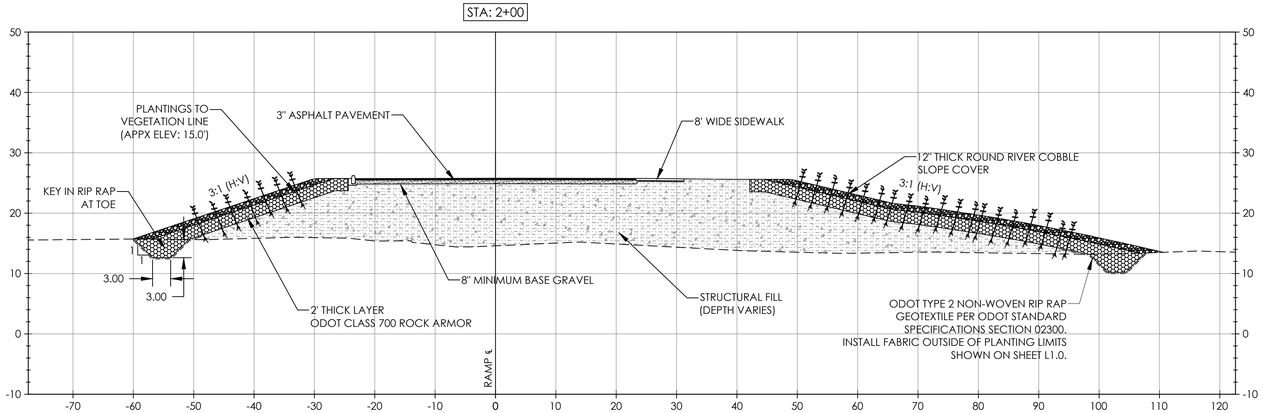
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'

STA: 3+00



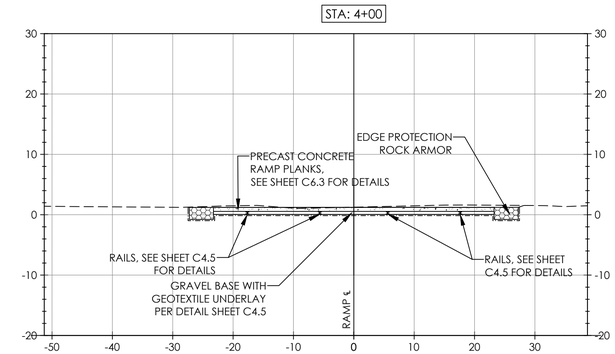
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'

STA: 2+00



HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'

STA: 4+00



HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'

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CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

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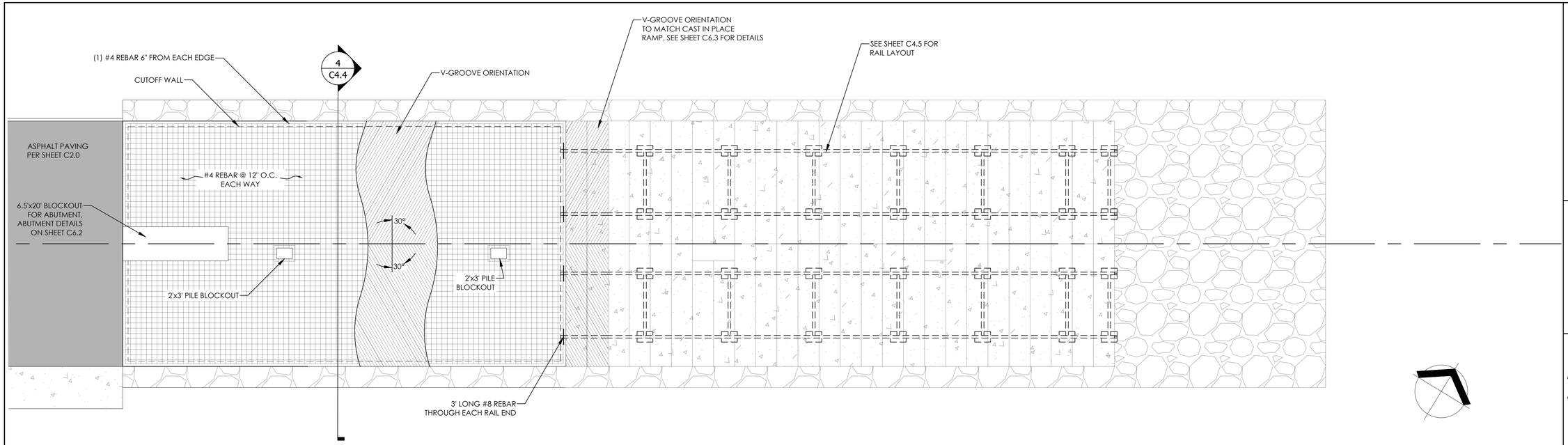
SHEET TITLE
GRADING CROSS SECTIONS

SHEET
C4.3

PLOTTED ON: 2014-03-15 12:04 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-GRAD.DWG



CAST IN PLACE RAMP LAYOUT AND REINFORCEMENT PLAN

SCALE: 1"=10'

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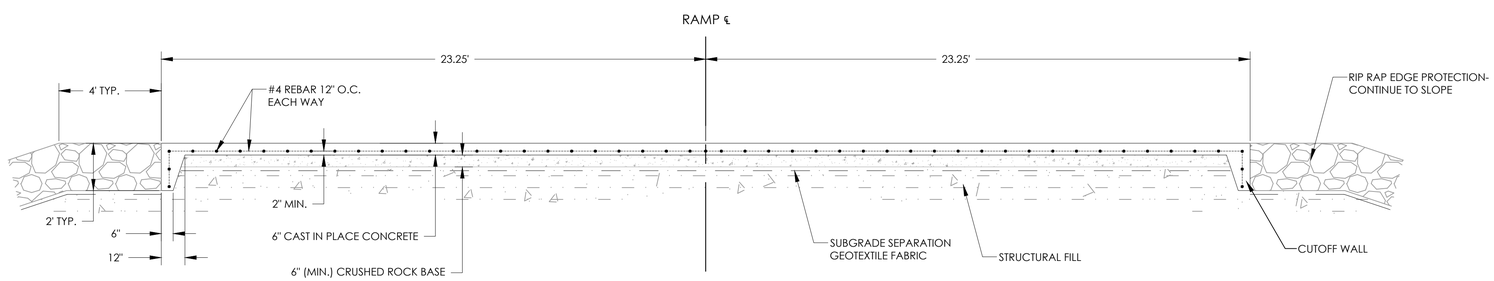

4
C4.4

SECTION 4 - CAST IN PLACE RAMP SECTION

NTS

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SHEET TITLE

CAST IN PLACE RAMP PLAN

SHEET

C4.4

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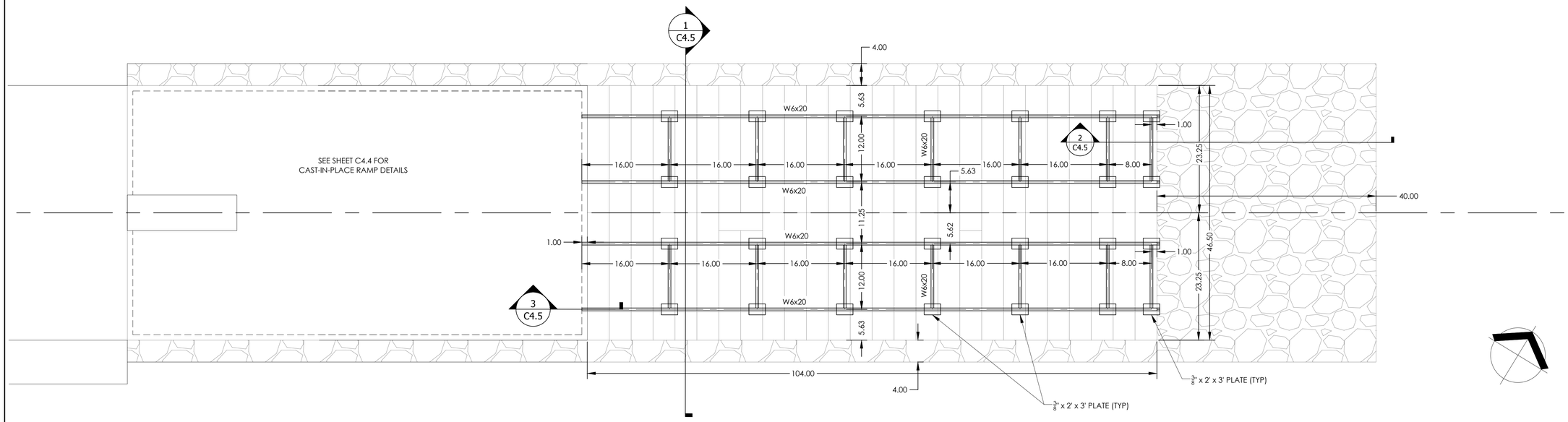
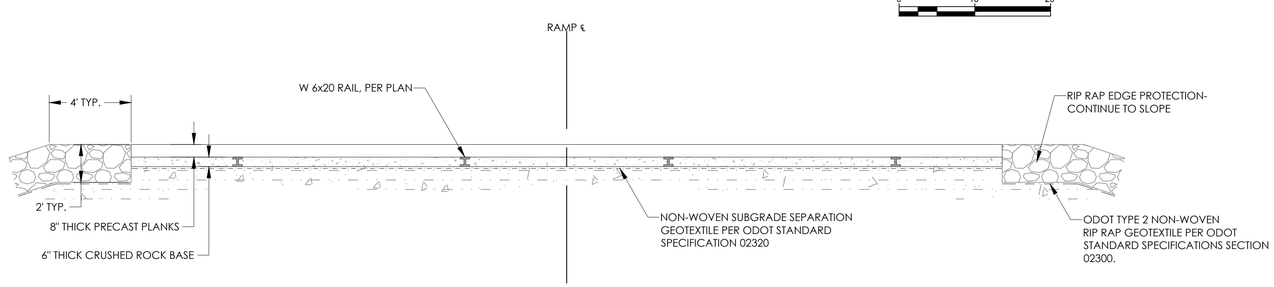


NOTE: DIMENSIONS SHOWN TRUE PLAN DIMENSIONS ALONG RAMP SLOPE.

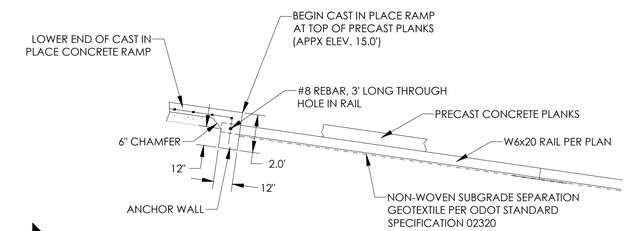
RAIL DIMENSION PLAN

SCALE: 1"=10'

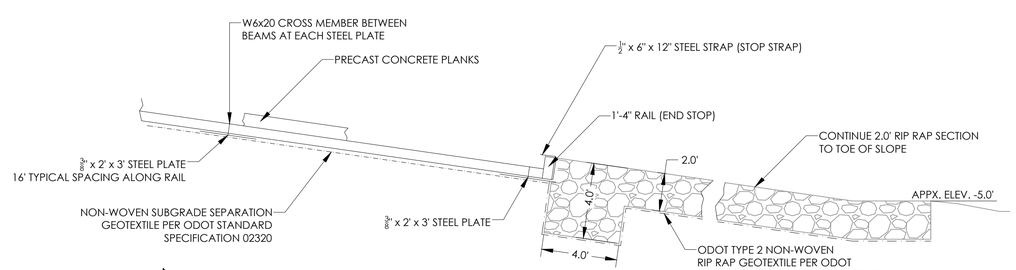
0 10' 20'



1 C4.5 SECTION 2 - PRECAST PLANK RAMP SECTION
NTS



3 C4.5 SECTION 3 - RAIL CONNECTION TO CAST IN PLACE RAMP
NTS



2 C4.5 SECTION 3 - RAMP END SECTION
NTS

PRELIMINARY

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RAIL PLAN

SHEET
C4.5

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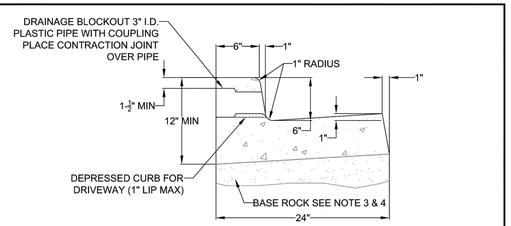
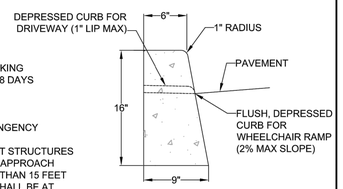


FLUSH, DEPRESSED CURB FOR WHEELCHAIR RAMP 2% MAX SLOPE

TYPICAL CURB AND GUTTER



TYPICAL STRAIGHT CURB

NOTE:

1. CONCRETE SHALL HAVE A BREAKING STRENGTH OF 3300 PSI AFTER 28 DAYS
2. CONTRACTION JOINTS:
   A) TO BE PROVIDED:
      -AT EACH POINT OF TANGENCY
      -AT EACH COLD JOINT
      -AT EACH SIDE OF INLET STRUCTURES
      -AT BOTH SIDES OF AN APPROACH
   B) SPACING TO BE NOT MORE THAN 15 FEET
   C) THE DEPTH OF THE JOINT SHALL BE AT LEAST 1/3 OF THE THICKNESS OF CONCRETE
   D) EXPANSION JOINTS SHALL NOT BE USED
3. BASE ROCK - 1-1/2"-0", 95% COMPACTION PER AASHTO T-180 ROCK SHALL BE TO SUBGRADE OF THE STREET SECTION OR 4" IN DEPTH, WHICHEVER IS GREATER
4. FULL DEPTH PREPARED ROCK SECTION SHALL EXTEND 1' HORIZONTALLY BEYOND BOTH SIDES OF CURB AND GUTTER
5. DRAINAGE BLOCK - 3" DIA. PLASTIC PIPE
   A) DRAINAGE ACCESS THROUGH EXISTING CURBS SHALL BE DONE BY:
      -CORE DRILLING
      -VERTICAL SAWCUT OF CURB 24" EACH SIDE OF DRAIN AND RE-POURED TO FULL DEPTH OF CURB
6. STAMP TOP OF CURB WITH "W" AT WATER SERVICE CROSSING AND "S" AT SANITARY LATERAL CROSSING

TYPICAL CURBS

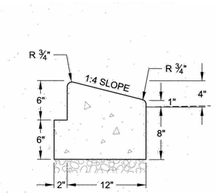
CITY OF West Linn

DATE: 2010
DRAWING NO. WL-501
FILE NO.

THIS DETAIL DRAWING SHALL NOT BE ALTERED OR CHANGED IN ANY MANNER EXCEPT BY THE CITY ENGINEER. IT IS THE RESPONSIBILITY OF THE USER TO ACQUIRE THE MOST CURRENT VERSION OF THE DETAIL.

1 / C2.0 STANDARD VERTICAL CURB DETAIL

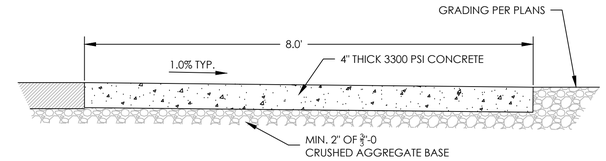
NOT TO SCALE



REFER TO TYPICAL NOTES FOR STANDARD STRAIGHT CURB, DETAIL 1 THIS SHEET, FOR CONSTRUCTION INFORMATION.

3 / C2.0 LOW PROFILE MOUNTABLE DETAIL

NOT TO SCALE

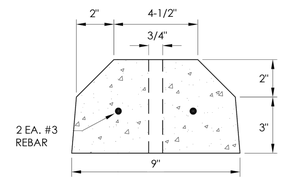


NOTES:

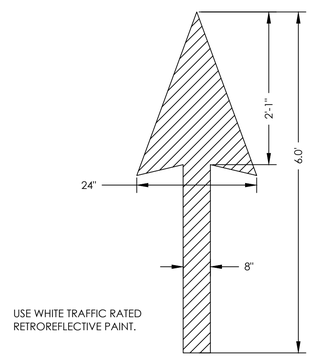
1. CONCRETE SHALL BE 3300 PSI AT 28 DAYS.
2. PANEL LENGTHS SHALL BE EQUAL TO THE SIDEWALK WIDTH.
3. CONTRACTION JOINTS (1/3RD OF THE THICKNESS OF CONCRETE) SHALL BE PLACED EVERY THIRD PANEL, WITH A MAX SPACING OF 15 FEET. JOINTS SHALL ALSO BE PLACED AT ADA RAMPS.
4. A CURING COMPOUND SHALL BE USED. WHITE REFLECTIVE SHEETING SHALL BE USED IN CASE OF RAIN.

6 / C2.0 8' SIDEWALK DETAIL

NOT TO SCALE



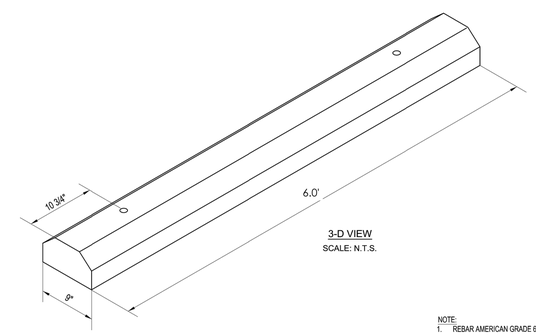
SECTION
NOT TO SCALE



USE WHITE TRAFFIC RATED RETROREFLECTIVE PAINT.

4 / C2.0 DIRECTIONAL ARROW - TRAFFIC MARKING DETAIL

NOT TO SCALE



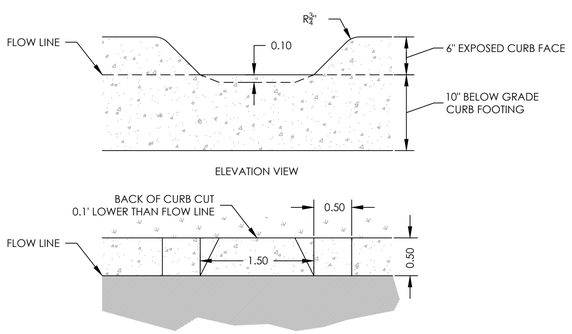
3-D VIEW
SCALE: N.T.S.

NOTE:

1. REBAR AMERICAN GRADE 60 SIZE #3
2. 3000 PSI CONCRETE OR GREATER
3. WEIGHT 200 POUNDS

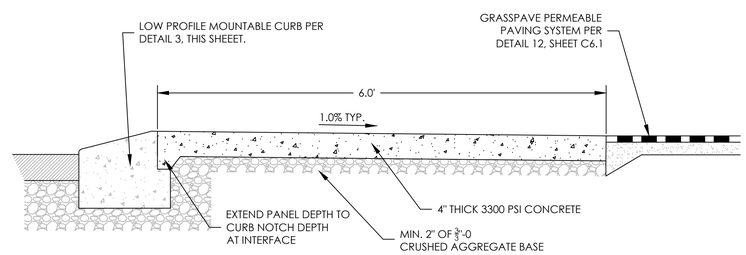
7 / C2.0 STANDARD PRECAST CONCRETE CURB STOP DETAIL

NOT TO SCALE



2 / C2.0 CURB CUT IN VERTICAL CURB STANDARD DETAIL

NOT TO SCALE



NOTES:

1. DETAIL BASED ON CITY OF WEST LINN STANDARD DETAIL WL-508.
2. CONCRETE SHALL BE 3300 PSI AT 28 DAYS.
3. PANEL LENGTHS SHALL BE EQUAL TO THE SIDEWALK WIDTH.
4. CONTRACTION JOINTS (1/3RD OF THE THICKNESS OF CONCRETE) SHALL BE PLACED EVERY THIRD PANEL, WITH A MAX SPACING OF 15 FEET. JOINTS SHALL ALSO BE PLACED AT ADA RAMPS.
5. A CURING COMPOUND SHALL BE USED. WHITE REFLECTIVE SHEETING SHALL BE USED IN CASE OF RAIN.
6. FOR SIDEWALKS ADJACENT TO THE CURB AND POURED AT THE SAME TIME AS THE CURB, THE JOINT BETWEEN THEM SHALL BE A TROWELED JOINT WITH A MIN. 1/2" RADIUS.

5 / C2.0 6' SIDEWALK DETAIL (ADJACENT TO LOW PROFILE CURB)

NOT TO SCALE

BID DOCUMENTS

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REGISTERED PROFESSIONAL ENGINEER 83172PE OREGON JUNE 7, 2012 JACOB M. FAUST

EXPIRES: 12/31/2017

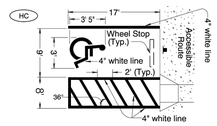
This digital seal certifies the signatory and document content.

CEDAROAK BOAT LAUNCH
CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

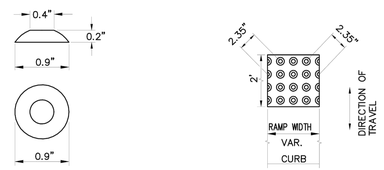
ISSUE	DATE	DESCRIPTION
1	3/15/2016	ISSUE FOR BID

PROJECT: 0161.01.05
DESIGNED: J. FAUST
DRAWN: J.FAUST
CHECKED: A. JANSKY
SCALE
DRAWING NOT TO SCALE
SHEET TITLE
SITE DETAILS
SHEET
C6.0

PLOTTED ON: 2016-03-15 12:05 PM PLOTTED BY: Jacob Faust FILENAME: G:\02_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-DETAILS.dwg



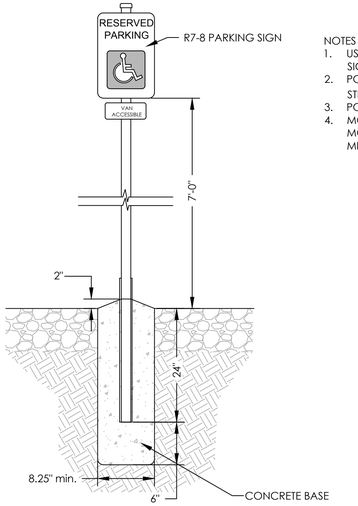
8 C2.0 ADA PARKING SPACE MARKING DETAIL



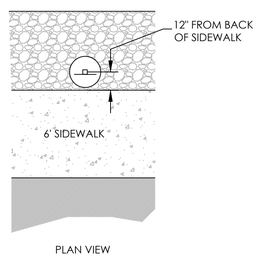
TRUNCATED DOME DETAIL

RAMP TEXTURE PATTERN (TRUNCATED DOMES) DETAIL

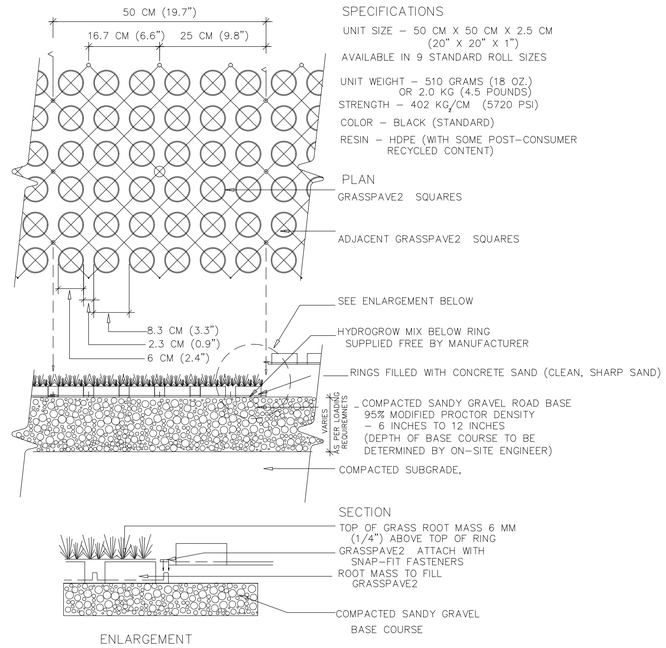
9 C2.0 TACTILE WARNING STRIP DETAIL



NOTES DETAILS 16 AND 17:
1. USE 1-3/4 INCH SQUARE REMOVABLE SIGN POST WITH 2 INCH POST ANCHOR.
2. POST TO BE 14 GAUGE GALVANIZED STEEL WITH $\frac{7}{16}$ INCH HOLES ON ALL SIDES.
3. POST TO BE BOLTED TO POST ANCHOR.
4. MOUNTING HEIGHT SHOULD NOT BE MORE THAN 3" GREATER THAN MINIMUM HEIGHT SHOWN.



10 C2.0 ADA PARKING SIGN DETAIL

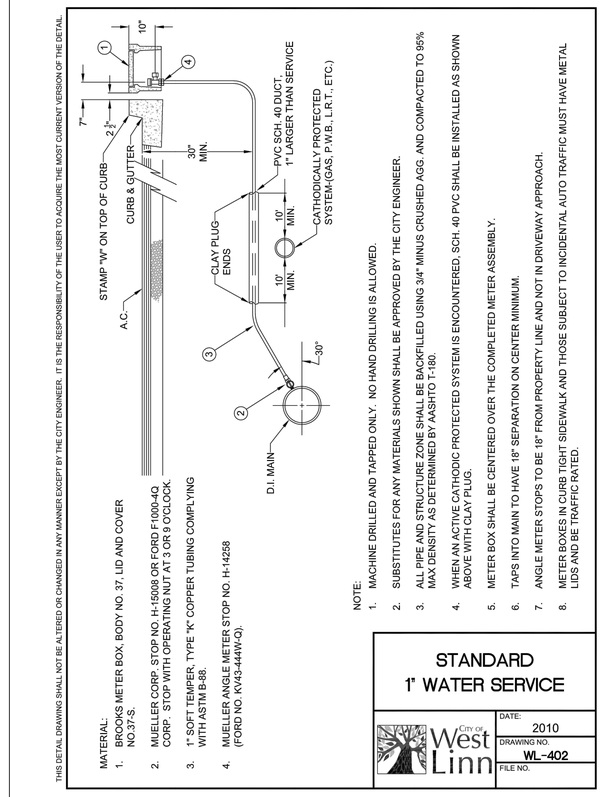


SPECIFICATIONS
UNIT SIZE – 50 CM X 50 CM X 2.5 CM (20" X 20" X 1")
AVAILABLE IN 9 STANDARD ROLL SIZES
UNIT WEIGHT – 510 GRAMS (18 OZ.) OR 2.0 KG (4.5 POUNDS)
STRENGTH – 402 KG/CM (5720 PSI)
COLOR – BLACK (STANDARD)
RESIN – HDPE (WITH SOME POST-CONSUMER RECYCLED CONTENT)

NOTE: GRASS/PLANT TYPES SHALL BE SPECIFIED BY A LANDSCAPE ARCHITECT OR LANDSCAPE DESIGNER.

12 C2.0 GRASSPAVE-2 TYPICAL DETAIL

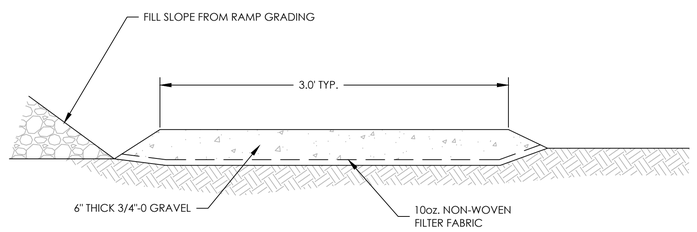
NOT TO SCALE
DETAIL OBTAINED FROM INVISIBLE STRUCTURES, INC.



14 C2.0 IRRIGATION SERVICE CONNECTION ASSEMBLY DETAIL

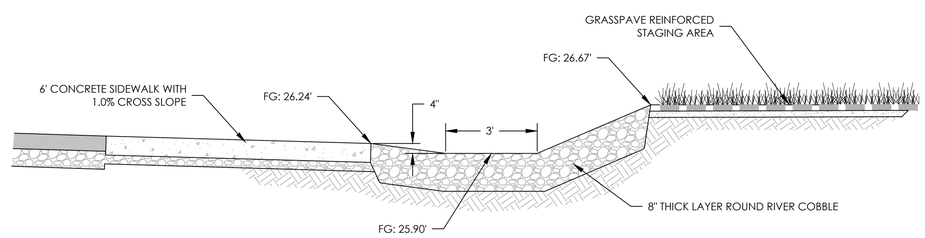
NOT TO SCALE

11 C2.0 CROSSWALK PAVEMENT MARKING



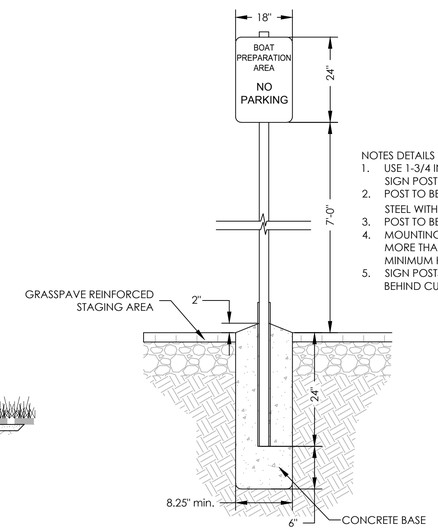
13 C2.0 KAYAK ACCESS PATH TYPICAL DETAIL

NOT TO SCALE



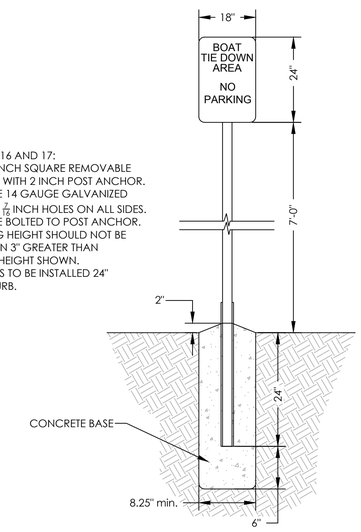
15 C2.0 STORMWATER INFILTRATION STRIP DETAIL

NOT TO SCALE



NOTES DETAILS 16 AND 17:
1. USE 1-3/4 INCH SQUARE REMOVABLE SIGN POST WITH 2 INCH POST ANCHOR.
2. POST TO BE 14 GAUGE GALVANIZED STEEL WITH $\frac{7}{16}$ INCH HOLES ON ALL SIDES.
3. POST TO BE BOLTED TO POST ANCHOR.
4. MOUNTING HEIGHT SHOULD NOT BE MORE THAN 3" GREATER THAN MINIMUM HEIGHT SHOWN.
5. SIGN POSTS TO BE INSTALLED 24" BEHIND CURB.

16 C2.0 BOAT PREP. AREA SIGN DETAIL



17 C2.0 BOAT TIE DOWN AREA SIGN DETAIL

BID DOCUMENTS

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www.maulfoster.com

REGISTERED PROFESSIONAL ENGINEER 83172PE OREGON JUNE 7, 2012 JACOB M. FAUST
EXPIRES: 12/31/2017
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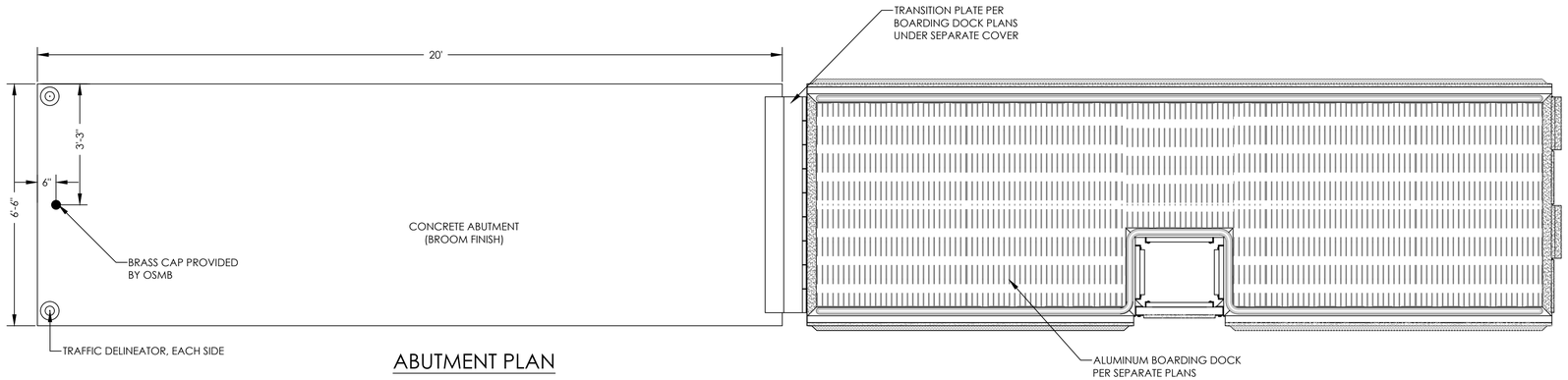
CEDAROAK BOAT LAUNCH
CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

ISSUE	DATE	DESCRIPTION
1	3/15/2016	ISSUE FOR BID

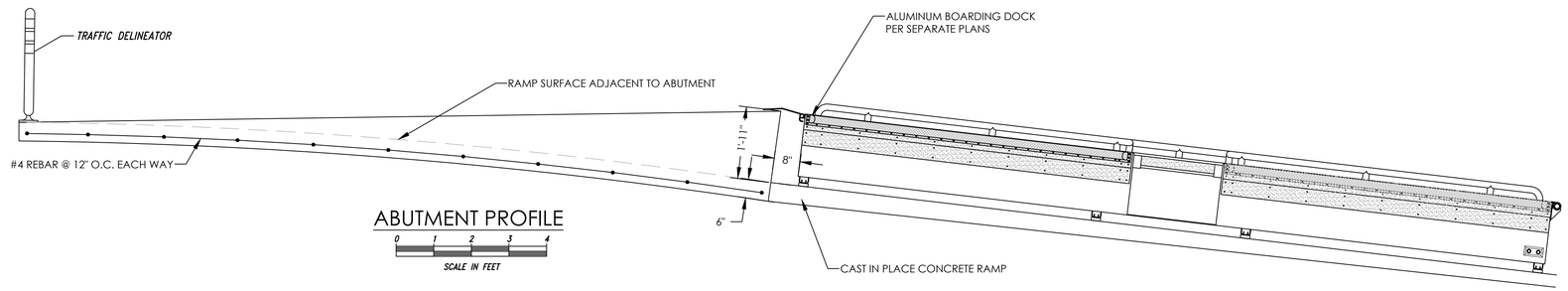
PROJECT: 0161.01.05
DESIGNED: J. FAUST
DRAWN: J.FAUST
CHECKED: A. JANSKY
SCALE
DRAWING NOT TO SCALE
SHEET TITLE
SITE DETAILS
SHEET
C6.1

PLOTTED ON: 2016-03-15 12:05 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-DETAILS.dwg



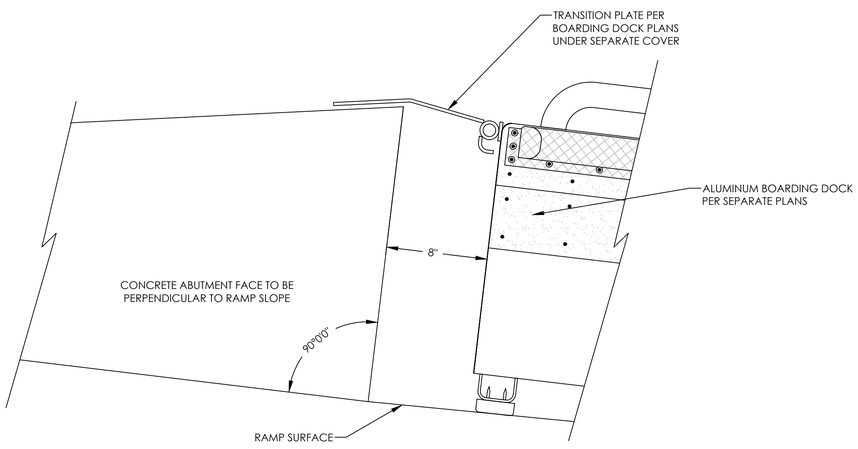
ABUTMENT PLAN

0 1 2 3 4
SCALE IN FEET



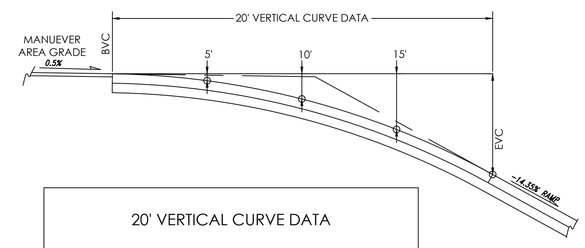
ABUTMENT PROFILE

0 1 2 3 4
SCALE IN FEET



ABUTMENT TRANSITION PROFILE

0 0.5 1
SCALE IN FEET



20' VERTICAL CURVE DATA	
DISTANCE FROM BVC	ELEVATION
BVC	25.67'
5'-0"	25.55'
10'-0"	25.27'
15'-0"	24.81'
EVC	24.18'

18
C5.2

ABUTMENT AND VERTICAL CURVE DETAILS

BID DOCUMENTS

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REGISTERED PROFESSIONAL ENGINEER
83172PE
OREGON
JUNE 7, 2012
JACOB M. FAUST
EXPIRES: 12/31/2017
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CEDAROAK BOAT LAUNCH
CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

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CHECKED: A. JANSKY
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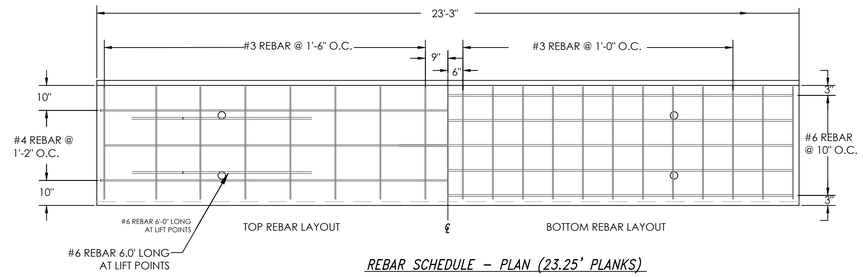
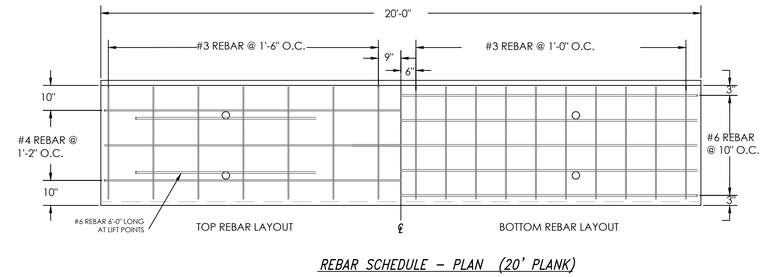
SHEET TITLE
ABUTMENT DETAILS

SHEET
C6.2

PLOTTED ON: 2016-03-15 12:56 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-DETAILS-ABUTMENT.dwg



