

PONTOON ASSEMBLY	
Q1	NOTES
A1	PONTOON ASSEMBLY LAYOUT
A2	PONTOON ASSEMBLY NOTES & KEY
A3	PONTOON ASSEMBLY DETAILS 1
A4	PONTOON ASSEMBLY DETAILS 2
A5	PONTOON ASSEMBLY DETAILS 3
A6	PONTOON ASSEMBLY DETAILS 4
A7	PONTOON ASSEMBLY DETAILS 5
A8	PONTOON ASSEMBLY DETAILS 6
A9	PONTOON ASSEMBLY DETAILS 7
A10	ALLOWABLE BALLAST LOCATIONS 1 OF 3
A11	ALLOWABLE BALLAST LOCATIONS 2 OF 3
A12	ALLOWABLE BALLAST LOCATIONS 3 OF 3
A13	NAVIGATION LIGHT, CCTY & JIB CRANE LAYOUT
A14	MARINE FENDER LAYOUT
A15	MARINE FENDER ASSEMBLY DETAILS
A16	MARINE FENDER PANEL DETAILS
A17	ANCHOR LOCATION PLAN
A18	ANCHOR LOCATION DATA
MAINTENANCE SHED PLANS	
M51	PONTOON "G" SHOP FLOOR PLAN
M52	PONTOON "Q" SHOP FLOOR PLAN
ELEVATED STRUCTURE OUTFITTING	
S01	ELEVATED STRUCTURE/PONTOON CONNECTIONS LAYOUT 1 OF 3
S02	ELEVATED STRUCTURE/PONTOON CONNECTIONS LAYOUT 2 OF 3
S03	ELEVATED STRUCTURE/PONTOON CONNECTIONS LAYOUT 3 OF 3
S04	ELEVATED STRUCTURE/PONTOON CONNECTIONS DETAILS 1
S05	ELEVATED STRUCTURE/PONTOON CONNECTIONS DETAILS 2
S06	ALLOWABLE LOADS - STRENGTH LIMIT STATE
S07	ALLOWABLE LOADS - EXTREME EVENT LIMIT STATE
S08	ALLOWABLE LOADS - SERVICE LIMIT STATE

ANCHOR GALLERY HARDWARE	
AG1	ANCHOR GALLERY HARDWARE LAYOUT
AG2	ANCHOR GALLERY HARDWARE ADJUSTMENT TRACK ASSEMBLY
AG3	ANCHOR GALLERY HARDWARE ADJUSTMENT TRACK DETAILS
AG4	ANCHOR GALLERY HARDWARE CABLE SADDLE ASSEMBLY
AG5	ANCHOR GALLERY HARDWARE CABLE SADDLE SHOE
AG6	ANCHOR GALLERY HARDWARE CABLE SADDLE BASE
AG7	ANCHOR GALLERY HARDWARE GUIDE BUSHING
AG8	ANCHOR GALLERY HARDWARE CABLE PORT COVER
AG9	ANCHOR EYEBAR DETAILS
PONTOON CELL IDENTIFICATION	
ID1	GLOBAL CELL AND WALL NAME CONVENTION
ID2	ID PLANS PONTOONS B TO V
ID3	CELL ID SECTIONS PONTOONS B TO V
ID4	CELL ID SECTIONS PONTOONS B TO V
ID5	DECK HATCH ID PLAN PONTOONS A & W
ID6	CELL ID PLAN PONTOONS A & W
ID7	CELL ID SECTIONS PONTOONS A & W
ID8	CELL ID SECTIONS PONTOONS A & W
ID9	CELL ID SECTIONS PONTOONS A & W
ID10	DECK HATCH ID PLAN SSP
ID11	CELL ID PLAN SSP
ID12	CELL ID SECTIONS SSP
ID13	CELL ID SECTIONS SSP
ID14	CELL ID SECTIONS SSP
ID15	PAINTED ID DETAILS

TRANSITION SPAN MOVEMENTS	
T1	TRANSITION SPAN MOVEMENT LAYOUT 6-LANE CONFIGURATION
T2	TRANSITION SPAN MOVEMENT DETAILS MOVEMENT DIAGRAMS
T3	TRANSITION SPAN MOVEMENT DETAILS CENTRAL POINT OF ROTATION 1
T4	TRANSITION SPAN MOVEMENT DETAILS CENTRAL POINT OF ROTATION 2
T5	TRANSITION SPAN MOVEMENT DETAILS ELEVATIONS & TABLES
MISCELLANEOUS DETAILS	
M1	DETAILS 1 PAINT LIMITS
M2	DETAILS 2 MOORAGE CLEAT
M3	DETAILS 3 PONTOON SIGNS
M4	MODULAR JOINT ENCLOSURE EGRESS PLAN
M5	MODULAR JOINT ENCLOSURE DETAILS

Bridge Design Engr.	Khalighi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\INDEX.wnd					
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
Designed By	11/10	10	WASH.				
Checked By	03/2011	AD16 - ADDED SHTS. AND REV. SHT NUMBERS		ADM			
Detailed By	10/10	AD8 - ADDED SHTS AND REV. SHT NUMBERS		ADM			
Bridge Projects Engr.	01/2011	AD6 - ADDED SHTS AND REV. SHT NUMBERS		PFS			
Prelim. Plan By	01/2011	AD3 - ADDED SHEETS AND GENERAL NOTES		ADM			
Architect/Specialist	DATE	REVISION	BY	APP'D			



APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

INDEX

## STRUCTURAL STEEL NOTES

1. ALL STRUCTURAL STEEL, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ASTM A588 EXCEPT MEMBERS MARKED @ MAY BE FABRICATED FROM GRADE 36 STEEL.
2. STEEL HSS TUBES SHALL CONFORM TO ASTM A500 GRADE B.
3. STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B.
4. STAINLESS STEEL SHALL CONFORM TO ASTM A276, TYPE 316 OR 316L (FOR WELDING).
5. HIGH STRENGTH BOLTS (DESIGNATED BY H.S. IN THE PLANS) SHALL CONFORM TO AASHTO M 164. NUTS SHALL CONFORM TO AASHTO M 291 GRADE DH OR AASHTO M 292 GRADE 2H. WASHERS SHALL CONFORM TO SECTION 9-06.5(3) OF THE STANDARD SPECIFICATIONS.
6. BOLTS SPECIFIED IN THE PLANS AS STAINLESS STEEL SHALL CONFORM TO ASTM A193, CLASS 2 GRADE B8M. NUTS SHALL CONFORM TO ASTM A194, GRADE 8M. WASHERS SHALL CONFORM TO ANSI B18.22.1 TYPE 316.
7. BOLTS, NUTS AND WASHERS NOT DESIGNATED AS STAINLESS STEEL OR HIGH STRENGTH SHALL CONFORM TO SECTION 9-06.5(1) OF THE STANDARD SPECIFICATIONS.
8. ALL RESIN BONDED ANCHORS SHALL BE STAINLESS STEEL ALLOY 316 AND SHALL CONFORM TO SECTIONS 6-02.2 AND 6-02.3(18) AS SUPPLEMENTED IN THE SPECIAL PROVISIONS.
9. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554.
10. UNLESS OTHERWISE NOTED, ALL NON-STAINLESS STEEL COMPONENTS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FABRICATION. NON STAINLESS STEEL BOLTS AND HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232.
11. UNLESS OTHERWISE NOTED, STEEL COMPONENTS SPECIFIED AS BEING PAINTED SHALL NOT BE GALVANIZED.
12. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, LATEST EDITION. ALL WELDING SHALL BE IN ACCORDANCE WITH LOW HYDROGEN PRACTICES AND DONE TO MINIMIZE DISTORTION. THE WELDING SEQUENCES AND PROCEDURES TO BE USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WELDING.

## GENERAL NOTES





1. THERE ARE ELEMENTS REPRESENTED IN THESE PLAN DOCUMENTS THAT ARE FURNISHED BY THE STATE. THE DESIGN-BUILDER SHALL TAKE NOTE OF THIS. SEE SECTION 2.12 OF THE REQUEST FOR PROPOSALS (RFP) FOR THE DESIGN-BUILDERS RESPONSIBILITIES.
2. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION DATED 2010, AND AMENDMENTS.
3. THESE PONTOONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 5TH EDITION 2010. THESE PONTOONS HAVE BEEN DESIGNED AS PART OF A STRUCTURAL SYSTEM AS DEFINED IN THE "SR 520 EVERGREEN POINT FLOATING BRIDGE AND LANDINGS PROJECT REQUEST FOR PROPOSALS" (RFP) DATED 12/6/2010 AND ADDENDUMS THROUGH 4/11/2011, INCLUDING APPENDICES M22, M23, S6, AND S15. THESE PONTOONS ARE ONLY WARRANTED FOR THAT STRUCTURAL SYSTEM. THESE PONTOONS HAVE NOT BEEN DESIGNED FOR LOADS DUE TO PONTOON HANDLING, INCLUDING TOWING.

## ALLOWABLE LOCAL LOADS NOTES

1. THE ALLOWABLE ELEVATED STRUCTURE LOCAL LOADS ON THE PONTOONS ARE PROVIDED FOR EACH LIMIT STATE IN THE TABLES ON BR. SHTS. 506, 507 AND 508. THESE ARE THE MAXIMUM LOADS THAT MAY BE IMPOSED ON THE PONTOONS BY THE ELEVATED STRUCTURE AT INDIVIDUAL CONNECTIONS.
2. THE SIGN CONVENTION USED IN THE TABLES IS BASED ON A CARTESIAN COORDINATE SYSTEM THAT FOLLOWS THE "RIGHT-HAND RULE". THE ORIENTATION OF THE X AND Y AXES ARE SHOWN ON THE ELEVATED STRUCTURE TO PONTOON CONNECTION LAYOUT SHEETS.
3. THE ALLOWABLE LOADS IMPOSED ARE PROVIDED ABOUT THE WORK POINTS SHOWN IN THE ELEVATED STRUCTURE TO PONTOON CONNECTION DETAILS. THE HORIZONTAL LOCATIONS OF WORK POINTS ARE SHOWN IN THE CONNECTION DETAILS. THE VERTICAL LOCATION OF WORK POINTS IS THE TOP OF THE PONTOON DECK FOR ALL CONNECTION TYPES.
4. THE LOADS IMPOSED BY THE ELEVATED STRUCTURE SHALL BE DISTRIBUTED OVER THE ENTIRE LOAD APPLICATION AREAS SHOWN IN THE CONNECTION DETAILS.
5. THE LOADS IMPOSED SHALL BE DETERMINED BY THE DESIGN-BUILDER USING AN ANALYTICAL MODEL THAT INCORPORATES THE STIFFNESS EFFECTS OF THE SUPPORTING PONTOONS AND WATER DISPLACEMENT (BEAM ON ELASTIC FOUNDATION).
6. THE DRAFT AND FREEBOARD REQUIREMENTS OF RFP SECTION 2.12 MAY GOVERN OVER THE ALLOWABLE LOCAL LOADS PRESENTED IN THE TABLES.
7. THE ALLOWABLE GLOBAL LOADS IMPOSED ON THE PONTOONS BY THE ELEVATED STRUCTURE MAY GOVERN OVER THE ALLOWABLE LOCAL LOADS PRESENTED IN THE TABLES.

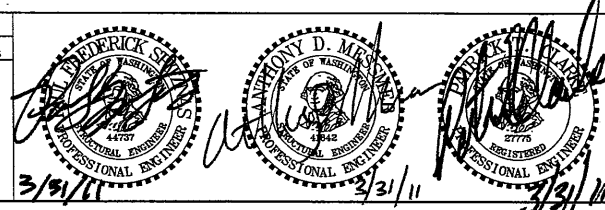
## ABBREVIATIONS LIST

E.F. - EACH FACE  
N.F. - NEAR FACE  
F.F. - FAR FACE

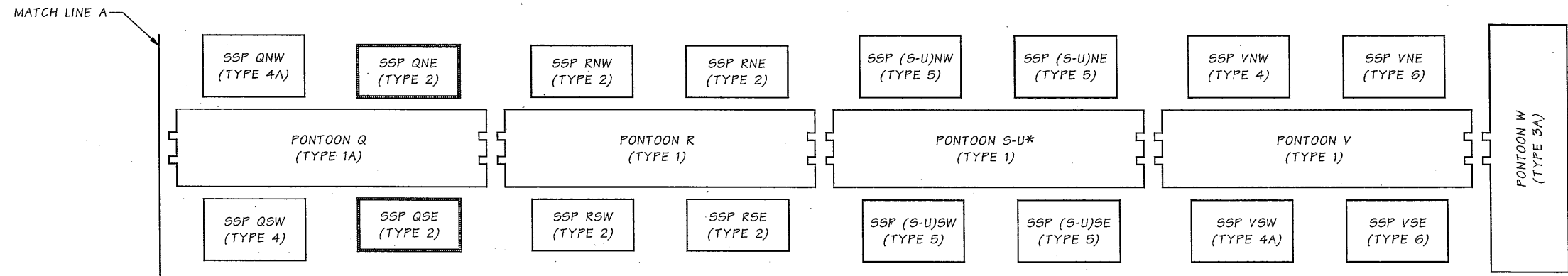
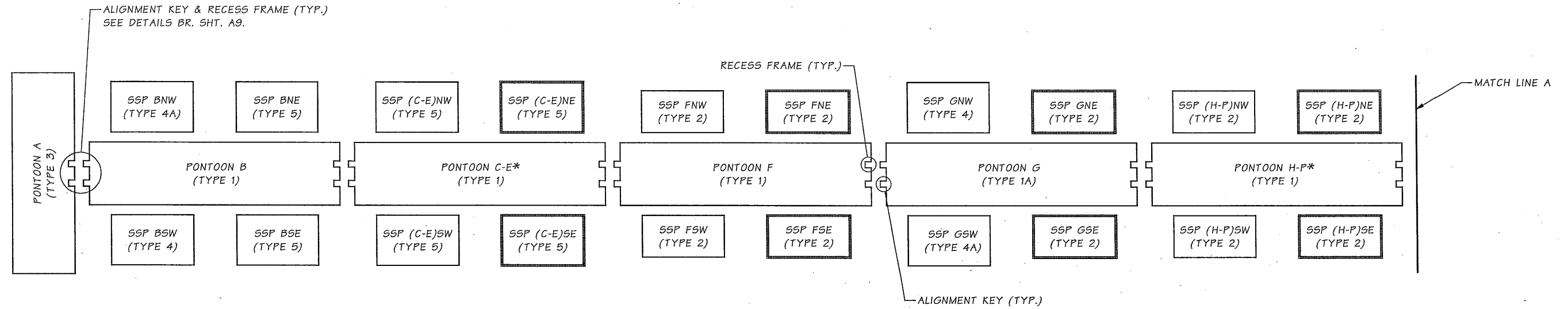
-  IDENTIFIES DETAIL  
 IDENTIFIES SECTION OR VIEW  
 TAKEN OR SHOWN ON BRIDGE SHEET BA15  
 TAKEN OR SHOWN ON THE SAME SHEET

SR SR 52 FILE NO. SHEET G1

Bridge Design Engr.	Kha'leghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\GENERAL NOTES.WND			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	ADM, PFS 03/11	10	WASH.		
Checked By	PFS, ADM 03/11	JOB NUMBER 10A057			
Detailed By	Puryear, D 03/11				
Bridge Projects Engr.					
Prelim. Plan By	03/2011 ADM - NEW SHEET				
Architect/Specialist	DATE REVISION BY APPD				

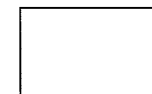


APPENDIX M23 OUTFITTING & ASSEMBLY TECHNICAL REQUIREMENTS		BRIDGE SHEET NO. G1
NOTES		SHEET OF SHEETS



**PONTOON ASSEMBLY**

\* PONTOONS GROUPED FOR CLARITY



= PONTOONS AND SSP  
CONSTRUCTED FOR THE  
6-LANE CONFIGURATION



= SSP ADDED FOR THE FUTURE  
WIDENED CONFIGURATION

SR SR FILE NO. SHEET A1

Bridge Design Engr.	Khaleghi, B	M:\w-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\PONTOON ASSEMBLY.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	EJF, ADM	11/10	10	WASH.	
Checked By	ADM, EJF	03/11			
Detailed By	Lemons, T	10/10			
Bridge Projects Engr.		03/2011	AD16 - REVISED KEYS & RECESSES	ADM	
Prelim. Plan By		02/2011	AD8 - REVISED KEYS & RECESSES	ADM	
Architect/Specialist		DATE	REVISION	BY	APP'D

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

PONTOON ASSEMBLY LAYOUT

BRIDGE SHEET NO. A1  
OF SHEETS

**GENERAL ASSEMBLY NOTES:**

1. FLAT JACKS SHALL BE USED TO ACCOMMODATE IRREGULARITIES AND ANY ADJUSTMENTS, TO MAINTAIN PONTOON ALIGNMENT, OF THE GROUT JOINT. THE DESIGN-BUILDER SHALL SUBMIT FOR APPROVAL DETAILS OF THE FLAT JACKS.
2. THE CONCRETE BENEATH THE FLAT JACKS SHALL BE SMOOTH TO GIVE UNIFORM BEARING FOR THE FLAT JACK FORCES.
3. PROVIDE 3" MIN. CLEARANCE BETWEEN THE FLAT JACKS & THE COMPRESSED RUBBER SEAL FOR GROUT PLACEMENT.
4. THE DESIGN-BUILDER SHALL ACCURATELY LOCATE THE BOLT SLEEVES. THE DESIGN-BUILDER SHALL VERIFY THAT THE BOLT SLEEVES OF ADJACENT PONTOONS ARE ALIGNED.
5. THE DESIGN-BUILDER SHALL SUBMIT A PLAN INDICATING ON WHICH SIDE OF EACH PONTOON JOINT THE NEOPRENE SHEET IS BONDED.
6. THE DESIGN-BUILDER SHALL PROVIDE AN INITIAL JOINT CLAMPING FORCE, CONCENTRICALLY APPLIED TO THE FLAT JACKS, SUFFICIENT TO MAINTAIN PRECOMPRESSION OF THE GROUT JOINT UNTIL COMPLETION OF TEMPORARY BOLT TENSIONING. THIS CLAMPING FORCE IS IN ADDITION TO THE FORCE REQUIRED TO COMPRESS THE SEAL AND IS TO PROVIDE A RIGID PONTOON JOINT DURING HARDENING OF THE JOINT GROUT. AFTER TEMPORARY BOLT TENSIONING THE FLAT JACKS SHALL BE DEPRESSURIZED AND PRESSURE GROUTED.
7. THE FINAL ASSEMBLY BOLT AND ASSEMBLY TENDON STRESSING SEQUENCE SHALL BE SUCH AS TO MINIMIZE THE OCCURRENCE OF UNDESIRABLE CONSTRUCTION STRESSES IN THE STRUCTURE. AT NO TIME DURING THE STRESSING OPERATIONS WILL MORE THAN 1/10 OF THE TOTAL TENSIONING FORCES BE APPLIED ECCENTRICALLY ABOUT THE CENTROID (HORIZONTALLY AND VERTICALLY) OF THE STRUCTURE. THE DESIGN-BUILDER'S PROPOSED STRESSING SEQUENCE SHALL BE SHOWN ON THE SHOP DRAWINGS. THE DESIGN-BUILDER SHALL SUBMIT THE STRESSING SEQUENCE AND ELONGATION CALCULATIONS TO THE ENGINEER FOR APPROVAL.
8. THE MAXIMUM ALLOWABLE LOADS ON EACH ALIGNMENT KEY SHALL BE:  
VERTICAL FORCE = 420 KIPS  
HORIZONTAL FORCE = 330 KIPS

**ASSEMBLY TENDON NOTES:**

1. EACH ASSEMBLY TENDON SHALL HAVE A MINIMUM OF 15 STRANDS. THE MINIMUM PRESTRESSING LOAD AFTER SEATING FOR EACH ASSEMBLY TENDON SHALL BE AS FOLLOWS:  
LIVE END = 654 KIPS  
DEAD END = 672 KIPS  
"LIVE END" REFERS TO THE END WHERE JACKING OCCURS  
"DEAD END" REFERS TO THE END WHERE JACKING DOES NOT OCCUR
2. THE DESIGN IS BASED ON 0.6-INCH DIAMETER LOW RELAXATION STRANDS, AN ANCHOR SET OF 3/8 INCH, A CURVATURE FRICTION COEFFICIENT,  $\mu = 0.23$ , A WOBBLE COEFFICIENT,  $k = 0.0002$  FT/FT, AND A JACKING LOAD OF 694 KIPS. THE ACTUAL ANCHOR SET AND JACKING LOAD USED BY THE DESIGN-BUILDER SHALL BE SPECIFIED IN THE SHOP PLANS AND INCLUDED IN THE TRANSFER FORCE CALCULATIONS.
3. THE DESIGN IS BASED ON AN ESTIMATED ADDITIONAL PRESTRESS LOSS OF POST-TENSIONED PRESTRESSING STRANDS OF 27 KSI DUE TO STEEL RELAXATION, ELASTIC SHORTENING, CREEP, AND SHRINKAGE OF CONCRETE.
4. ALL ASSEMBLY TENDONS MAY BE STRESSED FROM ONE END.
5. ASSEMBLY TENDON DUCT SPLICE LOCATIONS SHOWN ARE CONCEPTUAL. THE DESIGN-BUILDER SHALL DETERMINE DUCT SPLICE LOCATIONS.
6. THE OUTSIDE AREA OF THE DUCT SHALL BE AT LEAST 2.5 TIMES THE NET AREA OF THE PRESTRESSING STEEL IN THE DUCT. THE INSIDE AREA OF THE DUCT SHALL BE AT LEAST 2.0 TIMES THE NET AREA OF THE PRESTRESSING STEEL IN THE DUCT.

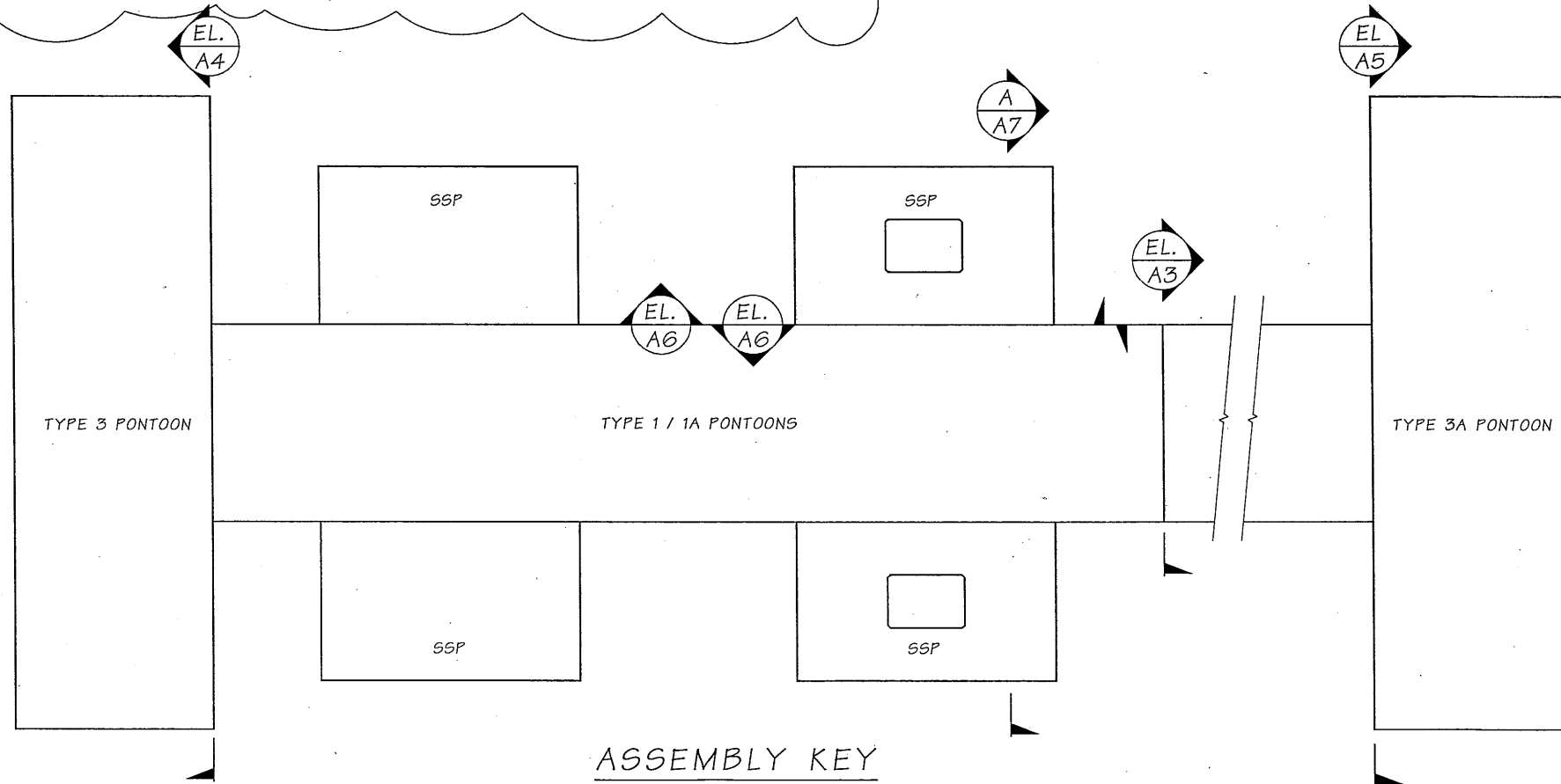
**ASSEMBLY BOLT TABLE & NOTES:**

JOINT LOCATION	BOLT DIA. (IN.)	FINAL LOAD (KIPS)
SSP TO TYPE 1/1A	3	340
TYPE 1 TO 1/1A	3 1/2	750
TYPE 1 TO TYPE 3/3A	3 1/2	750

1. ASSEMBLY BOLTS SHALL BE ASTM A354 GRADE BD, 8 THREADS PER INCH WITH 2 CIRCULAR HARDENED WASHERS AND 2 HEAVY HEX NUTS. PROVIDE 1"-0" OF THREADS ON EACH END OF THE BOLT. ASSEMBLY BOLTS, NUTS AND BEARING PLATES SHALL NOT BE GALVANIZED. UNTHREADED PORTIONS OF THESE COMPONENTS SHALL BE PAINTED WITH AN INORGANIC ZINC-RICH PRIMER IN ACCORDANCE WITH STD. SPEC. 6-07.3(9). THE BOLT THREADS AND THE THREADS IN THE NUT SHALL BE COATED WITH A LIGHT MACHINERY OIL AFTER FABRICATION AND PRIOR TO ASSEMBLY.
2. NUTS FOR ASSEMBLY BOLTS SHALL CONFORM TO AASHTO M291 (ASTM A563) GRADE DH. HARDENED WASHERS FOR ASSEMBLY BOLTS SHALL CONFORM TO ASTM F436.
3. STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A588, EXCEPT AS NOTED.
4. TEMPORARILY SUPPORT BEARING PLATES TO CENTER ASSEMBLY BOLTS IN THE BOLT SLEEVE, REMOVE SUPPORTS AFTER GROUTING.
5. ASSEMBLY BOLT THREADS SHALL BE PROTECTED AGAINST DAMAGE DURING HANDLING AND INSTALLATION.
6. ASSEMBLY BOLTS SHALL BE TENSIONED TO THE FINAL LOAD SHOWN IN THE TABLE, PLUS OR MINUS 2 PERCENT. TENSION BOLT BY JACKING TO THE FINAL LOAD, TIGHTENING THE NUT AND RELEASING THE JACK. RETENSION BOLT AND TIGHTEN NUT UNTIL A LIFTOFF TEST SHOWS THE BOLT TO BE TENSIONED TO THE FINAL LOAD WHEN THE JACK IS RELEASED.
7. THE DESIGN-BUILDER SHALL SUBMIT AN ASSEMBLY BOLT TENSIONING PLAN.
8. ALL ASSEMBLY BOLTS SHALL BE TENSIONED PRIOR TO TENSIONING ASSEMBLY TENDONS.
9. GROUT AND GROUTING PROCEDURES SHALL CONFORM TO STD. SPEC. 6-02.3(26)H. THE MINIMUM ULTIMATE 28-DAY COMPRESSIVE STRENGTH OF THE GROUT SHALL BE 7,500 POUNDS PER SQUARE INCH.

**INJECTION / EXHAUST PORT NOTES**

1. NOMINAL PORT DIAMETER SHALL BE 1/2". TAP FOR 1/2" DIAMETER STD. PIPE THREADS.
2. INSTALL INJECTION/EXHAUST PORT ABOVE ASSEMBLY BOLT ON BOLT CENTERLINE.
3. LOCATE PORT TO ACCESS ANNULAR SPACE BETWEEN ASSEMBLY BOLT AND BOLT SLEEVE. PORT SHALL CLEAR HARDENED WASHER.
4. PLUG INJECTION PORT WITH THREADED BRASS PLUG PRIOR TO PAINTING.
5. WORKING DRAWINGS SHALL SHOW ORIENTATION OF EXHAUST AND INJECTION PORTS WITH RESPECT TO SIDE WALLS AND FILLETS. THESE DRAWINGS SHALL ALSO INDICATE WHICH SIDE OF THE BOLTED JOINT WILL BE UTILIZED FOR THE INJECTION PORT AND FOR THE EXHAUST PORT.



