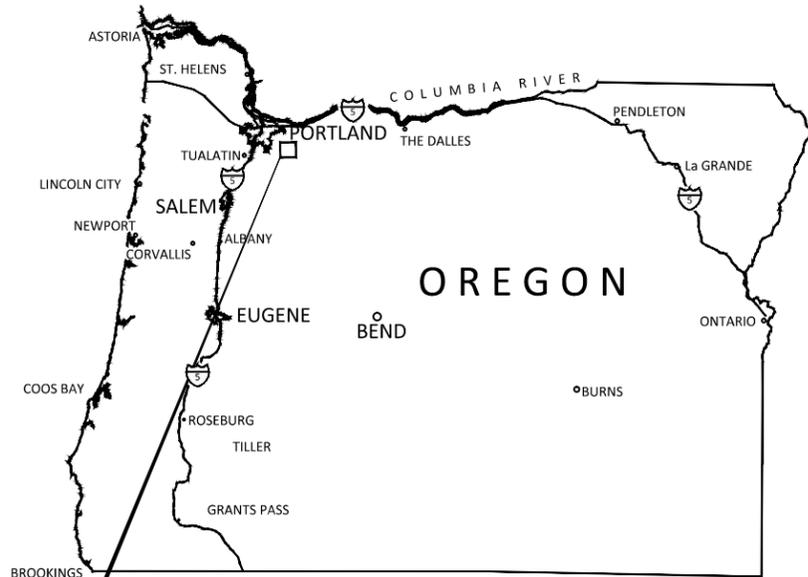
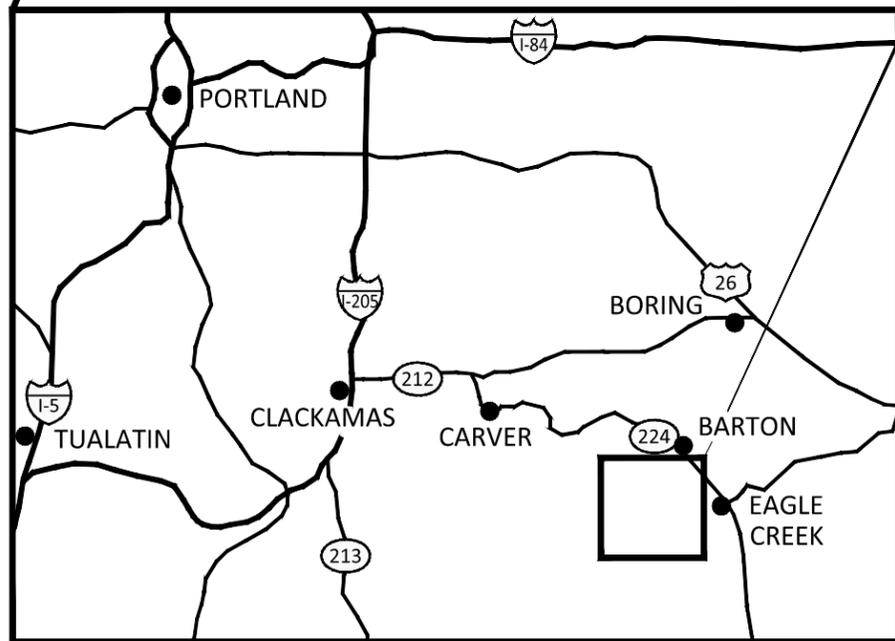


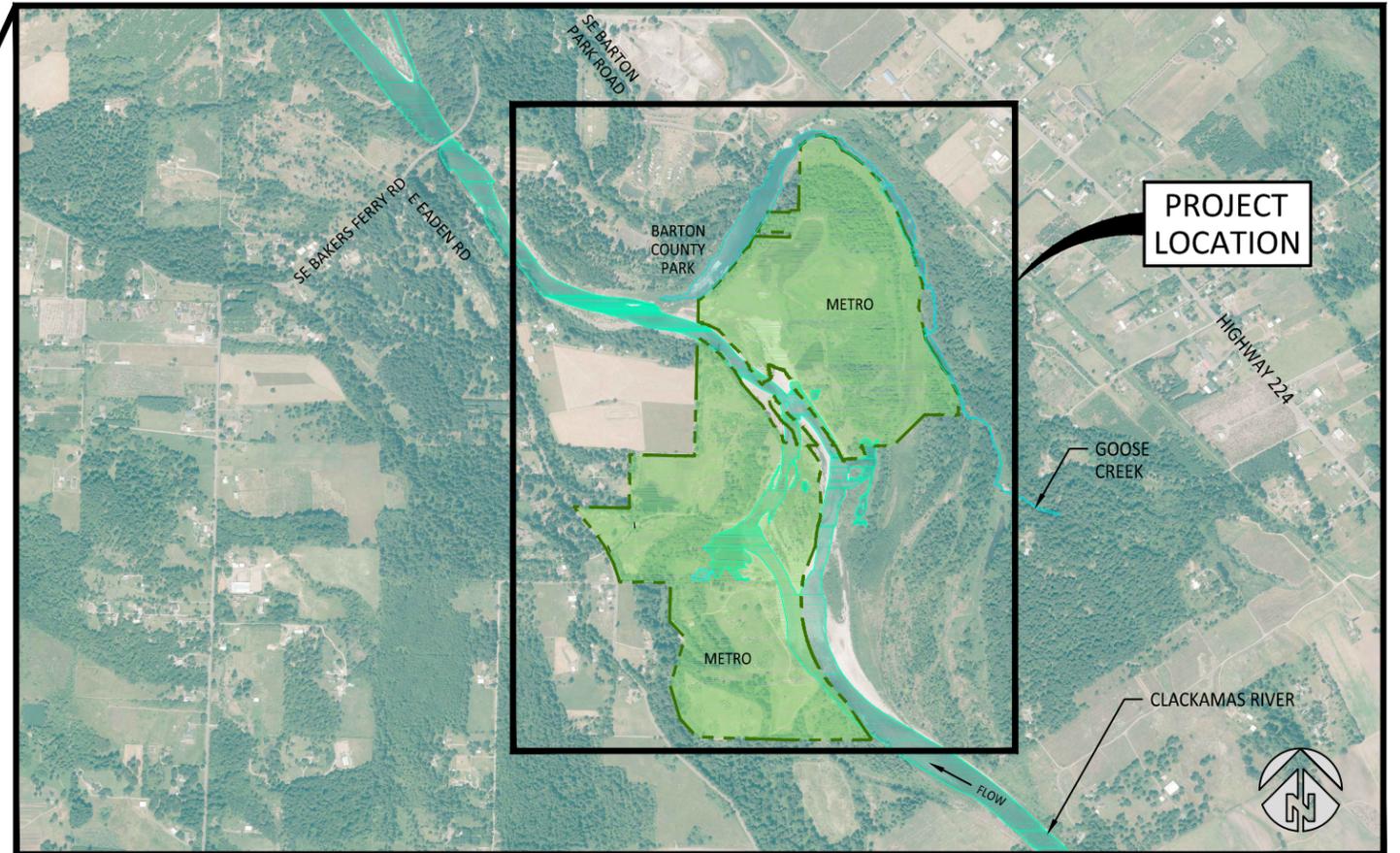
River Island Design Concepts Clackamas River Clackamas County, Oregon - October, 2014



LOCATION MAP
STATE OF OREGON



VICINITY MAP
NOT TO SCALE



SITE MAP
NOT TO SCALE

SHEET INDEX

- | | |
|---|---|
| 1 - COVER, VICINITY MAP, AND SHEET INDEX | 10 - RIVER ISLAND SOUTH LEFT BANK AREA - PLAN AND PROFILE |
| 2 - PLAN VIEW SHOWING EXISTING CONDITIONS | 11 - RIVER ISLAND SOUTH ALCOVE AREA - PLAN AND PROFILE |
| 3 - PLAN VIEW SHOWING OPPORTUNITY AREAS | 12 - RIVER ISLAND SOUTH - TYPICAL CROSS SECTION |
| 4 - SHOE ISLAND - PLAN AND PROFILE | 13 - RIVER ISLAND SOUTH - TYPICAL CROSS SECTIONS |
| 5 - SHOE ISLAND - TYPICAL CROSS SECTION | 14 - TYPICAL DETAILS |
| 6 - GOOSE CREEK - PLAN AND PROFILE | 15 - TYPICAL DETAILS |
| 7 - GOOSE CREEK - TYPICAL CROSS SECTIONS | 16 - TYPICAL DETAILS |
| 8 - RIVER ISLAND NORTH - PLAN | 17 - TYPICAL DETAILS |
| 9 - RIVER ISLAND NORTH - TYPICAL CROSS SECTIONS | |

COORDINATES:
LATITUDE 45°22'34.47" N
LONGITUDE 122°23'59.74" W
WATERBODY: CLACKAMAS RIVER
TRIBUTARY OF: WILLAMETTE RIVER

*Preliminary
Not for Construction*

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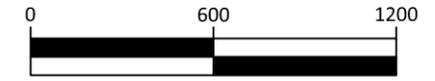
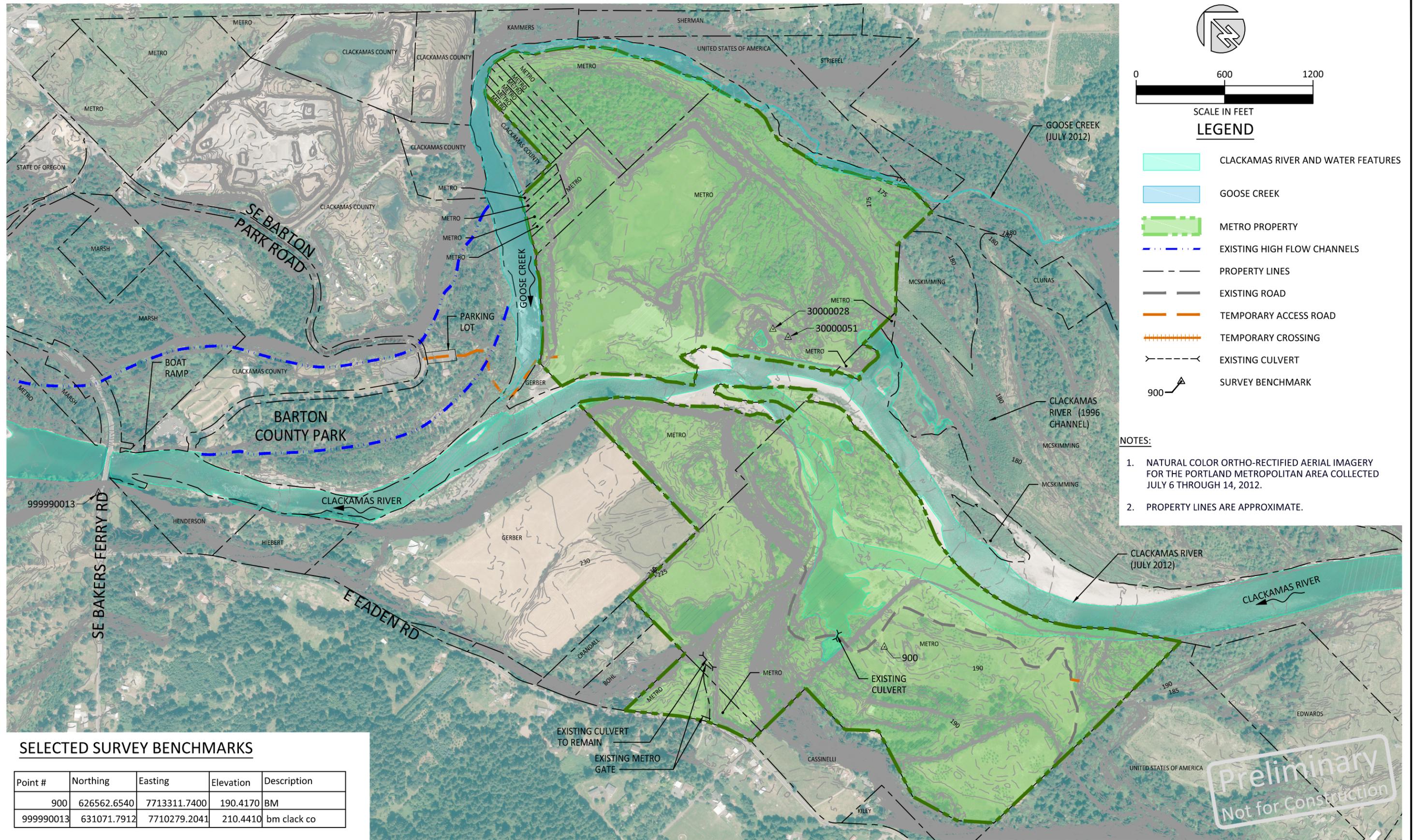
RP DRAWN	EA,MB DESIGNED	LM CHECKED
MM APPROVED	SEP. 2014 DATE	130235 PROJECT

RIVER ISLAND DESIGN CONCEPTS
METRO
CLACKAMAS COUNTY, OREGON



Cover, Vicinity Map, and
Sheet Index

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SCALE IN FEET

LEGEND

- CLACKAMAS RIVER AND WATER FEATURES
- GOOSE CREEK
- METRO PROPERTY
- EXISTING HIGH FLOW CHANNELS
- PROPERTY LINES
- EXISTING ROAD
- TEMPORARY ACCESS ROAD
- TEMPORARY CROSSING
- EXISTING CULVERT
- SURVEY BENCHMARK

- NOTES:**
1. NATURAL COLOR ORTHO-RECTIFIED AERIAL IMAGERY FOR THE PORTLAND METROPOLITAN AREA COLLECTED JULY 6 THROUGH 14, 2012.
 2. PROPERTY LINES ARE APPROXIMATE.