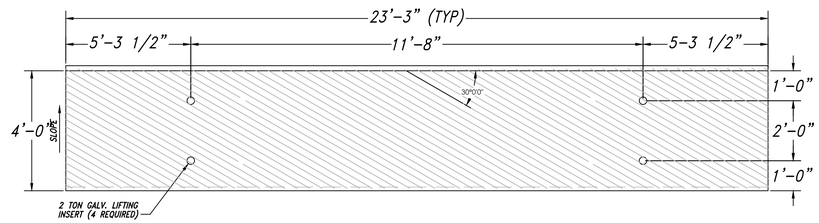
REBAR SCHEDULE – PLAN (23.25' PLANKS)



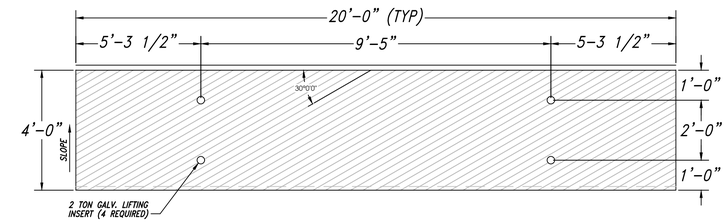
REBAR SCHEDULE – PLAN (20' PLANK)

REBAR SCHEDULE – ELEVATION (23.25' PLANKS)

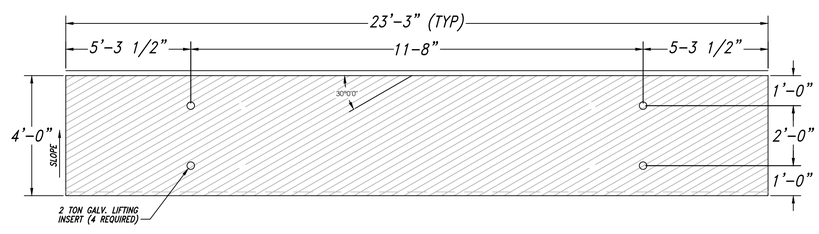
REBAR SCHEDULE – ELEVATION (20' PLANK)



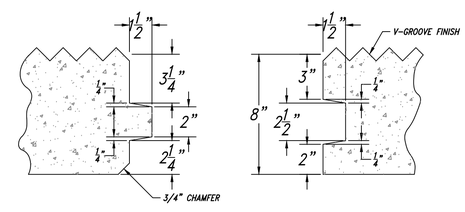
LIFTING INSERT LOCATION AND V-GROOVE PATTERN, DOWNSTREAM (NORTH LANE) 23.25' PLANKS



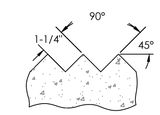
LIFTING INSERT LOCATION AND V-GROOVE PATTERN – UPSTREAM (SOUTH LANE) 20' PLANKS



LIFTING INSERT LOCATION AND V-GROOVE PATTERN – UPSTREAM (SOUTH LANE) 23.25' PLANKS

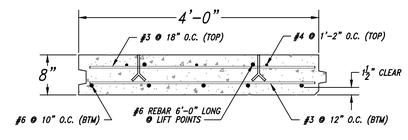


TONGUE & GROOVE DETAIL



V-GROOVE DETAIL

NOT TO SCALE



TYPICAL SECTION (ALL PLANKS)

PLANK SCHEDULE:
23.25' UPSTREAM PLANKS = 23 EACH
23.25' DOWNSRTEAM PLANKS = 26 EACH
20.00' UPSTREAM SHORT PLANKS = 3 EACH

19
C2.0

PRECAST V-GROOVE PANEL DETAIL

BID DOCUMENTS

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WEST LINN, OREGON

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1	3/13/2014	ISSUE FOR BID

PROJECT: 0161.01.05
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DRAWN: J.FAUST
CHECKED: A. JANSKY
SCALE
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SHEET TITLE
PRECAST PLANK DETAILS
SHEET
C6.3

PLOTTED ON: 2014-03-15 12:05 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\C-DETAILS.dwg

PLANT MATERIAL LEGEND

TREES

SYM	COMMON NAME
	CASCARA
	WILLOW LIVE STAKE GROUPINGS - SCOULER'S WILLOW - SITKA WILLOW - HOOKERIANA WILLOW

PLANTING ZONES

- FILL BANK LIVE STAKE PLANTING ZONE
- EXISTING BANK LOWER PLANTING ZONE
- EXISTING BANK MID PLANTING ZONE
- EXISTING BANK UPPER PLANTING ZONE
- EXISTING BANK UNDERSTORY PLANTING ZONE
- EXISTING TREES TO REMAIN

GROUNDCOVERS & GRASSES

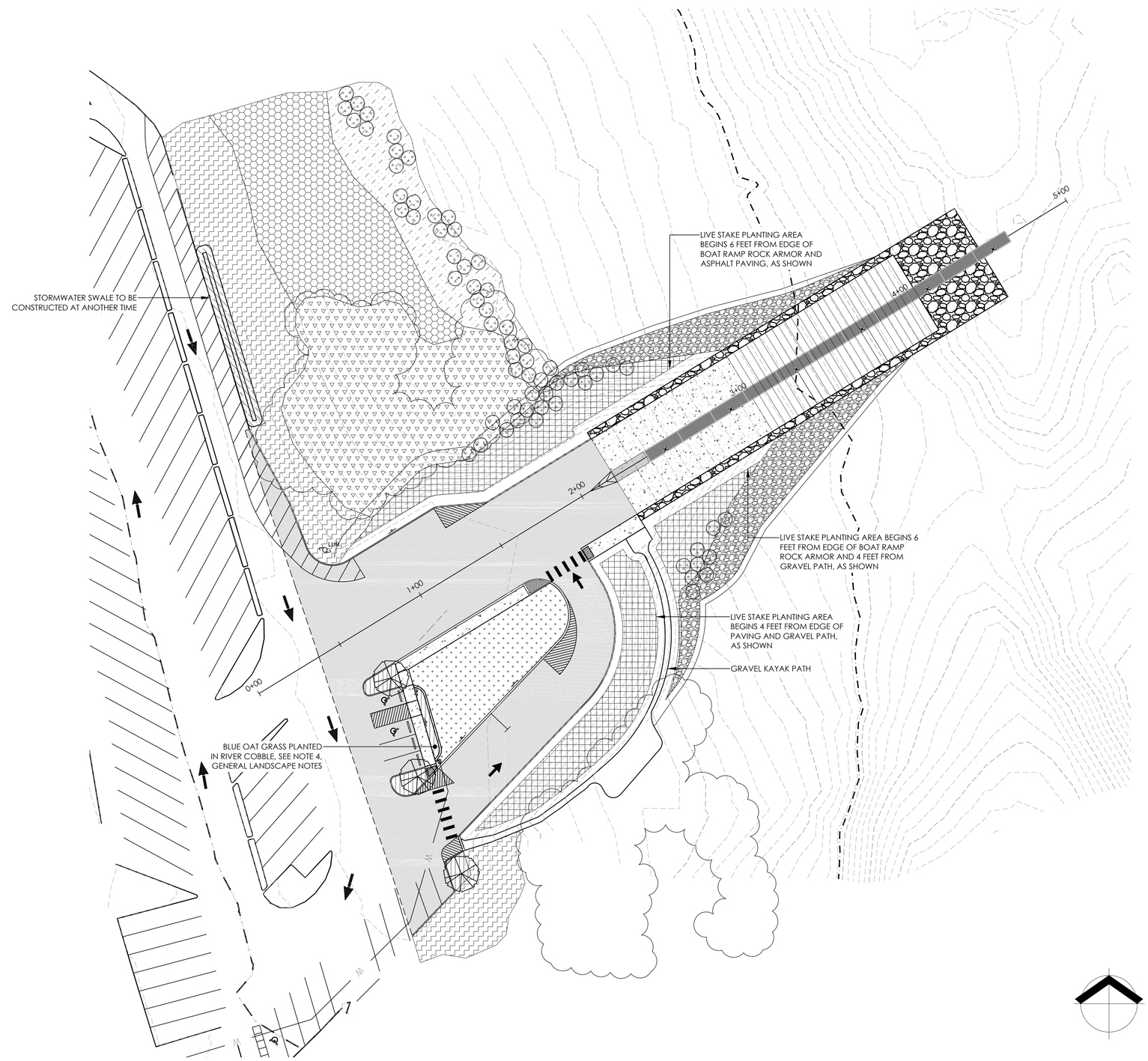
- BLUE OAT GRASS
- STORMWATER SWALE
- GRASS LOADING AREA

GENERAL LANDSCAPE NOTES:

1. PRIOR TO PLANT INSTALLATION, REMOVE NON-NATIVE, INVASIVE PLANT SPECIES (INCLUDING BUT NOT LIMITED TO HIMALAYAN BLACKBERRY, REED CANARY GRASS, AND CANADIAN THISTLE) FROM ALL AREAS WITHIN 10 FEET OF PLANTING AREAS, USING HANDHELD EQUIPMENT.
2. ALL PLANT MATERIAL IS TO BE USED FOR RESTORATION PURPOSES. STANDARD NURSERY PRACTICES FOR GROWING LANDSCAPE PLANTS, SUCH AS USE OF PESTICIDES, FUNGICIDES, OR FERTILIZERS MUST NOT BE EMPLOYED.
3. ALL PLANT MATERIAL SHALL BE INSTALLED SHORTLY AFTER SOIL IS PREPARED, WEATHER PERMITTING. TO MINIMIZE EROSION AND COMPACTION, INSTALL PLANTS AT SAME LEVEL AS GROWING NURSERY.
4. THE PROPOSED BLUE OAT GRASS IN THE RIVER COBBLE SHALL BE PLANTED IN HOLES 3 TIMES THE SIZE OF THE ROOTBALL AND BACKFILLED WITH TOPSOIL. REFER TO THE PLANT SCHEDULE FOR SPACING. COBBLES SHALL BE PLACED BY HAND AROUND THE BASE OF PLANT.
5. PLANT MATERIAL SHALL BE SUPPORTED WHEN NECESSARY DUE TO EXTREME WINDS AT THE PLANTING SITE. STAKES, GUY WIRES OR OTHER MEASURES MUST BE REMOVED AS SOON AS THE PLANT CAN SUPPORT ITSELF.
6. A TEMPORARY IRRIGATION SYSTEM SHALL BE INSTALLED ON SITE TO ADEQUATELY PROVIDE WATER FOR ALL NEW PLANTS. THE PLANT MATERIAL SHOULD RECEIVE REGULAR WATER DURING THE FIRST GROWING SEASON. AFTER THE INITIAL SEASON, WATERING SHALL OCCUR AS NEEDED TO ENSURE PLANT SURVIVAL UNTIL ESTABLISHED.

TREE PROTECTION NOTES:

1. CONTRACTOR SHALL VERIFY LIMITS OF WORK AND FINISH GRADES AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH EXISTING TREES, INCLUDING THEIR BRANCHES AND ROOTS, TO REMAIN.
2. CARE SHALL BE TAKEN NOT TO DISTURB THE ROOTS AND BRANCHES OF TREES TO REMAIN. ROOTS UNDER 3" DIA. MAY BE FIRST SAW CUT AND THEN REMOVED. DO NOT USE HEAVY EQUIPMENT TO BREAK ROOTS.
3. TREE BRANCHES THAT OVERHANG THE CONSTRUCTION AREA AND ARE AT RISK MAY BE TEMPORARILY TIED BACK IN A MANNER THAT DOES NOT DAMAGE THE BRANCH OR TRUNK. TIES MUST BE REMOVED AS SOON AS CONSTRUCTION IN THAT AREA IS COMPLETE.
4. DO NOT STORE MATERIALS OR EQUIPMENT OF ANY KIND AT ANY TIME IN THE ROOT PROTECTION ZONES OF TREES TO REMAIN.
5. ROOT PROTECTION ZONES OF EXISTING TREES TO REMAIN ARE NOT TO BE DISTURBED IN ANY MANNER UNLESS DIRECTED BY THE LANDSCAPE ARCHITECT. NO FILLING, STOCKPILING, OR GRADING IS PERMITTED IN THESE AREAS.



BID DOCUMENTS

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REGISTERED PROFESSIONAL ENGINEER
83172PE
OREGON
JUNE 7, 2012
JACOB M. FAUST
EXPIRES: 12/31/2017
This digital seal certifies the signatory and document content.

CEDAROAK BOAT LAUNCH
CITY OF WESTLINN
WESTLINN, OREGON

ISSUE	DATE	DESCRIPTION
1	3/15/2016	ISSUE FOR BID

PROJECT: 0161.01.06
DESIGNED: C. RILEY
DRAWN: C. RILEY
CHECKED: J. FAUST
SCALE
0 30' 60'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
PLANTING PLAN

SHEET
L1.0

PLOTTED ON: 2016-03-15 12:05 PM PLOTTED BY: Jacob Faust FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0161.01 Cedar Oak Boat Launch\PLANS\L-PLANTING.dwg

PLANT MATERIAL SCHEDULE

TREES

SYM	QTY	COMMON NAME	BOTANICAL NAME	SIZE	SPACING	COMMENTS
	3	CASCARA	RHAMNUS PURSHIANA	1.5" CAL	AS SHOWN	

LIVE STAKES

WILLOW LIVE STAKE GOUPING

30	SCOULER'S WILLOW	SALIX SCOULERIANA	3/4" DIA.	3'-0", O.C., TRI
81	SITKA WILLOW	SALIX SITCHENSIS	3/4" DIA.	3'-0", O.C., TRI
81	HOOKERIANA WILLOW	SALIX HOOKERIANA	3/4" DIA.	3'-0", O.C., TRI

NOTES: GROUP WILLOW STAKES INTO RANDOM GROUPINGS OF THREE STAKES PER PLAN.

FILL BANK LIVE STAKES PLANTING ZONE

300	PACIFIC NINEBARK	PHYSOCARPUS CAPITATUS	3/4" DIA.	3'-0", O.C., TRI
300	REDTWIG DOGWOOD	CORNUS SERICEA	3/4" DIA.	3'-0", O.C., TRI
300	DOUGLAS' SPIRAEA	SPIRAEA DOUGLASII	3/4" DIA.	3'-0", O.C., TRI

NOTES: GROUP FILL BANK STAKES INTO RANDOM GROUPINGS.

PLANTING ZONES

EXISTING BANK LOWER PLANTING ZONE

SHRUBS

SYM	QTY	COMMON NAME	BOTANICAL NAME	SIZE	SPACING	COMMENTS
	48	TWINBERRY	LONICERA INVOLUCRATA	1 GAL	3'-0", O.C.	GROUPINGS OF 3
	96	PACIFIC NINEBARK	PHYSOCARPUS CAPITATUS	1 GAL	3'-0", O.C.	GROUPINGS OF 3 & 5
	96	REDTWIG DOGWOOD	CORNUS SERICEA	1 GAL	3'-0", O.C.	GROUPINGS OF 5, 7 & 9
	96	DOUGLAS' SPIRAEA	SPIRAEA DOUGLASII	1 GAL	3'-0", O.C.	GROUPINGS OF 5, 7 & 9

GROUNDCOVERS, GRASSES, SEDGES & RUSHES

125	COLUMBIA SEDGE	CAREX APERTA	4" POT	2'-0", O.C.	GROUPINGS OF 5, 7 & 9
95	SLOUGH SEDGE	CAREX OBNUPTA	4" POT	2'-0", O.C.	GROUPINGS OF 5, 7 & 9
60	TUFTED HAIRGRASS	DESCHAMPSIA CESPITOSA	4" POT	2'-0", O.C.	GROUPINGS OF 3 & 5
95	SOFT RUSH	JUNCUS EFFUSUS	4" POT	2'-0", O.C.	GROUPINGS OF 5, 7 & 9
80	RIVERBANK LUPINE	LUPINUS RIVULARIS	4" POT	2'-0", O.C.	GROUPINGS OF 5, 7 & 9

EXISTING BANK MID PLANTING ZONE

SHRUBS

60	PACIFIC NINEBARK	PHYSOCARPUS CAPITATUS	1 GAL	3'-0", O.C.	GROUPINGS OF 3 & 5
60	TWINBERRY	LONICERA INVOLUCRATA	1 GAL	3'-0", O.C.	GROUPINGS OF 3
75	OCEANSPRAY	HOLODISCUS DISCOLOR	1 GAL	3'-0", O.C.	GROUPINGS OF 3
75	DOUGLAS' SPIRAEA	SPIRAEA DOUGLASII	1 GAL	3'-0", O.C.	GROUPINGS OF 5, 7 & 9
125	BALDHIP ROSE	ROSA GYMNOCARPA	1 GAL	2'-0", O.C.	GROUPINGS OF 5, 7 & 9

EXISTING BANK UPPER PLANTING ZONE

SHRUBS

85	WESTERN SERVICEBERRY	AMELANCHIER ANIFOLIA	1 GAL	3'-0", O.C.	GROUPINGS OF 3
150	RED FLOWERING CURRANT	RIBES SANGUINEUM	1 GAL	3'-0", O.C.	GROUPINGS OF 3
180	SNOWBERRY	SYMPHORICARPOS ALBUS	1 GAL	3'-0", O.C.	GROUPINGS OF 3
140	TALL OREGON GRAPE	MAHONIA AQUAFOLIUM	1 GAL	3'-0", O.C.	GROUPINGS OF 5, 7 & 9
200	BALDHIP ROSE	ROSA GYMNOCARPA	1 GAL	2'-0", O.C.	GROUPINGS OF 5, 7 & 9

EXISTING BANK UNDERSTORY PLANTING ZONE

SHRUBS

150	SNOWBERRY	SYMPHORICARPOS ALBUS	1 GAL	3'-0", O.C.	GROUPINGS OF 5, 7 & 9
75	OREGON MOCK ORANGE	PHILADELPHUS LEWISII	1 GAL	3'-0", O.C.	GROUPINGS OF 3
125	SALAL	GUALTHERIA SHALLON	1 GAL	3'-0", O.C.	GROUPINGS OF 5, 7 & 9
75	TALL OREGON GRAPE	MAHONIA AQUAFOLIUM	1 GAL	3'-0", O.C.	GROUPINGS OF 5, 7 & 9
80	OCEANSPRAY	HOLODISCUS DISCOLOR	1 GAL	3'-0", O.C.	GROUPINGS OF 3 & 7
120	SWORDFERN	POLYSTICHUM MUNITUM	1 GAL	3'-0", O.C.	GROUPINGS OF 5, 7 & 9

GROUNDCOVERS & GRASSES

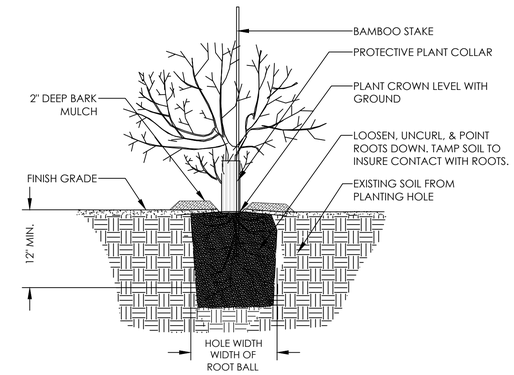
SYM	QTY	COMMON NAME	BOTANICAL NAME	SIZE	SPACING	COMMENTS
	62	BLUE OAT GRASS	HELICTOTRICHON SEMPERVIRENS	2 GAL	3'-0", O.C., TRI	

STORMWATER SWALE PLANTING

180	SPREADING RUSH	JUNCUS PATENS	4" POT	1'-6", O.C., TRI	BOTTOM OF SWALE
250	SLOUGH SEDGE	CAREX OBNUPTA	4" POT	1'-6", O.C., TRI	SIDE SLOPE OF SWALE

GRASS LOADING AREA

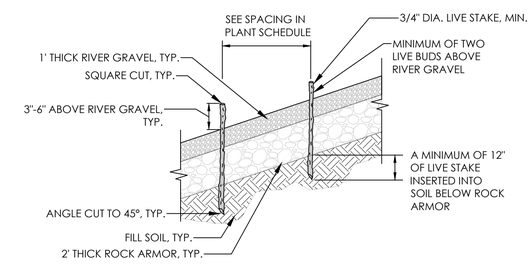
PROTIME LAWN SEED: PT 769 ROUGH & READY ECO-TURF
APPLICATION RATE: 5-7 LBS. PER 1000 SF



NOTES

1. REMOVE THE BULK OF THE PLANTING MEDIA FROM THE PLANT'S ROOTS SO PLANTS WILL BE IN CONTACT WITH EXISTING GROUND AND UNCURL ANY CIRCLING ROOTS.
2. REPAIR DAMAGE AND DISTURBANCE TO GROUND COVER AND RESEED AREAS 12 INCHES AWAY FROM NEW PLANT.
3. REMOVE A 12 INCH DIAMETER CIRCLE OF GRASS AND WEEDS AROUND THE NEW PLANT AND PLACE A 6 INCH DIAMETER PLANT COLLAR AROUND THE PLANT.
4. ALL SHRUBS PLANTED ON THE EXISTING MID AND UPPER PLANTING ZONES SHALL RECEIVE A 2 INCH DEEP LAYER OF BARK MULCH AROUND THE BASE OF THE PLANT IN A 12 INCH DIAMETER CIRCLE. PULL THE MULCH AWAY FROM THE CROWN OF THE PLANT SO IT IS NOT TOUCHING THE PLANT.

A TREE & SHRUB DETAIL
NOT TO SCALE



NOTES

1. LIVE STAKES SHALL BE 3/4 INCH IN DIAMETER AND 5 FEET LONG, DEPENDING ON SITE APPLICATION.
2. NO LEAF BUDS SHALL HAVE INITIATED GROWTH BEYOND 1/4 INCH AND THE CAMBIUM LAYER SHALL BE MOIST, GREEN AND HEALTHY.
3. ALL MATERIAL SHALL BE MAINTAINED IN A CONTINUOUSLY COOL, COVERED, AND MOIST STATE PRIOR TO USE AND BE IN GOOD CONDITION WHEN INSTALLED.
4. AT LEAST 12 INCHES OF THE LIVE STAKES SHALL EXTEND THROUGH THE RIPRAP FILL AND INTO THE SOIL BELOW.
5. A MINIMUM OF 3 TO 6 INCHES AND TWO LIVE BUDS OF THE LIVE STAKES SHALL BE EXPOSED ABOVE THE RIVER GRAVEL.
6. LIVE STAKES SHALL BE CUT TO A POINT ON THE BASAL END FOR INSERTION IN THE GROUND.
7. USE A RUBBER MALLET TO CAREFULLY DRIVE THE POINTED END OF THE STAKES INTO THE GROUND. IF THE STAKE DOESN'T GO INTO THE GROUND EASILY, USE AN IRON BAR, OR SIMILAR TOOL TO MAKE A PILOT HOLE TO PREVENT DAMAGING THE MATERIAL DURING INSTALLATION.
8. FILL HOLE WITH TOPSOIL AROUND LIVE STAKES. PLACE RIPRAP AND GRAVEL CAREFULLY BY HAND AROUND LIVE STAKES.
9. CARE SHALL BE TAKEN NOT TO DAMAGE THE LIVE STAKES DURING INSTALLATION. THOSE DAMAGED AT THE TOP DURING INSTALLATION SHALL BE TRIMMED BACK TO UNDAMAGED CONDITION.

B TYPICAL LIVE STAKE IN ROCK FILL DETAIL
NOT TO SCALE

BID DOCUMENTS

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REGISTERED PROFESSIONAL ENGINEER 83172PE OREGON JUNE 7, 2012 JACOB M. FAUST
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CITY OF WESTLINN
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Parks Department
22500 Salamo Road
West Linn, Oregon 97068
Telephone: (503) 557-4700
Fax: (503) 656-4106

Appendix D

GEOTECHNICAL STUDY

9750 SW Nimbus Avenue
Beaverton, OR 97008-7172
p | 503-641-3478 f | 503-644-8034

January 11, 2016

5581 GEOTECHNICAL RPT

City of West Linn
22500 Salamo Road
West Linn, Oregon 97068

Attention: Ken Worcester

SUBJECT: Geotechnical Investigation
Cedar Oak Boat Ramp Replacement
Willamette River
West Linn, Oregon

At your request, GRI has conducted a geotechnical investigation for the above-referenced project. The location of the proposed boat ramp replacement is shown on the Vicinity Map, Figure 1. The purpose of this investigation was to evaluate subsurface materials and conditions at the existing boat ramp and develop geotechnical recommendations for use in design and construction of the replacement ramp and pile-supported floats. The investigation included review of available geotechnical information for the site and vicinity, subsurface explorations, limited laboratory testing, and engineering analyses. This report documents the work accomplished and provides our conclusions and recommendations for construction of the improvements. Our preliminary findings were issued in a memorandum to you dated February 20, 2015, titled, "Preliminary Geotechnical Findings, Cedaroak Boat Ramp, West Linn, Oregon."

PROJECT DESCRIPTION

The project involves extending the existing boat ramp approximately 120 ft into the Willamette River to mitigate the effects of sediment buildup in the boat launch area between the existing pile-supported floating docks. Based on our review of plans developed by Maul, Foster & Alongi, Inc. (MFA) the project civil engineer, we understand the new ramp will have pre-cast and cast-in-place concrete sections. The existing ramp terminates at about elevation 15 ft; the proposed new cast-in-place concrete ramp will extend to about elevation 10 ft. The new pre-cast concrete sections will extend to about elevation -5 ft. These elevations reference to the NAVD88 datum, and all subsequent elevations in this report also reference NAVD 88. Construction of the new ramp will require placement of up to 9,800 cu yd of granular structural fill. The fill will be blanketed with 2 ft of Oregon Department of Transportation (ODOT) Class 700 rock armor and capped with 3 ft of round river cobbles. Additional soil will be placed over the round river cobbles to provide a planting base. The existing floats, which are located on both the north and south sides of the ramp, will be replaced with a single, center float supported by six driven pipe piles. Guidelines provided in the Oregon State Marine Board's (OSMB) *Design Guidelines for Recreational Boating Facilities* (Third Edition, Sept. 2011) require piles to extend at least 4 ft above the hundred year flood elevation which extends to elevation 46.1 ft at the site. Based on discussions with the design team and City, we understand the outer two floats will be removed during periods of high water, which will allow the outer two piles to be designed to remain a minimum of 4 ft above the ordinary high water elevation of 28 ft. Per the requirements of the OSMB guidelines, permanent deflection of the piles is

not acceptable for design. Preliminary plans indicate the floats are proposed to be supported by six 16-in. diameter steel pipe piles. Based on our review of the U.S. Army Corps of Engineers (USACE) permit application, we understand vibratory pile driving will be required to minimize construction noise during pile installation. Additional project elements include a water quality swale and kayak launch area located south of the new ramp and floats. The Site Plan, Figure 2, shows the configuration of the proposed improvements.

SITE DESCRIPTION

Topography

Topography was provided by the City of West Linn and was collected by Minister Glaeser Surveying Inc. in May of 2014. The topographical information indicates the site slopes downwards towards the river between approximately elevation 29 ft in the parking area and elevation 5 ft at the east end of the existing floating docks. The parking area is relatively flat between approximate elevation 26 and 29 ft and is surfaced with asphaltic concrete. Short slopes of up to 1.5H:1V are present on the east side of the parking area and typically flatten to about 5H:1V on the beach adjacent the river. An asphaltic-concrete boat ramp extends from the east side of the parking area at about elevation 25 ft to the boat launch area between the floating docks to about elevation 15 ft where the ramp transitions to concrete which extends to about elevation 3 ft. The topographic information indicates the boat launch area between the floating docks has a relatively uniform slope of 7H:1V with the ground surface between elevation 15 ft and 5 ft. However, based on observations during our site investigation, the ground surface underlying the north floating dock appears to have little to no slope due to sediment accretion. The beaches above the high water mark are vegetated with long grasses. The beaches below the high water mark are not typically vegetated. The area surrounding the parking lot is vegetated with mature shrubs and trees.

Geology

The site is mantled with granular fill in the parking area and boat ramp portions of the site. Beneath the surficial fill and at the ground surface downslope of the parking and boat ramp areas, the site is mantled with alluvial sand, silt, and gravel and cobbles. Although not encountered during the explorations, boulders are commonly found within the alluvial gravel and cobble unit. Middle Miocene-age basalt bedrock of the Sand Hollow Formation underlies the alluvial gravel, cobbles and boulders and typically dips downward towards the river.

SUBSURFACE CONDITIONS

General

Subsurface conditions at the site were investigated on September 8 through 10, 2014, with four borings, designated B-1 through B-4. The borings were advanced to depths of 10.4 to 40.3 ft at the approximate locations shown on the Site Plan, Figure 2. Logs of the materials and conditions disclosed by the explorations are shown on Figures 1A through 4A in Appendix A. The terms and symbols used to describe the materials encountered in the borings are defined on Tables 1A and 2A and the attached legend. A detailed discussion of the methods of exploration and sampling techniques is also provided in Appendix A.

Soils

For the purpose of discussion, the materials disclosed by the borings have been grouped into the following units based on their physical characteristics and engineering properties.

1. **PAVEMENT**
2. **FILL**
3. **SAND, SILT, GRAVEL and COBBLES (Alluvium)**
4. **GRAVEL and SAND (Older Alluvium)**
5. **BASALT (Sand Hollow Formation)**

1. PAVEMENT. Boring B-1 encountered asphaltic-concrete (AC) pavement at the ground surface. The thickness of the pavement was approximately 4-in. No base course was encountered beneath the pavement.

2. FILL. Fill consisting of gravel and cobbles was encountered beneath the pavement in boring B-1 and at the ground surface in boring B-2. The fill extends to a depth of about 8 ft in boring B-2, and boring B-1 was terminated in the fill at a depth of 10.4 ft. The gravel and cobble fill is angular to subrounded, contains varying percentages of fine- to coarse-grained sand ranging from a trace to some sand. In boring B-2, the fill contains a variable silt content ranging from some silt to silty. Based on N-values ranging from 18 blows/ft to 50 blows in 3 in. of sampler penetration, the relative density of the gravel and cobble fill ranges from medium dense to very dense. It should be noted that the SPT tends to overestimate relative density in coarse granular material.

3. SAND, SILT, GRAVEL and COBBLES (Alluvium). Alluvial sand, silt, gravel, and cobbles were encountered beneath the fill in boring B-2, and at the ground surface in borings B-3 and B-4. The alluvium extends to a depth of about 18.5 ft in boring B-2, and to a depth of 18 ft in borings B-3 and B-4. The upper portion of the alluvium is composed of sand. The thickness of the sand deposit varies from 2 ft in boring B-2 to 2.5 to 10 ft in borings B-3 and B-4, respectively. The sand is brown to gray, fine grained, and contains varying percentages of silt ranging from a trace of silt to silty. Based on N-values ranging from 0 to 14 blows/ft, the relative density of the sand ranges from very loose to medium dense. The natural moisture content of the sand ranges from about 19 to 50%.

A 2.5-ft thick layer of silt was encountered beneath the sand in boring B-2. The silt is brown and sandy, with fine- to medium-grained sand, and a trace of organics. Based on an N-value of 6 blows/ft, the relative consistency of the silt is estimated to be medium stiff. The natural moisture content of the silt is about 40%.

Gravel and cobbles were encountered beneath the silt in boring B-2, and beneath the sand in borings B-3 and B-4. In borings B-3 and B-4, the upper 5 to 6.5 ft of the layer is composed primarily of gravel, gravelly sand and sandy gravel. Below depths of 9 to 15 ft, the layer grades to primarily gravel and cobbles. Although not encountered during the subsurface explorations, boulders are commonly encountered within the gravel and cobble portion of the alluvium. The gravel and cobbles are subrounded to rounded, and contain varying percentages of fine- to coarse-grained sand ranging from a trace of sand to sandy, and a trace of silt. Based on N-values ranging from 3 to 72 blows/ft, the relative density of the gravel and cobbles ranges from very loose to very dense.

4. GRAVEL and SAND (Older Alluvium). Beneath the gravel and cobbles, boring B-2 encountered a layer of older alluvium at a depth of 18.5 ft. The alluvium is composed of rounded to subrounded gravel containing some silt, clay, and fine-grained sand. Yellow mineralization is present below a depth of 30 ft. N-values of 26 to 51 blows/ft indicate the relative density of the gravel ranges from medium dense to very dense. The gravel grades to gray, fine- to coarse-grained sand below a depth of 35 ft. The sand contains some silt and clay, and relict gravel structure and yellow and rust mineralization is present. Based on an N-value of 50 blows for 6 in. of sampler penetration, we estimate the relative density of the sand is very dense. The natural moisture content of the silt is about 44%. Although not encountered during the subsurface explorations, boulders are commonly encountered within the gravel portion of the older alluvium.

5. BASALT (Sand Hollow Formation). Vesicular, gray basalt of the Sand Hollow Formation was encountered in boring B-2 beneath the older alluvial sand, and in borings B-3 and B-4 underlying the alluvial gravel and cobbles. In borings B-2 and B-3, the surface of the basalt is predominantly decomposed to moderately weathered, and we estimate the relative rock hardness is extremely soft (R0). Boring B-2 was terminated in the extremely soft basalt at a depth of 40.3 ft. In boring B-3, below a depth of about 25 ft the rock is fresh to slightly weathered, vesicular, and the relative rock hardness increases to soft to medium hard (R2 to R3). In boring B-4 the weathered zone at the surface of the unit is absent, and the rock is vesicular, fresh, and medium hard (R3). Borings B-3 and B-4 were terminated in the basalt at depths of 30 and 29 ft, respectively.

Groundwater

Groundwater levels at the site will fluctuate in close response to varying river levels.

CONCLUSIONS AND RECOMMENDATIONS

General

The site is mantled with alluvial silt, sand, gravel, and cobbles which are underlain by basalt at relatively shallow depths. In our opinion, the floating dock can be secured by piles installed into the alluvial sediments below the mudline. We understand vibratory pile driving will be required to minimize construction noise during pile installation as a condition of the USACE permit. The following sections of this report provide our conclusions and recommendations for the design and construction of the proposed ramp and floating dock.

Site Preparation and Excavation

The ground surface should be stripped of the rooted zone within the limits of the improvements. Stripping to a depth of 4 to 6 in. will be necessary in vegetated areas, with deeper stripping and grubbing necessary to remove brush and tree roots. The stripped materials are not suitable for use as compacted structural fill. Following stripping or excavation to subgrade level, the subgrade within the area of the improvements should be evaluated by a qualified geotechnical engineer, and soft soils or areas of unsuitable material should be overexcavated and replaced with structural fill.

In our opinion, it is not necessary to remove the existing concrete ramp prior to placement of structural fill, provided at least 12 in. of structural fill will separate the surface of the existing ramp from the base of the new ramp or pavement. The portions of the existing ramp that will not allow a minimum 12 in. of structural fill if left in place should be demolished. Any excavation made to remove the existing ramp or

other existing structure should be backfilled with granular material such as sand, sand and gravel, or crushed rock with a maximum size of about 2in. and not more than 8% passing the No. 200 sieve (washed analysis). Granular fill should be placed in 12-in.-thick (loose) lifts and compacted with a vibratory roller to at least 95% of the maximum dry density as determined by ASTM D 698, or until well keyed.

Structural Fill

Up to 9,800 cu yd of granular structural fill will be placed to construct the new ramp, and we anticipate some in-water filling will be necessary. Plans indicate the general ramp fill will be capped with 2 ft of ODOT Class 700 rock armor that will be blanketed on both the upstream and downstream sides with a 3-ft-thick layer of round river cobbles. Grading plans indicate the final fill slopes will be on the order of 3H:1V. General ramp fill should consist of hard, well-graded, angular rock that conforms to the following specifications.

GRADATION REQUIREMENTS FOR FILL/FILTER MATERIAL

Sieve Size	Percent Passing (by Weight)
6 in.	100
2 in.	60 to 100
3/4 in.	45 to 75
No. 4	25 to 50
No. 10	15 to 35
No. 100	0 to 5
No. 200	0 to 5

The general ramp fill will be blanketed with 2 ft of ODOT Class 700 rock armor. Rock armor should consist of clean, hard, angular rock that conforms to ODOT quality and gradation requirements for Class 700 riprap as outlined in Section 00390.11 of the 2015 ODOT Standard Specifications. A 3-ft-thick layer of round river cobble will be placed over the rock armor to allow planting of woody vegetation. In areas where fill and rock armor is not required, but which will be blanketed with round river cobble, a filter layer should be placed between the existing slopes and round river cobble. The filter layer should be at least 12 in. thick measured perpendicular to the slope. In our opinion, it is appropriate to use the fill material described above as a filter material.

After stripping to subgrade level in areas above the water line to receive fill, the upper 12 in. of the exposed sand and gravel subgrade should be compacted until well-keyed prior to placement of the ramp fill. The fill should be placed in loose lifts of 12 to 18 in. and compacted until well-keyed with a large smooth-drum vibratory roller. Underwater fill should be placed using methods that will minimize segregation. In areas below the water line or inaccessible to the roller, the fill should be tamped into place with the bucket of a backhoe or "walked in" with a trackhoe until well-keyed. We anticipate settlement induced by the fill placement will occur rapidly as the load is placed.

Piles

The floating dock can be secured by pipe piles driven into the sand, gravel, and cobble sediments below the mudline. We understand that piles will not be subject to vertical loads; therefore, the required

penetration for single vertical piles will be based on lateral loading conditions. To provide the required fixity and resist the lateral loads in bending, we recommend the piles be driven open-end through the alluvial sand, gravel, and cobbles that extend to a depth of about 18 ft below the mudline to reach refusal on the underlying basalt.

Lateral loads can be resisted by piles in bending and the passive resistance of the soil adjacent to the pile. The allowable lateral load capacity of piles depends, in part, on the pile top connection being approximated as either "fixed-" or "free-headed," and the allowable lateral deflection and bending stress. We anticipate a non-rigid connection will be provided between the pile and dock components, approximating a "free-headed" condition. Lateral loads were developed by Peterson Structural Engineers, Inc. (PSE), who provided structural engineering services related to pile selection and design as a subconsultant to GRI. PSE evaluated combinations of wind, current, wave, and vessel impacts to develop the maximum expected loads at the pile top for the ordinary high water and 100-yr flood scenarios. The maximum developed loads were 5 and 4 kips for the ordinary high water and 100-yr flood scenarios, respectively. These loads assume the outer two floats will be removed during periods of high water.

Using loads developed by PSE, GRI analyzed pile head deflections using LPILE (2013 version), a computer software program developed by Ensoft, Inc., of Austin, Texas, for piles subjected to lateral loads. Piles were assumed to have a 1/2-in. wall thickness. The LPILE results were then analyzed by PSE for pile structural integrity. Preliminary studies indicate that the deflection of 16-in.-OD x 1/2-in. wall piles at the above-mentioned loads exceeds the bending strength of the pile. Similar studies were completed for 18-in.-OD x 1/2-in. piles. The studies indicate 18-in. piles installed to the top of the underlying basalt can achieve fixity and resist the lateral loads in bending. Structural calculations completed by PSE for the 18-in. piles are included in Appendix B. LPILE output graphs for the recommended 18-in. piles are included in Appendix C as well as within the PSE calculations.