**ASSEMBLY KEY**

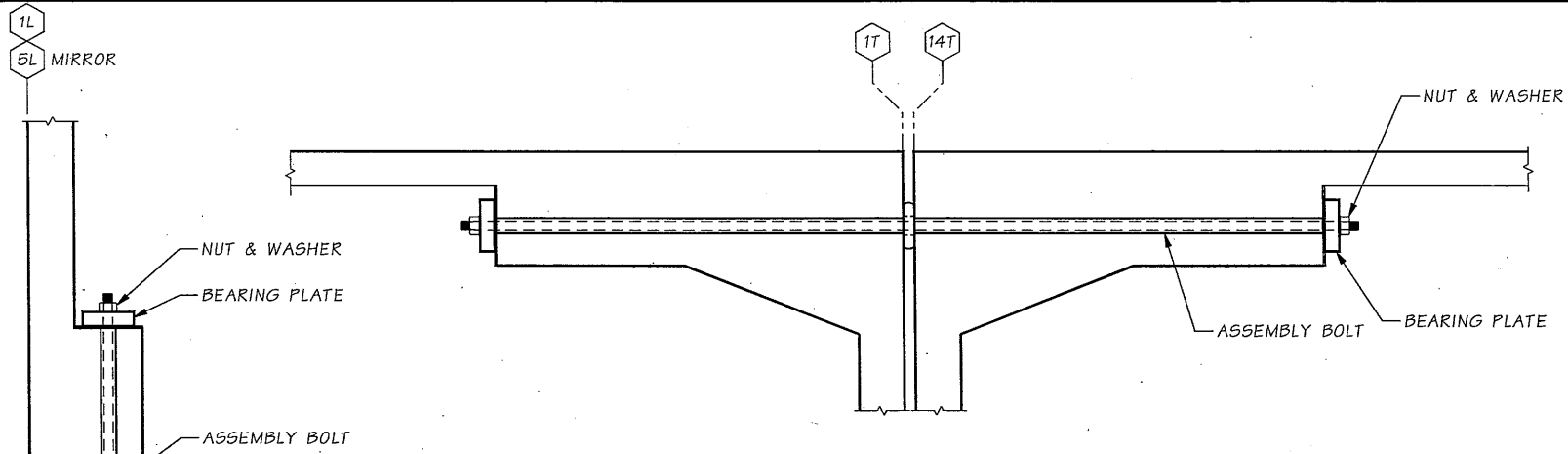
SR SR FILE NO. SHEET A2

Bridge Design Engr. khalighi, B	M:\w-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING\window files\BOLTING DETAILS 5.WND	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor Clarke, PT		10	WASH.			
Designed By BSA, ADM	02/11	JOB NUMBER 10A057				
Checked By PFS, ADM	03/11					
Detailed By Puryear, D	02/11					
Bridge Projects Engr. 03/2011	AD16 - REV. KEY & ADD NOTES	ADM				
Prelim. Plan By 02/2011	AD8 - NEW SHEET	ADM				
Architect/Specialist	DATE	REVISION	BY	APP'D		

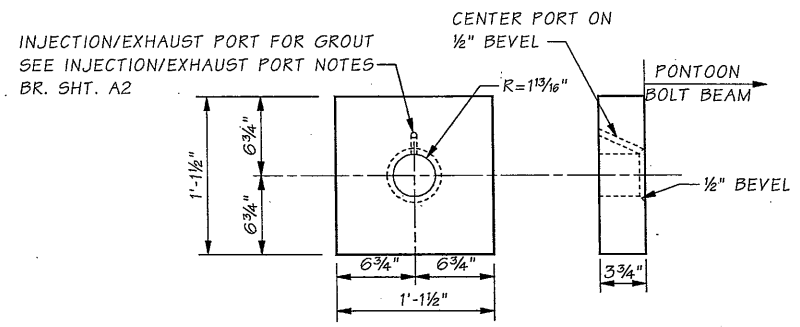
**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

PONTOON ASSEMBLY NOTES & KEY

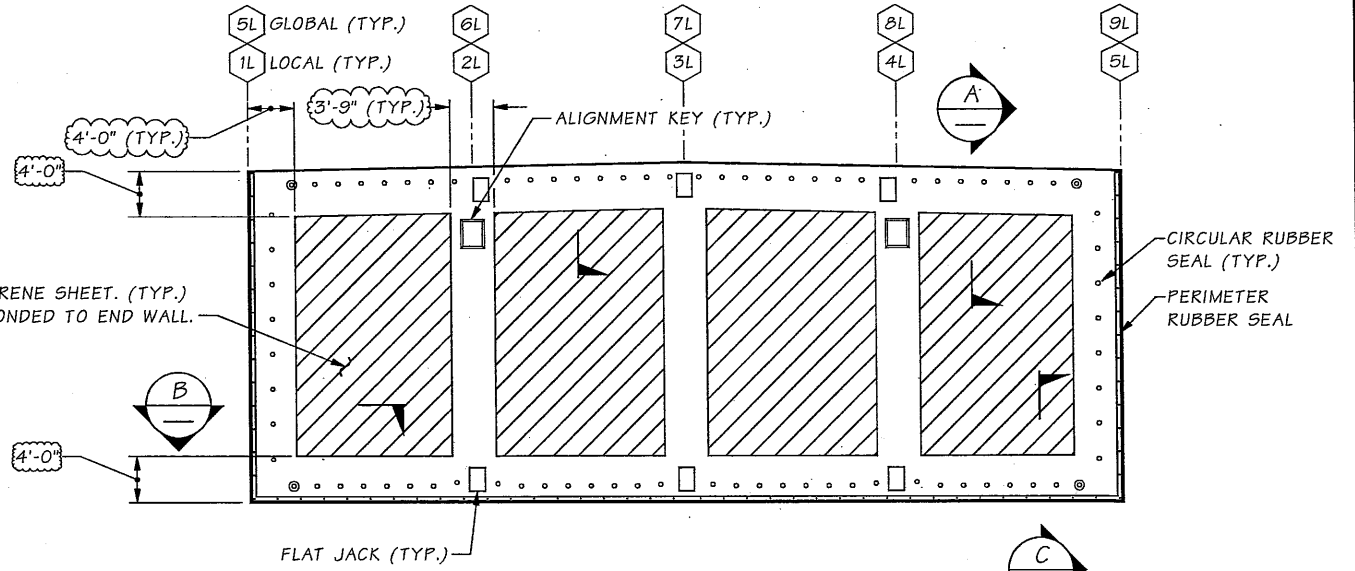
BRIDGE SHEET NO. A2  
SHEET OF SHEETS



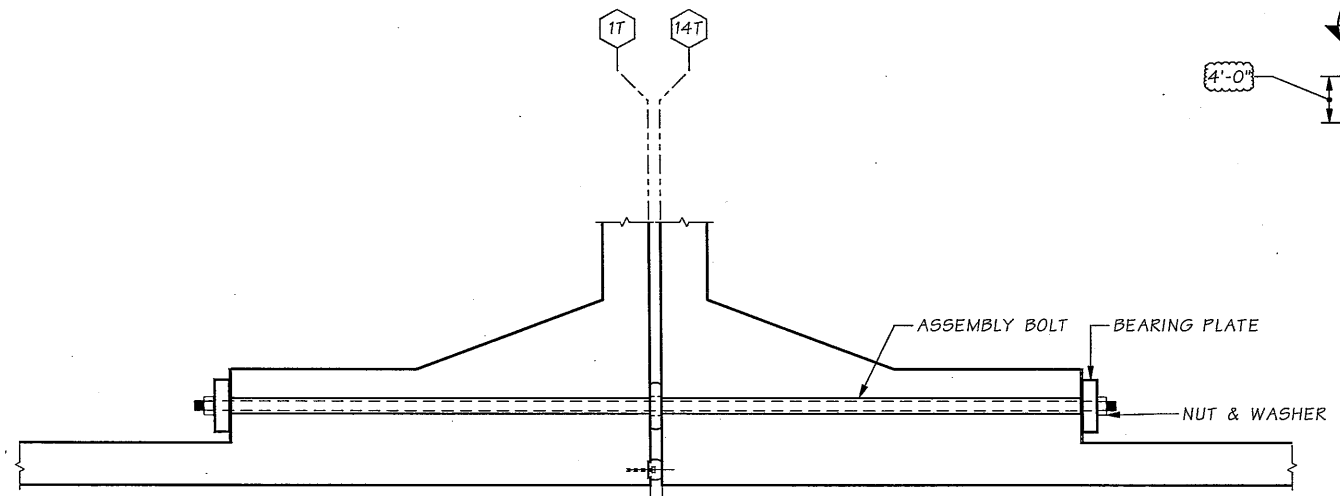
SECTION A  
DECK SLAB BOLT BEAM  
LOCAL GRIDS SHOWN



BEARING PLATE  
TYPE 1 / 3 / 3A PONTOONS



TYPE 1 & 1A END VIEW  
END OF LONGITUDINAL PONTOON  
SHOWN AT 1T, 14T W/ ALIGNMENT RECESS SIMILAR

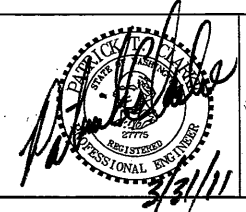
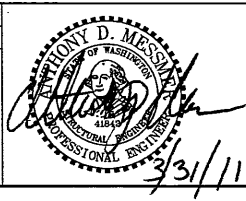


SECTION B  
WALL BOLT BEAM  
LOCAL GRIDS SHOWN

SECTION C  
KEEL SLAB BOLT BEAM  
LOCAL GRIDS SHOWN

SR SR 52 FILE NO. SHEET A3

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\BOLTING DETAILS 1.wnd				
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Designed By	Messmer, A 02/11	10	WASH.			
Checked By	Spitznas, P 03/11	JOB NUMBER 10A057				
Detailed By	Puryear, D 02/11					
Bridge Projects Engr.	03/2011	AD16 - PROVIDED DIMS, REV, CIRC. SEALS	ADM			
Prelim. Plan By	02/2011	ADB - NEW SHEET	ADM			
Architect/Specialist	DATE	REVISION	BY	APPD		

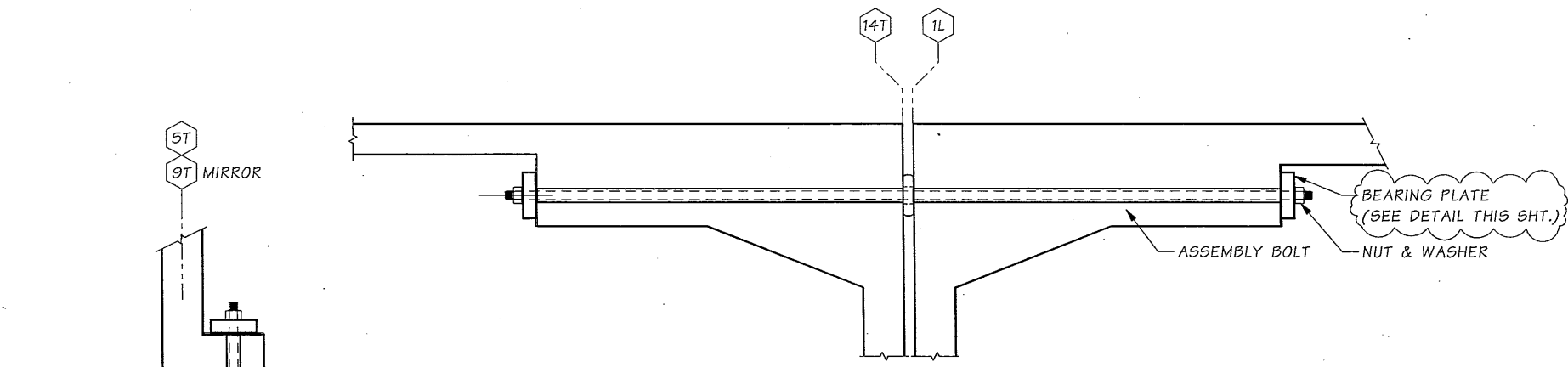


**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

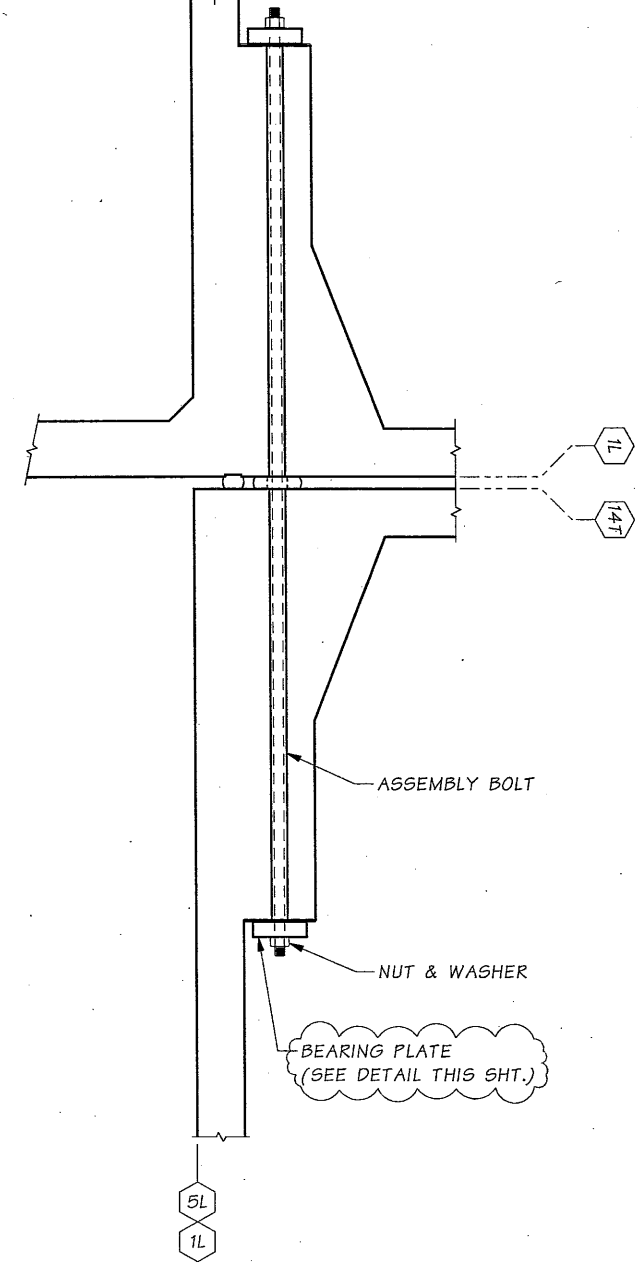
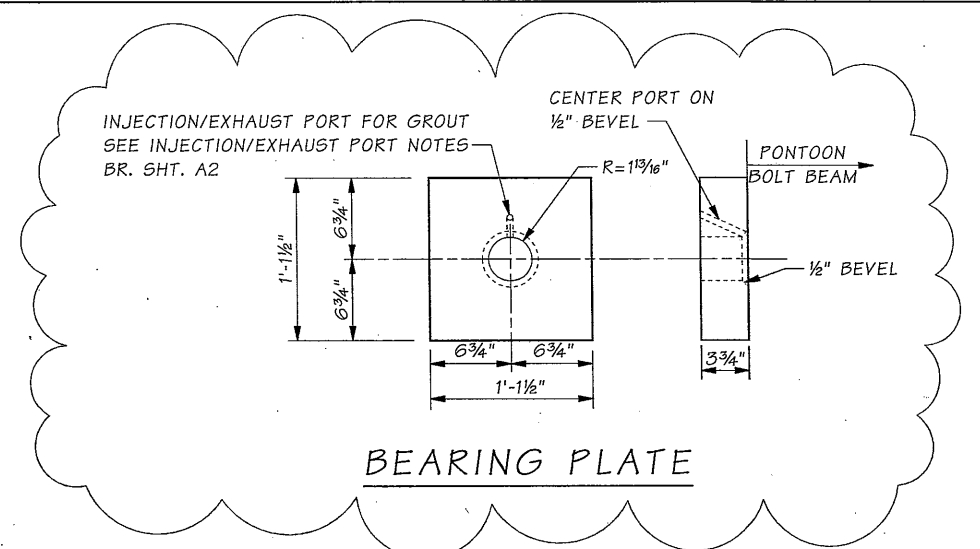
APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS  
PONTOON ASSEMBLY DETAILS 1

BRIDGE SHEET NO. A3  
SHEET OF SHEETS

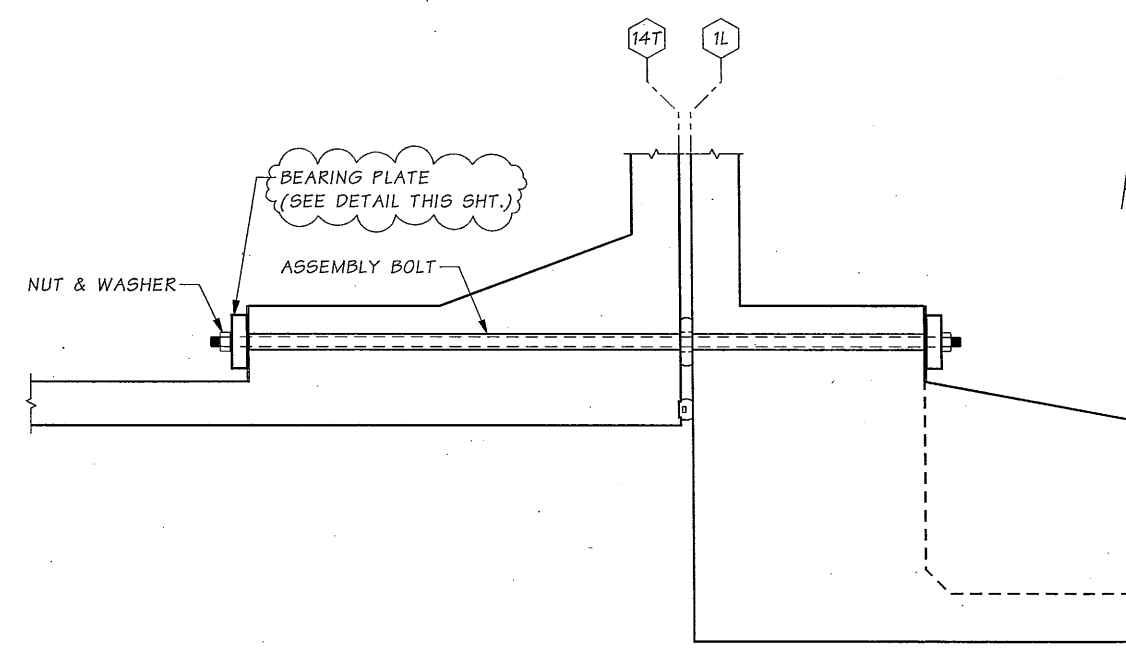
SR SR 520 FILE NO. SHEET A4



**SECTION A**  
DECK SLAB BOLT BEAM  
PONTON TYPE 3.  
LOCAL GRIDS SHOWN

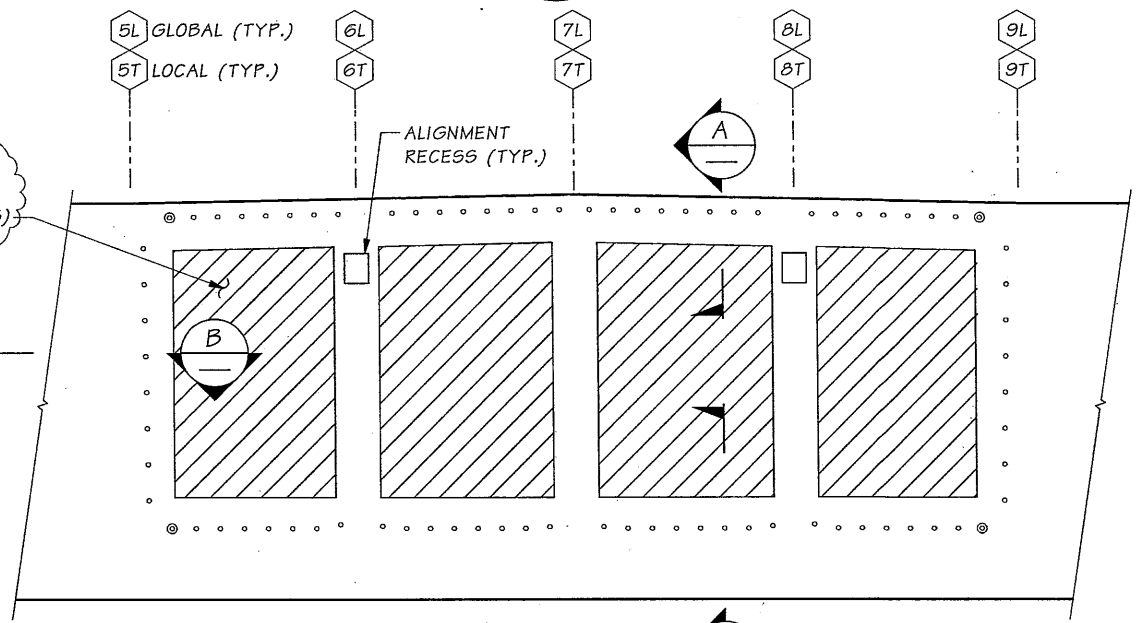


**SECTION B**  
WALL BOLT BEAM  
LOCAL GRIDS SHOWN



**SECTION C**  
KEEL SLAB BOLT BEAM  
PONTON TYPE 3.  
LOCAL GRIDS SHOWN

1/4" NEOPRENE SHEET. (TYP.)  
FULLY BONDED TO WALL.  
(SEE BR. SHT. A3 FOR LIMITS)



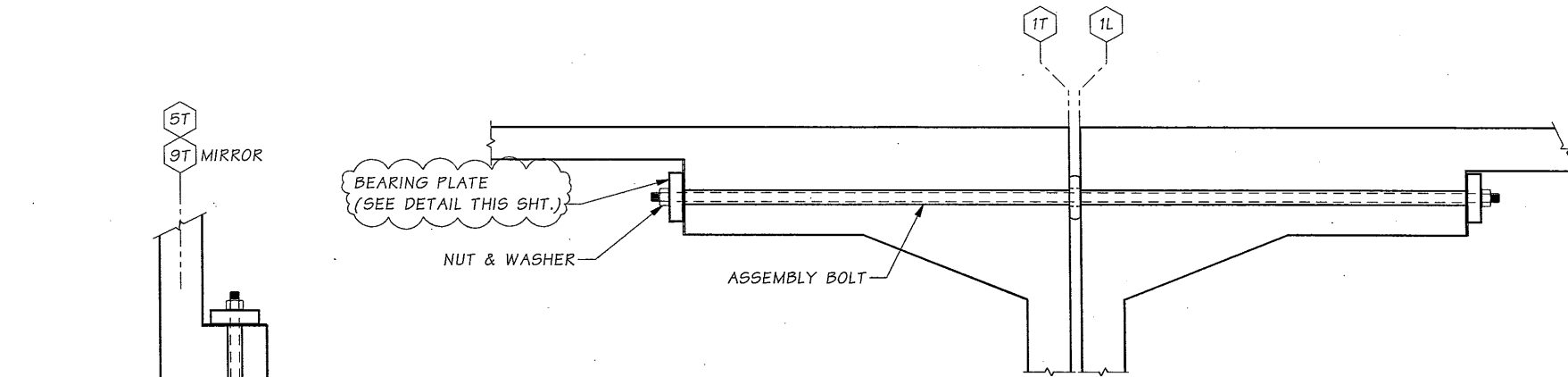
**TYPE 3 END VIEW**  
END OF CROSS PONTON A AT 4T GLOBAL (1L LOCAL)

Bridge Design Engr.	KhaTeghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\BOLTING DETAILS 2.WND			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	BSA, ADM 02/11	10	WASH.		
Checked By	PFS, ADM 03/11	JOB NUMBER			
Detailed By	Puryear, D 02/11	10A057			
Bridge Projects Engr.	03/2011 AD10 - ADDED NOTE, REV. CIRC. SEALS	ADM			
Prelim. Plan By	02/2011 ADB - NEW SHEET	ADM			
Architect/Specialist	DATE REVISION	BY	APPD		

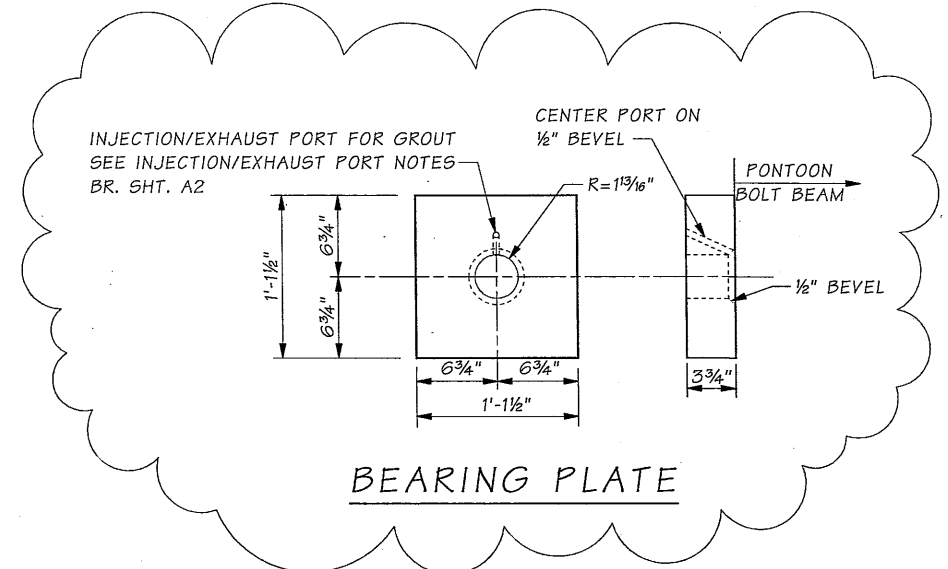
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**  
PONTON ASSEMBLY DETAILS 2

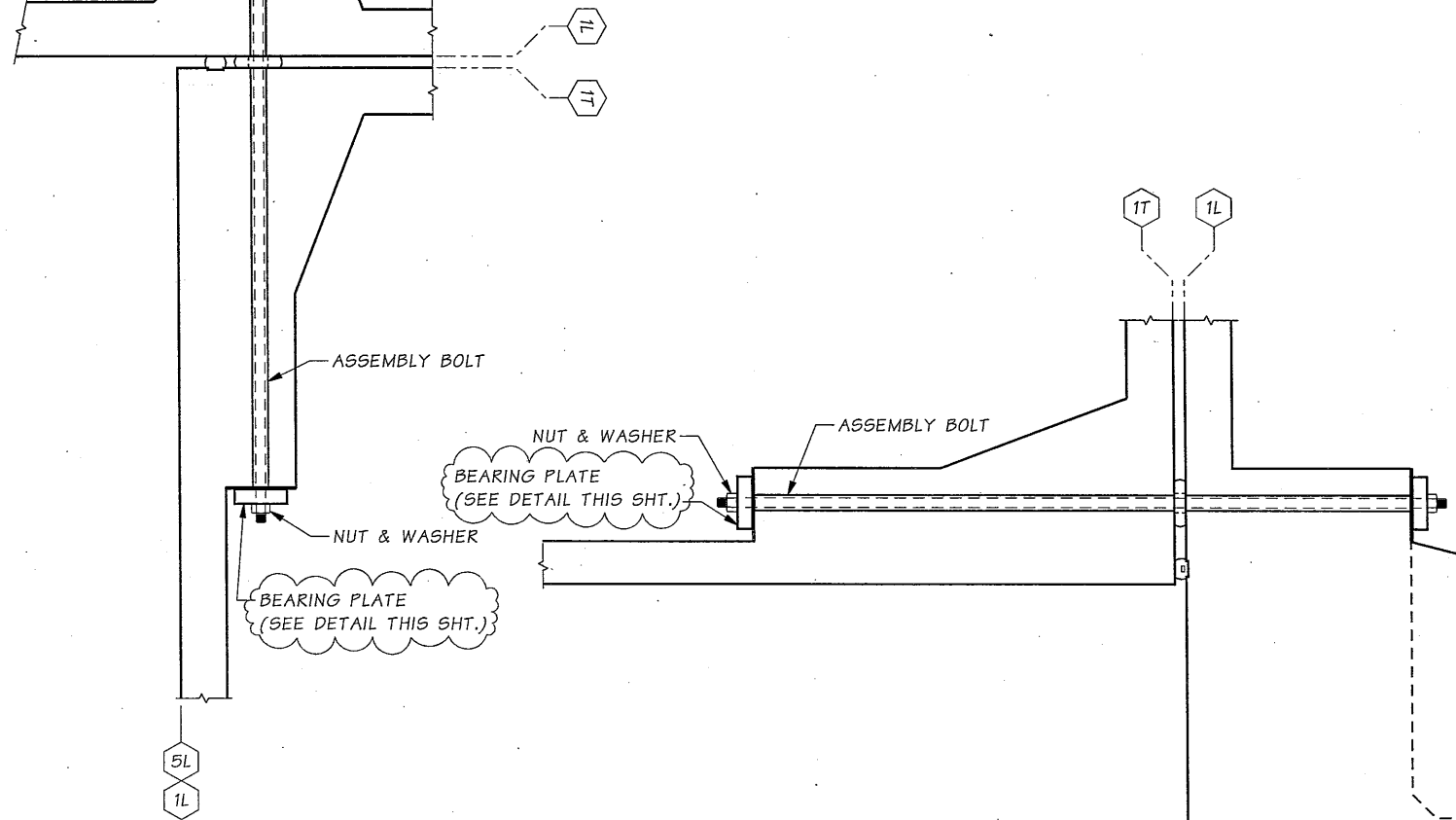
BRIDGE SHEET NO. A4  
SHEET OF SHEETS



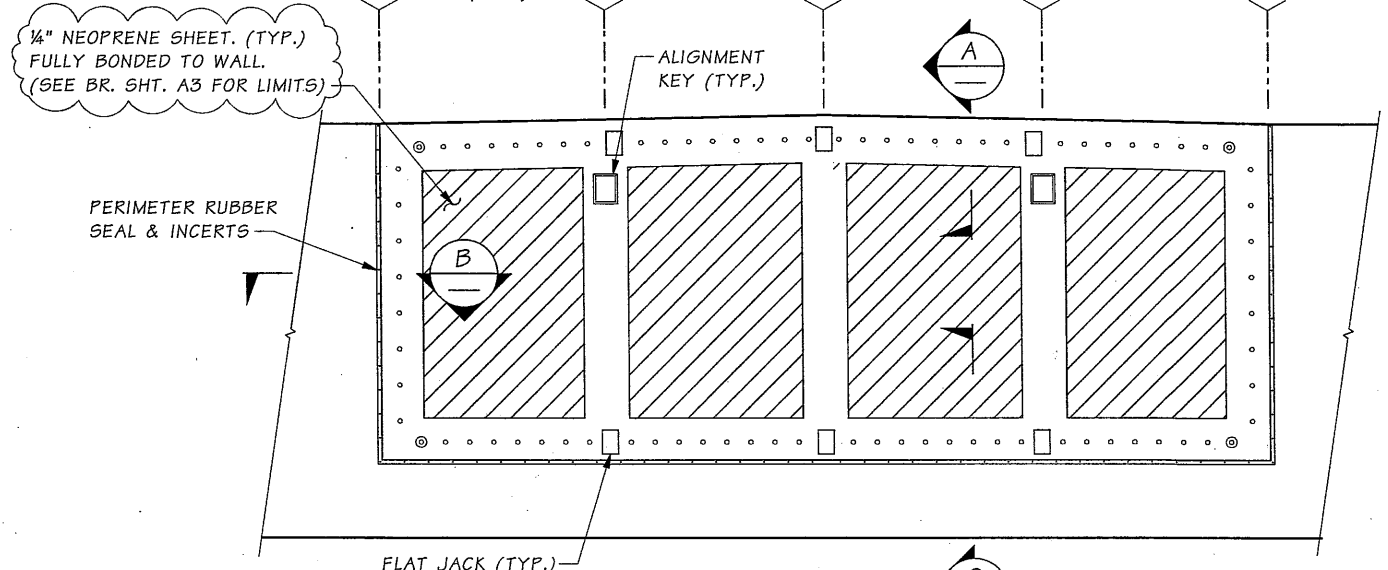
**SECTION A**  
DECK SLAB BOLT BEAM  
PONTON TYPE 3A  
LOCAL GRIDS SHOWN



