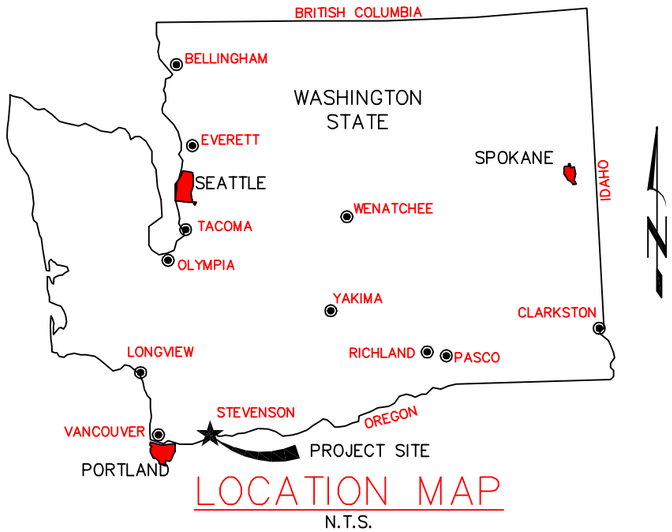
SHORELINE ENHANCEMENT AND ACCESS

PORT OF SKAMANIA

APRIL 28, 2010



LOCATION MAP

N.T.S.

GENERAL NOTES

1. ALL WORK IS TO CONFORM WITH PROJECT CONTRACT SPECIFICATIONS.
2. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES AND REGULATIONS INCLUDING NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES. THE TERMS OF THE STATE OF WASHINGTON HYDRAULIC PROJECT APPROVAL (HPA) AND THE CORP OF ENGINEERS PERMIT SHALL BE OBSERVED. ALL IN WATER WORK SHALL BE COMPLETED WITHIN GUIDELINES ESTABLISHED IN THE PERMIT DOCUMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL SCHEDULING AND ALL WORK WITH THE OWNER.
4. THE ENGINEER OR OWNER IS NOT RESPONSIBLE FOR THE SAFETY OF THE CONTRACTOR OR HIS CREW. ALL O.S.H.A. REGULATIONS SHALL BE STRICTLY ADHERED TO IN THE PERFORMANCE OF THE WORK.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ROADWAYS KEEPING THEM CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS, AND PROVIDING NECESSARY DUST CONTROL WHERE REQUIRED.
6. WATER LEVELS ARE FOR REFERENCE ONLY. WATER LEVELS AT THE TIME OF CONSTRUCTION ARE NOT GUARANTEED. CONSTRUCTION MEANS, METHODS, AND MATERIALS TO FACILITATE COMPLETION OF PROJECT ARE THE RESPONSIBILITY OF THE CONTRACTOR.

PROJECT DESCRIPTION

PLACE OWNER PROVIDED ROUND RIVER ROCK/GRAVEL ALONG SHORELINE TO COVER EXISTING RIP-RAP, EXISTING SHEET PILE WALL, AND ERODING BANK, INSTALL ROOT-WAD HABITAT ELEMENTS, AND RIPARIAN PLANTINGS.

OWNER

PORT OF SKAMANIA COUNTY
PO BOX 1099
70 SE CASCADE AVENUE
STEVENSON, WASHINGTON 98648
PHONE: (509) 427-5484
FAX: (509) 427-7984

ENGINEER

FLOWING SOLUTIONS
3305 SW 87TH
PORTLAND, OR 97225
PHONE: (503) 297-6311
FAX: (503) 297-6053

SHEET INDEX

1. COVER
2. SITE
3. PLAN
4. PLAN WEST
5. BANK DETAIL
6. EROSION CONTROL PLAN
7. SECTIONS 4,5
8. SECTIONS 6,7

COLUMBIA RIVER
ELEVATION DATA
HIGH POOL = 80
LOW POOL = 74

NOTE: 11x17 AT FULL SCALE

Corps Ref# 2007-192 Skamania County

SHEET 1 OF 8

COVER

Stevenson Shoreline Enhancement, Port of Skamania
P.O Box 1099
Stevenson, Washington 98648