SELECTED SURVEY BENCHMARKS

Point #	Northing	Easting	Elevation	Description
900	626562.6540	7713311.7400	190.4170	BM
999990013	631071.7912	7710279.2041	210.4410	bm clack co

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NO.	BY	DATE	REVISION DESCRIPTION

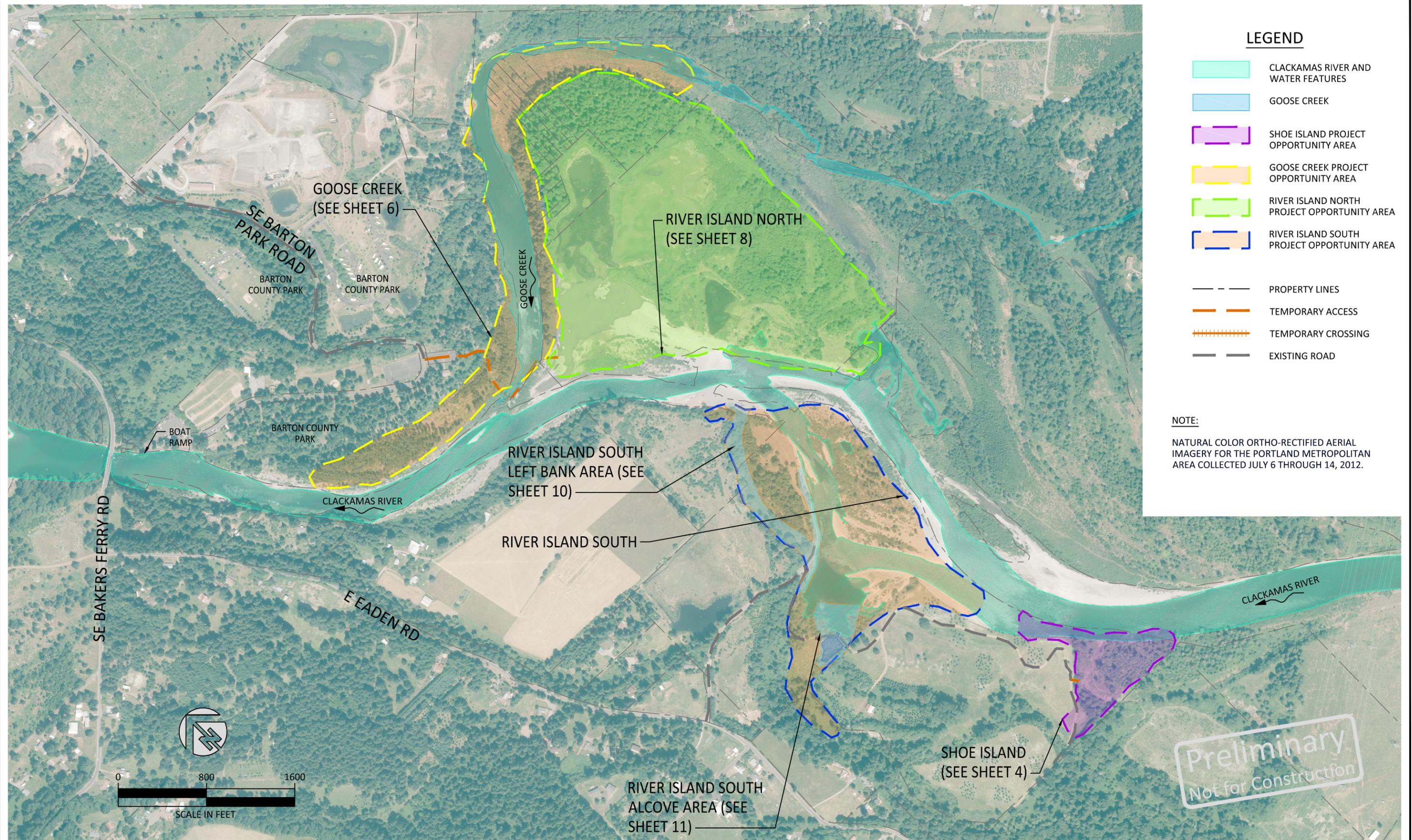
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DRAWN	DESIGNED	CHECKED
MM	SEP. 2014	130235
APPROVED	DATE	PROJECT

RIVER ISLAND DESIGN CONCEPTS
METRO
CLACKAMAS COUNTY, OREGON



Plan View Showing
Existing Conditions

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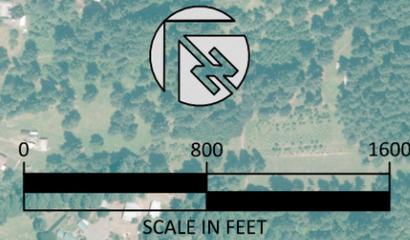


LEGEND

- CLACKAMAS RIVER AND WATER FEATURES
- GOOSE CREEK
- SHOE ISLAND PROJECT OPPORTUNITY AREA
- GOOSE CREEK PROJECT OPPORTUNITY AREA
- RIVER ISLAND NORTH PROJECT OPPORTUNITY AREA
- RIVER ISLAND SOUTH PROJECT OPPORTUNITY AREA
- PROPERTY LINES
- TEMPORARY ACCESS
- TEMPORARY CROSSING
- EXISTING ROAD

NOTE:

NATURAL COLOR ORTHO-RECTIFIED AERIAL IMAGERY FOR THE PORTLAND METROPOLITAN AREA COLLECTED JULY 6 THROUGH 14, 2012.



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Not for Construction

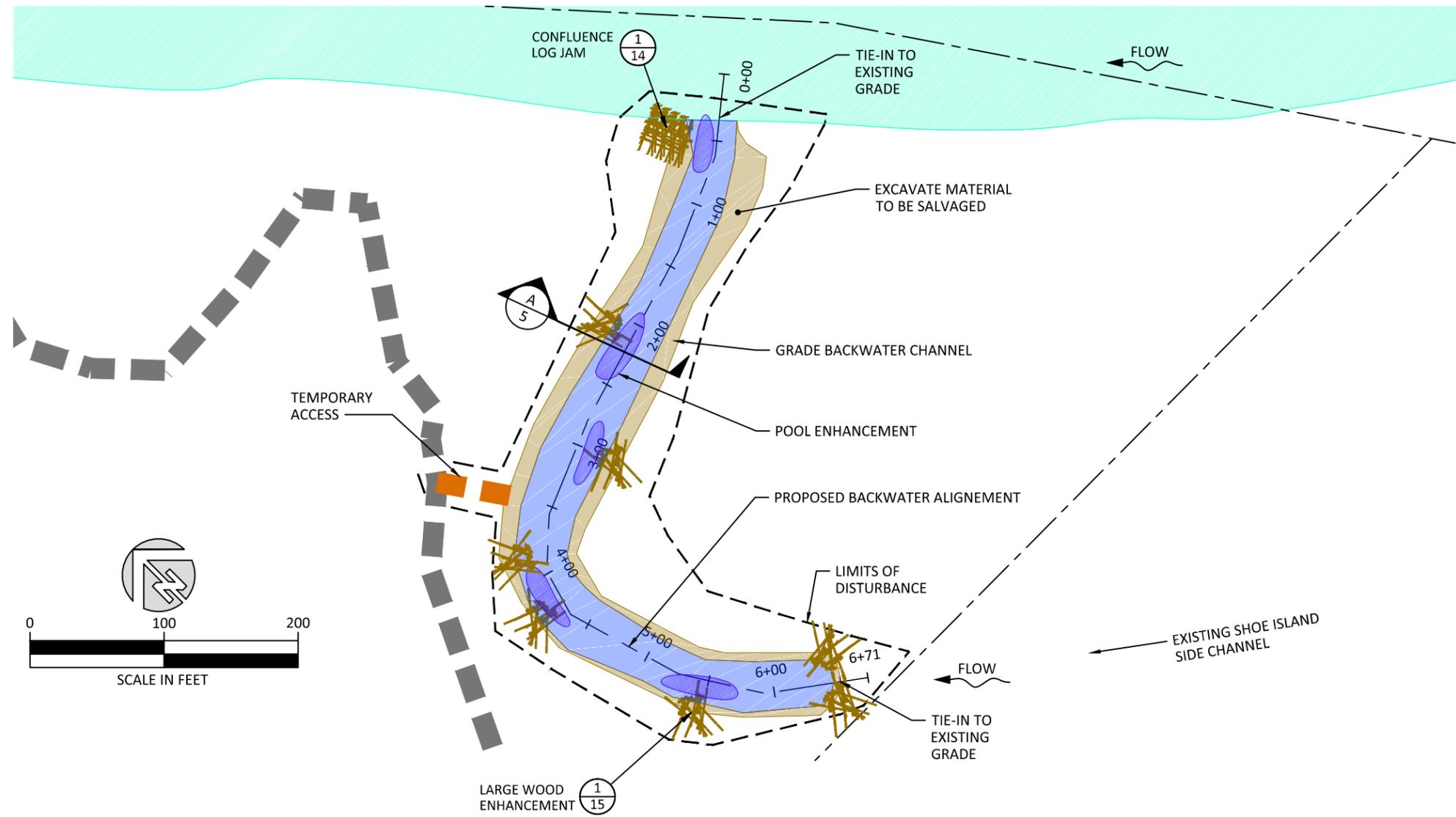
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DRAWN	DESIGNED	CHECKED
MM	SEP. 2014	130235
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RIVER ISLAND DESIGN CONCEPTS
METRO
CLACKAMAS COUNTY, OREGON



Plan View Showing
Opportunity Areas

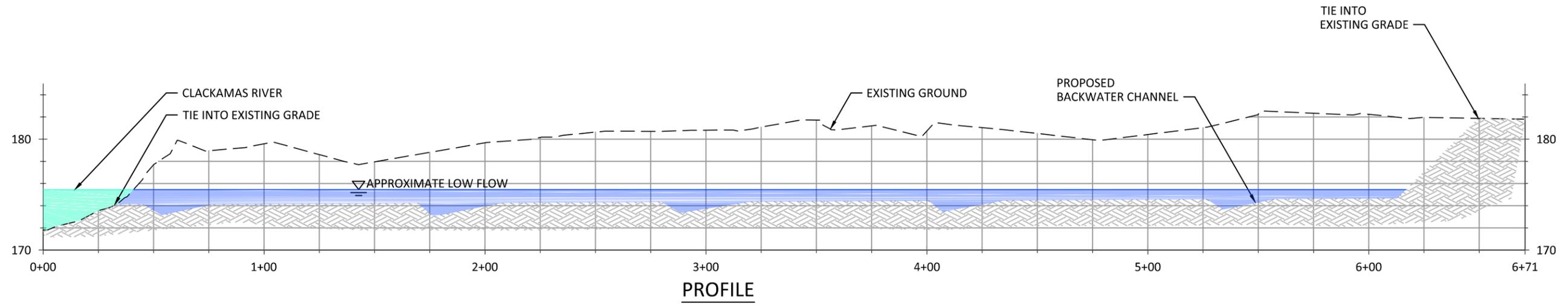


- ### LEGEND
- CLACKAMAS RIVER
 - BACKWATER CHANNEL AND POOLS
 - AREA TO BE EXCAVATED
 - LIMITS OF DISTURBANCE
 - TEMPORARY ACCESS
 - EXISTING ACCESS
 - PROPERTY LINES
 - EXISTING CONTOURS (1 FT. INTERVALS)
 - CONFLUENCE JAM $\frac{1}{14}$
 - LARGE WOOD ENHANCEMENT $\frac{1}{15}$

NOTE:
ELEVATIONS ARE PRELIMINARY.
TO BE FINALIZED IN SUBSEQUENT
DESIGN PHASE.