Our studies also included the use of 24-in. OD x 1/2-in. pipe piles which experience shows may be more readily available than 18-in. piles. However, the studies indicate that due to the increased surface area, the larger piles cannot achieve fixity without an additional 5 ft of embedment. Due to the relatively shallow basalt, additional embedment will not be possible without drilling rock sockets. In our experience, installation of rock-socketed piles over water is difficult to permit and often cost prohibitive.

We anticipate the open-ended piles will be installed using a large vibratory hammer as required by the USACE permit; however, if practical refusal on a pile is reached prior to achieving the required penetration, it will be necessary to drive the pile to the required tip elevation with an impact hammer. In this event, we recommend the use of a diesel hammer with a rated energy of at least 60,000 ft-lbs. To assist in protecting the piles from damage during driving through the dense gravel and cobbles, pipe piles should be fitted with tip protection. We recommend that a continuous driving record be maintained for the full depth of pile penetration for each pile driven. All pile-driving records should be made available to the geotechnical engineer to evaluate general conformance with the intent of the geotechnical design. In our opinion, pile installation operations should be observed and documented by a qualified geotechnical engineer.

Pavement

We anticipate the paved areas will be subjected to automobile, light truck, and occasional heavy truck traffic. We anticipate the majority of the site will be paved with AC pavement; however the ramp will be paved with Portland cement concrete (PCC). Traffic estimates are presently unknown; however, based on our experience with similar projects and subgrade materials we recommend the following pavement and crushed rock base (CRB) course sections.

RECOMMENDED PAVEMENT SECTIONS

	CRB Thickness, in.	AC Thickness, in.
Areas Subject to Occasional Heavy Truck Traffic	12	4
Areas Subject to Primarily Automobile and Light Truck Traffic and Parking	8	3

	CRB Thickness, in.	PCC Thickness, in.
Areas Subject to Automobile and Light Truck Traffic	6	5
Areas Subject to Occasional Heavy Truck Traffic	6	6

The recommended pavement sections should be considered minimum thicknesses, and it should be assumed that some maintenance will be required over the life of the pavement (15 to 20 years). The section is based on the assumption that pavement construction will be accomplished during the dry season and after construction of the dock has been completed. If wet-weather pavement construction is considered, it will likely be necessary to increase the thickness of CRB course to support construction equipment and protect the subgrade from disturbance. The indicated sections are not intended to support extensive construction traffic, such as dump trucks and concrete trucks. Pavements subject to construction traffic may require repair. To provide quality materials and construction practices, we recommend the pavement work conform to Oregon Department of Transportation standards.

Prior to placing base course materials, all pavement areas should be proof rolled with a fully loaded 10-cy dump truck. Any soft areas detected by the proof rolling should be overexcavated to firm ground and backfilled with compacted granular fill material such as sand, sand and gravel, or crushed rock with a maximum size of about 2 in. and not more than 8% passing the No. 200 sieve (washed analysis). Granular fill should be placed in 12-in.-thick (loose) lifts and compacted with a vibratory roller to at least 95% of the maximum dry density as determined by ASTM D 698, or until well keyed.

Provided the pavement section is installed in accordance with the recommendations provided above, it is our opinion the site access areas will support infrequent traffic by an emergency vehicle having a gross vehicle weight (GVW) of up to 75,000 lbs. For the purposes of this evaluation “infrequent” can be defined as once a month or less.

Design Review and Construction Services

We welcome the opportunity to review and discuss construction plans and specifications for this project as they are being developed. In addition, GRI should be retained to review all geotechnical-related portions

of the plans and specifications to evaluate whether they are in conformance with the recommendations provided in our report. Additionally, to observe compliance with the intent of our recommendations, design concepts, and the plans and specifications, we are of the opinion that all pile installation should be observed by a GRI representative. Our construction-phase services will allow for timely design changes if site conditions are encountered that are different from those described in our report. If we do not have the opportunity to confirm our interpretations, assumptions, and analyses during construction, we cannot be responsible for the application of our recommendations to subsurface conditions that are different from those described in this report.

LIMITATIONS

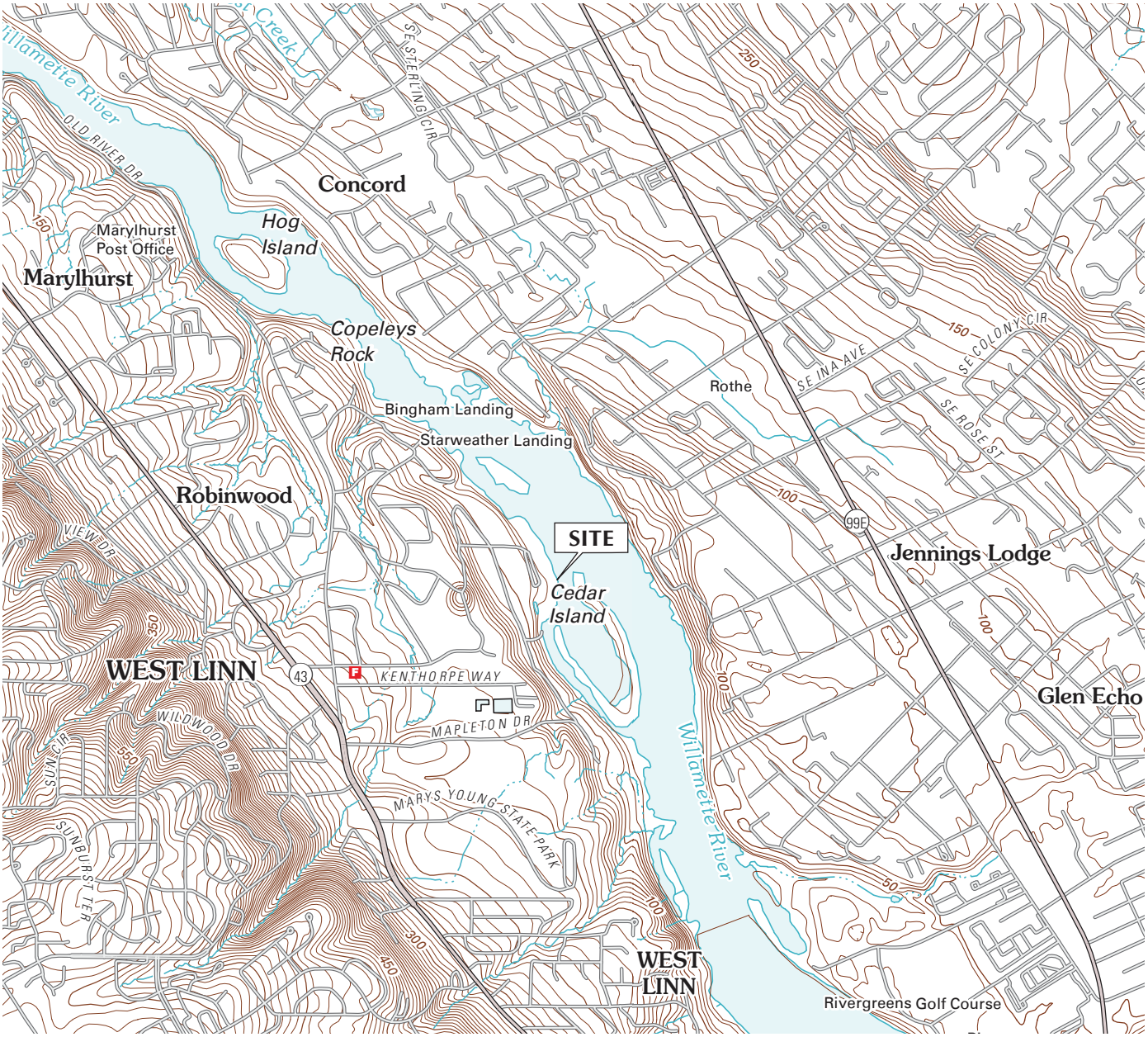
This report has been prepared to aid the project team in the planning and design of this project. The scope is limited to the specific project and location described herein, and our description of the project represents our understanding of the significant aspects of the project relevant to earthwork and design and construction of the boat ramp. In the event that any changes in the design and location of the boat ramp as outlined in this report are planned, we should be given the opportunity to review the changes and to modify or reaffirm the conclusions and recommendations of this report in writing.

The conclusions and recommendations submitted in this report are based on the data obtained from the borings made at the locations indicated on Figure 2. In the performance of subsurface investigations, specific information is obtained at specific locations at specific times. However, it is acknowledged that variations in soil conditions may exist between exploration locations. This report does not reflect any variations that may occur between these explorations. The nature and extent of variation may not become evident until construction. If, during construction, subsurface conditions different from those encountered in the explorations are observed or encountered, we should be advised at once so that we can observe and review these conditions and reconsider our recommendations where necessary.

Submitted for GRI,

Renews 06/2016

A. Wesley Spang, PhD, PE, GE
Principal



USGS TOPOGRAPHIC MAP
LAKE OSWEGO, OREG. (2011)
GLADSTONE, OREG. (2011)

North

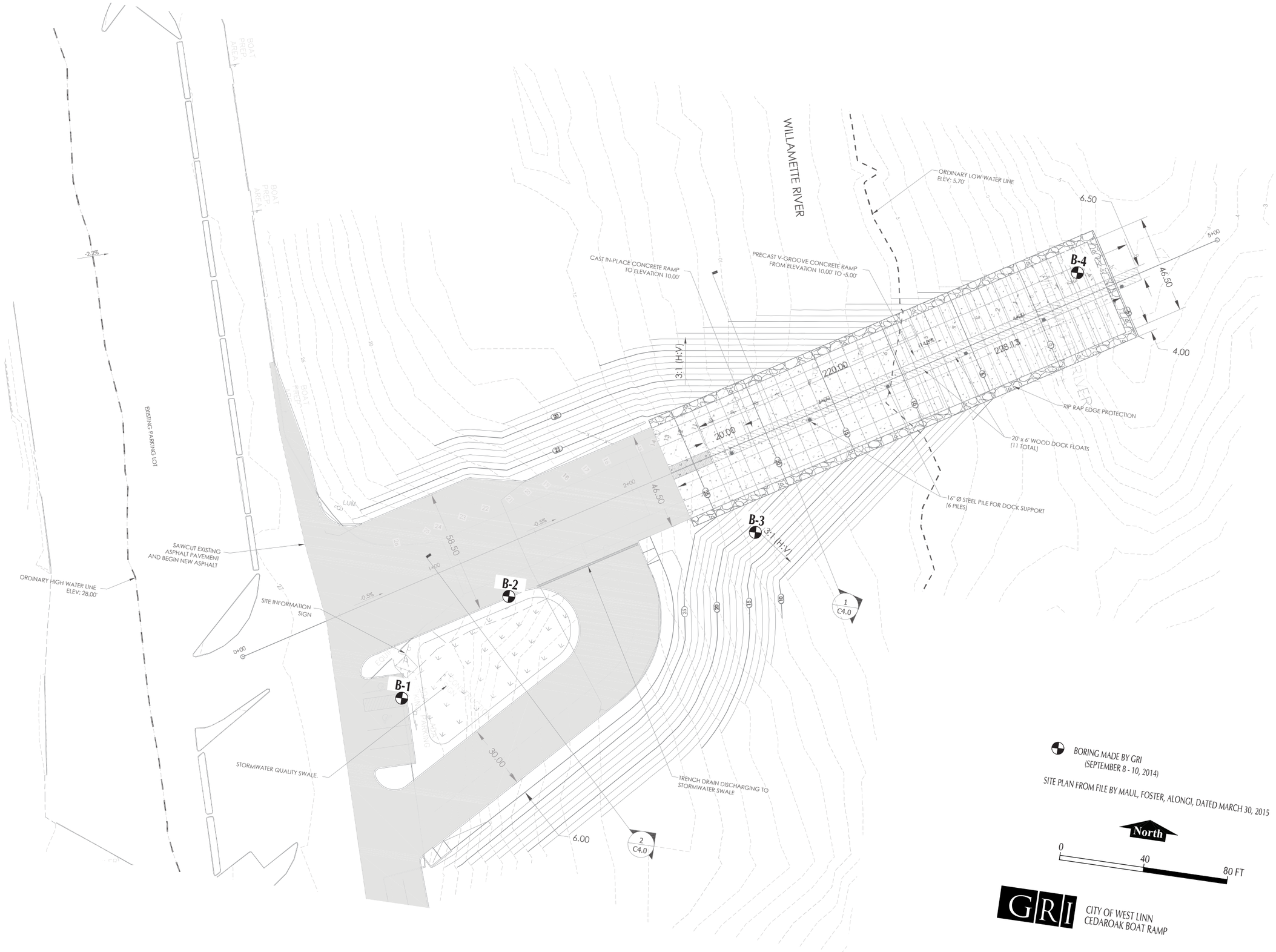
0 1/2 1 MILE

GRI

CITY OF WEST LINN
CEDAROAK BOAT RAMP

VICINITY MAP

JAN. 2016 JOB NO. 5581 FIG. 1



BORING MADE BY GRI
(SEPTEMBER 8 - 10, 2014)

SITE PLAN FROM FILE BY MAUL, FOSTER, ALONGI, DATED MARCH 30, 2015

North

0 40 80 FT

GRI

CITY OF WEST LINN
CEDAROAK BOAT RAMP

SITE PLAN

JAN. 2016

JOB NO. 5581

FIG. 2

APPENDIX A

Field Explorations

APPENDIX A

FIELD EXPLORATIONS AND LABORATORY TESTING

FIELD EXPLORATIONS

General

Subsurface materials and conditions at the site were investigated between September 8 and 10, 2014, with four borings, designated B-1 through B-4. The borings were advanced to depths of 10.4 to 40.3 ft at the approximate locations shown on the Site Plan, Figure 2. An experienced geotechnical engineer from GRI directed the drilling and maintained a detailed log of the materials and conditions disclosed during the course of the work.

Borings

The on-land borings, B-1 through B-3, were advanced to depths of 10.4 to 40.3 ft with mud-rotary drilling methods using a truck-mounted CME 75 and/or track-mounted CME 850 drill rig provided and operated by Hardcore Drilling, Inc. of Dundee, Oregon. The in-water boring, B-4, was advanced to a depth of 29 ft below the mudline with the above-mentioned track-mounted drill mounted on a barge provided and operated by Diversified Marine Incorporated of Portland, Oregon. Disturbed and undisturbed samples were typically obtained at 2.5-ft intervals of depth in the upper 15 ft and at 5-ft intervals below this depth. Disturbed samples were obtained using a standard split-spoon sampler. At the time of sampling, the Standard Penetration Test was conducted. This test consists of driving a standard split-spoon sampler into the soil a distance of 18 in. using a 140-lb hammer dropped 30 in. The number of blows required to drive the sampler the last 12 in. is known as the standard penetration resistance, or N-value. The N-values provide a measure of the relative density of granular soils, such as sand or gravel, and the relative consistency, or stiffness, of cohesive soils, such as silt or clay. The split-spoon samples were carefully examined in the field and representative portions were saved in airtight jars. All samples were returned to our laboratory for further examination and physical testing. The basalt was cored using wireline techniques an HQ diamond coring bit attached to a split-core barrel. All core samples were placed in core boxes and returned to our laboratory for further examination.

Logs of the borings are provided on Figures 1A through 4A. Each log presents a descriptive summary of the various types of materials encountered in the boring and notes the depth at which the materials and/or characteristics of the materials change. To the right of the descriptive summary the numbers and types of samples are indicated. Farther to the right, N-values are shown graphically, along with natural moisture contents. Also shown on the log, where appropriate, are core run locations, lengths, percent core recovery, and rock quality designations (RQD). The RQD is an index for determining the relative number of fractures and amount of softening or alteration or the rock mass. The terms used to describe the soil and rock encountered in the borings are defined in Tables 1A and 2A, and on the attached legend.

LABORATORY TESTING

General

Samples obtained from the borings were examined in our laboratory, where the physical characteristics of the samples were noted, and the field classifications were modified where necessary. At the time of

classification, the natural moisture content of each sand and silt sample was determined. Moisture content testing was not completed on samples of gravel or rock.

Natural Moisture Content

Natural moisture content determinations were made in conformance with ASTM D 2216. The results are summarized on Figures 2A and 4A.

Table 1A: GUIDELINES FOR CLASSIFICATION OF SOIL

RELATIVE DENSITY FOR GRANULAR SOIL

Relative Density	Standard Penetration Resistance (N-values) blows per foot
very loose	0 - 4
loose	4 - 10
medium dense	10 - 30
dense	30 - 50
very dense	over 50

CONSISTENCY FOR FINE-GRAINED (COHESIVE) SOIL

Consistency	Standard Penetration Resistance (N-value) blows per foot	Torvane or Undrained Shear Strength, tsf
very soft	0 - 2	less than 0.125
soft	2 - 4	0.125 - 0.25
medium stiff	4 - 8	0.25 - 0.50
stiff	8 - 15	0.50 - 1.0
very stiff	15 - 30	1.0 - 2.0
hard	over 30	over 2.0

Grain-Size Classification	Modifier for Subclassification	
	Adjective	Percentage of Other Material In Total Sample
Boulders >12 in.		
Cobbles 3 - 12 in.	clean	0 - 2
Gravel 1/4 - 3/4 in. (fine) 3/4 - 3 in. (coarse)	trace some	2 - 10 10 - 30
Sand No. 200 - No. 40 sieve (fine) No. 40 - No. 10 sieve (medium) No. 10 - No. 4 sieve (coarse)	sandy, silty, clayey, etc.	30 - 50
Silt/Clay - pass No. 200 sieve		

GRI

Table 2A: GUIDELINES FOR CLASSIFICATION OF ROCK

RELATIVE ROCK WEATHERING SCALE

Term	Field Identification
Fresh	Crystals are bright. Discontinuities may show some minor surface staining. No discoloration in rock fabric.
Slightly Weathered	Rock mass is generally fresh. Discontinuities are stained and may contain clay. Some discoloration in rock fabric. Decomposition extends up to 1 in. into rock.
Moderately Weathered	Rock mass is decomposed 50% or less. Significant portions of rock show discoloration and weathering effects. Crystals are dull and show visible chemical alteration. Discontinuities are stained and may contain secondary mineral deposits.
Predominantly Decomposed	Rock mass is more than 50% decomposed. Rock can be excavated with geologist's pick. All discontinuities exhibit secondary mineralization. Complete discoloration of rock fabric. Surface of core is friable and usually pitted due to washing out of highly altered minerals by drilling water.
Decomposed	Rock mass is completely decomposed. Original rock "fabric" may be evident. May be reduced to soil with hand pressure.

RELATIVE ROCK HARDNESS SCALE

Term	Hardness Designation	Field Identification	Approximate Unconfined Compressive Strength
Extremely Soft	R0	Can be indented with difficulty by thumbnail. May be moldable or friable with finger pressure.	< 100 psi
Very Soft	R1	Crumbles under firm blows with point of a geology pick. Can be peeled by a pocket knife and scratched with fingernail.	100 - 1,000 psi
Soft	R2	Can be peeled by a pocket knife with difficulty. Cannot be scratched with fingernail. Shallow indentation made by firm blow of geology pick.	1,000 - 4,000 psi
Medium Hard	R3	Can be scratched by knife or pick. Specimen can be fractured with a single firm blow of hammer/geology pick.	4,000 - 8,000 psi
Hard	R4	Can be scratched with knife or pick only with difficulty. Several hard hammer blows required to fracture specimen.	8,000 - 16,000 psi
Very Hard	R5	Cannot be scratched by knife or sharp pick. Specimen requires many blows of hammer to fracture or chip. Hammer rebounds after impact.	> 16,000 psi

RQD AND ROCK QUALITY

Relation of RQD and Rock Quality

RQD (Rock Quality Designation), %	Description of Rock Quality
0 - 25	Very Poor
25 - 50	Poor
50 - 75	Fair
75 - 90	Good
90 - 100	Excellent

Terminology for Planar Surface

Bedding	Joints and Fractures	Spacing
Laminated	Very Close	< 2 in.
Thin	Close	2 in. – 12 in.
Medium	Moderately Close	12 in. – 36 in.
Thick	Wide	36 in. – 10 ft
Massive	Very Wide	> 10 ft

BORING AND TEST PIT LOG LEGEND

SOIL SYMBOLS

Symbol	Typical Description
	GRAVEL; clean to some silt, clay, and sand
	Sandy GRAVEL; clean to some silt and clay
	Silty GRAVEL; up to some clay and sand
	Clayey GRAVEL; up to some silt and sand
	SAND; clean to some silt, clay, and gravel
	Gravelly SAND; clean to some silt and clay
	Silty SAND; up to some clay and gravel
	Clayey SAND; up to some silt and gravel
	SILT; up to some clay, sand, and gravel
	Gravelly SILT; up to some clay and sand
	Sandy SILT; up to some clay and gravel
	Clayey SILT; up to some sand and gravel
	CLAY; up to some silt, sand, and gravel
	Gravelly CLAY; up to some silt and sand
	Sandy CLAY; up to some silt and gravel
	Silty CLAY; up to some sand and gravel
	PEAT
	LANDSCAPE MATERIALS

BEDROCK SYMBOLS

Symbol	Typical Description
	BASALT
	SILTSTONE
	SANDSTONE

SURFACE MATERIAL SYMBOLS

Symbol	Typical Description
	Asphaltic-concrete PAVEMENT
	Portland cement concrete PAVEMENT
	Crushed rock BASE COURSE

SAMPLER SYMBOLS

Symbol	Sampler Description
	2.0-in. O.D. split-spoon sampler and Standard Penetration Test with recovery (ASTM D1586)
	Shelby tube sampler with recovery (ASTM D1587)
	3.0-in. O.D. split-spoon sampler with recovery (ASTM D3550)
	Grab Sample
	Rock core sample interval
	Sonic core sample interval
	Geoprobe sample interval

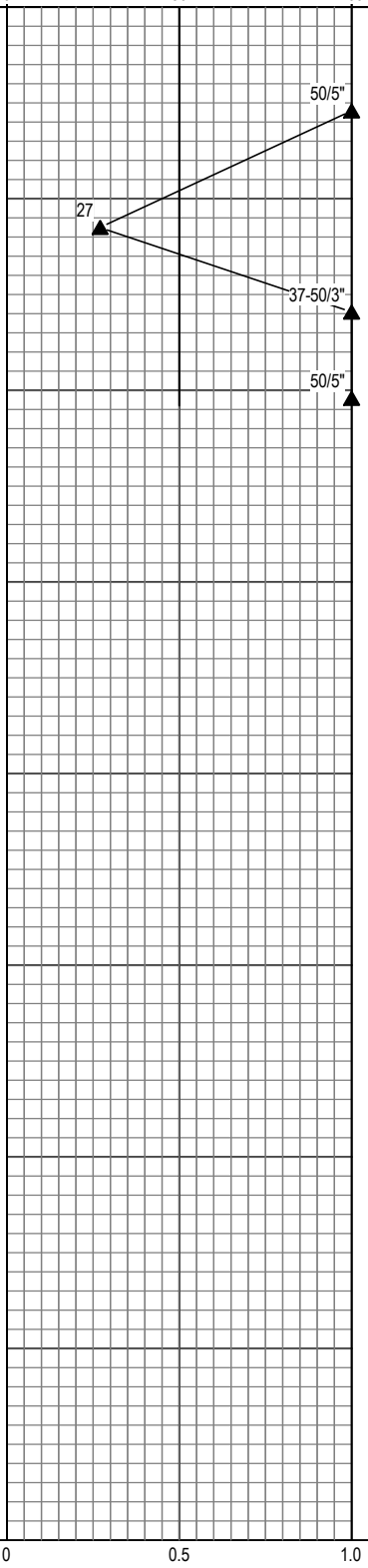
INSTALLATION SYMBOLS

Symbol	Symbol Description
	Flush-mount monument set in concrete
	Concrete, well casing shown where applicable
	Bentonite seal, well casing shown where applicable
	Filter pack, machine-slotted well casing shown where applicable
	Grout, vibrating-wire transducer cable shown where applicable
P	Vibrating-wire pressure transducer
	1-in.-diameter solid PVC
	1-in.-diameter hand-slotted PVC
	Grout, inclinometer casing shown where applicable

FIELD MEASUREMENTS

Symbol	Typical Description
	Groundwater level during drilling and date measured
	Groundwater level after drilling and date measured
	Rock core recovery
	Rock quality designation (RQD)

DEPTH, FT	GRAPHIC LOG	CLASSIFICATION OF MATERIAL **Surface Elevation:** 26.0 ft [±] (NAVD 88)	ELEVATION, FT / DEPTH, FT	INSTALLATION	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT	COMMENTS AND ADDITIONAL TESTS
		Asphaltic-concrete PAVEMENT (4 in.)	25.7 / 0.3					
		FILL: Very dense GRAVEL and COBBLES; angular, trace fine- to coarse-grained sand			S-1	III	50/5"	
5		---medium dense below 5 ft			S-2	III	25 17 10	1-ft-thick void at 6.5 ft
		---subrounded below 7.5 ft			S-3	III	37 50/3"	
10		(9/8/2014)	15.6 / 10.4		S-4	III	50/5"	
15								
20								
25								
30								
35								
40								



GRI BORING LOG GRI DATA TEMPLATE.GDT 1/11/16

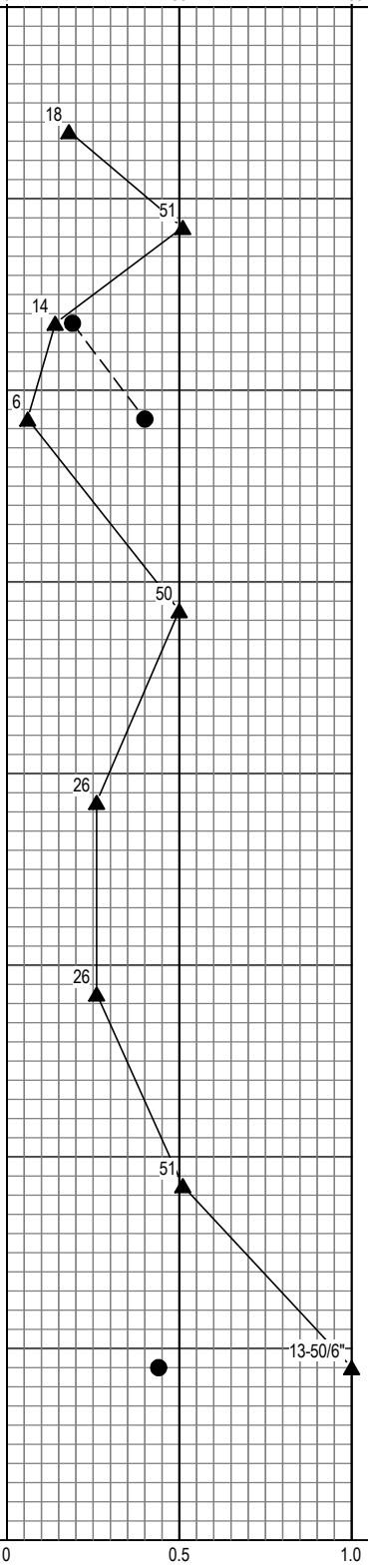
Logged By: J. Alders	**Drilled by:** Hard Core Drilling, Inc.
Date Started: 9/8/14	**Coordinates:** Not Available
Drilling Method: Mud Rotary **Equipment:** CME 75 Truck-Mounted Drill Rig **Hole Diameter:** 4.5 in.	**Hammer Type:** Auto Hammer **Weight:** 140 lb **Drop:** 30 in. **Energy Ratio:** 85.1 %
Note: See Legend for Explanation of Symbols	

GRI

BORING B-1

JAN. 2016 JOB NO. 5581 FIG. 1A

DEPTH, FT	GRAPHIC LOG	CLASSIFICATION OF MATERIAL **Surface Elevation:** 23.0 ft [±] (NAVD 88)	ELEVATION, FT / DEPTH, FT	INSTALLATION	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT	COMMENTS AND ADDITIONAL TESTS
		FILL: Medium dense GRAVEL and COBBLES; angular to subrounded, some silt to silty, some fine- to coarse-grained sand			S-1		7 10 8	
		---4-in.-thick layer of 1-in. crushed rock at 3 ft						
5		---very dense below 5 ft			S-2		20 24 27	
		Medium dense, brown SAND; fine grained, some silt to silty (Alluvium)	15.0 / 8.0		S-3		12 8 6	
10		Medium stiff, brown, sandy SILT; fine- to medium-grained sand, trace organics (Alluvium) ---gray below 11 ft	13.0 / 10.0		S-4		12 3 3	
		Very dense GRAVEL and COBBLES; subrounded, some fine- to coarse-grained sand, trace silt (Alluvium, See Note)	10.5 / 12.5		S-5		33 26 24	
15								
		Medium dense, brown, black, and rust GRAVEL; rounded to subrounded, some silt, clay, and fine- to coarse-grained sand (Older Alluvium)	4.5 / 18.5		S-6		10 11 15	
20								
25					S-7		8 9 17	
30		---very dense, dark gray, yellow mineralization below 30 ft			S-8		17 22 29	
35		Very dense, gray SAND; fine to coarse grained trace to some silt and clay, relict gravel structure with yellow and rust mineralization (Older Alluvium)	-12.0 / 35.0		S-9		13 50/6"	
40								



(CONTINUED NEXT PAGE)

GRI BORING LOG GRI DATA TEMPLATE.GDT 1/11/16

Logged By: J. Alders	**Drilled by:** Hard Core Drilling, Inc.
Date Started: 9/9/14	**Coordinates:** Not Available
Drilling Method: Mud Rotary **Equipment:** CME 850 Track-Mounted Drill Rig **Hole Diameter:** 4.5 in.	**Hammer Type:** Auto Hammer **Weight:** 140 lb **Drop:** 30 in. **Energy Ratio:** 91.0 %
Note: See Legend for Explanation of Symbols	

GRI

BORING B-2

JAN. 2016 JOB NO. 5581 FIG. 2A

DEPTH, FT	GRAPHIC LOG	CLASSIFICATION OF MATERIAL **Surface Elevation:** 23.0 ft [±] (NAVD 88)	ELEVATION, FT / DEPTH, FT	INSTALLATION	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT	BLOWS PER FOOT / MOISTURE CONTENT, % / FINES CONTENT, % / LIQUID LIMIT, % / PLASTIC LIMIT, % (0 – 50 – 50/3" 00)	COMMENTS AND ADDITIONAL TESTS
	+ + +	Extremely soft (R0), gray BASALT; vesicular, predominantly decomposed to moderately weathered (Sand Hollow Formation) (9/9/2014) Note: Refer to Subsurface Conditions section of the report for discussion regarding possibility of boulders within this unit.	-17.3 / 40.3		S-10		50/3"		
45									
50									
55									
60									
65									
70									
75									
80									

0 0.5 1.0

◆ TORVANE SHEAR STRENGTH, TSF

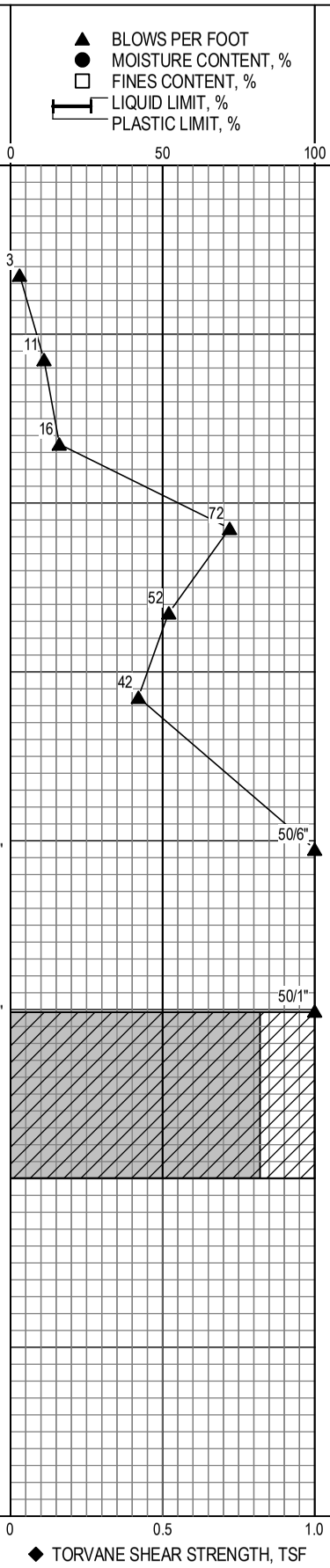
GRI BORING LOG GRI DATA TEMPLATE.GDT 1/11/16

GRI

BORING B-2

JAN. 2016 JOB NO. 5581 FIG. 2A

DEPTH, FT	CLASSIFICATION OF MATERIAL **Surface Elevation:** 9.0 ft [±] (NAVD 88)	ELEVATION, FT / DEPTH, FT	INSTALLATION	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT	COMMENTS AND ADDITIONAL TESTS
	Very loose, brown SAND; fine grained, some silt to silty (Alluvium)	6.5 / 2.5					
	Very loose GRAVEL; rounded to subrounded, trace fine- to coarse-grained sand (Alluvium)			S-1		4 1 2	
5	---medium dense below 5 ft			S-2		2 6 5	
	---4-in.-thick layer of gray silt at 8 ft			S-3		7 8 8	
	Dense to very dense GRAVEL and COBBLES; subrounded, trace silt and fine- to coarse-grained sand (Alluvium, See Note)	0.0 / 9.0		S-4		29 29 43	
10				S-5		17 27 25	
15				S-6		18 20 22	Backfilled boring on 9/8/14 at 16 ft due to incoming tide. Blind-drilled to 16 ft on 9/10/14.
	Extremely soft (R0), gray BASALT; predominantly decomposed, some rust staining (Sand Hollow Formation)	-9.0 / 18.0					
20				S-7		50/6"	
25	---soft to medium hard (R2 to R3), fresh to slightly weathered, vesicular below 25 ft			S-8		50/1"	
				R-1			
30	(9/10/2014) Note: Refer to Subsurface Conditions section of the report for discussion regarding possibility of boulders within this unit.	-21.0 / 30.0					
35							
40							



GRI BORING LOG GRI DATA TEMPLATE.GDT 1/11/16

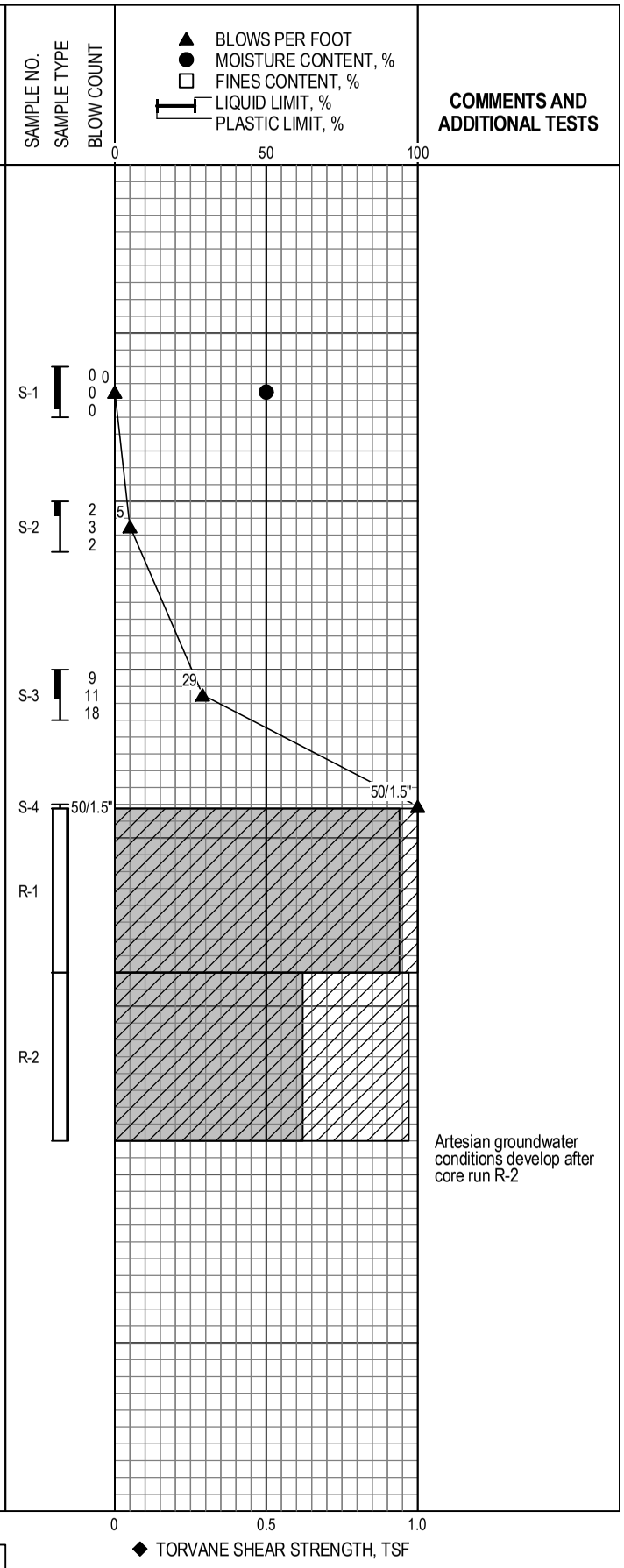
Logged By: J. Alders	**Drilled by:** Hard Core Drilling, Inc.
Date Started: 9/8/14	**Coordinates:** Not Available
Drilling Method: Mud Rotary **Equipment:** CME 850 Track-Mounted Drill Rig **Hole Diameter:** 4.5 in.	**Hammer Type:** Auto Hammer **Weight:** 140 lb **Drop:** 30 in. **Energy Ratio:** 91.0 %
Note: See Legend for Explanation of Symbols	

GRI

BORING B-3

JAN. 2016 JOB NO. 5581 FIG. 3A

DEPTH, FT	CLASSIFICATION OF MATERIAL **Surface Elevation:** -3.0 ft [±] (NAVD 88)	ELEVATION, FT / DEPTH, FT	INSTALLATION	COMMENTS AND ADDITIONAL TESTS
	Very loose, gray SAND; fine grained, trace silt (Alluvium)			
10	Loose, gravelly SAND to sandy GRAVEL; subrounded gravel, fine- to coarse-grained sand (Alluvium)	-13.0 / 10.0		
15	Medium dense GRAVEL and COBBLES; subrounded to rounded (Alluvium, See Note)	-18.0 / 15.0		
	Medium hard (R3), gray BASALT; vesicular, fresh (Sand Hollow Formation)	-21.0 / 18.0		
25	---very soft to soft (R1 to R2), slightly weathered below 27.5 ft			
30	(9/9/2014) Note: Refer to Subsurface Conditions section of the report for discussion regarding possibility of boulders within this unit.	-32.0 / 29.0		Artesian groundwater conditions develop after core run R-2



GRI BORING LOG GRI DATA TEMPLATE.GDT 1/11/16

Logged By: J. Alders	**Drilled by:** Hard Core Drilling, Inc.
Date Started: 9/9/14	**Coordinates:** Not Available
Drilling Method: Mud Rotary **Equipment:** CME 850 Track-Mounted Drill Rig **Hole Diameter:** 4.5 in.	**Hammer Type:** Auto Hammer **Weight:** 140 lb **Drop:** 30 in. **Energy Ratio:** 91.0 %
Note: See Legend for Explanation of Symbols	

GRI

BORING B-4

JAN. 2016 JOB NO. 5581 FIG. 4A

APPENDIX B

Structural Calculations by PSE

Project: **West Linn Cedaroak Boat Ramp Pile Design**
4600 Elmran Drive
West Linn, OR 97068

REGISTERED PROFESSIONAL ENGINEER 82123PE OREGON NOV. 12, 2013 RICHARD SCOTT AHRENS
EXPIRES 12/31/15

Client: **Dwight Hardin**
Geotechnical Resources, Inc.
9725 SW Beaverton-Hillsdale Hwy, Suite 140
Beaverton, OR 97005

Scope: To provide structural calculations for the design of pipe piles at the address listed above. Elements not specifically referenced in these calculations are outside the purview of these calculations and are designed by others.