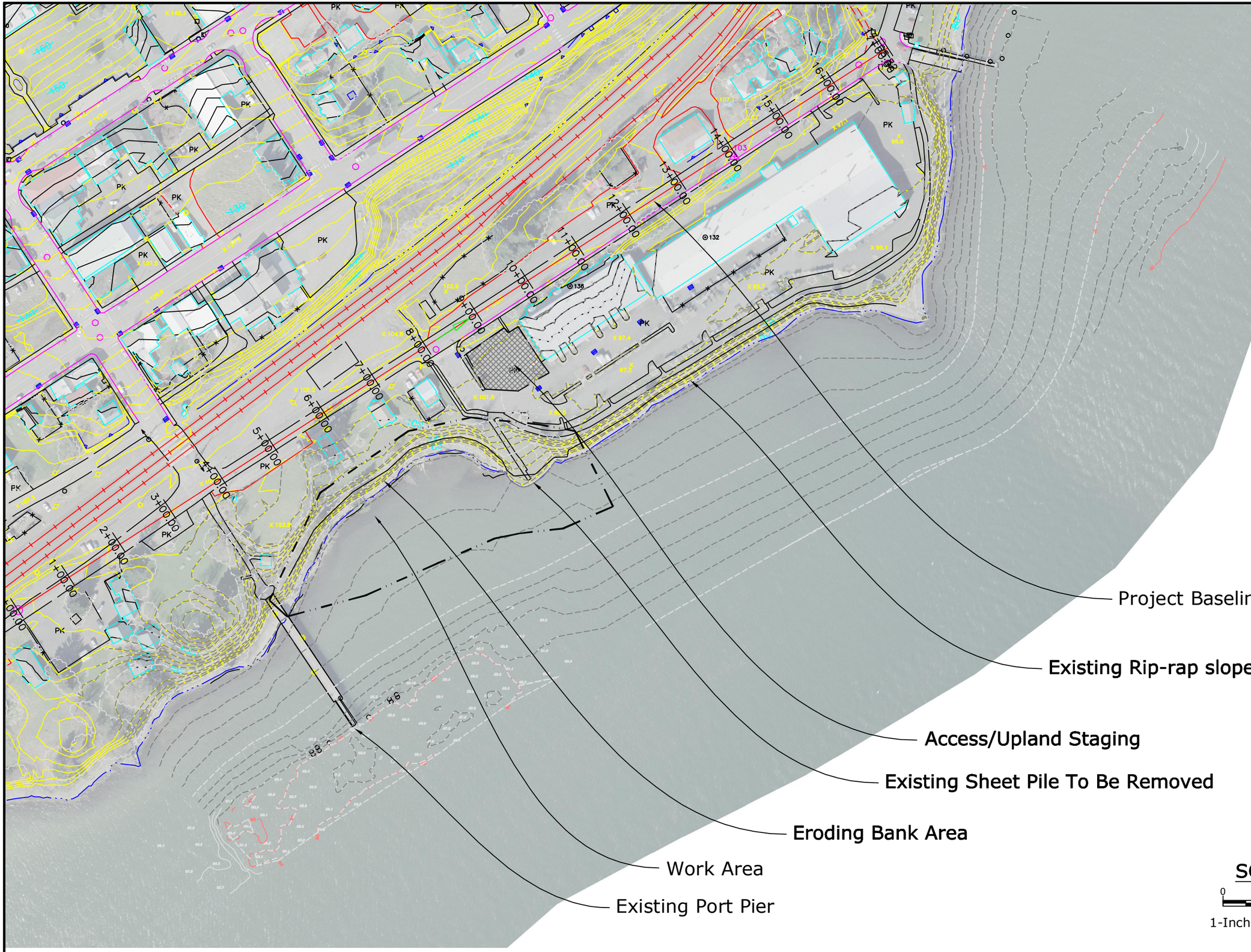
DATE: 4/29/2010 PROJECT Shoriline

Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone: (503) 297-6311
Fax: (503) 297-6053

Flowing solutions SM

NO.	DATE	REVISION	BY	APRVD.

SCALE: PLAN HORIZ. 1/2 INCH (REF.) PROFILE VERT.



