City of Warrenton City Commission
Work Session Agenda
City Hall, 225 S. Main Warrenton, OR 97146
Tuesday, August 26, 2025

*****The meeting will be broadcast via Zoom at the following link*****
https://us02web.zoom.us/j/5332386326?pwd=VHNVVXU5blkxbDZ2YmxISWpha0dhUT09#success
Meeting ID: 533 238 6326 | **Passcode:** 12345 | **Dial-in Number**: 253-215-8782

City Commission Work Session 5:00 PM

1. **Call to order**
2. **Roll Call**
3. **Grading and Fill/Infill**
4. **Adjournment**

Warrenton City Hall is accessible to the disabled. An interpreter for the hearing impaired may be requested under the terms of ORS 192.630 by contacting Dawne Shaw, City Recorder, at 503-861-0823 at least 48 hours in advance of the meeting so appropriate assistance can be provided.

GRADING, EXCAVATING, & EROSION CONTROL MUNICIPAL CODE UPDATES:
CITY COUNCIL WORK SESSION

August 26, 2025

Presented By:

Esther Moberg
City of Warrenton, City Manager

&

Paul A. Sellke, PE, GE
AKS Engineering & Forestry, LLC
Development Review City Engineer

DISCUSSION OUTLINE

1) Summary of Project Background & Current Steps
2) Overview of Grading Codes & Permit Process Review
3) Concept Grading Permit Process
4) Recommended Code Updates
5) Questions

PROJECT BACKGROUND

- Complaints received by City from public regarding flooding due to unpermitted fills placed on adjacent properties.
- Review of City's Municipal Code (Chapter 16.152) and recommendations provided by:
  - Columbia River Estuary Study Taskforce (CREST) – December 27, 2022
  - AKS Engineering & Forestry, LLC (AKS) – June 20, 2024



PROJECT BACKGROUND

- City staff prepared and presented initial Code Amendment Hearing on August 27, 2024
  - Council elected to table the decision on grading code updates
- City Manager coordinated meetings between:
  - Planning Department
  - Building Department
  - Public Works Department
  - Current Development Review Engineer (AKS)

CREST REVIEW & RECOMMENDATIONS

CREST conducted a review of the Warrenton Development Code (WDC) with the following goals:

- Goal 1 – Administration
- Goal 2 – Clarity & Certainty
- Goal 3 – Consistency

Table 4: Summary of Recommendations and Primary Related Sections of Chapter 16.152.

	Recommendation	Section
Goal 1	Require that all grading permit applications are approved by the Community Development Director or their designee, instead of by the Building Official.	§16.152.060 and Sections throughout Chapter 16.152[4]
	Require that all grading applications shall be either prepared by the applicant's engineer or reviewed by the City Engineer.	§16.152.060
	Require that all grading applications made in preparation for building structures shall be reviewed by the Building Official.	§16.152.060
	Establish an internal policy or procedure that responses to all inquiries regarding prospective grading projects should be coordinated between the Building Official, Community Development Director, and City Engineer.	None
Goal 2	Remove the term "stockpiling" from the list of exempted activities.	§16.152.040.F.
	Remove the general discretionary exemption found in §16.152. 040.A.	§16.152.040.A.
	Remove depth, slope, volume-based exemptions.	§16.152.040.H, §16.152. 040.I
	Remove other miscellaneous exemptions that do not have a unique relationship to Warrenton's landscape, culture, or economy.	§16.152.040.C, §16.152. 040.D, §16.152. 040.E, §16.152. 040.F
	Remove redundant statements.	§16.152.030
Goal 3	Require applicants to identify natural resource and hazard areas in grading permit applications.	§16.152.060.B
	Consider requiring a grading permit for all grading within some distance of all natural resource and natural hazard areas.	§16.152. 040
	Consider enhancing the erosion control standards to address the purpose of the chapter.	§16.152. 140

AKS GRADING PERMIT REVIEW MEMORANDUM

AKS conducted a grading review analysis that considered the following:

- Grading Designation (volume basis)
- Flood Hazard Impacts
- Erosion Control Permits
- Slopes/Setbacks
- Stormwater Drainage Impacts
- Site/Subdivision Development Permits
- Public Works Improvement Permits



GRADING DESIGNATION (VOLUME BASED)

Table 1 - Grading Volume Comparison

Grading Volume (CY)	Equivalent Number of Dump Truck Loads[1]	Average Depth of Grading over Lot (ft)		
		40,000-sf lot size (R-40 Zone)	8,000-sf lot size (R-10 Zone)	5,000-sf lot size (RM Zone)
5000	500	3.4	16.9	27.0
1000	100	0.7	3.4	5.4
500	50	0.3	1.7	2.7
50	5	0.03	0.2	0.3

[1] Assumes 10 cubic yards of fill per dump truck

GRADING DESIGNATION (VOLUME BASED)

- Table shows that current 5,000 cubic yard threshold between regular and engineered grading allows for a significant amount of grading to occur on the typical City lot size.
- Topography across Warrenton is flat, such that grading depths above 1 foot have the potential to change the direction of surface water flows across a property, increase the risk of erosion, and increase potential impacts to neighboring properties.
- 50 cubic yards of material within wetlands/waters of state triggers Joint Fill Permits from Oregon Department of State Lands (DSL)/US Army Corps of Engineers (USACE).

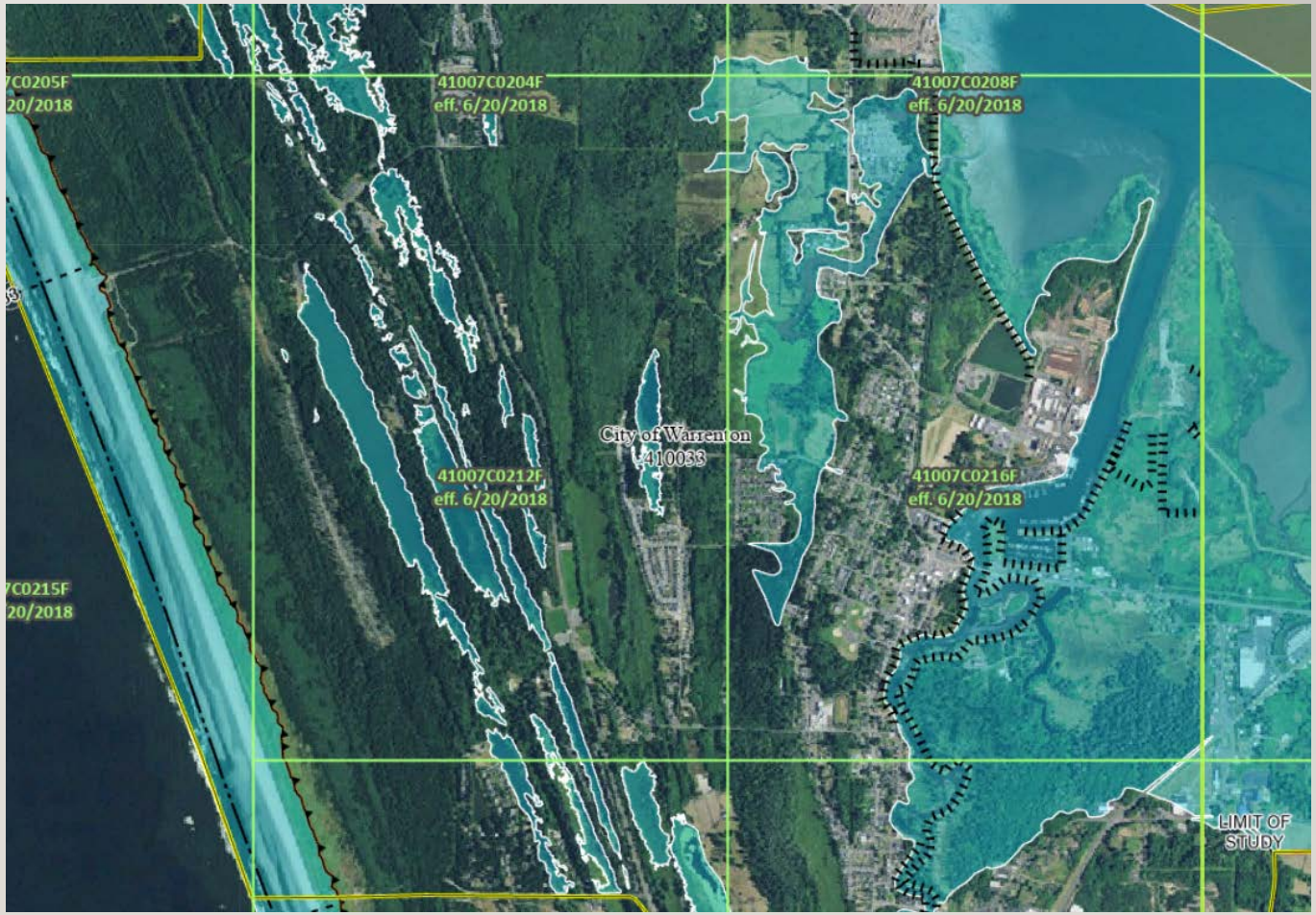
Recommendations:

- Remove stockpiling from exempt definition.
- Grading volume requirements should be removed entirely or revised to significantly less volume (50 cubic yards) or to maximum depths (1 foot) where potential impacts to neighbors would be minimized.

FLOOD HAZARD IMPACTS

- Much of Warrenton is situated within 100-year flood zone as mapped by the Federal Emergency Management Agency (FEMA)
- Section 16.88 of WMC regulates and outlines requirements for development within the FEMA mapped areas.
- Floodplain Development Permit required for encroachments (i.e. fills and grading) within the floodplain boundaries.

Recommendation: Development within mapped FEMA areas (see Exhibit 1) automatically trigger Engineered Grading review by the City.



NATURAL RESOURCE IMPACTS

- Warrenton has significant natural resources within its limits due to its location on the Oregon coast.
- Per Oregon removal-fill laws, fills within wetlands/waters of the state are limited to a total 50 cubic yards of cut and fill.

Recommendations:

- To comply with Oregon law, all grading permits should be required to be evaluated for potential impacts to wetlands and waters of the state.
- Projects that require removal-fill permits from DSL or USACE should require submittal to meet Engineered Grading requirements.
- Projects that do not impact wetlands/waters of the state can be reviewed and shall meet the requirements of Regular Grading.



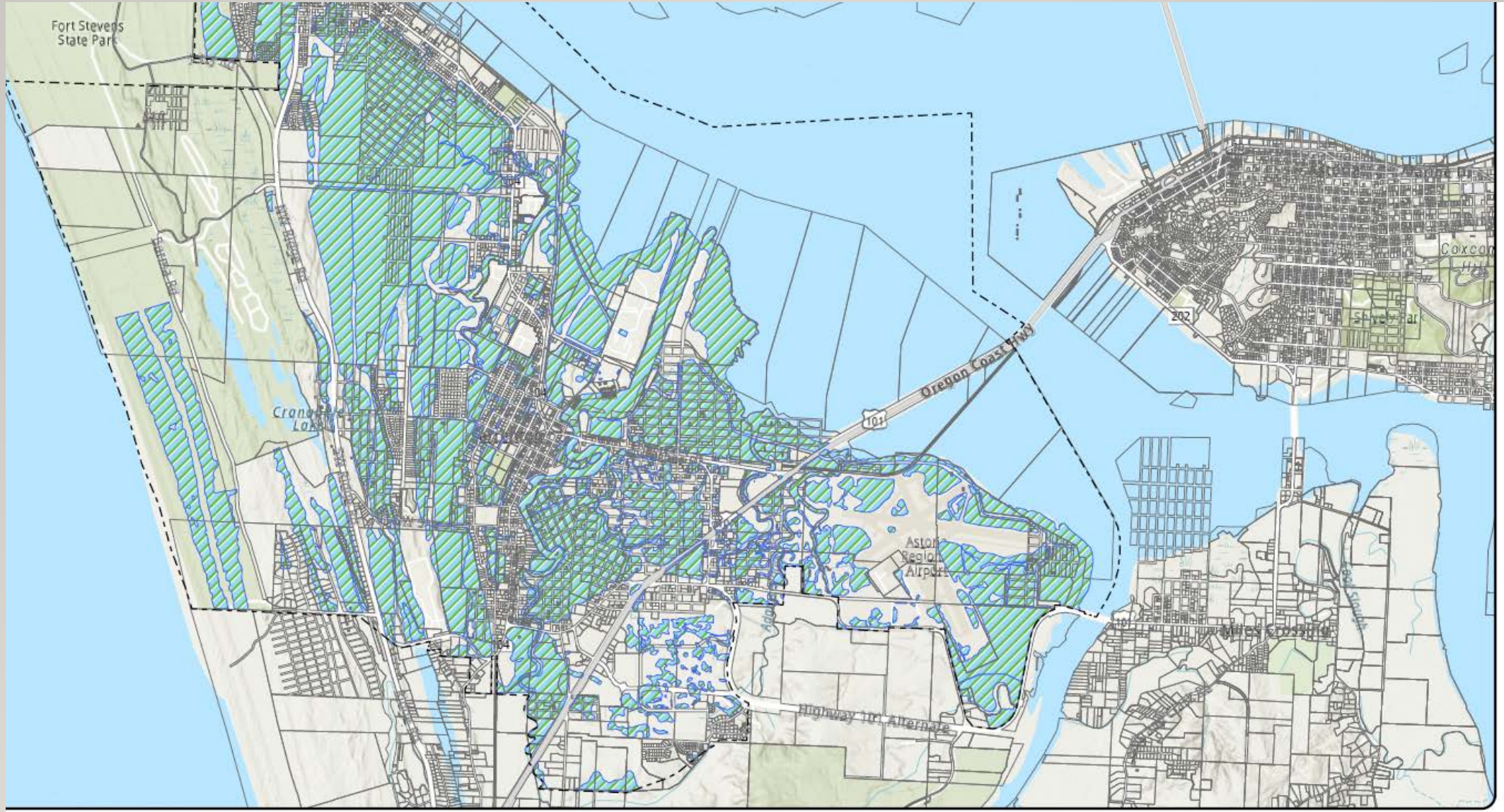


Exhibit 2
Oregon / Local Wetland Inventory

City of Warrenton

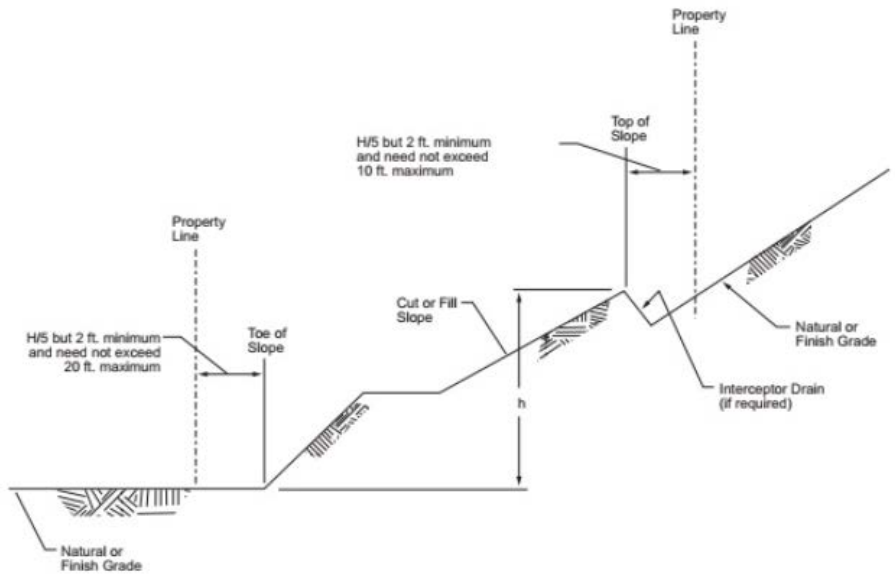
EROSION CONTROL PERMITS

- Per WMC Section 16.140.040 and Oregon state law, 1200-C erosion control permits are required for any projects that disturb more than 1 acre of land.
- Generally, any development over 1 acre within the City would be defined as Engineered Grading.

