TECHNICAL MEMORANDUM

To:	Jim Carsner, PWS, U.S. Army Corps of Engineers	Date:	December 16, 2020
From:	Phil Wiescher, PhD, and Curtis Riley, RLA	Project:	NWS-2013-875
RE:	Port of Ridgefield Lake River Remedial Action (NWS-2013-875) Year 5 (2020) Vegetation Monitoring		

On behalf of the Port of Ridgefield (Port), Maul Foster & Alongi, Inc. (MFA) has prepared this Year 5 (2020) vegetation monitoring report consistent with the Lake River Riparian Enhancement Plan (LRRE) (MFA, 2014), which has been implemented in accordance with the U.S. Army Corps of Engineers (COE) Nationwide Permit 38 (NWS-2013-875), issued for the Lake River remedial action in Ridgefield, Washington. The remedial action addressed historical contamination of sediment in Lake River adjacent to Millers' Landing, site of the former Pacific Wood Treating Co. (PWT) facility (see Figure 1). PWT filed for bankruptcy and abandoned the site in 1993. The remedial action was required by the Washington State Department of Ecology for protection of human health and the environment and included precision dredging of contaminated sediment; placement of clean sand to contain residual contamination; bank stabilization elements, including placement of turf reinforcement mat and fish mix rounded rock; and removal of in-water and shoreline debris. To stabilize the bank, predominantly nonnative and some native vegetation was removed along the shoreline. The remediation work and restoration plantings implemented to improve the physical characteristics of the riverbank and establish a native plant community were substantively completed in spring 2015.

Institutional controls and an associated environmental covenant are not required for Lake River. However, characterization of current sediment conditions adjacent to the riverbank will be required before any activities resulting in significant sediment disturbance, such as in-water construction or dredging, are initiated.

Lake River is an 11-mile-long side channel of the Columbia River and lies in the lower Columbia River west of Ridgefield, Washington, near the confluence of the Columbia and Lewis rivers. As described in the LRRE, shoreline vegetation in 2014, before the remediation work, consisted predominantly of nonnative California false indigo; reed canary grass; Himalayan blackberry; weeds (e.g., Queen Anne's lace); and low-growing groundcover. Native vegetation was limited, generally isolated, and surrounded by nonnative vegetation. Natives present included Oregon ash, cottonwood species, and willow species.

Approximately 148 lineal feet of native shrubs and trees along the approximately 1,800-foot-long shoreline were removed as part of the bank stabilization work and required compensatory mitigation. Three planting groves with native shrubs and trees, spanning a total of approximately 500 lineal feet, were installed on the shoreline in 2015 to meet the required compensation (2:1 mitigation ratio based on lineal feet) for unavoidable impacts to aquatic resources. In addition, the open areas between the groves were planted with native grasses. The total native plant area extends the length of the shoreline, covering approximately 2.7 acres. Plantings were installed as documented in the Lake River construction completion report (MFA, 2018a).

Monitoring of the planting-grove vegetation is to be conducted annually for five years (ending in 2020). Year 1 (2016) mitigation monitoring was conducted in summer 2016, with results provided in the November 2016 monitoring report submitted to the COE (MFA, 2016). In brief, the 2016 report concluded that much of the planted woody vegetation had browned or perished, likely because of insufficient water during summer 2016, and the associated performance standard had not been met. Limited invasive-species encroachment had occurred, and the associated performance standard had been met. Invasive-species encroachment was generally due to isolated occurrences of reed canary grass or common weeds such as Queen Anne's lace, and the native grasses planted were well-established and dense.

The Year 2 (2017) mitigation monitoring conducted in September 2017 concluded, as in the 2016 report, that much of the planted woody vegetation had browned or perished, likely because of insufficient watering. Based on these results, replacement plantings in all three groves, as well as ongoing manual control measures for invasive species, were recommended to meet the performance standards. These species included: serviceberry *(Amelanchier alnifolia)*, Douglas spiraea *(Spiraea douglasii),* Nootka rose *(Rosa nutkana),* Pacific willow *(Salix lucida),* tall Oregon grape (*Mahonia aquifolium),* and red alder *(Alnus rubra)* (MFA, 2017). Replanting was conducted in the three groves in December 2017.

