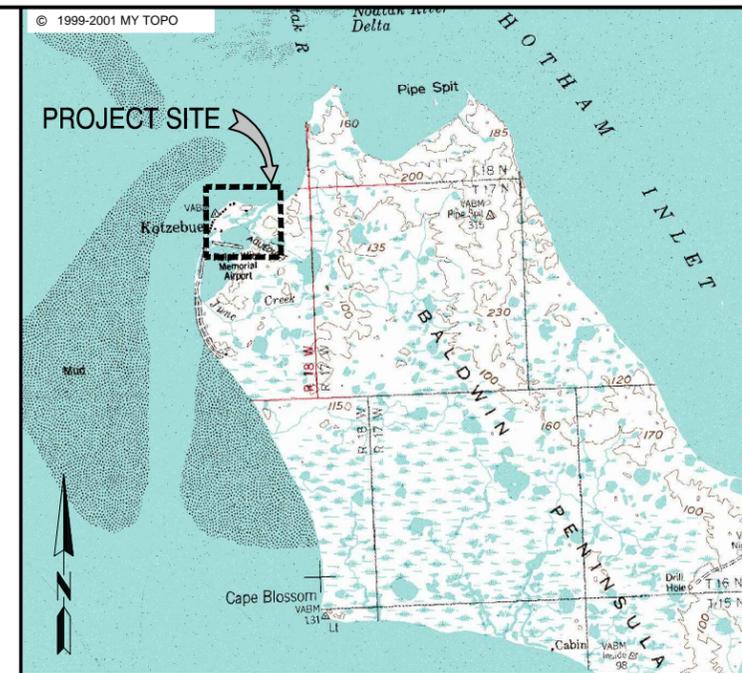




LOCATION MAP  
SCALE: NOT TO SCALE

CITY OF KOTZEBUE  
ITB#15-12

SWAN LAKE SMALL HARBOR  
FACILITY IMPROVEMENTS



VICINITY MAP  
SCALE: NOT TO SCALE



**URS**  
700 G STREET, SUITE 600  
ANCHORAGE, ALASKA 99501  
TEL: (907) 273-0650  
FAX: (907) 276-7679



NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
KOTZEBUE, AK  
PROJECT LOCATION AND VICINITY MAPS

PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	EK/BG
CHECKED BY:	EG
SHEET:	<b>G1.0</b>
PAGE:	1 OF 31

**ISSUED FOR BID**

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\01 WORKING DRAWINGS\G1.0 COVER SHEET.DWG : Revised 12/30/2014 10:47:14 AM



**URS**  
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NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**INDEX, LEGEND, AND TIDAL DATA**

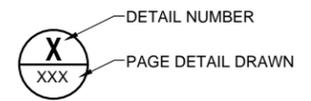
PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED:	JD/EG
DRAWN BY:	EK/BG
CHECKED BY:	EG
SHEET:	<b>G1.1</b>
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ABBREVIATIONS			LEGEND		
∠ = ANGLE	MHHW = MEAN HIGHER HIGH WATER	W/ = WITH	<b>EXISTING</b>		<b>PROPOSED</b>
@ = AT	MLW = MEAN LOW WATER		● SURVEY MONUMENT	— x — CULVERT	▤ NEW FLOATS
ALUM/AL = ALUMINUM	MLLW = MEAN LOW LOWER WATER		—○— SIGN W/ POSTS	— x — FENCE LINE	⊕ LIFE RING AND CABINET
APPROX = APPROXIMATE	MHW = MEAN HIGH WATER		□ ELECTRIC PEDESTAL	—○— GUARD RAIL	☒ FIRE EXTINGUISHER AND CABINET
BC = BRASS CAP	MIN. = MINIMUM		▲ TRANSFORMER	— OH/E — OVERHEAD ELECTRIC	⊕ POLE DOCK LIGHT
BLK = BLOCKING	MNFR. = MANUFACTURER		● POWER POLE	— UG/E — UNDERGROUND ELECTRIC	—+— DRAINAGE SWALE
⊕ = CENTERLINE	MPH = MILES PER HOUR		● GUY POLE	▨ EDGE OF PAVEMENT	
CAP. = CAPACITY	MTL = MEAN TIDE LINE		→ GUY ANCHOR	— CURB & GUTTER	
CLR. = CLEARANCE	NOM = NOMINAL		●⊕ POWER POLE W/ LIGHT	— EDGE OF GRAVEL / DIRT	
CONC = CONCRETE	N.I.C. = NOT IN CONTRACT		○⊕ LIGHT POLE	▭ CONCRETE	
COND = CONDITION	NO. = NUMBER		□ JUNCTION BOX	— MAJOR CONTOUR	
CONT = CONTINUOUS	N.T.S. = NOT TO SCALE		⊕ FIRE HYDRANT	— MINOR CONTOUR	
CTRSK = COUNTERSINK	O.C. = ON CENTER		⊗ VALVE	xxx Spot Elevation	
DIA / Ø = DIAMETER	OPNG = OPENING		□ MANHOLE	— EDGE OF WATER	
EA. = EACH	PE = POLYETHYLENE		● GUARD POST / BOLLARD		
EG = EXISTING GRADE	PVC = POLYVINYL CHLORIDE				
EL/ELEV = ELEVATION	PL(P) = PLATE				
ELECT. = ELECTRIC	POT. = POTABLE				
ELL = ELBOW	PWD = PLYWOOD				
EQ = EQUAL	± = PLUS OR MINUS				
EXIST = EXISTING	R = RADIUS				
FLEX. = FLEXIBLE	REQ'D = REQUIRED				
FG = FIBERGLASS REINF. PLASTIC	RND = ROUND				
FT( ) = FEET	SCH. = SCHEDULE				
GA = GALLON	SDR = STANDARD DIMENSION RATIO				
GALV. = GALVANIZED	SP = SPACES				
GLB = GLULAM BEAM	SQ. = SQUARE				
HDPE = HIGH DENSITY POLYETHYLENE	SS = SEWER SERVICE				
IN( ) = INCHES	STL = STEEL				
INT. = INTERIOR	TYP. = TYPICAL				
LBS = POUNDS	UHMW = ULTRA HIGH MOLECULAR WEIGHT				
MAX. = MAXIMUM	U.O.N = UNLESS OTHERWISE NOTED				

INDEX OF DRAWINGS					
REF. NO	SHEET NO.	SHEET TITLE	REF. NO.	SHEET NO.	SHEET TITLE
<b>GENERAL</b>			S3.0	19	CONCRETE LANDING PAD
G1.0	1	PROJECT TITLE, LOCATION AND VICINITY MAPS	S3.1	20	MISCELLANEOUS STRUCTURAL DETAILS
G1.1	2	INDEX OF DRAWINGS, ABBREVIATIONS, LEGEND AND TIDAL DATA	S3.2	21	ACCESS RAMP SECTION AND DETAILS
G1.2	3	GENERAL NOTES (1 OF 2)	S4.0	22	SHEET PILE WALL PROFILE
G1.3	4	GENERAL NOTES (2 OF 2)	S4.1	23	SHEET PILE WALL DETAILS
G1.4	5	EXISTING SITE	<b>CIVIL</b>		
G1.5	6	PROPOSED IMPROVEMENTS	C1.0	24	TYPICAL FLOAT LANDING PAD SECTION
G1.6	7	KOTZEBUE BRIDGE PLANS	C2.0	25	FLOAT LANDING PAD DETAIL
G1.7	8	FLOAT SYSTEM AND SHEET PILE WALL	<b>ELECTRICAL</b>		
<b>STRUCTURAL</b>			E0.1	26	ELECTRICAL LEGEND AND LIGHT FIXTURE SCHEDULE
S1.0	9	FLOAT ANCHOR LAYOUT	E1.1	27	ELECTRICAL FLOAT AND PARKING LOT SITE - LIGHTING AND POWER
S1.1	10	TYPICAL FLOAT STRINGER LAYOUT	E1.2	28	ELECTRICAL PEDESTRIAN AND SWAN LAKE BRIDGE SITE - LIGHTING
S1.2	11	FLOAT ANCHOR SECTIONS	E1.3	29	ELECTRICAL KOTZEBUE SLOUGH BRIDGE SITE - NAVIGATION LIGHTING
S1.3	12	FLOAT ANCHOR SECTIONS AND DETAILS	E2.1	30	ELECTRICAL DETAILS
S1.4	13	TYPICAL FLOAT MODULE	E3.1	31	SERVICE GEAR MOUNTING DETAIL AND PANEL SCHEDULE
S1.5	14	FIRST AND END FLOAT DETAILS			
S2.0	15	FLOAT DETAILS			
S2.1	16	FLOAT CONNECTION DETAILS (1 OF 3)			
S2.2	17	FLOAT CONNECTION DETAILS (2 OF 3)			
S2.3	18	FLOAT CONNECTION DETAILS (3 OF 3)			

TIDAL DATA - KOTZEBUE, ALASKA	
HIGHEST OBSERVED WATER LEVEL	7.40'
MEAN HIGHER HIGH WATER (MHHW)	0.88'
MEAN HIGH WATER (MHW)	0.79'
MEAN TIDE LEVEL (MTL)	0.46'
MEAN LOW WATER (MLW)	0.12'
MEAN LOWER LOW WATER (MLLW)	0.00'
LOWEST OBSERVED WATER LEVEL	-5.80'

BASED ON TIDAL DATUM AT RED DOG DOCK



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# GENERAL NOTES

## SCOPE OF WORK

THE SCOPE OF WORK INCLUDES CONSTRUCTING, FURNISHING, AND INSTALLING NEW FLOATING DOCKS WITH A PILE AND CHAIN ANCHOR SYSTEM, A SHEET PILE BULKHEAD, SAND BEACH AND SWIM AREA, LIGHTING IN THE UPLANDS, NAVIGATION LIGHTS ON THE SWAN LAKE AND KOTZEBUE SLOUGH BRIDGES, AND OTHER ITEMS.

## APPLICABLE CODES AND STANDARDS

ALL FEDERAL STATE AND LOCAL CODES AND REGULATIONS PLUS THE FOLLOWING (LATEST VERSIONS) ARE PART OF THESE PLANS AND SPECIFICATIONS.

- A. INTERNATIONAL BUILDING CODE
- B. AWS D1.1 AND D1.2 STRUCTURAL WELDING CODE
- C. ASTM STANDARDS AND SPECIFICATIONS

## DESIGN LOADS

### GENERAL

WIND: 145 MPH 3 SECOND GUST

SNOW LOAD: 60 PSF DISTRIBUTED

### FLOAT SYSTEM

LIVE LOAD: 30 PSF DISTRIBUTED

POINT LOAD: 400 LB

VEHICLE LOAD: NONE - NOT DESIGNED FOR VEHICLES

ICE LOAD: NONE - NOT DESIGNED FOR ICE LOADS

### TRANSITION RAMP

LIVE LOAD: 85 PSF DISTRIBUTED

VEHICLE LOAD: NONE - NOT DESIGNED FOR VEHICLES

## NOTES AND CONTRACT DOCUMENTS

THE NOTES PROVIDED ON THE DRAWINGS ARE INTENDED TO HIGHLIGHT CERTAIN REQUIREMENTS AS SPECIFIED IN THE CONTRACT DOCUMENTS AND SHOULD NOT BE RELIED ON SOLELY AS THE ENTIRE PROJECT REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH ALL PARTS OF THE CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO THE CONTRACT, SPECIFICATIONS, DRAWINGS, AND SUPPLEMENTAL INFORMATION, SUCH THAT THEY ARE FAMILIAR WITH ALL DETAILS OF THE WORK. THE CONTRACTOR SHALL RESOLVE ANY CONFLICTS, DISCREPANCIES, OR MISUNDERSTANDINGS BEFORE THE START OF WORK.

## EROSION CONTROL AND POLLUTION PREVENTION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AN EROSION CONTROL AND POLLUTION PREVENTION PLAN AND SUBMITTING IT TO THE ENGINEER. THE PLAN SHALL INCLUDE DETAILS FOR THE PREVENTION FOR SPILLS, CONTAINMENT, CLEANUP, AND DISPOSAL OF HAZARDOUS WASTE MATERIAL PROTECTION FROM EROSION AND PREVENTION OF SILT INTRUSION INTO LOCAL WATER BODIES AND OTHER ITEMS AS OUTLINED IN THE SPECIFICATIONS. A COPY OF THIS PLAN SHALL BE KEPT ONSITE DURING CONSTRUCTION.

## DRAWING SCALES

DRAWING SCALES ARE PROVIDED ON SOME DRAWING FOR CONVENIENCE, SCALES SHOWN ARE FOR FULL SIZED DRAWINGS, REDUCED SCALED DRAWINGS SHALL BE INTERPRETED ACCORDINGLY. DIMENSIONS AND NOTES SHALL TAKE PRECEDENCE OVER SCALES.

## SURVEY AND CONTROL

A PROJECT SPECIFIC SURVEY WAS NOT COMPLETED FOR THIS WORK. CONTROL AND CONTOURS ARE BASED ON THE PUBLIC RECORD SURVEY CONDUCTED BY THE CORPS OF ENGINEERS DATED 2010. A COPY OF THIS SURVEY IS INCLUDED IN THE REFERENCE MATERIAL IN THE PROJECT SPECIFICATIONS AND IS AVAILABLE FROM THE ENGINEER. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 7, NAD 83. VERTICAL CONTROL IS BASED ON MEAN LOW LOW WATER = ELEVATION 0.0.

THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR THIS PROJECT. AN AS-BUILT SURVEY OF THE INSTALLED LOCATION OF THE DRIVEN PIPE PILE ANCHORS FOR THE FLOAT RESTRAINT SYSTEM SHALL BE PROVIDED.

## FILL MATERIALS

BEACH SAND SHALL BE MATERIAL IMPORTED AND PLACED AT THE SITE AND SHALL HAVE NO LUMPS, ORGANIC MATTER, OR OTHER DELETERIOUS MATTER AND MEET THE FOLLOWING GRADATION"

SIEVE	PERCENT PASSING BY WEIGHT
3/8"	100
# 4	80-100
# 10	50-80
# 40	20-50
# 100	0-20
# 200	0-8

LEVELING COURSE SHALL BE FREE OF ANY DELETERIOUS MATERIAL AND SHALL MEET THE FOLLOWING GRADATION:

SIEVE	PERCENT PASSING BY WEIGHT
1-1/2"	100
3/4"	70-100
#4	35-75
#8	20-50
#50	10-30
#200	0-10

EXCAVATED MATERIAL MUST BE DE-WATERED BEFORE IT WILL BE SUITABLE FOR PLACEMENT AS BORROW. BERMING OR OTHER MEANS TO TEMPORARILY DEWATER THE SITE IN THESE AREAS SHALL BE PROVIDED PRIOR TO PLACING FILL BELOW THE NORMAL WATERLINE.

BORROW, IMPORTED FILL AND LEVELING COURSE SHALL BE PLACED AND COMPACTED TO THE LINES AND GRADES INDICATED ON THE PLANS. THE MATERIALS SHALL BE PLACED AND SPREAD UNIFORMLY IN LAYERS NOT EXCEEDING 12 INCHES IN IN LOOSE THICKNESS. WATER OR AERATE TO ENSURE EACH LAYER CAN BE COMPACTED TO FORM A DENSE MASS FREE OF PUMPING. EACH LAYER SHALL BE COMPACTED TO NOT LESS THAN 90% FOR BORROW AND 95% FOR IMPORTED FILL AND LEVELING COURSE IN ACCORDANCE WITH ASTM D698.

## GALVANIZED COATINGS

ALL STEEL MEMBERS INCLUDING FABRICATIONS AND HARDWARE SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A 123 AND ASTM A 153. ITEMS REQUIRING FABRICATION SHALL BE GALVANIZED AFTER FABRICATION.

DAMAGED AREAS OF COATING AND AREAS GROUND FREE OF COATING FOR WELDING WILL BE REPAIRED WITH SPRAY METALIZING IN ACCORDANCE WITH THE SPECIFICATIONS.

## WELDING - STEEL

WELDERS SHALL BE QUALIFIED FOR THE PARTICULAR PROCESS AND PROCEDURE THAT THE WELDER WILL PERFORM IN ACCORDANCE WITH AWS D1.1 AND D1.2.

## GLUE LAMINATED TIMBER

DOUGLAS FIR, GRADE 24F-V8, DF/DF IN ACCORDANCE WITH AITC 117 SPECIFICATIONS AND CONFORMING TO THE LATEST STANDARD GRADING RULES FOR WEST COAST LUMBER PUBLISHED BY THE WCLIB. GLUE-LAMINATED MEMBERS SHALL BE PRODUCED IN CONFORMANCE WITH THE REQUIREMENTS OF U.S. COMMERCIAL STANDARD PS 56-73. LAMINATING ADHESIVES SHALL BE WATERPROOF. APPEARANCE OF GLUED-LAMINATED MEMBERS SHALL BE INDUSTRIAL GRADE OR BETTER. INSPECTION SHALL BE IN ACCORDANCE WITH AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, AITC 200 INSPECTION MANUAL.

## SAWN TIMBER

DOUG FIR, LARCH, GRADE NO. 1 OR BETTER, NO LOOSE KNOTS IN ACCORDANCE WITH WCLIB GRADING RULES NO. 17. SURFACED S4S OR AS OTHERWISE NOTED ON THE PLANS. COMMERCIAL INSPECTION WITH CERTIFICATION IS REQUIRED, MILL CERTIFICATES NOT ACCEPTABLE. NO EXPRESS GUARANTEE ATTACHED TO CERTIFICATE IF SUBSEQUENT INSPECTION REVEALS UNACCEPTABLE MATERIAL.

## TIMBER DECKING

DOUG FIR LARCH, NO. 1 OR BETTER PER WCLIB GRADING RULES. SURFACING SHALL BE S1S2E, CHAMFERED AND MILLED AS NOTED ON THE PLANS. TIMBER DECKING MATERIALS SHALL BE OF THE HIGHEST QUALITY AND FREE FROM SPLITS, WARPS, CRACKS, EXCESSIVE KNOTS AND OTHER DEFECTS. COMMERCIAL INSPECTION WITH CERTIFICATION IS REQUIRED, MILL CERTIFICATES NOT ACCEPTABLE. NO EXPRESS GUARANTEE ATTACHED TO CERTIFICATE IF SUBSEQUENT INSPECTION REVEALS UNACCEPTABLE MATERIAL.

## PLYWOOD

THE PLYWOOD DIAPHRAGM PLATE SHALL BE GRADE C-C EXTERIOR, GROUP 1 SPECIES, APA CUSTOM PRODUCT V-611, USING VENEER GRADED FOR SEVERE MOISTURE SERVICE LAID WITH EXTERIOR-RATED ADHESIVES. PLATES SHALL BEAR THE GRADE MARK OF THE AMERICAN PLYWOOD ASSOCIATION, CERTIFYING CONFORMANCE TO U.S. PRODUCT STANDARD PS 1-83 AND MARKED "APA C-C EXT".

PLYWOOD SHALL BE SUPPLIED IN SIZES SUCH THAT ALL BLOCK EDGES FALL ON FRAMING MEMBERS SUCH AS STRINGERS OR SILLS.

## PLASTIC LUMBER

HIGH-DENSITY POLYETHYLENE (HDPE) LUMBER WILL BE USED FOR RUBBOARDS. HDPE SHALL BE A PURIFIED HIGH-DENSITY HDPE MATERIAL MADE FROM 100% RECYCLED PLASTIC, IN ACCORDANCE WITH ASTM D-6662. THE MATERIAL SHALL BE OF UNIFORM COLOR, SHALL BE COLOR STABILIZED, AND SHALL BE RESISTANT TO ULTRA-VIOLET DETERIORATION, MECHANICAL ABRASION, CHEMICAL ATTACK, DETERGENTS, AND ANIMALS. THE PLASTIC LUMBER MATERIAL SHALL BE PROCURED IN 8-FOOT LENGTHS, MINIMUM. THE MATERIAL SHALL ALSO BE SUITABLE FOR LONG-TERM EXTERIOR EXPOSURE. COLOR SHALL MATCH THE FURNISHED WOOD FLOAT MATERIAL OR AS APPROVED BY THE OWNER.

## TIMBER PRESERVATIVE TREATMENT

TIMBER MEMBERS SHALL BE PRESSURE TREATED WITH PRESERVATIVE AS OUTLINED BELOW. ALL TIMBERS SHALL BE CUT TO LENGTH, DRILLED AND DAPPED PRIOR TO TREATMENT. ALL PRESSURE TREATMENT PROCESSES SHALL BE PERFORMED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES FOR THE SPECIFIED TREATMENT TYPE AS PUBLISHED BY THE WESTERN WOOD PRESERVERS INSTITUTE (WWPA), LATEST EDITION.

## GLUE LAMINATED OR SAWN BULLRAILS

PRESSURE TREAT WITH ACZA (AMMONIACAL COPPER ZINC ARSENATE) TO 0.6 POUNDS PER CUBIC FOOT (PCF) NET DRY SALT RETENTION IN ACCORDANCE WITH AWPB USE CATEGORY 4B COMMODITY SPECIFICATION F.

## GLUE LAMINATED STRINGERS

FOR GLUE LAMINATED STRINGERS BELOW THE DECKING TREAT WITH CREOSOTE IN ACCORDANCE WITH AWPB USE CATEGORY 5A COMMODITY SPECIFICATION F, PROVIDE MINIMUM 12 PCF.

## PLYWOOD

SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH AWPB U1-07 COMMODITY SPECIFICATION SECTION F, USE CATEGORY 4B AND AWPB SPECIFICATION LP22 WITH CCA OR ACZA TO 0.6 PCF.

SAWN TIMBERS INCLUDING DECKING.

SHALL BE PRESSURE TREATED WITH ACZA TO NOT LESS THAN 0.6 PCF NET DRY SALT RETENTION IN ACCORDANCE WITH AWPB U1-2007 USE CATEGORY 4B (SALT SPLASH ZONE).

