

**I-82 Valley Mall Boulevard Interchange Improvement
Mitigation Site
(Valley Mall Mitigation Site)**

USACE NWP (23) NWS-2009-121

South Central Region

2014 MONITORING REPORT

Wetlands Program

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I-82 Valley Mall Boulevard Interchange Improvement Mitigation Site

USACE NWP (23) NWS-2009-121

	General Site Information		
	USACE NWP 23 Number	NWS-2009-121	
	Mitigation Location	East side of I-82, adjacent to exit 36 along the left bank of Spring Creek, Yakima County	
	LLID Number	1204698465575	
	Construction Date	2010-2011	
	Monitoring Period	2012-2018	
	Year of Monitoring	3 of 7	
	Type of Project Impact	Wetland	Wetland Buffer
	Area of Project Impact	0.04 acre	0.79 acre
	Type of Mitigation	Riparian Enhancement	
	Planned Area of Mitigation	0.36 acre	

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Summary of Monitoring Results and Management Activities (2014)

Performance Standards	2014 Results	Management Activities
At least 60% survival of planted woody species	81% survival	
County-listed Class A noxious weeds and invasives removed and Class C noxious weed, reed canarygrass (<i>Phalaris arundinacea</i>), managed.	Achieved; no Class A weeds observed	Maintenance has continued to mow the reed canarygrass and to spray weeds just around the plantings.

Report Introduction

This report summarizes third-year (Year-3) monitoring activities at the Interstate (I) 82 Valley Mall Mitigation Site. Included are a site description, the performance standards, an explanation of monitoring methods, and an evaluation of site development. Monitoring activities included vegetation surveys and photo-documentation that occurred on July 7, and September 3, 2014.

What is the I-82 Valley Mall Mitigation Site?

This 0.36 acre riparian enhancement area (Figure 1) is part of a larger parcel owned by WSDOT. This site was created to compensate for the loss of 0.04 acre of wetlands and 0.79 acre of wetland buffer due to interchange improvements along I-82 and Valley Mall Boulevard. The six seasonally inundated planting zones are designed in a ribbed configuration that is intended to deflect floodwater from the I-82 embankment. The long-term goal is for willow to outcompete and replace reed canarygrass.

