Attachment 1: Application and Supplemental Information

TYPE II APPLICATION – LAND USE

File #: DR22-0014/MISC22-0006/MISC22-0007

TYPES – PLEASE CHECK ONE:

- ☐ **Design review**
- ☐ **Tentative Plan for Partition**
- ☐ **Tentative Plan for Subdivision**
- ☐ **Type II Major Modification**
- ☐ **Variance** _____
- ☒ **Other: (Explain)** Design Review Type II
  Stream Corridor Type II; Flood Hazard Permit Type II

APPLICANT INFORMATION:

APPLICANT: NV5 Inc. - Jon Champlin
ADDRESS: 9450 SW Commerce Circle, Suite 300, Wilsonville, OR 97070
EMAIL ADDRESS: jon.champlin@nv5.com
PHONE: 503-372-3637 MOBILE: 620-515-3916 FAX: _____
OWNER (if different from above): Chehalem Park & Recreation District - Casey Creighton PHONE: 503-519-6154
ADDRESS: 125 S Elliot Rd, Newberg, OR 97132
ENGINEER/SURVEYOR: NV5 Inc. PHONE: 503-372-3637
ADDRESS: 9450 SW Commerce Circle, Suite 300, Wilsonville, OR 97070

GENERAL INFORMATION:

PROJECT NAME: Ewing Young Park Footbridge PROJECT LOCATION: Ewing Young Park, 1201 S Blaine St
PROJECT DESCRIPTION/USE: Bridge across Chehalem Creek within the park. PROJECT VALUATION: +/- $150,000
MAP/TAX LOT NO. (i.e.3200AB-400): 3S 2W 19 - 00700 ZONE: CF/RD SITE SIZE: 23.82 SQ. FT. ☐ ACRE ☒
COMP PLAN DESIGNATION: P/RD Parks Riverfront District TOPOGRAPHY: Stream banks
CURRENT USE: Park.
SURROUNDING USES:
NORTH: Residential (incorporated) SOUTH: Park and Residential(incorporated)
EAST: Park WEST: Unincorporated Yamhill County

SPECIFIC PROJECT CRITERIA AND REQUIREMENTS ARE ATTACHED

General Checklist: ☐ Fees ☐ Public Notice Information ☐ Current Title Report ☐ Written Criteria Response ☐ Owner Signature

For detailed checklists, applicable criteria for the written criteria response, and number of copies per application type, turn to:

The above statements and information herein contained are in all respects true, complete, and correct to the best of my knowledge and belief. Tentative plans must substantially conform to all standards, regulations, and procedures officially adopted by the City of Newberg. All owners must sign the application or submit letters of consent. Incomplete or missing information may delay the approval process.

Jon Champlin 12/20/2022
Applicant Signature Date

Jon Champlin
Print Name

Casey Creighton 12/20/2022
Owner Signature Date

CASEY CREIGHTON
Print Name

Ewing Young Park Footbridge

Land Use Application

Newberg Community Development Planning Division
Newberg, Oregon

Prepared For:
Chehalem Park & Recreation District
125 S Elliot Rd
Newberg, OR 97132
Contact: Casey Creighton
Phone: 503.519.6154
Email: ccreighton@cprdnewberg.org

Prepared By:
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December, 2022

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A.
Introduction

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5. **Application Fee Calculation**

1. Development Team Members:

Listed below is a summary of the development team members for the **Ewing Young Park Footbridge** proposal.

Applicant and Owner:	**Chehalem Park & Recreation District** 125 S Elliot Rd Newberg, OR 97132 Contact: Casey Creighton Telephone: 503.519.6154 Email: ccreighton@cprdnewberg.org
Applicants Representative/Landscape Architect:	**NV5 Inc.** 9450 SW Commerce Circle, Ste #300 Wilsonville, OR 97070 Contact: Jon Champlin, RLA Telephone: 503.372.3637 Email: jon.champlin@nv5.com
Civil Engineering:	**NV5 Inc.** 9450 SW Commerce Circle, Ste #300 Wilsonville, OR 97070 Contact: Tyler Ott, PE Telephone: 503.372.3765 Email: tylor.ott@nv5.com

2. Property and Zoning Summary

Legal Description:	Map 3S 2W 19D; tax lot 00700
Size:	Approximately 23.82 Acres
Zoning:	CF/RD (Community Facility/Riverfront District)

3. Applicants Written Statement

The applicant is requesting Design Review – Type II, Stream Corridor – Type II, and Flood Hazard Permit – Type II approval for a footbridge across Chehalem Creek within Ewing Young Park. The east end of the footbridge will connect to a trail system within the existing park, and will extend over Chehalem Creek to provide access to the west side of the creek. The total preliminary length of the footbridge will be approximately 95 feet. The proposed footbridge will be entirely within property owned by Chehalem Park & Recreation District (CPRD), and will follow the alignment shown on the Ewing Young Park Master Plan dated April 4, 2018.

The table of contents of this application outlines all the application criteria, exhibit drawings and appendices submitted for review and approval. Please refer to the application text and drawings for more detailed information regarding the project.

4. Land Use Reviews Requested

The City of Newberg Zoning Code Standards identify various procedural reviews based upon the type of land use action being requested. For this application, the Applicant is requesting approvals of a Design Review, Stream Corridor, and Flood Hazard Permit, which is considered a Type II Review.

Land Use Classifications	Type
Design Review	II
Stream Corridor	II
Flood Hazard Permit	II

5. Application Fee Calculation:

Based on the City's Fee Schedule (Effective April 1, 2022), the following fees are applicable to the application submittal. The total project construction cost is expected to be between $120,000 and $150,000, and disturbed area is expected to be less than 500 square feet.

Land Use Fees	Fee
Type II Design Review	$954.00
Type II Stream Corridor	$954.00
Type II Flood Hazard Permit	$954.00
Engineering Land Use Fees	$433.62
Technology Fee (5% of Permit Amount)	$164.78
Total	**$3,460.40**

B
Applicable Development Code Standards

The following section responds to the City of Newberg Development Code requirements for the ***Ewing Young Park Footbridge*** development proposal.

Code section responses include:

B – Applicable Development Code Standards Section

Applicable Development Code Narrative

The following information responds to the City of Newberg Development Code requirements in regards to the proposed ***Ewing Young Park Footbridge*****.** Responses to individual sections are highlighted in bold for each applicable development standard criterion.

Chapter 15
DEVELOPMENT CODE

Division 15.100 Land Use Processes and Procedures

15.100.020 Type I procedure – Administrative decision.

A. Type I development actions shall be decided by the director without public notice or public hearing. Notice of a decision shall be provided to the applicant.

B. Type I actions include, but are not limited to:

1. Design review permits for single-family dwellings, duplex dwellings, triplex dwellings, quadplex dwellings, townhouses, cottage cluster projects, additions, accessory dwelling units, accessory structures, or other additions specifically listed in NMC 15.220.020(A)(1).

2. Home occupation permits.

3. Signs, not in conjunction with a new development or major remodel.

4. Adjustments.

5. Processing final land division maps and plats.

6. Determining compliance with the conditions of approval for a land use action processed under a Type II or Type III procedure.

C. A Type I decision may be appealed by an affected party, Type I, in accordance with NMC 15.100.160 et seq.

D. The director shall make a decision based on the information presented, and shall issue a development permit if the applicant has complied with all of the relevant requirements of the Newberg comprehensive plan and this code. The director may add conditions to the permit to ensure compliance with all requirements of this code, the comprehensive plan and other relevant policies and regulations.#

RESPONSE: The proposed development does not include any of the listed uses, therefore, this Code section does not apply.

15.100.030 Type II procedure.

A. Type II development actions shall be decided by the director.

B. Type II actions include, but are not limited to:

1. Site design review.

2. Variances.
3. Manufactured dwelling parks and mobile home parks.
4. Partitions.
5. Subdivisions, except for subdivisions with certain conditions requiring them to be processed using the Type III process, pursuant to NMC 15.235.030(A).

C. The applicant shall provide notice pursuant to the requirements of NMC 15.100.200 et seq.

D. The director shall make a decision based on the information presented and shall issue a development permit if the applicant has complied with all of the relevant requirements of this code. The director may add conditions to the permit to ensure compliance with all requirements of this code.

E. Appeals may be made by an affected party, Type II, in accordance with NMC 15.100.160 et seq. All Type II development action appeals shall be heard and decided by the planning commission.

F. If the director's decision is appealed as provided in subsection (E) of this section, the hearing shall be conducted pursuant to the Type III quasi-judicial hearing procedures as identified in NMC 15.100.050.

G. The decision of the planning commission on any appeal may be further appealed to the city council by an affected party, Type III, in accordance with NMC 15.100.160 et seq. and shall be a review of the record supplemented by written or oral arguments relevant to the record presented by the parties.

H. An applicant shall have the option to request at the time the development permit application is submitted that the proposal be reviewed under the Type III procedure.

RESPONSE: This application includes a Design Review, Stream Corridor, and Flood Hazard Permit, and is, therefore, a Type II application. The Applicant acknowledges that the procedures listed in this section shall apply to this application.

15.100.140 Permit decision - Type II.

A. The director shall approve or deny the development permit for a Type II action within 60 days of accepting a complete permit application, unless it is a subdivision which has been converted to a Type III process pursuant to NMC 15.235.030(A).

B. The applicant shall provide notice pursuant to NMC 15.100.200 et seq. together with a 14-day comment period for the submission of written comments prior to the decision.

C. The decision of the director shall be based upon the application, the evidence, comments from referral agencies, and approvals required by others.

D. The director shall notify the applicant and others entitled to notice of the disposition of the application. The notice shall indicate the date that the decision will take effect and describe the right of appeal pursuant to NMC 15.100.160 et seq. A decision on a Type II development shall take effect on the fifteenth day following the notice of a decision unless an appeal is filed pursuant to NMC 15.100.160 et seq.

E. Approval or denial of a Type II development permit application shall be accompanied by written findings that explain the criteria, facts and justification for the decision.

F. The director shall approve a permit application if applicable approvals by others have been granted and the proposed development or land use request otherwise conforms to the requirements of this code. The director may add conditions to the permit to ensure compliance with all requirements of this code.

G. The director shall deny the permit application if required approvals are not obtained or the application otherwise fails to comply with code requirements.

H. Notice of approval or denial of a Type II decision shall be provided to the applicant, parties providing written testimony, or anyone requesting such notice. Notice shall include a description of the item, the decision, conditions that may have been added, and the rights of appeal.

I. Type II applications are required to be reviewed under the Type III procedures at the request of the applicant, or the application is a subdivision which has been converted to a Type III process pursuant to NMC 15.235.030(A), or through an appeal of the director's decision. Type II development permit applications that require a Type III procedure must conclude the hearing procedure before a land use or construction permit application can be considered to be complete by the director. Upon receiving a final decision by the hearing body on a Type III application, the subsequent review of a permit application may be reviewed by the director as a Type I process.

RESPONSE: This application includes a Design Review, Stream Corridor, and Flood Hazard Permit, and is, therefore, a Type II application. The Applicant acknowledges that the procedures listed in this section shall apply to this application.

15.100.160 Appeal procedures.

A. Type I. An appeal of a Type I decision by the director may be appealed within 14 calendar days of the date of the decision by the director. Appeals may be made only by an affected party, Type I (the person or party submitting the application). Appeals of a Type I application are processed as a Type III procedure and proceed to the planning commission.

B. Type II. An appeal of a Type II decision by the director may be appealed within 14 calendar days of the date of the decision. Appeals may be made only by an affected party, Type II (the applicant, any party entitled to receive notice of the decision, or anyone providing written comments within 14 calendar days prior to the date of the decision). Appeals of a Type II application are processed as a Type III procedure and proceed to the planning commission.

C. Type III. An appeal of a Type III decision by the planning commission may be appealed within 14 calendar days of the date of the planning commission's written decision. Appeals may be made only by an affected party, Type III.

RESPONSE: This application includes a Design Review, Stream Corridor, and Flood Hazard Permit, and is, therefore, a Type II application. The Applicant acknowledges that the procedures listed in this section shall apply to this application.

15.100.170 Notice of appeal – Type I, II, and III.

A. An appeal for Type I, II, and III decisions shall include an identification of the decision sought to be reviewed, the date of the decision and shall be accompanied by a notice of appeal form provided by the planning and building department. The notice of appeal shall be completed by the applicant and shall contain:

   1. An identification of the decision sought to be reviewed, including the date of the decision.

   2. A statement of the interest of the person seeking review and that they were a party to the initial proceedings.

   3. A detailed statement of the specific grounds on which the appeal is filed.

B. Notice shall be filed with the community development department together with the filing fee and deposit for transcript costs.

RESPONSE: This application includes a Design Review, Stream Corridor, and Flood Hazard Permit, and is, therefore, a Type II application. The Applicant acknowledges that the procedures listed in this section shall apply to this application.

15.100.200 Compliance required.

Notice on all Type I through Type IV actions, including appeals, shall be conducted in accordance with this article.

15.100.210 Mailed notice.

Mailed notice shall be provided as follows:

A. Type I Actions. No public notice is required.

B. Type II and Type III Actions. The applicant shall provide public notice to:

   1. The owner of the site for which the application is made; and

   2. Owners of property within 500 feet of the entire site for which the application is made. The list shall be compiled from the most recent property tax assessment roll. For purposes of review, this requirement shall be deemed met when the applicant can provide an affidavit or other certification that such notice was deposited in the mail or personally delivered.

   3. To the owner of a public use airport, subject to the provisions of ORS 215.416 or 227.175.

C. The director may request that the applicant provide notice to people other than those required in this section if the director believes they are affected or otherwise represent an interest that may be affected by the proposed development. This includes, but is not limited to, neighborhood associations, other governmental agencies, or other parties the director believes may be affected by the decision.

D. The director shall provide the applicant with the following information regarding the mailing of notice:

   1. The latest date by which the notice must be mailed;

   2. An affidavit of mailing (to be signed and returned) certifying that the notice was mailed, acknowledging that a failure to mail the notice in a timely manner

constitutes an agreement by the applicant to defer the 120-day process limit and acknowledging that failure to mail will result in the automatic postponement of a decision on the application; and

3. A sample notice.

E. The notice of a Type II and Type III development application shall be reasonably calculated to give actual notice and shall:

1. Set forth the street address or other easily understood geographical reference to the subject property;

2. List, by commonly used citation, the applicable criteria for the decision;

3. Include the name and phone number of a local government contact person, the telephone number where additional information may be obtained and where information may be examined;

4. Explain the nature of the application and the proposed use or uses which could be authorized;

5. State that a copy of the application, all documents and evidence relied upon by the applicant and applicable criteria are available for inspection at no cost and will be provided at a reasonable cost.

F. Prior to mailing or posting any notice required by this code, the applicant shall submit a copy of the notice to the director.

G. The applicant shall mail the notice for Type II actions at least 14 days before a decision is rendered. The applicant shall file with the director an affidavit of mailing as identified in subsection (D) of this section within two business days after notice is mailed.

H. The applicant shall mail the notice for Type III actions at least 20 days before the first new hearing, or if two or more new hearings are allowed, 10 days before the first new hearing. The applicant shall file with the director an affidavit of mailing as identified in subsection (D) of this section within two business days after notice is mailed.

I. All public notices shall be deemed to have been provided or received upon the date the notice is deposited in the mail or personally delivered, whichever occurs first. The failure of a property owner to receive notice shall not invalidate an action if a good faith attempt was made to notify all persons entitled to notice. An affidavit of mailing issued by the person conducting the mailing shall be conclusive evidence of a good faith attempt to contact all persons listed in the affidavit.

J. Failure to mail the notice and affirm that the mailing was completed in conformance with the code shall result in:

1. Postponement of a decision until the mailing requirements have been met; or

2. Postponement of the hearing to the next regularly scheduled meeting or to such other meeting as may be available for the hearing; or

3. The entire process being invalidated; or

4. Denial of the application.

RESPONSE: The Applicant will provide mailed noticed as required by this section, along with the required affidavit. A mailing list (Appendix 7) and sample notice (Appendix 8) are included in this application.

15.100.220 Additional notice procedures of Type II development applications.

In addition to the requirements of NMC 15.100.210, mailed notice for development actions shall also contain the following:

A. Provide a 14-day period from the date of mailing for the submission of written comments prior to the decision;

B. State that issues that may provide a basis for appeal must be raised in writing during the comment period;

C. State that issues must be raised with sufficient specificity to enable the local government to respond to the issue;

D. State the place, date and time that comments are due;

E. State that notice of the decision, including an explanation of appeal rights, will be provided to any person who submits comments under subsection (A) of this section;

F. Briefly summarize the local decision-making process.

G. Type II notice for subdivisions shall also include a description of how an interested party may request a public hearing before the planning commission.

RESPONSE: The Applicant will provide mailed notice as required by this section. A mailing list and sample notice are included in Appendix 7 and Appendix 8.

15.100.370 Development permit required.

A. Except as excluded by NMC 15.100.380, no person may engage in or cause to occur a development without first obtaining a development permit through the procedures set forth in this code.

B. No person shall create a street or dedicate land to the public without first obtaining a development permit.

C. No land may be divided without first obtaining a development permit.

D. If a proposed development complies with the requirements of this code, the director shall issue a development permit.

E. Unless appealed, a decision on a development permit shall be final upon the expiration of the period provided for filing an appeal or, if appealed, upon a decision by the reviewing body.

RESPONSE: The Applicant confirms that no development shall occur without first obtaining a development permit through the procedures set forth in this code.

Division 15.200 Land Use Applications

15.205 Nonconforming Uses and Buildings

15.205.010 Purpose.

A. Within the zones established by this code, there exist lots, structures, and uses of land and structures which were lawful before this code was passed or amended, but which are now prohibited, regulated, or restricted under the terms of this code and amendments.

B. It is the intent of this code to permit these nonconformities until they are removed or abandoned, but not to encourage their survival. Such uses are declared by this code to be incompatible with permitted uses in the zones involved. It is further the intent of this code that nonconformities shall not be enlarged upon, significantly modified, expanded, or extended, except as provided for in this code.

C. To avoid undue hardship, nothing in this code shall be deemed to require changes in plans, construction, or use of any building on which a building permit in accordance with this code has been legally issued prior to the effective date of the ordinance codified in or amendment of this code, except that applications for extension of a building permit shall not be approved to exceed a period of one year from the date of adoption or amendment of this code.

RESPONSE: The existing site is undeveloped, with the exception of a bark mulch foot path, picnic tables, and disc golf baskets. There are no nonconforming uses or buildings located on the property, therefore, this Code section does not apply.

15.210 Code Adjustments

15.210.010 Adjustments, powers and duties.

Due to the inherent nature and limitation of the code, it is not possible to encompass all the different situations arising from the various properties treated by this code. The director may grant limited adjustments to the terms of this code when such adjustments are within the limitations and conditions contained in this section. These provisions shall be used sparingly within the purpose and intent of the code and the limitations shall not be exceeded under any circumstances.

RESPONSE: The proposed improvements will not require any adjustments to the Code, therefore, this Code section does not apply.

15.215 Variance Procedures

15.215.010 Purpose.

It is the intent that variances may be granted in order to prevent or to lessen practical difficulties and unnecessary physical hardships inconsistent with the objectives of this code as would result from a strict or literal interpretation of this code.

RESPONSE: The proposed improvements will not require a variance, therefore, this Code section does not apply.

15.220 Site Design Review

15.220.010 Purpose.

These provisions provide for the review and approval process of the design of certain developments and improvements in order to promote functional, safe and innovative site development compatible with the natural and manmade environment. The following

provisions are intended to discourage unsightly development, improve the quality of new development in the city, coordinate the site planning process with existing and proposed development, and provide a pleasant working and living environment in the city. Furthermore, these provisions are intended to coordinate the site development process through review of the architecture of the structure(s), signs, landscaping, and other design elements on the site.

15.220.020 Site design review applicability.

A. Applicability of Requirements. Site design review shall be required prior to issuance of building permits or commencement of work for all improvements noted below. Site design review permits shall be processed as either Type I or Type II, as noted below.

1. Type I.

a. Single-family dwellings;

b. Duplex dwellings;

c. Triplex dwellings;

d. Quadplex dwellings;

e. Townhouse dwellings;

f. Cottage cluster projects;

g. Institutional, commercial or industrial additions which do not exceed 1,000 square feet in gross floor area;

h. Multifamily additions which do not exceed 1,000 square feet in gross floor area and do not add any new units, or new construction incidental to the main use on an existing developed site which does not exceed 1,000 square feet in gross floor area and does not add any new units;

i. Institutional, commercial or industrial interior remodels which do not exceed 25 percent of the assessed valuation of the existing structure;

j. Multifamily remodels which do not exceed 25 percent of the assessed valuation of the existing structure and do not add any new units;

k. Signs which are not installed in conjunction with a new development or remodel;

l. Modifications, paving, landscaping, restriping, or regrading of an existing multifamily, institutional, commercial or industrial parking lot;

m. Fences and trash enclosures;

n. Accessory dwelling units.

2. Type II.

a. Any new development or remodel which is not specifically identified within subsection (A)(1) of this section.

b. Telecommunications facilities.

3. Exemptions to Type I and Type II Process. The following development activities are exempt from Type I or Type II standards:

    a. Replacement of an existing item such as a roof, floor, door, window or siding.

    b. Plumbing and/or mechanical alterations which are completely internal to an existing structure.

RESPONSE: The proposed improvements are not listed in the Type I review use, therefore, Type II site design review will apply for this application.

B. Development in Accord with Plans. Construction, site development, and landscaping shall be carried out in substantial accord with the plans, drawings, sketches, and other documents approved as part of a final decision on a site design review.

C. Site Design Review Time Limit. An approved site design review plan intended to be constructed in a single phase shall be valid for one year from the date of the notice of final decision. A building permit must be acquired within this time period or the design review approval shall terminate. The director under a Type I procedure may grant an extension for up to six months if the applicant files a request in writing prior to the expiration of the approval and demonstrates compliance with the following:

1. The land use designation of the property has not been changed since the initial design review approval; and

2. The applicable standards in this code which applied to the project have not changed.

RESPONSE: The proposed improvements are intended to be constructed in a single phase, therefore, the time limits of this section will apply for this application.

D. Phased Design Review Approval. If a site plan is approved to be constructed in phases, completion of each phase shall extend the expiration of the original design review approval by 12 months from the date of its expiration. Prior to the expiration of each phase, the applicant may apply for an extension to the phase which is about to expire through subsection (C) of this section. The extension of a phase under subsection (C) of this section shall also extend any subsequent phases. The total number of extensions shall not extend the original design review approval more than five years from its original approval date. An applicant with a project containing two or more phases may elect to submit a master site development plan, with the following options:

1. The applicant may provide all of the detailed information for a Type II site design review approval, per the requirements of NMC 15.220.030(B), for all phases of the project. Once the master site development plan is approved:

    a. Each subsequent phase of development is permitted outright upon a showing that the proposed phase is being constructed in substantial compliance with the approved plan. This review of substantial compliance will be undertaken by means of a Type I procedure. A phase of development will be considered to be within substantial compliance if the actual characteristics of the project, e.g., total gross square feet of development, employees, vehicle trips, parking spaces, are within five percent of those projected in the approved master site development plan; providing, that the project still is in compliance with all

applicable development standards in effect at the time of the approval, or existing applicable development standards, if these are less stringent than the standards in effect at the time of approval. In lieu of minor modifications by the five percent rule established above, the applicant may request minor adjustments through the administrative adjustment provisions in NMC 15.210.010 et seq.

b. If at the time of construction a subsequent phase of development is not in substantial compliance with the approved plan as defined above, the proposed changes will be subject to review by means of a Type II procedure, including any necessary variances to the applicable development standards in effect at the time of the new application. Those aspects of the phase which do not vary from the approved plan will be reviewed under the provisions of subsection (D)(1)(a) of this section, and not subject to the review required in this subsection.

2. Institutions and other large developments that anticipate significant development over time, but cannot provide detailed information about future projects or phases of development in advance, can develop a concept master site development plan which addresses generic site development and design elements including but not limited to general architectural standards and materials, landscaping standards and materials, on-site vehicular and pedestrian circulation, institutional sign program, and baseline traffic and parking studies and improvement programs. The applicant will be required to undergo Type II site design review, per the requirements of NMC 15.220.030(B), for each project or phase of development at the time of construction, including demonstration of substantial compliance with the generic development and design elements contained within the approved concept master site development plan. The more detailed and comprehensive the generic elements in the concept master site development plan are, the more reduced is the scope of discretionary review at the time of actual construction of a project or phase of development. For purposes of this subsection, "substantial compliance" will be defined as noted in subsection (D)(1)(a) of this section.

3. An applicant that submits a concept master site development plan which meets the requirements of subsection (D)(2) of this section may at the same time submit a master site development plan for one or more of the initial phases contained in the concept master site development plan, which are described in sufficient detail to receive complete design review approval in advance, under the provisions of subsection (D)(1) of this section. The concept master site development plan and master site development plan will be filed as separate applications but reviewed concurrently.

4. The approval(s) granted in this section shall be in effect as follows:

   a. Once a master site development plan has been approved, completion of each phase shall extend the expiration of the original site design review approval by 12 months from the date of its expiration. Prior to the expiration of each phase, the applicant may apply for an extension to the phase which is about to expire through subsection (C) of this section. The extension of a phase under subsection (C) of this section shall also extend to any subsequent phases. The total number of extensions shall not extend the original site design review approval by more than five years from its original approval date.

b. Institutions submitting a concept master site development plan shall be held to the same requirement provided in subsection (D)(2)(a) of this section, unless the plan specifically includes an expiration date. In no case shall a concept master site development plan cover a period exceeding 10 years.

RESPONSE: The proposed improvements will not be constructed in different phases, therefore, this Code section does not apply.

15.220.030 Site design review requirements.

B. Type II. The following information is required to be submitted with all Type II applications for site design review:

1. Site Development Plan. A site development plan shall be to scale and shall indicate the following as appropriate to the nature of the use:

a. Access to site from adjacent right-of-way, streets and arterials;

b. Parking and circulation areas;

c. Location and design of buildings and signs;

d. Orientation of windows and doors;

e. Entrances and exits;

f. Private and shared outdoor recreation spaces;

g. Pedestrian circulation;

h. Outdoor play areas;

i. Service areas for uses such as mail delivery, trash disposal, above-ground utilities, loading and delivery;

j. Areas to be landscaped;

k. Exterior lighting;

l. Special provisions for handicapped persons;

m. Other site elements and spaces which will assist in the evaluation of site development;

n. Proposed grading, slopes, and proposed drainage;

o. Location and access to utilities including hydrant locations; and

p. Streets, driveways, and sidewalks.

RESPONSE: The requirements of the Site Development Plan are provided in the Land Use Plan Set (Section C).

2. Site Analysis Diagram. A site analysis diagram shall be to scale and shall indicate the following characteristics on the site and within 100 feet of the site:

a. Relationship of adjacent lands;

b. Location of species of trees greater than four inches in diameter at four feet above ground level;

c. Existing and proposed topography;

d. Natural drainage and proposed drainage and grading;

e. Natural features and structures having a visual or other significant relationship with the site.

RESPONSE: The requirements of the Site Analysis Diagram are provided in Sheet L1.10 Existing Conditions Plan and L4.10 Grading Plan (Section C).

3. Architectural Drawings. Architectural drawings shall be prepared which identify floor plans and elevations.

RESPONSE: The proposed improvements do not include buildings, therefore, this Code section does not apply.

4. Landscape Plan. The landscape plan shall indicate:

   a. The size, species and approximate locations of plant materials to be retained or placed on the site together with a statement which indicates the mature size and canopy shape of all plant materials;

   b. Proposed site contouring; and

   c. A calculation of the percentage of the site to be landscaped.

RESPONSE: A Planting Plan is included on Sheet L5.10 (Section C), which meets the requirements of this section.

5. Special Needs for Handicapped. Where appropriate, the design review plan shall indicate compliance with handicapped accessibility requirements including, but not limited to, the location of handicapped parking spaces, the location of accessible routes from the entrance to the public way, and ramps for wheelchairs.

6. Existing Features and Natural Landscape. The plans shall indicate existing landscaping and existing grades. Existing trees or other features intended to be preserved or removed shall be indicated on the plans.

7. Drives, Parking and Circulation. Proposed vehicular and pedestrian circulation, parking spaces, parking aisles, and the location and number of access points shall be indicated on the plans. Dimensions shall be provided on the plans for parking aisles, back-up areas, and other items as appropriate.

8. Drainage. The direction and location of on- and off-site drainage shall be indicated on the plans. This shall include, but not be limited to, site drainage, parking lot drainage, size and location of storm drain lines, and any retention or detention facilities necessary for the project.

9. Buffering and Screening. Buffering and screening of areas, structures and facilities for storage, machinery and equipment, services (mail, refuse, utility wires, and the like), loading and parking and similar accessory areas and structures shall be shown on the plans.

10. Signs and Graphics. The location, colors, materials, and lighting of all exterior signs, graphics or other informational or directional features shall be shown on the plans.

11. Exterior Lighting. Exterior lighting within the design review plan shall be indicated on the plans. The direction of the lighting, size and type of fixtures, and an indication of the amount of lighting shall be shown on the plans.

12. Trash and Refuse Storage. All trash or refuse storage areas, along with appropriate screening, shall be indicated on the plans. Refuse storage areas must be constructed of brick, concrete block or other similar products as approved by the director.

13. Roadways and Utilities. The proposed plans shall indicate any public improvements that will be constructed as part of the project, including, but not limited to, roadway and utility improvements.

RESPONSE: The Land Use Plan Set (Section C), provides information which meets the requirements of sections 15.220.030, B5-13, including existing features and natural landscape, and drainage.

14. Traffic Study. A traffic study shall be submitted for any project that generates in excess of 40 trips per p.m. peak hour. This requirement may be waived by the director when a determination is made that a previous traffic study adequately addresses the proposal and/or when off-site and frontage improvements have already been completed which adequately mitigate any traffic impacts and/or the proposed use is not in a location which is adjacent to an intersection which is functioning at a poor level of service. A traffic study may be required by the director for projects below 40 trips per p.m. peak hour where the use is located immediately adjacent to an intersection functioning at a poor level of service. The traffic study shall be conducted according to the City of Newberg design standards.

RESPONSE: The proposed footbridge will not, in and of itself, generate any additional trips to the site since it is merely providing access to an additional open space within the park. That open space will be used to expand the park's system of bark mulch foot paths and 6 additional disc golf holes. The Institute of Transportation Engineers (ITE) Trip Generation Handbook, Trip Generation Rates – 10th Edition, shows that public parks will generate 0.11 trips per acre. The 11 acres of newly accessible open space will therefore generate 1.2 p.m. peak hour trips more than the existing park. This rate is far below the 40 trips per p.m. peak hour, so a traffic study is not provided with this application.

15.220.050 Criteria for design review.

B. Type II. The following criteria are required to be met in order to approve a Type II design review request:

1. Design Compatibility. The proposed design review request incorporates an architectural design which is compatible with and/or superior to existing or proposed uses and structures in the surrounding area. This shall include, but not be limited to, building architecture, materials, colors, roof design, landscape design, and signage.

RESPONSE: The proposed footbridge has not been fully designed yet, but will be simple in shape and size. At approximately 95 feet long, 8 feet wide, with a 48 inch-tall handrail, it will be compatible with similar footbridges in the surrounding area. The material of the bridge structure, railings, and decking will be either wood or

weathered-steel, both of which are brown in color and will blend in nicely with the wooded surroundings during all seasons.

2. Parking and On-Site Circulation. Parking areas shall meet the requirements of NMC 15.440.010. Parking studies may be required to determine if adequate parking and circulation are provided for uses not specifically identified in NMC 15.440.010. Provisions shall be made to provide efficient and adequate on-site circulation without using the public streets as part of the parking lot circulation pattern. Parking areas shall be designed so that vehicles can efficiently enter and exit the public streets with a minimum impact on the functioning of the public street.

RESPONSE: The existing park includes an informal gravel parking lot which provides approximately 84 parking spaces. As discussed previously in this narrative, the proposed improvements will provide access to 11 acres of open space west of Chehalem Creek, which will generate up to 1.2 p.m. peak hour trips more than the existing park. Since the existing gravel parking lot adequately serves the needs of the existing park, and the proposed improvements will not overly increase parking needs, no new parking is proposed as part of this application.

3. Setbacks and General Requirements. The proposal shall comply with NMC 15.415.010 through 15.415.060 dealing with height restrictions and public access; and NMC 15.405.010 through 15.405.040 and 15.410.010 through 15.410.070 dealing with setbacks, coverage, vision clearance, and yard requirements.

RESPONSE: The Land Use Plan Set (Section C) provides information which meets the requirements of sections 15.415.010 through 15.415.060, 15.405.010 through 15.405.040, and 15.410.010 through 15.410.070.

4. Landscaping Requirements. The proposal shall comply with NMC 15.420.010 dealing with landscape requirements and landscape screening.

RESPONSE: The Land Use Plan Set (Section C) includes Sheet L5.10 Planting Plan that provides information which meets the requirements of section 15.420.010.

5. Signs. Signs shall comply with NMC 15.435.010 et seq. dealing with signs.

RESPONSE: The proposed improvements do not include signs, therefore, this Code section does not apply.

6. Manufactured Dwelling, Mobile Home and RV Parks. Manufactured dwelling and mobile home parks shall also comply with the standards listed in NMC 15.445.075 through 15.445.100 in addition to the other clear and objective criteria listed in this section. RV parks also shall comply with NMC 15.445.170 in addition to the other criteria listed in this section.

RESPONSE: The proposed improvements do not include a manufactured dwelling, mobile home, or RV park, therefore, this Code section does not apply.

7. Zoning District Compliance. The proposed use shall be listed as a permitted or conditionally permitted use in the zoning district in which it is located as found in

NMC 15.305.010 through 15.336.020. Through this site review process, the director may make a determination that a use is determined to be similar to those listed in the applicable zoning district, if it is not already specifically listed. In this case, the director shall make a finding that the use shall not have any different or more detrimental effects upon the adjoining neighborhood area than those specifically listed.

RESPONSE: This application is for an improvement to the existing Ewing Young Park that is owned and operated by Chehalem Park & Recreation District, which is a public agency. Per the NMC 15.305.020 Zoning Use Table – Use Districts, Parks are a permitted use in the CF Zone as long as the park is owned or operated by a public agency.

8. Subdistrict Compliance. Properties located within subdistricts shall comply with the provisions of those subdistricts located in NMC 15.340.010 through 15.348.060.

RESPONSE: The subject property is within the Riverfront (RD) Overlay Subdistrict. As explained elsewhere in this narrative, the Land Use Plan Set (Section C) shows that the proposed improvements comply with the requirements of NMC 15.352.

9. Alternative Circulation, Roadway Frontage Improvements and Utility Improvements. Where applicable, new developments shall provide for access for vehicles and pedestrians to adjacent properties which are currently developed or will be developed in the future. This may be accomplished through the provision of local public streets or private access and utility easements. At the time of development of a parcel, provisions shall be made to develop the adjacent street frontage in accordance with city street standards and the standards contained in the transportation plan. At the discretion of the city, these improvements may be deferred through use of a deferred improvement agreement or other form of security.

RESPONSE: The subject property does not include any street frontage or utility improvements necessary to provide for access for vehicles and pedestrians to adjacent properties which are currently developed or will be developed in the future, therefore, this Code section does not apply.

10. Traffic Study Improvements. If a traffic study is required, improvements identified in the traffic study shall be implemented as required by the director.

RESPONSE: The proposed improvements do not require a traffic study as determined in the narrative response to NMC 15.220.030.B.14 above.

Division 15.300 Zoning Districts

15.302 Districts and Their Amendment

15.302.010 Establishment and designation of use districts and subdistricts.

In order to classify, regulate, restrict and segregate the uses of lands and buildings, to regulate and restrict the height and size of buildings, to regulate the area of yards and other open spaces about buildings, and to regulate the density of population, the following classes of use districts and subdistricts are established:

A. Use Districts.

9. CF community facilities district.

B. Subdistricts of Use Districts.

9. RD riverfront district.

15.302.032 Purposes of each zoning district.

N. CF Community Facilities District. The purpose of the CF community facilities district is to provide for appropriate development of community facilities, primarily by public agencies or nonprofit organizations. It encourages the preservation of natural resources and open space resources inventoried in the comprehensive plan. The CF district is intended to be consistent with the parks (P) and public/quasi-public (PQ) designations in the comprehensive plan. It may also be consistent with any other designation of the comprehensive plan as determined by the city council.

15.302.040 Subdistricts.

Subdistricts of each of the use districts may be established. The parent residential district requirements shall apply to those respective subdistricts except those regulations pertaining to lot area per dwelling unit or density.

F. RD Riverfront Overlay Subdistrict. The riverfront overlay subdistrict may be applied to R-1, R-2, R-3, M-1, M-2, M-3, M-E, C-1, C-4, and CF zoning districts. This subdistrict may be applied to lands south of Ninth Street to the Willamette River. The overlay shall be designated by the suffix RD added to the symbol of the parent district.
All uses permitted in the parent zone shall be allowable in the RD overlay zone except as otherwise may be limited in this code. Where provisions of the subdistrict are inconsistent with the parent district, the provisions of the subdistrict shall govern.

RESPONSE: The subject property is located in the CF District, RD Subdistrict, and is designated P/RD Parks Riverfront in the City of Newberg Comprehensive Plan. The proposed improvements in this application are for a footbridge across Chehalem Creek within the existing Ewing Young Park. This footbridge will provide access to additional open space in the park to further expand the park's recreational use. This use is consistent with and allowed by the CF District, RD Subdistrict, and P/RD Comprehensive Plan designations.

15.303 Use Categories

15.303.342 Park category.

A. Characteristics. Park uses provide areas for outdoor recreation, whether passive or active. Parks may be privately or publicly operated, but no admission fee is charged.

B. Accessory Uses. Accessory uses may include pavilions, club houses, maintenance facilities, concessions, caretaker's quarters, and parking.

C. Examples. Playgrounds, community sports fields, public squares, picnic pavilions.

D. Exclusions. Commercial recreational uses are a separate category. Open spaces without access or with only trails or observation areas are classified as open space. Recreational facilities accessory to a school, church, or public community center use,

regardless of whether admission is charged, are part of the primary use. Golf courses are a separate use.

RESPONSE: The proposed improvements will provide the park with potential to expand public recreational opportunities, such as walking paths, disc golf, or picnic tables, to the west side of Chehalem Creek. These uses are consistent with the Park category, as defined by this Code section.

15.305 Zoning Use Table

15.305.020 Zoning use table – Use districts.

Newberg Development Code – Zoning Use Table

#	Use	CF	Notes and Special Use Standards
340	Parks and Open Spaces		
342	Park	P(17)	
Key: P: Permitted use S: Special use – Use requires a special use permit C: Conditional use – Requires a conditional use permit X: Prohibited use (#): See notes for limitations Notes: (17) Limited to facilities owned or operated by a public agency.			

15.342 Stream Corridor Overlay (SC) Subdistrict

15.342.010 Purpose.

The purpose of the stream corridor (SC) overlay subdistrict is to implement the goals and policies of the comprehensive plan relating to open space, scenic, and natural resources which are intended to ". . . ensure that adequate land shall be retained in permanent open space use and that natural scenic and historic resources are protected." Furthermore, this subdistrict is intended to ". . . protect, conserve, enhance, and maintain the Willamette River Greenway." The subdistrict allows for a balance of protection of open space, scenic and natural resources and environmentally sensitive development. The designation of lands within this subdistrict is used to provide reasonable regulation of development in or adjacent to stream corridors. This subdistrict does not provide for or authorize public access to private properties designated within this subdistrict. Additionally, the provisions of this subdistrict do not provide measures for the public acquisition of private property.

15.342.020 Where these regulations apply.

The regulations of this chapter apply to the portion of any lot or development site which is within an SC overlay subdistrict. Unless specifically exempted by NMC 15.342.040, these regulations apply to the following:

A. New structures, additions, accessory structures, decks, addition of concrete or other impervious surfaces;

B. Any action requiring a development permit by this code;

C. Changing of topography by filling or grading;

D. Installation or expansion of utilities including but not limited to phone, cable TV, electrical, wastewater, storm drain, water or other utilities;

E. Installation of pathways, bridges, or other physical improvements which alter the lands within the stream corridor overlay subdistrict.

RESPONSE: The proposed improvements are within the Stream Corridor Overlay (SC) Subdistrict and include a pedestrian pathway and footbridge, therefore, the SC regulations will apply.

15.342.030 General information.

The delineated stream corridor overlay subdistrict is described by boundary lines delineated on the City of Newberg zoning map indicated with an SC symbol. The boundaries of the SC areas were established by an ecologist analyzing several environmental values including erosion potential, wildlife habitat, riparian water quality protection, floodplain water quality protection, natural condition, and ecological integrity. This information is contained in more detail in a document titled "City of Newberg, Stream Corridors as a Goal 5 Resource." This document includes a Goal 5 ESEE (economic, social, environment and energy consequences) analysis and was the basis for the preparation of this chapter. The boundaries of the SC overlay subdistrict are typically located at a logical top of bank, or where no obvious top of bank exists, are located at a distance 50 feet from the edge of the wetland.

RESPONSE: The boundaries of the SC area are shown on Sheet L1.10 Existing Conditions Plan (Section C) and Appendix 9 – Stream Corridor and Flood Zone Exhibits.

15.342.040 Activities exempt from these regulations.

The following public or private uses and activities are exempt from the regulations of this chapter:

A. Emergency procedures or emergency activities undertaken by public or private parties which are necessary for the protection of public health, safety and welfare.

B. Maintenance and repair of buildings, structures, yards, gardens or other activities or uses that were in existence prior to the effective date of the ordinance codified in these regulations.

C. Alterations of buildings or accessory structures which do not increase building coverage.

D. The expansion of an existing structure, building, improvements, or accessory structures, provided the expansion is located completely outside of the stream corridor delineation boundary.

E. The following agricultural activities lawfully in existence as of December 4, 1996:

1. Mowing of hay, grass or grain crops.

2. Tilling, discing, planting, seeding, harvesting and related activities for pasture, trees, food crops or business crops; provided, that no additional lands within the stream corridor boundary are converted to these uses.

F. Operation, maintenance and repair of existing irrigation, drainage ditches, ponds, wastewater facilities, stormwater detention or retention facilities, and water treatment facilities.

G. Normal and routine maintenance of existing streets and utilities.

H. Normal and routine maintenance of any public improvement or public recreational area.

I. Measures to remove or abate hazards and nuisances including but not limited to removal of fallen, hazardous or diseased trees.

J. Roadway and related improvements associated with a final alignment of the Newberg bypass road project.

K. Maintenance and repair of existing railroad trackage and related improvements.

L. Airport Area.

1. The removal or pruning of trees or other vegetation located within the airport overlay subdistrict, as established on the City of Newberg zoning map, that either exceed the height limits established by the overlay subdistrict or are otherwise demonstrated to pose a threat to the health, safety, welfare, and general operation of the airport.

2. The removal of undergrowth, within 500 feet east and west of the runway and 1,000 feet south of the runway, as necessary to maintain the safe operation of the airport facilities and activities.

M. Utilities installed above or below existing street rights-of-way.

N. Utility services using an existing pole or installation of other utilities where no more than 100 square feet of ground area is disturbed, no native trees are removed, and the area is replanted to preconstruction conditions using native plants selected from the Newberg plant list.

O. Utility services within existing access roads or other previously improved areas where the utility service can be installed without expanding the previously improved area.

P. The removal of any plant identified on the Newberg plant list as a nuisance plant such as Himalayan blackberry, English ivy, periwinkle, poison oak, or Scotch broom.

Q. The planting or propagation of any plant identified as native on the Newberg plant list.

R. The planting or propagation of any nonnative plant; provided, that the area to be planted covers less than 10 percent of the total site area within the SC overlay subdistrict and does not include any nuisance plants as identified on the Newberg plant list.

RESPONSE: This Application does not seek an exemption from these regulations.

15.342.050 Activities requiring a Type I process.

The following uses shall be processed as a Type I decision and shall be approved by the director upon submittal of a plan indicating compliance with the accompanying criteria and the restoration standards indicated in NMC 15.342.060.

A. The expansion of an existing single-family, duplex, triplex or quadplex dwelling, structure, building, improvements, or accessory structures inside the corridor delineation boundary, including any expansion associated with conversion of an existing

single-family dwelling into a duplex, triplex or quadplex dwelling; provided, that the following criteria have been satisfied:

1. The expansion of a single-family, duplex, triplex or quadplex dwelling, structure or improvement (including decks and patios); provided, that it is located no closer to the stream or wetland area than the existing structure or improvement;
2. The coverage of all structures within the SC overlay subdistrict on the subject parcel shall not be increased by more than 1,000 square feet of the coverage in existence as of December 4, 1996;
3. The disturbed area is restored pursuant to NMC 15.342.060; and
4. No portion of the improvement is located within the 100-year flood boundary.

B. Private or public service connection laterals and service utilities extensions where the disturbed area shall be restored pursuant to NMC 15.342.060.

C. Private or public sidewalks, stairs and related lighting where the disturbed area is restored pursuant to NMC 15.342.060.

D. Bicycle and pedestrian paths; provided, that the area is restored pursuant to NMC 15.342.060.

E. Temporary construction access associated with authorized Type I uses. The disturbed area associated with temporary construction access shall be restored pursuant to NMC 15.342.060.

F. The removal of nonnative vegetation (such as blackberries) by mechanical means; provided, that the site is restored pursuant to NMC 15.342.060.

G. Single-family, duplex, triplex or quadplex dwellings or structures which are nonconforming to the standards of this chapter may be rebuilt in the event of damage due to fire or other natural hazard; provided, that the single-family, duplex, triplex or quadplex dwelling or structure is placed within the same foundation lines.

RESPONSE: The proposed improvements for this project include a pedestrian footbridge, which is not listed in the requirements for a Type I process, therefore, this code section does not apply.

15.342.060 Restoration standards for Type I process.

A plan shall be approved only if the following standards can be met. This shall be shown on a plan submitted along with a Type I application.

A. Disturbed areas, other than authorized improvements, shall be regraded and contoured to appear natural. All fill material shall be native soil. Native soil may include soil associations commonly found within the vicinity, as identified from USDA Soil Conservation Service, Soil Survey of Yamhill Area, Oregon.

B. Replanting shall be required using a combination of trees, shrubs and grasses. Species shall be selected from natives on the Newberg plant list.

C. Removed trees over six inches in diameter, as measured at breast height, shall be replaced at a ratio of three new trees for every one removed. All trees replaced pursuant to this section shall have an average caliper measurement of a minimum of

one inch. Additional trees of any caliper may be used to further enhance the mitigation site.

D. All disturbed areas, other than authorized improvements, shall be replanted to achieve 90 percent cover in one year.

E. All disturbed areas shall be protected with erosion control devices prior to construction activity. The erosion control devices shall remain in place until 90 percent cover is achieved.

F. Except as provided below, all restoration work must occur within the SC overlay subdistrict and be on the same property. The director may authorize work to be performed on properties within the general vicinity or adjacent to the overlay subdistrict; provided, that the applicant demonstrates that this will provide greater overall benefit to the stream corridor areas.

RESPONSE: This Application is not a Type I, therefore, this code section does not apply.

15.342.070 Activities requiring a Type II process.

The installation, construction or relocation of the following improvements shall be processed as a Type II decision. The proposal shall be accompanied by a plan as identified in NMC 15.342.080 and conform to the mitigation standards contained in NMC 15.342.090.

A. Public or private street crossings, sidewalks, pathways, and other transportation improvements that generally cross the stream corridor in a perpendicular manner.

B. Bridges and other transportation improvements that bridge the wetland area.

C. Railroad trackage crossings over the SC overlay subdistrict that bridge the wetland area.

D. Water, wastewater, and stormwater systems already listed within approved City of Newberg master infrastructure plans.

E. New single-family or duplex dwellings which meet all of the following requirements:

1. The lot was created prior to December 4, 1996, is currently vacant, has at least 75 percent of the land area located within the SC overlay subdistrict and has less than 5,000 square feet of buildable land located outside the SC overlay subdistrict.

2. No more than one single-family or duplex dwelling and its expansion is permitted on the property, which shall occupy a coverage area not to exceed 1,500 square feet in area.

3. The single-family or duplex dwelling shall be sited in a location which minimizes the impacts to the stream corridor.

4. The improvements and other work are not located within the 100-year flood boundary.

F. Reduced front yard setback. Properties within the SC subdistrict may reduce the front yard setback for single-family or duplex dwellings or additions where the following requirements are met:

1. The reduction in the front yard setback will allow no less than five feet between the property line and the proposed structure.

2. The reduction in the setback will allow the footprint of the proposed dwelling or addition to be located entirely out of the SC overlay subdistrict.

3. Two 20-foot-deep off-street parking spaces can be provided which do not project into the street right-of-way.

4. Maximum coverage within the stream corridor subdistrict shall not exceed 1,500 square feet.

G. Temporary construction access associated with authorized Type II uses. The disturbed area associated with temporary construction access shall be restored pursuant to NMC 15.342.090.

H. Grading and fill for recreational uses and activities, which shall include revegetation, and which do not involve the construction of structures or impervious surfaces.

I. Public parks.

J. Stream corridor enhancement activities which are reasonably expected to enhance stream corridor resource values and generally follow the restoration standards in NMC 15.342.060.

RESPONSE: The proposed improvements for this project include a pedestrian footbridge within a public park, which is listed in the requirements for a Type II process, therefore, this Application will be a Type II process.

15.342.080 Plan submittal requirements for Type II activities.

In addition to the design review plan submittal requirements, all applicants for Type II activities within the SC overlay subdistrict shall submit the following information:

A. A site plan indicating all of the following existing conditions:

1. Location of the boundaries of the SC overlay subdistrict.

2. Outline of any existing features including, but not limited to, structures, decks, areas previously disturbed, and existing utility locations.

3. Location of any wetlands or water bodies on the site and the location of the stream centerline and top of bank.

4. Within the area to be disturbed, the approximate location of all trees that are more than six inches in diameter at breast height must be shown, with size and species. Trees outside the disturbed area may be individually shown or shown as crown cover with an indication of species type or types.

5. Topography shown by contour lines at five-foot vertical intervals or less.

6. Photographs of the site may be used to supplement the above information but are not required.

B. Proposed development plan including all of the following:

1. Outline of disturbed area including all areas of proposed utility work.

2. Location and description of all proposed erosion control devices.

3. A landscape plan prepared by a landscape architect, or other qualified design professional, shall be prepared which indicates the size, species, and location of all new vegetation to be planted.

RESPONSE: The requirements of this section are shown in Section C, including Sheet L2.10 Demolition & Erosion Control Plan which outlines disturbed areas, Sheet L3.10 Site Plan, and Sheet L5.10 Planting Plan.

15.342.090 Mitigation requirements for Type II activities.

The following mitigation requirements apply to Type II activities. The plans required pursuant to NMC 15.342.080 shall be submitted indicating the following mitigation requirements will be met.

A. Disturbed areas, other than authorized improvements, shall be regraded and contoured to appear natural. All fill material shall be native soil. Native soil may include soil associations commonly found within the vicinity, as identified from USDA Soil Conservation Service, Soil Survey of Yamhill Area, Oregon.

RESPONSE: All disturbed areas will be regraded to appear natural, as shown on Sheet L4.10 Grading Plan (Section C). All fill material will be sourced from within the disturbed areas of the site.

B. Replanting shall be required using a combination of trees, shrubs and grass. Species shall be selected from the Newberg native plant list. Planting shall be as follows:

1. At least eight species of plants shall be used.
2. At least two species must be trees and two species must be shrubs.
3. No more than 50 percent of any seed mix used can be grass.
4. A minimum of one tree and three shrubs shall be used for every 500 square feet of planting area.
5. Areas to be replanted must be completed at the time of final inspection or completion of the work, except as otherwise allowed by this code.
6. Existing vegetation that can be saved and replanted is encouraged, although not required.

RESPONSE: Replanting of the disturbed areas meet the requirements of this section as shown on Sheet L5.10 Planting Plan (Section C).

C. Removed trees over six inches in diameter, as measured at breast height, shall be replaced as follows:

1. Trees from six to 18 inches in diameter shall be replaced with a minimum of three new trees for every tree removed.
2. Trees over 18 inches but less than 30 inches shall be replaced with a minimum of five trees for every tree removed.
3. Trees over 30 inches shall be replaced with a minimum of eight trees for every tree removed.

4. All trees replaced pursuant to this section shall have an average caliper measurement of a minimum of one inch. Additional trees of any size caliper may be used to further enhance the mitigation site.

RESPONSE: Two trees over six inches in diameter will be removed as part of this project, as shown on Sheet L2.10 Demolition & Erosion Control Plan (Section C). Both of the trees are on the west side of Chehalem Creek, which is outside of the Newberg City limits. One of the trees is an 11 inch diameter tree and the other is a 48 inch diameter tree. The removal of these two trees requires eleven trees to be planted, which are shown on Sheet L5.10 Planting Plan (Section C).

D. All disturbed areas, other than authorized improvements, shall be replanted to achieve 90 percent cover in one year. The director may require a bond or other form of security instrument to insure completion of the restoration plan. The director shall authorize the release of the bond or other security instrument when, after one year, the restoration site has achieved the purposes and standards of this section.

RESPONSE: All disturbed areas will be replanted to achieve a minimum of 90 percent cover within one year. Replanting is shown on Sheet L5.10 Planting Plan (Section C).

E. All disturbed areas shall be protected with erosion control devices prior to construction activity. The erosion control devices shall remain in place until 90 percent cover is achieved.

RESPONSE: All disturbed areas will be protected with erosion control devices as shown on Sheet L2.10 Demolition & Erosion Control Plan (Section C). Erosion control devices will remain in place until 90 percent cover is achieved.

