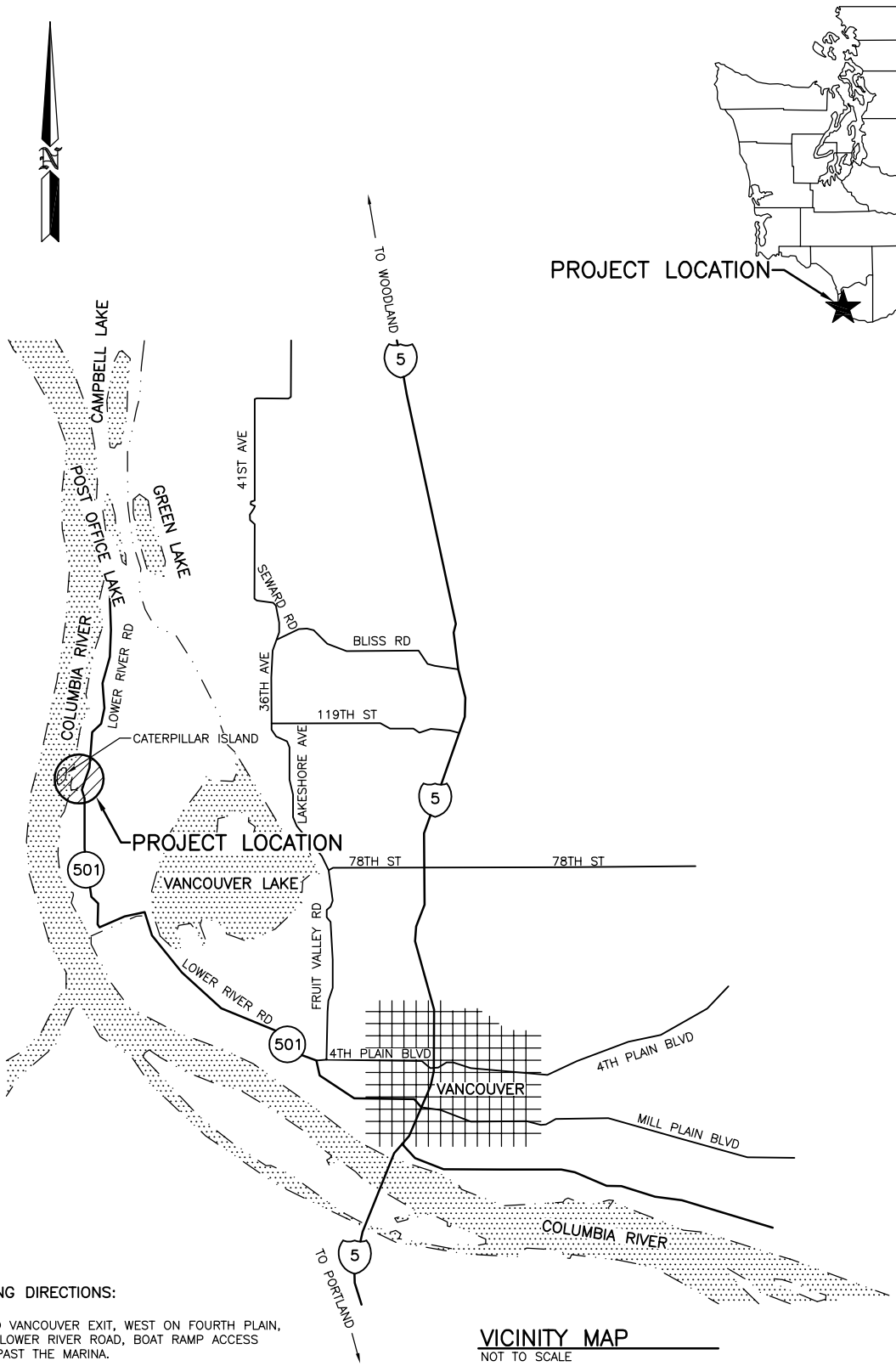


STATE MAP
NOT TO SCALE

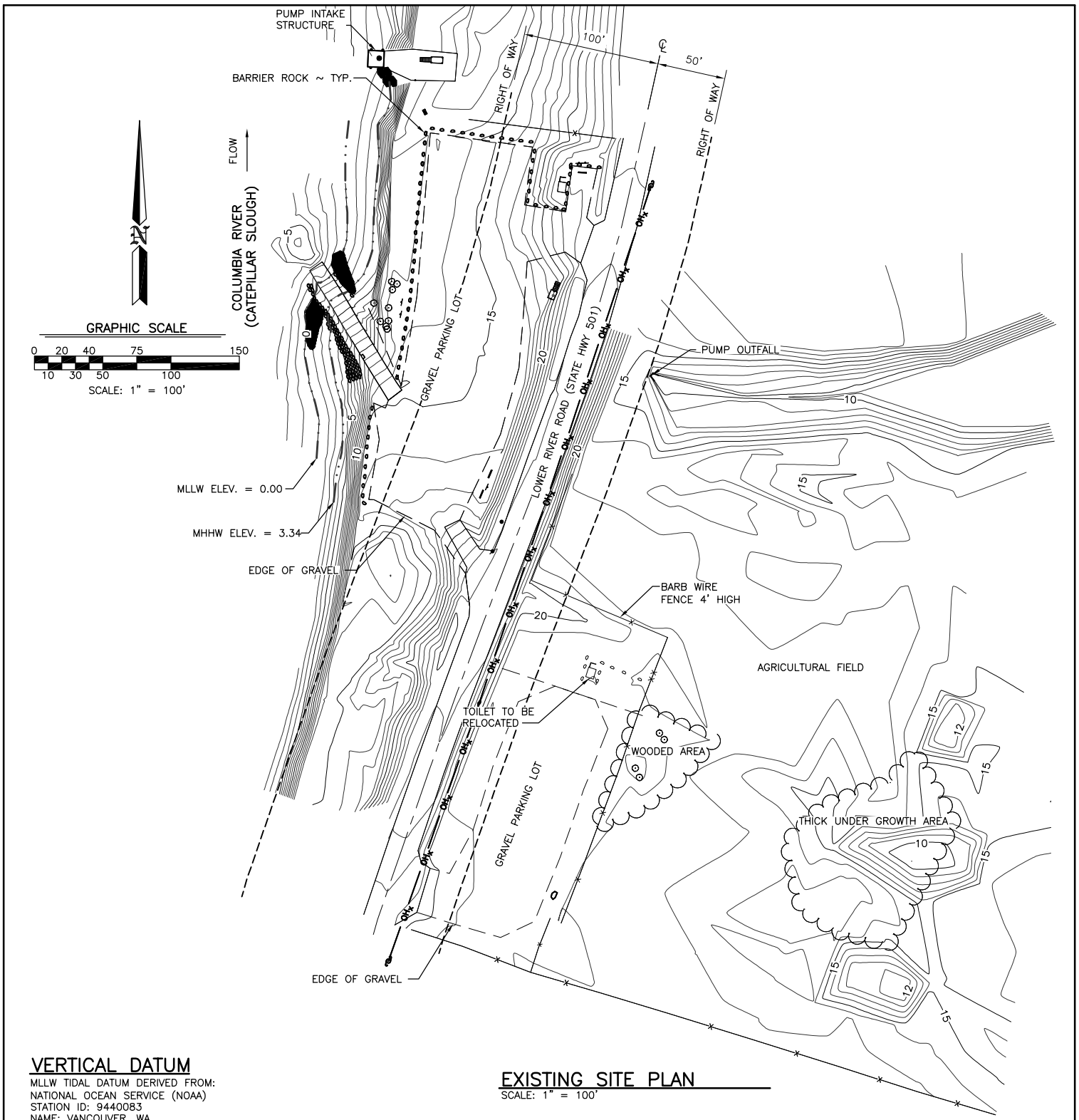
DRIVING DIRECTIONS:

I-5 TO VANCOUVER EXIT, WEST ON FOURTH PLAIN, N ON LOWER RIVER ROAD, BOAT RAMP ACCESS JUST PAST THE MARINA.

VICINITY MAP
NOT TO SCALE

45°42'15.30"N
122°45'30.09"W

PURPOSE: REPLACE EXISTING RAMP AND ADD PARKING	WASHINGTON DEPT. of FISH & WILDLIFE 600 CAPITOL WAY N. OLYMPIA, WA 98501-1091	PROPOSED: ACCESS SITE RENOVATION
DATUM: MLLW ADJACENT PROPERTY OWNER: 1. 2 ENG. PROJECT NO. CK:A22:12-1	REFERENCE NO. SITE: LANGSDORF LANDING ACCESS ADDRESS: LOWER RIVER ROAD VANCOUVER, WA	IN: COLUMBIA RIVER NEAR: VANCOUVER COUNTY OF: CLARK STATE: WA PORTION OF: SECT. 45, T 3 N, R 1 W DATE: 1/11/2013 SHEET 1 OF 16



EXISTING SITE PLAN

SCALE: 1" = 100'

VERTICAL DATUM

MLLW TIDAL DATUM DERIVED FROM:
NATIONAL OCEAN SERVICE (NOAA)
STATION ID: 9440083
NAME: VANCOUVER, WA

	MHHW	CRD
MEAN HIGHER HIGH WATER (MHHW):	3.34 FT.	5.00 FT.
MEAN HIGH WATER (MHW):	2.80 FT.	
MEAN TIDE LEVEL (MTL):	1.51 FT.	
MEAN SEA LEVEL (MSL):	1.41 FT.	3.07 FT.
MEAN LOW WATER (MLW):	0.23 FT.	
MEAN LOWER-LOW WATER (MLLW):	0.00 FT.	1.66 FT.
COLUMBIA RIVER DATUM (CRD)	-1.66 FT.	0.00 FT.
NGVD - 1929	-3.48 FT.	-1.81 FT.
NAVD - 1988	-6.94 FT.	-5.28 FT.
100 YR. FLOOD (=26 NGVD '29)	22.52 FT.	

