Washington State Department of Transportation

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March 30, 2015

Ms. Gail Terzi
US Army Corps of Engineers Seattle District
Regulatory Branch CENWS OD RG
PO Box 3755
Seattle, WA 98124-3755

RE: I-5 SR 432 Talley Way Interchange (Carrolls Creek) Wetland Mitigation Site
USACE Nationwide Permit (23) NWS-2009-444

Dear Ms. Terzi:

The Washington State Department of Transportation completed qualitative monitoring of the I-5 Carrolls Creek mitigation site on July 30, 2014, to address Year-3 (2015) performance standards. Monitoring activities included vegetation observations and photo documentation. This Year-2 report is being issued for compliance with the reporting requirements of the United States Army Corps of Engineers Permit Number NWS-2009-444.

General Site Information		
USACE NWP 23 Number	NWS-2009-444	
Mitigation Location	East of I-5, South of Rose Valley Rd, just south of the Cowlitz and Columbia River confluence, Cowlitz County	
LLID Number	1228610460737	
Construction Date	2012	
Monitoring Period	2013-2022	
Year of Monitoring	2 of 10	
Type of Project Impact	Permanent Wetland	Permanent Buffer
Area of Project Impact[1]	3.38 acres	5.87 acres
Type of Mitigation	Wetland Enhancement	Buffer Enhancement
Area of Mitigation[2]	13.6 acres	11.68 acres

[1] Project impacts from USACE Nationwide Permit NWS-2009-444 (USACE 2009).
[2] Impacts for this project are being mitigated at two mitigation sites, Carrolls Creek and Sandy Bend. Sandy Bend includes an additional 4.56 acres wetland establishment, 0.47 acres of wetland enhancement, and 3.37 acres of buffer enhancement. The monitoring period for Sandy Bend began with year one in 2012.

Year-3 (2015) Performance Standards	2014 Results	Management Activities
Minimum density of 400 living native trees per acre [in the forested wetland]	Difficult to estimate visually; will be assessed in 2015 by sampling	
Minimum density of 4,000 living native shrubs per acre [in the forested wetland]	Less than 4,000 shrubs per acre	
At least 2 species of native trees and 4 species of native shrubs will be present in the forested area. No single species will provide more than 60% total aerial cover.	At least two native tree species and at least 4 native shrub species present. No single species provides more than 60% cover.	
Minimum density of 4,000 living native shrubs per acre [in the scrub-shrub wetland]	Less than 4,000 shrubs per acre	
At least 4 species of native shrubs will be present in the Scrub Shrub area. No single species will provide more than 60% total aerial cover.	At least 4 native shrub species present. No single species provides more than 60% cover.	
Minimum density of 400 living native trees per acre [in the buffer]	Difficult to estimate visually; will be assessed in 2015 by sampling	
Minimum density of 4,000 living native shrubs per acre [in the buffer]	Less than 4,000 shrubs per acre	
At least 2 species of native trees and 4 species of native shrubs will be present in the [buffer]. No single species will provide more than 60% total aerial cover.	At least two native tree species and at least 4 native shrub species present. No single species provides more than 60% cover.	
No more than 15% cover of blackberry (*Rubus* species) and Class A noxious weeds across the entire site	No Class A noxious weeds present. The cover of non-native blackberry species across the site is estimated at less than 5%.	Weed control conducted in March and August of 2014
The aerial extent of reed canarygrass (*Phalaris arundinacea*) will be managed at a threshold 10% below the existing baseline conditions	Difficult to estimate visually; will be assessed in 2015	Weed control conducted in March and August of 2014

Site development:

In general the site is developing reasonably well despite appearing to be below most of its native woody density performance standards. Native woody cover is relatively high in all areas of the site except for the scrub-shrub zone, where it is very wet, reed canarygrass (*Phalaris arundinacea*) is dominant, and the growth of the plantings (primarily willows) has been slow. Despite the relatively promising development of the site, it will likely continue to underperform because of the performance standards. The targeted densities may be higher than necessary and the standards for native woody vegetation do not switch to cover as the monitoring period progresses.

Photo 1 – Woody density in the forested wetland (July 2014)

Results for Performance Standard 1
(Minimum density of 400 living native trees per acre in the forested wetland):

This attribute is difficult to estimate visually with any reasonable degree of accuracy. It will be assessed in 2015 with statistical sampling.

Results for Performance Standard 2
(Minimum density of 4,000 living native shrubs per acre in the forested wetland):

The density of native shrubs in the forested wetland (Photo 1) is visually estimated to be less than 4,000 shrubs per acre. This attribute will be assessed with statistical sampling in 2015.

Results for Performance Standard 3
(At least 2 species of native trees and 4 species of native shrubs will be present in the forested area. No single species will provide more than 60% total aerial cover):

At least two species of native trees and four species of native shrubs are present in the forested wetland and no single species is providing more than 60 percent cover.

Results for Performance Standard 4
(Minimum density of 4,000 living native shrubs per acre in the scrub-shrub wetland):

The density of native shrubs in the scrub-shrub wetland was visually estimated to be less than 4,000 shrubs per acre. This attribute will be assessed with statistical sampling in 2015.

Results for Performance Standard 5
(At least 4 species of native shrubs will be present in the Scrub Shrub area. No single species will provide more than 60% total aerial cover):

At least four species of native shrubs are present in the scrub-shrub wetland and no single species is providing more than 60 percent cover.

Results for Performance Standard 6
(Minimum density of 400 living native trees per acre in the buffer):

This attribute is difficult to estimate visually with any reasonable degree of accuracy. It will be assessed in 2015 with statistical sampling.