F. Except as provided below, all restoration work must occur within the SC overlay subdistrict and be on the same property. The director may authorize work to be performed on properties within the general vicinity or adjacent to the overlay subdistrict; provided, that the applicant demonstrates that this will provide greater overall benefit to the stream corridor areas.

RESPONSE: All restoration work will occur within the disturbed area, which is all within the SC overlay subdistrict and on the same property, as shown on Sheet L5.10 Planting Plan (Section C).

15.342.100 Type III process for exceptions and variances.

A. Exceptions. Except as provided in NMC 15.342.040, 15.342.050, and 15.342.070, uses and activities otherwise allowed under the applicable base zone regulations shall be processed as a Type III. The applicant shall submit a stream corridor impact report (SCIR) and meet the criteria set forth in NMC 15.342.140:

1. If the application of this chapter would prohibit a development proposal by a public agency or public utility, the agency or utility may apply for an exception pursuant to this section.

2. The expansion of a single-family, duplex, triplex or quadplex dwelling, including expansion associated with the conversion of an existing single-family dwelling into a duplex, triplex or quadplex dwelling, is permitted within the SC overlay subdistrict, provided:

a. The single-family, duplex, triplex or quadplex dwelling shall occupy a coverage area not to exceed a maximum of 1,500 square feet in area; and

b. The single-family, duplex, triplex or quadplex dwelling shall be placed in a location which is located no closer to the wetland.

3. The expansion of any existing use or structure, other than single-family, duplex, triplex or quadplex dwellings, that is otherwise permitted within the base zoning district. The hearing body may authorize the expansion of an existing non-single-family use, provided the following criteria are met:

a. The expansion is limited to no more than 1,500 square feet of coverage;

b. The proposal does not pose an unreasonable threat to the public health, safety or welfare on or off the development proposal site;

c. Any alterations to a delineated stream corridor shall be the minimum necessary to allow for the reasonable use of the property;

d. The development conforms to the regulations of the Newberg development code; and

e. The expansion shall be placed in a location which is no closer to the wetland.

B. Variance. A variance to the standards of this chapter may be granted under the Type III process. A variance to this chapter shall be processed as a Type III procedure and shall only be subject to the following criteria:

1. A stream corridor impact report (SCIR) shall be submitted which meets the criteria indicated in NMC 15.342.140; and

2. The proposed development will result in equal or greater conservation of the identified resources and functional values on the site and will, on balance, be consistent with the purpose of the applicable regulation.

C. Nothing contained herein shall be deemed to require a hearing body to approve a request for a Type III permit under this section.

RESPONSE: This Application does not seek an exception or variance.

15.342.110 Prohibited uses and activities.

The following activities or uses are prohibited within this subdistrict:

A. Except as provided in NMC 15.342.040(R), the planting or propagation of any plant identified as a nuisance plant as determined by a qualified botanist or indicated as a nuisance plant on the Newberg plant list.

B. The removal of native trees that are greater than six inches in diameter at breast height, except as is otherwise permitted within this chapter.

C. Any use dealing with hazardous substances or materials, including but not limited to gas service stations.

D. Public pathways, except those in conjunction with public lands, public parks or public easements that have been acquired by other than eminent domain.

E. Recreational marijuana producer and recreational marijuana processor.

F. Recreational marijuana wholesalers, laboratories, research certificates and retailers.

G. Recreational marijuana dispensaries.

RESPONSE: The proposed improvements do not include any of the prohibited uses listed above, therefore, this section does not apply.

15.342.120 Density transfer.

For residential development proposals on lands which contain the SC overlay subdistrict, a transfer of density shall be permitted within the development proposal site. The following formula shall be used to calculate the density that shall be permitted for allowed residential use on the property:

A. Step 1. Calculate expected maximum density. The expected maximum density (EMD) is calculated by multiplying the acreage of the property by the density permitted within the Newberg comprehensive plan.

B. Step 2. The density that shall be permitted on the property shall be equal to the EMD obtained in Step 1, provided:

1. The density credit can only be transferred to that portion of the development site that is not located within the designated stream corridor; and

2. The minimum lot size required for residential dwellings, in the base zone, shall not be reduced by more than 20 percent; and

3. The maximum dwelling units per net acre of buildable land, outside the SC boundary, shall not be increased by more than 20 percent; and

4. The types of residential uses and other applicable standards permitted in the zone shall remain the same; and

5. All other uses shall comply with applicable standards and criteria of the Newberg development code.

RESPONSE: This Application does not include residential development, therefore, this section does not apply.

15.342.130 Procedure for adjusting and amending the delineated stream corridor.

A. Type II Process. The manager shall authorize an adjustment to the delineated stream corridor by a maximum of 15 percent of the corridor width as measured from the centerline of the stream to the upper edge of the stream corridor boundary (from the boundary location originally adopted as part of this chapter), provided the applicant demonstrates that the following standards are met:

1. The location of the delineated stream corridor boundary is not reduced to less than 50 feet from the edge of a wetland or 100-year flood elevation, whichever is higher; and

2. The lands to be eliminated do not contain sloped areas in excess of 20 percent; and

3. The lands to be eliminated do not significantly contribute to the protection of the remaining stream corridor for water quality, stormwater control and wildlife habitat; and

4. A stream corridor impact report which complies with the provisions of this chapter is provided; and

5. The line to be adjusted has not been previously adjusted from the boundary location originally adopted as part of this chapter.

B. Type III Process. The applicant may propose to amend the delineated stream corridor boundary through a Type III quasi-judicial zone change proceeding consistent with the provisions of this code (see standard zone change criteria).

RESPONSE: This Application does not seek to adjust or amend the delineated stream corridor, therefore, this section does not apply.

15.342.140 Stream corridor impact report (SCIR) and review criteria.

A stream corridor impact report (SCIR) is a report which analyzes impacts of development within delineated stream corridors based upon the requirements of this section. The director shall consult with a professional with appropriate expertise to evaluate the report prepared under this section, in order to properly evaluate the conclusions reached in it. If outside consulting services are required to review the report, the cost of such review shall be paid by the applicant. By resolution, the city council shall establish a maximum fee which will be paid by the applicant.

A. Application Requirements. In addition to required materials for the site design review application, a stream corridor impact report (SCIR) must be submitted. The SCIR shall be conducted and prepared by experienced professionals who are knowledgeable and qualified to complete such a report. The qualifications of the person or persons preparing each element of the analysis shall be included with the SCIR. The SCIR shall include the following:

1. Physical Analysis. The analysis shall include, at a minimum, a description of the soil types, geology, and hydrology of the site plus related development limitations. The analysis shall include development recommendations including grading procedures, soil erosion control measures, slope stabilization measures, and methods of mitigating hydrologic impacts. For projects which affect possible wetlands, a copy of the state wetland inventory map pertaining to the site shall be provided. Notice of the proposal shall be given to the Oregon Division of State Lands and the Army Corp of Engineers.

RESPONSE: The hydrology of the site and methods of mitigating hydrologic impacts are explained in the Bridge Hydraulic Design Report (Appendix 4). This project will not affect wetlands on site, and there will not be any work within the Ordinary High Water Mark (OHWM).

2. Ecological Analysis. The analysis shall include, at a minimum, an inventory of plant and animal species occurring on the site, a description of the relationship of the plants and animals with the environment, and recommended measures for minimizing the adverse impacts of the proposed development on unique and/or significant features of the ecosystem, including but not limited to migratory and travel routes of wildlife.

RESPONSE: Many varieties of native plant species occur on site, including Douglas fir trees, big leaf maple trees, Oregon ash trees, Oregon white oak trees, Oregon grape,

snowberry, and salal. There are also animal species on site that are common within the region, including many types of birds, small mammals, invertebrates, amphibious reptiles, and fish. Permanent ecological impacts as part of this project are limited, since the removal of existing mature vegetation is minimal and disturbed areas will be restored to a natural state using native plant species. The restoration of native plant species will restore any impacted wildlife habitat, and any animal migratory paths will not be impeded by the development of this project.

3. Enhancement Proposal. The applicant must propose a stream corridor or wetland enhancement to be completed along with the proposed development. The enhancement shall increase the natural values and quality of the remaining stream corridor lands located on the lot.

RESPONSE: The stream corridor lands impacted by this development will be enhanced by restoring any disturbed areas with native plants. Eleven new trees will be planted to replace the two trees being removed as part of this project. The planting of new native plants will reestablish high quality wildlife habitat.

B. SCIR Review Criteria. The following standards shall apply to the issuance of permits requiring an SCIR, and the SCIR must demonstrate how these standards are met in a manner that meets the project purpose.

1. Where possible, the applicant shall avoid the impact altogether.

2. Impact on the stream corridor shall be minimized by limiting the degree or magnitude of the action, by using appropriate technology, or by taking affirmative steps to avoid, reduce or mitigate impacts.

RESPONSE: This application has made every effort to limit impacts to the stream corridor.

3. The impacts to the stream corridor will be rectified by restoring, rehabilitating, or creating comparable resource values on the site or within the same stream corridor.

RESPONSE: Where impacts and site disturbance is required for the development of the project, it will be restored to a natural condition by use of native plant material and slopes that are consistent with the existing conditions.

4. The remaining resource values on the stream corridor site shall be protected and enhanced, with consideration given to the following:

   a. Impacts to wildlife travel and migratory functions shall be maintained to the maximum extent possible; and

   b. Native vegetation shall be utilized for landscaping to the extent practicable; and

   c. The stream bed shall not be unnecessarily or detrimentally altered.

RESPONSE: Wildlife travel and migratory functions will be maintained, with no impacts to the stream bed or within the stream Ordinary High Water Mark. All new plants used in this project will be native plant species.

5. The fill shall primarily consist of natural materials such as earth or soil aggregate, including sand, gravel, rock, and concrete. Culverts, bridges, reinforced retaining walls, or other similar structures which require manmade structural materials shall be permitted.

RESPONSE: Fill material, although limited, will be spoils sourced directly from the site. The bridge and abutments will utilize manmade materials such as wood, steel, and concrete.

6. The amount of fill used shall be the minimum required to practically achieve the project purpose.

RESPONSE: As shown on Sheet L4.10 Grading Plan (Section C), fill is minimized as much is practicable to build the proposed improvements.

7. If the fill or grading is within a designated floodway, the proposed action shall maintain the flood storage capacity of the site.

RESPONSE: There will be no fill or grading within the floodway, but there will be fill within the floodplain. As explained in the Bridge Hydraulic Design Report (Appendix 4), some minimal excavation on the site will offset all fill and the blockage of the bridge, which will result in a 'No-Rise' condition to the Base Flood Elevation (BFE) for Chehalem Creek as a result of this project.

8. The proposed fill or grading shall not significantly increase existing hazardous conditions or create significant new hazardous conditions related to geology, hydrology, or soil erosion.

RESPONSE: As explained in the Bridge Hydraulic Design Report (Appendix 4), this project will not result in any significant new hazardous conditions related to geology, hydrology, or soil erosion.

9. Stream turbidity shall not be significantly increased by any change in a watercourse that results from the fill. Measures shall be taken to minimize turbidity during construction.

RESPONSE: Stream turbidity will not be significantly increased as a result of this project, primarily because all improvements are above the 10-year flood elevation. Stream turbidity will be minimized during construction by the use of erosion control measures, which will remain in place for one year following the completion of construction.

10. The removal of trees over six inches in diameter shall be minimized to the extent possible to provide the necessary improvements authorized by this chapter.

RESPONSE: Two trees over six inches in diameter will be removed on the west side of Chehalem Creek, which is outside of the Newberg City limits. Eleven new trees will be planted to mitigate the removal of these two trees.

15.343 Areas of Special Flood Hazard Overlay (FHO)

15.343.010 Purpose.

A. It is the purpose of this chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

1. To protect human life and health;

2. To minimize expenditure of public money and costly flood control projects;

3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4. To minimize prolonged business interruptions;
5. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
6. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
7. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
8. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

B. In order to accomplish its purposes, this chapter includes methods and provisions for:

1. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
2. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
3. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
4. Controlling filling, grading, dredging, and other development which may increase flood damage;
5. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or may increase flood hazards in other areas;
6. Coordinating and supplementing the provisions of the State Building Code with local land use and development ordinances. [Ord. 2719 § 2 (Exh. B), 3-1-10. Code 2001 § 151.481.]

RESPONSE: The Applicant acknowledges the purpose of this section.

15.343.020 General provisions.

A. Lands to Which This Chapter Applies. This chapter shall apply to all areas of special flood hazard within the jurisdiction of Newberg, Oregon, as designated in the Flood Insurance Study for Yamhill County and Incorporated Areas and on the Federal Emergency Management Agency (FEMA) flood insurance rate maps (FIRM) dated March 2, 2010.

RESPONSE: FEMA flood maps show that the subject property is within a flood plain and floodway. A copy of the FEMA flood map is provided as part of the Bridge Hydraulic Design Report (Appendix 4).

B. Basis for Establishing the Areas of Special Flood Hazard. The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Yamhill County, Oregon and Incorporated Areas," dated March 2, 2010, with accompanying flood insurance maps are hereby

adopted by reference and declared to be a part of this chapter. The Flood Insurance Study is on file at Newberg City Hall. The best available information for flood hazard area identification as outlined in subsection (F)(1) of this section shall be the basis for regulation until a new flood insurance rate map is issued which incorporates the data utilized under subsection (F)(1) of this section.

RESPONSE: The Area of Special Flood Hazard is established by the base flood elevation, which is set by FEMA. A copy of the FEMA flood map is provided as part of the Bridge Hydraulic Design Report (Appendix 4).

C. Penalties for Noncompliance. No affected structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this chapter and other applicable regulations. Violations of the provisions of this chapter by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) are subject to enforcement. Nothing herein contained shall prevent the City of Newberg from taking such other lawful action as is necessary to prevent or remedy any violation.

RESPONSE: This Application makes every effort to comply with the requirements of this code section.

D. Relation to Other Regulations. Most areas of special flood hazard in Newberg are within the existing stream corridor subdistrict, the Willamette Greenway, or in wetlands or waterways subject to federal and state regulations. Therefore, it is expected that floodplain development and use of these regulations will be rare. This chapter should not be read as allowing development that is otherwise restricted or prohibited by other city, state, or federal laws.

RESPONSE: The Applicant acknowledges that the regulations specified in this section do not negate or remove the regulations of other code sections or city, state, or federal laws.

E. Warning and Disclaimer of Liability. The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the City of Newberg, any officer or employee of the city, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

RESPONSE: The Applicant acknowledges that this section does not create liability on the part of the City of Newberg.

F. Duties of the Local Administrator. The director is hereby appointed to administer and implement this chapter by granting or denying floodplain development permit applications in accordance with its provisions. The director's duties are outlined below:

1. Information to Be Obtained and Maintained.

    a. Where base flood elevation data is provided through the Flood Insurance Study, FIRM, or required as in NMC 15.343.030(B), obtain and record the actual

elevation (in relation to mean sea level) of the lowest floor (including basements and below-flood grade crawlspaces) of all new or substantially improved affected structures, and whether or not the affected structure contains a basement.

b. For all new or substantially improved floodproofed affected structures where base flood elevation data is provided through the Flood Insurance Study, FIRM, or as required in NMC 15.343.030(B):

i. Verify and record the actual elevation (in relation to mean sea level); and

ii. Maintain the floodproofing certifications.

c. Maintain for public inspection all records pertaining to the provisions of this chapter.

d. When base flood elevation data has not been provided (A and V zones) in accordance with subsection (B) of this section, Basis for Establishing the Areas of Special Flood Hazard, the director shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer NMC 15.343.040(B), Specific Standards, and NMC 15.343.060, Floodways.

RESPONSE: The Applicant acknowledges the duties of the local administrator. Elevations of the proposed improvements are shown on the Grading Plan (Section C). The base flood elevations are provided by FEMA, as shown in the Bridge Hydraulic Design Report (Appendix 4).

2. Alteration of Watercourses.

a. Notify adjacent communities, the Department of Land Conservation and Development and other appropriate state and federal agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

b. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

RESPONSE: The proposed improvements will result in no reduction to the flood carrying capacity of Chehalem Creek, as provided in the Bridge Hydraulic Design Report (Appendix 4). There will not be any alterations within the Ordinary High Water Mark of Chehalem Creek.

3. Interpretation of FIRM Boundaries. Make interpretations, where needed, as to exact location of the boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in NMC 15.343.030(E). [Ord. 2719 § 2 (Exh. B), 3-1-10. Code 2001 § 151.482.]

RESPONSE: The Applicant acknowledges and does not contest that the proposed improvements are within the FIRM Boundaries.

15.343.030 Floodplain development permit procedures.

A. Floodplain Development Permit Required. Any person shall obtain a floodplain development permit before constructing or developing within any area of special flood hazard established in NMC 15.343.020(B). The permit shall be for all affected structures including manufactured homes, as set forth in NMC 15.05.030, and for all floodplain development including fill and other activities, also as set forth in NMC 15.05.030.

RESPONSE: The Applicant acknowledges that a Floodplain Development Permit is required for this Application.

B. Application for Floodplain Development Permit. Application for a floodplain development permit shall be made on forms furnished by the planning and building department and may include but not be limited to plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed affected structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

1. Elevation, in relation to mean sea level, of the lowest floor (including basement) of all affected structures;
2. Elevation in relation to mean sea level of floodproofing in any affected structure;
3. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential affected structure meet the floodproofing criteria in NMC 15.343.040(B); and
4. Description of the extent to which a watercourse will be altered or relocated as a result of proposed floodplain development.

RESPONSE: A Floodplain Development Permit is being submitted as part of this Application. The elevations of the proposed improvements are included on the Grading Plan (Section C). The Bridge Hydraulics Design Report is produced and certified by a professional engineer, and is included as Appendix 4 of this application.

C. Floodplain Development Permit Application Review. The director shall review all floodplain development permit applications. Floodplain development permits shall be reviewed as part of the review of applicable design review, building permit application, grading permit application, other application, or as a Type I review if no other application is concurrent. The review shall determine:

1. That the permit requirements and conditions of this chapter have been satisfied.
2. That all necessary permits have been obtained from those federal, state, or local governmental agencies from which prior approval is required.
3. That if the floodplain development is located in the floodway, the encroachment provisions of NMC 15.343.060(A) are met.

RESPONSE: The Applicant acknowledges that the Director will review the Floodplain Development Permit – Type II concurrently with the Design Review – Type II and Stream Corridor – Type II Applications.

D. Floodplain Development Variance Procedure.

1. Procedure.

a. Any person proposing floodplain development may request a variance to the provisions of this section. The application shall be on forms and include such information as determined by the director. Variance requests shall be processed as a Type II land use action.

b. The decision shall be based upon the criteria established in subsection (D)(3) of this section.

c. Those aggrieved by the decision of the director may appeal the decision to the planning commission.

d. The director shall report any variances to the Federal Insurance Administration upon request.

e. Any applicant to whom a variance is granted shall be given written notice that the affected structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

2. Eligibility.

a. A variance from the elevation standard may be issued for new construction and substantial improvements.

b. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases the technical justification required for issuing the variance increases.

c. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria, and otherwise complies with NMC 15.343.040(A)(1) through (3), General Standards.

d. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.

e. The review body may approve variances for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the Statewide Inventory of Historic Properties, notwithstanding the application may not meet all the criteria set forth in subsection (D)(3) of this section.

3. Criteria. The review body may approve, approve with conditions, or deny a floodplain development variance, provided all the following criteria are met:

a. Exceptional hardship would result to the applicant if the variance were not granted.

b. Granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, nuisances, victimization of the public, or conflict with existing local laws or ordinances.

c. No reasonable alternative location(s) exists which is not subject to flooding or erosion that may accommodate the proposed use.

d. The variance is the minimum necessary, considering the flood hazard, to afford relief.

e. The characteristics are compatible with neighboring development.

RESPONSE: The Applicant does not request a variance for the Floodplain Development Permit.

E. Appeal Procedure.

1. Appeal Board. The planning commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the director in the enforcement or administration of this section. Those aggrieved by the decision of the planning commission may appeal such decision to the city council.

2. Appeal Procedures. Appeals shall follow the Type III procedures outlined in NMC 15.100.160.

3. Scope of Review. The planning commission shall follow the scope of review procedures established in NMC 15.100.180. The decision shall follow the procedures in NMC 15.100.190. [Ord. 2719 § 2 (Exh. B), 3-1-10. Code 2001 § 151.483.]

RESPONSE: The Applicant acknowledges the appeal procedure as explained by this code section.

15.343.040 Provisions for flood hazard reduction.

A. General Standards. In all areas of special flood hazard, the following standards are required:

1. Anchoring.

a. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the affected structure.

b. All manufactured homes must likewise be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

RESPONSE: The proposed footbridge has not been structurally designed at this stage in the process. The bridge will be designed by a prefabricated bridge manufacturer once the City and County have approved the land use applications for the bridge. The bridge will be anchored to prevent flotation, collapse, or lateral movement.

Anchoring details and structural calculations will be provided in the building permit application, which will be required prior to construction.

2. Construction Materials and Methods.

    a. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

    b. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

    c. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

RESPONSE: The proposed footbridge will be designed and built by a prefabricated bridge manufacturer using materials and methods that are resistant to and minimize flood damage. The proposed improvements do not include electrical, heating, ventilation, plumbing, air-conditioning equipment, or any other utilities.

3. Utilities.

    a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

    b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

    c. On-site waste disposal systems, if allowed, shall be located to avoid impairment to them or contamination from them during flooding consistent with the Oregon Department of Environmental Quality.

RESPONSE: The proposed improvements do not include water, sanitary sewer, or on-site waste disposal system.

4. Tentative Subdivision and Partition Plat Proposals.

    a. Where floodplain development is proposed or reasonably likely, all tentative subdivision and partition plat proposals shall be consistent with the need to minimize flood damage.

    b. All tentative subdivision and partition plat proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.

    c. All tentative subdivision and partition plat proposals shall have adequate drainage provided to reduce exposure to flood damage.

    d. For any proposed affected structure, proposed subdivision or partition, and other proposed floodplain development which contains at least 50 lots or five acres (whichever is less), flood elevation data shall be provided.

RESPONSE: This Application does not include subdivision or partition plat proposals.

5. Review of Building Permits. Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source (NMC 15.343.020(F)(1)(d)), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

RESPONSE: Elevation data is available from FEMA, and provided in the Bridge Hydraulic Design Report (Appendix 4).

6. AH Zone Drainage. Adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed affected structures. AH zones are areas that have a one percent annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from one to three feet.

RESPONSE: AH zones are not present near the proposed improvements. Adequate drainage is provided around the bridge abutments to allow flood waters from Chehalem Creek to recede.

B. Specific Standards. In all areas of special flood hazard where base flood elevation data has been provided (Zones A1 – 30, AH, and AE) as set forth in NMC 15.343.020(B), Basis for Establishing the Areas of Special Flood Hazard or NMC 15.343.020(F)(1)(d), use of other base flood data (in A and V zones), the following provisions are required:

1. Residential Construction.

    a. New construction and substantial improvement of any residential affected structure shall have the lowest floor, including basement, elevated to a minimum of one foot above the base flood elevation.

    b. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

        i. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

        ii. The bottom of all openings shall be no higher than one foot above grade.

        iii. Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwaters.

RESPONSE: This Application does not include Residential Construction, therefore, this code section does not apply.

2. Nonresidential Construction.

    a. New construction and substantial improvement of any commercial, industrial or other nonresidential affected structure shall either have the lowest floor,

including basement, elevated at or above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

i. Be floodproofed so that below the base flood level the affected structure is watertight with walls substantially impermeable to the passage of water;

ii. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

iii. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in NMC 15.343.020(F)(1);

iv. Nonresidential affected structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection (B)(1)(b) of this section;

v. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building floodproofed to the base flood level will be rated as one foot below).

RESPONSE: The proposed footbridge will be built below the base flood elevation as shown in the Bridge Hydraulic Design Report (Appendix 4) and Sheet L3.11 Bridge Enlargement Plan (Section C). The final design of the bridge will assume that the bridge will be submerged during large flood events, with bridge materials that will withstand such submersions. The bridge will have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy, and will be certified by a registered structural engineer.

3. Manufactured Homes.

a. All manufactured homes to be placed or substantially improved on sites:

i. Outside of a manufactured home park or subdivision;

ii. In a new manufactured home park or subdivision;

iii. In an expansion to an existing manufactured home park or subdivision; or

iv. In an existing manufactured home park or subdivision on which a manufactured home has incurred “substantial damage” as the result of a flood;

shall be elevated on a permanent foundation such that the finished floor of the manufactured home is elevated to a minimum 18 inches (46 centimeters) above the base flood elevation and be securely anchored to an adequately designed foundation system to resist flotation, collapse and lateral movement.

b. Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A1 – 30, AH, and AE on the community’s FIRM that are not subject to the above manufactured home provisions be elevated so that either:

i. The finished floor of the manufactured home is elevated to a minimum of 18 inches (46 centimeters) above the base flood elevation; or

ii. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately designed foundation system to resist flotation, collapse, and lateral movement.

RESPONSE: This Application does not include a manufactured home, therefore, this code section does not apply.

4. Recreational Vehicles.

   a. Recreational vehicles placed on sites are required to either:

      i. Be on the site for fewer than 180 consecutive days;

      ii. Be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or

      iii. Meet the requirements of subsection (B)(3) of this section and the elevation and anchoring requirements for manufactured homes.

RESPONSE: This Application does not include the storage of a recreational vehicle, therefore, this code section does not apply.

5. Below-Flood Grade Crawlspaces.

   a. Below-flood grade crawlspaces are allowed subject to the following standards as found in FEMA Technical Bulletin 11-01, Crawlspace Construction for Buildings Located in Special Flood Hazard Areas:

      i. The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the affected structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy can usually be addressed through the required openings stated in subsection (B)(5)(a)(ii) of this section. Because of hydrodynamic loads, crawlspace construction is not allowed in areas with flood velocities greater than five feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.

      ii. The crawlspace is an enclosed area below the base flood elevation (BFE) and, as such, must have openings that equalize hydrostatic pressures by allowing the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than one foot above the lowest adjacent exterior grade.

      iii. Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or

other materials that extend below the BFE. The recommended construction practice is to elevate the bottom of joists and all insulation above BFE.

iv. Any building utility systems within the crawlspace must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed above the BFE or sealed from floodwaters.

v. The interior grade of a crawlspace below the BFE must not be more than two feet below the lowest adjacent exterior grade.

vi. The height of the below-flood grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall, must not exceed four feet at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas.

vii. There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles or gravel or crushed stone drainage by gravity or mechanical means.

viii. The velocity of floodwaters at the site should not exceed five feet per second for any crawlspace. For velocities in excess of five feet per second, other foundation types should be used. For more detailed information refer to FEMA Technical Bulletin 11-01. [Ord. 2719 § 2 (Exh. B), 3-1-10. Code 2001 § 151.484.]

RESPONSE: The proposed improvements of this Application do not include below flood-grade crawlspaces, therefore, this code section does not apply.

15.343.050 Before regulatory floodway.

In areas where a regulatory floodway has not been designated, no new construction, substantial improvements, or other floodplain development (including fill) shall be permitted within Zones A1 – 30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed floodplain development, when combined with all other existing and anticipated floodplain development, will not increase the water surface elevation of the base flood more than one foot at any point within the community. [Ord. 2719 § 2 (Exh. B), 3-1-10. Code 2001 § 151.485.]

RESPONSE: The proposed improvements will result in a "No-Rise" condition to the water surface elevation of the base flood, as shown in the Bridge Hydraulic Design Report (Appendix 4).

15.343.060 Floodways.

Located within areas of special flood hazard established in NMC 15.343.020(B) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

A. Encroachments are prohibited unless evidence is provided by a registered professional civil engineer demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

RESPONSE: The proposed improvements will have impacts to the floodway but will result in a "No-Rise" condition to the water surface elevation of the base flood, as shown in the Bridge Hydraulic Design Report (Appendix 4).

B. If subsection (A) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of NMC 15.343.040, Provisions for flood hazard reduction.

RESPONSE: Subsection (A) will be satisfied by a "No-Rise" condition to the water surface elevation of the base flood, as shown in the Bridge Hydraulic Design Report (Appendix 4). The proposed improvements also comply with the provisions of NMC 15.343.040 as discussed previously in this narrative.

C. Projects for stream habitat restoration may be permitted in the floodway, provided:

1. The project qualifies for a Department of the Army, Portland District, Regional General Permit for Stream Habitat Restoration (NWP-2007-1023); and
2. A qualified professional (a registered professional engineer; or staff of NRCS, the county, or fisheries, natural resources, or water resources agencies) has provided a feasibility analysis and certification that the project was designed to keep any rise in 100-year flood levels as close to zero as practically possible given the goals of the project; and
3. No affected structures would be impacted by a potential rise in flood elevation; and
4. An agreement to monitor the project, correct problems, and ensure that flood carrying capacity remains unchanged is included as part of the local approval.

RESPONSE: This Application does not propose stream habitat restoration.

D. New installations of manufactured dwellings are prohibited (2002 Oregon Manufactured Dwelling and Park Specialty Code). Manufactured dwellings may only be located in floodways according to one of the following conditions:

1. If the manufactured dwelling already exists in the floodway, the placement was permitted at the time of the original installation, and the continued use is not a threat to life, health, property, or the general welfare of the public; or
2. A new manufactured dwelling is replacing an existing manufactured dwelling whose original placement was permitted at the time of installation and the replacement home will not be a threat to life, health, property, or the general welfare of the public and it meets the following criteria:
    a. As required by 44 CFR Chapter 1, Subpart 60.3(d)(3), it must be demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the manufactured dwelling and any accessory buildings, accessory affected structures, or any property improvements (encroachments) will not result in any increase in flood levels during the occurrence of the base flood discharge;

b. The replacement manufactured dwelling and any accessory buildings or accessory affected structures (encroachments) shall have the finished floor elevated a minimum of 18 inches (46 centimeters) above the BFE as identified on the flood insurance rate map;

c. The replacement manufactured dwelling is placed and secured to a foundation support system designed by an Oregon professional engineer or architect and approved by the authority having jurisdiction;

d. The replacement manufactured dwelling, its foundation supports, and any accessory buildings, accessory affected structures, or property improvements (encroachments) do not displace water to the degree that they cause a rise in the water level or divert water in a manner that causes erosion or damage to other properties;

e. The location of a replacement manufactured dwelling is allowed by local ordinances; and

f. Any other requirements deemed necessary by the director as having jurisdiction. [Ord. 2719 § 2 (Exh. B), 3-1-10. Code 2001 § 151.486.]

RESPONSE: This Application does not include a manufactured home, therefore, this code section does not apply.

15.343.070 Standards for shallow flooding areas (AO zones).

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from one to three feet above ground where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

A. New construction and substantial improvements of residential affected structures and manufactured homes within AO zones shall have the lowest floor (including basement) elevated above the highest grade adjacent to the building a minimum of one foot above the depth number specified on the FIRM (at least two feet if no depth number is specified).

B. New construction and substantial improvements of nonresidential affected structures within AO zones shall either:

1. Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, one foot or more above the depth number specified on the FIRM (at least two feet if no depth number is specified); or

2. Together with attendant utility and sanitary facilities, be completely floodproofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in NMC 15.343.040(B)(2)(a)(iii).

C. Require adequate drainage paths around affected structures on slopes to guide floodwaters around and away from proposed structures.

D. If allowed, recreational vehicles placed on sites within AO zones on the community's FIRM either:

1. Be on the site for fewer than 180 consecutive days; and

2. Be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or

3. Meet the requirements of this section and the elevation and anchoring requirements for manufactured homes. [Ord. 2719 § 2 (Exh. B), 3-1-10. Code 2001 § 151.487.]

RESPONSE: The proposed improvements are located within the AE zone, which supersedes the AO zone. The bridge will be designed to be submerged during large flood events. Adequate drainage around and away from the bridge abutments is provided to allow flood waters from Chehalem Creek to recede.

15.343.080 Critical facilities.

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the special flood hazard area (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet above BFE or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible. [Ord. 2719 § 2 (Exh. B), 3-1-10. Code 2001 § 151.488.]

RESPONSE: The proposed improvements are not identified as a critical facility, therefore, this code section does not apply.

15.352 Riverfront (RD) Overlay Subdistrict

15.352.030 The Riverfront Plan general provisions.

A. Report Accepted. The 2019 Newberg Riverfront Master Plan was accepted by the city council on September 16, 2019 (Resolution No. 2019-3596). The development standards listed in this chapter shall take precedence over those listed in the report. If ambiguity exists, this code shall govern.

RESPONSE: The Applicant acknowledges that the requirements listed in this section shall apply to this application.

B. Permitted Uses and Conditional Uses. The permitted and conditional uses allowed under the RD overlay subdistrict shall be the same as those uses permitted in the base zoning districts, subject to the provisions of subsection (I) of this section.

RESPONSE: As discussed previously in this narrative, the proposed improvements are a permitted use within the base zoning district of CF.

C. Street, Bike Path, and Pedestrian Walkway Standards. All development improvements shall comply with standards contained in the 2019 Newberg Riverfront Master Plan.

RESPONSE: The Land Use Plan Set (Section C) shows that the proposed improvements comply with the standards contained in the 2019 Newberg Riverfront Master Plan.

D. View Corridors. Key views of the Willamette River shall be protected. Key views include the view from the top of the bluff, on the south side of the intersection of E Fourteenth Street and S River Street, and the view from the top of the bluff south of E Fourteenth Street generally between S College and S River Streets. These key views shall be protected as follows:

1. Any development on the south side of the intersections of E Fourteenth Street and S River Street, E Fourteenth Street and S College Street, and NE Waterfront Street shall provide a public viewing area accessible from E Fourteenth Street and NE Waterfront Street that allows views from the top of the bluff to the river. Any viewing area at this location shall be connected to the public esplanade or the E Fourteenth Street public sidewalk.
2. Development south of E Fourteenth Street and NE Waterfront Street shall protect views of the river by providing a public esplanade with a public walkway.
3. Development on the Riverfront Mill Site shall protect views of the river from the top of the bluff along the southern edge of the site, including at the northern terminus of the waterline bridge. Developments shall provide a public viewing area accessible from the future extension of E Fourteenth Street that allows views from the top of the bluff to the river and connects to a public sidewalk.
4. Additional key views of the Willamette River may be identified through the land use approval process. Additional views identified through the land use process may be protected through conditions of approval.

RESPONSE: There are no views of the Willamette River from the subject property, therefore, this Code section does not apply.

E. Significant Tree Grove. Oregon White Oaks within the significant tree grove located north of E Fourteenth Street and between S College and S River Streets shall be preserved, with the exception of removal necessary for a public infrastructure project or removal of trees deemed hazardous by a certified arborist.

RESPONSE: The subject property is not within the significant tree grove located north of E Fourteenth Street and between S College and S River Streets, therefore, this Code section does not apply.

F. Separate Rail Traffic from Other Modes. Transportation improvements to collector and arterial streets shall be designed with considerations intended to mitigate conflicts between rail traffic and other modes such as at-grade rail crossings.

RESPONSE: Transportation improvements to collector and arterial streets are not included as part of this application, therefore, this Code section does not apply.

G. Esplanade Development. Prior to the development of the riverfront esplanade, a slope stability and flood study shall be performed.

RESPONSE: This application does not include development of the riverfront esplanade, therefore, this Code section does not apply.

H. Limits to the Floor Area of Commercial and Office Development within the M-E/RD subdistrict. Within the M-E/RD subdistrict, limits to total floor area shall be imposed in order to (a) preserve the predominantly employment-focused nature of the district east of S River Street and (b) limit traffic impacts of development within the M-E/RD subdistrict on nearby intersections, as identified in the 2019 Riverfront Master Plan and its Transportation Planning Rule (TPR) findings. The limits are as follows:

1. Commercial Retail Development. Within the M-E/RD Subdistrict, the total combined floor area for development within the categories of commercial sales and rental uses, eating and drinking establishments, commercial services, and commercial recreation shall not exceed 60,000 square feet.

2. Commercial Office Development. Within the M-E/RD subdistrict, the total combined floor area for development in the category of commercial office shall not exceed 60,000 square feet.

RESPONSE: The subject property is within the CF/RD zone, therefore, this Code section does not apply.

Division 15.400 Development Standards

15.410 Yard Setback Requirements

15.410.020 Front yard setback.

D. Institutional and Community Facility. All lots or development sites in the I and CF district shall have a front yard of 25 feet. Outdoor activity facilities, such as pools, basketball courts, tennis courts, or baseball diamonds, including any accessory structures and uses, are not permitted within the required setback.

RESPONSE: The Land Use Plan Set (Section C) shows that there are no proposed improvements located within 25 feet of the front yard, which meets the requirements of the CF district.

15.410.030 Interior yard setback.

D. Institutional and Community Facility. All lots or development sites in the I and CF district shall have interior yards of not less than 10 feet, except outdoor activity facilities, such as pools, basketball courts, tennis courts, or baseball diamonds, including any accessory structures and uses, shall have an interior yard setback of 25 feet when abutting a residential district.

RESPONSE: The Land Use Plan Set (Section C) shows that there are no proposed improvements located within 25 feet of the interior side yard, which meets the requirements of the CF district.

15.410.060 Vision clearance.

The following vision clearance standards shall apply in all zones (see Appendix A, Figure 9).

A. At the intersection of two streets, including private streets, a triangle formed by the intersection of the curb lines, each leg of the vision clearance triangle shall be a minimum of 50 feet in length.

B. At the intersection of a private drive and a street, a triangle formed by the intersection of the curb lines, each leg of the vision clearance triangle shall be a minimum of 25 feet in length.

C. Vision clearance triangles shall be kept free of all visual obstructions from two and one-half feet to nine feet above the curb line. Where curbs are absent, the edge of the asphalt or future curb location shall be used as a guide, whichever provides the greatest amount of vision clearance.

D. There is no vision clearance requirement within the commercial zoning district(s) located within the riverfront (RF) overlay subdistrict.

RESPONSE: The subject property is accessed at the southern terminus of S Blaine Street and does not front onto an intersection of two streets or an intersection of a street and private road. Therefore, there are no vision clearance triangle requirements for this project.

15.410.070 Yard exceptions and permitted intrusions into required yard setbacks.

The following intrusions may project into required yards to the extent and under the conditions and limitations indicated:

A. Depressed Areas. In any district, open work fences, hedges, guard railings or other landscaping or architectural devices for safety protection around depressed ramps, stairs or retaining walls may be located in required yards; provided, that such devices are not more than three and one-half feet in height.

B. Accessory Buildings. In front yards on through lots, where a through lot has a depth of not more than 140 feet, accessory buildings may be located in one of the required front yards; provided, that every portion of such accessory building is not less than 10 feet from the nearest street line.

C. Projecting Building Features. The following building features may project into the required front yard no more than five feet and into the required interior yards no more than two feet; provided, that such projections are no closer than three feet to any interior lot line:

1. Eaves, cornices, belt courses, sills, awnings, buttresses or other similar features.

2. Chimneys and fireplaces, provided they do not exceed eight feet in width.

3. Porches, platforms or landings which do not extend above the level of the first floor of the building.

4. Mechanical structures (heat pumps, air conditioners, emergency generators and pumps).

D. Fences and Walls.

1. In the residential district, a fence or wall shall be permitted to be placed at the property line or within a yard setback as follows:

a. Not to exceed six feet in height. Located or maintained within the required interior yards. For purposes of fencing only, lots that are corner lots or through lots may select one of the street frontages as a front yard and all other yards shall be considered as interior yards, allowing the placement of a six-foot fence

on the property line. In no case may a fence extend into the clear vision zone as defined in NMC 15.410.060.

b. Not to exceed four feet in height. Located or maintained within all other front yards.

2. In any commercial, industrial, or mixed employment district, a fence or wall shall be permitted to be placed at the property line or within a yard setback as follows:

a. Not to exceed eight feet in height. Located or maintained in any interior yard except where the requirements of vision clearance apply. For purposes of fencing only, lots that are corner lots or through lots may select one of the street frontages as a front yard and all other yards shall be considered as interior yards, allowing the placement of an eight-foot fence on the property line.

b. Not to exceed four feet in height. Located or maintained within all other front yards.

3. If chain link (wire-woven) fences are used, they are manufactured of corrosion-proof materials of at least 11-1/2 gauge.

4. The requirements of vision clearance shall apply to the placement of fences.

E. Parking and Service Drives (Also Refer to NMC 15.440.010 through 15.440.080).

1. In any district, service drives or accessways providing ingress and egress shall be permitted, together with any appropriate traffic control devices in any required yard.

2. In any residential district, public or private parking areas and parking spaces shall not be permitted in any required yard except as provided herein:

a. Required parking spaces shall be permitted on service drives in the required front yard in conjunction with any single-family detached dwelling, duplex dwelling, triplex dwelling, quadplex dwelling, or townhouse dwelling on a single lot.

b. Recreational vehicles, boat trailers, camperettes and all other vehicles not in daily use are restricted to parking in the front yard setback for not more than 48 hours; and recreational vehicles, boat trailers, camperettes and all other vehicles not in daily use are permitted to be located in the required interior yards.

c. Public or private parking areas, parking spaces or any building or portion of any building intended for parking which have been identified as a use permitted in any residential district shall be permitted in any interior yard that abuts an alley, provided said parking areas, structures or spaces shall comply with NMC 15.440.070, Parking tables and diagrams (Diagrams 1 through 3).

d. Public or private parking areas, service drives or parking spaces which have been identified as a use permitted in any residential district shall be permitted in interior yards; provided, that said parking areas, service drives or parking spaces shall comply with other requirements of this code.

3. In any commercial or industrial district, except C-1, C-4, M-1, and M-E, public or private parking areas or parking spaces shall be permitted in any required yard (see NMC 15.410.030). Parking requirements in the C-4 district and the M-E district within the riverfront overlay subdistrict are described in NMC 15.352.040(H).

4. In the I district, public or private parking areas or parking spaces may be no closer to a front property line than 20 feet, and no closer to an interior property line than five feet.

F. Public Telephone Booths and Public Transit Shelters. Public telephone booths and public transit shelters shall be permitted; provided, that vision clearance is maintained for vehicle requirements for vision clearance.

G. Hangars within the AR airport residential district may be constructed with no yard setbacks to property lines adjacent to other properties within the airport residential or airport industrial districts.

RESPONSE: The subject property does not currently include any of these yard exceptions and intrusions into required yard setbacks, therefore, this Code section does not apply.

15.415 Building and Site Design Standards

15.415.010 Main buildings and uses as accessory buildings.

A. Hereinafter, any building which is the only building on a lot is a main building.

B. In any residential district except RP, there shall be only one main use per lot or development site; provided, that home occupations shall be allowed where permitted.

C. In any residential district, there shall be no more than two accessory buildings on any lot or development site.

15.415.020 Building height limitations.

A. Residential.

1. In the R-1 district, no main building shall exceed 30 feet in height, except that townhouse dwellings shall not exceed 35 feet in height.

2. In the R-2, AR, and RP districts, no main building shall exceed 35 feet in height.

3. In the R-3 district, no main building shall exceed 45 feet in height, except, where an R-3 district abuts upon an R-1 district, the maximum permitted building height shall be limited to 30 feet for a distance of 50 feet from the abutting boundary of the aforementioned district.

4. Accessory buildings in the R-1, R-2, R-3, AR, and RP districts are limited to 16 feet in height, except as follows:

a. Up to 800 square feet of an accessory building may have a height of up to 24 feet.

b. Aircraft hangars in the AR district may be the same height as the main building.

5. No cottage cluster dwelling shall exceed 25 feet in height in any zone where the use is permitted.

6. Single-family dwellings permitted in commercial or industrial districts shall not exceed 35 feet in height, or the maximum height permitted in the zone, whichever is less.

B. Commercial, Industrial and Mixed Employment.

1. In the C-1 district no main building or accessory building shall exceed 30 feet in height.

2. In the AI, C-2, C-3, M-E, M-1, M-2, and M-3 districts there is no building height limitation, except, where said districts abut upon a residential district, the maximum permitted building height shall not exceed the maximum building height permitted in the abutting residential district for a distance of 50 feet from the abutting boundary.

3. In the C-4 district, building height limitation is described in NMC 15.352.040(J)(1).

4. In the M-E district within the riverfront overlay subdistrict, building height limitation is described in NMC 15.352.060.

C. The maximum height of buildings and uses permitted conditionally shall be stated in the conditional use permits.

D. Institutional. The maximum height of any building or structure will be 75 feet except as follows:

1. Within 50 feet of an interior property line abutting a C-1, R-1, R-2 or R-P district, no main building may exceed 30 feet.

2. Within 50 feet of an interior property line abutting an R-3 district, no main building may exceed 45 feet.

3. Within 100 feet of a property line abutting a public street or railroad right-of-way, or within 100 feet of property lines abutting parcels with an R-1, R-2, R-3, R-P, C-1, C-2, C-3, M-1, M-2, or M-3 zoning designation, no main building may exceed 50 feet in height.

4. To utilize the maximum permitted height standard, at least 80 percent of the building's ground coverage must be beyond the setback area designated in subsection (D)(3) of this section. The maximum encroachment may not exceed 25 feet.

E. Alternative Building Height Standard. As an alternative to the building height standards above, any project may elect to use the following standard (see Figure 24 in Appendix A). To meet this standard:

1. Each point on the building must be no more than 20 feet higher than the ground level at all points on the property lines, plus one vertical foot for each horizontal foot of distance from that property line; and

2. Each point on the building must be no more than 20 feet higher than the ground level at a point directly north on a property line, plus one vertical foot for each two horizontal feet of distance between those points. This second limit does not apply if the property directly to the north is a right-of-way, parking lot, protected natural resource, or similar unbuildable property.

F. Buildings within the airport overlay subdistrict are subject to the height limits of that subdistrict.

RESPONSE: This application includes a pedestrian footbridge across Chehalem Creek, which is considered a structure. The Land Use Plan Set (Section C) shows that the proposed footbridge is in compliance with the height restrictions defined in this Code section.

15.420 Landscaping and Outdoor Areas

15.420.010 Required minimum standards.

B. Required Landscaped Area. The following landscape requirements are established for all developments except single-family detached dwellings, duplex dwellings, triplex dwellings, quadplex dwellings, townhouse dwellings and cottage cluster projects:

1. A minimum of 15 percent of the lot area shall be landscaped; provided, however, that computation of this minimum may include areas landscaped under subsection (B)(3) of this section. Development in the C-3 (central business district) zoning district and M-4 (large lot industrial) zoning district is exempt from the 15 percent landscape area requirement of this section. Additional landscaping requirements in the C-4 district are described in NMC 15.352.040(K). In the AI airport industrial district, only a five percent landscaping standard is required with the goal of "softening" the buildings and making the development "green" with plants, where possible. The existence of the runway, taxiway, and approach open areas already provide generally for the 15 percent requirement. Developments in the AI airport industrial district with a public street frontage shall have said minimum landscaping between the front property line and the front of the building.

2. All areas subject to the final design review plan and not otherwise improved shall be landscaped.

RESPONSE: The Land Use Plan Set (Section C) shows that more than 99% of the subject property will remain as landscape area, thus exceeding the requirements of this Code section.

3. The following landscape requirements shall apply to the parking and loading areas:

a. A parking or loading area providing 10 or more spaces shall be improved with defined landscaped areas totaling no less than 25 square feet per parking space.

b. A parking, loading area, or drive aisle which runs adjacent to a property line shall be separate from any lot line adjacent to a street by a landscaped strip at least 10 feet in interior width or the width of the required yard, whichever is greater, and any other lot line by a landscaped strip of at least five feet in interior width. See subsections (B)(3)(c) and (d) of this section for material to plant within landscape strips.

c. A landscaped strip separating a parking area, loading area, or drive aisle from a street shall contain street trees spaced as appropriate to the species, not to exceed 50 feet apart on average, and a combination of shrubs and ground cover, or lawn. This landscaping shall provide partial screening of these areas from the street.

d. A landscaped strip separating a parking area, loading area, or drive aisle from an interior lot line shall contain any combination of trees, shrubs, ground cover or lawn. Plant material shall be selected from at least two different plant material groups (example: trees and shrubs, or lawn and shrubs, or lawn and trees and shrubs).

e. Landscaping in a parking or loading area shall be located in defined landscaped areas which are uniformly distributed throughout the parking or loading area.

f. Landscaping areas in a parking lot, service drive or loading area shall have an interior width of not less than five feet.

g. All multifamily, institutional, commercial, or industrial parking areas, service drives, or loading zones which abut a residential district shall be enclosed with a 75 percent opaque, site-obscuring fence, wall or evergreen hedge along and immediately adjacent to any interior property line which abuts the residential district. Landscape plantings must be large enough to provide the required minimum screening requirement within 12 months after initial installation. Adequate provisions shall be maintained to protect walls, fences or plant materials from being damaged by vehicles using said parking areas.

h. An island of landscaped area shall be located to separate blocks of parking spaces. At a minimum, one deciduous shade tree per seven parking spaces shall be planted to create a partial tree canopy over and around the parking area. No more than seven parking spaces may be grouped together without an island separation unless otherwise approved by the director based on the following alternative standards:

   i. Provision of a continuous landscaped strip, with a five-foot minimum width, which runs perpendicular to the row of parking spaces (see Appendix A, Figure 13).

   ii. Provision of tree planting landscape islands, each of which is at least 16 square feet in size, and spaced no more than 50 feet apart on average, within areas proposed for back-to-back parking (see Appendix A, Figure 14).

RESPONSE: This application does not include a parking or loading area, therefore, this Code section does not apply.

4. Trees, Shrubs and Ground Covers. The species of street trees required under this section shall conform to those authorized by the city council through resolution. The director shall have the responsibility for preparing and updating the street tree species list which shall be adopted in resolution form by the city council.

   a. Arterial and minor arterial street trees shall have spacing of approximately 50 feet on center. These trees shall have a minimum two-inch caliper tree trunk or stalk at a measurement of two feet up from the base and shall be balled and burlapped or boxed.

   b. Collector and local street trees shall be spaced approximately 35 to 40 feet on center. These trees shall have a minimum of a one and one-half or one and three-fourths inch tree trunk or stalk and shall be balled and burlapped or boxed.

c. Accent Trees. Accent trees are trees such as flowering cherry, flowering plum, crab-apple, Hawthorne and the like. These trees shall have a minimum one and one-half inch caliper tree trunk or stalk and shall be at least eight to 10 feet in height. These trees may be planted bare root or balled and burlapped. The spacing of these trees should be approximately 25 to 30 feet on center.

d. All broad-leafed evergreen shrubs and deciduous shrubs shall have a minimum height of 12 to 15 inches and shall be balled and burlapped or come from a two-gallon can. Gallon-can size shrubs will not be allowed except in ground covers. Larger sizes of shrubs may be required in special areas and locations as specified by the design review board. Spacing of these shrubs shall be typical for the variety, three to eight feet, and shall be identified on the landscape planting plan.

e. Ground Cover Plant Material. Ground cover plant material such as greening juniper, cotoneaster, minor Bowles, English ivy, hypericum and the like shall be one of the following sizes in specified spacing for that size:

Gallon cans	3 feet on center
4" containers	2 feet on center
2-1/4" containers	18" on center
Rooted cuttings	12" on center

RESPONSE: Sheet L5.10 Planting Plan (Section C) show that trees and groundcovers planned for this project meet the requirements of this Code section.

5. Automatic, underground irrigation systems shall be provided for all areas required to be planted by this section. The director shall retain the flexibility to allow a combination of irrigated and nonirrigated areas. Landscaping material used within nonirrigated areas must consist of drought- resistant varieties. Provision must be made for alternative irrigation during the first year after initial installation to provide sufficient moisture for plant establishment.

RESPONSE: Sheet L5.10 Planting Plan (Section C) shows that tree and groundcover species selected for this project are native, drought-tolerant, and suitable for their specific site conditions. For this reason, no permanent irrigation system will be provided. Park maintenance staff will monitor the plants and provide hand watering on an as-needed basis through the first year following plant installation.

6. Required landscaping shall be continuously maintained.

7. Maximum height of tree species shall be considered when planting under overhead utility lines.

8. Landscaping requirements and standards for parking and loading areas (subsection (B)(3) of this section) will apply to development proposals unless the institution has addressed the requirements and standards by an approved site development master plan. With an approved site development master plan, the landscape requirements will be reviewed through an administrative Type I review process.

9. In the M-4 zone, landscaping requirements and standards for parking and loading areas (subsection (B)(3) of this section) do not apply unless within 50 feet of a residential district.

RESPONSE: The Applicant acknowledges that the installed landscape shall be maintained pursuant to this Code section.

C. Installation of Landscaping. All landscaping required by these provisions shall be installed prior to the issuance of occupancy permits, unless security equal to 110 percent of the cost of the landscaping as determined by the director is filed with the city, insuring such installation within six months of occupancy. A security – cash, certified check, time certificates of deposit, assignment of a savings account, bond or such other assurance of completion as shall meet with the approval of the city attorney – shall satisfy the security requirements. If the installation of the landscaping is not completed within the six-month period, or within an extension of time authorized by the director, the security may be used by the city to complete the installation. Upon completion of the installation, any portion of the remaining security deposited with the city shall be returned to the applicant.

RESPONSE: All plantings will be installed prior to final completion of the project.

15.420.020 Landscaping and amenities in public rights-of-way.

The following standards are intended to create attractive streetscapes and inviting pedestrian spaces. A review body may require any of the following landscaping and amenities to be placed in abutting public rights-of-way as part of multifamily, commercial, industrial, or institutional design reviews, or for subdivisions and planned unit developments. In addition, any entity improving existing rights-of-way should consider including these elements in the project. A decision to include any amenity shall be based on comprehensive plan guidelines, pedestrian volumes in the area, and the nature of surrounding development.