Recommendations: None – Continue to implement current requirements.



SLOPES/SETBACKS



For SI: 1 foot = 304.8 mm.

FIGURE J108.1 DRAINAGE DIMENSIONS

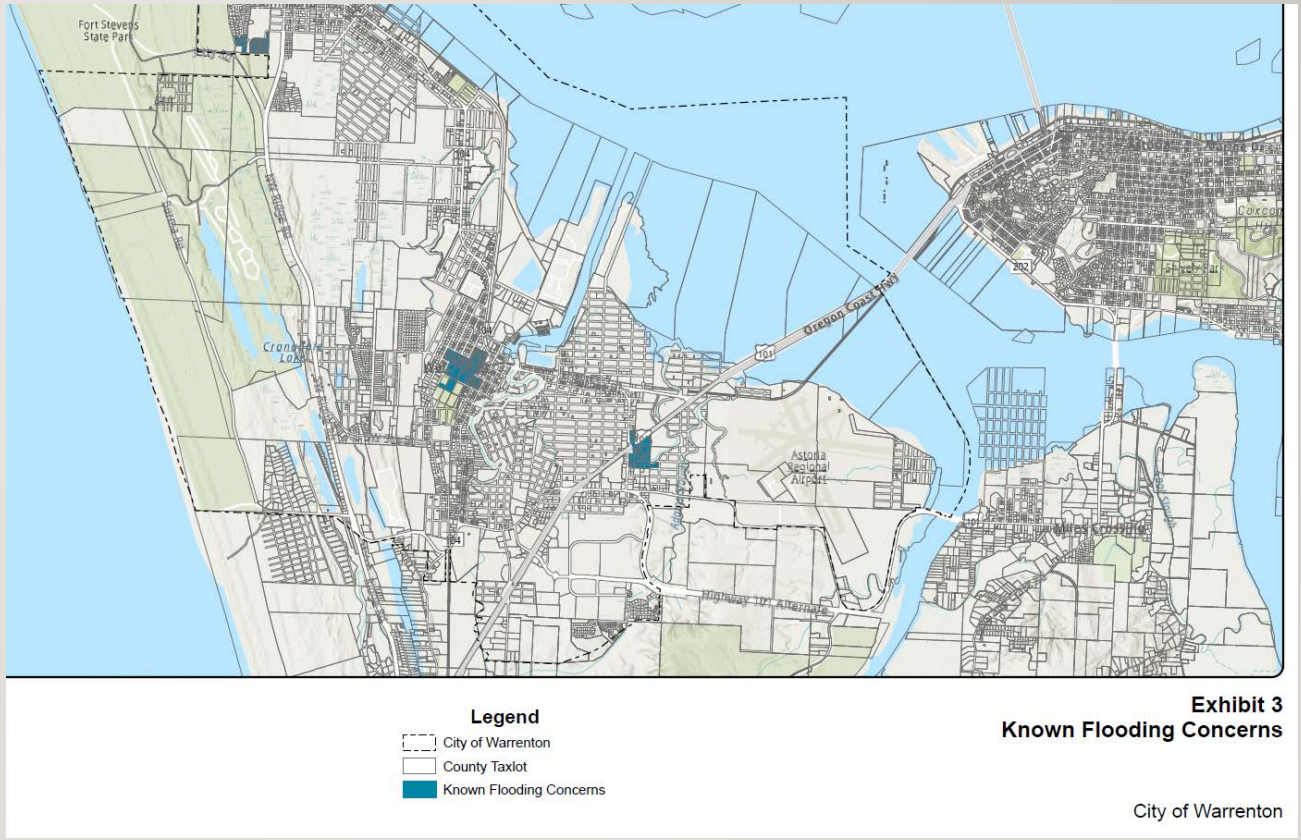
- WMC Section 16.152.120 and Appendix J of the Oregon Structural Specialty Code (OSSC) identify minimum requirements for setbacks and slope inclinations for cuts and fill slopes.

Recommendations: None – Municipal code being updated for clarity. Review by City of Warrenton Building Official is sufficient to protect the City and its residents, regardless of need for regular or engineered grading permits.

STORM DRAINAGE IMPACTS

- Complaints to City have identified past issues with unpermitted grading that changes the direction and/or increases the volume of surface water on adjacent properties.
- Several areas across the City have known flooding issues. Exhibit 3 is based on information provided by City staff.

Recommendation: Any projects within identified areas from Exhibit 3 shall automatically trigger engineering analysis and review by City staff to ensure that additional flooding is not caused by proposed grading.



SITE DEVELOPMENT/PUBLIC IMPROVEMENT PERMITS

- All site development and public improvement projects require engineering and reviews by City planning, public works, and building department staff prior to construction. Therefore, these automatically trigger Engineered Grading reviews by City staff.

Recommendation: None – Continue to implement current code requirements.



CURRENT CITY CODE CONFLICT COMPARISON

Table 2 - Current City Code Grading Requirement Conflict Comparison Chart

Potential Grading Impacts Evaluated	Regular Grading Allowed under Current Code [a]	Does allowing Regular Grading Permits Potentially Result in Harm to Neighbors [b]	Does allowing Regular Grading Permits Potentially violate Oregon/Federal Laws [c]	Should Engineered Grading Requirements be Required for Impacts? [d]
Grading Volumes (Below 5,000 CY)	Yes	Yes	Yes	Yes, if greater than 1-ft in depth
Grading Volumes (Above 5,000 CY)	No	Yes	Yes	Yes, if greater than 1-ft in depth
Flood Hazard Impacts	Yes	Yes	Yes	Yes
Natural Resource Impacts	Yes	No	Yes	Yes
Erosion Control Permits	Yes, if < 1 acre	Yes	No, if < 1 acre	Yes, if > 1 acre
Slope/Setbacks	Yes	Yes, if > 1 ft	No	Yes, if > 1 acre
Stormwater Drainage impacts	Yes	Yes	No	Yes, for known drainage issue areas
Site/Subdivision Development Permits	No	n/a	n/a	Yes
Public Improvements Permits	No	n/a	n/a	Yes

[a] Regular grading allowed for projects with less than 5,000 CY

[b] yellow highlighted cells indicate potential impacts to adjacent properties and City.

[c] Orange highlighted cells indicate fills within wetlands or mapped flood hazard areas could result in potential violations of Oregon/Federal laws or FEMA requirements.

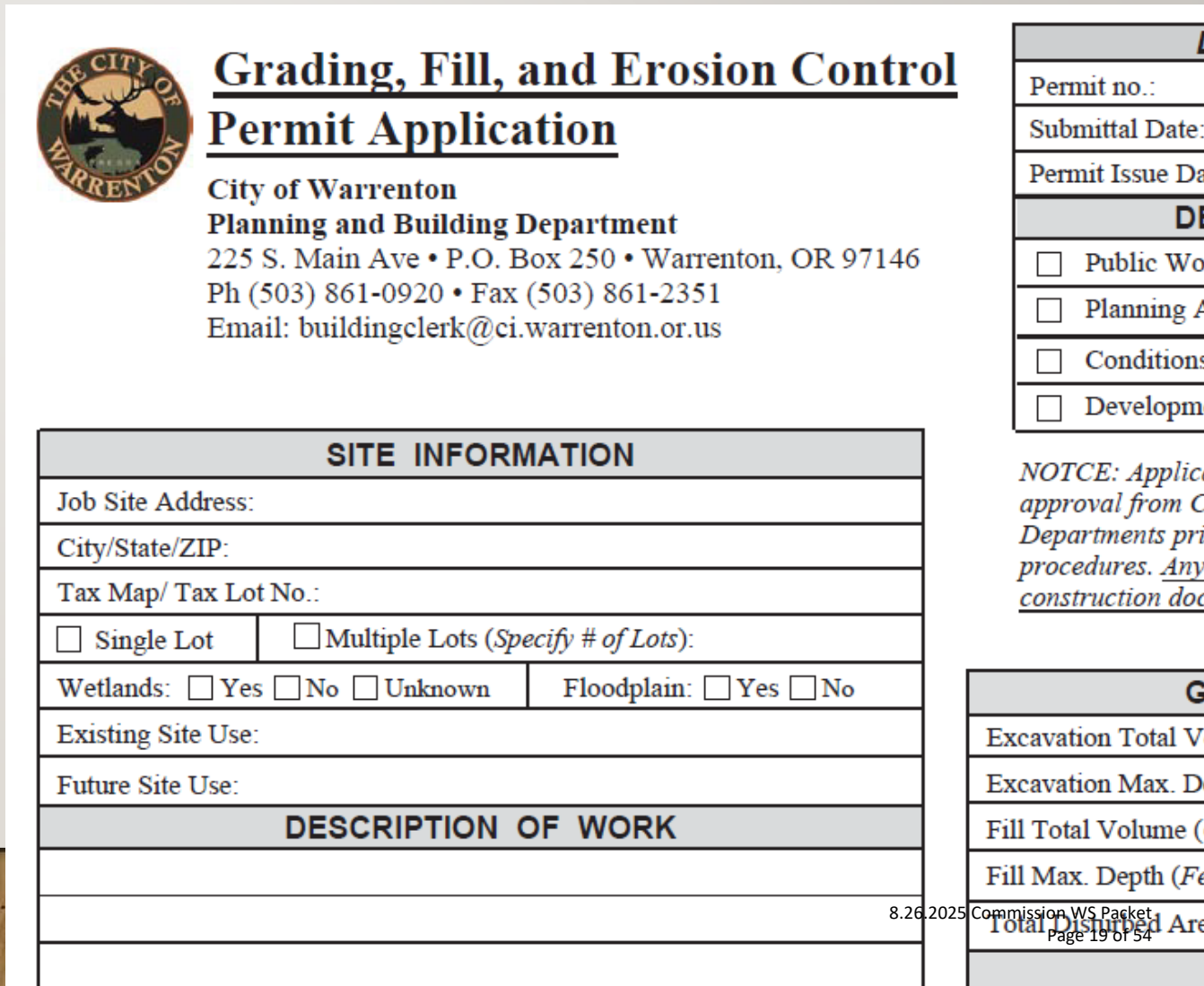
[d] Requires submittal by licensed PE

CONCEPT GRADING PERMIT PROCESS

Typical review by City staff:

1) Grading permit application received by City
2) Building official or their designee reviews submitted grading application for:
   a. Site conditions selected by applicant on grading permit application
   b. Confirm project location versus Exhibit A to determine whether Engineered Grading Permits are automatically required





Grading, Fill, and Erosion Control Permit Application

City of Warrenton
Planning and Building Department
225 S. Main Ave • P.O. Box 250 • Warrenton, OR 97146
Ph (503) 861-0920 • Fax (503) 861-2351
Email: buildingclerk@ci.warrenton.or.us