Year 3 (2018) continued with vegetation management with mowing, cutting, and hand-pulling competing vegetation; controlling invasive species; and operating/repairing the irrigation system. Irrigation/maintenance visits from April through September 2018 included hand-watering of each planting grove and performing vegetation management as needed. Invasive species (i.e., primarily reed canary grass) were removed as part of these 2018 activities (MFA, 2018b).

Year 4 (2019) continued with vegetation management with mowing, cutting, and hand-pulling competing vegetation; controlling invasive species; and operating/repairing the irrigation system (MFA 2019). Some additional plantings were installed in each of the planting groves as part of the maintenance contract with Sound Native Plants (SNP) of Olympia, Washington. Irrigation/maintenance visits from April through September 2018 included hand-watering of each planting grove and managing vegetation as needed. Invasive species (i.e., primarily reed canary grass) were removed as part of these 2018 activities (MFA, 2018b).

Year 5 (2020) showed signs of continued successful establishment of the initial (2015) restoration efforts and of the 2017 replanted vegetation. Ongoing maintenance includes mowing and removal of competing vegetation. Supplemental irrigation is no longer used to encourage drought tolerance. An increase in the number of native woody species, likely due to established plants and naturalization, was observed.

SITE MANAGEMENT ACTIVITIES

The landscape contractor, Paul Brothers, Inc. (PBI), of Boring, Oregon, restored and planted the shoreline. Plantings were completed in May 2015 and have been maintained as documented in the Lake River completion report (MFA, 2018a). MFA gave verbal notice of substantial completion to PBI at a site inspection conducted in October 2015.[1]

MFA conducted initial site inspections (September 2015), which included walking the project site; noting the condition of landscaping, weed infestations, and plant damage; and documenting site conditions. In October 2015, PBI removed the irrigation system. Following the 2016 site monitoring, MFA provided the 2016 monitoring report to PBI, informing them that replacement plantings and some invasive-species control would be necessary to meet performance standards. PBI recommended replacement planting in fall/winter 2017 to optimize plant establishment.

MFA conducted the Year 2 monitoring in September 2017, and the results were provided to PBI to present the planting requirements (e.g., number of plants needed) and the refined species selection for the site (i.e., identify species that appear to be most tolerant of site conditions and that had shown establishment success) (MFA, 2017). Following the fall 2017 monitoring, a revegetation memo was submitted to PBI to direct the replanting efforts. In December 2017, PBI proceeded with the replanting of all three upland groves along Lake River.

In spring 2018, SNP continued vegetation management with mowing, cutting, and hand-pulling competing vegetation; controlling invasive species; and operating/repairing the irrigation system. SNP conducted six irrigation/maintenance visits from April through September 2018 to hand-water each planting grove and manage vegetation as needed. Invasive species (i.e., primarily reed canary grass) were removed as part of these 2018 activities.

In 2019, SNP continued vegetation management with mowing, cutting, and hand-pulling competing vegetation; controlling invasive species; and hand-watering each of the planting groves as required. Much of the native vegetation originally planted as part of the initial restoration efforts in 2015 had become established. In addition, vegetation newly planted as part of the 2017 replanting was showing signs of becoming self-sufficient.

In 2020, the initial (2015) restoration efforts and the vegetation installed as part of the 2017 replanting showed signs of becoming self-sufficient. The Port has taken on maintenance activities and continues

[1] This does not include PBI's ongoing maintenance required as part of the contract, which includes maintaining all planted areas through October 2018 in order to meet performance standards identified in the contract documents.

to mow and remove competing vegetation as required. To encourage drought tolerance, supplemental irrigation has been discontinued.

PERFORMANCE STANDARDS

The following performance standards for the mitigation area are taken from the LRRE:

Performance Standard 1. *During all monitoring periods, non-native, invasive plant species will not exceed 20 percent aerial cover in the planting areas.*

Year 5 compliance with this performance standard is evaluated below.

