Wetland and Waterway Permits
Regulatory Compliance during Construction

Brad Livingston, Statewide Wetlands Program Coordinator
503-986-3062, bradley.f.livingston@odot.state.or.us

- Three Primary Regulated **Features**
  - Wetlands
  - Streams and Rivers
  - Tribs&Ditches

- 00290.41 Protection of Wetlands-WHY?

A Few Environmental Commitments for ODOT

Clean Air Act (as amended)

Transportation Conformity Rule

Congestion Mitigation and Air Quality Improvement Program

Transportation Equity Act

Indirect Source Construction Permit

Air Quality

Removal/Fill Law ORS 196.800-196.990

Wildflowers Water Bank Act

Coastal Barrier Resources Act

US Endangered Species Act

Fish and Wildlife Coordination Act

Oregon Statewide Planning Goals

Migratory Bird Treaty Act

Oregon Endangered Species Act

Fish Passage ORS 498.351

Oregon Plan for Salmon and Watershed Executive Order 99-01

Clean Water Act: 33 U.S.C. 1251-1376

The Historic Bridge Program: 23 U.S.C. 144(o)

Section 106 of the National Historic Preservation Act

Archeological and Historic Preservation Act

Archeological Resources Protection Act

Act for the Preservation of American Antiquities

American Indian Religious Freedom Act

National Environmental Policy Act

National Flood Insurance Act

General Environmental Inspector Training

Inspector Quality Assurance Program

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Avoidance Measures:

Narrowing Footprint-steepen slopes, walls, etc.

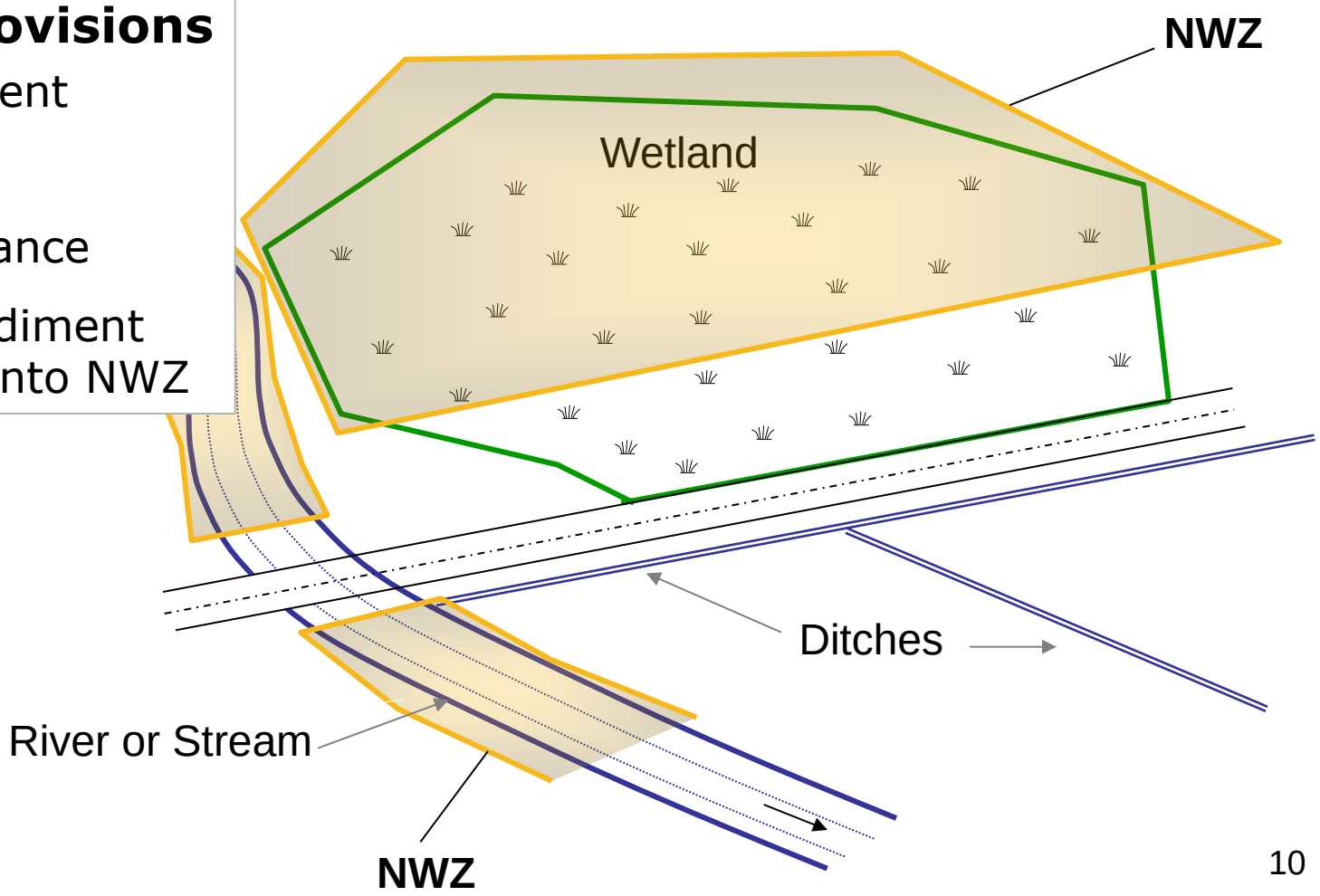
Bridge Design-full span, reduce piers, lengthen