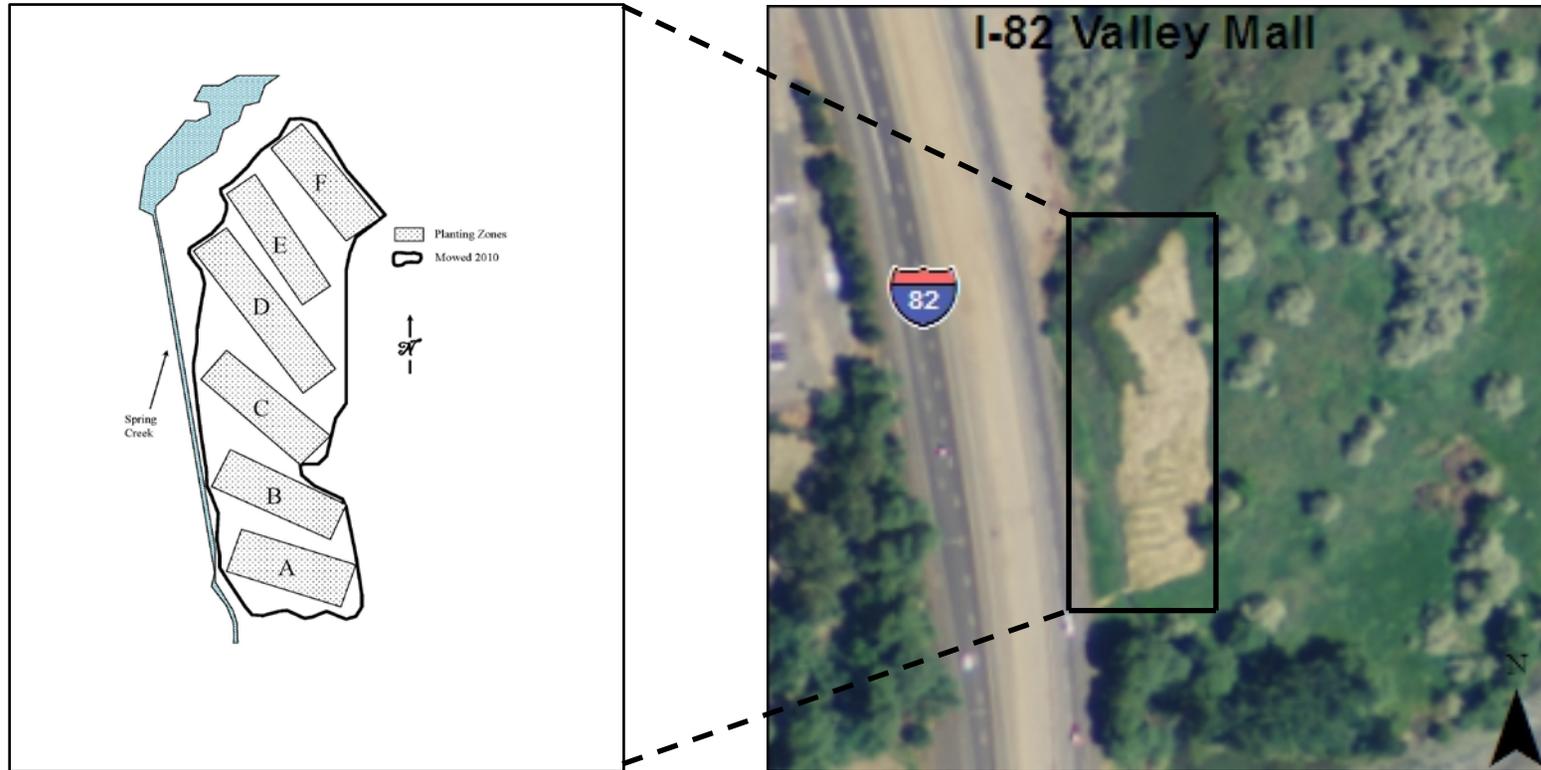


Figure 1 Site Sketch

The I-82 Valley Mall Mitigation Site contains six rectangular planting areas on the left bank of Spring Creek. They are planted with sandbar willow (*Salix exigua*). Appendix 2 includes site directions.

What are the performance standards for this site?

Year 3

Performance Standard 1

Native, woody plant survival, planted and /or volunteer, shall be at least 60 percent of the total number of plants installed, or native woody plant cover shall be at least 25 percent. If dead plantings are replaced to meet at least 60 percent of the number of plants installed, the performance measure will be met.

Performance Standard 2

County-listed Class A noxious weeds and invasives will be removed from the site, when observed. Reed canarygrass, a Class C noxious weed, will be managed in a manner that allows installed plants to establish and grow to a height greater than that of mature reed canary grass.

Appendix 1 shows the as-built planting plan (WSDOT 2014)

How were the performance standards evaluated?

To evaluate standards for vegetative survival, a total count of live stems was completed by South Central Region Staff to compare to original planting numbers from the 2013 as-built (Performance Standard 1) (Appendix 1). Wetland monitoring staff also looked for county-listed Class A noxious weeds and other invasive plant species across the site (Performance Standard 2).

For additional details on the methods, see the [WSDOT Wetland Mitigation Site Monitoring Methods Paper](#) (WSDOT 2008).

How is the site developing?

This site appears to be more successful this year than in previous years. Survival of woody species across the planting areas is high with volunteer stems within the plots included in the count. Cover of native woody species is low (qualitatively estimated at 15 percent) due to the height of the protectors not allowing for canopy growth at this stage of development. Volunteer willows are established between plots C and D, but are not included in the count.

Pale-yellow iris (*Iris pseudacorus*), thistles (*Cirsium* spp.), and broadleaved pepperweed (*Lepidium latifolium*) were observed just offsite and within the adjacent creek.

Wildlife was observed during monitoring activities including a hawk, bees, and dragonflies. No inundation or saturation was observed during the summer monitoring event.

The I-82 Valley Mall Mitigation Site currently meets both Year-3 and final Year-7 standards. Should the site be confirmed to meet Year-7 standards in 2015, application for early closeout may be warranted.

Results for Performance Standard 1

(At least 60% survival of woody species):

A total of 192 live stakes (including volunteers within the plots) were observed compared to the 233 stakes that were planted, resulting in 82 percent native woody plant survival (Photo 1). This value exceeds the performance standard target.

Results for Performance Standard 2

(County-listed Class A noxious weeds and invasives removed, and Class C noxious weed, reed canarygrass managed):

No Class A noxious weeds were observed during monitoring activities. Continued mowing of the reed canarygrass and spraying around the plantings has reduced competition and helped the woody species to become established.

What is planned for this site?

Vegetation management will include mowing of reed canarygrass and control of yellow-flag iris and thistles. Dead willow stakes may also be replaced, depending on how many have died and how quickly canopy coverage increases.



Photo 1
Native, woody plant survival (September 2014)

Appendix 1 – As-Built Planting Plan with Photo Point Locations

(from WSDOT 2015)



Appendix 2 – Photo Points

The photographs below were taken from permanent photo-points on July 7, 2014 and document current site development.



Photo Point 1-1



Photo Point 1-2



Photo Point 1-3



Photo Point 1-4



Photo Point 2-1



Photo Point 2-2



Photo Point 2-3



Photo Point 2-4



Photo Point 3-1



Photo Point 3-2



Photo Point 3-3



Photo Point 3-4



Photo Point 3-5



Photo Point 3-6



Photo Point 4-1



Photo Point 4-2



Photo Point 4-3



Photo Point 4-4



Photo Point 4-5



Photo Point 4-6



Photo Point 4-7



Photo Point 5-1



Photo Point 5-2



Photo Point 5-3

Driving Directions:

From I-90 merge onto US 97 South (signs for I-82 E/Yakima). Continue onto I-82 East. Take exit 37 to merge onto US 97 South toward Goldendale/Bend Oregon for 1.8 miles then make a U-turn. Keep left at the fork and follow signs for I-82 West/US 97 North/Yakima. Merge onto I-82 West/US 97 North. After about a mile, the site is located between milepost 36 and 37. Park on the right (east) side of the highway.

Literature Cited

1. [USACE] US Army Corps of Engineers. 2013. Department of the Army Permit Number 2009-121.
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5. [WSDOT] Washington State Department of Transportation. 2008. WSDOT Wetland Mitigation Site Monitoring Methods. <http://www.wsdot.wa.gov/NR/rdonlyres/C211AB59-D5A2-4AA2-8A76-3D9A77E01203/0/MethodsWhitePaper052004.pdf>