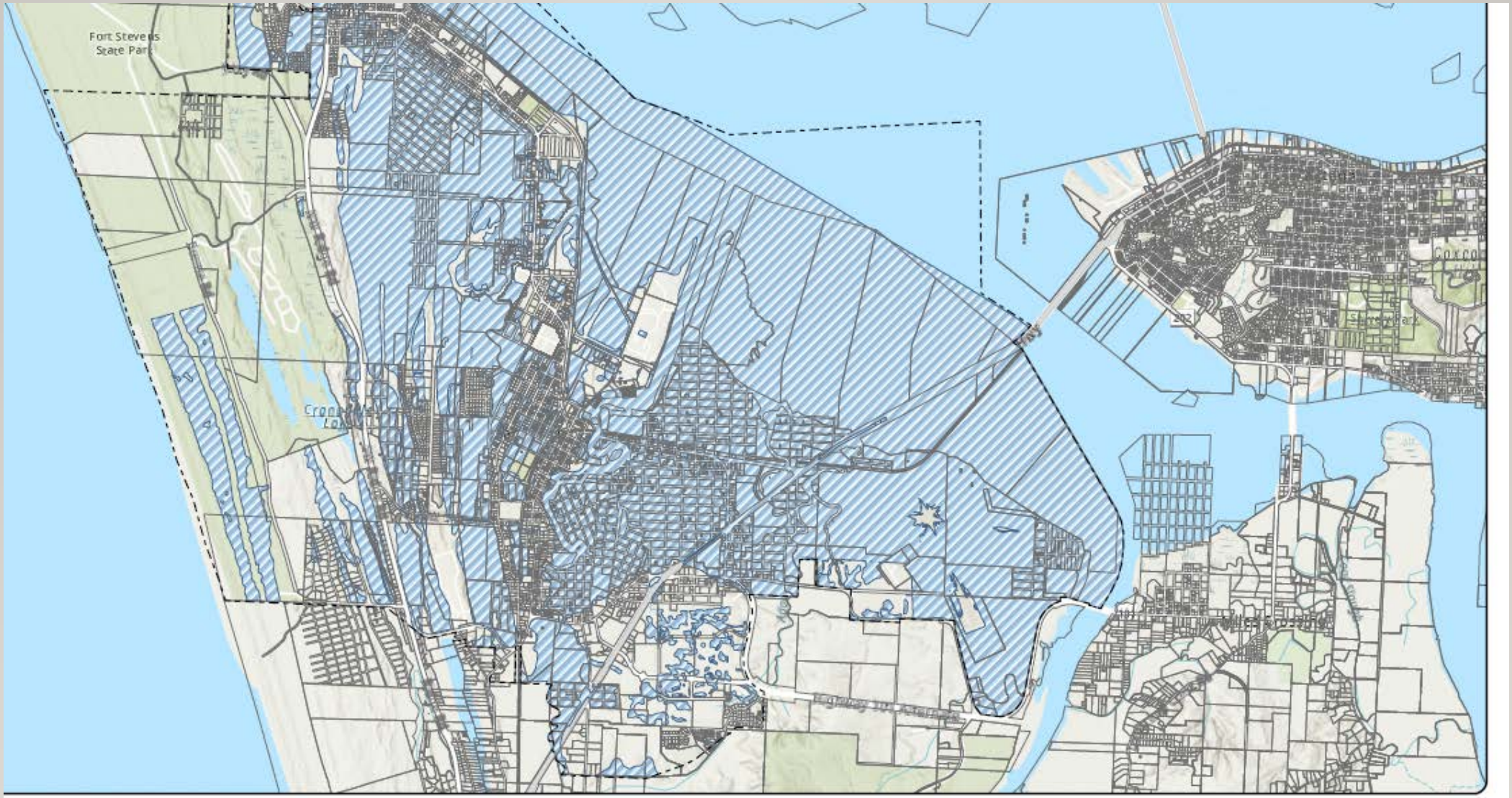
SITE INFORMATION	
Job Site Address:	
City/State/ZIP:	
Tax Map/ Tax Lot No.:	
☐ Single Lot	☐ Multiple Lots (*Specify # of Lots*):
Wetlands: ☐ Yes ☐ No ☐ Unknown	Floodplain: ☐ Yes ☐ No
Existing Site Use:	
Future Site Use:	

DESCRIPTION OF WORK

Permit no.:
Submittal Date:
Permit Issue Da
DE
☐ Public Wo
☐ Planning A
☐ Conditions
☐ Developm

NOTCE: Applic approval from C Departments pri procedures. Any construction doc

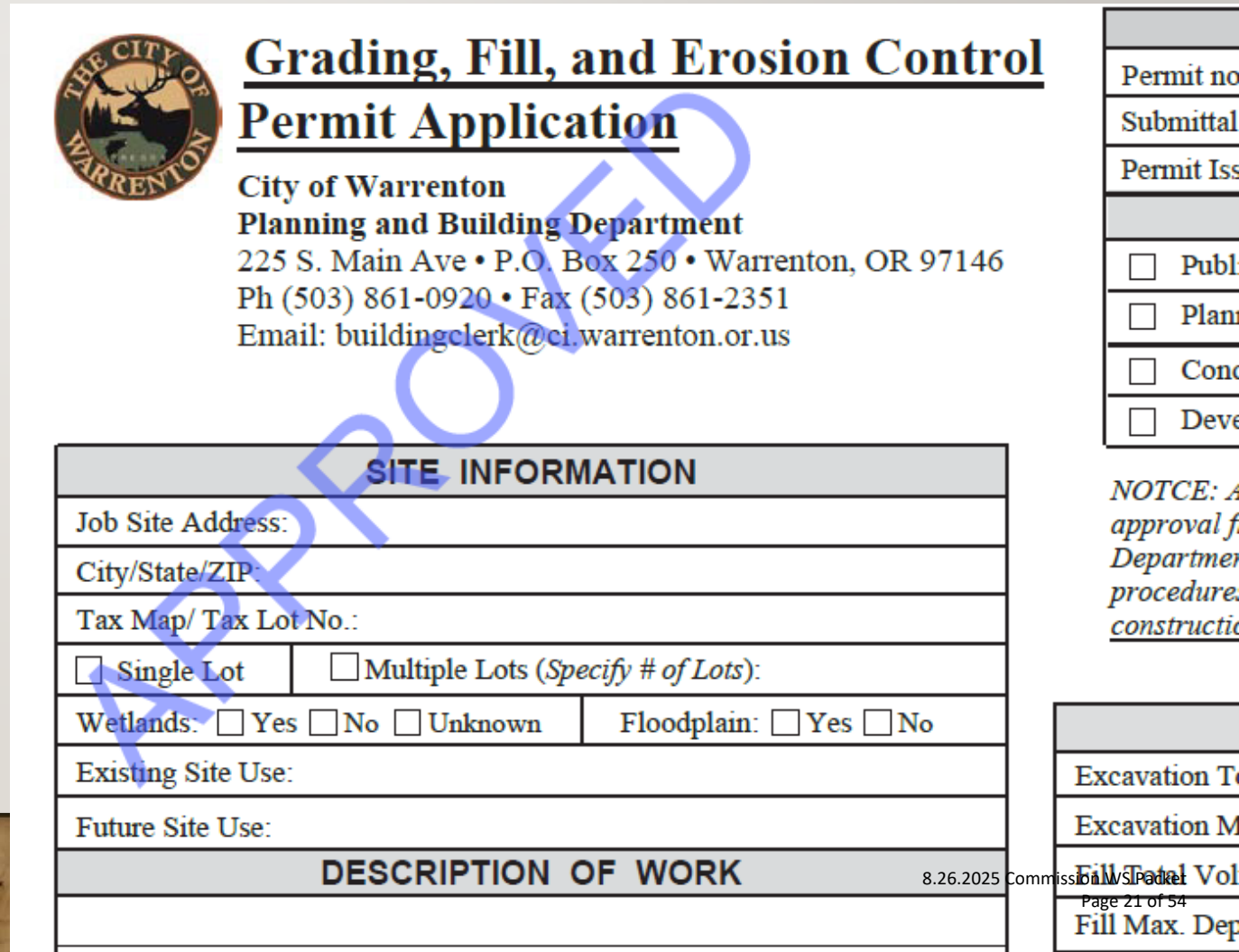
G
Excavation Total V
Excavation Max. D
Fill Total Volume (
Fill Max. Depth (Fe
Total Disturbed Are


Fort Stevens
State Park
Legend
City of Warrenton
County Taxlot
Engineered Grading
Exhibit A
Engineered Grading
Permit Extents
City of Warrenton

CONCEPT GRADING PERMIT PROCESS

Typical Review by City staff:

1) Grading permit application received by City
2) Building official or their designee consults with Planning Department and reviews submitted grading application for:
   a. Site conditions selected by applicant on grading permit application
   b. Confirm project location versus Exhibit A to determine whether Engineered Grading Permits are automatically required
3) If less than 50 cubic yards, less than 1 foot of fill, drainage paths not changed, and property is situated outside Exhibit A hatched areas, building official moves forward and issues grading permit
4) If less than1 foot of fill or any other Site Conditions checked, forward application for confirmation of Engineered Grading Review



Grading, Fill, and Erosion Control Permit Application

City of Warrenton
Planning and Building Department
225 S. Main Ave • P.O. Box 250 • Warrenton, OR 97146
Ph (503) 861-0920 • Fax (503) 861-2351
Email: buildingclerk@ci.warrenton.or.us

APPROVED

Permit no
Submittal
Permit Iss
☐ Publ
☐ Plan
☐ Conc
☐ Deve

NOTCE: A approval f Departmer procedure. constructio

SITE INFORMATION	
Job Site Address:	
City/State/ZIP:	
Tax Map/ Tax Lot No.:	
☐ Single Lot	☐ Multiple Lots (*Specify # of Lots*):
Wetlands: ☐ Yes ☐ No ☐ Unknown	Floodplain: ☐ Yes ☐ No
Existing Site Use:	
Future Site Use:	

DESCRIPTION OF WORK

Excavation To
Excavation M
Fill Total Vol
Fill Max. Dep

DRAFT ORDINANCE NO. 1274

Ordinance No. 12741238
Introduced by All Commissioners

AN ORDINANCE AMENDING CHAPTER 16.152 of the WARRENTON MUNICIPAL CODE ~~CHAPTER 15.04.010, 15.04.180, 15.08.030, 15.08.070, and 16.152.060; TO REFLECT THE MOST CURRENTLY ADOPTED STATE CODES~~ TO MODIFY REGULATIONS ON GRADING, EXCAVING, AND EROSION CONTROL PLANS

WHEREAS, ~~significant changes have been made to the Oregon State Codes, and;~~ the City Commission recognizes that public health, safety, and general welfare necessitate the reasonable regulation of grading within Warrenton;

WHEREAS, ~~the Warrenton Municipal Code needs to be updated to the most currently adopted State Codes, and;~~ the current City code has resulted in unintended adverse impacts on neighboring properties which these regulations are designed to address;

NOW, THEREFORE, the City of Warrenton ordains as follows: ~~(Key: **new** deleted)~~

Section 1. ~~Warrenton Municipal Code, Chapters 15 and 16 shall be amended with the following:~~ Section 16.152.030 of the Warrenton Municipal Code is hereby amended as follows:

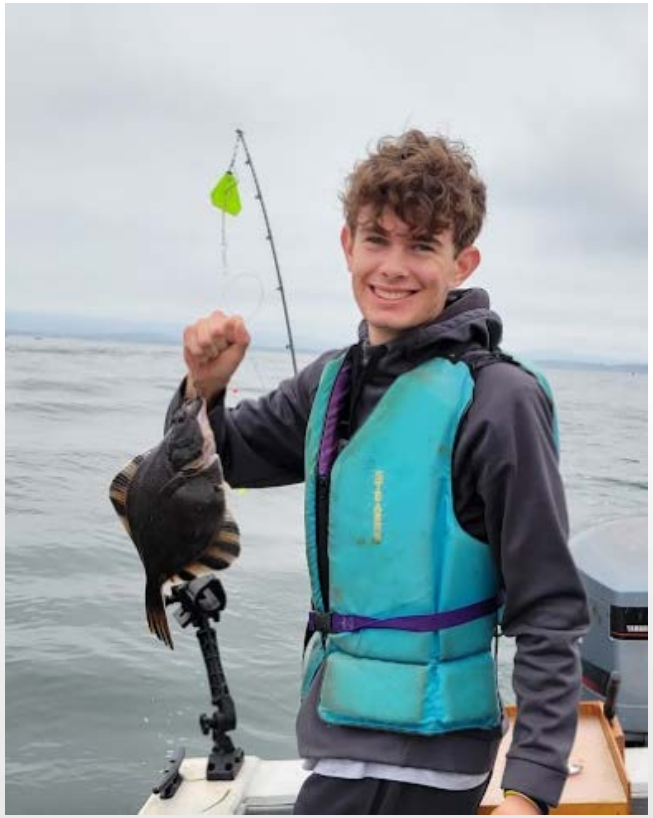
~~**WMC 15.04.010**: These regulations shall be known as the City of Warrenton's Building Code requirements and includes the **most currently adopted editions of the** Oregon Structural Specialty Code, the 1994 Uniform **Oregon** Fire Code, **Oregon** Mechanical Specialty Code, **Oregon** Electrical Specialty Code, **Oregon** Plumbing Specialty Code, **Oregon** One and Two Family Dwelling Specialty Code, **Oregon** Manufactured Dwelling Code, **Oregon** Manufactured Dwelling Park and Mobile Home Park~~

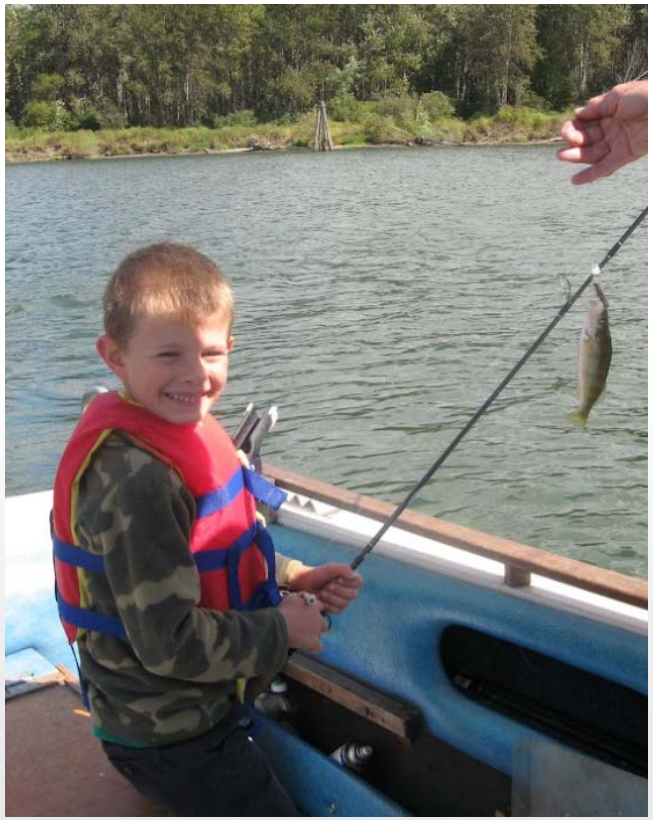
KEY RECOMMENDED CHANGES

- Code languages changes being recommended for simplicity and clarity.
- Threshold for triggering review of ‘Engineered Grading Permits’ revised to reflect ‘project impacts’ instead of volume threshold (removes 5,000 cubic yard trigger).
- City working towards clear process identified for grading reviews and approvals



THANK YOU!





FINAL QUESTIONS?

Ordinance No. 1274
Introduced by All Commissioners

AN ORDINANCE AMENDING CHAPTER 16.152 of the WARRENTON MUNICIPAL CODE TO MODIFY REGULATIONS ON GRADING, EXCAVING, AND EROSION CONTROL PLANS

WHEREAS, the City Commission recognizes that public health, safety, and general welfare necessitate the reasonable regulation of grading within Warrenton;

WHEREAS, the current City code has resulted in unintended adverse impacts on neighboring properties which these regulations are designed to address;

NOW, THEREFORE, the City of Warrenton ordains as follows:

Section 1. Section 16.152.030 of the Warrenton Municipal Code is hereby amended as follows:

16.152.040 Exempted Work.

A grading permit is not required for the following:

A. When approved by the Building Official or their designee, grading in an isolated, self-contained area if there is no danger to private or public property. Erosion control measures shall still be utilized.