Road Alignment-avoid high quality resources
Access, staging, stockpiling-use hanging scaffolding, limit access, avoid placement

No Work Zones (NWZ)

Special provisions

- No equipment
- No driving
- No disturbance
- Prevent sediment discharge into NWZ



Isthmus Slough
Tidal wetlands

Adverse Effects:

Removal/Fill - hydroperiod change, wetland conversion, compaction

Clearing/Grubbing - vegetation and soil disturbance

Other Hydrologic Effects - impeding flow paths, draining, stormwater

00290.41 Protection of Wetlands – Key Excerpts:

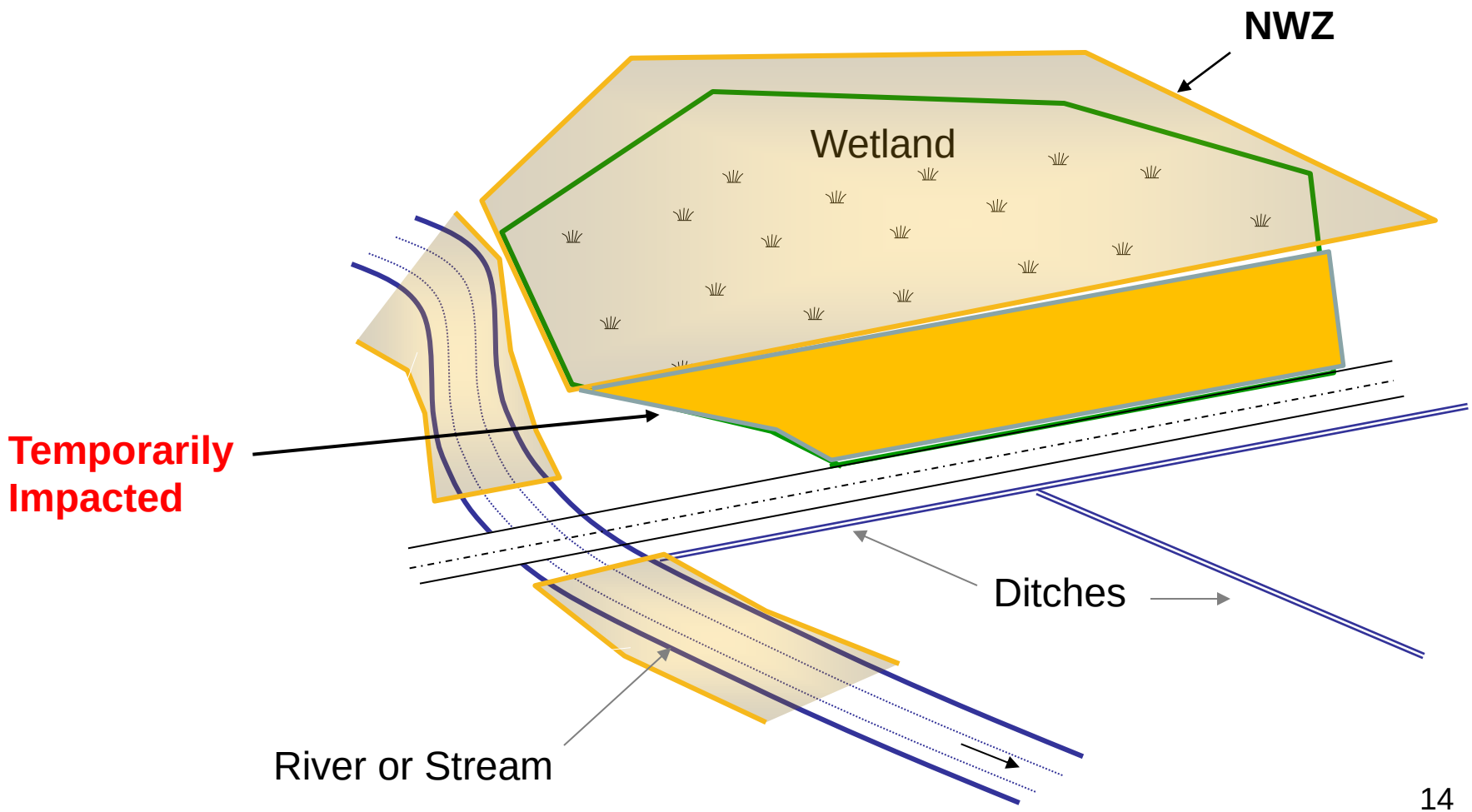
Keep a copy of Corps and DSL permits at the project site during construction.