References:

1. ASCE/SEI 7-10, Second Edition, Minimum Design Loads for Buildings and Other Structures, American Society of Civil Engineers (ASCE)
2. 2014 Oregon Structural Specialty Code (OSSC)
3. 2012 International Building Code (IBC)
4. 2011 Manual of Steel Construction, 14th Edition, American Institute of Steel Construction (AISC)
5. 2011 Oregon State Marine Board Design Guidelines, 3rd Edition (OSMB)
6. Quinn, A.D., *Design and Construction of Ports and Marine Structures*, 2nd Edition, 1972
7. Burgess, W.S., and Kulhawy, F.H., *Docks, Piers and Wharves: A Design Guide*, 1983

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Impact Load	……...	7
Load Combinations	……...	8
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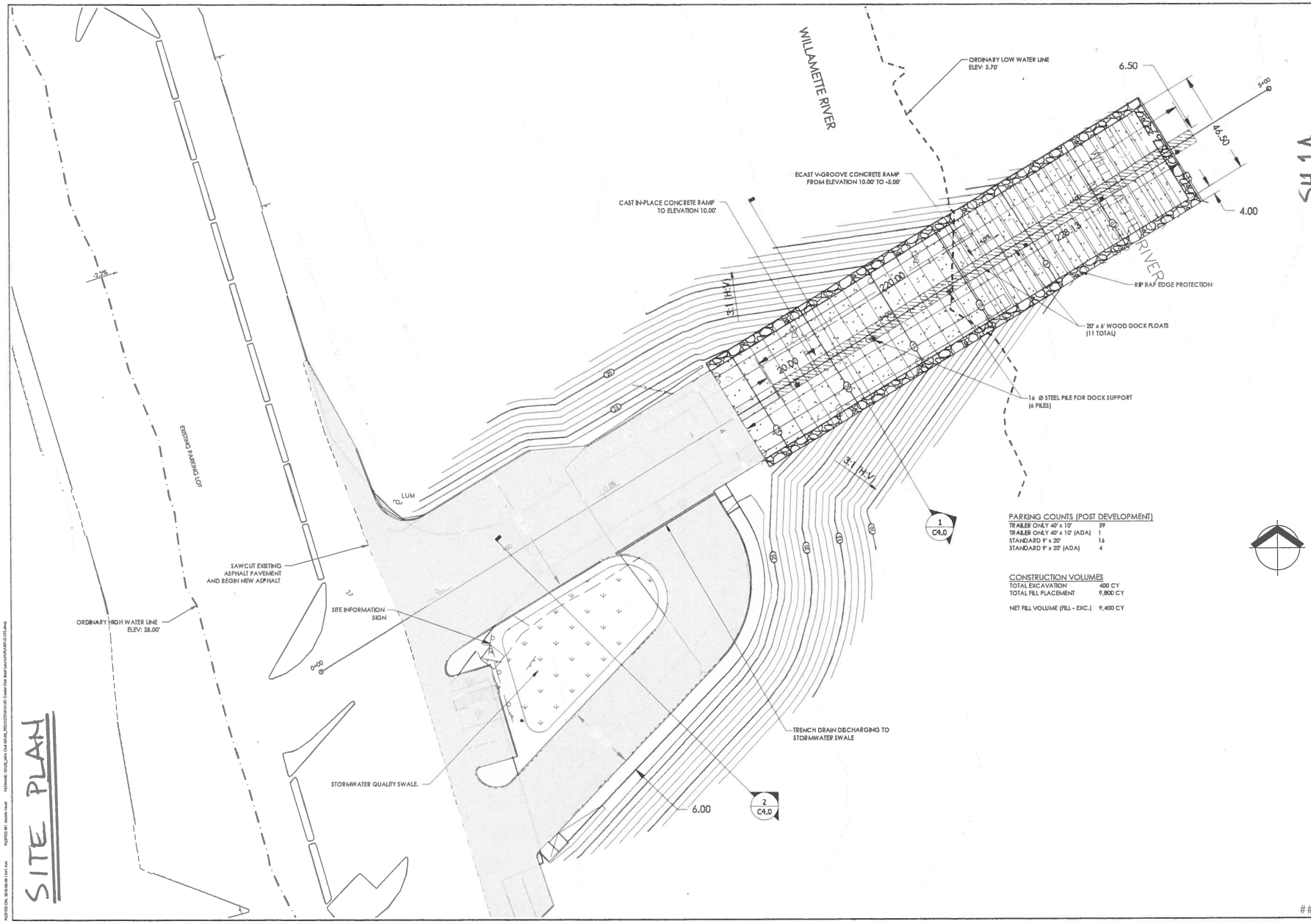
SITE PLAN



PARKING COUNTS (POST DEVELOPMENT)

TRAILER ONLY 40' x 10'	59
TRAILER ONLY 40' x 10' (ADA)	1
STANDARD 9' x 20'	16
STANDARD 9' x 20' (ADA)	4

CONSTRUCTION VOLUMES

TOTAL EXCAVATION	400 CY
TOTAL FILL PLACEMENT	9,800 CY
NET FILL VOLUME (FILL - EXC.)	9,400 CY

MAUL FOSTER ALONGI
2001 NW 19TH AVENUE
SUITE 200
PORTLAND, OREGON 97209
PHONE: 971.544.2139
www.maulfoster.com

CEDAROAK BOAT LAUNCH
CITY OF WEST LINN PARKS AND REC.
WEST LINN, OREGON

ISSUE	DATE	DESCRIPTION
####	####	####

PROJECT: 01.61.01.06
DESIGNED: —
DRAWN: —
CHECKED: —
SCALE
0 20' 40'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
SITE PLAN

SHEET
C3.0

####

DESIGN CRITERIA

WIND

WIND SPEED, V = 120 mph (OSSC 2014)
EXPOSURE D
p_{st} = 35.66 psf (SH. 4)

CURRENT

PER CLIENT (FROM FLOOD INSURANCE STUDY FOR WEST LINN):

CURRENT VELOCITY, v = 5.8 fps = 3.44 KNOTS

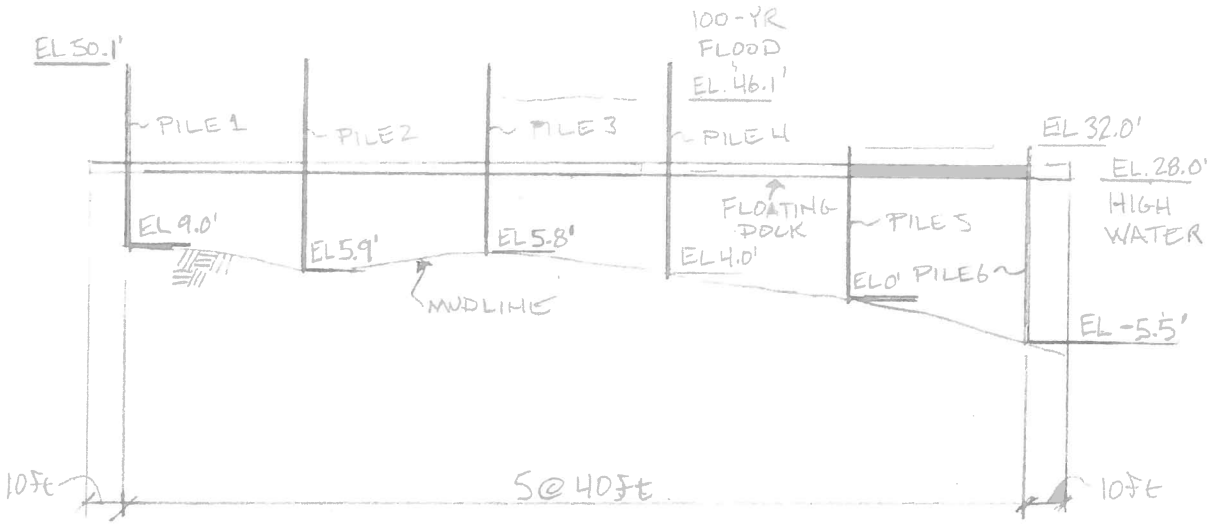
WAVE

WAVE FORCE, F_{W1} = 6 lbs/ft³ (SH. 6)

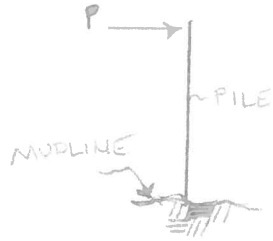
IMPACT

VESSEL APPROACH VELOCITY, v_i = 5 fps = 2.97 KNOTS (SH. 7)

PILE ELEVATIONS



PILE ELEVATIONS (NTS)



TYP. PILE

WIND LOAD

BOAT AREA & FLOAT FREEBOARD PER OREGON STATE MARINE BOARD (OSMB)

BOAT AREA (ABOVE WATER) = 3' x 20' = 60 ft²
FLOAT FREEBOARD = 1'
FLOAT AREA 1 (INTERIOR PILES) = 1' x 40' = 40 ft²
FLOAT AREA 2 (END PILES) = 1' x 30' = 30 ft²

WIND SPEED, V = 120 mph (EXPOSURE D)

$q_z = 0.00256\, K_z K_{zt} K_d V^2$ (ASCE 7-10, EQN 29.3-1)

$K_z = 1.03$ (TABLE 29.3-1)
$K_{zt} = 1.0$ (SEC. 26.8.2)
$K_d = 0.85$ (TABLE 26.6-1)

$q_z = 32.27$ psf

$p_w = F/A = q_z G C_f$ (EQN 29.5-1)

$G = 0.85$ (SEC 26.9.1)
$C_f = 1.3$ (FIG. 29.5-1)

$p_w = 35.66$ psf

ASSUME WIND PRESSURE ACTS AGAINST DESIGN BOAT AND LENGTH OF DESIGN FLOAT NOT BLOCKED BY BOAT.

TRIB. AREA 1 (INT. PILES) = 60 ft² + (1')(40' - 20') = 80 ft²
TRIB. AREA 2 (EXT. PILES) = 60 ft² + (1')(30' - 20') = 70 ft²

$F_{W1} = p_w \times TA1 = 2{,}853$ lbs
$F_{W2} = p_w \times TA2 = 2{,}496$ lbs

CURRENT LOAD

PER DESIGN & CONSTRUCTION OF PORTS & MARINE STRUCTURES, p.456

ASSUME CURRENT PRESSURE ACTS ONLY AGAINST BOAT.
AND AREA BELOW WATERLINE = AREA ABOVE W/L = $60 ft^2$

DYNAMIC HEAD, $P_d = A \times K_s \times 2.86 v^2 \gamma_w / 2g$; LET $K_s = 1.0$

$P_d = (60 ft^2)(2.86)(3.44 \text{ KNOTS})^2 \times 62.4/(2 \times 32.2) = 1{,}956$ lbs

FRICTIONAL RESISTANCE, $P_f = A_1 \times v^2 \times K_e$; LET $K_e = 1.0$

A_1 = AREA OF WETTED SURFACE
ASSUME $A_1 = (2)(3')(20') + (10')(20') = 320 ft^2$

$P_{f1} = 37.78$ lbs

FRICTIONAL RESISTANCE ON DOCK
$A_2 = (40')(6') = 240 ft^2$
$A_3 = (30')(6') = 180 ft^2$

$P_{f2} = 28.34$ lbs (INT. PILES)
$P_{f3} = 21.26$ lbs (END. PILES)

CURRENT FORCE, $P_t = P_d + P_f$

$P_{t1} = 2{,}022$ lbs	(INT. PILES)
$P_{t2} = 2{,}015$ lbs	(END PILES)

WAVE LOAD

PER BURGESS AND KULHAWY, pp. 27-31

ASSUME 40 ft LONG x 2 ft HIGH WAVE
AND DEEP DRAFT, WHICH IS CONSERVATIVE
FOR WAVE LENGTH $\geq \sim 40$ ft

$F_{wl} = 6 \text{ lbs/ft}^3$ (FIG. 3.1)
$V_d = 0.087 \text{ ft}^3 \times 10^3 = 87.3 \text{ ft}^3$ (FIG. 3.2)

$L_{BOAT}/L_{WAVE} = 20\text{ft}/40\text{ft} = 1/2$

$\therefore P = 1.0$ (FIG. 3.3)

$F_w = F_{wl} \times V_d \times P$

$\boxed{F_w = 524 \text{ lbs}}$

$\therefore$ COMBO OF WIND + CURRENT LOADS
WILL CONTROL OVER
COMBO OF WIND + WAVE LOADS,
BY OBSERVATION

IMPACT LOAD

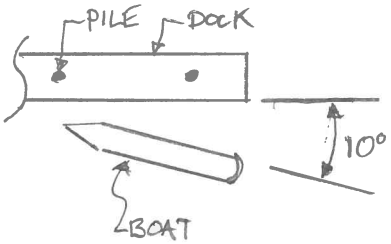
IMPACT LOAD DETERMINED PER QUINN (1972)

KINETIC ENERGY OF IMPACT, $E = \frac{1}{2}(W/g) \times V^2$

PER FIG. 3.2 OF BURGESS & KULHAWY (1983)

$W = 12L^2$, WHERE $L = 20ft$

$\therefore W = 4{,}800$ lbs



$V = V_i \sin 10°$

LET V_i (CONSERVATIVELY) $= 5$ fps

$\therefore V = 0.868$ KNOTS

$E = \frac{1}{2}\left(\frac{4{,}800 \text{ lbs}}{32.2}\right) \times (0.868)^2$

$E = 52.19$ ft·lbs $= 626.3$ in·lbs

ASSUME 18" ϕ PILE W/ WALL $t = 1/2$ IN AND FIXITY @ 17ft BELOW MUDLINE FOR PILE 6 AND 16ft FOR PILE 1

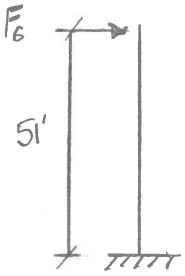
$A = 25.6 \text{ in}^2$
$I = 985 \text{ in}^4$

$E = \frac{1}{2} K \Delta^2$

$K_6 = 3EI/L^3 = \frac{(3)(29{,}000{,}000)(985)}{(51 \times 12)^3} = 373.85$ lb/in

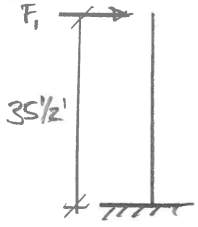
$\therefore \Delta_6 = 1.83$ in

$F_6 = K_6 \Delta_6 = 684$ lbs (PILE 6)



PILE 6
(SIMPLIFIED)

$K_1 = 1{,}108$ lb/in
$\Delta_1 = 1.06$ in
$F_1 = 1{,}178$ lbs



PILE 1
(SIMPLIFIED

BY OBSERVATION,
WIND + CURRENT LOADING CONTROLS
FOR PILE DESIGN

LOAD COMBINATIONS

HIGH WATER

ASSUME HIGH WATER LOADS APPLIED TO PILE @ ELEV 28.5'

PILE 5:

$P = F_{w1} + P_{t1} = 4{,}875$ lbs

PILE 6:

$P = F_{w2} + P_{t2} = 4{,}511$ lbs

LET $\boxed{P = 5{,}000 \text{ lbs}}$

100-YR FLOOD LEVEL

ASSUME LOADS APPLIED TO PILE @ ELEV. 46.6'
ALSO ASSUME THAT @ FLOOD, ONLY 1/2 WIND LOAD APPLIES (V = 85 mph) BECAUSE OF LIKELIHOOD OF THE TWO EVENTS OCCURRING SIMULTANEOUSLY

PILE 1:

$P = \frac{1}{2}F_{w2} + P_{t2} = 3{,}263$ lbs

PILE 3:

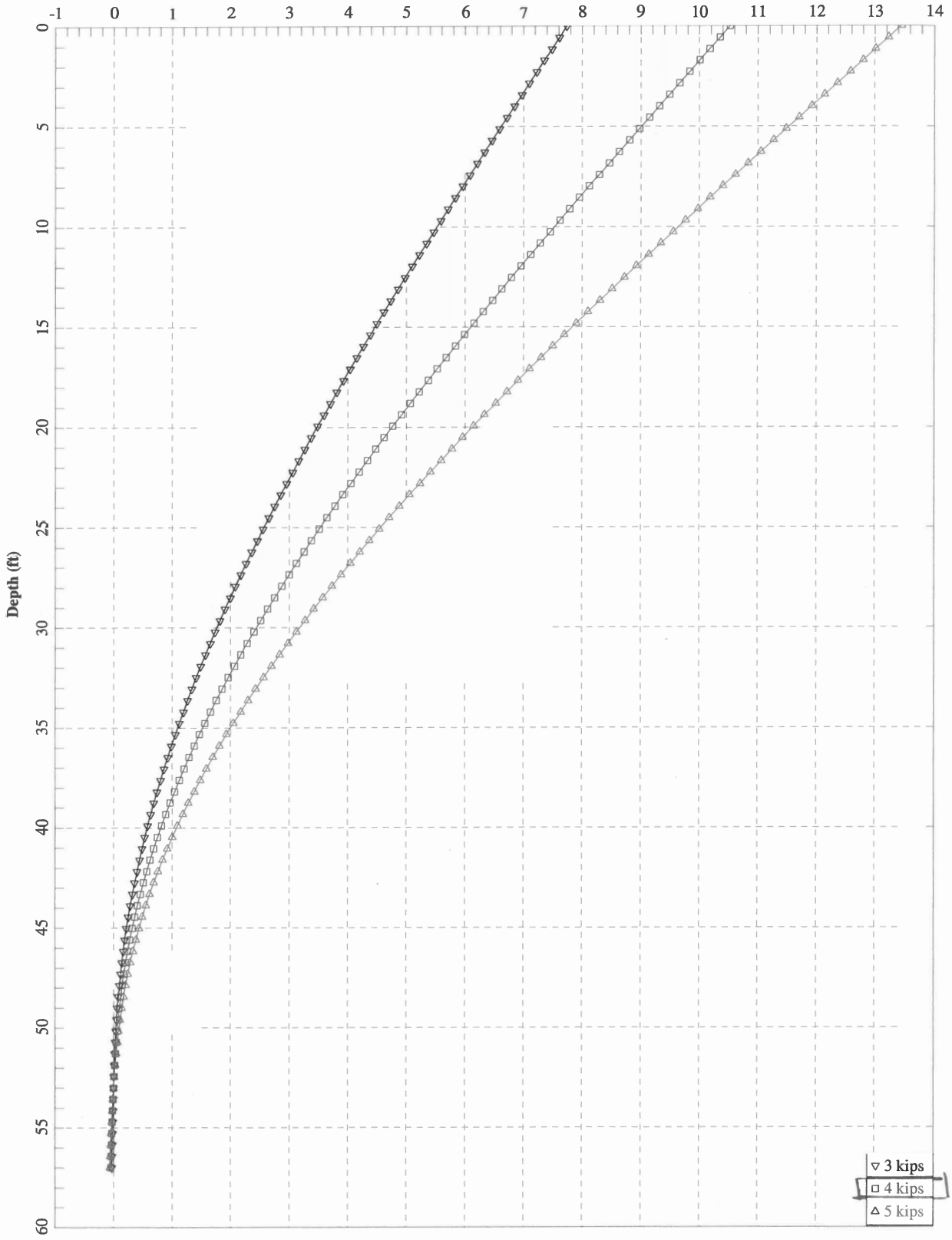
$P = \frac{1}{2}F_{w1} + P_{t1} = 3{,}449$ lbs

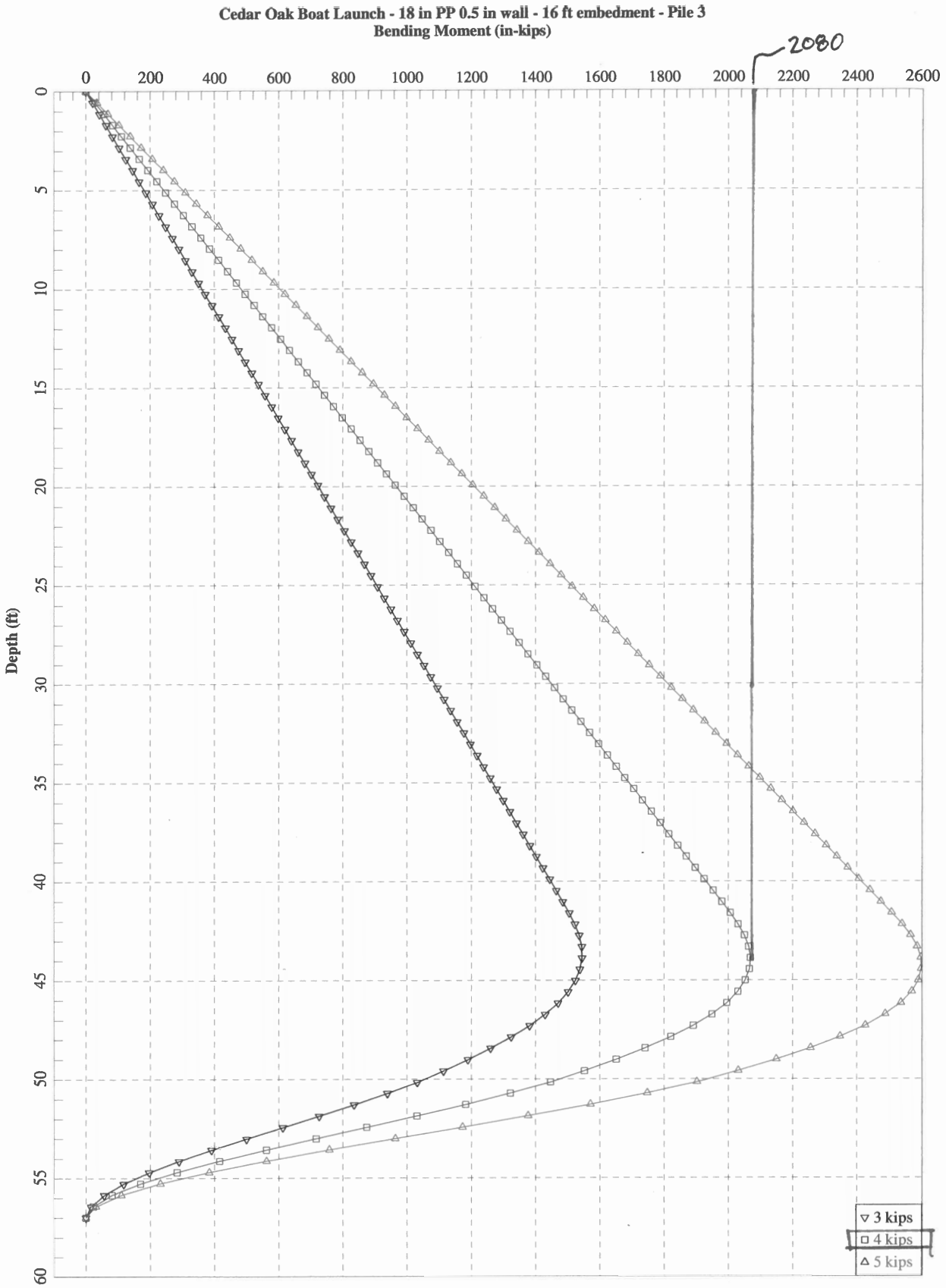
LET $\boxed{P = 4{,}000 \text{ lbs}}$

THESE DESIGN LOADS AND PILE LOCATIONS WERE GIVEN TO THE GEOTECH. TO ANALYZE USING L-PILE SOFTWARE. THE PILES WERE ASSUMED TO BE 18" ϕ w/ 1/2" WALL THICKNESS.

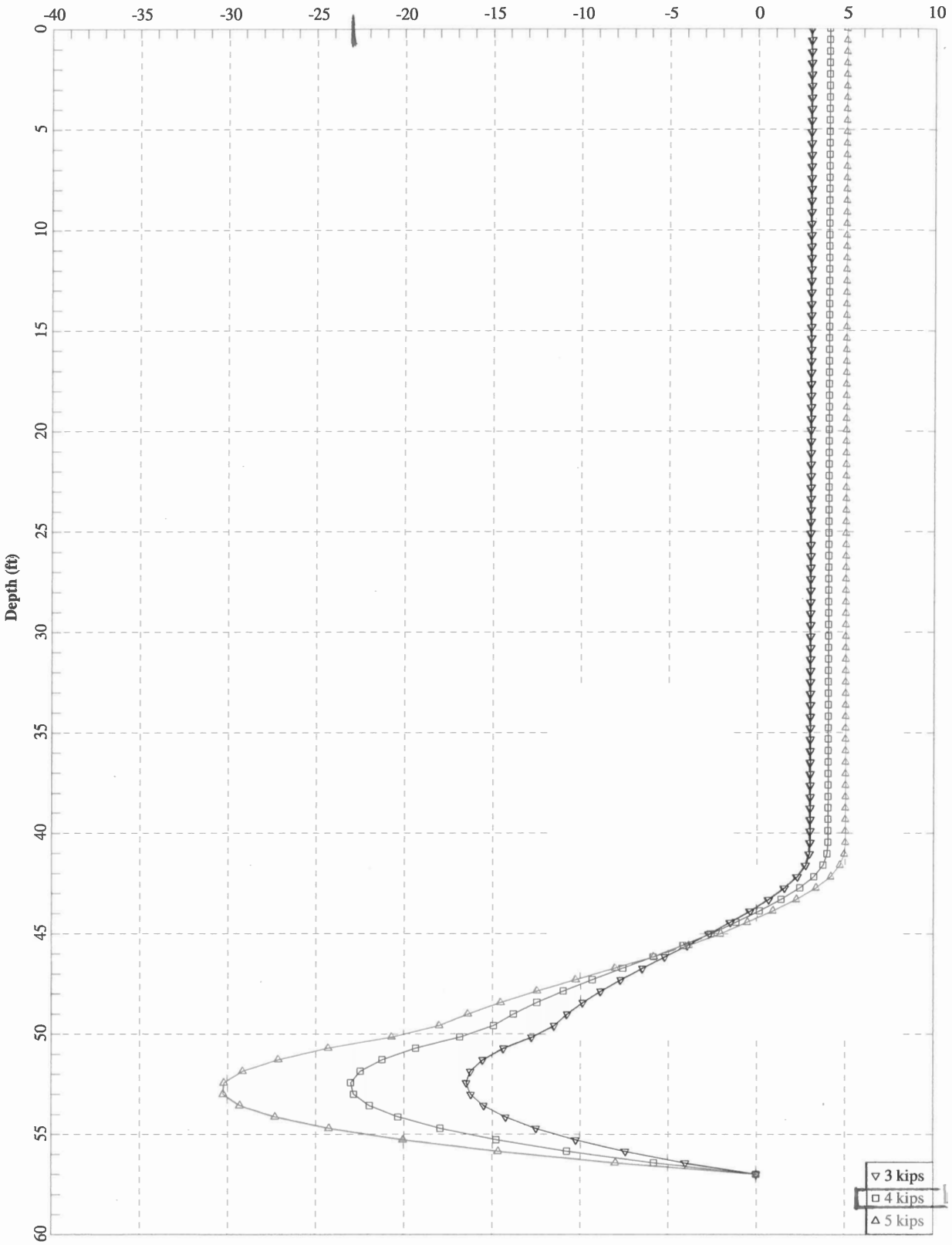
THE RESULTS OF THIS ANALYSIS ARE SHOWN ON SH. 9-14

Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 16 ft embedment - Pile 3
Lateral Pile Deflection (inches)



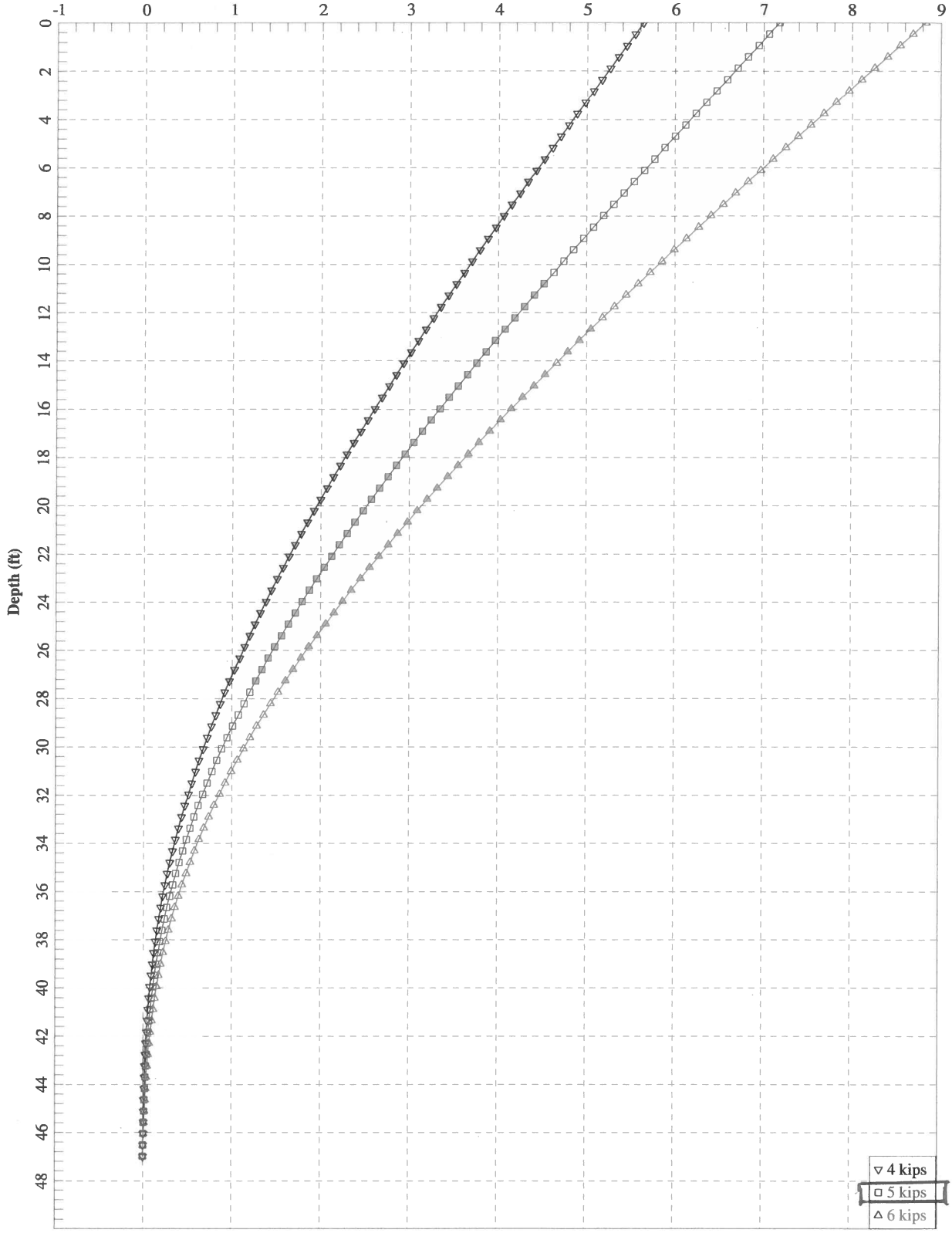

Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 16 ft embedment - Pile 3
Bending Moment (in-kips)
2080
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
Depth (ft)
0
5
10
15
20
25
30
35
40
45
50
55
60
3 kips
4 kips
5 kips

Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 16 ft embedment - Pile 3
Shear Force (kips)



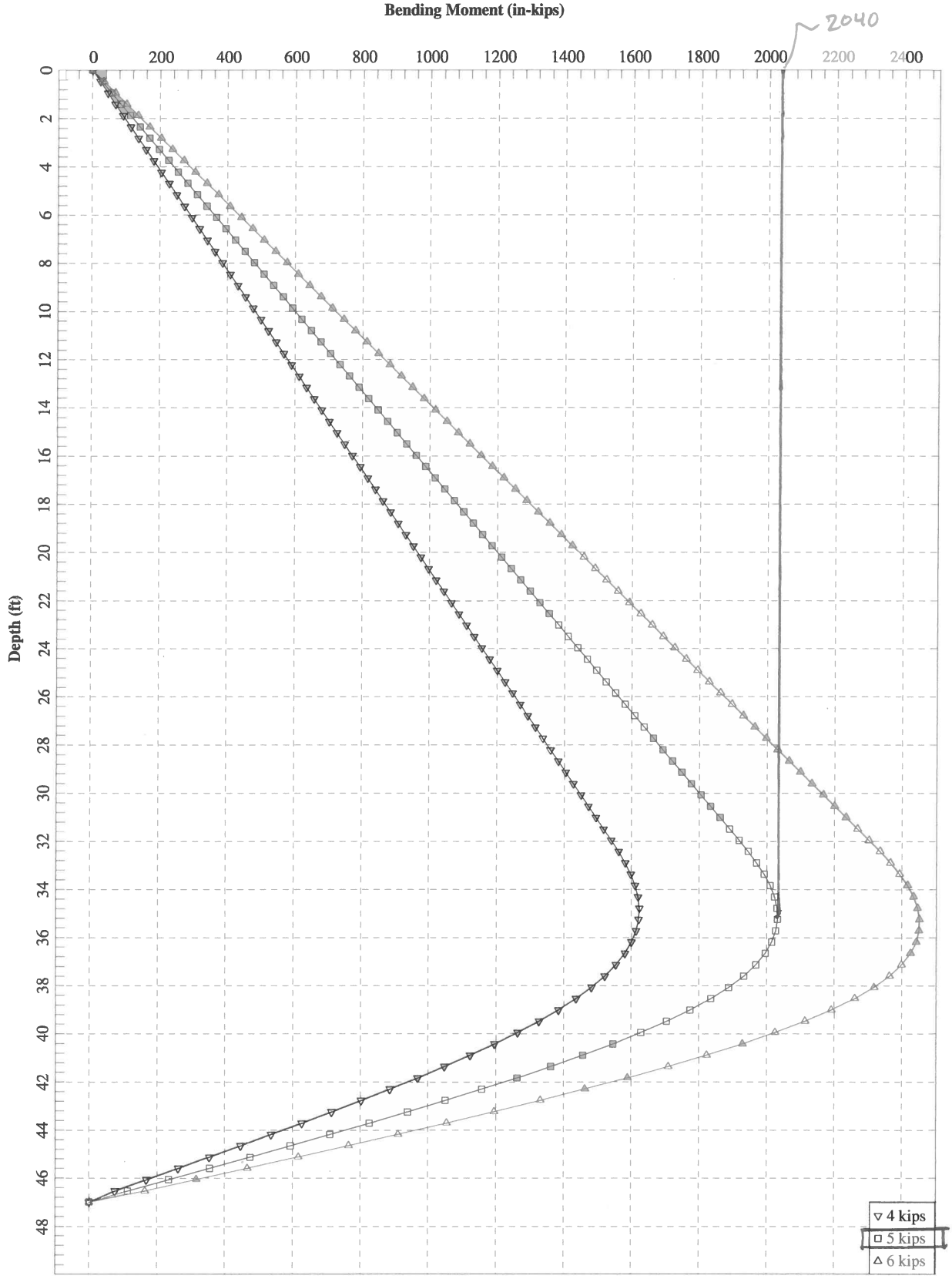
SH. 11 of 15

Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 17 ft embedment - Pile 6
Lateral Pile Deflection (inches)



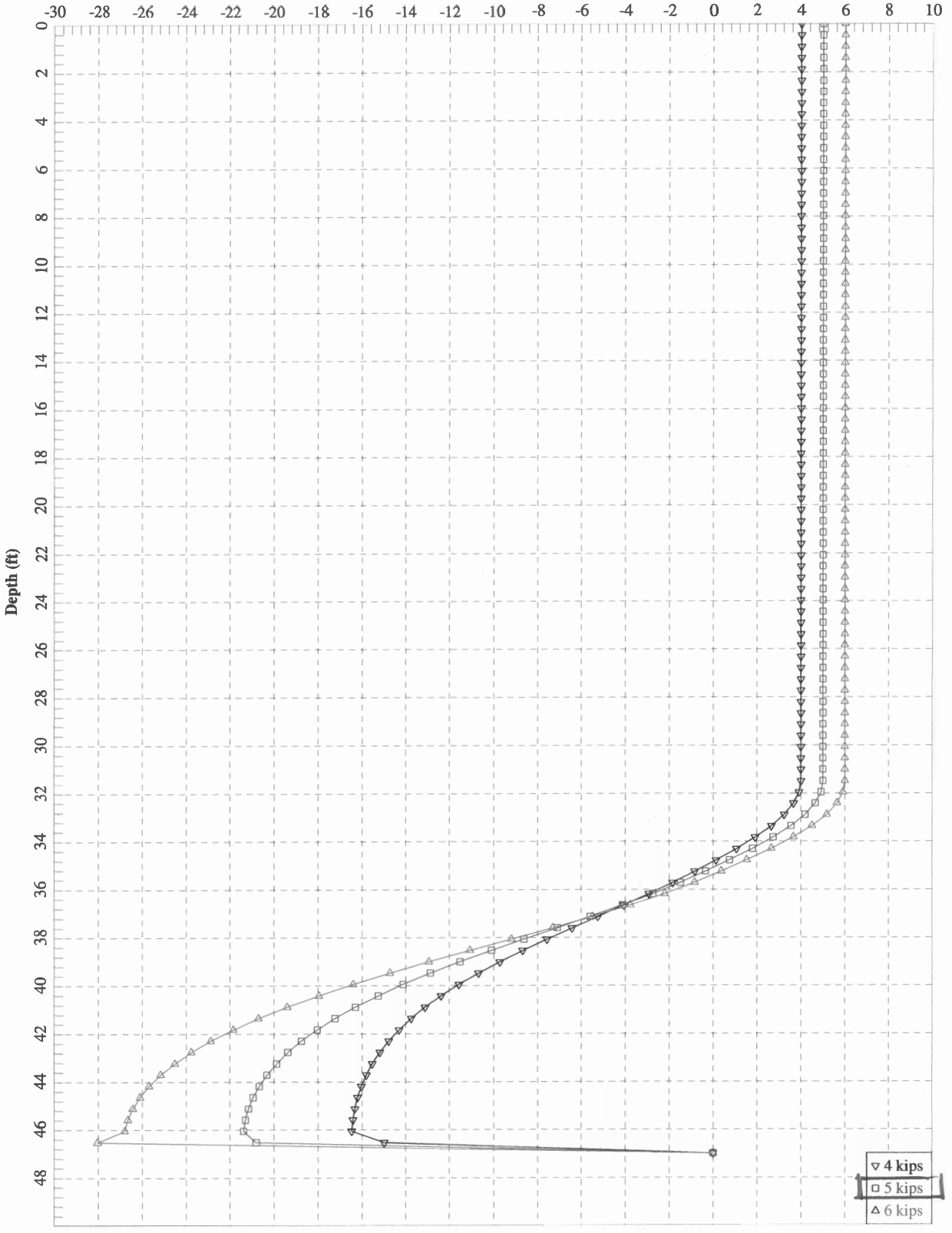
SH. 12 of 15

Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 17 ft embedment - Pile 6
Bending Moment (in-kips)



SH. 13 of 15

Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 17 ft embedment - Pile 6
Shear Force (kips)



PILE CHECK

MOMENT CAPACITY

$M_{MAX} = 2{,}080$ IN·KIPS (SH. 10)

$M_u = 1.6\, M_{MAX} = (1.6)(2{,}080) = 3{,}328$ IN·KIPS

$\phi M_n = \phi F_y S$ (NO LOCAL BUCKLING AS MEMBER IS COMPACT)

$\phi = 0.9$
$F_y = 35$ KSI
$S = 117.02\ IN^3$ (PIPE 18, SCHEDULE 80; $t = 0.465$ IN)

$\phi M_n = 3{,}686$ IN·KIPS $> M_u = 3{,}328$ IN·KIPS, OK

SHEAR CAPACITY

$V_{max} = 23$ KIPS

$V_u = 1.6\, V_{max} = 36.8$ KIPS

$\phi V_n = \phi_1 0.6 F_y A_g$ OR $\phi_2 0.6 F_u A_g$

$\phi_1 = 1.00$, $\phi_2 = 0.75$
$A_g = 25.616\ IN^2$
$F_u = 60$ KSI

$\phi V_n = (1.00)(0.6)(35)(25.616)$ OR $(0.75)(0.6)(60)(25.616)$

$\phi V_n = 538$ KIPS $\gg V_u$, OKAY

DEFLECTION

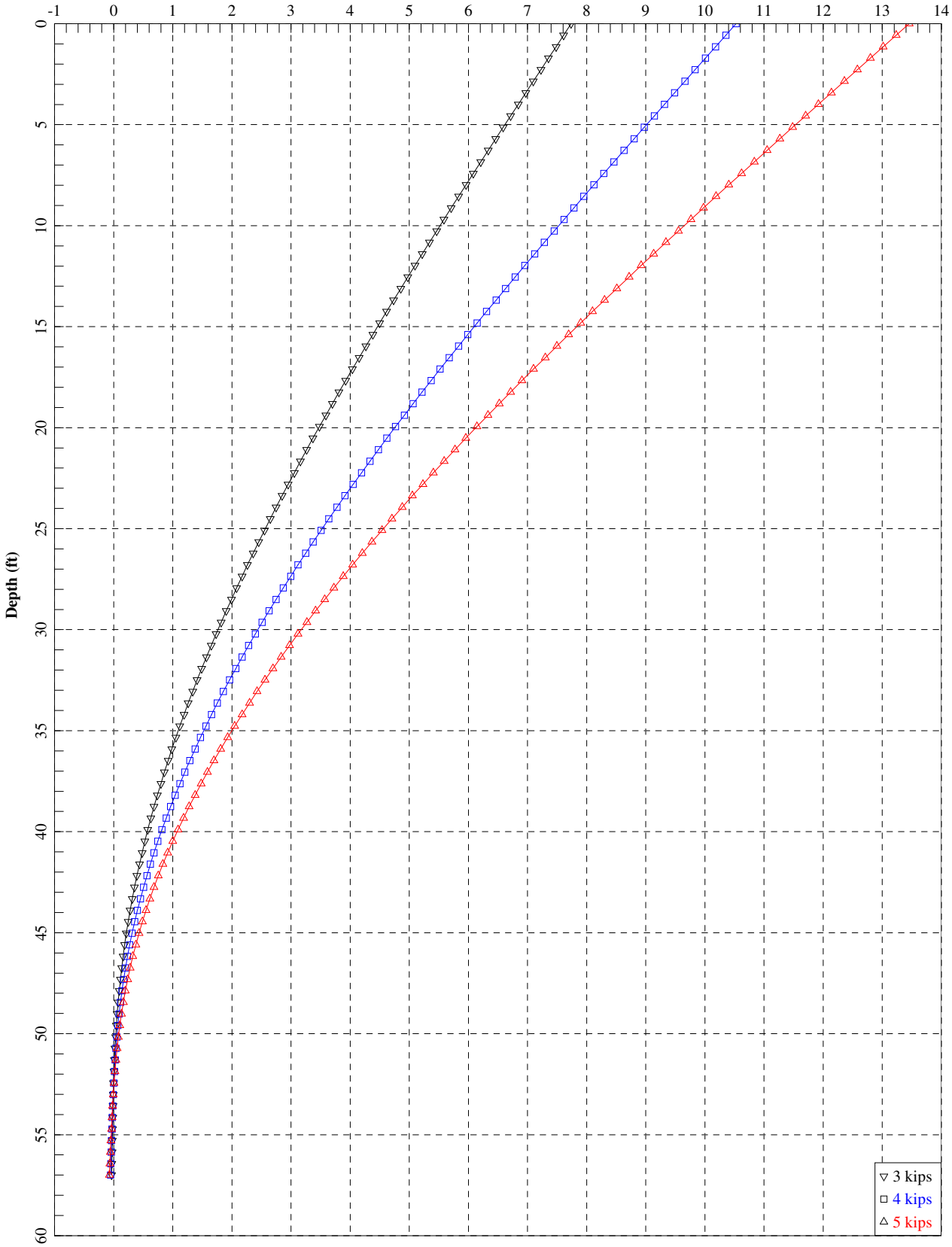
BY OBSERVATION OF MOM CAPACITY, YIELDING DOES NOT OCCUR.