B. Agricultural grading related to farm practices as defined ORS 30.930.

C. Homeowner landscaping activities such as tree/shrub plantings or removal, gardening, landscaping (placement of soil amendments, topsoil, bark or rock coverings) and other similar activities. Grading volumes for such landscaping activities shall be less than 10 cubic yards per year and less than 1-foot in depth/thickness.

D. Cemetery graves.

E. Refuse disposal sites controlled by other regulations; applicants shall follow all applicable Oregon Revised Statutes (ORS) requirements.

F. Excavations for wells, tunnels, or utilities; applicants shall follow all applicable Clatsop County and/or Oregon Revised Statutes (ORS) requirements.

G. Exploratory excavations under the direction of geotechnical (soil) engineers or engineering geologists.

16.152.050 Hazards.

Whenever the Building Official or their designee determines that any existing excavation or embankment or fill on private property has become a hazard to life and limb, or endangers property, or adversely affects the safety, use, or stability of a public way or drainage channel, the owner of the property upon which the excavation or fill is located, or other person or agent in control of said property, upon receipt in writing from the Building Official or their designeel, shall within the time period specified therein eliminate such excavation or embankment to eliminate the hazard and to be in conformance with the requirements of this Code.

16.152.060 Grading Permit Requirements.

A. Application. To obtain a grading permit, the applicant shall file an application in writing to the City of Warrenton on a form furnished by the Building Official or their designee. Every such application shall contain:

1. Identification and description of work to be covered by the permit for which the application is made, including estimated quantities of work involved and identified erosion control measures.
2. Description of the land on which the proposed work is to be done by legal description, street address, assessor parcel number, or similar description that will readily identify and locate the proposed building or work.
3. Indication of the use or occupancy for which the proposed work is intended.
4. Plans, diagrams, computations, and specifications, and other data as required by this chapter. Plans and specifications shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed, and show in detail that it will conform to all provisions of this Code and relevant laws, ordinances, rules, and regulations of the City.
5. Applicant's signature.
6. Other data as required by the Building Official or their designee

B. Engineered Grading. The following shall be designated as "engineered grading" and require an approved grading plan prepared by a civil engineer:

1. Grading activities with cumulative depths greater than one foot, over a five-year period.
2. Grading activities within an Area of Special Flood Hazard as identified on the effective Flood Insurance Rate Maps (FIRMs). Such grading activities shall also be subject to a floodplain development permit.
3. Grading activities subject to a removal-fill permit from the Oregon Department of State Lands.
4. Grading activities related to a plat or land partition application.
5. Grading activities for public improvements.

Grading activities which are designated as engineered grading shall conform to the currently adopted Oregon Structural Specialty Code Appendix J, as may be amended.

C. Regular Grading. Grading activities which require a permit but do not fall into the requirements of “engineered grading” shall be designated as "regular grading" unless the permittee chooses to have the grading performed as engineered grading or the Building Official or their designee determines that special conditions or unusual hazards exist. In such cases, grading shall conform to the requirements of engineered grading.

D. Application Requirements. Each application for a grading permit shall be accompanied by a plan of sufficient clarity to indicate the nature and extent of the work. The plans shall give the location of the work, the name of the owner, and the name of the person who prepared the plan. The plan shall include the following information:

1. General vicinity of the proposed site.
2. Limiting dimensions and depth of cut and fill.
3. Location of any buildings or structures where work is to be performed, and the location of any buildings or structures within 15 feet of the proposed grading.

E. Issuance.

1. The application, plans, specifications, computations, and other data filed by an applicant for a grading permit shall be reviewed by the Building Official or their designee. Such plans may be reviewed by other City departments to verify compliance with any applicable laws of the City. The Building Official or their designee may require that grading operations and project designs be modified if delays occur which incur weather generated problems not considered at the time the permit was issued. The provisions of UBC Section 106.4 are applicable to grading permits.

2. The Building Official or their designee may require professional inspection and testing by the geotechnical engineer. When the Building Official or their designee has cause to believe that geologic hazards or geotechnical concerns may be involved, the grading will be required to conform to engineered grading. The Permittee shall be responsible for all fees associated with such professional services.

16.152.070 Grading Inspection.

A. General. Grading operations for which a permit is required shall be subject to inspection by the Building Official or their designee. Professional inspection of grading operations, including erosion control measures, shall be provided by the civil engineer, geotechnical engineer, and the engineering geologist retained to provide such services in accordance with this section for engineered grading and as required by the Building Official or their designee for regular grading. The Permittee shall be responsible for all fees associated with such professional services.

B. Civil Engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade, and surface drainage of the development area. If revised plans are required during the work, they shall be prepared by the civil engineer.

C. Geotechnical Engineer. The geotechnical engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The geotechnical engineer or its representative shall provide sufficient observation during preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved geotechnical engineering and engineering geology reports shall be submitted to the permittee, Building Official or their designee, and the civil engineer.

D. Engineering Geologist. The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the geotechnical engineer.

E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor, and the Building Official or their designee. In the event of changed conditions, the permittee shall be responsible for informing the Building Official or their designee of such change and shall provide revised plans for approval.

F. Building Official. The Building Official or their designee shall inspect the project at the various stages of work requiring approval to determine that adequate control is being exercised by the professional consultants.

G. Notification of Noncompliance. If, while fulfilling their respective duties under this chapter, the civil engineer, the geotechnical engineer, or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and the Building Official or their designee.

H. Transfer of Responsibility. If the civil engineer, the geotechnical engineer, or the engineering geologist of record is changed during grading, the work shall be stopped until the replacement has agreed in writing to accept their responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the Building Official or their designee in writing of such change prior to the recommencement of such grading.

16.152.090 Bonds.

The Building Official or their designee may require bonds in such form and amounts as may be deemed necessary to assure that the work, if not completed in accordance with the approved plans and specifications, will be corrected to eliminate hazardous conditions. In lieu of a surety bond, the applicant may file a cash bond or instrument of credit with the Building Official or their designee in an amount equal to that which would be required in the surety bond.

16.152.110 Fills.

A. General. Unless otherwise recommended in the approved geotechnical engineering report, fill activities shall conform to the provisions of this section. In the absence of an approved geotechnical engineering report, these provisions may be waived for minor fills not intended to support structures.

B. Preparation of Ground. Fill slopes shall not be constructed on natural slopes steeper than one unit vertical in two units horizontal (50% slope). The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil, and other unsuitable materials, scarifying to provide a bond with the new fill, and, where slopes are steeper than one unit vertical in five units horizontal (20% slope) and the height is greater than five feet, by benching into sound bedrock or other competent material as determined by the geotechnical engineer. The bench under the toe of a fill on a slope steeper than one unit vertical in five units horizontal (20% slope) shall be at least 10 feet wide. The area beyond the toe of the fill shall be sloped for sheet overflow or a paved drain shall be provided. When fill is to be placed over a cut, the bench under the toe of the fill shall be at least 10 feet wide but the cut shall be made before placing the fill and acceptance by the geotechnical engineer or engineering geologist or both as a suitable foundation for fill (see; Figure 1 - Slope Calculation Matrix).

Slope Ratio	Decimal Equivalent	Percentage Grade	Angle (degrees)
1:1	1	100.00%	45.00°
1:2	0.5	50.00%	26.57°
1:3	0.3333	33.33%	18.43°
1:4	0.25	25.00%	14.04°
1:5	0.2	20.00%	11.31°

1:6	0.1667	16.67%	9.46°
1:7	0.1429	14.29%	8.13°
1:8	0.125	12.50%	7.13°
1:9	0.1111	11.11%	6.34°
1:10	0.1	10.00%	5.71°

Figure 1 - Slope Calculation Matrix

C. Fill Material. Detrimental amounts of organic material shall not be permitted in fills. Except as permitted by the Building Official or their designee, no rock or similar irreducible material with a maximum dimension of greater than 12 inches shall be buried or placed in fills. The Building Official or their designee may permit the placement of larger rock when the engineer properly devises a method of placement and continuously inspects its placement and approves the fill stability. The following conditions shall also apply:

1. Prior to issuance of a grading permit, potential rock disposal areas shall be delineated on the grading plan.
2. Rock sizes greater than 12 inches in maximum dimension shall be 10 feet or more below grade, measured vertically.
3. Rocks shall be placed to ensure filling of all voids with well-graded soil.

D. Compaction. All fills shall be compacted to a minimum of 90% of maximum density or as directed by the geotechnical engineer of record for the project.

E. Slope. The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes shall be no steeper than one unit vertical in two units horizontal (see; Figure 1 - Slope Calculation Matrix).

F. Fill Compaction Report. The engineer or its representative shall provide a copy of a fill compaction report to the Building Official or their designee.

16.152.120 Setbacks.

A. General. Cut and fill slopes shall be set back from site boundaries in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the site boundary.

B. Top of Cut Slope. The top of cut slopes shall not be made nearer to a site boundary line than one-fifth the vertical height of cut with a minimum of two feet and a maximum of 10 feet. The setback may need to be increased for any required interceptor drains.

C. Toe of Fill Slope. The toe of fill slope shall be made not nearer to the site boundary line than one half the height of the slope with a minimum of two feet and a maximum of 20 feet. Where a fill slope is to be located near the site boundary and the adjacent off-site property is developed, special precautions shall be incorporated in the work as the Building Official or their designee deems necessary to protect adjoining property from damage as a result of such grading. These precautions may include but are not limited to the following:

1. Additional setbacks.
2. Provisions for retaining walls.
3. Mechanical or chemical treatment of the fill slope surface to minimize erosion.
4. Provisions for the control of surface water.

D. Modification of Slope Location. The Building Official or their designee may require additional setbacks. The Building Official or their designee may also require investigation and recommendation by a qualified engineer or engineering geologist to demonstrate that the

intent of this section has been satisfied. A report of such investigation shall be provided to the Building Official or their designee.

16.152.130 Drainage and Terracing.

A. General. Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provisions of this section for cut or fill slopes steeper than one unit vertical in three units horizontal (33.3% slope; see; Figure 1 - Slope Calculation Matrix).

B. Terraces.

1. Terraces at least six feet in width shall be established at not more than 30-foot vertical intervals on all cut or fill slopes to control surface drainage and debris except that where only one terrace is required, it shall be a mid-height. For cut or fill slopes greater than 60 feet and up to 120 feet in vertical height, at least one terrace at approximately mid-height, shall be 12 feet in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet in height shall be designed by a civil engineer and approved by the Building Official or their designee. Suitable access shall be provided to permit proper cleaning and maintenance.

2. Swales or ditches or terraces shall have a minimum gradient of five percent and must be paved with reinforced concrete not less than three inches in thickness or and approved equal paving. They shall have a minimum depth at the deepest point of one foot and a minimum paved width of five feet.

3. A single run of swale or ditch shall not collect runoff from a tributary drainage area exceeding 13,500 square feet (projected) without discharging into a down drain.

C. Subsurface Drainage. Cut and fill slopes shall be provided with subsurface drainage as necessary for stability.

D. Disposal.

1. All drainage facilities shall be designed to carry waters to the nearest practicable drainage way approved by the Building Official or other appropriate designeeas a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of non-erosive down-drains, riprap, or other devices.

2. Building pads shall have a drainage gradient of two percent toward approved drainage facilities unless waived by the Building Official or their designee. The gradient from the building pad may be one percent if all of the following conditions exist throughout the permit area: (a) no proposed fills are greater than 10 feet in maximum depth; (b) no proposed finish cut or fill slope faces a vertical height in excess of 10 feet; and (c) no existing slope faces, which have a slope face steeper than one unit vertical in 10 units horizontal, have a vertical height in excess of 10 feet.

E. Interceptor Drains. Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area above slopes toward the cut and has a drainage path greater than 40 feet measure horizontally. Interceptor drains shall be paved with a minimum of three inches of concrete or gunite and reinforced. They shall have a minimum depth of 12 inches and a minimum paved width of 30 inches measured horizontally across the drain. The slope of the drain shall be approved by the Building Official or their designee.

16.152.150 Completion of Work.

Upon completion of the rough grading work and at the completion of the work, the following reports and drawings and supplements thereto are required for engineered grading or when professional inspection is performed for regular grading, as applicable:

A. An as-built grading plan prepared by the civil engineer retained to provide such services in accordance with Section 16.152.070 showing original ground surface elevations, as-graded ground surface elevations, lot drainage patterns, and the locations and elevations of surface drainage facilities and of the outlets of subsurface drains. As-constructed locations, elevations, and details of subsurface drains shall be shown as reported by the engineer. Civil engineers shall state that to the best of their knowledge the work within the specified area of responsibility was done in accordance with the final approved grading plan.

B. A report prepared by a geotechnical engineer or its representative retained to provide such services in accordance with Section 16.152.070, including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on recommendations made in the approved soils engineering investigation report. Geotechnical engineers shall submit a statement to the Building Official or their designee that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved geotechnical engineering report and applicable provisions of this chapter.

Section 2. This Ordinance will take effect 30 days after its adoption by the Warrenton City Commission.

First Reading:

Second Reading:

ADOPTED by the City Commission of the City of Warrenton, Oregon this day of 2020.

APPROVED

_____
Henry A. Balensifer, Mayor

Attest:

_____
Dawne Shaw, CMC, City Recorder

June 20, 2024

Esther Moberg
City Manager
City of Warrenton
PO Box 250
Warrenton, OR 97146
emoberg@ci.warrenton.or.us

RE: GRADING PERMIT REVIEW PROCESS MEMORANDUM
WARRENTON, OREGON

Ms. Moberg:

AKS Engineering & Forestry has prepared this Grading Permit Review Analysis in response to a request by City staff to evaluate and provide engineering expertise, technical assistance, exhibits, and comments with regard to the City Municipal Code requirements and review process update for grading permits within the City.

The City currently has two differentiated grading permits with individual requirements (regular grading and engineered grading) that are defined in Section 16.152.060 of the City of Warrenton's Municipal Code (CWMC). It is our understanding that concerns have been raised by staff and residents that the current regular grading permit approvals do not sufficiently protect the City against negative impacts from regular grading that results in erosion or flooding of neighboring properties or City infrastructure.