Performance Standard 2. *Fish mix rounded rock material (7-inch median) will cover 100% of the riverbank from the toe of the slope to a minimum elevation between +11 feet and +14 NGVD. Turf reinforcement mat (TRM) will be in place from the fish mix extent to the top of the bank (approximately +22 NGVD).*

This performance standard has been met. Documentation is provided in the Lake River completion report (MFA, 2018a), and this standard is not further evaluated below.

Performance Standard 3.1: *Planted, native tree and shrub species will achieve 100 percent survival during the first and second years after the site is planted. If dead plantings are replaced, the performance standard will be met.*

This performance standard does not apply to this monitoring event.

Performance Standard 3.2. *During the third through fifth years after planting, native tree and shrub species will achieve 80 percent survival. If dead plantings are replaced, the performance standard will be met.*

Alternatively:

Performance Standard 3.2. *Native tree and shrub species will provide 15 percent aerial cover in the third year and 25 percent aerial cover in the fifth year in the planting areas.*

Year 5 compliance with this performance standard is evaluated below.

COMPLIANCE MONITORING METHODOLOGY

The planting areas were inspected on October 16, 2020. The goal of the monitoring inspection was to determine the survival rate of the installed plant material and the extent of nonnative invasive plant encroachment and to inform maintenance and potential plant replacement tasks required in order to meet the performance standards. The monitoring was performed by MFA ecologists, consistent with the methodology and locations described in the 2016 monitoring report (MFA, 2016), and included:

- Establishing the identity and percent survival of native vegetation, using a point-line method; monitoring points at fixed intervals (approximately 5 feet) along three sampling transects spanning each planting grove were evaluated (see Figure 2). Data were recorded for plants

within 1 foot of the sampling units. Percent survival for each of the three planting groves was determined based on the number of times a live species was observed at a sampling unit divided by the total number of times that species was observed.

- Establishing the areal percent cover of native and invasive vegetation, using the point-line method described above. Both native and invasive percent cover for each planting grove was determined based on the number of times native vegetation was present at a sampling unit divided by the total number of sampling units in a grove.
- Taking photographs at representative photodocumentation points established in 2016 to compare plant vigor and growth between monitoring inspections. Three photodocumentation points for each planting grove (total of nine) were identified, as shown in Figure 2.

RESULTS

This is the fifth year of monitoring. Monitoring focused on plant identification and cover to evaluate the project performance standards. Transect data are provided in the attached table and are discussed below with respect to the relevant performance standards presented above.

In general, the originally (2015) planted woody vegetation, in addition to the replanted (2017) vegetation, is becoming well-established and diverse. An increase in the number of native woody species, likely due to established plants and naturalization, was observed. Annual vegetation management and the well-established and dense native grasses have limited invasive-species encroachment as feasible; however, there are occurrences of reed canary grass and common weeds such as thistle. A photo array showing the 2020 site conditions and photodocumentation points is attached.

CONCLUSIONS AND RECOMMENDATIONS

Performance Standard 1. *During all monitoring periods, non-native, invasive plant species will not exceed 20 percent aerial cover in the planting areas.*

The average cover for all areas surveyed is 73 percent, exceeding the performance standard. The aerial cover in Grove 1 was 80 percent; in Grove 2, 73 percent; and in Grove 3, 67 percent. This is an increase from the 2019 monitoring and is due primarily to the spread of unidentified, low-growing weeds; some spreading patches of thistle; and small isolated patches of reed canary grass. The grass and thistle likely encroached from the Ridgefield National Wildlife Refuge immediately north, where reed canary grass and thistle are widespread in dominant stands. The reed canary grass stands are occasionally mowed by the U.S. Fish and Wildlife Service (USFWS), and many acres of trees (which may help limit spread of the grass) were recently planted by USFWS in the same area. However, current USFWS budgets and staffing levels typically do not allow for robust reed canary grass treatments (e.g., removal of the rhizome systems) to fully control regrowth and dispersal (USFWS, 2010).

To meet performance standards, reed canary grass and other invasive plant and root mass will be removed from the planting groves as part of the continued vegetation management efforts.