$\therefore$ USE 18" ϕ STEEL PIPE W/ WALL THICKNESS OF 1/2" (OR SCHEDULE 80) FOR PILES

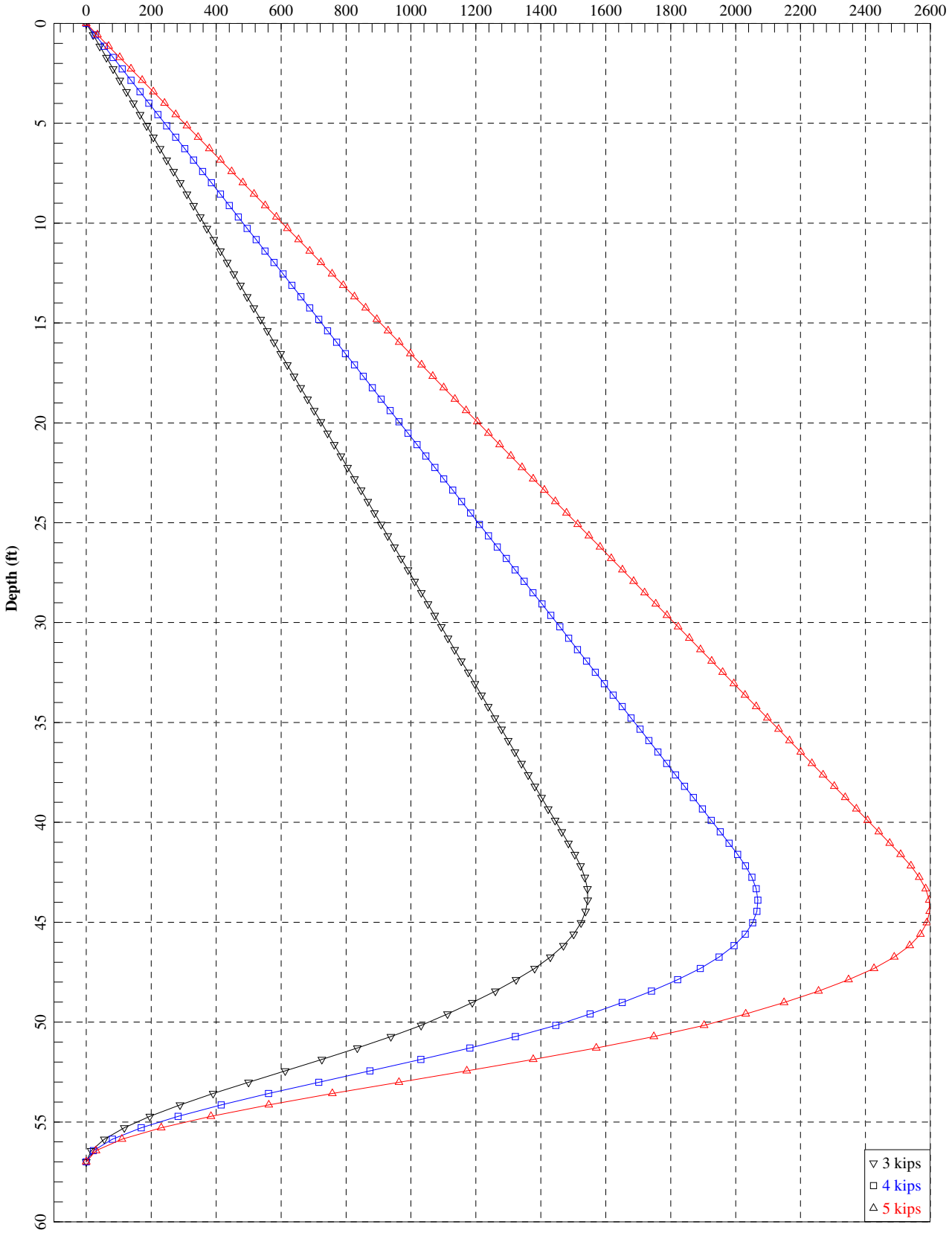
APPENDIX C

LPILE Output Graphs for Recommended Pile Section

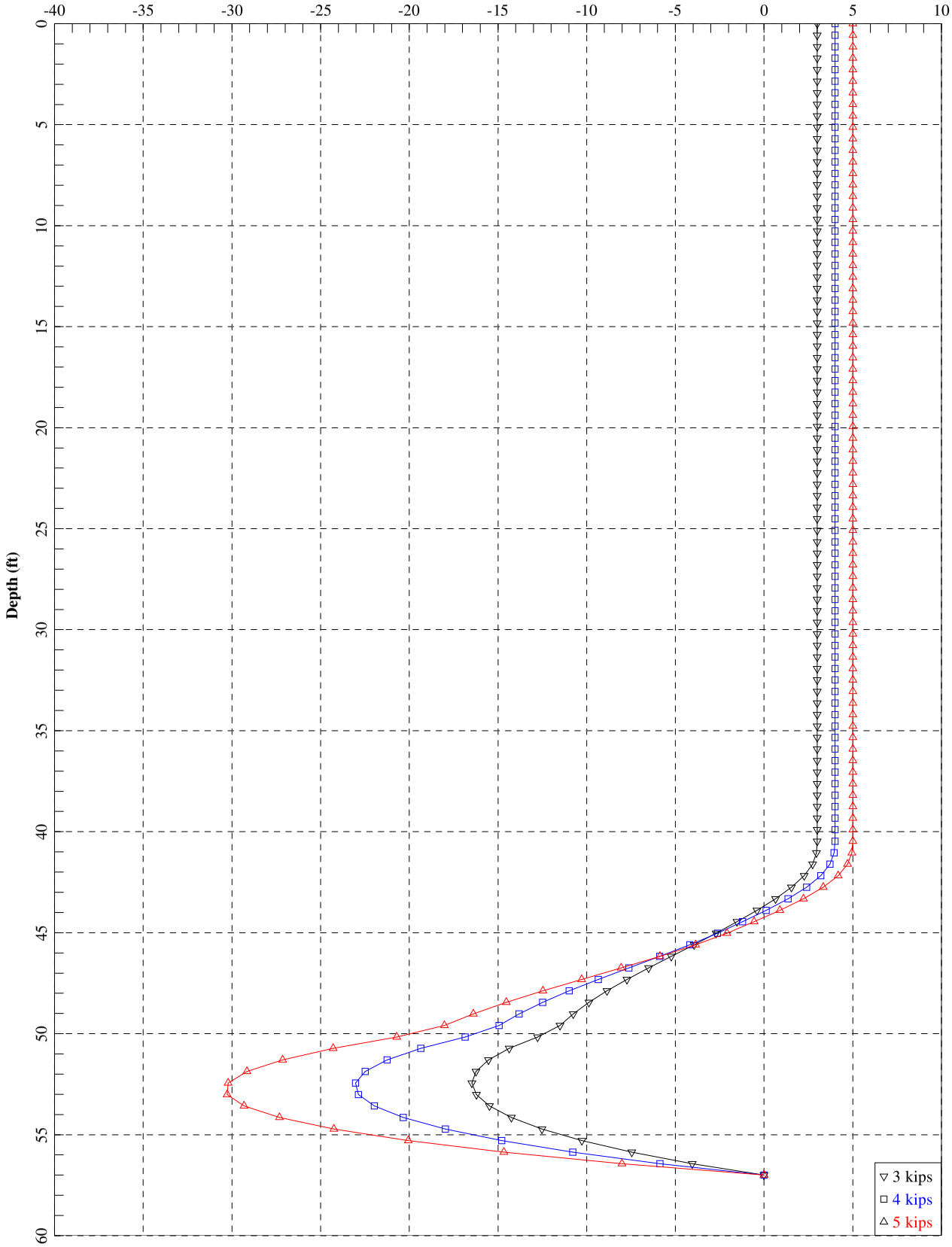
Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 16 ft embedment - Pile 3
Lateral Pile Deflection (inches)



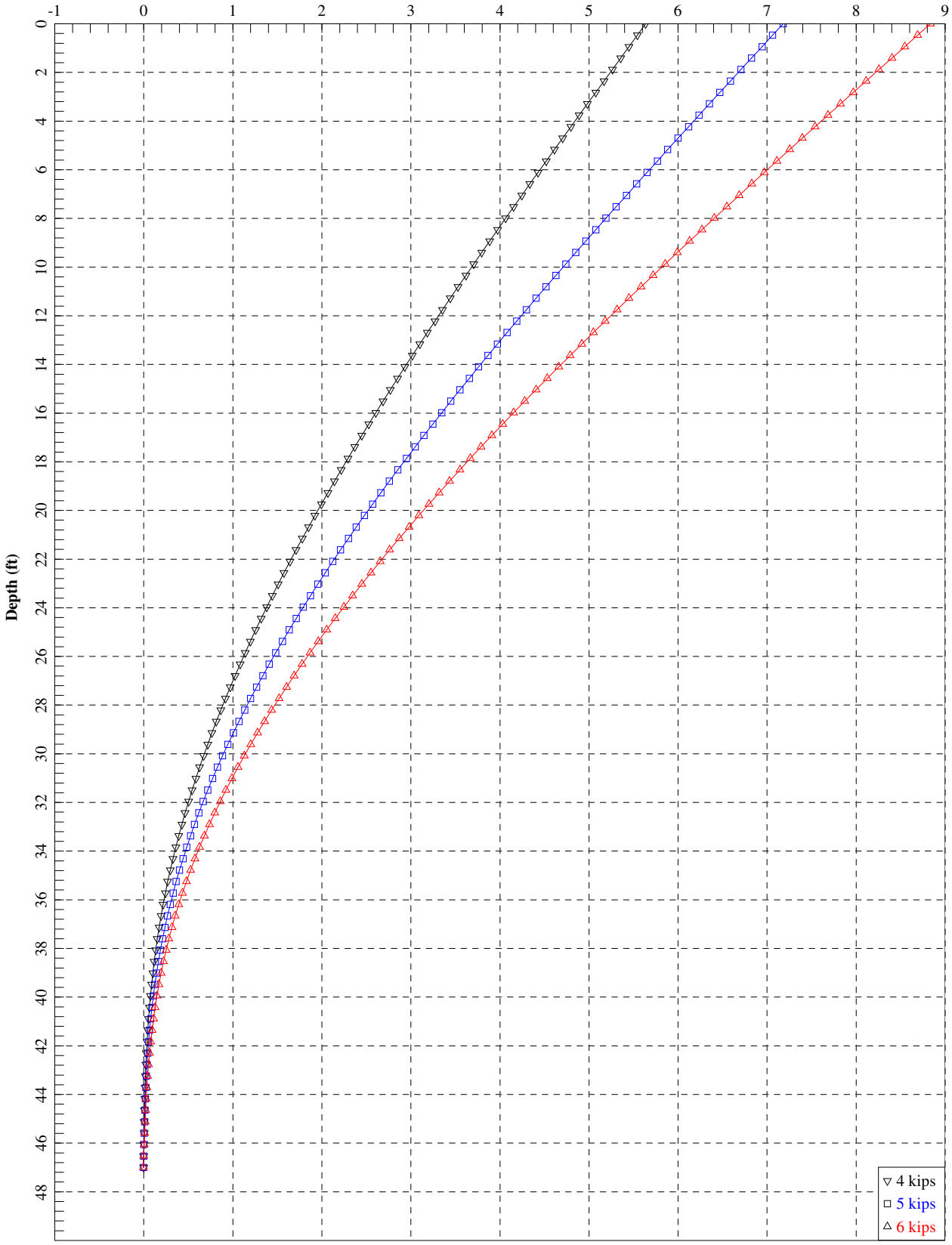
Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 16 ft embedment - Pile 3
Bending Moment (in-kips)



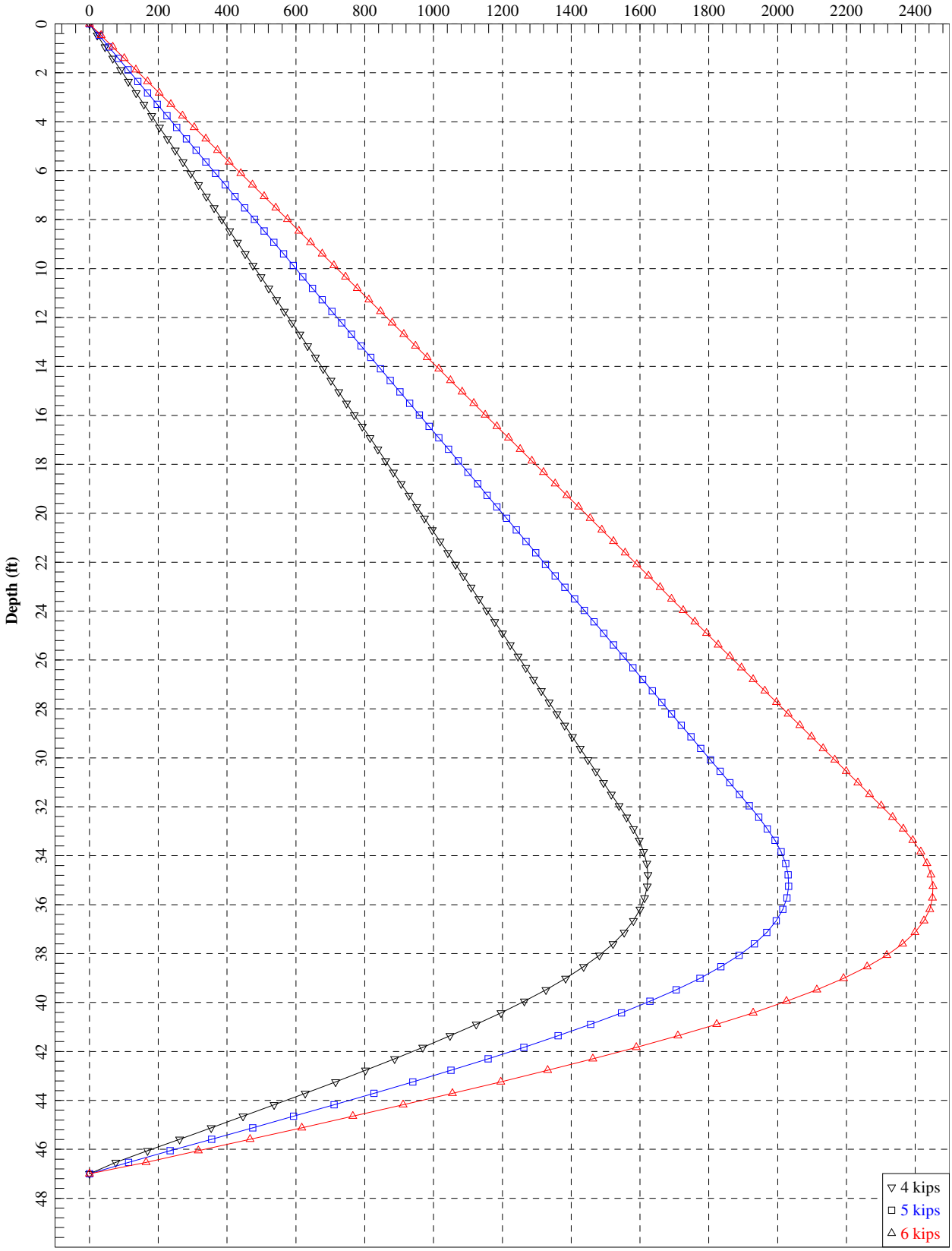
Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 16 ft embedment - Pile 3
Shear Force (kips)



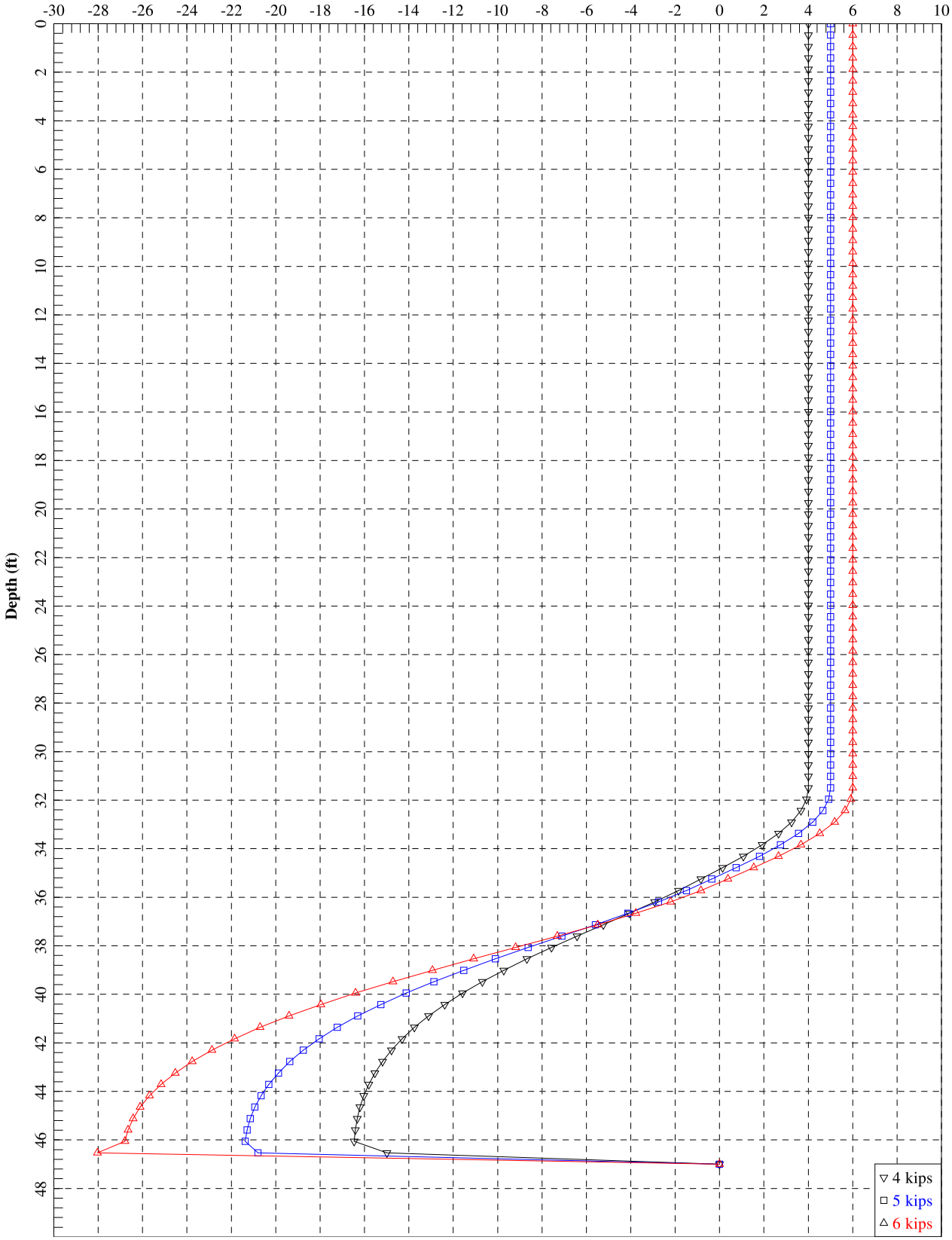
Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 17 ft embedment - Pile 6
Lateral Pile Deflection (inches)



Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 17 ft embedment - Pile 6
Bending Moment (in-kips)



Cedar Oak Boat Launch - 18 in PP 0.5 in wall - 17 ft embedment - Pile 6
Shear Force (kips)



Parks Department
22500 Salamo Road
West Linn, Oregon 97068
Telephone: (503) 557-4700
Fax: (503) 656-4106

Appendix E

PERMITS

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
PO BOX 2946
PORTLAND OR 97208-2946

REPLY TO
ATTENTION OF:

January 27, 2014

Operations Division
Regulatory Branch
Corps No.: NWP-2005-384(2)

Mr. Ken Worcester
City of West Linn Parks and Recreation
22500 Salamo Rd #1100
West Linn, Oregon 97068

Dear Mr. Worcester:

Enclosed is your fully executed Department of the Army Permit.

Please carefully read the permit and its conditions. In addition, if you have a contractor and/or agent, please review these conditions with them to ensure that the work is performed in accordance with the permit terms.

Also be aware that other authorizations from Federal, state, or local governments may be required by law. If the work is not completed prior to the permit expiration date, you may apply for a time extension. We recommend you apply for a time extension at least 90 days before the expiration date of the permit.

If you have any questions, please contact me at the letterhead address, by telephone at (503) 808-4381, or e-mail: michael.r.turaski@usace.army.mil.

Sincerely,

Michael Turaski
Section Chief, Regulatory Branch

Enclosures

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
PO BOX 2946
PORTLAND OR 97208-2946

RECEIVED
JAN 23 2014
BY:

REPLY TO
ATTENTION OF:

January 17, 2014

Operations Division
Regulatory Branch
Corps No.: NWP-2005-384(2)

Mr. Ken Worcester
City of West Linn Parks and Recreation
22500 Salamo Rd #1100
West Linn, Oregon 97068

Dear Mr. Worcester:

Enclosed are two unsigned originals of your requested permit:

In order to make this permit valid, please read the conditions of the permit carefully, complete both originals including signature, printed name and title, and return both originals with the permit enclosures to the Regulatory Branch, Permits Section, at the letterhead address. Your original of the fully executed permit will then be returned.

You are cautioned, however, not to begin work under the terms of this permit until you receive the fully executed document, as such action would be in violation of Federal law.

U S. Army Corps of Engineers (Corps) regulations established a process through which you may object to certain terms and conditions of the enclosed permit, and ask that the permit be modified accordingly. If you are not in agreement with the terms and conditions of the permit, you can make an administrative appeal under 33 CFR 331. Please see the enclosed Notification of Administrative Appeal Options and Process and Request for Appeal for further information about that process (Attachment A). Only submit the form if you are appealing the terms and conditions of the permit.

We have prepared a Preliminary Jurisdictional Determination (JD), which is a written indication that wetlands and waterways within your project area may be waters of the United States (Attachment B). Such waters have been treated as jurisdictional waters of the United States for purposes of computation of impacts and compensatory mitigation requirements. If you concur with the findings of the Preliminary JD, please sign it and return it to the letterhead address within two weeks. If you believe the Preliminary JD is inaccurate, an Approved JD may be requested, which is an official determination regarding the presence or absence of waters of the United States. If you would like an Approved JD, one must be requested prior to starting work within waters of the United States. Once work within waters of the United States has been started, the opportunity to request an Approved JD will no longer be available.

We would like to hear about your experience working with the Portland District Regulatory Branch. Please complete a customer service survey form at the following address: http://per2.nwp.usace.army.mil/survey.html

If you have any questions regarding our evaluation process, please contact Ms. Karla G. Ellis at the letterhead address, by telephone at (503)808-4377, or e-mail: karla.g.ellis@usace.army.mil

Sincerely,

Ms. Karla G. Ellis
Project Manager, Regulatory Branch

Enclosures

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: City of West Linn, Ken Worcester	File Number: NWP-2005-384(2)	Date: JAN 17 2014
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
X	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice. Also, see Section II.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

Attachment A

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record. If you believe you have additional information pertinent to an approved jurisdictional determination {see Part D} with which you disagree, that new information should first be sent to the Portland District for reconsideration. Following the District's reconsideration, the approved jurisdictional determination can still be appealed as noted in Part D)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you decide to appeal an action under Parts B, C or D above, send a copy of each page to:
Mr. Shawn H. Zinszer U.S. Army Corps of Engineers Portland District Office PO Box 2946 Portland OR 97208-2946	US Army Corps of Engineers, Northwestern Division Attn: Mary Hoffman, Regulatory Appeals Review Officer 1125 NW Couch Street Portland, OR 97208-2870 Telephone (503) 808-3888 Mary.J.Hoffman@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

A. REPORT COMPLETION DATE: MARCH 27, 2012

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Ken Worcester, Director
City of West Linn Parks and Recreation
22500 Salamo RD # 1100
West Linn, OR 97068

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Portland District, City of West Linn Parks & Recreation, NWP-2005-384

D. PROJECT LOCATION(S), BACKGROUND INFORMATION, AND WATERS:

State: Oregon
City: West Linn
County: Clackamas
Name of nearest waterbody: Willamette River

Identify amount of waters in the review area: 1.54 acres

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal:
Non-Tidal: **Willamette River**

Waters of the U.S.

Waterbody	Latitude (dd.ddd °N)	Longitude (dd.ddd °W)	Cowardin Class	Area (Acres)	Length (Feet)	Width (Feet)
Willamette River	45.39231	-122.62824	Riverine	1.54	216	400

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: March 27, 2012
☐ Field Determination. Date(s):

Attachment B

F. SUPPORTING DATA:

Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Flowing Solutions
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☒ U.S. Geological Survey Hydrologic Atlas: 8 digit HUC 17090012.
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: OR-LAKE OSWEGO.
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☐ Aerial (Name & Date):.
  or ☒ Other (Name & Date): Drawings of proposed project labeled Cedar Oak Public Launch Ramp.
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Other information (please specify): .

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

	Ken Wright 01/21/2014
Signature and date of Regulatory Project Manager (REQUIRED)	Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

G. EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

DEPARTMENT OF THE ARMY PERMIT

Permittee: City of West Linn Parks and Recreation

Permit No: NWP-2005-384(2)

Issuing Office: U.S. Army Corps of Engineers

NOTE: The term "you" and its derivatives as used in this permit means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the U.S. Army Corps of Engineers (Corps) having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: The proposed project would be a reconstruction of the existing boat ramp including replacement of steel piles, docks, abutments, and rock armor along the perimeter of the ramp and toe fill, and upgrades to the parking lot, which will include stormwater treatment.

The new boat ramp would be extended approximately 92 feet further into the river and would measure 220 feet long by 40 feet wide, consisting of pre-cast concrete. To prepare for the boat ramp, approximately 200 cubic yards of material would be removed from below the ordinary high water. The edges of the ramp would be sloped to 3.5 to 1 and the upper portion of the slope would be planted with live cutting placed within the 7-inch-minus round rock. This rock would be placed in a 3 foot thick layer. The toe of the ramp would be armored with approximately 150 cubic yards of riprap placed to create a 3-foot wide perimeter to protect from undercutting. A total of 5100 cubic yards of material would be placed below ordinary high water to create the new ramp.

The floating dock would be located on each side of the floating dock, measuring 220 feet long and 6 feet wide and anchored in place by 12, 16-inch diameter steel piles. The piles would be driven using a vibratory hammer. The dock would be constructed with blocks to allow it to stand 4-inches above the river bottom at low water. The docks are designed such that the outer portion of the docks would be removed during high flows when safe boat launching (fall through early spring) is not necessary.

Two abutments, measuring 20 feet long by 6 feet wide would be constructed.

An infiltration bioswale would be constructed and would measure 5,250 square feet. Extension of the ramp would result in a ramp that is too long for boats and trailers. Construction of a new turn-around will facilitate safer travel, but will require fill below the ordinary high water mark. The edge of the fill would be graded at a 3 to 1 slope. Large trees cleared for construction of the turnaround would be laid down along the bank as large woody debris habitat features. The swale would be designed to allow infiltration of stormwater runoff from the turnaround area.

A total of 9,500 cubic yards of fill would be placed for the total project. The floating docks will cover 1,320 square feet each for a total of 2,640 square feet of dock for the entire project. Impacts will occur over an area measuring 1.54 acre in size.

Purpose: The purpose of the proposed project is to rebuild an existing boat launch, docks, and piling further into the river to reduce the need for future maintenance dredging.

Project Location: The project is located in the Willamette River at River Mile 23.2 adjacent to the Cedar Creek Boat Ramp at the east end of Elmran Road, City of West Linn (Section 13, Township 2 South, Range 1 East), Clackamas County, Oregon.

Drawings: (10, ten drawings/maps) (Enclosure 1)

General Conditions:

1. The time limit for completing the work authorized ends on **January 21, 2019**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. Permittee must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition No. 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions (Enclosure 2).

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The following special condition is a part of all Department of the Army permits that provide authorization under Section 10 of the Rivers and Harbors Act, regardless whether the permit provides such authorization under Section 10 alone, or in combination with authorization under other laws:

a) The permittee understands and agrees that if future operations by the United States require the removal, relocation, or other alteration of the structure or work herein authorized, or if in the opinion of the Secretary of the Army or their authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required upon due notice from the U.S Army Corps of Engineers to remove, relocate, or alter the structural work or obstructions caused thereby without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Permittee shall notify the Regulatory Branch with the start date when the activities authorized in waters of the U.S. are scheduled to begin. Notification shall be sent by email to cenwp.notify@usace.army.mil or mailed to the following address:

   U.S. Army Corps of Engineers
   CENWP-OD-GC
   Permit Compliance, Clackamas County
   P.O. Box 2946
   Portland, Oregon 97208-2946

   The subject line of the message shall contain the name of the county in which the project is located followed by the Corps of Engineers permit number.

3. Permittee shall submit a signed certification regarding the completed work and any required mitigation. A "Compliance Certification" is provided (Enclosure 3).

4. Permittee shall perform all in-water work, including temporary fills or structures, during the in-water work window of July 1 through October 31 to minimize impacts to aquatic species unless coordinated with and subsequently approved by the Corps.

5. Permittee shall immediately notify the Corps at the letterhead address if at any time during the authorized work, human remains and/or cultural resources are discovered within the permit area.

The Corps has determined the proposed project may affect Upper Willamette River (UWR) Chinook and Steelhead, species protected by the Endangered Species Act, and Essential Fish Habitat for salmon species as designated under the Magnuson-Stevens Fishery Conservation and Management Act. The Corps utilized a programmatic biological opinion (BiOp) to assess compliance with these laws and provide coverage for incidental take. The BiOp is titled *Revisions to the Standard Local Operating Procedures for Endangered Species to Administer Actions Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon (SLOPES IV In-water Over-water Structures)*, dated April 5, 2012. The Corps recommends that you review the SLOPES opinion in its entirety, which you may obtain on-line at: http://www.nwp.usace.army.mil/Portals/24/docs/environment/SLOPES-IV/2012_04-05_SLOPES_IV_in-over-water.pdf

The programmatic consultation also requires that we provide you with the following notice:

If a sick, injured or dead specimen of a threatened or endangered species is found, the finder must notify NMFS' Office of Law Enforcement at 503-231-6240 or 206-526-6133. The finder must take care in handling of sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by the Office of Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

6. Permittee shall fully implement all applicable nondiscretionary Terms and Conditions of the Reasonable and Prudent Measures of the SLOPES IV In-water Over-water Structures programmatic opinion. General Construction conditions applicable to the permitted activity are included (Enclosure 4).

7. To offset impacts to the aquatic environment resulting from the project, the Permitee shall peform both restoration and enhancement as seen in Enclosure 5.

8. Permittee shall monitor the site as seen in Enclosure 5, and submit monitoring reports to the Corps address in Special Condition (2) above. The monitoring reports shall contain photographs of the site. The reports shall also contain a brief summary of the success of the plantings and a description of all maintenance activities including watering, replanting, and weed control efforts.

   A status report on the mitigation construction, including as-built drawings, must be submitted to the Corps, Portland District, Regulatory Branch, no later than 13 months from the date of permit issuance.

   Permittee shall submit monitoring reports for Monitoring Years 1, 3, 5, and 7. Annual reports are due by December 31 for each monitoring year, however Permitee shall supply reports on any actions taken in 'off' reporting years. Each annual monitoring report shall include written and photographic documentation on plant mortality and replanting efforts and must document whether the performance standards are being met. Photos must be taken from established points and used repeatedly for each monitoring year. Each report shall include a map identifying location and direction of fixed photo-points and location the plants or transects for vegetation data collection.

   In addition to photos at designated points, photo documentation must include a panoramic view(s) of the entire planting area. Submitted photos must be formatted on standard 8 ½" x 11" paper, dated with the date the photo was taken, and clearly labeled with the direction from which the photo was taken. The photo location points must be identified on an appropriate map.

   If the mitigation fails to meet the success criteria by the end of Year 3 of the monitoring period, the permittee shall submit a revised plan. The revised plan shall be submitted no later than 90 days after submittal of the Year 3 monitoring period. The revised plan shall account for the temporal loss due to a delay in full implementation of the compensatory mitigation.

   Installed plants shall achieve a minimum 80% survival by the third year after construction following one year without corrective measures, including but not limited to replanting or watering. Native plants shall maintain at least 80% cover during Years 5 and 7. Individual plants may be replaced with

native species during the first three years following completion of the as-built mitigation site. Annual reports shall document the conditions at the mitigation site and outline any corrective measures that are implemented to assist in site establishment. The reports shall outline when maintenance activities are halted and the site is allowed to function without external manipulation or assistance.

Permittee's responsibility to complete the required compensatory mitigation will not be considered fulfilled until Permittee has demonstrated mitigation success and has received written verification of fulfillment from the U.S. Army Corps of Engineers.

9. Permittee shall notify the Corps if the project changes in scope or is otherwise modified. The Corps is required to reinitiate consultation on this action where discretionary Federal involvement or control over the action has been retained or is authorized by law and (a) the amount or extent of taking specified in the Incidental Take Statement is exceeded, (b) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, (c) the identified action is subsequently modified in a manner that has an effect to the listed species or critical habitat that was not considered in the biological opinion; or (d) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16).

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this Authorization:

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions: General Condition No. 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below as permittee indicates that you accept and agree to comply with the terms and conditions of this permit.

