APPENDIX C

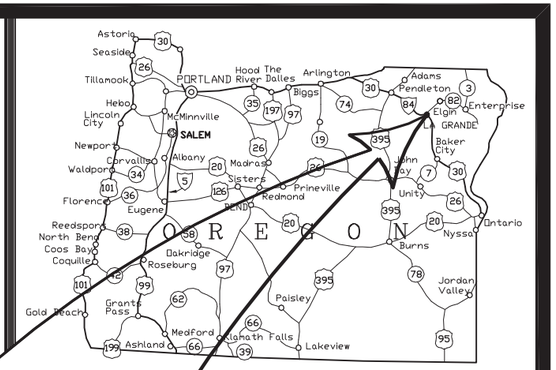
Selected Plan Sheets

GRANDE RONDE MODEL WATERSHED

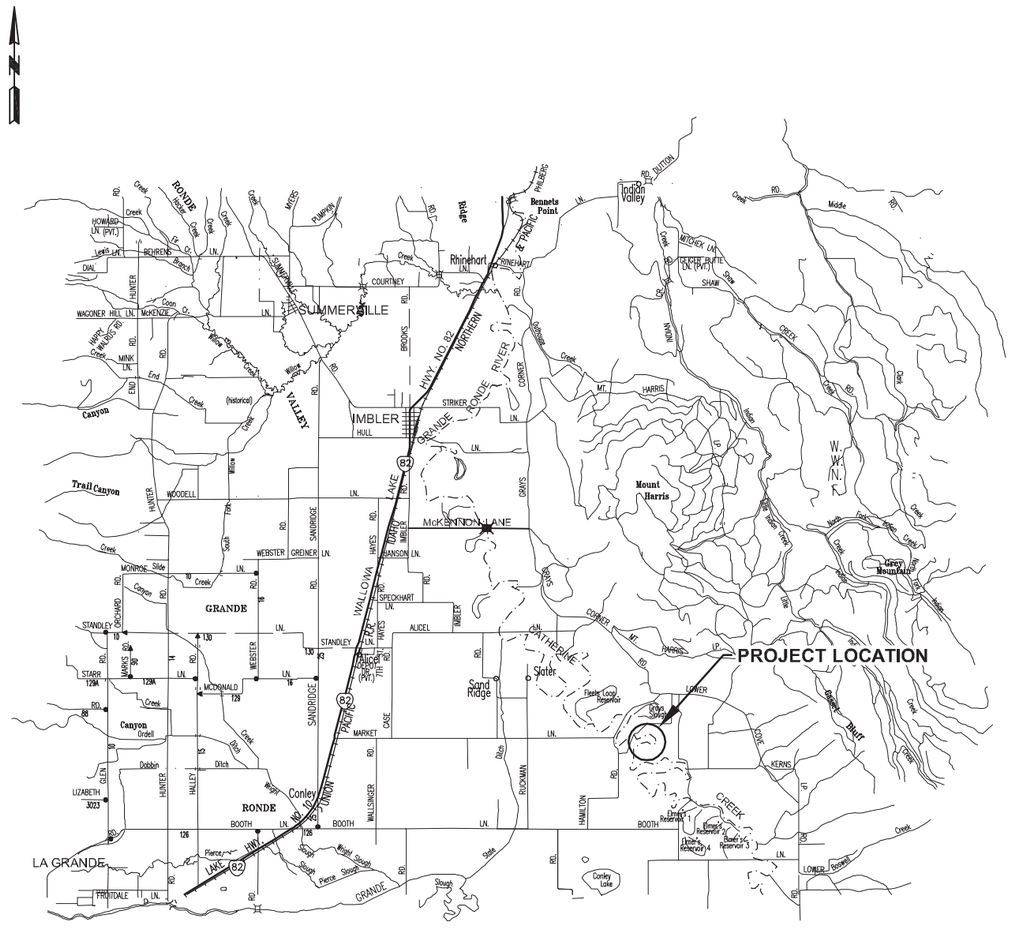
CATHERINE CREEK WILSON WETLAND AND FISH HABITAT IMPROVEMENTS

UNION COUNTY, OREGON

T2S R39E SECTIONS 13 AND 14



INDEX



VICINITY MAP

N.T.S.

The Grande Ronde Model Watershed has reviewed these drawings and approved them for construction to fulfill the intended project objectives.

_____ _____

Date

GRANDE RONDE MODEL WATERSHED

GRANDE RONDE MODEL WATERSHED

EXECUTIVE DIRECTOR

JEFF OVESON

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LA GRANDE, OR. WALLA WALLA, WA.

PLAN LEGEND

GENERAL

	EXISTING	PROPOSED
FENCE LINE/GATE		
SIDE CHANNEL CENTERLINE		
ORDINARY HIGH WATER		
CREEK CENTERLINE		
EDGE OF GRAVEL		
ROCK		
WOODY DEBRIS		

SITE SURVEY

INDEX CONTOUR	750
INTERMEDIATE CONTOUR	750
CENTERLINE	
FILL AREA	
CUT AREA	

DRAFTING

A/2 — SECTION DESIGNATION

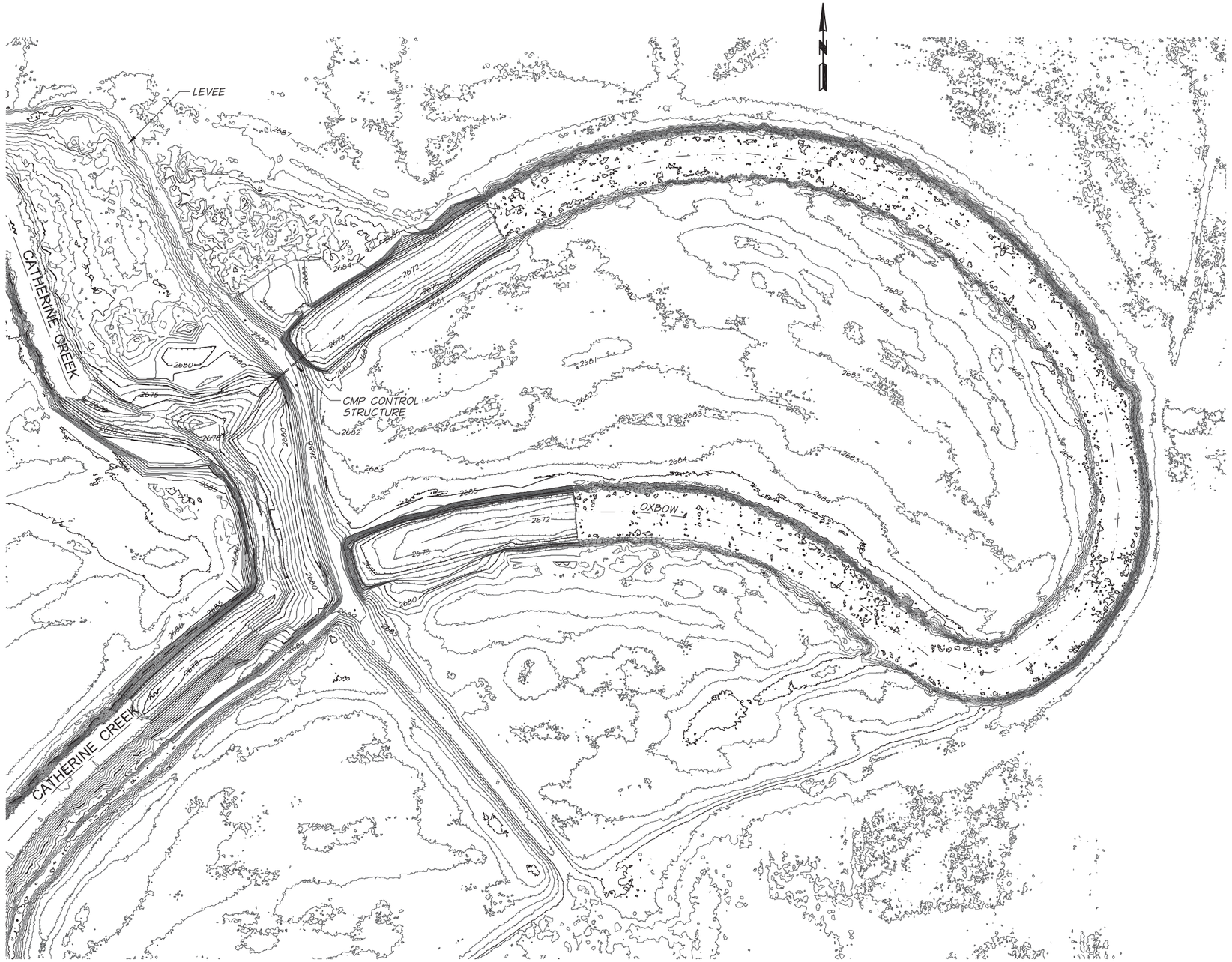
SHEET WHERE SECTION WAS TAKEN OR WHERE SECTION IS SHOWN.