A. Pedestrian Space Landscaping. Pedestrian spaces shall include all sidewalks and medians used for pedestrian refuge. Spaces near sidewalks shall provide plant material for cooling and dust control, and street furniture for comfort and safety, such as benches, waste receptacles and pedestrian-scale lighting. These spaces should be designed for short-term as well as long-term use. Elements of pedestrian spaces shall not obstruct sightlines and shall adhere to any other required city safety measures. Medians used for pedestrian refuge shall be designed for short-term use only with plant material for cooling and dust control, and pedestrian-scale lighting. The design of these spaces shall facilitate safe pedestrian crossing with lighting and accent paving to delineate a safe crossing zone visually clear to motorists and pedestrians alike.

1. Street trees planted in pedestrian spaces shall be planted according to NMC 15.420.010(B)(4).

2. Pedestrian spaces shall have low (two and one-half feet) shrubs and ground covers for safety purposes, enhancing visibility and discouraging criminal activity.

    a. Plantings shall be 90 percent evergreen year-round, provide seasonal interest with fall color or blooms, and at maturity maintain growth within the planting area (refer to plant material matrix below).

b. Plant placement shall also adhere to clear sight line requirements as well as any other relevant city safety measures.

3. Pedestrian-scale lighting shall be installed along sidewalks and in medians used for pedestrian refuge.

   a. Pole lights as well as bollard lighting may be specified; however, the amount and type of pedestrian activity during evening hours, e.g., transit stops, nighttime service districts, shall ultimately determine the type of fixture chosen.

   b. Luminaire styles shall match the area/district theme of existing luminaires and shall not conflict with existing building or roadway lights causing glare.

   c. Lighting heights and styles shall be chosen to prevent glare and to designate a clear and safe path and limit opportunities for vandalism (see Appendix A, Figure 17, Typical Pedestrian Space Layouts).

   d. Lighting shall be placed near the curb to provide maximum illumination for spaces furthest from building illumination. Spacing shall correspond to that of the street trees to prevent tree foliage from blocking light.

4. Street furniture such as benches and waste receptacles shall be provided for spaces near sidewalks only.

   a. Furniture should be sited in areas with the heaviest pedestrian activity, such as downtown, shopping districts, and shopping centers.

   b. Benches should be arranged to facilitate conversation between individuals with L-shaped arrangements and should face the area focal point, such as shops, fountains, plazas, and should divert attention away from nearby traffic.

5. Paving and curb cuts shall facilitate safe pedestrian crossing and meet all ADA requirements for accessibility.

B. Planting Strip Landscaping. All planting strips shall be landscaped. Planting strips provide a physical and psychological buffer for pedestrians from traffic with plant material that reduces heat and dust, creating a more comfortable pedestrian environment. Planting strips shall have different arrangements and combinations of plant materials according to the frequency of on-street parking (see Appendix A, Figures 18 and 19).

   1. Planting strips which do not have adjacent parking shall have a combination of ground covers, low (two and one-half feet) shrubs and trees. Planting strips adjacent to frequently used on-street parking, as defined by city staff, shall only have trees protected by tree grates, and planting strips adjacent to infrequently used on-street parking shall be planted with ground cover as well as trees (see Appendix A, Figures 18 and 19, Typical Planting Strip Layouts). District themes or corridor themes linking individual districts should be followed utilizing a unifying plant characteristic, e.g., bloom color, habit, or fall color. When specifying thematic plant material, monocultures should be avoided, particularly those species susceptible to disease.

   2. Street trees shall be provided in all planting strips as provided in NMC 15.420.010(B)(4).

      a. Planting strips without adjacent parking or with infrequent adjacent parking shall have street trees in conjunction with ground covers and/or shrubs.

b. Planting strips with adjacent parking used frequently shall have only street trees protected by tree grates.

3. Shrubs and ground covers shall be provided in planting strips without adjacent parking with low (two and one-half feet) planting masses to enhance visibility, discourage criminal activity, and provide a physical as well as psychological buffer from passing traffic.

   a. Plantings shall be 90 percent evergreen year-round, provide seasonal interest with fall color or blooms and at maturity maintain growth within the planting area.

   b. Ground cover able to endure infrequent foot traffic shall be used in combination with street trees for planting strips with adjacent occasional parking (refer to plant material matrix below).

   c. All plant placement shall adhere to clear sight line requirements as well as any other relevant city safety measures.

RESPONSE: This application does not include any improvements in public rights-of-way, therefore, this Code section does not apply.

15.425 Exterior Lighting

15.425.010 Purpose.

The purpose of this chapter is to regulate the placement, orientation, distribution patterns, and fixture types of on-site outdoor lighting. The intent of this section is to provide minimum lighting standards that promote safety, utility, and security, prevent glare on public roadways, and protect the privacy of residents. [Ord. 2537, 11-6-00. Code 2001 § 151.585.]

15.425.020 Applicability and exemptions.

A. Applicability. Outdoor lighting shall be required for safety and personal security in areas of assembly, parking, and traverse, as part of multifamily residential, commercial, industrial, public, recreational and institutional uses. The applicant for any Type I or Type II development permit shall submit, as part of the site plan, evidence that the proposed outdoor lighting plan will comply with this section. This information shall contain but not be limited to the following:

   1. The location, height, make, model, lamp type, wattage, and proposed cutoff angle of each outdoor lighting fixture.

   2. Additional information the director may determine is necessary, including but not limited to illuminance level profiles, hours of business operation, and percentage of site dedicated to parking and access.

   3. If any portion of the site is used after dark for outdoor parking, assembly or traverse, an illumination plan for these areas is required. The plan must address safety and personal security.

B. Exemptions. The following uses shall be exempt from the provisions of this section:

   1. Public street and airport lighting.

   2. Circus, fair, carnival, or outdoor governmentally sponsored event or festival lighting.

3. Construction or emergency lighting, provided such lighting is discontinued immediately upon completion of the construction work or abatement of the emergency necessitating said lighting.

4. Temporary Lighting. In addition to the lighting otherwise permitted in this code, a lot may contain temporary lighting during events as listed below:

    a. Grand Opening Event. A grand opening is an event of up to 30 days in duration within 30 days of issuance of a certificate of occupancy for a new or remodeled structure, or within 30 days of change of business or ownership. No lot may have more than one grand opening event per calendar year. The applicant shall notify the city in writing of the beginning and ending dates prior to the grand opening event.

    b. Other Events. A lot may have two other events per calendar year. The events may not be more than eight consecutive days in duration, nor less than 30 days apart.

5. Lighting activated by motion sensor devices.

6. Nonconforming lighting in place as of September 5, 2000. Replacement of nonconforming lighting is subject to the requirements of NMC 15.205.010 through 15.205.100.

7. Light Trespass onto Industrial Properties. The lighting trespass standards of NMC 15.425.040 do not apply where the light trespass would be onto an industrially zoned property. [Ord. 2720 § 1(18), 11-2-09; Ord. 2537, 11-6-00. Code 2001 § 151.586.]

15.425.030 Alternative materials and methods of construction, installation, or operation.

The provisions of this section are not intended to prevent the use of any design, material, or methods of installation or operation not specifically prescribed by this section, provided any such alternate has been approved by the director. Alternatives must be an approximate equivalent to the applicable specific requirement of this section and must comply with all other applicable standards in this section. [Ord. 2537, 11-6-00. Code 2001 § 151.587.]

15.425.040 Requirements.

A. General Requirements – All Zoning Districts.

1. Low-level light fixtures include exterior lights which are installed between ground level and six feet tall. Low-level light fixtures are considered nonintrusive and are unrestricted by this code.

2. Medium-level light fixtures include exterior lights which are installed between six feet and 15 feet above ground level. Medium-level light fixtures must either comply with the shielding requirements of subsection (B) of this section, or the applicant shall show that light trespass from a property has been designed not to exceed one-half foot-candle at the property line.

3. High-level light fixtures include exterior lights which are installed 15 feet or more above ground level. High-level light fixtures must comply with the shielding requirements of subsection (B) of this section, and light trespass from a property may not exceed one-half foot-candle at the property line.

B. Table of Shielding Requirements.

Fixture Lamp Type	Shielded
Low/high pressure sodium, mercury vapor, metal halide and fluorescent over 50 watts	Fully
Incandescent over 160 watts	Fully
Incandescent 160 watts or less	None
Fossil fuel	None
Any light source of 50 watts or less	None
Other sources	As approved by NMC 15.425.030

RESPONSE: The proposed improvements are part of Ewing Young Park, which is closed at sunset and not open during nighttime hours. For this reason, exterior lighting is not included in this project, therefore, this Code section does not apply.

15.430 Underground Utility Installation

A. All new utility lines, including but not limited to electric, communication, natural gas, and cable television transmission lines, shall be placed underground. This does not include surface-mounted transformers, connections boxes, meter cabinets, service cabinets, temporary facilities during construction, and high-capacity electric lines operating at 50,000 volts or above.

B. Existing utility lines shall be placed underground when they are relocated, or when an addition or remodel requiring a Type II design review is proposed, or when a developed area is annexed to the city.

C. The director may make exceptions to the requirement to underground utilities based on one or more of the following criteria:

1. The cost of undergrounding the utility is extraordinarily expensive.
2. There are physical factors that make undergrounding extraordinarily difficult.
3. Existing utility facilities in the area are primarily overhead and are unlikely to be changed. [Ord. 2537, 11-6-00. Code 2001 § 151.589.]

RESPONSE: The proposed improvements do not include any utilities, therefore, this Code section does not apply.

15.435 Signs

RESPONSE: The proposed improvements do not include any signs, therefore, this Code section does not apply.

15.440 Off-Street Parking, Bicycle Parking, and Private Walkways

Article I. Off-Street Parking Requirements

15.440.010 Required off-street parking.

A. Off-street parking shall be provided on the lot or development site for all R-1, C-1, M-1, M-2 and M-3 zones. In all other zones, the required parking shall be on the lot or development site or within 400 feet of the lot or development site which the parking is required to serve. All required parking must be under the same ownership as the lot or development site served except through special covenant agreements as approved by the city attorney, which bind the parking to the lot or development site.

   1. In cases where the applicant is proposing off-street parking, refer to subsection (F) of this section for the maximum number of parking spaces.

B. Off-street parking is required pursuant to NMC 15.440.030 in the C-2 district.

   1. In cases where the applicant is proposing off-street parking, refer to subsection (F) of this section for the maximum number of parking spaces.

C. Off-street parking is not required in the C-3 district, except for:

   1. Dwelling units meeting the requirements noted in NMC 15.305.020.

   2. New development which is either immediately adjacent to a residential district or separated by nothing but an alley.

   3. In cases where the applicant is proposing off-street parking, refer to subsection (F) of this section for the maximum number of parking spaces.

D. Within the C-4 district, the minimum number of required off-street parking spaces shall be 50 percent of the number required by NMC 15.440.030, except that no reduction is permitted for residential uses. For maximum number of off-street parking spaces refer to subsection (F) of this section.

E. All commercial, office, or industrial developments that have more than 20 off-street parking spaces and that have designated employee parking must provide at least one preferential carpool/vanpool parking space. The preferential carpool/vanpool parking space(s) must be located close to a building entrance.

F. Maximum Number of Off-Street Automobile Parking Spaces. The maximum number of off-street automobile parking spaces allowed per site equals the minimum number of required spaces, pursuant to NMC 15.440.030, multiplied by a factor of:

   1. One and one-fifth spaces for uses fronting a street with adjacent on-street parking spaces; or

   2. One and one-half spaces for uses fronting no street with adjacent on-street parking; or

   3. A factor determined according to a parking analysis. [Ord. 2889 § 2 (Exh. B § 35), 12-6-21; Ord. 2862 § 1 (Exh. A § 2), 6-15-20; Ord. 2851 § 1 (Exh. A § 2), 1-21-20; Ord. 2810 § 2 (Exhs. B, C), 12-19-16; Ord. 2763 § 1 (Exh. A § 15), 9-16-13; Ord. 2564, 4-15-02; Ord. 2561, 4-1-02; Ord. 2451, 12-2-96. Code 2001 § 151.610.]

RESPONSE: The existing park includes a gravel parking lot which provides approximately 84 parking spaces. Since the existing gravel parking lot adequately serves the needs of the existing park, and the proposed improvements will not overly increase parking needs, no new parking is proposed as part of this application.

Article II. Bicycle Parking

15.440.090 Purpose.

Cycling is a healthy activity for travel and recreation. In addition, by maximizing bicycle travel, the community can reduce negative effects of automobile travel, such as congestion and pollution. To maximize bicycle travel, developments must provide effective support facilities. At a minimum, developments need to provide a secure place for employees, customers, and residents to park their bicycles.

15.440.100 Facility requirements.

Bicycle parking facilities shall be provided for the uses shown in the following table. Fractional space requirements shall be rounded up to the next whole number.

Use	Minimum Number of Bicycle Parking Spaces Required
Parks	Two bicycle parking spaces within 50 feet of each developed play-ground, ball field, or shelter

RESPONSE: The subject property and proposed improvements do not include a play-ground, ball field, or shelter, therefore, this Code section does not apply. The existing Ewing Young Park does include a playground and picnic shelter on an adjacent tax lot, for which there are six (6) bicycle parking spaces provided.

Article III. Private Walkways

15.440.120 Purpose.

Sidewalks and private walkways are part of the city's transportation system. Requiring their construction is part of the city's plan to encourage multimodal travel and to reduce reliance on the automobile. Considerable funds have and will be expended to install sidewalks along the streets in the city. Yet there is little point to this expense if it is not possible for people to walk from the sidewalk to the developments along each side. The following requirements are intended to provide safe and convenient paths for employees, customers, and residents to walk from public sidewalks to development entrances, and to walk between buildings on larger sites.

15.440.130 Where required.

Private walkways shall be constructed as part of any development requiring Type II design review, including mobile home parks. In addition, they may be required as part of conditional use permits or planned unit developments. In the airport industrial (AI) district and residential (AR) district, on-site walks are not required in aircraft operations areas, such as parking aprons, taxiways, and runways.

15.440.140 Private walkway design.

A. All required private walkways shall meet the applicable building code and Americans with Disabilities Act requirements.

B. Required private walkways shall be a minimum of four feet wide.

C. Required private walkways shall be constructed of portland cement concrete or brick.

D. Crosswalks crossing service drives shall, at a minimum, be painted on the asphalt or clearly marked with contrasting paving materials or humps/raised crossings. If painted striping is used, it should consist of thermoplastic striping or similar type of durable application.

E. At a minimum, required private walkways shall connect each main pedestrian building entrance to each abutting public street and to each other.

F. The review body may require on-site walks to connect to development on adjoining sites.

G. The review body may modify these requirements where, in its opinion, the development provides adequate on-site pedestrian circulation, or where lot dimensions, existing building layout, or topography preclude compliance with these standards.

RESPONSE: The subject property includes an existing system of soft-surface (bark mulch) foot paths for park users to traverse the site while observing the existing natural resources of Ewing Young Park. These paths are generally six feet wide but widths vary depending on site conditions. The bark mulch surface is suitable as a pathway surface within a park of this size, and integrates well with the natural aesthetic of the park. Some of the existing slopes of the bark mulch path do not conform to the American with Disabilities Act requirements due to the existing topography on site. The footbridge itself will be designed and constructed in accordance with the American with Disabilities Act requirements, with a longitudinal slope of less than 5% and a cross slope of less than 2%, as shown on Sheet L4.10 Grading Plan (Section C).

Division 15.500 Public Improvement Standards

15.505 Public Improvements Standards

15.505.010 Purpose.

This chapter provides standards for public infrastructure and utilities installed with new development, consistent with the policies of the City of Newberg comprehensive plan and adopted city master plans. The standards are intended to minimize disturbance to natural features, promote energy conservation and efficiency, minimize and maintain development impacts on surrounding properties and neighborhoods, and ensure timely completion of adequate public facilities to serve new development.

15.505.020 Applicability.

The provision and utilization of public facilities and services within the City of Newberg shall apply to all land developments in accordance with this chapter. No development shall be approved unless the following improvements are provided for prior to occupancy or operation, unless future provision is assured in accordance with NMC 15.505.030(E).

A. Public Works Design and Construction Standards. The design and construction of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall comply with the requirements of the most recently adopted Newberg public works design and construction standards.

RESPONSE: This application does not include any improvements within existing and proposed rights-of-way and easements, therefore, this Code section does not apply.

B. Street Improvements. All projects subject to a Type II design review, partition, or subdivision approval must construct street improvements necessary to serve the development.

RESPONSE: This application does not include any street improvements necessary to serve the development, therefore, this Code section does not apply.

C. Water. All developments, lots, and parcels within the City of Newberg shall be served by the municipal water system as specified in Chapter 13.15 NMC.

RESPONSE: This application does not include a water service as part of the proposed improvements, therefore, this Code section does not apply.

D. Wastewater. All developments, lots, and parcels within the City of Newberg shall be served by the municipal wastewater system as specified in Chapter 13.10 NMC.

RESPONSE: This application does not include a wastewater service as part of the proposed improvements, therefore, this Code section does not apply.

E. Stormwater. All developments, lots, and parcels within the City of Newberg shall manage stormwater runoff as specified in Chapters 13.20 and 13.25 NMC.

RESPONSE: A Preliminary Stormwater Memo (Appendix 10) is attached, which explains the impacts that the project will have to stormwater runoff.

F. Utility Easements. Utility easements shall be provided as necessary and required by the review body to provide needed facilities for present or future development of the area.

RESPONSE: Although not expected for this project, the Applicant acknowledges that utility easements may be required by the review body.

G. City Approval of Public Improvements Required. No building permit may be issued until all required public facility improvements are in place and approved by the director, or are otherwise bonded for in a manner approved by the review authority, in conformance with the provisions of this code and the Newberg Public Works Design and Construction Standards.

RESPONSE: The Applicant acknowledges that public improvements required for this project will meet requirements of this Code section and the Newberg Public Works Design and Construction Standards.

15.505.050 Stormwater system standards.

A. Purpose. The purpose of this section is to provide for the drainage of surface water from all development; to minimize erosion; and to reduce degradation of water quality due to sediments and pollutants in stormwater runoff.

RESPONSE: The Applicant acknowledges the purpose of this Code section.

B. Applicability. The provisions of this section apply to all developments subject to site development review or land division review and to the reconstruction or expansion of such developments that increases the flow or changes the point of discharge to the city stormwater system. Additionally, the provisions of this section shall apply to all drainage facilities that impact any public storm drain system, public right-of-way or public easement, including but not limited to off-street parking and loading areas.

RESPONSE: The Applicant acknowledges that this Code section applies.

D. General Requirement. All stormwater runoff shall be conveyed to a public storm wastewater or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. The developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.

RESPONSE: All stormwater runoff will be conveyed into Chehalem Creek, which matches the current drainage of the project area. There will be a minimal increase of new impervious area for this project, approximately 40 square feet or less. A Preliminary Stormwater Memo is included as Appendix 10.

D. Plan for Stormwater and Erosion Control. No construction of any facilities in a development included in subsection (B) of this section shall be permitted until an engineer registered in the State of Oregon prepares a stormwater report and erosion control plan for the project. This plan shall contain at a minimum:

1. The methods to be used to minimize the amount of runoff, sedimentation, and pollution created from the development both during and after construction.
2. Plans for the construction of stormwater facilities and any other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the stormwater plans.
3. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included in the stormwater report and shall be stamped by a licensed professional engineer in the State of Oregon. Peak design discharges shall be computed based upon the design criteria outlined in the public works design and construction standards for the city.

RESPONSE: A Preliminary Stormwater Memo (Appendix 10) is provided, which addresses the stormwater approach for this project. Once the project is approved by the City and County Planning Departments, a prefabricated bridge manufacturer will provide final design for the bridge. After the final bridge design is completed and prior to construction, a Final Stormwater Report will be developed and submitted to the City for review.

E. Development Standards. Development subject to this section shall be planned, designed, constructed, and maintained in compliance with the Newberg public works design and construction standards.

RESPONSE: The Land Use Plan Set (Section C) includes Sheet L2.10 Demolition & Erosion Control Plan and Sheet L4.10 Grading Plan, which meet the design and construction standards outlined by Newberg Public Works. The Preliminary Stormwater Memo (Appendix 10) is also included.

C
Exhibit Drawings

The following exhibit drawings are intended to meet the plan and graphic requirements for the ***Ewing Young Park Footbridge*** development proposal.

Exhibit drawings contained in this section include:

C - Exhibit Drawings Section

L0.00 – Cover Sheet
L1.10 – Existing Conditions Plan
L2.10 – Demolition & Erosion Control Plan
L3.10 – Site Plan
L3.11 – Bridge Enlargement Plan
L4.10 – Grading Plan
L5.10 – Planting Plan
L5.11 – Planting Details

D
Appendices

The following appendices are intended to supplement the narrative responses and exhibit drawings to meet the applicable Development Code Standards and requirements for the ***Ewing Young Park Footbridge*** development proposal.

Exhibits, documents, and reports contained in this section include:

D - Appendices Section

Appendix 1	Assessor's Tax Map 3 2 19
Appendix 2	CSP 6537 (dated 4/4/1977)
Appendix 3	Pre-Application Meeting Notes (dated 1/5/2022)
Appendix 4	Bridge Hydraulic Design Report
Appendix 5	Geotechnical Report
Appendix 6	US Geologic Survey Soils Map
Appendix 7	List of property owners within 500 feet of the property
Appendix 8	Public Notice Sample
Appendix 9	Stream Corridor and Flood Zone Exhibits
Appendix 10	Preliminary Stormwater Memo

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

SECTION 19 T3S R2W W.M.
YAMHILL COUNTY

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& NEWBERG
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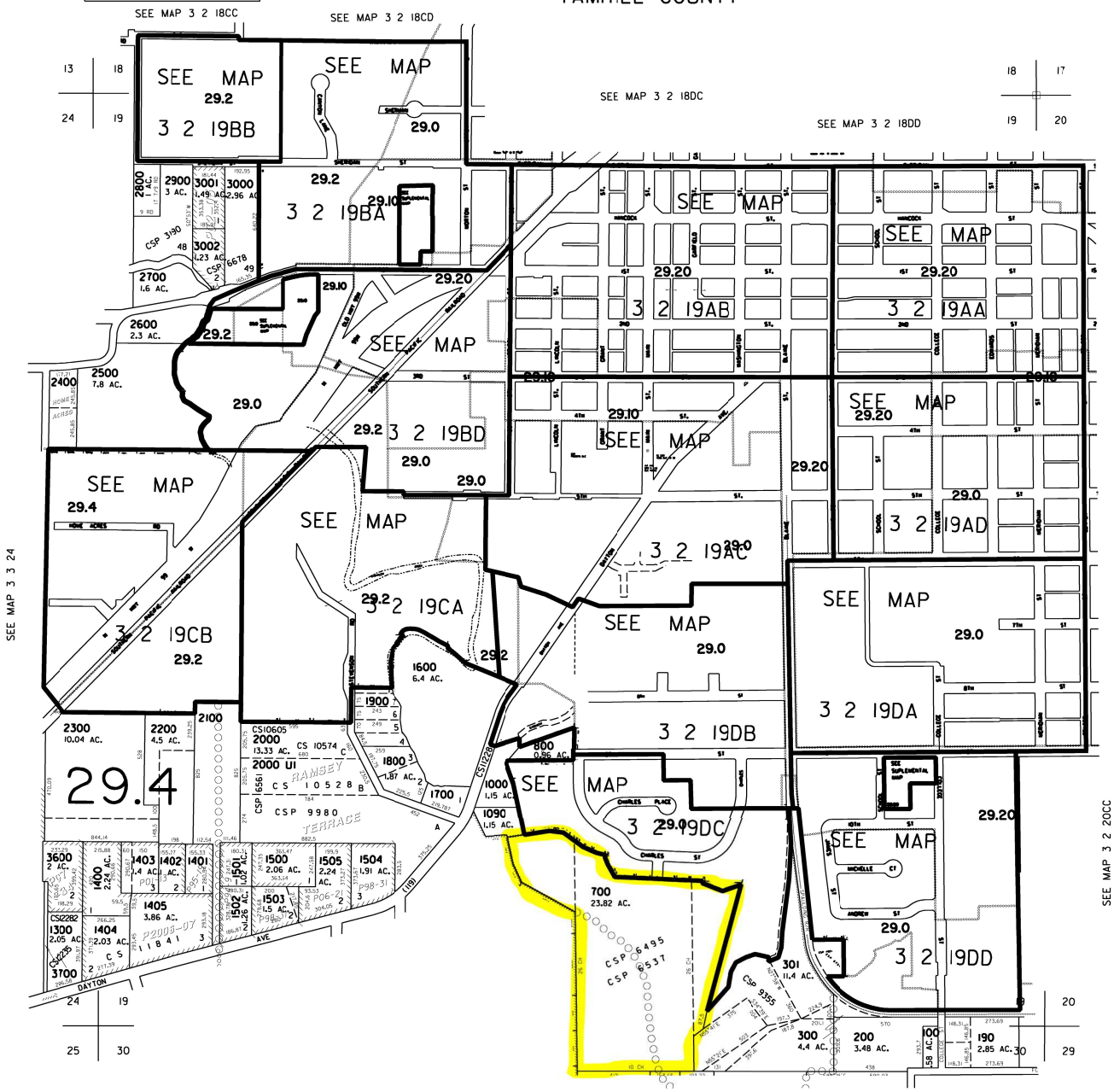

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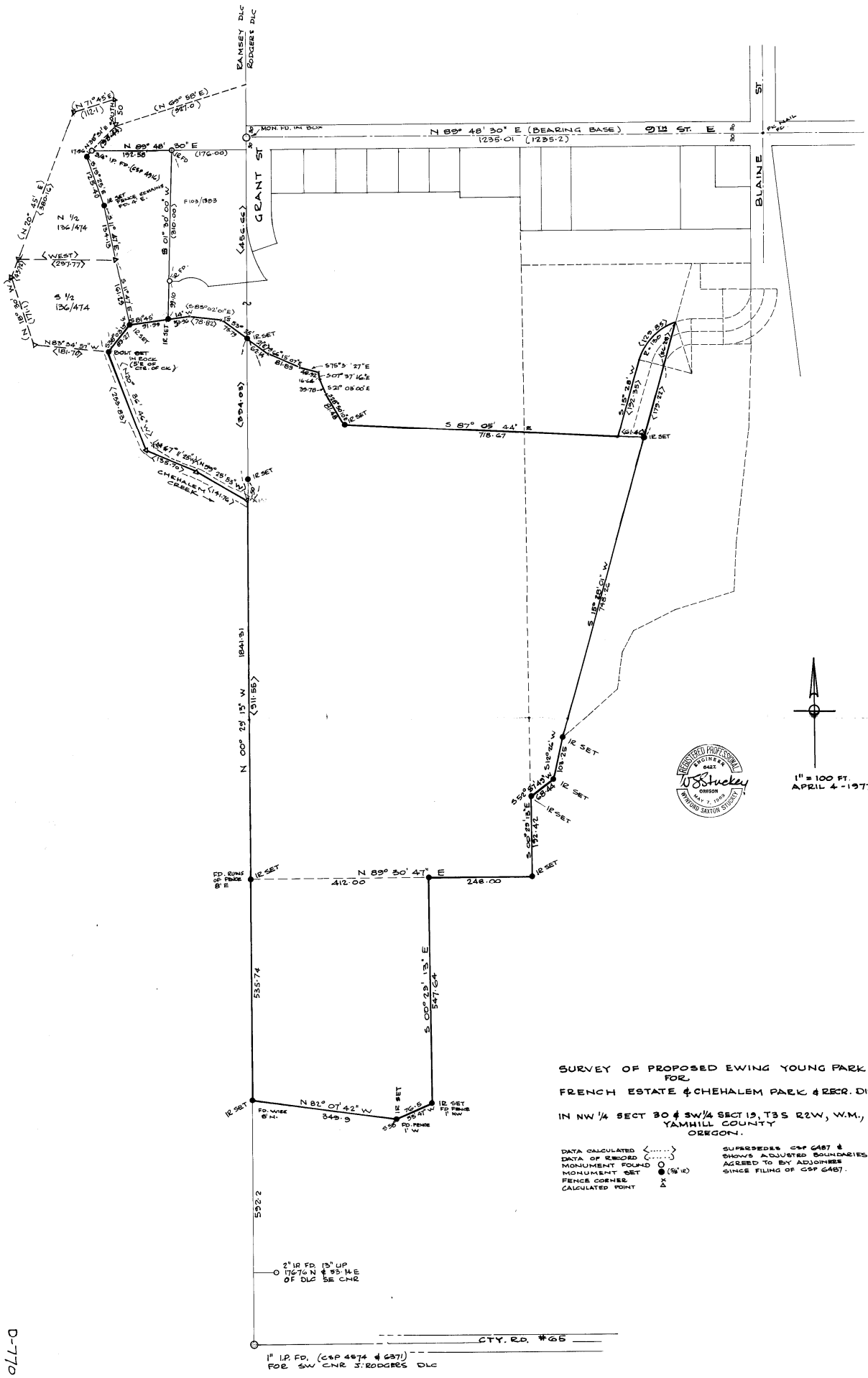


SURVEY OF PROPOSED EWING YOUNG PARK
FOR
FRENCH ESTATE & CHEHALEM PARK & REC. DIST.

IN NW 1/4 SECT 30 & SW 1/4 SECT 19, T3S R2W, W.M.,
YAMHILL COUNTY
OREGON.

DATA CALCULATED <.....>
DATA OF RECORD (.....)
MONUMENT FOUND ○
MONUMENT SET ● (5/8" IR)
FENCE CORNER ⊠
CALCULATED POINT ⊗

SUPERSEDES CSP 6487 & SHOWS ADJUSTED BOUNDARIES AGREED TO BY ADJOINERS SINCE FILING OF CSP 6487.

C.S.P. 6537

T-867

D-77058

7-98-7

PRE-APPLICATION MEETING NOTES

DATE OF PRE-APPLICATION MEETING: 1/5/22, PRE21-0038

MEETING TYPE: Video Conference call

SUBJECT PROPERTY ADDRESS: 1201 S Blaine Street

TAXMAP ID: R3219 00700

LOT SIZE: 23.82 acres

ZONING DISTRICT: CF/RD (Community Facility/Riverfront District)

REQUESTOR'S NAME/BUSINESS: Chehalem Park & Recreation District, Casey Creighton

REQUEST DECRIPTION: Development of Pedestrian Bridge in Stream Corridor Overlay and Special Flood Hazard Overlay

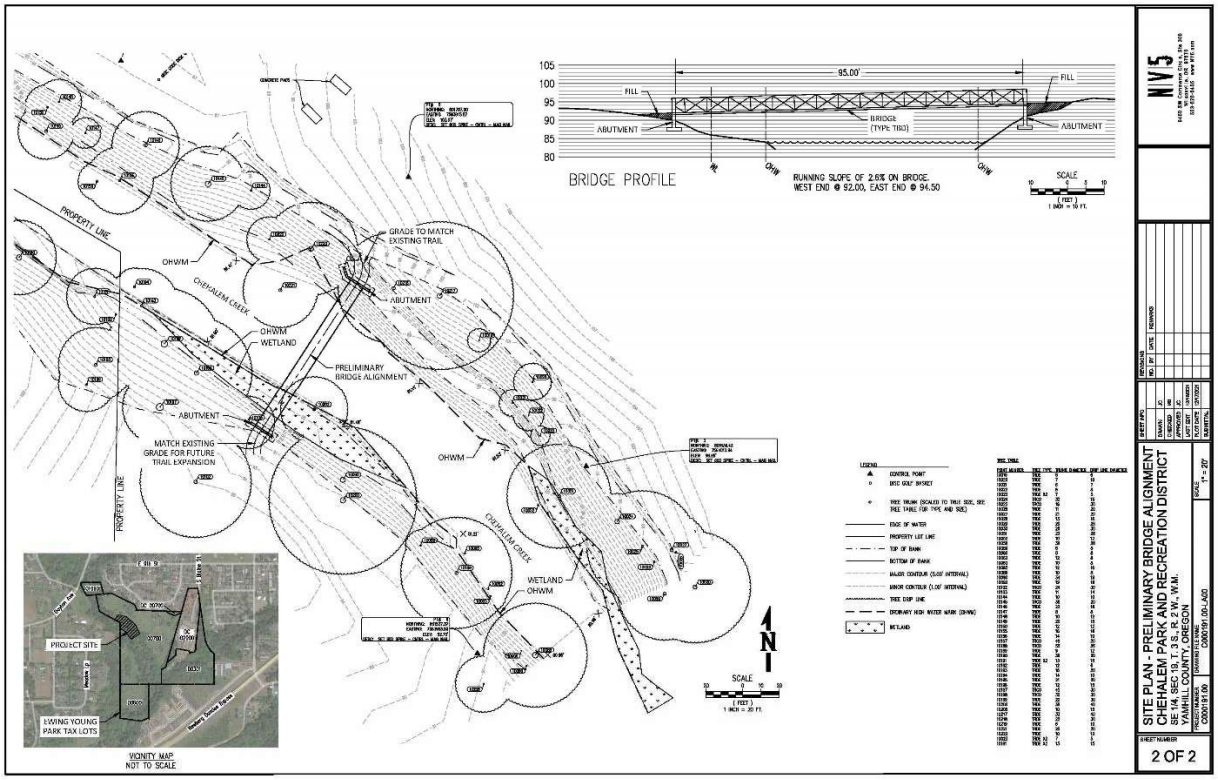
PROPOSED USE ALLOWED: Park 15.305.010

PARTICIPANTS

APPLICANT	CITY STAFF
Casey Creighton	Doug Rux (Host) - CDD
Mike Smyth	Brett Musick – ENG
Jon Champlin	Karyn Hanson - ENG
	Ashley Smith - CDD

Aerial Photo

Site Plan



TUALATIN VALLEY FIRE & RESCUE COMMENTS:

- Contact Ty Darby: Ty.Darby@tvfr.com

BUILDING SAFETY DIVISION COMMENTS: Contact: Jared Bradbury: Jared.Bradbury@newbergoregon.gov

ENGINEERING COMMENTS:

The only engineering concerns with the bridge project are related to stormwater. The applicant will need to address stormwater management requirements if the portion of the bridge that is located within the City has an impervious area of 500 square feet or more. Evaluation of decking material options may help them minimize impervious area. Alternatively, they may want to consider a fee in lieu of constructing stormwater facilities. Section 4.6.11 of the Public Works Design and Construction Standards describes this option. The Master Fee Schedule can be found at https://www.newbergoregon.gov/building/page/permit-center-fee-updates.

It includes the current payment schedule for the stormwater fee in lieu of construction. A public stormwater facility fee in lieu of construction is $2.00 per square foot.

PLANNING COMMENTS:

Application:

Design Review – Type II
Stream Corridor – Type II
Flood Hazard Permit – Type II

Applications can be found at:
https://www.newbergoregon.gov/sites/default/files/fileattachments/planning/page/4577/type_ii_application_fillable.pdf

Fees: The application packets have the fees schedule. Make sure to add the 5% technology to the total permit cost. Engineering fees are also included in the schedules. Fees typically increase on April 1st of each year.

Completeness Check: Submit two paper copies of your application for the Engineering and Planning Divisions to review in addition to an electronic (digital) copy. Typically, completeness check takes two weeks. We will send a letter to you notifying you if your application is complete or if we need additional information and a second completeness check submittal.

Notice: All property owners within 500 feet of subject property, sign(s) posted on each street frontage.

Review Time Frame: Typically, 4-6 weeks. However, staffing levels and current workload can extend the typical review timeframe.

Development Process

15.100.030 Type II procedure.

B. Type II actions include, but are not limited to:

1. Site design review.

2. Variances.

3. Manufactured dwelling parks and mobile home parks.

4. Partitions.

5. Subdivisions, except for subdivisions with certain conditions requiring them to be processed using the Type III process, pursuant to NMC 15.235.030(A).

C. The applicant shall provide notice pursuant to the requirements of NMC 15.100.200 et seq.

D. The director shall make a decision based on the information presented and shall issue a development permit if the applicant has complied with all of the relevant requirements of this code. The director may add conditions to the permit to ensure compliance with all requirements of this code.

E. Appeals may be made by an affected party, Type II, in accordance with NMC 15.100.160 et seq. All Type II development action appeals shall be heard and decided by the planning commission.

F. If the director's decision is appealed as provided in subsection (E) of this section, the hearing shall be conducted pursuant to the Type III quasi-judicial hearing procedures as identified in NMC 15.100.050.

G. The decision of the planning commission on any appeal may be further appealed to the city council by an affected party, Type III, in accordance with NMC 15.100.160 et seq. and shall be a review of the record supplemented by written or oral arguments relevant to the record presented by the parties.

H. An applicant shall have the option to request at the time the development permit application is submitted that the proposal be reviewed under the Type III procedure. [Ord. 2813 § 1 (Exh. A § 3), 9-5-17; Ord. 2747 § 1 (Exh. A § 4), 9-6-11; Ord. 2451, 12-2-96. Code 2001 § 151.022.]

15.100.210 Mailed notice.

B. Type II and Type III Actions. The applicant shall provide public notice to:

1. The owner of the site for which the application is made; and

2. Owners of property within 500 feet of the entire site for which the application is made. The list shall be compiled from the most recent property tax assessment roll. For purposes of review, this requirement shall be deemed met when the applicant can provide an affidavit or other certification that such notice was deposited in the mail or personally delivered.

3. To the owner of a public use airport, subject to the provisions of ORS 215.416 or 227.175.

C. The director may request that the applicant provide notice to people other than those required in this section if the director believes they are affected or otherwise represent an interest that may be affected by the proposed development. This includes, but is not limited to, neighborhood associations, other governmental agencies, or other parties the director believes may be affected by the decision.

D. The director shall provide the applicant with the following information regarding the mailing of notice:

1. The latest date by which the notice must be mailed;

2. An affidavit of mailing (to be signed and returned) certifying that the notice was mailed, acknowledging that a failure to mail the notice in a timely manner constitutes an agreement by the applicant to defer the 120-day process limit and acknowledging that failure to mail will result in the automatic postponement of a decision on the application; and

3. A sample notice.

E. The notice of a Type II and Type III development application shall be reasonably calculated to give actual notice and shall:

1. Set forth the street address or other easily understood geographical reference to the subject property;

2. List, by commonly used citation, the applicable criteria for the decision;

3. Include the name and phone number of a local government contact person, the telephone number where additional information may be obtained and where information may be examined;

4. Explain the nature of the application and the proposed use or uses which could be authorized;

5. State that a copy of the application, all documents and evidence relied upon by the applicant and applicable criteria are available for inspection at no cost and will be provided at a reasonable cost.

F. Prior to mailing or posting any notice required by this code, the applicant shall submit a copy of the notice to the director.

G. The applicant shall mail the notice for Type II actions at least 14 days before a decision is rendered. The applicant shall file with the director an affidavit of mailing as identified in subsection (D) of this section within two business days after notice is mailed.

H. The applicant shall mail the notice for Type III actions at least 20 days before the first new hearing, or if two or more new hearings are allowed, 10 days before the first new hearing. The applicant shall file with the director an affidavit of mailing as identified in subsection (D) of this section within two business days after notice is mailed.

I. All public notices shall be deemed to have been provided or received upon the date the notice is deposited in the mail or personally delivered, whichever occurs first. The failure of a property owner to receive notice shall not invalidate an action if a good faith attempt was made to notify all persons entitled to notice. An affidavit of mailing issued by the person conducting

the mailing shall be conclusive evidence of a good faith attempt to contact all persons listed in the affidavit.

J. Failure to mail the notice and affirm that the mailing was completed in conformance with the code shall result in:

1. Postponement of a decision until the mailing requirements have been met; or

2. Postponement of the hearing to the next regularly scheduled meeting or to such other meeting as may be available for the hearing; or

3. The entire process being invalidated; or

4. Denial of the application. [Ord. 2581, 7-7-03; Ord. 2451, 12-2-96. Code 2001 § 151.071.]

15.100.220 Additional notice procedures of Type II development applications.

In addition to the requirements of NMC 15.100.210, mailed notice for development actions shall also contain the following:

A. Provide a 14-day period from the date of mailing for the submission of written comments prior to the decision;

B. State that issues that may provide a basis for appeal must be raised in writing during the comment period;

C. State that issues must be raised with sufficient specificity to enable the local government to respond to the issue;

D. State the place, date and time that comments are due;

E. State that notice of the decision, including an explanation of appeal rights, will be provided to any person who submits comments under subsection (A) of this section;

F. Briefly summarize the local decision-making process.

G. Type II notice for subdivisions shall also include a description of how an interested party may request a public hearing before the planning commission. [Ord. 2451, 12-2-96. Code 2001 § 151.072.]

15.100.260 Procedure for posted notice for Type II and III procedures.

A. Posted Notice Required. Posted notice is required for all Type II and III procedures. The notice shall be posted on the subject property by the applicant.

B. Notice Information Provided by City. The director shall provide the applicant with the following information regarding the posting of notice:

1. The number of notices required;

2. The latest date by which the notice must be posted;

3. An affidavit of posting (to be signed and returned) certifying that the notice was posted on site, acknowledging that a failure to post the notice in a timely manner constitutes an agreement by the applicant to defer the 120-day process limit and acknowledging that failure to post will result in the automatic postponement of a decision on the application; and

4. A sample notice.

C. Submission of Notice. Prior to posting any notice required by this section, the applicant shall submit a copy of the notice to the director for review.

D. Size, Number and Location Requirements. A waterproof notice which measures a minimum of two feet by three feet shall be placed on each frontage of the site. If a frontage is over 600 feet long, a notice is required for each 600 feet, or fraction of 600 feet. If possible, notices shall be posted within 10 feet of a street lot line and shall be visible to pedestrians and motorists in clear view from a public right-of-way. Notices shall not be posted in a public right-of-way or on trees.

E. Contents of Notice. The posted notice shall only contain the following information: planning action number, brief description of the proposal, phone number and address for contact at the Newberg planning and building department.

F. Standards and Timing, Type II Actions. The applicant shall post the notice at least 14 days before a decision is rendered. The applicant shall file with the director an affidavit of posting as identified in subsection (B) of this section within two business days after notice is posted.

G. Standards and Timing, Type III Actions. The applicant shall post the notice at least 10 days before the first scheduled hearing. The applicant shall file with the director an affidavit of posting as identified in subsection (B) of this section within two business days after notice is posted.

H. Removal of Notice. The applicant shall not remove the notice before the final decision. All posted notice shall be removed by the applicant within 10 days following the date of the final decision on the request.

I. Failure to Post Notice. The failure of the posted notice to remain on the property shall not invalidate the proceedings. Failure by the applicant to post a notice and affirm that the posting was completed in conformance with the code shall result in:

1. Postponement of a decision until the mailing requirements have been met; or

2. Postponement of the hearing to the next regularly scheduled meeting or to such other meeting as may be available for the hearing; or

3. The entire process being invalidated; or

4. Denial of the application. [Ord. 2451, 12-2-96. Code 2001 § 151.076.]

15.100.260 Procedure for posted notice for Type II and III procedures.

A. Posted Notice Required. Posted notice is required for all Type II and III procedures. The notice shall be posted on the subject property by the applicant.

B. Notice Information Provided by City. The director shall provide the applicant with the following information regarding the posting of notice:

1. The number of notices required;

2. The latest date by which the notice must be posted;

3. An affidavit of posting (to be signed and returned) certifying that the notice was posted on site, acknowledging that a failure to post the notice in a timely manner constitutes an agreement by the applicant to defer the 120-day process limit and acknowledging that failure to post will result in the automatic postponement of a decision on the application; and

4. A sample notice.

C. Submission of Notice. Prior to posting any notice required by this section, the applicant shall submit a copy of the notice to the director for review.

D. Size, Number and Location Requirements. A waterproof notice which measures a minimum of two feet by three feet shall be placed on each frontage of the site. If a frontage is over 600 feet long, a notice is required for each 600 feet, or fraction of 600 feet. If possible, notices shall be posted within 10 feet of a street lot line and shall be visible to pedestrians and motorists in clear view from a public right-of-way. Notices shall not be posted in a public right-of-way or on trees.

E. Contents of Notice. The posted notice shall only contain the following information: planning action number, brief description of the proposal, phone number and address for contact at the Newberg planning and building department.

F. Standards and Timing, Type II Actions. The applicant shall post the notice at least 14 days before a decision is rendered. The applicant shall file with the director an affidavit of posting as identified in subsection (B) of this section within two business days after notice is posted.

G. Standards and Timing, Type III Actions. The applicant shall post the notice at least 10 days before the first scheduled hearing. The applicant shall file with the director an affidavit of posting as identified in subsection (B) of this section within two business days after notice is posted.

H. Removal of Notice. The applicant shall not remove the notice before the final decision. All posted notice shall be removed by the applicant within 10 days following the date of the final decision on the request.

I. Failure to Post Notice. The failure of the posted notice to remain on the property shall not invalidate the proceedings. Failure by the applicant to post a notice and affirm that the posting was completed in conformance with the code shall result in:

1. Postponement of a decision until the mailing requirements have been met; or

2. Postponement of the hearing to the next regularly scheduled meeting or to such other meeting as may be available for the hearing; or

3. The entire process being invalidated; or

4. Denial of the application. [Ord. 2451, 12-2-96. Code 2001 § 151.076.]

Chapter 15.220 SITE DESIGN REVIEW

15.220.030 Site design review requirements.

B. Type II. The following information is required to be submitted with all Type II applications for site design review:

1. Site Development Plan. A site development plan shall be to scale and shall indicate the following as appropriate to the nature of the use:
    a. Access to site from adjacent right-of-way, streets and arterials;
    b. Parking and circulation areas;
    c. Location and design of buildings and signs;
    d. Orientation of windows and doors;
    e. Entrances and exits;
    f. Private and shared outdoor recreation spaces;
    g. Pedestrian circulation;
    h. Outdoor play areas;
    i. Service areas for uses such as mail delivery, trash disposal, above-ground utilities, loading and delivery;
    j. Areas to be landscaped;
    k. Exterior lighting;
    l. Special provisions for handicapped persons;

m. Other site elements and spaces which will assist in the evaluation of site development;
n. Proposed grading, slopes, and proposed drainage;
o. Location and access to utilities including hydrant locations; and
p. Streets, driveways, and sidewalks.

2. Site Analysis Diagram. A site analysis diagram shall be to scale and shall indicate the following characteristics on the site and within 100 feet of the site:
a. Relationship of adjacent lands;
b. Location of species of trees greater than four inches in diameter at four feet above ground level;
c. Existing and proposed topography;
d. Natural drainage and proposed drainage and grading;
e. Natural features and structures having a visual or other significant relationship with the site.

3. Architectural Drawings. Architectural drawings shall be prepared which identify floor plans and elevations.

4. Landscape Plan. The landscape plan shall indicate:
a. The size, species and approximate locations of plant materials to be retained or placed on the site together with a statement which indicates the mature size and canopy shape of all plant materials;
b. Proposed site contouring; and
c. A calculation of the percentage of the site to be landscaped.

5. Special Needs for Handicapped. Where appropriate, the design review plan shall indicate compliance with handicapped accessibility requirements including, but not limited to, the location of handicapped parking spaces, the location of accessible routes from the entrance to the public way, and ramps for wheelchairs.

6. Existing Features and Natural Landscape. The plans shall indicate existing landscaping and existing grades. Existing trees or other features intended to be preserved or removed shall be indicated on the plans.

7. Drives, Parking and Circulation. Proposed vehicular and pedestrian circulation, parking spaces, parking aisles, and the location and number of access points shall be indicated on the plans. Dimensions shall be provided on the plans for parking aisles, back-up areas, and other items as appropriate.

8. Drainage. The direction and location of on- and off-site drainage shall be indicated on the plans. This shall include, but not be limited to, site drainage, parking lot drainage, size and location of storm drain lines, and any retention or detention facilities necessary for the project.

9. Buffering and Screening. Buffering and screening of areas, structures and facilities for storage, machinery and equipment, services (mail, refuse, utility wires, and the like), loading and parking and similar accessory areas and structures shall be shown on the plans.

10. Signs and Graphics. The location, colors, materials, and lighting of all exterior signs, graphics or other informational or directional features shall be shown on the plans.

11. Exterior Lighting. Exterior lighting within the design review plan shall be indicated on the plans. The direction of the lighting, size and type of fixtures, and an indication of the amount of lighting shall be shown on the plans.

12. Trash and Refuse Storage. All trash or refuse storage areas, along with appropriate screening, shall be indicated on the plans. Refuse storage areas must be constructed of brick, concrete block or other similar products as approved by the director.

13. Roadways and Utilities. The proposed plans shall indicate any public improvements that will be constructed as part of the project, including, but not limited to, roadway and utility improvements.

14. Traffic Study. A traffic study shall be submitted for any project that generates in excess of 40 trips per p.m. peak hour. This requirement may be waived by the director when a determination is made that a previous traffic study adequately addresses the proposal and/or when off-site and frontage improvements have already been completed which adequately mitigate any traffic impacts and/or the proposed use is not in a location which is adjacent to an intersection which is functioning at a poor level of service. A traffic study may be required by the director for projects below 40 trips per p.m. peak hour where the use is located immediately adjacent to an intersection functioning at a poor level of service. The traffic study shall be conducted according to the City of Newberg design standards. [Ord. 2619, 5-16-05; Ord. 2451, 12-2-96. Code 2001 § 151.192.]

15.220.050 Criteria for design review (Type II process).

B. Type II. The following criteria are required to be met in order to approve a Type II design review request:

1. Design Compatibility. The proposed design review request incorporates an architectural design which is compatible with and/or superior to existing or proposed uses and structures in the surrounding area. This shall include, but not be limited to, building architecture, materials, colors, roof design, landscape design, and signage.

2. Parking and On-Site Circulation. Parking areas shall meet the requirements of NMC 15.440.010. Parking studies may be required to determine if adequate parking and

circulation are provided for uses not specifically identified in NMC 15.440.010. Provisions shall be made to provide efficient and adequate on-site circulation without using the public streets as part of the parking lot circulation pattern. Parking areas shall be designed so that vehicles can efficiently enter and exit the public streets with a minimum impact on the functioning of the public street.

3. Setbacks and General Requirements. The proposal shall comply with NMC 15.415.010 through 15.415.060 dealing with height restrictions and public access; and NMC 15.405.010 through 15.405.040 and 15.410.010 through 15.410.070 dealing with setbacks, coverage, vision clearance, and yard requirements.

4. Landscaping Requirements. The proposal shall comply with NMC 15.420.010 dealing with landscape requirements and landscape screening.

5. Signs. Signs shall comply with NMC 15.435.010 et seq. dealing with signs.

6. Manufactured Dwelling, Mobile Home and RV Parks. Manufactured dwelling and mobile home parks shall also comply with the standards listed in NMC 15.445.075 through 15.445.100 in addition to the other clear and objective criteria listed in this section. RV parks also shall comply with NMC 15.445.170 in addition to the other criteria listed in this section.

7. Zoning District Compliance. The proposed use shall be listed as a permitted or conditionally permitted use in the zoning district in which it is located as found in NMC 15.305.010 through 15.336.020. Through this site review process, the director may make a determination that a use is determined to be similar to those listed in the applicable zoning district, if it is not already specifically listed. In this case, the director shall make a finding that the use shall not have any different or more detrimental effects upon the adjoining neighborhood area than those specifically listed.

8. Subdistrict Compliance. Properties located within subdistricts shall comply with the provisions of those subdistricts located in NMC 15.340.010 through 15.348.060.

9. Alternative Circulation, Roadway Frontage Improvements and Utility Improvements. Where applicable, new developments shall provide for access for vehicles and pedestrians to adjacent properties which are currently developed or will be developed in the future. This may be accomplished through the provision of local public streets or private access and utility easements. At the time of development of a parcel, provisions shall be made to develop the adjacent street frontage in accordance with city street standards and the standards contained in the transportation plan. At the discretion of the city, these improvements may be deferred through use of a deferred improvement agreement or other form of security.

10. Traffic Study Improvements. If a traffic study is required, improvements identified in the traffic study shall be implemented as required by the director. [Ord. 2763 § 1 (Exh. A § 7), 9-16-13; Ord. 2747 § 1 (Exh. A § 5), 9-6-11; Ord. 2451, 12-2-96. Code 2001 § 151.194.]

Chapter 15.342 STREAM CORRIDOR OVERLAY (SC) SUBDISTRICT

15.342.020 Where these regulations apply.

The regulations of this chapter apply to the portion of any lot or development site which is within an SC overlay subdistrict. Unless specifically exempted by NMC 15.342.040, these regulations apply to the following:

A. New structures, additions, accessory structures, decks, addition of concrete or other impervious surfaces;

B. Any action requiring a development permit by this code;

C. Changing of topography by filling or grading;

D. Installation or expansion of utilities including but not limited to phone, cable TV, electrical, wastewater, storm drain, water or other utilities;

E. Installation of pathways, bridges, or other physical improvements which alter the lands within the stream corridor overlay subdistrict.

15.342.070 Activities requiring a Type II process.

The installation, construction or relocation of the following improvements shall be processed as a Type II decision. The proposal shall be accompanied by a plan as identified in NMC 15.342.080 and conform to the mitigation standards contained in NMC 15.342.090.

A. Public or private street crossings, sidewalks, pathways, and other transportation improvements that generally cross the stream corridor in a perpendicular manner.

B. Bridges and other transportation improvements that bridge the wetland area.

C. Railroad trackage crossings over the SC overlay subdistrict that bridge the wetland area.

D. Water, wastewater, and stormwater systems already listed within approved City of Newberg master infrastructure plans.

E. New single-family or duplex dwellings which meet all of the following requirements:

1. The lot was created prior to December 4, 1996, is currently vacant, has at least 75 percent of the land area located within the SC overlay subdistrict and has less than 5,000 square feet of buildable land located outside the SC overlay subdistrict.

2. No more than one single-family or duplex dwelling and its expansion is permitted on the property, which shall occupy a coverage area not to exceed 1,500 square feet in area.