Ken Worcester	01/21/2014
(PERMITTEE SIGNATURE)	**(DATE)**
KEN WORCESTER	WEST LINN, PARKS & RECREATION DIRECTOR
(PRINTED NAME)	**(TITLE)**

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

FOR THE COMMANDER, GLENN O. PRATT, LIEUTENANT COLONEL, CORPS OF ENGINEERS, DISTRICT COMMANDER:

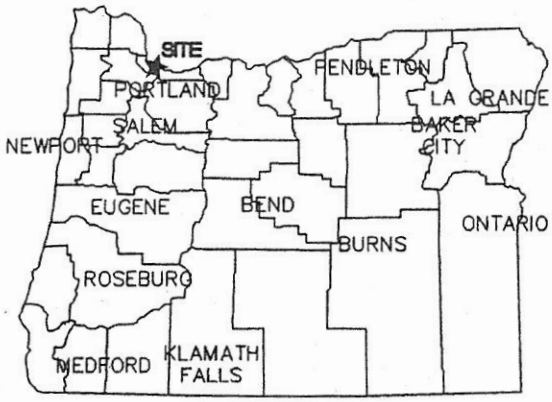
MICHAEL TURASKI	27 JAN 2014
(DISTRICT COMMANDER)	**(DATE)**

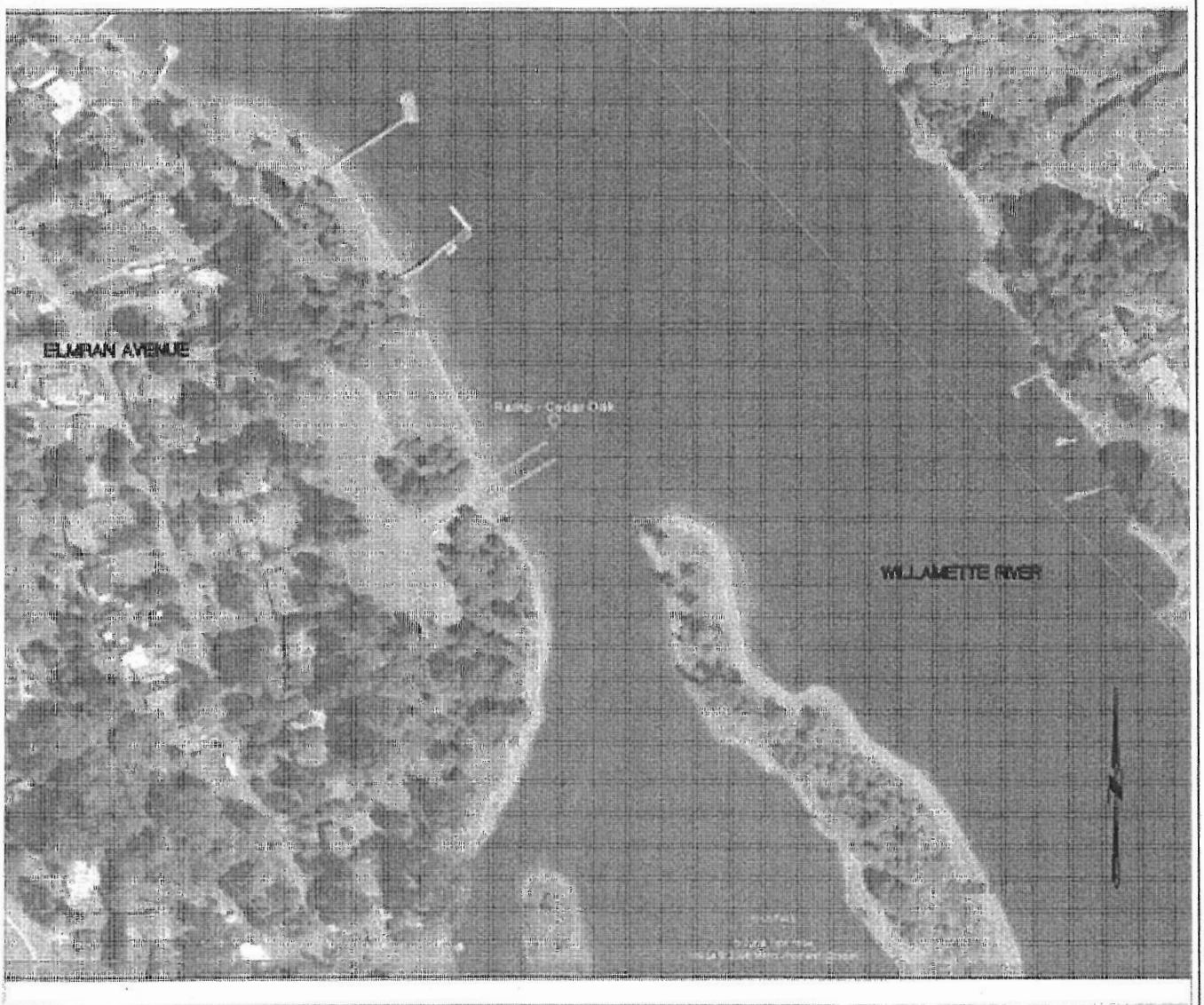
For Shawn H. Zinszer
Chief, Regulatory Branch

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)	**(DATE)**

REVISED 10/2/2012





Flowing solutions
Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone (503) 297-6331
Fax (503) 297-6053

SHEET TITLE: LOCATOR		DATE: 10/2/12
PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068		SCALE: NTS
RIVER/MILE: WILLAMETTE, RM 23.2	DATUM: NGVD	SHEET: 1/10

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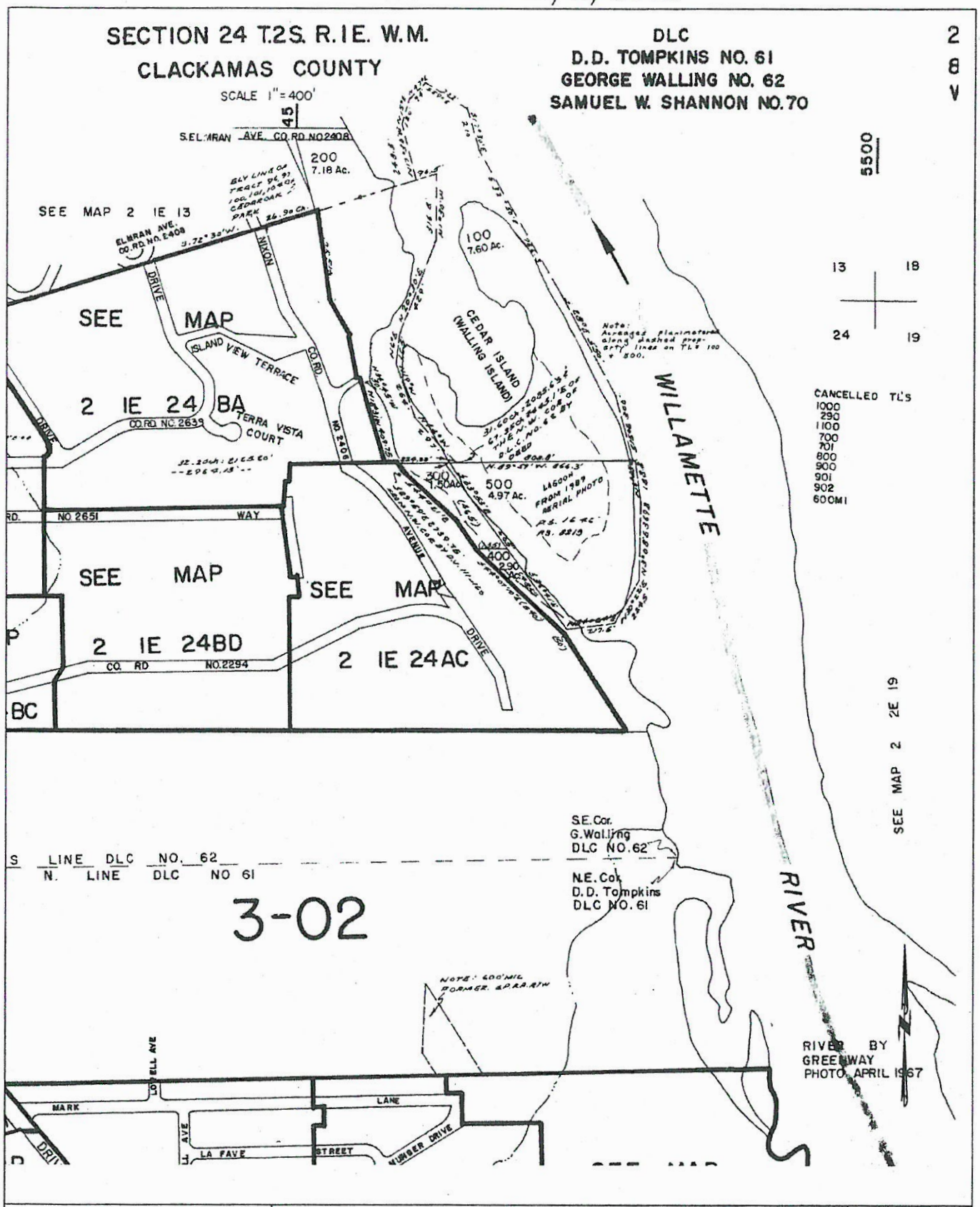
Enclosure 1

REVISED 10/2/2012



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Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone (503) 297-6331
Fax (503) 297-6053

SHEET TITLE: TAX MAP		DATE: 10/2/12
PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068		SCALE: NTS
RIVER/MILE: WILLAMETTE, RM 23.2	DATUM: NGVD	SHEET: 2/10

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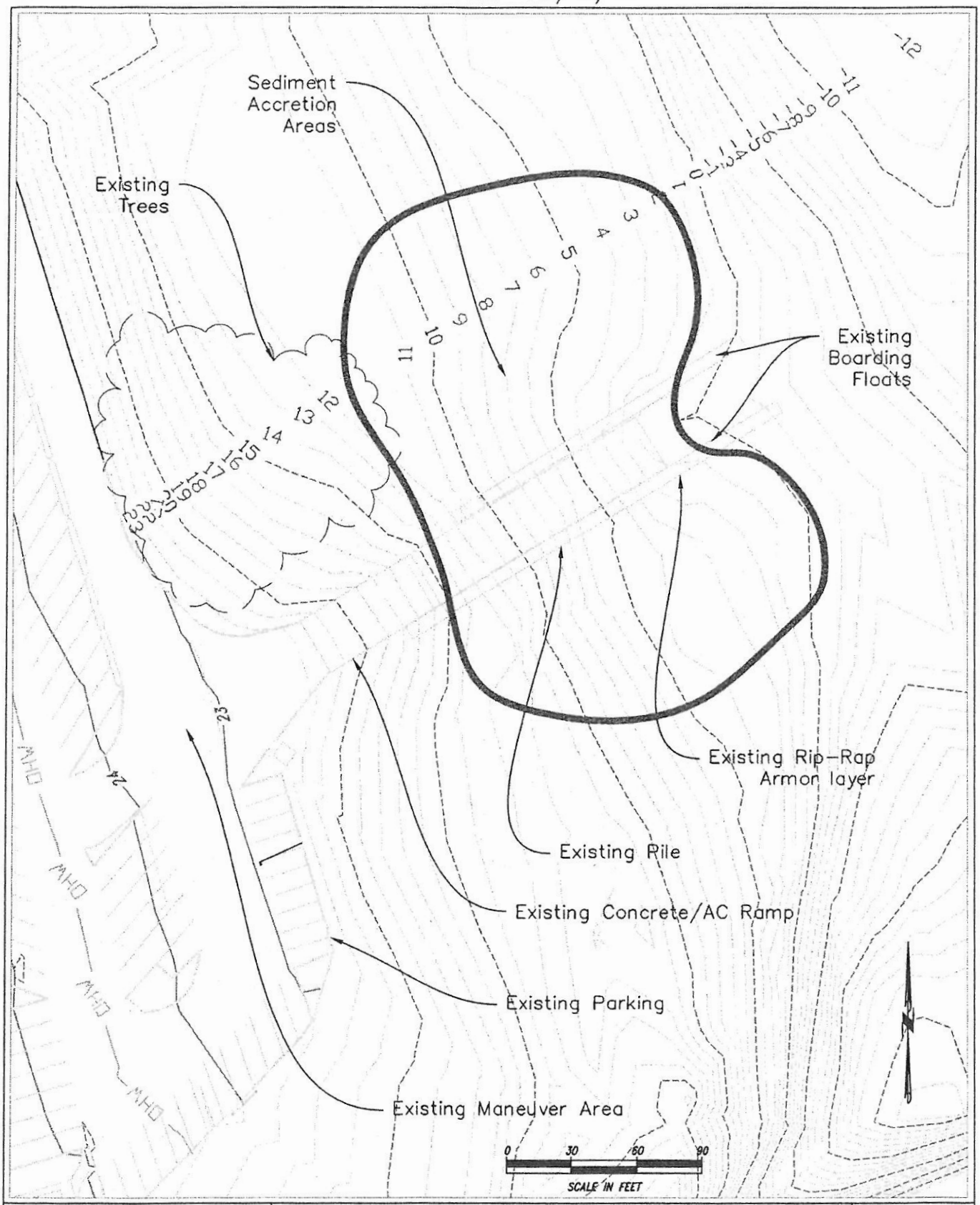
REVISED 10/2/2012



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3305 SW 87th Avenue
Portland, OR 97225
Phone (503) 297-6331
Fax (503) 297-6053

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PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068		SCALE: 1"=60'
RIVER/MILE: WILLAMETTE, RM 23.2	DATUM: NGVD	SHEET: 3 /10

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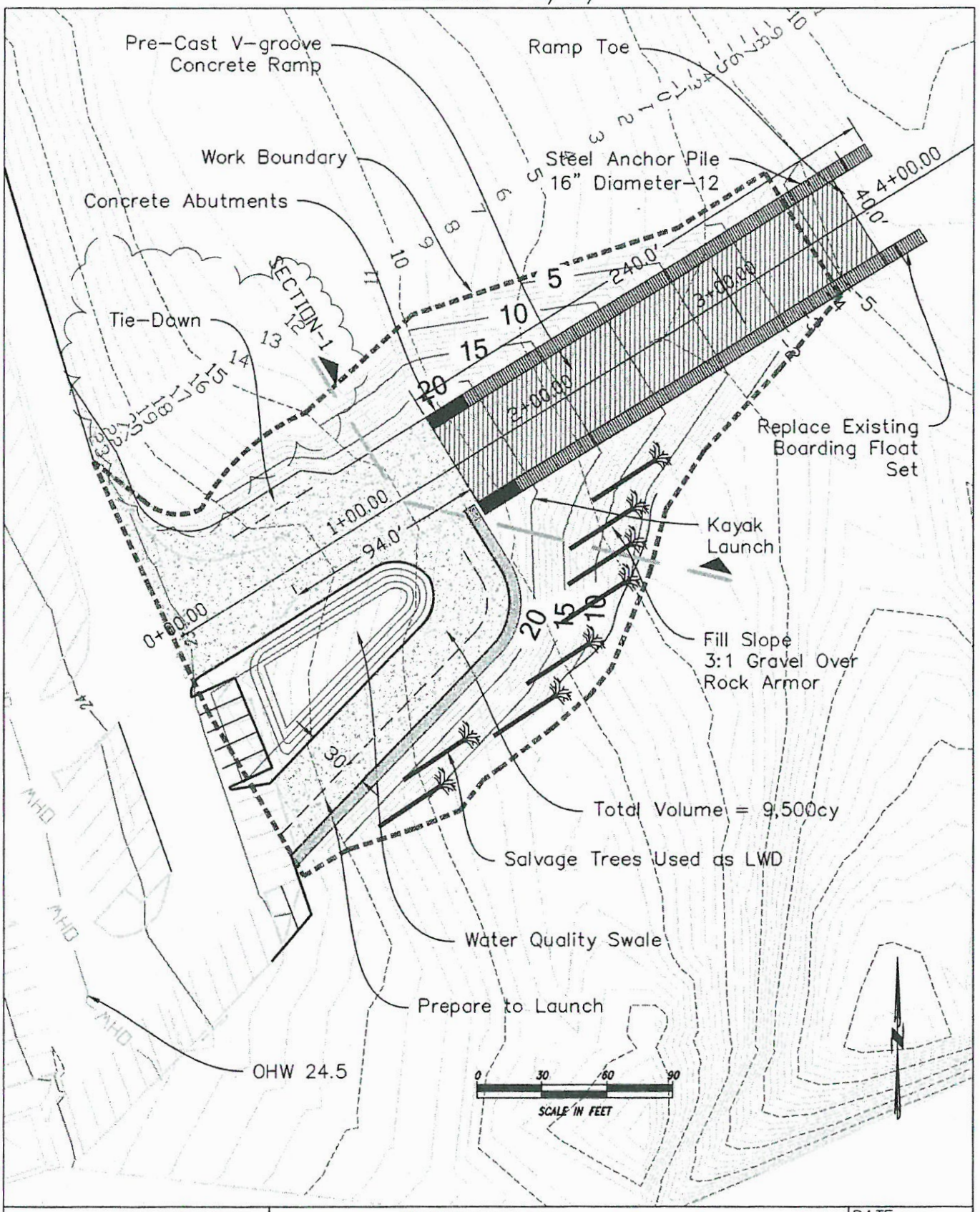

Flowing solutions Flowing Solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297-6331 Fax (503) 297-6053	SHEET TITLE: PROPOSED PLAN	DATE: 10/2/12
	PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068	SCALE: 1"=60'
	RIVER/MILE: WILLAMETTE, RM 23.2 — DATUM: NGVD	SHEET: 4/10

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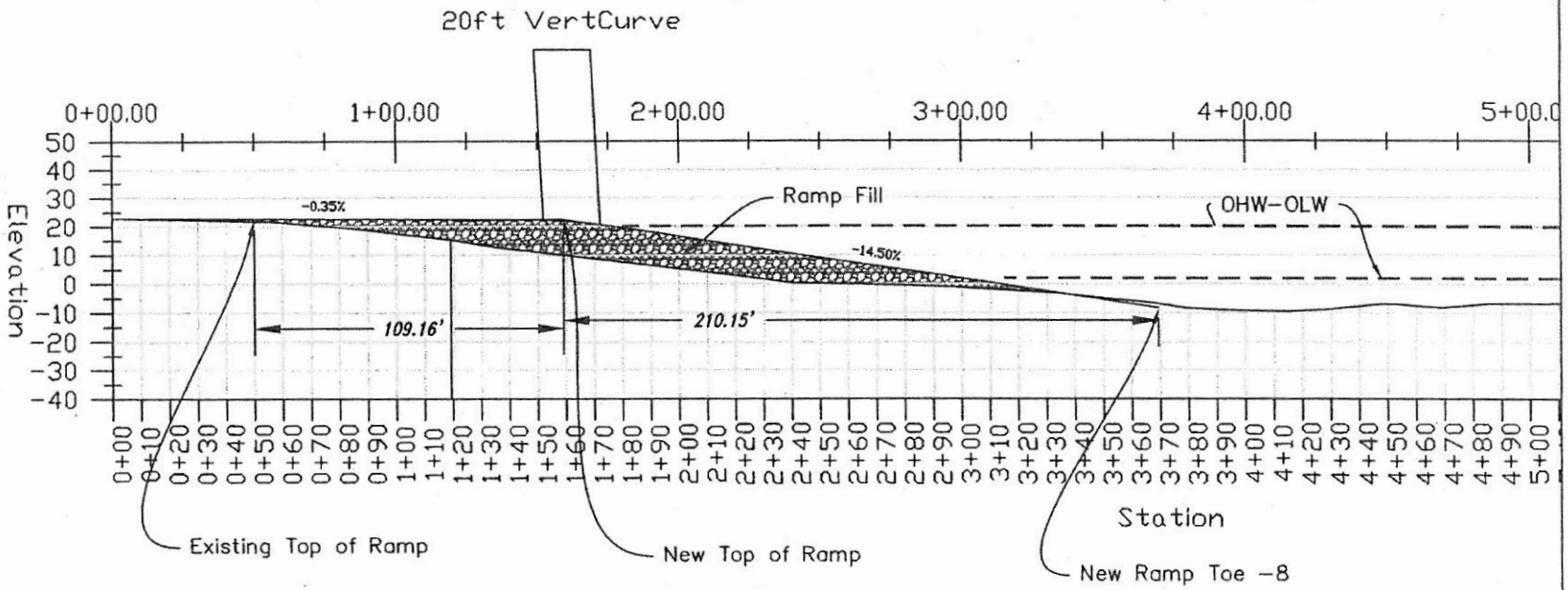
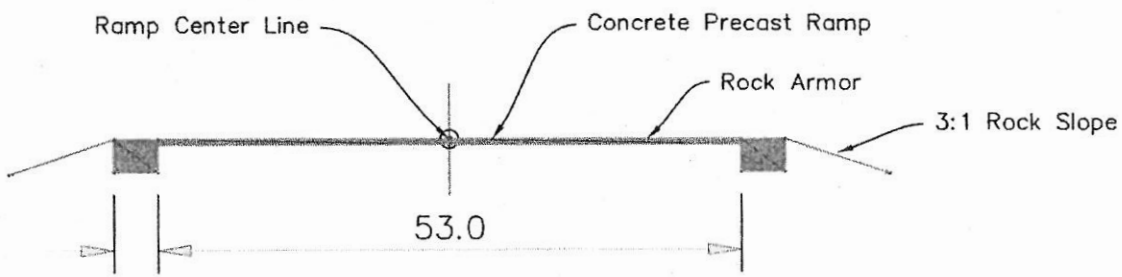
RAMP PROFILE





RAMP SECTION

n.t.s.

0' 30' 60' 90'

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Portland, OR 97225
Phone (503) 297-6331
Fax (503) 297-6053

SHEET TITLE: PROFILE

PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP
NIXON AVE & ELMRAN DR
WEST LINN, OR 97068

RIVER/MILE: WILLAMETTE, RM 23.2

DATUM: NGVD

DATE: 10/2/12

SCALE: 1"=60'

SHEET: 5 /10

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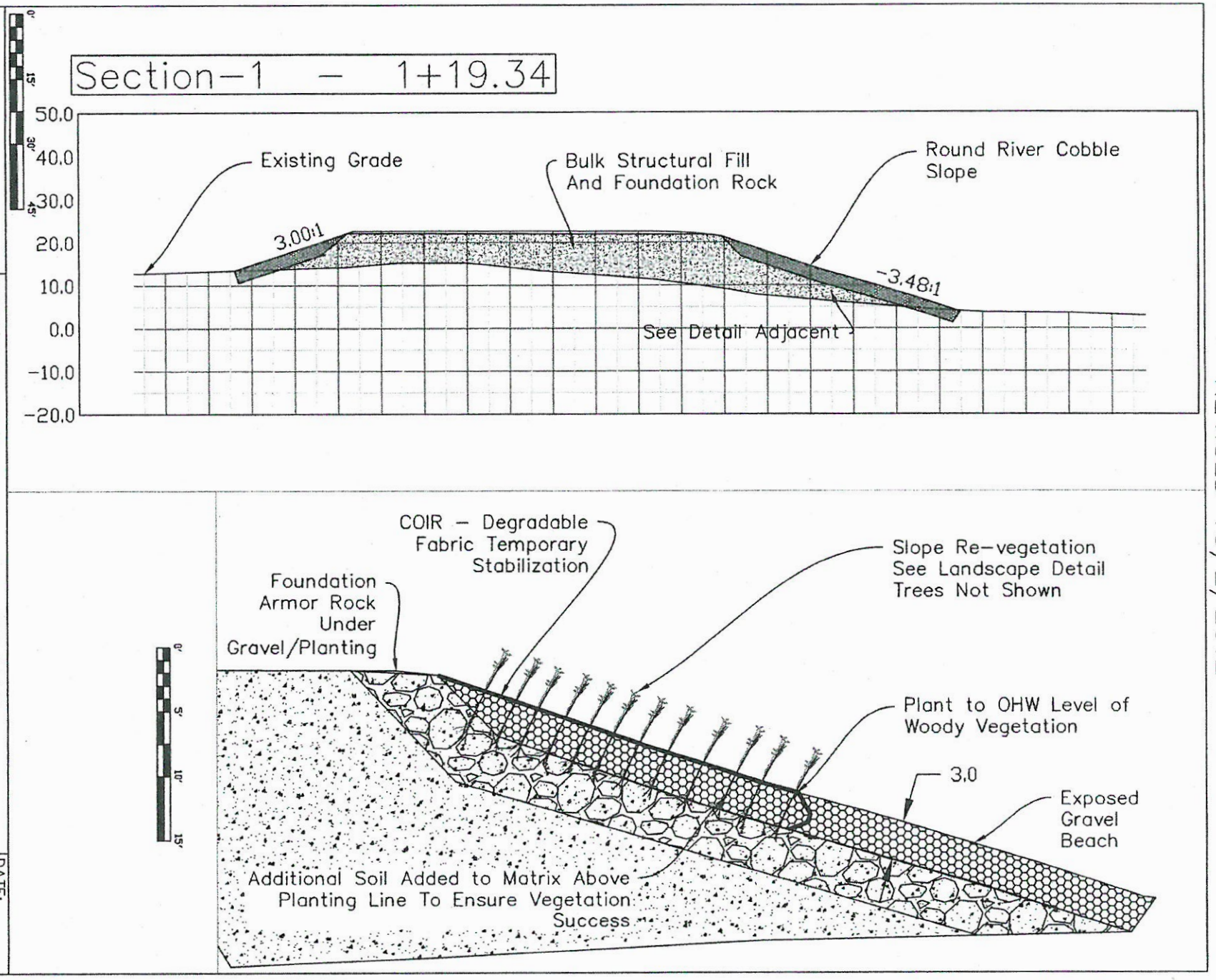

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Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone (503) 297-6331
Fax (503) 297-6053

SHEET TITLE: FILL SECTION AND BANK TREATMENT

PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP
NIXON AVE & ELMRAN DR
WEST LINN, OR 97068

RIVER/MILE: WILLAMETTE, RM 23.2

DATUM: NGVD

DATE: 10/2/12

SCALE: VAR

SHEET: 6/10

REVISED 10/2/2012

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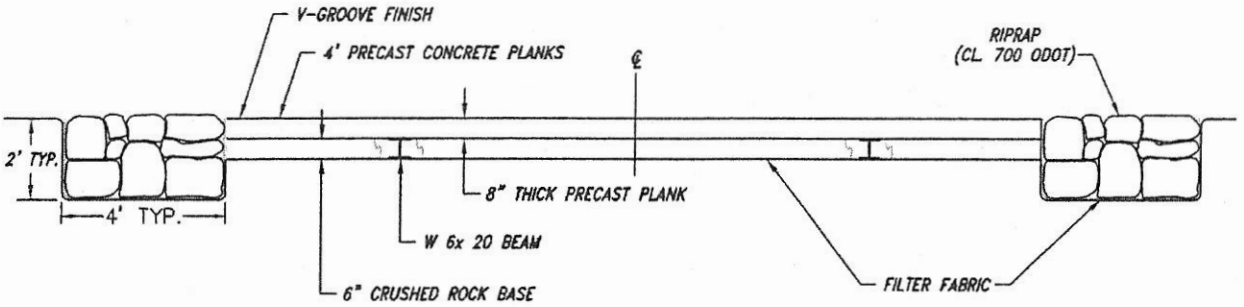
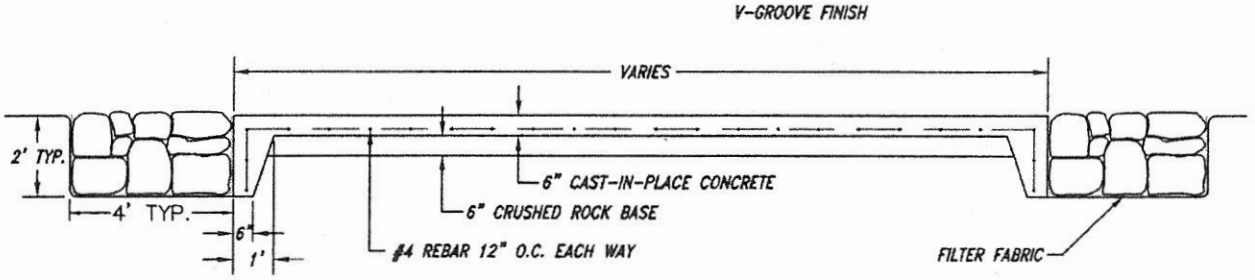


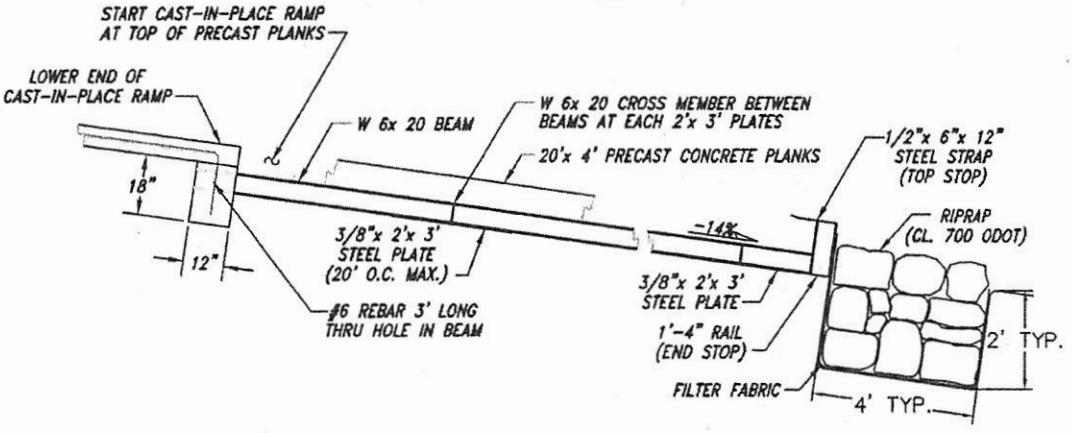
PRECAST RAMP SECTION

NTS



CAST-IN-PLACE RAMP SECTION

NTS



PRECAST PLANK/RAIL PROFILE

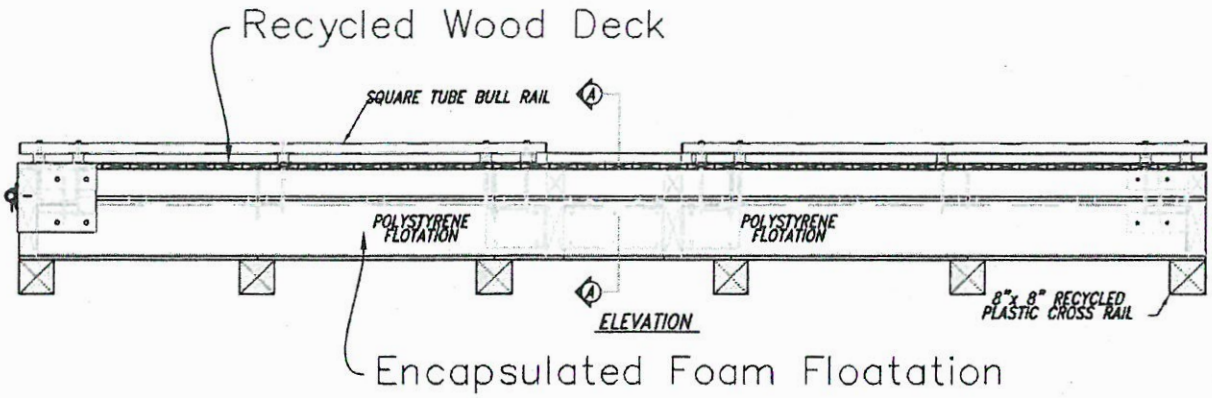
NTS

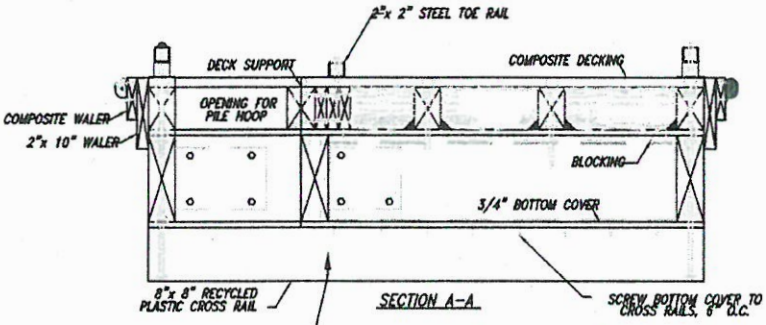
Flowing solutions

Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone (503) 297-6331
Fax (503) 297-6053

SHEET TITLE: RAMP DETAILS		DATE: 10/2/12
PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068		SCALE: NTS
RIVER/MILE: WILLAMETTE, RM 23.2	DATUM: NGVD	SHEET: 7/10

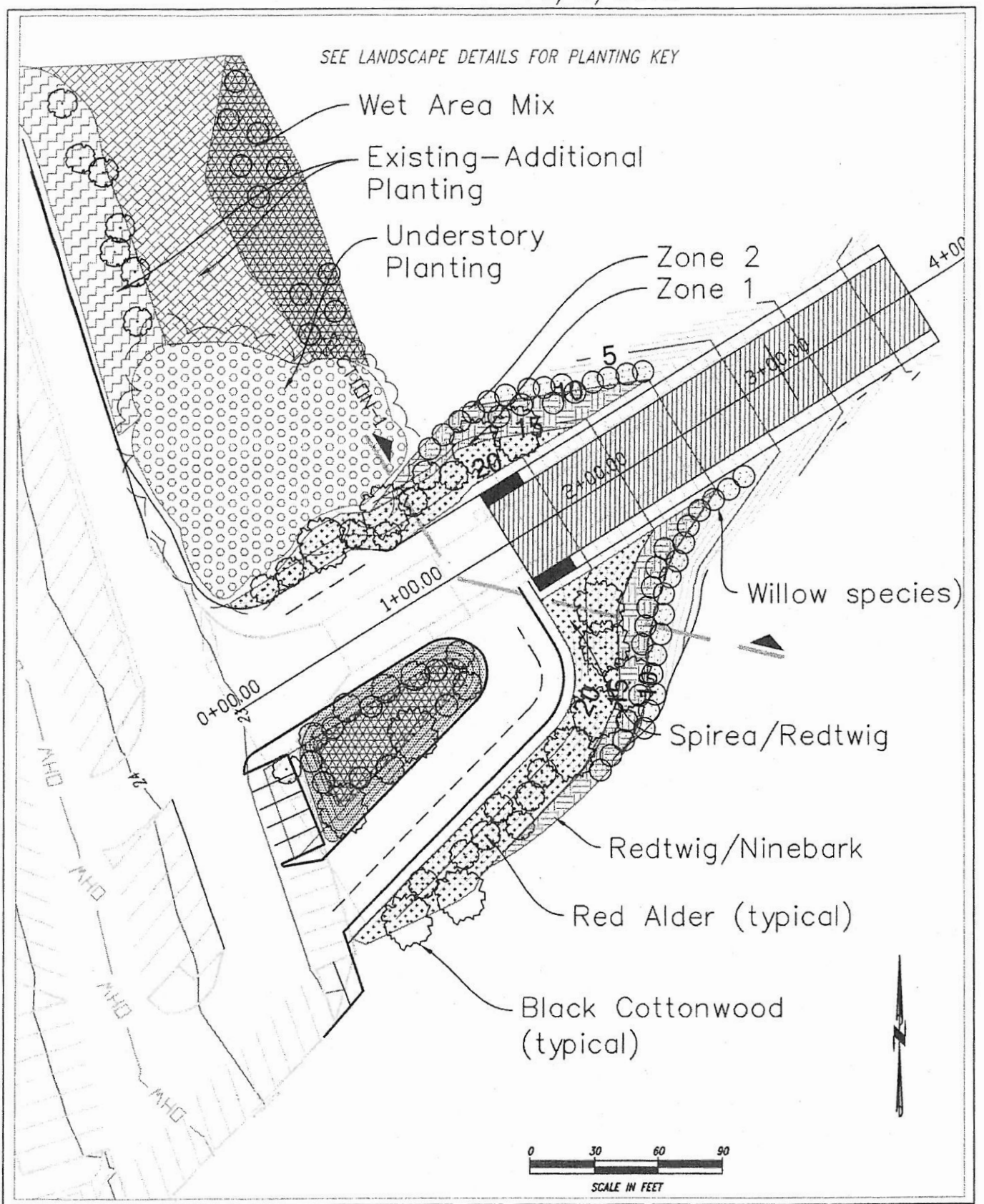
REVISED 10/2/2012





Flowing solutions Flowing Solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297-6331 Fax (503) 297-6053	SHEET TITLE: DOCK DETAILS	DATE: 10/2/12
	PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068	SCALE: NTS
	RIVER/MILE: WILLAMETTE, RM 23.2 — DATUM: NGVD	SHEET: 8/10

REVISED 10/2/2012



Joyce.Jackson–LA.COM
Flowing solutions
Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone (503) 297–6331
Fax (503) 297–6053

SHEET TITLE: LANDSCAPE PLAN		DATE: 10/2/12
PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068		SCALE: 1"=60'
RIVER/MILE: WILLAMETTE, RM 23.2	DATUM: NGVD	SHEET: 9/10

REVISED 10/2/2012

PLANTING KEY

TREES:

ALNUS RUBRA	RED ALDER	5 GAL.	AS SHOWN
POPULUS TRICHOCARPA	BLACK COTTONWOOD	5 GAL.	AS SHOWN
SALIX EXIGUA SSP MELANOPSIS & SALIX FLUVIATILIS	SANDBAR WILLOW & COLUMBIA RIVER WILLOW	10 CI PLUGS	1' O.C.

PLANTING ZONES:

FILL BANK PLANTING - Zone 1 (lower)

CORNUS SERICEA	REDTWIG DOGWOOD	R.S.	2' O.C. GROUPS 5, 7, & 9
PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	R.S..	2' O.C. GROUPS 5, 7, & 9
MYRICA GALE	PACIFIC BAYBERRY	R.S.	2' O.C. GROUPS 5, 7, & 9

FILL BANK PLANTING - Zone 2 (upper)

SPIRAEA DOUGLASII	DOUGLAS SPIREA	R.S	2' O.C. GROUPS OF 5, 7, & 9
CORNUS SERICEA	REDTWIG DOGWOOD	R.S.	2' O.C. GROUPS OF 5, 7, & 9

RIPARIAN PLANTING

CAREX UNILATERALIS	ONE-SIDED SEDGE	= 17% PLUGS	6" O.C.
CAREX DEWEYANA	DEWEY SEDGE	= 17% PLUGS	6" O.C.
DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	= 17% 4" POTS	12"O.C.
ELYMUS GLAUCUS	BLUE WILD RYE	= 17% PLUGS	6" O.C.
JUNCUS ENSIFOLIUS	DAGGERLEAF RUSH	= 17% 4" POTS	12"O.C.
POLYSTICHUM MUNITUM	SWORD FERN	= 15% 4" POTS	12" O.C.
CORNUS SERICEA	REDTWIG DOGWOOD	1 GAL	3' O.C. GROUPS 5, 7, & 9
PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	1 GAL.	3' O.C. GROUPS OF 5, 7, & 9
SPIRAEA DOUGLASII	DOUGLAS SPIREA	1 GAL.	3' O.C. GROUPS OF 5, 7, & 9
SYMPHORICARPUS ALBUS	COMMON SNOWBERRY	1 GAL.	3' O.C. GROUPS OF 5, 7, & 9

WET AREA MIX

ALISMA PLANTAGQUATICA	AMERICAN WATER PLANTAIN	= 10% PLUGS	6" O.C.
CAREX DENSA	DENSE SEDGE	= 20% PLUGS	6" O.C.
CAREX DEWEYANA	DEWEY SEDGE	= 20% PLUGS	6" O.C.
ELEOCHARIS PALUSTRIS	CREEPING SPIKE RUSH	= 20% 4" POTS	12" O.C.
GLYCERIA OCCIDENTALIS	WESTERN MANNAGRASS	= 20% PLUGS	6" O.C.
DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	= 10% PLUGS	6" O.C.