NOTE: 11x17 AT FULL SCALE

Corps Ref# 2007-192 Skamania County

SITE

Stevenson Shoreline Enhancement, Port of Skamania
P.O Box 1099
Stevenson, Washington 98648

DATE: 4/29/2010

PROJECT Shorline

Flowing solutions

Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone: (503) 297-6311
Fax: (503) 297-6053

SHEET 2 OF 8

NO.	DATE	REVISION	BY	APRVD.	SCALE
					PLAN HORIZ.
					PROFILE VERT.
					1/2 INCH (REF)

City of Stevenson

Recreation Parking

Leavens Point

NEW PUBLIC WATER ACCESS BEACH

ACCESSIBLE PATHWAY CONNECTION

Public Restrooms

Teo Park

FILL LIMIT LINE

ROOT WADS

RIPARIAN PLANTING BENCH

STEVENSON LANDING PIER

SHALLOW SLOPING GRAVEL SHORE

SECTION-4

SECTION-5

SECTION-6

SECTION-7

SECTION-8

SECTION-9

PK

3+00.00

4+00.00

5+00.00

6+00.00

X 105.2

X 101.5

X 103.8

199.4

169.9

139.7

406.0

127.3

Existing Contours
2ft Intervals

Proposed Contours
1ft Intervals

SCALE
0 30 60
1-Inch At Full Scale

Existing Interpretive Signs

1. Lewis and Clark Trail
2. City wide trail map
3. Stevenson Landing
4. Kinetic Sculpture
5. National Scenic Area
6. Informational Kiosk
7. Multi-recreation
8. Bretz Flood

SHEET 4 OF 8

Stevenson Shoreline Enhancement, Port of Skamania

Corps Ref# 2007-192 Skamania County

P.O Box 1099
Stevenson, Washington 98648

DATE: 4/29/2010

PROJECT Shoreline

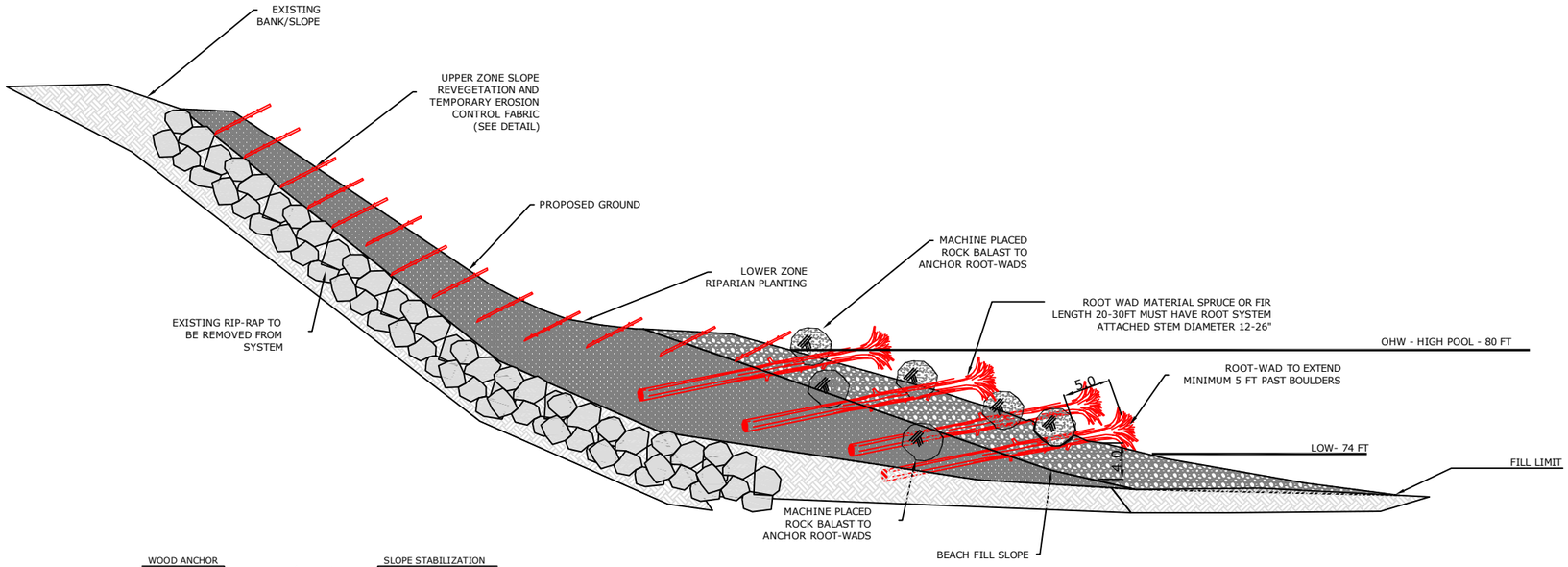
Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone: (503) 297-6331
Fax: (503) 297-8053