WATER SURFACE ELEVATION

DESIGN CRITERIA

GRANDE RONDE RIVER OHW DEPTH * 2685.6

* OHW DEPTH IS BASED ON A HYDRAULIC MODEL PREPARED BY THE BUREAU OF RECLAMATION IN 2011 AND CORRESPONDS TO THE 1.5 YEAR FLOW EVENT.



WILSON WETLAND

EXISTING SITE PLAN

SCALE: 1"=100'

REVISION	BY	DATE	
DESIGNED BY	J. GIBBONS		
DRAWN BY	E. ARNTZ		
REVIEWED BY	C. HUTCHINS		

100 0 100 200 300
SCALE IN FEET

HORZ. SCALE 1"=100' VERT. SCALE

JOB NUMBER 81-40 DATE 2013

ACAD FILE: Wilson Wetland Base.dwg

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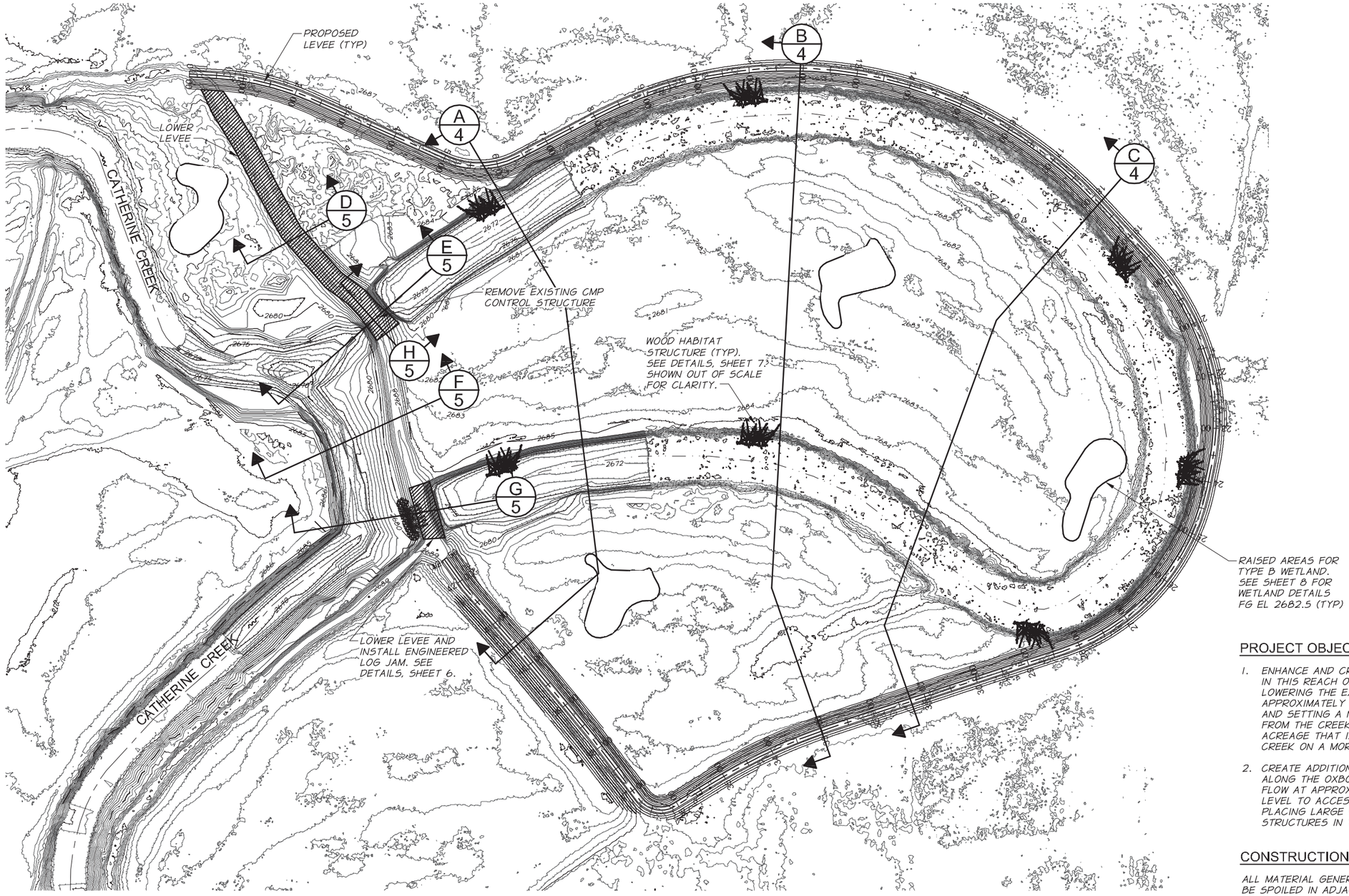
GRANDE RONDE MODEL WATERSHED
CATHERINE CREEK WILSON WETLAND AND FISH HABITAT IMPROVEMENTS

LEGEND AND EXISTING SITE PLAN

SHEET 1



WILSON WETLAND
PROPOSED LEVEE PLAN
SCALE: 1"=100'

PROJECT OBJECTIVES:

1. ENHANCE AND CREATE WETLAND AREAS IN THIS REACH OF CATHERINE CREEK BY LOWERING THE EXISTING LEVEE TO APPROXIMATELY THE OHW ELEVATION AND SETTING A NEW LEVEE BACK AWAY FROM THE CREEK TO INCREASE THE ACREAGE THAT IS WATERED BY THE CREEK ON A MORE FREQUENT BASIS.
2. CREATE ADDITIONAL FISH HABITAT ALONG THE OXBOW AREA BY ALLOWING FLOW AT APPROXIMATELY THE OHW LEVEL TO ACCESS THE OXBOW AND BY PLACING LARGE WOODY DEBRIS STRUCTURES IN THE OXBOW.

CONSTRUCTION NOTE:

ALL MATERIAL GENERATED ON SITE SHALL BE SPOILED IN ADJACENT LANDOWNERS FIELD. IT IS NOT ANTICIPATED THAT ANY MATERIAL BE EXPORTED FROM THE SITE.

REVISION	BY	DATE

100 0 100 200 300
SCALE IN FEET

DESIGNED BY	J. GIBBONS
DRAWN BY	E. ARNTZ
REVIEWED BY	C. HUTCHINS

HORZ. SCALE 1"=100' VERT. SCALE
JOB NUMBER 81-40 DATE 2013
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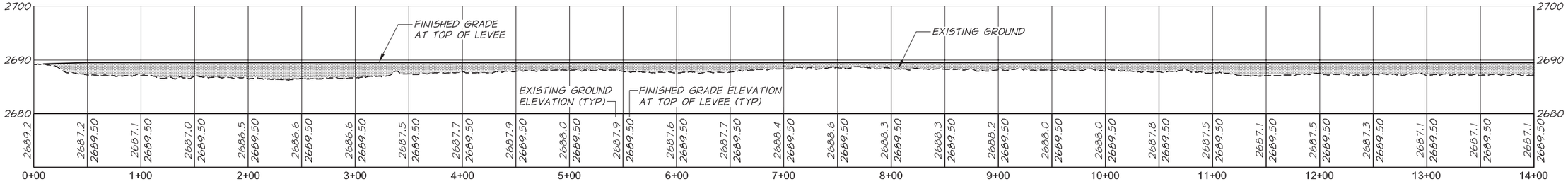
GRANDE RONDE MODEL WATERSHED
CATHERINE CREEK WILSON WETLAND AND FISH HABITAT IMPROVEMENTS

