



MULTNOMAH COUNTY
LAND USE AND TRANSPORTATION PROGRAM
1600 SE 190TH Avenue Portland, OR 97233
PH: 503-988-3043 FAX: 503-988-3389
http://www.co.multnomah.or.us/dbcs/LUT/land_use

GRADING AND EROSION CONTROL PERMIT

CASE FILE: T1-05-033

August 22, 2005

Request: Grading and Erosion Control Permit application for grading activities associated with the Removal of the Existing Culvert and Installation of the Young Creek Bridge at the Mirror Lake Wetland Conservation and Enhancement Project south of Rooster Rock State Park. The bridge placement was approved under Multnomah County's National Scenic Area Site Review T2-05-008.

Location South of Rooster Rock State Park
Tax Lots (TL) 100, 1N5E28B W.M.
Tax Account #R945280160

Applicant: Jennifer Hughes, Parametrix

Owner: Oregon Parks & Recreation
Department - C/O Jack Wiles

ORDINANCE REQUIREMENTS:

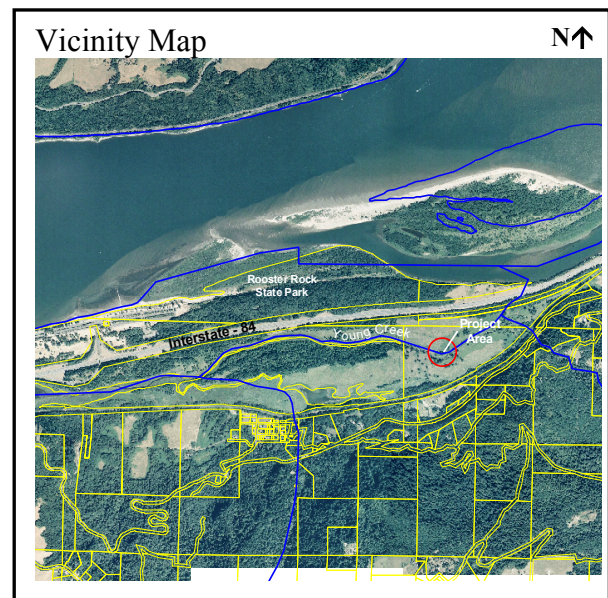
Applicable standards for this permit can be found in Chapter 29.300 et seq., Grading and Erosion Control Code of the Multnomah County Building and Specialty Codes, copies of which are available at our office.

MODIFICATIONS AND LIMITATIONS:

This permit is based on written narrative(s) and plan(s) provided by the applicant (attached). No development shall occur under this permit other than that which is specified within these documents. It shall be the responsibility of the property owner to comply with these documents and the limitations described herein.

On-going restrictions:

1. Nothing in this permit overrules or supplants the details, drawings, materials, narrative and conditions of T2-05-008. An erosion control fence shall be installed on the downward slope adjacent to the disposal site for the Young Creek culvert removal project. The erosion control fence shall be installed pursuant to manufacturer's instructions and maintained until such time as an 80% vegetation cover is achieved. The erosion control fence shall then be removed and disposed of properly.



2. Non-erosion pollution associated with construction of the project such as pesticides, fertilizers, petrochemicals, solid wastes, construction chemicals, or wastewaters shall be prevented from leaving the construction site through proper handling, disposal, continuous site monitoring and clean-up activities.
3. All materials removed from around the existing Young Creek culvert shall be placed in either the approved fill disposal site as shown under T2-05-008 Figure 13 or the earth materials are to be removed completely off-site and disposed of at an approved disposal site. No metal, plastic or other man-made objects are to be buried on site as part of the fill. On-site disposal of construction debris is not authorized under this permit.
4. This Grading and Erosion Control (GEC) Permit is limited to the removal of the culvert in Young Creek, installation of the permanent bridge over Young Creek and the disposal of the 450 cubic yards of material in the disposal site north of Young Creek as shown on Figure 13, B-7 of T2-05-008. Management activities are not to be conducted in MA-1, MA-2, MA-4, MA-5, MA-7, MA-8, MA-9 and MA-10 until GEC is obtained.
5. The Grading and Construction activity associated with the removal of the culvert and installation of the bridge shall follow the Installation Sequence contained on page 3 of the narrative statements addressing the Grading and Erosion Control standards (exhibit 1). Work may begin on issuance of this permit and shall be finished by December 31, 2005.
6. The County may require supplemental erosion control techniques if turbidity or other down slope erosion impacts result from on-site grading work. The Gresham Building Bureau, the local Soil and Water Conservation District, or the U.S. Soil Conservation Service can also advise or recommend measures to respond to unanticipated erosion effects.
7. The applicant/owner is responsible for removing any sedimentation caused by development activities from all neighboring surfaces and/or drainage systems.