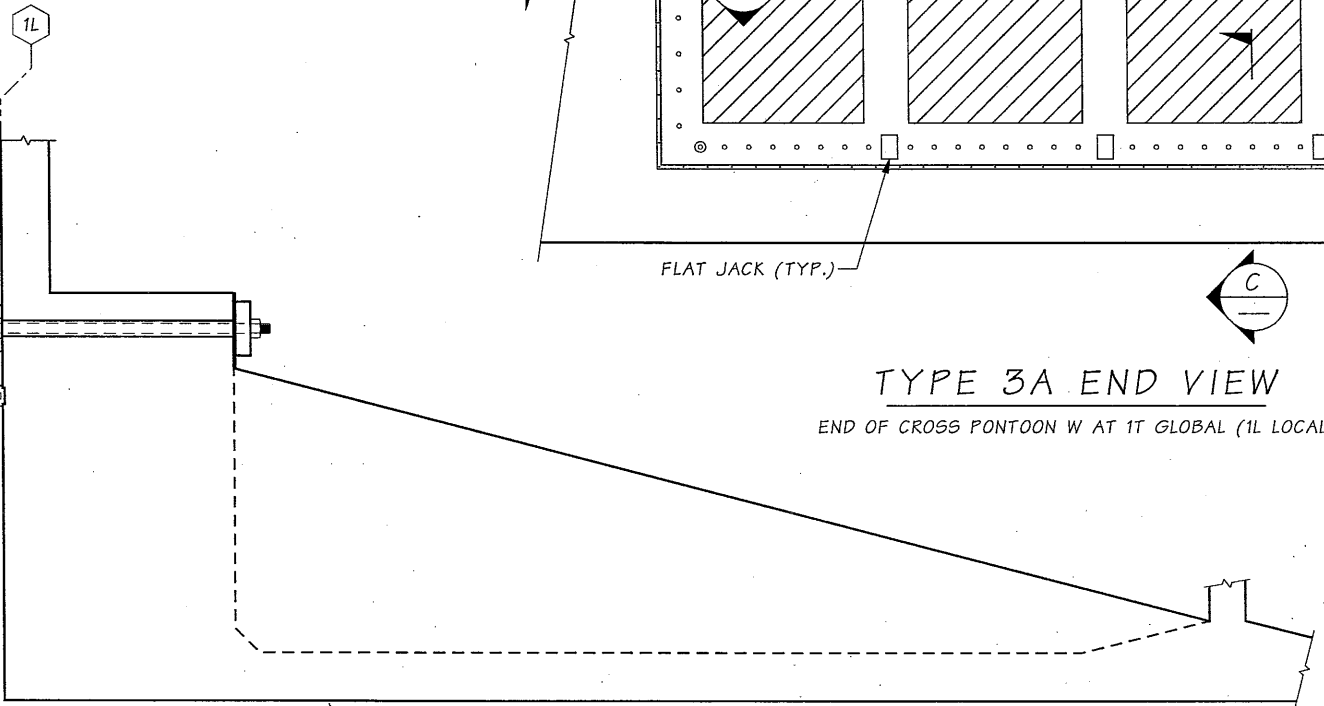
**BEARING PLATE**



**SECTION B**  
WALL BOLT BEAM  
LOCAL GRIDS SHOWN

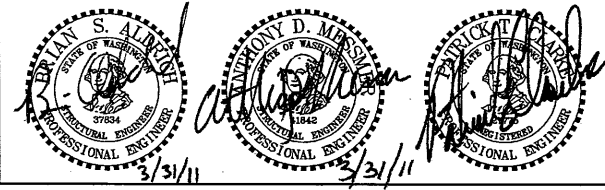


**TYPE 3A END VIEW**  
END OF CROSS PONTON W AT 1T GLOBAL (1L LOCAL)

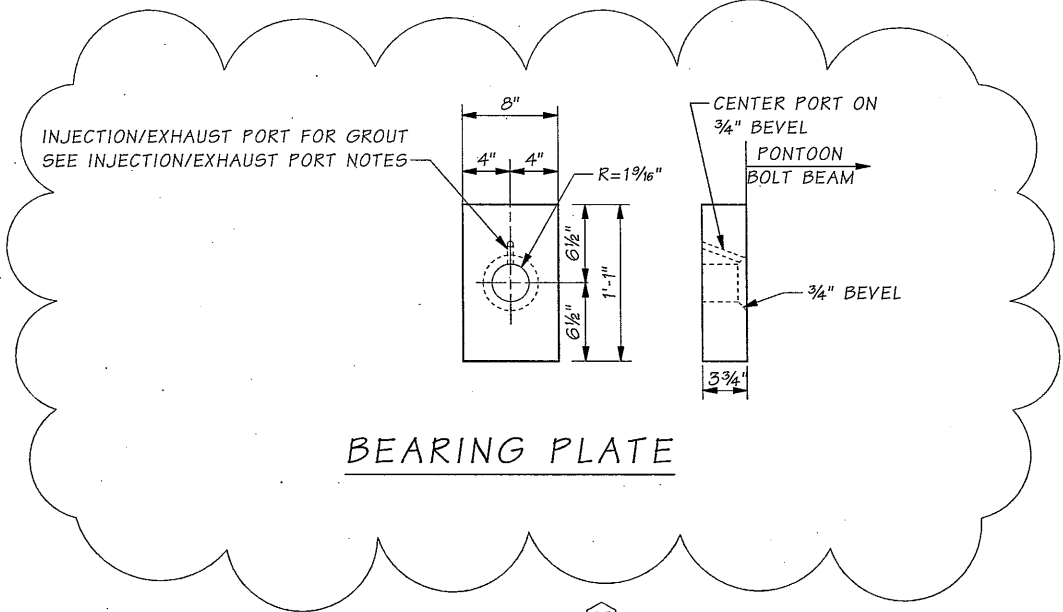


**SECTION C**  
KEEL SLAB BOLT BEAM  
PONTON TYPE 3A  
LOCAL GRIDS SHOWN

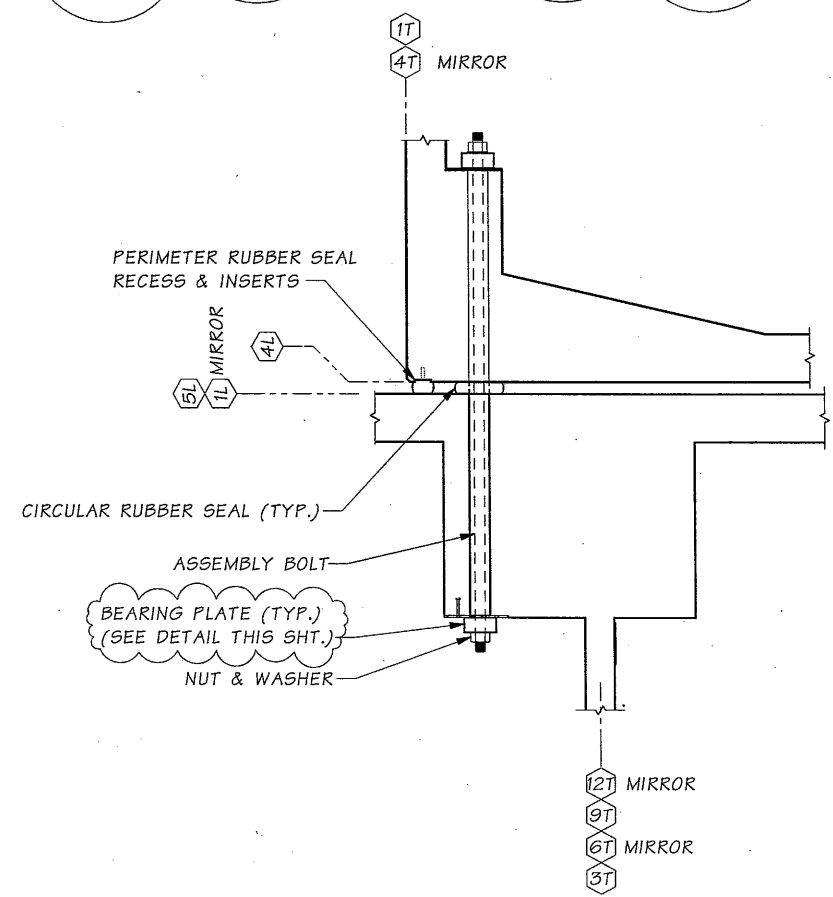
Bridge Design Engr.	Khaleghi, B	M:\w-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\BOLTING DETAILS 3.WND			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	BSA, ADM 02/11	10	WASH.		
Checked By	PFS, ADM 03/11				
Detailed By	Puryear, D 02/11	03/2011	AD16 - ADDED NOTE. REV. CIRC. SEALS	ADM	
Bridge Projects Engr.			ADDED DETAIL		
Prelim. Plan By		02/2011	ADB - NEW SHEET	ADM	
Architect/Specialist		DATE	REVISION	BY	APPD



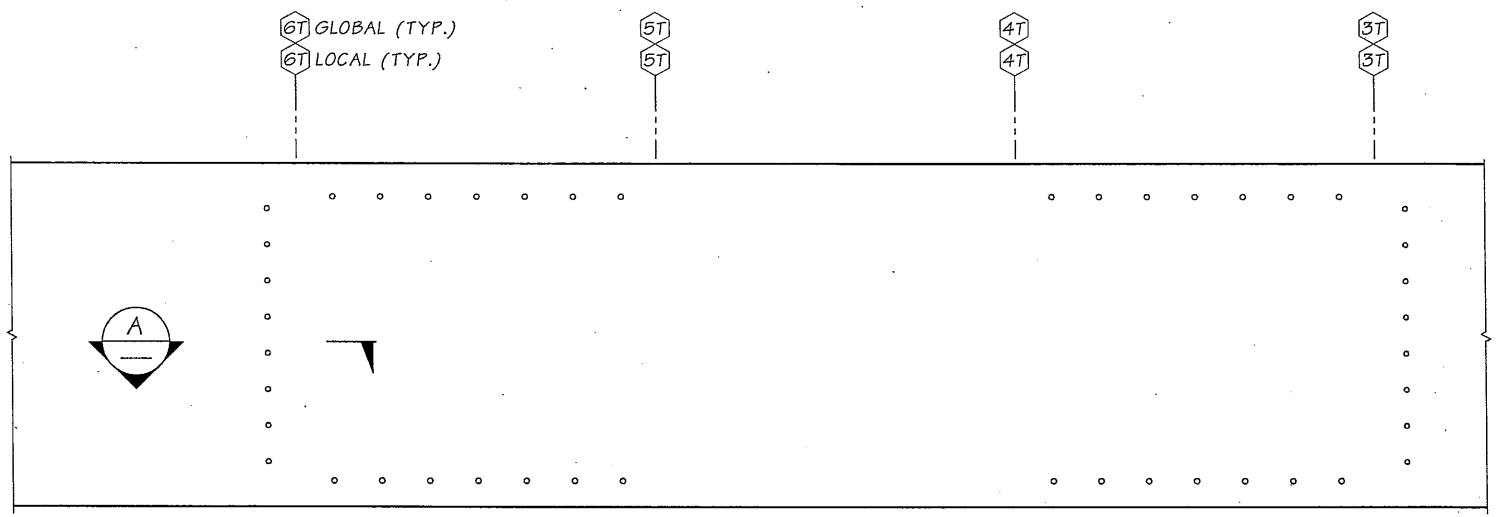
APPENDIX M23 OUTFITTING & ASSEMBLY TECHNICAL REQUIREMENTS		BRIDGE SHEET NO.
PONTON ASSEMBLY DETAILS 3		A5
		SHEET
		OF
		SHEETS



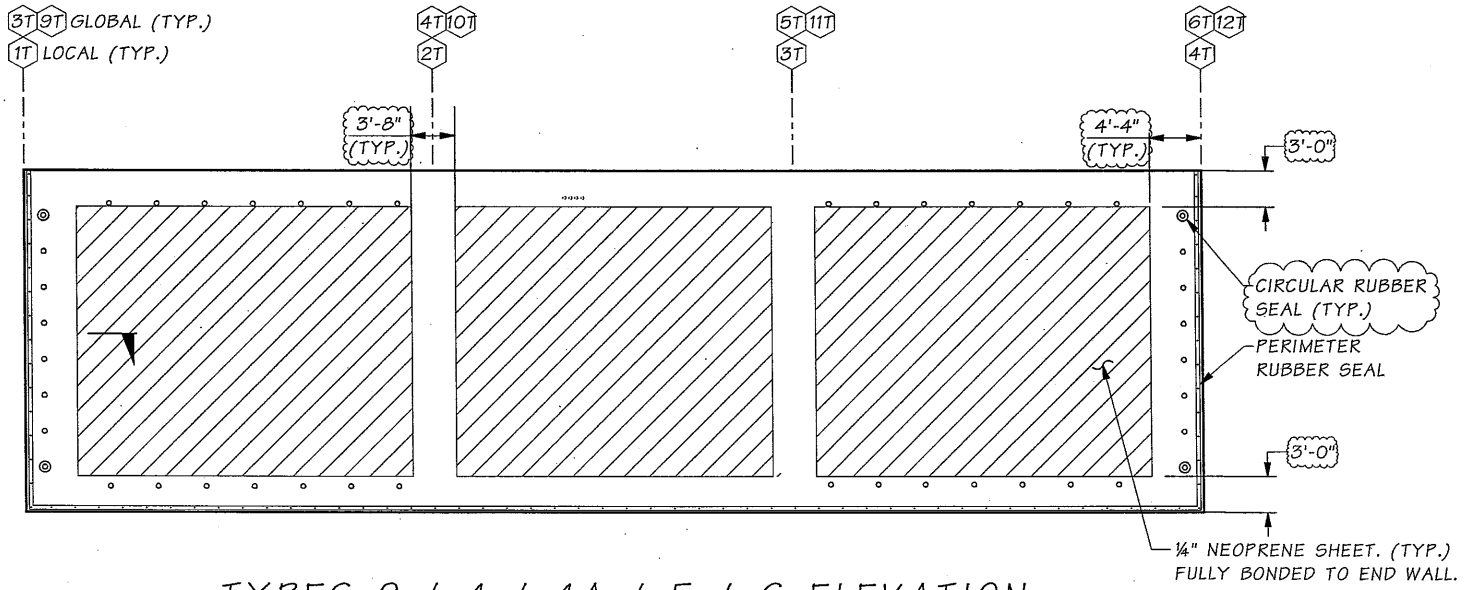
BEARING PLATE



SECTION A  
LOCAL GRIDS SHOWN



TYPE 1 / 1A ELEVATION  
SHOWN BETWEEN 3T AND 6T ALONG 5L GLOBAL (1L LOCAL)  
SIMILAR BETWEEN 9T AND 12T  
MIRROR ALONG 9L GLOBAL (5L LOCAL)



TYPES 2 / 4 / 4A / 5 / 6 ELEVATION  
SHOWN ALONG 5L & 9L GLOBAL (1L LOCAL)

SR SR 520 FILE NO. SHEET A6

Bridge Design Engr.	Khalleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\BOLTING DETAILS 4.WND				
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Designed By	BSA, ADM	02/11	10	WASH.		
Checked By	PFS, ADM	03/11				
Detailed By	Puryear, D	02/11				
Bridge Projects Engr.		03/2011	AD10 - PROVIDED DIMS, REV. CIRC. SEALS	ADM		
Prelim. Plan By		02/2011	ADD - NEW SHEET	ADM		
Architect/Specialist		DATE	REVISION	BY	APPD	

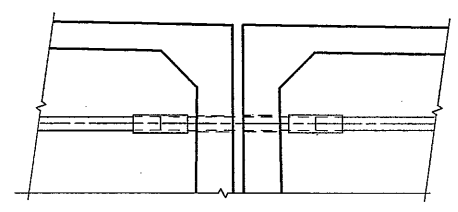
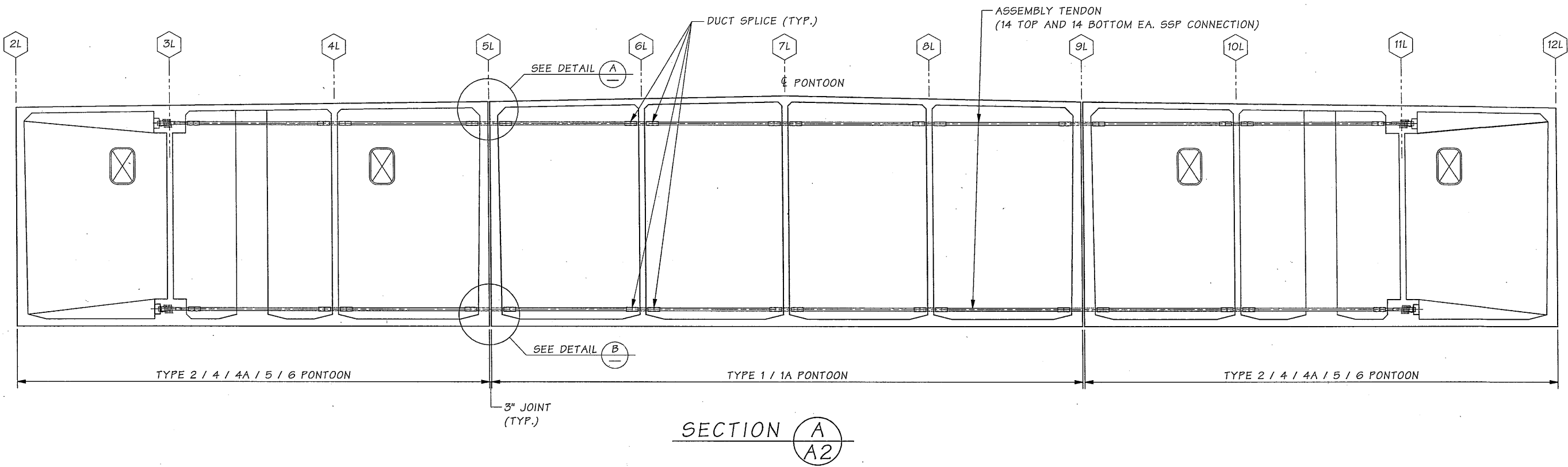
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS  
PONTON ASSEMBLY DETAILS 4

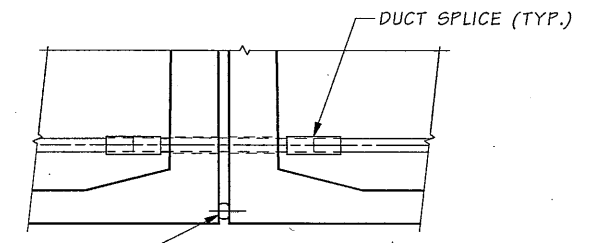
BRIDGE SHEET NO. A6  
SHEET OF SHEETS

Thu Mar 31 13:00:58 2011





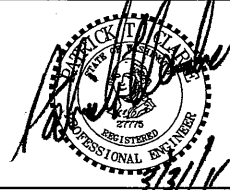
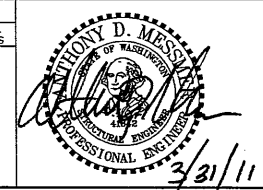
DETAIL A



PERIMETER RUBBER SEAL RECESS & INSERTS  
DETAIL B

SR SR FILE NO. SHEET A7

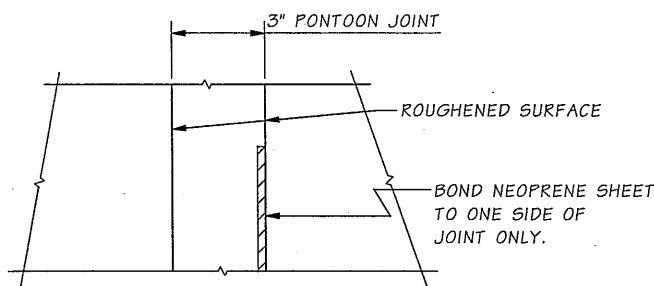
Bridge Design Engr.	khalighi, B	M:\w-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\BOLTING DETAILS 6.WND			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Messmer, A 02/11	10	WASH.		
Checked By	Spitznas, P 03/11	JOB NUMBER			
Detailed By	Puryear, D 02/11	10A057			
Bridge Projects Engr.					
Prelim. Plan By	02/2011 AD8 - NEW SHEET	ADM			
Architect/Specialist	DATE REVISION	BY	APPD		



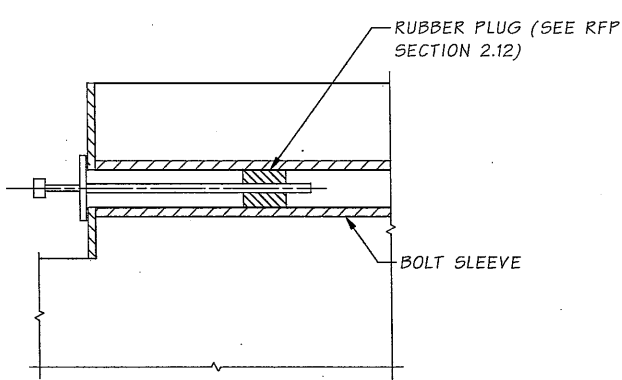
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS  
PONTON ASSEMBLY DETAILS 5

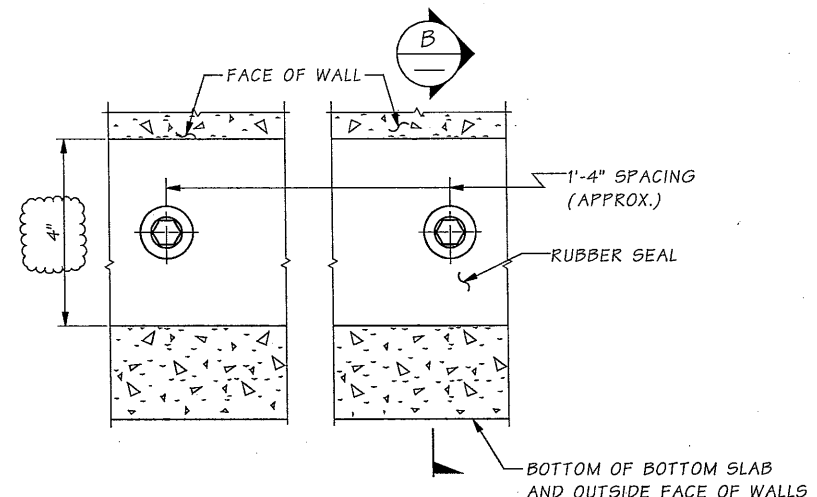
BRIDGE SHEET NO. A7  
SHEET OF SHEETS



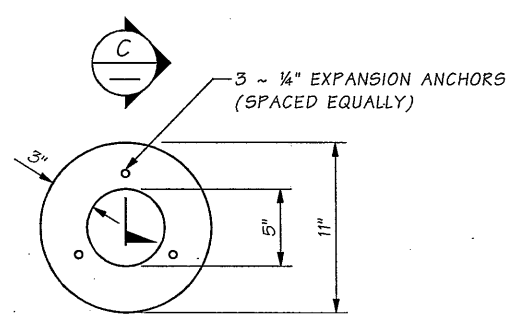
SECTION **A**  
A2, A3



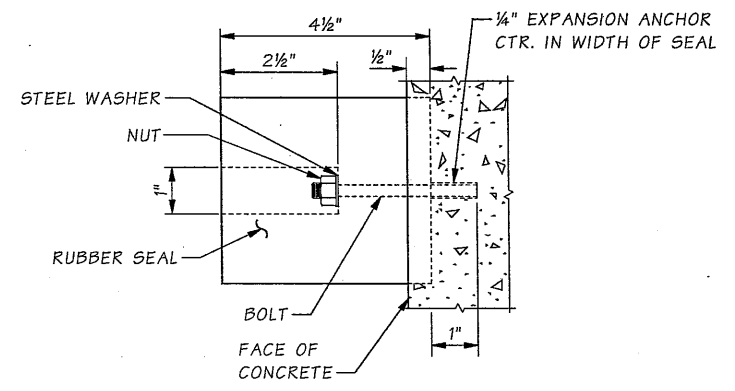
TEMPORARY BOLT SLEEVE PLUG



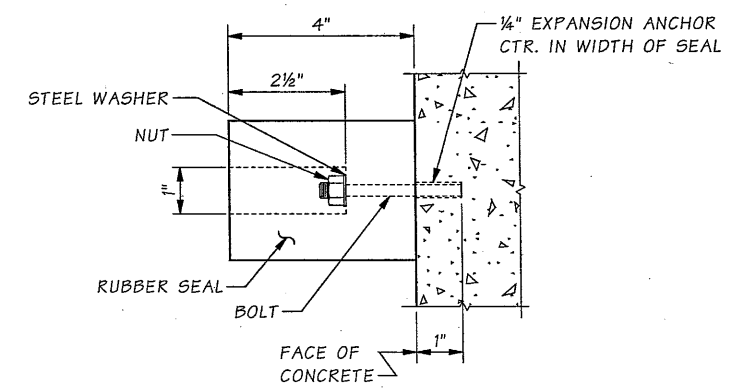
PERIMETER RUBBER SEAL



CIRCULAR RUBBER SEAL  
RUBBER SEAL ATTACHMENT DETAIL



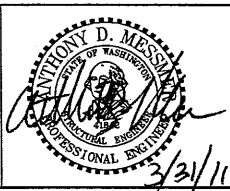
SECTION **B**



SECTION **C**

SR 52 FILE NO. SHEET A8

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\JOINT DET3.wnd				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT					10	WASH.			
Designed By	Messmer, A	11/10								
Checked By	Spitznas, P	03/11	03/2011	AD16 - REV. SEAL DIM.	ADM					
Detailed By	Gunis, E	10/10	03/2011	AD13 - REV. DIM.	ADM					
Bridge Projects Engr.			02/2011	AD8 - REMOVED NOTES	ADM					
Prelim. Plan By			01/2011	AD3 - REVISED NOTE 5 AND DETAIL CALLOUTS	ADM					
Architect/Specialist			DATE	REVISION	BY	APP'D				

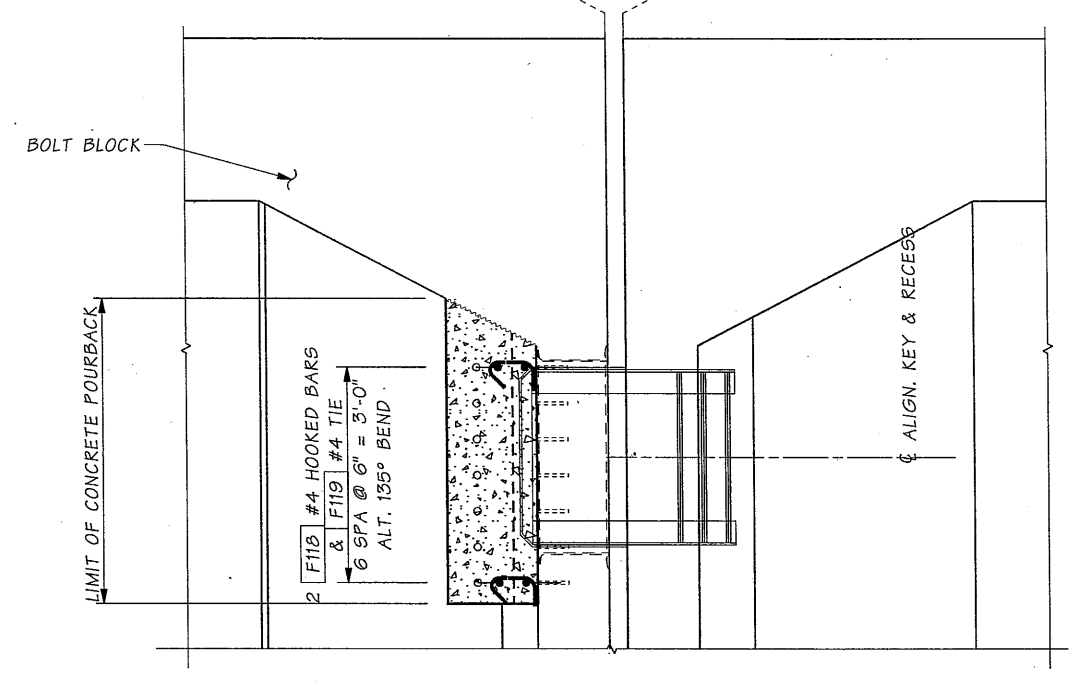


**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

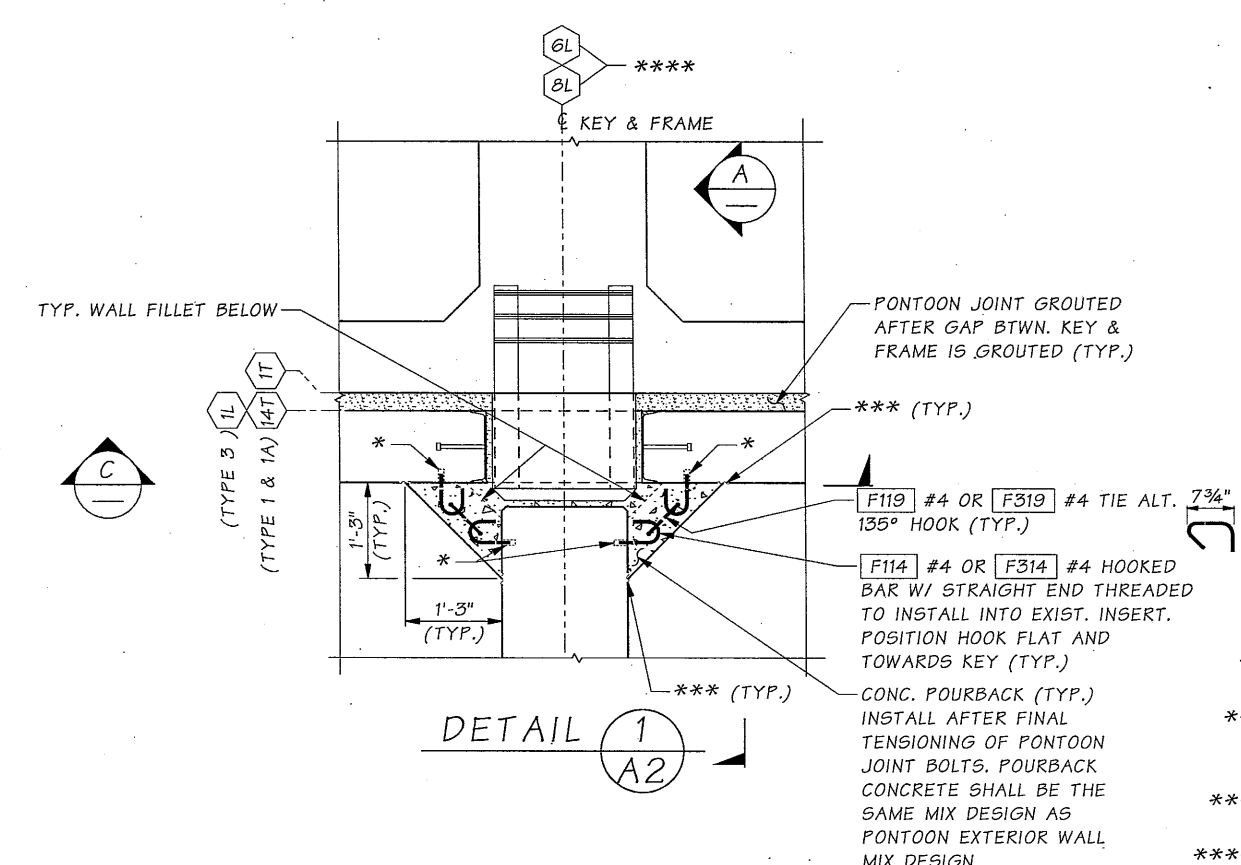
APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS  
PONTOON ASSEMBLY DETAILS 6.