Based on our review and understanding of the City code, Appendix J of the Oregon Structural Specialty Code (OSSC), and Oregon Revised Statues (ORS); the following identified as potential elements or hazards to the public that could potentially be used to differentiate between regular and engineering grading permits:

a. Grading Designation (volume based)
b. Flood Hazard Impacts
c. Natural Resource Impacts
d. Erosion control Permits
e. Slopes/Setbacks
f. Stormwater Drainage Impacts
g. Site/Subdivision Development Permits
h. Public Works Improvement Permits

A brief discussion of each of the elements is discussed in the paragraphs below.

Grading Designation. Section 16.152.060.C of the CWMC defines the following grading designations:

> *Engineered Grading* - 'grading in excess of 5,000 cubic yards shall be permitted in accordance with the approved grading plan prepared by a civil engineer, and shall be designated as engineered grading.'
>
> *Regular Grading* – 'Grading involving less than 5,000 cubic yards shall be designated as regular grading unless the permittee chooses to have the grading performed as engineered grading, or the building official determines that special conditions or unusual hazards exist'.

The 5,000 cubic yard (CY) threshold to differentiate between regular and engineered grading appears to be arbitrary. The current trigger threshold of 5,000 CYs of grading is a significant amount of grading that would undoubtedly impact neighboring properties and impacts the future development of the subject property where grading is occurring (potential adverse impacts include public street damage due to construction traffic, traffic safety concerns, changes surface water drainage routing, etc...).

Table 1 below provides a quick comparison of grading volumes ranging from the current 5,000 CYs threshold to the 50 CY volume that triggers the requirement for a City grading permit. For example, 5,000 CYs of fill imported to a 40,000-sf lot would raise the entire lot by 3.4 feet; whereas the same 5,000 CYs of fill imported to a 5,000-sf single family lot would raise the entire lot by 27 feet.

Table 1 - Grading Volume Comparison

Grading Volume (CY)	Equivalent Number of Dump Truck Loads[1]	Average Depth of Grading over Lot (ft)		
		40,000-sf lot size	8,000-sf lot size	5,000-sf lot size
		(R-40 Zone)	(R-10 Zone)	(RM Zone)
5000	500	3.4	16.9	27.0
1000	100	0.7	3.4	5.4
500	50	0.3	1.7	2.7
50	5	0.03	0.2	0.3

[1] Assumes 10 cubic yards of fill per dump truck

In our opinion, any grading depths above 1-foot has the potential to change the direction of surface water flows across a property, increases the risk of erosion, and increases the potential to impact the neighboring property. In our opinion, the grading volume requirements should be removed entirely or revised to a significantly less volume (50 CYs?) or to maximum depths (1-foot?) where potential impacts to neighbors would be minimized.

Flood Hazard Impacts. A significant portion of the City of Warrenton is situated within flood hazards mapped by the Federal Emergency Management Agency (FEMA). The Flood Insurance Study (FIS) and the Flood Insurance Rate Maps (FIRM) for Clatsop County identify areas of the City that are situated within the 100-year floodplain (Zone AE). Section 16.88 of the CWMC consists of a Flood Hazard Overlay (FHO) District that is intended to promote public health, safety, general welfare, and to minimize public

and private losses during flood conditions. Exhibit 1, Flood Hazard, at end of this memorandum shows the extent of the Flood Hazard per the FEMA FIRM maps.

The City requires the application and approval for a Floodplain Development Permit for all areas within the City's FHO District. Per CWMC Section 16.88.020.I, encroachments such as fills (i.e. grading) within the floodplain boundaries must 'not increase the water surface elevation of the base flood more than one foot at any point'. This statement aligns with the FEMA National Flood Insurance Program (NFIP) regulatory standards to limit development within the 100-year floodplain and to limit fills that raise the flood elevation for the City above 1-foot. Based on the City requirement to limit grading impacts to less than 1 foot and to meet FEMA NFIP requirements, any project that places more than an average of 1-foot of fill above existing grades within the 100-year floodplain should likely be evaluated by a registered Professional Engineer (PE) to confirm a No-Rise certification.

In our opinion, an application grading within any flood hazard areas should automatically trigger an 'Engineered Grading' review and requires review by the planning and building departments for compliance with City code and FEMA requirements. Only areas outside the FEMA flood hazard areas would be allowed to adhere to 'Regular Grading' reviews.

Natural Resource Impacts (Wetlands/Waters). Due to Warrenton's location on the Oregon coast and its proximity to the Columbia River, sloughs, and other waters of the state, a significant portion of the land within the City is identified as wetlands and waters of the state. The attached Exhibit 2 shows the extents of the mapped local wetland inventory within the limits of the City of Warrenton.

According to ORS 215.418 and 227.350, Cities and Counties are required to submit a Wetland Land Use Notification (WLUN) to DSL to determine if a state permit may be necessary for any land use projects that impact jurisdictional wetlands and waters of the state. Therefore, projects that require land use approvals from the City are required to verify that the project does not have wetlands or waters onsite. However, the City's current grading code does not currently require wetland verification prior to issuing regular grading permits.

Oregon's removal-fill law requires the protection of wetlands and waters by requiring a permit for grading projects that add, remove, or move more than 50 cubic yards of material within these protected Natural Resource areas. The Oregon Department of State Lands (DSL) regulates and assists in protecting wetlands and waters by requiring removal-fill permits for the following types of activity:

- Any proposal in wetlands or waters that includes physical alteration of the land including excavation, placement of fill (soil, gravel, rock, or any other material) and grading.
- Development in floodplains and floodways where any part of the project area is wholly or partially within areas identified as wetlands, waters or hydric soils.\

Therefore, in our opinion, in order to comply with Oregon law, all grading permits should be required to be evaluated for potential impacts to wetlands and waters of the state. Projects that require removal-fill permits from DSL or US Army Corps of Engineers (USACE) should require submittal to meet 'Engineered Grading' requirements. Projects that do not impact wetlands/waters of the state can be reviewed and shall meet the requirements of 'Regular Grading'.

At a minimum, the local wetland inventory maps should be utilized by the planning department to determine whether the property potentially contains wetlands/waters of the state and whether 'Engineered Grading' review is required. If a property is mapped with any portion of local wetland inventory, additional wetland delineations by Wetland Scientists/Consultants should be required to verify and obtain DSL concurrence for the wetland boundaries on the project site. This would automatically trigger 'Engineered Grading' review requirements.

Erosion Control Permits. Per Section 16.140.040 of the CWMC, erosion control plans are required for all projects that disturb over one acre of land or are part of projects which require site plan review (i.e. Site Development Review permits or Public Works Improvement permits). In addition, Oregon's water quality laws (ORS 468B.050) and Section 402 of the Federal Clean Water Act are implemented with the City's code requirement for grading permit applicants with over 1-acre of disturbance to apply and obtain a National Pollutant Discharge Elimination System (NPDES) 1200(C) permit from the Oregon Department of Environmental Quality (DEQ).

DEQ requires the preparation of erosion control plans be prepared by registered Professional Engineers (PE) for any construction activities that disturb twenty or more acres of land and for sedimentation basins or diversion structures for erosion and sediment control. In general, the majority of projects that require obtaining a 1200C permit within the City of Warrenton (likely large site/subdivision development projects) would likely be defined as 'Engineered Grading' as the permit requires the use of engineering practices to develop the erosion and sediment control plan with grading contours, vegetation protection/restoration, and stormwater controls.

These erosion control permits and their requirements (local or DEQ 1200C permits) are intended to reduce/limit impacts to water quality within the wetlands and waters of the state by reducing/limiting the amount of sediment and debris from construction activities such as grading.

Slopes/Setbacks. Both the CWMC (Section 16.152.120) and Appendix J of the OSSC identify recommended setbacks to property lines and slope inclinations for cut and fill slopes. In our opinion, these setbacks are closely tied to all grading within the City as these code requirements are intended to provide a building code baseline to 'protect' adjacent properties owners from slope stability concerns, erosion, and drainage impacts due to grading. These building code requirements are typically reviewed by the local building official as part of the grading permit review process and should not be exclusive to either regular or engineered grading permits within the City of Warrenton.

Stormwater Drainage Impacts. Placing fill on a property that changes the direction of surface runoff or potentially increases the volume of surface water flows will have an impact on the downstream system. Due to development within the City of Warrenton, localized areas have been identified across the City as having known flooding problems. These areas of concern have been identified as properties/areas within the City with 'Known Flooding Concerns' as depicted on the attached Exhibit 3.

Any fill placement within these areas will likely exacerbate the current flooding issues from stormwater runoff in these areas. Therefore, 'Engineered Grading' reviews should be required for all grading projects to require engineering for the stormwater conveyance from the project and a downstream analysis storm system to ensure that additional flooding is not created by the grading (thereby reducing the potential for flood damage). This requirement for engineered analysis for areas with known flood concerns is very typical for most jurisdictions and is generally required in the City's Stormwater Management Plan (February 2008).

Site/Subdivision Development Permits. In general, all site development or subdivision projects within the City of Warrenton require land use review and approval. The land use review process and conditions of approval from the land use approval process typically require identify permit requirements and/or standards for construction. In addition, subdivision projects typically require concurrent Public Improvement Permit review/approvals since future public rights-of-way (ROW) are being dedicated to the public and/or improvements to provide services to the project occur within existing streets and rights-of-ways.

In general, these projects typically require design by a registered PE or licensed Architect (especially with regard to Public Improvements) and therefore should be defined as 'Engineered Grading' under the City's code.

Public Improvement Permits. All construction work (including grading) affecting the public right-of-way requires application and approval for Public Improvement Permit (PIP). In addition, work planned for proposed future rights-of-way and/or easements to be dedicated to the City are also required to obtain a PIP prior to starting work. Construction plans for public improvements are required to be designed by a registered PE and therefore would be defined as 'Engineered Grading' under the City's code.

Conclusions/Recommendations. Review of the City grading code (Section 16.152) indicates that the current grading permit requirements allow the possibility for future developers and contractors to obtain a regular grading permit that allows them to fill in regulated wetlands/waters of the state and FEMA flood hazard areas which potentially violates Oregon/Federal laws. The 5,000 CY threshold to differentiate between 'regular' and 'engineered' grading permits places a significant burden on the building official to identify the need engineered grading permit review to avoid potential neighbor impacts or violations of Oregon/Federal laws.

The attached Table 2 provides a City grading code comparison that provides a quick overview of hazard scenarios in which there is the potential for regular grading permits to cause harm to the general public. City code revisions and the regular grading permit process updates are needed for regular grading permits to ensure that the general public is protected.

Exhibit A at the end of the report combines the various hazard boundaries (wetland, flood, drainage hazard Exhibits 1-3) into a single Engineered Grading Permit Extents boundary to identify the properties that should require 'Engineered Grading' permits. The further clarification between regular and engineered grading permit reviews allows development to continue throughout the City since the City's review process will verify that the grading will not violate City code, State or Federal laws, or result in adverse impacts to neighboring properties or the general public.

Recommended revisions to the City Grading, Fill, and Erosion Control Permit Application are also included in an attachment for the City's review/use.

If you have any questions regarding this letter or our comments, please do not hesitate to email with any questions.

Sincerely,
AKS ENGINEERING & FORESTRY, LLC



Paul A. Sellke, PE, GE
Project Engineer
503-561-6151 ext. 219 | PaulS@aks-eng.com

Attachments:

- Table 2 – Current City Code Grading Requirement Comparison Chart
- Exhibit 1 – FEMA Flood Hazard Extents
- Exhibit 2- Oregon/Local Wetland Inventory Extents
- Exhibit 3 – Known Flooding Concern Areas within the City
- Exhibit A – Engineered Grading Permit Extents
- City of Warrenton Grading, Fill, & Erosion Control Permit Application – PDF markups

Cc: Matthew Ellis, AICP – City of Warrenton (mellis@warrentonoregon.us)
Judith Stich – City of Warrenton (jstich@warrentonoregon.us)

Table 2 - Current City Code Grading Requirement Conflict Comparison Chart

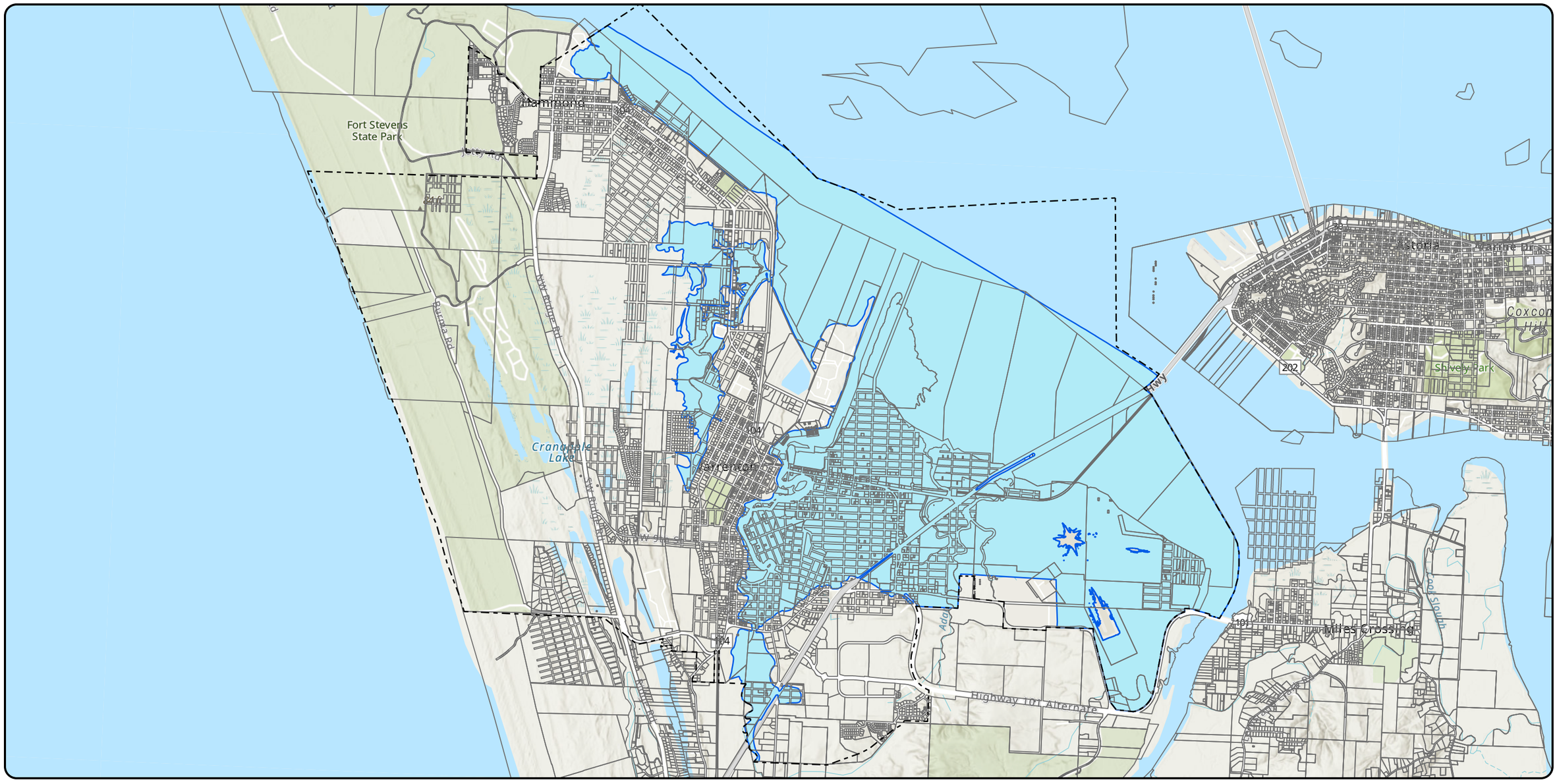
Potential Grading Impacts Evaluated	Regular Grading Allowed under Current Code [a]	Does allowing Regular Grading Permits Potentially Result in Harm to Neighbors [b]	Does allowing Regular Grading Permits Potentially violate Oregon/Federal Laws [c]	Should Engineered Grading Requirements be Required for Impacts? [d]
Grading Volumes (Below 5,000 CY)	Yes	Yes	Yes	Yes, if greater than 1-ft in depth
Grading Volumes (Above 5,000 CY)	No	Yes	Yes	Yes, if greater than 1-ft in depth
Flood Hazard Impacts	Yes	Yes	Yes	Yes
Natural Resource Impacts	Yes	No	Yes	Yes
Erosion Control Permits	Yes, if < 1 acre	Yes	No, if < 1 acre	Yes, if > 1 acre
Slope/Setbacks	Yes	Yes, if > 1 ft	No	Yes, if > 1 acre
Stormwater Drainage impacts	Yes	Yes	No	Yes, for known drainage issue areas
Site/Subdivision Development Permits	No	n/a	n/a	Yes
Public Improvements Permits	No	n/a	n/a	Yes