PROPOSED LEVEE PLAN

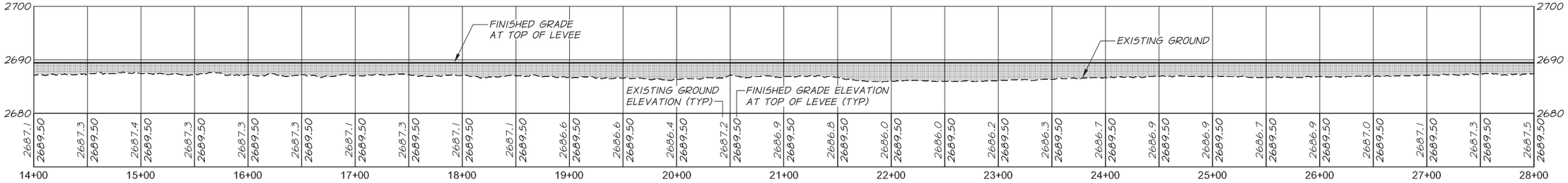
SHEET **2**



PROPOSED LEVEE PROFILE

STA 0+00 TO STA 14+00

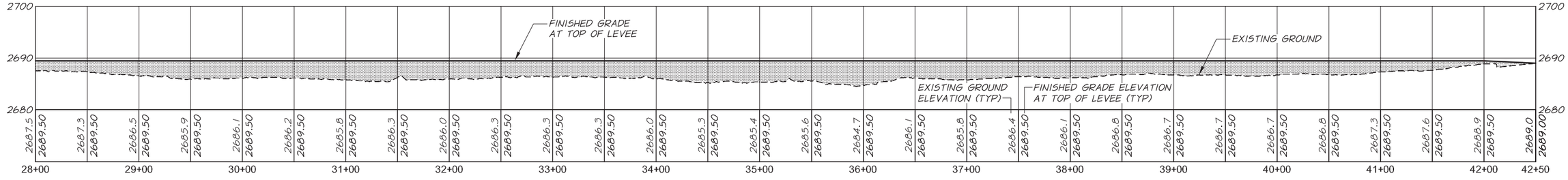
SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL



PROPOSED LEVEE PROFILE

STA 14+00 TO STA 28+00

SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL



PROPOSED LEVEE PROFILE

STA 28+00 TO STA 39+92

SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL

REVISION	BY	DATE	HORZ. SCALE 1"=50' / VERT. SCALE 1"=10'
DESIGNED BY J. GIBBONS			JOB NUMBER 81-40 / DATE 2013
DRAWN BY E. ARNTZ			ACAD FILE: Wilson Wetland Base.dwg
REVIEWED BY C. HUTCHINS			

50 0 50 100 150 HORIZ. SCALE IN FEET

10 0 10 20 30 VERT. SCALE IN FEET

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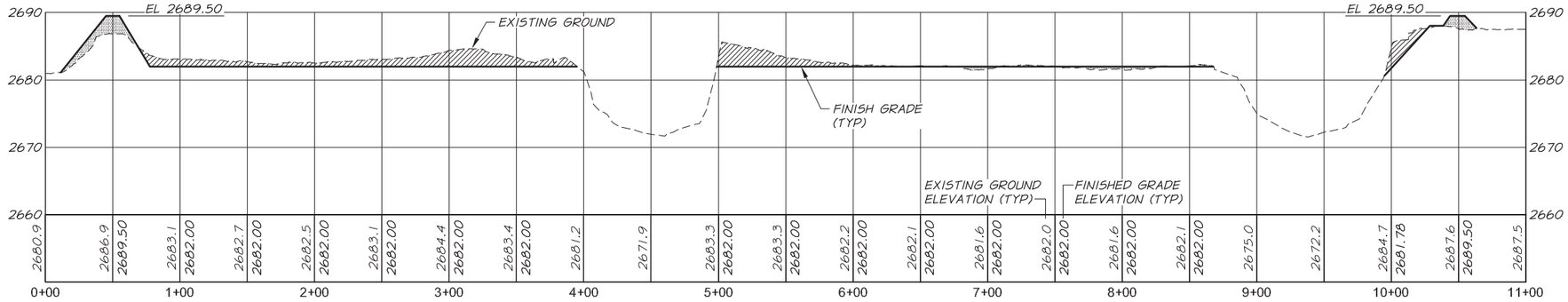
CATHERINE CREEK WILSON WETLAND AND FISH HABITAT IMPROVEMENTS

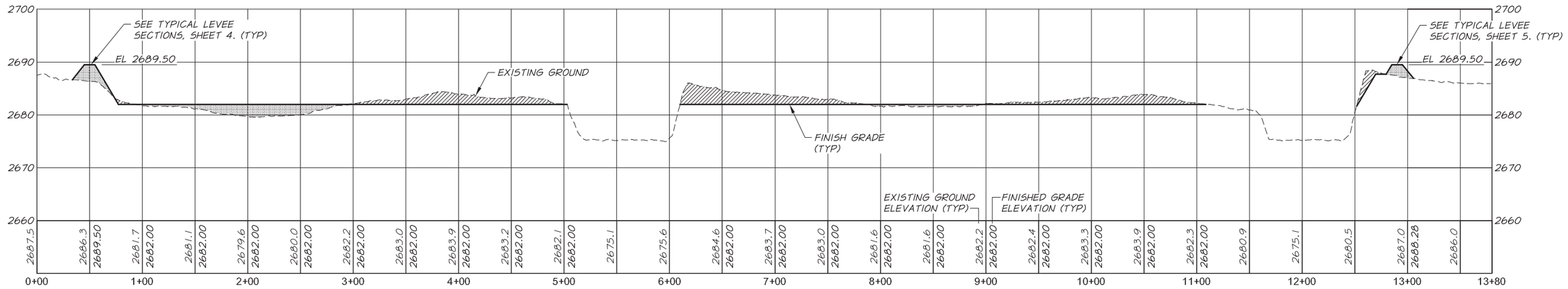
LEVEE PROFILE

SHEET 3

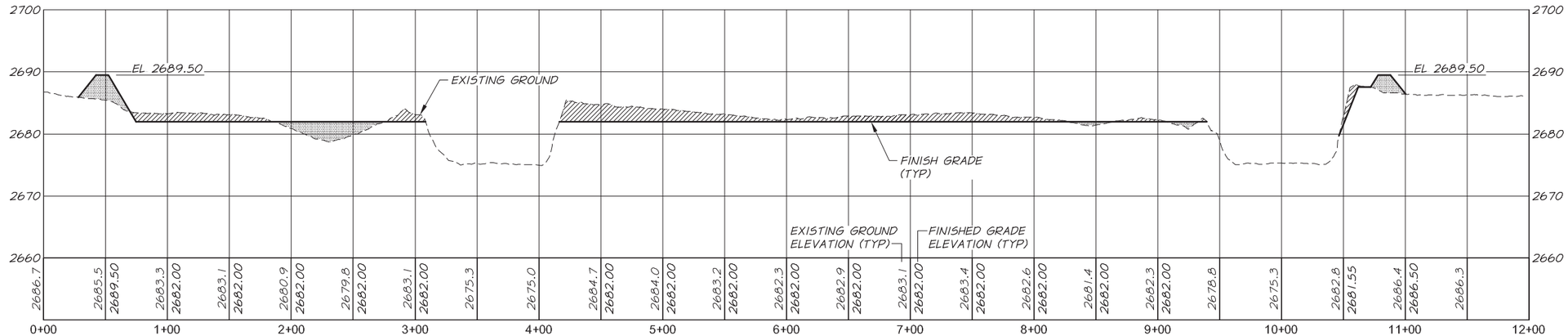
NOTE:
FINISH GRADE IN BETWEEN OXBOW IS SHOWN AS FLAT BUT SHALL UNDULATE UP TO 6" ABOVE AND BELOW FINISH GRADE ELEVATION SHOWN.



SECTION A 2
SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL



SECTION B 2
SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL



SECTION C 2
SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL

REVISION	BY	DATE

50 0 50 100 150
HORIZ. SCALE IN FEET
10 0 10 20 30
VERT. SCALE IN FEET

DESIGNED BY	J. GIBBONS	HORZ. SCALE	1"=50' / VERT. SCALE 1"=10'
DRAWN BY	E. ARNTZ	JOB NUMBER	81-40 / DATE 2013
REVIEWED BY	C. HUTCHINS	ACAD FILE:	Wilson Wetland Base.dwg

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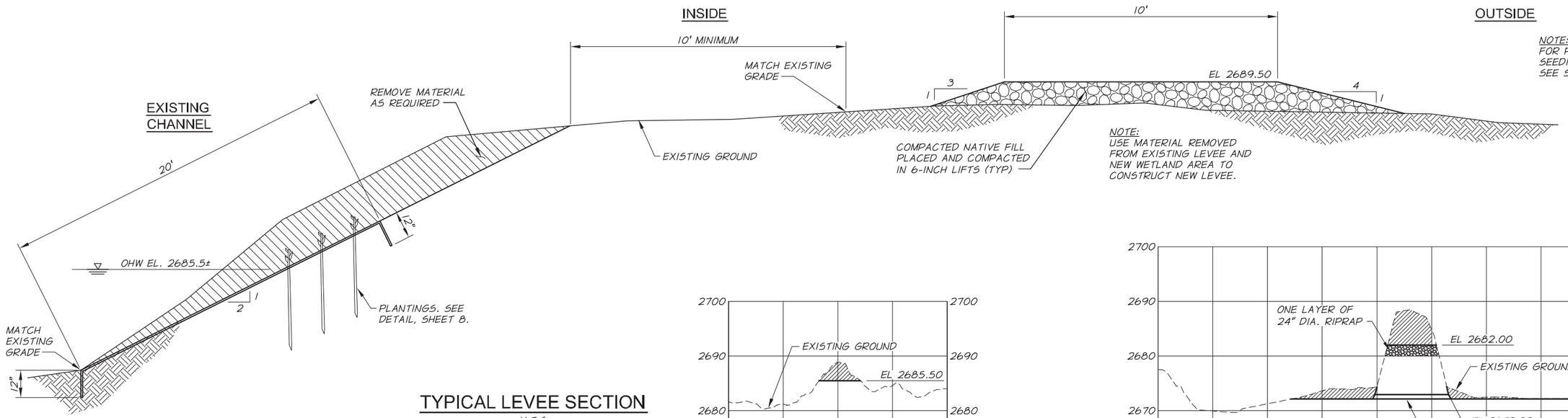
GRANDE RONDE MODEL WATERSHED
CATHERINE CREEK WILSON WETLAND AND FISH HABITAT IMPROVEMENTS