BRIDGE SHEET NO. A8  
SHEET OF SHEETS

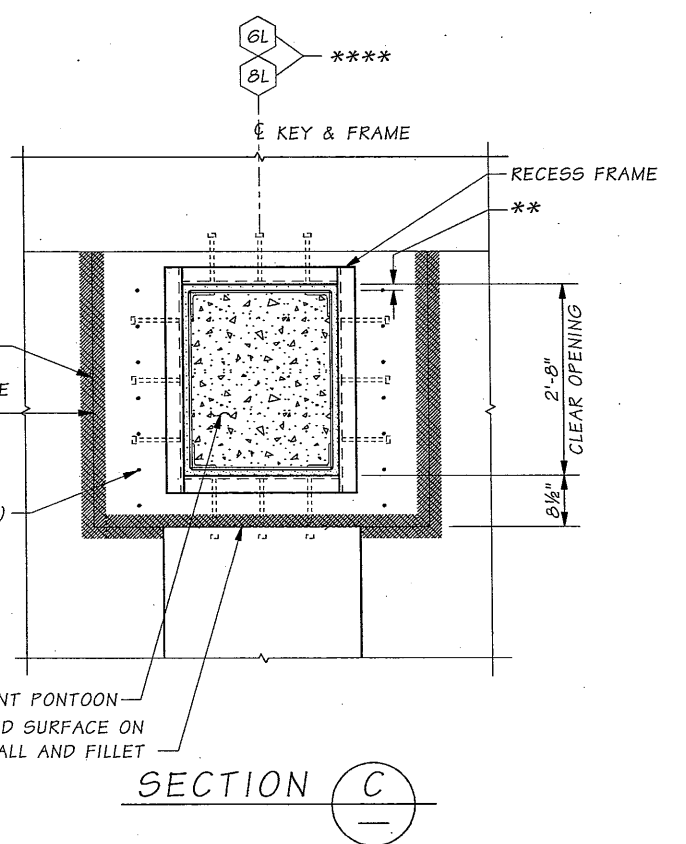
PONTOON TYPE 3 4T 1T  
 PONTOON TYPE 1/1A 14T 1T  
 \*\*\*\*\*



SECTION A



DETAIL 1 A2



SECTION C

- \* EXISTING C-I-P THREADED INSERTS (SEE APPENDIX M11)
- \*\* 1" GAP BETWEEN KEY AND RECESS FRAME TO BE GROUTED BEFORE GROUTING PONTOON JOINT (TYP.)
- \*\*\* 4" WIDE ROUGHENED SURFACE PREPARED PRIOR TO POURBACK.
- \*\*\*\* GLOBAL WALL NAMES SEE BR. SHT. ID1

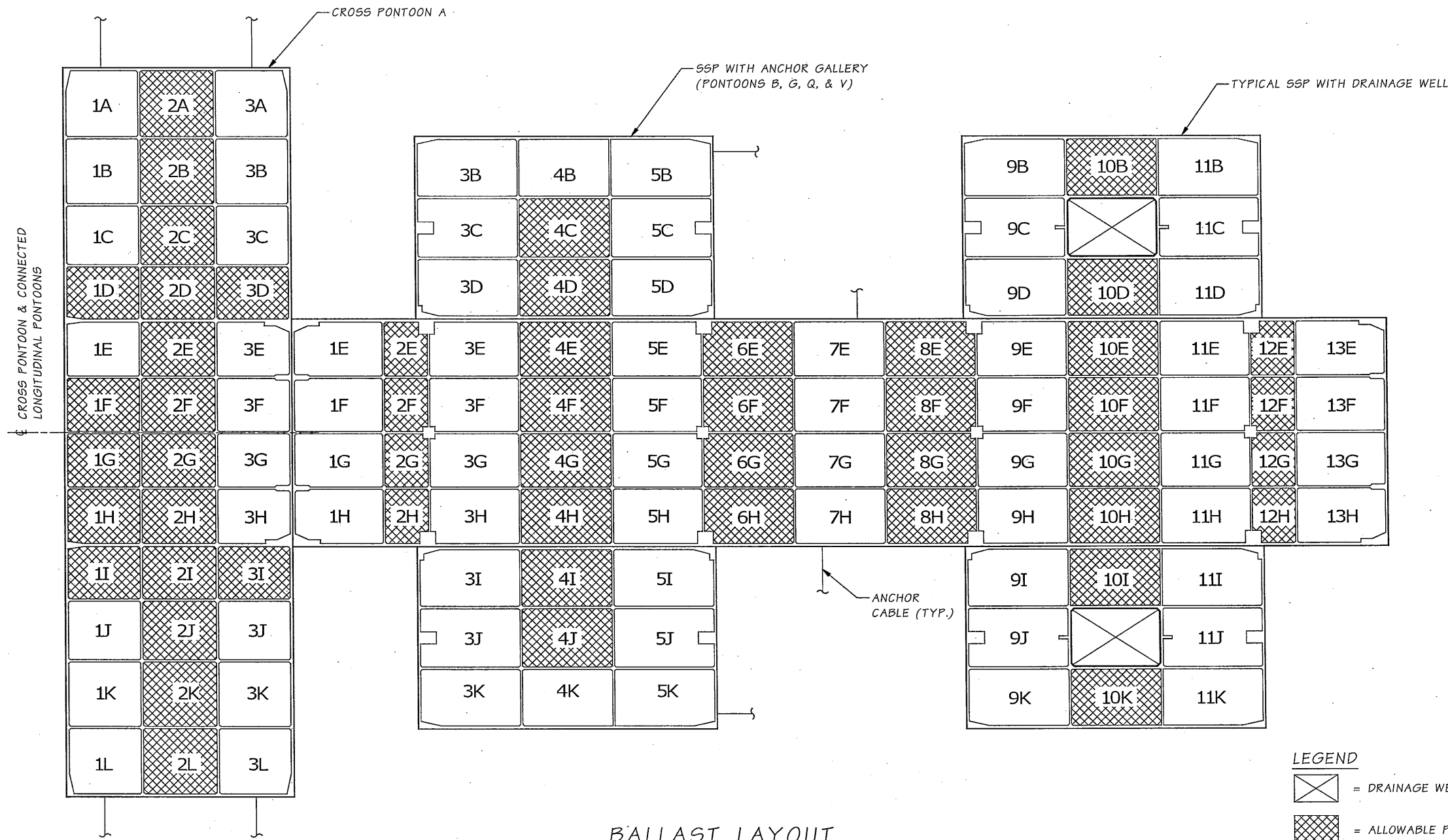
SR SR 52 FILE NO. SHEET A9

Bridge Design Engr.	khalleghi, B	M:\w-team\SR 520 FLOATING BRIDGE\M23 OUTFITTING\window files\KEY CLOSURE DETAILS.WND			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	TOTAL SHEETS
Designed By	Olson, DE 03/11	10	WASH.		
Checked By	Dornsife, RJ 03/11	JOB NUMBER			
Detailed By	Puryear, D 03/11	10A057			
Bridge Projects Engr.		DATE	REVISION	BY	APPD
Prelim. Plan By	03/2011 AD16 - NEW SHEET DEO				
Architect/Specialist					

**Washington State Department of Transportation**  
 BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
 OUTFITTING & ASSEMBLY  
 TECHNICAL REQUIREMENTS**  
 PONTOON ASSEMBLY DETAILS 7

BRIDGE SHEET NO. A9  
 SHEET OF SHEETS



**BALLAST LAYOUT**  
WEST END OF BRIDGE

**LEGEND**

= DRAINAGE WELL

= ALLOWABLE PERMANENT BALLAST LOCATIONS

- BALLAST NOTES**
- SEE APPENDICES M11 AND M22 FOR ALLOWABLE TEMPORARY BALLAST LOCATIONS.
  - THE MAXIMUM HEIGHT OF PERMANENT BALLAST SHALL BE 3 FEET ABOVE THE UNDERSIDE OF THE PONTOON.
  - PERMANENT BALLAST SHALL BE GRAVEL AND CONFORM TO THE REQUIREMENTS OF RFP SECTION 2.12.5.14.2.

SR 52 FILE NO. SHEET A10

Bridge Design Engr.	Khaloghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\BALLAST 1.wnd
Supervisor	Clarke, PT	
Designed By	Ferluga, E	11/10
Checked By	Spitznas, P	03/11
Detailed By	Lemons, T	10/10
Bridge Projects Engr.		03/2011 AD16 - REV. SHEET & SHEET NUMBER EJP
Prelim. Plan By		02/2011 ADB - REVISED SHEET NUMBER ADM
Architect/Specialist		DATE REVISION BY APP'D

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10	WASH.			

JOB NUMBER	10A057
------------	--------

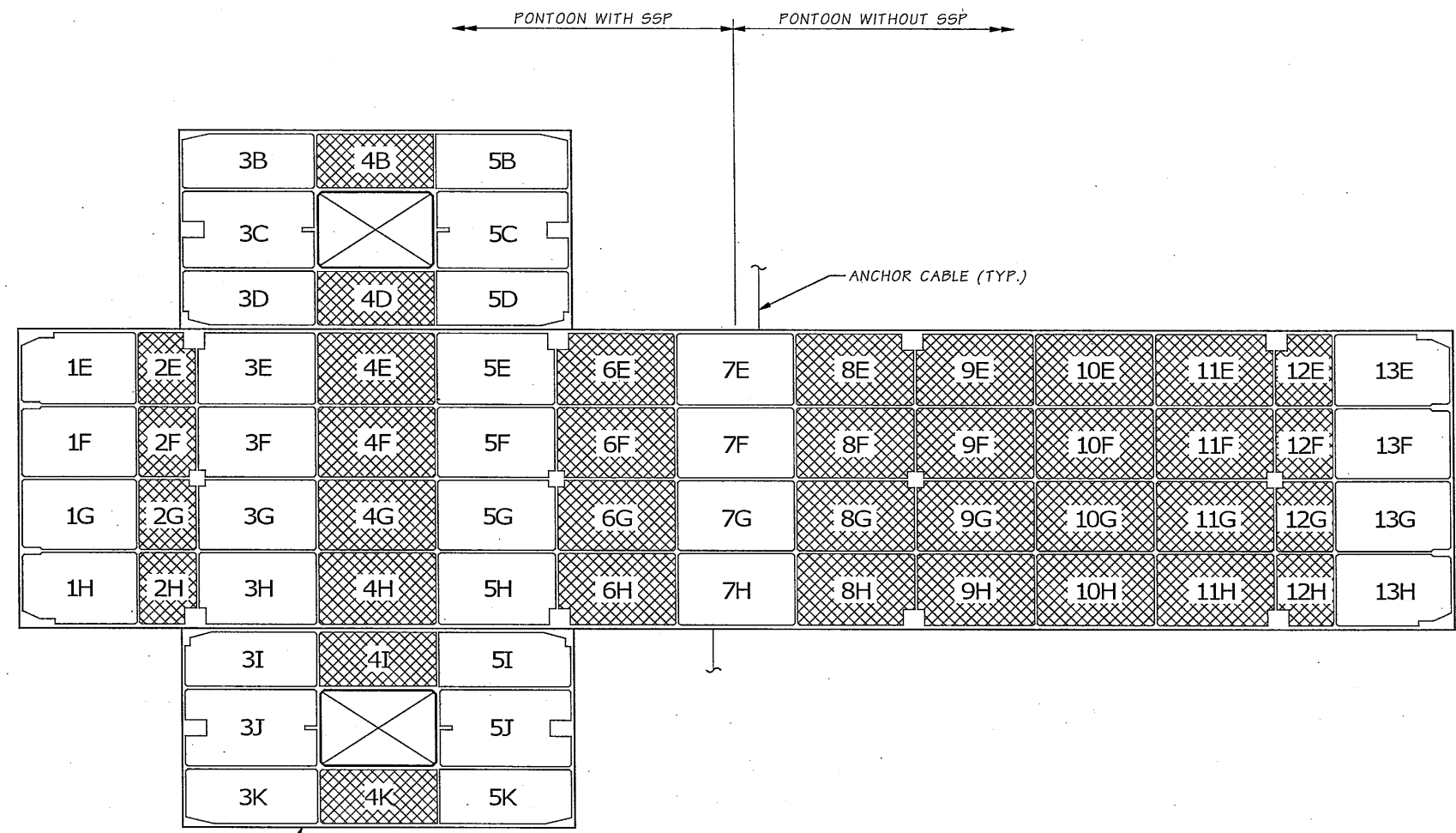
**Washington State Department of Transportation**  
 BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23**  
**OUTFITTING & ASSEMBLY**  
**TECHNICAL REQUIREMENTS**

ALLOWABLE BALLAST LOCATIONS  
 1 OF 3

BRIDGE SHEET NO. A10  
 SHEET OF SHEETS

SR 52 FILE NO. SHEET A11



**BALLAST LAYOUT**  
MIDDLE OF BRIDGE

**LEGEND**

- = DRAINAGE WELL
- = ALLOWABLE PERMANENT BALLAST LOCATIONS

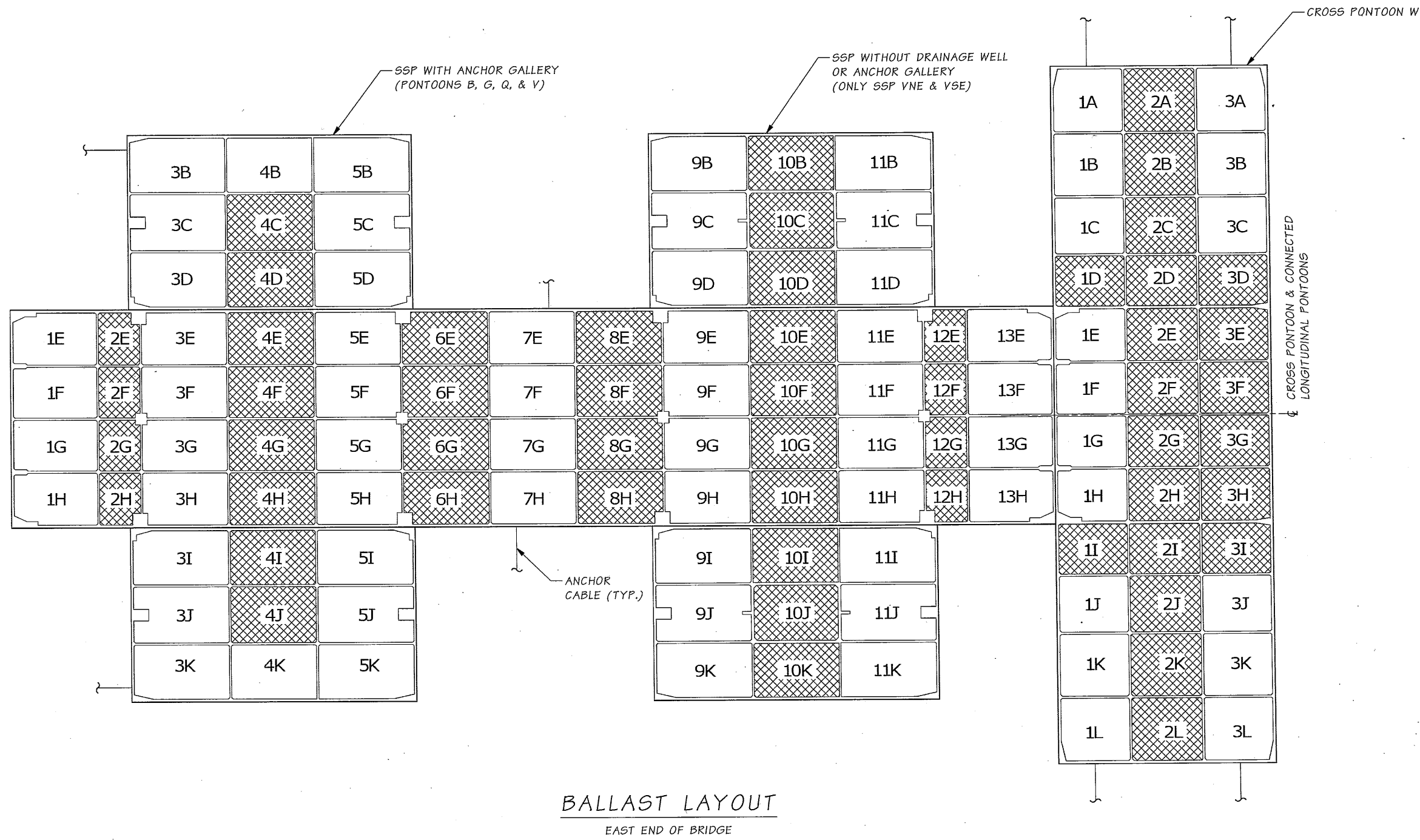
Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\BALLAST 2.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Ferluga, E 11/10	10	WASH.		TOTAL SHEETS
Checked By	Spitznas, P 03/11	JOB NUMBER 10A057			
Detailed By	Lemons, T 10/10				
Bridge Projects Engr.	03/2011 ADIG - REV. SHEET & SHEET NUMBER	EJF			
Prelim. Plan By	02/2011 ADB - REVISED SHEET NUMBER	ADM			
Architect/Specialist	DATE REVISION	BY	APP'D		

**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

ALLOWABLE BALLAST LOCATIONS  
2 OF 3

BRIDGE SHEET NO. **A11**  
OF SHEETS



**BALLAST LAYOUT**  
EAST END OF BRIDGE

**LEGEND**  
 = DRAINAGE WELL  
 = ALLOWABLE PERMANENT BALLAST LOCATIONS

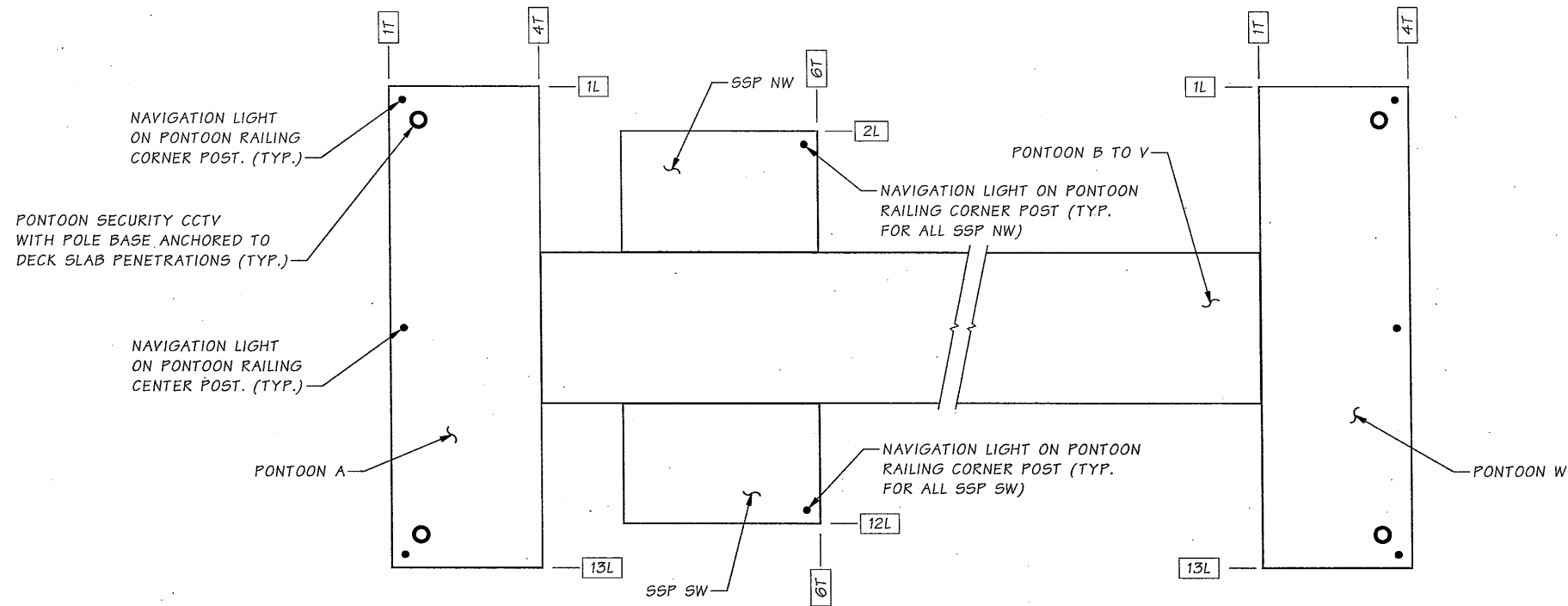
SR SR 52 FILE NO. SHEET A12

Bridge Design Engr.	khaleghi, B	M:\w-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\BALLAST 3.WND			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Ferluga, E 11/10	10	WASH.		
Checked By	Spitznas, P 03/11	JOB NUMBER 10A057			
Detailed By	Lemons, T 10/10				
Bridge Projects Engr.	03/2011	AD16 - REV. SHEET & SHEET NUMBER	EJF		
Prelim. Plan By	02/2011	ADB - REVISED SHEET NUMBER	ADM		
Architect/Specialist	DATE	REVISION	BY	APP'D	

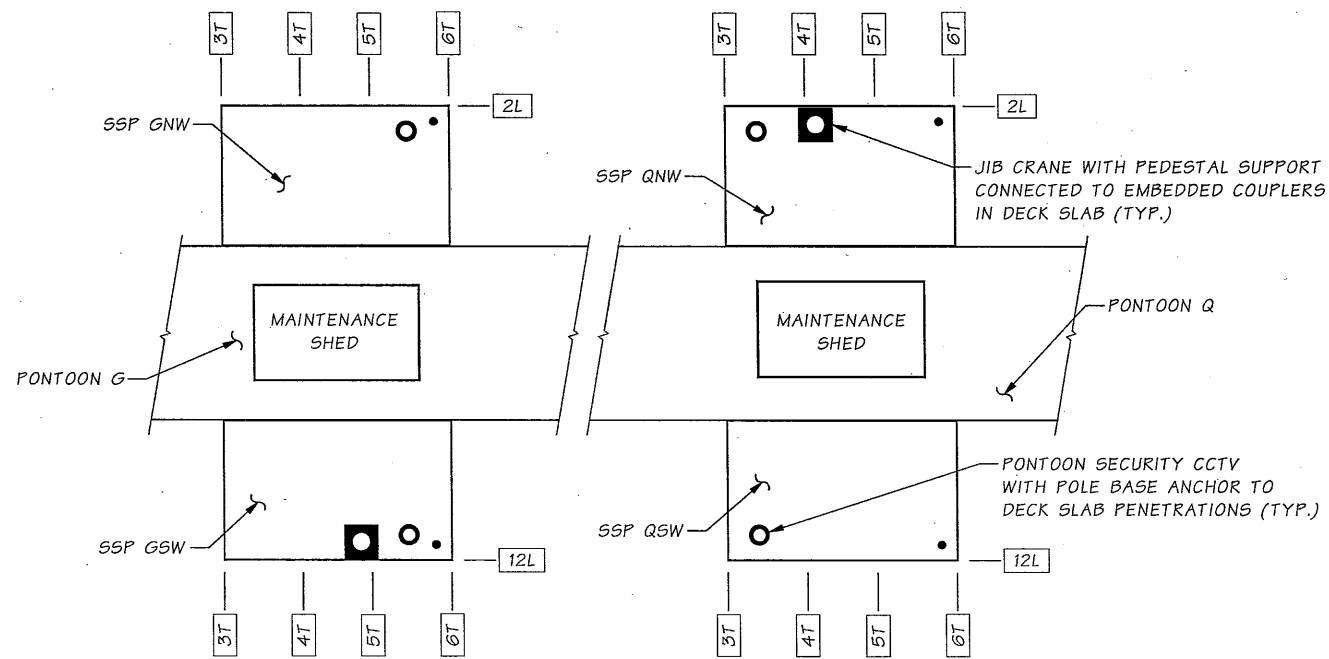
**APPENDIX M23**  
**OUTFITTING & ASSEMBLY**  
**TECHNICAL REQUIREMENTS**

ALLOWABLE BALLAST LOCATIONS  
3 OF 3

BRIDGE SHEET NO. **A12**  
OF SHEETS



TYPICAL NAVIGATION LIGHT / CCTV LAYOUT



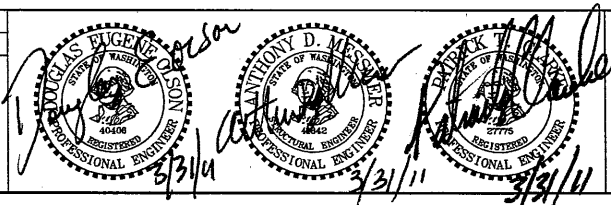
NAVIGATION LIGHT, CCTV, JIB CRANE LAYOUT

PONTOONS G & Q

NOTE:  
SEE APPENDIX M11 AND M22 DRAWINGS FOR LOCATIONS OF DECK SLAB PENETRATIONS, EMBEDDED COUPLERS IN DECK SLAB, AND RAILING POST LOCATIONS.