Prior to any land disturbing activities:

8. **Before initiating grading work, the OPRD shall post the attached erosion control permit notices in locations along the property that are clearly visible from the road. This notice is to remain posted until such time as the grading work is completed.** In the event this notice is lost, destroyed, or otherwise removed prior to completion of the grading work, the property owner shall immediately contact the Land Use Planning Office to obtain a suitable replacement.
9. An erosion control fence shall be installed on the downward slope adjacent to the disposal site for the Young Creek culvert removal project. The erosion control fence shall be installed pursuant to manufacturer's instructions and maintained until such time as an 80% vegetation cover is achieved. The erosion control fence shall then be removed and disposed of properly.
10. The erosion control fence shall be purchased in a continuous roll cut to the length of the barrier to avoid use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6-inch overlap, and both ends securely fastened to the post, or overlap 2"x2" posts and attach as shown on detail sheet 3-2 in the *Erosion Prevention Sediment Control Plans Technical Guidance Handbook*.

11. The erosion control fence shall have manufactured stitched loops for 2"x2" post installation. Stitched loops shall be installed on the up hill side of the sloped area.
12. The erosion control fence shall be removed when they have served their useful purpose, but not before the upslope area has been permanently protected and stabilized.
13. The supported erosion control fence shall be inspected by OPRD or its contractor immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

Follow up requirements after grading:

14. Permanent planting of the disturbed area for the installation of the Young Creek Bridge shall be installed in Winter, 2005. The plantings shall utilize the plants list for MA 3 (Figure 10d) as specified in T2-05-008.

Issued by:

Signed: Lisa Estrin, Planner
For: Karen Schilling - Planning Director

Date: Monday, August 22, 2005

Exhibit List

1. Narrative Statements for Grading and Erosion Control Permit (11 pages)
2. Cut and Fill Volume Calculations
3. Young Creek Culvert Removal and Bridge Installation Plans
 - a. Title Sheet
 - b. General Notes, Legend, and Abbreviations
 - c. Site Plan/Grading Plan
 - d. Erosion Control Details
 - e. Revegetation Plan
4. Technical Specifications for Young Creek Culvert Removal and Bridge Installation



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FLOODPLAIN DEVELOPMENT PERMIT

CASE FILE: T1-05-033

August 22, 2005

Request: Oregon Parks and Recreation Department is proposing to remove a failing culvert and construct a bridge over Young Creek. Development is to occur on land located within the 100-year flood boundary as identified on Flood Insurance Rate (FIRM) Maps published by the Federal Emergency Management Agency.

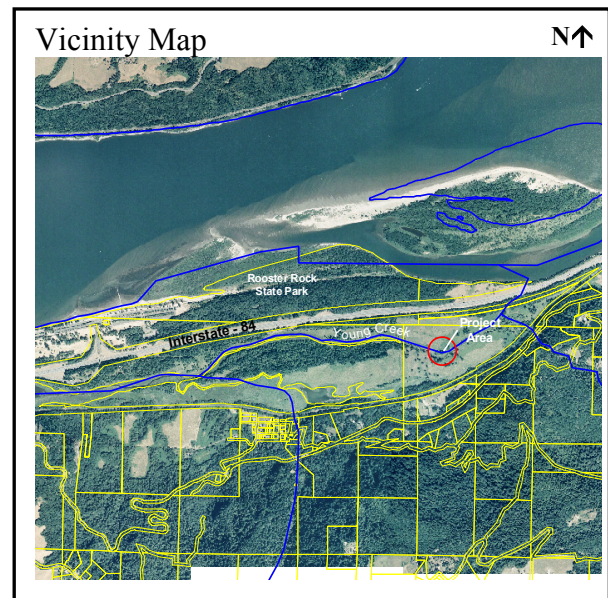
Location: South of Rooster Rock State Park
Tax Lots (TL) 200 & 300, 1N5E21, TL
1001, 1N5E20, TL 100, 1N5E28B
W.M.
Tax Account #R945200010,
R945210150, R945210140, R945280160,
R945300220