## SAWN TIMBERS BELOW DECKING

PRESSURE TREAT WITH CREOSOTE PRESERVATIVE, MINIMUM NET RETENTION OF 20 PCF IN ACCORDANCE WITH AWPB U1-2007 USE CATEGORY 5A FOR (MARINE USE).

SAWN TIMBER, PLYWOOD, AND GLUE-LAMINATED TIMBER SHALL BE CUT TO LENGTH, DRILLED, DAPPED, AND CHAMFERED PRIOR TO PRESSURE TREATMENT.

TREATED TIMBER SHALL BE HANDLED CAREFULLY WITHOUT DROPPING, BREAKING OF OUTER FIBERS, OR BRUISING OR PENETRATING THE SURFACE WITH TOOLS.



NO.	BY	DATE	REVISIONS	
			DESCRIPTION	

**CITY OF KOTZEBUE**  
**SWAN LAKE HARBOR FACILITY**  
**IMPROVEMENTS**  
 KOTZEBUE, AK  
**GENERAL NOTES (1 OF 2)**

PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	EK/BG
CHECKED BY:	EG
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## GENERAL NOTES (CONTINUED)

### FIELD/REPAIR TREATMENT

ALL NICKS, CUTS, ABRASIONS AND FIELD DRILLED HOLES AND SAW CUTS OCCURRING AFTER PRESSURE TREATMENT SHALL BE CAREFULLY TRIMMED AND THOROUGHLY SATURATED IN THE FIELD.

### CREOSOTE

BRUSH COATED WITH TWO APPLICATIONS OF A MIXTURE OF 60 PERCENT COPPER NAPHTHENATE AND 40 PERCENT ROOFING PITCH OR SHALL BE BRUSH-COATED WITH AT LEAST THREE APPLICATIONS OF HOT CREOSOTE OIL (BETWEEN 150 ° F AND 200 ° F) AND COVERED WITH HOT ROOFING PITCH.

### AZCA

IF ACZA IS THE BASIC TREATMENT, A COPPER NAPHTHENATE SOLUTION OF NOT LESS THAN 2% COPPER METAL SHALL BE USED IN THREE APPLICATIONS IN LIEU OF THE CREOSOTE AND PITCH. ANY UNFILLED HOLES BORED AFTER TREATMENT, AFTER BEING TREATED AS OUTLINED ABOVE, SHALL BE PLUGGED WITH CREOSOTE OR COPPER NAPHTHENATE SATURATED PLUGS.

### FASTENERS AND CONNECTION HARDWARE

ALL TIMBER CONNECTION BOLTS AND LAGS SHALL BE ASTM A307 GRADE C MIN. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153. ALL BOLTS IN CONTACT WITH WOOD MEMBERS SHALL HAVE ECONOMY HEADS AND/OR MALLEABLE IRON WASHERS UNLESS OTHERWISE NOTED. HINGE CONNECTION BOLTS SHALL BE ASTM A325.

ALL NAILS SHALL BE HOT DIP GALVANIZED AFTER BEING FORMED. NAILS ARE NOT TO BE PRODUCED FROM PRE-GALVANIZED WIRE.

PILOT HOLES FOR NAILS SHALL BE PRE DRILLED AT ALL LOCATIONS WHERE EDGE OR END SPLITTING COULD OCCUR.

PILOT HOLES FOR LAG SCREWS SHALL BE USED AT ALL LOCATIONS.

### POLYSTYRENE FLOATATION

FLOATATION PLANKS SHALL BE CONSTRUCTED FROM CLOSED CELL EXPANDED POLYSTYRENE AS PER ASTM D-1621. THE POLYSTYRENE SHALL HAVE A MINIMUM DENSITY OF 0.9 PCF AND A MAXIMUM WATER ABSORPTION OF 4% BY VOLUME IN ACCORDANCE WITH ASTM C-272.

EACH PLANK SHALL BE CUT, DRILLED AND NOTCHED TO THE DIMENSIONS SHOWN. USE A HOT WIRE OR OTHER SUITABLE METHOD TO PRODUCE CLEAN AND PRECISE CUTS. AFTER THE PLANKS ARE CUT TO THE PRECISE SHAPE THEY SHALL BE COATED WITH A MINIMUM OF 50 MILS OF HEAVY DUTY POLYUREA OR POLYURETHANE EPOXY.

### FLOAT ASSEMBLY NOTES

PRE-DRILL DECKING AS REQUIRED TO PREVENT SPLITTING. SPLIT DECKING WILL BE REJECTED. THE PLYWOOD DIAPHRAGM PANELS SHALL BE INSTALLED SO THAT ALL EDGES LAND ON FRAMING MEMBERS (FULLY BLOCKED) NAIL AT ALL ENDS, EDGES, AND ALL FRAMING MEMBERS IN THE FIELD OF THE SHEET AS SHOWN. FLOAT FABRICATION SEQUENCE SHALL INCLUDE PROVISIONS TO FULLY NAIL PLYWOOD TO STRINGERS AND SILLS.

### CONCRETE

SUBMIT A CONCRETE MIX DESIGN TO THE ENGINEER FOR APPROVAL. THE CONCRETE MIX SHALL INCLUDE THE FOLLOWING MINIMUM PROVISIONS:

1. MINIMUM 28 DAY COMPRESSIVE STRENGTH 5,000 PSI
2. MAXIMUM AGGREGATE SIZE ¾ INCH
3. MINIMUM AIR ENTRAINMENT 6%
4. MAXIMUM WATER TO CEMENT RATIO 0.4

HANDLE ALL PREFABRICATED CONCRETE ITEMS WITH CARE. LIFT AND PLACE USING SPREADER BARS, MULTIPLE SLINGS AND OTHER MEANS TO ENSURE THAT THERE IS NO DAMAGE. STORE AND STACK ON DUNAGE WITH PROPER SUPPORT.

ALL STEEL REINFORCING, STEEL LINKAGE AND STEEL LIFTING MEMBERS CAST INTO THE CONCRETE SHALL BE HOT DIP GALVANIZED.

### ALUMINUM

6061 T6 U.O.N.

NON-SLIP COATING: SLIP-NOT GRADE 2.

### PILES AND PILE DRIVING

PILES - ASTM A53 GRADE B, ASTM A500 GRADE B OR B/C, OR ASTM A252 DUAL CERTIFIED TO MEET ASTM A500 GRADE B (OR B/C). LONGITUDINAL OR SPIRAL SEAM WELD IS ACCEPTABLE. SHOP SPLICE ONLY USING FULL PENETRATION WELD CONDUCTED BY CERTIFIED WELDERS. LENGTH OF LONGITUDINAL SECTIONS BTWN SPLICES SHALL NOT BE LESS THAN 10 FEET. HOT DIP GALVANIZE AFTER FABRICATION.

PILE DRIVING - SUBMIT A PILE DRIVING PLAN FOR APPROVAL. INCLUDE THE FOLLOWING ITEMS AT A MINIMUM.

1. A DETAILED DESCRIPTION OF THE PLANNED INSTALLATION METHOD INCLUDING TYPES OF EQUIPMENT AND METHODOLOGY.
2. A DESCRIPTION OF THE TEMPLATE AND OTHER METHODS USED TO ENSURE PROPER LOCATION AND ALIGNMENT OF THE PILING.
3. A SCHEDULE OF ACTIVITIES.
4. AN INSTALLATION MONITORING PLAN INCLUDING A MEANS TO LOG THE PILING.
5. CRITERIA TO ACCEPT OR REJECT PILING.
6. MEANS AND METHODS TO DEAL WITH OBSTRUCTIONS.
7. THE PILE HAMMER SHALL HAVE AN ENERGY RATING OF BETWEEN 20 AND 90 KIP FEET. A VIBRATORY HAMMER MAY BE USED IF IT CAN BE DEMONSTRATED TO HAVE NO ADVERSE EFFECTS ON NEARBY SLOPES. IF A VIBRATORY HAMMER HAS AN ADVERSE EFFECT ON NEARBY SLOPES THE CONTRACTOR IS RESPONSIBLE TO REPAIR AND RESTORE THE SLOPE AND TO SWITCH TO A SUITABLE IMPACT HAMMER AT NO COST TO THE OWNER.
8. TOP OF PILES SHALL BE WITHIN 2" RADIUS OF DESIGN HORIZONTAL AND VERTICAL LOCATION.
9. SURVEY PILE TOPS AFTER DRIVING .

### CHAIN

ALIGN CHAIN CONNECTION PLATES TO BE WITHIN 5 DEGREES OF DESIGN CHAIN ALIGNMENT, SEE DETAIL E/S1.3.

GALVANIZED STUD LINK CHAIN, GRADE 2, WITH ABS CERTIFICATES. (PROOF LOAD = 23,745 LBS, BREAKING LOAD = 33,220 LBS.)

E.O.R. WILL USE SUBMITTED PILE TOP SURVEY TO DETERMINE FINAL CHAIN CUTTING LENGTHS. DO NOT CUT CHAIN TO LENGTH UNTIL E.O.R. PROVIDES FINAL CUTTING LENGTHS.

CUT CHAIN TO LENGTH WITH ABRASIVE DISC CUT-OFF SAW - DO NOT USE TORCH TO BURN THRU CHAIN. HOLD CHAIN IN VISE WHILE CUTTING. DO NOT DAMAGE GALVANIZING ON ADJACENT LINK.

### SHACKLES

HOT DIP GALVANIZED BOLT-TYPE CHAIN SHACKLES WITH STAINLESS STEEL COTTER PIN. ULTIMATE STRENGTH TO EQUAL OR EXCEED CHAIN BREAKING LOAD. PROJECT DIMENSIONS ARE BASED ON CROSBY G-2150 5/8" SHACKLE. SUBMIT ABS CERTIFICATES.

### UHMW

ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMW PE) SHALL BE PRODUCED IN ACCORDANCE WITH ASTM 4020-81. THE MATERIAL SHALL BE A MIXTURE OF VIRGIN UHMW PE RESIN (CONFORMING TO ASTM D-4020) AND RECYCLED UHMW CHIPS (20% MAX BY WEIGHT). THE UHMW MIX SHALL BE CHEMICALLY CROSS-LINKED ULTRA VIOLET LIGHT STABILIZED AND SUITABLE FOR LONG TERM EXTERIOR EXPOSURE. UHMW PE USED FOR PILE COLLARS AND FLOAT MODULE SKIDS SHALL BE BLACK.

UHMW PE SKIDS AND PILE COLLAR LINING SHALL BE BENT TO THE ROUNDED GEOMETRY SHOWN ON THE DRAWINGS USING HEAT TO BRING THE MATERIAL TO A PLASTIC CONDITION. BENDING BY CUTTING KERFS SHALL NOT BE ALLOWED.

### RIGID INSULATION BOARD

THE INSULATION BOARD SHALL HAVE A MINIMUM FULL BOARD SIZE OF TWO FOOT BY EIGHT FOOT, HAVE THE SPECIFIED R-VALUE OR BETTER, AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M230, EXCEPT THAT EXTRUSION IS NOT REQUIRED. R-VALUE OF INSULATION SHALL BE BASED ON MANUFACTURER'S WARRANTED R-VALUE. THE INSULATION BOARD SHALL BE RIGID, HOMOGENEOUS, AND CONFORM TO THE TESTS LISTED IN THE SPECIFICATIONS.

CONTRACTOR SHALL INSTALL THE INSULATION BOARD WITH STAGGERED JOINTS. LAYERING OF INSULATION TO OBTAIN THE SPECIFIED R-VALUE IS ALLOWED AS LONG AS JOINTS ARE OVERLAPPED AT LEAST ONE FOOT.

### OPERATIONS AND MAINTENANCE

#### SEASONAL USE

THE FLOATS ARE NOT INTENDED FOR USE IN ICE CONDITIONS AND MUST BE REMOVED FROM THE HARBOR IN THE WINTER.

#### FLOAT MODULE MOVING, STACKING AND STORAGE

FLOATS MAY BE SKIDDED ON SMOOTH EVEN GROUND. PREPARE A SUITABLE PATHWAY TO OR FROM THE STORAGE AREA PRIOR TO MOVING THE FLOATS. THIS MAY REQUIRE GRADING THE SURFACE. ATTACH A TOWING BRIDLE TO THE SHACKLES ON THE CHAIN PLATE AT THE END OF THE MODULE. PULL AND SKID IN THE DIRECTION OF THE LONG AXIS OF THE FLOAT AND SKIDS. DO NOT DRAG OR PUSH THE FLOAT SIDEWAYS. DO NOT DRAG THE FLOAT OVER ROUGH OR UNEVEN GROUND.

FLOATS MAY BE LIFTED USING A 4 POINT BASKET SLING OR WITH A LARGE FORKLIFT. IF A FORKLIFT IS USED ENSURE THAT THE FORKS ARE COMPLETELY UNDER THE ENTIRE MODULE, CENTERED IN THE GAPS IN THE SKIDS, AND EVENLY BEARING ON THE SIDE STRINGERS. TAKE CARE WHEN INSERTING THE FORKS TO ENSURE THE FORKS DO NOT DAMAGE THE SKIDS OR THE PLYWOOD. DRIVE THE FORKLIFT SLOWLY WITH THE FLOAT AND DO NOT BOUNCE THE MODULES. THE BASKET SLING REQUIRES 2 SPREADER BARS AND 2 NYLON STRAPS. DO NOT USE LINE OR WIRE ROPE TO LIFT THE FLOATS. DO NOT LIFT THE FLOATS WITHOUT SPREADER BARS.

STORE FLOATS ON LEVEL GROUND, WITH UNIFORM BEARING ON THE SKIDS. STACK NO MORE THAN THREE UNITS HIGH. PROVIDE 6X6 (OR LARGER) DUNNAGE UNDER THE SIDE STRINGERS ONLY AT APPROXIMATELY THREE FEET ON-CENTER THROUGHOUT THE LENGTH OF THE BOTTOM MODULE - DO NOT PLACE DUNNAGE UNDER CENTER STRINGER.

### CHAINS

THE ANCHOR CHAINS MUST BE CONNECTED AS SHOWN IN THE DRAWINGS. THIS INCLUDES USING THE SPECIFIED LENGTHS AND FITTINGS SHOWN. THE SAFETY CHAINS AND CHAIN PLATE MUST BE INSTALLED AS SHOWN. USING NON SPECIFIED LENGTHS OF CHAIN, OTHER FITTINGS, OR NOT USING THE SAFETY CHAINS AND PLATES WILL RESULT IN A FLOAT THAT IS NOT STABLE IN ADVERSE WEATHER CONDITIONS.

THE ANCHOR CHAINS AND FITTINGS INCLUDING SHACKLES WILL WEAR OVER TIME AND MUST BE PERIODICALLY INSPECTED AND REPLACED. FIVE YEARS AFTER INSTALLATION REMOVE ALL CHAINS AND FITTINGS, INSPECT FOR WEAR, REPLACE EXCESSIVELY WORN COMPONENTS AND SWAP CHAIN END-FOR-END. AFTER 10 YEARS IT IS RECOMMENDED TO REPLACE ALL CHAIN AND FITTINGS.

THE ANCHOR CHAINS WILL BE RELEASED FROM THE FLOATS IN THE FALL EACH YEAR WHEN THE FLOATS ARE REMOVED FOR THE WINTER AND RETRIEVED IN THE SPRING WHEN THEY ARE REINSTALLED. IT IS RECOMMENDED THAT A SHORT SECTION OF ½ INCH DIAMETER POLYPROPYLENE LINE BE ATTACHED TO THE END OF EACH CHAIN IN THE PAIR FOR EACH ANCHORED FLOAT MODULE. THIS LINE WILL THEN FORM A SHORT FLOATING LOOP CONNECTING THE 2 CHAIN ENDS. THE LENGTH OF THE LINE SHOULD BE SET TO KEEP THE FLOATING LOOP GENERALLY UNDERWATER BUT VISIBLE FOR EASE OF RETRIEVAL WITH A BOAT HOOK OR SIMILAR DEVICE IN THE SPRING. THE CHAINS MUST BE CROSSED AS SHOWN IN THE DRAWINGS WHEN ATTACHED.

### HINGE PINS AND RUBBER BUSHINGS

THE HINGE PINS AND RUBBER BUSHINGS FOR THE FLOAT MODULE CONNECTIONS WILL WEAR OVER TIME AND MUST BE PERIODICALLY INSPECTED AND REPLACED. INSPECT THE HINGE PINS AND RUBBER BUSHINGS EACH YEAR WHEN THE FLOATS ARE REMOVED FOR THE WINTER. REPLACE ALL WORN, CRACKED, TORN, OR DEFORMED COMPONENTS.

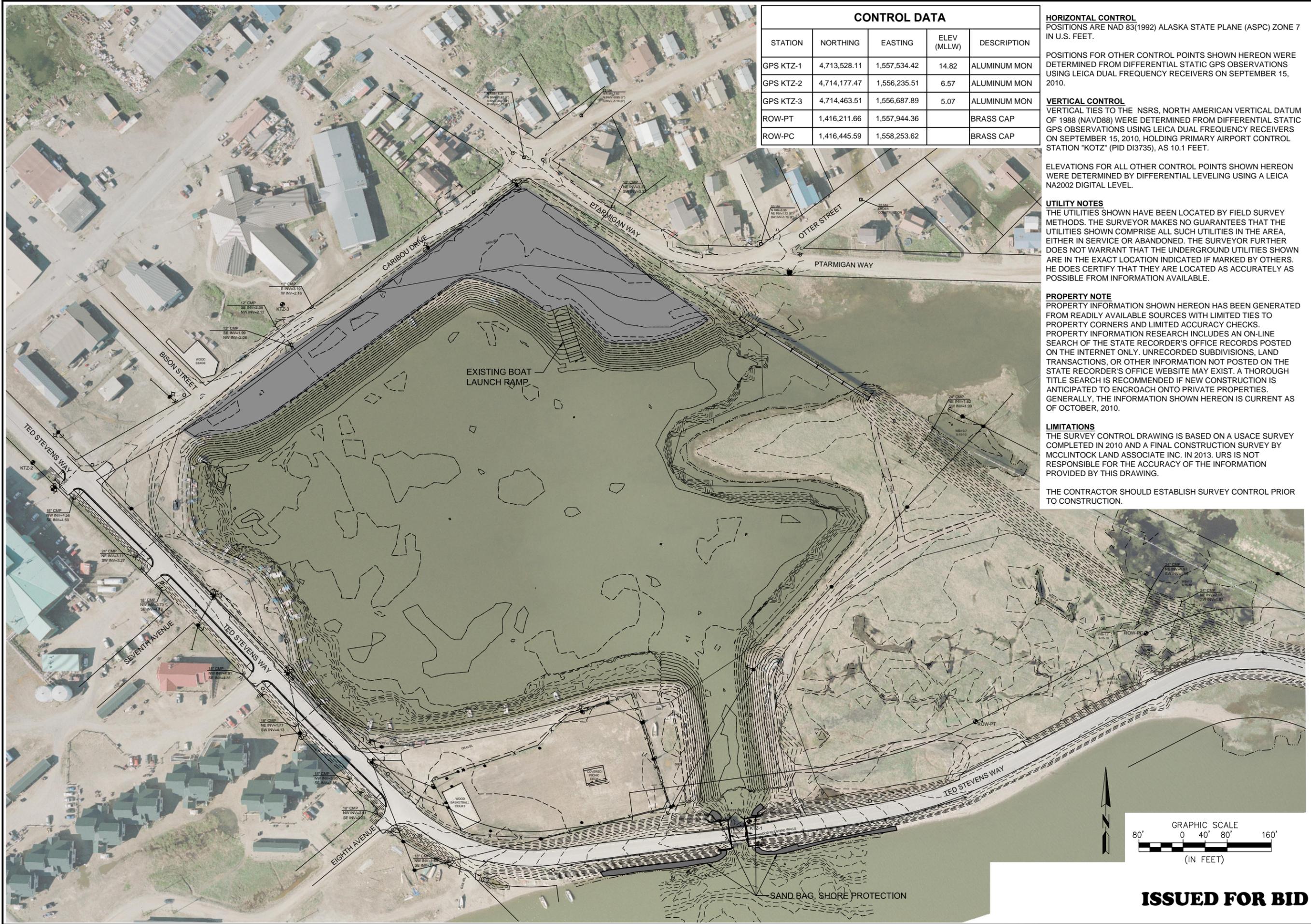


NO.	BY	DATE	REVISIONS	
			DESCRIPTION	

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
KOTZEBUE, AK  
**GENERAL NOTES (2 OF 2)**

PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	EK/BG
CHECKED BY:	EG
SHEET:	<b>G1.3</b>
PAGE:	4 OF 31

**ISSUED FOR BID**



CONTROL DATA				
STATION	NORTHING	EASTING	ELEV (MLLW)	DESCRIPTION
GPS KTZ-1	4,713,528.11	1,557,534.42	14.82	ALUMINUM MON
GPS KTZ-2	4,714,177.47	1,556,235.51	6.57	ALUMINUM MON
GPS KTZ-3	4,714,463.51	1,556,687.89	5.07	ALUMINUM MON
ROW-PT	1,416,211.66	1,557,944.36		BRASS CAP
ROW-PC	1,416,445.59	1,558,253.62		BRASS CAP

**HORIZONTAL CONTROL**  
 POSITIONS ARE NAD 83(1992) ALASKA STATE PLANE (ASPC) ZONE 7 IN U.S. FEET.

POSITIONS FOR OTHER CONTROL POINTS SHOWN HEREON WERE DETERMINED FROM DIFFERENTIAL STATIC GPS OBSERVATIONS USING LEICA DUAL FREQUENCY RECEIVERS ON SEPTEMBER 15, 2010.