Flowing solutions

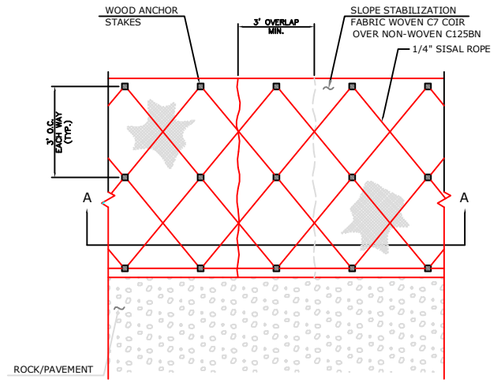
PORT of SKAMANIA COUNTY

SCALE: PLAN HORIZ. VERT. PROFILE 1/2 INCH (REF.)

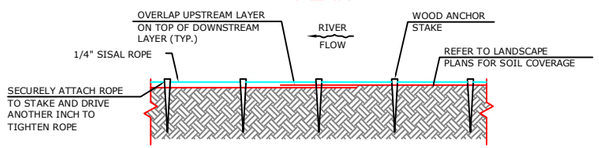
APRVD. BY REVISION DATE NO.



BANK AND ROOT WAD DETAIL
N.T.S.

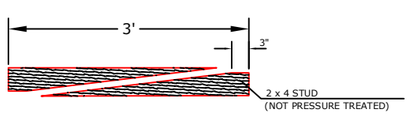


PLAN

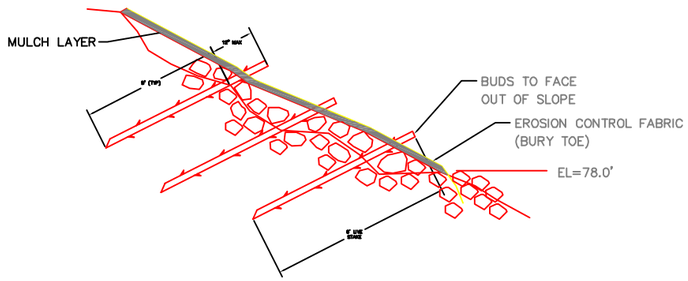


SECTION A-A

SLOPE STABILIZATION FABRIC PLAN AND SECTION
1
NTS



2 WOOD ANCHOR STAKE
N.T.S.



NOTE: PLANT STAKES ON A 1' GRID

SPECIES	SIZE	QUANTITY	MIN DIAMETER
PACIFIC WILLOW	6' STAKES	MIN 4 IN 16SF AREA	1"
SCOULER WILLOW	6' STAKES	MIN 4 IN 16SF AREA	1"
COLUMBIA RIVER WILLOW	6' STAKES	MIN 4 IN 16SF AREA	1"
RED OSIER DOGWOOD	6' STAKES	MIN 4 IN 16SF AREA	1"

REVEGETATION DETAIL
N.T.S.

NOTE: 11x17 AT FULL SCALE

Corps Ref# 2007-192 Skamania County

SHEET 5 OF 8

BANK DETAIL

Stevenson Shoreline Enhancement, Port of Skamania
P.O Box 1099
Stevenson, Washington 98648

DATE: 4/29/2010

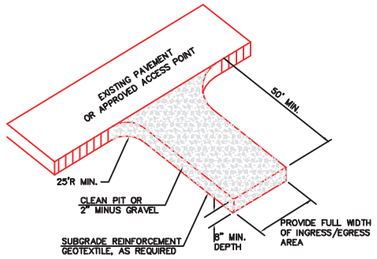
PROJECT Shoreline

Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone: (503) 297-6311
Fax: (503) 297-6053

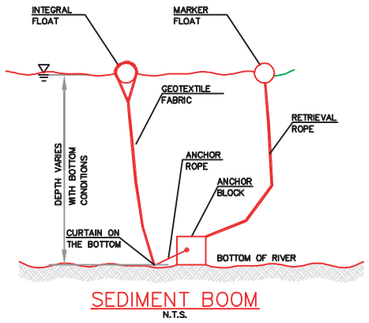
Flowing solutions SM

NO.	DATE	REVISION	BY	APPRVD.

SCALE: PLAN | HORIZ. | PROFILE | VERT. | 1/2 INCH (REF.)