Performance Standard 3.2. *During the third through fifth years after planting, native tree and shrub species will achieve 80 percent survival. If dead plantings are replaced, the performance standard will be met.*

Survival for native woody vegetation in Groves 1 (100 percent), 2 (99 percent), and 3 (100 percent) is above 80 percent. Replacement plantings were installed and maintained in 2017 through 2020 as described above. The performance standard has been met.

This monitoring report demonstrates the completion of the required vegetation monitoring timeframe stated in the LRRE (MFA, 2014) and is in accordance with COE Nationwide Permit 38 (NWS-2013-875), issued for the Lake River. As mentioned in the conclusions above, the native plant areal cover and plant survival performance standards have been met. The exceedance of invasive species in the mitigation areas does not meet performance standard 1 because of the presence of weeds, thistle, and reed canary grass immediately to the north in the Ridgefield National Wildlife Refuge. Control of these invasives would require a long-term approach by USFWS and would involve a significant effort.

Vegetation monitoring and maintenance have been consistent throughout the required monitoring period and have met the attainable goals and objectives for this compensatory mitigation project. Upon receiving written concurrence from the District Commander of the COE, the Port will assume that this concludes the monitoring efforts and that no additional reports are required.

LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

REFERENCES

MFA. 2014. Revised Lake River riparian enhancement plan addendum to the Joint Aquatic Resources Permit Application, NWS-2013-875. Maul Foster & Alongi, Inc., Vancouver, Washington. January 17.

MFA. 2016. Port of Ridgefield Lake River remedial action (NWS-2013-875) Year 1 (2016) vegetation monitoring. Maul Foster & Alongi, Inc., Vancouver, Washington. November 11.

MFA. 2017. Port of Ridgefield Lake River remedial action (NWS-2013-875) Year 2 (2017) vegetation monitoring. Maul Foster & Alongi, Inc., Vancouver, Washington. November 20.

MFA. 2018a. Lake River construction completion report, Lake River remedial action, former Pacific Wood Treating Co. site. Maul Foster & Alongi, Inc., Vancouver, Washington. October 1.

MFA. 2018b. Port of Ridgefield Lake River remedial action (NWS-2013-875) Year 3 (2018) vegetation monitoring. Maul Foster & Alongi, Inc., Vancouver, Washington. December 13.

MFA. 2019. Port of Ridgefield Lake River remedial action (NWS-2013-875) Year 4 (2019) vegetation monitoring. Maul Foster & Alongi, Inc., Vancouver, Washington. December 17.

USFWS. 2010. Ridgefield National Wildlife Refuge comprehensive conservation plan. U.S. Fish and Wildlife Service. September.

ATTACHMENTS

Table
Figures
Photographs

TABLE

MAUL FOSTER ALONGI

Table
Lake River Remedial Action (NWS-2013-875)
Year 5 Vegetation Monitoring
Port of Ridgefield
Ridgefield, Washington

Transect	A.MIL	L.SPP	C.SER	A. ALN	H. DIS	P.CAP	L.INV	J.SPP	M. AQU	UNS	R.SPP	P.SPP	S.ALB	S.DOU	S.LAS	S.SCO	P.MEN	NAGR	T.REP	D.CAR	CIRS	UNW	C. SCO	P.ARU	R.CRI
	Native Species																			Invasive Species					
PLANTING GROVE 1																									
G1-A1	X	X												X				G			X	X			
G1-A2								X										G				X			
G1-A3		X						X				X						G				X			
G1-A4		X												X				G		X	X	X		X	
G1-A5									X									G			X	X			
G1-A6		X						X			X							G							
G1-A7		X			X													G							
G1-A8													X					G				X			
G1-A9		X			X													G			X	X			
G1-A10		X							X				X					G				X			
G1-B1	X	X												X				G							
G1-B2		X												X				G				X			
G1-B3														X				G							
G1-B4								X						X				G							
G1-B5														X				G							
G1-B6														X				G				X			
G1-B7		X							X					X				G				X			
G1-B8		X		X					X									G				X			
G1-B9		X							X									G				X			
G1-B10		X																G							X
G1-C1		X						X					X	X				G			X	X		X	
G1-C2		X			X			X					X					G				X		X	X
G1-C3					X			X										G				X		X	
G1-C4		X			X			X			X							G				X		X	
G1-C5					X						X							G				X		X	
G1-C6		X		X	X			X										G		X	X	X		X	
G1-C7		X		X							X							G		X	X	X		X	
G1-C8		X		X				X										G		X	X	X		X	
G1-C9				X				X			X			X				G			X	X		X	
G1-C10								X			X		X					G			X	X		X	
Native Percent Cover (all vegetation)	100%																								
Native Percent Cover (not including groundcover)	97%																								
Native Percent Survival (not including groundcover)	100%																								
Native Species Diversity (all vegetation)	11																								
Native Species Diversity (not including groundcover)	10																								
Native Species Total Count (entire grove survey)	73																								
Invasive Percent Cover	80%																								