BASIS OF BEARINGS

COMPASS BEARING WITH 18° EAST DECLINATION

ENG. PROJECT NO. CK:A22:12-1

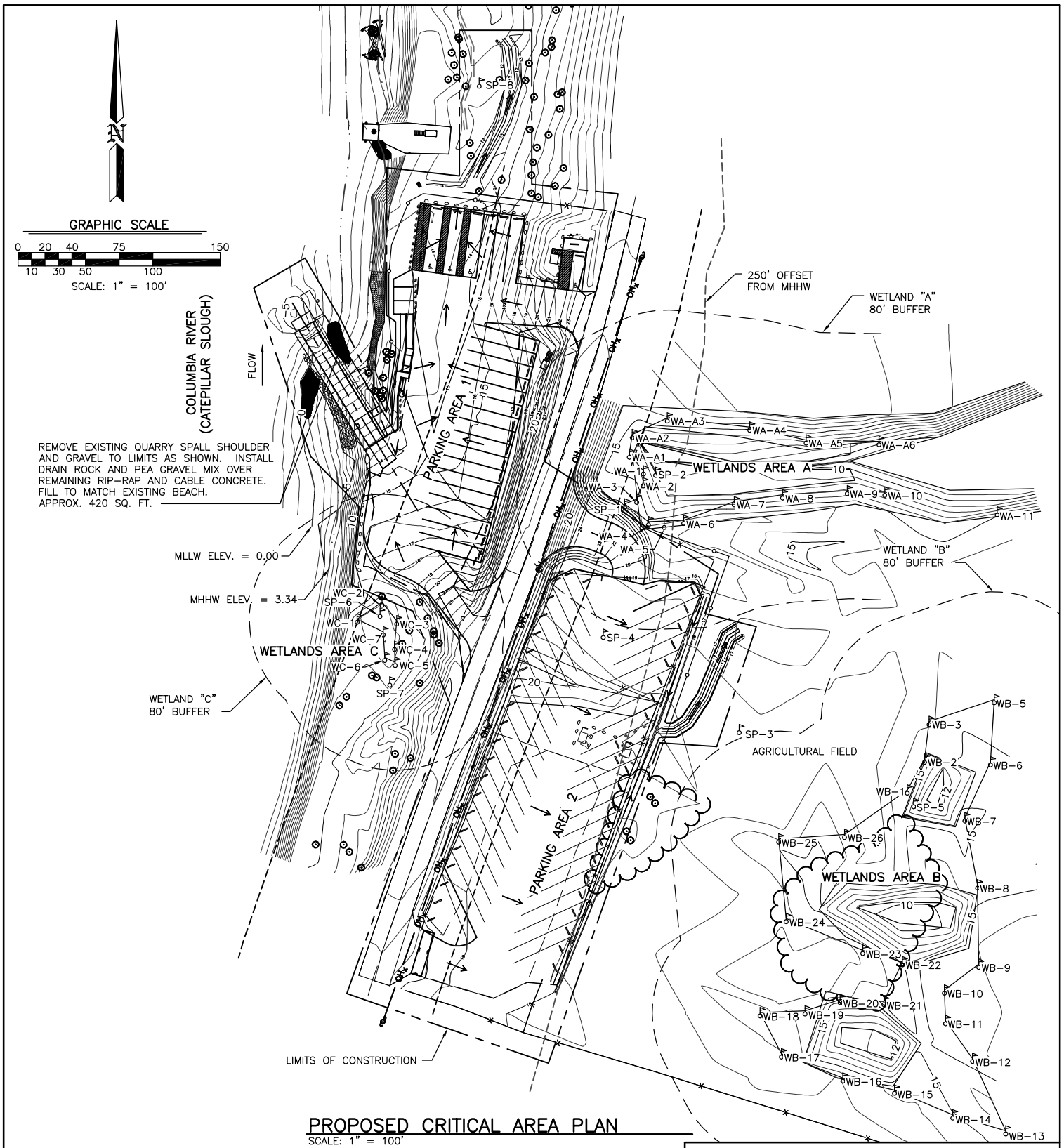
REFERENCE NO.

APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
EXISTING SITE PLAN

AT: VANCOUVER, WASHINGTON

DATE: 1/11/2013 SHEET 2 OF 16



PROPOSED CRITICAL AREA PLAN

SCALE: 1" = 100'

WETLANDS DATA		
WETLAND AREA	SQ. FT.	ACRES
A	589,188 SQ. FT.	13.5 ACRES
B	27,812 SQ. FT.	0.6 ACRES
C	525 SQ. FT.	0.01 ACRES

REFERENCE NO.

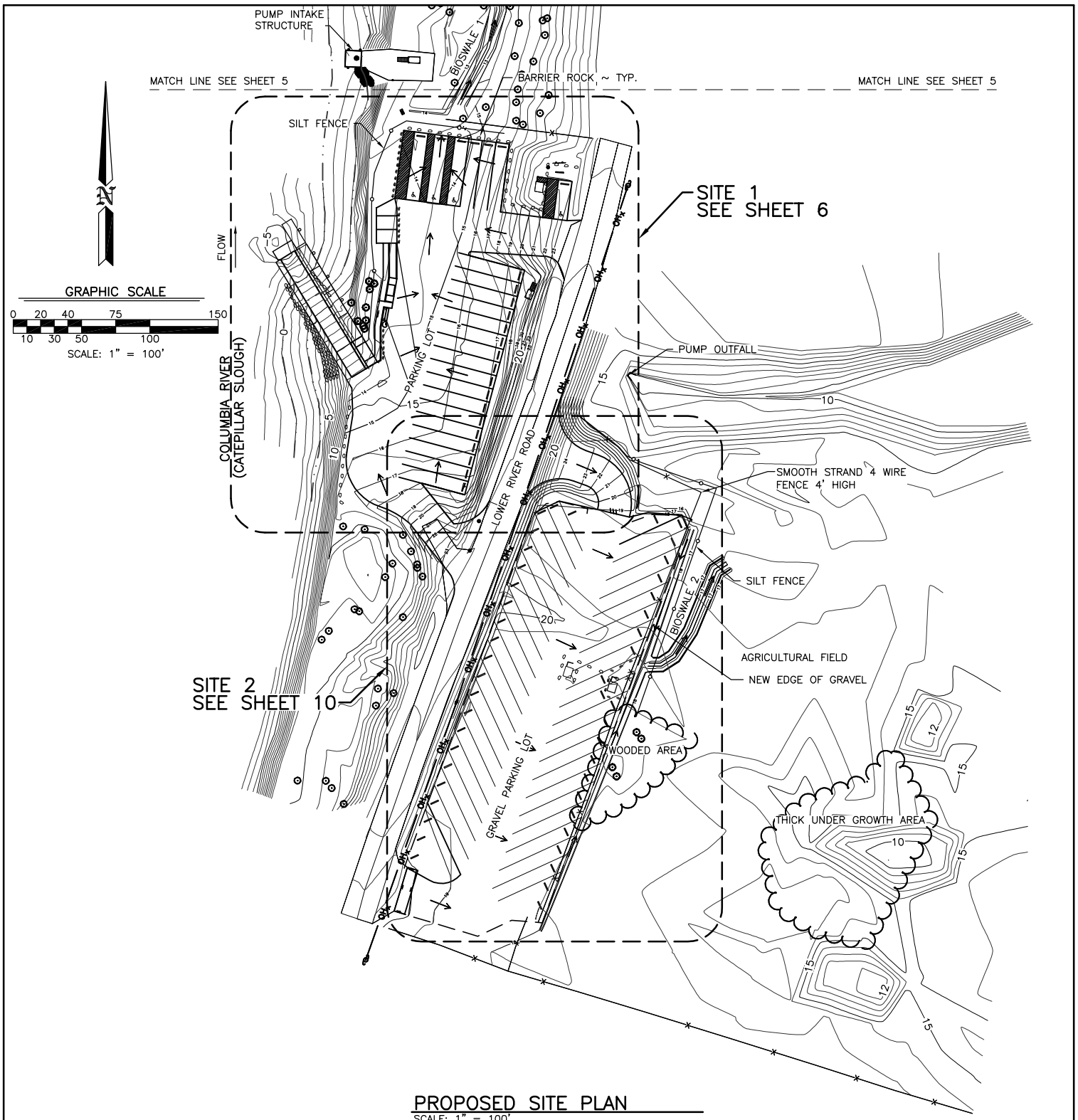
APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
PROPOSED CRITICAL AREA PLAN

AT: VANCOUVER, WASHINGTON

DATE: 1/11/2013 SHEET 3 OF 16

ENG. PROJECT NO. CK:A22:12-1



PROPOSED SITE PLAN

SCALE: 1" = 100'

NOTE:

FOR MITIGATION AROUND BOAT RAMP AND DOWNSTREAM OF INTAKE STRUCTURE SEE SHEET 13.