**VERTICAL CONTROL**  
 VERTICAL TIES TO THE NSRS, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) WERE DETERMINED FROM DIFFERENTIAL STATIC GPS OBSERVATIONS USING LEICA DUAL FREQUENCY RECEIVERS ON SEPTEMBER 15, 2010, HOLDING PRIMARY AIRPORT CONTROL STATION "KOTZ" (PID DI3735), AS 10.1 FEET.

ELEVATIONS FOR ALL OTHER CONTROL POINTS SHOWN HEREON WERE DETERMINED BY DIFFERENTIAL LEVELING USING A LEICA NA2002 DIGITAL LEVEL.

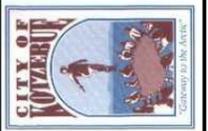
**UTILITY NOTES**  
 THE UTILITIES SHOWN HAVE BEEN LOCATED BY FIELD SURVEY METHODS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED IF MARKED BY OTHERS. HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

**PROPERTY NOTE**  
 PROPERTY INFORMATION SHOWN HEREON HAS BEEN GENERATED FROM READILY AVAILABLE SOURCES WITH LIMITED TIES TO PROPERTY CORNERS AND LIMITED ACCURACY CHECKS. PROPERTY INFORMATION RESEARCH INCLUDES AN ON-LINE SEARCH OF THE STATE RECORDER'S OFFICE RECORDS POSTED ON THE INTERNET ONLY. UNRECORDED SUBDIVISIONS, LAND TRANSACTIONS, OR OTHER INFORMATION NOT POSTED ON THE STATE RECORDER'S OFFICE WEBSITE MAY EXIST. A THOROUGH TITLE SEARCH IS RECOMMENDED IF NEW CONSTRUCTION IS ANTICIPATED TO ENCROACH ONTO PRIVATE PROPERTIES. GENERALLY, THE INFORMATION SHOWN HEREON IS CURRENT AS OF OCTOBER, 2010.

**LIMITATIONS**  
 THE SURVEY CONTROL DRAWING IS BASED ON A USACE SURVEY COMPLETED IN 2010 AND A FINAL CONSTRUCTION SURVEY BY MCCLINTOCK LAND ASSOCIATE INC. IN 2013. URS IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED BY THIS DRAWING.

THE CONTRACTOR SHOULD ESTABLISH SURVEY CONTROL PRIOR TO CONSTRUCTION.

**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 276-0650  
 FAX: (907) 276-6779



REVISIONS		DESCRIPTION
NO.	BY	DATE

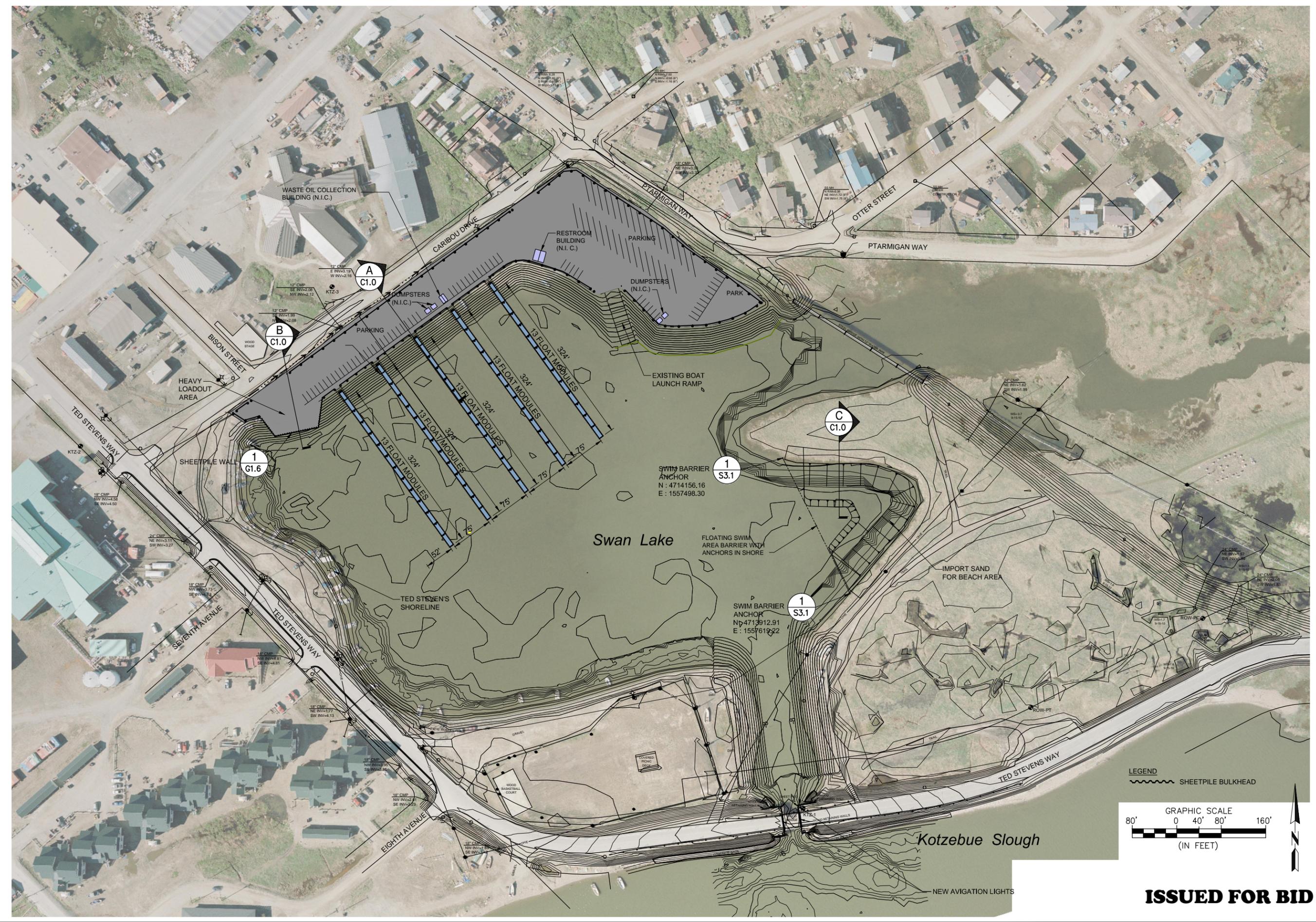
CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**EXISTING SITE**

PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	EK/BG
CHECKED BY:	EG
SHEET:	<b>G1.4</b>
PAGE:	5 OF 31

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\WORKING DRAWINGS\G1.4 EXISTING SITE.DWG - Revised 12/30/2014 10:48:44 AM

**ISSUED FOR BID**

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\01 WORKING DRAWINGS\G1.5 NEW FLOAT LAYOUT.DWG - Revised 12/30/2014 10:48:22 AM



**URS**  
 700 G STREET, SUITE 800  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 276-0654  
 FAX: (907) 276-7679



NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**PROPOSED IMPROVEMENTS**

PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JDE/EG
DRAWN BY:	EK/BG
CHECKED BY:	EG
SHEET:	<b>G1.5</b>
PAGE:	6 OF 31

**LEGEND**

GRAPHIC SCALE  
 80' 0 40' 80' 160'  
 (IN FEET)

**ISSUED FOR BID**



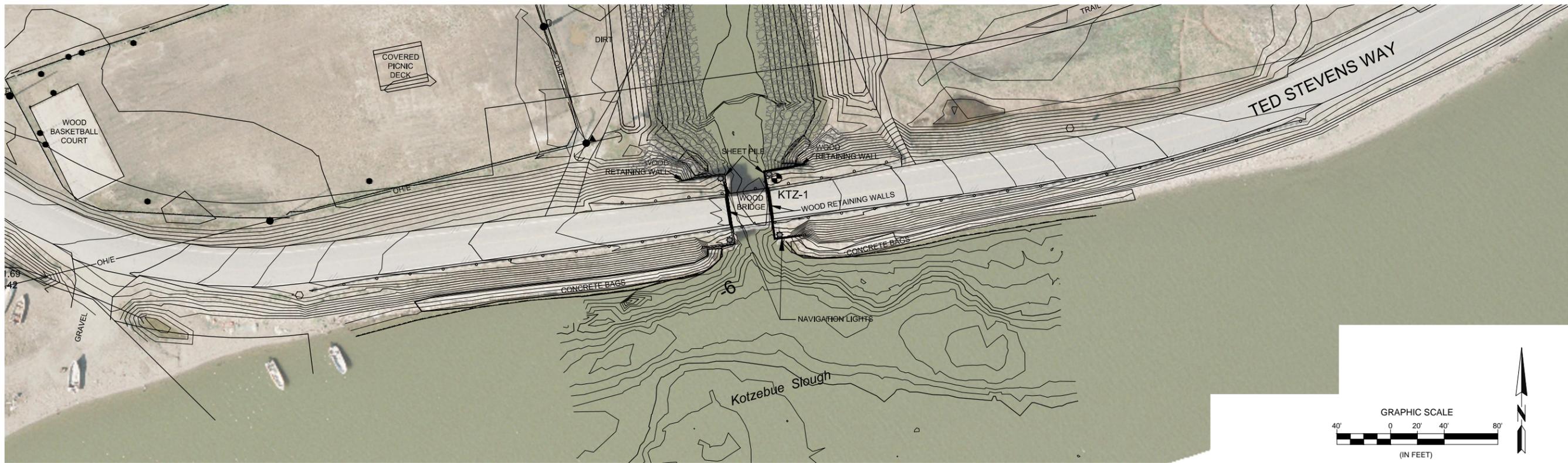
**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 276-0654  
 FAX: (907) 276-7679



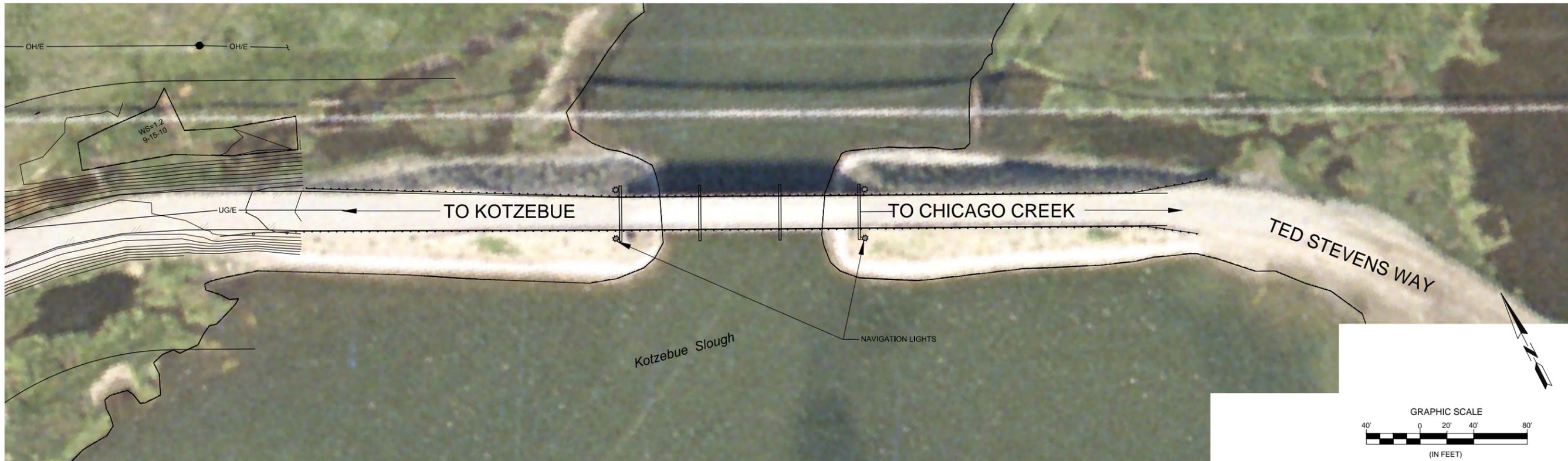
NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**KOTZEBUE BRIDGE PLANS**

PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	EK/BG
CHECKED BY:	EG
SHEET:	<b>G1.6</b>
PAGE:	7 OF 31



**1** SWAN LAKE BRIDGE ADOT NO. 1691  
 G1.6



**2** KOTZEBUE SLOUGH BRIDGE ADOT NO. 1690  
 G1.6

**ISSUED FOR BID**

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\WORKING DRAWINGS\G1.6\_SLOUGH BRIDGE.DWG - Revised 12/30/2014 10:52:13 AM



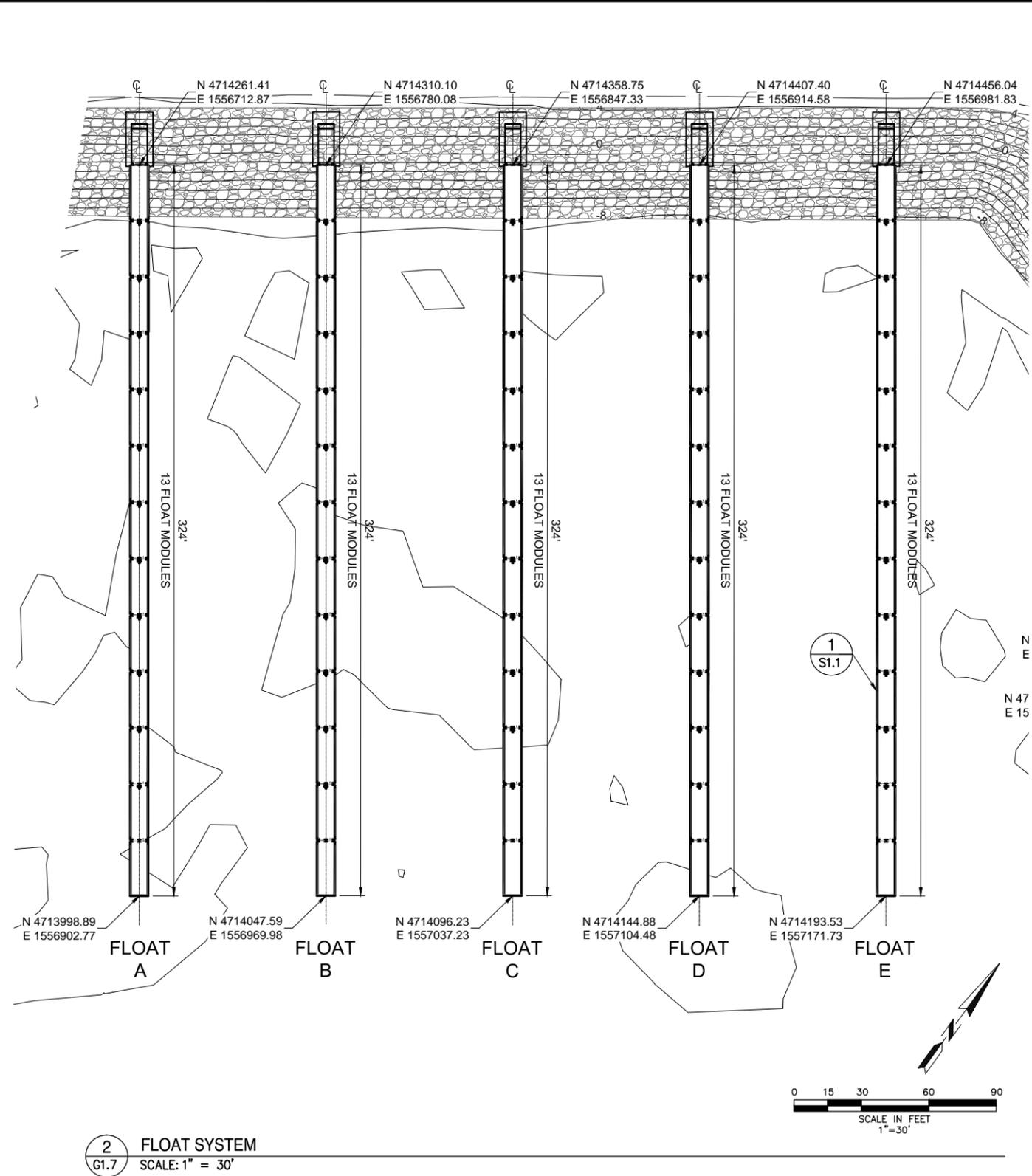
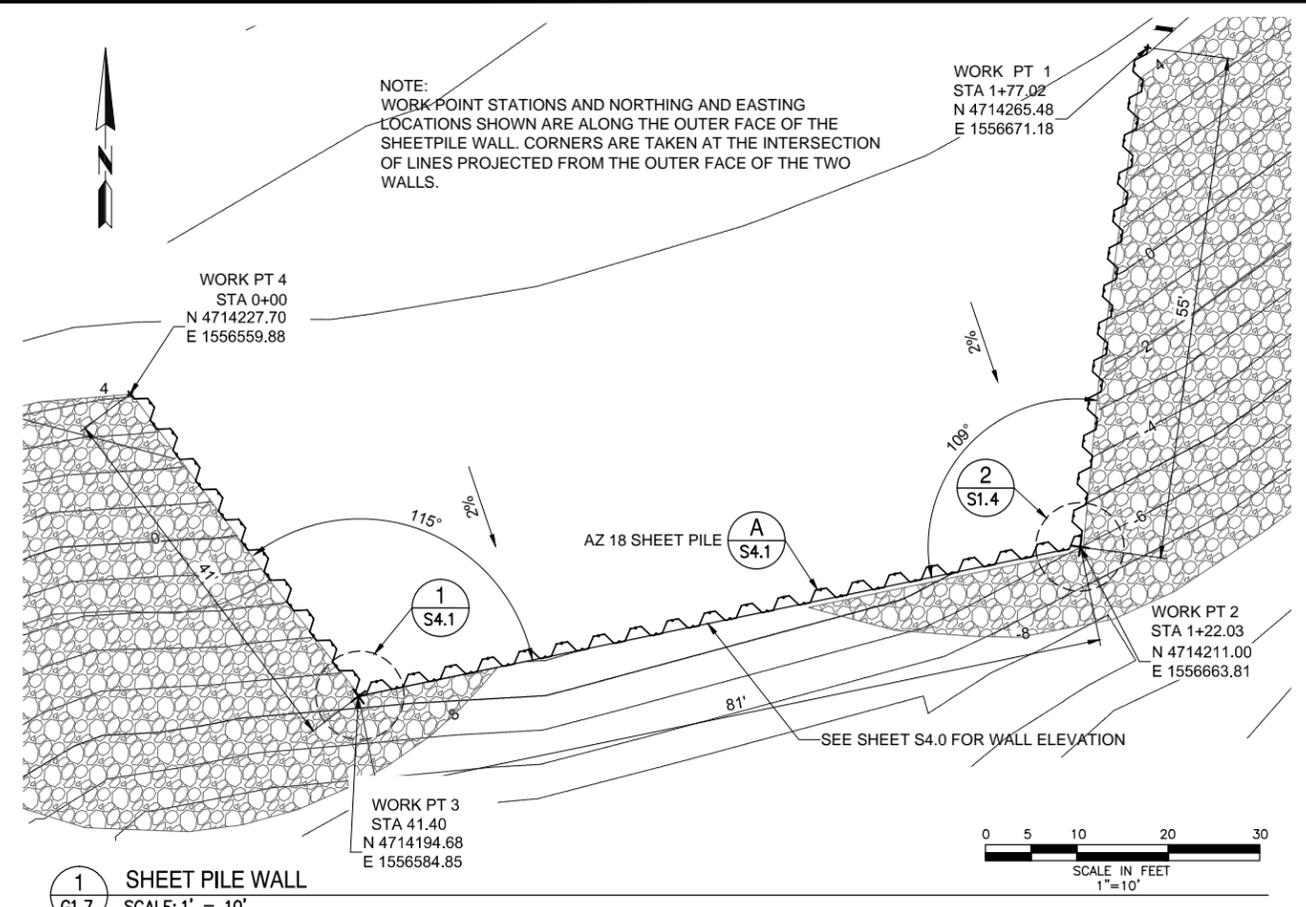
**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 273-0654  
 FAX: (907) 276-7679



NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**FLOAT SYSTEM AND SHEET PILE WALL**

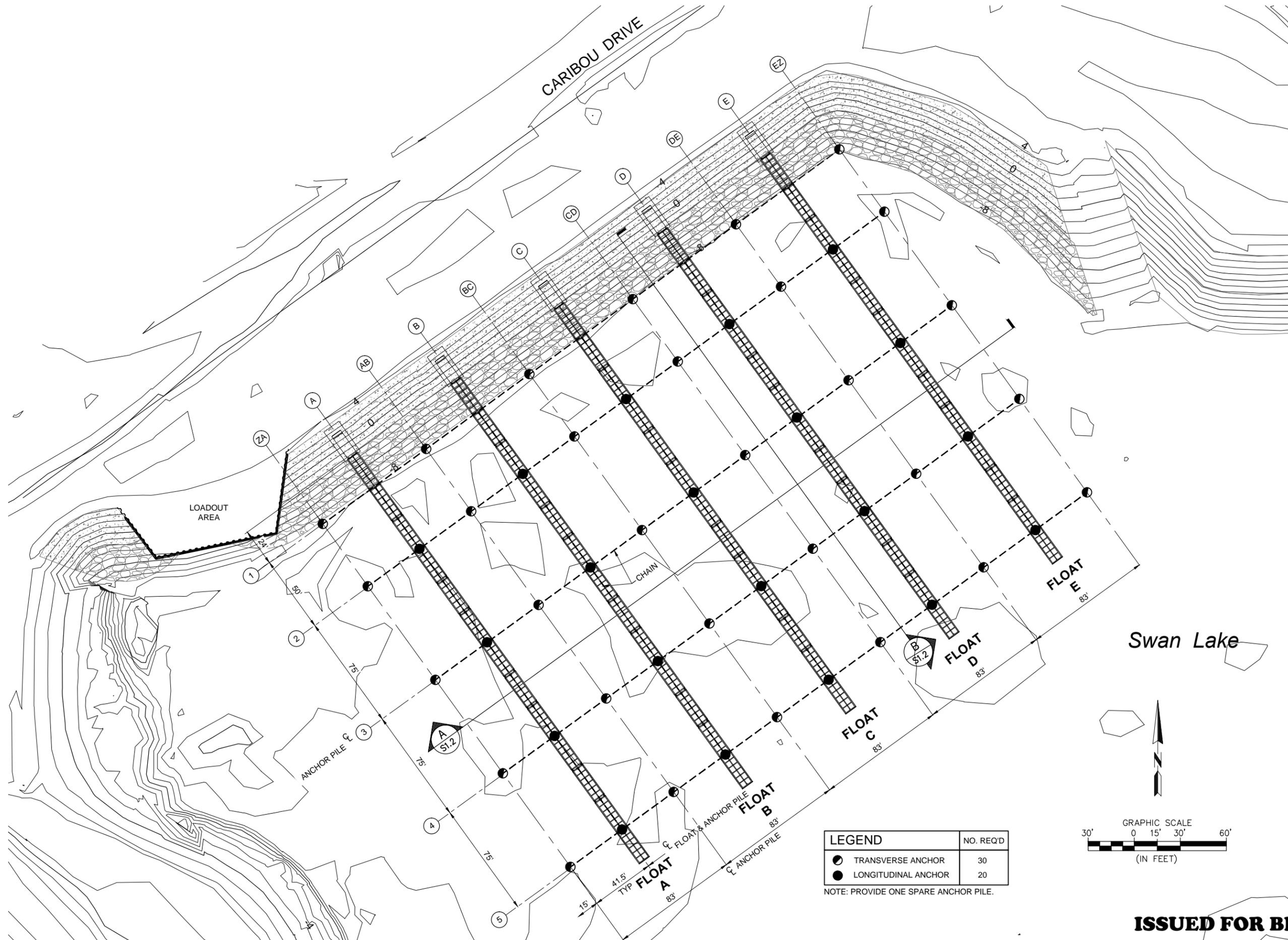
PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JDEG
DRAWN BY:	CB/BG
CHECKED BY:	EG
SHEET:	<b>G1.7</b>
PAGE:	8 OF 31



G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\401 WORKING DRAWINGS\G1.7 SHEET WALL-FLOAT-RAMP.DWG - Revised 12/30/2014 10:52:48 AM

**ISSUED FOR BID**

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\01 WORKING DRAWINGS\1.0 FLOAT LAYOUT.DWG - Revised 12/30/2014 11:19:47 AM



LEGEND		NO. REQ'D
●	TRANSVERSE ANCHOR	30
●	LONGITUDINAL ANCHOR	20

NOTE: PROVIDE ONE SPARE ANCHOR PILE.