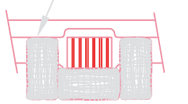
TEMPORARY GRAVEL ENTRANCE
NTS



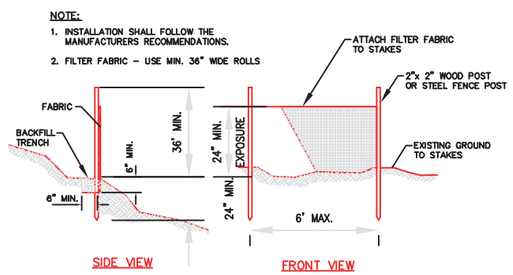
SEDIMENT BOOM
N.T.S.

SEDIMENT BOOM NOTES

1. FLOATING SEDIMENT CURTAIN MUST HAVE BE ANCHORED IN PLACE IN A MANNER TO PREVENT BEACHING DUE TO WIND AND WAVE ENERGY.
2. SUFFICIENT FLOTATION MUST BE INSTALLED TO PREVENT BOOM FROM SINKING DUE TO SEDIMENT LOADING.
3. CURTAIN FABRIC MUST PROVIDE A BARRIER TO SEDIMENT, HOWEVER NEED NOT BE "WATER PROOF".
4. CONTRACTOR RESPONSIBLE TO INSTALL AND MAINTAIN CURTAIN AND MANAGE WORK TO PREVENT SEDIMENT FROM ESCAPING BOOM. DOWN STREAM DISTURBANCE IS LIMITED PER CITY AND STATE PERMITS LEVELS (10% ABOVE BACK GROUND TYPICALLY).
5. BOOM MUST BE REMOVED AFTER IN-WATER CONSTRUCTION IS COMPLETE.



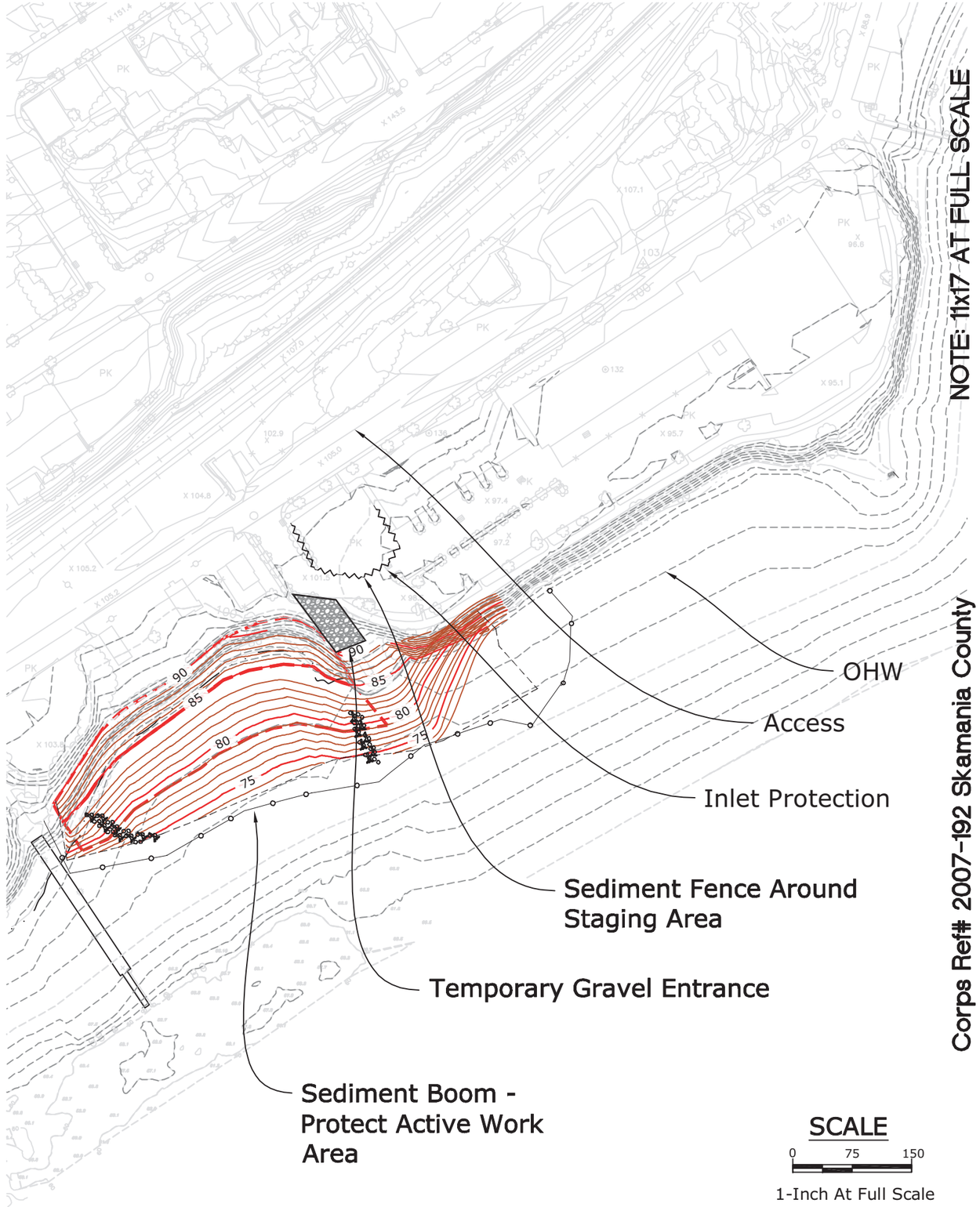
INLET PROTECTION
N.T.S.