REFERENCE NO. _____

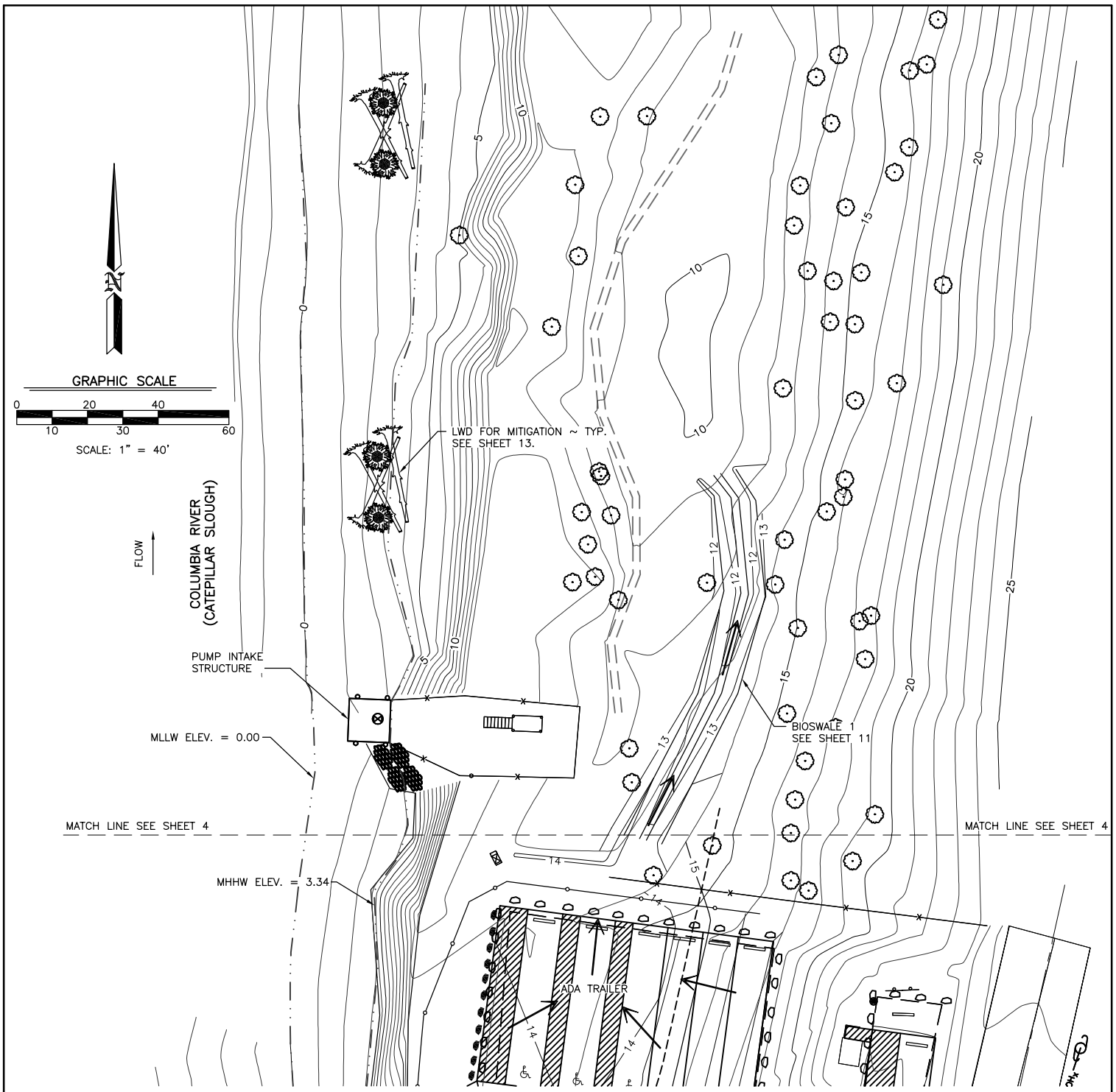
APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
PROPOSED SITE PLAN

AT: VANCOUVER , WASHINGTON

DATE: 1/11/2013 SHEET 4 OF 16

ENG. PROJECT NO. CK:A22:12-1



PROPOSED SITE PLAN (DOWNSTREAM)

SCALE: 1" = 40'

NOTE:

FOR MITIGATION AROUND BOAT RAMP AND DOWNSTREAM OF INTAKE STRUCTURE SEE SHEET 13.

REFERENCE NO. _____

APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
PROPOSED SITE PLAN (DOWNSTREAM)

AT: VANCOUVER , WASHINGTON

DATE: 1/11/2013 SHEET 5 OF 16

ENG. PROJECT NO. CK:A22:12-1

QUANTITIES

MATERIAL	ABOVE MHHW	
SITE 1	SF	CY
EXISTING GRAVEL PARKING AREA	26,043	–
NEW CONCRETE ABUTMENT	220	24.44
NEW CONCRETE LOADING PLATFORM	268	29.78
NEW SIDEWALKS AND VIEW PAD	810	15.00
NEW ASPHALT OVER EXISTING GRAVEL	43,684	1617.92
TOTAL IMPERVIOUS	27,278	–
CHANGE IN IMPERVIOUS	1235	–

ENG. PROJECT NO. CK:A22:12–1

SITE 1 PLAN

SCALE: 1" = 40'

ASPHALT PAVE EXISTING PARKING AREA 43,684 SQ. FT.

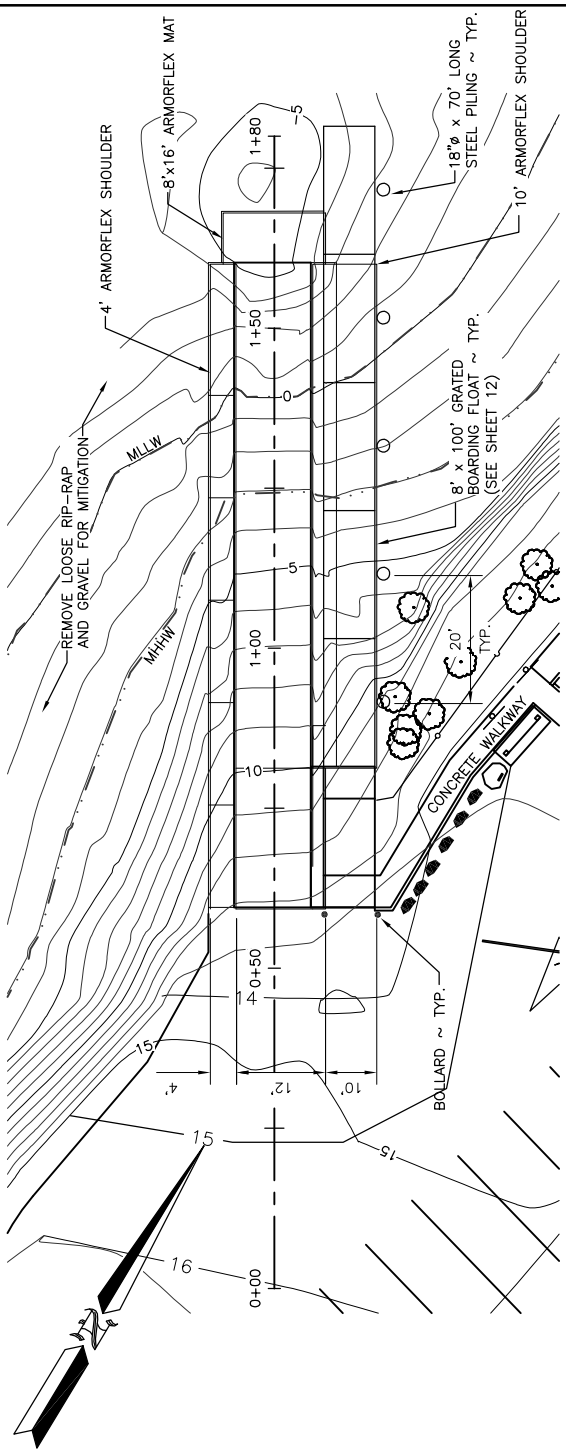
REFERENCE NO.

APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE

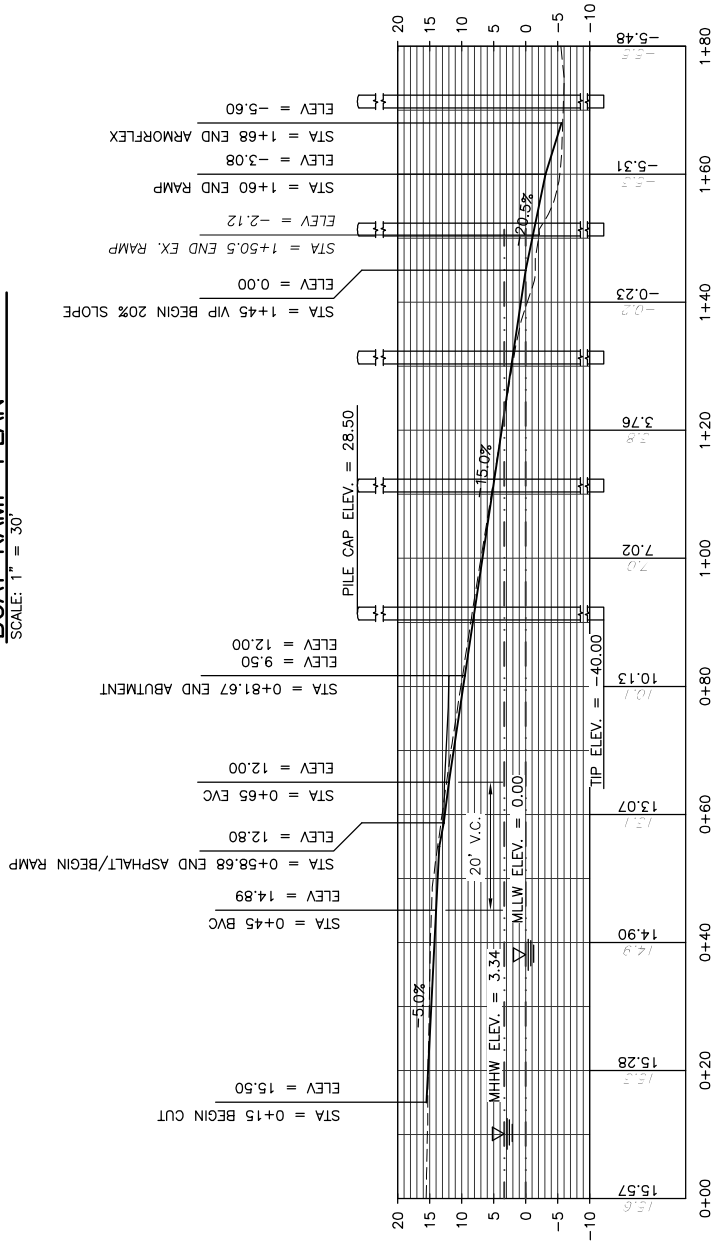
LANGSDORF LANDING ACCESS
ACCESS RENOVATION
SITE 1 PLAN

AT: VANCOUVER, WASHINGTON

DATE: 1/11/2013 SHEET 6 OF 16



BOAT RAMP PLAN
SCALE: 1" = 30'



BOAT RAMP PROFILE
SCALE: 1" = 30'

QUANTITIES					
MATERIAL	BELOW MHHW		ABOVE MHHW		TOTAL
EXISTING RAMP	SF	CY	SF	CY	CY
EXISTING RAMP PLANKS	393	4.80	954	11.66	–
EXISTING GRAVEL BEDDING (2") (UNDER PLANKS)	393	2.43	954	5.89	–
EXISTING QUARRY SPALL SHOULDER AND GRAVEL	1468	13.59	1500	13.89	–
EXISTING PROP-WASH BERM	–	10.00	–	–	–
TOTAL DEMOLITION (CUT)	–	20.82	–	31.44	52.26
NEW RAMP	SF	CY	SF	CY	CY
NEW RAMP PLANKS	513	9.50	790	14.63	–
ARMORFLEX	680	12.60	643	11.90	–
NEW WASHED GRAVEL BEDDING (UNDER RAMP)	–	5.53	–	0.00	–
PROP-WASH HOLE FILL	–	15.84	–	–	–
TOTAL NEW (FILL)	–	43.47	–	26.53	70.00

ENG. PROJECT NO. CK:A22:12-1

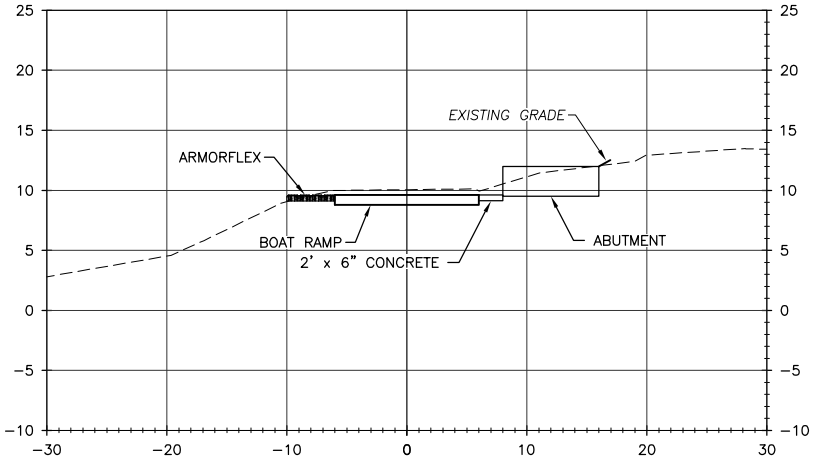
REFERENCE NO. _____

APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

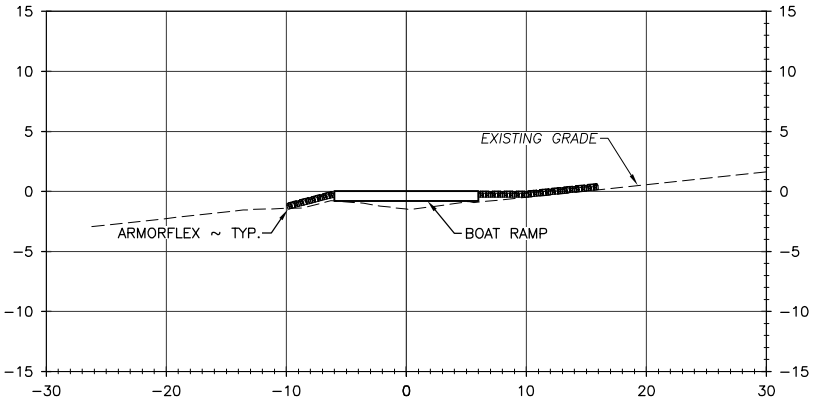
LANGSDORF LANDING ACCESS
ACCESS RENOVATION
BOAT RAMP PLAN & PROFILE

AT: VANCOUVER, WASHINGTON

DATE: 1/11/2013 SHEET 7 OF 16



SECTION A 6 8
SCALE: 1" = 16'



SECTION B 6 8
SCALE: 1" = 16'

REFERENCE NO. _____

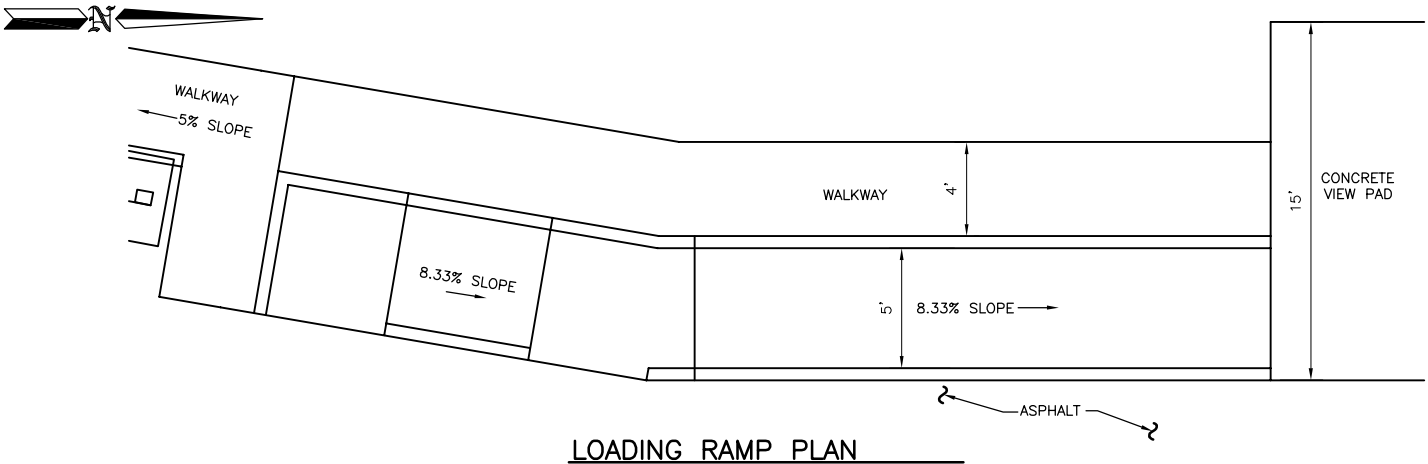
APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
BOAT RAMP SECTIONS

AT: VANCOUVER, WASHINGTON

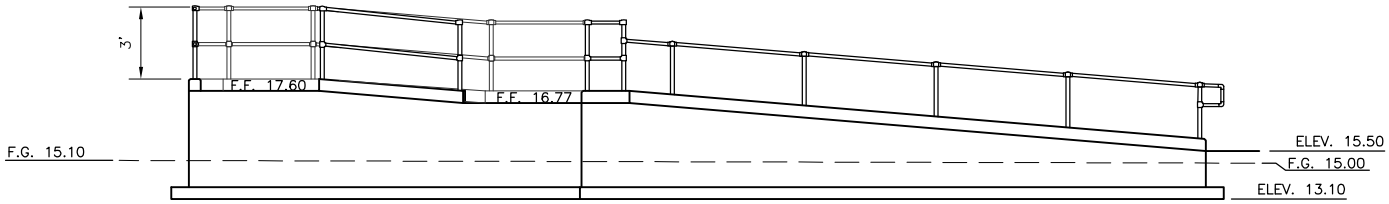
DATE: 1/11/2013 SHEET 8 OF 16

ENG. PROJECT NO. CK:A22:12-1

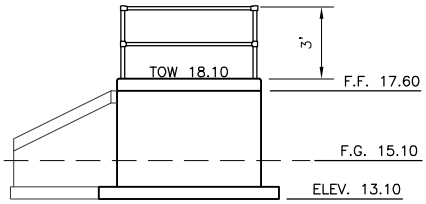


LOADING RAMP PLAN

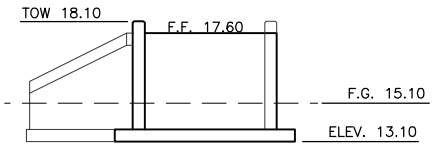
SCALE: 1" = 8'