**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 779-0650  
 FAX: (907) 276-7679



NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**FLOAT ANCHOR LAYOUT**

PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	CB/BG
CHECKED BY:	EG
SHEET:	<b>S1.0</b>
PAGE:	9 OF 31

**ISSUED FOR BID**



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 TEL: (907) 276-0650  
 FAX: (907) 276-6789

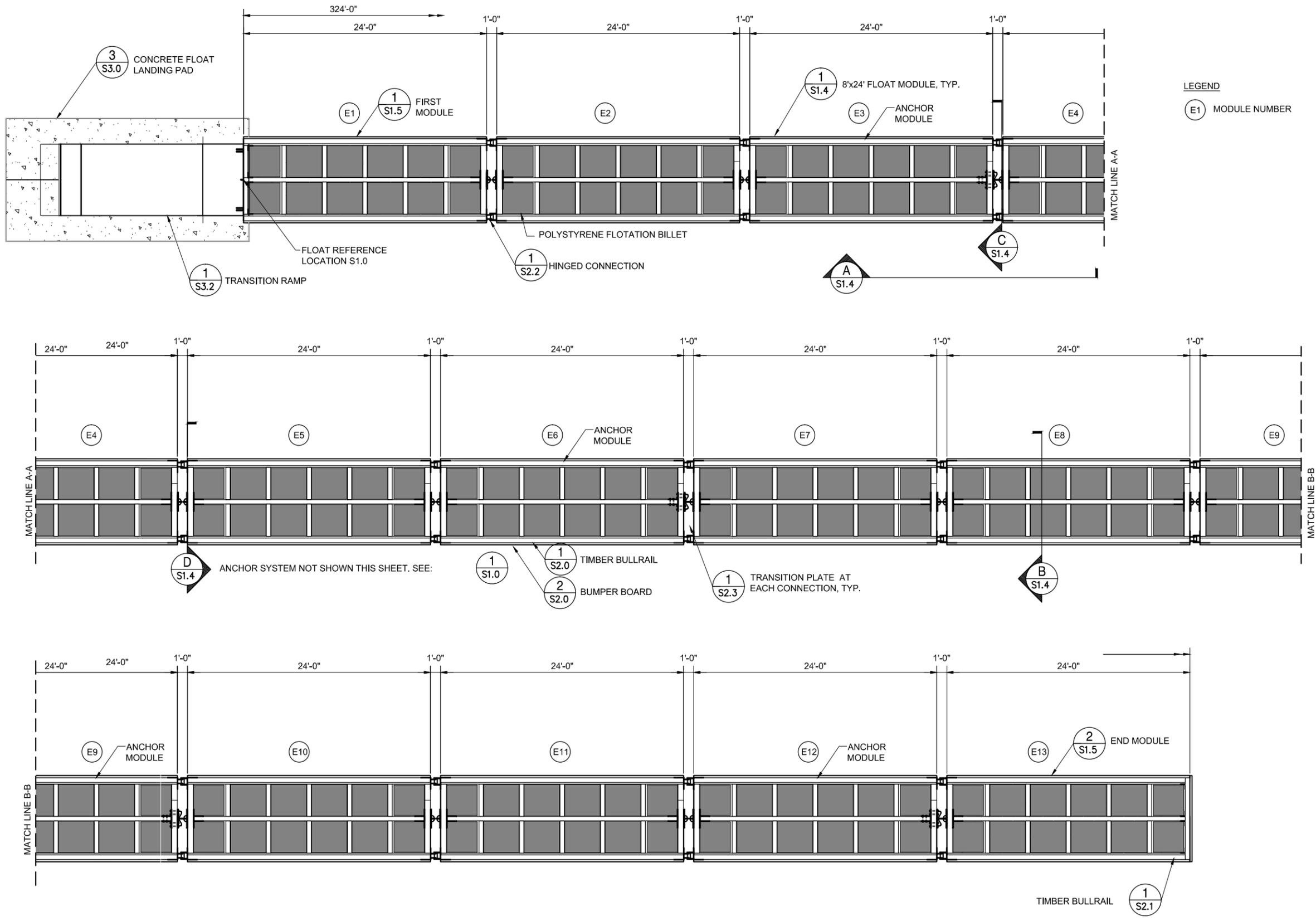


NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**TYPICAL FLOAT STRINGER LAYOUT**

PROJECT No: 26221281  
 DATE: 12/30/2014  
 DESIGNED: JD/EG  
 DRAWN BY: CB/BG  
 CHECKED BY: EG

SHEET: **S1.1**  
 PAGE: 10 OF 31



**LEGEND**  
 (E1) MODULE NUMBER

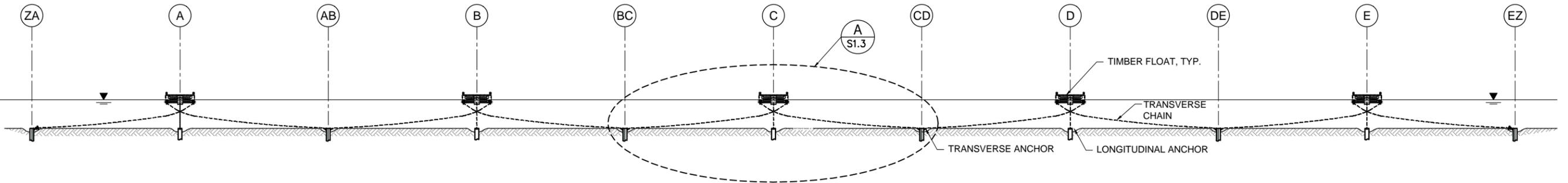
**1** TYPICAL MODULE LAYOUT. "E" FLOAT SHOWN, OTHERS SIMILAR  
 SCALE: 0' 2.5' 5' 10' 15'  
 SCALE IN FEET

**ISSUED FOR BID**

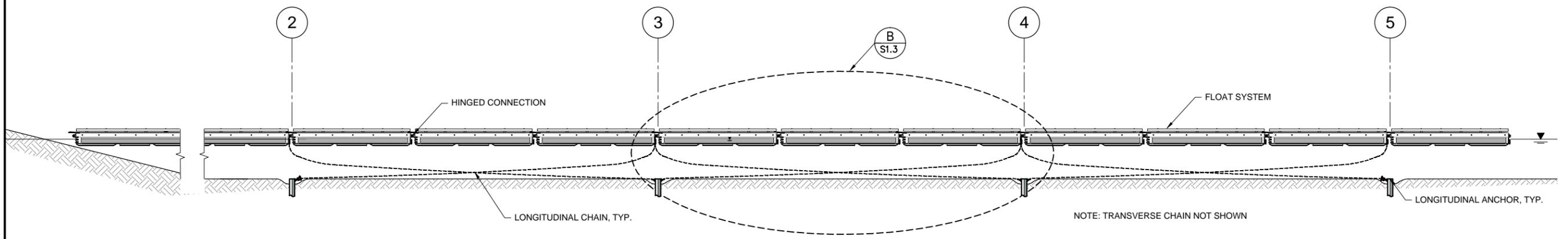
G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\401 WORKING DRAWINGS\11 STRINGER LAYOUT.DWG - R:\rev\12/30/2014 10:54:13 AM



**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 276-0654  
 FAX: (907) 276-7679



**A**  
 S1.2 TYPICAL TRANSVERSE SECTION  
 SCALE: 1" = 15'



**B**  
 S1.2 TYPICAL LONGITUDINAL SECTION  
 SCALE: 1" = 10'

NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**FLOAT ANCHOR SECTIONS**

PROJECT NO: 26221281  
 DATE: 12/30/2014  
 DESIGNED: JD/EG  
 DRAWN BY: CB/BG  
 CHECKED BY: EG

SHEET: **S1.2**  
 PAGE: 11 OF 31

**ISSUED FOR BID**

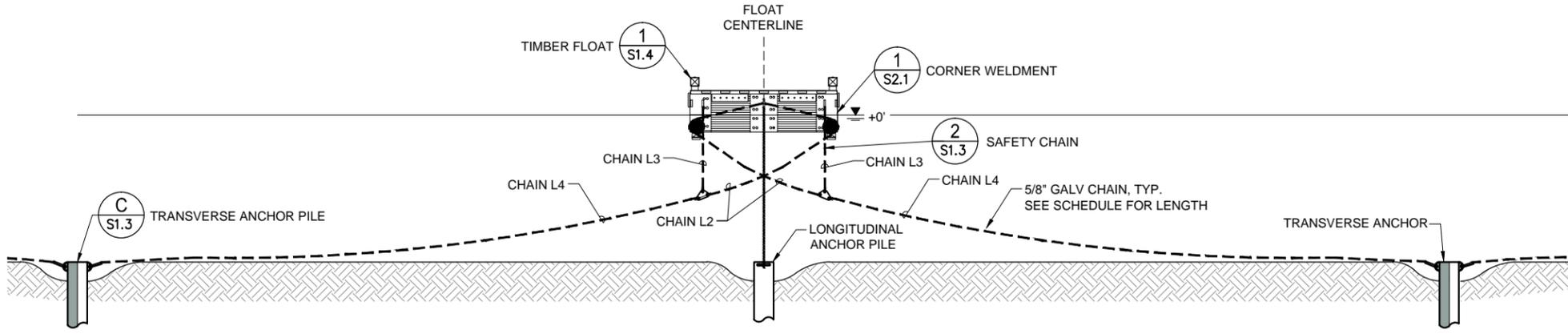
G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\401 WORKING DRAWINGS\S1.2\S1.3\_ANCHOR DET.DWG - Revised 12/02/2014 10:44:51 AM



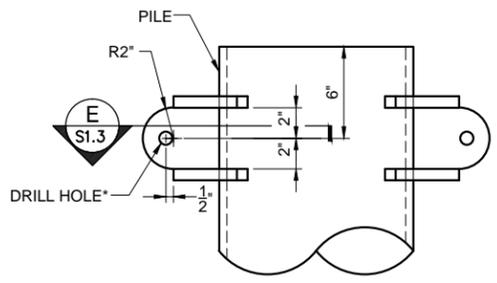
**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 779-0650  
 FAX: (907) 276-7679



NO.	BY	DATE	DESCRIPTION

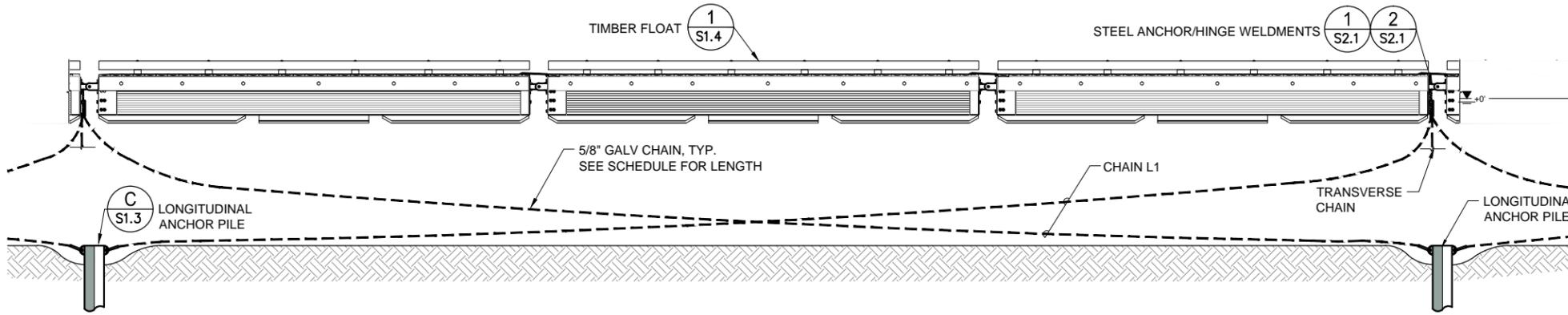


**A** TYPICAL TRANSVERSE SECTION  
 S1.3 SCALE: 1/4" = 1'-0"

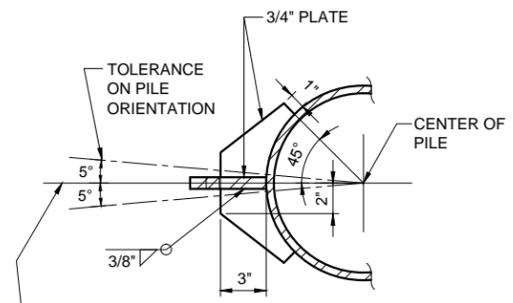


\* HOLE SIZE TO BE COORDINATED WITH SHACKLE

**D** CONNECTION AT TOP OF ANCHOR PILE  
 S1.3 SCALE: 2 = 1'-0"



**B** TYPICAL LONGITUDINAL SECTION  
 S1.3 SCALE: 1/4" = 1'-0"

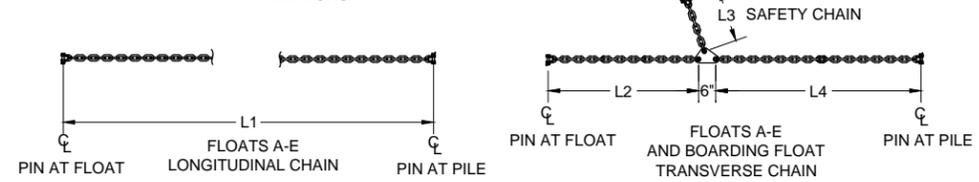


DESIGN CHAIN ALIGNMENT FOR LONGITUDINAL ANCHORS IS PARALLEL TO FLOAT  $\phi$ . FOR TRAVERSE ANCHORS, DESIGN CHAIN ALIGNMENT IS PERPENDICULAR TO FLOAT  $\phi$ .

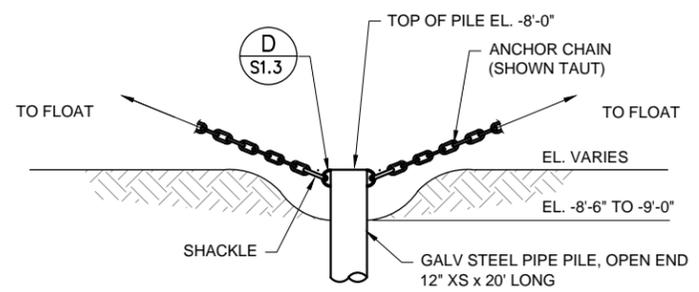
**E** CONNECTION AT TOP OF ANCHOR PILE  
 S1.3 SCALE: 2 = 1'-0"

CHAIN LENGTH SCHEDULE					
LOCATION		LENGTH			
		L1	L2	L3	L4
FLOATS A-E	TRANSVERSE	-	11.66'	3.53'	40.20'
	LONGITUDINAL	78.5'	-	-	-
BOARDING FLOAT	TRANSVERSE	-	11.66'	3.95'	34.57'

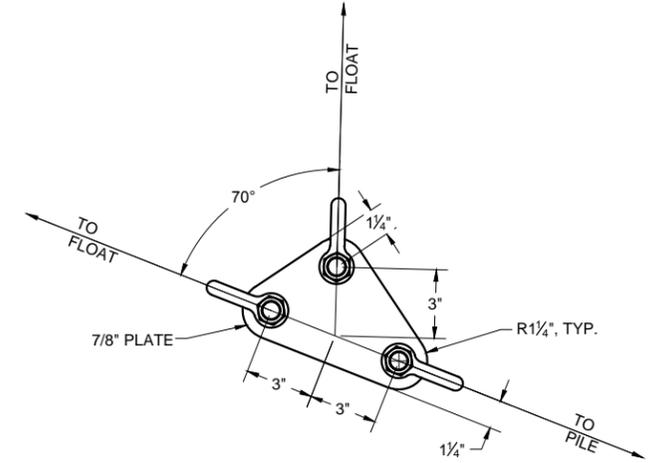
NOTE:  
 CHAIN LENGTHS L1, AND L4 ARE APPROXIMATE. SEE GENERAL NOTES FOR FINAL CUTTING LENGTHS. PROVIDE AT LEAST TWO PERCENT MORE CHAIN THAN SCHEDULED TO ALLOW FOR VARIATIONS.