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Table
Lake River Remedial Action (NWS-2013-875)
Year 5 Vegetation Monitoring
Port of Ridgefield
Ridgefield, Washington

Transect	A.MIL	L.SPP	C.SER	A. ALN	H. DIS	P. CAP	L.INV	J.SPP	M. AQU	UNS	R.SPP	P.SPP	S.ALB	S.DOU	S.LAS	S.SCO	P.MEN	NAGR	T.REP	D.CAR	CIRS	UNW	C. SCO	P.ARU	R.CRI
	Native Species																			Invasive Species					
PLANTING GROVE 2																									
G2-A1		X							X					X				G							
G2-A2								X			X			X				G		X		X			
G2-A3								X			X			X				G							
G2-A4								X			X	X		X				G				X			
G2-A5						X		X	X					X				G							
G2-A6				X							X							G				X			
G2-A7								X			X			X				G				X			
G2-A8									X		X							G				X			
G2-A9								X						X				G				X			
G2-A10				X														G			X	X			
G2-B1												X		X				G						X	X
G2-B2											X							G							
G2-B3											X							G							
G2-B4								X	X		X							G							
G2-B5											X							G			X	X			
G2-B6								X	X					X				G							
G2-B7				X							X							G			X	X			
G2-B8					X			X			X							G				X			
G2-B9								X			X							G				X			
G2-B10								X			X	X		X				G			X	X			
G2-B11								X						X				G				X			
G2-B12								X			X			X				G				X			
G2-B13		X						X					X	X				G			X	X			
G2-B14											X		X	X				G				X			
G2-B15		X						X						X				G			X			X	
G2-B16										D					X			G			X				
G2-B17						X								X				G			X	X			
G2-B18														X	X			G			X				
G2-B19														X				G				X			
G2-B20														X				G							
Native Percent Cover (all vegetation)	100%																								
Native Percent Cover (not including groundcover)	100%																								
Native Percent Survival (not including groundcover)	99%																								
Native Species Diversity (all vegetation)	12																								
Native Species Diversity (not including groundcover)	11																								
Native Species Total Count (entire grove survey)	71																								
Invasive Percent Cover	73%																								

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Table
Lake River Remedial Action (NWS-2013-875)
Year 5 Vegetation Monitoring
Port of Ridgefield
Ridgefield, Washington

Transect	A.MIL	L.SPP	C.SER	A. ALN	H. DIS	P. CAP	L.INV	J.SPP	M. AQU	UNS	R.SPP	P.SPP	S.ALB	S.DOU	S.LAS	S.SCO	P.MEN	NAGR	T.REP	D.CAR	CIRS	UNW	C. SCO	P.ARU	R.CRI
	Native Species																			Invasive Species					
PLANTING GROVE 3																									
G3-A1									X									G				X			X
G3-A2									X									G				X			X
G3-A3									X					X				G				X			X
G3-A4														X				G			X				
G3-A5																		G			X	X			
G3-A6														X				G				X			
G3-A7														X				G			X				
G3-A8																		G							
G3-A9												X						G							
G3-A10	X			X					X		X							G				X			
G3-A11									X		X							G				X			
G3-A12					X						X							G			X	X			
G3-A13					X													G				X			
G3-A14					X									X				G							
G3-A15														X				G							
G3-B1														X				G							
G3-B2														X				G			X	X			
G3-B3											X			X				G			X				
G3-B4											X			X			X	G							
G3-B5											X			X				G							
G3-B6		X												X				G			X				
G3-B7				X							X							G							
G3-B8																		G							
G3-B9				X														G				X			
G3-B10				X							X							G				X			
G3-B11											X							G				X			
G3-B12											X							G				X			
G3-B13				X							X							G							
G3-B14																		G				X			
G3-B15														X				G			X				
Native Percent Cover (all vegetation)	100%																								
Native Percent Cover (not including groundcover)	87%																								
Native Percent Survival (not including groundcover)	100%																								
Native Species Diversity (all vegetation)	9																								
Native Species Diversity (not including groundcover)	8																								
Native Species Total Count (entire grove survey)	41																								
Invasive Percent Cover	67%																								