WETLAND MITIGATION AREA SECTIONS I

SHEET 4



TYPICAL LEVEE SECTION

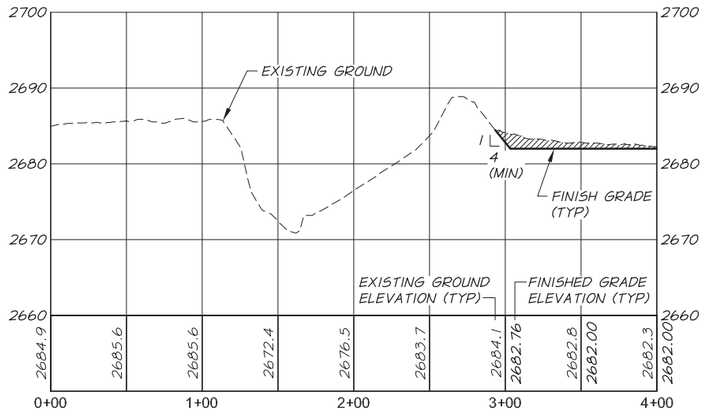
N.T.S.

SECTION D 2

SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL

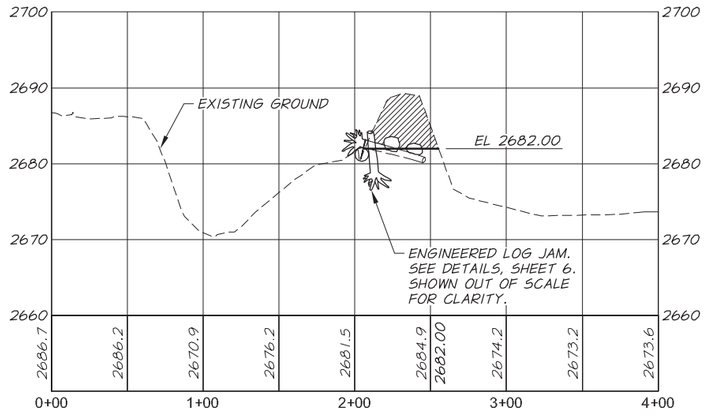
SECTION E 2

SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL



SECTION F 2

SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL



SECTION G 2

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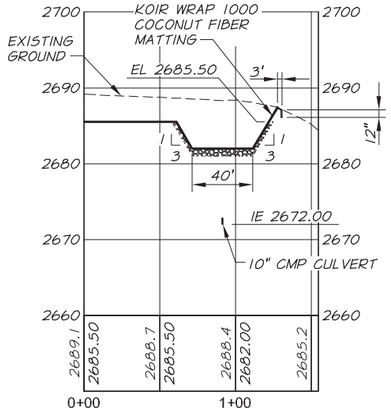
1"=10' VERTICAL



SECTION H 2

SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL

REVISION	BY	DATE
DESIGNED BY	J. GIBBONS	
DRAWN BY	E. ARNTZ	
REVIEWED BY	C. HUTCHINS	

50 0 50 100 150
HORIZ. SCALE IN FEET
10 0 10 20 30
VERT. SCALE IN FEET

HORZ. SCALE 1"=50' | VERT. SCALE 1"=10'
JOB NUMBER 81-40 | DATE 2013
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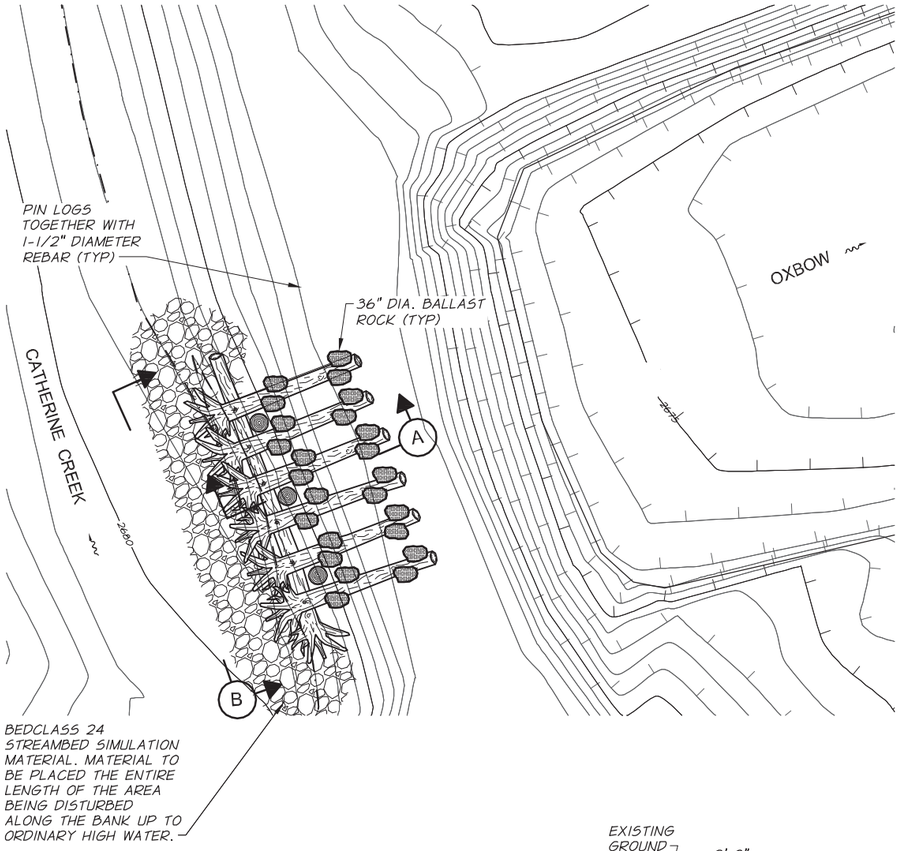
GRANDE RONDE MODEL WATERSHED

CATHERINE CREEK WILSON WETLAND AND FISH HABITAT IMPROVEMENTS

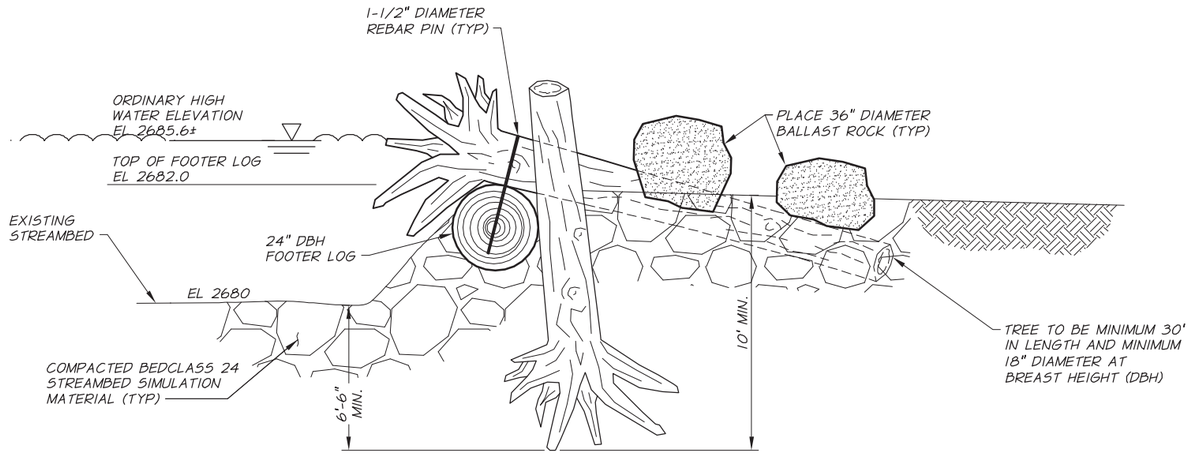
WETLAND MITIGATION AREA SECTIONS II AND DETAILS