3. The single-family or duplex dwelling shall be sited in a location which minimizes the impacts to the stream corridor.

4. The improvements and other work are not located within the 100-year flood boundary.

F. Reduced front yard setback. Properties within the SC subdistrict may reduce the front yard setback for single-family or duplex dwellings or additions where the following requirements are met:

1. The reduction in the front yard setback will allow no less than five feet between the property line and the proposed structure.

2. The reduction in the setback will allow the footprint of the proposed dwelling or addition to be located entirely out of the SC overlay subdistrict.

3. Two 20-foot-deep off-street parking spaces can be provided which do not project into the street right-of-way.

4. Maximum coverage within the stream corridor subdistrict shall not exceed 1,500 square feet.

G. Temporary construction access associated with authorized Type II uses. The disturbed area associated with temporary construction access shall be restored pursuant to NMC 15.342.090.

H. Grading and fill for recreational uses and activities, which shall include revegetation, and which do not involve the construction of structures or impervious surfaces.

I. Public parks.

J. Stream corridor enhancement activities which are reasonably expected to enhance stream corridor resource values and generally follow the restoration standards in NMC 15.342.060.

15.342.080 Plan submittal requirements for Type II activities.

In addition to the design review plan submittal requirements, all applicants for Type II activities within the SC overlay subdistrict shall submit the following information:

A. A site plan indicating all of the following existing conditions:

1. Location of the boundaries of the SC overlay subdistrict.

2. Outline of any existing features including, but not limited to, structures, decks, areas previously disturbed, and existing utility locations.

3. Location of any wetlands or water bodies on the site and the location of the stream centerline and top of bank.

4. Within the area to be disturbed, the approximate location of all trees that are more than six inches in diameter at breast height must be shown, with size and species. Trees outside the disturbed area may be individually shown or shown as crown cover with an indication of species type or types.

5. Topography shown by contour lines at five-foot vertical intervals or less.

6. Photographs of the site may be used to supplement the above information but are not required.

B. Proposed development plan including all of the following:

1. Outline of disturbed area including all areas of proposed utility work.

2. Location and description of all proposed erosion control devices.

3. A landscape plan prepared by a landscape architect, or other qualified design professional, shall be prepared which indicates the size, species, and location of all new vegetation to be planted.

15.342.090 Mitigation requirements for Type II activities.

The following mitigation requirements apply to Type II activities. The plans required pursuant to NMC 15.342.080 shall be submitted indicating the following mitigation requirements will be met.

A. Disturbed areas, other than authorized improvements, shall be regraded and contoured to appear natural. All fill material shall be native soil. Native soil may include soil associations commonly found within the vicinity, as identified from USDA Soil Conservation Service, Soil Survey of Yamhill Area, Oregon.

B. Replanting shall be required using a combination of trees, shrubs and grass. Species shall be selected from the Newberg native plant list. Planting shall be as follows:

1. At least eight species of plants shall be used.

2. At least two species must be trees and two species must be shrubs.

3. No more than 50 percent of any seed mix used can be grass.

4. A minimum of one tree and three shrubs shall be used for every 500 square feet of planting area.

5. Areas to be replanted must be completed at the time of final inspection or completion of the work, except as otherwise allowed by this code.

6. Existing vegetation that can be saved and replanted is encouraged, although not required.

C. Removed trees over six inches in diameter, as measured at breast height, shall be replaced as follows:

1. Trees from six to 18 inches in diameter shall be replaced with a minimum of three new trees for every tree removed.

2. Trees over 18 inches but less than 30 inches shall be replaced with a minimum of five trees for every tree removed.

3. Trees over 30 inches shall be replaced with a minimum of eight trees for every tree removed.

4. All trees replaced pursuant to this section shall have an average caliper measurement of a minimum of one inch. Additional trees of any size caliper may be used to further enhance the mitigation site.

D. All disturbed areas, other than authorized improvements, shall be replanted to achieve 90 percent cover in one year. The director may require a bond or other form of security instrument to insure completion of the restoration plan. The director shall authorize the release of the bond or other security instrument when, after one year, the restoration site has achieved the purposes and standards of this section.

E. All disturbed areas shall be protected with erosion control devices prior to construction activity. The erosion control devices shall remain in place until 90 percent cover is achieved.

F. Except as provided below, all restoration work must occur within the SC overlay subdistrict and be on the same property. The director may authorize work to be performed on properties within the general vicinity or adjacent to the overlay subdistrict; provided, that the applicant demonstrates that this will provide greater overall benefit to the stream corridor areas.

Chapter 15.343 AREAS OF SPECIAL FLOOD HAZARD OVERLAY (FHO)

15.343.020 General provisions.

15.343.030 Floodplain development permit procedures.

A. Floodplain Development Permit Required. Any person shall obtain a floodplain development permit before constructing or developing within any area of special flood hazard established in NMC 15.343.020(B). The permit shall be for all affected structures including manufactured homes, as set forth in NMC 15.05.030, and for all floodplain development including fill and other activities, also as set forth in NMC 15.05.030.

B. Application for Floodplain Development Permit. Application for a floodplain development permit shall be made on forms furnished by the planning and building department and may include but not be limited to plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed affected structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

1. Elevation, in relation to mean sea level, of the lowest floor (including basement) of all affected structures;

2. Elevation in relation to mean sea level of floodproofing in any affected structure;

3. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential affected structure meet the floodproofing criteria in NMC 15.343.040(B); and

4. Description of the extent to which a watercourse will be altered or relocated as a result of proposed floodplain development.

C. Floodplain Development Permit Application Review. The director shall review all floodplain development permit applications. Floodplain development permits shall be reviewed as part of the review of applicable design review, building permit application, grading permit application, other application, or as a Type I review if no other application is concurrent. The review shall determine:

1. That the permit requirements and conditions of this chapter have been satisfied.

2. That all necessary permits have been obtained from those federal, state, or local governmental agencies from which prior approval is required.

3. That if the floodplain development is located in the floodway, the encroachment provisions of NMC 15.343.060(A) are met.

15.343.040 Provisions for flood hazard reduction.

A. General Standards. In all areas of special flood hazard, the following standards are required:

1. Anchoring.

a. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the affected structure.

b. All manufactured homes must likewise be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

2. Construction Materials and Methods.

a. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

b. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

c. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

3. Utilities.

a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

c. On-site waste disposal systems, if allowed, shall be located to avoid impairment to them or contamination from them during flooding consistent with the Oregon Department of Environmental Quality.

4. Tentative Subdivision and Partition Plat Proposals.

a. Where floodplain development is proposed or reasonably likely, all tentative subdivision and partition plat proposals shall be consistent with the need to minimize flood damage.

b. All tentative subdivision and partition plat proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.

c. All tentative subdivision and partition plat proposals shall have adequate drainage provided to reduce exposure to flood damage.

d. For any proposed affected structure, proposed subdivision or partition, and other proposed floodplain development which contains at least 50 lots or five acres (whichever is less), flood elevation data shall be provided.

5. Review of Building Permits. Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source (NMC 15.343.020(F)(1)(d)), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

6. AH Zone Drainage. Adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed affected structures. AH zones are areas that have a one percent annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from one to three feet.

B. Specific Standards. In all areas of special flood hazard where base flood elevation data has been provided (Zones A1 – 30, AH, and AE) as set forth in NMC 15.343.020(B), Basis for Establishing the Areas of Special Flood Hazard or NMC 15.343.020(F)(1)(d), use of other base flood data (in A and V zones), the following provisions are required:

1. Residential Construction.

a. New construction and substantial improvement of any residential affected structure shall have the lowest floor, including basement, elevated to a minimum of one foot above the base flood elevation.

b. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

i. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

ii. The bottom of all openings shall be no higher than one foot above grade.

iii. Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwaters.

2. Nonresidential Construction.

a. New construction and substantial improvement of any commercial, industrial or other nonresidential affected structure shall either have the lowest floor, including basement, elevated at or above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

i. Be floodproofed so that below the base flood level the affected structure is watertight with walls substantially impermeable to the passage of water;

ii. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

iii. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in NMC 15.343.020(F)(1);

iv. Nonresidential affected structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection (B)(1)(b) of this section;

v. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building floodproofed to the base flood level will be rated as one foot below).

Chapter 15.415 BUILDING AND SITE DESIGN STANDARDS

Comply with applicable criteria and standards.

Chapter 15.420 LANDSCAPING AND OUTDOOR AREAS

Comply with applicable criteria and standards.

Chapter 15.425 EXTERIOR LIGHTING

Comply with applicable criteria and standards.

Chapter 15.430 UNDERGROUND UTILITY INSTALLATION

Comply with applicable criteria and standards.

Chapter 15.440 OFF-STREET PARKING, BICYCLE PARKING, AND PRIVATE WALKWAYS

Fee schedule: https://www.newbergoregon.gov/finance/page/master-fee-schedule

Planning Land Use Fees
Type II Design Review – 0.6% of total project cos, $913 minimum
Technology Fee – 5% of the permit amount

Type II Stream Corridor - $913
Technology Fee – 5% of the permit amount

Type II Flood Hazard Permit - $913
Technology Fee – 5% of the permit amount

Engineering Land Use Fees
Development Review $414.95 first acre
Technology Fee – 5% of the permit amount

Engineering Construction/Site Development Plan Review and Inspection Fees
Erosion Control – 500 to 5,000 square feet disturbed - $177.33
Erosion Control – 5,0001 to < 1 acre disturbed - $177.33
Erosion Control 1 acre and larger disturbed – By DEQ 1200C Permit
Public Improvement Permit – 5% of public construction cost estimate (if applicable)

Building Fees
See
https://www.newbergoregon.gov/sites/default/files/fileattachments/building/page/4576/permit_fees_july_1_2021.pdf

General Comment: The planning pre-application notes provided are preliminary based on the information provided by the applicant and may not cover all of the development issues or requirements for the project. When a complete application is received and a full review is conducted, it may be determined that additional information or other regulations within the Municipal Code apply that were not determine during the limited pre-application review.

City will accept building permit plans for review after the Notice of Decision is released

Contact: Doug Rux doug.rux@newbergoregon.gov

Community Development Department
P.O. Box 970 ▪ 414 E First Street ▪ Newberg, Oregon 97132
503-537-1240. Fax 503-537-1272 www.newbergoregon.gov

WE WANT YOUR COMMENTS ON A PROPOSED NEW DEVELOPMENT IN YOUR NEIGHBORHOOD

A property owner in your neighborhood submitted an application to the City of Newberg to build a pedestrian footbridge across Chehalem Creek at Ewing Young Park. You are invited to take part in the City's review of this project by sending in your written comments. For more details about giving comments, please see the back of this sheet.

The development would include a roughly ninety-five (95) foot long by eight (8) foot wide pedestrian footbridge across Chehalem Creek.

APPLICANT: CHEHALEM PARK & RECREATION DISTRICT
TELEPHONE: 503.537.2909

PROPERTY OWNER: CHEHALEM PARK & RECREATION DISTRICT

LOCATION: EWING YOUNG PARK - 1201 S BLAINE ST

TAX LOT NUMBER: YAMHILL COUNTY TAX MAP AND LOT NUMBER R3219-00700

We are mailing you information about this project because you own land within 500 feet of the proposed new project. We invite you to send any written comments for or against the proposal within 14 days from the date this notice is mailed.

If you mail your comments to the City, please put the following information on the outside of the envelope:

Written Comments: File No. DR222-0014
City of Newberg
Community Development
PO Box 970
Newberg, OR 97132

All written comments must be turned in by 4:30pm on March 22, 2023. Any issue which might be raised in an appeal of this case to the Land Use Board of Appeals (LUBA) must be submitted to the City in writing before this date. You must include enough detail to enable the decision maker an opportunity to respond. The applicable criteria used to make a decision on this application are found in the Newberg Development Code 15.220.050 (B), 15.342, and 15.343.

You can look over all the information about this project or drop comments off at Newberg City Hall, 414 E. First Street. You can also buy copies of the information for a cost of 25 cents a page. If you have any questions about the project, you can call the Newberg Planning Division at 503-537-1240. You may also view all documents under Current Planning Projects at https//www.newbergoregon.gov/planning.

The Community Development Director will make a decision at the end of the 14-day comment period. If you send in written comments about this project, you will be sent information about any decision made by the City relating to this project.

Date Mailed: March 8, 2023

LAND USE NOTICE

File Number: DR222-0014 / MISC222-0006 / MISC222-0007

Proposal: Ewing Young Park - Pedestrian Footbridge over Chehalem Creek

For Further Information:

City of Newberg
Community Development Department
414 E First Street
503-537-1240

CITY OF NEWBERG
AFFIDAVIT OF NOTICING REQUIREMENTS

The affidavit on the following page must be submitted to the Community Development Department **within two (2) days of mailing notice** and **within two (2) days of posting notice.** The consequences of failure to mail and post notice, and to submit the affidavits within the two (2) day deadline are described in Newberg Development Code §15.100.210(J) and §15.100.260(I).

§15.100.210(J) - Failure to Mail the Notice:
Failure to mail the notice and affirm that the mailing was completed in conformance with the code shall result in:

(1) Postponement of a decision until the mailing requirements have been met; or

(2) Postponement of the hearing to the next regularly scheduled meeting or to such other meeting as may be available for the hearing; or

(3) The entire process being invalidated; or

(4) Denial of the application.

§15.100.260(I) - Failure to Post the Notice:
The failure of the posted notice to remain on the property shall not invalidate the proceedings. Failure by the applicant to post a notice and affirm that the posting was completed in conformance with the code shall result in:

(1) Postponement of a decision until the mailing requirements have been met; or

(2) Postponement of the hearing to the next regularly scheduled meeting or to such other meeting as may be available for the hearing; or

(3) The entire process being invalidated; or

(4) Denial of the application.

PLANNING DIVISION FILE #: _____

CITY OF NEWBERG
AFFIDAVIT OF NOTICING

REFERENCE ATTACHED LIST(S)/NOTICE(S)

I, Casey Creighton, do hereby certify that the attached Notice of Land Use Action was:

a) mailed to the following list of property owners, by United States mail, postage prepaid on March 8, 2023 (date);

b) posted on the site according to standards established in Newberg Development Code §15.100.260 on March 9, 2023 (date).

I acknowledge that failure to mail the notice in a timely manner constitutes an agreement by the applicant to defer the 120-day process limit and acknowledge that failure to mail will result in the automatic postponement of a decision on the application *15.100.210.(D)(2)* March 8, 2023 (date).

Casey Creighton 3/08/2023
Signature Date

Casey Creighton
Print name

Search

Map Unit Legend

Yamhill County, Oregon (OR071)

Yamhill County, Oregon (OR071)

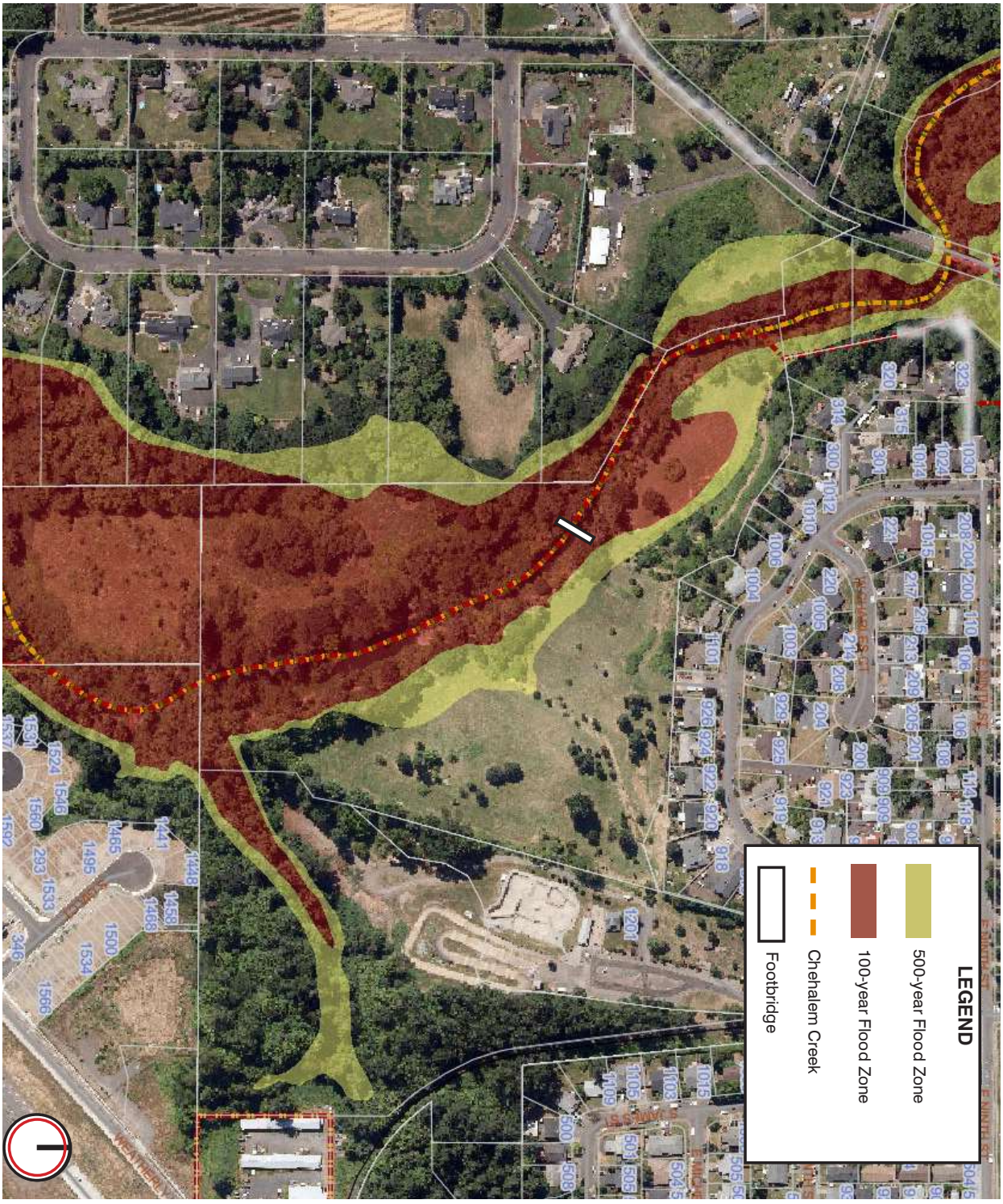
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2006A	McBee silty clay loam, 0 to 3 percent slopes	1.6	1.8%
2040A	Chehalis silt loam, 0 to 3 percent slopes	10.9	12.3%
2300A	Aloha silt loam, 0 to 3 percent slopes	44.7	50.3%
2310C	Woodburn silt loam, 3 to 12 percent slopes	9.0	10.2%
2310D	Woodburn silt loam, 12 to 20 percent slopes	6.1	6.8%
2310F	Woodburn silt loam, 20 to 55 percent slopes	16.5	18.5%
Totals for Area of Interest		**88.7**	**100.0%**

Legend

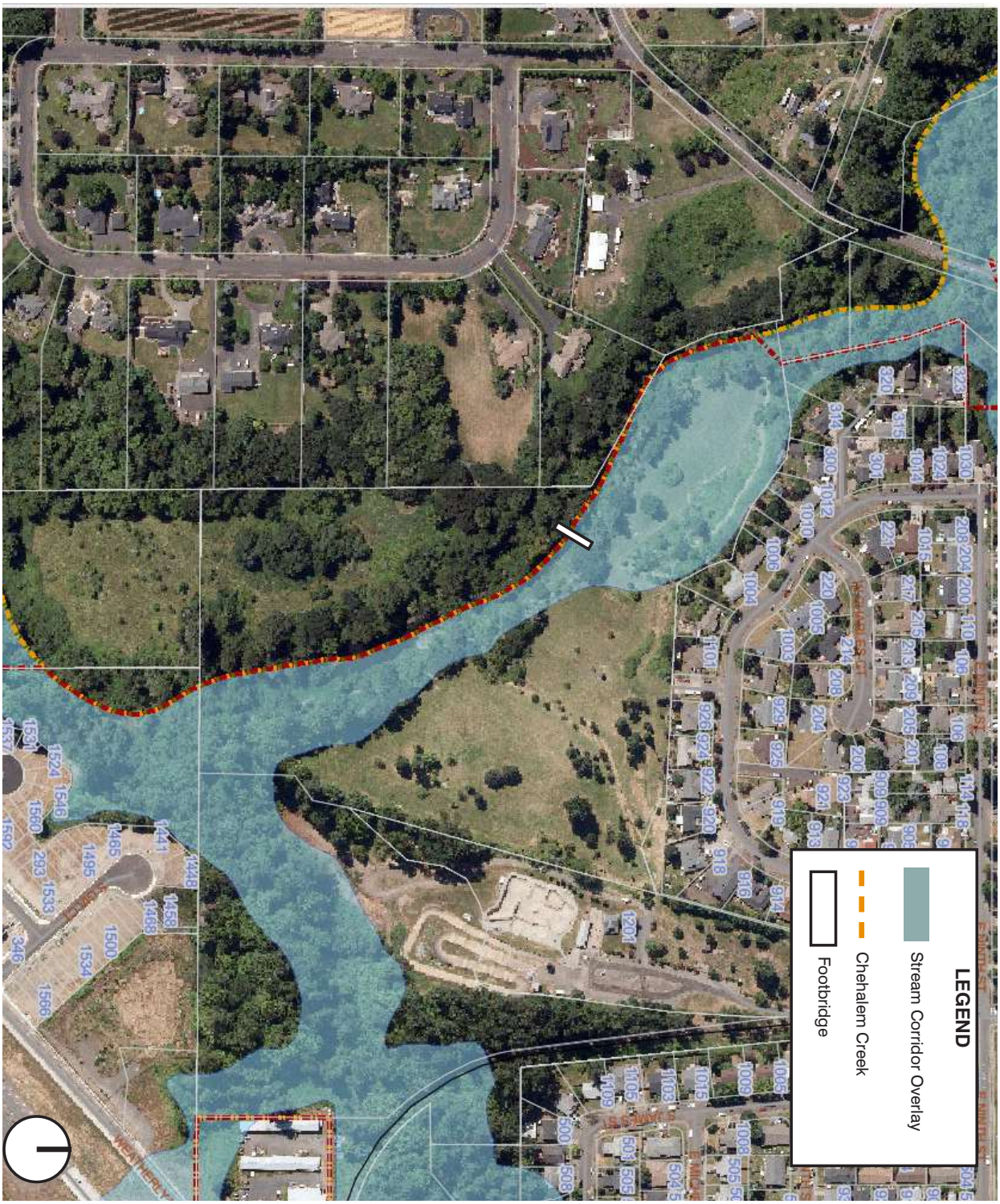
Soil Map

Scale (not to scale)

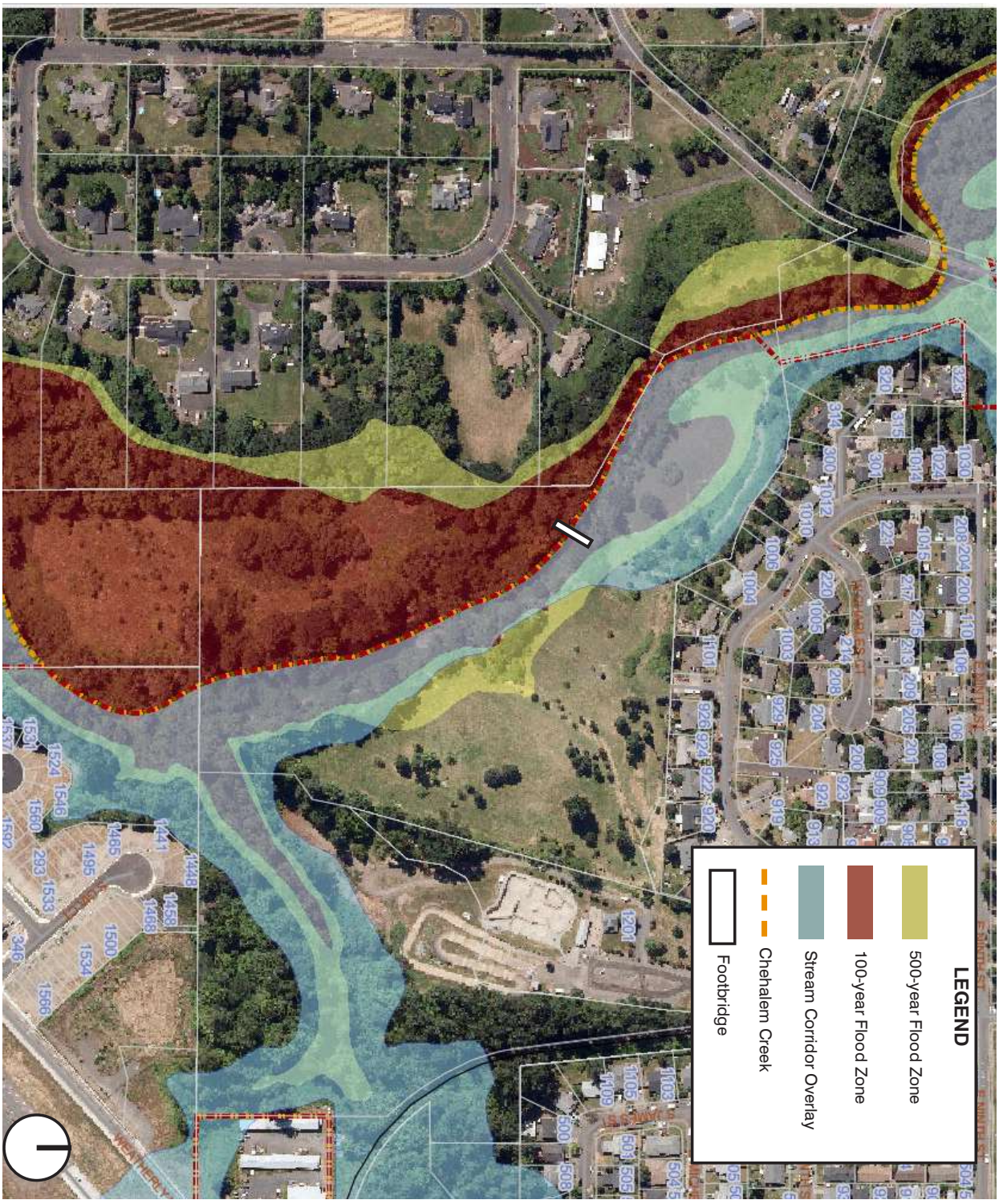
FLOOD ZONES EXHIBIT - FULL SITE



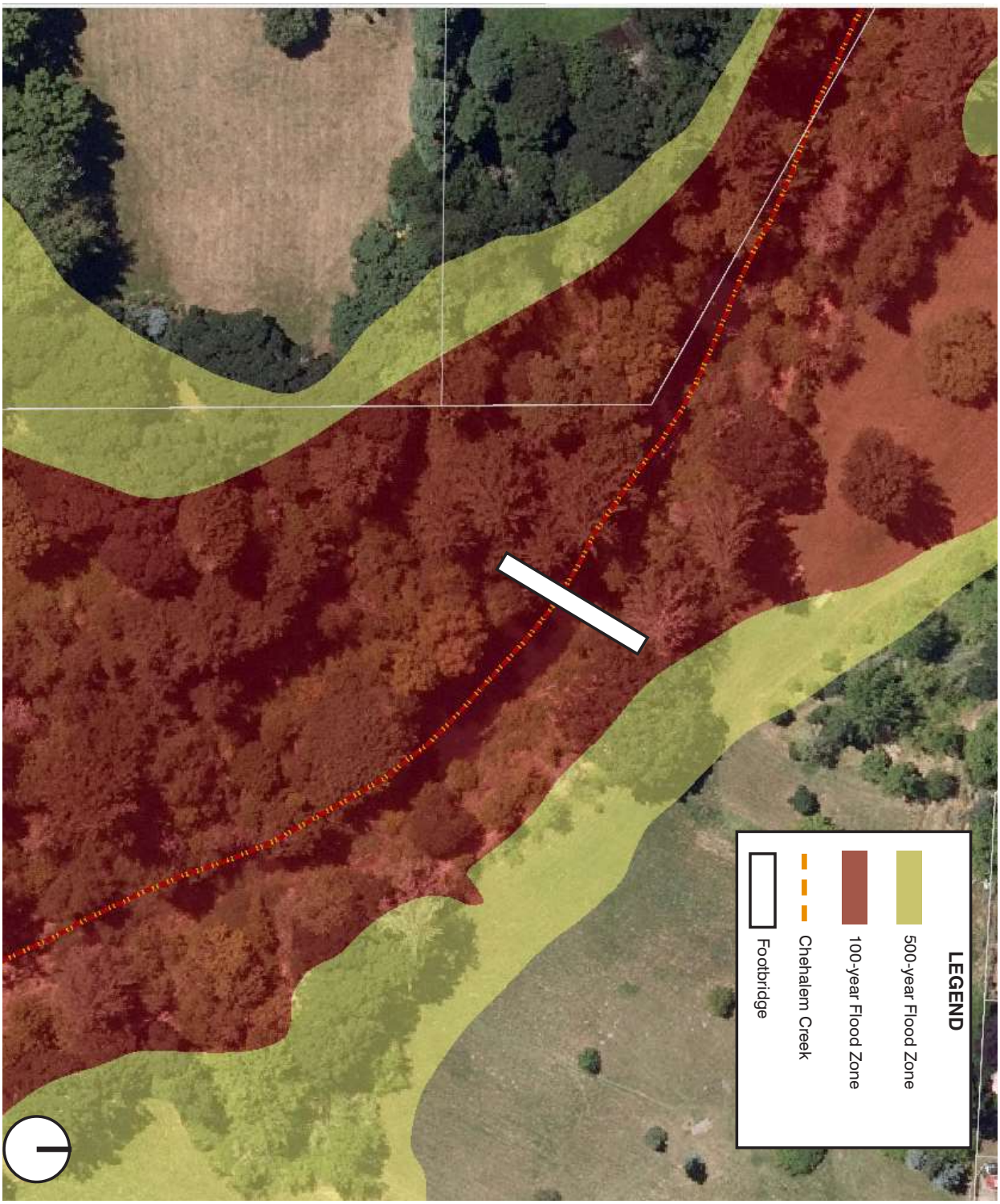
STREAM CORRIDOR OVERLAY EXHIBIT - FULL SITE



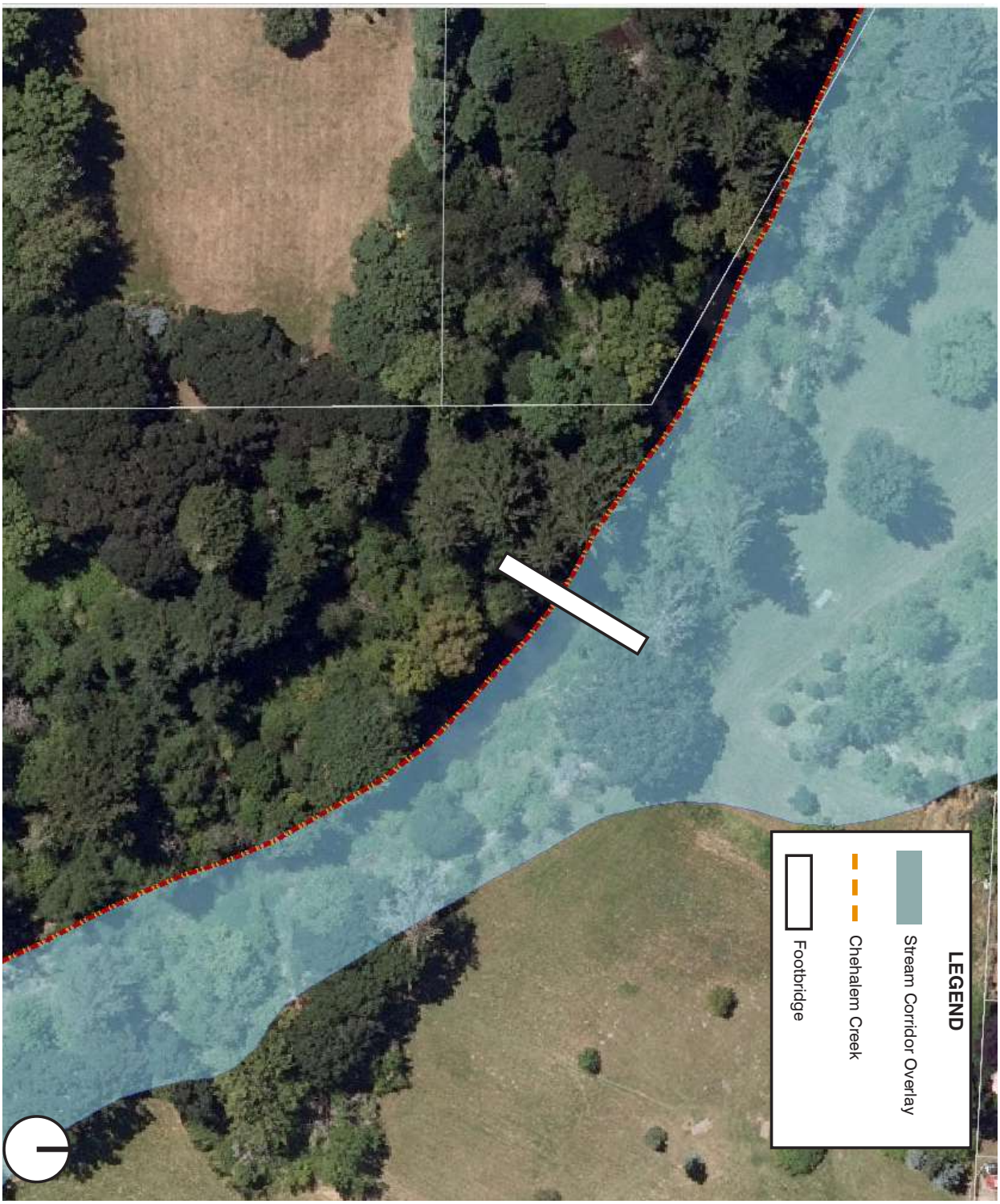
FLOOD ZONES AND STREAM CORRIDOR OVERLAY EXHIBITS - FULL SITE



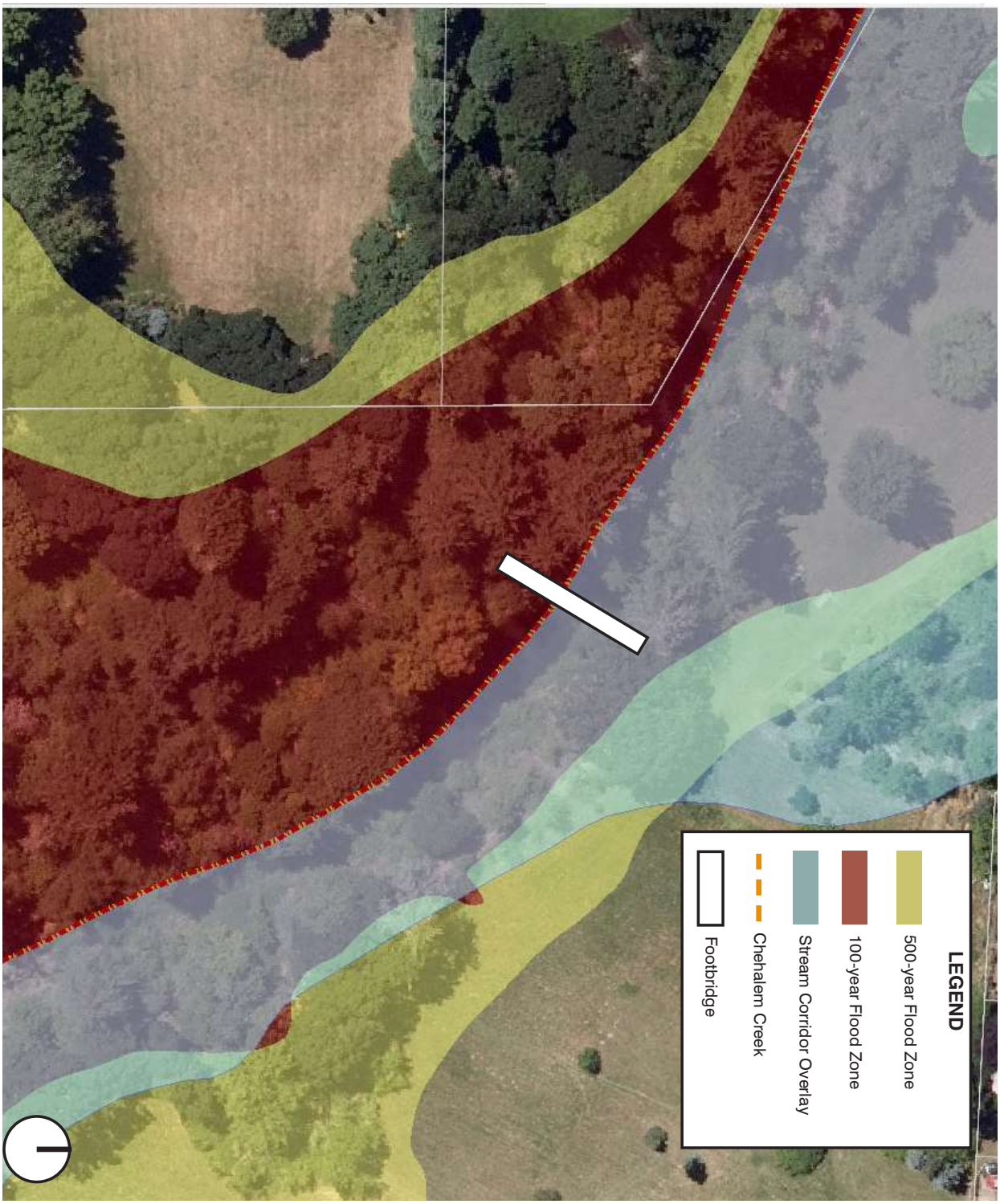
FLOOD ZONES EXHIBIT - BRIDGE LOCATION



STREAM CORRIDOR OVERLAY EXHIBIT - BRIDGE LOCATION



FLOOD ZONES AND STREAM CORRIDOR OVERLAY EXHIBITS - BRIDGE LOCATION



9450 SW Commerce Circle, Suite 300
Wilsonville, Oregon 97070
P:503-626-0455 F:503-526-0775

Preliminary Stormwater Memorandum

To: Newberg Community Development Planning Division

From: Tyler Ott, PE

Date: December 20, 2022

Re: **Ewing Young Park Footbridge - Land Use Application**
Preliminary Stormwater Memo

Chehalem Parks & Recreation District (CPRD) is expanding the existing Ewing Young Park through the development of a pedestrian footbridge over Chehalem Creek on Tax Map R3219 Lot 00700 (See Sheet L3.10 – Site Plan). The project includes a 95-foot long by 8-foot wide pedestrian footbridge, made of either steel or wood structural members, concrete bridge sub-structural abutments, site clearing for construction, earthwork, and planting to restore the site to a natural condition after construction.

The bridge decking will be either wood or composite slats with voids between each slat for which stormwater can drain through to the existing conditions below the bridge. The existing conditions below the bridge are vegetated pervious stream banks and the Chehalem Creek drainage channel. Any new path surfaces connecting to either end of the bridge will be bark mulch laid on native soil, which will result in a pervious path surface. The concrete bridge abutments will total no more than 20 square feet of impervious area each, while the rest of this project will not increase impervious surface. Therefore, the project will create a net impervious area of no more than 40 square feet. This amount of impervious area, directly adjacent to the Chehalem Creek watercourse, will not create or increase flooding problems of adjacent properties or areas downstream of the site. This project will maintain historic drainage patterns of adjacent properties and watercourses.

The Land Use Plan Set (Section C) displays the extents of site disturbance, sediment fence utilized as temporary erosion control measures, and permanent planting which will restore disturbed areas to its natural pre-construction condition (with the exception of the bridge itself). Stormwater drainage during and after construction will not increase erosion of sediment from the project site.

CHEHALEM PARK & RECREATION DISTRICT

EWING YOUNG PARK

YAMHILL COUNTY, OREGON

SE 1/4, SEC 19, T. 3S., R. 2 W., W.M.

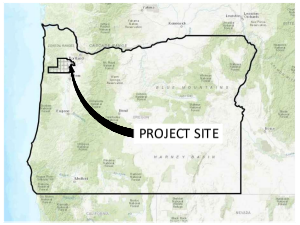
LAND USE PLAN SET - DECEMBER, 2022

OWNER

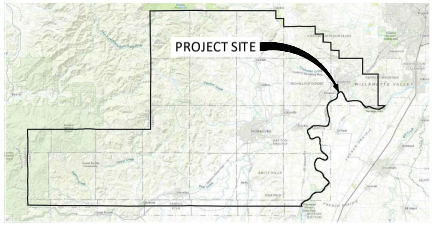
CHEHALEM PARK & RECREATION DISTRICT
125 S ELLIOT ROAD
NEWBERG, OREGON 97132
CONTACT: CASEY CREIGHTON
PHONE: (503) 537-2909
EMAIL:

PROJECT CONSULTANT

NV5, INC. – LANDSCAPE ARCHITECT/CIVIL ENGINEER
9450 SW COMMERCE CIRCLE, SUITE 300
WILSONVILLE, OREGON 97070
CONTACT: JON CHAMPLIN, RLA
PHONE: (503) 626-0455
FAX: (503) 526-0775
EMAIL: JON.CHAMPLIN@NV5.COM



OREGON

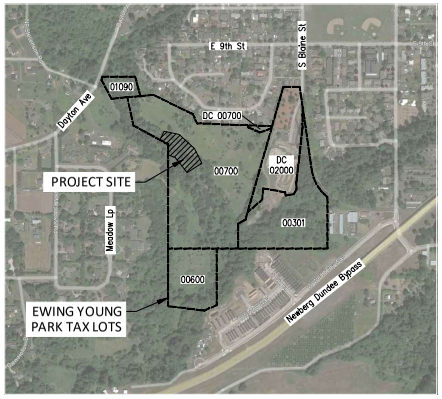


YAMHILL COUNTY

Sheet Index	
Sheet Number	Sheet Title
L0.00	COVER SHEET
L1.10	EXISTING CONDITIONS PLAN
L2.10	DEMOLITION & EROSION CONTROL PLAN
L3.10	SITE PLAN
L3.11	BRIDGE ENLARGEMENT PLAN
L4.10	GRADING PLAN
L5.10	PLANTING PLAN
L5.11	PLANTING DETAILS

GENERAL NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO ANY WORK AND SHALL BE RESPONSIBLE FOR ALL WORK AND MATERIALS INCLUDING THOSE FURNISHED BY SUBCONTRACTORS.
2. DIMENSIONS TAKE PRECEDENCE OVER DRAWING. DO NOT SCALE DRAWINGS TO DETERMINE ANY LOCATIONS. THE OWNER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO CONTINUING WITH WORK.
3. THE CONTRACTORS SHALL REPORT TO THE OWNER ANY ERRORS, INCONSISTENCIES, OR OMISSIONS HE OR SHE MAY DISCOVER. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTING ANY ERROR AFTER THE START OF CONSTRUCTION WHICH HAS NOT BEEN BROUGHT TO THE ATTENTION OF THE OWNER. THE MEANS OF CORRECTING ANY ERROR SHALL FIRST BE APPROVED BY THE OWNER.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES WHETHER SHOWN HEREIN OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF WORK.
5. AGENCY APPROVED PLANS SHALL BE KEPT IN A SECURE PLACE AND SHALL NOT BE USED BY WORKMEN. THE CONTRACTOR SHALL BE RESPONSIBLE THAT ALL SUBCONTRACTORS' CONSTRUCTION SETS REFLECT SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN, IN GOOD CONDITION, ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDUMS, AND CHANGE ORDERS, ON THE PREMISES AT ALL TIMES. THESE ARE NOT TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INTERIM TRAFFIC CONTROL DURING CONSTRUCTION ON OR ALONG ALL NEIGHBORHOOD STREETS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE JOB SITE WHILE THE JOB IS IN PROGRESS AND UNTIL JOB COMPLETION. ANY DAMAGE INCLUDING GRAFFITI ON CONCRETE SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
8. ALL DEBRIS SHALL BE REMOVED FROM THE PREMISES AND ALL AREAS ACCESSIBLE TO THE PUBLIC SHALL BE LEFT IN A BROOM CLEAN CONDITION AT ALL TIMES.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE OR REMEDY ANY FAULTY, IMPROPER OR INFERIOR MATERIALS OR WORKMANSHIP WHICH SHALL APPEAR, WITHIN ONE (1) YEAR AFTER THE COMPLETION AND ACCEPTANCE OF THE WORK UNDER THIS CONTRACT.
11. CONTRACTOR TO PROTECT ALL PLANT MATERIAL NOT SLATED FOR REMOVAL DURING CONSTRUCTION.



PROJECT VICINITY MAP
NOT TO SCALE

NV5
9450 SW Commerce Circle, Ste 300
Wilsonville, OR 97070
503-626-0455 www.NV5.com

REVISIONS

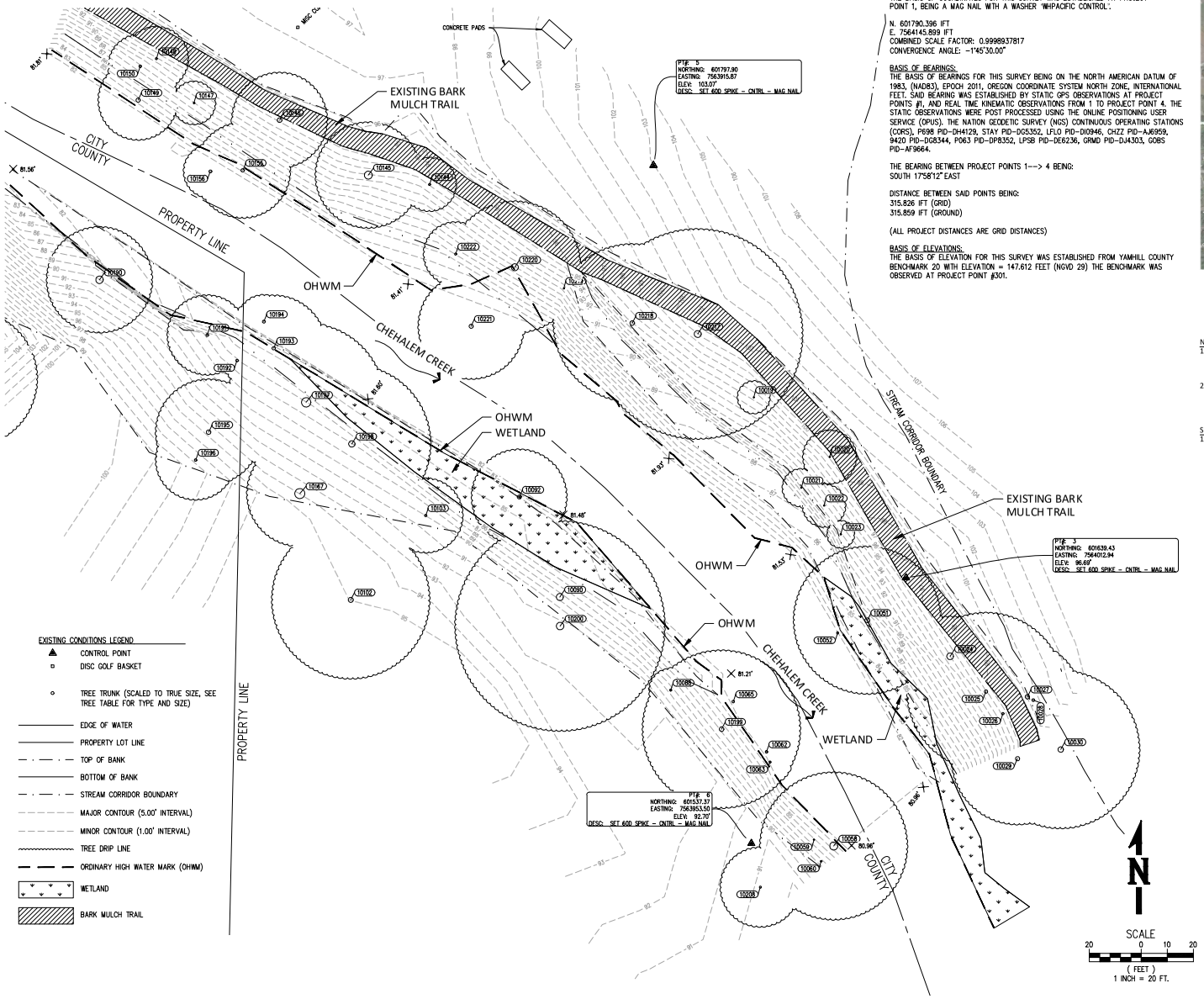
NO.	BY	DATE	REMARKS

SHEET INFO	
DRAWN	JC
CHECKED	MS
APPROVED	JC
LAST EDIT	8/18/2022
PLOT DATE	12/15/2022
SUBMITTAL	

COVER SHEET
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

PROJECT NUMBER	DRAWING FILE NAME	SCALE
C000191.00	C000191.00-LA01_L0.00-CS	AS NOTED

SHEET NUMBER
L0.00



BASIS OF SURVEY

BASIS OF COORDINATES:
NORTH AMERICAN DATUM OF 1983, (NAD83), EPOCH 2011, OREGON COORDINATE SYSTEM NORTH ZONE, INTERNATIONAL FEET,

THE BASIS OF COORDINATES FOR THIS SURVEY WAS ESTABLISHED AT PROJECT POINT 1, BEING A MAG NAIL WITH A WASHER 'WHPACIFIC CONTROL'.

N. 601790.396 IFT
E. 7564145.899 IFT
COMBINED SCALE FACTOR: 0.9998937817
CONVERGENCE ANGLE: -1°45'30.00"

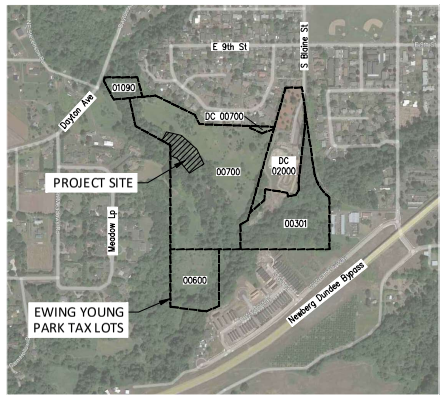
BASIS OF BEARINGS:
THE BASIS OF BEARINGS FOR THIS SURVEY BEING ON THE NORTH AMERICAN DATUM OF 1983, (NAD83), EPOCH 2011, OREGON COORDINATE SYSTEM NORTH ZONE, INTERNATIONAL FEET. SAID BEARING WAS ESTABLISHED BY STATIC GPS OBSERVATIONS AT PROJECT POINTS #1, AND REAL TIME KINEMATIC OBSERVATIONS FROM 1 TO PROJECT POINT 4. THE STATIC OBSERVATIONS WERE POST PROCESSED USING THE ONLINE POSITIONING USER SERVICE (OPUS). THE NATION GEODETIC SURVEY (NGS) CONTINUOUS OPERATING STATIONS (CORS), P698 PID-DH4129, STAY PID-DG5352, LFLO PID-DI0946, CHZZ PID-AJ6959, 9420 PID-DG8344, P063 PID-DP8352, LPSB PID-DE6236, GRMD PID-DJ4303, GOBS PID-AF9664.

THE BEARING BETWEEN PROJECT POINTS 1--> 4 BEING:
SOUTH 17°58'12" EAST

DISTANCE BETWEEN SAID POINTS BEING:
315.826 IFT (GRID)
315.859 IFT (GROUND)

(ALL PROJECT DISTANCES ARE GRID DISTANCES)

BASIS OF ELEVATIONS:
THE BASIS OF ELEVATION FOR THIS SURVEY WAS ESTABLISHED FROM YAMHILL COUNTY BENCHMARK 20 WITH ELEVATION = 147.612 FEET (NGVD 29) THE BENCHMARK WAS OBSERVED AT PROJECT POINT #301.



VICINITY MAP
NOT TO SCALE

NOTE:
1. PROPERTY LINES SHOWN HERE ON ARE BASED ON GIS DATA FROM THE YAMHILL COUNTY DATA SOURCES. ADDITIONAL RESOLUTION WILL REQUIRE MONUMENT RECOVERY.
2. TOPOGRAPHY OF CREEK MEASURED TO HIGH WATER MARK DUE TO UNSAFELY HIGH WATER IN CREEK. ESTIMATE 4-5 FEET DEPTH OF WATER AT WORSE SPOTS.

SITE SOILS:
1. THE SITE SOILS CONSIST OF STIFF TO VERY STIFF CLAY AND SILT WITH TRACE SAND TO A DEPTH OF 13 BGS. BENEATH THE SILT AND CLAY, VERY DENSE, CEMENTED, CLAYEY SAND WITH GRAVEL EXISTS TO THE MAXIMUM DEPTH EXPLORED (16.1 FEET BGS) PER THE GEOTECHNICAL REPORT. AS THE GEOTECHNICAL REPORT STATES, THIS SOIL TYPE IS SUITABLE FOR THE CONSTRUCTION OF A FOOTBRIDGE WITH SHALLOW SPREAD FOUNDATIONS BEARING ON FIRM NATIVE CLAY AND SILT AND STRUCTURAL FILL OVERLYING FIRM NATIVE CLAY AND SILT.