Results for Performance Standard 7
(Minimum density of 4,000 living native shrubs per acre in the buffer):

The density of native shrubs in the buffer (Photo 2) is visually estimated to be less than 4,000 shrubs per acre. This attribute will be assessed with statistical sampling in 2015.

Photo 2 – Woody density in the buffer (July 2014)

Results for Performance Standard 8
(At least 2 species of native trees and 4 species of native shrubs will be present in the buffer. No single species will provide more than 60% total aerial cover.):

At least two species of native trees and four species of native shrubs are present in the forested wetland and no single species is providing more than 60 percent cover.

Results for Performance Standard 9
(No more than 15% cover of blackberry species and Class A noxious weeds across the entire site):

No Class A noxious weeds were observed on-site during monitoring activities. The cover of non-native blackberry species across the site is visually estimated to be less than five percent.

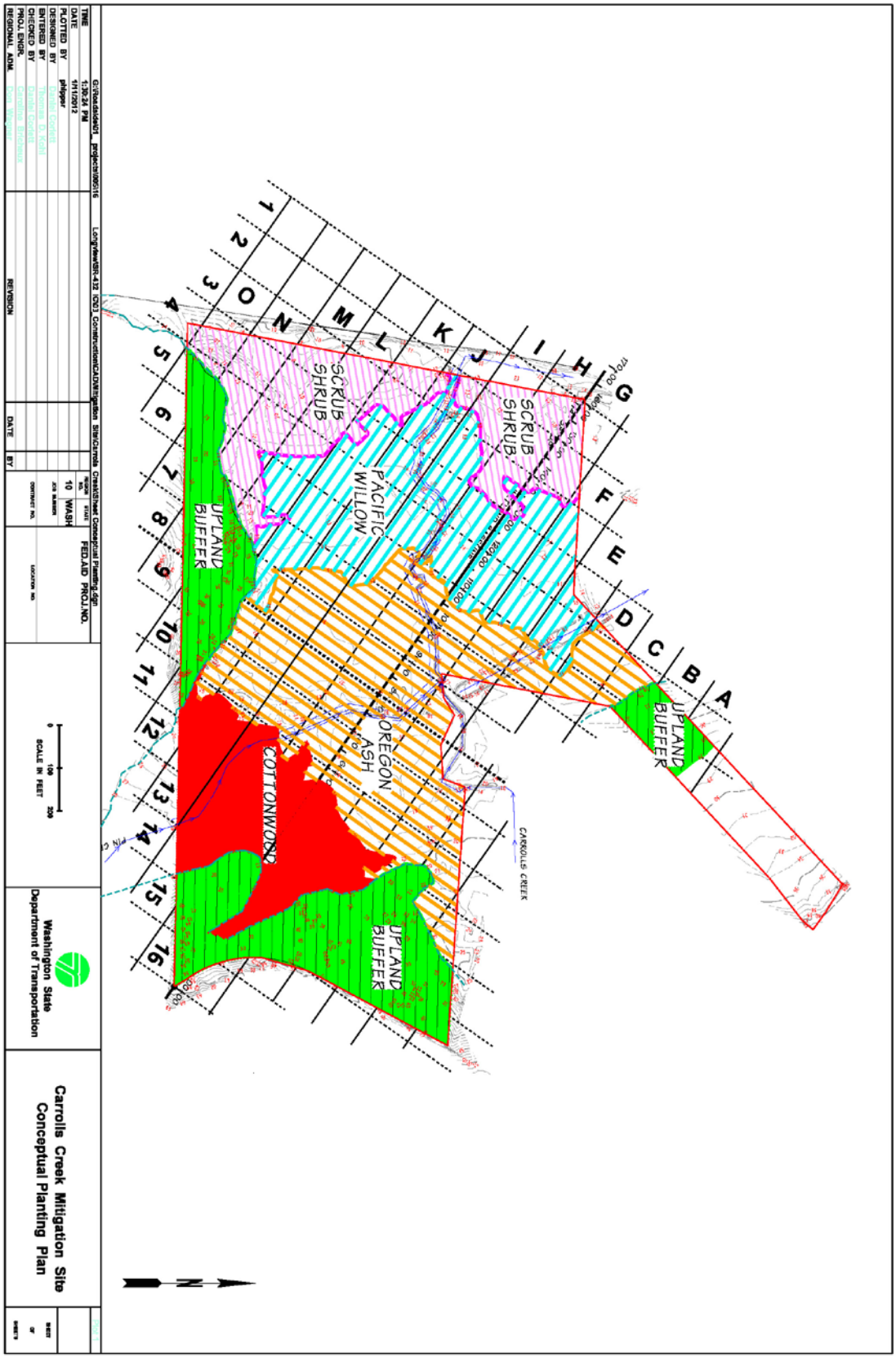
Results for Performance Standard 10
(The aerial extent of Reed Canarygrass will be managed at a threshold 10% below the existing baseline conditions):

This attribute is difficult to estimate visually with any reasonable degree of accuracy. This standard will be addressed in 2015.

We welcome your questions or comments. Please contact me at 360/570-6640 or by e-mail at busht@wsdot.wa.gov for questions about these mitigation sites.

Sincerely,

Tony Bush
Wetlands Program


Carrolls Creek Mitigation Site
Conceptual Planting Plan
Washington State
Department of Transportation
SCALE IN FEET
SCRUB SHRUB
PACIFIC WILLOW
OREGON ASH
COTTONWOOD
UPLAND BUFFER
CARROLLS CREEK
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