SHEET 5



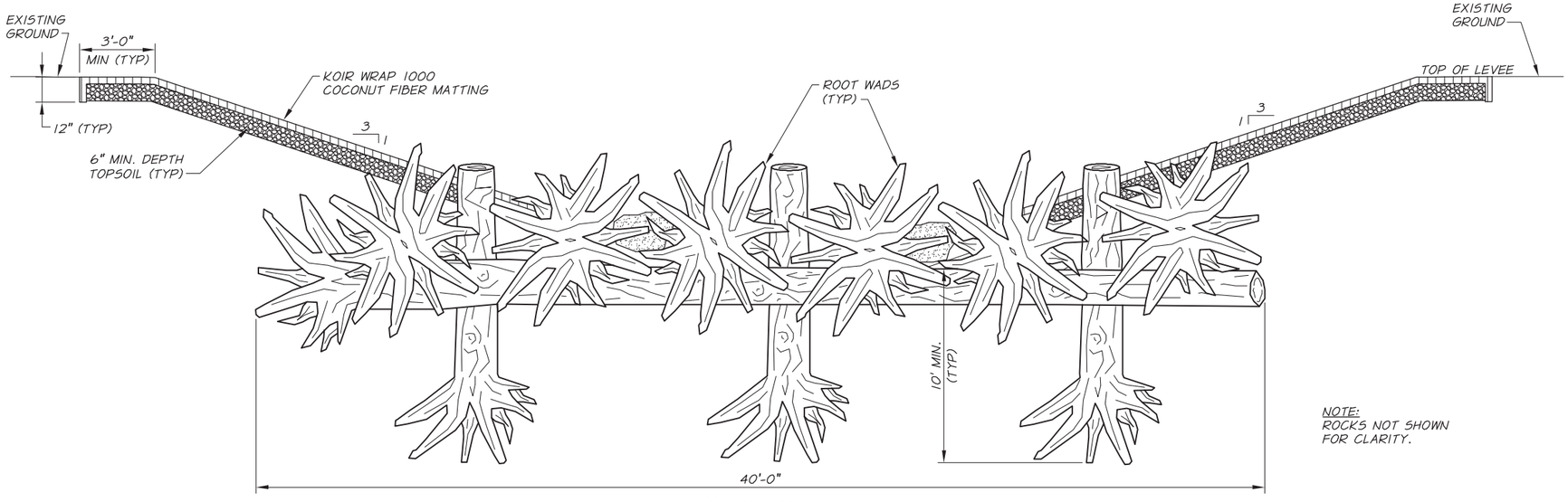
ENGINEERED LOG JAM PLAN

N.T.S.



SECTION A

N.T.S.



SECTION B

N.T.S.

REVISION	BY	DATE	HORZ. SCALE NO SCALE	VERT. SCALE	
DESIGNED BY J. GIBBONS			JOB NUMBER 81-40	DATE 2013	
DRAWN BY E. ARNTZ			ACAD FILE: Wilson Wetland Base.dwg		
REVIEWED BY C. HUTCHINS					

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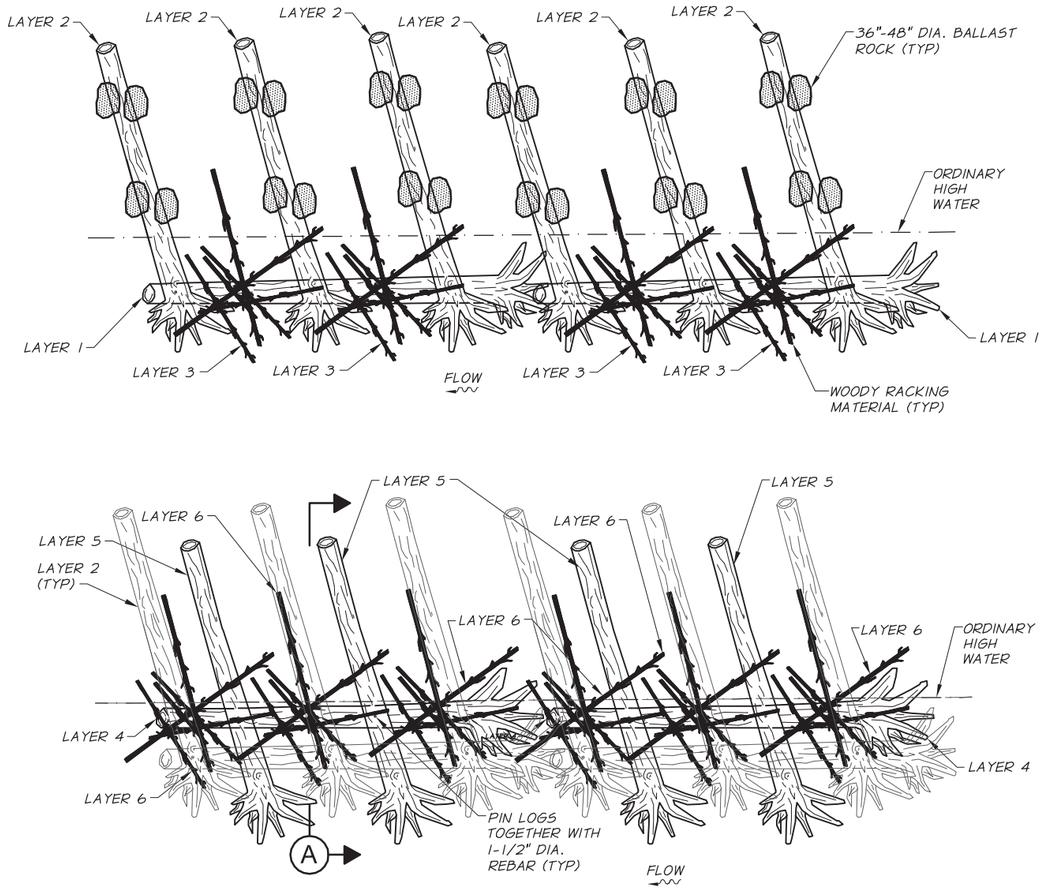
GRANDE RONDE MODEL WATERSHED

CATHERINE CREEK WILSON WETLAND AND FISH HABITAT IMPROVEMENTS

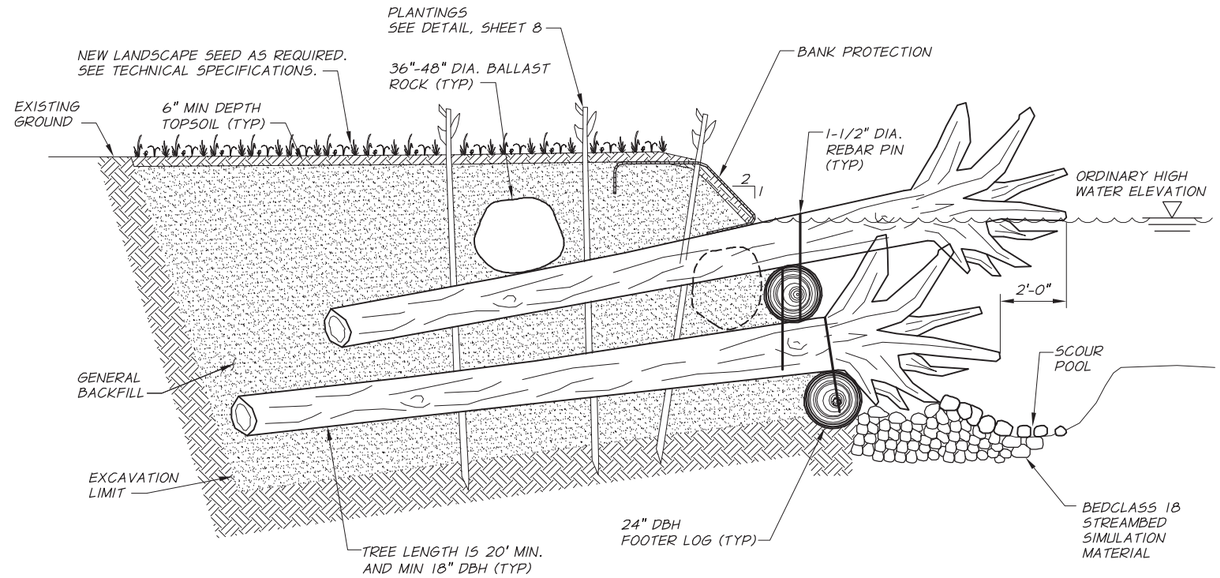
ENGINEERED LOG JAM DETAILS

SHEET 6



WOOD HABITAT STRUCTURE DETAIL

N.T.S.