Wetlands known to be on the Project Site will be shown and identified either as "permanently filled or excavated" or as "temporarily impacted". Wetlands to be protected will be shown as "no work zones".

Ensure protection of no work zones as follows:
• Fence off no work zones using pedestrian safety fence or approved equivalent.
• Except as authorized by the Engineer for the purpose of installing or maintaining approved wetland protective measures, keep all persons, equipment and materials off no work zones.

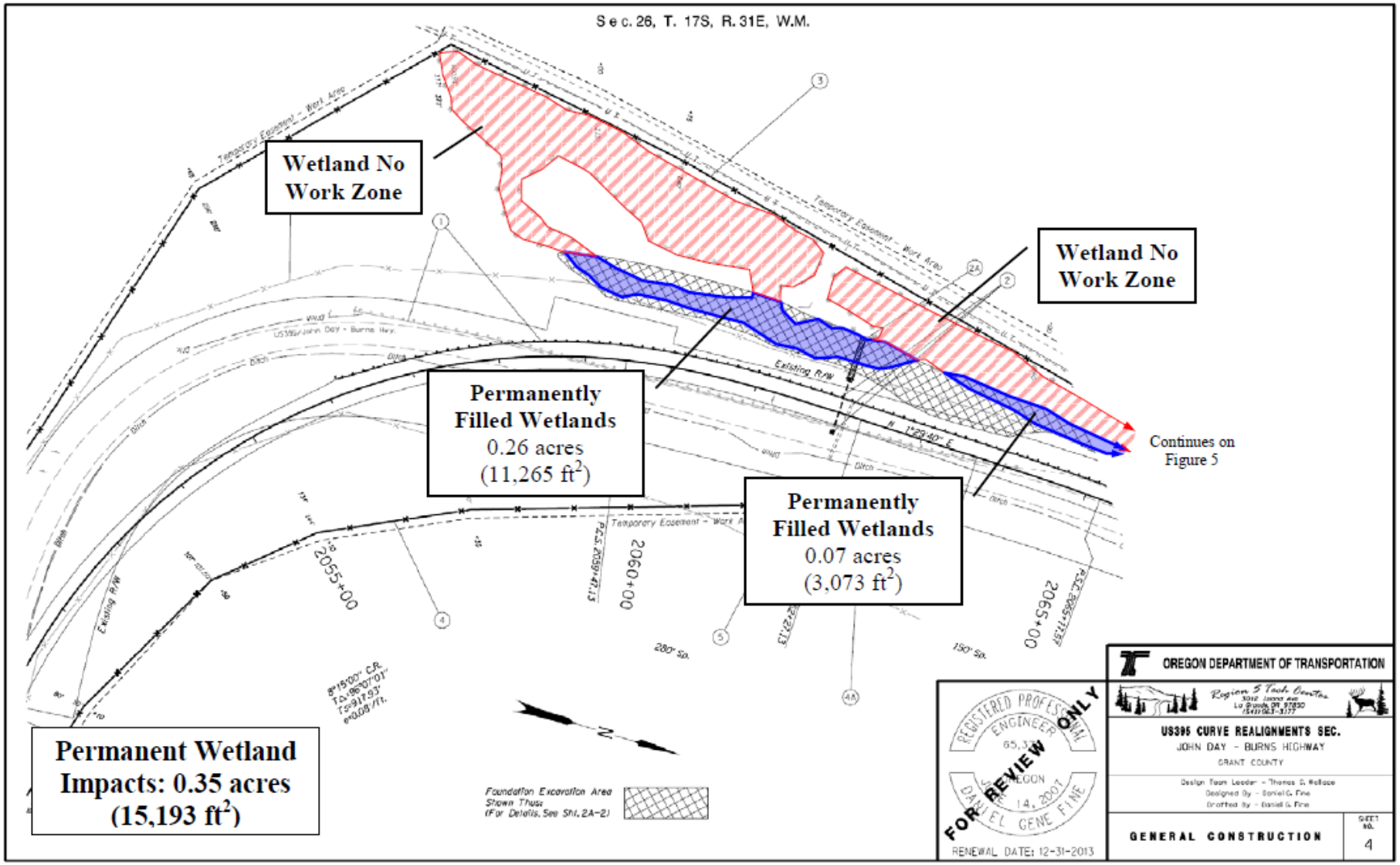
The Engineer may suspend work…

Temporarily Impacted Work Zones



General Environmental Inspector Training

Inspector Quality Assurance Program



Minimization Measures:

Place geotextile with chain link or geogrid to ease removal of temporary fill

Low Ground Pressure Equipment

Fully contain and segregate demo debris

Use crane mats/pads

Minimization

Minimization Measures:

- Fully remove piling or cut 2’ below substrate
- Place clay plugs in trenching
- Effective ESC
- Temporary bridges instead of culverts
- Stage to avoid full detour bridges

2009 Environmental Excellence Awards

For Excellence in Ecosystems, Habitat, and Wildlife – Ecosystems (I): Innovative Topdown Construction Used on Washington Bypass Project

Agencies Awarded

North Carolina Department of Transportation (NCDOT)

Flatiron Construction

The project design-build team used an innovative gantry design to construct a 2.8-mile bridge with minimal disturbance to the surrounding environmentally sensitive wetland ecosystem. The NCDOT Washington Bypass Project consists of a 6.8-mile bypass route around the city of Washington, North Carolina, on US 17. The team came up with the world's first erection gantry to construct the bridge from the top down. Using gantries to drive the piles that support the bridge minimizes the construction footprint and limits disturbance to the area immediately around the bridge. Compared with traditional wetland construction that makes extensive use of access trestles, barges or tugboats, and cranes, the new erectiongantry method holds great promise for minimizing construction damage to environmentally sensitive areas in the future.

Project Contributors:

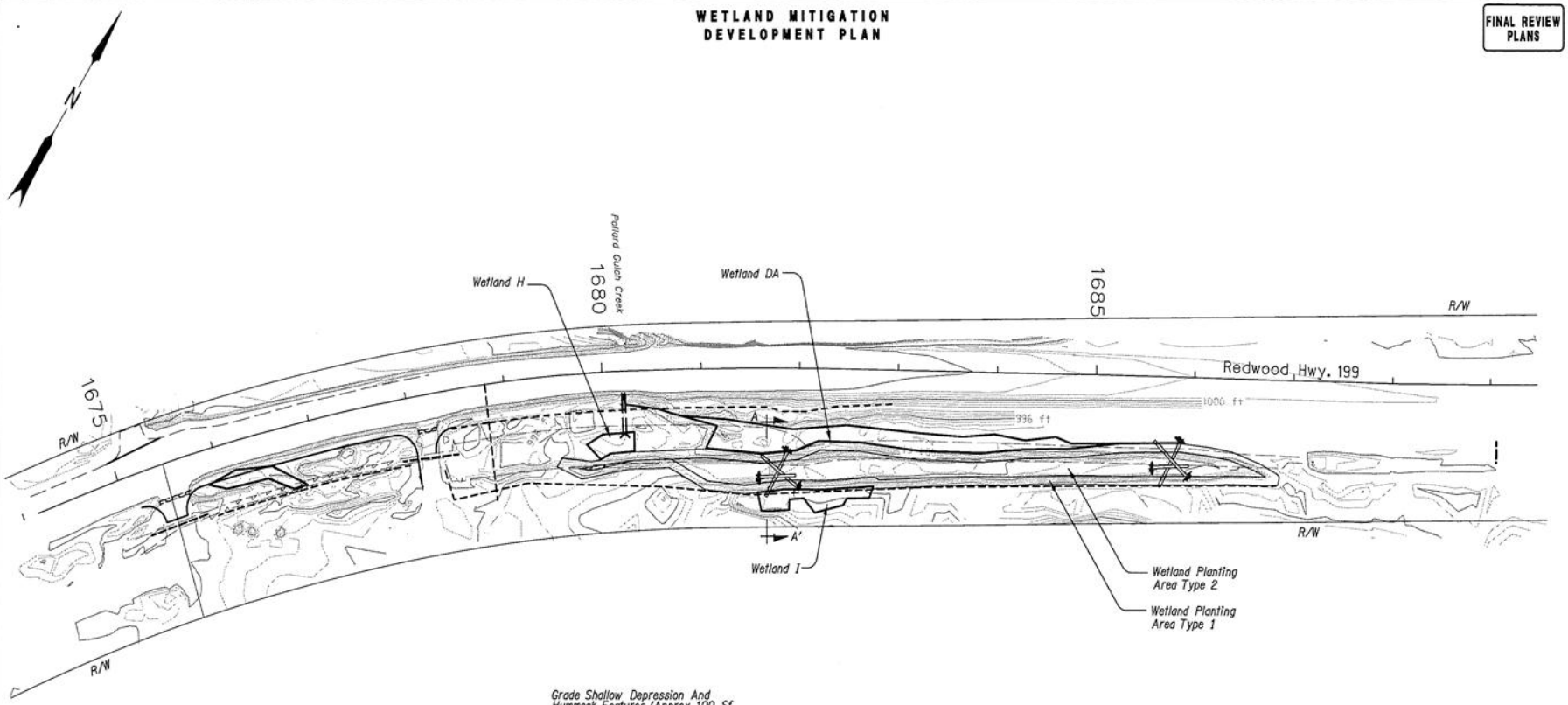
NCDOT
Jackie Armstrong
Teresa Bruton
Chad Kimes
Bill Kincannon
Rodger Rochelle
Maria Rogerson
Flatiron Construction
Elie Homsi
Mark

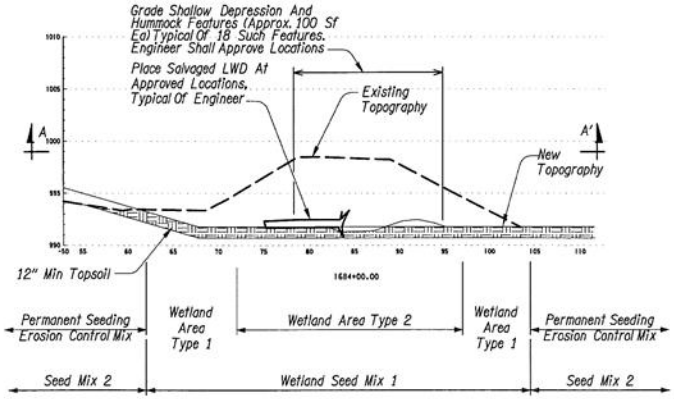
Mitigation Measures:

Riparian Site Restoration

WETLAND MITIGATION DEVELOPMENT PLAN

FINAL REVIEW PLANS





Typical Wetland Section View

100 50 0 100
FEET

REGISTERED
LA 654
Jens R. Swenson
OREGON
1/30/08
LANDSCAPE ARCHITECT

OREGON DEPARTMENT OF TRANSPORTATION

Parametrix

US 199: PASSING LANE (JOSEPHINE COUNTY)
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Design Team Leader - Colin MacLaren
Designed By - Jens Swenson
Drafted By -Paula Morgan

WETLAND MITIGATION DEVELOPMENT PLAN

SHEET NO.
GN

01040.48 Planting Area Prep Method B (Non-cultivated)

Finish *wetland mitigation* planting areas to specified finish elevations, blending to existing ground smoothly... review the seasonal hydrology of the area to be planted for one full winter season (November 15 to February 28) prior to planting any wetland plants... Adjust plant types/locations based on the review of site hydrology… as directed…

01040.51 Planting Wetland Plants

When planting wetland plants, do not use soil amendments, mulch, or fertilizer. Plant rhizomes, tubers and plugs within the upper 2 inches to 3 inches in exposed muddy or moist soils. When the water depth reaches or exceeds 1 inch notify the Agency of the potential need for adjustment to the planting.

General Environmental Inspector Training

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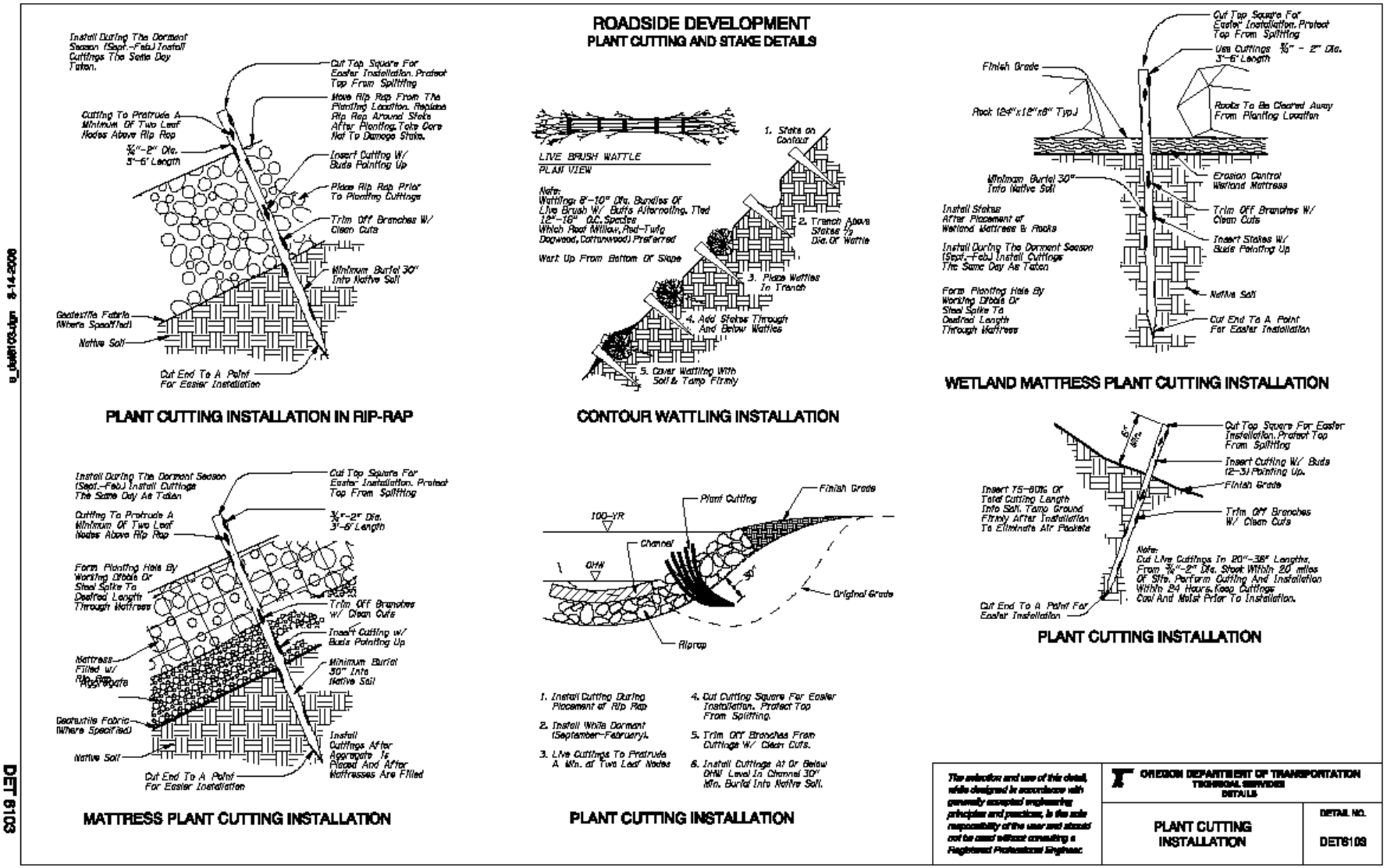