Table
Lake River Remedial Action (NWS-2013-875)
Year 5 Vegetation Monitoring
Port of Ridgefield
Ridgefield, Washington

NOTES:
Photodocumentation points shown in **bold.**
Species diversity and percent cover calculations do not include dead (indicated by "D") plants.
A. ALN = serviceberry.
A.MIL = common yarrow.
C. SCO = Scotch broom (not planted).
C.SER = red twig dogwood.
CIRS = thistle (not planted).
D = dead vegetation. Includes woody vegetation noted previously but not observed during 2019 monitoring. Not noted for groundcover vegetation and vegetation that was not planted.
D.CAR = Queen Anne's lace (not planted).
G = groundcover vegetation.
H. DIS = ocean spray.
J.SPP = *Juncus* species (not planted).
L.INV = twinberry.
L.SPP = lupine.
M. AQU = tall Oregon grape.
NAGR = native grass (groundcover vegetation).
P. ARU = reed canary grass (not planted).
P. CAP = Pacific ninebark.
P. MEN = Douglas fir.
P.SPP = cherry species (chokecherry or bitter cherry).
R.CRI = curly dock.
R.SPP = rose species (baldhip or Nootka).
S.ALB = snowberry.
S.DOU = Douglas spiraea.
S.LAS = Pacific willow.
S.SCO = Scouler's willow.
T.REP = white clover (groundcover vegetation).
UNS = unidentified native shrub.
UNW = unidentified weedy groundcover vegetation (not planted).
X = live vegetation.

FIGURES

Source: Aerial photograph (2015) obtained from National Agriculture Imagery Program.