[a] Regular grading allowed for projects with less than 5,000 CY

[b] yellow highlighted cells indicate potential impacts to adjacent properties and City.

[c] Orange highlighted cells indicate fills within wetlands or mapped flood hazard areas could result in potential violations of Oregon/Federal laws or FEMA requirements.

[d] Requires submittal by licensed PE



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Source: Taxlots obtained from Clatsop County; City Limits, LWI and FEMA Flood Hazards obtained from Oregon Spatial Data Library; Topo Base Map obtained from ESRI, ArcGIS Online.

Legend

- City of Warrenton
- County Taxlot
- FEMA Flood Hazard (AE)

Exhibit 1
FEMA Flood Hazard

City of Warrenton

N

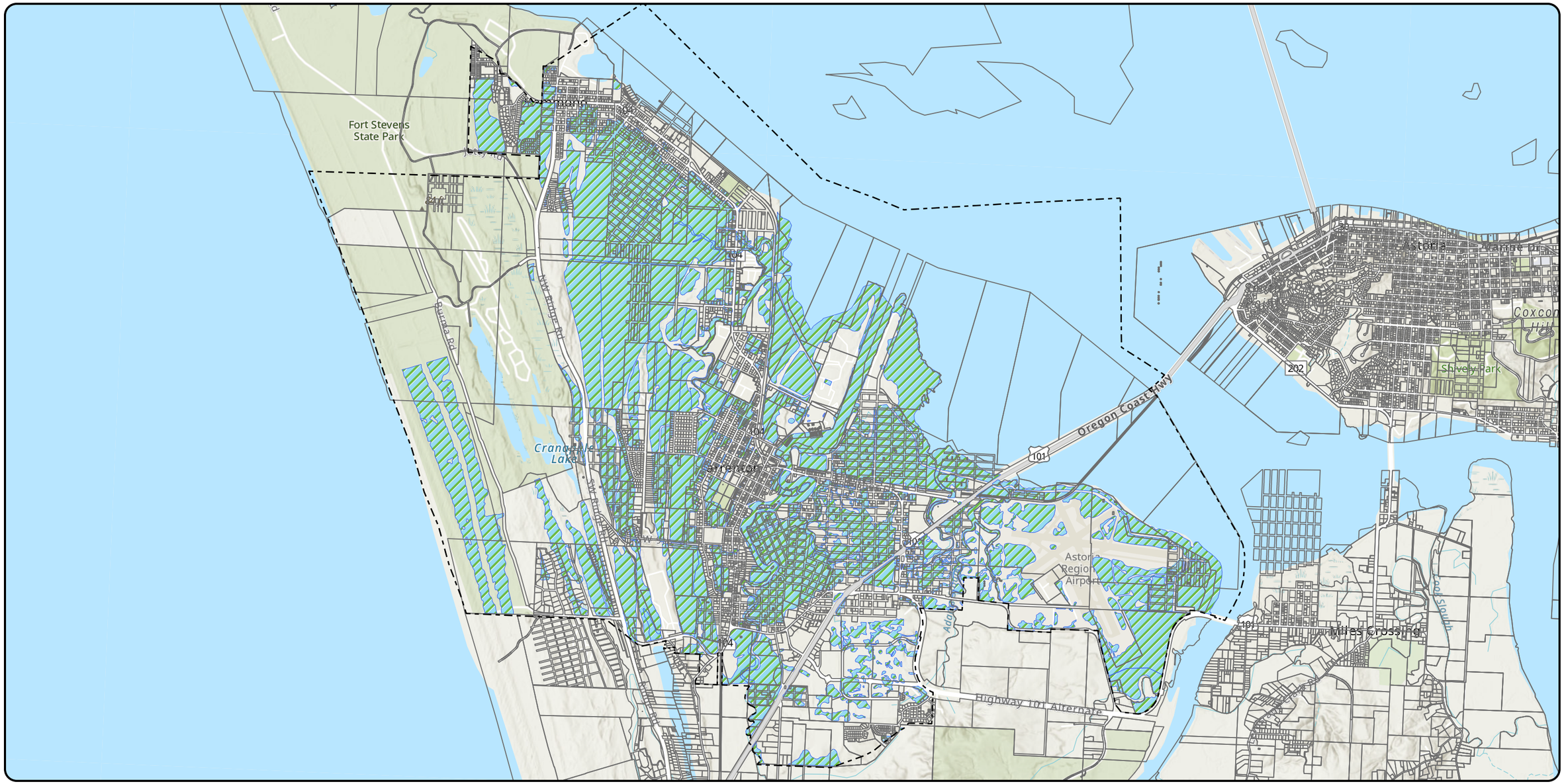
0 1,750 3,500

Feet

Print Date: 4/5/2024

Project: 9950-01

AKS Engineering & Forestry, LLC
12965 SW Herman RD, STE 100
Tualatin, OR 97062
P:503.563.6151 | aks-eng.com



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Source: Taxlots obtained from Clatsop County; City Limits, LWI and FEMA Flood Hazards obtained from Oregon Spatial Data Library; Topo Base Map obtained from ESRI, ArcGIS Online.

Legend

- City of Warrenton
- County Taxlot
- Oregon / Local Wetland Inventory

Exhibit 2
Oregon / Local Wetland Inventory

City of Warrenton

N

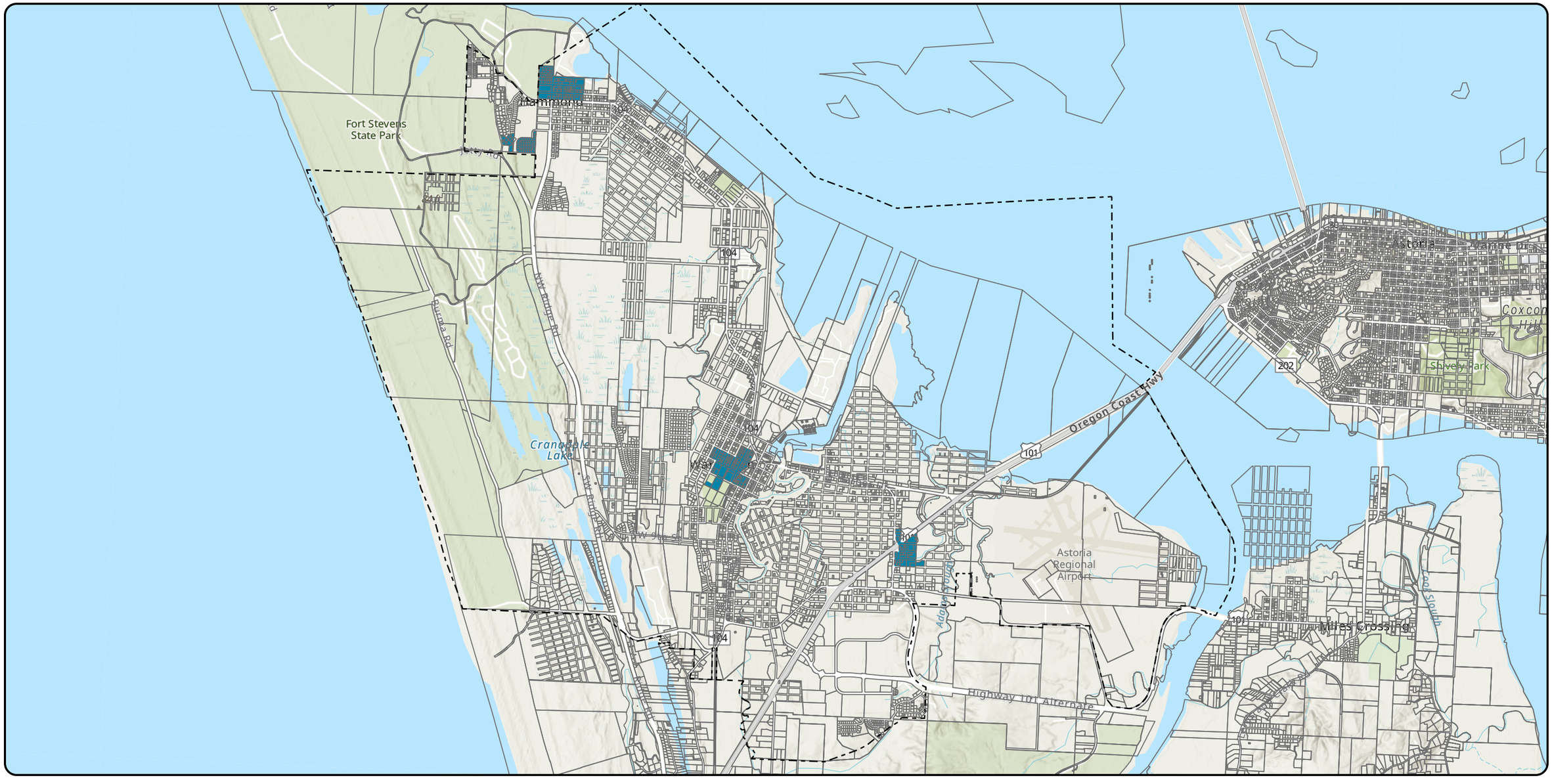
0 1,750 3,500

Feet

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Legend

- City of Warrenton
- County Taxlot
- Known Flooding Concerns

Exhibit 3
Known Flooding Concerns

City of Warrenton

N

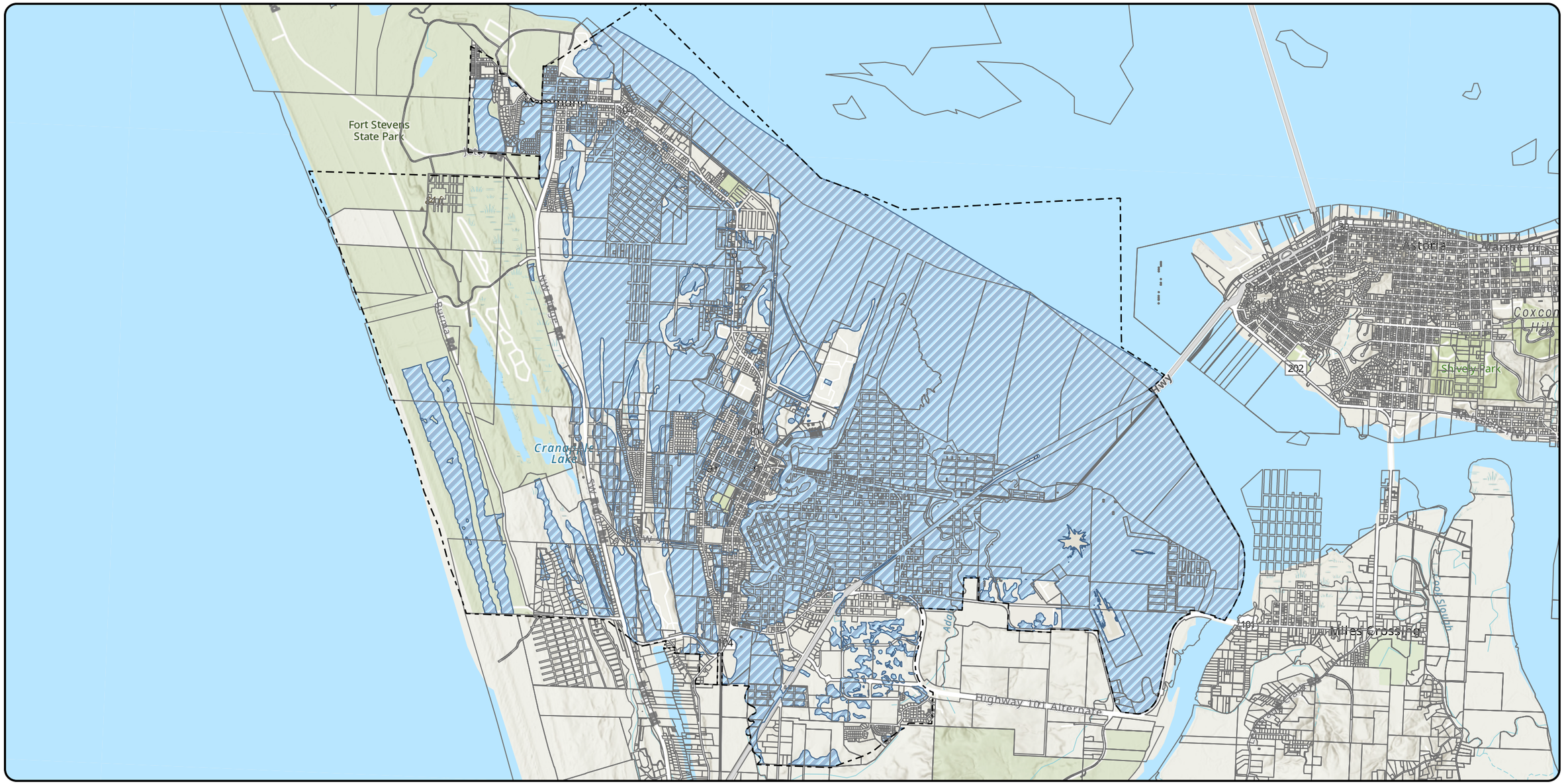
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Source: Taxlots obtained from Clatsop County; City Limits, LWI and FEMA Flood Hazards obtained from Oregon Spatial Data Library; Topo Base Map obtained from ESRI, ArcGIS Online.