FRONT ELEVATION



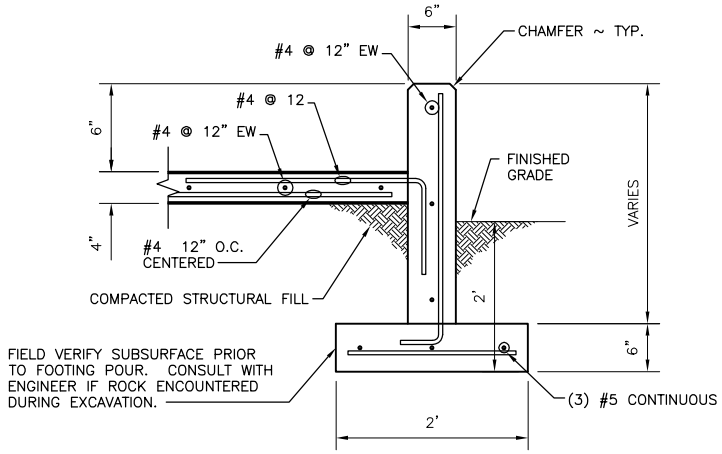
SIDE ELEVATION



SECTION

LOADING RAMP ELEVATIONS

SCALE: 1" = 8'



TYPICAL WALL SECTION

NOT TO SCALE

REFERENCE NO. _____

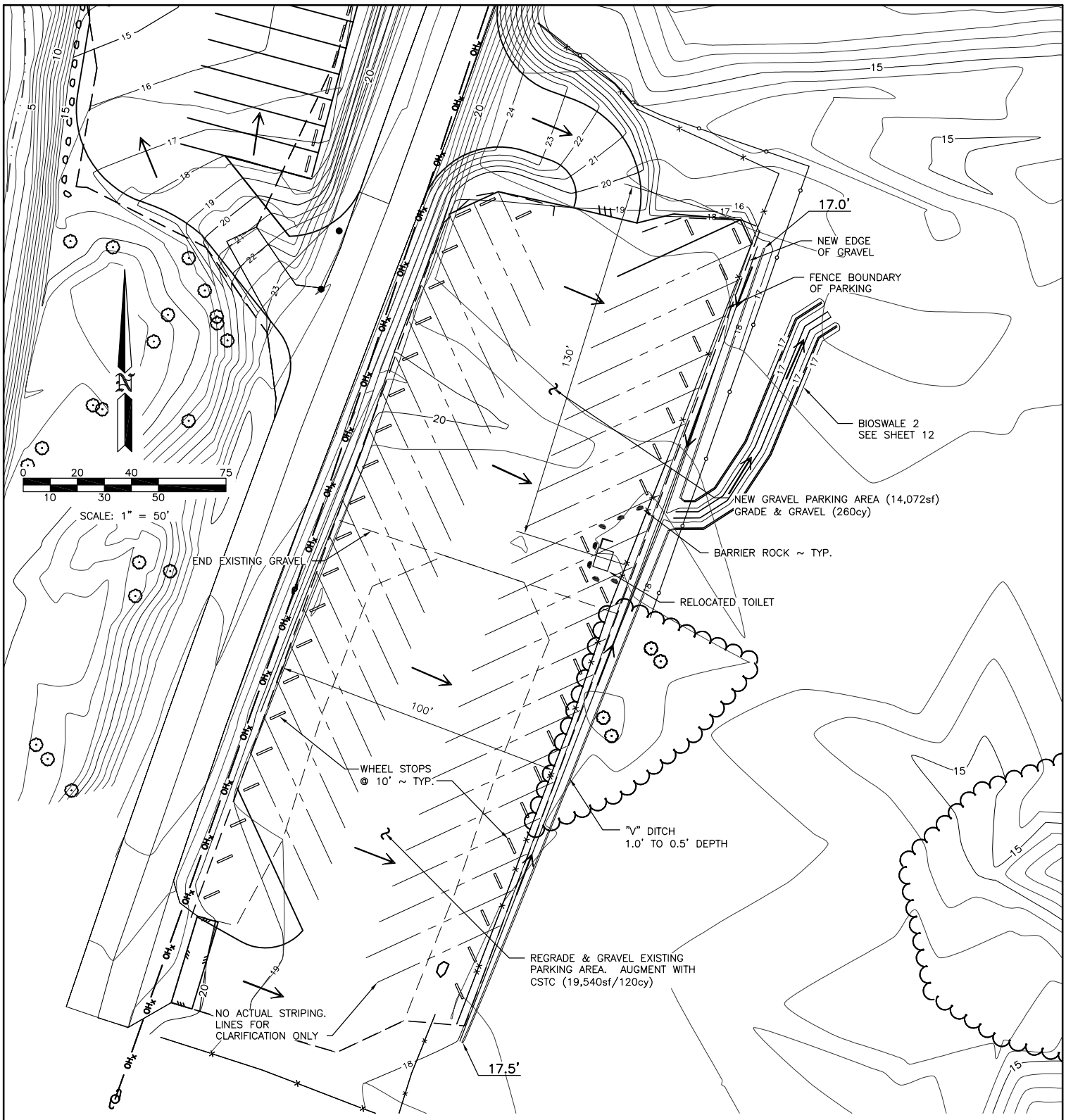
APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
LOADING PLATFORM PLAN & ELEVATIONS

AT: VANCOUVER , WASHINGTON

DATE: 1/11/2013 SHEET 9 OF 16

ENG. PROJECT NO. CK:A22:12-1



SITE 2 PLAN

SCALE: 1" = 50'

QUANTITIES		
MATERIAL	ABOVE MHHW	
SITE 2	SF	CY
EXISTING PARKING AREA	19,540	120
NEW PARKING AREA GRAVEL	14,072	260
TOTAL IMPERVIOUS	36,039	–
CHANGE IN IMPERVIOUS	16,499	–
TOTAL CUT	–	280

REFERENCE NO. _____

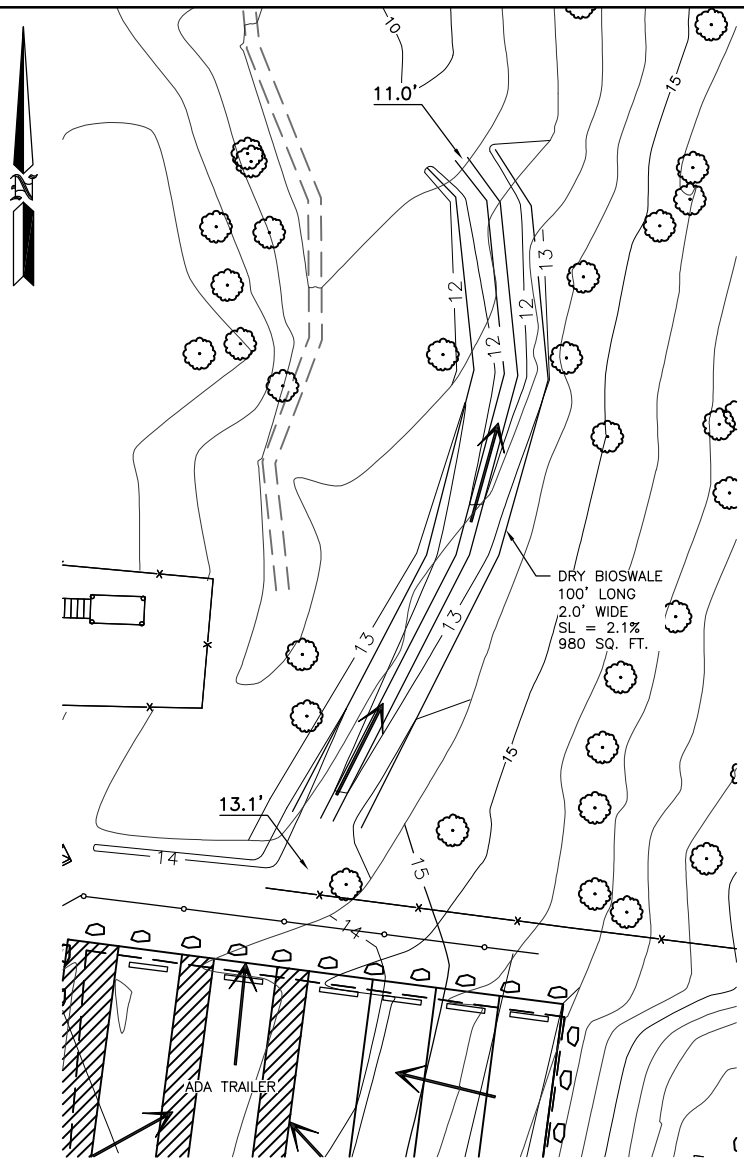
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
SITE PLAN 2

AT: VANCOUVER, WASHINGTON

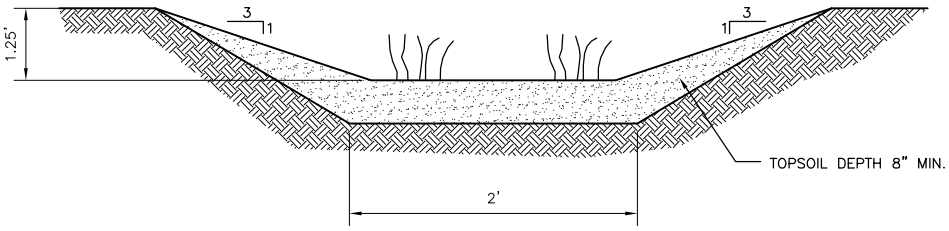
DATE: 1/11/2013 SHEET 10 OF 16

ENG. PROJECT NO. CK:A22:12-1



BIOSWALE 1 PLAN

SCALE: 1" = 30'



BIOSWALE 1 SECTION

NOT TO SCALE

BIOSWALE #1 PLANTING SCHEDULE		
PLANT	QUANTITY	LOCATION
SOFT RUSH	80	BOTTOM AND ON SLOPES
SAWBREAK SEDGE	80	BOTTOM AND ON SLOPES
SLOUGH SEDGE	40	BOTTOM
HARDSTERN BULRUSH	40	BOTTOM
TOTAL	240	(PLANT AT 2' O.C.)