**1** CHAIN SCHEDULE  
 S1.3 SCALE: N.T.S.



**C** DRIVEN ANCHOR PILE  
 S1.3 SCALE: N.T.S. = 1'-0"



**2** SAFETY CHAIN PLATE  
 S1.3 SCALE: N.T.S.

**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**FLOAT ANCHOR SECTIONS AND DETAILS**

PROJECT NO: 26221281  
 DATE: 12/30/2014  
 DESIGNED: JDEG  
 DRAWN BY: CB/BG  
 CHECKED BY: EG

SHEET: **S1.3**  
 PAGE: 12 OF 31

**ISSUED FOR BID**

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\501 WORKING DRAWINGS\51.2\51.3\_ANCHOR DET.DWG - Revised 12/30/2014 10:44:51 AM



**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 276-0655  
 FAX: (907) 276-7679

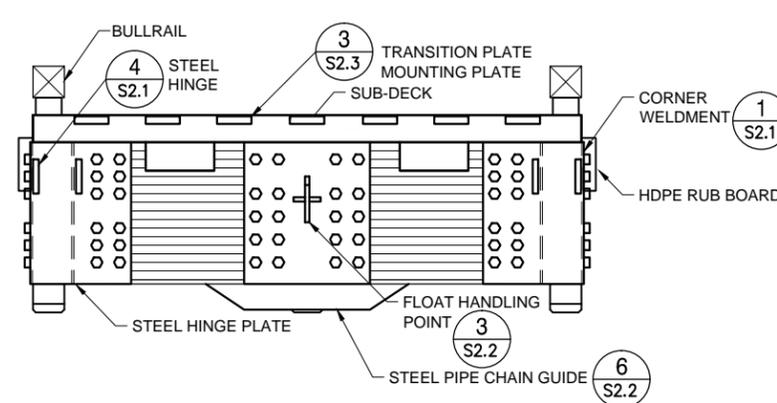
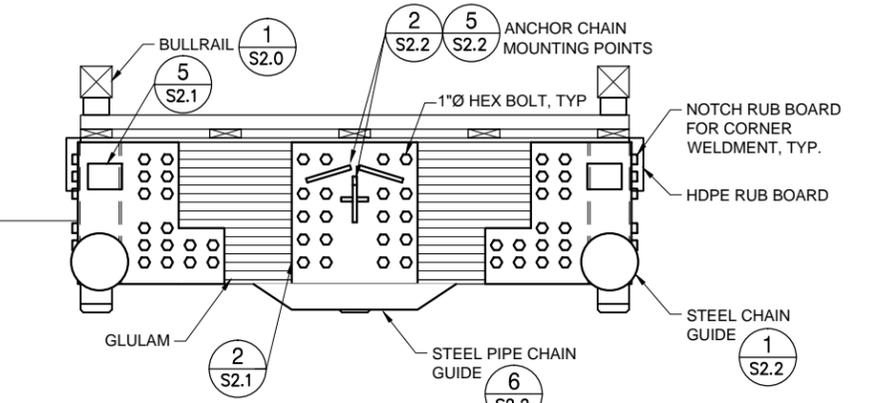
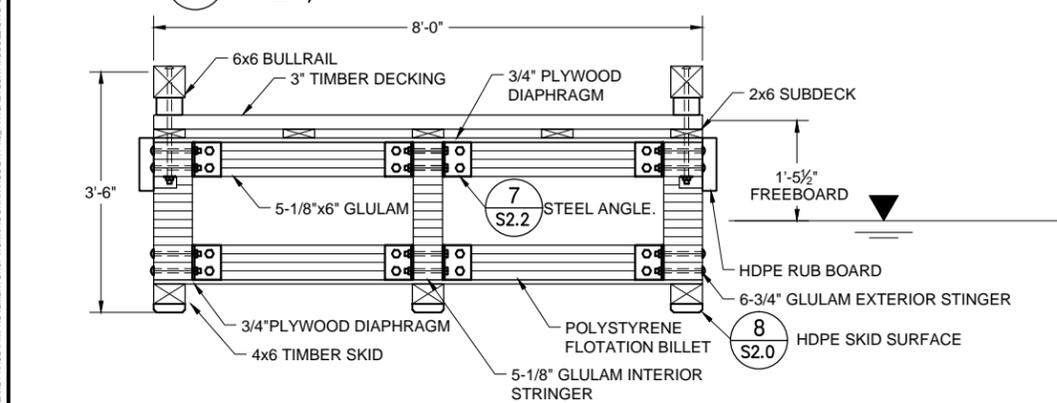
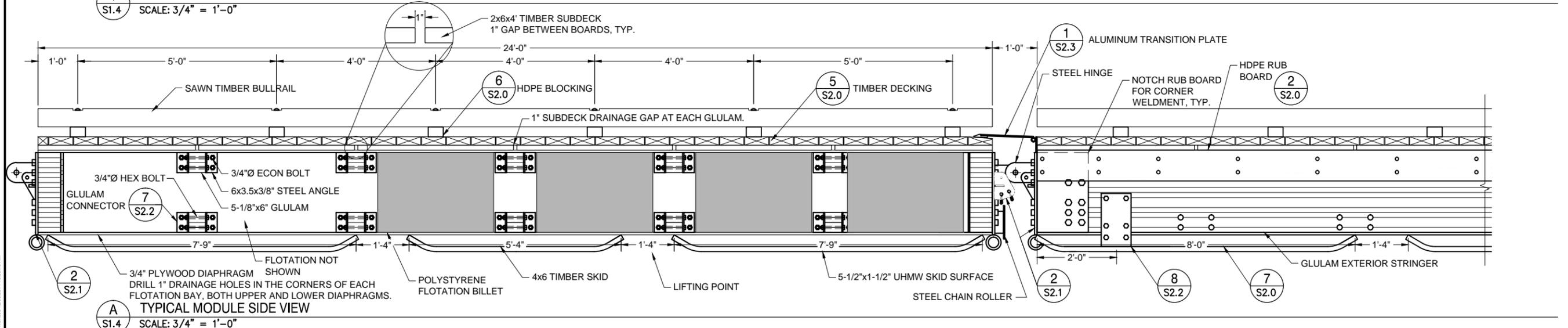
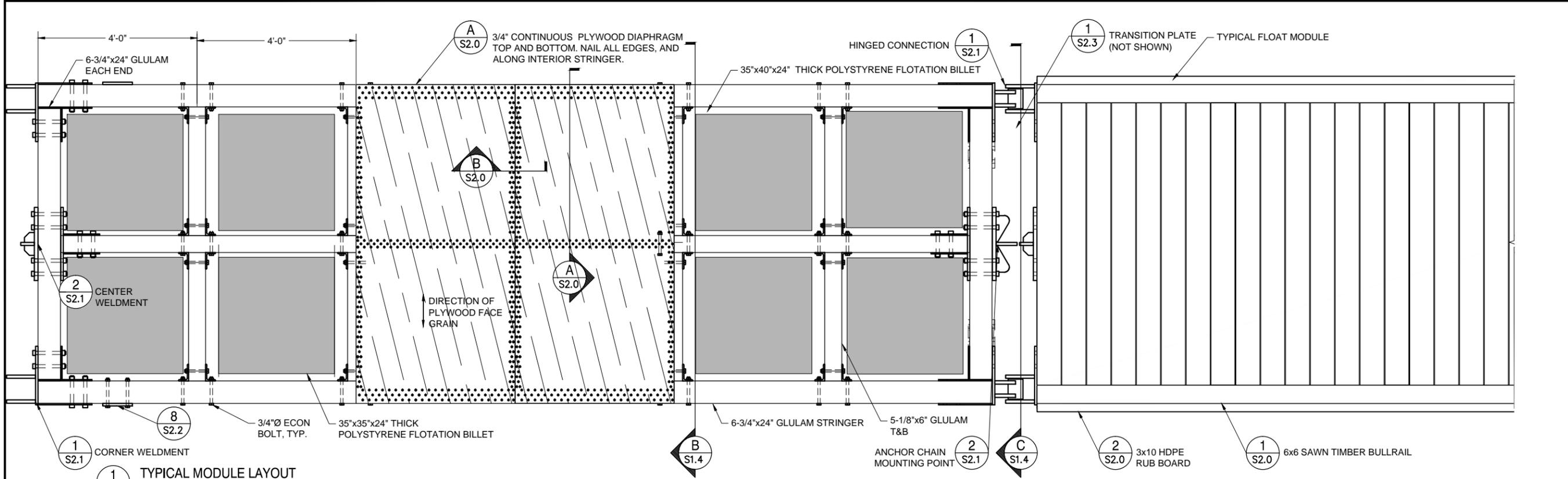


NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**TYPICAL FLOAT LAYOUT**

PROJECT NO: 26221281  
 DATE: 12/30/2014  
 DESIGNED: JD/EG  
 DRAWN BY: CB/BG  
 CHECKED BY: EG

SHEET: **S1.4**  
 PAGE: 13 OF 31



**ISSUED FOR BID**

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\1-4-16 TYPICAL FLOAT MODULE.DWG - Revised 12/30/2014 10:56:19 AM



**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 779-6500  
 FAX: (907) 276-7679

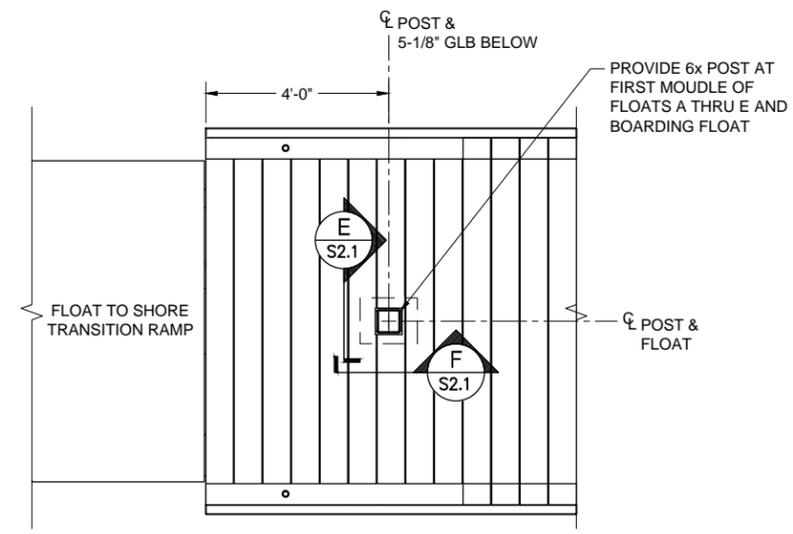


NO.	BY	DATE	DESCRIPTION

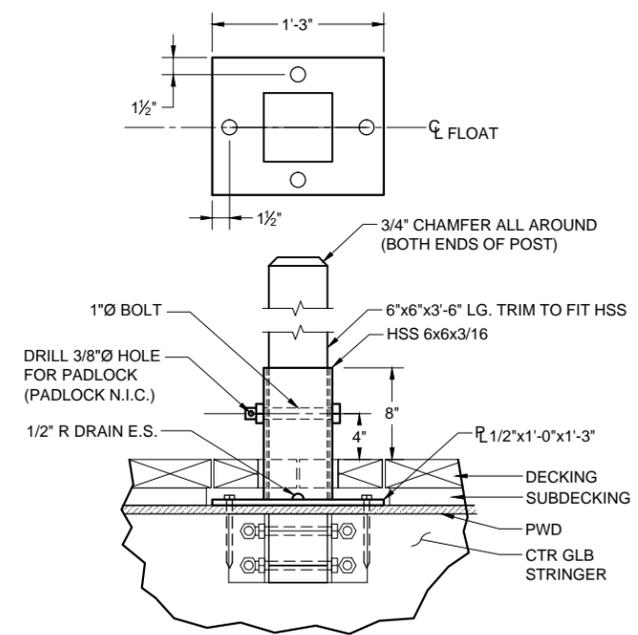
CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**FIRST AND END FLOAT DETAILS**

PROJECT No: 26221281  
 DATE: 12/30/2014  
 DESIGNED: JDEG  
 DRAWN BY: CB/BG  
 CHECKED BY: EG

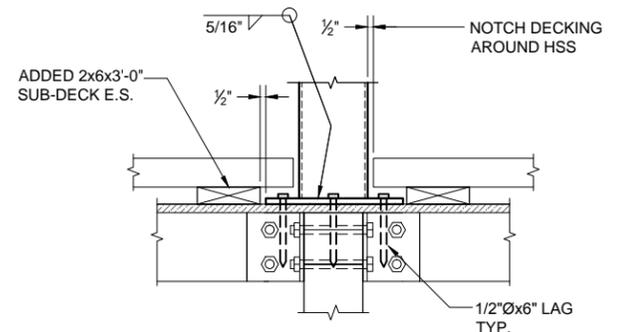
SHEET: **S1.5**  
 PAGE: 14 OF 31



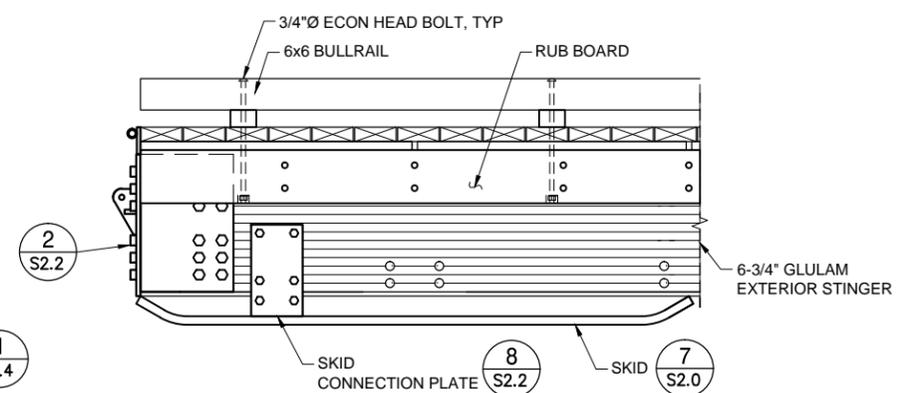
**3** POST PLAN  
 S1.5 SCALE: 1/2" = 1'-0"



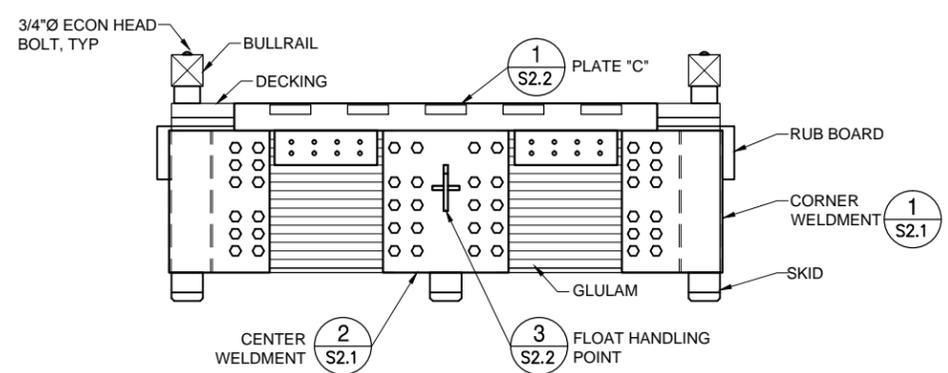
**E** SECTION A-A  
 S1.5 SCALE: 1-1/2" = 1'-0"



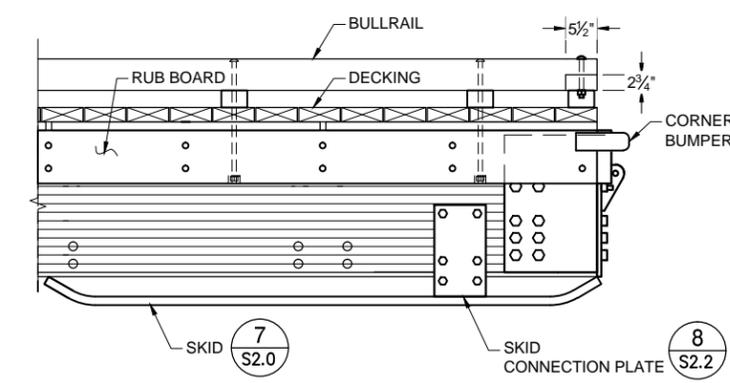
**F** SECTION B-B  
 S1.5 SCALE: 1-1/2" = 1'-0"



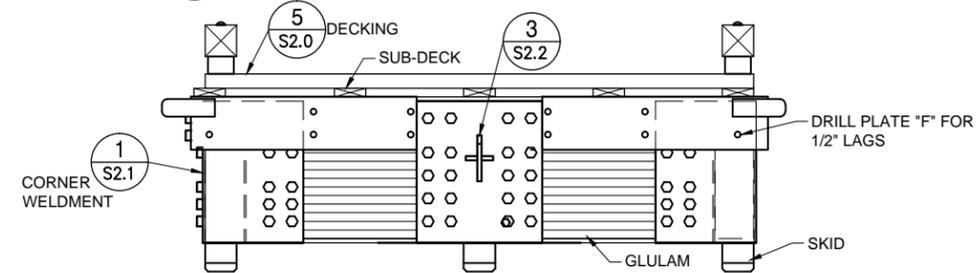
**A** FIRST FLOAT ELEVATION  
 S1.5 SCALE: 3/4" = 1'-0"



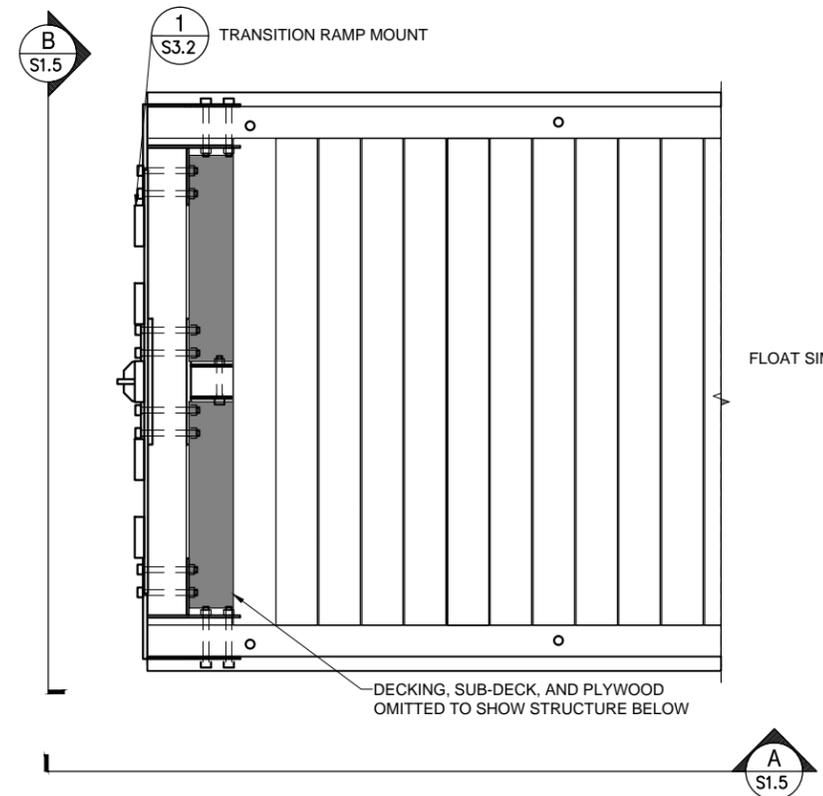
**B** FIRST FLOAT ELEVATION  
 S1.5 SCALE: 3/4" = 1'-0"



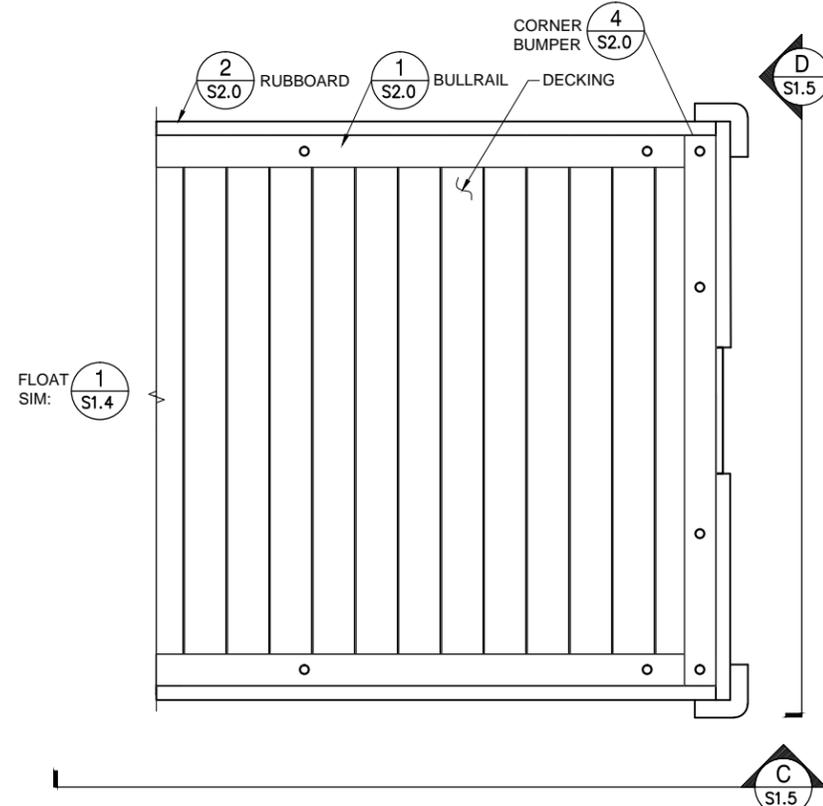
**C** END FLOAT ELEVATION  
 S1.5 SCALE: 3/4" = 1'-0"



**D** END FLOAT ELEVATION  
 S1.5 SCALE: 3/4" = 1'-0"



**1** FIRST FLOAT  
 S1.5 SCALE: 3/4" = 1'-0"



**2** END FLOAT  
 S1.5 SCALE: 3/4" = 1'-0"

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\01 WORKING DRAWINGS\1-4-1-E, TYPICAL FLOAT MODULE.DWG - Revised 12/30/2014 10:06:19 AM

**ISSUED FOR BID**



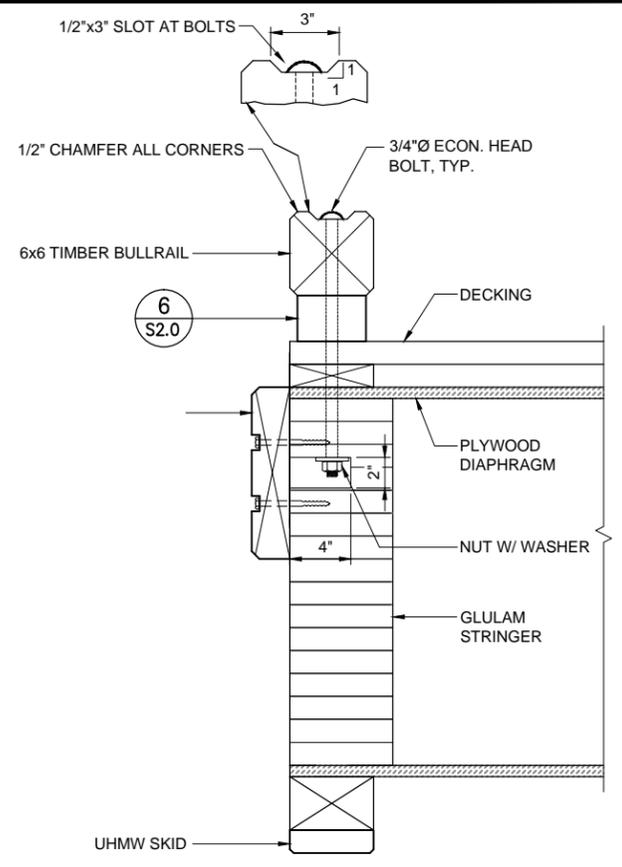
**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 276-0650  
 FAX: (907) 276-6789