Legend

- City of Warrenton
- County Taxlot
- Engineered Grading

Exhibit A
Engineered Grading Permit Extents

City of Warrenton

N

0 1,750 3,500

Feet

AKS Engineering & Forestry, LLC
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P:503.563.6151 | aks-eng.com

Print Date: 4/5/2024

Project: 9950-01

Grading, Fill, and Erosion Control Permit Application

City of Warrenton
Planning and Building Department
225 S. Main Ave • P.O. Box 250 • Warrenton, OR 97146
Ph (503) 861-0920 • Fax (503) 861-2351
Email: buildingclerk@ci.warrenton.or.us

DEPARTMENT USE ONLY	
Permit no.:	
Submittal Date:	
Permit Issue Date:	
DEVELOPMENT CLEARANCE	
☐ Public Works Approved	Date:
☐ Planning Approved	Date:
☐ Conditions of approval have been provided to applicant.	
☐ Development clearance not applicable for this permit.	

NOTCE: Applicant shall receive development clearance review approval from City of Warrenton Public Works, and Planning Departments prior to the initiation of Building Department review procedures. Any and all conditions of approval shall be noted on construction documents.

SITE INFORMATION

Job Site Address:
City/State/ZIP:
Tax Map/ Tax Lot No.:
☐ Single Lot ☐ Multiple Lots (*Specify # of Lots*):
Wetlands: ☐ Yes ☐ No ☐ Unknown Floodplain: ☐ Yes ☐ No
Existing Site Use:
Future Site Use:

DESCRIPTION OF WORK

APPLICANT INFORMATION

Name:
Mailing address:
City/State/ZIP:
Phone: Mobile Phone:
Email:

PROPERTY OWNER INFORMATION

☐ Same as Applicant Information
Name:
Mailing address:
City/State/ZIP:
Phone: Mobile Phone:

CONTRACTOR INFORMATION

Business name:
Address:
City/State/ZIP:
Phone:
Email:
CCB Lic. No.:
City of Warrenton Business Lic. N

CIVIL / GEOTEC

Business name:
Address:
City/state/ZIP:
Phone: Fax:
Email:

GRADING INFORMATION

Excavation Total Volume (*Cubic Yards*):
Excavation Max. Depth (*Feet*):
Fill Total Volume (*Cubic Yards*):
Fill Max. Depth (*Feet*):
Total Disturbed Area (*Square Feet*):

SITE CONDITIONS

- ☐ Material removed or filled exceeding 50 cubic yards either imported, removed, or relocated on-site.
- ☐ All grading-fill work ~~in excess of 5,000 cubic yards~~ shall have an approved grading plan prepared by a registered civil engineer.
- ☐ Property contains known or ~~uknown~~ wetlands, streams, riparian edge. Contact Oregon Dept. of State Lands for additional information, including wetland determination forms, and delineation applications.
- ☐ Wetland ~~material removed~~ requires a "Removal-Fill Permit" issued by Oregon Dept. of State Lands.
- ☐ ~~Area of~~ 1 acre ~~to less than 5 acres,~~ DEQ 1200-C permit required.
- ☐ ~~Area of 5 acres or greater, DEQ 1200-C permit required.~~
- ☐ Steep slopes within the disturbed area exceed (33%) 1-unit vertical in 3-units horizontal.
- ☐ Retaining walls supporting slopes exceeding (33%), wall height exceeds 48-inches.
- ☐ Roads and or culverts; new, realigned, or relocated for any proposed development
- ☐ Commercial or Industrial site development

with depths greater than 1-foot

unknown

Cut/fill within

Disturbed area greater than

Property is situated within FEMA Flood Hazard boundary. Fills within FEMA boundaries require encroachment analyses by registered civil engineer to confirm no increase to water surface elevation.

PROJECT VALUATION

*Permit fees are based on the value of the work performed. Indicate the value (rounded to the nearest **hundred)** of the equipment, materials, labor, overhead, and the profit for the work indicated on this application.* **Minimum Permit Fee:....$106.00**

Valuation: $

DEPARTMENT USE ONLY	
(A) Valuation.....	$
(B) Plan review 65%, if required (.65 x [A]).....	$
(C) Investigation Fee, if applicable.....	$
TOTAL fees and surcharges *(A+B+C+D)*:	**$**

MINIMUM REQUIRED SUBMITTAL DOCUMENTS

☐ SITE PLAN (*drawn to appropriate scale, e.g 1"=10'*)

- The location of all property lines with dimensions in relation to site development.
- The names and locations of all internal or adjacent roadways and access easements.
- The location of existing and proposed structures, with full dimensions.
- The location of wetlands, lakes, rivers, streams, channels, ditches, dikes or other water courses on or near development site.
- The direction of surface water flow.

☐ ERROSION CONTROL PLAN (drawn to appropriate scale, e.g 1"=10')

- Show the location of existing vegetation adjacent to any watercourse.
- Show the areas where vegetative cover will be retained and the type and location of measures taken to protect vegetation from damage.
- Show areas where vegetative cover will be removed and the location of all temporary and permanent erosion control measures to be used including but not limited to: silt fencing, straw bales, graveling, mulching, seeding, and sodding.
- Show the type and location of proposed storm water management from roofs, parking and other impervious areas.
- Show any surface water diversion showing ground and surface water diverted to an alternate natural drainage path or a storm water conveyance system.
- Include an indication of slope steepness, by degree, percentage or ratio. Include gradient of surface water flow.
- Show the general topography (elevation of terrain) characteristics of surrounding property.
- Show location of the construction access driveway(s) and vehicle parking area(s). Provide BMP's at construction ingress/ egress (e.g. rock, shaker, plates, etc.)
- Show the location and size of soil/fill stockpiles.
- Show the location of existing and proposed structures, with location of roof down spouts and storm water drainage locations.

☐ ERROSION CONTROL STATEMENT

- A schedule of land disturbance activites, project phasing, and the time frame for placement of both temporary and permanent erosion and sediment control measures.
- The name, address, and phone number of the person(s) responsible for placement, monitoring, and maintenance of the temporary and permanent erosion control measures.
- A statement signed by the property owner and building contractor/developer certifying that any land clearing, construction, or development involving the movement of earth shall conform to the plans as approved by the City of Warrenton Planning, Public Works, and Building Departments.

CONDITIONS OF APPROVAL

- **Work commencing prior to permit issuance is subject to fees in addition to the required permit fees.**
- **Work done without proper inspections will be subject to rejection.**
- **The proposed work shall not violate any recorded deed restrictions that may be attached to or imposed upon the subject property.**
- **Authorization of this permit shall be void after 180 days unless substantial construction or use pursuant thereto has taken place.**
- **This permit grants no rights to trespass on adjacent property and in no way relieves the owner of the property from liability for any damages caused by acts relative to this permit.**
- **The issuance of this permit shall not be construed as Building Department approval for associated new construction site plan or plot plan.**
- **Fire Department access to fire hydrants shall be maintained at all times.**
- **Public right-of-way shall not be in any way impeded, blocked, or temporary ramp(s) installed without proper permits and approvals granted.** ***Please contact Public Works and or ODOT for right-of-way permit and other requirements.***
- **The applicant shall take care to avoid damage to subsurface and above ground utilities, and shall be responsible for repairs to utilities damaged by their actions.**
- **All erosion control measures must be installed and approved prior to beginning of any site work.**
- **It is the responsibility of the permit holder or authorized agent to schedule inspections.**

APPLICANT SIGNATURE

I hereby certify I have read and examined this application and know the same to be true and correct. All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not.

Signature: Date:

Print name:

*******Pre-work inspection is required prior to beginning of site-work. Final inspection is required upon completion of all site-work. Additional inspection may be required to determine compliance as requested by the Building Official.*******

818 Commercial Street, Room 203, Astoria, Oregon 97103, Phone: (503) 325-0435, Fax: (503) 325-0459
Website: www.columbiaestuary.org

TO: Jay Blake, City of Warrenton Community Development Director

FROM: Columbia River Estuary Study Taskforce, Garrett Phillips, Senior Coastal Planner

DATE: December 27, 2022

RE: Review of Warrenton Development Code Chapter 16.152 Grading Excavating and Erosion Control Plans

Introduction

The purpose of Warrenton Development Code (WDC) Chapter 16.152 Grading Excavating and Erosion Control Plans is to safeguard life, limb, property, and the public welfare by controlling activities that lead to soil erosion and sedimentation into watercourses, wetlands, riparian areas, public and private roadways caused by development activities, including clearing, grading, stripping, excavating, and filling of land.

This memorandum reviews Chapter 16.152 Grading Excavating and Erosion Control Plans and identifies potential amendments. The review is based on the following three goals.

Goal 1) Administration. Improve the delegation of permit review responsibilities among the Building Official, Community Development Director, and City Engineer.

Goal 2) Clarity and Certainty. Clarify undefined terms that are obstacles to code administration and enforcement and improve certainty and objectivity in interpreting requirements.

Goal 3) Consistency. Identify potential conflicts between Chapter 16.152, its administration, and the City code sections that implement State Land Use Planning Goals 5, 6, 7, 16, 17, and 18.

Goal 1) Administration. Improve the delegation of permit review responsibilities among the Building Official, Community Development Director, and City Engineer.

§16.152. 060.F describes the grading permit review process, delegating permit review responsibility to the Building Official[1], while indicating that other departments may also review the plans.

§16.152.060.F.

1. The application, plans, specifications, computations, and other data filed by an applicant for a grading permit shall be reviewed by the building official. Such plans may be reviewed by other City departments to verify compliance with any applicable laws of the City...
2. The building official may require professional inspection and testing by the soils engineer. When the building official has cause to believe that geologic factors may be involved, the grading will be required to conform to engineered grading. (Ord. 1238 § 1, 2020; Ord. 1175-A § 14, 2013)

[1] Chapter §16.152 includes 32 references to the Building Official in delegating responsibility and authority, and no references to the Community Development Director or City Engineer.

Grading permit reviews commonly require engineering and planning judgement. For example, an applicant grading 4,000 cubic yards of material could impact neighboring properties or future development of the subject property in ways that an engineer is most suited to understand. However, the City does not require its own engineer to review grading permits, and it does not require applicants grading less than 5,000 cubic yards to submit plans prepared by an engineer. All permit applications should either be prepared by the applicant's licensed civil engineer or reviewed by the City's licensed civil engineer.

In the case of planning judgement, proposed grading may be in a location where other City regulations are in effect, such as a wetland or areas with estuarine resource protections. Given that most of the City is considered a coastal shoreland, estuarine shoreland, or wetland, the Community Development Department should play a lead role in customer service and permit administration for grading and excavation activities. City of Warrenton should consider delegating overall grading permit review authority to the Community Development Director. The Director would be the City official responsible for approving permits, delegating reviews to the Building Official and the Engineer, and responding to initial customer inquiries regarding prospective grading projects.

Development codes in Astoria, Cannon Beach and Seaside have grading and erosion control chapters with purposes and standards that are similar to each other and to those in the City of Warrenton, but each cities' delegation of responsibility for grading permit review is different. Each city may be supplementing its development code with some combination of administrative policies, procedures, and informal customs to have grading permit applications reviewed by the appropriate qualified staff.

The City of Astoria Development Code 3.305 requires some applications to be prepared by a civil engineer and delegates grading permit review to the City Engineer, and states that all applications shall be reviewed by the Community Development Director. City of Cannon Beach 17.62 also requires some applications to be prepared by a civil engineer but does not refer to review by a City engineer. Instead, Cannon Beach delegates grading permit review to the Building Official and/or the Community Development Director depending on whether the permit application is classified Type I or greater[2]. The City of Seaside Section 4200 does not appear to require any grading plans to be prepared by an engineer or to be reviewed by an engineer or a planner.

The Building Official would still have a critical role to play in reviewing grading projects that are intended to or likely to support the development of structures.

Table 1: Grading permit review delegation in neighboring cities' development codes

Development Code Requirement or Authorization	Warrenton	Astoria	Cannon Beach	Seaside
Applicant's engineer prepares grading plans	In some cases	In some cases	In some cases	No requirement
City engineer reviews grading plans	No requirement	Required	No requirement	No requirement
City planner reviews grading plans	No requirement	Required	Required	No requirement

[2] See City of Cannon Beach 17.62 and City of Cannon Beach 17.92

Goal 1 Recommendations

1) Require that all grading permit applications are approved by the Community Development Director or their designee, instead of by the Building Official.
2) Require that all grading applications shall be either prepared by the applicant's engineer or reviewed by the City Engineer.
3) Require that all grading applications made in preparation for building structures shall be reviewed by the Building Official.
4) Establish an internal policy or procedure that responses to all inquiries regarding prospective grading projects should be coordinated between the Building Official, Community Development Director, and City Engineer.[3]

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2) Clarity and Certainty. Clarify undefined terms that are obstacles to code administration and enforcement and improve certainty and objectivity in interpreting requirements.

Chapter 16.152 includes important undefined words, and it gives substantial discretion to the Building Official to exercise judgement on permit requirements on a case-by-case basis, creating regular opportunities for applicants and the City to disagree on requirements. These subjective judgement calls include decisions on whether to exempt projects from permitting requirements, and decisions on what kinds of engineering investigations and oversight the applicant must obtain to support their project.

Remove the Term "Stockpiling"

The term "stockpiling," has complicated staff's efforts to achieve the purpose of Chapter 16. "Stockpiling" appears in the following statement, which is part of a list of activities exempt from permitting.