EXISTING BANK PLANTING - UPPER ZONE

LONICERA INVOLUCRATA	TWINBERRY	R.S..	30" O.C. GROUPS OF 3
RIBES SANGUINIUM	FLOWERING CURRENT	R.S.	30" O.C. GROUPS OF 3
SPIRAEA DOUGLASII	DOUGLAS SPIREA	1 GAL	30" O.C. GROUPS OF 3, 5, & 7
SYMPHORICARPUS ALBUS	COMMON SNOWBERRY	1 GAL.	30" O.C. GROUPS OF 3

EXISTING BANK PLANTING - LOWER ZONE

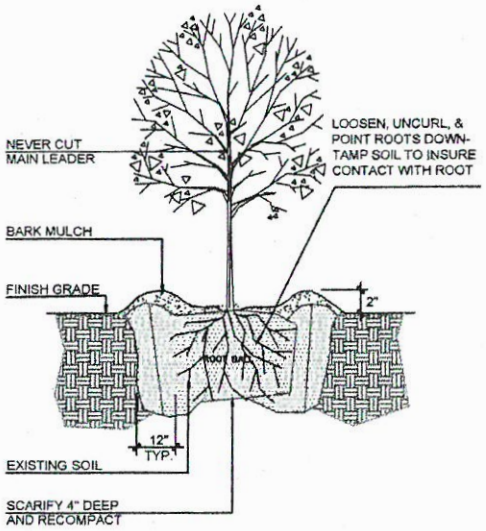
CORNUS SERICEA	REDTWIG DOGWOOD	R.S.	2' O.C. GROUPS 5, 7, & 9
PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	R.S..	2' O.C. GROUPS 5, 7, & 9
MYRICA GALE	PACIFIC BAYBERRY	R.S.	2' O.C. GROUPS 5, 7, & 9

SEED MIX FOR EXISTING BANK PLANTING - LOWER AND UPPER ZONES

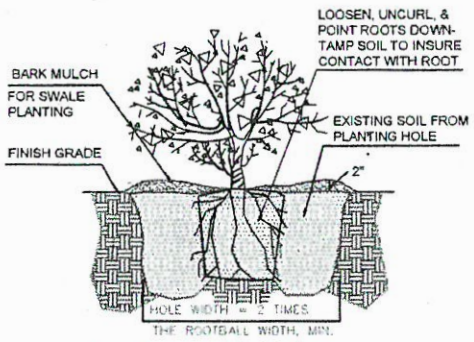
ELYMUS GLAUCUS	BLUE WILDRYE	60% OF MIX	PLANT SEED MIX AT A RATE OF
FESTUCA RUBRA RUBRA	NATIVE RED FESCUE	30%	2 POUNDS / 1000 S.F.
BROMUS CARINATUS	CALIFORNIA BROME	10%	

EXISTNG UNDERSTORY PLANTING -

LONICERA INVOLUCRATA	TWINBERRY	1 GAL.	4' O.C. GROUPS 3
ROSA PISOCARPA	PEAFRUIT ROSE	1 GAL..	3' O.C. GROUPS OF 3
ATHYRIUM FILIX-FEMINA VAR. CYCLOSORUM	LADY FERN	4" POTS	2' O.C. GROUPS OF 3 & 5



1 DECIDUOUS TREE PLANTING & STAKING



2 SHRUB PLANTING

NOTES:

PLANT MATERIALS MUST BE NATIVE AND SELECTED FROM THE PORTLAND PLANT LIST. THEY MUST BE NON-CLONAL IN ORIGIN, SEED SOURCE MUST BE AS LOCAL AS POSSIBLE AND PLANTS MUST BE NURSERY PROPAGATED UNLESS TRANSPLANTED FROM ON-SITE AREAS APPROVED FOR DISTURBANCE.

PROTECT EXISTING NATIVE PLANT MATERIAL. CONTACT LANDSCAPE ARCHITECT FOR LIST OF EXISTING NATIVE PLANTS TO PROTECT.

PRIOR TO PLANT INSTALLATION, REMOVE NON-NATIVE, INVASIVE PLANTS SPECIES (INCLUDING BUT NOT LIMITED TO HIMALAYAN BLACKBERRY, REED CANARY GRASS, AND CANADIAN THISTLE) FROM ALL AREAS WITHIN 10 FEET OF THE PLANTING AREA, USING HANDHELD EQUIPMENT.

THE PLANT MATERIALS ARE TO BE USED FOR RESTORATION PURPOSES. STANDARD NURSERY PRACTICES FOR GROWING LANDSCAPE PLANTS, SUCH AS USE OF PESTICIDES, FUNGICIDES, OR FERTILIZERS AND THE STAKING OF TREES, MUST NOT BE EMPLOYED.

REMOVE PLANTS FROM POTS AND LOOSEN, UNWIND, AND TRIM ROOTS. REMOVE ENOUGH POTTING SOIL TO ENSURE THAT ROOTS ARE IN CONTACT WITH EXISTING SOIL.

PLANT MATERIAL SHALL BE PLACED SO THAT ROOT COLLARS ARE EVEN WITH THE GROUND AND THE PLANT IS UPRIGHT.

PLANT MATERIAL MUST BE SUPPORTED ONLY WHEN NECESSARY DUE TO EXTREME WINDS AT THE PLANTING SITE. WHERE SUPPORT IS NECESSARY, STAKES, GUY WIRES OR OTHER MEASURES MUST BE REMOVED AS SOON AS THE PLANT CAN SUPPORT ITSELF.

ENSURE THAT THE EXISTING TEMPORARY IRRIGATION SYSTEM WILL ADEQUATELY PROVIDE WATER FOR THE NEW PLANTS. THE PLANT MATERIAL SHOULD RECEIVE REGULAR WATERING DURING THE FIRST GROWING SEASON. AFTER THE INITIAL SEASON, WATERING SHALL OCCUR AS NEEDED TO ENSURE PLANTS SURVIVAL UNTIL FULLY ESTABLISHED.

REMOVE A TWO FOOT DIAMETER AREA OF WEEDS AND DUFF AROUND EACH PLANTING HOLE. PLACE 2 INCHES OF MEDIUM GRADE FIR BARK MULCH AROUND THE PLANT IN THE UPPER SLOPES OF THE INFILTRATION SWALE. DO NOT PLACE MULCH AGAINST THE PLANT'S TRUNK.

Joyce.Jackson-LA.COM
Flowing solutions
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3305 SW 87th Avenue
Portland, OR 97225
Phone (503) 297-6331
Fax (503) 297-6053

SHEET TITLE: LANDSCAPE DETIALS		DATE: 10/2/12
PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068		SCALE: NTS
RIVER/MILE: WILLAMETTE, RM 23.2	DATUM: NGVD	SHEET: 10/10

Oregon
John A. Kitzhaber, MD, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
Fax: (503) 229-6945
TTY: 711

RECEIVED
MAY 13 2013
BY:_____

May 6, 2013

Mr. James Holm
U.S. Army Corps of Engineers
ATTN: CENWP-OP-GP
P.O. Box 2946
Portland, OR 97208-2946

RE: 401 Water Quality Certification for City of West Linn Parks and Recreation

Dear Mr. Holm:

The Department of Environmental Quality (DEQ) has reviewed the U.S. Army Corps of Engineers Permit Application #2005-00384-1 (Department of State Lands Permit # not available), received by DEQ on March 27, 2012. DEQ's 401 Water Quality Certification public comment opportunity was circulated with the U.S. Army Corps of Engineers public notice.

The applicant, City of West Linn Parks and Recreation, proposes to impact waters of the state to replace the Cedar Oak boat ramp. The project is located at the east end of Elmran Road and in waters of the Willamette River at river mile 23.2, in the city of West Linn, in Clackamas County, Oregon (Section 13, T2S/R1E).

Project Description: Proposed components include: removing the existing boat ramp and piles; constructing the new boat ramp that will measure 40-feet wide and up to 220-feet in length; driving up to 12 steel piles; installing two floating docks that will be 6-feet wide and 220-feet long with 6-inch blocks to prevent grounding during low water; placing rip rap at the toe of the ramp and at a 3:1 slope along most of the ramp length; placing gravels and planting native vegetation, and constructing a vegetated water quality swale.

Status of Affected Waters of the State: The proposed impacts are in the Willamette River, which is classified as water quality limited under the federal Clean Water Act, and has an Environmental Protection Agency approved Total Maximum Daily Load (TMDL) that has been developed for the parameters of: Dioxin, Mercury, Temperature, and Bacteria. The Willamette River is on the Section 303(d) List of impaired waterbodies for the parameters of: Aldrin, Dichlorodiphenyltrichloroethane (DDT), Dichlorodiphenyldichloroethylene (DDE), Dieldrin, Iron, Polychlorinated Biphenyl (PCB), and Dissolved Oxygen. Parameters listed with potential concern include: Chromium, Copper, Manganese, Nickel, Zinc, Alkalinity, and Phosphate.

Beneficial uses impaired by the above listed parameters in the Willamette River include: water contact recreation, salmonid fish spawning and rearing, anadromous fish passage, resident fish and aquatic life, fishing/fish consumption, and drinking water.

Based on the application materials and sediment characterization analysis, DEQ is reasonably assured that implementation of the Project will be consistent with applicable provisions of Sections 301, 302, 303, 306, and 307 of the federal Clean Water Act, state water quality standards set forth in OAR Chapter 340 Division 41, and other appropriate requirements of

Enclosure 2

state law, provided the following conditions are incorporated into the USACE permit and strictly adhered to by the applicant.

401 CERTIFICATION CONDITIONS

1) **Duration of Certification:** This 401 WQC is valid until closure of the in-water timing window (see Condition 2) of the fifth year after issuance of the USACE permit. A new 401 WQC must be obtained prior to any substantial modification of the U.S. Army Corps of Engineers permit.

2) **Fish protection/Oregon Department of Fish and Wildlife timing:** In-water work is allowed only within the Oregon Department of Fish and Wildlife preferred time window as specified in Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources, June 2008, or most current version. Exceptions to the timing window must be reviewed and approved in writing in advance by Oregon Department of Fish and Wildlife and the National Marine Fisheries Service.

3) **Aquatic life movements:** Any activity that may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species that normally migrate through the area, is prohibited. Unobstructed fish passage must be provided at all times during any authorized activity. Exceptions must be reviewed and approved in writing in advance by Oregon Department of Fish and Wildlife and the National Marine Fisheries Service.

4) **Stormwater Management Plan**: A post-construction stormwater management plan has been developed and submitted on behalf of the applicant. The plan describes the Best Management Practices (BMPs) that will be implemented to prevent or treat pollution in stormwater generated by the proposed project in order to comply with state water quality standards, Total Maximum Daily Load (TMDL) Load Allocations (LAs), Groundwater Management Area concerns, or National Pollutant Discharge Elimination System (NPDES) permit requirements.

   The system components include: stormwater generated from the parking lot will sheet flow and infiltrate into a vegetated swale. The applicant, City of West Linn, will provide long term operation and maintenance of the water quality swale as required.

5) **Isolation of in-water work areas:** Isolation of in-water work areas from the active flowing stream must be accomplished to the maximum extent practicable. Methods of isolation include, but are not limited to: timing work at low water so as to effectively work in the dry; using silt curtains; cofferdams; inflatable bags; geo blocks; sandbags; sheet pilings; or similar materials. The applicant is referred to Appendix D of DEQ's *Oregon Sediment and Erosion Control Manual*, April 2005, for isolation techniques. http://www.deq.state.or.us/wq/stormwater/docs/escmanual/appxd.pdf

6) **Turbidity**: All practical Best Management Practices (BMPs) on disturbed banks and within the stream must be implemented to minimize turbidity during in-water work. Any

activity that causes turbidity to exceed 10% above natural stream turbidities is prohibited except as specifically provided below.

a. **Monitoring**: Turbidity monitoring must be conducted and recorded as described below. Monitoring must occur each day during daylight hours when in-water work is being conducted. Visual gauging is acceptable, however, *turbidity that is visible over background is considered an exceedance of the standard.*

   i. Representative Background Point: a sample or observation must be taken every two hours at a relatively undisturbed area approximately 100 feet upcurrent from in-water disturbance to establish background turbidity levels for each monitoring cycle. Background turbidity, location, date, and time must be recorded prior to monitoring downcurrent.
   ii. Compliance Point: Monitoring must occur every two hours, approximately 300 feet downcurrent from the disturbance, at approximately mid-depth and within any visible plume, and be compared against the background measurement or observation. The turbidity, location, date, and time must be recorded for each sample or observation.

b. **Compliance**: Results from the compliance points must be compared to the background levels taken during each monitoring interval. Exceedances are allowed as follows:

MONITORING WITH A TURBIDIMETER		
ALLOWABLE EXCEEDANCE TURBIDITY LEVEL	ACTION REQUIRED AT 1ST MONITORING INTERVAL	ACTION REQUIRED AT 2ND MONITORING INTERVAL
0 to 5 NTU above background	Continue to monitor every 2 hours	Continue to monitor every 2 hours
5 to 29 NTU above background	Modify BMPs & continue to monitor every 2 hours	Stop work after 4 hours at 5-29 NTU above background
30 to 49 NTU above background	Modify BMPs & continue to monitor every 2 hours	Stop work after 2 confirmed hours at 30-49 NTU above background
50 NTU or more above background	Stop work	Stop work
VISUAL MONITORING		
No plume observed	Continue to monitor every 2 hours	Continue to monitor every 2 hours
Plume observed	Modify BMPs & continue to monitor every 4 hours	Stop work after 4 hours with an observed plume

If an exceedance over the background level occurs, the applicant must modify the activity and continue to monitor every two hours. **If an exceedance over the background level continues after the second monitoring interval, the activity must stop.** If, however, turbidity levels return to background at or after second monitoring level due to implementation of BMPs or natural attenuation, work may continue with appropriate monitoring as above.

If an exceedance occurs at: 50 NTU or more over background; 30 NTU over background for 2 hours; or 5-29 NTU over background for 8 hours, the activity must stop immediately for the remainder of that 24-hour period.

c. **Reporting**: The applicant must make available copies of daily logs for turbidity monitoring to DEQ, USACE, NMFS, USFWS, and ODFW upon request. The log must include: calibration documentation (if using an instrument); background NTUs or observation; compliance point NTUs or observation; comparison of the points in NTUs or narrative; and location; date; time; and tidal stage (if applicable) for each reading. Additionally, a narrative must be prepared discussing all exceedances with subsequent monitoring, actions taken, and the effectiveness of the actions.

d. **BMPs to Minimize In-stream Turbidity:**
   i. Sequence/Phasing of work – The applicant must schedule work activities so as to minimize in-water disturbance and duration of in-water disturbances;
   ii. Bucket control - All in-stream digging passes by excavation machinery and placement of fill in-stream using a bucket must be completed so as to minimize turbidity. All practicable techniques such as employing an experienced equipment operator, not dumping partial or full buckets of material back into the wetted stream, adjusting the volume, speed, or both of the load, or by using a closed-lipped environmental bucket must be implemented;
   iii. Machinery may not be driven into the flowing channel;
   iv. Excavated material must be placed so that it is isolated from the water edge or wetlands and not placed where it could re-enter waters of the state uncontrolled; and,
   v. Containment measures such as silt curtains, geotextile fabric, and silt fence must be implemented and properly maintained in order to minimize in-stream sediment suspension and resulting turbidity.

7) **Deleterious waste materials**: Biologically harmful materials and construction debris including, but not limited to: petroleum products, chemicals, cement cured less than 24 hours, welding slag and grindings, concrete saw cutting by-products, sandblasted materials, chipped paint, tires, wire, steel posts, asphalt and waste concrete may not be placed in or where they could enter waterways or wetlands.

   a. Concrete, cement, or grout must be cured for at least 24 hours prior to any contact with flowing waters;
   b. Only clean fill, free of waste and polluted substances, may be used;
   c. Best Management Practices must be employed to prevent discharges of spills of deleterious materials to surface or ground water;
   d. An adequate supply of materials needed to contain deleterious materials during a weather event must be maintained at the project construction site and deployed as necessary; and
   e. All foreign materials, refuse, and waste must be removed from the area.

8) **Spill Prevention:** Vehicles must be fueled, operated, maintained, and stored and construction materials must be stored in areas that minimize disturbance to habitat and

prevent adverse effects from potential discharges. In addition, the following specific requirements apply:

a. Vehicle staging, cleaning, maintenance, refueling, and fuel storage must take place in a vehicle staging area placed 150 feet or more from any waters of the state.
b. All vehicles operated within 150 feet of any waters of the state must be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected must be repaired before the vehicle resumes operation;
c. Before operations begin and as often as necessary during operation, equipment must be steam cleaned (or undergo an approved equivalent cleaning) until all visible external oil, grease, mud, and other visible contaminates are removed if the equipment will be used below the bank of the water body; and,
d. An adequate supply of materials (such as straw matting/bales, geotextiles, booms, diapers, and other absorbent materials) needed to contain spills must be maintained at the project construction site and deployed as necessary.

9) **Spill & Incident Reporting:**

a. In the event that petroleum products, chemicals, or any other deleterious materials are discharged into state waters, or onto land with a potential to enter state waters, the discharge must be promptly reported to the Oregon Emergency Response Service (OERS, 1-800-452-0311). Containment and cleanup must begin immediately and be completed as soon as possible.
b. If the project operations cause a water quality problem that results in distressed or dying fish, the operator must immediately: cease operations; take appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ, Oregon Department of Fish and Wildlife and other appropriate regulatory agencies.

10) **Vegetation Protection and Restoration:**

a. Riparian, wetland, and shoreline vegetation in the authorized project area must be protected from disturbance to the maximum extent practicable through one or more of the following:
    i. Minimization of project and impact footprint;
    ii. Designation of staging areas and access points in open, upland areas;
    iii. Fencing and other barriers demarking construction areas; and,
    iv. Use of alternative equipment (e.g., spider hoe or crane).

b. If authorized work results in unavoidable vegetative disturbance and the disturbance has not been accounted for in planned mitigation actions, riparian, wetland and shoreline vegetation must be successfully reestablished to a degree that it functions (for water quality purposes) at least as well as it did before the disturbance. The vegetation must be reestablished by the completion of authorized work.

11) The applicant must notify DEQ of any change in ownership and obtain DEQ review and approval before undertaking any change to the project that might significantly affect water quality.

12) DEQ may modify or revoke this 401 WQC, in accordance with OAR 340-048-0050, in the event of project changes or new information indicating that the project activities are having a significant adverse impact on state water quality or beneficial uses.

13) A copy of this 401 WQC letter shall be kept on site and readily available for reference by the applicant and its contractors, U.S. Army Corps of Engineers, DEQ and other appropriate state and local government inspectors.

14) This 401 WQC is invalid if the project is operated in a manner not consistent with the project description contained in the permit application materials.

15) The applicant and its contractors must allow DEQ site access at reasonable times as necessary to monitor compliance with these 401 WQC conditions.

If the applicant is dissatisfied with the conditions contained in this certification, a contested case hearing may be requested in accordance with OAR 340-048-0045. Such request must be made in writing to the DEQ Office of Compliance and Enforcement at 811 SW 6th Avenue, Portland Oregon 97204 within 20 days of the mailing of this certification.

The DEQ hereby certifies this project in accordance with the Clean Water Act and state rules, with the above conditions. If you have any questions, please contact Corey Saxon at saxon.corey @deq.state.or.us, by phone at 503 229-5051 or at the address on this letterhead.

Sincerely,

Steve Mražik
Water Quality Manager
Northwest Region

X: 2005-00384-1cert City of West Linn.doc

cc: Applicant
Anita Huffman, DSL

COMPLIANCE CERTIFICATION

U.S. Army Corps of Engineers
CENWP-OD-GC
Post Office Box 2946
Portland, Oregon 97208-2946

1. Permittee Name: Ken Worcester, Director, City of West Linn Parks and Recreation, 22500 Salamo Rd #1100, West Linn, Oregon 97068

2. County: Clackamas

3. Corps Permit No:NWP-2005-384(2)

4. Corps Contact: Compliance Project Manager for Clackamas County

5. Type of Activity: Maintenance of an existing boat dock and maintenance dredging.

Please sign and return form to the address above:

I hereby certify that the work authorized the above referenced permit has been completed in accordance with the terms and conditions of said permit and that required mitigation is completed in accordance with the permit conditions, except as described below.

_____

Signature of Permittee **Date**

Endangered Species Act - Section 7 Formal Programmatic Opinion, Letter Of Concurrence and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation

Revisions to Standard Local Operating Procedures for Endangered Species to Administer Actions Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon (SLOPES IV In-water Over-water Structures)

NMFS Consultation Number: 2011/05585

Federal Action Agency: Army Corps of Engineers
Portland District, Operations and Regulatory Branches

Date Issued: April 5, 2012

Affected Species and Determinations

ESA-Listed Species	ESA Status	Is the action likely to adversely affect this species or it critical habitat?	Is this Action likely to jeopardize this species?	Is this Action likely to destroy or adversely modify critical habitat for this species?
Lower Columbia River Chinook salmon	T	Yes	No	No
Upper Willamette River Chinook salmon	T	Yes	No	No
Upper Columbia River spring-run Chinook salmon	E	Yes	No	No
Snake River spring/summer run Chinook salmon	T	Yes	No	No
Snake River fall-run Chinook salmon	T	Yes	No	No
Columbia River chum salmon	T	Yes	No	No
Lower Columbia River coho salmon	T	Yes	No	N/A
Oregon Coast coho salmon	T	Yes	No	No
Southern Oregon/Northern California coasts coho salmon	T	Yes	No	No
Snake River sockeye salmon	E	Yes	No	No
Lower Columbia River steelhead	T	Yes	No	No
Upper Willamette River steelhead	T	Yes	No	No
Middle Columbia River steelhead	T	Yes	No	No
Upper Columbia River steelhead	T	Yes	No	No
Snake River Basin steelhead	T	Yes	No	No
Southern green sturgeon	T	Yes	No	No
Eulachon	T	Yes	No	No
Steller sea lion	T	No	No	N/A

Fishery Management Plan that Describes EFH in the Action Area	Would the action adversely Affect EFH?	Are EFH conservation Recommendation provided?
Coastal Pelagic Species	Yes	Yes
Pacific Coast Groundfish	Yes	Yes
Pacific Coast Salmon	Yes	Yes

Enclosure 4

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
☎ 503-986-5200

Permit No.:	**47263-RF Renewal**
Permit Type:	**Removal/Fill**
Waterway:	**Willamette River**
County:	**Clackamas**
Expiration Date:	**October 6, 2013**

CITY OF WEST LINN PARKS AND RECREATION

IS AUTHORIZED IN ACCORDANCE WITH ORS 196.800 TO 196.990 TO PERFORM THE OPERATIONS DESCRIBED IN THE ATTACHED COPY OF THE APPLICATION, SUBJECT TO THE SPECIAL CONDITIONS LISTED ON ATTACHMENT A AND TO THE FOLLOWING GENERAL CONDITIONS:

1. This permit does not authorize trespass on the lands of others. The permit holder shall obtain all necessary access permits or rights-of-way before entering lands owned by another.
2. This permit does not authorize any work that is not in compliance with local zoning or other local, state, or federal regulation pertaining to the operations authorized by this permit. The permit holder is responsible for obtaining the necessary approvals and permits before proceeding under this permit.
3. All work done under this permit must comply with Oregon Administrative Rules, Chapter 340; Standards of Quality for Public Waters of Oregon. Specific water quality provisions for this project are set forth on Attachment A.
4. Violations of the terms and conditions of this permit are subject to administrative and/or legal action, which may result in revocation of the permit or damages. The permit holder is responsible for the activities of all contractors or other operators involved in work done at the site or under this permit.
5. Employees of the Department of State Lands and all duly authorized representatives of the Director shall be permitted access to the project area at all reasonable times for the purpose of inspecting work performed under this permit.
6. Any permit holder who objects to the conditions of this permit may request a hearing from the Director, in writing, within twenty-one (21) calendar days of the date this permit was issued.
7. In issuing this permit, the Department of State Lands makes no representation regarding the quality or adequacy of the permitted project design, materials, construction, or maintenance, except to approve the project's design and materials, as set forth in the permit application, as satisfying the resource protection, scenic, safety, recreation, and public access requirements of ORS Chapters 196, 390, and related administrative rules.
8. Permittee shall defend and hold harmless the State of Oregon, and its officers, agents, and employees from any claim, suit, or action for property damage or personal injury or death arising out of the design, material, construction, or maintenance of the permitted improvements.
9. Authorization from the U.S. Army Corps of Engineers may also be required.

NOTICE: If removal is from state-owned submerged and submersible land, the applicant must comply with leasing and royalty provisions of ORS 274.530. If the project involves creation of new lands by filling on state-owned submerged or submersible lands, you must comply with ORS 274.905 to 274.940. This permit does not relieve the permittee of an obligation to secure appropriate leases from the Department of State Lands, to conduct activities on state-owned submerged or submersible lands. Failure to comply with these requirements may result in civil or criminal liability. For more information about these requirements, please contact the Department of State Lands, 503-986-5200.

Lori Warner-Dickason, Northern Region Manager
Wetlands & Waterways Conservation Div.
Oregon Department of State Lands

Authorized Signature

September 12, 2012
Date Issued

ATTACHMENT A

Permittee: City of West Linn Parks & Recreation

Special Conditions for Removal/Fill Permit No. 47263-RF

READ AND BECOME FAMILIAR WITH CONDITIONS OF YOUR PERMIT.

The project site may be inspected by the Department of State Lands (DSL) as part of our monitoring program. DSL has the right to stop or modify the project at any time if you are not in compliance with these conditions. A copy of this permit shall be available at the work site whenever authorized operations are being conducted.

1. **Authorization to Conduct Removal and/or Fill:** This permit authorizes the placement of up to 9500 cubic yards and removal of up to 200 cubic yards of material in T02S R01E Section 24, Tax Lot 200, Willamette River, Clackamas County, as described in the attached permit application, map and drawings, received May 23, 2011. In the event information in the application conflicts with these permit conditions, the permit conditions prevail.

2. **Work Period in Jurisdictional Areas:** Fill or removal activities below the ordinary high water elevation of the Willamette River shall be conducted between July 1 and October 31, unless otherwise coordinated with Oregon Department of Fish and Wildlife and approved in writing by DSL.

3. **Authorization to Conduct Compensatory Mitigation:** This permit also authorizes removal and fill activities necessary to complete the required compensatory mitigation.

4. **Changes to the Project or Inconsistent Requirements from Other Permits:** It is the permittee's responsibility to ensure that all state, federal and local permits are consistent and compatible with the final approved project plans and the project as executed. Any changes made in project design, implementation and/or operating conditions to comply with conditions imposed by other permits must be approved by DSL prior to implementation.

5. **DSL May Halt or Modify:** DSL retains the authority to temporarily halt or modify the project in case of unforeseen damage to natural resources.

6. **DSL May Modify Conditions Upon Permit Renewal:** DSL retains the authority to modify conditions upon renewal, as appropriate, pursuant to the applicable rules in effect at the time of the request for renewal or to protect waters of this state.

Pre-Construction

7. **Local Government Approval Required Before Beginning Work:** Issuance of this permit is contingent upon acquisition of a Development permit from the City of West Linn.

8. **Stormwater Management Approval Required Before Beginning Work:** Issuance of the permit is contingent upon acquisition of a National Pollution Discharge Elimination System (NPDES) permit from the Oregon Department of Environmental Quality.

9. **Pre-construction Resource Area Flagging:** Before any site grading, the surveyed boundaries of the avoided riparian area shall be surrounded by bright orange construction fencing, which shall be maintained during construction of the project. There shall be no heavy equipment within fenced areas, except during mitigation construction.

General Construction Conditions

10. **Water Quality Certification:** The Department of Environmental Quality (DEQ) may evaluate this project for a Clean Water Act Section 401 Water Quality Certification (WQC). If the evaluation results in issuance of a Section 401 WQC, that turbidity condition will govern any allowable turbidity exceedance and monitoring requirements.

11. **Erosion Control Methods:** The following erosion control measures (and others as appropriate) shall be installed prior to construction and maintained during and after construction as appropriate, to prevent erosion and minimize movement of soil into waters of this state.

    a. All exposed soils shall be stabilized during and after construction in order to prevent erosion and sedimentation.
    b. Filter bags, sediment fences, sediment traps or catch basins, leave strips or berms, or other measures shall be used to prevent movement of soil into waterways and wetlands.
    c. To prevent erosion, use of compost berms, impervious materials or other equally effective methods, shall be used to protect soil stockpiled during rain events or when the stockpile site is not moved or reshaped for more than 48 hours.
    d. Unless part of the authorized permanent fill, all construction access points through, and staging areas in, riparian and wetland areas shall use removable pads or mats to prevent soil compaction. However, in some wetland areas under dry summer conditions, this requirement may be waived upon approval by DSL. At project completion, disturbed areas with soil exposed by construction activities shall be stabilized by mulching and native vegetative plantings/seeding. Sterile grass may be used instead of native vegetation for temporary sediment control. If soils are to remain exposed more than seven days after completion of the permitted work, they shall be covered with erosion control pads, mats or similar erosion control devices until vegetative stabilization is installed.
    e. Where vegetation is used for erosion control on slopes steeper than 2:1, a tackified seed mulch shall be used so the seed does not wash away before germination and rooting.
    f. Dredged or other excavated material shall be placed on upland areas having stable slopes and shall be prevented from eroding back into waterways and wetlands.
    g. Erosion control measures shall be inspected and maintained as necessary to ensure their continued effectiveness until soils become stabilized.
    h. All erosion control structures shall be removed when the project is complete and soils are stabilized and vegetated.

12. **Hazardous, Toxic, and Waste Material Handling:** Petroleum products, chemicals, fresh cement, sandblasted material and chipped paint, wood treated with leachable preservatives or other deleterious waste materials shall not be allowed to enter waters of this state. Machinery

refueling is to occur at least 150 feet from waters of this state and confined in a designated area to prevent spillage into waters of this state. Barges shall have containment system to effectively prevent petroleum products or other deleterious material from entering waters of this state. Project-related spills into waters of this state or onto land with a potential to enter waters of this state shall be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311.

13. **Federally Listed Endangered or Threatened Species:** When listed species are present, the authorization holder must comply with the Federal Endangered Species Act. If previously unknown listed species are encountered during construction, all construction activity shall immediately cease and the permit holder must contact DSL.

14. **Archaeological Resources**: If any archaeological resources and/or artifacts are encountered during construction, all construction activity shall immediately cease. The State Historic Preservation Office shall be contacted (phone: 503-986-0674).

15. **Hazards to Recreation, Navigation or Fishing:** The activity shall be timed so as not to interfere with or create a hazard to recreational or commercial navigation or fishing.

16. **Construction Corridor:** There shall be no removal of vegetation or heavy equipment operating or traversing outside the designated construction corridor or footprint (Figure 4).

17. **Work Area Isolation:** The work area shall be isolated from the water during construction according to the Work Area Isolation Plan contained in the application. All structures and materials used to isolate the work area shall be removed immediately following construction and water flow returned to pre-construction conditions.

18. **Temporary Ground Disturbances:** All temporarily disturbed areas shall be returned to original ground contours at project completion, as proposed in the Site Restoration Plan in the application.

19. **Site Restoration Required:** Site restoration for the slopes along the fill area shown in Figure 9, shall be conducted according to the rehabilitation plan included with the application. Failure to implement the rehabilitation plan may result in additional compensatory mitigation.

20. **Operation of Equipment in the Water Prohibited:** There shall be no operation of equipment in the water. Work in the waterway shall be conducted from top of the bank.

21. **Fish Passage Required:** The project shall meet Oregon Department of Fish and Wildlife requirements for fish passage.

22. **Riprap Placement Methods:** Riprap/rock shall be placed under the following conditions:

    a. Only clean, erosion resistant rock from an upland source shall be used as riprap. No broken concrete or asphalt shall be used.
    b. Riprap rock shall be placed in a manner that does not increase the upland surface area.
    c. Riprap shall be placed in a way as to minimize impacts to the active stream channel.

d. Gravel or filter fabric should be placed behind the riprap rock, including the toe trench rock, as a filter blanket.
e. All riprap rock shall be placed, not dumped, from above the bank line.

Pilings/Dock Structures

23. **Piling Placement and/or Removal Location:** Piling shall be placed and/or removed from locations depicted in the Application, Figure 4.

24. **Method of Piling Placement**: Pilings must be placed by means of impact or vibratory methods or removed (to the extent regulated as material pursuant to OAR 141-085-0010(125)) by means of vibratory method only.

25. **Method of Piling Removal:** Removal of pile shall be conducted by means of vibratory removal.

26. **Backfilling after Piling Removal Required:** The area vacated from structure removal must by backfilled with native material upon removal completion.

27. **Piling Placement Equipment Location:** Pilings must be placed using equipment located above top-of-bank.

28. **Sound Reduction:** Sound reduction measures, such as vibration dampeners and bubble curtains, shall be used during piling installation.

29. **Dock Light Penetration:** The dock shall be designed to allow at least 60% light penetration.

30. **Barge Grounding Prohibited:** If barge-mounted, the barge shall not at any time be grounded on the bed or banks of the waterway.

31. **Creosote Prohibited:** There shall be no wood products treated with creosote or other leachable preservatives in the new structure.

32. **Waste Pilings Disposal:** Old piling and other waste material shall be disposed of in a disposal facility approved for this purpose. There shall be no temporary storage of piling or other waste material below top of bank or in any wetland, Federal Emergency Management Administration designated floodway, or an area historically subject to landslides.

33. **Anti-Perching Devises Required:** Pilings must be fitted with devices to effectively prevent perching by fish eating bird species.

Renewal Issued: September 12, 2012

1.3.1.2 General Construction

11. **Pollution and erosion control.** Any action that will require earthwork and may increase soil erosion and cause runoff with visible sediment into surface water, or that will require the use of materials that are hazardous or toxic to aquatic life (such as motor fuel, oil, or drilling fluid), must have a pollution and erosion control plan that is developed and carried out by the applicant, and commensurate with the scale of the action.
    a. The plan must include practices to minimize erosion and sedimentation associated with all aspects of the project (*e.g.*, staging areas, stockpiles, grading); to prevent construction debris from dropping or otherwise entering any stream or waterbody; and to prevent and control hazardous material spills.
    b. During construction, erosion controls and streams must be monitored and maintained daily during the rainy season and weekly during the dry season as necessary to ensure controls are properly functioning.
    c. If monitoring shows that the erosion controls are ineffective at preventing visible sediment discharge, the project must stop to evaluate erosion control measures. Repairs, replacements or the installation of additional erosion control measures must be completed before the project resumes.
    d. Proper maintenance includes removal of sediment and debris from erosion controls like silt fences or hay bales once it has reached on-third of the exposed height of the control.

12. **Stormwater management.** Any action that will expand, recondition, reconstruct, or replace pavement, replace a stream crossing, otherwise increase the contributing impervious surface within the project area, or create a new stormwater conveyance or discharge facility, must have a stormwater management plan that is developed and carried out by the applicant, commensurate with the scale of the action, and approved by NMFS. The stormwater plan submitted for approval must include all of the information called for by the "Checklist for Submission of a Stormwater Plan" (ODEQ 2008, or most recent version), or an explanation of why any missing information is not applicable to a specific project.

13. **Site restoration.** Any action that results in significant disturbance of riparian vegetation, soils, streambanks, or stream channel must have a site restoration plan that is developed and carried out by the permittee (or Corps), that is commensurate with the scale of the action. The goal of the plan is to ensure that riparian vegetation, soils, streambanks, and stream channel are cleaned up and restored after the action is complete. No single criterion is sufficient to measure restoration success, but the intent is that the following features should be present in the upland parts of the project area, within reasonable limits of natural and management variation:
    a. Human and livestock disturbance, if any, are confined to small areas necessary for access or other special management situations.
    b. Areas with signs of significant past erosion are completely stabilized and healed, bare soil spaces are small and well-dispersed.
    c. Soil movement, such as active rills and soil deposition around plants or in small basins, is absent or slight and local.
    d. Native woody and herbaceous vegetation, and germination microsites, are present and well distributed across the site.
    e. Plants are native species and have normal, vigorous growth form, and a high probability of remaining vigorous, healthy and dominant over undesired competing vegetation.
    f. Vegetation structure is resulting in rooting throughout the available soil profile.

g. Plant litter is well distributed and effective in protecting the soil with little or no litter accumulated against vegetation as a result of active sheet erosion ("litter dams").
h. A continuous corridor of shrubs and trees appropriate to the site are present to provide shade and other habitat functions for the entire streambank.
i. Streambanks are stable, well vegetated, and protected at margins by roots that extend below baseflow elevation, or by coarse-grained alluvial debris.

14. **Compensatory mitigation.** Any action that will permanently displace riparian or aquatic habitats or otherwise prevent development of properly functioning condition of natural habitat processes will require compensatory mitigation to fully offset those impacts.
    a. Examples of actions requiring compensatory mitigation include construction of a new or enlarged boat ramp or float, the addition of scour protection to a boat ramp, or construction of new impervious surfaces without adequate stormwater treatment.
    b. For displaced riparian and aquatic habitat, the primary habitat functions of concern are related to the physical and biological features essential to the long-term conservation of listed species. Those are water quality, water quantity, channel substrate, floodplain connectivity, forage, natural cover, space, and free passage. Examples of acceptable mitigation for riparian losses includes planting trees or other woody vegetation in the riparian area, removal of existing overwater structures or restoration of shallow-water, off-channel, or beach habitat by adding features such as submerged or overhanging large wood, aquatic vegetation, large rocks and boulders, side channels and undercut banks.
    c. For new impervious surfaces with inadequate stormwater treatment, the primary habitat functions of concern are water quality and water quantity. Examples of acceptable mitigation for inadequate stormwater management includes providing adequate stormwater treatment at an alternate site where it did not exist before or retrofitting an existing but substandard stormwater facility to provide capacity necessary to infiltrate and retain the proper volume of stormwater.
    d. As part of NMFS's review under clause 3 above, NMFS will determine if the proposed compensatory mitigation fully offsets permanent displacement of riparian or aquatic habitats and/or impacts that prevent development of properly functioning processes.

15. **Preconstruction activity.** Before alteration of the action area, flag the boundaries of clearing limits associated with site access and construction to minimize soil and vegetation disturbance, and ensure that all temporary erosion controls are in place and functional.