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PLAN



PROFILE

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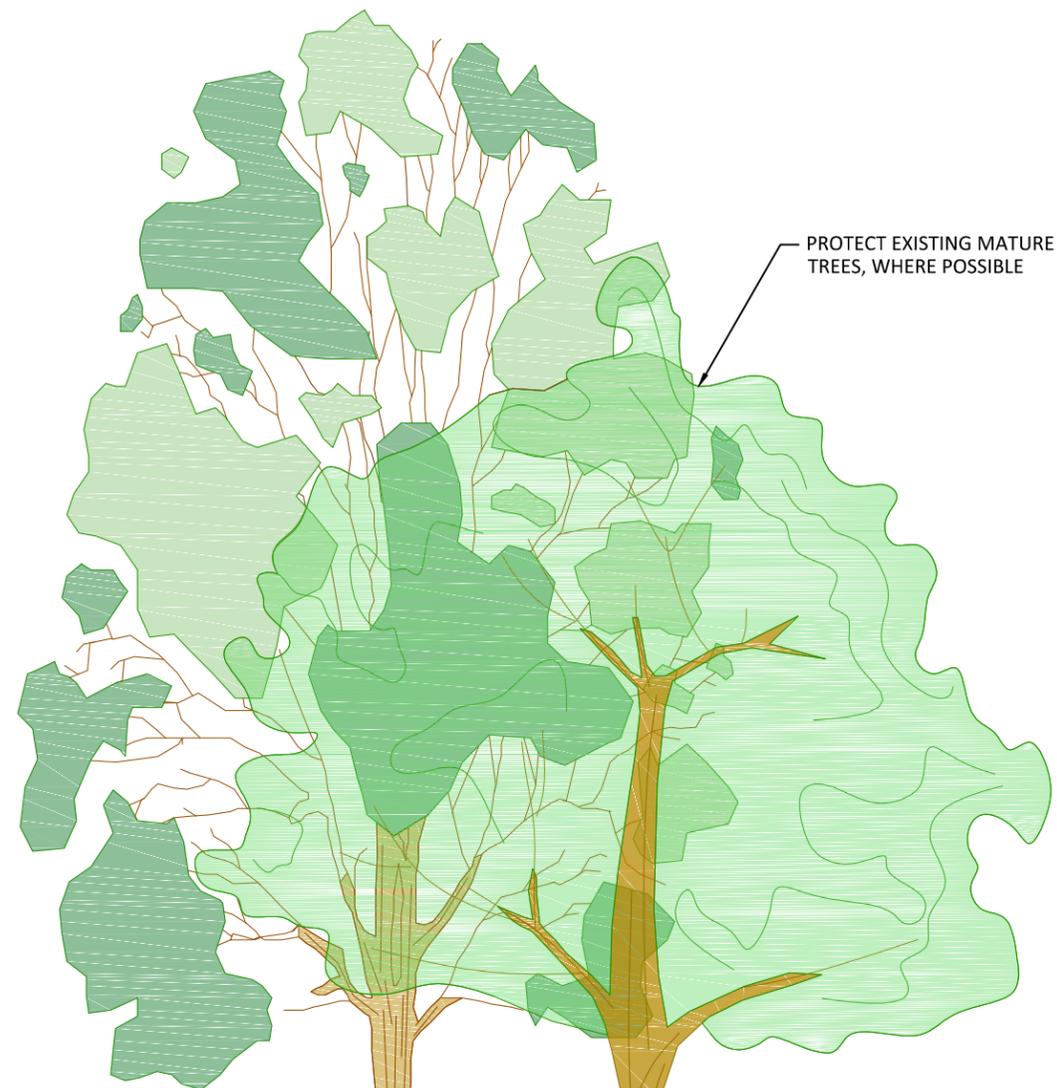
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APPROVED	DATE	PROJECT

RIVER ISLAND DESIGN CONCEPTS
METRO
CLACKAMAS COUNTY, OREGON

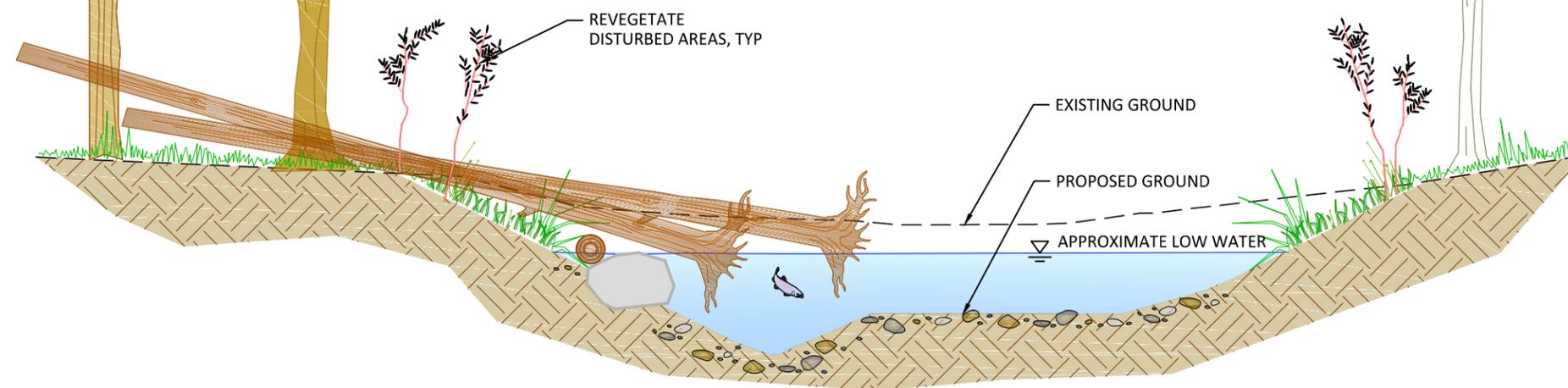


Shoe Island - Plan and Profile

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EXAMPLE TREATMENT BACKWATER ALCOVE



A
5 PROPOSED SECTION VIEW - SHOE ISLAND

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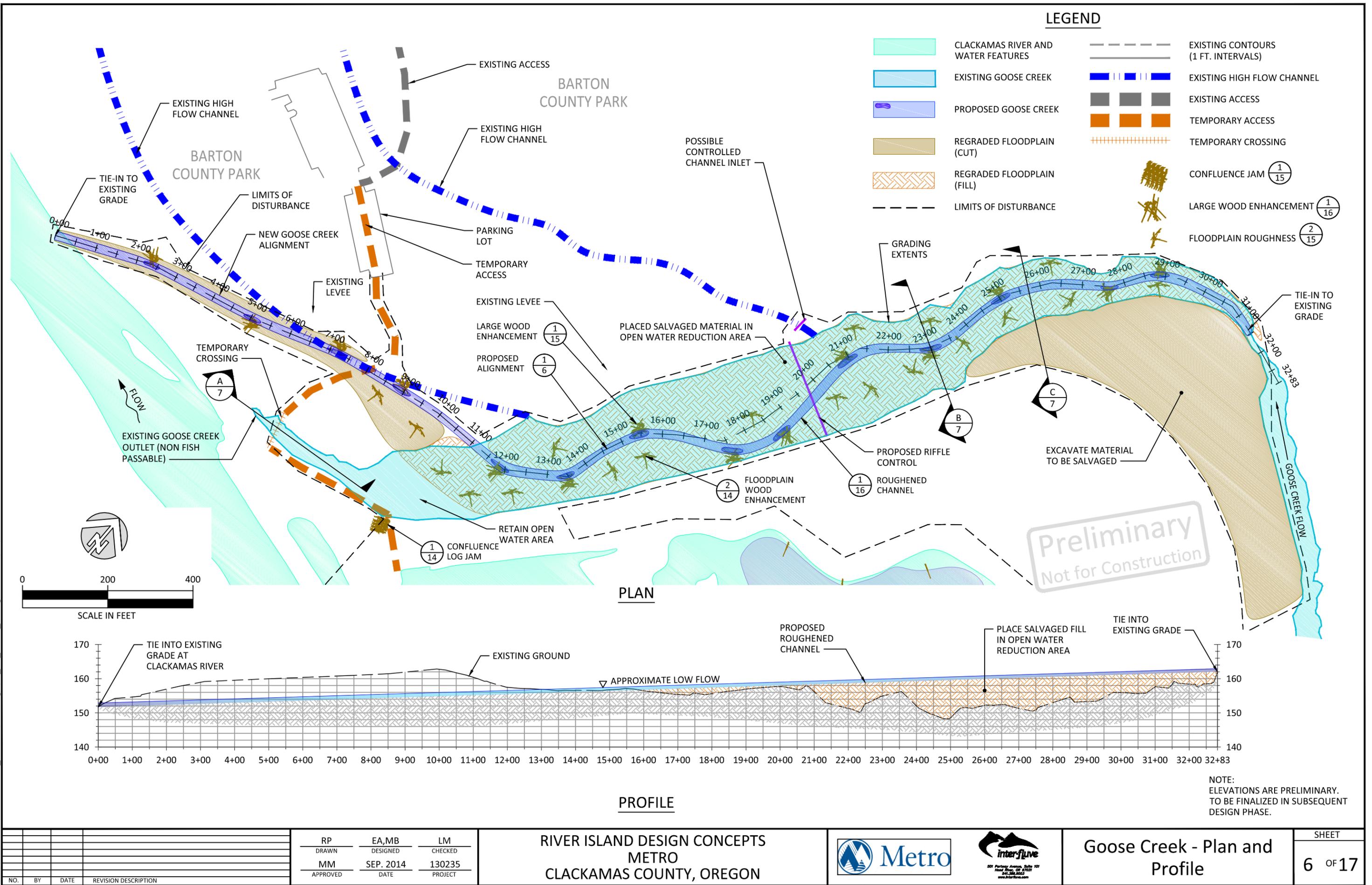
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MM APPROVED	SEP. 2014 DATE	130235 PROJECT

RIVER ISLAND DESIGN CONCEPTS
METRO
CLACKAMAS COUNTY, OREGON

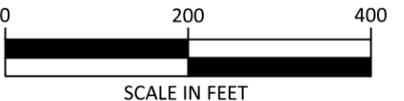


Shoe Island - Typical Cross
Section

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- ### LEGEND
- CLACKAMAS RIVER AND WATER FEATURES
 - EXISTING GOOSE CREEK
 - PROPOSED GOOSE CREEK
 - REGRADED FLOODPLAIN (CUT)
 - REGRADED FLOODPLAIN (FILL)
 - LIMITS OF DISTURBANCE
 - EXISTING CONTOURS (1 FT. INTERVALS)
 - EXISTING HIGH FLOW CHANNEL
 - EXISTING ACCESS
 - TEMPORARY ACCESS
 - TEMPORARY CROSSING
 - CONFLUENCE JAM $\frac{1}{15}$
 - LARGE WOOD ENHANCEMENT $\frac{1}{16}$
 - FLOODPLAIN ROUGHNESS $\frac{2}{15}$



Preliminary
Not for Construction

PLAN

PROFILE

NOTE:
ELEVATIONS ARE PRELIMINARY.
TO BE FINALIZED IN SUBSEQUENT
DESIGN PHASE.

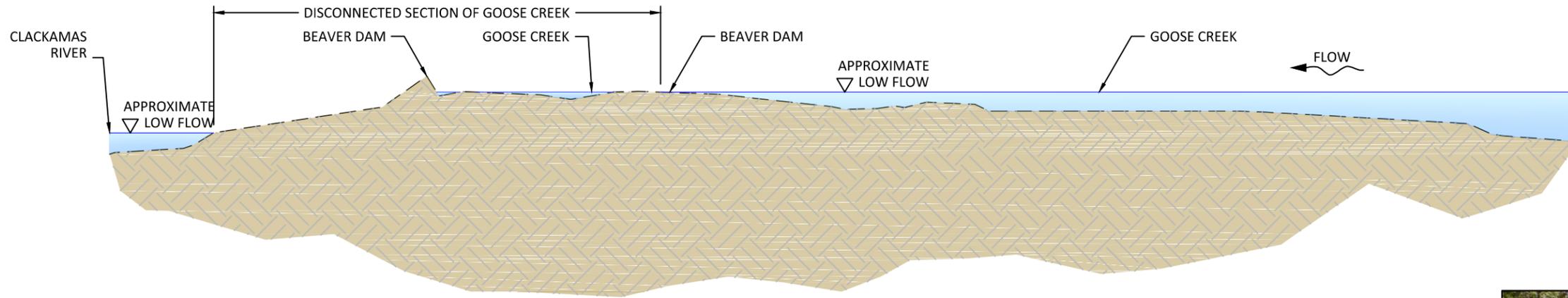
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RIVER ISLAND DESIGN CONCEPTS
METRO
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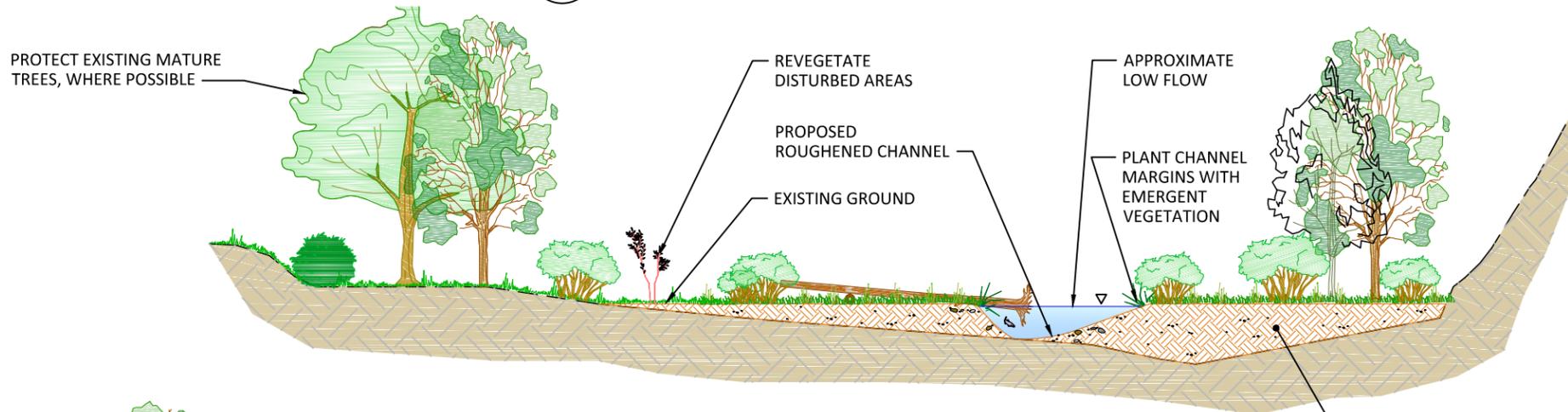