Legend

- Grove Boundary
- Road

Figure 1
Site Location

Port of Ridgefield
Ridgefield, Washington

0 390 780
Feet

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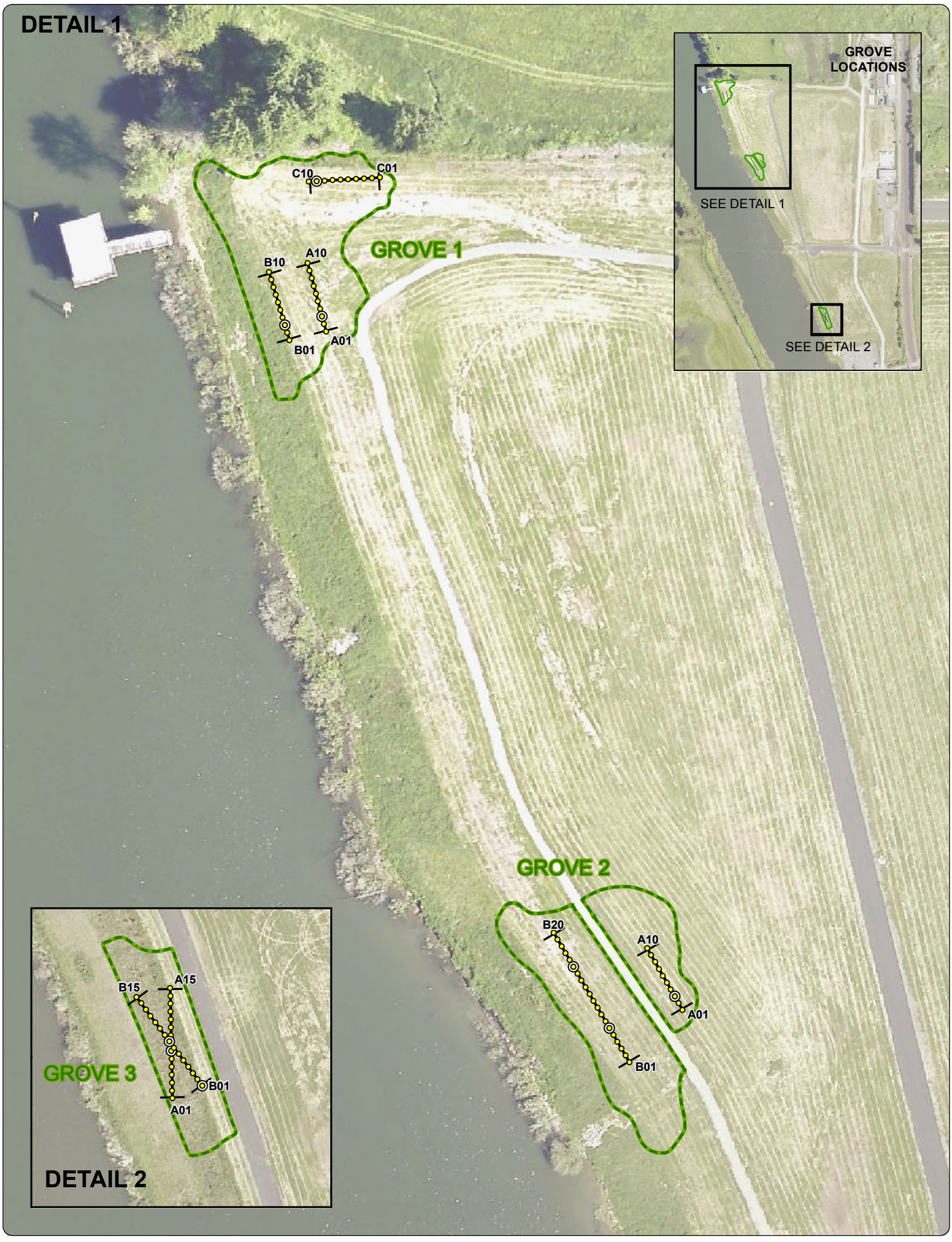
Project: 9003.01.40-06 Produced By: apadilla Approved By: P. Wiescher Print Date: 9/22/2016
Path: X:\9003.01 Port of Ridgefield\40\Projects\06\Fig1_Site Location_LakeRiver.mxd



Source: Aerial photograph (2014) obtained from Clark County GIS.

Legend

- Sample Location
- Sample Photodocumentation Point
- Vegetation Transect
- Grove Boundary

Figure 2
Lake River
Vegetation Transects

Port of Ridgefield
Ridgefield, Washington

0 30 60
Feet

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Project: 9003.01.40-06 Produced By: apadilla Approved By: P. Wiescher Print Date: 9/22/2016

PHOTOGRAPHS

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 1.

Description
2013. Lake River aerial prior to remediation. Looking north.