TREE TABLE

POINT NUMBER	TREE TYPE	TRUNK DIAMETER	DRIP LINE DIAMETER
10019	TRDE	6	6
10020	TRDE	7	10
10021	TRDE	6	7
10022	TRDE	6	8
10023	TRDEX2	7	5
10024	TRCO	32	15
10025	TRCO	16	30
10026	TRDE	11	20
10027	TRDE	21	20
10028	TRDE	13	16
10029	TRDE	20	25
10030	TRDE	26	30
10051	TRDE	23	28
10052	TRDE	10	12
10058	TRDE	38	28
10059	TRDE	6	8
10060	TRDE	8	8
10062	TRDE	12	8
10063	TRDE	10	8
10065	TRDE	12	16
10088	TRDE	10	8
10090	TRDE	34	18
10092	TRDE	19	18
10102	TRCO	24	30
10103	TRDE	11	14
10144	TRDE	10	10
10145	TRCO	38	20
10146	TRDE	22	18
10147	TRDE	8	8
10148	TRDE	10	12
10149	TRDE	20	15
10150	TRDE	12	12
10155	TRDE	16	18
10156	TRDE	14	10
10167	TRCO	48	20
10188	TRCO	55	26
10189	TRDE	9	12
10190	TRDE	36	20
10191	TRDEX2	13	15
10192	TRDE	12	6
10193	TRDE	16	20
10194	TRDE	14	10
10195	TRDE	21	20
10196	TRDE	12	15
10197	TRCO	45	30
10198	TRCO	30	30
10199	TRDE	22	30
10200	TRDE	36	40
10208	TRDE	10	15
10217	TRDE	33	40
10218	TRDE	22	30
10219	TRDE	6	10
10221	TRDE	20	20
10222	TRDE	10	12
10023	TRDEX2	7	5
10191	TRDEX2	13	15

NV5
9450 SW Commerce Circle, Ste 300
Wilsonville, OR 97070
503-626-0455 www.NV5.com

REVISIONS

NO.	BY	DATE	REMARKS

SHEET INFO

DRAWN	JC
CHECKED	MS
APPROVED	JC
LAST EDIT	8/18/2022
PLOT DATE	8/22/2022
SUBMITTAL	

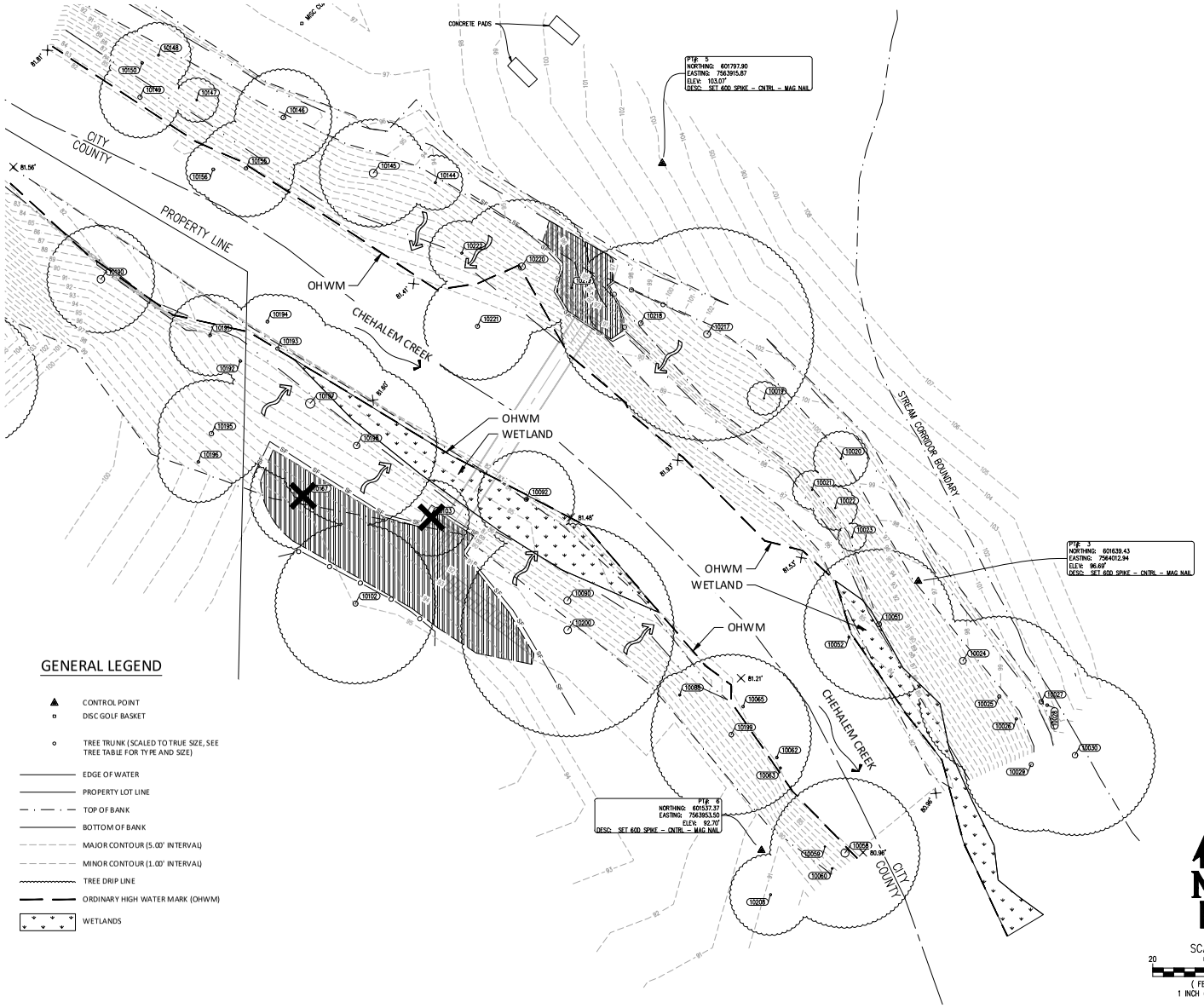
EXISTING CONDITIONS PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L1.10-EX

SHEET NUMBER L1.10



GENERAL LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLANDS

DEMOLITION AND EROSION CONTROL LEGEND

- EXISTING TREE TO BE REMOVED
- CLEARING AND GRUBBING LIMITS
- DIRECTION OF SLOPE
- SILT FENCE
- TREE PROTECTION FENCING

DEMOLITION NOTES

1. CUT CLEAN ANY ROOTS 2" IN DIAMETER OR SMALLER WHILE EXCAVATING BELOW EXISTING TREE DRIPLINES OF TREES TO REMAIN, IF ROOTS ARE ENCOUNTERED.
2. IF ROOTS LARGER THAN 2" IN DIAMETER ARE ENCOUNTERED WHILE EXCAVATING BELOW EXISTING TREE DRIPLINES OF TREES TO REMAIN, NOTIFY THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO CUTTING ROOTS.

EROSION CONTROL NOTES

1. PLACE EROSION CONTROL MATTING ON ALL AREAS TO BE PLANTED, PER SHEET L5.10 PLANTING PLAN.
2. SILT FENCE AND EROSION CONTROL MATTING SHALL REMAIN IN PLACE FOR ONE CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.

TREE DEMO TABLE

POINT NUMBER	TREE TYPE	TRUNK DIAMETER	DRIP LINE DIAMETER
10103	TRDE	11	14
10167	TRCO	48	20

TREE TABLE

POINT NUMBER	TREE TYPE	TRUNK DIAMETER	DRIP LINE DIAMETER	TREATMENT
10019	TRDE	6	6	RETAIN
10020	TRDE	7	10	RETAIN
10021	TRDE	6	7	RETAIN
10022	TRDE	6	8	RETAIN
10023	TRDE X2	7	5	RETAIN
10024	TRCO	32	15	RETAIN
10025	TRCO	16	30	RETAIN
10026	TRDE	11	20	RETAIN
10027	TRDE	21	20	RETAIN
10028	TRDE	13	16	RETAIN
10029	TRDE	20	25	RETAIN
10030	TRDE	26	30	RETAIN
10051	TRDE	23	28	RETAIN
10052	TRDE	10	12	RETAIN
10058	TRDE	38	28	RETAIN
10059	TRDE	6	8	RETAIN
10060	TRDE	8	8	RETAIN
10062	TRDE	12	8	RETAIN
10063	TRDE	10	8	RETAIN
10065	TRDE	12	16	RETAIN
10088	TRDE	10	8	RETAIN
10090	TRDE	34	18	RETAIN
10092	TRDE	19	18	RETAIN
10102	TRCO	24	30	RETAIN
10103	TRDE	11	14	REMOVE
10144	TRDE	10	10	RETAIN
10145	TRCO	38	20	RETAIN
10146	TRDE	22	18	RETAIN
10147	TRDE	8	8	RETAIN
10148	TRDE	10	12	RETAIN
10149	TRDE	20	15	RETAIN
10150	TRDE	12	12	RETAIN
10155	TRDE	16	18	RETAIN
10156	TRDE	14	10	RETAIN
10167	TRCO	48	20	REMOVE
10188	TRCO	55	26	RETAIN
10189	TRDE	9	12	RETAIN
10190	TRDE	36	20	RETAIN
10191	TRDE X2	13	15	RETAIN
10192	TRDE	12	6	RETAIN
10193	TRDE	16	20	RETAIN
10194	TRDE	14	10	RETAIN
10195	TRDE	21	20	RETAIN
10196	TRDE	12	15	RETAIN
10197	TRCO	45	30	RETAIN
10198	TRCO	30	30	RETAIN
10199	TRDE	22	30	RETAIN
10200	TRDE	36	40	RETAIN
10208	TRDE	10	15	RETAIN
10217	TRDE	33	40	RETAIN
10218	TRDE	22	30	RETAIN
10219	TRDE	6	10	RETAIN
10221	TRDE	20	20	RETAIN
10222	TRDE	10	12	RETAIN
10223	TRDE X2	7	5	RETAIN
10391	TRDE X2	13	15	RETAIN

SCALE
20 0 10 20
(FEET)
1 INCH = 20 FT.

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APPROVED	JC
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SUBMITTAL	

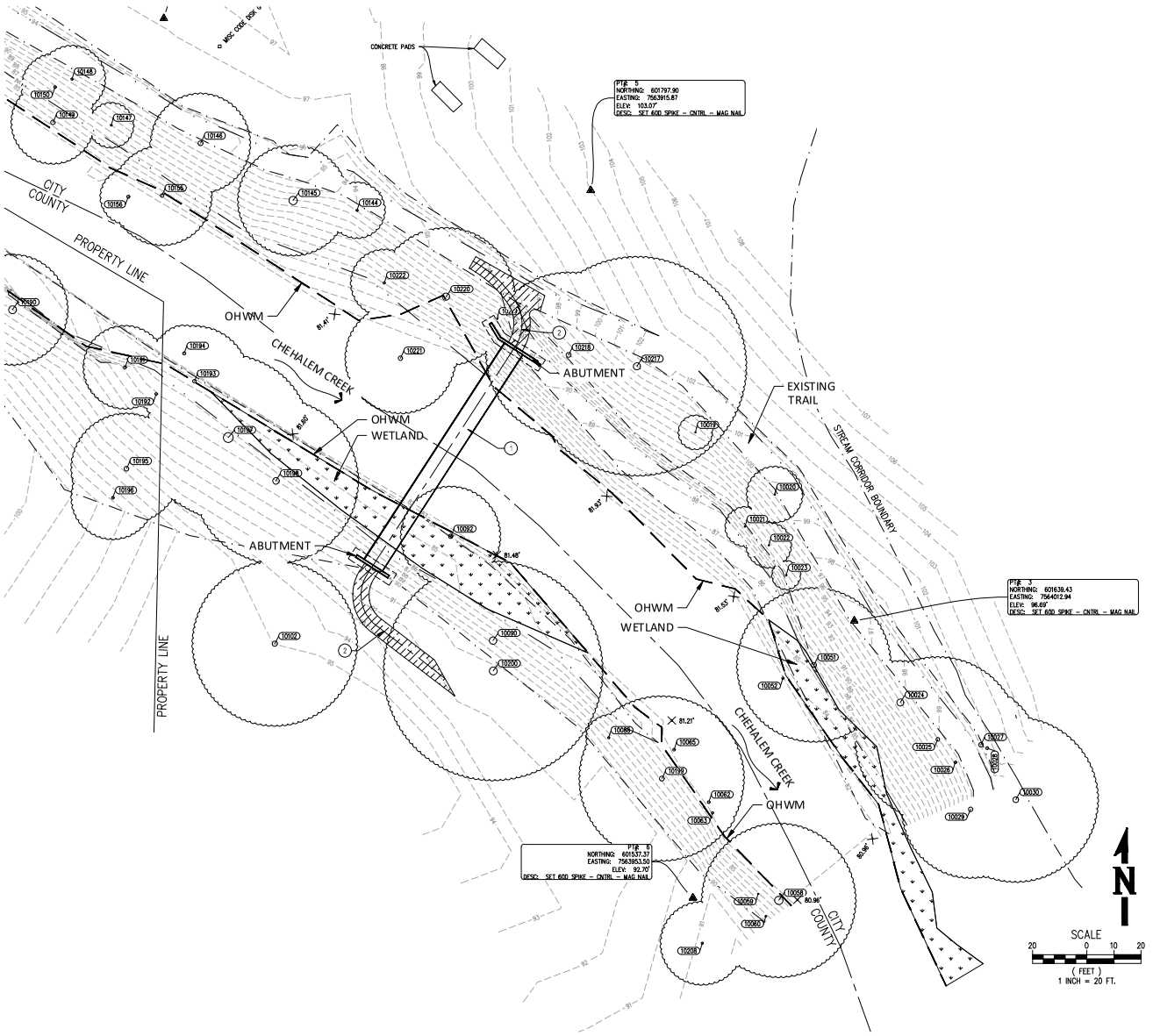
DEMOLITION & EROSION CONTROL PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L2.10-DM

SHEET NUMBER L2.10



SITE PLAN LEGEND

- 3" THICK BARK MULCH PATH, 6 FEET WIDE

KEYNOTES:

1. FOOTBRIDGE. SEE SHEET L3.11
2. PROVIDE AND PLACE BARK MULCH PATH

LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLAND

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SHEET INFO	
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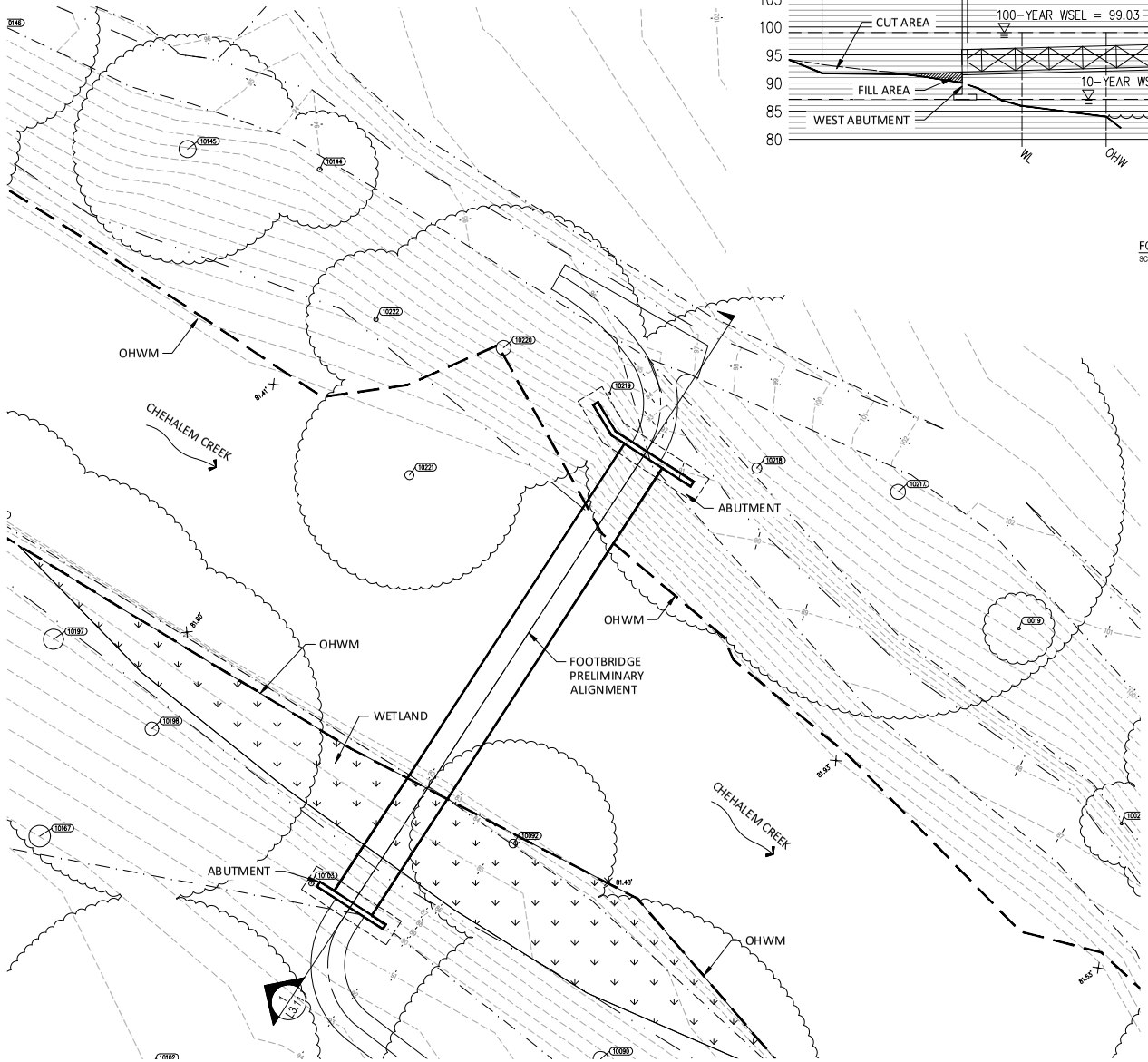
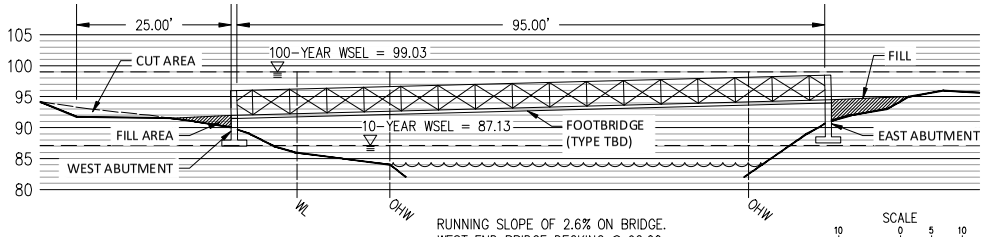
CHECKED	MS
APPROVED	JC
LAST EDIT	8/9/2022
PLOT DATE	8/18/2022
SUBMITTAL	

SITE PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

PROJECT NUMBER	DRAWING FILE NAME	SCALE
C000191.00	C000191.00-LA01_L3.10-SP	1" = 20'

SHEET NUMBER
L3.10





RUNNING SLOPE OF 2.6% ON BRIDGE.
WEST END BRIDGE DECKING @ 92.00
EAST END BRIDGE DECKING @ 94.50

FOOTBRIDGE PROFILE
SCALE: 1" = 10'

1
L3.11

SCALE
10 0 5 10
(FEET)
1 INCH = 10 FT.

LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLAND

SURVEY INFORMATION

HORIZONTAL DATUM = NAD83, EPOCH 2011, OREGON COORDINATE SYSTEM NORTH ZONE, INTERNATIONAL FEET.

VERTICAL DATUM = NGVD29

NOTE: ELEVATIONS SHOWN ARE ON NGVD29 DATUM.

HYDRAULIC DATA		
RETURN PERIOD (YEARS)	WATER SURFACE ELEVATION (FT)	MAXIMUM VELOCITY (FPS)
10	87.13	N/A
100	99.03	3.5

BRIDGE DESIGN PARAMETERS	
BRIDGE (OPEN) SPAN	95.00 FT
WESTERN BRIDGE DECK ELEVATION	92.00
EASTERN BRIDGE DECK ELEVATION	94.50
ASSUMED GIRDER DEPTH	18 INCHES
ASSUMED RAIL (PARAPET) HEIGHT	42 INCHES

N

SCALE
10 0 5 10
(FEET)
1 INCH = 10 FT.

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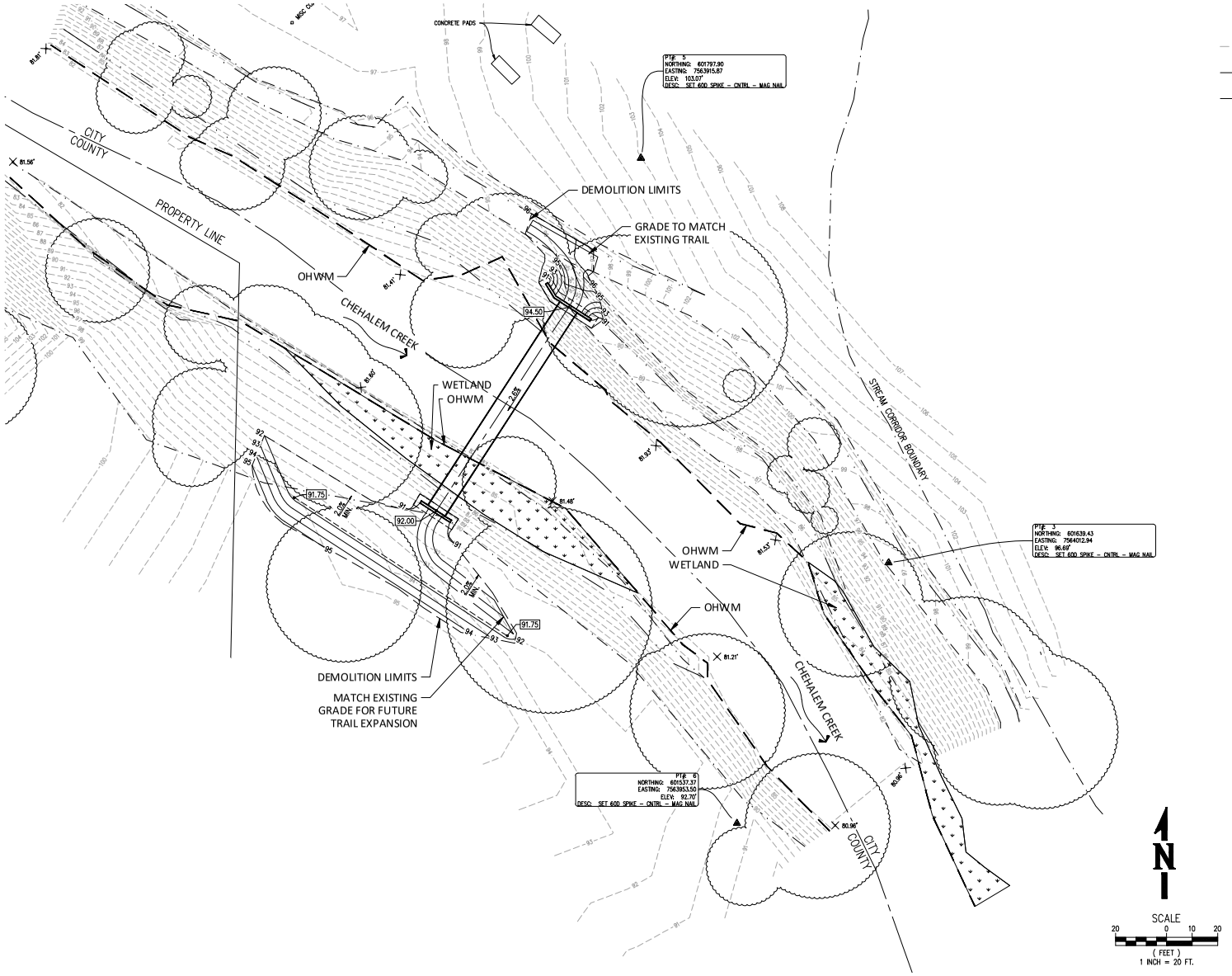
BRIDGE ENLARGEMENT PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L3.11-BR.0

SHEET NUMBER L3.11



GRADING LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- BRIDGE CENTERLINE
- XX.XXX - SPOT ELEVATION
- XX.XX% - SLOPE

LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLAND
- DEMO LIMITS

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LAST EDIT	8/9/2022
PLOT DATE	8/18/2022
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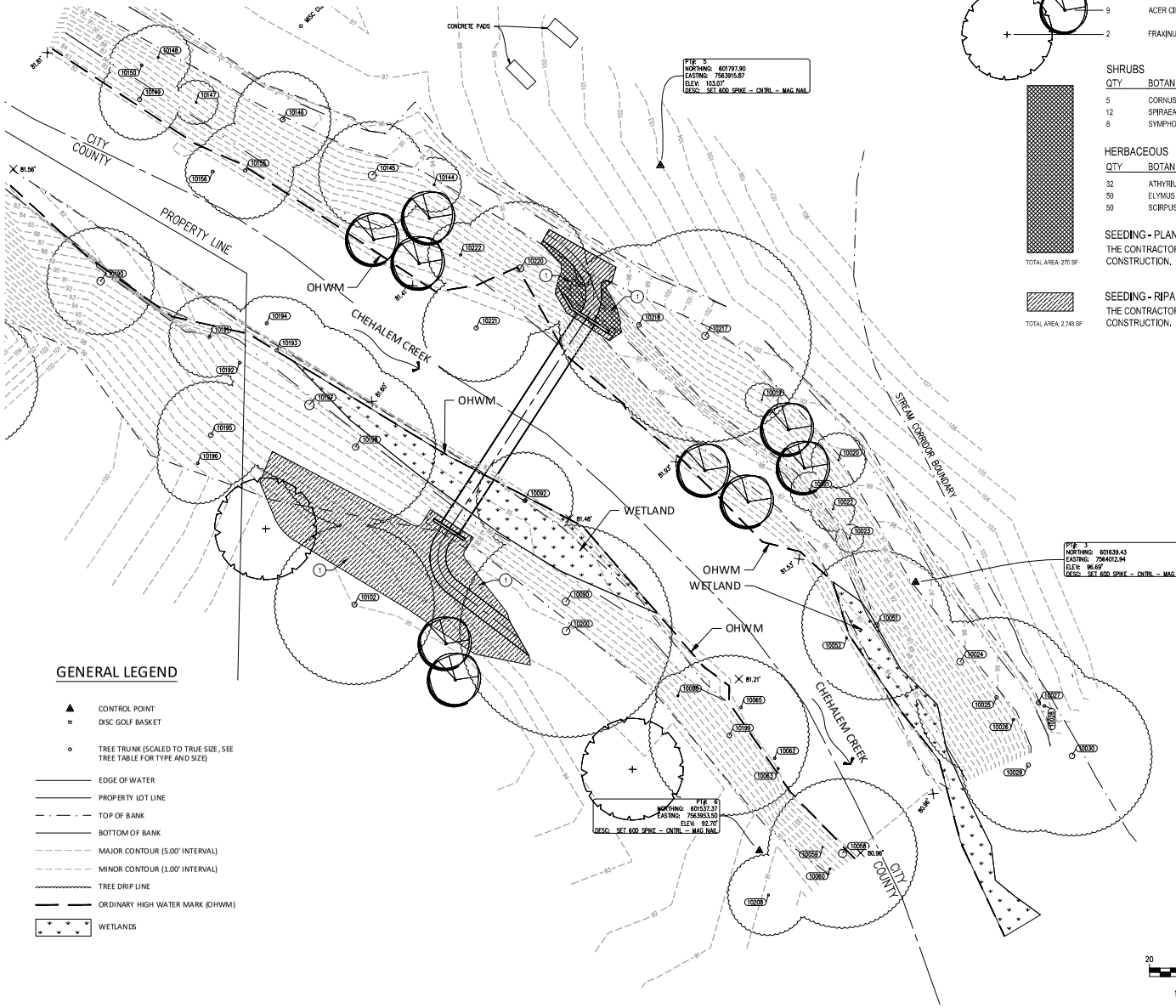
GRADING PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE: 1" = 20'

PROJECT NUMBER: C000191.00

DRAWING FILE NAME: C000191.00-LA01_L4.10-GP

SHEET NUMBER: L4.10



PLANTING LEGEND

TREES

QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
9	ACER CIRCINATUM	VINE MAPLE	1" CALIPER	AS SHOWN
2	FRAXINUS LATIFOLIA	OREGON ASH	1" CALIPER	AS SHOWN

SHRUBS

QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SIZE	SPACING
5	CORNUS SERICEA	RED-OSIER DOGWOOD	5 GAL	18" HEIGHT	60" O.C.
12	SPIRAEA DOUGLASII	DOUGLAS SPIREA	5 GAL	12" HEIGHT	36" O.C.
8	SYMPHORICARPOS ALBUS	SNOWBERRY	5 GAL	18" HEIGHT	48" O.C.

HERBACEOUS

QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SIZE	SPACING
32	ATHYRIUM FILIX-FEMINA	LADY FERN	1 GAL	12" HEIGHT	24" O.C.
50	ELYMUS GLAUCUS	BLUE WILDRYE	1 GAL	12" HEIGHT	12" O.C.
50	SCIRPUS CYPERINUS	WOOLY SEDGE	1 GAL	12" HEIGHT	12" O.C.

TOTAL AREA: 270 SF

SEEDING - PLANTING AREA MIX

THE CONTRACTOR SHALL APPLY SUNMARK SEEDS "RIVERSIDE WOODS MIX" TO ANY AREAS THAT ARE DISTURBED DURIN CONSTRUCTION.

TOTAL AREA: 2,748 SF

SEEDING - RIPARIAN MIX

THE CONTRACTOR SHALL APPLY SUNMARK SEEDS "NATIVE RIPARIAN MIX" TO ANY AREAS THE ARE DISTURBED DURING CONSTRUCTION.

LEGEND

TRAIL SURFACE - 2" BARK MULCH (636 SF)

KEYNOTES:

1. PROVIDE AND PLACE EROSION CONTROL MATTING WHERE SHOWN AND NOTED - 287 SY TOTAL

GENERAL LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLANDS

N

SCALE
20 0 10 20
(FEET)
1 INCH = 20 FT.

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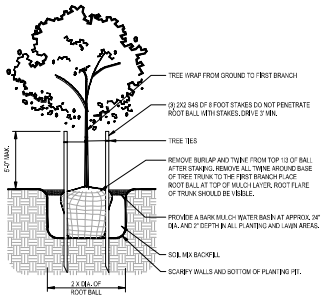
PLANTING PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L5.10-LP

SHEET NUMBER L5.10



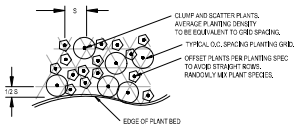
DECIDUOUS TREE PLANTING DETAIL — 1 / L5.11

SCALE: N.T.S.

NOTE: SINGLE TRUNK SHOWN, MULTI-TRUNK SIMILAR)

TREE STAKING/GUYING — 2 / L5.11

SCALE: N.T.S.

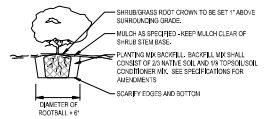


*S = SPACING ON CENTER(O.C.) AS SHOWN IN PLANT LIST.

NOTE:
1) LOCATE PLANTS 3' MIN. AWAY FROM PATHS.

NATIVE PLANT SPACING DETAIL — 3 / L5.11

SCALE: N.T.S.



SHRUB/GRASS PLANTING DETAIL — 4 / L5.11

SCALE: N.T.S.

CALL BEFORE YOU DIG

POTENTIAL UNDERGROUND FACILITY OWNERS "ONE CALL" UTILITY NOTIFICATION CENTER 1-800-332-2344

ATTENTION:
OREGON LAW REQUIRES YOU TO FOLLOW 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.
(NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 1-800-332-2344 or 811).

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PLOT DATE	8/22/2022
SUBMITTAL	

PLANTING DETAILS
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

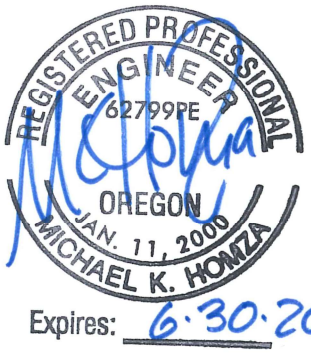
PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L5.11-DT

SHEET NUMBER
L5.11

Bridge Hydraulics Design Report
Proposed Ewing Young Park Footbridge Over Chehalem Creek
Yamhill County, Oregon

August 16, 2022



Expires: 6·30·2023

Prepared For:

Chehalem Park & Recreation District
125 S. Elliott Road
Newberg, Oregon 97132
503-554-0283

Contents

1.0 INTRODUCTION

1.1 Overview

NV5, Inc. (NV5, formerly WHPacific, Inc.) is pleased to present to the Chehalem Park & Recreation District (District) this Bridge Hydraulics Report (Report) for the proposed footbridge over Chehalem Creek at the Ewing Young Park in Yamhill, County Oregon.

This Report describes the physical condition of the existing creek at the proposed bridge location; the regulatory flood management constraints imposed upon the proposed bridge site by the Federal Emergency Management Agency (FEMA); the proposed footbridge and associated site improvements that enable the proposed bridge to satisfy FEMA's requirements; and NV5's supporting hydraulic analyses of this proposed bridge crossing. This Report also confirms that the proposed bridge can be constructed such that the bridge does not increase the 100-year Base Flood Elevations (BFEs) in Chehalem Creek as identified by FEMA. This Report is supported by eight (8) appendices, which are referenced throughout the Report as necessary. **The signed/stamped No Rise Certificate in Appendix H certifies that the proposed bridge will not increase the BFEs previously identified by FEMA.**

It must be emphasized that the footbridge considered herein will be installed above Chehalem Creek's 10-year Water Surface Elevation (WSEL) but below the creek's 100-year BFE. Therefore, the bridge ultimately selected must consider the structural forces the flowing creek imposes upon the bridge structure. The structural design of the bridge and the geotechnical design of the abutments and footings are beyond the scope and context of this Bridge Hydraulic Design Report.

NV5 understands that the 95-foot-long footbridge proposed herein will be structurally designed and prefabricated "by others". In addition, the exact type and manufacturer of the footbridge have yet to be identified. Given this uncertainty, NV5 conservatively assumed a bridge girder depth of 18-inches and that the 42-inch-high bridge railing (parapet) would completely block the creek's 100-year flood (rather than having open spaces between the horizontal elements of the railing(s) that convey water.) This conservative approach provides the District greater flexibility in the selection of a specific bridge type and/or manufacturer. This conservative approach also likely eliminates the need for NV5 to refine the bridge's hydraulic design in the future.

1.2 Contract Authorization

NV5 has prepared this Report in general accordance with the Short Form Contract/Work Authorization for Ewing Young Park Trail Bridge Professional Services contract, dated 10/14/2021. ("Agreement")

1.3 Scope of Services

NV5 performed the services listed below in general accordance with the aforementioned Agreement. (Note, only the hydraulics-related services are referenced below. Reference should be made to the Agreement for great specificity regarding all of NV5's project-related services.)

- Locate the proposed bridge to:
    - Fully span FEMA's regulatory floodway (ie, the bridge approaches and abutments shall be installed beyond the floodway limits)
    - Be above the 10-year WSEL but below the 100-year WSEL
    - Maintain (or lower) the creek's BFEs
- Include in-stream or out-of-channel improvements (excavation) to offset the hydraulic blockage imposed upon the creek by the proposed bridge (to maintain the existing BFEs)
- Obtain from FEMA an electronic, executable copy of the hydraulic/computer model used to develop FEMA's BFEs. Once acquired, this model was to be refreshed with current topographic/bathymetric survey data and then rerun to confirm the model remains consistent with FEMA's published BFEs. Then, the refreshed (Existing Conditions) model was to be adjusted to reflect the proposed bridge crossing. (As discussed further below, FEMA was unable to locate and deliver the required hydraulic/computer model. This necessitated NV5 to develop an existing conditions model of the creek based solely on NV5's recent site/creek survey.)
- Adjust and refine the "Existing Conditions" hydraulic/computer model to reflect the proposed bridge crossing such that the proposed bridge does not increase the creek's BFEs
- Utilize the discharges identified by FEMA in our hydraulic modeling efforts
- Calculate channel scour at the proposed bridge crossing
- Assess the need for riprap scour countermeasures at the proposed bridge crossing
- Summarize our findings in a Technical Memo to support the bridge's conceptual level design
- Develop a Final Bridge Design and a Final Bridge Hydraulics Report based upon approvals of the conceptual design as described in the Technical Memo
- Provide a No Rise Certificate, signed and stamped by a Professional Engineer registered in the state of Oregon

Through our execution of the aforementioned scope - and by making the aforementioned conservative assumptions on the proposed bridge structure – it is NV5's opinion that the hydraulic design of the proposed bridge is advanced enough to constitute a final design. Therefore, this report is intended to replace the (conceptual level) Technical Memo and constitutes our Final Hydraulics Report.

1.4 Summary of Results

As described in this Report, the proposed 95-foot-long footbridge over Chehalem Creek:

- Achieves a No Rise condition
- Requires moderate bank grading at/near the southwestern abutment and pathway approach to achieve the No Rise condition

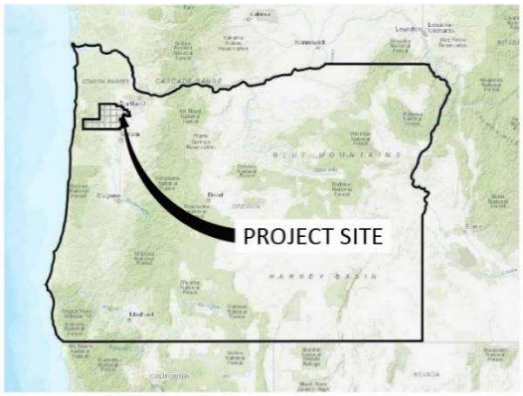
- Is estimated to realize 0.0-feet of channel scour at the proposed crossing during the 100-year flood event
- Does not require riprap scour countermeasures

2.0 PROJECT LOCATION AND EXISTING CONDITIONS

2.1 Project Location

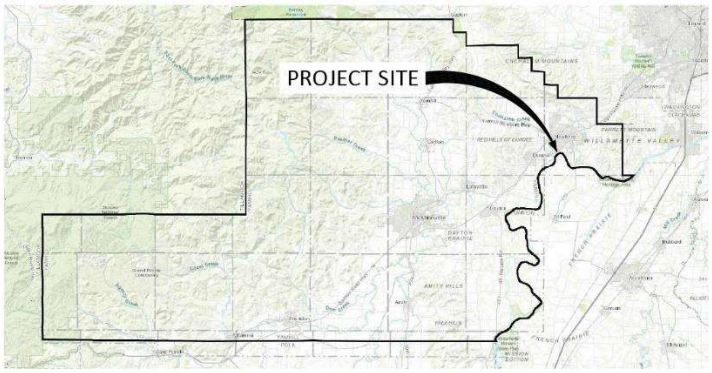
As indicated on Figure 1 below, Yamhill County is located in Northwestern Oregon. As indicated in Figure 2 below, The Project Site (Ewing Young Park) is located near the Northeast corner of Yamhill County. Note, the "curvy" eastern boundary of Yamhill County corresponds with the Willamette River. Figure 3 below shows the location of the proposed project/bridge relative the boundaries of Ewing Young Park. The Project Site is presented in greater detail in **Appendix C: Existing and Proposed Plans**.

Figure 1: Location of Yamhill County, Oregon



OREGON

Figure 2: Location of Site in Yamhill County, Oregon



YAMHILL COUNTY

Figure 3: Project Vicinity Map (Ewing Young Park)

PROJECT VICINITY MAP
NOT TO SCALE

2.2 Existing Site and Stream Conditions

Chehalem Creek is an urbanized perennial tributary to the Willamette River. The stream banks are densely vegetated with a mixture of grasses, shrubs, and mature trees. Wetlands exist along the western streambank at the proposed bridge crossing. The channel bed is composed of relatively large and stable bed material, generally ranging in size from 3- to 6-inch diameter cobble-sized rocks up to 2- to 3-ft diameter rocks (small boulders). Interstitial voids between these larger bed materials are generally filled with large sand to small gravel. These smaller bed materials appear to have "cemented" the existing streambed. There were no obvious signs of either channel aggradation (sedimentation) or degradation (vertical erosion); thereby indicating the streambed is vertically stable. Similarly, there were no obvious signs of lateral bank erosion or lateral channel migration. Casual field observations suggest shallow bedrock lies beneath this bed material. **Appendix A, Photo Log of Existing Site**, depict the features described above.

As indicated on the stream/flood profile in **Appendix B, FEMA Documentation**, the proposed bridge site is approximately 1.65-miles upstream from Chehalem Creek's confluence with the Willamette River. Furthermore, and as indicated on FEMA's stream/flood profile, Chehalem Creek in the location of the proposed bridge is hydraulically influenced ("backwatered") by the Water Surface Elevations (WSELs) in the Willamette River. The channel bed in the vicinity of the proposed bridge crossing has a "mild" gradient of approximately 0.3%, whereas the water surface gradient at the crossing is near 0.0% during the 100-year flood event due to the Willamette River's backwater impacts.

2.3 Topographic/Bathymetric Survey

NV5's land surveyors performed a topographic/bathymetric survey of Chehalem Creek and the project site in October, 2021. **Appendix C, Existing and Proposed Plans**, present the results of this survey. It is important to note that NV5's survey was performed using the NGVD29 vertical datum, whereas the corresponding FEMA Flood Insurance Study (FIS) is based on the NAVD88 vertical datum. Note that 3.47-feet must be subtracted from FEMA's (NAVD88) elevations to convert the elevations to NV5's (NAVD29) datum.

2.4 FEMA Flood Zone

Appendix B, FEMA Documentation, includes excerpts from FEMA's Flood Insurance Study (FIS) for Yamhill County, Oregon and Incorporated Areas (FEMA, 2010a) and FEMA's corresponding Flood Insurance Rate Map (FIRM) (FEMA, 2010b). Both of these documents because "Effective" on March 2, 2010. Pertinent references are highlighted in these excerpts. As previously noted, NV5's survey was performed using the NGVD29 vertical datum, whereas the corresponding FEMA FIS is based on the NAVD88 vertical datum. Note that 3.47-feet must be subtracted from FEMA's (NAVD88) elevations to convert the elevations to NV5's (NAVD29) datum.

As indicated on the FEMA "FIRMette" included in **Appendix B, FEMA Documentation**, Chehalem Creek in the vicinity of the proposed footbridge is located within a FEMA-designated "AE" Flood Zone. This

designation indicates that FEMA modeled Chehalem Creek with "detailed" hydraulic/computer modeling methods and that both BFEs and a Floodway were defined by FEMA. If the proposed bridge were to elevate FEMA's BFEs even as much as 0.01-feet, FEMA would likely require the District to apply for a Conditional Letter of Map Revision (CLOMR) in order construct the proposed bridge. CLOMRs are both time consuming and costly. Therefore, this proposed bridge – and its associated grading – were developed such that it will not elevate FEMA's BFEs. By maintaining FEMA's BFEs, this Project can utilize the appended (and less expensive) No Rise Certificate in lieu of a CLOMR.

NV5 first requested from FEMA FEMA's supporting documentation for the corresponding FIS and FIRM on December 20, 2021. This request, and NV5's follow-up email discussions with FEMA's representatives, are also included in Appendix B. As indicated therein, the supporting documentation and an executable version of the underlying hydraulic/computer model were not available from FEMA. NV5 subsequently developed a hydraulic/computer model of Chehalem Creek at the proposed bridge site in the absence of an executable model from FEMA. Specifics of this model are described below in the Hydraulic Modeling section of this report.

3.0 PROPOSED CONDITIONS

3.1 Overview

NV5's Project Manager engaged in discussions with representatives from several different manufacturers of prefabricated bridges. Based on these discussions – in addition to our understanding of the District's design preferences and budget limitations - NV5 developed the conceptual-level proposed bridge design as depicted in **Appendix C, Existing and Proposed Bridge Conditions**. As presented, this proposed bridge concept will not increase Chehalem Creek's BFEs. (ie, it achieves a No Rise condition.) Key parameters of this bridge include:

- 95-foot-long (open) span bridge (which fully spans FEMA's regulatory Floodway)
- 8-foot-wide bridge (this may be up to approximately 3-feet wider without impacting the hydraulics)
- 18-inch-deep girder depth (Possible girder depths for the various bridge types considered for a span this long ranged from 14 to 16-inches, so the 18-inch-deeper girder was conservatively deeper than necessary.)
- 42-inch-high, solid, bridge railing (aka, "parapet"). NV5 conservatively assumed the proposed bridge rail would be solid (in our hydraulic/computer model), rather than having open spaces between the rail members (as graphically depicted in Appendix C). This assumption:
    - Provides the District and selected bridge manufacturer flexibility in their forthcoming selection of a preferred bridge type.
    - Accounts for a full debris blockage against the bridge and rail during floods.

- Bridge deck elevations of 94.50 and 92.00 at the eastern and western bridge approaches, respectively. Note, the low chord of the proposed bridge shall be located above the 10-year flood WSEL of 87.13 as identified on FEMA's flood profile presented in **Appendix B, FEMA Documentation.** These elevations are also depicted on the proposed bridge cross-section presented in **Appendix C, Existing and Proposed Plans**.
- Shallow concrete footings setback into the existing banks as depicted in **Appendix C, Existing and Proposed Plans**. As indicated in NV5's January 18, 2022 *Report of Geotechnical Engineering Services* (NV5, 2022) Preliminary discussions between NV5's hydraulics engineers and geotechnical engineers indicate that the local soils have adequate stability and bearing capacity to accommodate this size bridge.
- Earthen "fill" pathway approaches
- Excavation of a 25-foot-wide (minimum) "cut area" at/near the western bridge approach. (This excavation offsets the hydraulic "conveyance" blocked by the girder, rail (parapet), abutments and filled approaches.)

It must be emphasized that this proposed bridge, as described above and graphically depicted in Appendix C, must be designed to accommodate the anticipated horizontal and vertical (both weight and floating) forces imposed upon the bridge by the flowing/flooding creek. It is suggested the bridge manufacturers/designers also consider additional forces potentially imposed upon the bridge by flood debris against the proposed bridge.

4.0 HYDRAULIC MODELING

4.1 Overview

NV5 utilized the United States Army Corps of Engineers (USACE), Hydrologic Engineering Center's River Analysis System (HEC-RAS) computer model (Version 6.0) (Brunner, 2010) to model the hydraulics of the existing and proposed creek/bridge conditions. Only the 100-year flood discharge was considered in this modeling exercise because the desired No Rise Certificate specifically addresses only the 100-year BFEs. The 100-year discharge of 2,760-cfs, as identified by FEMA and as highlighted in **Appendix B, FEMA Documentation**, was used in our modeling efforts.

4.2 Existing Conditions Model

NV5 developed an independent Existing Conditions hydraulic/computer model of Chehalem Creek at the proposed bridge crossing site because FEMA was unable to deliver either an executable copy of Chehalem Creek's "Effective" hydraulic/computer model or any other pertinent, useful, background information as requested. NV5 developed the "geometry" of this model using NV5's 2022 topographic/bathymetric survey for the creek, which is based on the NGVD29 vertical datum. NV5 also used the same Manning's Roughness Values that FEMA used in their "Effective" hydraulic model. The range of Manning's values used by FEMA are highlighted in **Appendix B, FEMA Documentation**.

The 100-year WSEL identified on FEMA's flood profile for Chehalem Creek was used as the downstream controlling boundary condition. As indicated on the "FIRMette" in **Appendix B, FEMA Documentation**, the proposed bridge will be located between FEMA cross-sections "B" and "C". As shown on the flood profile in Appendix B, the 100-year WSEL at these cross-sections is "backwatered" by the corresponding 100-year WSELs in the Willamette River further downstream. The 100-year WSEL at both of these cross-sections approximately equals 102.50 (NAVD88). FEMA's 100-year WSEL of 102.5 (NAVD88) was converted to elevation 99.03 (NGVD29) to maintain consistency with the NAVD29 vertical datum used in NV5's 2022 survey. (Specifically, the downstream WSEL at model station 0+00 was set to the 100-year WSEL of 90.03.)

NV5 refined the Manning's Roughness Values in our Existing Conditions Model such that the resulting WSELs essentially equaled those shown on the FEMA flood profile in Appendix B. The completed Existing Conditions Model developed by NV5 was used as the "Duplicate Effective" model in the absence of the executable model requested from FEMA. **Appendix D, Existing Conditions Hydraulic Model Results**, presents the input and output of this modeling effort.

4.3 Proposed Conditions Model and No Rise Certificate

NV5's Existing Conditions Model was then adjusted to represent the proposed bridge and channel conditions. Multiple bridge configurations and elevations, in addition to multiple channel and bank configurations (ie, excavation scenarios) were modeled to represent a design that resulted in the desired No Rise condition. It's important to emphasize that the Proposed Conditions Model is very "sensitive" to minor refinements to roughness values and the bridge/channel geometry because of the very "flat" or "level" backwater conditions imposed upon Chehalem Creek by the Willamette River.

Ultimately, the proposed bridge and channel/bank refinements, as described above in the Proposed Conditions section of this report, results in the desired No Rise condition. As previously noted, it is proposed to excavate the existing bank at/near the southwestern pathway approach of the bridge to offset the "conveyance blockage" the proposed bridge imposes upon the creek's 100-year floodwaters. The excavation proposed at the pathway approach was selected in lieu of in-stream excavation to eliminate potential environmental impacts the in-stream excavation would have caused to the existing wetlands beneath the proposed bridge. **Appendix E, Proposed Conditions Hydraulic Model Results**, presents the input and output of this modeling effort.

NV5 certifies the proposed bridge and site design will not increase the 100-year BFE in Chehalem Creek with the signed/stamped "No Rise Certificate" provided in **Appendix H, No Rise Certificate.**

5.0 SCOUR EVALUATION

5.1 Overview

NV5 evaluated the potential for channel scour at the proposed bridge crossing during the 100-year flood event using the scour analysis routines embedded in the HEC-RAS hydraulic/computer model. Scour was evaluated in accordance with the Oregon Department of Transportation's (ODOT) most current Hydraulic Design Manual (ODOT, 2014). The results of this evaluation are presented in **Appendix F, Scour Evaluation Results**.

5.2 Contraction Scour

As defined by the Oregon Department of Transportation (ODOT):

> *Contraction scour is general scour caused by increased flow velocities within the bridge opening in comparison to the slower velocities in the upstream and downstream waterway. Contraction scour can occur in the bridge opening due to the contraction caused by the bridge abutments and/or internal bents. (ODOT, 2014)*

In our scour evaluation, NV5 utilized a (conservatively small) median bed material size of 3.5-inches (88.9-mm) to represent the streambed material. As indicated in **Appendix F, Scour Evaluation Results,** the critical velocity for this sized bed material approximately ranges from 10.3- to 12.0-fps. Given that the average 100-year velocity through the bridge is approximately 2.2-fps, "clearwater" flow conditions prevail. Accordingly, clearwater contraction scour equations were used in this contraction scour evaluation. Clearwater contraction scour was subsequently calculated to be 0.00-feet deep. (ie, Contraction Scour is calculated not to occur at the proposed bridge.)

5.3 Abutment Scour

As defined by the Oregon Department of Transportation:

> *Abutment scour is local scour that occurs at the faces of abutments that project into the waterway or floodplain. The obstruction causes flow vortices to form at the toe of the abutment, and this turbulent flow scours away the underlying bed material. At present, equations to predict abutment scour are mainly based on laboratory data and they tend to predict conservative scour depths. In other words, it is likely the actual abutment scour will be less than the predicted value, and unlikely the abutment scour will be greater than the prediction.*
>
> *ODOT recommended practice is to protect the toe of the abutment with revetment* (ie, riprap) *in lieu of including abutment scour in the predicted scour elevation. An exception occurs when revetment protection is omitted from the face of the abutment and the toe of the abutment is not solidly keyed into non-erodible rock. In this case, abutment scour is calculated and included in the predicted total scour elevation.* (ODOT, 2014).

While not required by the ODOT criteria cited above, NV5 calculated the abutment scour depths at the bridge as a general check of the proposed bridge's vulnerability to abutment scour. NV5 estimated abutment scour using the abutment scour routine embedded in the HEC-RAS model. These results are presented in **Appendix F, Scour Evaluation Results.** As indicated in Appendix F, abutment scour was calculated to be over 10-feet deep at each abutment. In NV5's opinion, and as indicated in the ODOT literature cited above, the common abutment scour methods *"… tend to predict conservative scour depths"* and *"ODOT recommended practice is to protect the toe of the abutment with revetment* (ie, riprap) *in lieu of including abutment scour in the predicted scour elevation".*

Following ODOT's abutment scour guidance, NV5 "designed" riprap scour countermeasures for the creek banks beneath the proposed bridge. This riprap design is discussed in greater detail in the Report section immediately below. As indicated below, the largest riprap size required is less than 0.2-ft (2.4-inches). This required riprap size is less than the estimated median bed material size of 3.5-inches. Furthermore, the average and maximum 100-year flow velocities in the channel at the bridge crossing as calculated in the HEC-RAS model were estimated to be 2.4- and 3.5-fps, respectively. These velocities are relatively low and within the range of widely accepted maximum permissible velocities for well-vegetated (grassy) channel banks. Specifically, the maximum permissible velocity for "grass mixtures" on "easily erodible soils" is 4.0-fps. (USDA SCS, 1954)

5.4 TOTAL SCOUR

Total scour is defined as:

Total Scour = Contraction Scour + Abutment Scour + Pier Scour + Channel Degradation

In the case of this proposed bridge: abutment scour can be disregarded in lieu of abutment riprap (in accordance with the ODOT guidance cited above); and there is no pier, so pier scour equals 0.0-feet. In addition, Chehalem Creek exhibits no obvious signs of channel degradation, and the bed appears vertically stable. Therefore, channel degradation = 0.0-feet. Therefore, using the equation noted above:

Total Scour = 0.0 + 0.0 + 0.0 + 0.0 = 0.0-feet

This means, total scour is estimated to be non-existent at this proposed bridge crossing.

6.0 RIPRAP PROTECTION

6.1 Riprap Design

In accordance with the ODOT abutment scour guideline cited above (ODOT, 2014), NV5 "designed" riprap protection beneath the bridge along each abutment. Specifically, NV5 used a proprietary Microsoft Excel workbook to design the proposed riprap protection. This workbook, a copy of which in

included in **Appendix G, Riprap Workbook,** was developed to design riprap for a total of six (6) different design methods. This multiple-method approach provides an objective comparative analysis of the various methods and allows the user to select the most appropriate method for the project in question.