Goose Creek - Plan and
Profile



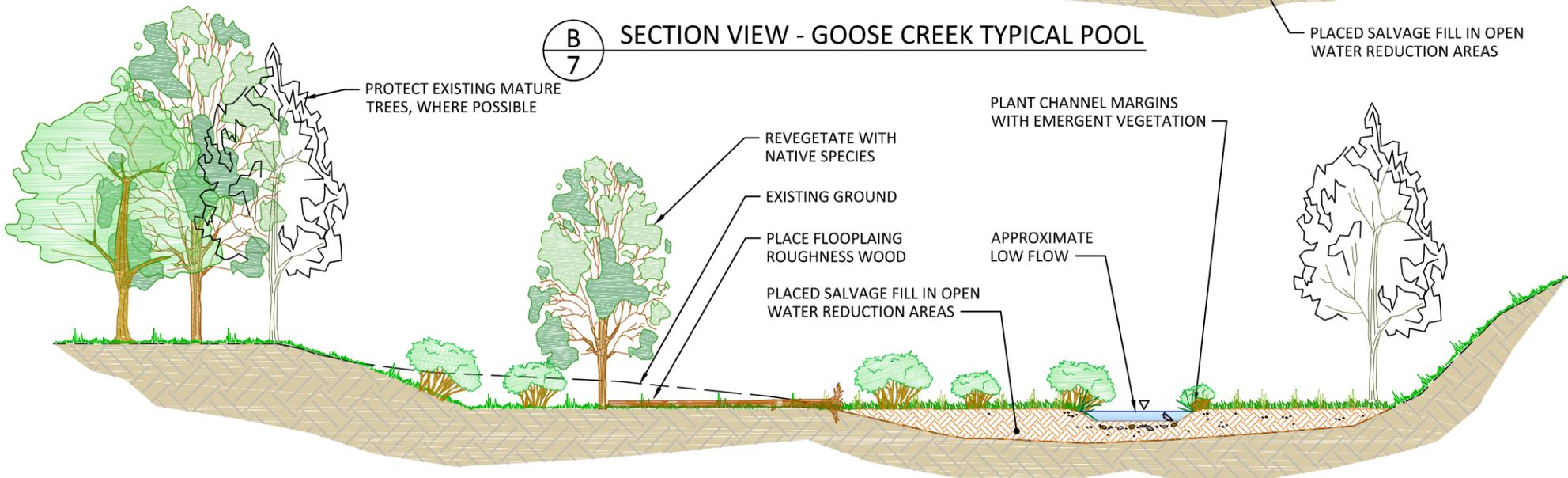
Preliminary
Not for Construction

A
7 PROFILE VIEW - EXISTING GOOSE CREEK OUTLET



EXAMPLE TREATMENT - DURING CONSTRUCTION

B
7 SECTION VIEW - GOOSE CREEK TYPICAL POOL



EXAMPLE TREATMENT - POST CONSTRUCTION

C
7 SECTION VIEW - GOOSE CREEK TYPICAL RIFFLE

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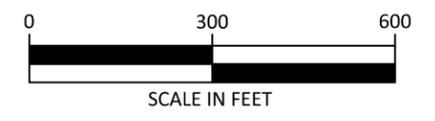
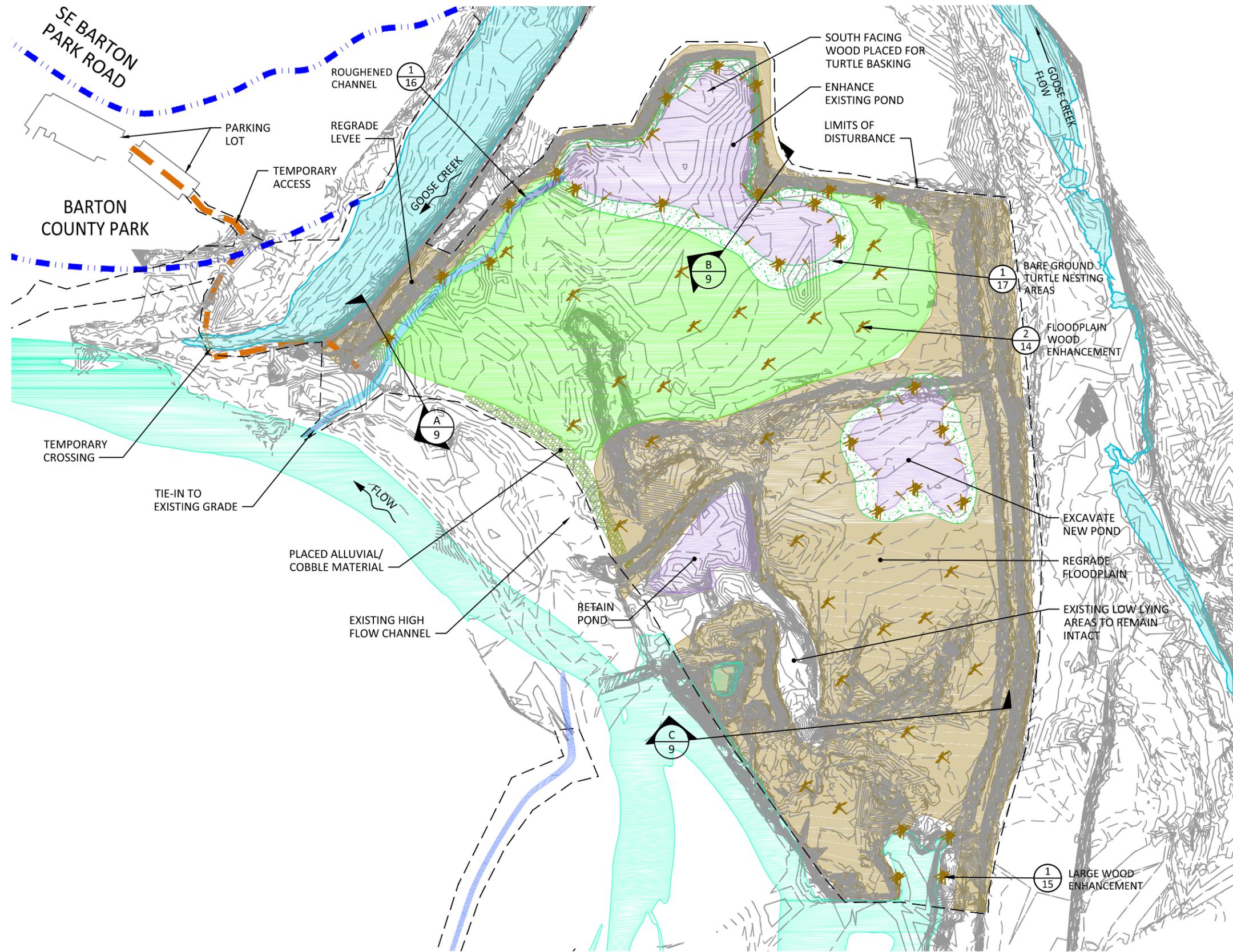
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RIVER ISLAND DESIGN CONCEPTS
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Goose Creek - Typical
Cross Sections

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LEGEND

- CLACKAMAS RIVER
- GOOSE CREEK
- ROUGHENED CHANNEL
- PLACED ALLUVIAL MATERIAL
- TURTLE POND
NOTE: SIZE AND DEPTH TO BE DETERMINED IN SUBSEQUENT DESIGN PHASES
- BARE GROUND NESTING AREAS
- REGRADED FLOODPLAIN (CUT)
- REGRADED FLOODPLAIN (FILL)
- PROPERTY LINES
- LIMITS OF DISTURBANCE
- EXISTING CONTOURS (1 FT. INTERVALS)
- TEMPORARY ACCESS
- CONFLUENCE JAM 1/14
- LARGE WOOD ENHANCEMENT 1/15
- FLOODPLAIN ROUGHNESS 2/14
- TURTLE BASKING LOGS 1/17

PLAN

Preliminary
Not for Construction

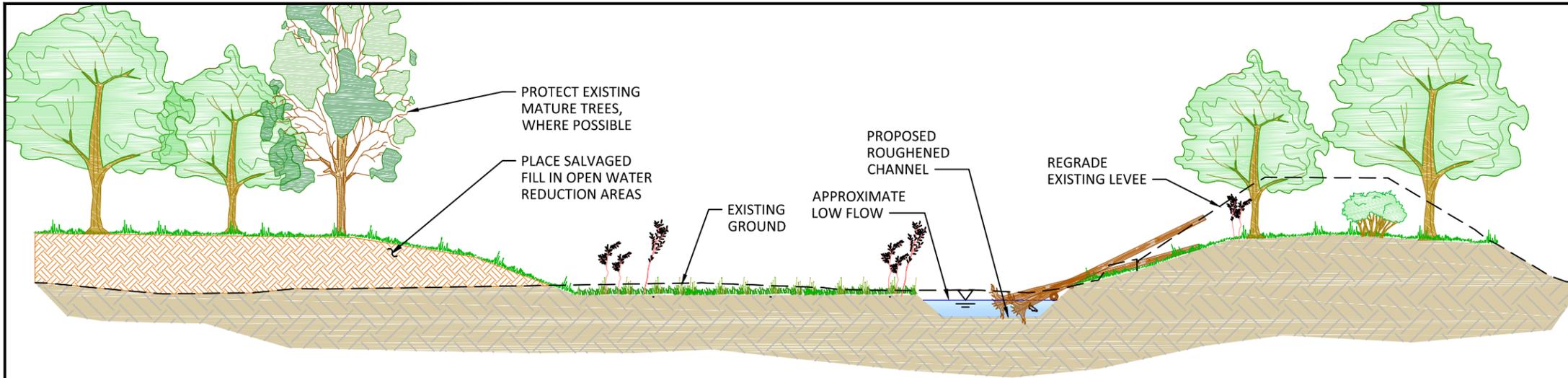
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RIVER ISLAND DESIGN CONCEPTS
METRO
CLACKAMAS COUNTY, OREGON

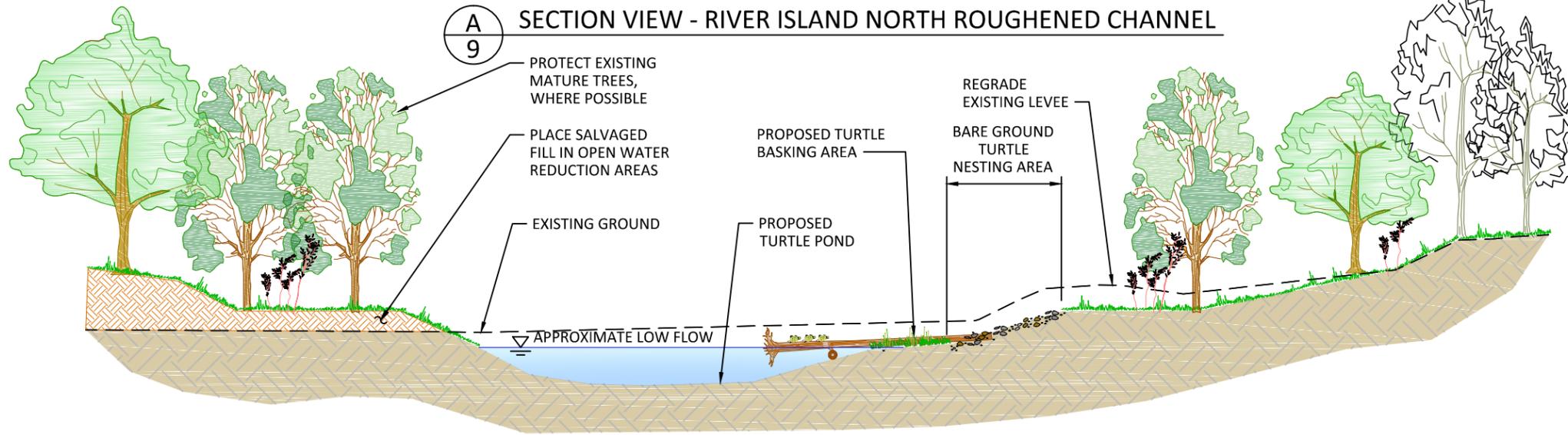


River Island North - Plan

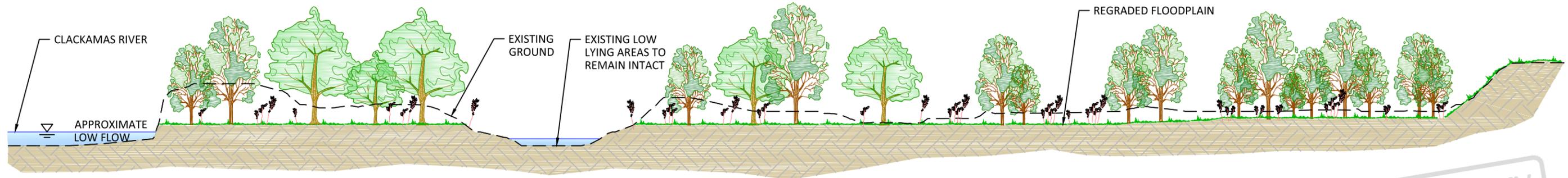
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A SECTION VIEW - RIVER ISLAND NORTH ROUGHENED CHANNEL