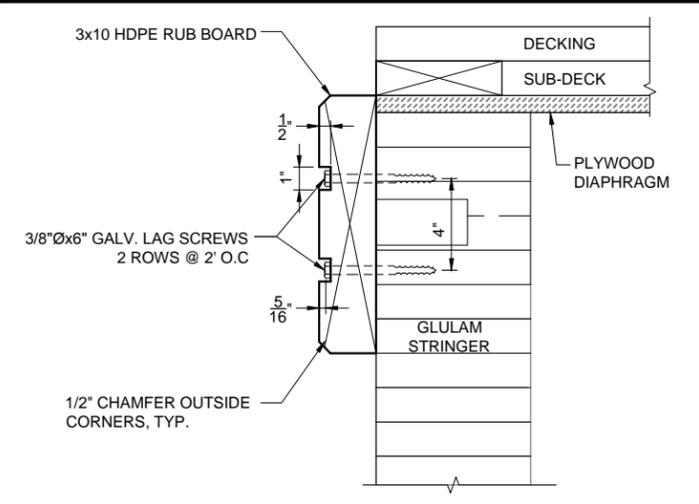
NO.	BY	DATE	DESCRIPTION

**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**FLOAT DETAILS**

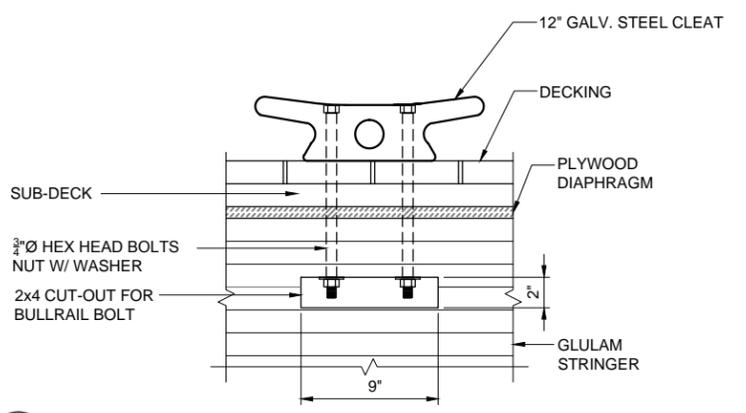
PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	CB/BG
CHECKED BY:	EG
SHEET:	<b>S2.0</b>
PAGE:	15 OF 31



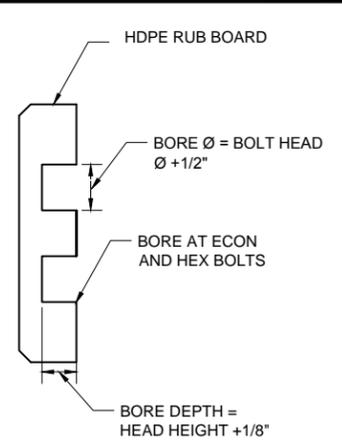
**1**  
 S2.0  
**TIMBER BULLRAIL**  
 SCALE: 2" = 1'-0"



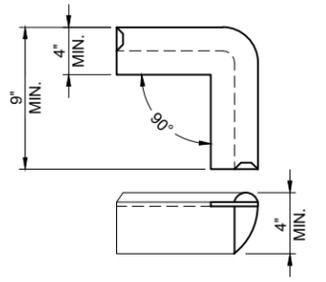
**2**  
 S2.0  
**HDPE BUMPER BOARD**  
 SCALE: 3" = 1'-0"



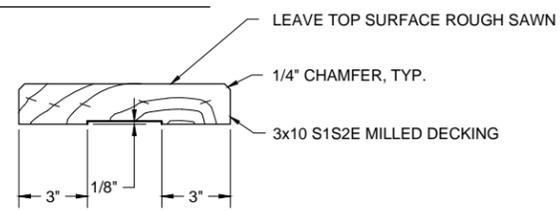
**3**  
 S2.0  
**BOARDING FLOAT CLEAT**  
 SCALE: 2" = 1'-0"



**4**  
 S2.0  
**CORNER BUMPER BOARD**  
 SCALE: NTS



NOTE:  
 FLOAT CORNER BUMPERS SHALL BE HEAVY DUTY, MARINE GRADE VINYL, RESISTANT TO UV DECAY, AND SECURED TO RUB BOARD WITH GALVANIZED SCREWS OR LAG BOLTS.

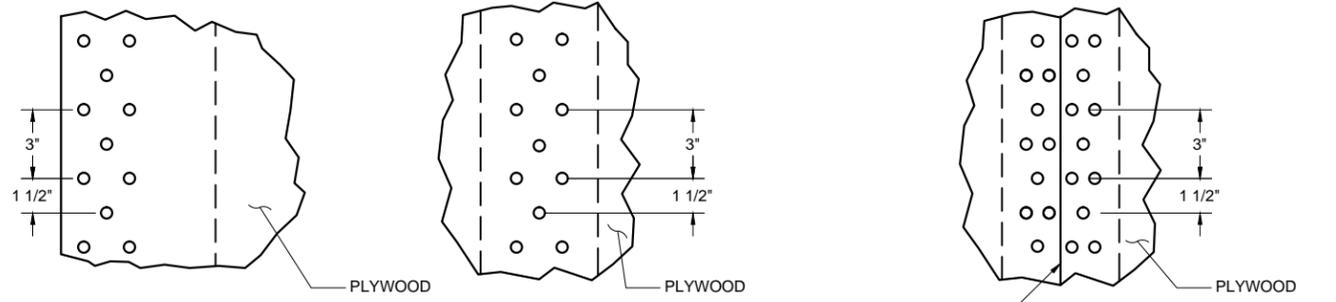


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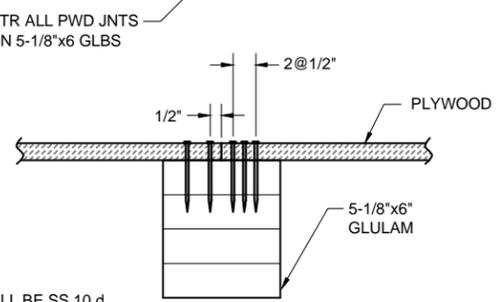
- MILL S1S2E ROUGH SIDE UP. MILLED SIDE SHALL BE TOWARDS THE CENTER OF THE TREE.
- DECKING SHALL BE SPACED 1/4" APART AND SECURED WITH 3 EA. 60d 0.200" Øx6" L GALVANIZED SPIRAL NAILS AT EACH STRINGER. PREDRILL TYP.
- FLOATS HAVE AN ANGLED DECK BOARD ON ONE END TO ACCOMMODATE THE TRANSITION PLATE. SEE DETAIL 5/S2.3

**5**  
 S2.0  
**TYPICAL TIMBER DECKING**  
 SCALE: 3" = 1'-0"

**6**  
 S2.0  
**BULLRAIL BLOCKING**  
 SCALE: 3" = 1'-0"

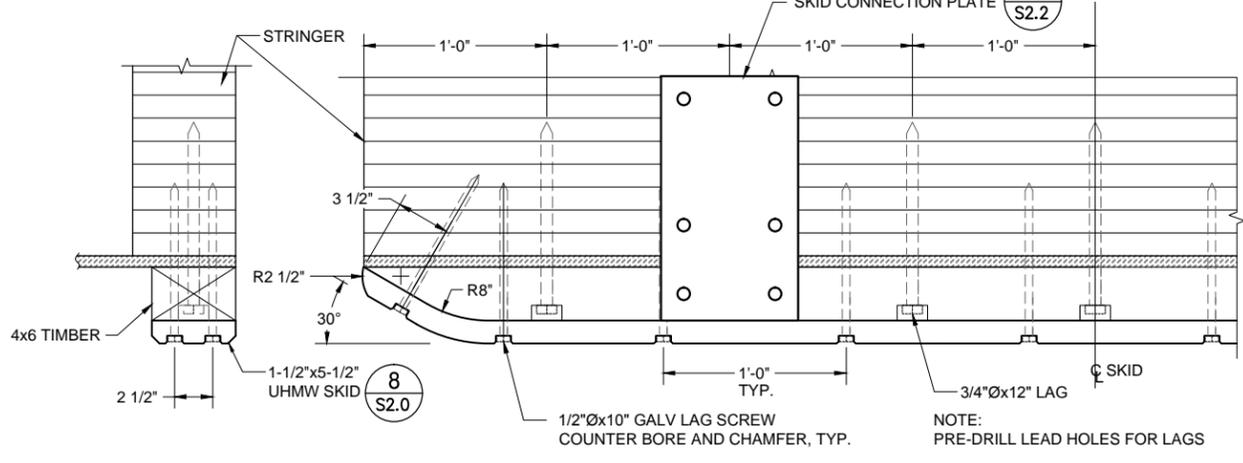


**A**  
 S2.0  
**PLYWOOD NAILING**  
 SCALE: 3" = 1'-0"

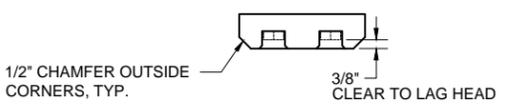


**B**  
 S2.0  
**PLYWOOD NAILING AT JOINT**  
 SCALE: 3" = 1'-0"

NOTE:  
 1. ALL NAIL ROWS SHALL BE SS 10 d COMMON AT 3" O.C, STAGGERED.  
 2. PRE-DRILL PLYWOOD AND GLB IF NEEDED TO PREVENT SPLITTING MAX 7/64" Ø.  
 3. STAGGER ROWS AS SHOWN.  
 4. USE THREE ROWS (SHOWN) AT ALL GLULAMS EXCEPT USE FOUR ROWS AT END GLULAMS AND WITHIN FOUR FEET OF ENDS OF SIDE AND CENTER STRINGERS.



**7**  
 S2.0  
**TIMBER SKID DETAIL**  
 SCALE: 2" = 1'-0"

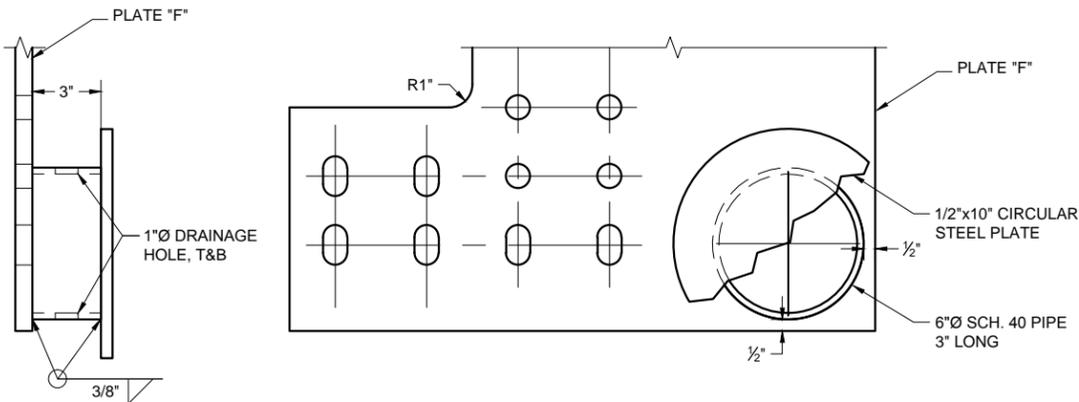


**8**  
 S2.0  
**UHMW SKID DETAIL**  
 SCALE: 2" = 1'-0"

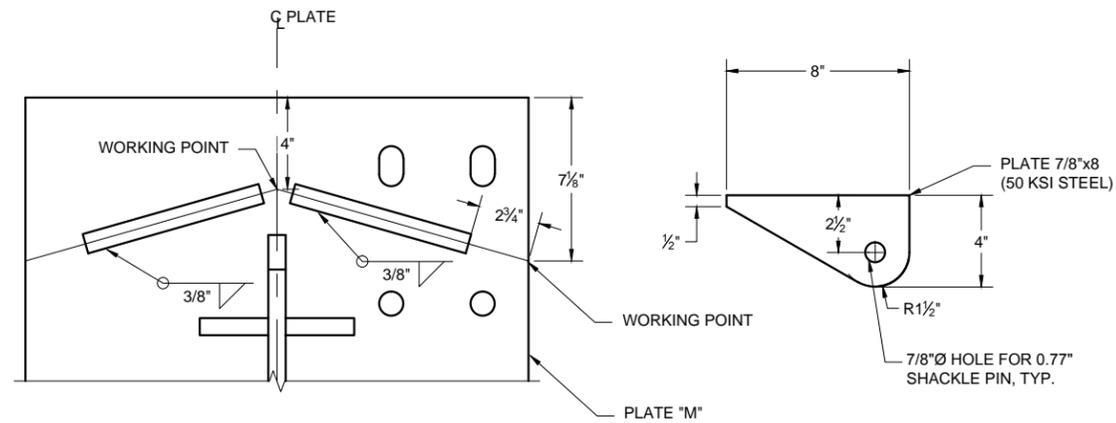
**ISSUED FOR BID**

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\401 WORKING DRAWINGS\S2.0 - FLOAT DETAILS.DWG - Revised 12/30/2014 10:56:47 AM

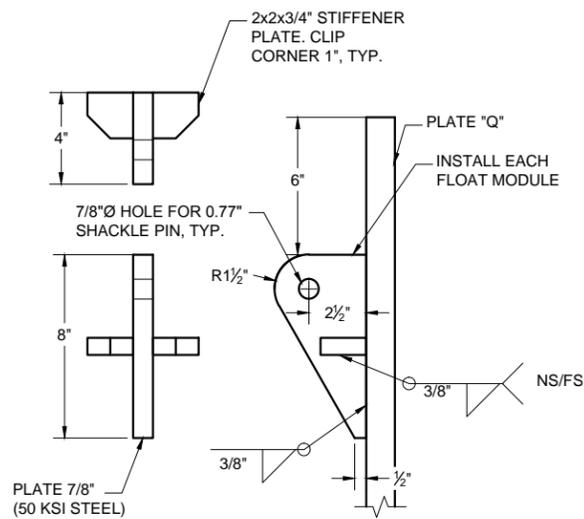




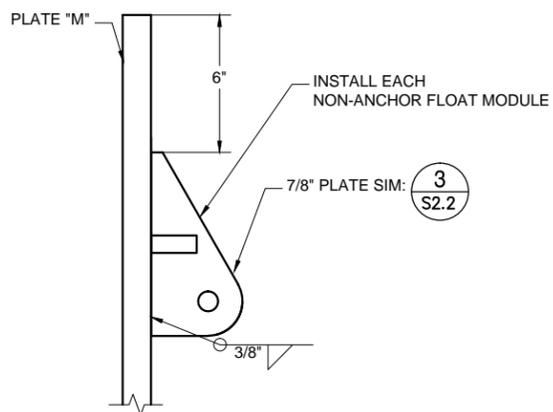
1 ANCHOR CHAIN GUIDE  
S2.2 SCALE: 3" = 1'-0"



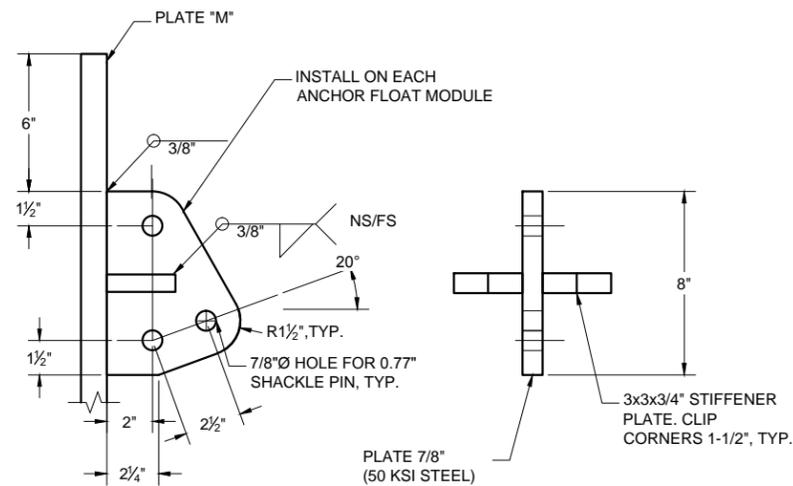
2 TRANSVERSE ANCHOR CHAIN MOUNTING PLATE  
S2.2 SCALE: 3" = 1'-0"



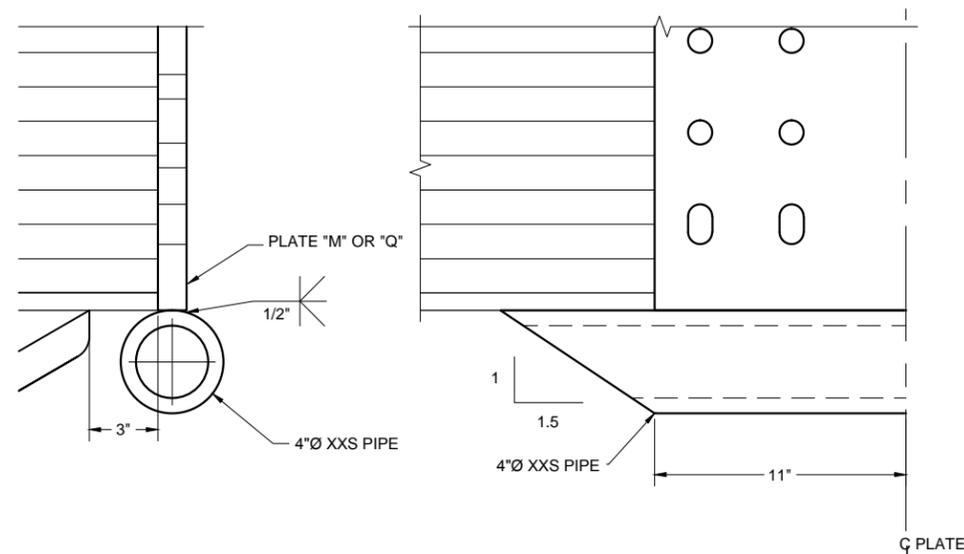
3 HANDLING POINT PLATE  
S2.2 SCALE: 3" = 1'-0"



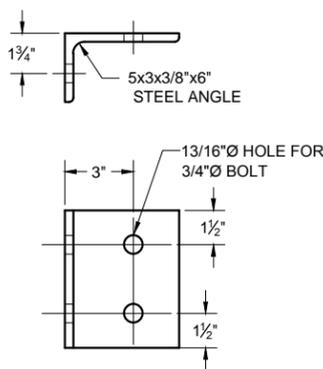
4 HANDLING POINT PLATE  
S2.2 SCALE: 3" = 1'-0"



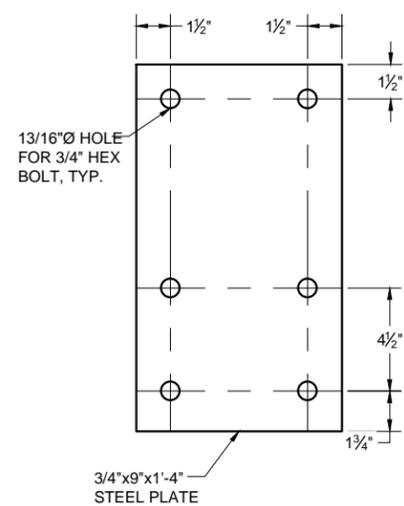
5 LONGITUDINAL ANCHOR CHAIN MOUNTING PLATE AND HANDLING POINT  
S2.2 SCALE: 3" = 1'-0"



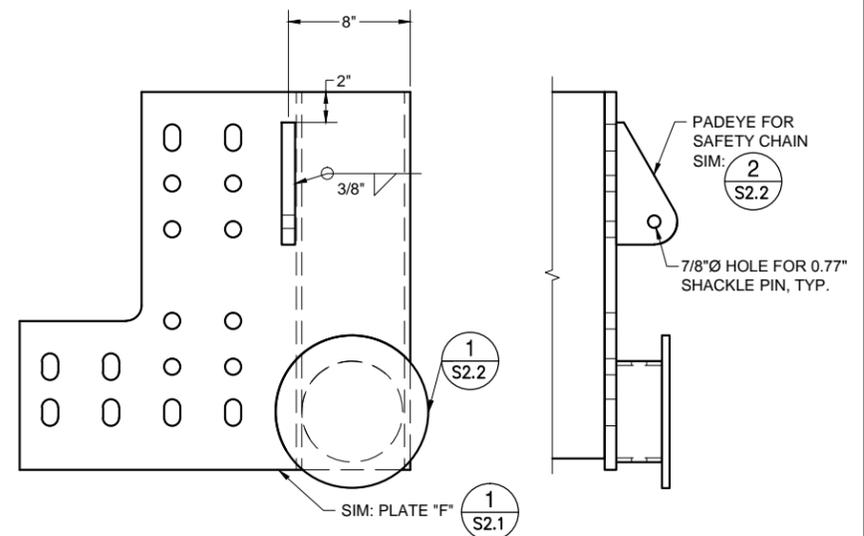
6 LONGITUDINAL ANCHOR CHAIN MOUNTING PLATE  
S2.2 SCALE: 3" = 1'-0"



7 GLULAM CONNECTOR  
S2.2 SCALE: 3" = 1'-0"



8 SKID CONNECTION PLATE  
S2.2 SCALE: 3" = 1'-0"



9 CORNER WELDMENT FOR BOARDING FLOAT END MODULE  
S2.2 SCALE: 2" = 1'-0"



**URS**  
700 G STREET, SUITE 600  
ANCHORAGE, ALASKA 99501  
TEL: (907) 779-6500  
FAX: (907) 276-6779



NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
KOTZEBUE, AK

PROJECT No: 26221281  
DATE: 12/30/2014  
DESIGNED: JD/EG  
DRAWN BY: CB/BG  
CHECKED BY: EG  
SHEET: **S2.2**  
PAGE: 17 OF 31

**ISSUED FOR BID**

G:\PROJECTS\26221281 SWAN LAKE HARBOR FACILITY IMPROVEMENTS\401 WORKING DRAWINGS\S2.1\S2.2\_CONN DETAILS.DWG - Revised 12/30/2014 10:56:49 AM