As evidenced by the riprap design calculations included as **Appendix G, Riprap Workbook,** the "abutment sideslopes" (ie, the existing streambanks beneath the bridge adjacent to the two proposed abutments) would only require a maximum riprap size of 0.2-feet (2.4-inces), which is smaller than the local, median bed material size of 3.5-inches. And as noted above, the 100-year flow velocities beneath the bridge are within the acceptable range of widely accepted maximum permissible velocities for well vegetated, highly erodible soils. Therefore, riprap protection is not required along the abutments beneath the proposed bridge.

7.0 SUMMARY

NV5 performed the Scope of Services noted above in accordance with the Agreement noted above. Services included the development of a hydraulic/computer model to represent both the existing and proposed site/bridge conditions described in detail above. It is important to note that the Proposed Conditions hydraulic/computer model is very sensitive to even the slightest refinements to the bridge, hydraulic friction values, and proposed grading due to the very "flat" or "level" "backwater conditions" imposed upon this reach of Chehalem Creek by the Willamette River. This means any adjustments to the proposed design may compromise the "No Rise" condition certified herein.

The proposed creek/bridge crossing has been assessed for bridge/channel scour using commonly accepted practices and techniques. Channel scour at the proposed bridge was calculated to equal 0.0-feet (ie, scour is non-existent.) In addition, the need to protect the channel banks beneath the proposed bridge with riprap was considered. Results from the hydraulic model and riprap analysis indicate the existing channel banks are stable under the 100-year flood condition and that riprap is not required at the proposed bridge.

It is NV5's opinion that this Report and the finding provided herein are sufficiently detailed to constitute a Final Bridge Hydraulics Report, in lieu of the interim Technical Memo initially envisioned on our proposed scope of services. This opinion is based upon:

- The conservatively deep (18-inch) bridge girder depth considered herein
- The conservative assumption that the proposed bridge rail will be "solid" rather than constructed of thinner rail elements that can pass flow in between the rail elements
- The finding that bridge scour is non-existent
- The finding that riprap scour countermeasures and/or abutment protection is not required

8.0 LIMITATIONS

NV5, Inc. has prepared this report and design exclusively for the Chehalem Park and Recreation District and their authorized agents and regulatory agencies for this specific Ewing Young Park Footbridge Project. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of bridge hydraulic engineering design in this area at the time this report was prepared. The conclusions, recommendations, and opinions presented in this report are based on our professional knowledge, judgment, and experience. No warranty or other conditions, expressed or implied, should be understood.

9.0 REFERENCES

Brunner G.W., 2010. *HEC-RAS River Analysis System Hydraulic Reference Manual*. U.S. Army Corps of Engineers' Hydraulic Engineering Center.

FEMA, 2010a. Federal Emergency Management Agency, *Flood Insurance Study, Yamhill County, Oregon and Incorporated Areas*, Effective March 2, 2010

FEMA, 2010b. Federal Emergency Management Agency, *Flood Insurance Rate Map, Panel 236 of 675, Yamhill County, Oregon and Incorporated Areas*, Effective March 2, 2010

NV5, January 18, 2022. *Report of Geotechnical Engineering Services, Pedestrian Bridge – Ewing Young Park, Newberg, Oregon*

Oregon Department of Transportation Highway Division, April 2014, *Hydraulics Design Manual*

U.S. Department of Agriculture, Soil Conservation Service (SCS) 1954, *SCS-TP-61, Handbook of Channel Design for Soil and Water Conservation*

APPENDIX A: PHOTO LOG OF EXISTING SITE

Photo 1

Facing southeasterly (downstream) on existing trail at/near bridge site. Chehalem Creek is (barely visible) in photo to right. (Photo taken 5/17/2022)

Photo 2

Facing southwesterly across creek at/near proposed bridge crossing. Creek flows from right to left in photo. (5/17/2022)

Photo 3

Facing southeasterly (downstream) across creek at/near proposed bridge crossing. Creek flows from right to left in photo. (5-17-2022)

Photo 4

Facing southwesterly across creek at/near proposed bridge crossing. Creek flows from right to left in photo. (5-17-2022)

Photo 5

Facing southwesterly across creek at/near proposed bridge crossing. Creek flows from right to left in photo. (5-17-2022)

Photo 6

Facing westerly across creek at/near proposed bridge crossing. Creek flows from right to left in photo. (5-17-2022)

Photo 7

Facing westerly across creek at/near proposed bridge crossing. Creek flows from right to left in photo. Note large bed material. (7-13-2022)

Photo 8

Facing southeasterly (downstream) at/near proposed bridge crossing. Note large bed material. (7-13-2022)

Photo 9

Facing northwesterly (upstream) at/near proposed bridge crossing. Note large bed material. (7-13-2022)

Photo 10

Representative streambed material at/near proposed bridge crossing. (7-14-2022)

Photo 11

Representative streambed material at/near proposed bridge crossing. (Scale shown is approximately 6-inches-long.) (7-14-2022)

Photo 12

Representative streambed material at/near proposed bridge crossing. (Scale shown is approximately 6-inches-long.) (7-14-2022)

Photo 13

Representative streambed material at/near proposed bridge crossing. (Scale shown is approximately 6-inches-long.) (7-14-2022)

Photo 14

Representative streambed material at/near proposed bridge crossing. (7-14-2022)

Photo 15

Representative streambed material taken from in between relatively larger bed cobbles/rocks at/near proposed bridge crossing. (Scale shown is approximately 6-inches-long.) (7-14-2022)

APPENDIX B: FEMA DOCUMENTATION

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by the State of Oregon. This information was compiled from the U.S. Geological Survey (2007), Oregon Department of Transportation (2007), OR/WA Bureau of Land Management (2006), Oregon Department of Forestry (2003), NGS (2007), and USDA-FSA (2006) at a scale of 1:24,000.

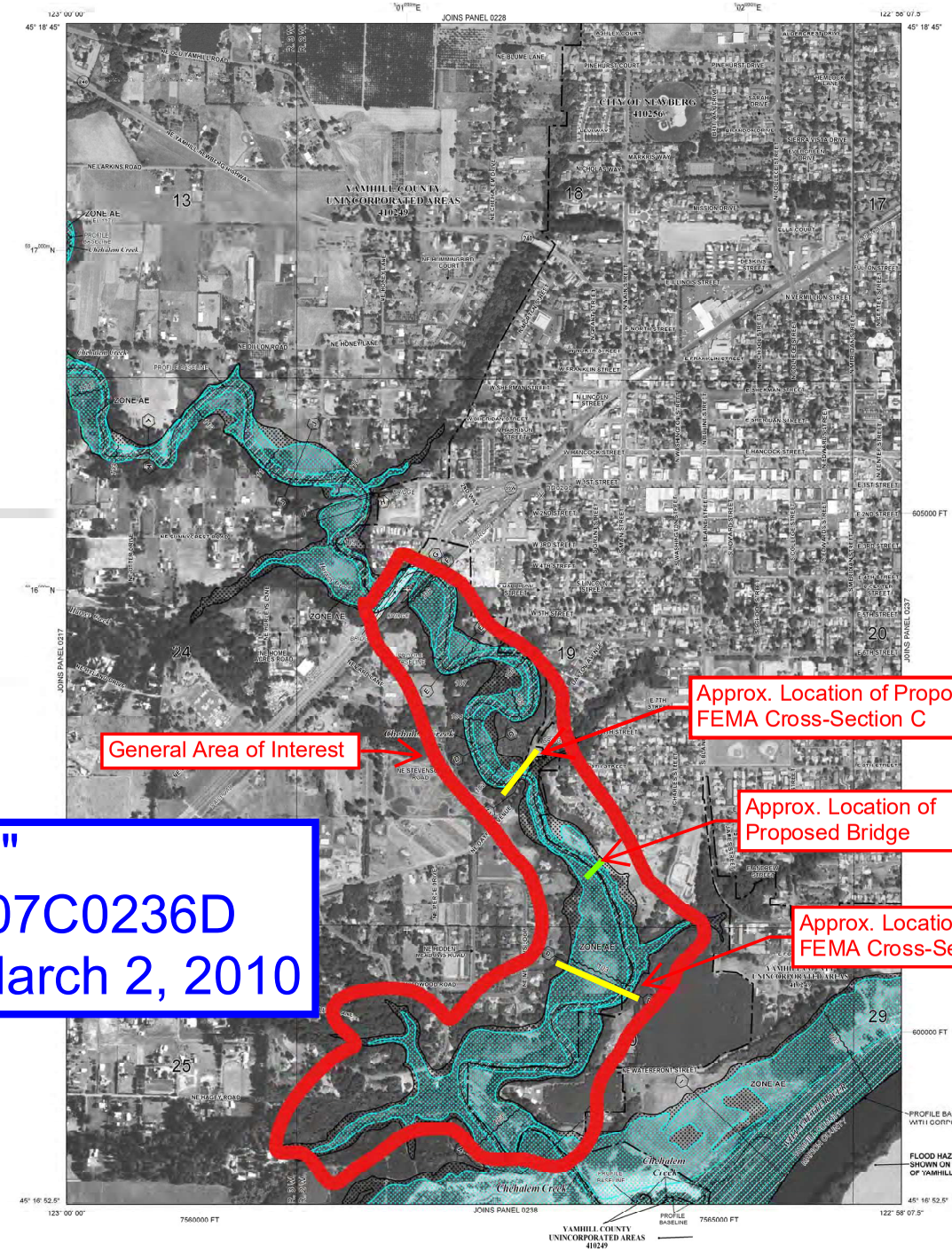
The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip/.



FEMA "FIRMette"
Map Number 4107C0236D
Effective Date: March 2, 2010

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A — No Base Flood Elevations determined.
ZONE AE — Base Flood Elevations determined.
ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE — Coastal flood zone with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% Annual Chance Floodplain Boundary
0.2% Annual Chance Floodplain Boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513 — Base Flood Elevation line and value; elevation in feet*
(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*
*Referenced to the North American Vertical Datum of 1988
A — A — Cross section line
51 — 51 — Transect line
45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
3100000 FT — 5000-foot ticks: Oregon State Plane North Zone (FIPS Zone 3601), Lambert Conformal Conic projection
4889000m N — 1000-meter Universal Transverse Mercator grid values, zone 10N
DX3010 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
March 2, 2010
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0236D

FIRM
FLOOD INSURANCE RATE MAP
YAMHILL COUNTY, OREGON AND INCORPORATED AREAS
PANEL 236 OF 575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
NEWBERG, CITY OF	410238	0236	D
YAMHILL COUNTY	410249	0236	D

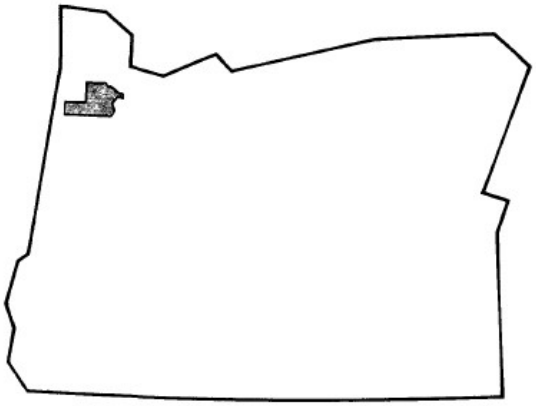
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
41071C0236D
EFFECTIVE DATE
MARCH 2, 2010
Federal Emergency Management Agency

Excerpts From

FLOOD INSURANCE STUDY

YAMHILL COUNTY, OREGON AND INCORPORATED AREAS



COMMUNITY NAME	COMMUNITY NUMBER
AMITY, CITY OF	410250
CARLTON, CITY OF	410251
DAYTON, CITY OF	410252
DUNDEE, CITY OF	410253
LAFAYETTE, CITY OF	410254
MCMINNVILLE, CITY OF	410255
NEWBERG, CITY OF	410256
SHERIDAN, CITY OF	410257
WILLAMINA, CITY OF	410258
YAMHILL, CITY OF	410259
YAMHILL COUNTY UNINCORPORATED AREAS	410249

Effective Date: March 2, 2010

Federal Emergency Management Agency

Flood Insurance Study Number
41071CV000A

TABLE OF CONTENTS

FIGURES

TABLES

EXHIBITS

Exhibit 1 – Flood Profiles

PUBLISHED SEPARATELY

Flood Insurance Rate Map Index

Flood Insurance Rate Map

Table 4. Summary of Discharges

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cfs) 10-percent-annual-chance	2-percent-annual-chance	1-percent-annual-chance	0.2-percent-annual-chance
Agency Creek	25	2,130	3,430	4,080	5,090
Ash Swale	43	2,150	2,880	3,180	3,760
Baker Creek	26	1,320	1,780	2,030	2,400
Chehalem Creek					
at mouth	41	1,650	2,450	2,760	3,490
below Harvey Creek (River Mile 2.8)	39	1,600	2,380	2,680	3,390
at State Highway 240	27	1,330	1,950	2,190	2,750
Cozine Creek	11	600	830	940	1,230
North Fork Cozine Creek	2	196	270	309	399
West Fork Cozine Creek	0.6	109	150	170	221
Hess Creek					
at Wynoski Street	3.8	290	350	400	440
at U.S. Highway 99W (River Mile 3.4)	3.0	220	270	310	350
at Fulton Avenue (River Mile 4.0)	2.3	170	210	240	260
upstream of Mountain View Drive (River Mile 5.3)	1.7	140	180	210	230
Palmer Creek	31.3	3,210	4,020	4,360	5,260

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data tables in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.

Cross sections for streams were field surveyed by the USACE, determined from detailed USGS topographic maps, or obtained from aerial photography (References 24, 25, 26, and 27). All bridges, dams, and culverts were field checked to obtain elevation data and structural geometry.

Cross sections for the Willamette River in the vicinity of Dundee were based on condition surveys taken from 1973 to 1976 and topographic maps dated April 1973 (Reference 28). Cross sections for Hess Creek in the vicinity of Newberg were based on USACE orthophoto topographic maps (Reference 29) and field channel surveys. Those field surveys were made in February and March 1978. Topographic maps were used for a few photographic control points to supplement the field-surveyed control points (Reference 30).

Cross sections for the Yamhill River, North Yamhill River, South Yamhill River, and Willamina Creek were based on orthophoto topographic maps (References 19 and 31) and field channel surveys. Topographic maps were used for a few photographic control points to supplement the field-surveyed control points (Reference 32).

Cross section data for Yamhill Creek were based on a USACE orthophoto topographic map, dated April 1977 (Reference 26), and June 1979 field channel surveys. Topographic maps were used for a few photographic control points to supplement the field-surveyed control points (Reference 32).

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the FIRM.

Channel roughness factors (Manning's "n") used in the hydraulic computations for the channel and overbanks were chosen by engineering judgment based on field observations. The values were then adjusted to match high-water marks where available. The range of roughness values used for all flooding sources are shown in Table 5.

Table 5. Range of Manning's Roughness Values

Flood Source	Main Channel	Floodplain
Agency Creek	0.060-0.300	0.120
Ash Swale	0.030-0.650	0.120-0.300
Baker Creek	0.070-0.300	0.080
Chehalem Creek	0.050-0.060	0.080-0.120
Cozine Creek	0.030-0.130	0.030-0.150

Table 5. Range of Manning's Roughness Values (continued)

Flood Source	Main Channel	Floodplain
North Fork Cozine Creek	0.030-0.130	0.030-0.150
West Fork Cozine Creek	0.030-0.130	0.035-0.150
Hess Creek	0.035-0.055	0.070-0.100
Palmer Creek	0.050	0.070
West Fork Palmer Creek	0.050	0.070
Panther Creek	0.070	0.080
Salt Creek	0.030-0.065	0.120-0.300
Willamette River	0.028-0.029	0.077-.0150
Willamina Creek	0.045-0.050	0.070
Yamhill Creek	0.035-0.050	0.070-0.150
Yamhill River	0.033-0.042	0.075-0.090
North Yamhill River	0.035-0.500	0.070-0.100

Water-surface elevations of floods of the selected recurrence intervals were computed through use of the USACE HEC-2 step-backwater computer program for all streams studied in detail except Cozine Creek, North Fork Cozine Creek, and West Fork Cozine Creek (Reference 33). Cozine Creek, North Fork Cozine Creek, and West Fork Cozine Creek were analyzed using the U.S. Soil Conservation Service WSP-2 backwater computer program (Reference 34). North Yamhill River starting water-surface elevations were calculated considering Yamhill River elevations when North Yamhill River is at peak flow. Starting water-surface elevations for Yamhill River, South Yamhill River, Hess Creek, Cozine Creek, and Willamina Creek were calculated using normal depth computations. North Fork Cozine Creek starting water-surface elevations were calculated using critical depth. Starting water-surface elevations for Chehalem Creek, Palmer Creek, West Fork Palmer Creek, Panther Creek, Baker Creek, Yamhill Creek, Salt Creek, Ash Swale, and Agency Creek were determined using slope-area method. Starting water-surface elevations for the Willamette River were taken from the Clackamas County Flood Insurance Study (Reference 35).

Flooding on Salt Creek through the City of Amity is influenced by the South Yamhill River; thus, the elevations used in this study are based on a hydraulic analysis of South Yamhill River (Reference 36). Elevations on Ash Swale through the study area are controlled by Salt Creek backwater. Water-surface elevations on Palmer Creek are controlled by backwater from Yamhill River. On West Fork Cozine Creek, it was determined that flooding was due to backwater from Cozine Creek; therefore no profile is shown.

Base flood elevations shown on the Floodway Data Table (Table 6) for cross sections BF, BG, and BH on South Yamhill River are not representative for the entire cross section width across the floodplain. Orientation of base flood elevations shown on the Flood Insurance Rate Map (FIRM) (published separately) was determined through a combination of computed elevations on the South Yamhill and historical high-water marks along the floodplain.

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed and operate properly, and do not fail.

Approximate study areas were analyzed using slope-area method, field reconnaissance, engineering judgment, and available topographic information (References 32 and 37). Approximate study areas within the City of Amity were analyzed using the Federal Insurance Administration Flood Hazard Boundary Map for the City of Amity (Reference 38), information from city officials, field inspection, engineering judgment, and topographic maps at a scale of 1:4800, with a contour interval of 5 feet (Reference 26). Approximate water-surface elevations for the unnamed tributary to the Yamhill River in the vicinity of the City of Dayton were determined using Yamhill River backwater elevation and adding a small surcharge.

For the approximate studies of an unnamed tributary to Yamhill Creek through the eastern part of the City of Yamhill, and a short reach of Rowland Creek upstream and downstream of Moores Valley Road near the western corporate limits, the 1-percent-annual-chance flood elevations were prepared from information furnished by the City of Yamhill and local residents; and by using aerial photographs, field observations, and limited hydraulic computations.

3.3 Vertical Datum

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD 29). With the completion of the North American Vertical Datum of 1988 (NAVD 88), many FIS reports and FIRMs are now prepared using NAVD 88 as the referenced vertical datum.

Flood elevations shown in this FIS report and on the FIRMs are referenced to NAVD 88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the NGVD and the NAVD, visit the National Geodetic Survey website at www.ngs.noaa.gov, or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242
(301) 713-4172 (fax)

The conversion factor from NGVD to NAVD for all flooding sources in this report is +3.47 feet.

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with the FIS report and the FIRMs for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description and/or location information for benchmarks

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
Chehalem Creek	Elevation in NAVD88 and Survey in NGVD29 (See Construction Plans for NGVD29 Control)							
A	0.61	60	663	4.2	102.5	75.8[2]	76.3[2]	0.5
B	1.39	50	461	6.0	102.5	84.7[2]	84.9[2]	0.2
C	1.86	48	223	12.4	102.5	98.9[2]	98.9[2]	0.0
D	1.99	55	531	5.2	103.5	103.5	103.7	0.2
E	2.45	148	1,010	2.7	107.3	107.3	108.0	0.7
F	2.64	105	1,175	2.3	108.0	108.0	108.8	0.8
G	2.66	75	138	2.6	108.2	108.2	109.0	0.8
H	3.02	67	551	4.9	109.3	109.3	109.9	0.6
I	3.04	51	553	4.8	109.6	109.6	110.3	0.7
J	3.20	130	1,111	2.4	110.8	110.8	111.5	0.7
K	3.68	85	772	3.5	112.6	112.6	113.4	0.8
L	4.21	75	736	3.3	116.2	116.2	116.7	0.5
M	4.70	61	642	3.8	119.0	119.0	119.8	0.8
N	4.99	140	855	2.6	121.0	121.0	121.8	0.8
O	5.36	85	442	5.0	124.7	124.7	125.0	0.3
P	5.37	78	421	5.2	125.2	125.2	125.5	0.3
Q	5.42	160	631	3.5	126.4	126.4	126.7	0.3
R	6.05	110	486	4.5	135.1	135.1	135.6	0.5
S	6.29	95	321	6.2	141.0	141.0	141.3	0.3
T	6.61	250	655	3.0	148.7	148.7	149.5	0.8
U	6.69	130	494	4.0	150.2	150.2	151.0	0.8
V	6.71	75	596	3.3	151.1	151.1	151.8	0.7
W	6.97	200	571	3.0	155.4	155.4	156.1	0.7
X	7.24	512	1,131	1.5	159.7	159.7	160.1	0.4

[1]Miles above mouth

[2]Elevation computed without consideration of backwater effects from Willamette River

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

YAMHILL COUNTY, OREGON AND INCORPORATED AREAS

FLOODWAY DATA

CHEHALEM CREEK

102.5' - 3.47' = 99.03'
See this document for conversion from 88 to 29

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
Chehalem Creek (continued)								
Y	7.45[1]	410	2,192	0.8	160.2	160.2	160.6	0.4
Z	7.81[1]	550	2,353	0.5	160.4	160.4	161.0	0.6
AA	8.13[1]	440	1,361	0.9	160.7	160.7	161.5	0.8
AB	8.46[1]	37	227	5.2	162.8	162.8	163.5	0.7
AC	8.47[1]	22	125	9.4	163.0	163.0	163.3	0.3
AD	8.60[1]	200	832	1.4	165.1	165.1	165.8	0.7
Cozine Creek								
A	84[3]	25	253	3.7	122.3	88.3[2]	89.3[2]	1.0
B	1,184[3]	42	337	2.9	122.3	91.5[2]	92.5[2]	1.0
C	1,404[3]	37	245	4.0	122.3	92.9[2]	93.9[2]	1.0
D	1,534[3]	27	219	4.5	122.3	93.2[2]	94.2[2]	1.0
E	1,834[3]	82	819	1.2	122.3	101.5[2]	102.5[2]	1.0
F	2,484[3]	92	795	1.2	122.3	101.7[2]	102.7[2]	1.0
G	2,714[3]	179	3,179	0.3	122.3	112.4[2]	113.4[2]	1.0
H	3,579[3]	214	2,051	5.4	122.3	112.5[2]	113.5[2]	1.0
I	4,134[3]	171	2,376	0.5	122.3	112.5[2]	113.5[2]	1.0
J	4,559[3]	123	1,608	0.7	122.3	114.1[2]	115.1[2]	1.0
K	5,564[3]	187	2,343	0.5	122.3	114.1[2]	115.1[2]	1.0
L	6,314[3]	170	1,397	0.8	122.3	114.2[2]	115.2[2]	1.0
M	6,414[3]	92	527	2.0	122.3	114.3[2]	115.3[2]	1.0
N	6,635[3]	132	1,348	0.9	122.3	114.4[2]	115.4[2]	1.0
O	6,935[3]	115	1,159	0.8	122.3	114.4[2]	115.4[2]	1.0

[1]Miles above mouth

[2]Elevation computed without consideration of backwater effects from South Yamhill River

[3]Feet above mouth

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

YAMHILL COUNTY, OREGON AND INCORPORATED AREAS

FLOODWAY DATA

CHEHALEM CREEK, COZINE CREEK

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to the community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base (1-percent-annual-chance) flood elevations (BFEs) or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the Flood Insurance Study by detailed methods. BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than one foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than one square mile, and areas protected from the 1-percent-annual-chance flood by levees. No BFEs or depths are shown within this zone.

Table 7 lists the flood insurance zones that each community is responsible for regulating.

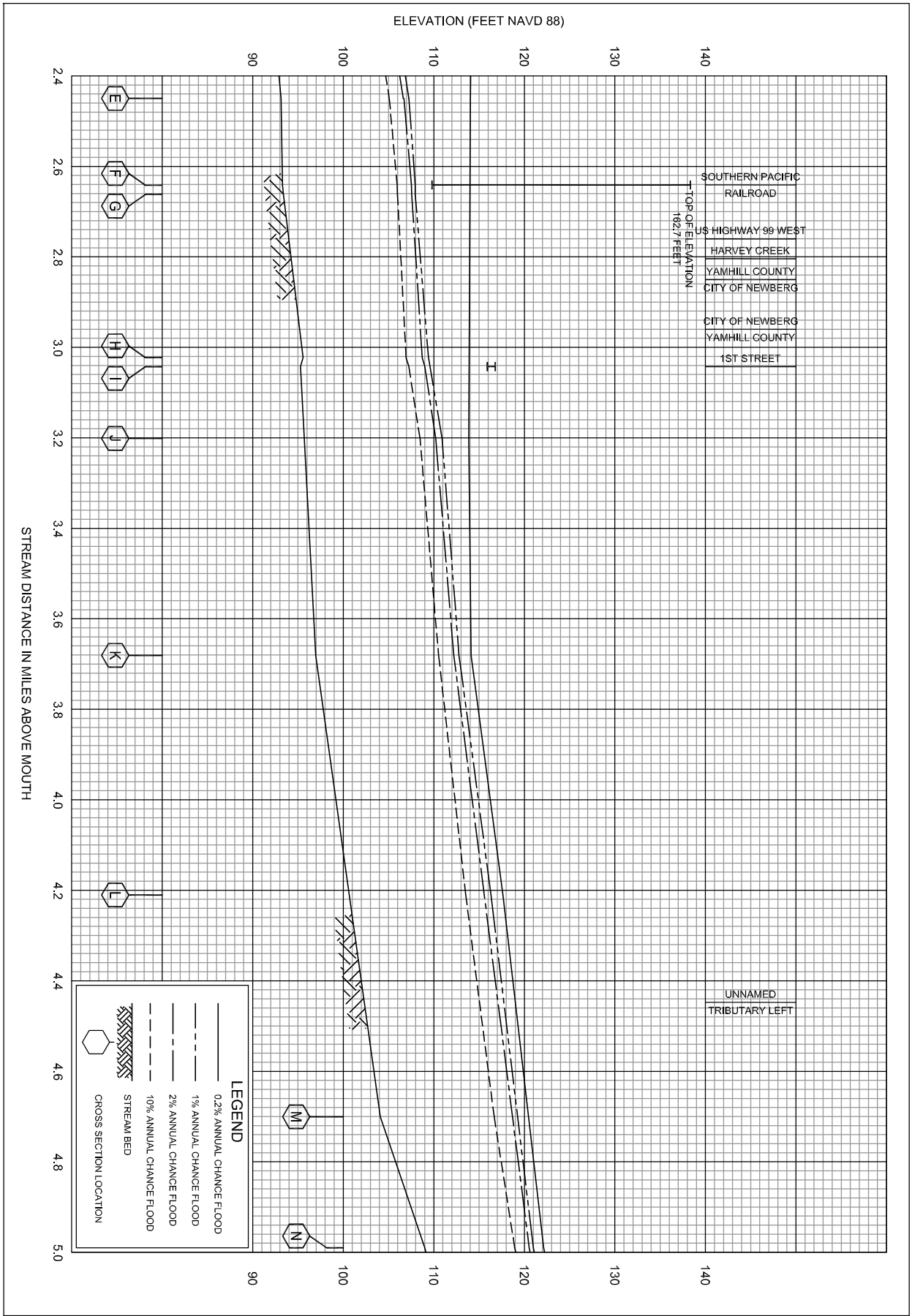
Table 7. Flood Insurance Zones within Each Community

Community	Flood Zone(s)
Amity, City of	A, AE, X
Carlton, City of	A, AE, X
Dayton, City of	A, AE, X
Dundee, City of	AE, X
Lafayette, City of	A, AE, X
McMinnville, City of	A, AE, X
Newberg, City of	A, AE, X
Sheridan, City of	AE, X
Willamina, City of	AE, X
Yamhill, City of	A, AE, X
Yamhill County, Unincorporated Areas	A, AE, X

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
CROSS SECTION LOCATION
BACKWATER FROM WILLAMETTE RIVER
DAYTON AVENUE
FEMA BFE @ 102.5 (NAVD88)
= 99.03 (Survey Datum, NGVD29)
Approximate Location of Proposed Bridge
CONFLUENCE WITH WILLAMETTE RIVER
ELEVATION (FEET NAVD 88)
STREAM DISTANCE IN MILES ABOVE MOUTH



07P

FEDERAL EMERGENCY MANAGEMENT AGENCY

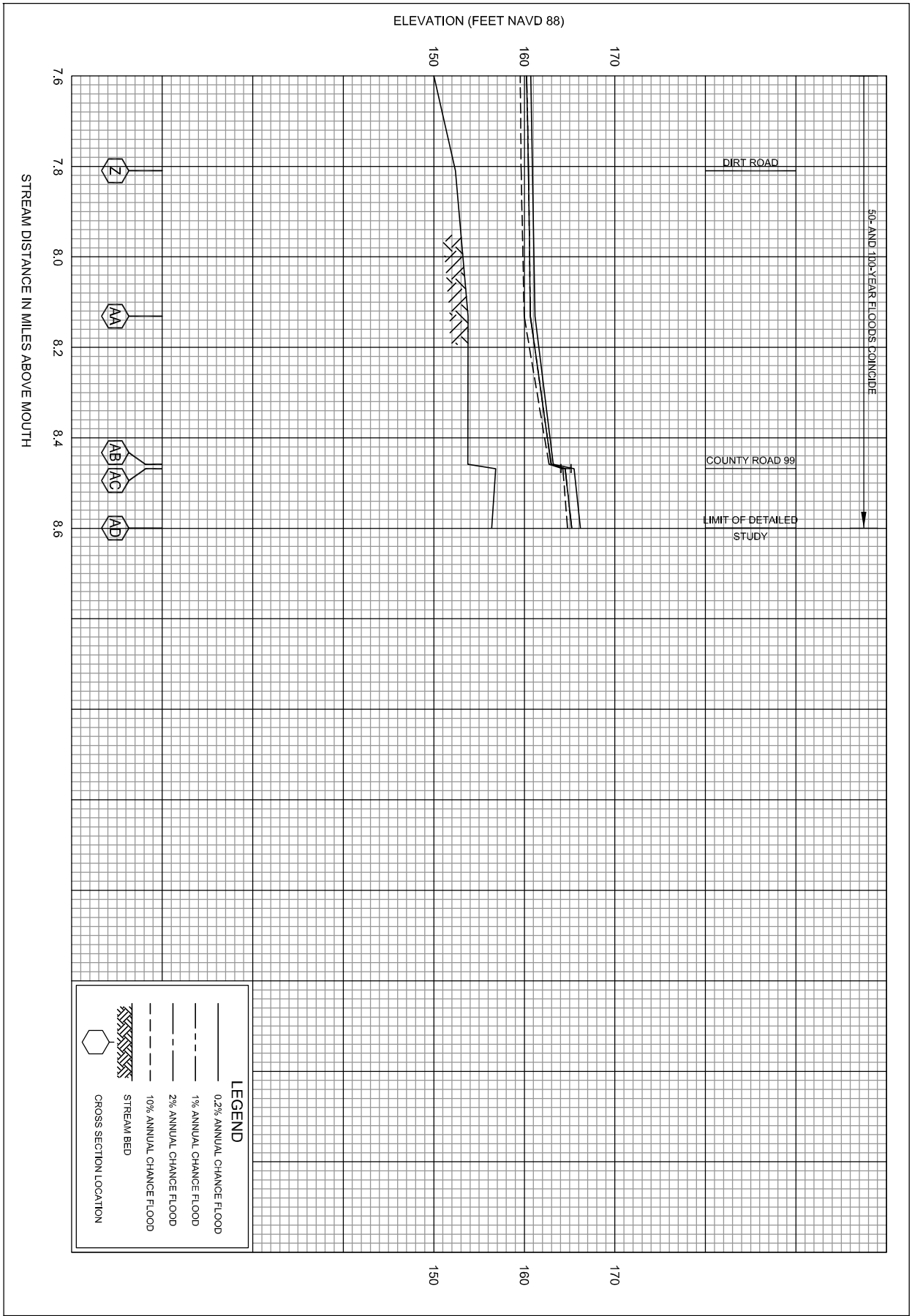
YAMHILL COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

CHEHALEM CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
YAMHILL COUNTY, OR
AND INCORPORATED AREAS
04P
FLOOD PROFILES
CHEHALEM CREEK
ELEVATION (FEET NAVD 88)
STREAM DISTANCE IN MILES ABOVE MOUTH
LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
CROSS SECTION LOCATION
50- AND 100-YEAR FLOODS COINCIDE
CONFLUENCE WITH BRYAN CREEK
COUNTY ROAD 98
STATE HIGHWAY 240
UNNAMED TRIBUTARY RIGHT



09P

FEDERAL EMERGENCY MANAGEMENT AGENCY

YAMHILL COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

CHEHALEM CREEK

Request Sent 12/20/2021

Federal Emergency Management Agency

Washington, D.C. 20472

Flood Insurance Study (FIS) Data Request

Please provide the following information as applicable for the area where you require data:

- Complete community name (including county and state):

  City of Newberg, Yamhill County, Oregon

- Community identification number, if known:

  410256

- Name(s) of flooding source(s) and specific location(s) for which data are needed (Attach FIRM panel showing subject area if available):

  Chehalem Creek between Pacific Hwy W and Newberg Dundee Bypass. See attached annotated copy of FIRM Panel.

- Specific data needed (see list of available categories on page 1):

  Category 1: Portable Document Format (PDF) or Diskettes of hydrologic and hydraulic backup data for current or historical FISs.
  Specifically the Executable HEC-RAS model and readily available supporting data.

- Effective date of FIRM for which data are requested (enclose an annotated copy of FIRM/FBFM, if available, identifying area of interest):

  March 2, 2010, see attached annotated copy of FIRM Panel.

- Contact person's name:
  Craig Tom

- Firm Name:
  NV5, Inc

- Email Address:
  craig.tom@nv5.com

- Daytime Phone/fax number

  Phone #: 505-348-5212

  Fax #:

- Mailing Address:

  6501 Americas Pkwy NE, Ste 400
  Albuquerque, NM 87110

- I am employed by (choose one):

■ Private Firm ☐ State Agency ☐ Federal Agency ☐ Local Gov't ☐ FEMA Study Contractor* ☐ Other
* Please provide contract number

From: Greene, Susan <Susan.Greene@mbakerintl.com>
Sent: Thursday, May 12, 2022 6:43 AM
To: Craig Tom
Subject: RE: EXTERNAL: RE: FEMA Data Request

The microfiche is not any better, unfortunately they should have saved this in hard copy but didn't. Please let me know if you have any additional questions.

Thank you,
Susan

From: Craig Tom <Craig.Tom@nv5.com>
Sent: Wednesday, May 11, 2022 1:08 PM
To: Greene, Susan <Susan.Greene@mbakerintl.com>
Cc: Jon Champlin <Jon.Champlin@nv5.com>; Michael Homza <Michael.Homza@nv5.com>
Subject: RE: EXTERNAL: RE: FEMA Data Request

Thank you Susan for your attention on my FEMA Request.

Have you had any luck finding a better copy of the model? It sounds like delivery of my request will be hardcopy information on the model rather than an executable copy of the model itself? Is the model in the old HEC-2 format?

Craig Tom, PE (NM) | Staff Engineer | **NV5**
6501 Americas Pkwy NE, Ste 400 | Albuquerque, NM 87110 | P: 505.348.5212 | F: 505.242.4845 | Craig.Tom@NV5.com

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From: Greene, Susan <Susan.Greene@mbakerintl.com>
Sent: Wednesday, May 4, 2022 8:41 AM
To: Craig Tom <Craig.Tom@nv5.com>
Subject: RE: EXTERNAL: RE: FEMA Data Request

I am sending you the model that was archived , it is a very poor copy. Tomorrow morning I will go into the office and see if I can get a better copy from the microfiche. It will depend on the original that was scanned to the microfiche.

Thank you,
Susan

From: Craig Tom <Craig.Tom@nv5.com>
Sent: Thursday, April 28, 2022 12:02 PM
To: Greene, Susan <Susan.Greene@mbakerintl.com>
Cc: Jon Champlin <Jon.Champlin@nv5.com>; Michael Homza <Michael.Homza@nv5.com>
Subject: EXTERNAL: RE: FEMA Data Request

Good morning,

See the attached PDFs for the initial request.
Thank you for your initial response back regarding my data request and I am checking in again on the status of my request.

It has been four (4) months since we made our initial request for this information. This design project is highly dependent upon this FEMA information, and we cannot make any design advancements until we have the information we requested from FEMA.

Our client is becoming extremely impatient with us and our only reply to-date has been "We are waiting on FEMA". This excuse is no longer valid.

Can you please provide us an update on the requested documentation as soon as possible?

Your immediate attention to this request will be appreciated.

Thank you very much.

Craig Tom, PE (NM) | Staff Engineer | **NV5**
6501 Americas Pkwy NE, Ste 400 | Albuquerque, NM 87110 | P: 505.348.5212 | F: 505.242.4845 | Craig.Tom@NV5.com

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From: Craig Tom
Sent: Wednesday, April 13, 2022 9:53 AM
To: 'Greene, Susan' <Susan.Greene@mbakerintl.com>
Cc: Jon Champlin <Jon.Champlin@nv5.com>; Michael Homza <Michael.Homza@nv5.com>
Subject: RE: FEMA Data Request

Hello,

I am just checking in if you have what you needed and a possible timeframe for the requested information.
The data request is for the Chehalem Creek between Pacific Hwy W and Newberg Dundee Bypass in City of Newberg, Yamhill County, Oregon.

Thank you,

Craig Tom, PE (NM) | Staff Engineer | **NV5**
6501 Americas Pkwy NE, Ste 400 | Albuquerque, NM 87110 | P: 505.348.5212 | F: 505.242.4845 | Craig.Tom@NV5.com

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From: Craig Tom
Sent: Thursday, March 24, 2022 11:19 AM
To: Greene, Susan <Susan.Greene@mbakerintl.com>
Subject: RE: FEMA Data Request

Hello,

Here is the original data request.

Craig Tom, PE (NM) | Staff Engineer | **NV5**
6501 Americas Pkwy NE, Ste 400 | Albuquerque, NM 87110 | P: 505.348.5212 | F: 505.242.4845 | Craig.Tom@NV5.com

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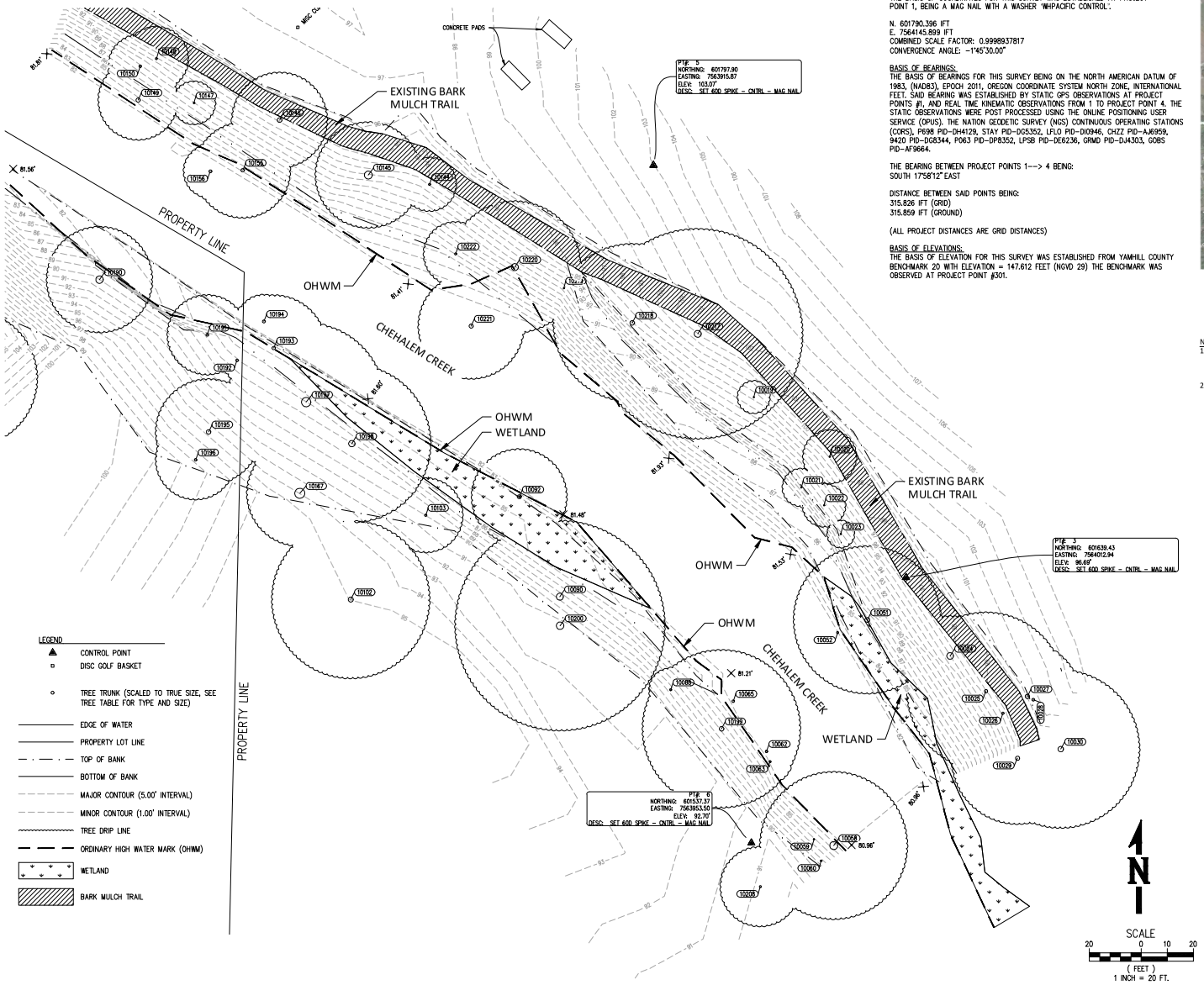
From: Greene, Susan <Susan.Greene@mbakerintl.com>
Sent: Thursday, March 24, 2022 8:13 AM
To: Craig Tom <craig.tom@nv5.com>
Subject: FEMA Data Request

We would have assigned this request by now. Do you mind sending a copy of the original data request directly to me at this email. I will make sure that it is assigned right away.

Thank you,
Susan

Susan Greene | Associate/Document Control Supervisor
3601 Eisenhower Ave, Suite 600 | Alexandria, VA 22304 | [O] 571-357-6053
susan.greene@mbakerintl.com | www.mbakerintl.com

APPENDIX C: EXISTING AND PROPOSED PLANS



BASIS OF SURVEY

BASIS OF COORDINATES:
NORTH AMERICAN DATUM OF 1983, (NAD83), EPOCH 2011, OREGON COORDINATE SYSTEM NORTH ZONE, INTERNATIONAL FEET,

THE BASIS OF COORDINATES FOR THIS SURVEY WAS ESTABLISHED AT PROJECT POINT 1, BEING A MAG NAIL WITH A WASHER 'WHPACIFIC CONTROL'.

N. 601790.396 IFT
E. 7564145.899 IFT
COMBINED SCALE FACTOR: 0.9998937817
CONVERGENCE ANGLE: -1°45'30.00"

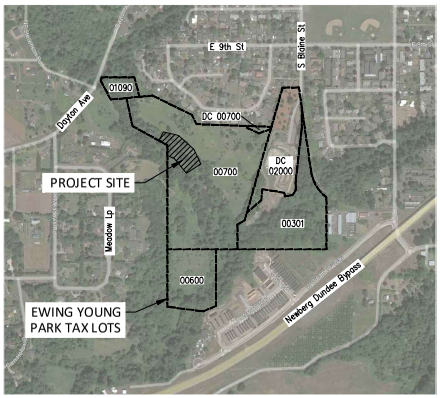
BASIS OF BEARINGS:
THE BASIS OF BEARINGS FOR THIS SURVEY BEING ON THE NORTH AMERICAN DATUM OF 1983, (NAD83), EPOCH 2011, OREGON COORDINATE SYSTEM NORTH ZONE, INTERNATIONAL FEET. SAID BEARING WAS ESTABLISHED BY STATIC GPS OBSERVATIONS AT PROJECT POINTS #1, AND REAL TIME KINEMATIC OBSERVATIONS FROM 1 TO PROJECT POINT 4. THE STATIC OBSERVATIONS WERE POST PROCESSED USING THE ONLINE POSITIONING USER SERVICE (OPUS). THE NATION GEODETIC SURVEY (NGS) CONTINUOUS OPERATING STATIONS (CORS), P698 PID-DH4129, STAY PID-DG5352, LFLO PID-DI0946, CHZZ PID-AJ6959, 9420 PID-DG8344, P063 PID-DP8352, LPSB PID-DE6236, GRMD PID-DJ4303, GOBS PID-AF9664.

THE BEARING BETWEEN PROJECT POINTS 1--> 4 BEING:
SOUTH 17°58'12" EAST

DISTANCE BETWEEN SAID POINTS BEING:
315.826 IFT (GRID)
315.859 IFT (GROUND)

(ALL PROJECT DISTANCES ARE GRID DISTANCES)

BASIS OF ELEVATIONS:
THE BASIS OF ELEVATION FOR THIS SURVEY WAS ESTABLISHED FROM YAMHILL COUNTY BENCHMARK 20 WITH ELEVATION = 147.612 FEET (NGVD 29) THE BENCHMARK WAS OBSERVED AT PROJECT POINT #301.



VICINITY MAP
NOT TO SCALE

NOTE:
1. PROPERTY LINES SHOWN HERE ON ARE BASED ON GIS DATA FROM THE YAMHILL COUNTY DATA SOURCES. ADDITIONAL RESOLUTION WILL REQUIRE MONUMENT RECOVERY.
2. TOPOGRAPHY OF CREEK MEASURED TO HIGH WATER MARK DUE TO UNSAFELY HIGH WATER IN CREEK. ESTIMATE 4-5 FEET DEPTH OF WATER AT WORSE SPOTS.

TREE TABLE

POINT NUMBER	TREE TYPE	TRUNK DIAMETER	DRIP LINE DIAMETER
10019	TRDE	6	6
10020	TRDE	7	10
10021	TRDE	6	7
10022	TRDE	6	8
10023	TRDEX2	7	5
10024	TRCO	32	15
10025	TRCO	16	30
10026	TRDE	11	20
10027	TRDE	21	20
10028	TRDE	13	16
10029	TRDE	20	25
10030	TRDE	26	30
10051	TRDE	23	28
10052	TRDE	10	12
10058	TRDE	38	28
10059	TRDE	6	8
10060	TRDE	8	8
10062	TRDE	12	8
10063	TRDE	10	8
10065	TRDE	12	16
10088	TRDE	10	8
10090	TRDE	34	18
10092	TRDE	19	18
10102	TRCO	24	30
10103	TRDE	11	14
10144	TRDE	10	10
10145	TRCO	38	20
10146	TRDE	22	18
10147	TRDE	8	8
10148	TRDE	10	12
10149	TRDE	20	15
10150	TRDE	12	12
10155	TRDE	16	18
10156	TRDE	14	10
10167	TRCO	48	20
10188	TRCO	55	26
10189	TRDE	9	12
10190	TRDE	36	20
10191	TRDEX2	13	15
10192	TRDE	12	6
10193	TRDE	16	20
10194	TRDE	14	10
10195	TRDE	21	20
10196	TRDE	12	15
10197	TRCO	45	30
10198	TRCO	30	30
10199	TRDE	22	30
10200	TRDE	36	40
10208	TRDE	10	15
10217	TRDE	33	40
10218	TRDE	22	30
10219	TRDE	6	10
10221	TRDE	20	20
10222	TRDE	10	12
10023	TRDEX2	7	5
10191	TRDEX2	13	15

NV5
9450 SW Commerce Circle, Ste 300
Wilsonville, OR 97070
503-626-0455 www.NV5.com

REVISIONS			
NO.	BY	DATE	REMARKS

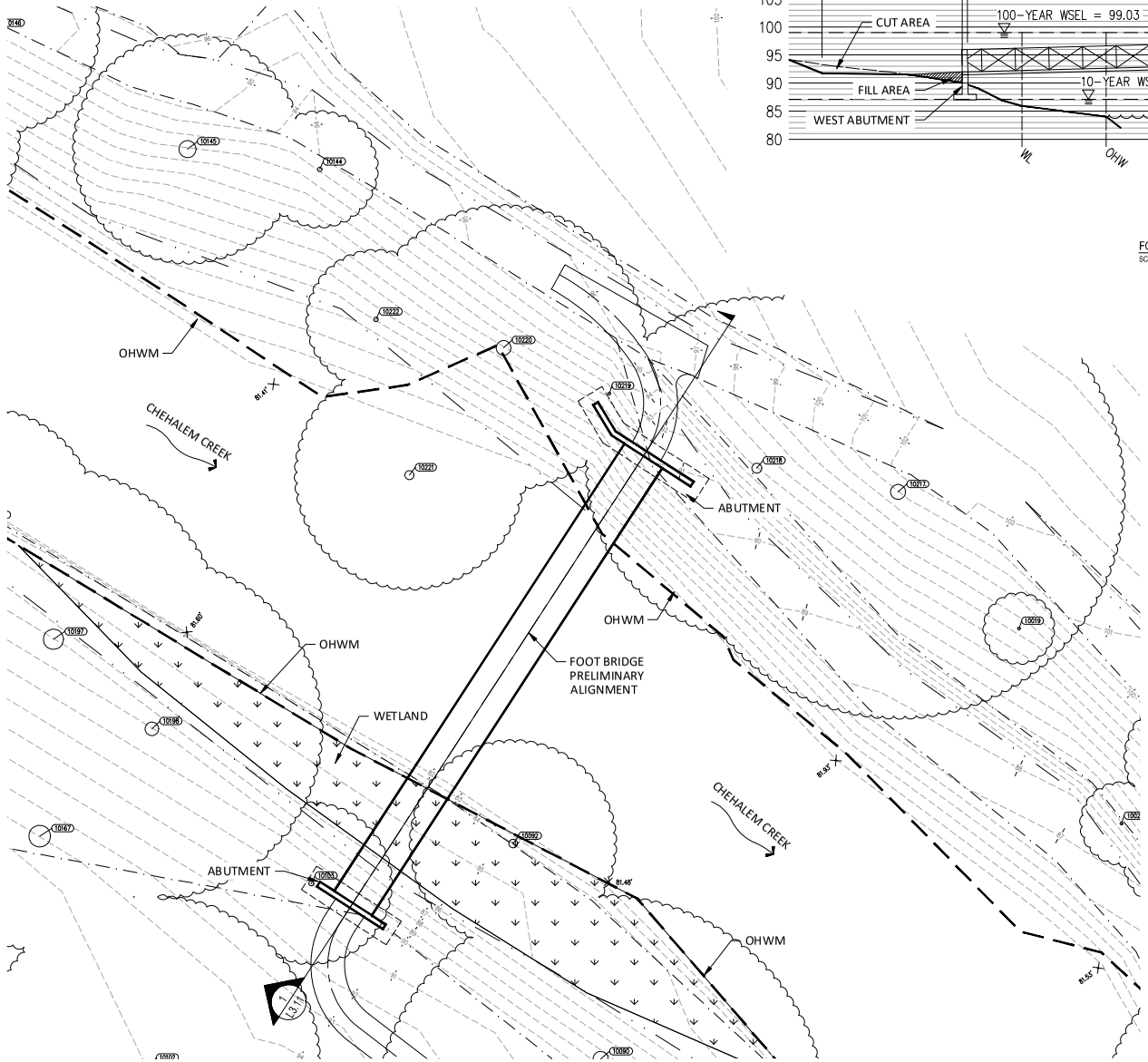
SHEET INFO	
DRAWN	JC
CHECKED	MS
APPROVED	JC
LAST EDIT	3/2/2022
PLOT DATE	5/12/2022
SUBMITTAL	

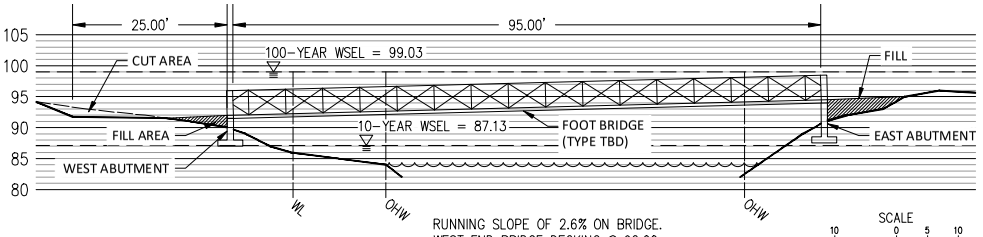
EXISTING CONDITIONS PLAN
CHEHALEM PARK AND RECREATION DISTRICT
SE 1/4, SEC 19, T. 3 S., R. 2 W., W.M.
YAMHILL COUNTY, OREGON

SCALE: 1" = 20'

PROJECT NUMBER: C000191.00
DRAWING FILE NAME: C000191.00-LA01_L1.10-EX

SHEET NUMBER
L1.10





RUNNING SLOPE OF 2.6% ON BRIDGE.
WEST END BRIDGE DECKING @ 92.00
EAST END BRIDGE DECKING @ 94.50

FOOT BRIDGE PROFILE
SCALE: 1" = 10'
1 / L3.11

SCALE
10 0 5 10
(FEET)
1 INCH = 10 FT.

LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLAND

SURVEY INFORMATION

HORIZONTAL DATUM = NAD83, EPOCH 2011, OREGON COORDINATE SYSTEM NORTH ZONE, INTERNATIONAL FEET.

VERTICAL DATUM = NGVD29

NOTE: ELEVATIONS SHOWN ARE ON NGVD29 DATUM.

HYDRAULIC DATA		
RETURN PERIOD (YEARS)	WATER SURFACE ELEVATION (FT)	MAXIMUM VELOCITY (FPS)
10	87.13	N/A
100	99.03	3.5

BRIDGE DESIGN PARAMETERS	
BRIDGE (OPEN) SPAN	95.00 FT
WESTERN BRIDGE DECK ELEVATION	92.00
EASTERN BRIDGE DECK ELEVATION	94.50
ASSUMED GIRDER DEPTH	18 INCHES
ASSUMED RAIL (PARAPET) HEIGHT	42 INCHES

N

SCALE
10 0 5 10
(FEET)
1 INCH = 10 FT.

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REVISIONS			
NO.	BY	DATE	REMARKS

SHEET INFO	
DRAWN	JC
CHECKED	MS
APPROVED	JC
LAST EDIT	8/8/2022
PLOT DATE	8/9/2022
SUBMITTAL	

BRIDGE ENLARGEMENT PLAN
EWING YOUNG PARK FOOTBRIDGE

CHEHALEM PARK AND RECREATION DISTRICT

SCALE: 1" = 20'

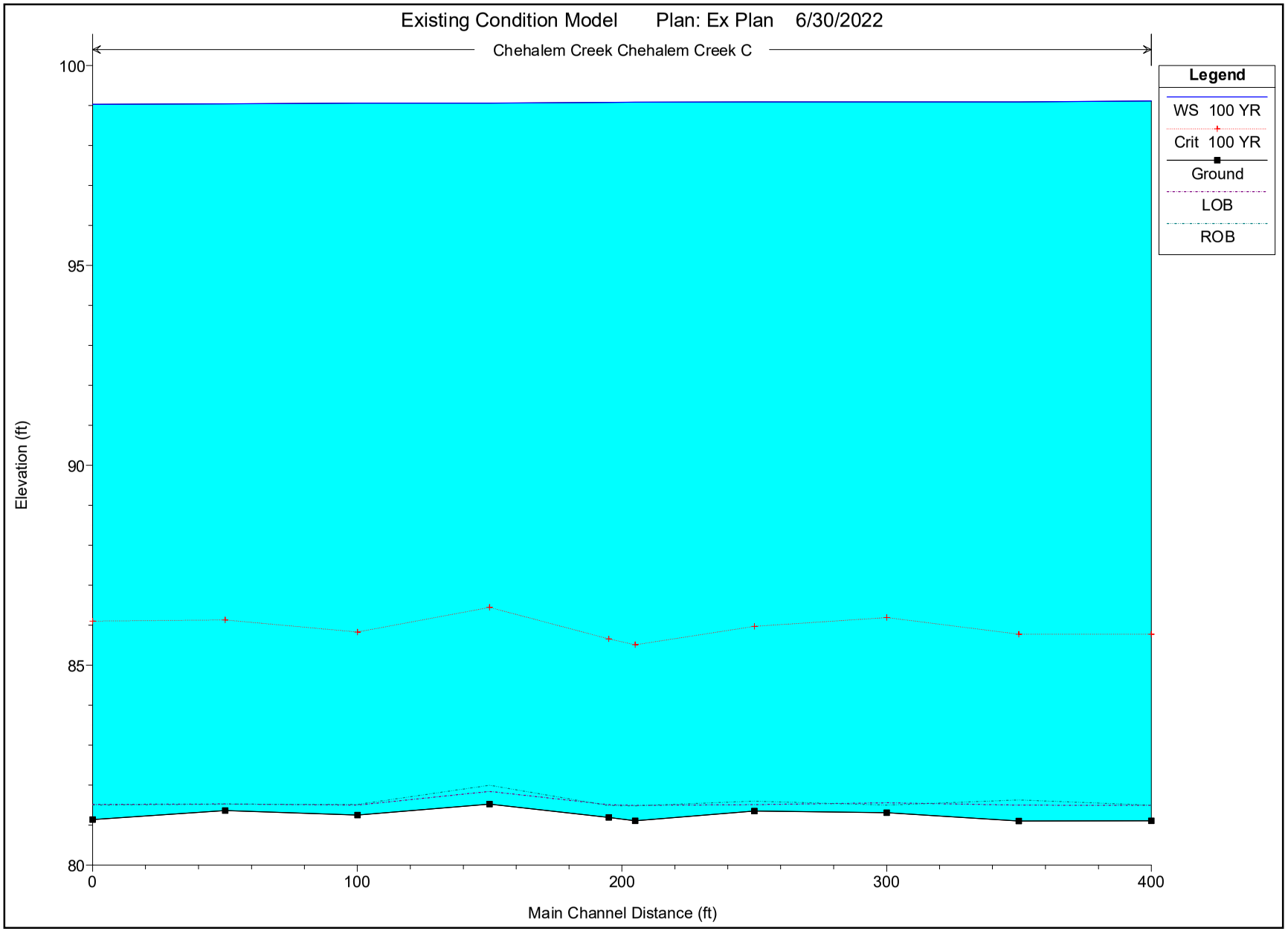
PROJECT NUMBER: C000191.00

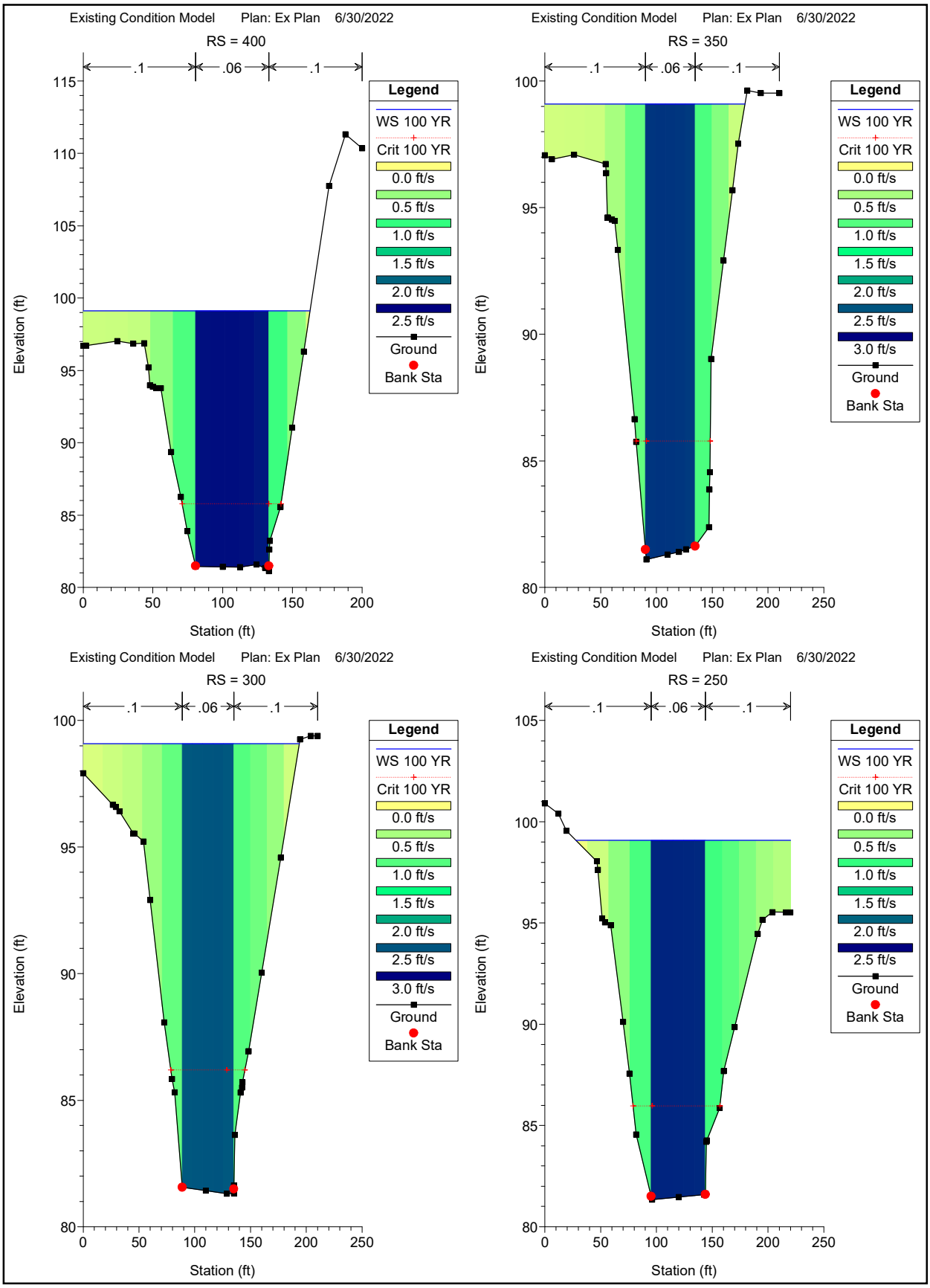
DRAWING FILE NAME: C000191.00-LA01_L3.11-BR.0

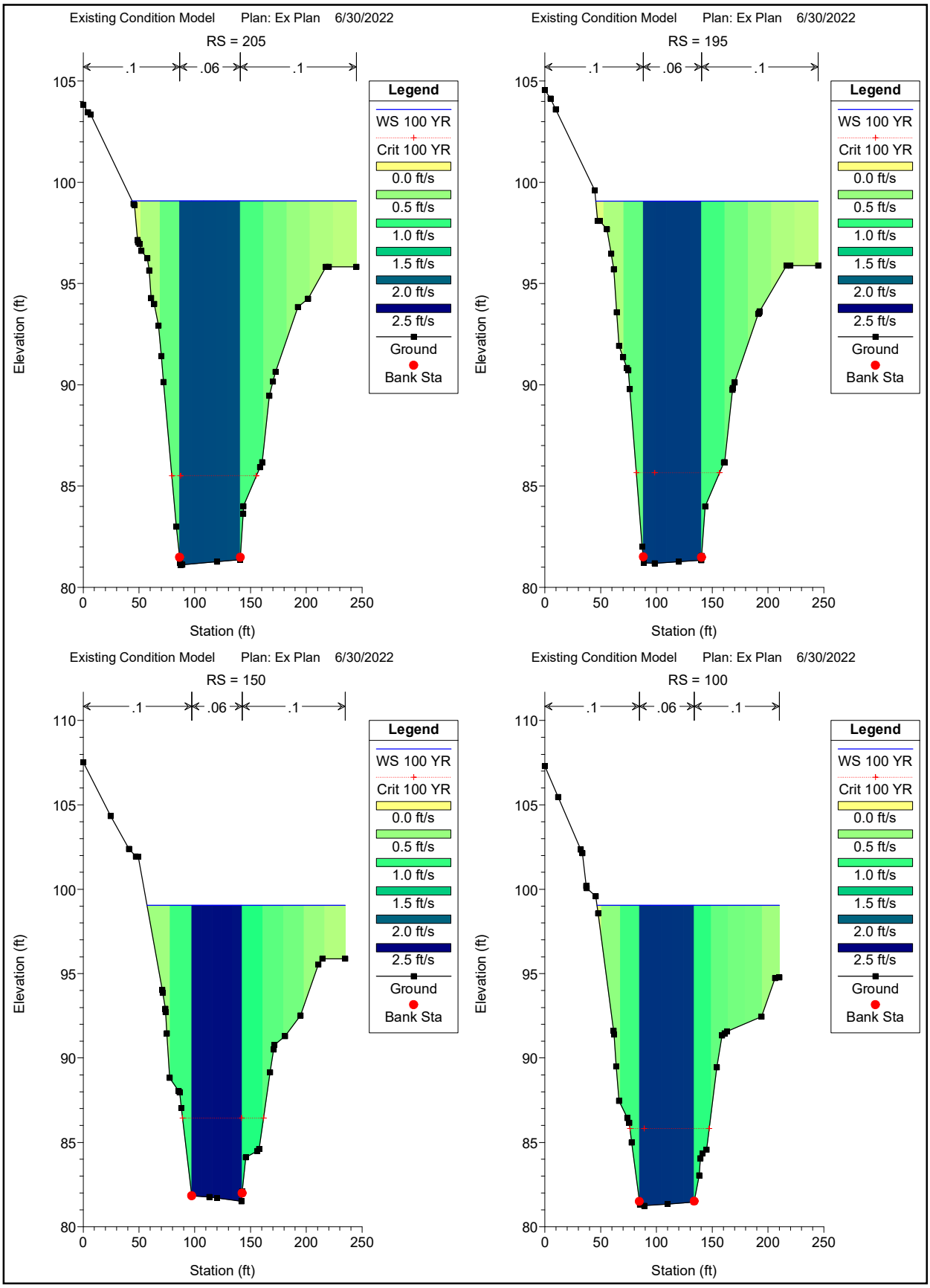
SHEET NUMBER
L3.11

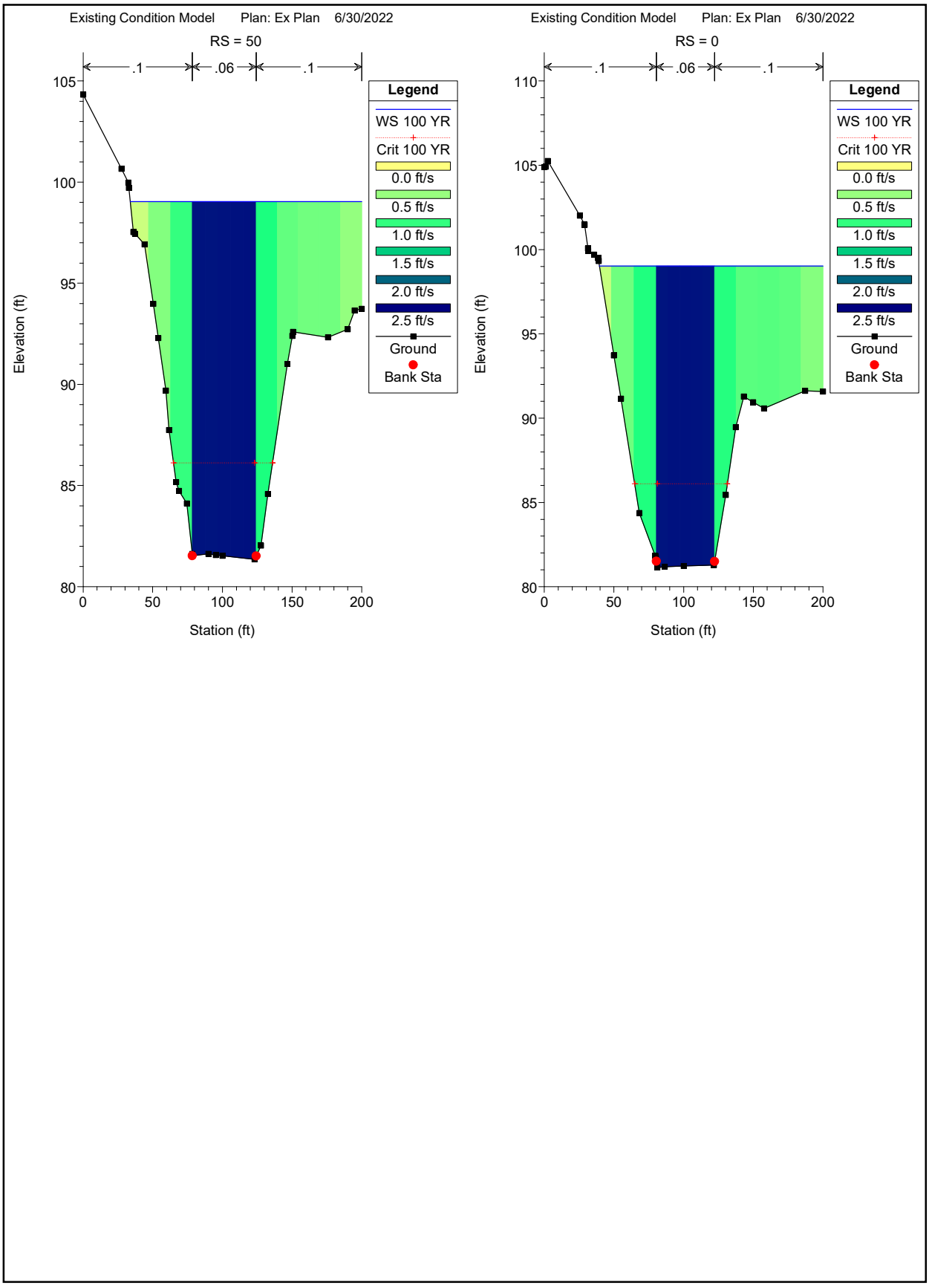
APPENDIX D: EXISTING CONDITIONS HYDRAULIC MODEL RESULTS

Ewing Young Park Trail Bridge HEC-RAS 100 YR Existing Conditions Plan View


Existing Condition Model Plan: Ex Plan 6/30/2022
Chehalem Creek Chehalem Creek C
Legend
WS 100 YR
Crit 100 YR
Ground
LOB
ROB
Elevation (ft)
100
95
90
85
80
0
100
200
300
400
Main Channel Distance (ft)


Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 400
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 350
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 300
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 250
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)


Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 205
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 195
Legend
Elevation (ft)
Station (ft)
Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 150
Legend
Elevation (ft)
Station (ft)
Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 100
Legend
Elevation (ft)
Station (ft)

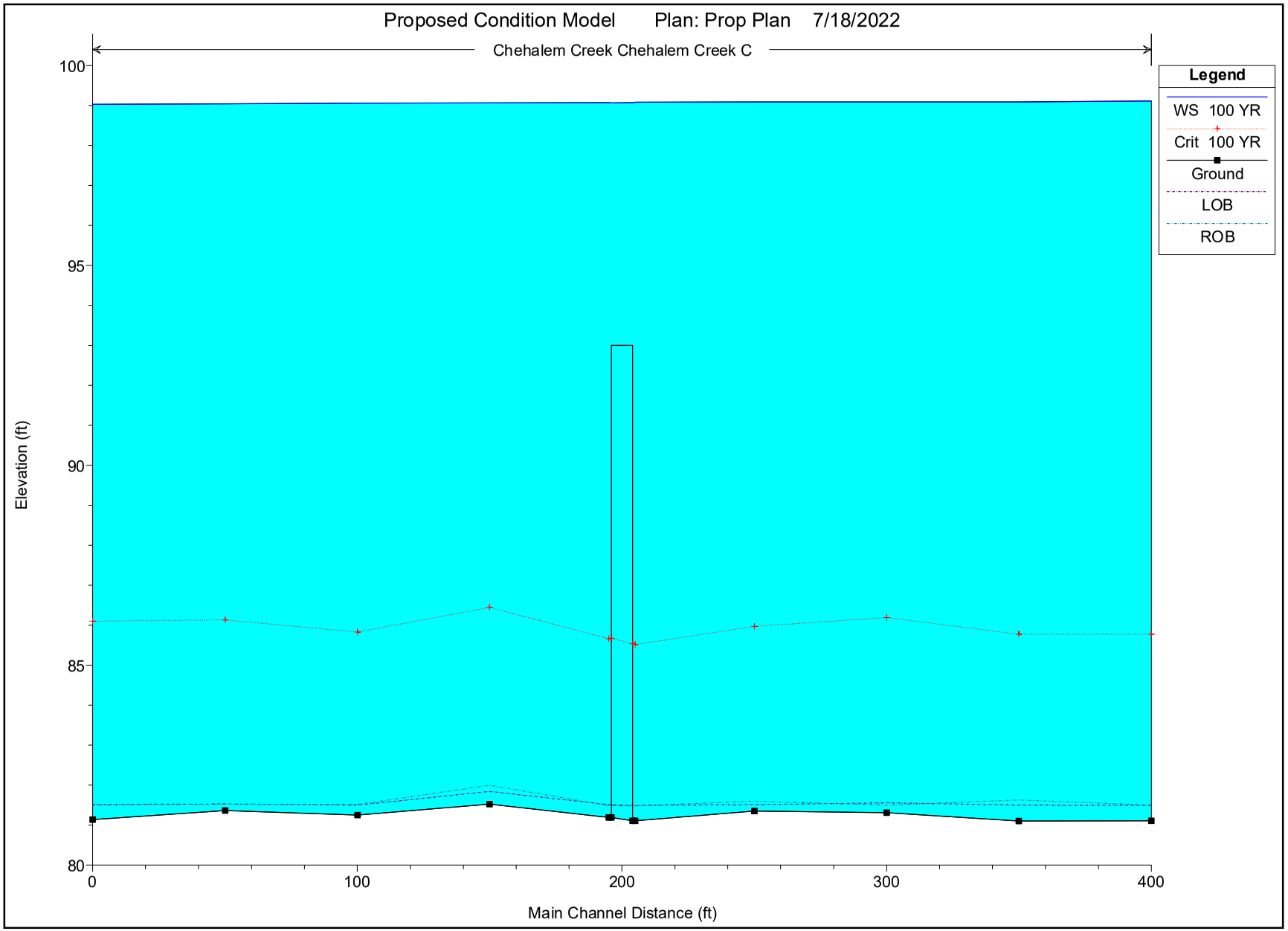

Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 50
.1
.06
.1
Elevation (ft)
Station (ft)
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Existing Condition Model Plan: Ex Plan 6/30/2022
RS = 0
.1
.06
.1
Elevation (ft)
Station (ft)
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta

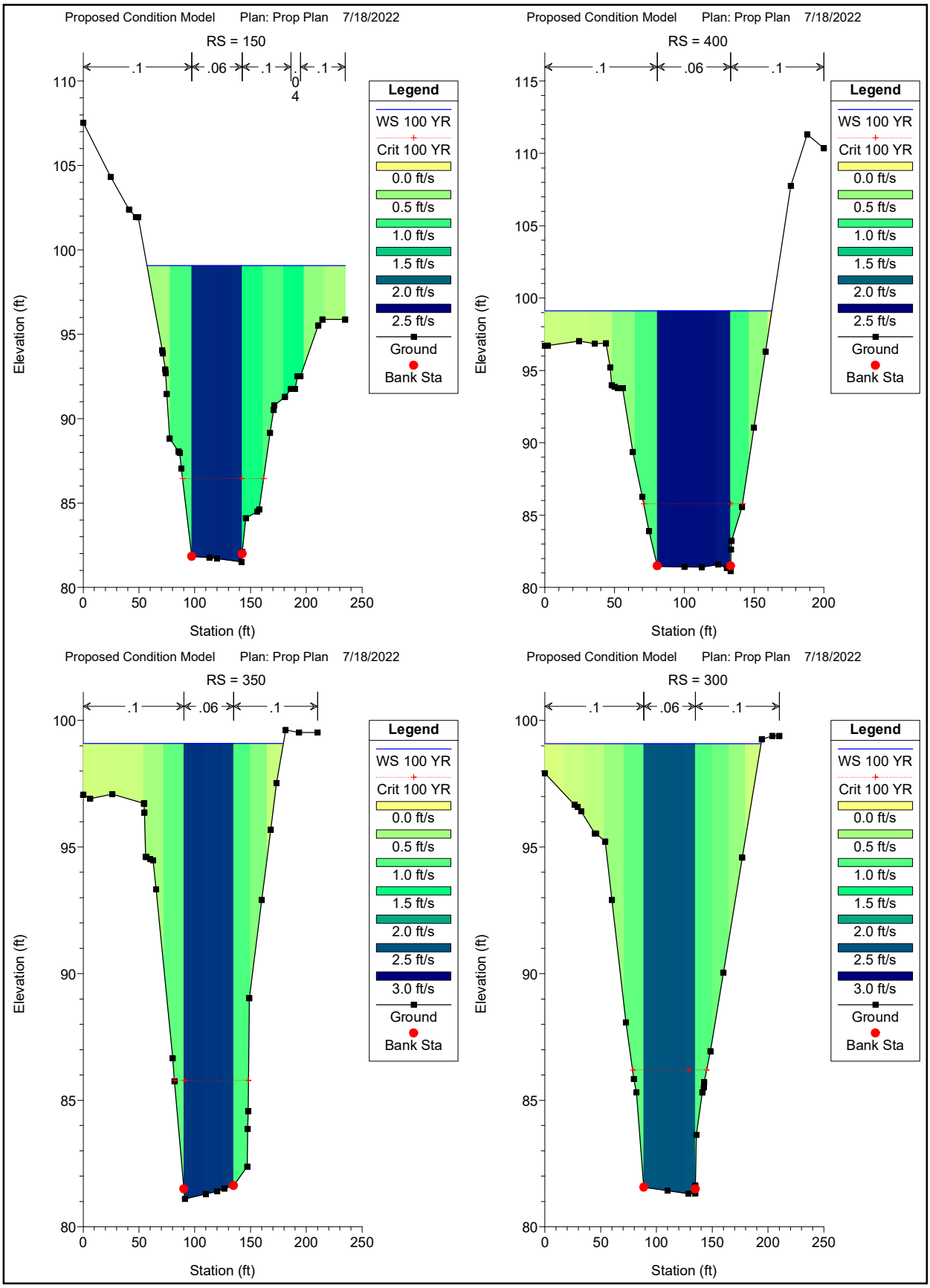
HEC-RAS Plan: Ex Plan River: Chehalem Creek Reach: Chehalem Creek C Profile: 100 YR

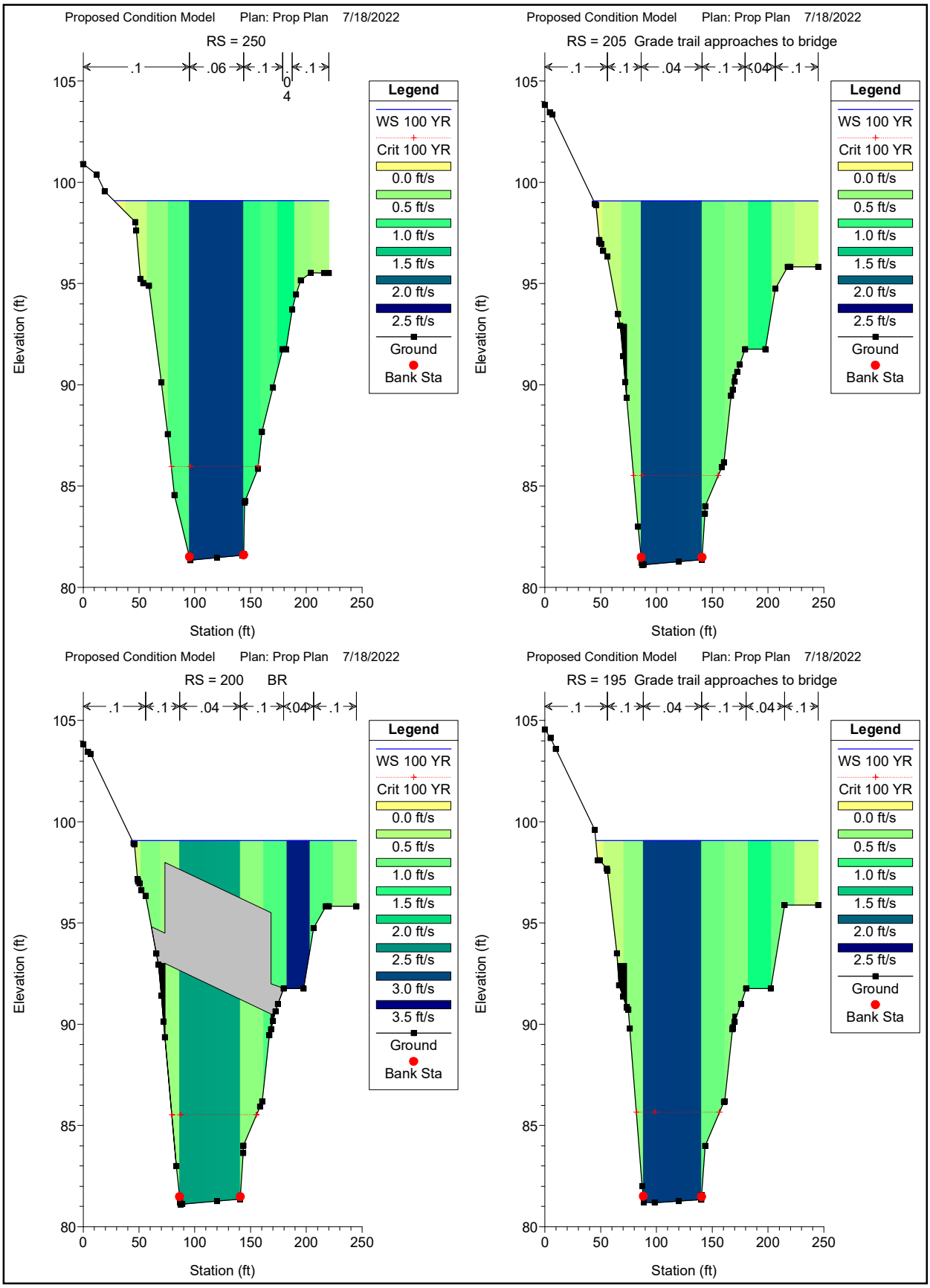
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Chehalem Creek C	400	100 YR	2760.00	81.11	99.11	85.78	99.19	0.000209	2.42	1647.32	162.69	0.10
Chehalem Creek C	350	100 YR	2760.00	81.10	99.09	85.78	99.18	0.000254	2.68	1624.23	179.40	0.11
Chehalem Creek C	300	100 YR	2760.00	81.31	99.09	86.19	99.16	0.000221	2.49	1775.27	193.86	0.10
Chehalem Creek C	250	100 YR	2760.00	81.35	99.09	85.97	99.15	0.000190	2.31	1913.64	192.21	0.10
Chehalem Creek C	205	100 YR	2760.00	81.11	99.08	85.51	99.14	0.000159	2.13	2010.94	201.25	0.09
Chehalem Creek C	195	100 YR	2760.00	81.19	99.08	85.66	99.14	0.000171	2.20	1967.44	199.31	0.09
Chehalem Creek C	150	100 YR	2760.00	81.52	99.06	86.45	99.13	0.000215	2.43	1831.93	177.82	0.10
Chehalem Creek C	100	100 YR	2760.00	81.25	99.06	85.83	99.11	0.000178	2.24	1881.31	163.25	0.09
Chehalem Creek C	50	100 YR	2760.00	81.36	99.04	86.13	99.10	0.000207	2.41	1807.37	166.21	0.10
Chehalem Creek C	0	100 YR	2760.00	81.14	99.03	86.10	99.09	0.000204	2.40	1852.05	160.36	0.10

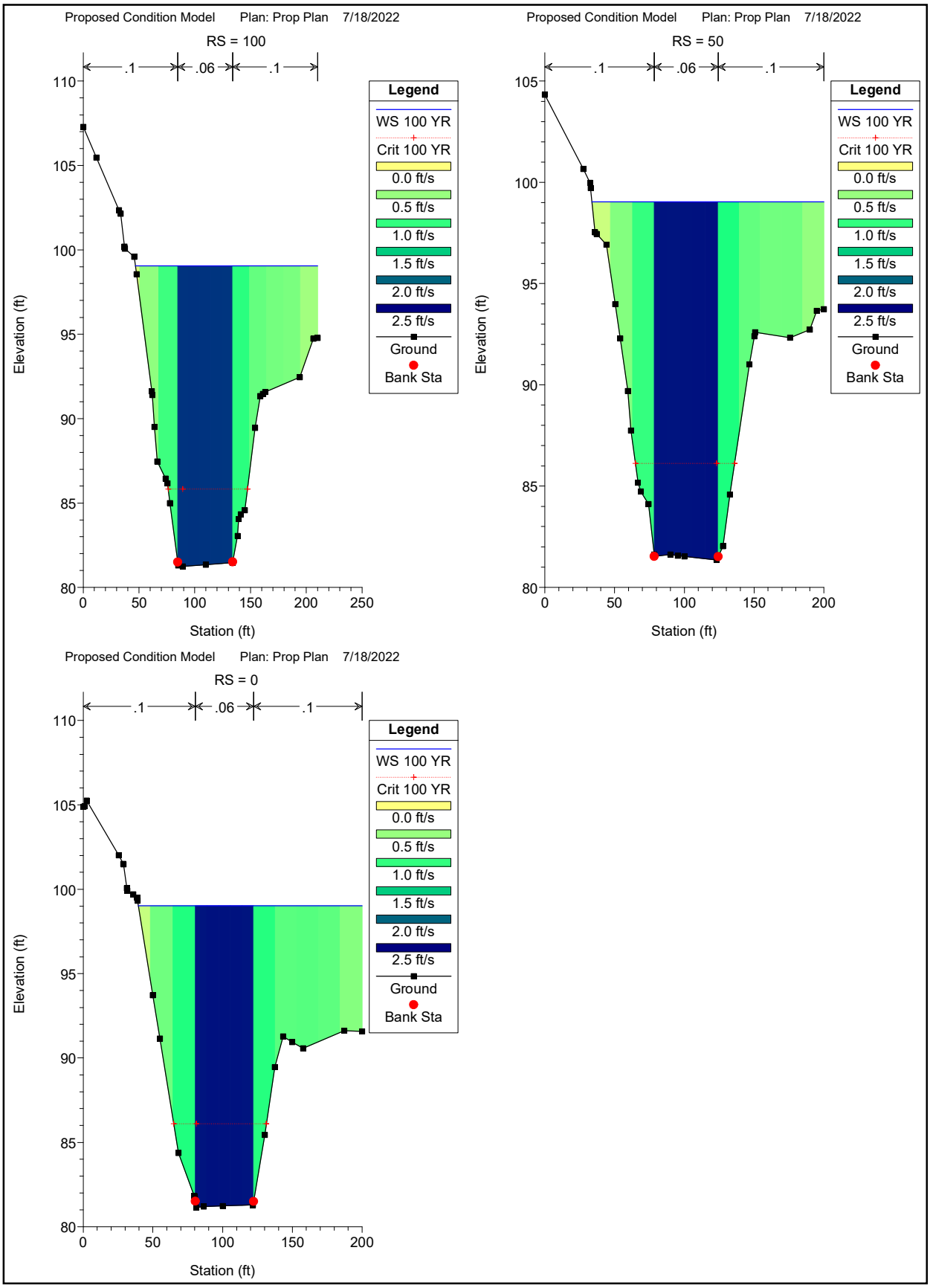
APPENDIX E: PROPOSED CONDITIONS HYDRAULIC MODEL RESULTS

Ewing Young Park Trail Bridge HEC-RAS 100 YR Proposed Conditions Plan View


Proposed Condition Model Plan: Prop Plan 7/18/2022
Chehalem Creek Chehalem Creek C
Legend
WS 100 YR
Crit 100 YR
Ground
LOB
ROB
Elevation (ft)
100
95
90
85
80
0
100
200
300
400
Main Channel Distance (ft)


Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 150
.1
.06
.1
.04
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 400
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 350
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 300
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)


Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 250
.1 .06 .1 .1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 205 Grade trail approaches to bridge
.1 .1 .04 .1 .04 .1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 200 BR
.1 .1 .04 .1 .04 .1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
3.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 195 Grade trail approaches to bridge
.1 .1 .04 .1 .04 .1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)


Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 100
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 50
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)
Proposed Condition Model Plan: Prop Plan 7/18/2022
RS = 0
.1
.06
.1
Legend
WS 100 YR
Crit 100 YR
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
Ground
Bank Sta
Elevation (ft)
Station (ft)

HEC-RAS Plan: Prop Plan River: Chehalem Creek Reach: Chehalem Creek C Profile: 100 YR

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Chehalem Creek C	400	100 YR	2760.00	81.11	99.11	85.78	99.19	0.000209	2.42	1647.36	162.69	0.10
Chehalem Creek C	350	100 YR	2760.00	81.10	99.09	85.78	99.18	0.000254	2.68	1624.27	179.40	0.11
Chehalem Creek C	300	100 YR	2760.00	81.31	99.09	86.19	99.16	0.000221	2.49	1775.31	193.86	0.10
Chehalem Creek C	250	100 YR	2760.00	81.35	99.09	85.97	99.15	0.000174	2.21	1917.59	192.30	0.09
Chehalem Creek C	205	100 YR	2760.00	81.11	99.08	85.52	99.14	0.000072	2.16	2033.74	201.27	0.09
Chehalem Creek C	200		Bridge									
Chehalem Creek C	195	100 YR	2760.00	81.19	99.07	85.67	99.13	0.000076	2.20	2008.24	199.30	0.09
Chehalem Creek C	150	100 YR	2760.00	81.52	99.06	86.45	99.12	0.000193	2.30	1833.26	177.84	0.10
Chehalem Creek C	100	100 YR	2760.00	81.25	99.06	85.83	99.11	0.000178	2.24	1881.31	163.25	0.09
Chehalem Creek C	50	100 YR	2760.00	81.36	99.04	86.13	99.10	0.000207	2.41	1807.37	166.21	0.10
Chehalem Creek C	0	100 YR	2760.00	81.14	99.03	86.10	99.09	0.000204	2.40	1852.05	160.36	0.10

HEC-RAS Plan: Prop Plan River: Chehalem Creek Reach: Chehalem Creek C Profile: 100 YR

Reach	River Sta	Profile	E.G. Elev	W.S. Elev	Crit W.S.	Frctn Loss	C & E Loss	Top Width	Q Left	Q Channel	Q Right	Vel Chnl
			(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft/s)
Chehalem Creek C	250	100 YR	99.15	99.09	85.97	0.00	0.00	192.30	336.74	1890.20	533.06	2.21
Chehalem Creek C	205	100 YR	99.14	99.08	85.52	0.00	0.00	201.27	129.86	2100.85	529.29	2.16
Chehalem Creek C	200 BR U	100 YR	99.14	99.07	85.53	0.00	0.00	201.16	146.00	1670.10	943.90	2.38
Chehalem Creek C	200 BR D	100 YR	99.13	99.07	85.68	0.00	0.00	199.30	127.16	1591.36	1041.47	2.38
Chehalem Creek C	195	100 YR	99.13	99.07	85.67	0.01	0.00	199.30	130.91	2047.42	581.68	2.20
Chehalem Creek C	150	100 YR	99.12	99.06	86.45	0.01	0.00	177.84	264.09	1800.67	695.25	2.30

APPENDIX F: SCOUR EVALUATION RESULTS

Channel/Bridge Scour Calculations
From HEC-RAS Model
Proposed Ewing Young Park Bridge

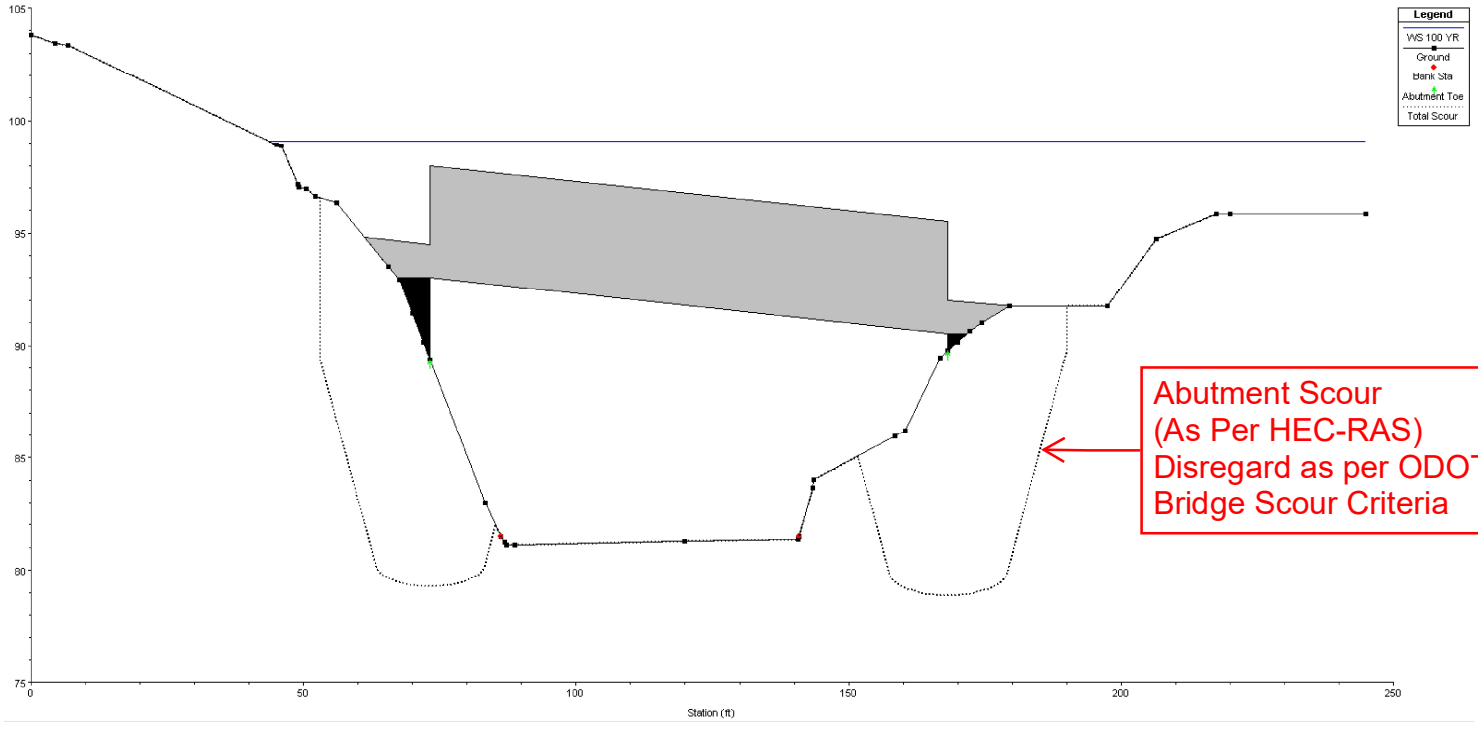
Contraction Scour

		Left	Channel	Right
Input Data				
	Average Depth (ft):	7.10	17.62	7.65
	Approach Velocity (ft/s):	0.70	2.21	0.91
	Br Average Depth (ft):	4.86	12.83	6.00
	BR Opening Flow (cfs):	146.00	1670.10	943.90
	BR Top WD (ft):	42.44	54.61	104.11
	Grain Size D50 (mm):	88.90	88.90	88.90
	Approach Flow (cfs):	336.74	1890.20	533.06
	Approach Top WD (ft):	67.64	48.49	76.17
	K1 Coefficient:	0.590	0.590	0.590
Results				
	Scour Depth Ys (ft):	0.00	0.00	0.00
	Critical Velocity (ft/s):	10.28	11.96	10.41
	Equation:	Clear	Clear	Clear

Abutment Scour

		Left	Right
Input Data			
	Station at Toe (ft):	73.24	168.24
	Toe Sta at appr (ft):	82.30	171.18
	Abutment Length (ft):	54.60	48.82
	Depth at Toe (ft):	9.72	9.33
	K1 Shape Coef:	1.00 - Vertical abutment	
	Degree of Skew (degrees):	90.00	90.00
	K2 Skew Coef:	1.00	1.00
	Projected Length L' (ft):	54.60	48.82
	Avg Depth Obstructed Ya (ft):	5.16	5.10
	Flow Obstructed Qe (cfs):	166.12	208.64
	Area Obstructed Ae (sq ft):	281.79	249.22
Results			
	Scour Depth Ys (ft):	10.08	10.89
	Qe/Ae = Ve:	0.59	0.84
	Froude #:	0.05	0.07
	Equation:	Froehlich	Froehlich

Abutment Scour
(As Per HEC-RAS)
Disregard as per ODOT
Bridge Scour Criteria



Abutment Scour
(As Per HEC-RAS)
Disregard as per ODOT
Bridge Scour Criteria

APPENDIX G: RIPRAP WORKBOOK

Riprap Design Workbook

Project:	CPRD Ewing Young Park Trail Bridge	**Site:**	Proposed 95-ft Bridge
Project Number:	229221-C000191.00	**Analyst:**	M.K. Homza. PE
Watercourse:	Chehalem Creek	**Latest Revision:**	8/2/2022

Workbook Description

- This workbook contains spreadsheets that facilitate the analysis and/or design of riprap.
- This spreadsheet lists the General Project and Workbook Information that is consistent throughout the workbook.
- It also lists the titles of the spreadsheets contained in this workbook. (Only relevant spreadsheets will be submitted.)
- Only input data into the SHADED CELLS.
- Th*is workbook is intended for use with ENGLISH UNITS.*

Filename: *I:\Proposals\Chehalem Park and Rec Dist Bridge 2021\Temp Report Working Folder mkh 8-2022\Riprap Design\[Riprap Design Workbook Ewing Yound Park Bridge 8-2-2022.xlsx]Intro*

Sheet Titles:

Riprap Design Workbook
Design Assumptions
Abutment Input Data
HEC-23 (HEC-18) Riprap Design Method
HEC-11 Riprap Design Method
Four Riprap Design Methods
Comparison of Riprap Design Methods

Design Assumptions

Project:	CPRD Ewing Young Park Trail Bridge	**Road or Bridge:**	Proposed 95-ft Bridge
Project Number:	229221-C000191.00	**Analyst:**	M.K. Homza. PE
Watercourse:	Chehalem Creek	**Latest Revision:**	08/02/22

Assumptions

GENERAL:

- This workbook calculates and compares the sizes and extents of riprap using six (6) different riprap design methods.
- The applicability of the various methods differ.
- The user of this workbook should be familiar with the application of the various methods and should only use the methods/resu lts that apply to each individual project.
- Information is input into only the "Piers" and "Abutment" sheets as applicable.
- It is not necessary to input data into the "Piers" spreadsheet if piers are not considered for this specific project. (The Piers spreadsheet has been removed from this entire workbook because the proposed bridge does not have piers.)

PROJECT SPECIFICS:

- This project involves the hydraulic design of a footbridge for the Chehalem Parks and Recreation District across Chehalem Cre ek, in Yamhill County, Oregon.
- The proposed footbridge is approximately 95-ft long and has been developed such that the bridge itself does not cause an increase in the creek's Baseflood Elevation (BFEs) as previously identified by FEMA.
- Note that as proposed, the proposed bridge:
  a) Will be installed above the 10-year flood elevation, and
  b) Will be fully innudated (overtopped) with water durinhg the 100-year flood event.
- Ths specific workbook supports the design of the proposed riprap along the abutments of the proposed footbridge.
- The hydraulic information used in this workbook was obtained from the Proposed Conditions Hydraulic Model (HEC -RAS Model) as developed by NV5.
- The hydraulics pertain to the 100-year flood event, the discharge of which was obtained directly from effective FEMA documentation.

Abutment Input Data

Project: CPRD Ewing Young Park Trail Bridge
Road or Bridge: Proposed 95-ft Bridge
Project Number: 229221-C000191.00
Analyst: M.K. Homza. PE
Watercourse: Chehalem Creek
Latest Revision: 8/2/22

General Comments

- This spreadsheet lists the input required for the riprap design methodologies noted below.
- The individual riprap design methodologies and associated calculations are included on the following spreadsheets.
- Only input data into this sheet to design the riprap sizes.
- Only input data into the SHADED CELLS.
- Refer to the Summary Table and Curve at the end of this workbook.

Variable	Variable Value	Units	Variable Description	HEC-23	HEC-11	ASCE	USBR	USGS	Isbash
Va	2.40	fps	Average Velocity	X	X	X	X	X	X
Gs	2.65	-----	Specific Gravity of Riprap (Normally 2.65)	X	X	X			X
g	32.20	ft/sec^2	Acceleration due to Gravity	X					X
d	17.97	ft	Average Flow Depth	X	X				
-----	S	-----	Type of Abutment S = Spill through, V = Vertical	X					
R	100000.0	ft	Radius of Curvature		X				
W	52.0	ft	Channel Width		X				
Z	1.25	ft	Sideslope (_H/V)		X	X			
Theta	41.00	Degrees	Angle of Repose (HEC-23, Pg DG12.5)		X				
SF	1.20	units	Stability Factor **(See note on HEC-11 Page)**		X				
Gamma	165	lbs/sf	Unit weight of stone (Usually 165)			X			
C	1.2	-----	0.86 for High Turbulence, 1.2 for Low Turbulence						X

HEC-23 (HEC-18) Riprap Design Method

Project:	CPRD Ewing Young Park Trail Bridge	**Road or Bridge:**	Proposed 95-ft Bridge
Project Number:	229221-C000191.00	**Analyst:**	M.K. Homza. PE
Watercourse:	Chehalem Creek	**Latest Revision:**	8/2/22

General Comments

- This spreadsheet calculates riprap in accordance with the 3rd edition of HEC-23 "Bridge Scour and Stream Instability Countermeasures". FHWA NHI 09-112, September 2009. Equations 14.1 and 14.2. (Page DG14.6) (This is the same as the HEC-18 method.)
- Refer to the Summary Table and Curve at the end of this workbook for a comparison of the methods analyzed.
- **The input for this sheet is input in the "Abutment Scour Input Data" sheet. No input is required on this sheet.**

Input

2.40	= Va = Characteristic Average Velocity (fps)
2.65	= Gs = Specific Gravity of riprap (Normally 2.65)
32.20	= g = Acceleration due to Gravity (32.2 ft/s^2)
17.97	= d = Depth of Flow Adjacent to Abutment
S	= Type of Abutment (S = Spill Through, V = Vertical Wall)

K Coefficient Table		
	Fr < 0.8	**Fr > 0.8**
Spill Through	0.89	0.61
Vertical Wall	1.02	0.69

Output

0.1	= Fr = Froude Number
0.89	= K = Appropriate K Coefficient
0.1	= D_{50} = Median Stone Diameter (ft)
0.2	= D_{100} = Largest Stone Diameter (ft)
0.2	= T = Thickness of Riprap Layer (Double if placed under water) (ft)
35.9	= H = Lateral Extent of Riprap from toe into the Channel

HEC-11 Riprap Design Method

Project:	CPRD Ewing Young Park T	**Road or Bridge:**	Proposed 95-ft Bridge
Project Number:	229221-C000191.00	**Analyst:**	M.K. Homza. PE
Watercourse:	Chehalem Creek	**Latest Revision:**	08/02/22

General Comments

- This spreadsheet sizes riprap using the methodology set forth in the March, 1989 issue of HEC-11, FHWA-IP-89-016, "Design Of Riprap Revetment". (Also found in HEC-23 under "Design Guideline 12".)
- Refer to the Summary Table and Curve at the end of this workbook for a comparison of the methods analyzed.
- **The input for this sheet is input in the "Abutment Scour Input Data" sheet. No input is required on this sheet.**

Input

100000	= R = Curve Radius (ft)[1]
52	= W = Channel Width (ft)[1]
1.3	= Z = Sideslope, (H:1'V)[1]
2.4	= $V_{a=}$ Average Velocity (fps)[2]
18.0	= d = Average Depth (ft)[2]
41	= Theta = Angle Of Repose (degrees)[3]
2.65	= $G_{s=}$ Specific Gravity[4]
1.2	= SF Stability Factor[5]
NA	Is Riprap At Abutment Or Pier? ("Y" or "N") [6]

Output

1923.08	= R/W, Radius/Width Ratio
38.66	= θ, Bank Angle (degrees)
0.31	= K1, Bank Angle Correction Factor
0.02	= D_{50}, Median Stone Size (ft)
1.00	= C, SF & S_s Correction Factor
1.00	= $C_{p/a}$, Pier/Abutment Correction Factor
0.02	= D'_{50}, Corrected Median Stone Size (ft)
0.03	= D_{100}, Maximum Stone Size (ft)
0.03	= T = Thickness of Riprap Layer (Double if placed under water) (ft)

Footnotes

1. Input based on field observations, measurements and estimates.
2. Input derived from hydraulic model.
3. Angle of Repose obtained from Chart 4, page 129, HEC-11.
4. Specific Gravity is assumed to be 2.65.
5. See Stability Factor information below.
6. HEC-11 specifies that a multiplier of 3.38 be used if the riprap is at an abutment or pier. This spreadsheet does not use this factor since it is generally considered too conservative.

Stability Factor

1.0 - 1.2	Uniform flow; Straight or mildly curving reach (R/W > 30); Impact from wave action and floating debris is minimal; Little or no uncertainty in design parameters.
1.3 - 1.6	Gradually varying flow; Moderate bend curvature (30 > R/W > 10); Impact from waves and/or floating debris moderate.
1.6 - 2.0	Approaching rapidly varying flow; Sharp bend curvature (10 > R/W); Significant impact potential from floating debris and/or ice; Significant wind and/or boat generated waves (1' -2'); High flow turbulence; Significant uncertainty in design parameters.