Applicant: Jennifer Hughes, Parametrix

Owner: Oregon Parks & Recreation
Department - C/O Jack Wiles

Tributary: Young Creek

FIRM Map: Panel #410179 – 0275A, dated
6/15/1982



ORDINANCE REQUIREMENTS:

Applicable standards for this permit can be found within Chapter 29.600 et seq., Flood Hazard Regulations of the Multnomah County Building and Specialty Codes, copies of which are available at our offices.

MODIFICATIONS AND LIMITATIONS:

This permit is based on written narrative(s), plan(s) and a Floodproofing Certificate provided by the applicant (attached). No development shall occur under this permit other than that which is specified within these documents. It shall be the responsibility of the property owner to comply with these documents and the limitations described herein.

Follow up requirements after construction:

1. Within 30 days of the Bridge construction being completed, OPRD shall provide documentation to the Land Use Planning Section by a State of Oregon Registered Professional Engineer certifying that the Bridge has been built in compliance with MCC 29.606(C)(1)(a) through (c).

Prior to sign-off of a building permit and/or any ground disturbing activities occurring for this project:

2. Prior to any ground disturbing activities occurring on the subject site, ODOT shall provide a Guarantee In Lieu Of Bond in an amount sufficient to cover the cost of retaining an engineer to certify that the Bridge has been built in compliance with MCC 29.606(C)(1)(a) through (c).

Note: Guarantee can be used by the County if analysis is not provided prior to use of the bridge. The Guarantee will be released upon submittal of the analysis by the property owner or their representative.

3. The OPRD or their representative shall schedule an appointment with the Staff Planner, Lisa Estrin at Multnomah County, (503) 988-3043, to sign off the plans for the building permit. The contact shall bring the 4 sets of site and building plans to the County for sign-off.

Issued by:

Signed: Lisa Estrin, Planner
For: Karen Schilling - Planning Director

Date: Monday, August 22, 2005

Exhibits

1. Sheet S-1 Young Creek Bridge Layout
2. Sheet C-3 Erosion Control Details
3. Additional Information – Six Questions
4. Floodproofing Certificate
5. Sheet G-2 General Notes, Legend, and Abbreviations
6. Buoyancy Calculations for Bridge
7. Flood Development Narrative Statements
8. Sheet Figure 1 Revegetation Plan
9. Sheet C-1 Site Plan / Grading Plan
10. Young Creek Cross-Sections
11. Columbia River Flood Profiles
12. Basin Map
13. HECRAS Hydrology Study for Young Creek Culvert
14. Forecast Elevations

29.603 Permits

- (A) No structure, dwelling or manufactured home shall be erected, located, altered, improved, repaired or enlarged and no other new development including but not limited to grading, mining, excavation and filling shall occur on lands within the 100-year flood boundary unless a Floodplain Development Permit specifically authorizing the proposal has been obtained from Multnomah County.**

- (1) Improvements to a structure, dwelling or mobile home, which does not require a land use permit, grading permit or building permit, are exempted from obtaining a Flood Hazard Permit.**

Finding: The Bridge will obtain a building permit from the City of Gresham's Building Department. This Flood Development Permit will authorize the proposal of removal of an existing culvert, excavation of materials from the stream channel to restore the carrying capacity of the stream bed and installation of a bridge over Young Creek.

- (B) Alterations, modifications or relocations to any watercourse as defined in MCC 29.601 are subject to a Flood Hazard permit and the Watercourse Relocation requirements of MCC 29.609.**

- (1) Regular maintenance of ditches and dikes within the Sauvie Island Drainage District is exempted from obtaining a Flood Hazard Permit.**

Finding: The stream channel will be altered. MCC 29.609 is applicable.