B SECTION VIEW - RIVER ISLAND NORTH TURTLE POND



C SECTION VIEW - RIVER ISLAND NORTH REGRADED AREA



EXAMPLE TREATMENT - TURTLE POND

Preliminary
Not for Construction

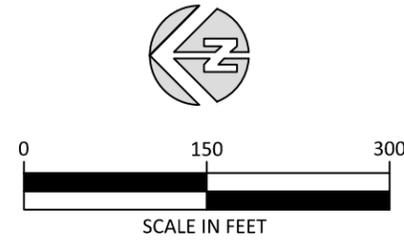
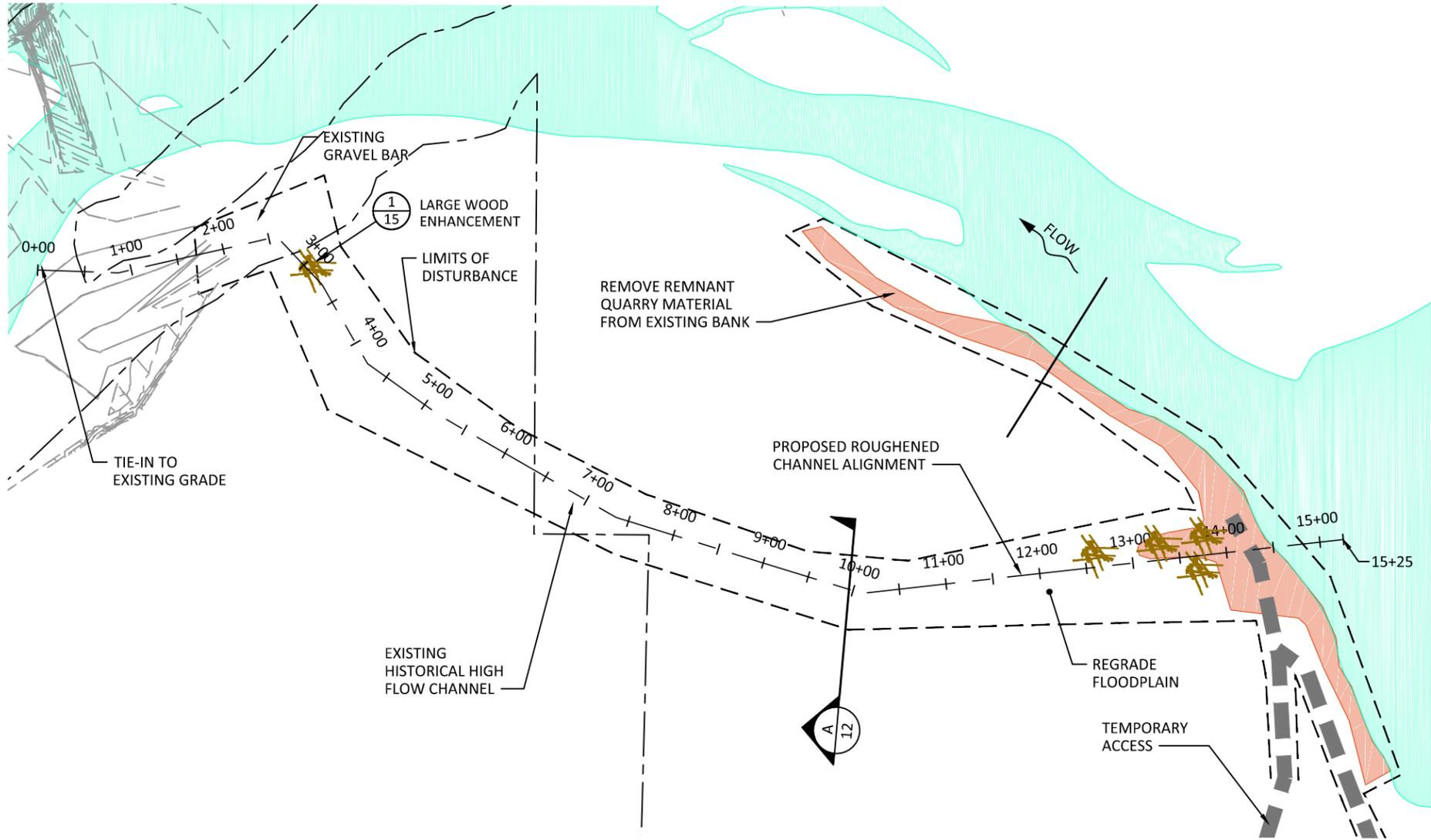
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RIVER ISLAND DESIGN CONCEPTS
METRO
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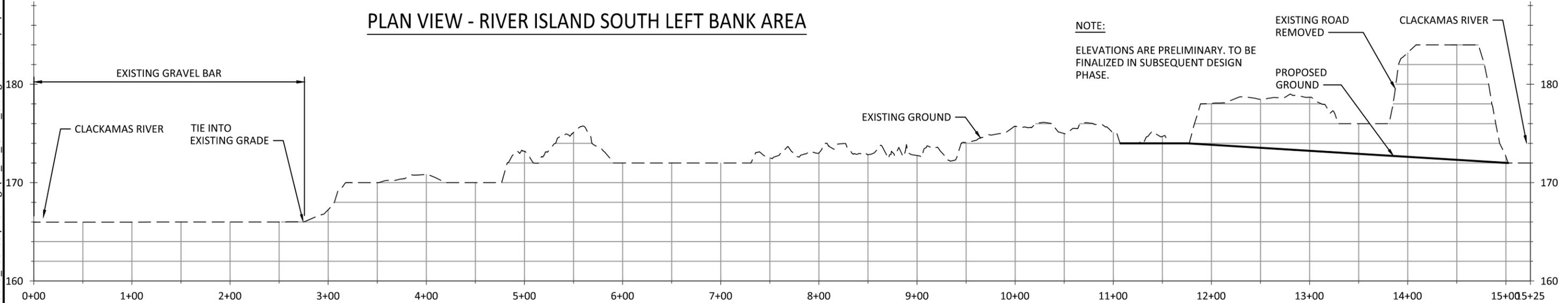
River Island North -
Typical Cross Sections



- LEGEND**
- CLACKAMAS RIVER
 - REMOVE REMNANT GRAVEL QUARRY MATERIAL AND REGRADE
 - LIMITS OF DISTURBANCE
 - TEMPORARY ACCESS
 - PROPERTY LINES
 - EXISTING CONTOURS (1 FT. INTERVALS)
 - LARGE WOOD ENHANCEMENT (1/15)

Preliminary
Not for Construction

PLAN VIEW - RIVER ISLAND SOUTH LEFT BANK AREA



NOTE:
ELEVATIONS ARE PRELIMINARY. TO BE FINALIZED IN SUBSEQUENT DESIGN PHASE.

PROFILE VIEW - RIVER ISLAND SOUTH LEFT BANK AREA

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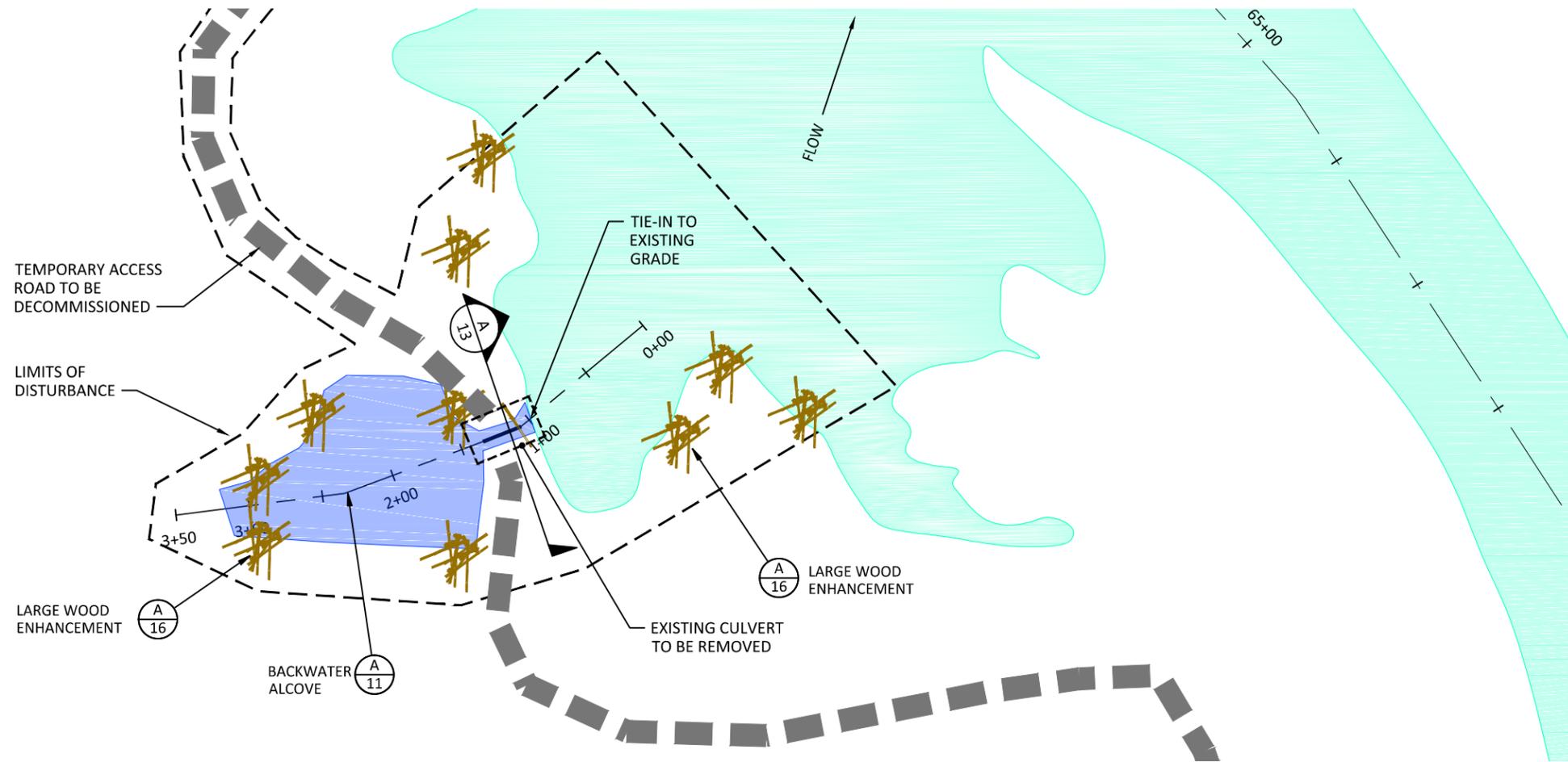
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RIVER ISLAND DESIGN CONCEPTS
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River Island South Left Bank
Area - Plan and Profile

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LEGEND

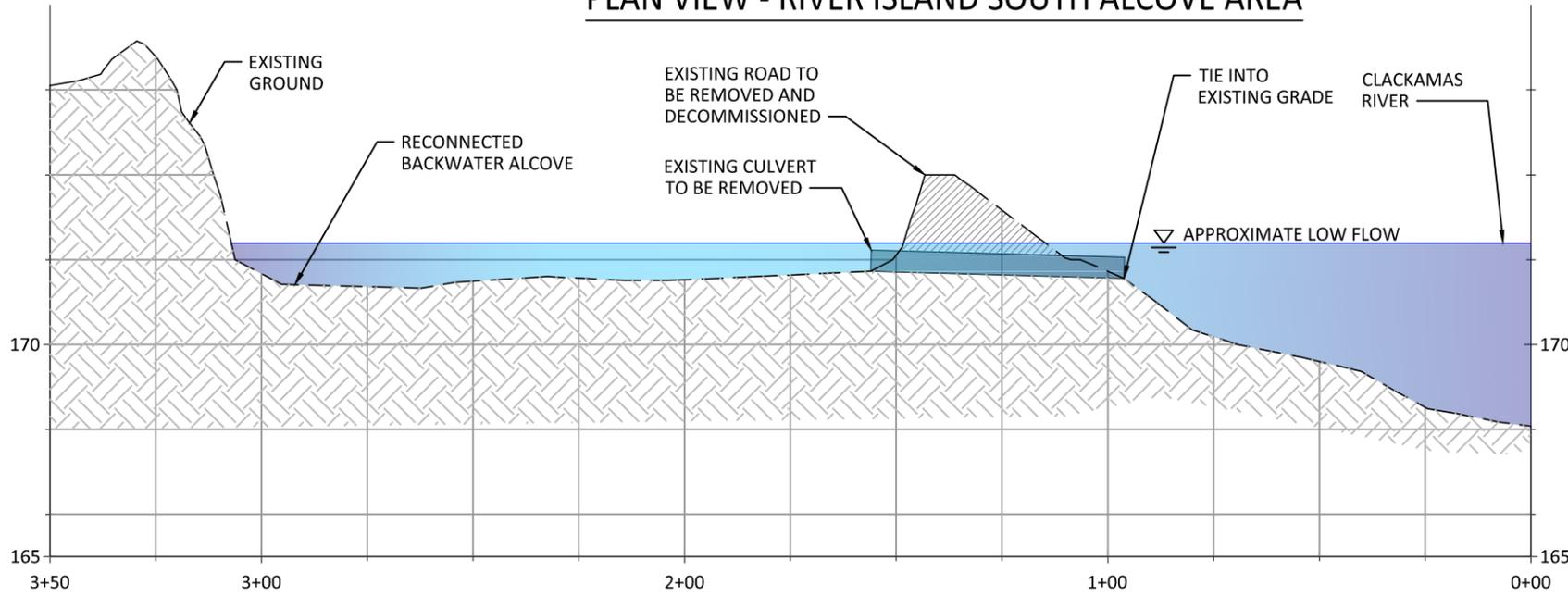
- CLACKAMAS RIVER
- ROUGHENED CHANNEL/BACKWATER ALCOVE
- LIMITS OF DISTURBANCE
- TEMPORARY ACCESS
- LARGE WOOD ENHANCEMENT

NOTE:
ELEVATIONS ARE PRELIMINARY. TO BE FINALIZED IN SUBSEQUENT DESIGN PHASE.