SEED MIX	
FOR SWALE BOTTOM AND SIDES	
PLANT	% BY WT.
BLUE WILDRYE	15
TUFTED HAIRGRASS	15
SAWBEAK SEDGE	15
SLOUGH GRASS	15
RED FESCUE	10
SOFT RUSH	15
MEADOW BARLEY	15

REFERENCE NO.

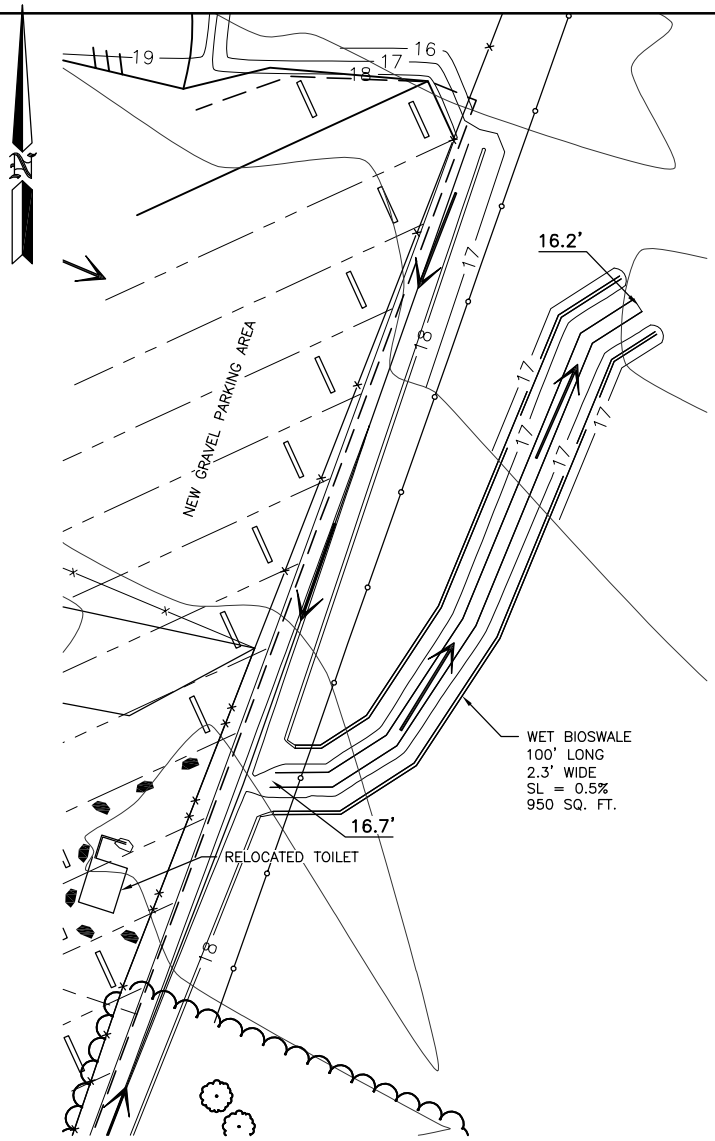
APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
BIOSWALE 1 PLAN & SECTION

AT: VANCOUVER, WASHINGTON

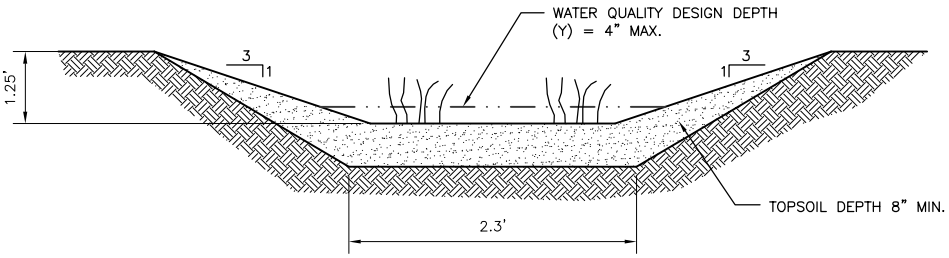
DATE: 1/11/2013 SHEET 11 OF 16

ENG. PROJECT NO. CK:A22:12-1



BIOSWALE 2 PLAN

SCALE: 1" = 30'



BIOSWALE 2 SECTION

NOT TO SCALE

BIOSWALE #2 PLANTING SCHEDULE		
PLANT	QUANTITY	LOCATION
SOFT RUSH	60	BOTTOM AND ON SLOPES
SAWBREAK SEDGE	45	BOTTOM AND ON SLOPES
SLOUGH SEDGE	70	BOTTOM
HARDSTERN BULRUSH	70	BOTTOM
TOTAL	245	(PLANT AT 2' O.C.)

SEED MIX	
FOR SWALE BOTTOM AND SIDES	
PLANT	% BY WT.
BLUE WILDRYE	15
TUFTED HAIRGRASS	15
SAWBEAK SEDGE	15
SLOUGH GRASS	15
RED FESCUE	10
SOFT RUSH	15
MEADOW BARLEY	15

REFERENCE NO. _____

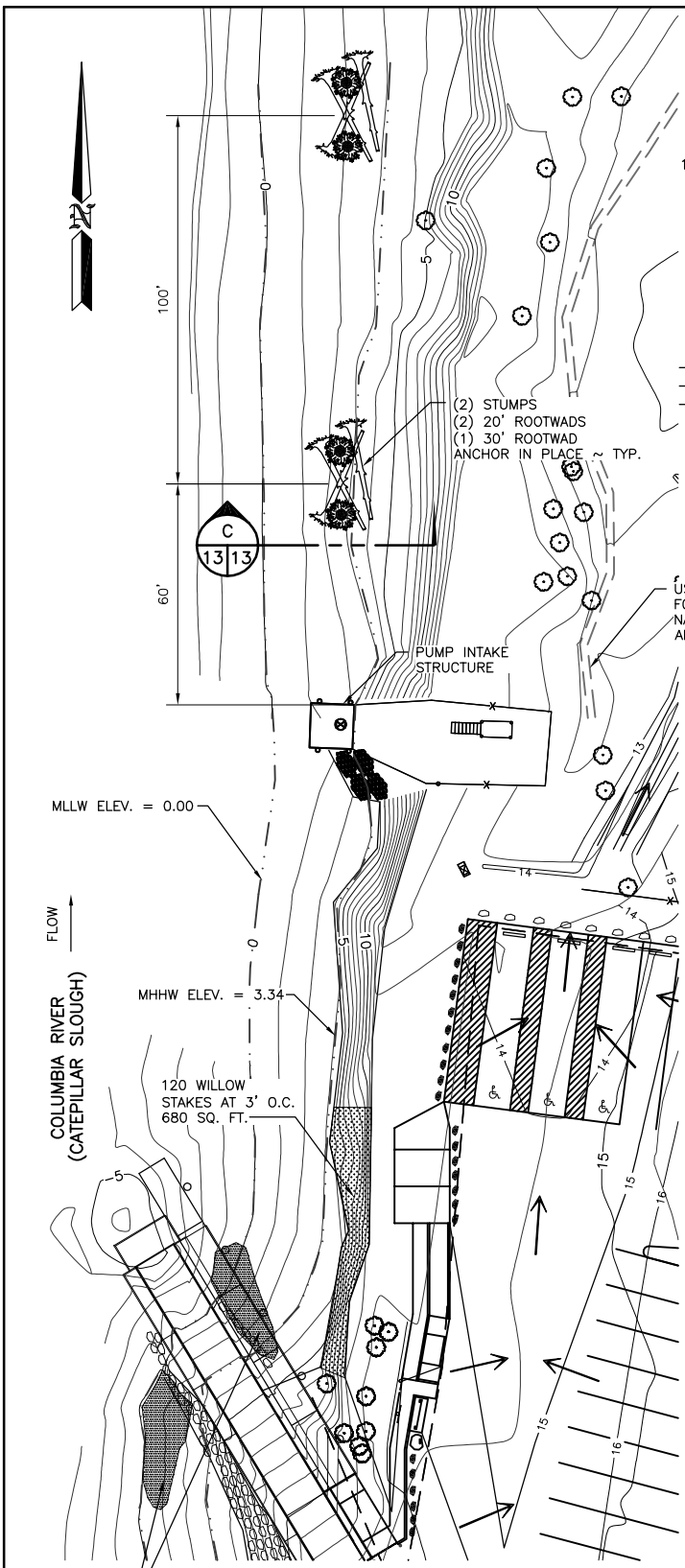
APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
BIOSWALE 2 PLAN & SECTION