SR SR FILE NO. SHEET A13

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\NAV LIGHT LAYOUT.wnd
Supervisor	Clarke, PT	
Designed By	Olson, DE	11/10
Checked By	Dornsife, RJ	03/11
Detailed By	Lemons, T	10/10
Bridge Projects Engr.		02/2011
Prelim. Plan By		01/2011
Architect/Specialist		
DATE	REVISION	BY APP'D
10	WASH.	
JOB NUMBER	10A057	

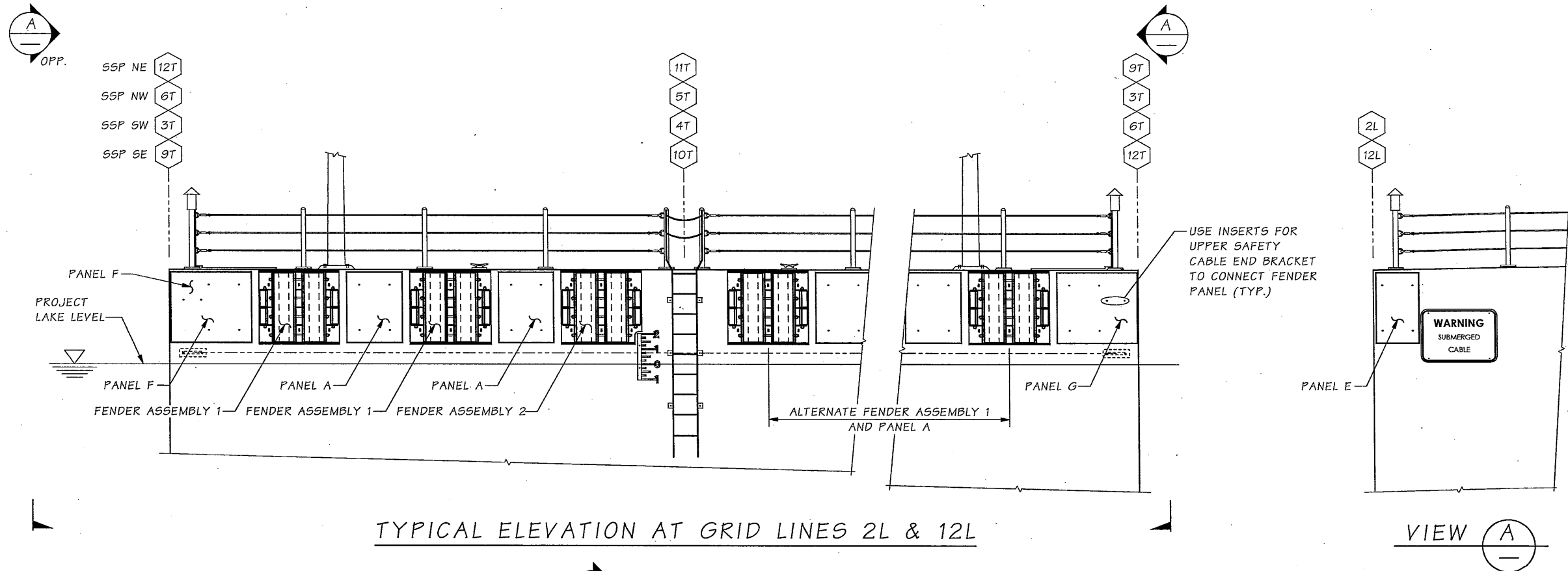


Washington State Department of Transportation  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

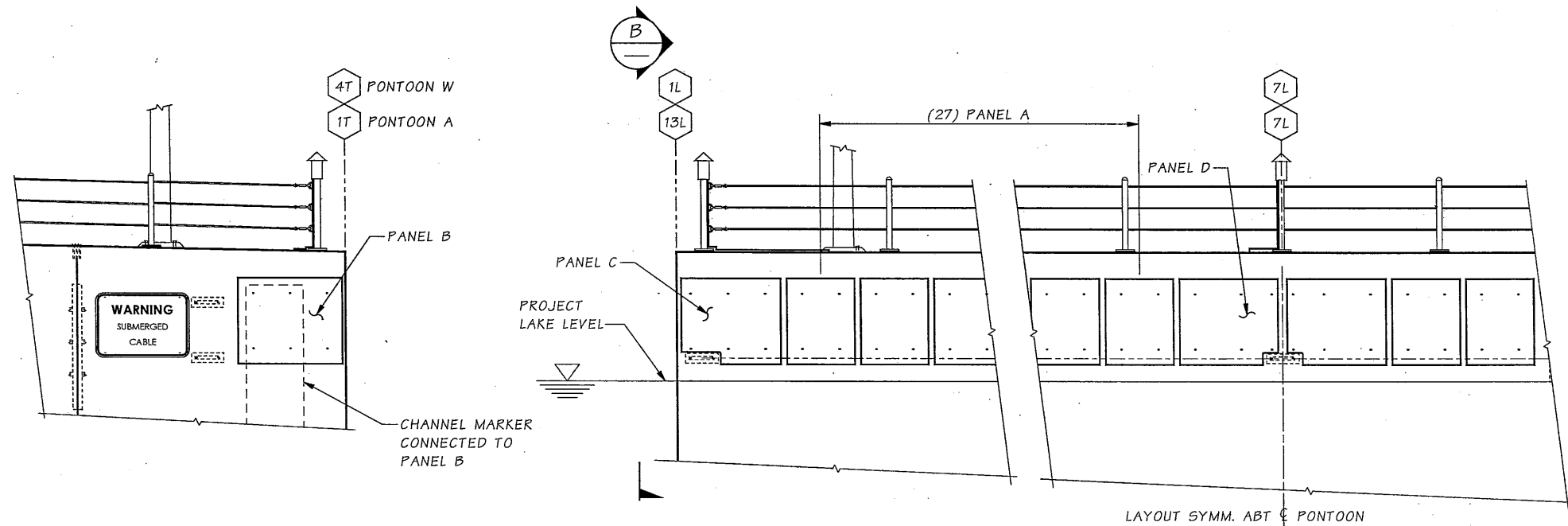
NAVIGATION LIGHT, CCTV  
& JIB CRANE LAYOUT

BRIDGE SHEET NO. A13 OF SHEETS



TYPICAL ELEVATION AT GRID LINES 2L & 12L

VIEW A

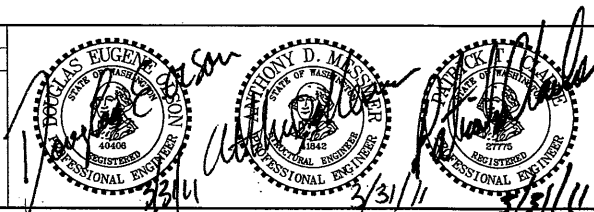


TYPICAL ELEVATION AT NAVIGATION CHANNELS

VIEW B  
GRID LINE 1T SHOWN

SR SR 52 FILE NO. SHEET A14

Bridge Design Engr.	khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\FENDER LAYOUT.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Olson, DE 11/10	10	WASH.		TOTAL SHEETS
Checked By	Messmer, A 03/11	JOB NUMBER 10A057			
Detailed By	Lemons, T 10/10				
Bridge Projects Engr.		DATE	REVISION	BY	APPD
Prelim. Plan By		03/2011	AD16 - REVISED SHEET NUMBER	ADM	
Architect/Specialist		02/2011	ADB - REVISED SHEET NUMBER	ADM	



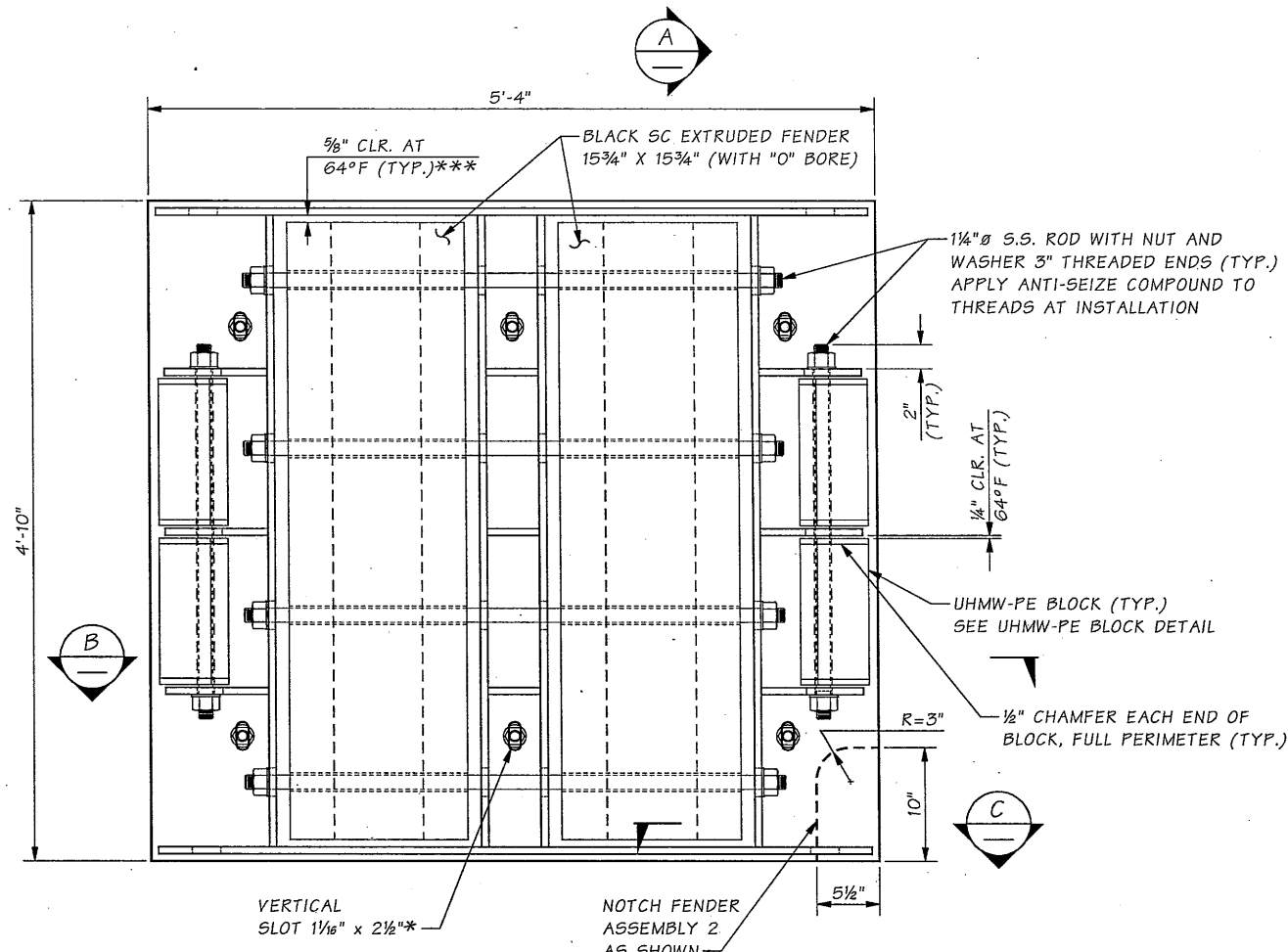
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

MARINE FENDER LAYOUT

BRIDGE SHEET NO. A14 OF SHEETS





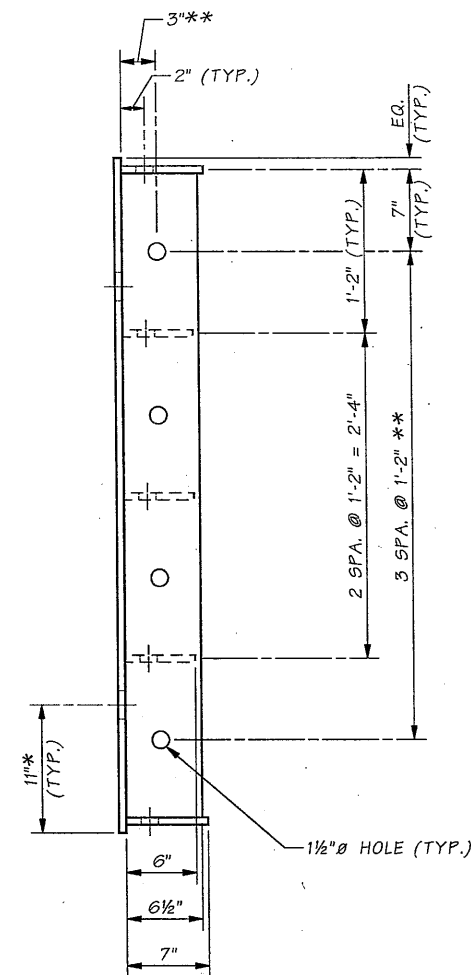
**FENDER ASSEMBLY**

- FENDER ASSEMBLY 1 SHOWN (32 REQUIRED)
- FENDER ASSEMBLY 2 AS NOTED (4 REQUIRED)
- ALL PLATES ARE A558 & 1/2 U.N.O. GALVANIZE AFTER ASSEMBLY
- FILLET WELD ALL STEEL CONNECTIONS BOTH SIDES

\* SLOT SIZE AND LOCATION BASED ON APPENDIX M11 INSERT LAYOUT. FIELD VERIFY SIZE AND LOCATION BEFORE FABRICATION.

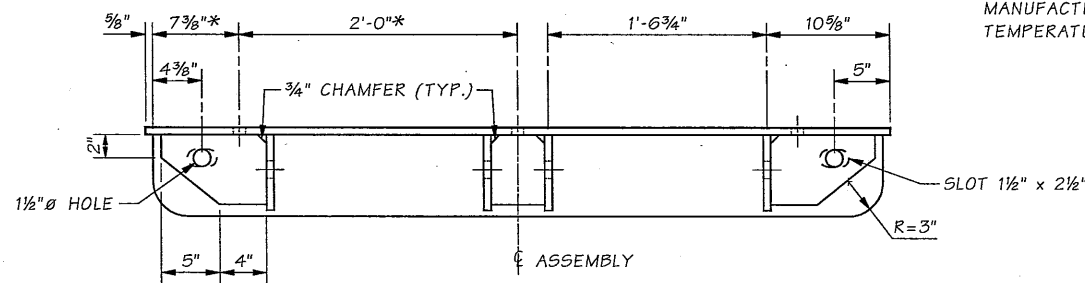
\*\* ADJUST HOLE LOCATIONS BASED ON FENDER MANUFACTURER FINAL HOLE LOCATIONS IN FENDER.

\*\*\* APPROXIMATE END GAP BETWEEN R AND EXTRUDED FENDER. ADJUST AS NEEDED BASED ON FENDER MANUFACTURER AND INSTALLATION TEMPERATURE.



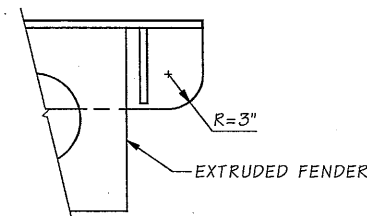
**SECTION A**

SC EXTRUDED FENDER, UHMW-PE BLOCK AND HARDWARE NOT SHOWN FOR CLARITY.



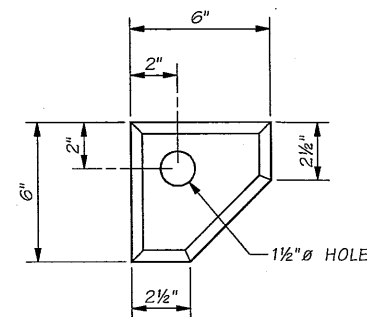
**SECTION B**

ASSEMBLY SYMMETRICAL ABOUT C. SC EXTRUDED FENDER, UHMW-PE BLOCK AND HARDWARE NOT SHOWN FOR CLARITY.



**SECTION C**

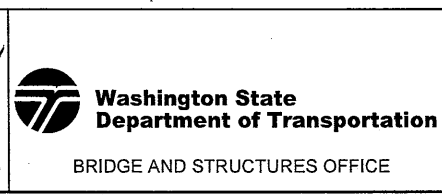
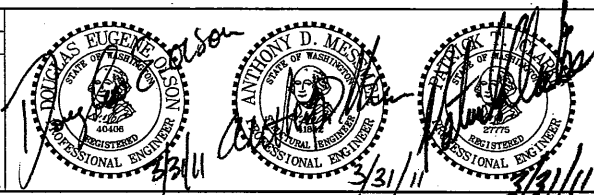
FENDER ASSEMBLY 2 ONLY



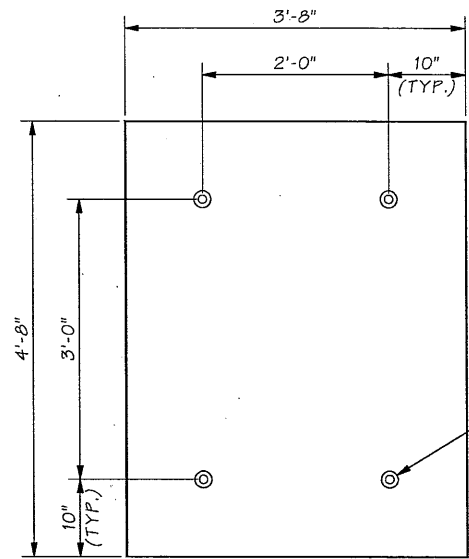
**UHMW-PE BLOCK DETAIL**

SR SR 52 FILE NO. SHEET A15

Bridge Design Engr.	Khalighi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\FENDER DET 1.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Olson, DE 11/10	10	WASH.		
Checked By	Messmer, A 03/11	JOB NUMBER 10A057			
Detailed By	Lemons, T 10/10	DATE REVISION BY APPD			
Bridge Projects Engr.	02/2011	AD16 - REVISED SHEET NUMBER	ADM		
Prelim. Plan By	01/2011	AD3 - REVISED CALLOUT AND UHMW DETAIL	DEO		
Architect/Specialist					

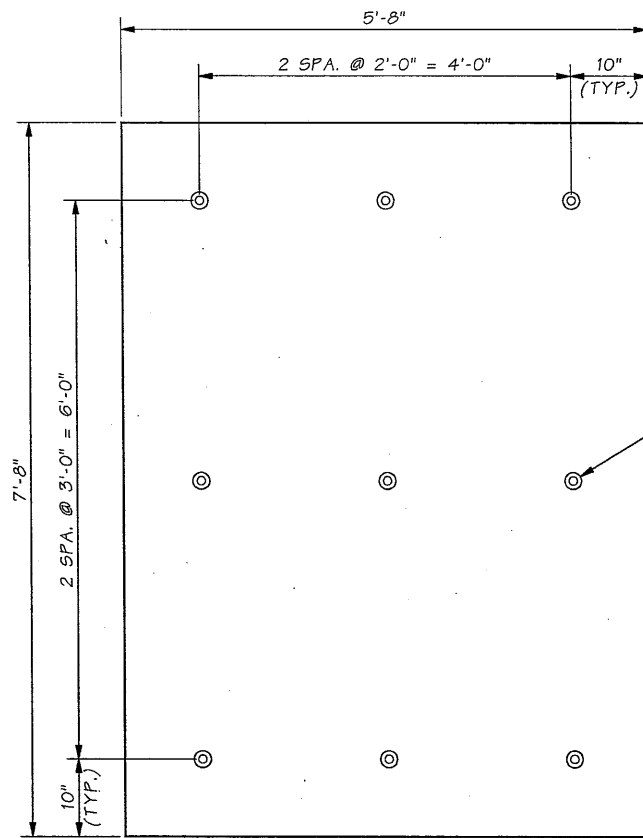


<b>APPENDIX M23 OUTFITTING &amp; ASSEMBLY TECHNICAL REQUIREMENTS</b>		BRIDGE SHEET NO. <b>A15</b>
MARINE FENDER ASSEMBLY DETAILS		OF SHEETS



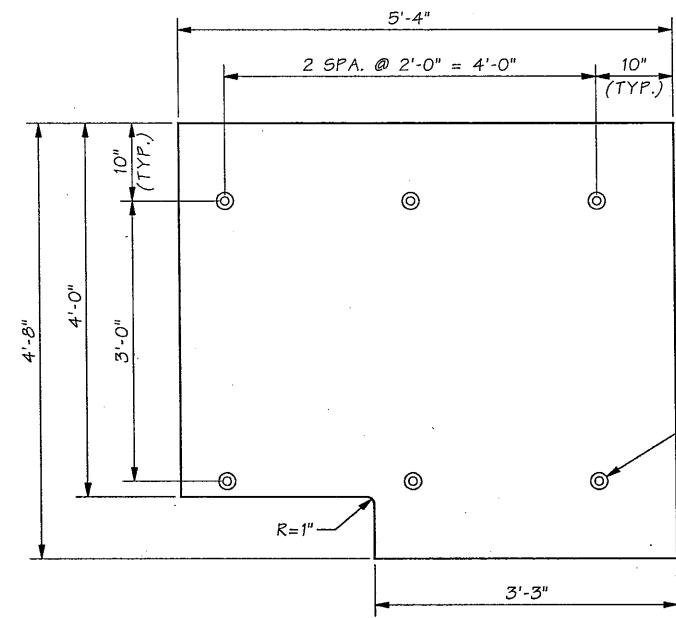
PANEL A

SEE DRILLING DETAIL FOR HOLE Ø (TYP.)



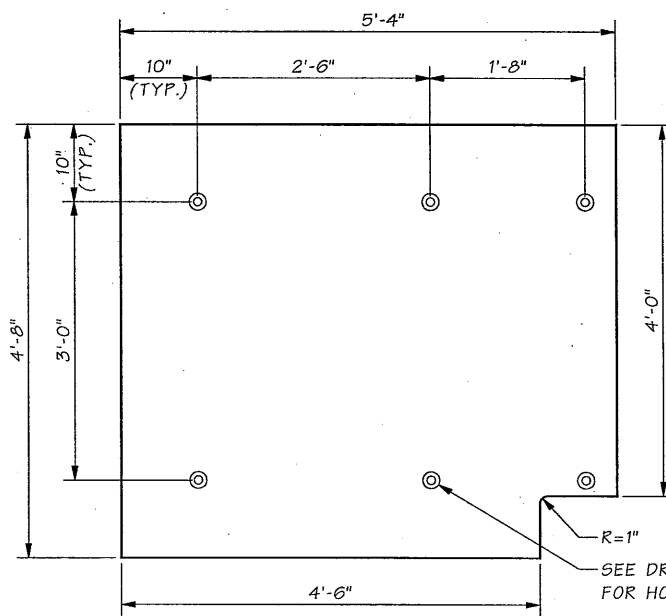
PANEL B

SEE DRILLING DETAIL FOR HOLE Ø (TYP.)



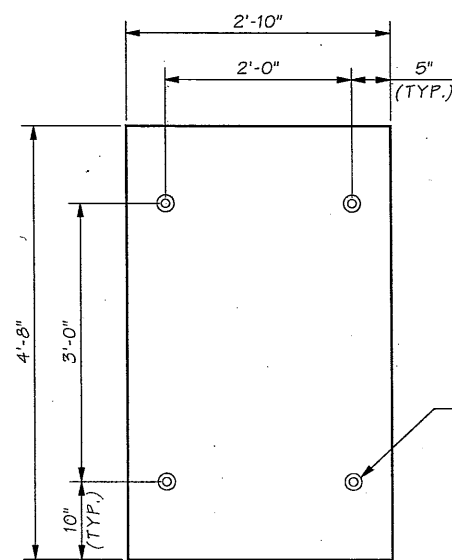
PANEL C

SEE DRILLING DETAIL FOR HOLE Ø (TYP.)



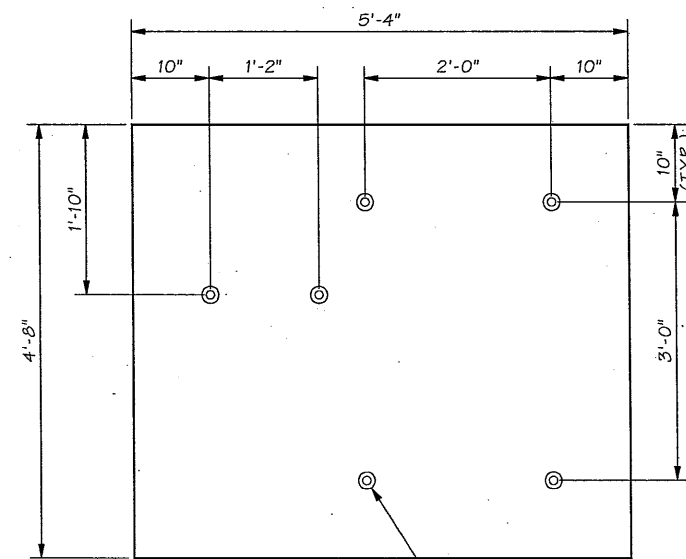
PANEL D

SEE DRILLING DETAIL FOR HOLE Ø (TYP.)



PANEL E

SEE DRILLING DETAIL FOR HOLE Ø (TYP.)

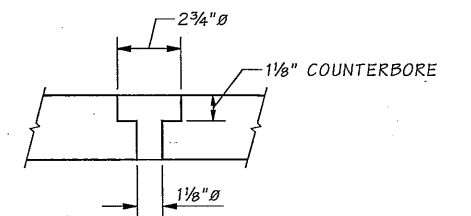


PANELS F & G

SEE DRILLING DETAIL FOR HOLE Ø (TYP.)

NOTES:

- HOLE SPACING BASED ON APPENDIX M11 INSERT LAYOUT. FIELD VERIFY BEFORE DRILLING, AND COUNTERBORING PANELS.
- ALL COUNTERBORES FOR PANELS ARE SHOWN N.F. (U.N.O.)
- ALL PANELS 2 3/4" THICK UHMW



DRILL DETAIL

PANEL F COUNTERBORES N.F.  
PANEL G COUNTERBORES F.F.

SR SR FILE NO. SHEET A16

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\FENDER DET 2.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Olson, DE	10	WASH.		TOTAL SHEETS
Checked By	Messmer, A	JOB NUMBER 10A057			
Detailed By	Lemons, T				
Bridge Projects Engr.	02/2011	AD16 - REVISED SHEET NUMBER	ADM		
Prelim. Plan By	01/2011	AD8 - REVISED SHEET NUMBER	ADM		
Architect/Specialist	DATE	AD3 - REVISED DETAILS AND NOTE	DEO		
		REVISION	BY	APPD	

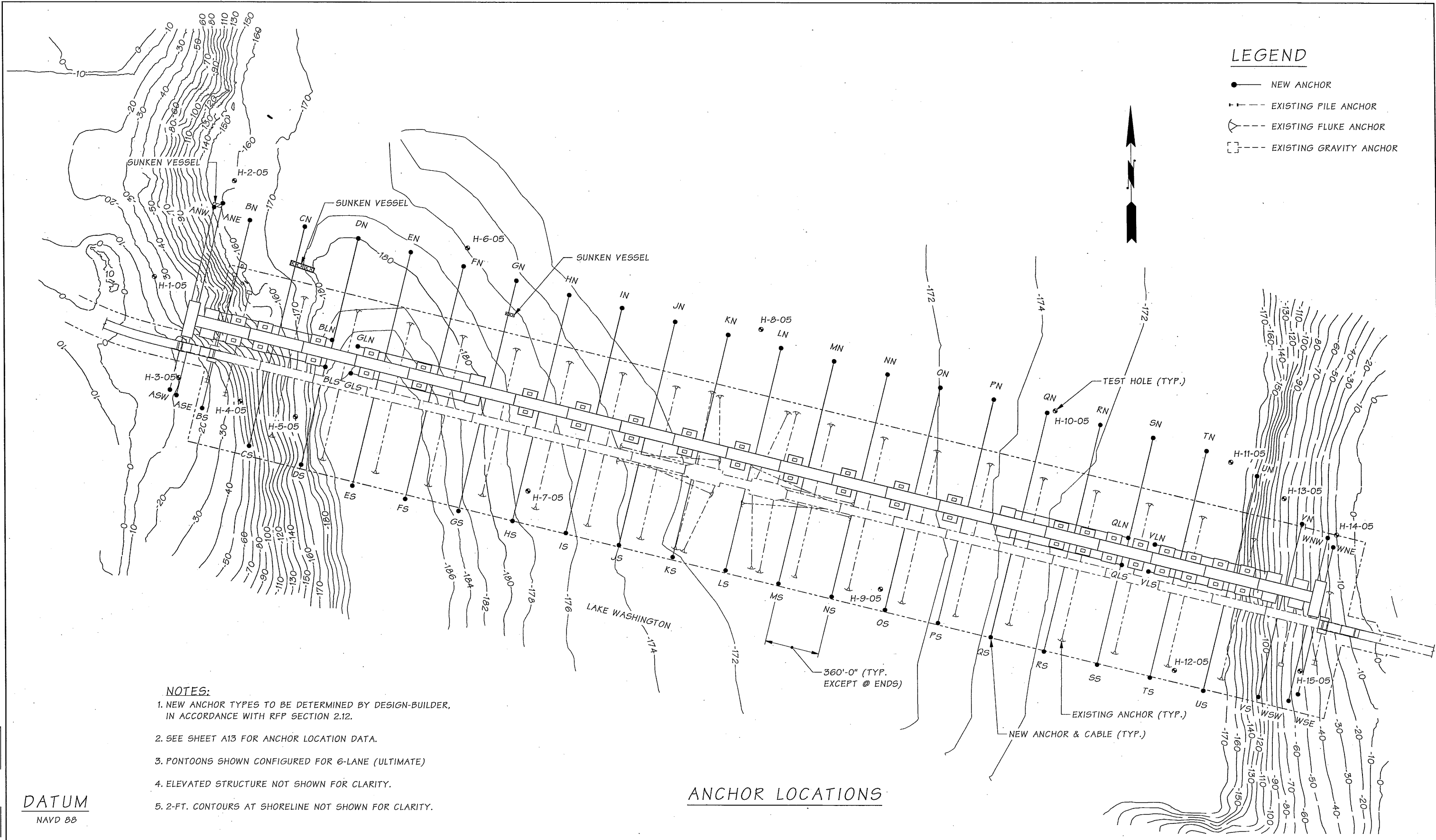
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

MARINE FENDER PANEL  
DETAILS

BRIDGE SHEET NO. A16  
SHEET OF SHEETS

SR SR 52 FILE NO. SHEET A17



**LEGEND**

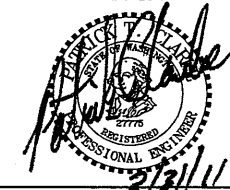
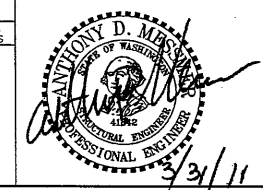
- NEW ANCHOR
- ┆— EXISTING PILE ANCHOR
- ┆— EXISTING FLUKE ANCHOR
- EXISTING GRAVITY ANCHOR

- NOTES:**
1. NEW ANCHOR TYPES TO BE DETERMINED BY DESIGN-BUILDER, IN ACCORDANCE WITH RFP SECTION 2.12.
  2. SEE SHEET A13 FOR ANCHOR LOCATION DATA.
  3. PONTOONS SHOWN CONFIGURED FOR 6-LANE (ULTIMATE)
  4. ELEVATED STRUCTURE NOT SHOWN FOR CLARITY.
  5. 2-FT. CONTOURS AT SHORELINE NOT SHOWN FOR CLARITY.