PLAN VIEW - RIVER ISLAND SOUTH ALCOVE AREA



EXISTING DISCONNECTED ALCOVE



A 11 PROFILE VIEW - RIVER ISLAND SOUTH ALCOVE AREA

Preliminary
Not for Construction

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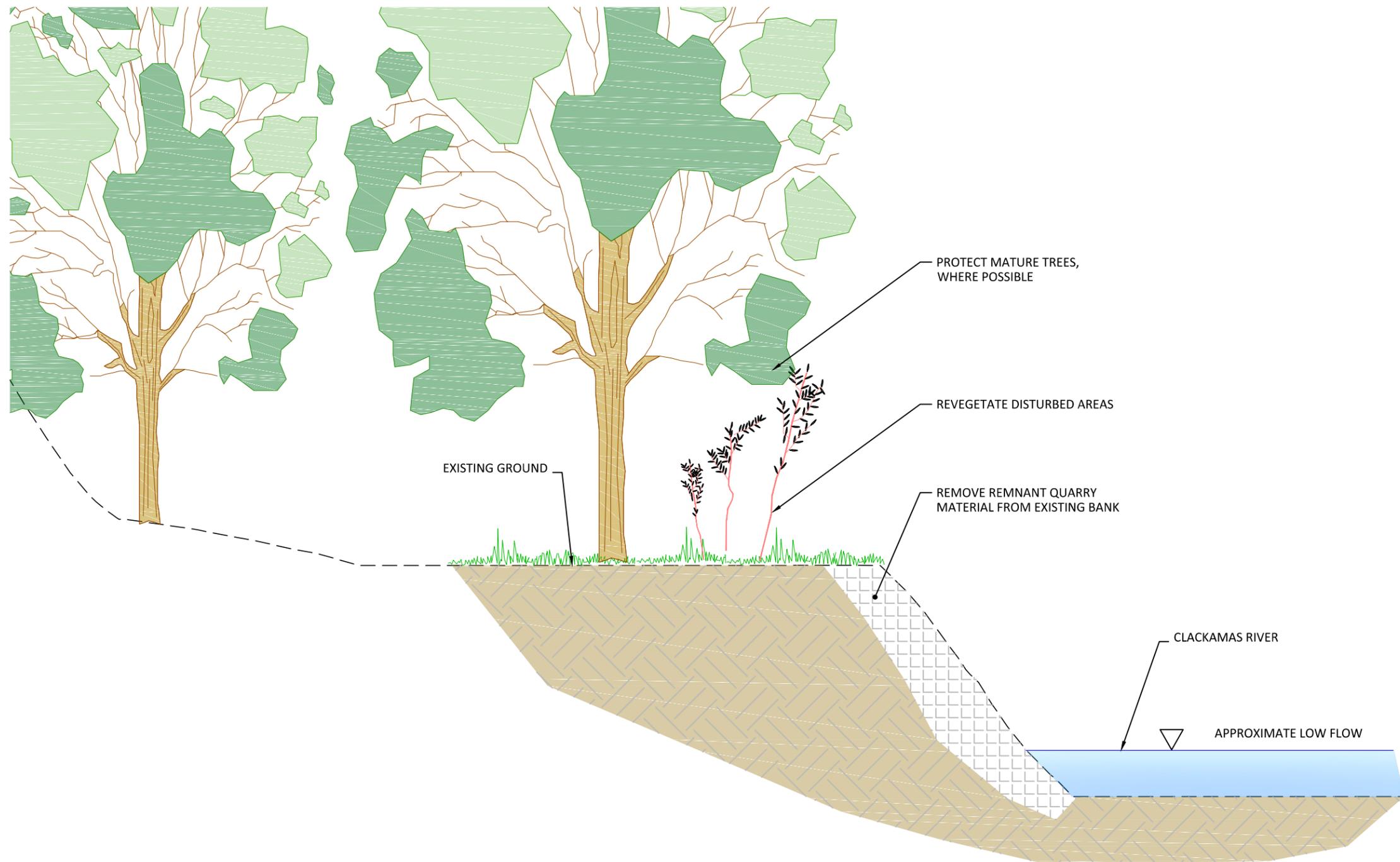
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APPROVED	DATE	PROJECT

**RIVER ISLAND DESIGN CONCEPTS
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CLACKAMAS COUNTY, OREGON**



**RIVER ISLAND SOUTH
ALCOVE AREA - PLAN AND
PROFILE**

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EXISTING BANK WITH EXPOSED REMNANT GRAVEL PIT MATERIAL

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Not for Construction

B
12 PROPOSED SECTION VIEW - RIVER ISLAND SOUTH LEFT BANK AREA

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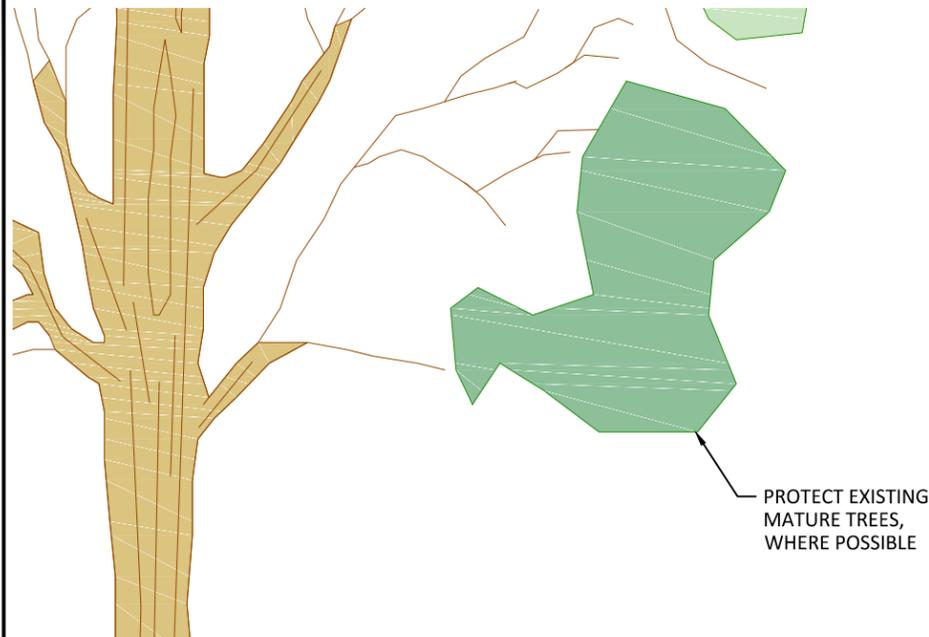
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RIVER ISLAND DESIGN CONCEPTS
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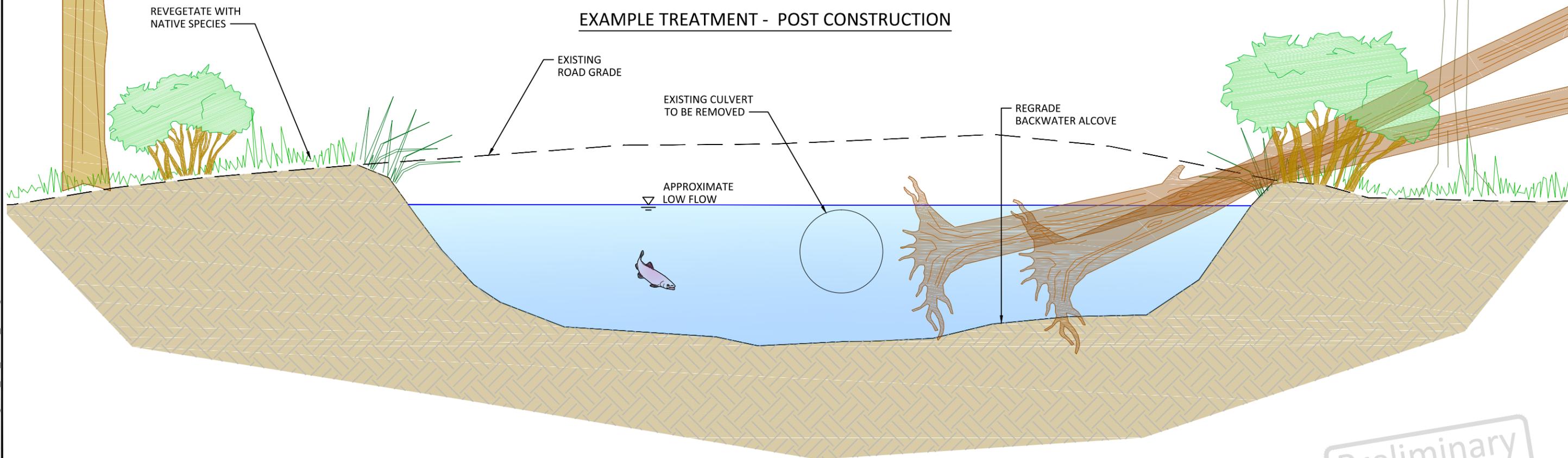


River Island South -
Typical Cross Section

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EXAMPLE TREATMENT - POST CONSTRUCTION



A SECTION VIEW - RIVER ISLAND SOUTH ALCOVE AREA
13

Preliminary
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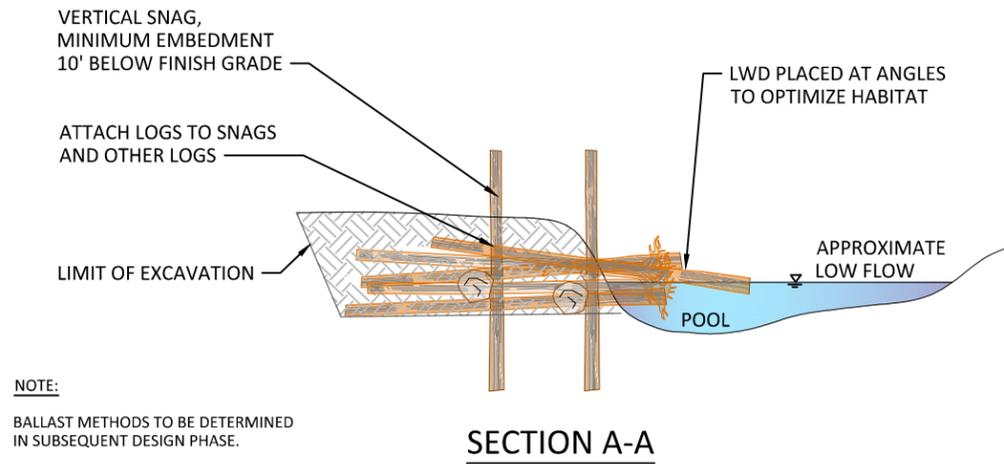
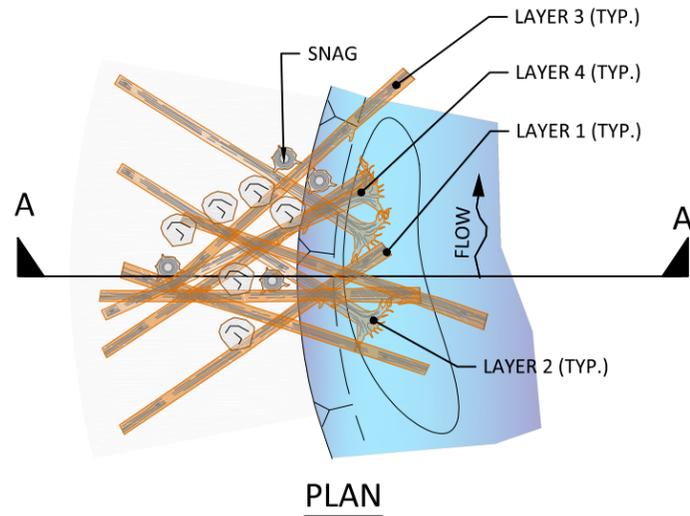
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APPROVED	DATE	PROJECT

RIVER ISLAND DESIGN CONCEPTS
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CLACKAMAS COUNTY, OREGON



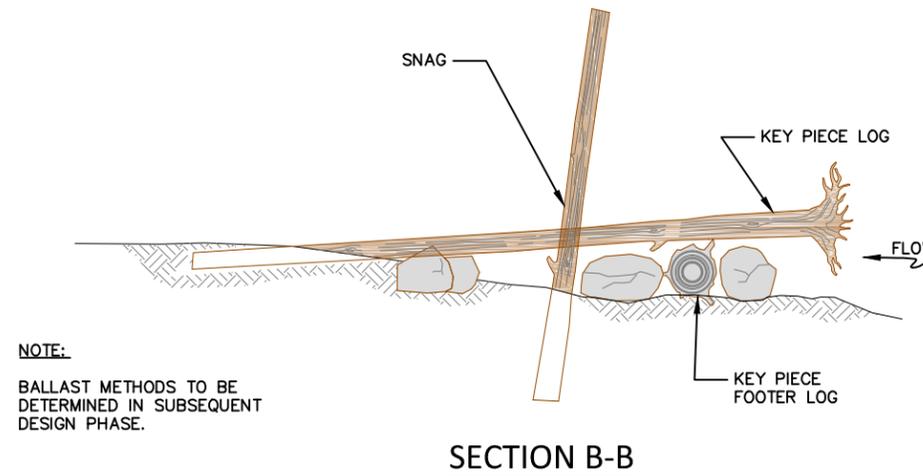
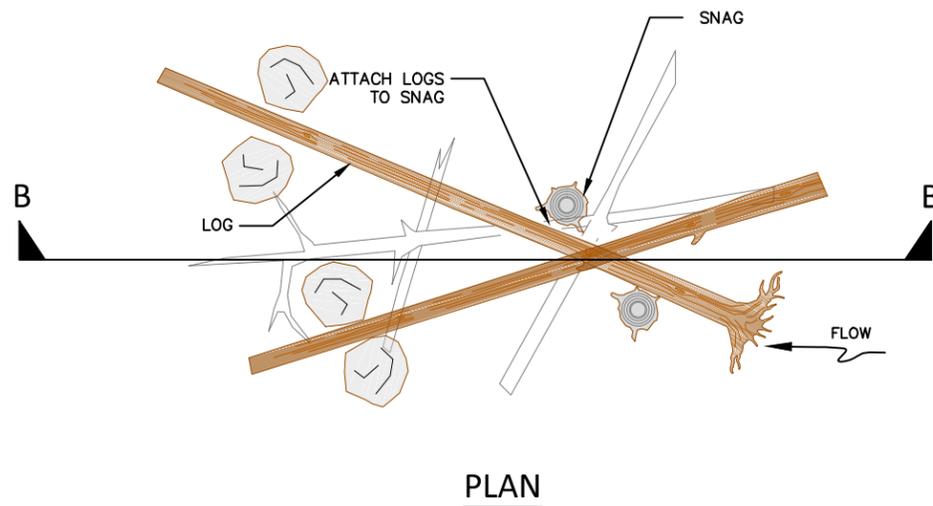
River Island South -
Typical Cross Sections