SEDIMENT FENCE
N.T.S.

SEDIMENT FENCE NOTES

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST, OR OVERLAP 2"x2" POSTS AND ATTACH AS SHOWN ON DETAIL SHEET.
2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS WHERE FEASIBLE. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6-FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24-INCHES.
3. THE FILTER FABRIC SHALL HAVE A MINIMUM VERTICAL BURIAL OF 6-INCHES. ALL EXCAVATED MATERIAL FROM FILTER FABRIC FENCE INSTALLATION, SHALL BE BACKFILLED AND COMPACTED, ALONG THE ENTIRE DISTURBED AREA.
4. STANDARD OR HEAVY DUTY FILTER FABRIC SHALL HAVE MANUFACTURED STITCHED LOOPS FOR 2"x2" POST INSTALLATION. STITCHED LOOPS SHALL BE INSTALLED ON THE UP-HILL SIDE OF THE SLOPED AREA.
5. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY PROTECTED AND STABILIZED.
6. FILTER FABRIC FENCES SHALL BE INSPECTED BY CONTRACTOR IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.



Corps Ref# 2007-192 Skamania County

SHEET 6 OF 8

EROSION CONTROL PLAN

Stevenson Shoreline Enhancement, Port of Skamania
P.O Box 1099
Stevenson, Washington 98648

DATE: 4/29/2010
PROJECT Shoreline

Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone: (503) 297-4331
Fax: (503) 297-8053

Flowing solutions

SCALE: PLAN 1/2 INCH (REF.) HORIZ. VERT. PROFILE

NO.	DATE	REVISION	BY	APPRVD.

Section-4

NOTE: 11x17 AT FULL SCALE

Section-5

Corps Ref# 2007-192 Skamania County

SHEET 7 OF 8

SECTION 4, 5

Stevenson Shoreline Enhancement, Port of Skamania
P.O Box 1099
Stevenson, Washington 98648

DATE: 4/29/2010

PROJECT Shoreline

Flowing Solutions
3305 SW 87th Avenue
Portland OR 97225
Phone: (503) 297-6311
Fax: (503) 297-6053

Flowing solutions SM

SCALE
PLAN
PROFILE
HORIZ. 1"=30'
VERT. 1"=30'
(1/2 INCH (REF.))

APRVD.
BY
REVISION
DATE
NO.

Section-6

7:41:1

HIGH POOL 80 ft

130 120 110 100 90 80 70 60 50 40 30

100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520

OFFSET FROM BASELINE

NOTE: 11x17 AT FULL SCALE

Section-7

Proposed

OHW

HIGH POOL 80 ft

LOW POOL 74 ft

Existing

130 120 110 100 90 80 70 60 50 40

100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520

OFFSET FROM BASELINE

Corps Ref# 2007-192 Skamania County

SHEET 8 OF 8

SECTION 6, 7

Stevenson Shoreline Enhancement, Port of Skamania
P.O Box 1099
Stevenson, Washington 98648

DATE: 4/29/2010 PROJECT Shoreline

Flowing Solutions
3305 SW 87th Avenue
Portland, OR 97225
Phone: (503) 297-6311
Fax: (503) 297-6053

Flowing solutions SM

NO. DATE REVISION BY APRVD.

SCALE PLAN HORIZ. 1"=30' PROFILE VERT. 1"=30' (1/2 INCH (REF.))