SECTION A

N.T.S.

CONSTRUCTION NOTES:

1. ALL ROCK NOT SHOWN FOR CLARITY. CONTRACTOR SHALL PROVIDE A MINIMUM 3 BALLAST ROCK PER ROOTWAD.
2. RACKING MATERIAL TO CONSIST OF SMALL TREES AND BRANCHES RANGING IN SIZE FROM APPROXIMATELY 8" IN DIAMETER AND SMALLER.

REVISION	BY	DATE

DESIGNED BY	J. GIBBONS
DRAWN BY	P. RICHARDSON
REVIEWED BY	C. HUTCHINS

HORZ. SCALE: NO SCALE | VERT. SCALE:
JOB NUMBER: 81-40 | DATE: 2013
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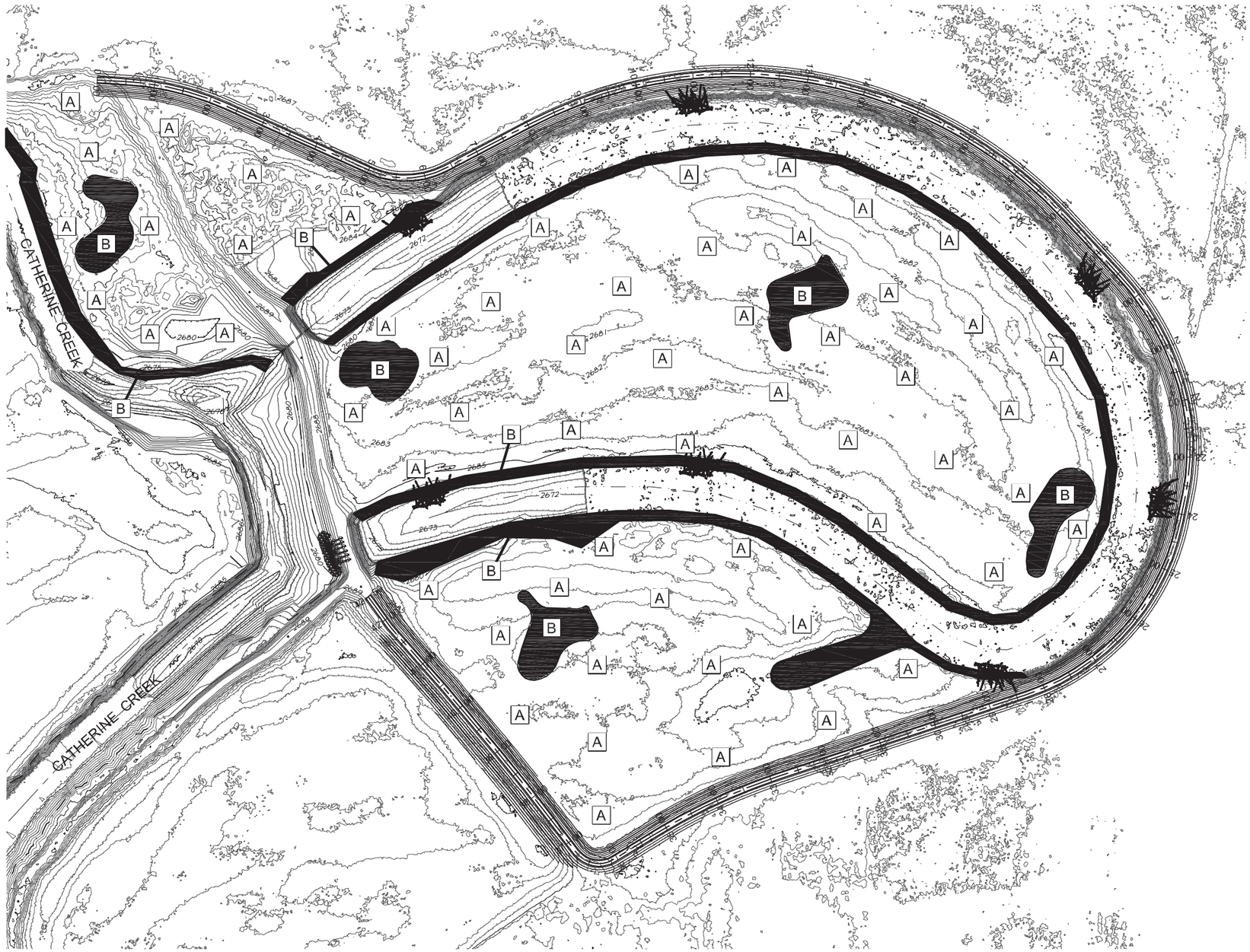
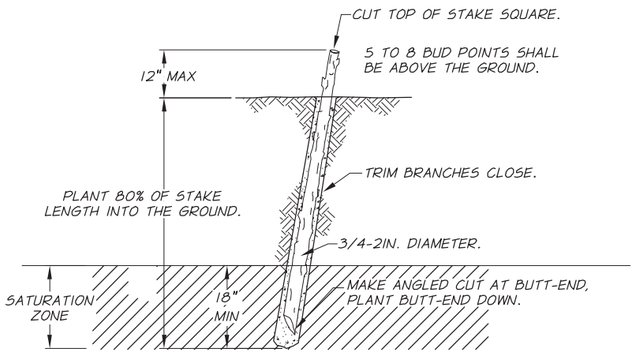
WOOD HABITAT STRUCTURE DETAILS

SHEET 7



PLANTING PLAN

SCALE: 1"=100'



NOTES:

1. HARVEST AND PLANT STAKES DURING THE DORMANT SEASON.
2. USE HEALTHY, STRAIGHT AND LIVE WOOD AT LEAST 1 YEAR OLD.
3. MAKE CLEAN CUTS AND DO NOT DAMAGE STAKES OR SPLIT ENDS DURING INSTALLATION, USE A PILOT BAR IN FIRM SOILS.
4. CUTTINGS HARVESTED FRESH AT THE TIME OF INSTALLATION SHALL BE SOAKED FOR A MINIMUM OF 24 HOURS PRIOR TO INSTALLATION PLANTING. CUTTINGS HARVESTED AND STORED SHALL BE SOAKED FOR A MINIMUM OF 10 DAYS PRIOR TO PLANTING.
5. TAMP THE SOIL AROUND THE STAKE.
6. EXTEND STAKES IN TO WATER SATURATION ZONE.
7. SEE APPROVED SPECIES, THIS SHEET.

TYPICAL PLANTING DETAIL

N.T.S.

PLANT LEGEND

A — 30'x30' LADD MARSH WETLAND PLUG MIX AS DESCRIBED IN THE WETLAND MITIGATION PLAN.

B — WETLAND WOODY SPECIES AS DESCRIBED IN THE WETLAND MITIGATION PLAN.

APPROVED SHRUB SPECIES

BELOW ORDINARY HIGH WATER:
- SALIX EXIGUA (COYOTE WILLOW)
- SALIX AMYGDALOIDES (PEACHLEAF WILLOW)
- POPULUS BALSAMIFERA (BLACK COTTONWOOD)

ABOVE ORDINARY HIGH WATER*:
- RIBES AUREUM (GOLDEN CURRANT)
- ROSA WOODSII (WOOD'S ROSE)

* DO NOT EXTEND PLANTING INTO SATURATION ZONE.

NOTES:

1. ALL WETLAND AREAS BETWEEN PLANTINGS SHALL BE BROADCAST SEEDED PER TECHNICAL SPECIFICATIONS.
2. ALL DISTURBED AREAS, AND INTERIOR AND EXTERIOR FACES OF LEVEES SHALL BE DRILL SEEDED PER TECHNICAL SPECIFICATIONS.

REVISION	BY	DATE

100 0 100 200 300
SCALE IN FEET

DESIGNED BY	J. GIBBONS		
DRAWN BY	E. ARNTZ		
REVIEWED BY	C. HUTCHINS		
HORZ. SCALE	1"=100'	VERT. SCALE	
JOB NUMBER	81-40	DATE	2013
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GRANDE RONDE MODEL WATERSHED
CATHERINE CREEK WILSON WETLAND AND FISH HABITAT IMPROVEMENTS

TYPICAL PLANTING PLAN AND DETAILS

SHEET
8

APPENDIX D

Draft Stream Functional Analysis: Boardman to Hemingway Transmission Line Project

Draft
Stream Functional Analysis

Boardman to Hemingway Transmission Line Project

Prepared by:

1221 West Idaho Street

Boise, Idaho 83702

January 2013

TABLE OF CONTENTS

TABLE OF CONTENTS

ATTACHMENTS

1.0 INTRODUCTION

Idaho Power Company (IPC) is proposing to construct and operate approximately 281 miles of new transmission line known as the Boardman to Hemingway Transmission Line Project (Project). The Project would include a 500-kilovolt (kV) single circuit line, and a rebuild of an existing 138-kV and 69-kV double circuit lines between Boardman, Oregon, and the Hemingway Substation (located approximately 30 miles southwest of Boise, Idaho). Construction of the Project will result in unavoidable impacts to waters of the state. A stream functional assessment was conducted to assist in determining Compensatory Non-Wetland Mitigation (CNWM). This document discusses the approach and methodologies of the stream functional assessment.