EXAMPLE TREATMENT - CONFLUENCE LOG JAM

1 TYPICAL DETAIL - CONFLUENCE LOG JAM
13 NTS

Preliminary
Not for Construction



EXAMPLE TREATMENT - FLOODPLAIN ROUGHNESS

2 TYPICAL DETAIL - FLOODPLAIN LW
14 NTS

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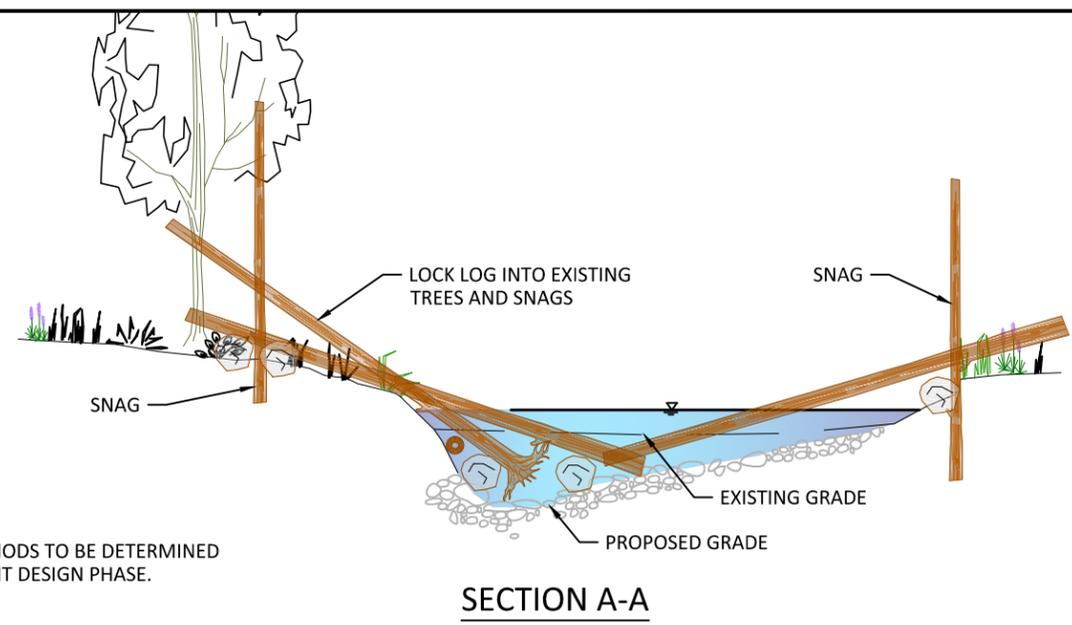
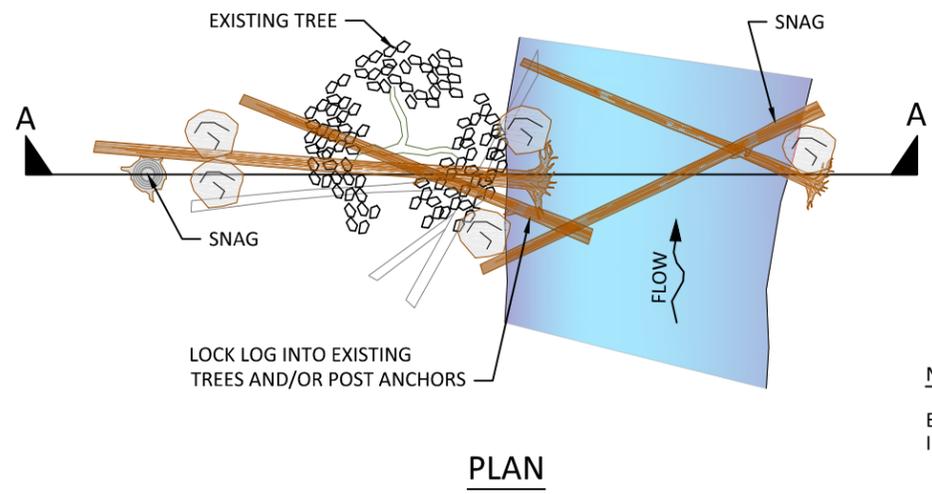
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RIVER ISLAND DESIGN CONCEPTS
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CLACKAMAS COUNTY, OREGON



Typical Details

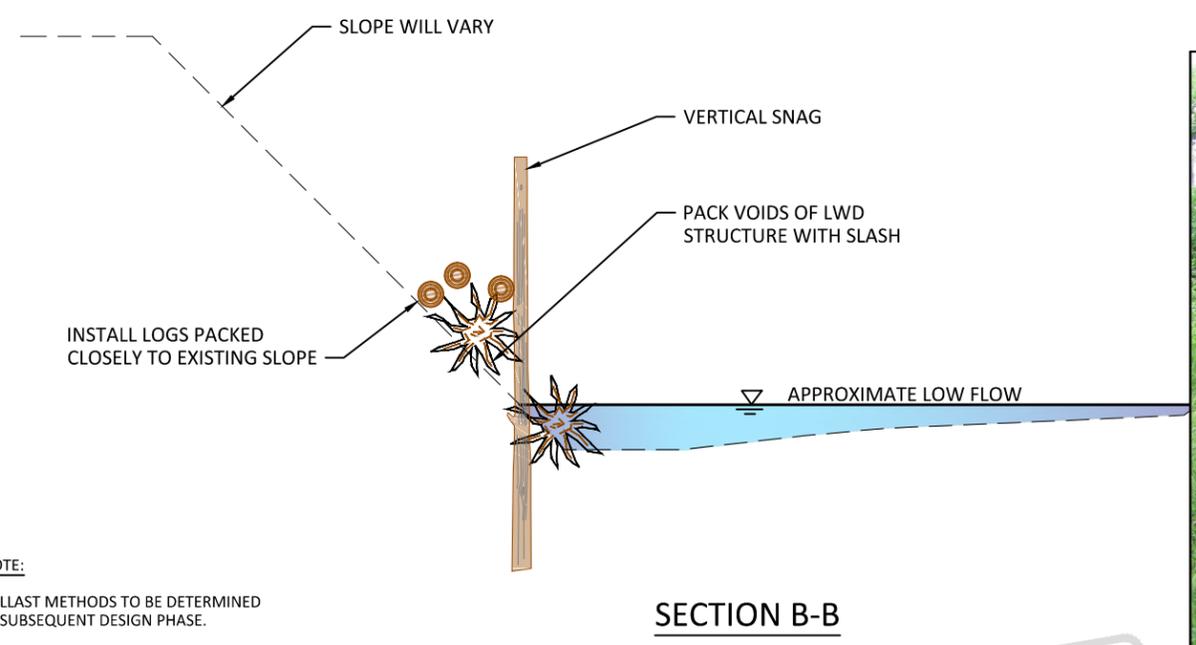
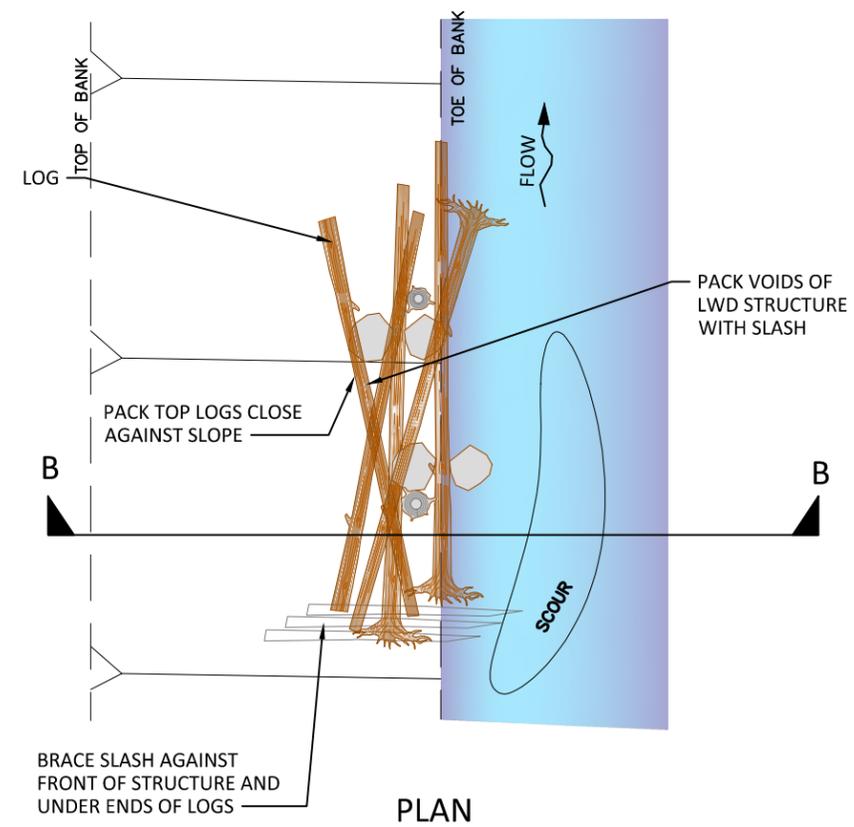


NOTE:
BALLAST METHODS TO BE DETERMINED
IN SUBSEQUENT DESIGN PHASE.



EXAMPLE TREATMENT - POOL LARGE WOOD ENHANCEMENT

1
15 TYPICAL DETAIL - LARGE WOOD ENHANCEMENT
NTS



NOTE:
BALLAST METHODS TO BE DETERMINED
IN SUBSEQUENT DESIGN PHASE.



EXAMPLE TREATMENT - SLOPE LARGE WOOD ENHANCEMENT

2
15 TYPICAL DETAIL - SLOPE LARGE WOOD ENHANCEMENT
NTS

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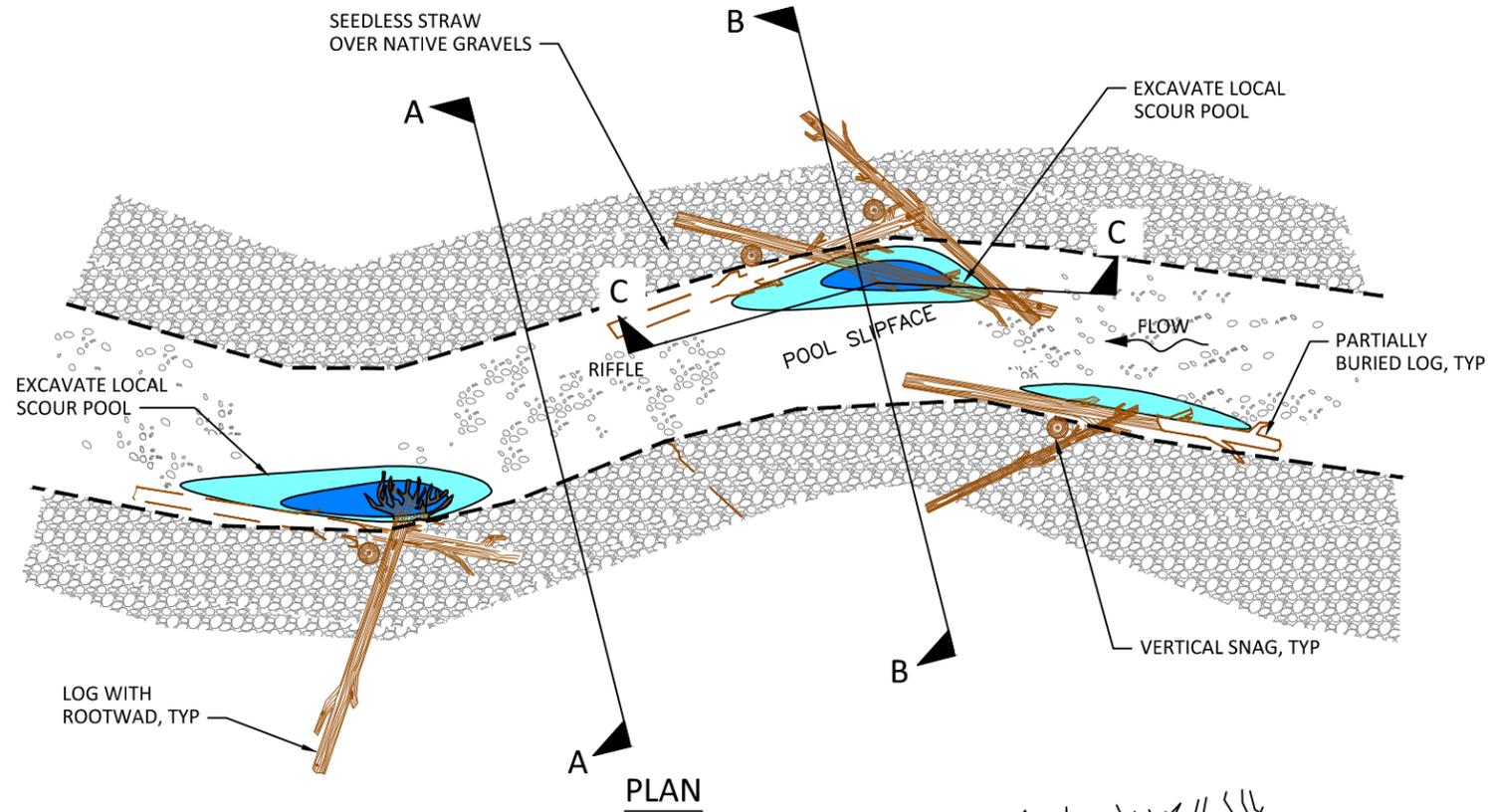
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MM APPROVED	SEP. 2014 DATE	130235 PROJECT