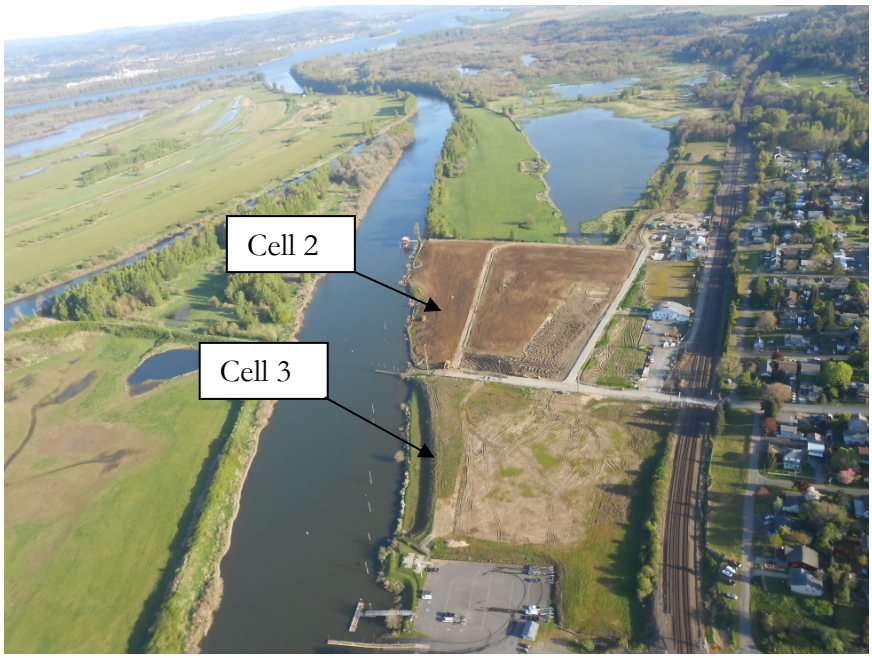

Photo No. 2.

Description
Winter 2013/4. Cell 3 shoreline prior to remediation. Knotweed, reed canary grass, and thistle. Looking south.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 3.

Description
Winter 2013/4. Cell 2 shoreline prior to remediation. False indigo bush and reed canary grass. Looking north.

Photo No. 4.

Description
April 2015. Grove 3 (Cell 3) following remediation and plantings. Shoreline debris removed and fish mix rounded rock in place. Looking north.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 5.

Description
April 2015. Grove 2 (Cell 2) following remediation and plantings. Looking north.

Photo No. 6.

Description
April 2015. Grove 1 (Cell 2) following remediation and plantings. Looking south.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 7.

Description
September 2017.
Grove 3 (Cell 3).
Looking north.

Photo No. 8.

Description
September 2017.
Grove 2 (Cell 2).
Looking south.

PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 9.

Description
September 2017.
Grove 1 (Cell 2).
Looking south.

Photo No. 10.

Description
September 2018.
Grove 1 (Cell 2).
Looking south.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 11.

Description
September 2018.
Grove 2 (Cell 2).
West side of gravel path, looking northwest.

Photo No. 12.

Description
September 2018.
Grove 2 (Cell 2).
East side of gravel path, looking north.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 13.

Description
September 2018.
Grove 3 (Cell 3).
East side of gravel path, looking north.

Photo No. 14.

Description
September 2019.
Grove 1 (Cell 2).
Looking south.

PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 15.

Description
September 2019.
Grove 2 (Cell 2).
East and west sides of gravel path, looking south.

Photo No. 16.

Description
September 2019.
Grove 2 (Cell 2).
West side of gravel path, looking west.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 17.

Description
September 2019.
Grove 3 (Cell 3).
East side of asphalt path, looking north.

Photo No. 18.

Description
October 2020.
Photo point G1-A3.
Cherry species and Juncus.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 19.

Description
October 2020.
Photo point G1-B3.
Douglas spirea and native grasses.

Photo No. 20.

Description
October 2020.
Photo point G1-C9.
Serviceberry, rose, Juncus, Douglas spirea, reed canary grass, thistle, and native grasses.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 21.

Description
October 2020.
Photo point G2-B6.
Oregon grape, Douglas spirea, and Juncus.

Photo No. 22.

Description
October 2020.
Photo point G2-A3.
Rose species and Juncus with native grasses.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 23.

Description
October 2020. Photo point G2-B15. Douglas spirea, lupine, and Juncus with Pacific willow nearby.

Photo No. 24.

Description
October 2020. Photo point G3-A7. Douglas spirea and grasses.

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PHOTOGRAPHS

Project Name: NWS-2013-875
Project Number: 9003.01.55
Location: Lake River
111 West Division Street
Ridgefield, Washington

Photo No. 25.

Description
October 2020.
Photo point G3-B1.
Douglas spirea and grasses.

Photo No. 26.

Description
October 2020.
Photo point G3-B8.
Lupine and native grasses with cherry tree sprouting new shoots nearby.