**DATUM**  
NAVD 88

**ANCHOR LOCATIONS**

Bridge Design Engr.	Khalighi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\ANCHOR LOC 1.WND			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Messmer, A 11/10	10	WASH.		
Checked By	Ferluga, E 03/11	JOB NUMBER			
Detailed By	Lemons, T 10/10	10A057			
Bridge Projects Engr.		DATE	REVISION	BY	APPD
Prelim. Plan By					
Architect/Specialist					

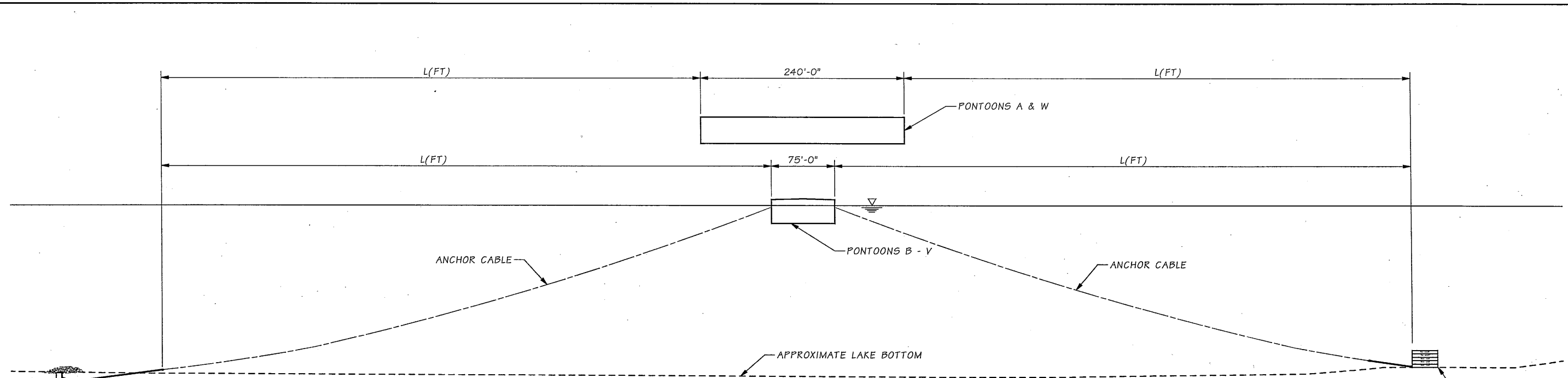


**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

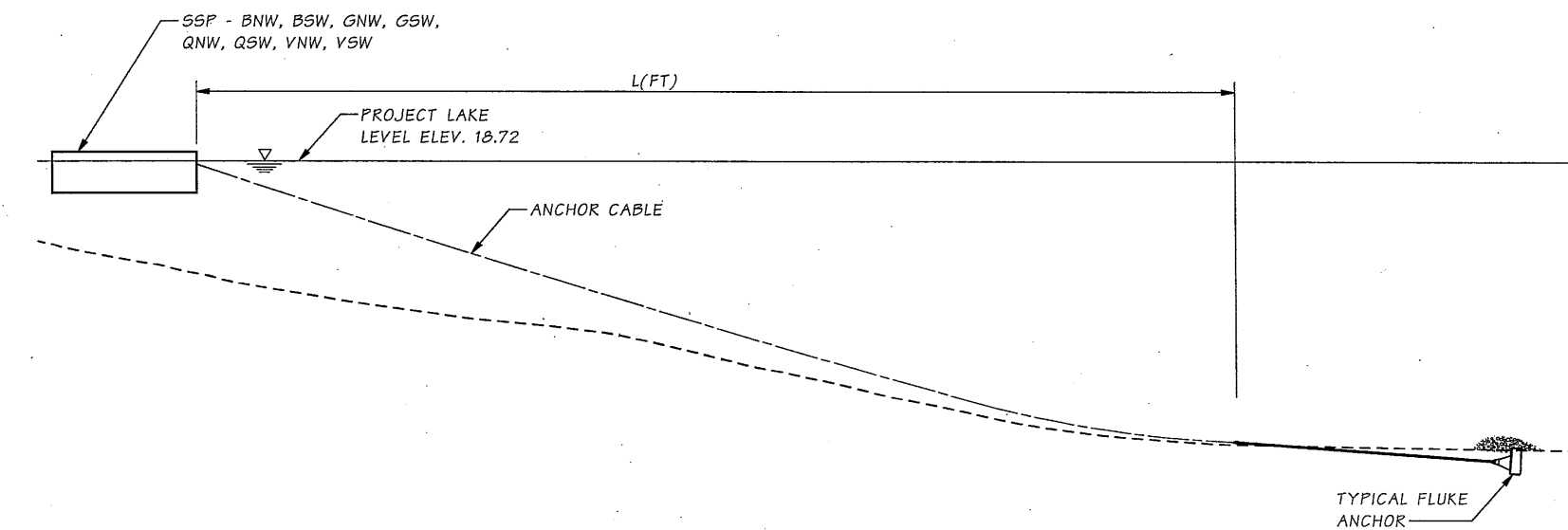
**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

ANCHOR LOCATION PLAN

BRIDGE SHEET NO. **A17**  
OF SHEETS



**PONTOON ANCHOR DATA**  
SEE TABLE FOR DIMENSIONS

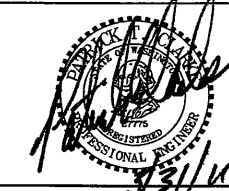
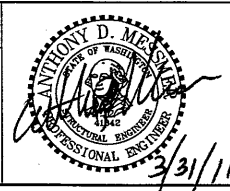


**SSP ANCHOR DATA**  
SEE TABLE FOR DIMENSIONS

PONTOON	ANCHOR ID	HORIZONTAL LENGTH PORTAL TO PIN. L (FT)	PONTOON	ANCHOR ID	HORIZONTAL LENGTH PORTAL TO PIN. L (FT)	PONTOON	ANCHOR ID	HORIZONTAL LENGTH PORTAL TO PIN. L (FT)
A	ANE	660	H	HN	707	Q	QN	712
A	ANW	622	H	HS	727	Q	QS	712
A	ASE	375	I	IN	708	R	RN	719
A	ASW	350	I	IS	719	R	RS	719
BNW	BLN	743	J	JN	704	S	SN	719
BSW	BLS	742	J	JS	712	S	SS	719
B	BN	678	K	KN	704	T	TN	719
B	BS	500	K	KS	704	T	TS	719
C	CN	724	L	LN	704	U	UN	638
C	CS	666	L	LS	704	U	US	719
D	DN	734	M	MN	704	VNW	VLN	745
D	DS	704	M	MS	704	VSW	VLS	745
E	EN	730	N	NN	704	V	VN	404
E	ES	757	N	NS	704	V	VS	673
F	FN	723	O	ON	704	W	WNE	222
F	FS	757	O	OS	704	W	WNW	273
GNW	GLN	754	P	PN	712	W	WSE	510
GSW	GLS	757	P	PS	704	W	WSW	568
G	GN	715	QNW	QLN	745			
G	GS	749	QSW	QLS	745			

SR SR FILE NO. SHEET A18

Bridge Design Engr.	khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\ANCHOR LOC 2.wnd				SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.			
Designed By	Messmer, A 11/10	10	WASH.				
Checked By	Ferluga, E 03/11						
Detailed By	Lemons, T 10/10	02/2011	AD16 - REVISED SHEET NUMBER	ADM			
Bridge Projects Engr.		02/2011	ADB - REVISED SHEET NUMBER	ADM			
Prelim. Plan By		01/2011	ADS - REVISED DETAILS	ADM			
Architect/Specialist		DATE	REVISION	BY	APPD		

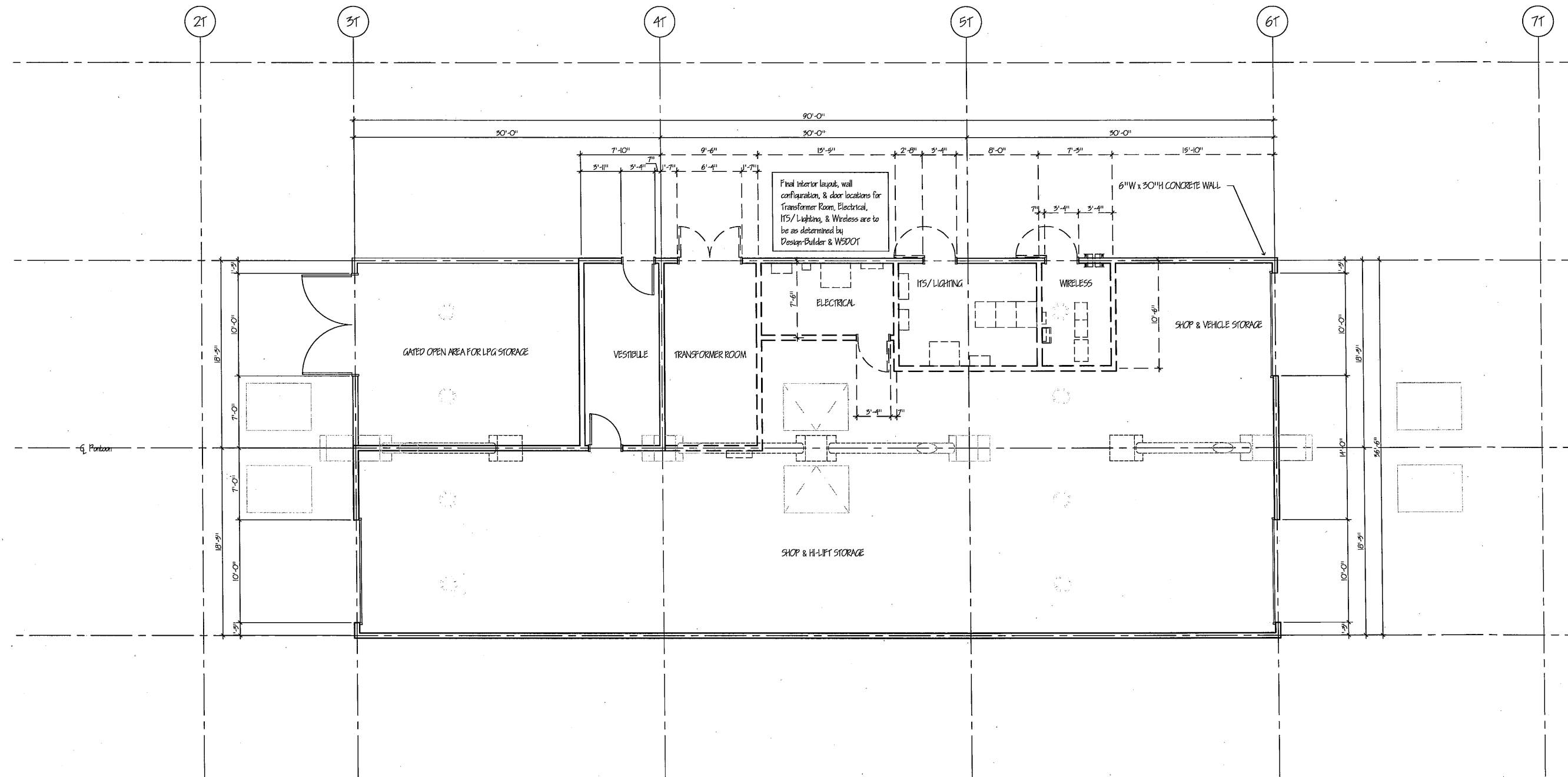


**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

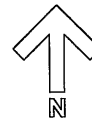
ANCHOR LOCATION  
DATA

BRIDGE SHEET NO. **A18**  
OF  
SHEETS

Plotted: Mar 31, 2011 - 9:39 rtdaerj Z:\1 - NW Remod\Area 5 North\SR520\4 - Contract Documents\SR520PontoonSheds\20101028.dwg Layout Name: Shed Plan at Pontoon 'G'



SHED PLAN at PONTON 'G'



PROJECT ARCHITECT:	Rodgers, J	05 2011							
DRAWN BY:	Rodgers, J	05 2011							
REVIEWED BY:	Alrich, B	05 2011							
AS BUILT BY:									

REGION NO. 10	STATE: WASH
FEDERAL AID PROJECT NO.	
SR520MF&Shed.dwg	
FOR NO:	
DESIGN NO:	
CONTRACT NO:	

6704 REGISTERED ARCHITECT  
 JAMES E. RODGERS JR.  
 STATE OF WASHINGTON  
 ARCHITECT

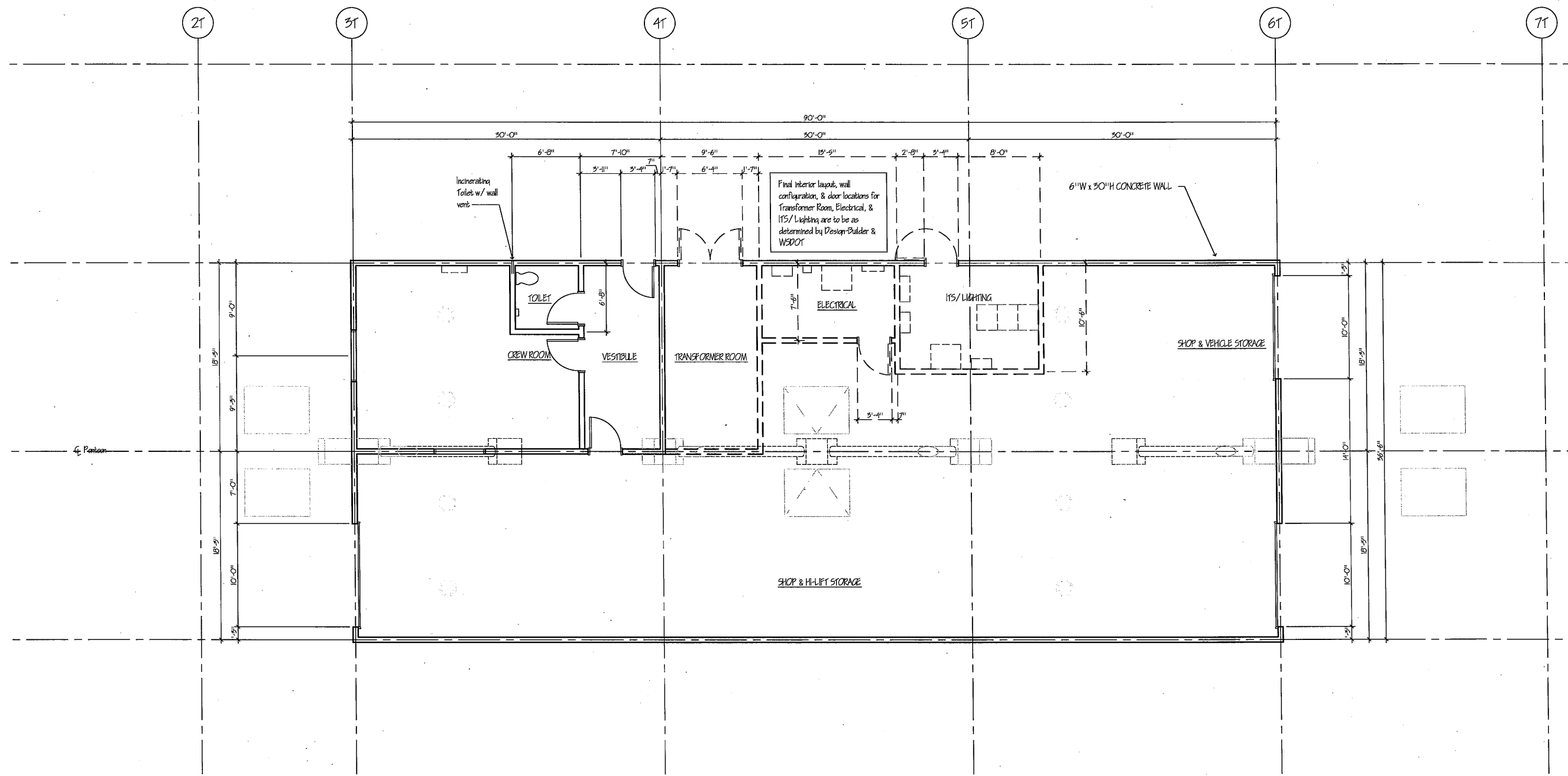
*James E. Rodgers*

**Washington State Department of Transportation**  
**FACILITIES OFFICE**  
 7345 LINDERSON WAY SW  
 TUMWATER, WA 98501  
 (360) 705-7881

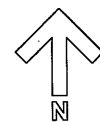
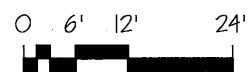
SR520  
 BRIDGE REPLACEMENT & HOV PROGRAM  
 FLOATING BRIDGE REPLACEMENT  
 PONTON 'G' SHOP FLOOR PLAN

BRIDGE SHEET NO.	MS1
SHEET	
OF	
SHEETS	

Plotted: Mar 31, 2011 9:40 am rodgeri. Z:\1 - NW Region\Area 5 Northwest\SR520\4 - Contract Documents\SR520PontoonSheds\20101028.dwg Layout Name: Shed Plan at Pontoon 'Q'



SLED PLAN at PONTON 'Q'



PROJECT ARCHITECT:	Rodgers, J	05/2011			
DRAWN BY:	Rodgers, J	05/2011			
REVIEWED BY:	Aldrich, B	05/2011			
AS BUILT BY:					

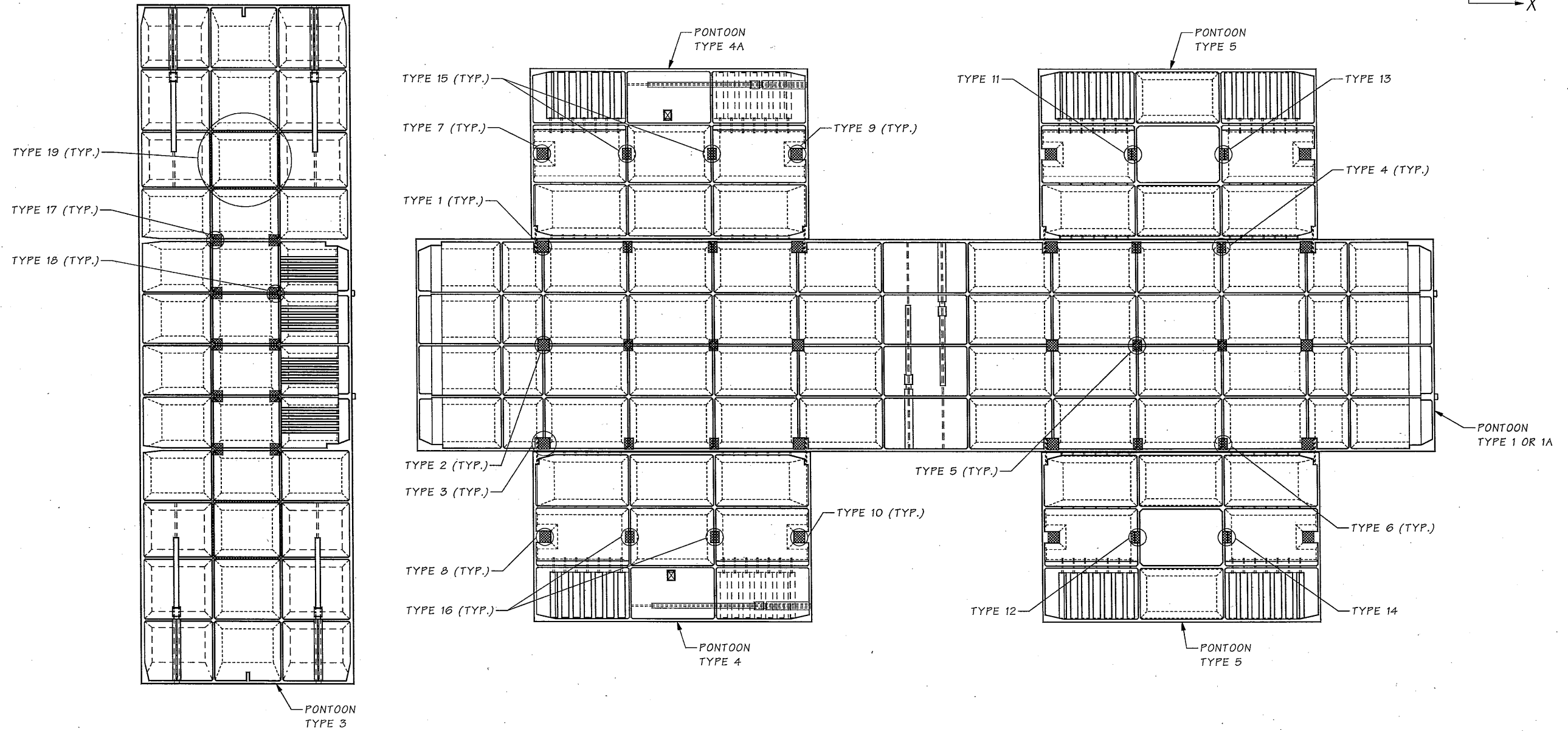
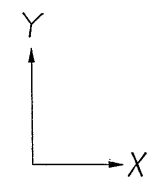
REGION NO. 10	STATE: WASH
FEDERAL AID PROJECT NO.	
SR520MF&Shed.dwg	
FOR NO:	
DESIGN NO:	
CONTRACT NO:	

ARCHITECT

**Washington State Department of Transportation**  
**FACILITIES OFFICE**  
 7345 LINDERSON WAY SW  
 TUMWATER, WA 98501  
 (360) 705-7881

SR520  
 BRIDGE REPLACEMENT & HOV PROGRAM  
 FLOATING BRIDGE REPLACEMENT  
 PONTON 'Q' SHOP FLOOR PLAN

BRIDGE SHEET NO.	MS2
SHEET	
OF	
SHEETS	

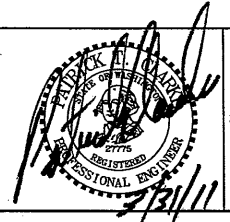
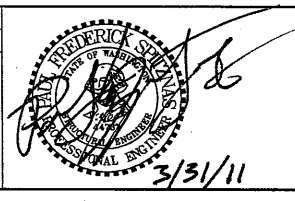


ELEVATED STRUCTURE TO PONTOON CONNECTIONS

PONTOON TYPES 1, 1A, 3, 4, 4A, 5.

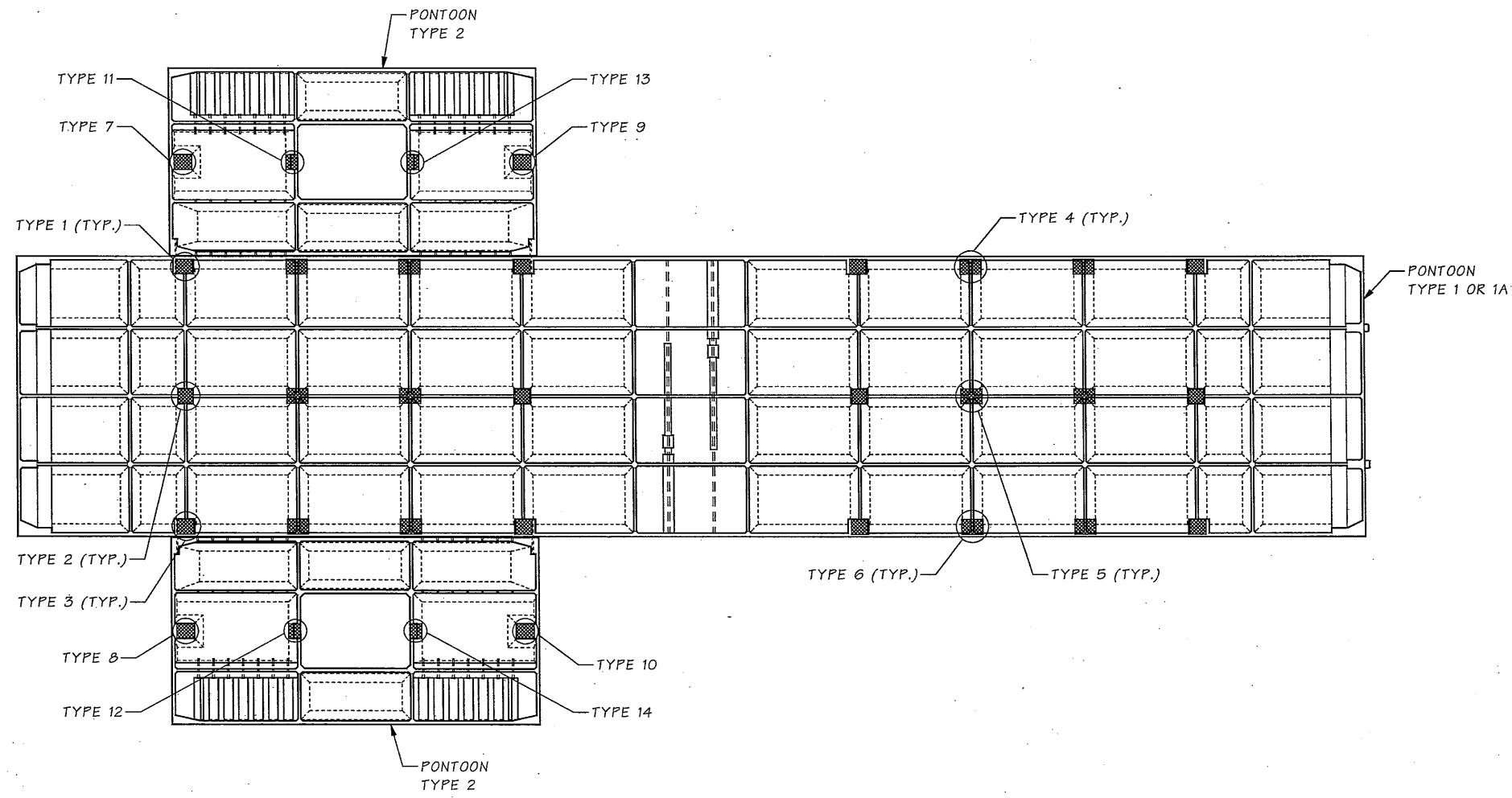
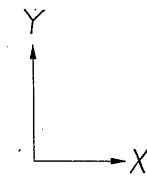
SR 52 FILE NO. SHEET 501

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\CONN1.wnd		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT			10	WASH.			
Designed By	Spitznas, P	11/10		JOB NUMBER				
Checked By	Ferluga, E	03/11		10A057				
Detailed By	Lemons, T	10/10						
Bridge Projects Engr.								
Prelim. Plan By	PFS	01/2011	AD6 -REVISED SHEET					
Architect/Specialist		DATE	REVISION	BY	APPD			



**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

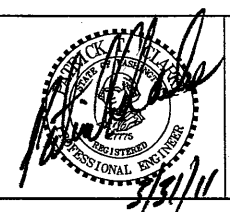
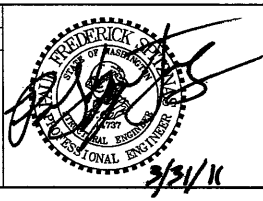
APPENDIX M23 OUTFITTING & ASSEMBLY TECHNICAL REQUIREMENTS		BRIDGE SHEET NO. 501
ELEVATED STRUCTURE/PONTOON CONNECTIONS LAYOUT 1 OF 3		SHEET OF SHEETS



ELEVATED STRUCTURE TO PONTON CONNECTIONS  
PONTON TYPES 1, 1A, & 2.