Based on field delineations in 2011 and 2012, there are 212 non-wetland water features in the Project area. Of the 212 non-wetland water features only 25 will have permanent impacts. The Project is anticipated to permanently impact 0.392 acres of jurisdictional non-wetland waters. This impact acreage includes impacts to delineated non-wetland waters; an estimate for lands where access was limited; and a contingency of 25 percent to account for unanticipated impacts. Table 1.1 provides a summary of potential permanent impacts to perennial and intermittent streams.

Table 1.1. Potential Permanent Impacts to Streams in the Project Area

County	Potential estimated intermittent stream impacts (ac)	Potential estimated perennial stream impacts (ac)
Morrow	0	0
Umatilla	0.007	0
Union	0.035	0.018
Baker	0.023	0.005
Malheur	0.088	0.060
Subtotal	0.154	0.083
Grand Total	0.236 *	
Estimated Project Total	0.392**	

*- Grand Total reflects on lands where access was permitted.
** - Grand Total extrapolated to include lands where there is no access plus a 25% contingency

1.1 Purpose

Rules regulating stream functional assessment are provided in Oregon Administrative Rule (OAR) 141-085-0765 (3): CNWM Functional Assessment (ODSL 2012a).

This OAR provides that an assessment should provide a detailed rationale based upon direct measurement or observation of the indicators for the following functional categories:

Hydrologic functions: includes the variable transfer and storage of water among the stream channel, its floodplain, and associated alluvial aquifer.

Geomorphic functions: encompasses hydraulic and sediment transport processes that generate variable forces within the channel and the variable input, transfer and storage of sediment within the channel and adjacent environs that are generally responsible for channel form.

Biological functions: includes processes that result in maintenance and change in biodiversity, trophic structure, habitat, and in some instances, variability in channel form.

Chemical and nutrient functions: encompasses processes that govern the cycling, transfer, and regulation of nutrients and chemicals in surface and groundwater, and between the stream channel and associated riparian system.

2.0 FUNCTIONAL ASSESSMENT

Based on the Guidance for Assessing Stream Function and Values under the Oregon Removal Fill Program (ODSL 2012b), the four functional categories discussed above to assess stream functions are represented in table 2.1. These four categories are broken down by stream functions. Further the table displays functional attributes, which represent specific features of a function. Functional attributes may indicate which particular function is active.

Table 2.1. Attributes and Functions They Represent

Function Attribute	Base Flow	Overbank Flow	Groundwater Flux	Bed Mobility	Sediment Characteristic	Bank Stability	Hydraulic Variability	Stream Habitat	Riparian Species Structure and Composition	Aquatic Species Structure and Composition	Water Quality	Water Temperature
Hydrologic Functions												
Surface Water Storage	X	X							X			
Sub/surface Transfer			X						X			
Flow variation	X	X	X						X			
Geomorphic Functions												
Sediment Continuity		X		X		X						
Substrate Mobility		X		X	X		X					
Biological Functions												
Maintain Biodiversity									X	X		
Create Habitat	X	X		X	X	X	X	X	X	X		
Sustain Trophic structure									X	X	X	
Chemical and nutrient functions												
Nutrient Cycling		X							X		X	
Chemical regulation			X								X	
Thermal regulation	X								X			X

2.1 Methodology

Of the 25 streams that will have unavoidable permanent impacts, one stream from each 4-Field HUC watershed crossed by the project was assessed (Table 2.3). The stream chosen for assessment exhibited the high level of function and/or the highest number of impacts.

2.1.1 Functional Attribute Assessment

Each function attribute displayed in Table 2.2 was given a rating based on literature from EPA's Draft Function Assessment Framework (USEPA 2012). Functional attributes were assessed at patch scale for this draft, since the area affected by the Project will be small than a reach or a stream segment. A patch is defined as segment of stream with consistent character (USEPA 2012). Assessment of a particular attribute was qualified by best professional judgment and field observations.

Table 2.2. Attribute Assessment Methods

Function Attribute	Assessment Methods
Base Flow	Field Biologists utilized the OSDAM method to determine the flow of a water feature is EPHEMERAL, INTERMITTENT, or PERENNIAL.
Overbank Flow	Field Biologists used indicators such as debris lines, water inundation marks, presence of algal mats, and vegetation patterns to determine whether overbank inundation is PRESENT or ABSENT.
Groundwater Flux	TBD
Bed Mobility	Field biologists observed if there are structures or channel incision that may be negatively impacting bed mobility. Based on observations the result would be BELOW, AT, or ABOVE NORMAL determination
Sediment Characteristic	Field biologists described bed material in terms of SILT, SAND, GRAVEL, COBBLE.
Bank Stability	Field biologists assessed banks based on erosion due from cattle, sloughing, high flows. Bank stability is characterized by YES and NO.
Hydraulic Variability	Field biologists observed the presence of pools, runs, riffles, varying depths and velocities of flowing water. This is qualified by PRESENT or ABSENT
Stream Habitat	Based on different variables from field observations and OSDAM as well as field observations a rating of GOOD, FAIR or POOR was selected.
Riparian Structure and Composition	Field biologists assessed riparian communities based on successional character, species, and non-natives resulting in an output of GOOD, FAIR, or POOR.
Aquatic Species Structure and Composition	Based on different variables from field observations and OSDAM a rating of GOOD, FAIR or POOR was selected.
Water Quality	Field biologists look to see if water quality was GOOD, FAIR, POOR by presence of sheen, oily film, and murky water.
Water Temperature	Streams were defined as COLD WATER, COOL WATER, WARM WATER

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2.1.2 Project Functional Attribute Assessment

One stream per 4th Field HUC was assessed (see Table 2.3). The stream to represent the watershed was selected based on the functional attributes and/or if it had the highest acreage of

impact. This is a work and progress and at this time only a few features have had a complete assessment. Table 2.3 displays the Project's Functional Attribute Assessment. See Appendix A for the functional attribute assessment for all streams that may be permanently impacted by the Project

2.1.3 Project Functional Assessment

Data from the functional attribute assessment was used to determine the functions of the stream. Functions are rated with a (+) for positive function, a (-) for negative function and a (~) for streams with neither a positive nor a negative function. Table 2.4 displays the Projects functional assessment based on the four categories and their functions.

Table 2.3. Project Functional Attribute Assessment by 4th Field Watershed

Function Attribute	Base Flow		Over bank Flow	Groundwater Influx	Bed Mobility	Sediment Character	Bank Stability	Hydraulic Variability	Stream habitat	Riparian Structure and Composition	Aquatic Species Structure and comp	Water Quality	Water Temperature
4Level HUC	PERENNIAL	INTERMITTENT	PRESENT or ABSENT	TBD	BELOW, AT ABOVE NORMAL	SILT, SAND, GRAVEL, COBBLE	YES or NO	PRESENT or ABSENT	GOOD, FAIR, or POOR	GOOD, FAIR, or POOR	GOOD, FAIR, or POOR	GOOD, FAIR, or POOR	COLD, COOL, WARM
Umatilla													
UM_G_31		X	Absent	TBD	Below - road present	Silt	No	Vegetation present	Poor	Poor	Poor	NA	N A
Upper Grand Ronde River													
UN_G_58		X		TBD									
UN_G_73 - Little Rock Creek	X			TBD							Yes - fish bearing		
Powder River													
UN_G_141 - Clover Creek		X		TBD	at normal								
Burnt River													
BA12_1512		X		TBD									
BA_G_203 - Goodman Creek	X		Absent	TBD	Below	Gravel, cobble	Yes	Present	Yes	Poor	YES	Good	Cold
Brownlee Reservoir													
BA12_1542 - Chicken Creek		X		TBD									
Willow													
MA_G_110 - South Fork Little Willow Creek		X	Present	TBD	at Normal	Cobble	Yes	Present	Poor	Poor	Poor	Good	Cold
Bully													
MA_G_127 - Cottonwood Creek	X			TBD	below								
Lower Malheur													
MA_G_293		X		TBD	below								

TBD – Not enough information at this time

Table 2.4. Functional Assessment: Impacted Waters per Watershed

Project Wetland Code	**UM_G_31**	**UN_G_58**	**UN_G_73**	**UN_G_141**	**BA12_1512**	**BA_G_203**	**BA12_1542**	**MA_G_110**	**MA_G_127**	**MA_G_293**
4th Field HUC	**Umatilla**	**Upper Grande Ronde River**		**Powder River**	**Burnt River**		**Brownlee Reservoir**	**Willow**	**Bully**	**Lower Malheur**
Function	**Intermittent**	**Intermittent**	**Perennial**	**Intermittent**	**Intermittent**	**Perennial**	**Intermittent**	**Intermittent**	**Perennial**	**Intermittent**
Hydrologic Functions										
Surface Water Storage										
Sub/surface Transfer										
Flow variation										
Geomorphic Functions										
Sediment Continuity										
Substrate Mobility										
Biological Functions										
Maintain Biodiversity										
Create Habitat										
Sustain Trophic structure										
Chemical and nutrient functions										
Nutrient Cycling										
Chemical regulation										
Thermal regulation										

KEY:

-	Negative Function
+	Positive Function
~	Neutral Function

3.0 CONCLUSION

Streams that may have permanent removal fill impacts are predominantly small intermittent streams, but do include three perennial streams. None of the streams are fish-bearing. Pending availability of data with which to complete the stream functional assessment, preliminary qualitative analysis indicates that the functionality that will be provided by proposed non-wetland mitigation will surpass the functions that will be impacted.