**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 779-0650  
 FAX: (907) 276-7679

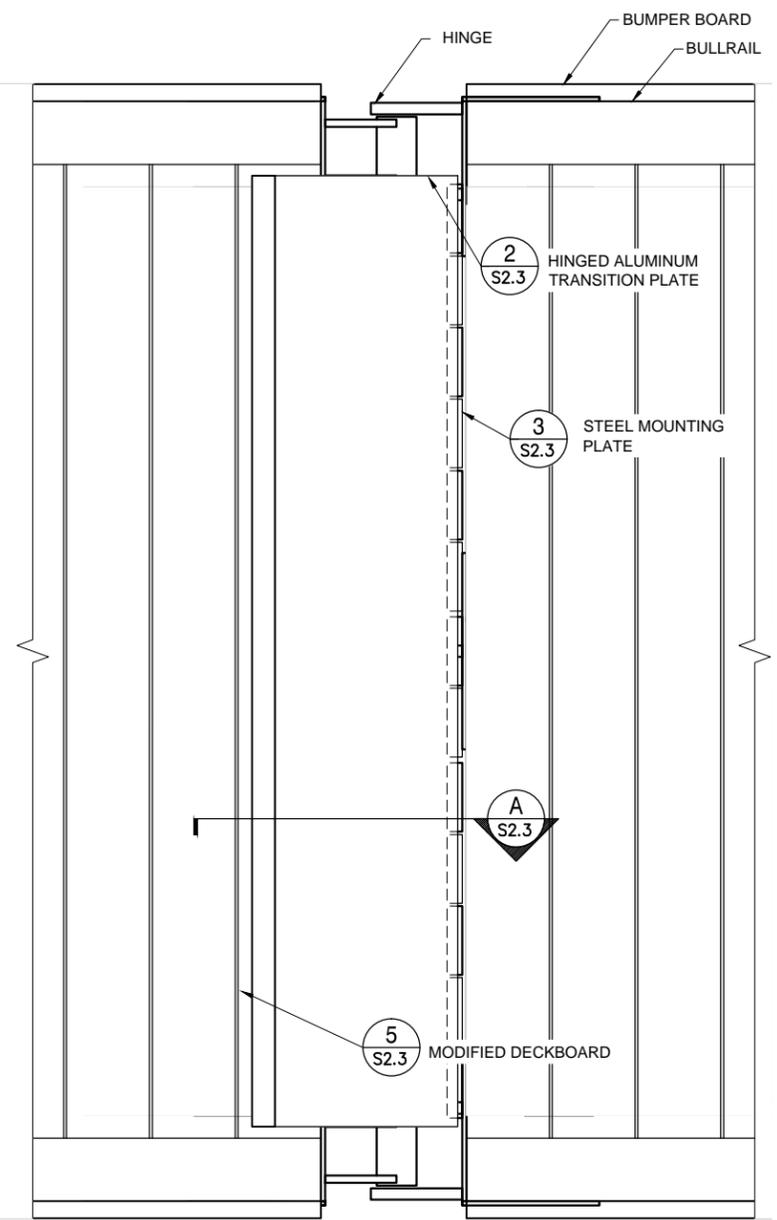


NO.	BY	DATE	DESCRIPTION

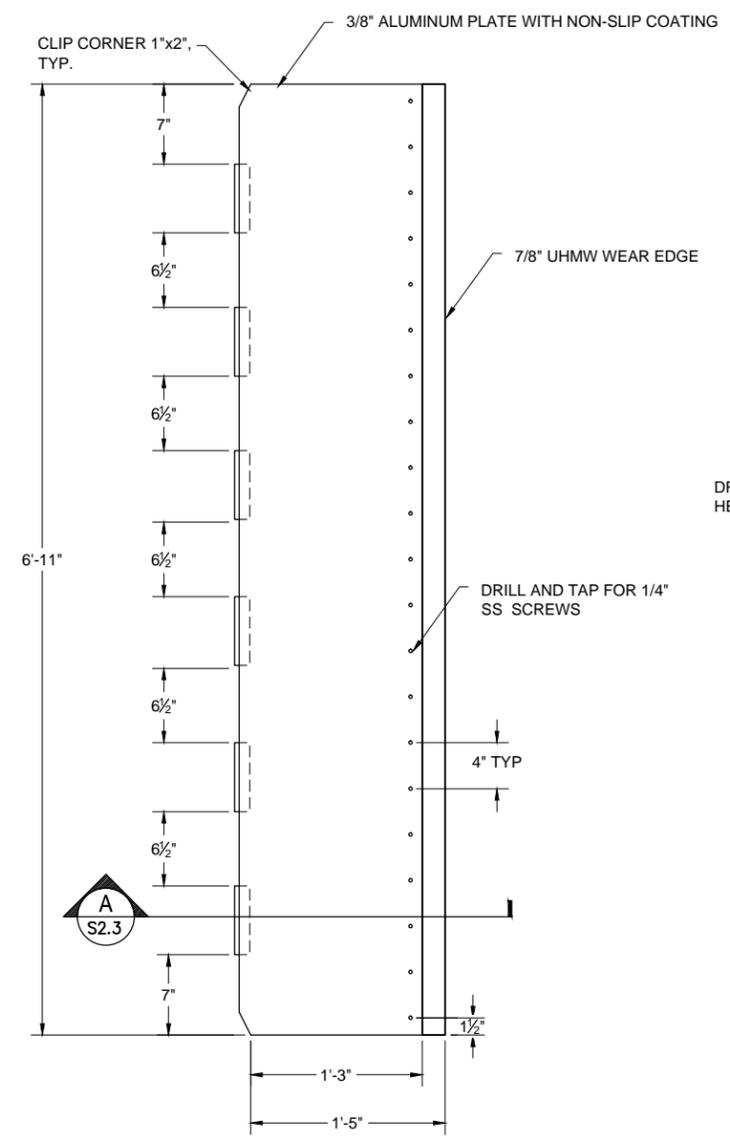
CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK

**FLOAT CONNECTION DETAILS (3 OF 3)**

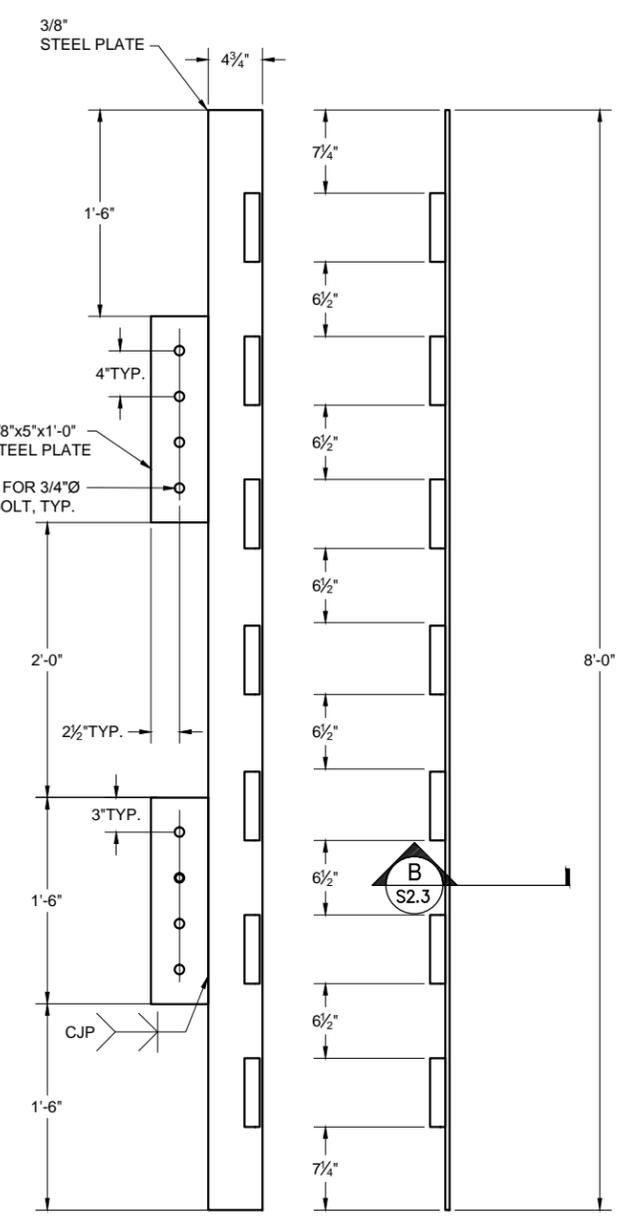
PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	CB/BG
CHECKED BY:	EG
SHEET:	<b>S2.3</b>
PAGE:	18 OF 31



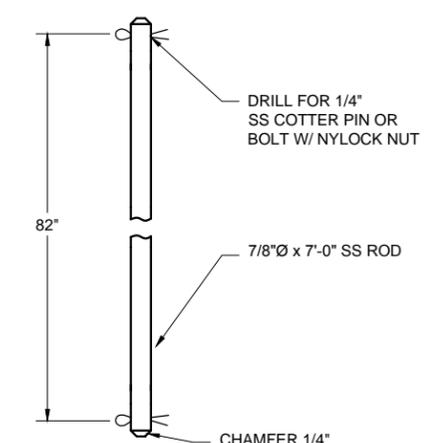
**1**  
 S2.3  
 TRANSITION PLATE PLAN  
 SCALE: 1-1/2" = 1'-0"



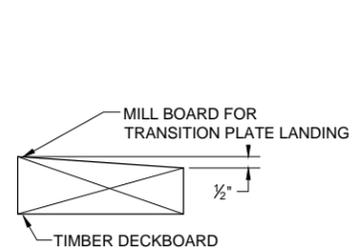
**2**  
 S2.3  
 TRANSITION PLATE DETAIL  
 SCALE: 1-1/2" = 1'-0"



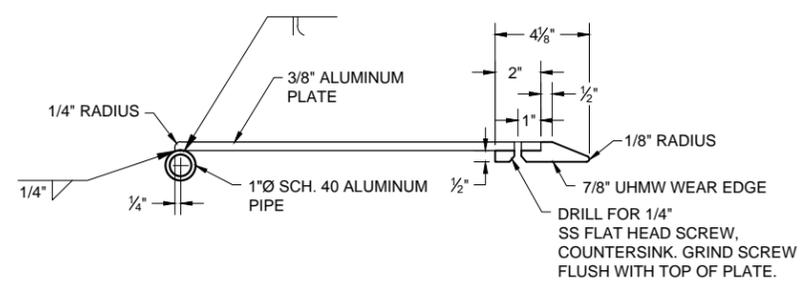
**3**  
 S2.3  
 MOUNTING PLATE DETAIL  
 SCALE: 1-1/2" = 1'-0"



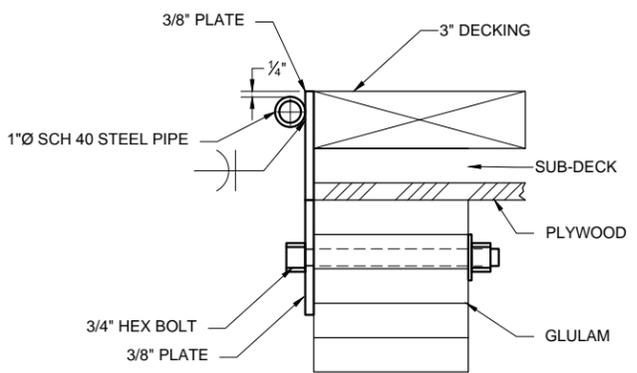
**4**  
 S2.3  
 HINGE PIN  
 SCALE: 3" = 1'-0"



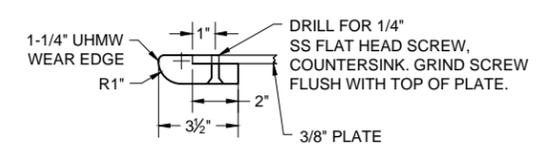
**5**  
 S2.3  
 MODIFIED DECKBOARD  
 SCALE: 3" = 1'-0"



**A**  
 S2.3  
 TRANSITION PLATE SECTION  
 SCALE: 3" = 1'-0"



**B**  
 S2.3  
 MOUNTING PLATE SECTION  
 SCALE: 3" = 1'-0"



**C**  
 S2.3  
 ACCESS RAMP WEAR EDGE  
 SCALE: 3" = 1'-0"

**ISSUED FOR BID**

G:\PROJECTS\26221281 SWAN LAKE HARBOR FACILITY IMPROVEMENTS\1524\_CONNDETAILS.DWG - Revised 12/30/2014 10:56:49 AM



**URS**  
 700 G STREET, SUITE 500  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 779-0659  
 FAX: (907) 276-7679

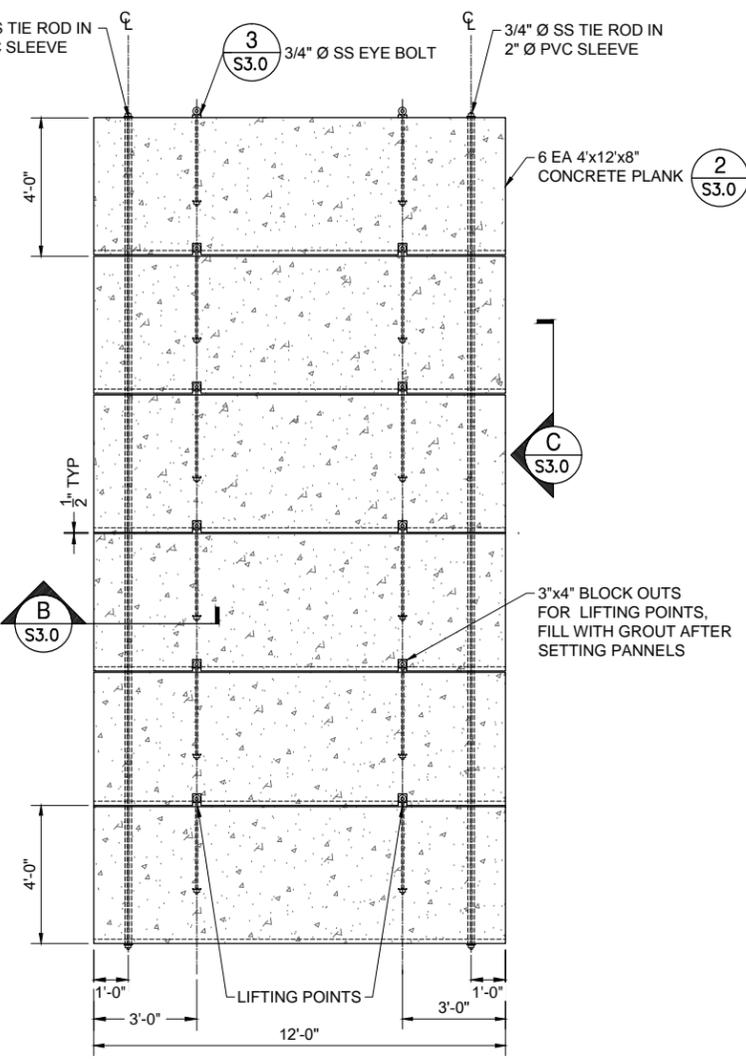


NO.	BY	DATE	DESCRIPTION

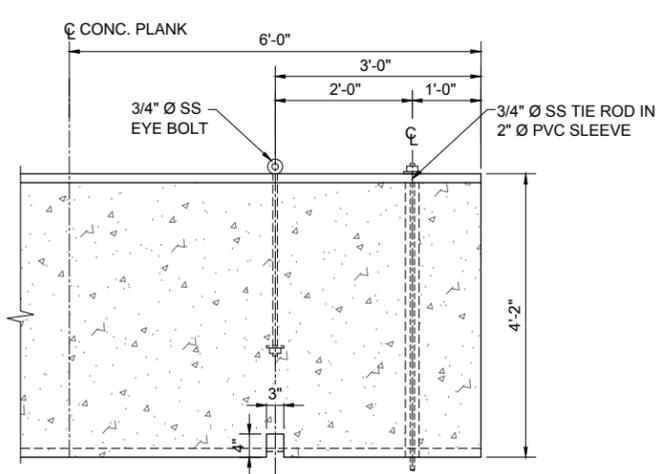
CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**CONCRETE LANDING PAD**

PROJECT No:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	BG
CHECKED BY:	EG
SHEET:	<b>S3.0</b>
PAGE:	19 OF 31

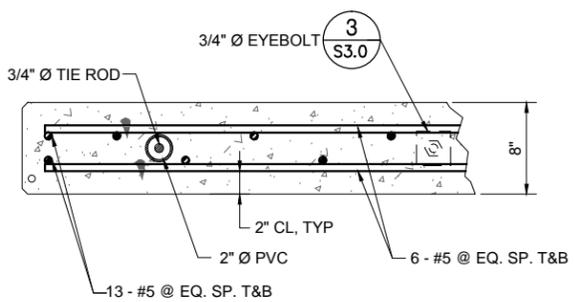
**ISSUED FOR BID**



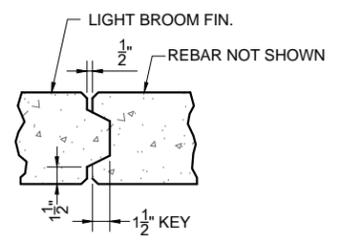
**1** CONCRETE FLOAT LANDING PAD  
 SCALE: 3/8" = 1'-0"



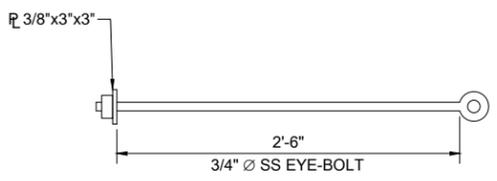
**2** CONCRETE FLOAT LANDING PAD PLANK PLAN  
 SCALE: 3/4" = 1'-0"



**B** CONCRETE FLOAT LANDING PAD SECTION  
 SCALE: 1-1/2" = 1'-0"



**C** CONCRETE FLOAT LANDING PAD ELEVATION  
 SCALE: 1-1/2" = 1'-0"



**3** LANDING PAD EYEBOLT  
 SCALE: 1-1/2" = 1'-0"

G:\PROJECTS\26221281 SWAN LAKE PHASE I IMPROVEMENTS\401 WORKING DRAWINGS\S3.0.CONC SHEET.DWG - Revised 12/30/2014 10:57:40 AM



**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, AK 99501  
 TEL: (907) 276-9600  
 FAX: (907) 276-7679

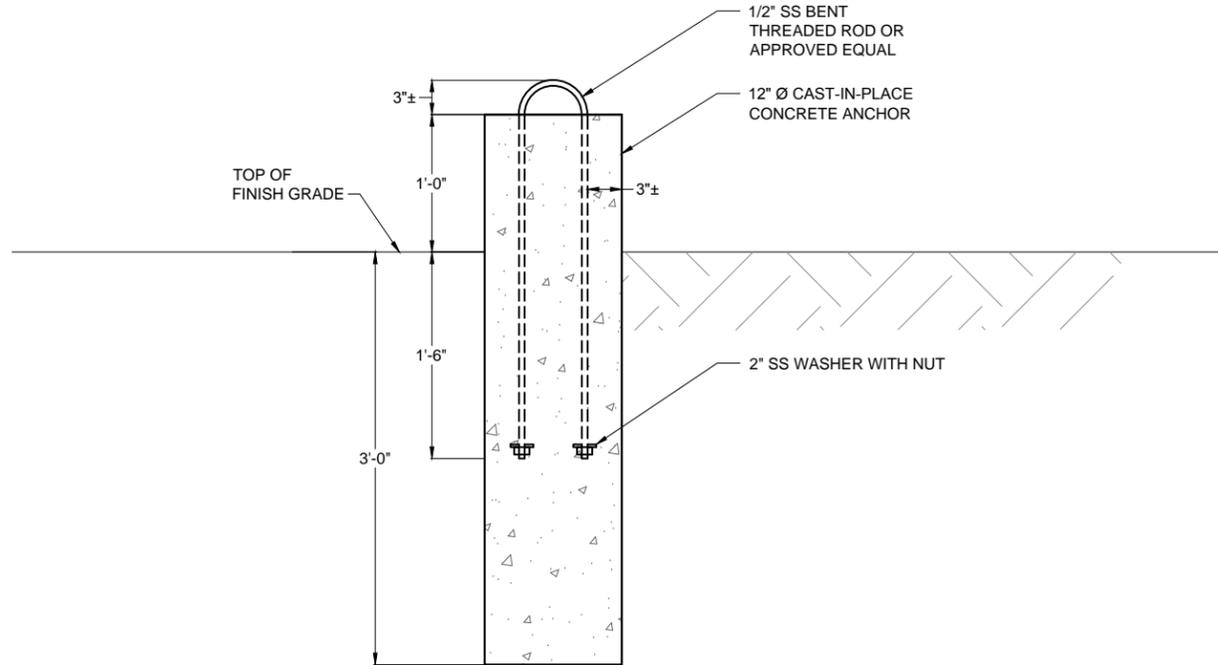


NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**MISCELLANEOUS STRUCTURAL DETAILS**

PROJECT No: 26221281  
 DATE: 12/30/2014  
 DESIGNED: EG  
 DRAWN BY: BG  
 CHECKED BY: EG

SHEET: **S3.1**  
 PAGE: 20 OF 31



**1** SWIM AREA BARRIER ANCHOR  
 S3.1 SCALE: N.T.S.

G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\401 WORKING DRAWINGS\S3.1\_CONC SWIM ANCHOR.DWG - Revised 12/30/2014 10:58:14 AM