16. **Site preparation.** During site preparation, conserve native materials for restoration, including large wood, vegetation, topsoil and channel materials (gravel, cobble and boulders) displaced by construction. Whenever practical, leave native materials where they are found and in areas to be cleared, clip vegetation at ground level to retain root mass and encourage reestablishment of native vegetation. Building and related structures may not be constructed inside the riparian management area.

17. **Heavy equipment.** Heavy equipment will be selected and operated as necessary to minimize adverse effects on the environment (*e.g.*, minimally-sized, low pressure tires, minimal hard turn paths for tracked vehicles, temporary mats or plates within wet areas or sensitive soils); and all vehicles and other heavy equipment will be used as follows:
    a. Stored, fueled and maintained in a vehicle staging area placed 150 feet or more from any waterbody, or in an isolated hard zone such as a paved parking lot.
    b. Inspected daily for fluid leaks before leaving the vehicle staging area for operation within 50 feet of any waterbody.

c. Steam-cleaned before operation below ordinary high water, and as often as necessary during operation to remain free of all external oil, grease, mud, seeds, organisms and other visible contaminants.

d. Generators, cranes and any other stationary equipment operated within 150 feet of any waterbody will be maintained and protected as necessary to prevent leaks and spills from entering the water.

18. **In-water work period.** All work within the active channel will be completed in accordance with the Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife resources (ODFW 2000, or the most recent version), except as follows:
    a. All in-water work in the Willamette River mainstem between Willamette Falls and the confluence with the Columbia River must be completed between July 1 and October 31.
    b. All in-water work in the Columbia River mainstem below Bonneville Dam, except pile driving, must be completed between November 1 and December 31.
    c. Pile driving in the Columbia River mainstem below Bonneville Dam must be completed between October 1 and November 30.
    d. Hydraulic and topographic measurements and encased geotechnical drilling may be completed at any time, if a fish biologist determines that no adult fish are congregating for spawning and no redds are occupied by eggs or pre-emergent alevins within 300 feet of the work site.

19. **Actions that require work area isolation.** Any action that involves excavation (other than access management), backfilling, embankment construction, or similar work below ordinary high water where adult or juvenile fish are reasonably certain to be present, or 300 feet or less upstream from spawning habitats, must be effectively isolated from the active stream.

20. **Fish capture and removal.** Whenever work isolation is required and ESA-listed fish are likely to be present, the applicant must attempt to capture and remove the fish as follows:
    a. A fishery biologist experienced with work area isolation and competent to ensure the safe capture, handling and release of all fish will supervise this part of the action, and complete the fish salvage form from Appendix C that will be submitted with the action completion report.
    b. Any fish trapped within the isolated work area must be captured and released using a trap, seine, electrofishing, or other methods as prudent to minimize the risk of injury, then released at a safe release site.
    c. If electrofishing is used to capture fish, that work must consistent with NMFS' electrofishing guidelines (NMFS 2000).

21. **Piling installation.** Pilings may be concrete, steel round pile 24 inches in diameter or smaller, steel H-pile designated as HP24 or smaller, or wood that has not been treated with preservatives or pesticides. Any proposal to use wood pilings treated with preservatives or pesticides is not covered by this consultation and will require individual consultation.
    a. When practical, use a vibratory hammer for piling installation. For pile driving in the Columbia River in the month of October, only a vibratory hammer may be used.
    b. Jetting may be used for piling installation in areas with coarse, uncontaminated sediments.

22. **Pile driving with an impact hammer.** When using an impact hammer to drive or proof steel piles, one of the following sound attenuation methods must be used:
    a. Completely isolate the pile from flowing water by dewatering the area around the pile.
    b. If water velocity is 1.6 feet per second or less, surround the piling being driven by a confined or unconfined bubble curtain (see NMFS and USFWS 2006, Wursig *et al.* 2000, and Longmuir and Lively 2001) that will distribute small air bubbles around 100% of the piling perimeter for the full depth of the water column.
    c. If water velocity is greater than 1.6 feet per second, surround the piling being driven by a confined bubble curtain (*e.g.*, a bubble ring surrounded by a fabric or non-metallic sleeve) that will distribute air bubbles around 100% of the piling perimeter for the full depth of the water column.

23. **Pile driving where Steller sea lions may be present.** If the action area is between Bonneville Dam and the mouth of the Columbia River, or outside of the Columbia River but within 10-miles of a Steller sea lion haul-out[1], the following conditions apply:
    a. A biologist qualified in marine mammal identification will be on site during all pile driving and will notify the operator to cease operations if a Steller sea lion enters the 1,200 foot radius of the pile.
    b. Pile driving may not begin if Steller sea lions are within 1,200 feet of the pile being driven.
    c. Pile driving must cease if Steller sea lions approach to within 1,200 feet of the pile being driven.

24. **Pile removal.** Use the following steps to minimize creosote release, sediment disturbance and sediment resuspension:
    a. Install a floating surface boom to capture floating surface debris.
    b. Keep all equipment (*e.g.*, bucket, steel cable, vibratory hammer) out of the water, grip piles above the waterline, and complete all work during low water and low current conditions.
    c. Dislodge the piling with a vibratory hammer, when possible; never intentionally break a pile by twisting or bending.
    d. Slowly lift the pile from the sediment and through the water column.
    e. Place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment – a containment basin for the removed piles and any adhering sediment may be constructed of durable plastic sheeting with sidewalls supported by hay bales or another support structure to contain all sediment and return flow which may otherwise be directed back to the waterway.
    f. Fill the holes left by each piling with clean, native sediments immediately upon removal.
    g. Dispose of all removed piles, floating surface debris, any sediment spilled on work surfaces, and all containment supplies at a permitted upland disposal site.

25. **Broken or intractable piling.** When a pile breaks or is intractable during removal, continue removal as follows:
    a. Make every attempt short of excavation to remove each piling, if a pile in uncontaminated sediment is intractable, breaks above the surface, or breaks below the surface, cut the pile or stump off at least 3 feet below the surface of the sediment.
    b. If dredging is likely where broken piles are buried, use a global positioning system (GPS) device to note the location of all broken piles for future use in site debris characterization.

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[1] Haul outs are located at 3 Arches Rock, Orford Reed, Rogue Reef, Sea Lion Caves, Cape Arago State Park, Oregon Islands National Wildlife Refuge and South Jetty Columbia River.

26. **Pesticide-treated wood installation.**[2] Use of lumber, pilings, or other wood products treated or preserved with pesticidal compounds may not be used below ordinary high water, or as part of an in-water or overwater structure.

27. **Pesticide-treated wood removal.** When it is necessary to remove pesticide-treated wood, the following conditions apply.

    a. Ensure that, to the extent possible, no wood debris falls into the water. If wood debris does fall into the water, remove it immediately.
    b. After removal, place wood debris in an appropriate dry storage site until it can be removed from the project area.
    c. Do not leave wood construction debris in the water or stacked on the streambank at or below the ordinary high water.
    d. Evaluate wood construction debris removed during a project, including pesticide-treated wood pilings, to ensure proper disposal of debris.

1.3.1.3 Types of Actions In-water or Over-water Structures

28. **Boat ramps.** All boat ramps must consist of pre-cast concrete slabs below ordinary high water, and may be cast-in-place above ordinary high water if completed in the dry. Rock may be used to prevent scouring, down-cutting, or failure at the boat ramp, provided that the rock is no larger than necessary and does not extend further than 4-feet from the edge of the ramp in any direction.

29. **Educational signs.** To educate the public about pollution from boating activities and its prevention, the Corps shall install (Corps project) or require the following information or its equivalent to be posted on a permanent sign that will be maintained at each permitted facility that is used by the public (*e.g.,* a public boat ramp or marina):
    a. A description of the ESA-listed species which are or may be present in the project area.
    b. Notice that adults and juveniles of these species are protected by the ESA and other laws so that they can successfully migrate, spawn, rear, and complete other behaviors necessary for their recovery.

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[2] For alternatives sources of structural lumber and pilings designed for industrial and marine applications, but not based on pesticide-treated wood, including silica-based wood preservation, improved recycled plastic technology, and environmentally safe wood sealer and stains, see, *e.g.*, Resco Plastics (Coos Bay, Oregon; ph. 541.269.5485) and American Plastic Lumber (Shingle Springs, California; ph. 530.677.7700) for lumber from recycled plastic; Plastic Pilings, Inc. (Rialto, California; ph. 909.874.4080) for structural and non-structural lumber from recycled plastic; Timbersil (Placentia, California; ph. 714.223.1804) for outdoor lumber treated with silica; Kebony (ph. 888.914.9995) for outdoor lumber impregnated with a resin from furfuryl alcohol, a byproduct of sugar production; and Timber Pro Coatings (Portland, Oregon; ph. 503.232.1705) for a silica-based internal wood stabilizer, and a low-VOC wood sealer/stain. The use of trade, firm, or corporation names in this Opinion is for the information and convenience of the action agencies, and does not constitute an official endorsement or approval by the U.S. Department of Commerce or NMFS of any product or service to the exclusion of others that may be suitable.

c. Therefore, all users of the facility are encouraged or required to: (i) Follow procedures and rules governing use of sewage pump-out facilities; (ii) minimize the fuel and oil released into surface waters during fueling, and from bilges and gas tanks; (iii) avoid cleaning boat hulls in the water to prevent the release of cleaner, paint and solvent; (iv) practice sound fish cleaning and waste management, including proper disposal of fish waste; and (v) dispose of all solid and liquid waste produced while boating in a proper facility away from surface waters.

30. **Flotation material.** All synthetic flotation material must be permanently encapsulated to prevent breakup into small pieces and dispersal in water.

31. **New or replacement floats.** Any new or replacement float must be placed at least 50 feet from the shoreline (100-feet from the shoreline in the Columbia River) as measured at ordinary low water or mean lower low water and may not be placed in an estuarine area with submerged aquatic vegetation. Any float wider than 6-feet must also include (a) an open area of grating that is at least 50% of the total surface area,; or (b) be placed where current velocity is at least 0.7 feet per second year-round. Floats may not exceed 10' in width or 40' in length or a total of 400 square feet.

32. **Piscivorous birds.** All float pilings, mooring buoys, and navigational aids must be fitted with devices to prevent perching by piscivorous birds.

33. **Relocation of existing structures in a marina.** Any existing structure that is relocated in a marina must remain within the existing overall footprint, but no closer than 50 feet of the shoreline (100 feet in the Columbia River) as measured at ordinary low water or mean lower low water.

34. **Repair or replacement of wall and roof components for a covered moorage or boat house.** Any replacement for a roof, wall, or garage door of a covered moorage or boat house must be made of translucent materials or incorporate skylights to allow light penetration.

Dredging

35. Dredging to Maintain Vessel Access. When dredging to maintain access to previously authorized docks, wharfs, mooring structures, and boat ramps, the following conditions apply:

a. All dredged materials and subsequent leave surface must be suitable and approved for in-water disposal using newly acquired or historical data based on criteria in the Sediment Evaluation Framework ((USACE *et al.* 2009).
b. All dredged sediment and debris must be side cast or returned to the channel within the ordinary high-water line downstream from the dredging site where it will be recruited by the next annual high flow and continue to provide aquatic habitat functions.
c. The dredging must not alter the character, scope, size, or location of the project area or previously authorized dredge prism.

36. **Dredging to Maintain Functionality.** When discharging or excavating to maintain the functionality of a channel, culvert, intake, or outfall, the following conditions apply:

a. Either the discharge or excavation may not exceed 25 cubic yards, or include any water intake or point of diversion that does not have a fish screen that is installed, operated and maintained according to NMFS fish screen criteria and meet NMFS fish passage criteria.

b. All dredged materials and subsequent leave surface must be suitable and approved for in-water disposal using newly acquired or historical data based on criteria in the Sediment Evaluation Framework.

c. All dredged sediment and debris must be side cast or returned within the annual high flow channel downstream from the dredging site where it will continue to provide aquatic habitat functions.

d. The dredging must not alter the character, scope, size, or location of the project area.

SLOPES IV PROGRAMMATIC – IN-WATER OVER-WATER STRUCTURES ACTION COMPLETION FORM

Within 60 days of completing all work below ordinary high water (OHW) as part of an action completed under the SLOPES IV In-water Over-water Structures programmatic opinion, submit the completed action completion form with the following information to NMFS at slopes.nwr@noaa.gov.

Corps Permit #: _____

Corps Contact: _____

Action Title _____

Start and End Dates for the completion of in-water work: *Start*: _____ *End*: _____

Any Dates work ceased due to high flows: _____ _____

_____ _____

_____ _____

_____ _____

Include With This Form:

1. Photos of habitat conditions before, during, and after action completion
2. Evidence of compliance with fish screen criteria for any pump used
3. A summary of the results of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort
4. Number, type, and diameter of any pilings removed or broken during removal
5. A description of any riparian area cleared within 150 feet of OHW
6. Linear feet of bank alteration
7. A description of site restoration
8. A completed Salvage Reporting Form from Appendix D for any action that requires fish salvage
9. As-Built drawings for any action involving riprap revetment, stormwater management facility, or bridge rehabilitation or replacement.

SLOPES IV PROGRAMMATIC – IN-WATER OVER-WATER STRUCTURES SALVAGE REPORTING FORM

Within 10 days of completing a capture and release as part of an action completed under the SLOPES IV In-water Over-water Structures programmatic opinion, the applicant or, for Corps civil works actions, the Corps must submit a complete a Salvage Reporting Form, or its equivalent, with the following information to NMFS at slopes.nwr@noaa.gov.

Corps Permit #: _____

Corps Contact: _____

Action Title _____

Date of Fish Salvage Operation: _____

Supervisory Fish Biologist (name, address & telephone number): _____

Include With This Form:

1. A description of methods used to isolate the work area, remove fish, minimize adverse effects on fish, and evaluate their effectiveness.
2. A description of the stream conditions before and following placement and removal of barriers.
3. A description of the number of fish handled, condition at release, number injured, and number killed by species.

SLOPES IV PROGRAMMATIC – IN-WATER OVER-WATER STRUCTURES RESTORATION/ COMPENSATORY MITIGATION REPORTING FORM

By December 31 of any year in which the Corps approves that the site restoration or compensatory mitigation is complete, the Corps, must submit a complete a Site Restoration/Compensatory Mitigation Reporting Form, or its equivalent, with the following information to NMFS at slopes.nwr@noaa.gov.

Corps Permit #: _____

Corps Contact: _____

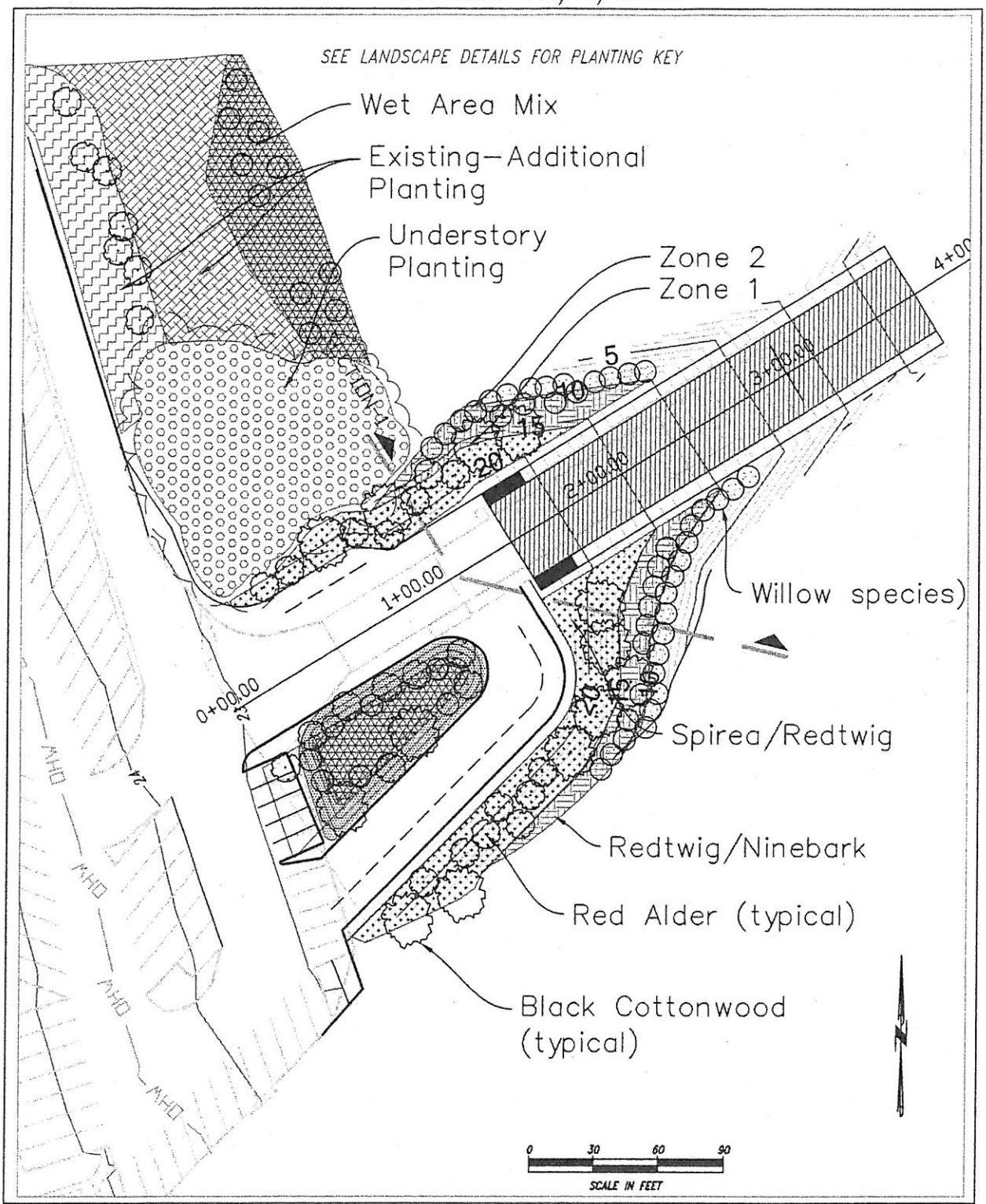
Action Title: _____

Type of Activity: _____
_____

Include With This Form:

1. Photos of habitat conditions before, during, and after action completion
2. Start and end date for the work.
3. A summary of the results of mitigation or restoration work completed.

REVISED 10/2/2012



Joyce.Jackson–LA.COM **Flowing solutions** Flowing Solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297–6331 Fax (503) 297–6053	SHEET TITLE: LANDSCAPE PLAN	DATE: 10/2/12
	PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068	SCALE: 1"=60'
	RIVER/MILE: WILLAMETTE, RM 23.2 — DATUM: NGVD	SHEET: 9/10

REVISED 10/2/2012

PLANTING KEY

TREES:

ALNUS RUBRA	RED ALDER	5 GAL.	AS SHOWN
POPULUS TRICHOCARPA	BLACK COTTONWOOD	5 GAL.	AS SHOWN
SALIX EXIGUA SSP MELANOPSIS & SALIX FLUVIATILIS	SANDBAR WILLOW & COLUMBIA RIVER WILLOW	10 CI PLUGS	1' O.C.

PLANTING ZONES:

FILL BANK PLANTING - Zone 1 (lower)

CORNUS SERICEA	REDTWIG DOGWOOD	R.S.	2' O.C. GROUPS 5, 7, & 9
PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	R.S..	2' O.C. GROUPS 5, 7, & 9
MYRICA GALE	PACIFIC BAYBERRY	R.S.	2' O.C. GROUPS 5, 7, & 9

FILL BANK PLANTING - Zone 2 (upper)

SPIRAEA DOUGLASII	DOUGLAS SPIREA	R.S	2' O.C. GROUPS OF 5, 7, & 9
CORNUS SERICEA	REDTWIG DOGWOOD	R.S.	2' O.C. GROUPS OF 5, 7, & 9

RIPARIAN PLANTING

CAREX UNILATERALIS	ONE-SIDED SEDGE	= 17% PLUGS	6" O.C.
CAREX DEWEYANA	DEWEY SEDGE	= 17% PLUGS	6" O.C.
DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	= 17% 4" POTS	12"O.C.
ELYMUS GLAUCUS	BLUE WILD RYE	= 17% PLUGS	6" O.C.
JUNCUS ENSIFOLIUS	DAGGERLEAF RUSH	= 17% 4" POTS	12"O.C.
POLYSTICHUM MUNITUM	SWORD FERN	= 15% 4" POTS	12" O.C.
CORNUS SERICEA	REDTWIG DOGWOOD	1 GAL	3' O.C. GROUPS 5, 7, & 9
PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	1 GAL.	3' O.C. GROUPS OF 5, 7, & 9
SPIRAEA DOUGLASII	DOUGLAS SPIREA	1 GAL.	3' O.C. GROUPS OF 5, 7, & 9
SYMPHORICARPUS ALBUS	COMMON SNOWBERRY	1 GAL.	3' O.C. GROUPS OF 5, 7, & 9

WET AREA MIX

ALISMA PLANTAGOUATICA	AMERICAN WATER PLANTAIN	= 10% PLUGS	6" O.C.
CAREX DENSA	DENSE SEDGE	= 20% PLUGS	6" O.C.
CAREX DEWEYANA	DEWEY SEDGE	= 20% PLUGS	6" O.C.
ELEOCHARIS PALUSTRIS	CREEPING SPIKE RUSH	= 20% 4" POTS	12" O.C.
GLYCERIA OCCIDENTALIS	WESTERN MANNAGRASS	= 20% PLUGS	6" O.C.
DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	= 10% PLUGS	6" O.C.

EXISTING BANK PLANTING - UPPER ZONE

LONICERA INVOLUCRATA	TWINBERRY	R.S..	30" O.C. GROUPS OF 3
RIBES SANGUINIUM	FLOWERING CURRENT	R.S.	30" O.C. GROUPS OF 3
SPIRAEA DOUGLASII	DOUGLAS SPIREA	1 GAL.	30" O.C. GROUPS OF 3, 5, & 7
SYMPHORICARPUS ALBUS	COMMON SNOWBERRY	1 GAL.	30" O.C. GROUPS OF 3

EXISTING BANK PLANTING - LOWER ZONE

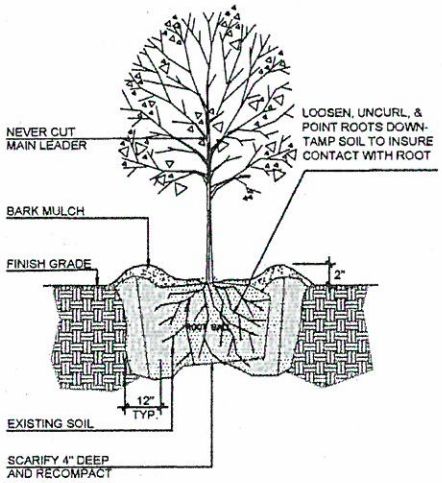
CORNUS SERICEA	REDTWIG DOGWOOD	R.S.	2' O.C. GROUPS 5, 7, & 9
PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	R.S..	2' O.C. GROUPS 5, 7, & 9
MYRICA GALE	PACIFIC BAYBERRY	R.S.	2' O.C. GROUPS 5, 7, & 9

SEED MIX FOR EXISTING BANK PLANTING - LOWER AND UPPER ZONES

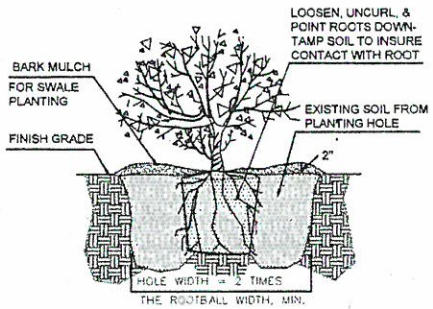
ELYMUS GLAUCUS	BLUE WILDRYE	60% OF MIX	PLANT SEED MIX AT A RATE OF
FESTUCA RUBRA RUBRA	NATIVE RED FESCUE	30%	2 POUNDS / 1000 S.F.
BROMUS CARINATUS	CALIFORNIA BROME	10%	

EXISTNG UNDERSTORY PLANTING -

LONICERA INVOLUCRATA	TWINBERRY	1 GAL.	4' O.C. GROUPS 3
ROSA PISOCARPA	PEAFRUIT ROSE	1 GAL..	3' O.C. GROUPS OF 3
ATHYRIUM FILIX-FEMINA VAR. CYCLOSORUM	LADY FERN	4" POTS	2' O.C. GROUPS OF 3 & 5



1 DECIDUOUS TREE PLANTING & STAKING



2 SHRUB PLANTING

NOTES:

PLANT MATERIALS MUST BE NATIVE AND SELECTED FROM THE PORTLAND PLANT LIST. THEY MUST BE NON-CLONAL IN ORIGIN, SEED SOURCE MUST BE AS LOCAL AS POSSIBLE AND PLANTS MUST BE NURSERY PROPAGATED UNLESS TRANSPLANTED FROM ON-SITE AREAS APPROVED FOR DISTURBANCE.

PROTECT EXISTING NATIVE PLANT MATERIAL. CONTACT LANDSCAPE ARCHITECT FOR LIST OF EXISTING NATIVE PLANTS TO PROTECT.

PRIOR TO PLANT INSTALLATION, REMOVE NON-NATIVE, INVASIVE PLANTS SPECIES (INCLUDING BUT NOT LIMITED TO HIMALAYAN BLACKBERRY, REED CANARY GRASS, AND CANADIAN THISTLE) FROM ALL AREAS WITHIN 10 FEET OF THE PLANTING AREA, USING HANDHELD EQUIPMENT.

THE PLANT MATERIALS ARE TO BE USED FOR RESTORATION PURPOSES. STANDARD NURSERY PRACTICES FOR GROWING LANDSCAPE PLANTS, SUCH AS USE OF PESTICIDES, FUNGICIDES, OR FERTILIZERS AND THE STAKING OF TREES, MUST NOT BE EMPLOYED.

REMOVE PLANTS FROM POTS AND LOOSEN, UNWIND, AND TRIM ROOTS. REMOVE ENOUGH POTTING SOIL TO ENSURE THAT ROOTS ARE IN CONTACT WITH EXISTING SOIL.

PLANT MATERIAL SHALL BE PLACED SO THAT ROOT COLLARS ARE EVEN WITH THE GROUND AND THE PLANT IS UPRIGHT.

PLANT MATERIAL MUST BE SUPPORTED ONLY WHEN NECESSARY DUE TO EXTREME WINDS AT THE PLANTING SITE. WHERE SUPPORT IS NECESSARY, STAKES, GUY WIRES OR OTHER MEASURES MUST BE REMOVED AS SOON AS THE PLANT CAN SUPPORT ITSELF.

ENSURE THAT THE EXISTING TEMPORARY IRRIGATION SYSTEM WILL ADEQUATELY PROVIDE WATER FOR THE NEW PLANTS. THE PLANT MATERIAL SHOULD RECEIVE REGULAR WATERING DURING THE FIRST GROWING SEASON. AFTER THE INITIAL SEASON, WATERING SHALL OCCUR AS NEEDED TO ENSURE PLANTS SURVIVAL UNTIL FULLY ESTABLISHED.

REMOVE A TWO FOOT DIAMETER AREA OF WEEDS AND DUFF AROUND EACH PLANTING HOLE. PLACE 2 INCHES OF MEDIUM GRADE FIR BARK MULCH AROUND THE PLANT IN THE UPPER SLOPES OF THE INFILTRATION SWALE. DO NOT PLACE MULCH AGAINST THE PLANT'S TRUNK.

Joyce.Jackson-LA.COM
Flowing solutions
Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone (503) 297-6331
Fax (503) 297-6053

SHEET TITLE: LANDSCAPE DETIALS		DATE: 10/2/12
PROJECT: CEDAR OAK PUBLIC LAUNCH RAMP NIXON AVE & ELMRAN DR WEST LINN, OR 97068		SCALE: NTS
RIVER/MILE: WILLAMETTE, RM 23.2	DATUM: NGVD	SHEET: 10/10

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
☎ 503-986-5200

Permit No.:	**47263-RF Renewal**
Permit Type:	**Removal/Fill**
Waterway:	**Willamette River**
County:	**Clackamas**
Expiration Date:	**October 6, 2016**

CITY OF WEST LINN PARKS AND RECREATION

IS AUTHORIZED IN ACCORDANCE WITH ORS 196.800 TO 196.990 TO PERFORM THE OPERATIONS DESCRIBED IN THE ATTACHED COPY OF THE APPLICATION, SUBJECT TO THE SPECIAL CONDITIONS LISTED ON ATTACHMENT A AND TO THE FOLLOWING GENERAL CONDITIONS:

1. This permit does not authorize trespass on the lands of others. The permit holder shall obtain all necessary access permits or rights-of-way before entering lands owned by another.
2. This permit does not authorize any work that is not in compliance with local zoning or other local, state, or federal regulation pertaining to the operations authorized by this permit. The permit holder is responsible for obtaining the necessary approvals and permits before proceeding under this permit.
3. All work done under this permit must comply with Oregon Administrative Rules, Chapter 340; Standards of Quality for Public Waters of Oregon. Specific water quality provisions for this project are set forth on Attachment A.
4. Violations of the terms and conditions of this permit are subject to administrative and/or legal action, which may result in revocation of the permit or damages. The permit holder is responsible for the activities of all contractors or other operators involved in work done at the site or under this permit.
5. Employees of the Department of State Lands and all duly authorized representatives of the Director shall be permitted access to the project area at all reasonable times for the purpose of inspecting work performed under this permit.
6. Any permit holder who objects to the conditions of this permit may request a hearing from the Director, in writing, within twenty-one (21) calendar days of the date this permit was issued.
7. In issuing this permit, the Department of State Lands makes no representation regarding the quality or adequacy of the permitted project design, materials, construction, or maintenance, except to approve the project's design and materials, as set forth in the permit application, as satisfying the resource protection, scenic, safety, recreation, and public access requirements of ORS Chapters 196, 390, and related administrative rules.
8. Permittee shall defend and hold harmless the State of Oregon, and its officers, agents, and employees from any claim, suit, or action for property damage or personal injury or death arising out of the design, material, construction, or maintenance of the permitted improvements.
9. Authorization from the U.S. Army Corps of Engineers may also be required.

NOTICE: If removal is from state-owned submerged and submersible land, the applicant must comply with leasing and royalty provisions of ORS 274.530. If the project involves creation of new lands by filling on state-owned submerged or submersible lands, you must comply with ORS 274.905 to 274.940. This permit does not relieve the permittee of an obligation to secure appropriate leases from the Department of State Lands, to conduct activities on state-owned submerged or submersible lands. Failure to comply with these requirements may result in civil or criminal liability. For more information about these requirements, please contact the Department of State Lands, 503-986-5200.

Anita Huffman, Aquatic Resource Coordinator
Aquatic Resource Management
Oregon Department of State Lands

Authorized Signature

September 17, 2015
Date Issued

ATTACHMENT A

Permittee: City of West Linn Parks & Recreation

Special Conditions for Removal/Fill Permit No. 47263-RF

READ AND BECOME FAMILIAR WITH CONDITIONS OF YOUR PERMIT.

The project site may be inspected by the Department of State Lands (DSL) as part of our monitoring program. DSL has the right to stop or modify the project at any time if you are not in compliance with these conditions. A copy of this permit shall be available at the work site whenever authorized operations are being conducted.

1. **Authorization to Conduct Removal and/or Fill:** This permit authorizes the placement of up to 9500 cubic yards and removal of up to 200 cubic yards of material in T02S R01E Section 13, Tax Lot 200, Willamette River, Clackamas County, as described in the attached permit application, map and drawings, received May 23, 2011. In the event information in the application conflicts with these permit conditions, the permit conditions prevail.

2. **Work Period in Jurisdictional Areas:** Fill or removal activities below the ordinary high water elevation of the Willamette River shall be conducted between July 1 and October 31, unless otherwise coordinated with Oregon Department of Fish and Wildlife and approved in writing by DSL.

3. **Authorization to Conduct Compensatory Mitigation:** This permit also authorizes removal and fill activities necessary to complete the required compensatory mitigation.

4. **Changes to the Project or Inconsistent Requirements from Other Permits:** It is the permittee's responsibility to ensure that all state, federal and local permits are consistent and compatible with the final approved project plans and the project as executed. Any changes made in project design, implementation and/or operating conditions to comply with conditions imposed by other permits must be approved by DSL prior to implementation.

5. **DSL May Halt or Modify:** DSL retains the authority to temporarily halt or modify the project in case of unforeseen damage to natural resources.

6. **DSL May Modify Conditions Upon Permit Renewal:** DSL retains the authority to modify conditions upon renewal, as appropriate, pursuant to the applicable rules in effect at the time of the request for renewal or to protect waters of this state.

Pre-Construction

7. **Local Government Approval Required Before Beginning Work:** Issuance of this permit is contingent upon acquisition of a Development permit from the City of West Linn.

8. **Stormwater Management Approval Required Before Beginning Work:** Issuance of the permit is contingent upon acquisition of a National Pollution Discharge Elimination System (NPDES) permit from the Oregon Department of Environmental Quality.

9. **Pre-construction Resource Area Flagging:** Before any site grading, the surveyed boundaries of the avoided riparian area shall be surrounded by bright orange construction fencing, which shall be maintained during construction of the project. There shall be no heavy equipment within fenced areas, except during mitigation construction.

General Construction Conditions

10. **Water Quality Certification:** The Department of Environmental Quality (DEQ) may evaluate this project for a Clean Water Act Section 401 Water Quality Certification (WQC). If the evaluation results in issuance of a Section 401 WQC, that turbidity condition will govern any allowable turbidity exceedance and monitoring requirements.

11. **Erosion Control Methods:** The following erosion control measures (and others as appropriate) shall be installed prior to construction and maintained during and after construction as appropriate, to prevent erosion and minimize movement of soil into waters of this state.

    a. All exposed soils shall be stabilized during and after construction in order to prevent erosion and sedimentation.
    b. Filter bags, sediment fences, sediment traps or catch basins, leave strips or berms, or other measures shall be used to prevent movement of soil into waterways and wetlands.
    c. To prevent erosion, use of compost berms, impervious materials or other equally effective methods, shall be used to protect soil stockpiled during rain events or when the stockpile site is not moved or reshaped for more than 48 hours.
    d. Unless part of the authorized permanent fill, all construction access points through, and staging areas in, riparian and wetland areas shall use removable pads or mats to prevent soil compaction. However, in some wetland areas under dry summer conditions, this requirement may be waived upon approval by DSL. At project completion, disturbed areas with soil exposed by construction activities shall be stabilized by mulching and native vegetative plantings/seeding. Sterile grass may be used instead of native vegetation for temporary sediment control. If soils are to remain exposed more than seven days after completion of the permitted work, they shall be covered with erosion control pads, mats or similar erosion control devices until vegetative stabilization is installed.
    e. Where vegetation is used for erosion control on slopes steeper than 2:1, tackified seed mulch shall be used so the seed does not wash away before germination and rooting.
    f. Dredged or other excavated material shall be placed on upland areas having stable slopes and shall be prevented from eroding back into waterways and wetlands.
    g. Erosion control measures shall be inspected and maintained as necessary to ensure their continued effectiveness until soils become stabilized.
    h. All erosion control structures shall be removed when the project is complete and soils are stabilized and vegetated.

12. **Hazardous, Toxic, and Waste Material Handling:** Petroleum products, chemicals, fresh cement, sandblasted material and chipped paint, wood treated with leachable preservatives or other deleterious waste materials shall not be allowed to enter waters of this state. Machinery refueling is to occur at least 150 feet from waters of this state and confined in a designated

area to prevent spillage into waters of this state. Barges shall have containment system to effectively prevent petroleum products or other deleterious material from entering waters of this state. Project-related spills into waters of this state or onto land with a potential to enter waters of this state shall be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311.

13. **Federally Listed Endangered or Threatened Species:** When listed species are present, the authorization holder must comply with the Federal Endangered Species Act. If previously unknown listed species are encountered during construction, all construction activity shall immediately cease and the permit holder must contact DSL.

14. **Archaeological Resources**: If any archaeological resources and/or artifacts are encountered during construction, all construction activity shall immediately cease. The State Historic Preservation Office shall be contacted at 503-986-0674.

15. **Hazards to Recreation, Navigation or Fishing:** The activity shall be timed so as not to interfere with or create a hazard to recreational or commercial navigation or fishing.

16. **Construction Corridor:** There shall be no removal of vegetation or heavy equipment operating or traversing outside the designated construction corridor or footprint (Figure 4).

17. **Work Area Isolation:** The work area shall be isolated from the water during construction according to the Work Area Isolation Plan contained in the application. All structures and materials used to isolate the work area shall be removed immediately following construction and water flow returned to pre-construction conditions.

18. **Temporary Ground Disturbances:** All temporarily disturbed areas shall be returned to original ground contours at project completion, as proposed in the Site Restoration Plan in the application.

19. **Site Restoration Required:** Site restoration for the slopes along the fill area shown in Figure 9, shall be conducted according to the rehabilitation plan included with the application. Failure to implement the rehabilitation plan may result in additional compensatory mitigation.

20. **Operation of Equipment in the Water Prohibited:** There shall be no operation of equipment in the water. Work in the waterway shall be conducted from top of the bank.

21. **Fish Passage Required:** The project shall meet Oregon Department of Fish and Wildlife requirements for fish passage.

22. **Riprap Placement Methods:** Riprap/rock shall be placed under the following conditions:

    a. Only clean, erosion resistant rock from an upland source shall be used as riprap. No broken concrete or asphalt shall be used.
    b. Riprap rock shall be placed in a manner that does not increase the upland surface area.
    c. Riprap shall be placed in a way as to minimize impacts to the active stream channel.
    d. Gravel or filter fabric should be placed behind the riprap rock, including the toe trench rock, as a filter blanket.

e. All riprap rock shall be placed, not dumped, from above the bank line.

Pilings/Dock Structures

23. **Piling Placement and/or Removal Location:** Piling shall be placed and/or removed from locations depicted in the Application, Figure 4.

24. **Method of Piling Placement**: Pilings must be placed by means of impact or vibratory methods or removed (to the extent regulated as material pursuant to OAR 141-085-0010(125)) by means of vibratory method only.

25. **Method of Piling Removal:** Removal of pile shall be conducted by means of vibratory removal.

26. **Backfilling after Piling Removal Required:** The area vacated from structure removal must by backfilled with native material upon removal completion.

27. **Piling Placement Equipment Location:** Pilings must be placed using equipment located above top-of-bank.

28. **Sound Reduction:** Sound reduction measures, such as vibration dampeners and bubble curtains, shall be used during piling installation.

29. **Dock Light Penetration:** The dock shall be designed to allow at least 60% light penetration.

30. **Barge Grounding Prohibited:** If barge-mounted, the barge shall not at any time be grounded on the bed or banks of the waterway.

31. **Creosote Prohibited:** There shall be no wood products treated with creosote or other leachable preservatives in the new structure.

32. **Waste Pilings Disposal:** Old piling and other waste material shall be disposed of in a disposal facility approved for this purpose. There shall be no temporary storage of piling or other waste material below top of bank or in any wetland, Federal Emergency Management Administration designated floodway, or an area historically subject to landslides.

33. **Anti-Perching Devises Required:** Pilings must be fitted with devices to effectively prevent perching by fish eating bird species.

Renewal Issued: September 17, 2015