> "16.152.040.F. Mining, quarrying, processing, stockpiling of rock, sand, gravel, aggregate, or clay where established and provided for by law, provided such operations do not affect the lateral support or increase the stresses in or pressure upon any adjacent or contiguous property."

Prospective applicants have stated that activities that would be regulated as grading and fill under a reasonable interpretation of the City's code or under a clear interpretation of neighboring communities' codes are instead exempt "stockpiling."

The City should consider removing the word stockpiling from the chapter. If the term was included to support an exemption for quarry and aggregate resource businesses permitted by the State of Oregon, it is not necessary. If the term was included to exempt applicants from having to describe the temporary configuration of stockpiled materials between the initiation and completion of grading activities on a site, it may similarly consider removing the term stockpiling from §16.152. 040.F.

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[3] This does not involve an amendment to Chapter 16.152.

Other North Coast cities' development codes do not define stockpiling and do not refer to stockpiling in their lists of exempt activities. Neither do any of the cities refer to aggregate resource operations, mining, quarrying etc. or temporary grading conditions in their list of exempt activities.

Define Grading and Excavation

The terms "grading" and "excavation" are not defined in the City's code. The City may consider using a definitions from the Oregon Structural Specialty Code Appendix J, which are similar to those found in neighboring North Coast communities. The definitions are provided below in Table 2 to illustrate examples of how the City may define "grading" and related terms.

Table 2: Common Definitions in North Coast Cities

	Warrenton	Astoria	Cannon Beach	Seaside	Oregon Structural Specialty Code Appendix J
Grading	Not defined.	Any combination of excavation and/or fill activities.	Excavation or fill, or any combination thereof, including the conditions resulting from any excavation or fill.	Excavation or fill or any combination thereof, including the conditions resulting from any excavation or fill.	An excavation or fill or combination therof.
Excavation	Not defined.	Removal of topsoil, gravel, sand, rock or any other type of soil material.	The mechanical removal of earth material.	Any act by which organic matter, earth, sand, gravel, rock, or any other material are cut into, dug, uncovered, removed, displaced, relocated, or bulldozed.	The removal of earth material by artificial means, also referred to as a cut.
Fill	The placement by man of sand, sediment, or other material to create new uplands or raise the elevation of land.	The placement by man of sand, sediment, or other material, to create new land or to raise the elevation of land. Placement of topsoil, gravel, sand, rock or any other type of soil material.	The deposit of earth material placed by artificial means.	Any act which earth, sand, gravel, rock, or any other material are deposited, placed, replaced, pushed, dumped, pulled, transported or moved by man to a new location, including the conditions resulting therefrom.	The deposition of earth material by artificial means.
Regulated activities	Not defined.	The clearing, grading, excavation, filling, or stripping of land, and post construction activities.	The clearing, grading, excavation, or filling of land.	Not defined.	Not defined.
Clearing	Not defined.	Any activity that removes vegetative cover while leaving the root system intact.	Any activity that removes vegetative cover.	Any activity that removes vegetative ground cover.	Not defined.

Remove Discretionary Exemptions

16.152.040.A includes the following exemption: "When approved by the building official, grading in an isolated, self-contained area if there is no danger to private or public property." This exemption provides substantial discretion to the Building Official to determine whether a grading project is safe, and then to decide whether the grading project should be exempt from permit requirements. Chapter 16 includes quantitative standards for determining whether a permit is a required and whether the plans need to be prepared by an engineer. Other quantitative standards determine maximum slopes and other characteristics of grading projects. All of these processes and standards contribute to ensuring that grading projects are safe and to ensuring that applicants are responsible for executing projects as they are described to the City in application materials.

Providing a general discretionary exemption undermines those objective standards and the purpose of Chapter 16, introduces opportunities for applicants to have disagreements with the Building Official about whether they should receive the exemption described here, and incentivizes applicants to downplay the scope, risks, or uncertainties associated with their projects before submitting any official plans, in order to receive an exemption.

Remove Depth, Slope, and Volume Based Exemptions

The following two exemptions include many scenarios that can cause sedimentation or damage to waterways, wetlands, riparian areas, or neighboring properties.

> H. An excavation which: (1) is less than two feet in depth; or (2) which does not create a cut slope greater than five feet in height and steeper than one unit vertical in one and one-half units horizontal (66.7% slope).
>
> I. A fill less than one foot in depth and placed on natural terrain with a slope flatter than one unit vertical in five units horizontal (20% slope), or less than three feet in depth, not intended to support structures, that does not exceed 50 cubic yards on any one lot and does not obstruct a drainage course.

The City should consider removing these exemptions, and instead allowing these projects to qualify for a grading permit not prepared by a licensed engineer.

Other Miscellaneous Exemptions

Each North Coast City reviewed for this report has its own unique list of exemptions, and the exempted activities for the most part do not appear to be related to unique attributes of each city. Table 3 illustrates some of the miscellaneous exemptions unique to each city and includes a longer list of Warrenton's exemptions that do not have a comparable exemption in the other cities. City of Warrenton may wish to consider removing some of its miscellaneous exemptions if they create opportunities for conflicting interpretations with applicants or unpermitted impacts to the community or natural resources or if they are simply unnecessary. These changes will make Chapter 16.152 easier to read and use.

Table 3: Miscellaneous Exemptions in North Coast Cities

	Warrenton	Astoria	Cannon Beach	Seaside
Small residential landscaping and gardening	x	Exempt	Exempt	x
Aggregate resource, quarry, mining	Exempt	x	x	x
Forest practices	x	Exempt	Exempt	x
Emergencies	x	Exempt	x	Exempt
Public works maintenance	Exempt	x	x	Exempt
Cemetery graves	Exempt	x	x	x
Refuse disposal sites	Exempt	x	x	x
Exploratory excavations under the direction of soil engineers or engineering geologists.	Exempt	x	x	x
Excavations for wells, tunnels, or utilities.	Exempt	x	x	x

Remove Redundant Statements

The City may consider removing redundant statements. These include at least the following statement, found in both §16.152. 030 and §16.152. 060: "Except as provided in §16.152. 040 of this chapter, no person shall do any grading work without first having attained a grading permit from the building official."

Goal 2 Recommendations:

1) Define the terms "Grading" and "Excavation," following the common definitions found in peer cities and the Oregon Structural Specialty Code Appendix J.
2) Remove the term "stockpiling" from the list of exempted activities.
3) Remove the general discretionary exemption found in §16.152. 040.A.
4) Remove depth, slope, volume-based exemptions.
5) Remove other miscellaneous exemptions that do not have a unique relationship to Warrenton's landscape, culture, or economy.
6) Remove redundant statements.

Goal 3) Consistency. Identify potential inconsistencies between Chapter 16.152, its administration, and the City code sections that implement State Land Use Planning Goals 5, 6, 7, 16, 17, and 18.

Several Warrenton Development Code chapters implementing State Land Use Planning Goals 5, 6, 7, 16, 17, and 18 also regulate grading, and it is typical among cities for there to be a development code

chapter about grading, and other chapters that also regulate grading in each of the special areas that they deal with, such as wetlands, hazard areas, beaches and dunes, etc.

The City of Warrenton is typical in not cross-referencing these code sections and not reproducing portions of each in the others. For example, in all of the North Coast cities' codes, the word "wetlands" and "Goal 5" are not found in their chapters on grading and erosion control. This leaves each City with a development code that is relatively concise and not redundant, and simpler to amend without amending cross-referenced sections.

Chapter 16.152 includes a clause ensuring that its exemptions are not explicitly conflicting with other sections. §16.152. 040 Exempted Work states "Exemption from the permit requirements of this chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this chapter or any other chapter of this Code, or other laws or ordinances of the City of Warrenton." Other parts of 16.152 that place some responsibility on the applicant and the City to ensure that grading projects comply with all City laws include:

- "Grading Permit Requirements," §16.152.060.B.4
- "Grading Inspection," §16.152.070.E

The following Chapters were reviewed, and found to not have conflicting quantitative standards, such as provisions regulating slope steepness or the slope and height of a cut bank. Neither do they have potentially confusing procedural conflicts, such as similar but different project size thresholds triggering some requirement or another.

- Chapter 16.88 FLOOD HAZARD OVERLAY (FHO) DISTRICT
- Chapter 16.96 SOILS HAZARD OVERLAY (SHO) DISTRICT
- Chapter 16.100 BEACHES AND DUNES OVERLAY (BDO) DISTRICT
- Chapter 16.104 DREDGED MATERIAL DISPOSAL SITE LOCATIONS (DMD)
- Chapter 16.108 MITIGATION SITE PROTECTION OVERLAY (MSPO) DISTRICT
- Chapter 16.156 WETLAND AND RIPARIAN CORRIDOR DEVELOPMENT STANDARDS
- Chapter 16.160 COLUMBIA RIVER ESTUARY SHORELAND AND AQUATIC AREA DEVELOPMENT STANDARDS
- Chapter 16.164 IMPACT ASSESSMENT AND RESOURCE CAPABILITY DETERMINATION

A substantial portion of the City overlaps the resource and hazard areas described above. For example, just considering estuarine and beach and dune areas, Figure 1 illustrates that in most of the City, a prospective grading permit applicant needs to at least consider these resources when planning and reviewing a grading project. Despite the lack of explicit conflict between Chapter 16.152 and the other reviewed sections, and despite Chapter 16.152's general statements requiring exempt and permitted grading projects to comply with other laws, the City's exemptions for grading may inadvertently allow grading projects to occur in violation of these other laws. When a grading project is exempt from a grading permit, there is no formal process for ensuring that it complies with other City laws. Furthermore, even if city officials consult all of the relevant City laws and regulatory maps before acknowledging to a grading project proponent that a project is exempt from the grading permit, the project then has no oversight through the grading permit process to ensure that it does not change or expand beyond the original scope that the exemption was based on. Implementing recommendations from the report to reduce the number of exemptions and provide the Community Development Director with the primary authority to approve grading permits will minimize opportunities for grading projects to conflict with other City laws.

The City may also further ensure that grading projects comply with all of its laws by requiring applicants to identify natural resource and hazard areas on the plans submitted with grading applications pursuant to §16.152. 060.B. The City may go further by requiring that all grading projects within some distance of these areas obtain a grading permit.

Chapter 16.152 includes minimal standards for erosion control. These mirror the brief requirements of the Oregon Structural Specialty Code Appendix J. Chapter 16.152's purpose is broader than that of the Oregon Structural Specialty Code, and the City is interested in ensuring that grading projects comply with all of the City's laws, including those intended to protect natural resources and safeguard against natural hazards. The City may consider strengthening the basic erosion control requirements of Chapter 16.152 to fulfill the purpose of the Chapter. The Clatsop County Erosion Control Guidance may serve as a the basis for enhanced erosion control standards.

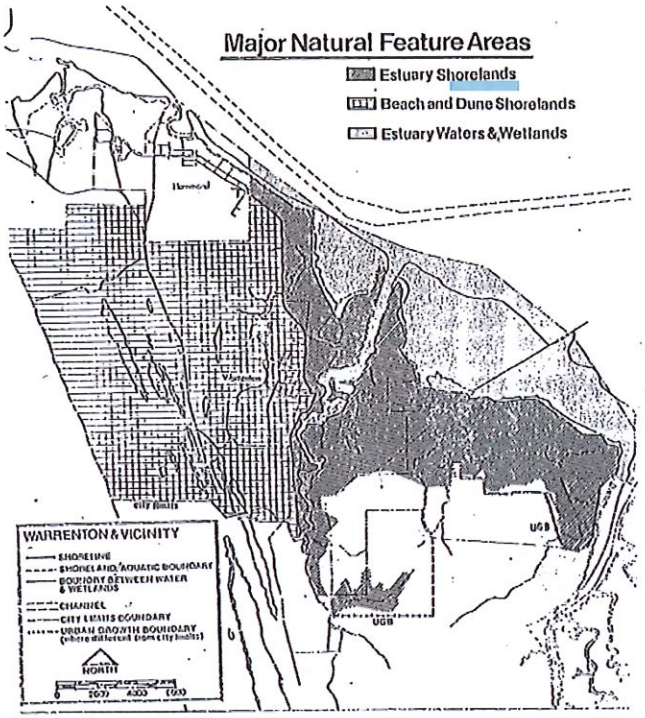


Figure 1: City of Warrenton Comprehensive Plan, Major Natural Features

Goal 3 Recommendation:

1) Delegate permit review responsibility to the Community Development Director and reduce the number of projects exempt from obtaining grading and erosion control permits, following the recommendations to address Goals 1 and 2 in the prior pages.
2) Require applicants to identify natural resource and hazard areas in grading permit applications.
3) Consider requiring a grading permit for all grading within some distance of all natural resource and natural hazard areas.
4) Consider enhancing the erosion control standards to address the purpose of the chapter.

Table 4: Summary of Recommendations and Primary Related Sections of Chapter 16.152.

	Recommendation	Section
Goal 1	Require that all grading permit applications are approved by the Community Development Director or their designee, instead of by the Building Official.	§16.152.060 and Sections throughout Chapter 16.152[4]
	Require that all grading applications shall be either prepared by the applicant's engineer or reviewed by the City Engineer.	§16.152.060
	Require that all grading applications made in preparation for building structures shall be reviewed by the Building Official.	§16.152.060
	Establish an internal policy or procedure that responses to all inquiries regarding prospective grading projects should be coordinated between the Building Official, Community Development Director, and City Engineer.	None
Goal 2	Remove the term "stockpiling" from the list of exempted activities.	§16.152.040.F.
	Remove the general discretionary exemption found in §16.152. 040.A.	§16.152.040.A.
	Remove depth, slope, volume-based exemptions.	§16.152.040.H, §16.152. 040.I
	Remove other miscellaneous exemptions that do not have a unique relationship to Warrenton's landscape, culture, or economy.	§16.152.040.C, §16.152. 040.D, §16.152. 040.E, §16.152. 040.F
	Remove redundant statements.	§16.152.030
Goal 3	Require applicants to identify natural resource and hazard areas in grading permit applications.	§16.152.060.B
	Consider requiring a grading permit for all grading within some distance of all natural resource and natural hazard areas.	§16.152. 040
	Consider enhancing the erosion control standards to address the purpose of the chapter.	§16.152. 140

[4] Chapter §16.152 includes 32 references to the Building Official in delegating responsibility and authority,