**ISSUED FOR BID**





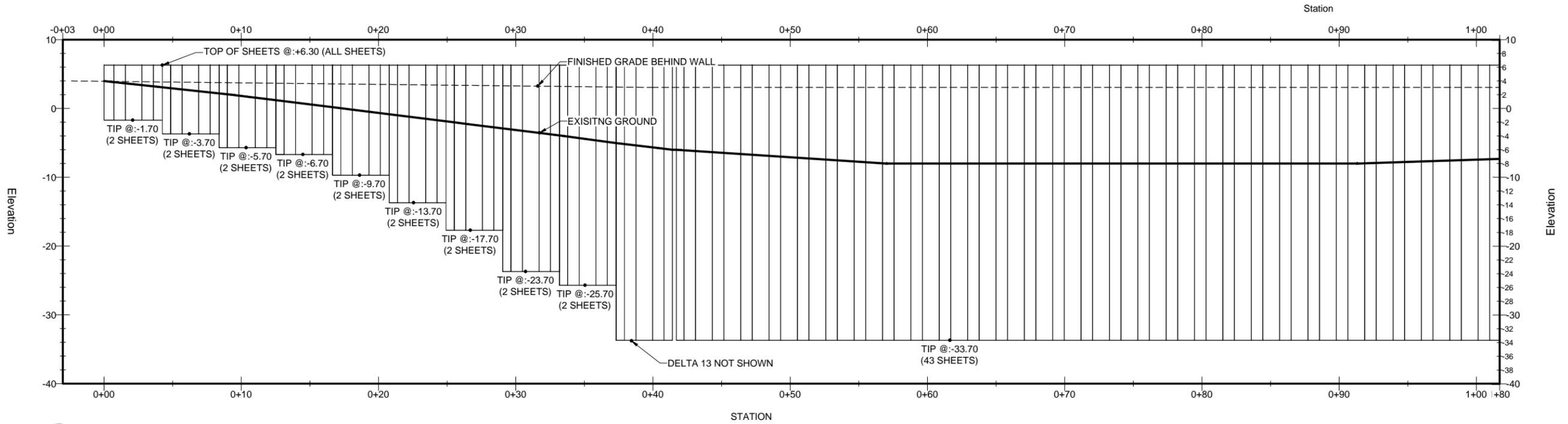
**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 279-0650  
 FAX: (907) 276-7679



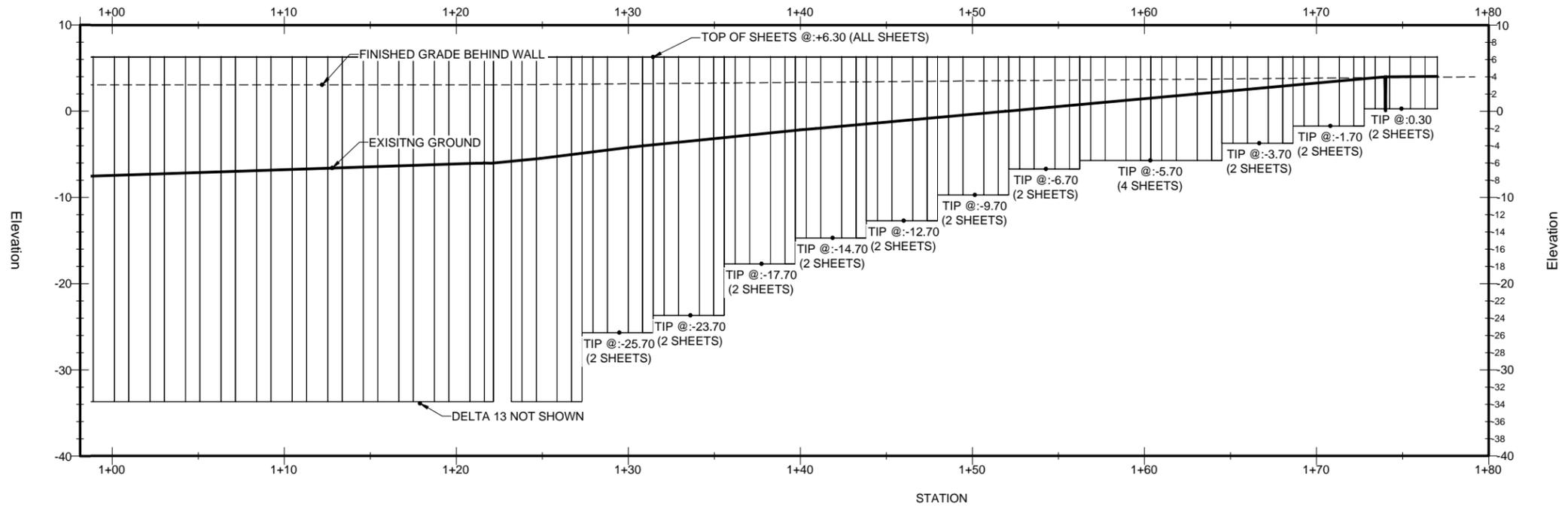
NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**SHEET PILE WALL PROFILE**

PROJECT No:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	CB/BG
CHECKED BY:	EG
SHEET:	<b>S4.0</b>
PAGE:	22 OF 31



**1** SHEETPILE WALL ELEVATION, STA 0+00 - 1+00  
 S4.0 SCALE: 3/4" = 1'-0"



**2** SHEETPILE WALL ELEVATION, STA 1+00 - 1+77.02  
 S4.0 SCALE: 3/4" = 1'-0"

NOTE:  
 PROFILE TAKEN ALONG OUTER FACE OF SHEETPILE WALL.

**ISSUED FOR BID**



**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
 TEL: (907) 779-0650  
 FAX: (907) 276-7679

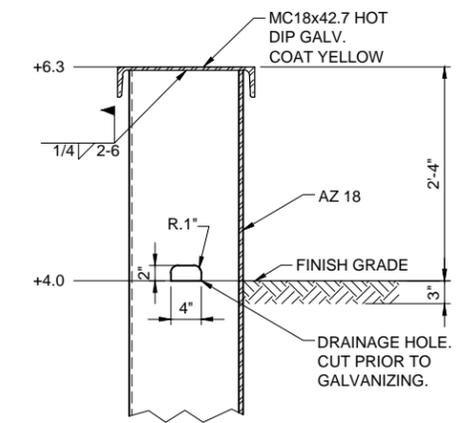
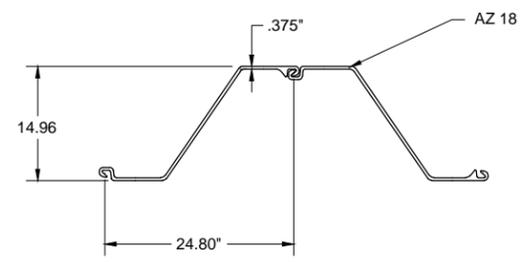
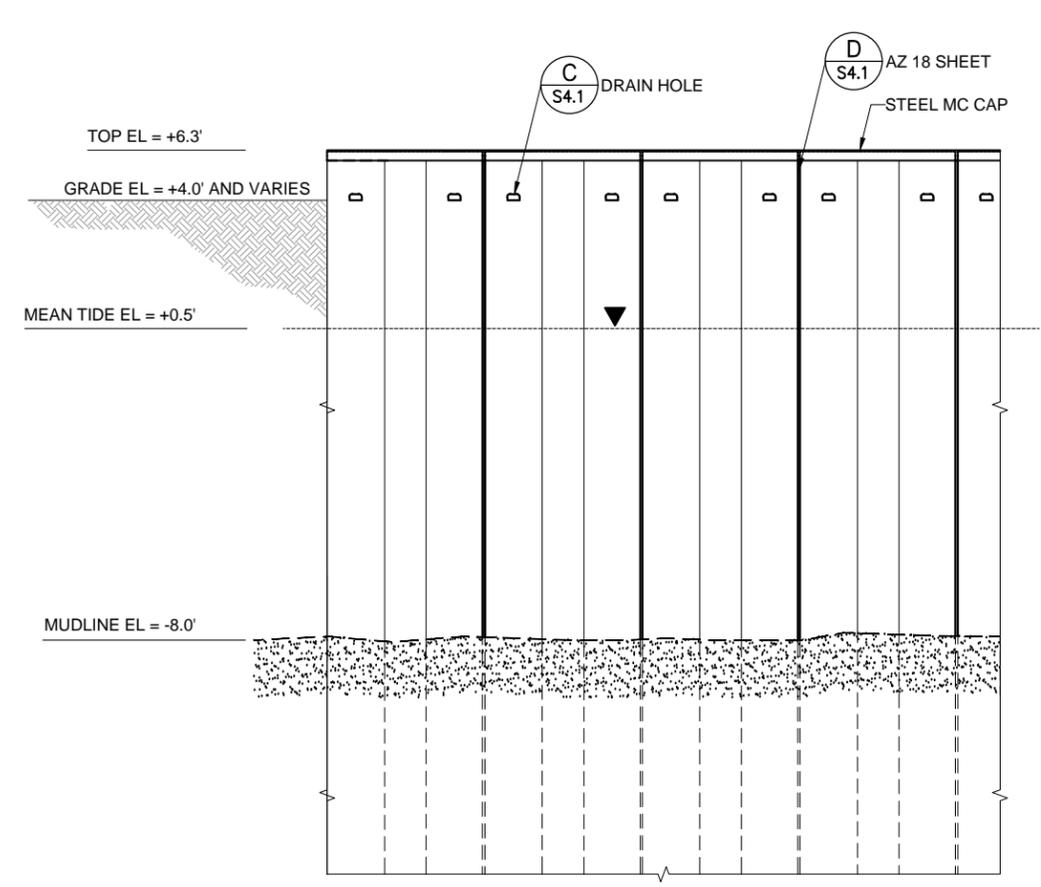
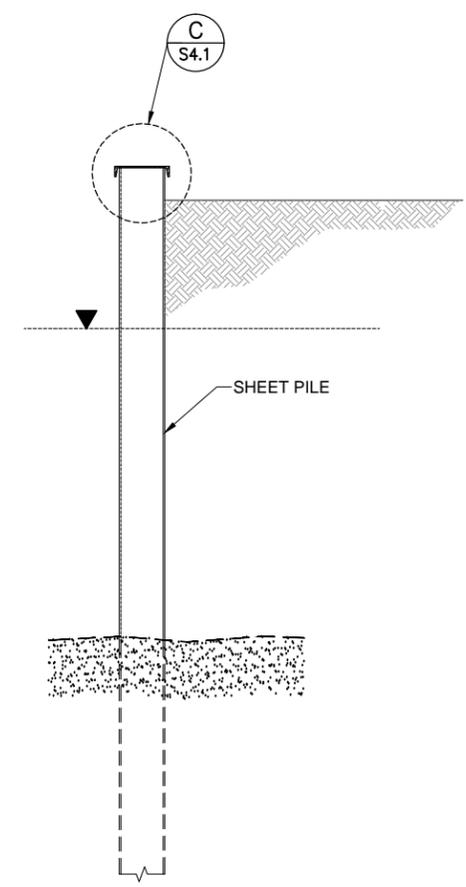
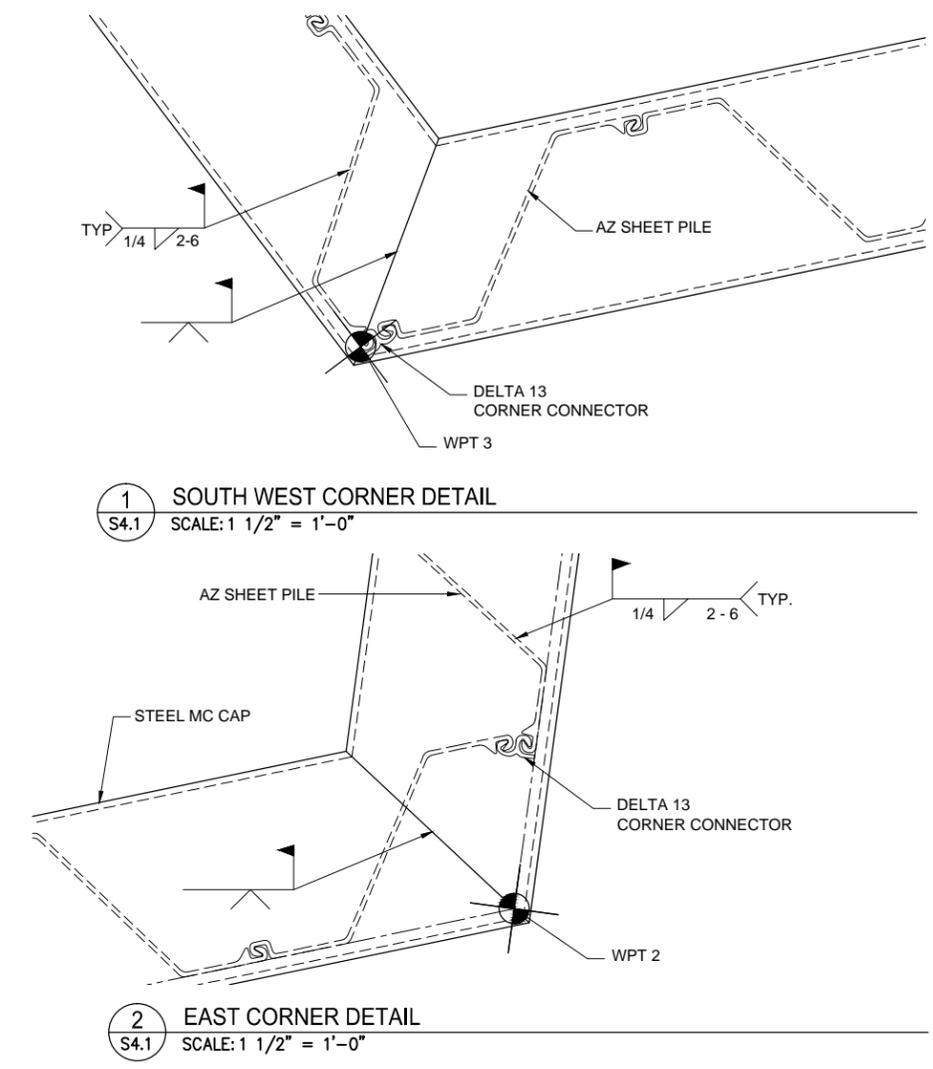


REVISIONS		DESCRIPTION
NO.	BY	DATE

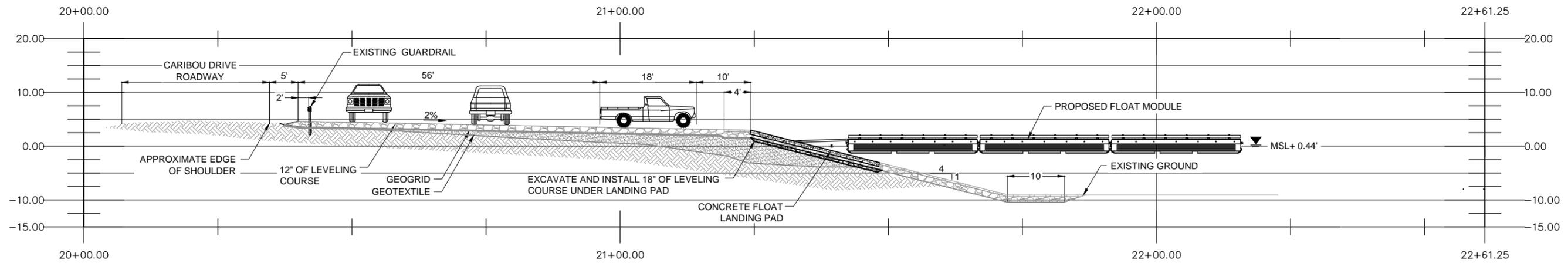
CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**SHEET PILE WALL DETAILS**

PROJECT No:	26221281
DATE:	12/30/2014
DESIGNED:	JD/EG
DRAWN BY:	CB/BG
CHECKED BY:	EG
SHEET:	<b>S4.1</b>
PAGE:	23 OF 31

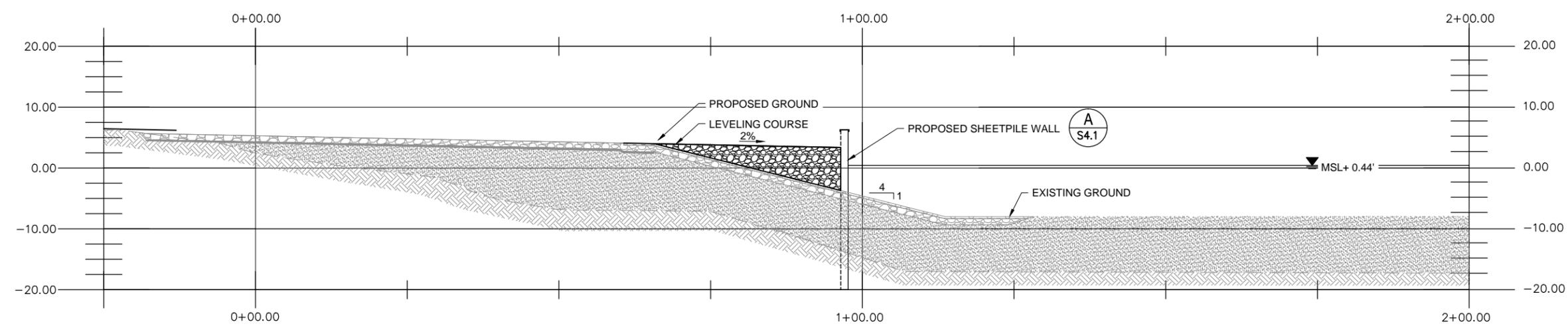
**ISSUED FOR BID**



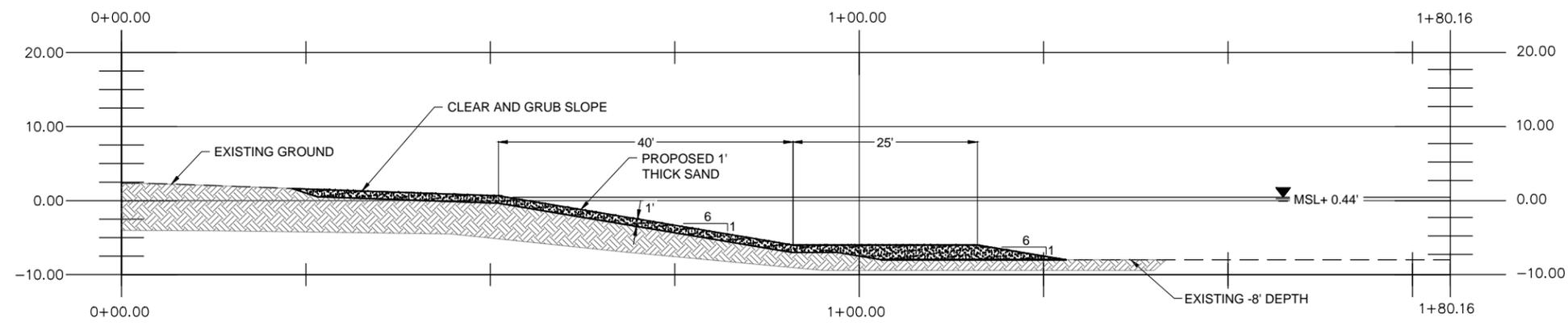
G:\PROJECTS\26221281 SWAN LAKE PHASE II IMPROVEMENTS\401 WORKING DRAWINGS\S4.1\_SHEETPILE DETAILS.DWG - Revised 12/30/2014 11:00:43 AM



**A** PROFILE OF UPLANDS AND FLOAT  
 C1.0 SCALE: 1"=10'-0"



**B** PROFILE OF UPLANDS HEAVY LOADING AREA  
 C1.0 SCALE: 1"=10'-0"



**C** PROFILE OF SLOPE AT SWIM AREA  
 C1.0 SCALE: 1"=10'-0"



**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
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NO.	BY	DATE	DESCRIPTION

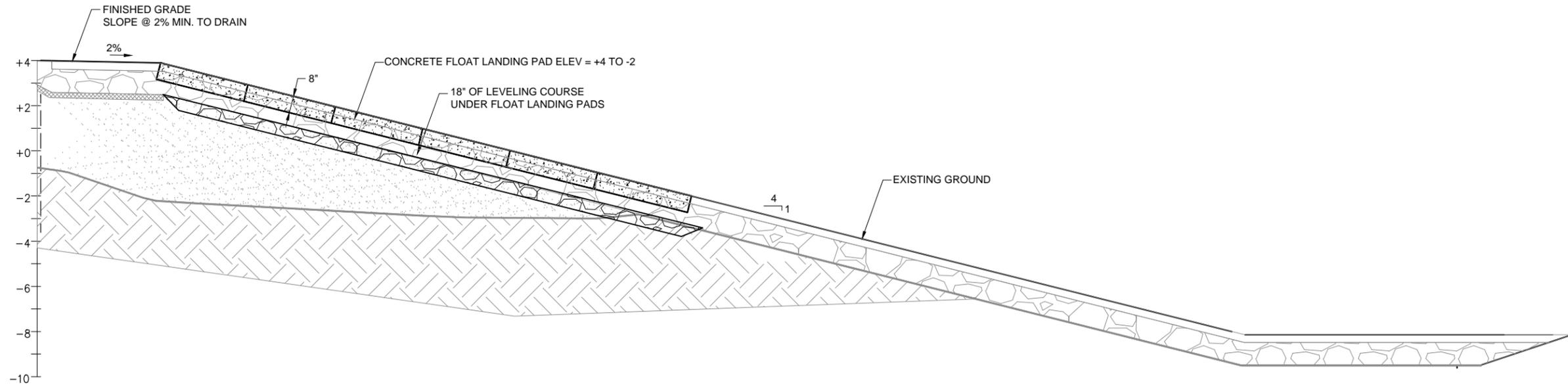
CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**TYPICAL FLOAT LANDING PAD SECTION**

PROJECT NO: 26221281  
 DATE: 12/30/2014  
 DESIGNED: JDE/EG  
 DRAWN BY: BG  
 CHECKED BY: EG

SHEET: **C1.0**  
 PAGE: 24 OF 31

**ISSUED FOR BID**

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1 CONCRETE FLOAT LANDING PAD DETAIL  
 C2.0 SCALE: N.T.S.



**URS**  
 700 G STREET, SUITE 600  
 ANCHORAGE, ALASKA 99501  
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 FAX: (907) 276-7679



NO.	BY	DATE	DESCRIPTION

CITY OF KOTZEBUE  
**SWAN LAKE HARBOR FACILITY IMPROVEMENTS**  
 KOTZEBUE, AK  
**FLOAT LANDING PAD DETAIL**

PROJECT NO:	26221281
DATE:	12/30/2014
DESIGNED BY:	JD/EG
DRAWN BY:	BG
CHECKED BY:	EG
SHEET:	<b>C2.0</b>
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