RIVER ISLAND DESIGN CONCEPTS
METRO
CLACKAMAS COUNTY, OREGON



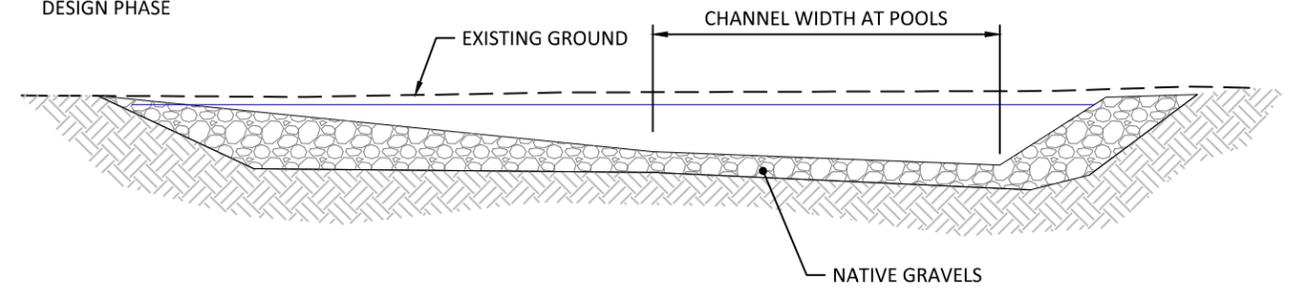
Typical Details

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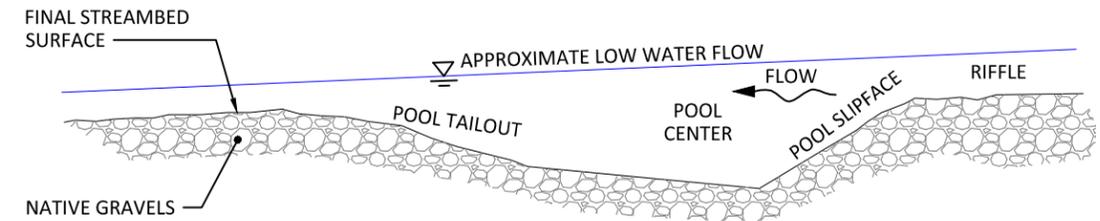
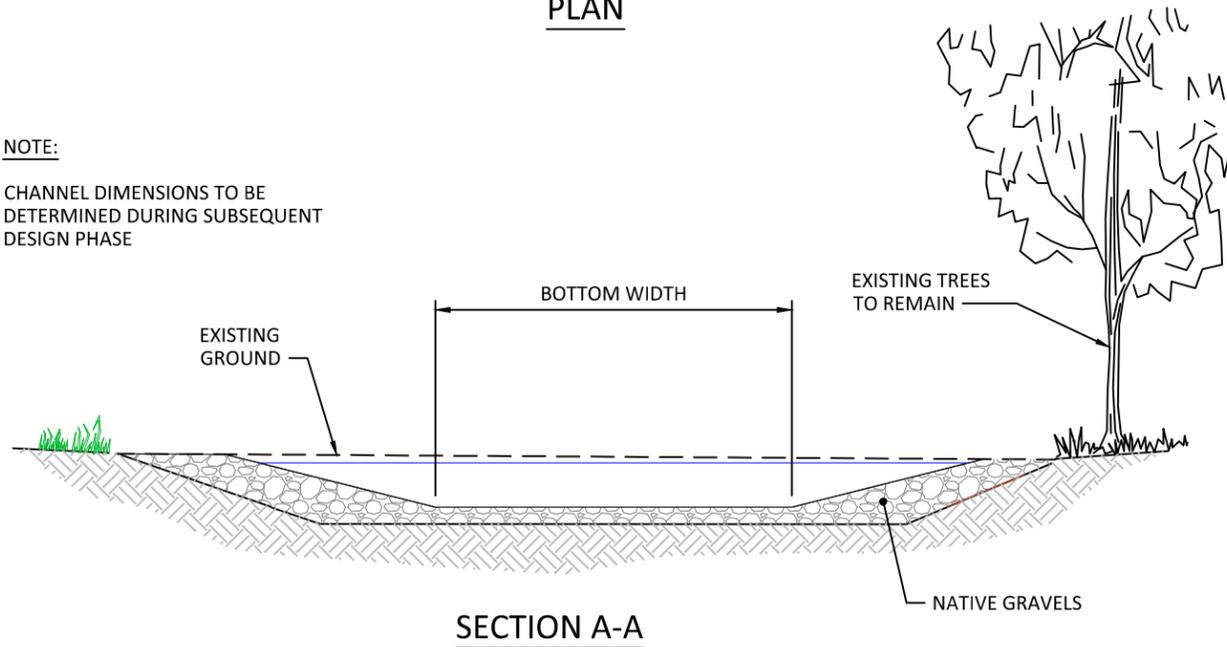
NOTE:

CHANNEL DIMENSIONS TO BE DETERMINED DURING SUBSEQUENT DESIGN PHASE



NOTE:

CHANNEL DIMENSIONS TO BE DETERMINED DURING SUBSEQUENT DESIGN PHASE



1
16 NTS
TYPICAL DETAIL - ROUGHENED CHANNEL

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Not for Construction

NO.	BY	DATE	REVISION DESCRIPTION

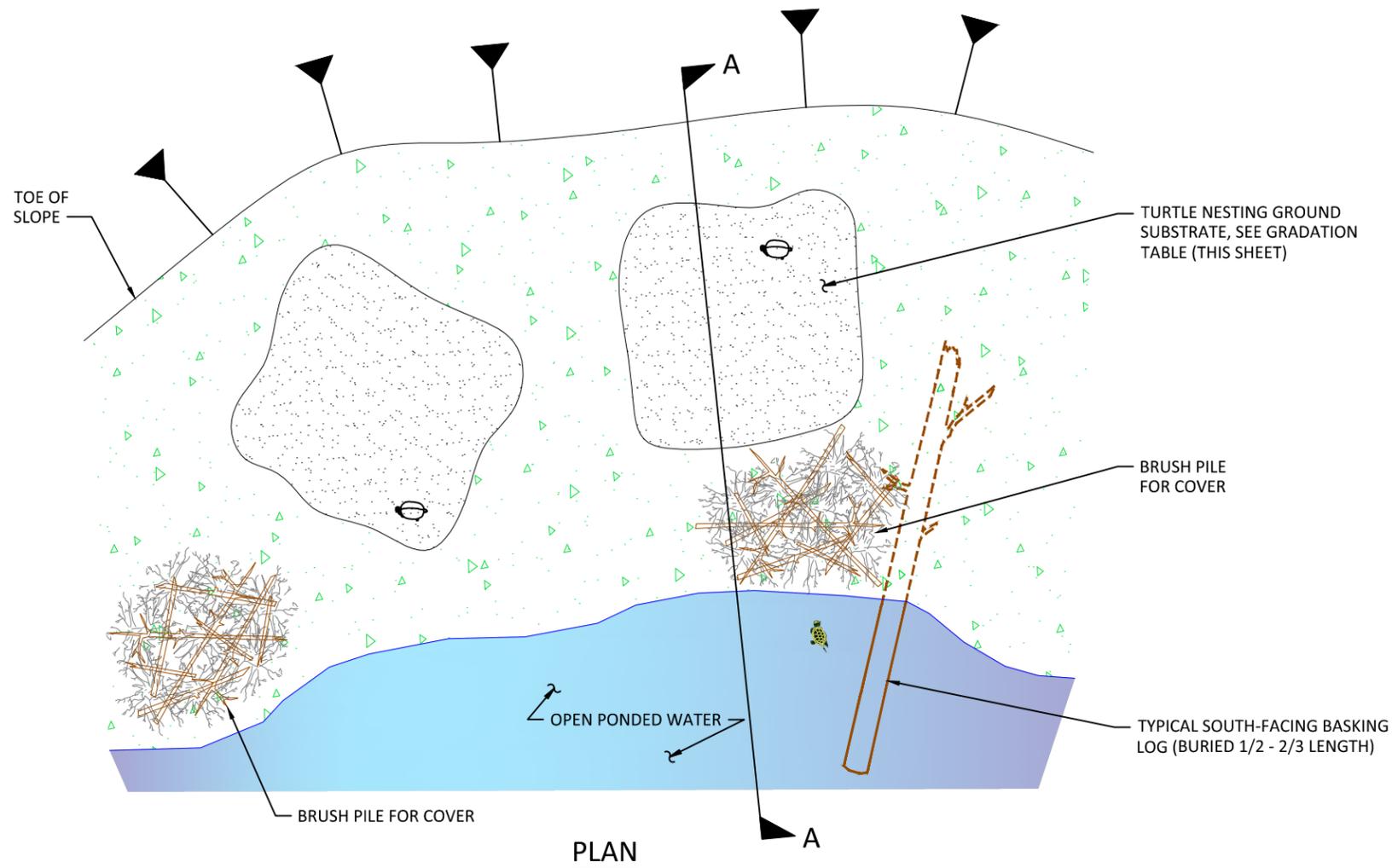
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MM	SEP. 2014	130235
APPROVED	DATE	PROJECT

RIVER ISLAND DESIGN CONCEPTS
METRO
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Typical Details

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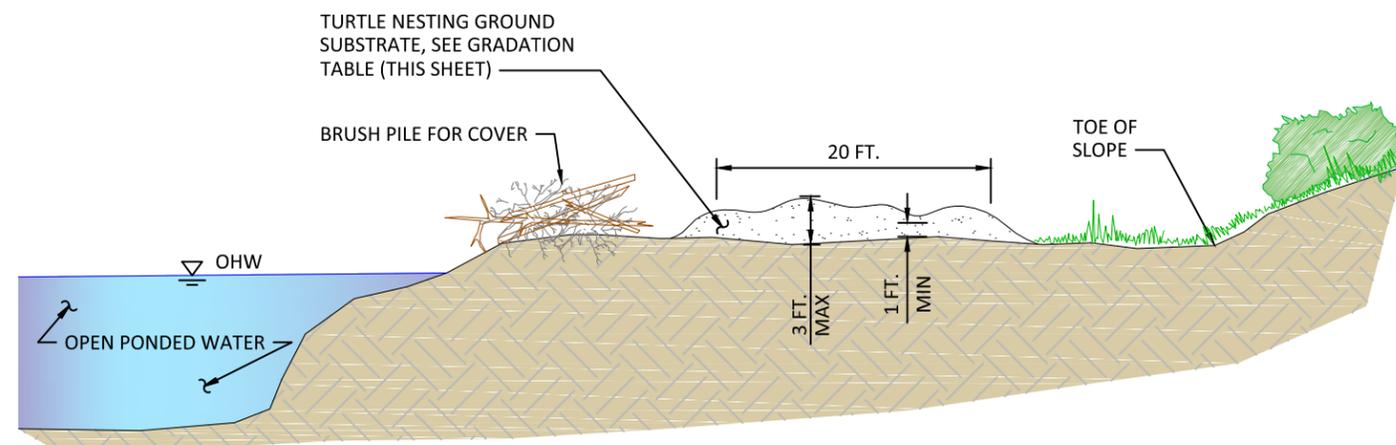
GRADATION TABLE

TURTLE NESTING GROUND SUBSTRATE	
SOIL/SUBSTRATE	% OF TOTAL MIX
FINE CLAY	25 OR LESS
LOAM	25
SAND	25-50
1/4" ROUNDED AGGREGATE*	25 OR LESS

* ROUNDED AGGREGATE SHALL NOT INCLUDE FINES



EXAMPLE TREATMENT - BASKING LOGS



SECTION A-A

1 TYPICAL DETAIL - TURTLE NESTING AREA
17 SCALE

Preliminary
Not for Construction

NO.	BY	DATE	REVISION DESCRIPTION

RP	EA,MB	LM
DRAWN	DESIGNED	CHECKED
MM	SEP. 2014	130235
APPROVED	DATE	PROJECT

RIVER ISLAND DESIGN CONCEPTS
METRO
CLACKAMAS COUNTY, OREGON



Typical Details