SR SR 52 FILE NO. SHEET 502

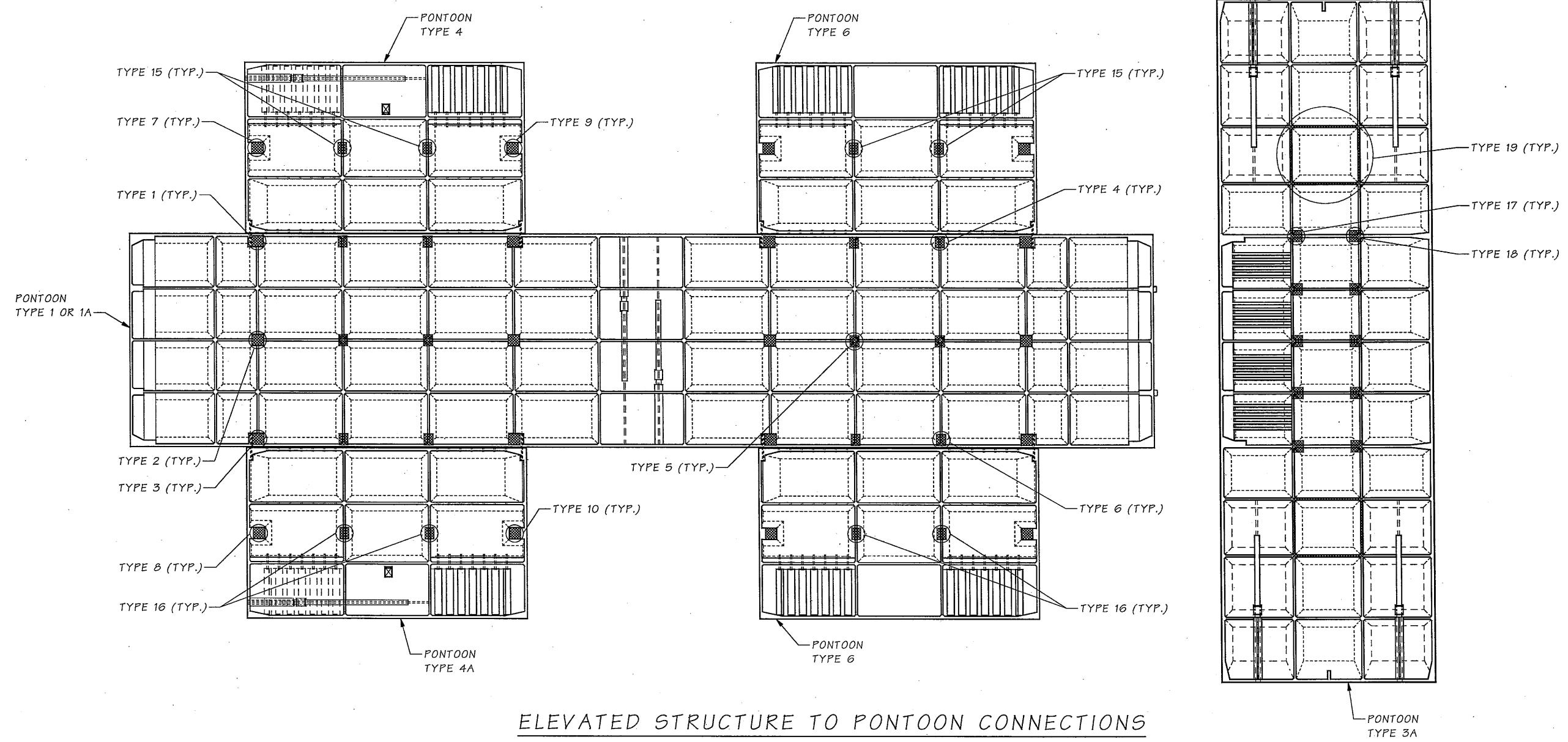
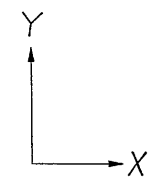
Bridge Design Engr.	khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\CONN2.wnd				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT				10	WASH.				
Designed By	Spitznas, P	11/10			JOB NUMBER					
Checked By	Ferluga, E	03/11			10A057					
Detailed By	Lemons, T	10/10								
Bridge Projects Engr.										
Prelim. Plan By		01/2011	AD6 -REVISED SHEET	PFS						
Architect/Specialist		DATE	REVISION	BY	APPD					



**Washington State**  
**Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23 OUTFITTING & ASSEMBLY TECHNICAL REQUIREMENTS		BRIDGE SHEET NO.
ELEVATED STRUCTURE/PONTON CONNECTIONS LAYOUT 2 OF 3		502
		SHEET
		OF
		SHEETS



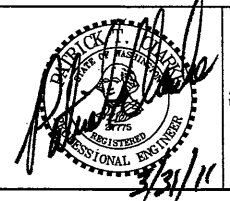
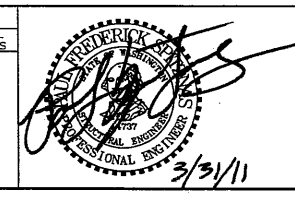


**ELEVATED STRUCTURE TO PONTON CONNECTIONS**

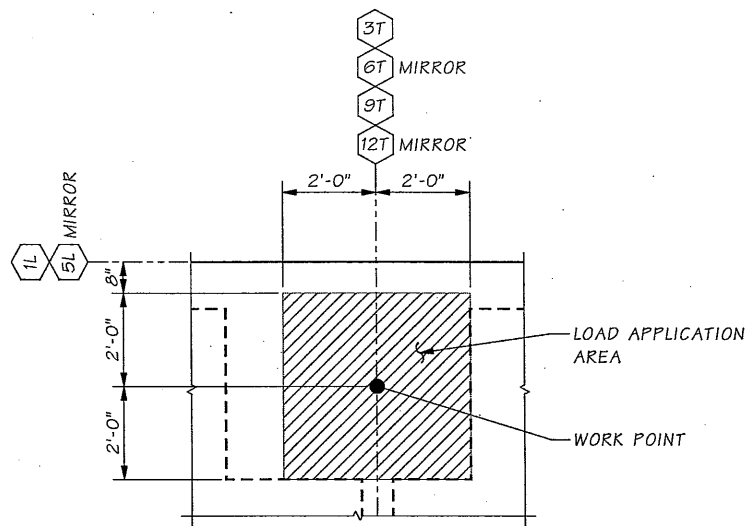
PONTON TYPES 1, 1A, 3A, 4, 4A, & 6.

SR 52 FILE NO. SHEET 503

Bridge Design Engr.	Khaloghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\CONN3.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Spitznas, P	10	WASH.		
Checked By	Ferluga, E	JOB NUMBER 10A057			
Detailed By	Gunis, E				
Bridge Projects Engr.					
Prelim. Plan By	01/2011	AD6 -REVISED SHEET	PFS		
Architect/Specialist	DATE	REVISION	BY	APP'D	

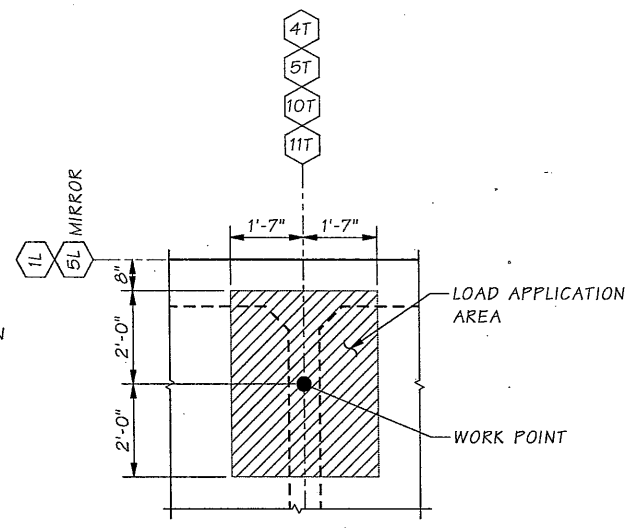


<b>APPENDIX M23 OUTFITTING &amp; ASSEMBLY TECHNICAL REQUIREMENTS</b>		BRIDGE SHEET NO.
ELEVATED STRUCTURE/PONTON CONNECTIONS LAYOUT 3 OF 3		503
		SHEET
		OF
		SHEETS



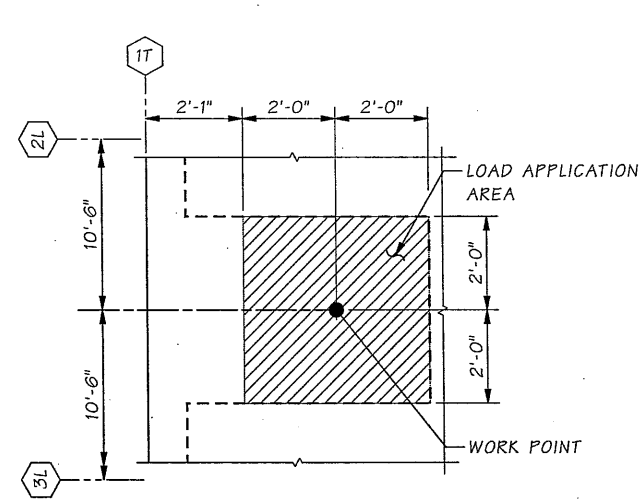
CONNECTION TYPES 1 & 3

\* LOCAL GRIDLINES FOR PONTOON TYPES 1 AND 1A SHOWN.



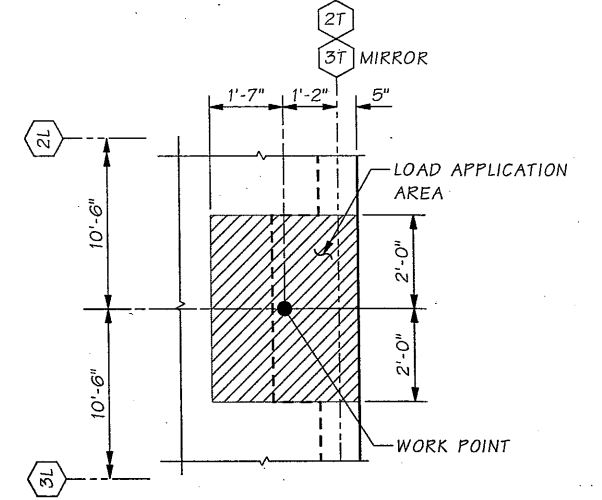
CONNECTION TYPES 4 & 6

\* LOCAL GRIDLINES FOR PONTOON TYPES 1 AND 1A SHOWN.



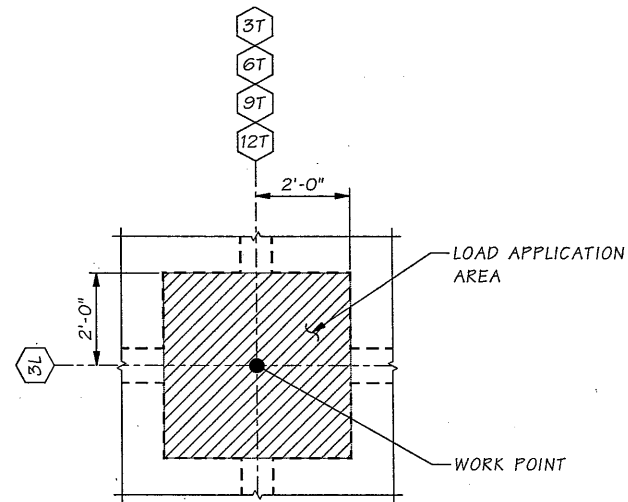
CONNECTION TYPES 7, 8, 9, & 10

\* LOCAL GRIDLINES FOR PONTOON TYPES 2, 4, 4A, 5 AND 6 SHOWN.



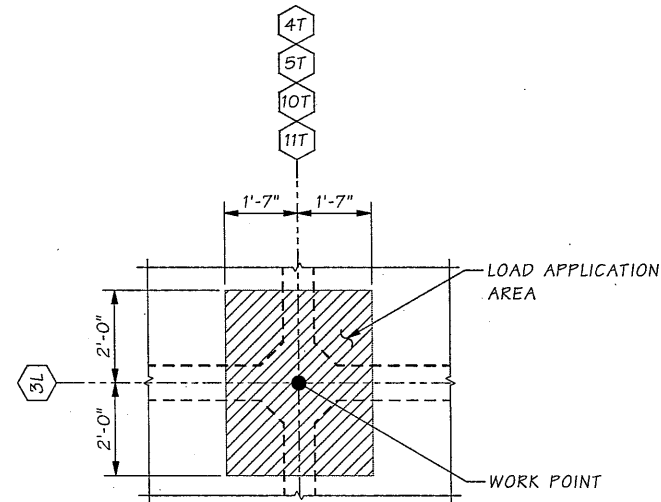
CONNECTION TYPES 11, 12, 13, & 14

\* LOCAL GRIDLINES FOR PONTOON TYPES 2 AND 5 SHOWN.



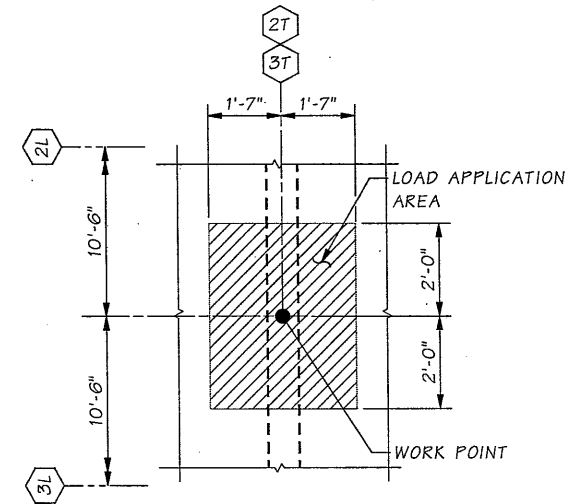
CONNECTION TYPE 2

\* LOCAL GRIDLINES FOR PONTOON TYPES 1 AND 1A SHOWN.



CONNECTION TYPE 5

\* LOCAL GRIDLINES FOR PONTOON TYPES 1 AND 1A SHOWN.

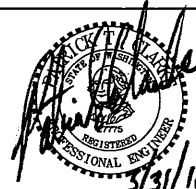
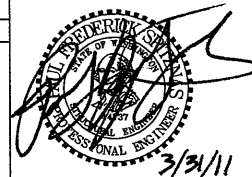


CONNECTION TYPES 15 & 16

\* LOCAL GRIDLINES FOR PONTOON TYPES 4, 4A, AND 6 SHOWN.

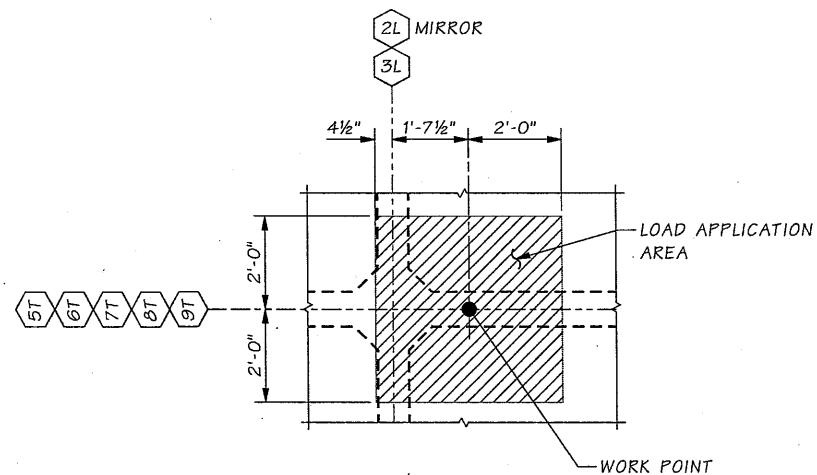
SR 52 FILE NO. SHEET 504

Bridge Design Engr.	khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\CONNECT DET1.wnd				
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Designed By	Spitznas, P	10	WASH.			
Checked By	Ferluga, E	JOB NUMBER 10A057				
Detailed By	Gunis, E					
Bridge Projects Engr.						
Prelim. Plan By	01/2011	AD6 -NEW SHEET	PFS			
Architect/Specialist	DATE	REVISION	BY	APPD		



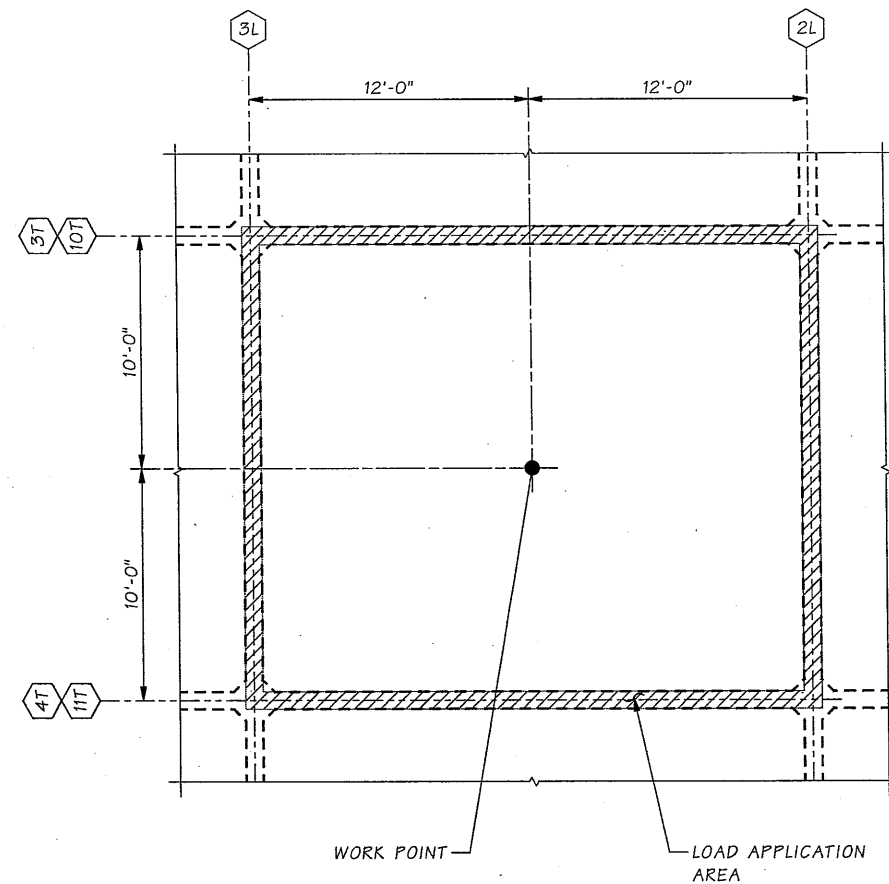
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23 OUTFITTING & ASSEMBLY TECHNICAL REQUIREMENTS		BRIDGE SHEET NO. 504
ELEVATED STRUCTURE/PONTOON CONNECTIONS DETAILS 1		SHEET OF SHEETS



**CONNECTION TYPES 17 & 18**

\* LOCAL GRIDLINES FOR PONTOON TYPES 3 AND 3A SHOWN.

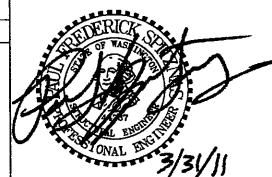


**CONNECTION TYPE 19**

\* LOCAL GRIDLINES FOR PONTOON TYPES 3 AND 3A SHOWN.

SR 52 FILE NO. SHEET 505

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\CONNECT DET2.wnd					
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
Designed By	Spitznas, P	10	WASH.				
Checked By	Ferluga, E	JOB NUMBER 10A057					
Detailed By	Gunis, E						
Bridge Projects Engr.							
Prelim. Plan By	01/2011	AD6 -NEW SHEET	PFS				
Architect/Specialist	DATE	REVISION	BY	APP'D			



<b>APPENDIX M23 OUTFITTING &amp; ASSEMBLY TECHNICAL REQUIREMENTS</b>		BRIDGE SHEET NO. <b>505</b>
ELEVATED STRUCTURE/PONTOON CONNECTIONS DETAILS 2		OF SHEETS

## STRENGTH LIMIT STATE ALLOWABLE IMPOSED LOCAL LOADS TABLE

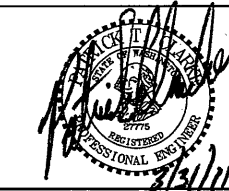
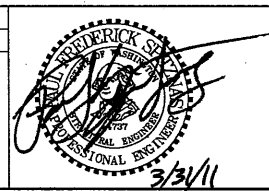
**TABLE NOTES:**

THE ALLOWABLE ELEVATED STRUCTURE LOCAL LOADS ON THE PONTOONS PROVIDED IN THE TABLE APPLY TO LOAD COMBINATIONS FOR THE STRENGTH LIMIT STATE ONLY. THESE ARE THE MAXIMUM LOCAL LOADS THAT MAY BE IMPOSED ON THE PONTOONS BY THE ELEVATED STRUCTURE AT INDIVIDUAL CONNECTIONS.

CONNECTION TYPE	Fx MAX (KIP)	Fx MIN (KIP)	Fy MAX (KIP)	Fy MIN (KIP)	Fz MAX (KIP)	Fz MIN (KIP)	Mx MAX (KIP-FT)	Mx MIN (KIP-FT)	My MAX (KIP-FT)	My MIN (KIP-FT)	Mz MAX (KIP-FT)	Mz MIN (KIP-FT)
1	3,200	-3,200	540	-900	0	-2,600	4,500	-4,500	6,500	-6,500	180	-180
2	3,200	-3,200	900	-900	0	-2,600	4,500	-4,500	6,500	-6,500	180	-180
3	3,200	-3,200	900	-540	0	-2,600	4,500	-4,500	6,500	-6,500	180	-180
4	3,200	-3,200	430	-900	110	-1,710	0	0	0	0	0	0
5	3,200	-3,200	900	-900	110	-1,710	0	0	0	0	0	0
6	3,200	-3,200	900	-430	110	-1,710	0	0	0	0	0	0
7	2,100	-430	430	-2,570	0	-1,800	4,500	-4,500	3,600	-3,600	180	-180
8	2,100	-430	2,570	-430	0	-1,800	4,500	-4,500	3,600	-3,600	180	-180
9	430	-2,100	430	-2,570	0	-1,800	4,500	-4,500	3,600	-3,600	180	-180
10	430	-2,100	2,570	-430	0	-1,800	4,500	-4,500	3,600	-3,600	180	-180
11	430	-2,100	430	-1,530	50	-1,030	0	0	0	0	0	0
12	430	-2,100	1,530	-430	50	-1,030	0	0	0	0	0	0
13	2,100	-430	430	-1,530	50	-1,030	0	0	0	0	0	0
14	2,100	-430	1,530	-430	50	-1,030	0	0	0	0	0	0
15	2,100	-2,100	430	-1,530	50	-1,030	0	0	0	0	0	0
16	2,100	-2,100	1,530	-430	50	-1,030	0	0	0	0	0	0
17	900	-900	900	-900	0	-1,600	400	-400	400	-400	180	-180
18	900	-900	900	-900	0	-1,600	400	-400	400	-400	180	-180
19	630	-630	630	-630	0	-4,500	18,000	-18,000	18,000	-18,000	18,000	-18,000

SR SR FILE NO. SHEET 506

Bridge Design Engr. Khaleghi, B		M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\TABLE1.wnd	
Supervisor	Clarke, PT	REGION NO.	STATE
Designed By	Spitznas, P 01/11	10	WASH.
Checked By	Ferluga, E 03/11	FED. AID PROJ. NO.	SHEET NO.
Detailed By	Gunis, E 01/11	JOB NUMBER	TOTAL SHEETS
Bridge Projects Engr.	03/2011 AD16 -REV. TABLE, REMOVED NOTES PFS	10A057	
Prelim. Plan By	01/2011 AD6 -NEW SHEET PFS		
Architect/Specialist	DATE REVISION BY APP'D		



**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

ALLOWABLE LOCAL LOADS  
STRENGTH LIMIT STATE

BRIDGE SHEET NO. 506  
OF SHEETS

# EXTREME EVENT LIMIT STATE ALLOWABLE IMPOSED LOCAL LOADS TABLE

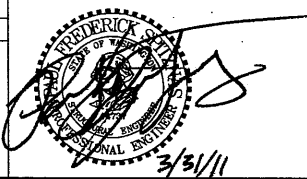
**TABLE NOTES:**

THE ALLOWABLE ELEVATED STRUCTURE LOCAL LOADS ON THE PONTOONS PROVIDED IN THE TABLE APPLY TO LOAD COMBINATIONS FOR THE EXTREME LIMIT STATE ONLY. THESE ARE THE MAXIMUM LOCAL LOADS THAT MAY BE IMPOSED ON THE PONTOONS BY THE ELEVATED STRUCTURE AT INDIVIDUAL CONNECTIONS.

CONNECTION TYPE	Fx MAX (KIP)	Fx MIN (KIP)	Fy MAX (KIP)	Fy MIN (KIP)	Fz MAX (KIP)	Fz MIN (KIP)	Mx MAX (KIP-FT)	Mx MIN (KIP-FT)	My MAX (KIP-FT)	My MIN (KIP-FT)	Mz MAX (KIP-FT)	Mz MIN (KIP-FT)
1	4,000	-4,000	600	-1,000	0	-2,000	5,000	-5,000	7,200	-7,200	200	-200
2	4,000	-4,000	1,000	-1,000	0	-2,000	5,000	-5,000	7,200	-7,200	200	-200
3	4,000	-4,000	1,000	-600	0	-2,000	5,000	-5,000	7,200	-7,200	200	-200
4	4,000	-4,000	480	-1,000	120	-2,000	0	0	0	0	0	0
5	4,000	-4,000	1,000	-1,000	120	-2,000	0	0	0	0	0	0
6	4,000	-4,000	1,000	-480	120	-2,000	0	0	0	0	0	0
7	2,800	-480	480	-3,670	0	-2,000	5,000	-5,000	4,000	-4,000	200	-200
8	2,800	-480	3,670	-480	0	-2,000	5,000	-5,000	4,000	-4,000	200	-200
9	480	-2,800	480	-3,670	0	-2,000	5,000	-5,000	4,000	-4,000	200	-200
10	480	-2,800	3,670	-480	0	-2,000	5,000	-5,000	4,000	-4,000	200	-200
11	480	-2,800	480	-2,190	55	-1,470	0	0	0	0	0	0
12	480	-2,800	2,190	-480	55	-1,470	0	0	0	0	0	0
13	2,800	480	480	-2,190	55	-1,470	0	0	0	0	0	0
14	2,800	480	2,190	-480	55	-1,470	0	0	0	0	0	0
15	2,800	-2,800	430	-2,190	55	-1,470	0	0	0	0	0	0
16	2,800	-2,800	2,190	-430	55	-1,470	0	0	0	0	0	0
17	1,000	-1,000	1,000	-1,000	0	-1,800	450	-450	450	-450	200	-200
18	1,000	-1,000	1,000	-1,000	0	-1,800	450	-450	450	-450	200	-200
19	700	-700	700	-700	0	-5,000	20,000	-20,000	20,000	-20,000	20,000	-20,000

SR SR FILE NO. SHEET 507

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\TABLE2.wnd	
Supervisor	Clarke, PT	REGION NO.	STATE
Designed By	Spitznas, P 01/11	10	WASH.
Checked By	Ferluga, E 03/11	FED. AID PROJ. NO.	SHEET NO.
Detailed By	Gun's, E 01/11		TOTAL SHEETS
Bridge Projects Engr.	03/2011 AD16 - REV. TABLE, REMOVED NOTES PFS	JOB NUMBER	
Prelim. Plan By	01/2011 AD6 - NEW SHEET PFS	10A057	
Architect/Specialist	DATE REVISION	BY	APPD



**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

ALLOWABLE LOCAL LOADS  
EXTREME EVENT LIMIT STATE

BRIDGE SHEET NO. 507  
OF SHEETS

## SERVICE LIMIT STATE ALLOWABLE IMPOSED LOCAL LOADS TABLE

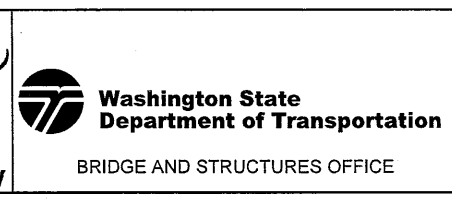
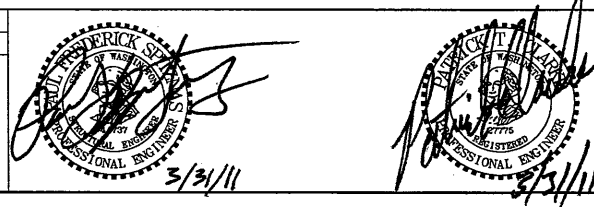
**TABLE NOTES:**

THE ALLOWABLE ELEVATED STRUCTURE LOCAL LOADS ON THE PONTOONS PROVIDED IN THE TABLE APPLY TO LOAD COMBINATIONS FOR THE SERVICE LIMIT STATE ONLY. THESE ARE THE MAXIMUM LOCAL LOADS THAT MAY BE IMPOSED ON THE PONTOONS BY THE ELEVATED STRUCTURE AT INDIVIDUAL CONNECTIONS.