Four Riprap Design Methods

Project:	CPRD Ewing Young Park Trail I	**Road or Bridge:**	Proposed 95-ft Bridge
Project Number:	229221-C000191.00	**Analyst:**	M.K. Homza. PE
Watercourse:	Chehalem Creek	**Latest Revision:**	8/2/22

General Comments

- This spreadsheet calculates the riprap required for the following methods:
- American Society of Civil Engineers (ASCE), Vanoni, 1977.
- U.S. Bureau of Reclaimation (USBR), (USBR EM-25, Peterka, 1958)
- U.S. Geological Survey (USGS), Blodgett, 1981)
- Isbash, Isbash, 1936; USCOE, 1971.
- Only input data into the SHADED CELLS.
- Refer to the Summary Table and Curve at the end of this workbook for a comparison of the methods analyzed.
- **The input for this sheet is input in the "Abutment Scour Input Data" sheet. No input is required on this sheet.**

ASCE Method

Input

2.65	= Gs = Specific Gravity of riprap (Normally 2.65)
2.4	= V_a = Average Velocity (fps)
1.25	= Z = Sideslope (ft) (H:1'V)
165	= gamma = Unit weight of Stone (lbs/sf) (Usually 165 lbs/sf)

Output

38.7	= θ = Bank Angle (degrees)
0.0	= W = Stone Weight (lbs)
0.0	= D_{50} = Median Stone Diameter (ft)
0.1	= T = Thickness of Riprap Layer (Double if placed under water) (ft)

USBR Method

Input

2.4	= V_a = Average Velocity (fps)

Output

0.1	= D_{50} = Median Stone Diameter (ft)
0.1	= T = Thickness of Riprap Layer (Double if placed under water) (ft)

USGS Method

Input

2.4	= V_a = Average Velocity (fps)

Output

0.1	= D_{50} = Median Stone Diameter (ft)
0.2	= T = Thickness of Riprap Layer (Double if placed under water) (ft)

Isbash Method

Input

2.4	= V_a = Average Velocity (fps)
2.65	= Gs = Specific Gravity of riprap (Normally 2.65)
32.2	= g = Acceleration due to Gravity (32.2 ft/s^2)
1.2	= C = 0.86 for High Turbulence, 1.2 for Low Turbulence

Output

0.0	= D_{50} = Median Stone Diameter (ft)
0.1	= T = Thickness of Riprap Layer (Double if placed under water) (ft)

Comparison of Riprap Design Methods

Project: CPRD Ewing Young Park Trail Bridge
Project Number: 229221-C000191.00
Watercourse: Chehalem Creek
Road or Bridge: Proposed 95-ft Bridge
Analyst: M.K. Homza. PE
Latest Revision: 8/2/22

General Comments

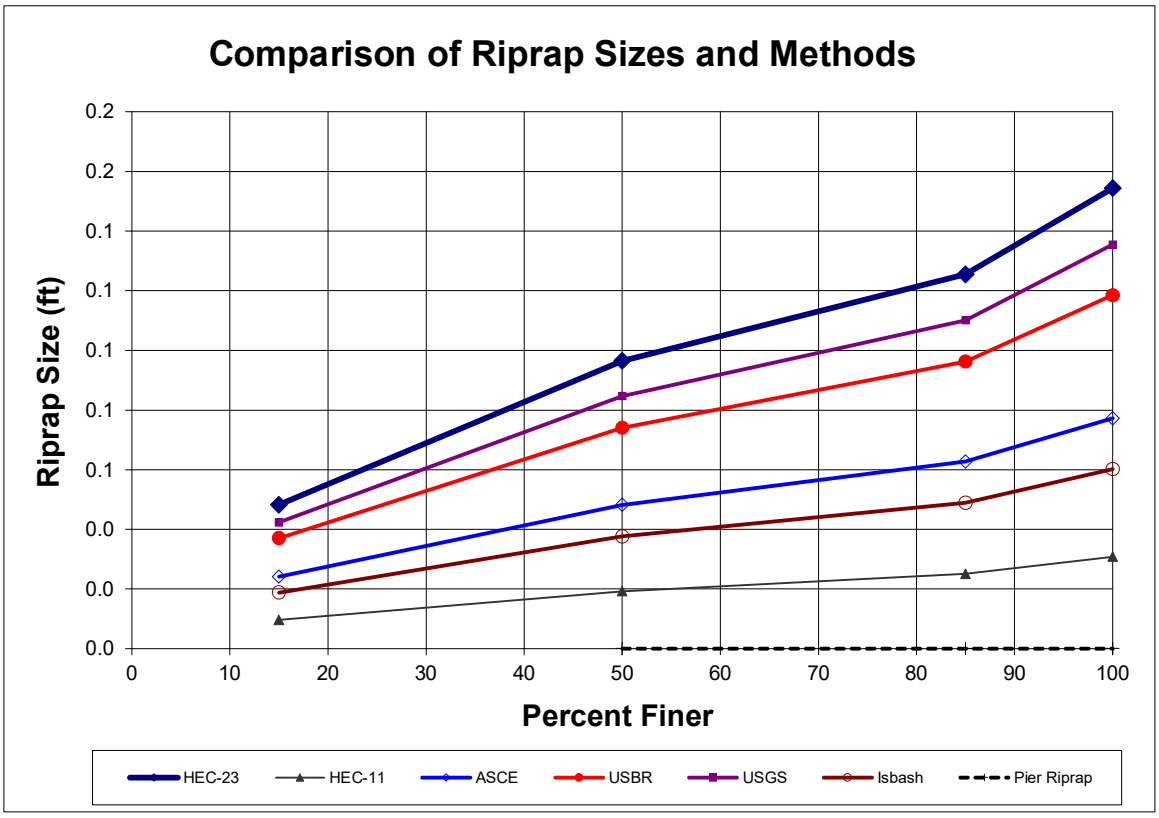
- This spreadsheet compares the riprap sizes calculated using the methods noted.
- The gradations are based upon the AASHTO Method as presented in HEC-23, page DG12.7.
- The data in the table is calculated in previous sheets.
- **No input is required on this spreadsheet.**

- **As indicated in the table below, the hydraulic conditions at the bridge DO NOT REQUIRE RIPRAP PROTECTION.**

No Riprap Required **= Riprap design method recommended for this project.**

Comparison of Riprap Sizes (in Feet) and Methods							
Riprap Size (Percent Finer)	**HEC-23**	**HEC-11**	**ASCE**	**USBR**	**USGS**	**Isbash**	**Pier Riprap**
15	0.0	0.0	0.0	0.0	0.0	0.0	
50	0.1	0.0	0.0	0.1	0.1	0.0	#REF!
85	0.1	0.0	0.1	0.1	0.1	0.0	#REF!
100	0.2	0.0	0.1	0.1	0.1	0.1	#REF!
Layer Thickness (ft)	0.2	0.0	0.1	0.1	0.2	0.1	#REF!

25 = Horizontal extent of riprap from abutment toe (ft) (= 2 x depth, not to Exceed 25-ft)



APPENDIX H: NO RISE CERTIFICATE

ENGINEERING "NO-RISE" CERTIFICATION

This is to certify that I am a duly qualified engineer licensed to practice in the State of Oregon.

It is to further certify that the attached technical data supports the fact that proposed Ewing Young Park Footbridge (Name of Development) will not impact the 100-year flood elevations, floodway elevations and floodway widths on Chehalem Creek (Name of Stream) at published sections in the Flood Insurance Study for Yamhill County, Oregon (Community No. 410259) (Name of Community) dated March 2, 2010 and will not impact the 100-year flood elevations, floodway elevations, and floodway widths at unpublished cross-sections in the vicinity of the proposed development.

Attached are the following documents that support my findings:

Bridge Hydraulics Design Report
Proposed Ewing Young Park Footbridge Over Chehalem Creek

For: Yamhill County, Oregon
By: NV5, Inc.
Date: August 16, 2022

(Date) August 16, 2022

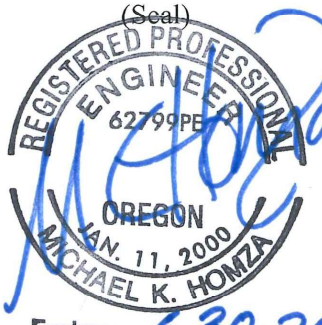
(Signature) M Homza

(Title) Professional Engineer

Michael K. Homza, PE

Director of Water Resources
NV5, Inc.
690 S. Industry Way
Suite #10
Meridian, Idaho 83642

(Seal)



Expires: 6.30.2023

NV5

Delivering Solutions
Improving Lives

CHEHALEM PARK & RECREATION DISTRICT

EWING YOUNG PARK

YAMHILL COUNTY, OREGON

SE 1/4, SEC 19, T. 3S., R. 2 W., W.M.

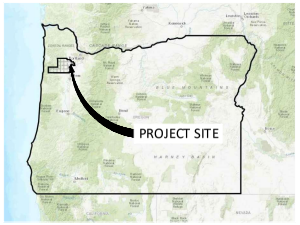
LAND USE PLAN SET - DECEMBER, 2022

OWNER

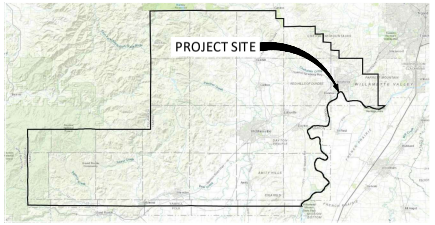
CHEHALEM PARK & RECREATION DISTRICT
125 S ELLIOT ROAD
NEWBERG, OREGON 97132
CONTACT: CASEY CREIGHTON
PHONE: (503) 537-2909
EMAIL:

PROJECT CONSULTANT

NV5, INC. – LANDSCAPE ARCHITECT/CIVIL ENGINEER
9450 SW COMMERCE CIRCLE, SUITE 300
WILSONVILLE, OREGON 97070
CONTACT: JON CHAMPLIN, RLA
PHONE: (503) 626-0455
FAX: (503) 526-0775
EMAIL: JON.CHAMPLIN@NV5.COM



OREGON

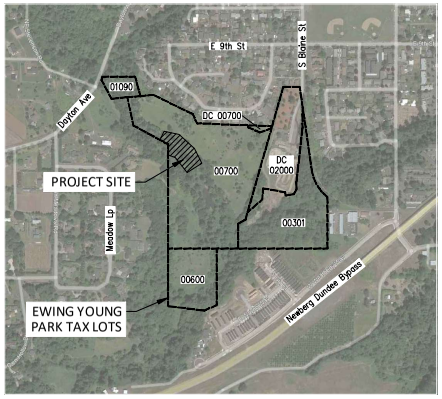


YAMHILL COUNTY

Sheet Index	
Sheet Number	Sheet Title
L0.00	COVER SHEET
L1.10	EXISTING CONDITIONS PLAN
L2.10	DEMOLITION & EROSION CONTROL PLAN
L3.10	SITE PLAN
L3.11	BRIDGE ENLARGEMENT PLAN
L4.10	GRADING PLAN
L5.10	PLANTING PLAN
L5.11	PLANTING DETAILS

GENERAL NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO ANY WORK AND SHALL BE RESPONSIBLE FOR ALL WORK AND MATERIALS INCLUDING THOSE FURNISHED BY SUBCONTRACTORS.
2. DIMENSIONS TAKE PRECEDENCE OVER DRAWING. DO NOT SCALE DRAWINGS TO DETERMINE ANY LOCATIONS. THE OWNER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO CONTINUING WITH WORK.
3. THE CONTRACTORS SHALL REPORT TO THE OWNER ANY ERRORS, INCONSISTENCIES, OR OMISSIONS HE OR SHE MAY DISCOVER. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTING ANY ERROR AFTER THE START OF CONSTRUCTION WHICH HAS NOT BEEN BROUGHT TO THE ATTENTION OF THE OWNER. THE MEANS OF CORRECTING ANY ERROR SHALL FIRST BE APPROVED BY THE OWNER.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES WHETHER SHOWN HEREIN OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF WORK.
5. AGENCY APPROVED PLANS SHALL BE KEPT IN A SECURE PLACE AND SHALL NOT BE USED BY WORKMEN. THE CONTRACTOR SHALL BE RESPONSIBLE THAT ALL SUBCONTRACTORS' CONSTRUCTION SETS REFLECT SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN, IN GOOD CONDITION, ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDUMS, AND CHANGE ORDERS, ON THE PREMISES AT ALL TIMES. THESE ARE NOT TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INTERIM TRAFFIC CONTROL DURING CONSTRUCTION ON OR ALONG ALL NEIGHBORHOOD STREETS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE JOB SITE WHILE THE JOB IS IN PROGRESS AND UNTIL JOB COMPLETION. ANY DAMAGE INCLUDING GRAFFITI ON CONCRETE SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
8. ALL DEBRIS SHALL BE REMOVED FROM THE PREMISES AND ALL AREAS ACCESSIBLE TO THE PUBLIC SHALL BE LEFT IN A BROOM CLEAN CONDITION AT ALL TIMES.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE OR REMEDY ANY FAULTY, IMPROPER OR INFERIOR MATERIALS OR WORKMANSHIP WHICH SHALL APPEAR, WITHIN ONE (1) YEAR AFTER THE COMPLETION AND ACCEPTANCE OF THE WORK UNDER THIS CONTRACT.
11. CONTRACTOR TO PROTECT ALL PLANT MATERIAL NOT SLATED FOR REMOVAL DURING CONSTRUCTION.



PROJECT VICINITY MAP
NOT TO SCALE

NV5
9450 SW Commerce Circle, Ste 300
Wilsonville, OR 97070
503-626-0455 www.NV5.com

REVISIONS

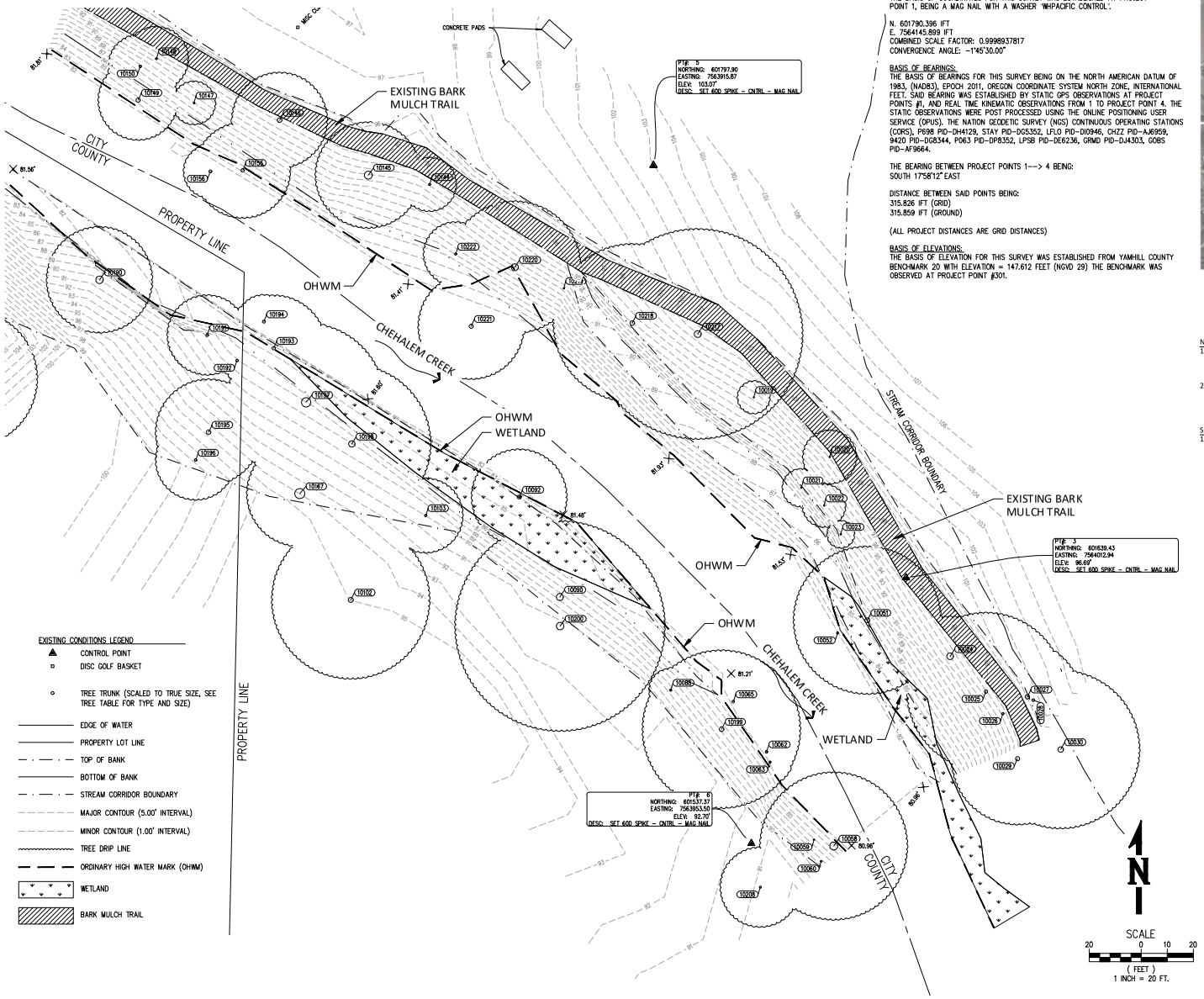
NO.	BY	DATE	REMARKS

SHEET INFO	
DRAWN	JC
CHECKED	MS
APPROVED	JC
LAST EDIT	8/18/2022
PLOT DATE	12/15/2022
SUBMITTAL	

COVER SHEET
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

PROJECT NUMBER	DRAWING FILE NAME	SCALE
C000191.00	C000191.00-LA01_L0.00-CS	AS NOTED

SHEET NUMBER
L0.00



BASIS OF SURVEY

BASIS OF COORDINATES:
NORTH AMERICAN DATUM OF 1983, (NAD83), EPOCH 2011, OREGON COORDINATE SYSTEM NORTH ZONE, INTERNATIONAL FEET,

THE BASIS OF COORDINATES FOR THIS SURVEY WAS ESTABLISHED AT PROJECT POINT 1, BEING A MAG NAIL WITH A WASHER 'WHPACIFIC CONTROL'.

N. 601790.396 IFT
E. 7564145.899 IFT
COMBINED SCALE FACTOR: 0.9998937817
CONVERGENCE ANGLE: -1°45'30.00"

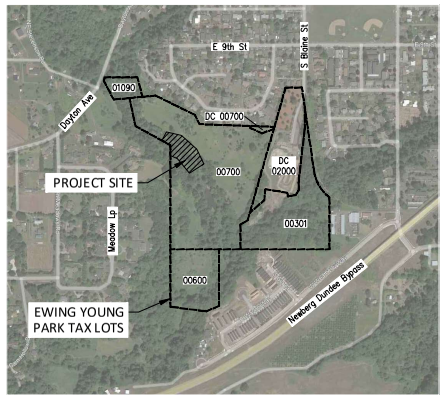
BASIS OF BEARINGS:
THE BASIS OF BEARINGS FOR THIS SURVEY BEING ON THE NORTH AMERICAN DATUM OF 1983, (NAD83), EPOCH 2011, OREGON COORDINATE SYSTEM NORTH ZONE, INTERNATIONAL FEET. SAID BEARING WAS ESTABLISHED BY STATIC GPS OBSERVATIONS AT PROJECT POINTS #1, AND REAL TIME KINEMATIC OBSERVATIONS FROM 1 TO PROJECT POINT 4. THE STATIC OBSERVATIONS WERE POST PROCESSED USING THE ONLINE POSITIONING USER SERVICE (OPUS). THE NATION GEODETIC SURVEY (NGS) CONTINUOUS OPERATING STATIONS (CORS), P698 PID-DH4129, STAY PID-DG5352, LFLO PID-DI0946, CHZZ PID-AJ6959, 9420 PID-DG8344, P063 PID-DP8352, LPSB PID-DE6236, GRMD PID-DJ4303, GOBS PID-AF9664.

THE BEARING BETWEEN PROJECT POINTS 1--> 4 BEING:
SOUTH 17°58'12" EAST

DISTANCE BETWEEN SAID POINTS BEING:
315.826 IFT (GRID)
315.859 IFT (GROUND)

(ALL PROJECT DISTANCES ARE GRID DISTANCES)

BASIS OF ELEVATIONS:
THE BASIS OF ELEVATION FOR THIS SURVEY WAS ESTABLISHED FROM YAMHILL COUNTY BENCHMARK 20 WITH ELEVATION = 147.612 FEET (NGVD 29) THE BENCHMARK WAS OBSERVED AT PROJECT POINT #301.



VICINITY MAP
NOT TO SCALE

NOTE:
1. PROPERTY LINES SHOWN HERE ON ARE BASED ON GIS DATA FROM THE YAMHILL COUNTY DATA SOURCES. ADDITIONAL RESOLUTION WILL REQUIRE MONUMENT RECOVERY.
2. TOPOGRAPHY OF CREEK MEASURED TO HIGH WATER MARK DUE TO UNSAFELY HIGH WATER IN CREEK. ESTIMATE 4-5 FEET DEPTH OF WATER AT WORSE SPOTS.

SITE SOILS:
1. THE SITE SOILS CONSIST OF STIFF TO VERY STIFF CLAY AND SILT WITH TRACE SAND TO A DEPTH OF 13 BGS. BENEATH THE SILT AND CLAY, VERY DENSE, CEMENTED, CLAYEY SAND WITH GRAVEL EXISTS TO THE MAXIMUM DEPTH EXPLORED (16.1 FEET BGS) PER THE GEOTECHNICAL REPORT. AS THE GEOTECHNICAL REPORT STATES, THIS SOIL TYPE IS SUITABLE FOR THE CONSTRUCTION OF A FOOTBRIDGE WITH SHALLOW SPREAD FOUNDATIONS BEARING ON FIRM NATIVE CLAY AND SILT AND STRUCTURAL FILL OVERLYING FIRM NATIVE CLAY AND SILT.

TREE TABLE

POINT NUMBER	TREE TYPE	TRUNK DIAMETER	DRIP LINE DIAMETER
10019	TRDE	6	6
10020	TRDE	7	10
10021	TRDE	6	7
10022	TRDE	6	8
10023	TRDEX2	7	5
10024	TRCO	32	15
10025	TRCO	16	30
10026	TRDE	11	20
10027	TRDE	21	20
10028	TRDE	13	16
10029	TRDE	20	25
10030	TRDE	26	30
10051	TRDE	23	28
10052	TRDE	10	12
10058	TRDE	38	28
10059	TRDE	6	8
10060	TRDE	8	8
10062	TRDE	12	8
10063	TRDE	10	8
10065	TRDE	12	16
10088	TRDE	10	8
10090	TRDE	34	18
10092	TRDE	19	18
10102	TRCO	24	30
10103	TRDE	11	14
10144	TRDE	10	10
10145	TRCO	38	20
10146	TRDE	22	18
10147	TRDE	8	8
10148	TRDE	10	12
10149	TRDE	20	15
10150	TRDE	12	12
10155	TRDE	16	18
10156	TRDE	14	10
10167	TRCO	48	20
10188	TRCO	55	26
10189	TRDE	9	12
10190	TRDE	36	20
10191	TRDEX2	13	15
10192	TRDE	12	6
10193	TRDE	16	20
10194	TRDE	14	10
10195	TRDE	21	20
10196	TRDE	12	15
10197	TRCO	45	30
10198	TRCO	30	30
10199	TRDE	22	30
10200	TRDE	36	40
10208	TRDE	10	15
10217	TRDE	33	40
10218	TRDE	22	30
10219	TRDE	6	10
10221	TRDE	20	20
10222	TRDE	10	12
10023	TRDEX2	7	5
10191	TRDEX2	13	15

NV5
9450 SW Commerce Circle, Ste 300
Wilsonville, OR 97070
503-626-0455 www.NV5.com

REVISIONS

NO.	BY	DATE	REMARKS

SHEET INFO

DRAWN	JC
CHECKED	MS
APPROVED	JC
LAST EDIT	8/18/2022
PLOT DATE	8/22/2022
SUBMITTAL	

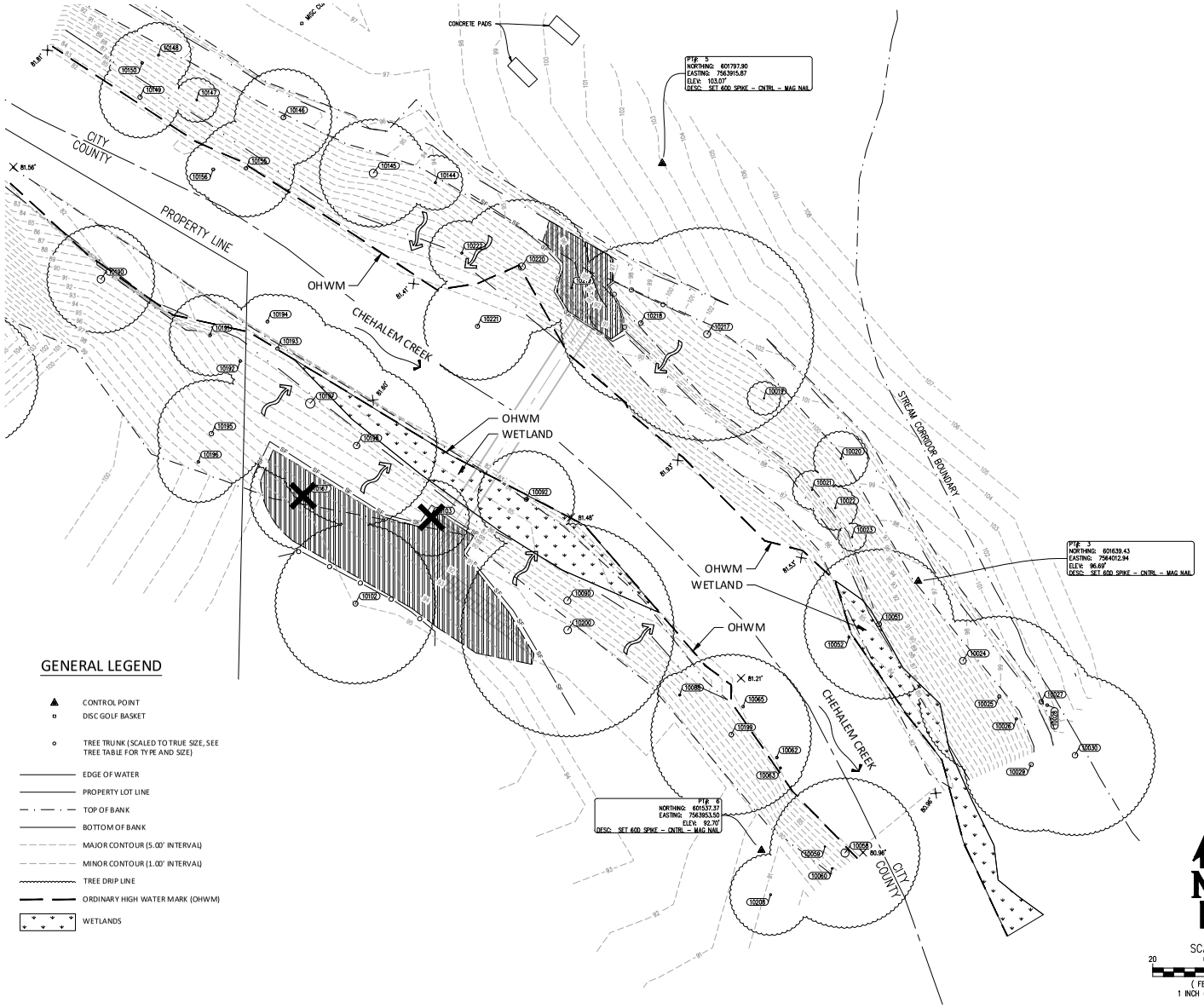
EXISTING CONDITIONS PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L1.10-EX

SHEET NUMBER L1.10



GENERAL LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLANDS

DEMOLITION AND EROSION CONTROL LEGEND

- EXISTING TREE TO BE REMOVED
- CLEARING AND GRUBBING LIMITS
- DIRECTION OF SLOPE
- SILT FENCE
- TREE PROTECTION FENCING

DEMOLITION NOTES

1. CUT CLEAN ANY ROOTS 2" IN DIAMETER OR SMALLER WHILE EXCAVATING BELOW EXISTING TREE DRIPLINES OF TREES TO REMAIN, IF ROOTS ARE ENCOUNTERED.
2. IF ROOTS LARGER THAN 2" IN DIAMETER ARE ENCOUNTERED WHILE EXCAVATING BELOW EXISTING TREE DRIPLINES OF TREES TO REMAIN, NOTIFY THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO CUTTING ROOTS.

EROSION CONTROL NOTES

1. PLACE EROSION CONTROL MATTING ON ALL AREAS TO BE PLANTED, PER SHEET L5.10 PLANTING PLAN.
2. SILT FENCE AND EROSION CONTROL MATTING SHALL REMAIN IN PLACE FOR ONE CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.

TREE DEMO TABLE

POINT NUMBER	TREE TYPE	TRUNK DIAMETER	DRIP LINE DIAMETER
10103	TRDE	11	14
10167	TRCO	48	20

TREE TABLE

POINT NUMBER	TREE TYPE	TRUNK DIAMETER	DRIP LINE DIAMETER	TREATMENT
10019	TRDE	6	6	RETAIN
10020	TRDE	7	10	RETAIN
10021	TRDE	6	7	RETAIN
10022	TRDE	6	8	RETAIN
10023	TRDE X2	7	5	RETAIN
10024	TRCO	32	15	RETAIN
10025	TRCO	16	30	RETAIN
10026	TRDE	11	20	RETAIN
10027	TRDE	21	20	RETAIN
10028	TRDE	13	16	RETAIN
10029	TRDE	20	25	RETAIN
10030	TRDE	26	30	RETAIN
10051	TRDE	23	28	RETAIN
10052	TRDE	10	12	RETAIN
10058	TRDE	38	28	RETAIN
10059	TRDE	6	8	RETAIN
10060	TRDE	8	8	RETAIN
10062	TRDE	12	8	RETAIN
10063	TRDE	10	8	RETAIN
10065	TRDE	12	16	RETAIN
10088	TRDE	10	8	RETAIN
10090	TRDE	34	18	RETAIN
10092	TRDE	19	18	RETAIN
10102	TRCO	24	30	RETAIN
10103	TRDE	11	14	REMOVE
10144	TRDE	10	10	RETAIN
10145	TRCO	38	20	RETAIN
10146	TRDE	22	18	RETAIN
10147	TRDE	8	8	RETAIN
10148	TRDE	10	12	RETAIN
10149	TRDE	20	15	RETAIN
10150	TRDE	12	12	RETAIN
10155	TRDE	16	18	RETAIN
10156	TRDE	14	10	RETAIN
10167	TRCO	48	20	REMOVE
10188	TRCO	55	26	RETAIN
10189	TRDE	9	12	RETAIN
10190	TRDE	36	20	RETAIN
10191	TRDE X2	13	15	RETAIN
10192	TRDE	12	6	RETAIN
10193	TRDE	16	20	RETAIN
10194	TRDE	14	10	RETAIN
10195	TRDE	21	20	RETAIN
10196	TRDE	12	15	RETAIN
10197	TRCO	45	30	RETAIN
10198	TRCO	30	30	RETAIN
10199	TRDE	22	30	RETAIN
10200	TRDE	36	40	RETAIN
10208	TRDE	10	15	RETAIN
10217	TRDE	33	40	RETAIN
10218	TRDE	22	30	RETAIN
10219	TRDE	6	10	RETAIN
10221	TRDE	20	20	RETAIN
10222	TRDE	10	12	RETAIN
10223	TRDE X2	7	5	RETAIN
10391	TRDE X2	13	15	RETAIN

SCALE
20 0 10 20
(FEET)
1 INCH = 20 FT.

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REVISIONS

NO.	BY	DATE	REMARKS

SHEET INFO

DRAWN	JC
CHECKED	MS
APPROVED	JC
LAST EDIT	8/15/2022
PLOT DATE	12/6/2022
SUBMITTAL	

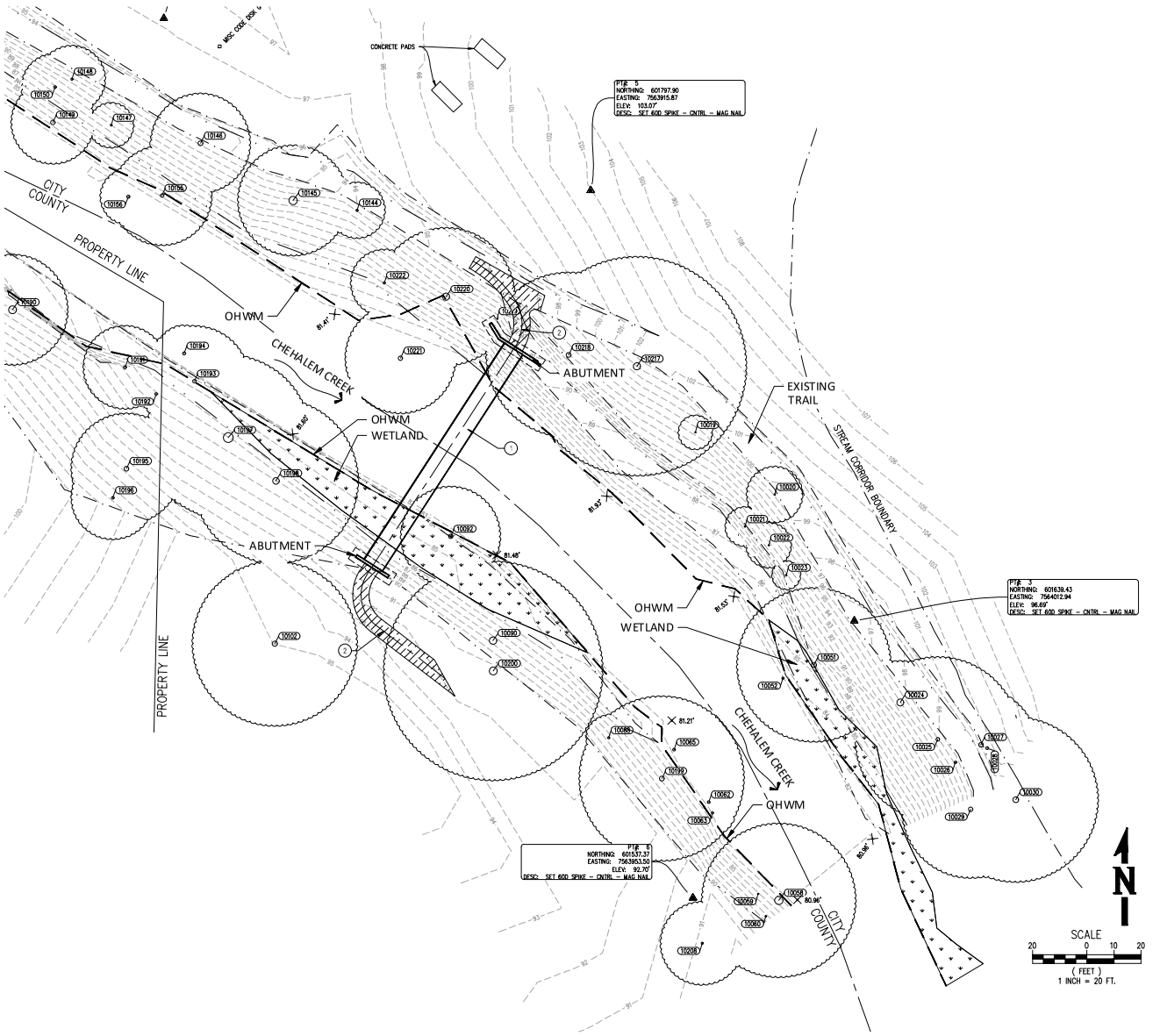
DEMOLITION & EROSION CONTROL PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L2.10-DM

SHEET NUMBER L2.10



SITE PLAN LEGEND

- 3" THICK BARK MULCH PATH, 6 FEET WIDE

KEYNOTES:

1. FOOTBRIDGE. SEE SHEET L3.11
2. PROVIDE AND PLACE BARK MULCH PATH

LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLAND

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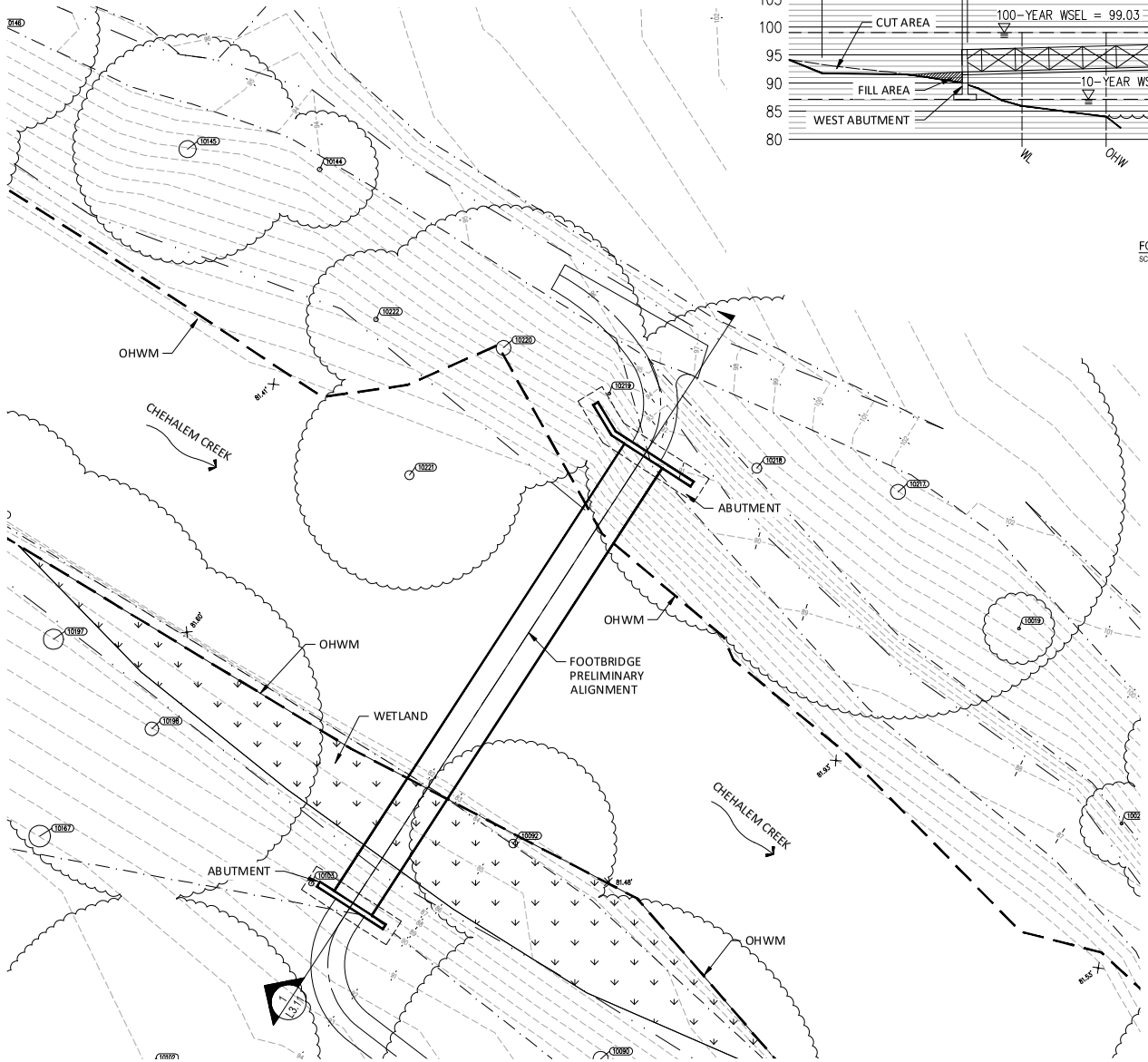
REVISIONS			
NO.	BY	DATE	REMARKS

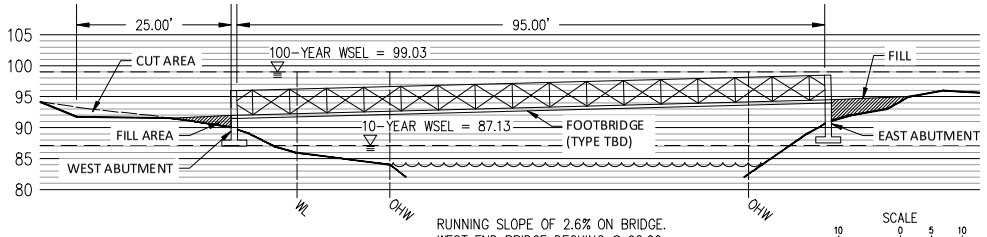
SHEET INFO	
DRAWN	JC
CHECKED	MS
APPROVED	JC
LAST EDIT	8/9/2022
PLOT DATE	8/18/2022
SUBMITTAL	

SITE PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

PROJECT NUMBER	DRAWING FILE NAME	SCALE
C000191.00	C000191.00-LA01_L3.10-SP	1" = 20'

SHEET NUMBER
L3.10





RUNNING SLOPE OF 2.6% ON BRIDGE.
WEST END BRIDGE DECKING @ 92.00
EAST END BRIDGE DECKING @ 94.50

FOOTBRIDGE PROFILE
SCALE: 1" = 10'

1
L3.11

SCALE
10 0 5 10
(FEET)
1 INCH = 10 FT.

LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLAND

SURVEY INFORMATION

HORIZONTAL DATUM = NAD83, EPOCH 2011, OREGON COORDINATE SYSTEM NORTH ZONE, INTERNATIONAL FEET.

VERTICAL DATUM = NGVD29

NOTE: ELEVATIONS SHOWN ARE ON NGVD29 DATUM.

HYDRAULIC DATA		
RETURN PERIOD (YEARS)	WATER SURFACE ELEVATION (FT)	MAXIMUM VELOCITY (FPS)
10	87.13	N/A
100	99.03	3.5

BRIDGE DESIGN PARAMETERS	
BRIDGE (OPEN) SPAN	95.00 FT
WESTERN BRIDGE DECK ELEVATION	92.00
EASTERN BRIDGE DECK ELEVATION	94.50
ASSUMED GIRDER DEPTH	18 INCHES
ASSUMED RAIL (PARAPET) HEIGHT	42 INCHES

N

SCALE
10 0 5 10
(FEET)
1 INCH = 10 FT.

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SUBMITTAL	

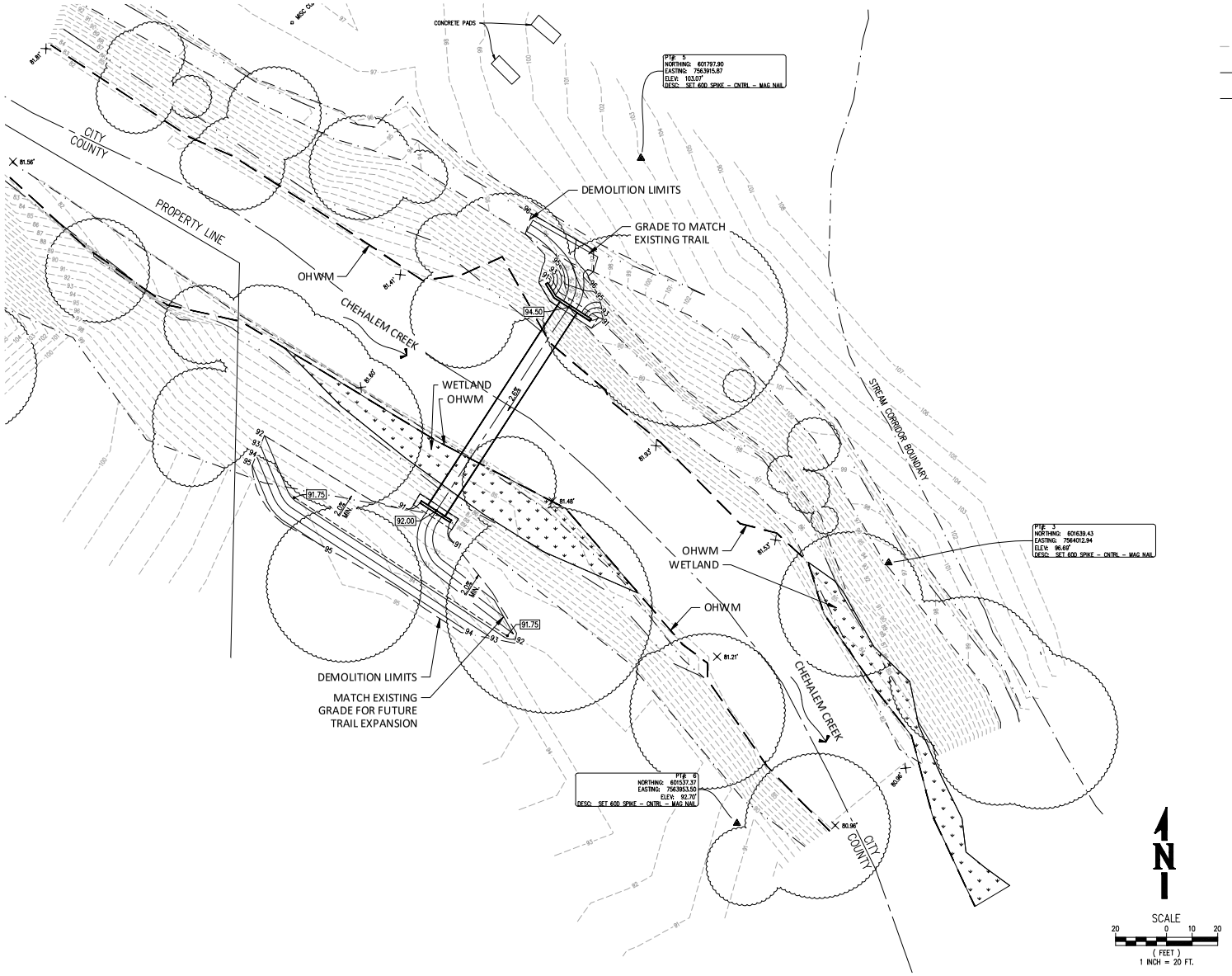
BRIDGE ENLARGEMENT PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L3.11-BR.0

SHEET NUMBER L3.11



GRADING LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- BRIDGE CENTERLINE
- XX.XXX - SPOT ELEVATION
- XX.XX% - SLOPE

LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLAND
- DEMO LIMITS

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APPROVED	JC
LAST EDIT	8/9/2022
PLOT DATE	8/18/2022
SUBMITTAL	

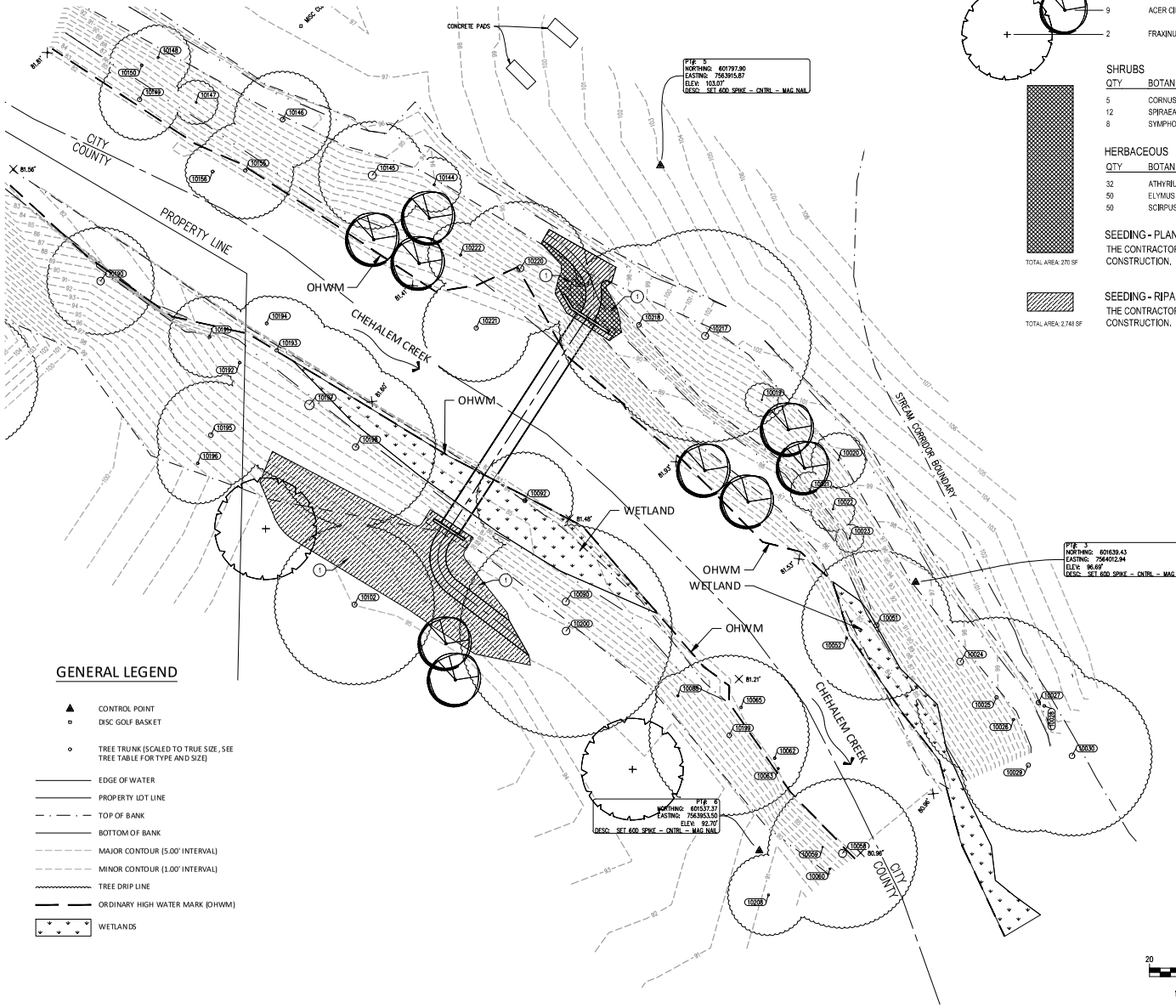
GRADING PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE: 1" = 20'

PROJECT NUMBER: C000191.00

DRAWING FILE NAME: C000191.00-LA01_L4.10-GP

SHEET NUMBER: L4.10



PLANTING LEGEND

TREES

QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
9	ACER CIRCINATUM	VINE MAPLE	1" CALIPER	AS SHOWN
2	FRAXINUS LATIFOLIA	OREGON ASH	1" CALIPER	AS SHOWN

SHRUBS

QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SIZE	SPACING
5	CORNUS SERICEA	RED-OSIER DOGWOOD	5 GAL	18" HEIGHT	60" O.C.
12	SPIRAEA DOUGLASII	DOUGLAS SPIREA	5 GAL	12" HEIGHT	36" O.C.
8	SYMPHORICARPOS ALBUS	SNOWBERRY	5 GAL	18" HEIGHT	48" O.C.

HERBACEOUS

QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SIZE	SPACING
32	ATHYRIUM FILIX-FEMINA	LADY FERN	1 GAL	12" HEIGHT	24" O.C.
50	ELYMUS GLAUCUS	BLUE WILDRYE	1 GAL	12" HEIGHT	12" O.C.
50	SCIRPUS CYPERINUS	WOOLY SEDGE	1 GAL	12" HEIGHT	12" O.C.

TOTAL AREA: 270 SF

SEEDING - PLANTING AREA MIX

THE CONTRACTOR SHALL APPLY SUNMARK SEEDS "RIVERSIDE WOODS MIX" TO ANY AREAS THAT ARE DISTURBED DURIN CONSTRUCTION.

TOTAL AREA: 2,748 SF

SEEDING - RIPARIAN MIX

THE CONTRACTOR SHALL APPLY SUNMARK SEEDS "NATIVE RIPARIAN MIX" TO ANY AREAS THE ARE DISTURBED DURING CONSTRUCTION.

LEGEND

TRAIL SURFACE - 2" BARK MULCH (636 SF)

KEYNOTES:

1. PROVIDE AND PLACE EROSION CONTROL MATTING WHERE SHOWN AND NOTED - 287 SY TOTAL

GENERAL LEGEND

- CONTROL POINT
- DISC GOLF BASKET
- TREE TRUNK (SCALED TO TRUE SIZE, SEE TREE TABLE FOR TYPE AND SIZE)
- EDGE OF WATER
- PROPERTY LOT LINE
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR (5.00' INTERVAL)
- MINOR CONTOUR (1.00' INTERVAL)
- TREE DRIP LINE
- ORDINARY HIGH WATER MARK (OHWM)
- WETLANDS

N

SCALE
20 0 10 20
(FEET)
1 INCH = 20 FT.

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SUBMITTAL	

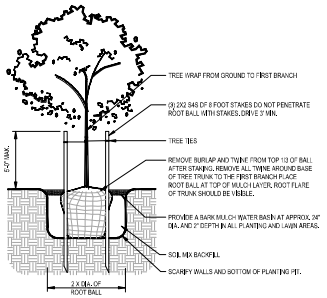
PLANTING PLAN
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L5.10-LP

SHEET NUMBER L5.10



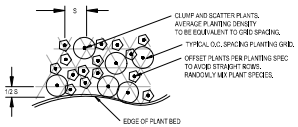
DECIDUOUS TREE PLANTING DETAIL — 1 / L5.11

SCALE: N.T.S.

NOTE: SINGLE TRUNK SHOWN, MULTI-TRUNK SIMILAR)

TREE STAKING/GUYING — 2 / L5.11

SCALE: N.T.S.

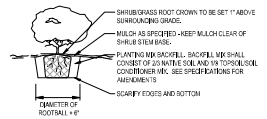


*S = SPACING ON CENTER(O.C.) AS SHOWN IN PLANT LIST.

NOTE:
1) LOCATE PLANTS 3' MIN. AWAY FROM PATHS.

NATIVE PLANT SPACING DETAIL — 3 / L5.11

SCALE: N.T.S.



SHRUB/GRASS PLANTING DETAIL — 4 / L5.11

SCALE: N.T.S.

CALL BEFORE YOU DIG

POTENTIAL UNDERGROUND FACILITY OWNERS "ONE CALL" UTILITY NOTIFICATION CENTER 1-800-332-2344

ATTENTION:
OREGON LAW REQUIRES YOU TO FOLLOW 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.
(NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 1-800-332-2344 or 811).

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APPROVED	JC
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PLOT DATE	8/22/2022
SUBMITTAL	

PLANTING DETAILS
EWING YOUNG PARK FOOTBRIDGE
CHEHALEM PARK AND RECREATION DISTRICT

SCALE 1" = 20'

PROJECT NUMBER C000191.00

DRAWING FILE NAME C000191.00-LA01_L5.11-DT

SHEET NUMBER
L5.11