29.605 Application Information Required

An application for development subject to a Floodplain Development Permit shall include the following:

- (A) A map showing the property line locations, the boundaries of the 100 year floodplain on the parcel, roads, and driveways, existing structures, watercourses and the location of the proposed development(s), topographic elevations for the proposed development and areas of grading or filling required for the project.**

Finding: Almost the entire site is located in Zone A on the FEMA Floodplain Maps. The applicant has provided a Site Access Map (Sheet G-2) which shows the location of the proposed work area, stream channel, topographic elevations and the site access road to be used. Areas of grading and filling are shown on the Site Plan / Grading Plan (Sheet C-1) and Revegetation Plan (Sheet Figure 1). *The required information has been provided.*

- (B) Detailed construction drawings showing compliance with the development standards specified in MCC 29.606. A licensed engineer or architect shall stamp the plans and include a statement that the plans meet the requirements of MCC 29.606.**

Finding: Stamped construction drawings have been provided by the applicant (Sheet S-1). *The required information has been provided.*

- (C) An elevation certificate signed by a Registered Professional Land Surveyor, Engineer or Architect. The certificate shall be accompanied by a plan of the property which shows the location and elevation of a benchmark on the property.**

Finding: A Floodproofing Certificate for Non-Residential Structures has been signed by Stephen Maltby, Professional Engineer #16447PE. *The required information has been provided.*

- (D) A written narrative specifying building materials and methods that will be utilized to**

comply with the requirements of the Floodplain Permit.

Finding: Written Narrative ws submitted with the application on June 14, 2005 (Exhibit ?). Additional clarifications were provided on July 13, 2005 (Exhibit ?). *The required information has been provided.*

- (E) Evidence that the applicant has obtained, when necessary, prior approval from those Federal, State and/or local governmental agencies with jurisdiction over the proposed development.**

Finding: The applicant has obtained through Multnomah County a land use permit, T2-05-008 for the construction of the bridge and a wetland enhancement project on the subject site. The Young Creek Bridge is only 1 Management Activity of the larger approved project. OFWD has approved the in water work for the bridge. Also, DSL and the Corps of Engineers have granted permits for the work.

29.606 Development Standards

The following standards shall apply to all new construction, substantial improvement or other development in areas within the 100-year flood boundary:

- (A) All Structures.**

- (1) All new construction and substantial improvement shall:**

(a) Comply with Oregon State Building Codes.

(b) Have the electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

Finding: The Young Creek Bridge will obtain a building permit for its construction from the City of Gresham's Building Department. No electrical, heating, mechanical, plumbing or other services will be constructed with this Bridge.

(c) Use materials resistant to flood damage.

Finding: The Bridge will be constructed of wood, concrete and helical screw foundation system to prevent flood damage to materials. No handrails will be installed as part of this project.

(d) Using methods and practices that minimize flood damage.

Finding: The Bridge will be constructed 8 ft above OHWM and will be screwed down to prevent floatation.

(e) For areas that are fully enclosed below the lowest floor and that are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.

- 1. Designs for meeting this requirement must either be certified by a registered professional engineer or architect and must meet or exceed the following minimum criteria:**

- a. **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.**
- b. **The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.**

Finding: There are no areas that are fully enclosed. The project is for a bridge. The Bridge has been designed as certified by the engineer to withstand the pressures from floodwaters inundating it to the Columbia's 100 year flood of 35+ feet.

(C) Nonresidential Structures.

New construction and substantial improvement of any commercial, industrial or other non-residential structure shall:

- (1) Have the lowest floor including basement, elevated at least one foot above the base flood level; or, together with attendant utility and sanitary facilities, shall:**

Finding: The Bridge will not be elevated above the base flood level for the Columbia River. The Bridge will be flood proofed. No utility or sanitary facilities are proposed.

- (a) Be floodproofed such that the structure, including the attendant utility and sanitary facilities, shall be substantially impermeable to the passage of water to an elevation at least one foot above the base flood level; and**

Finding: No attendant utility or sanitary facilities are proposed. The structure is of solid construction with no hollow components.