3.1 Hydrologic functions

Affected streams have small surface storage capacity and limited transfer of surface to sub-surface water. Individual impacts to streams will have little if any effect on these functions; nor will it affect flow variation. By virtue of its size the proposed mitigation will have substantially more surface storage capacity, and provide more opportunity for transfer of surface to subsurface water. The mitigation will restore flow variation on the mitigation site.

3.2 Geomorphic functions

Impacts proposed at the individual crossings will have little if any effect on sediment continuity and substrate mobility. Crossings are designed to maintain these characteristics. The mitigation site will provide functionality of capturing sediments due to its low gradient, position low in the watershed, and off-channel location.

3.3 Biological functions

Crossings will have small effects on biodiversity, habitat characteristics and trophic structure. The mitigation site will provide habitat for a higher number of species than use the affected stream crossings, because of its size and position in the landscape. It will provide habitat for listed fish species.

3.4 Chemical and nutrient functions

Due to their relatively small size and short duration, the affected streams have limited nutrienct cycling capability. The size of the mitigation site and relatively slow change in flows and surface elevations will provide more opportunity for chemical and nutrient cycling. The mitigation site will be planted with species that will shade the water surface. Most of the affected streams have little shade on them; consequently the mitigation site will provide better thermal regulation than is available on the impact sites.

4.0 REFERENCES

ODSL. 2012a. Oregon State Archives. Oregon Administrative Rules. Division 85. Administrative Rules Governing the Issuance and Enforcement of Removal-Fill Authorizations within Waters of Oregon Including Wetlands. Available at: http://arcweb.sos.state.or.us/pages/rules/oars_100/oar_141/141_085.html

ODSL. 2012b. Guidance for Assessing Stream Function and Values under the Oregon Removal Fill Program. Available on at http://www.oregon.gov/dsl/PERMITS/docs/Interim_Guidance_Stream_Mitigation_11212012.pdf

USEPA 2012. Draft Functional Assessment Framework Excerpt. Attributes, Considerations, Criteria. U.S. Environmental Protection Agency, Region 10, Portland, OR. Prepared for the EPA by Skidmore Restoration Consulting and Inter-fluve.

APPENDIX A: Functional Attribute Assessment for Impacted Streams

Table A.1. Project Functional Attribute Assessment by 4th Field Watershed for All Permanently Impacted Streams

Geographic No.	Mile Post	HUC (4th level)	Width (meters)	Impact (ac)	Perennial	Intermittent	Over bank Flow	Groundwater Influx	Bed Mobility	Sediment Characteristic	Bank Stability	Hydraulic Variability	Stream habitat	Riparian Structure and composition	Aquatic Species Structure and comp	Water Quality	Water Temperature
Umatilla																	
UM_G_31	63.7	Umatilla	1.5	0.003	--	X	Absent	TBD	Below - road present	Silt	No	Vegetation present	Poor	Poor	Poor	NA	N A
UM_G_110	64	Umatilla	3	0.002	--	X	Absent	TBD	Below - road present	Silt Gravel	NO	absent		Poor	Poor	NA	NA
UM_G_104	95.2	Umatilla	TBD	0.002	--	X	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Union																	
UN_G_58	111.4	Upper Grand Ronde River	TBD	0.005		X	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
UN_G_73 - Little Rock Creek	TBD	Upper Grand Ronde River	TBD	0.01	X		TBD	TBD		TBD	TBD	TBD	TBD	TBD	Yes - fish bearing	TBD	TBD
UN12_1273	114	Upper Grand Ronde River	TBD	0.004		X	TBD	TBD	Below - road present	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
UN_G_75 - Rock Creek	TBD	Upper Grand Ronde River	TBD	0.008	X		TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	Yes - fish bearing	TBD	TBD
UN_G_130 - Clover Creek	126	Powder River	TBD	0.003		X	TBD	TBD	Below - road present	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
UN_G_131 - Clover Creek	126.58	Powder River	TBD	0.005		X	TBD	TBD	Below - road present	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
UN12_1365	127.2	Powder River	TBD	0.01		X	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
UN_G_141 - Clover Creek	128	Powder River	TBD	0.008		X	TBD	TBD	at normal	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Baker																	
BA12_1512	180.5	Burnt River	TBD	0.02		X	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

BA_G_203 - Goodman Creek	195.4	Burnt River	5	0.002	X		Absent	TBD	Below	Gravel, cobble	Yes	Present	Yes	Poor	YES	Good	TBD
BApro_341 - Jordan Creek	TBD	Burnt River	TBD	0.003	X		TBD	TBD	below	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MalWllwCrk_375	TBD	Brownlee Reservoir	TBD	0.005		X	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
BA12_1542 - Chicken Creek	TBD	Brownlee Reservoir	TBD	0.003		X	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Malheur																	
MA_G_3c - Phipps Creek	206.8	Willow	TBD	0.003		X	TBD	TBD	Below	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MA_G_3b - Phipps Creek	206.8	Willow	TBD	0.003		X	TBD	TBD	Below	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MA_G_3a - Phipps Creek	206.8	Willow	TBD	0.003		X	TBD	TBD	Below	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MA_G_7 - West Fork Phipps Creek	207.8	Willow	1	0.001		X	TBD	TBD	below	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MA_G_23 - Becker Creek	211.8	Willow	TBD	0.003		X	TBD	TBD	at Normal	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MA_G_103 - North Fork Little Willow Creek	225.9	Willow	1	0.004		X	TBD	TBD	at Normal	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MA_G_110 - South Fork Little Willow Creek	227	Willow	1	0.004		X	Present	TBD	at Normal	Cobble	Yes	Present	Poor	Poor	Poor	Good	Cold
MA_G_127 - Cottonwood Creek	233.7	Bully	TBD	0.06	X		TBD	TBD	below	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MA_G_293	TBD	Lower Malheur	TBD	0.06		X	TBD	TBD	below	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

	OSDAM
NA	Not applicable - No water at the time of observation
TBD	Not enough information at this time

APPENDIX E

Property Lease

This will be provided as part of the final JPA.

Attachment S, Mitigation Location Information

Compensatory Wetland Mitigation Site Location Information

Potential Mitigation Site 1

Street, Road or other descriptive location:

0.5 mile north of Market Lane, 0.75 mile west of the intersection of Hamilton Road and Market Lane; or 1 mile east of the intersection of Ruckman Road, approximately 10 miles east-northeast from La Grande, Union County, Oregon.

Quarter/Quarter Section: BD, CA
Section: 14
Township: 2 South
Range: 39 East

In or near (city or town): La Grande
County: Union
Tax Map #: 02S39E
Tax Lot #: 5800
Wetland/Waterway (pick one): Waterway (Catherine Creek)
River Mile:
Lattitude: 43.393
Longitude: -117.908
Waterway/Watershed/HUC

BLOCK 6 ADDITIONAL INFORMATION

Attachment T, Names and Addresses of Property Owners

Property owner information for each removal-fill site and all associated mitigation sites will be provided in Exhibit F of the ASC.

BLOCK 7 CITY/COUNTY PLANNING DEPARTMENT AFFIDAVIT

City/County Planning Department Affidavits

Not applicable.

BLOCK 8 COASTAL ZONE CERTIFICATION

Not applicable.

BLOCK 9 SIGNATURES FOR JOINT APPLICATION

Attachment U, Signatures

Applicant signature will be provided on the final JPA.

Property owner information for each removal-fill site and all associated mitigation sites will be provided in Exhibit F of the ASC.