AT: VANCOUVER, WASHINGTON

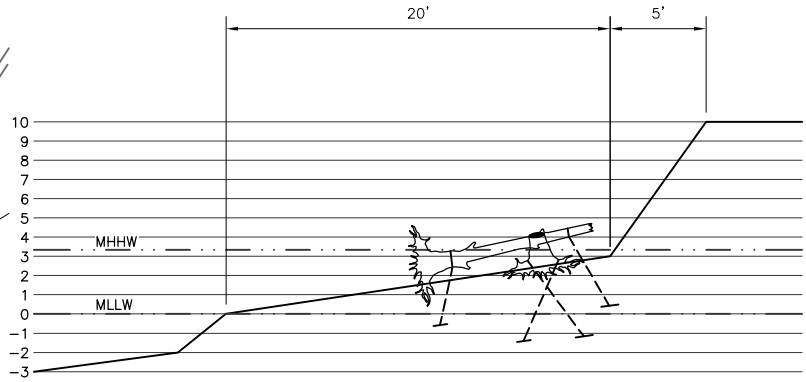
DATE: 1/11/2013 SHEET 12 OF 16

ENG. PROJECT NO. CK:A22:12-1



MITIGATION PLAN

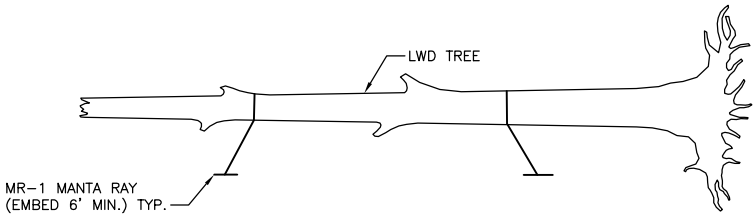
SCALE: 1" = 50'



SECTION

SCALE: 1" = 10'

C
13 13



LWD TREE DETAIL

NOT TO SCALE

NOTE:

1. LWD TREE LOCATIONS SHALL BE STAKED IN FIELD BY ENGINEER.
2. MR-1 EARTH ANCHORS WITH 1/2" LONG LINK GALVANIZED DECK LASHING CHAIN STAPLED 2 PLACES EACH (MIN.) & SCREW PIN SHACKLES – EMBED ANCHOR MIN. DEPTH 8 FT OR DEEPER AS NEEDED TO PROVIDE MININUM 10,000 LB PULLOUT STRENGTH. (TYP.)

REFERENCE NO. _____

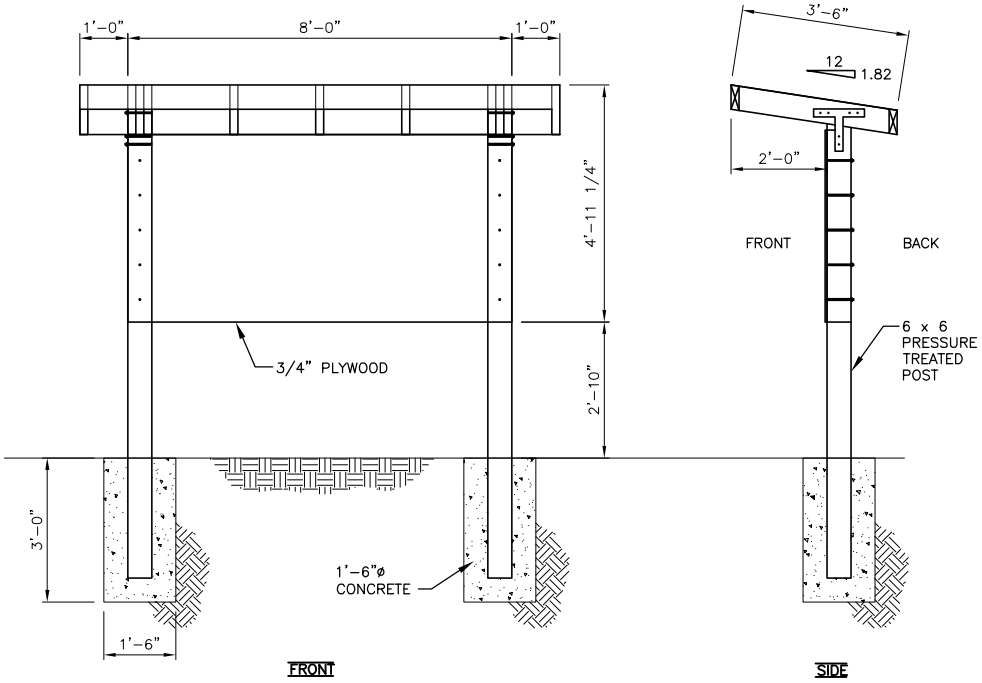
APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
MITIGATION PLAN

AT: VANCOUVER , WASHINGTON

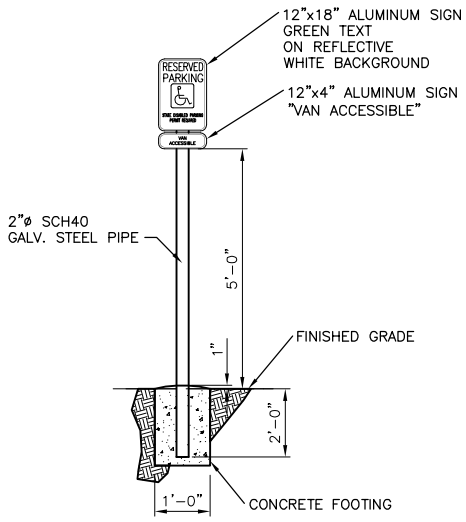
DATE: 1/11/2013 SHEET 13 OF 16

ENG. PROJECT NO. CK:A22:12-1



INFORMATION KIOSK #BBK-2

NOT TO SCALE

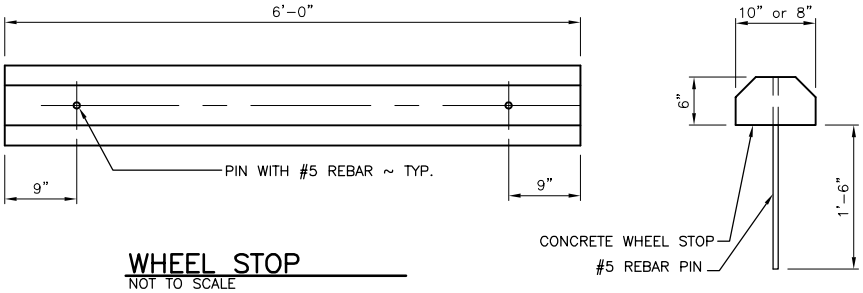


ACCESSIBLE PARKING SIGN

NOT TO SCALE

NOTE:

1. POST TO BE PLUMB AND LEVEL ALL DIRECTIONS
2. ASSEMBLY OF POSTS, PLYWOOD, ROOF AND INSTALLATION BY CONTRACTOR.
3. KIOSK PACKAGE BBK-2 TO BE PROVIDED BY OTHERS

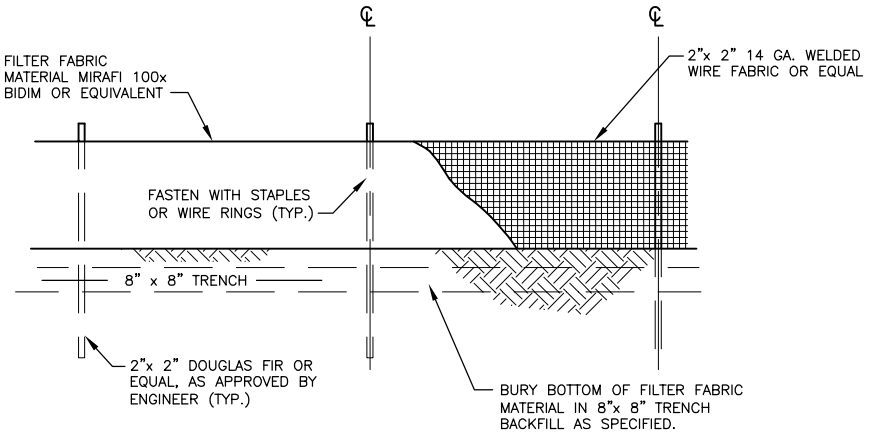


WHEEL STOP

NOT TO SCALE

REFERENCE NO.	
APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE	
LANGSDORF LANDING ACCESS ACCESS RENOVATION KIOSK & DETAILS	
AT: VANCOUVER , WASHINGTON	
DATE: 1/11/2013	SHEET 14 OF 16

ENG. PROJECT NO. CK:A22:12-1



FILTER FABRIC FENCE

SCALE: NONE

FILTER FABRIC NOTES:

1. FILTER FABRIC SHALL BE PURCHASED CONTINUOUS ROLL CUT TO LENGTH OF BARRIER AS NEEDED. IF JOINTS ARE NECESSARY FABRIC SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POSTS WITH A MINIMUM OF (6) INCH OVERLAP. BOTH ENDS SHALL BE SECURED AS REQUIRED.
2. FILTER FABRIC SHALL BE INSTALLED TO FOLLOW CONTOURS. FENCE POSTS SHALL BE SPACED A MAXIMUM OF EIGHT (8) FEET APART UNLESS OTHERWISE SHOWN HEREIN. ALL POSTS SHALL BE DRIVEN INTO THE GROUND A MINIMUM OF 30 INCHES.
3. A TRENCH SHALL BE EXCAVATED, ROUGHLY EIGHT (8) INCHES WIDE BY EIGHT (8) INCHES DEEP UP SLOPE AND ADJACENT TO THE POST TO ALLOW THE FILTER FABRIC TO BE BURIED.
4. WHEN STANDARD STRENGTH FILTER FABRIC IS UTILIZED, A WIRE SINGLE SPACE MESH SUPPORT FENCE SHALL BE FASTENED TO THE UPSLOPE (OR UPSTREAM) SIDE OF THE POSTS USING ONE (1) INCH MINIMUM LENGTH WIRE STAPLES, TIE WIRE OR APPROVED HOG RINGS. ALL WIRE SUPPORT SHALL EXTEND INTO THE TRENCH A MINIMUM OF FOUR (4) INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE ORIGINAL GRADE.
5. ALL FILTER FABRIC SHALL BE STAPLED OR WIRED TO SUPPORT FENCING AND A MINIMUM OF 20 INCHES OF FABRIC SHALL BE EXTENDED INTO THE TRENCH. FILTER FABRIC SHALL NOT BE STAPLED OR FASTENED TO EXISTING TREES OF STRUCTURES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. IF HIGH STRENGTH FILTER FABRIC AND CLOSER SPACING ARE USED, THE WIRE SUPPORT FENCING MAY BE ELIMINATED. HIGH STRENGTH FABRIC SHALL BE STAPLED OR WIRED DIRECTLY TO POSTS AS REQUIRED BY THE ENGINEER.
7. CUTOFF TRENCH SHALL BE BACKFILLED WITH 3/4 INCH MINIMUM DIAMETER WASHED GRAVEL OR OTHER SIMILAR SOURCE AS APPROVED BY THE ENGINEER.
8. FILTER FENCING SHALL BE INSTALLED WHERE SHOWN ON THE PLAN, OR AS MARKED IN THE FIELD BY THE ENGINEER, PRIOR TO COMMENCEMENT OF WORK. ALL FENCING SHALL BE INSPECTED DAILY DURING CONSTRUCTION AND AFTER EACH SIGNIFICANT RAINFALL EVENT UNTIL SITE HAS BEEN PERMANENTLY STABILIZED. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
9. REMOVAL OF TRAPPED SEDIMENT SHALL BE PERFORMED WHEN AMOUNTS REACH APPROXIMATELY 1/3 HEIGHT OF THE FENCE.
10. FILTER FENCING SHALL REMAIN IN-PLACE UNTIL SITE HAS BEEN REVEGETATED TO ORIGINAL CONDITION OR DIRECTED BY THE ENGINEER.

REFERENCE NO. _____

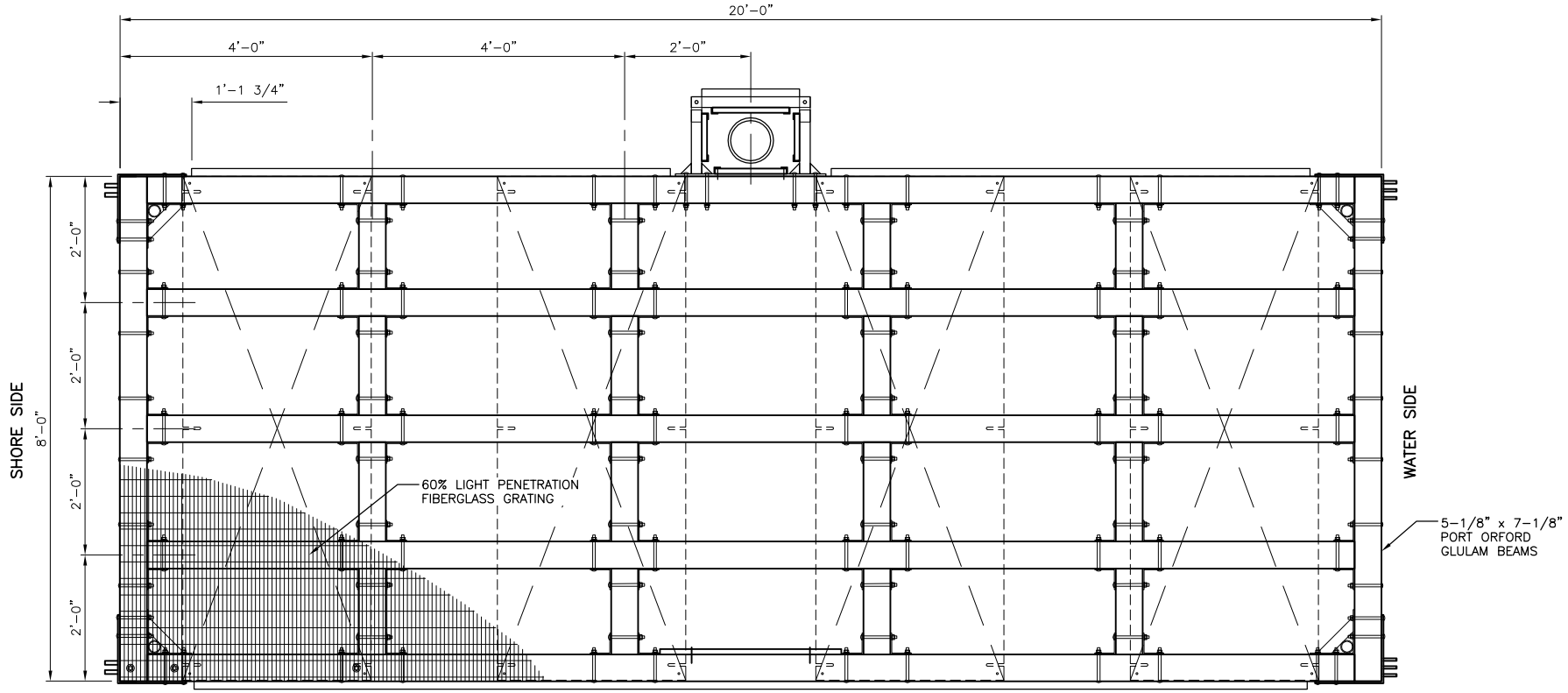
APPLICANT:
WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS
ACCESS RENOVATION
SILT FENCE DETAIL

AT: VANCOUVER , WASHINGTON

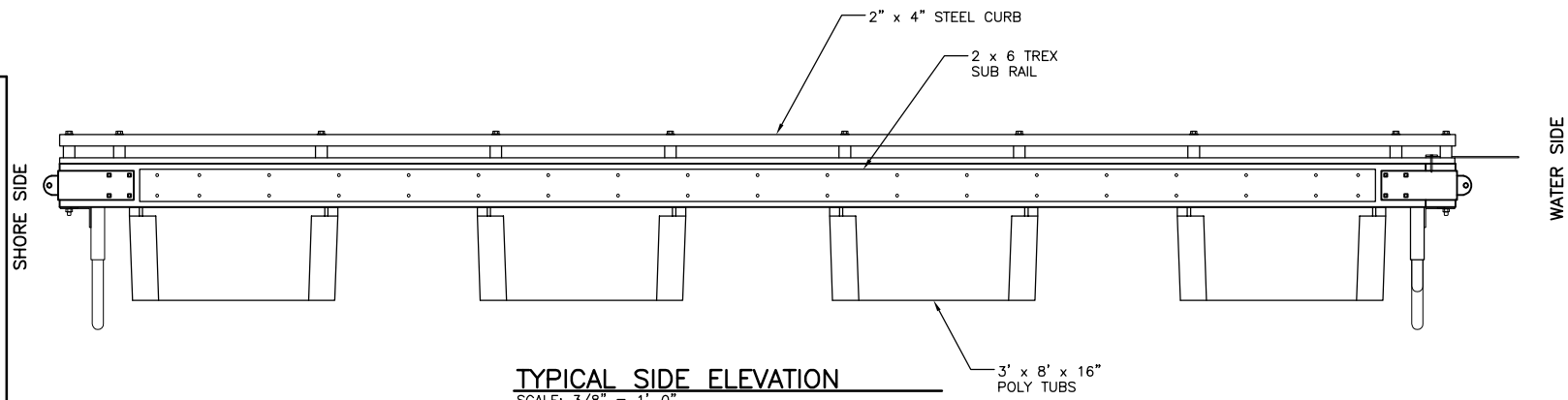
DATE: 1/11/2013 SHEET 15 OF 16

ENG. PROJECT NO. CK:A22:12-1



PLAN

SCALE: 3/8" = 1'-0"



TYPICAL SIDE ELEVATION

SCALE: 3/8" = 1'-0"

NOTES:

1. GRATING SHALL MEET ADA STANDARDS AND 60% LIGHT PENETRATION.
2. 40% OF DECK SHALL BE PARTIALLY SHADED, 60% OF DECK SHALL BE FLOAT TUBS.
3. ALL LUMBER SHALL BE PORT ORFORD CEDAR. NO PRESSURE TREATED WOOD.
4. FLOAT STRUCTURALLY DESIGNED FOR COMMERCIAL BOAT USE. ABOVE AND BEYOND RESIDENTIAL CRITERIA.

ENG. PROJECT NO. CK:A22:12-1

REFERENCE NO. _____

APPLICANT: WASHINGTON DEPT. of FISH & WILDLIFE

LANGSDORF LANDING ACCESS

ACCESS RENOVATION

8' x 20' FLOAT PLAN & ELEVATION

AT: VANCOUVER, WASHINGTON

DATE: 1/11/2013 SHEET 16 OF 16