Waterway Enhancements

SECTION 01091 - WATERWAY ENHANCEMENTS

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01091.00 Scope - This work consists of constructing waterway enhancements such as fish rocks, logs, boulders, gravels, and other types of waterway items as shown or directed.

01091.10 Material - Furnish materials meeting the following requirements:

(a) Rocks - 700 pounds to 900 pounds size, hard, durable, angular shaped rock. The thickness of a single rock shall be not less than one-third its length. Round rock, non-durable rock, shale, or rock with shale seams will not be accepted.

(b) Boulders - 1,800 pounds to 2,200 pounds size, hard, durable, subangular rock. The thickness of a single rock shall be not less than three-fourths its length. Non-durable rock, shale or rock with shale seams will not be accepted.

(c) Gravel - 3 inch to 3/16 inch uncrushed, clean, hard, durable material that is well graded from the maximum size to the minimum size.

(d) Logs - 14 inch to 18 inch diameter by 20 feet to 32 feet long conifer trees with rootwad salvaged from the clearing and grubbing operation.

Construction

01091.40 General - Obtain all permits and perform work in and around water according to Section 00290 and the following:

(a) Rocks - Place rocks in the streambed in a random pattern approximately 6 feet apart.

(b) Boulders - Place boulders as shown or directed.

(c) Gravel - Place gravel in the streambed as shown or directed.

(d) Logs - Place logs with the rootwad end projecting into the water with the trunk placed at a 45 degree horizontal angle to the bank. Bury the trunk end approximately one-third the total log length into the embankment.

Unique 00320 - ODFW Stumps and Root Wads (2015 Specifications: 12-04-14)

(Use this unique special provision when the Oregon Department of Fish and Wildlife (ODFW) or a local Watershed council has identified a stockpile site close to the job site, and the ODFW or Watershed council is willing to pick up the material and haul it away at the Contractor's request and at no charge to ODOT.

A letter of public interest finding is required when materials will be stockpiles and retained by the Agency.)

00320.41 Grubbing Operations - Add the following to the end of this subsection:

Stockpile stumps and root wads at no additional cost to the Agency. The stumps and root wads will be used by the Oregon Department of Fish and Wildlife to establish fish habitat in stream beds. Stockpile stumps and root wads meeting the following criteria:

A trunk diameter of 24 inches or greater.
A root wad, at least 4 to 5 feet in diameter.
A long stem or tree trunk attached to the root wad.

Stockpile Stumps and root wads at the following location(s):

- ***(List stockpile location(s) here.)***

Waterways – Check List

- Keep permits on-site
- Know where waterway features occur
- Review contract plans, specifications and special provisions for wetland and waterways issues (290.41, 01030, 01040, 01091, etc.)
- No Work Zones should be clearly identified
- Any questions—contact the **REC**