- (b) Have structural components capable of withstanding hydrostatic and hydrodynamic loads, effects of buoyancy, flood depths, pressures, velocities and other factors associated with the base flood; and**

- (c) Be certified by a registered professional engineer or architect that the standards of this subsection are satisfied.**

Finding: The applicant has submitted is documentation that the anchors for the Bridge have been designed to withstand the effects of buoyancy. The backwater flooding caused by the Columbia River in this area will have little hydrodynamic loads and velocities per the determination of the project engineer Stephen Maltby. In addition, a Floodproofing Certificate has been submitted and signed by Maltby.

- (2) Provide an as-built elevation survey of the lowest floor completed by a State of Oregon Registered Professional Engineer or Land Surveyor certifying that the structure's lowest floor was elevated to at least one foot above the base flood level; or submit a stamped documentation by a State of Oregon Registered Professional Engineer certifying the structure has been built in compliance with MCC 29.606(C)(1)(a) through (c).**

Finding: This requirement has been placed upon the FD permit as #1.

- (a) **The as-built elevation survey or stamped documentation shall be submitted to Multnomah County Land Use Planning prior to occupancy of the structure.**

Finding: Since this structure is not a building that can be occupied, the requirement has been modified to require the documentation be submitted within 30 days of completion of the bridge.

- (b) **Prior to issuance of a building permit or start of development, a performance bond or cash deposit of \$1000.00 shall be required to assure that the as-built elevation survey or stamped documentation is submitted. The bond/deposit may be used to obtain the elevation survey or documentation, without notice, if it is not completed and submitted prior to occupancy or use of the structure or development. The performance bond or cash deposit shall be released upon submittal of the as-built elevation survey or stamped documentation, unless utilized to obtain compliance.**

Finding: The OPRD has been required to provide a Guarantee in Lieu as a Governmental Agency has difficulty obtaining a bond.

29.608 Procedure When Base Flood Elevation Data is Not Available

- (A) **For the purposes of administering MCC 29.606 in areas where detailed base flood elevation data has not been provided by FEMA, the Land Use Planning Division shall obtain, review and utilize any base flood elevation and floodway data available from federal, state or local sources to assure that the proposed construction will be reasonably safe from flooding and may exercise local judgment based on historical data.**
- (B) **In areas where detailed base flood elevation data has not been provided by FEMA, all proposals for subdivisions or other new developments greater than 50 lots or five acres, whichever is less, shall provide detailed base flood elevation data and floodway data.**

Finding: The area within Zone A. No base flood has been determined by FEMA. The applicant has indicated on the Floodproofing Certificate that the 35 ft flood depth for this area was determined by Steve Maltby P.E., the project engineer of record interpolated the 100-year flood elevation based on the "U.S. Army Engineer District CENP-EC-HY Columbia River Combined Flood Profiles, 21 May 2004" and the river mile for the project site (river mile 130). The pdf titled ColProfiles-hyd_2.pdf shows this process.

29.609 Watercourse Relocation and Alteration

Prior to approving any relocation, encroachment or alteration of a watercourse, the Land Use Planning Division shall provide mailed notice of the proposal to adjoining communities and to the Department of Land Conservation and Development Floodplain Coordinator. Copies of such notice shall also be provided to the Federal Insurance Administration.

Finding: Notice will be sent to the above agencies as part of this permit application.

- (A) **No relocation, encroachment or alteration of a watercourse shall be permitted unless a detailed hydraulic analysis, certified by a Registered Professional Engineer, is provided which demonstrates that:**

- (1) **The flood carrying capacity for the altered or relocated portion of the watercourse will be maintained;**

Finding: The applicant has provided the necessary documentation that the removal of the

culvert and the construction of the Bridge will return the stream to its natural carrying capacity of this portion of the reach. Currently the culvert was designed for a 25 year storm event on Young Creek. The channel will be widened to reflect the natural width of the stream channel as measured 150 feet upstream at 18 ft in width and 100 feet downstream at a 15 ft wide channel. The proposed Bridge will span the creek channel and will not install its footing for approximately 32 ft on either side of the centerline of the stream.

(2) The area subject to inundation by the base flood discharge will not be increased;

(3) The alteration or relocation will cause no measurable increase in base flood levels.

Finding: The existing 48" culvert will be removed and a 70 ft long bridge installed over Young Creek. The removal of the culvert will remove a flow blockage from the wider channel which in this area of the reach