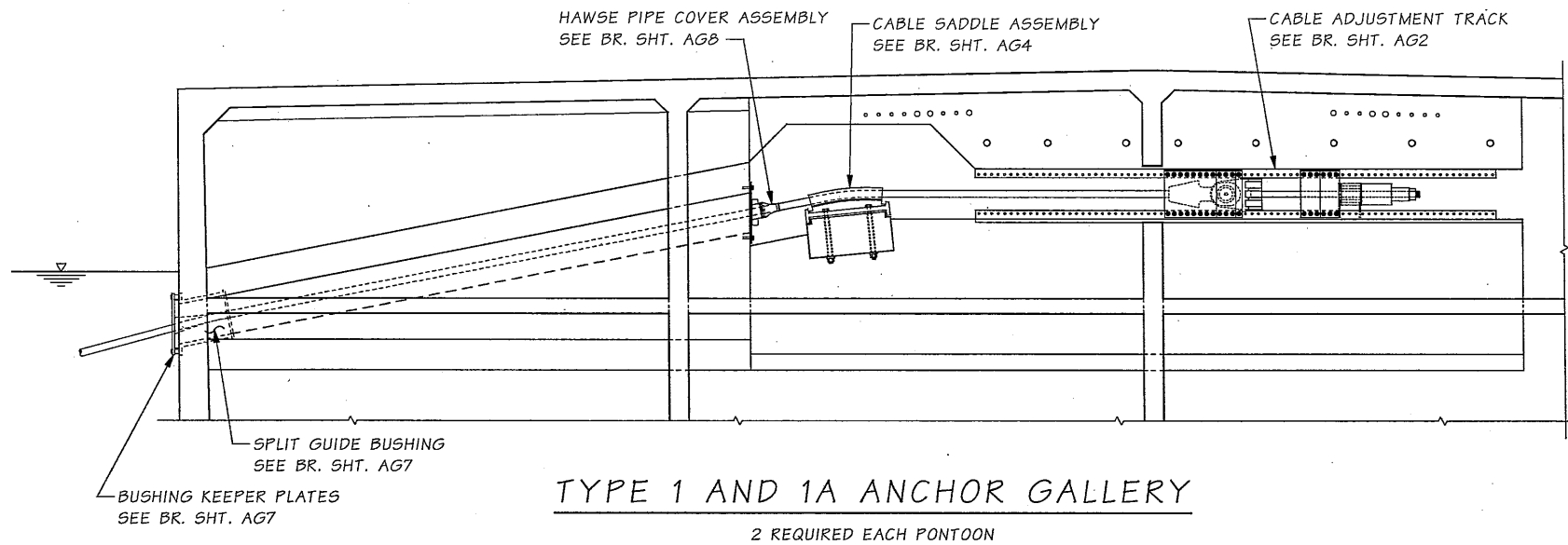
CONNECTION TYPE	Fx MAX (KIP)	Fx MIN (KIP)	Fy MAX (KIP)	Fy MIN (KIP)	Fz MAX (KIP)	Fz MIN (KIP)	Mx MAX (KIP-FT)	Mx MIN (KIP-FT)	My MAX (KIP-FT)	My MIN (KIP-FT)	Mz MAX (KIP-FT)	MZ MIN (KIP-FT)
1	2,400	-2,400	380	-600	0	-2,100	4,000	-3,000	5,000	-5,000	120	-120
2	2,400	-2,400	600	-600	0	-2,100	3,400	-3,400	4,000	-4,000	120	-120
3	2,400	-2,400	600	-380	0	-2,100	3,000	-4,000	5,000	-5,000	120	-120
4	2,400	-2,400	290	-600	70	-1,710	0	0	0	0	0	0
5	2,400	-2,400	600	-600	70	-1,710	0	0	0	0	0	0
6	2,400	-2,400	600	-290	70	-1,710	0	0	0	0	0	0
7	1,710	-290	290	-1,550	0	-1,350	4,000	-4,000	2,400	-1,600	120	-120
8	1,710	-290	1,550	-290	0	-1,350	4,000	-4,000	2,400	-1,600	120	-120
9	290	-1,710	290	-1,550	0	-1,350	4,000	-4,000	1,600	-2,400	120	-120
10	290	-1,710	1,550	-290	0	-1,350	4,000	-4,000	1,600	-2,400	120	-120
11	290	-1,710	290	-1,020	30	-770	0	0	0	0	0	0
12	290	-1,710	1,020	-290	30	-770	0	0	0	0	0	0
13	1,710	-290	290	-1,020	30	-770	0	0	0	0	0	0
14	1,710	-290	1,020	-290	30	-770	0	0	0	0	0	0
15	1,710	-1,710	290	-1,020	30	-770	0	0	0	0	0	0
16	1,710	-1,710	1,020	290	30	-770	0	0	0	0	0	0
17	600	-600	600	-600	0	-1,300	260	-260	260	-260	120	-120
18	600	-600	600	-600	0	-1,300	260	-260	260	-260	120	-120
19	420	-420	420	-420	0	-3,000	12,000	-12,000	12,000	-12,000	1,200	-1,200

SR SR FILE NO. SHEET 508

Bridge Design Engr. <b>Khaleghi, B</b>	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\TABLE3.wnd		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor <b>Clarke, PT</b>			10	WASH.			
Designed By <b>Spitznas, P</b>	01/11		JOB NUMBER 10A057				
Checked By <b>Ferluga, E</b>	03/11						
Detailed By <b>Gunis, E</b>	01/11						
Bridge Projects Engr.	03/2011	AD16 -REV. TABLE, REMOVED NOTES	PPS				
Prelim. Plan By	01/2011	AD6 -NEW SHEET	PPS				
Architect/Specialist	DATE	REVISION	BY	APP'D			

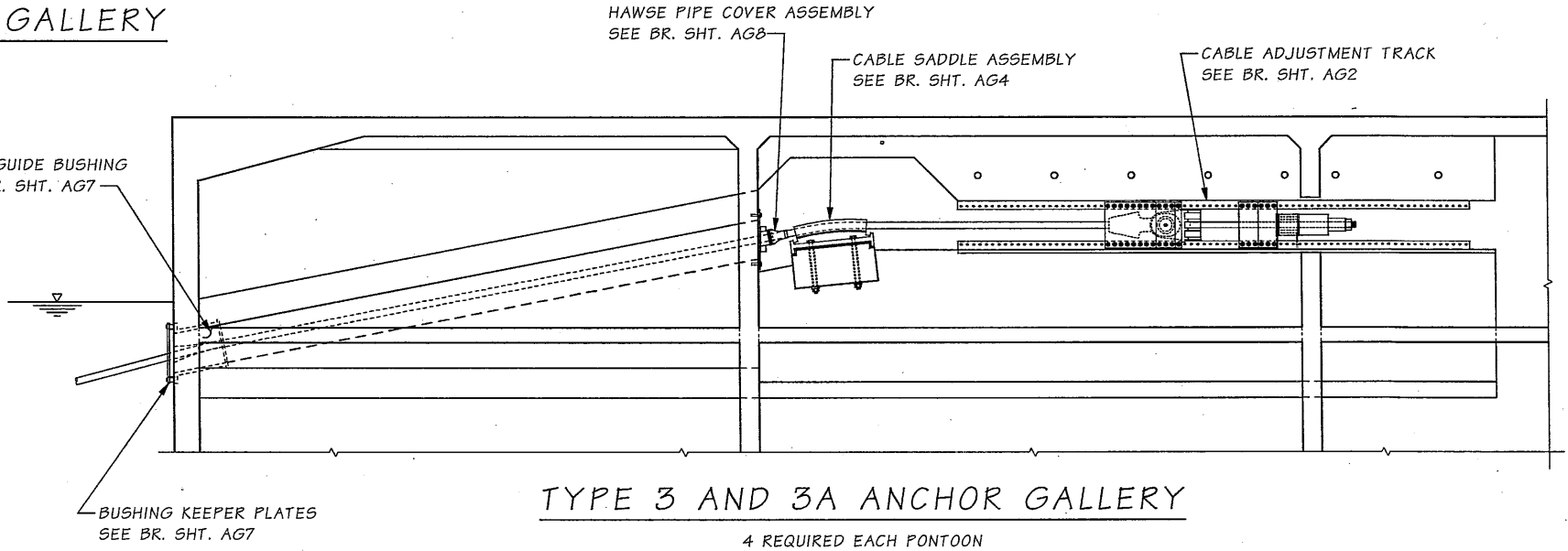


<b>APPENDIX M23 OUTFITTING &amp; ASSEMBLY TECHNICAL REQUIREMENTS</b>	BRIDGE SHEET NO. <b>508</b>
ALLOWABLE LOCAL LOADS SERVICE LIMIT STATE	SHEET OF SHEETS



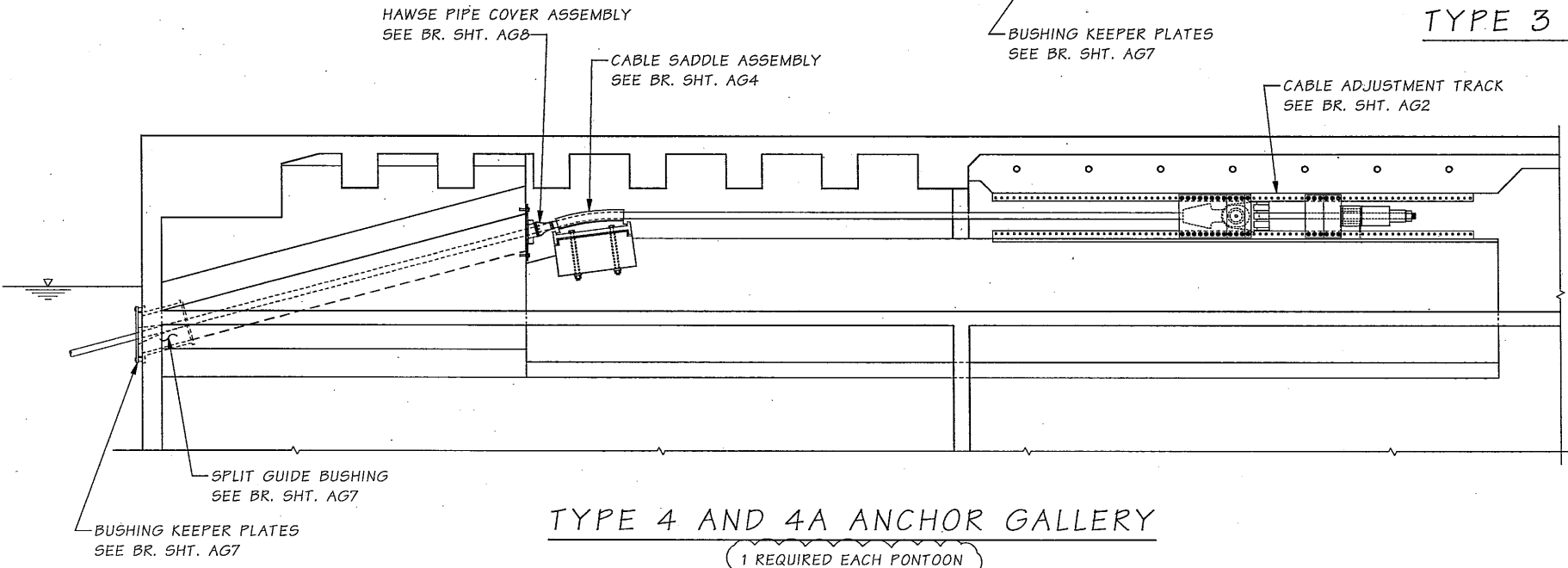
**TYPE 1 AND 1A ANCHOR GALLERY**

2 REQUIRED EACH PONTOON



**TYPE 3 AND 3A ANCHOR GALLERY**

4 REQUIRED EACH PONTOON



**TYPE 4 AND 4A ANCHOR GALLERY**

1 REQUIRED EACH PONTOON

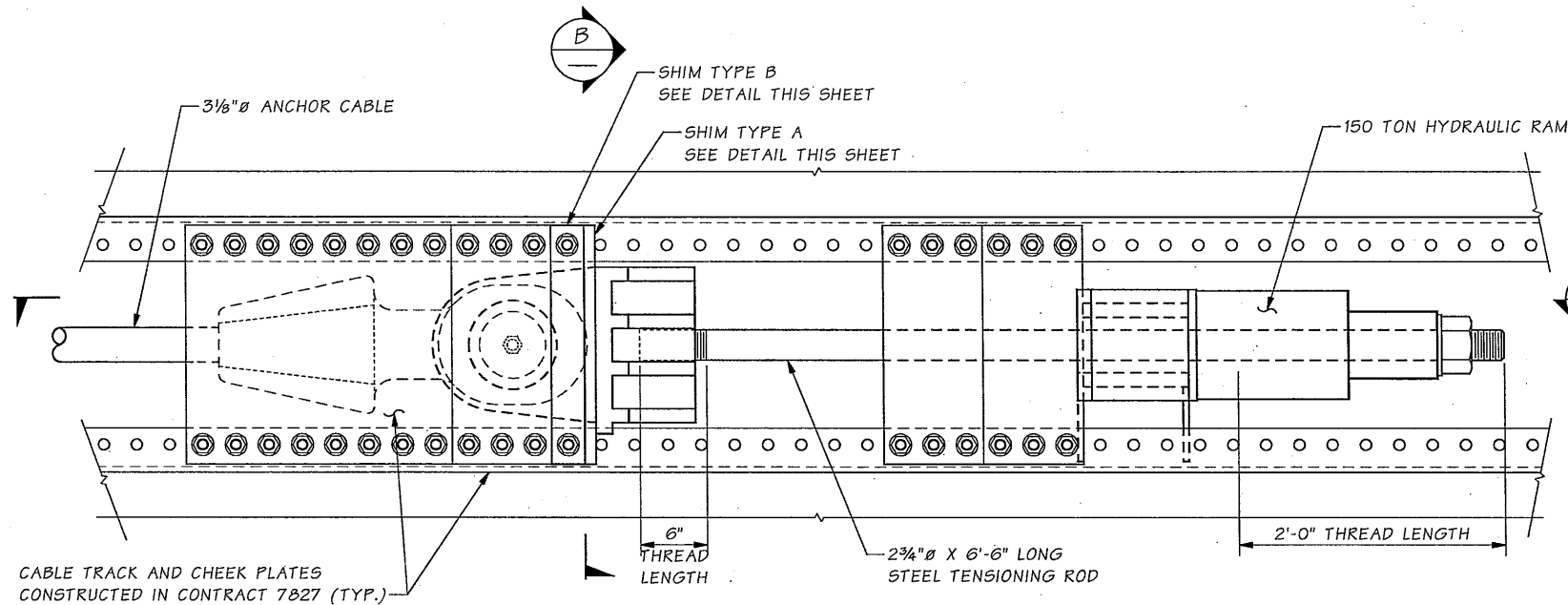
SR 52 FILE NO. SHEET AG1

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\AG HARDWARE 1.wnd				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT					10	WASH.			
Designed By	Ferluga, E	11/10								
Checked By	Messmer, A	03/11								
Detailed By	Ferluga, E	10/10								
Bridge Projects Engr.						JOB NUMBER				
Prelim. Plan By		01/2011	AD3 - REVISED ANCHOR CABLES AND NOTES	EJF		10A057				
Architect/Specialist		DATE	REVISION	BY	APPD					

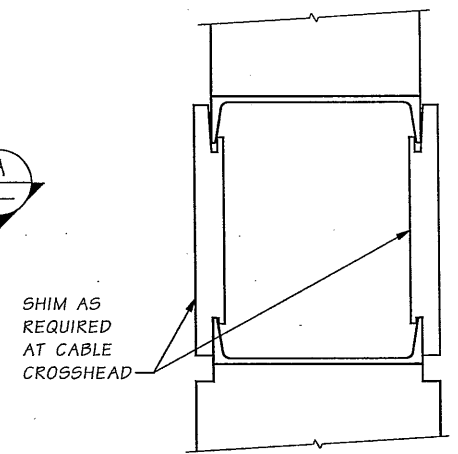
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**  
ANCHOR GALLERY HARDWARE  
LAYOUT

BRIDGE SHEET NO. AG1  
SHEET OF SHEETS

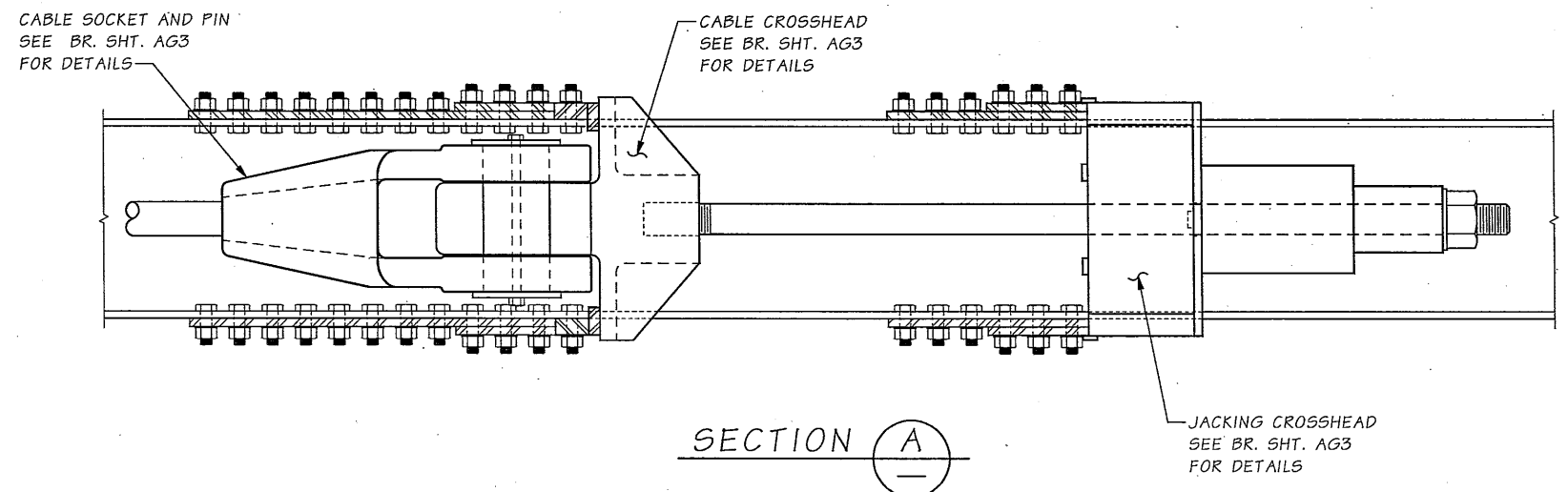


CABLE ADJUSTMENT TRACK ~ ELEVATION

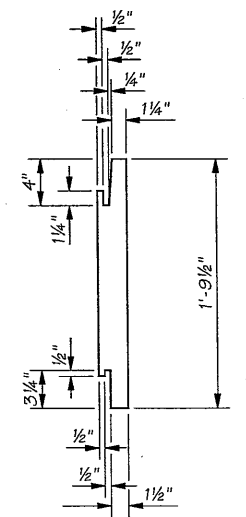


SECTION B

CABLE CROSSHEAD NOT SHOWN FOR CLARITY SHIM TYPE A SHOWN, SHIM TYPE B SIMILAR

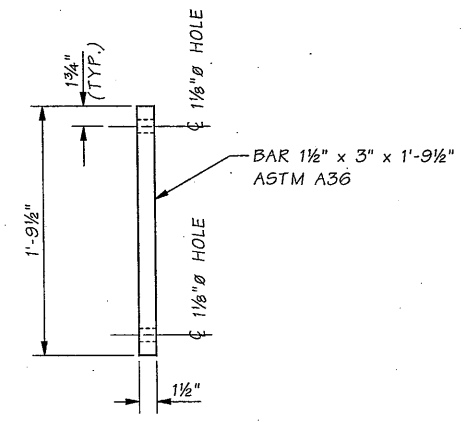


SECTION A



SHIM TYPE A

NUMBER OF SHIMS REQUIRED PER CABLE  
 = 4 @ 1" THICK  
 = 2 @ 1 1/2" THICK  
 = 4 @ 1/4" THICK



SHIM TYPE B

NUMBER OF SHIMS REQUIRED PER CABLE = 6  
 WITH 2 - 1" HIGH STRENGTH BOLTS PER SHIM.  
 THE BOLT LENGTH SHALL BE THE SAME AS THE BOLTS PROVIDED FOR THE DOUBLE CHEEK PLATES.

CABLE ADJUSTMENT TRACK NOTES

1. ALL STEEL, EXCEPT ANCHOR CABLE SOCKET, SHALL BE PAINTED IN ACCORDANCE WITH SECTION 6-07.3(9) OF THE STANDARD SPECIFICATIONS.
2. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL FOR THE CABLE ADJUSTMENT DEVICE SHALL CONFORM TO ASTM A 588.
3. BOLTS DESIGNATED AS HIGH STRENGTH SHALL CONFORM TO AASHTO M 164 TYPE 3 AND THE REQUIREMENTS OF SECTION 9-06-5(3). OF THE STANDARD SPECIFICATIONS.
4. THE SHIMS SHALL CONFORM TO ASTM A 36.
5. THE CABLE CROSSHEAD SHALL BE CAST STEEL AND CONFORM TO ASTM A 148 GRADE 90-60.
6. THE ANCHOR CABLE SOCKET SHALL BE CAST STEEL AND CONFORM TO ASTM A 148 AND THE REQUIREMENTS OF RFP SECTION 2.12.5.16.2. THE SOCKET SHALL HAVE A CAPACITY GREATER THAN OR EQUAL TO THE BREAKING STRENGTH OF THE ANCHOR CABLE
7. THE PIN SHALL CONFORM TO ASTM A668 CLASS G AND SHALL BE IN ACCORDANCE WITH SECTION 6-03.3(24) OF THE STANDARD SPECIFICATIONS.
8. ALL BEARING SURFACES SHALL RECEIVE A 125μ FINISH, UNLESS NOTED OTHERWISE.
9. SEE RFP SECTION 2.12.5.16.5 FOR HYDRAULIC RAM REQUIREMENTS.
10. SEE RFP SECTION 2.12.5.16.5 FOR ANCHOR CABLE REQUIREMENTS.

SR SR 52 FILE NO. SHEET AG2

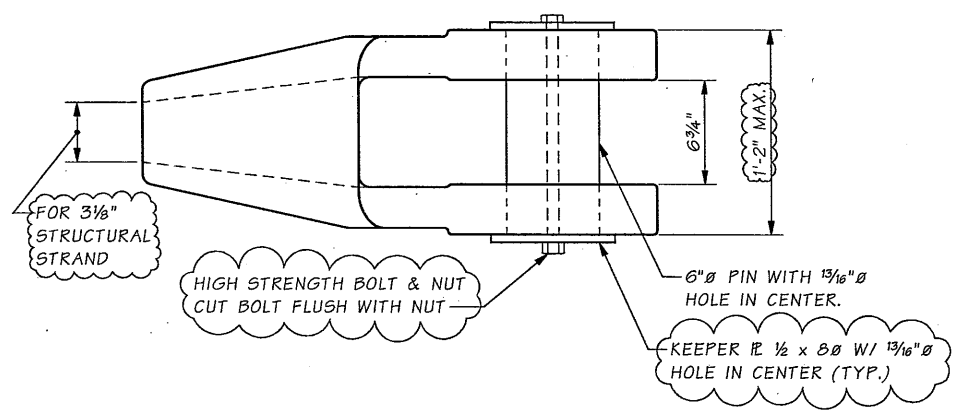
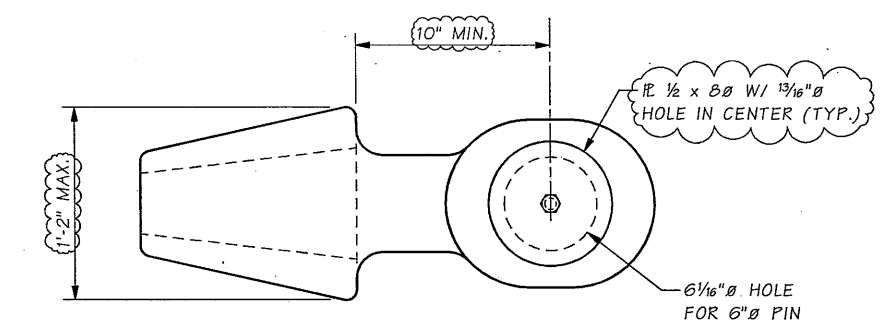
Bridge Design Engr.	khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\AG HARDWARE 2.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Ferluga, E 11/10	10	WASH.		
Checked By	Messmer, A 03/11	JOB NUMBER 10A057			
Detailed By	Lemons, T 10/10				
Bridge Projects Engr.	03/2011	AD16 - REVISED SHEET	EJF		
Prelim. Plan By	01/2011	AD3 - REVISED & REMOVED CALLOUTS	EJF		
Architect/Specialist	DATE	REVISION	BY	APP'D	

**APPENDIX M23  
 OUTFITTING & ASSEMBLY  
 TECHNICAL REQUIREMENTS**

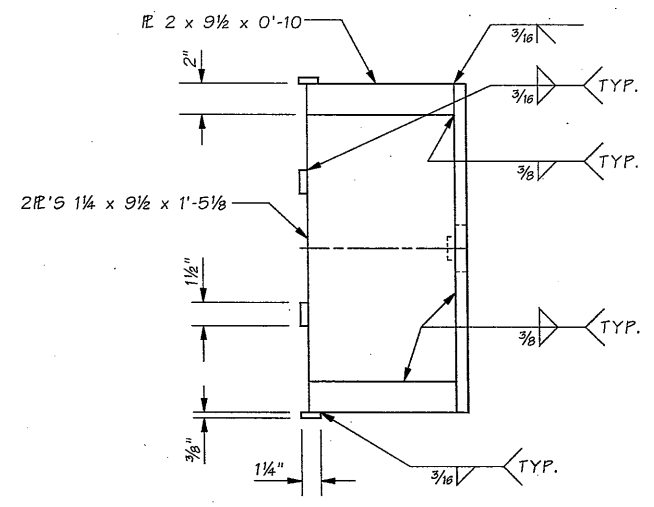
ANCHOR GALLERY HARDWARE  
 ADJUSTMENT TRACK ASSEMBLY

BRIDGE SHEET NO. AG2  
 SHEET OF SHEETS

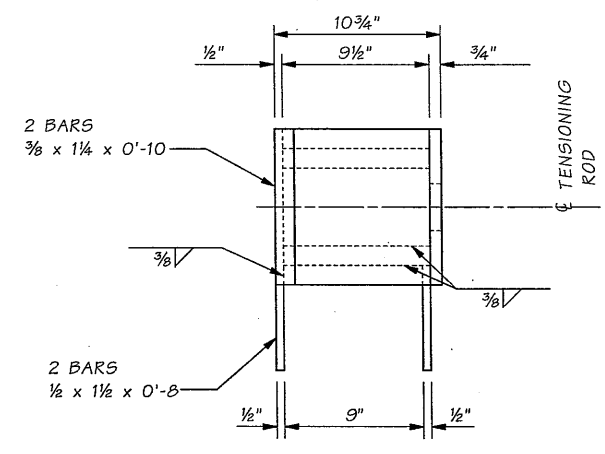




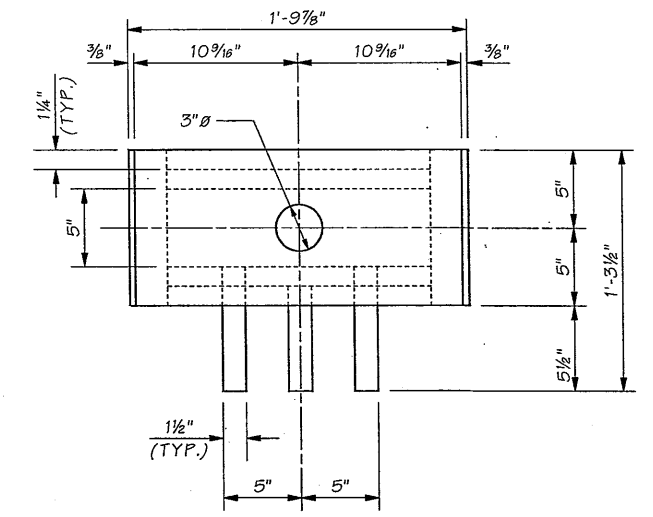
ANCHOR CABLE SOCKET



PLAN

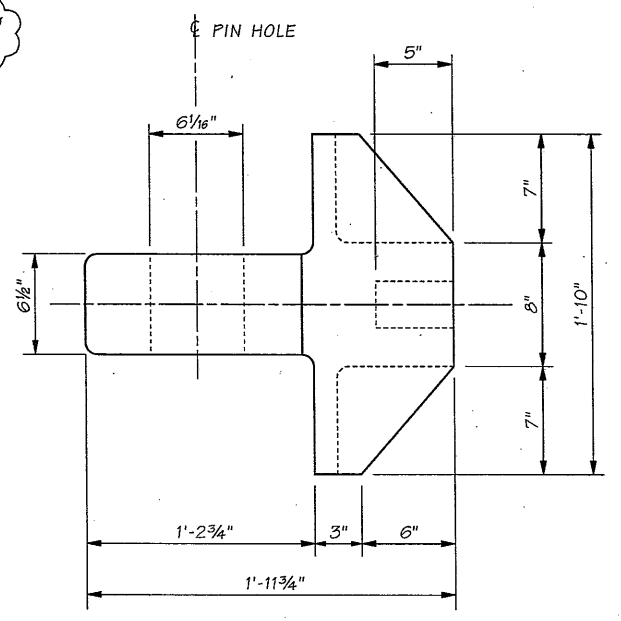


ELEVATION

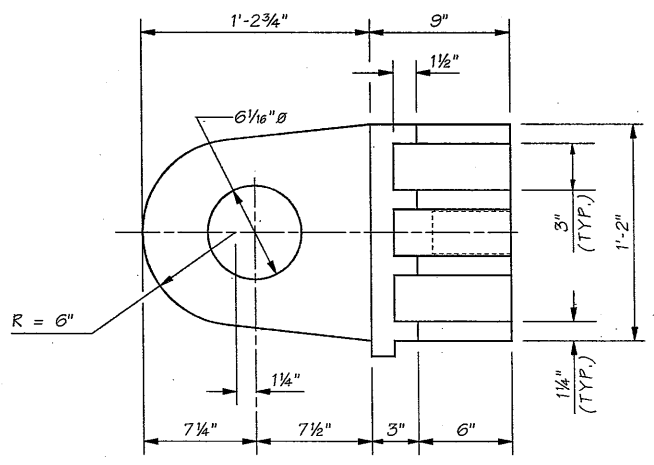


END VIEW

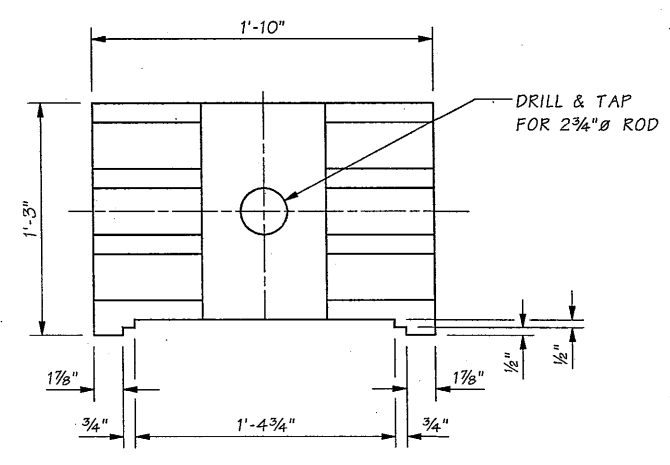
JACKING CROSSHEAD



PLAN



ELEVATION



END VIEW

CABLE CROSSHEAD

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\AG HARDWARE 3.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Ferluga, E 11/10	10	WASH.		TOTAL SHEETS
Checked By	Messmer, A 03/11	JOB NUMBER 10A057			
Detailed By	Gunis, E 10/10	DATE REVISION BY APPD			
Bridge Projects Engr.	03/2011	AD16 - REV. CALLOUTS & RELOCATED NOTES	EJF		
Prelim. Plan By	01/2011	AD3 - REVISED DIMENSION & WELD SIZE	EJF		
Architect/Specialist					

ERIC JOHN FERLUGA  
ANTHONY D. MESSMER  
PATRICK J. GUNIS

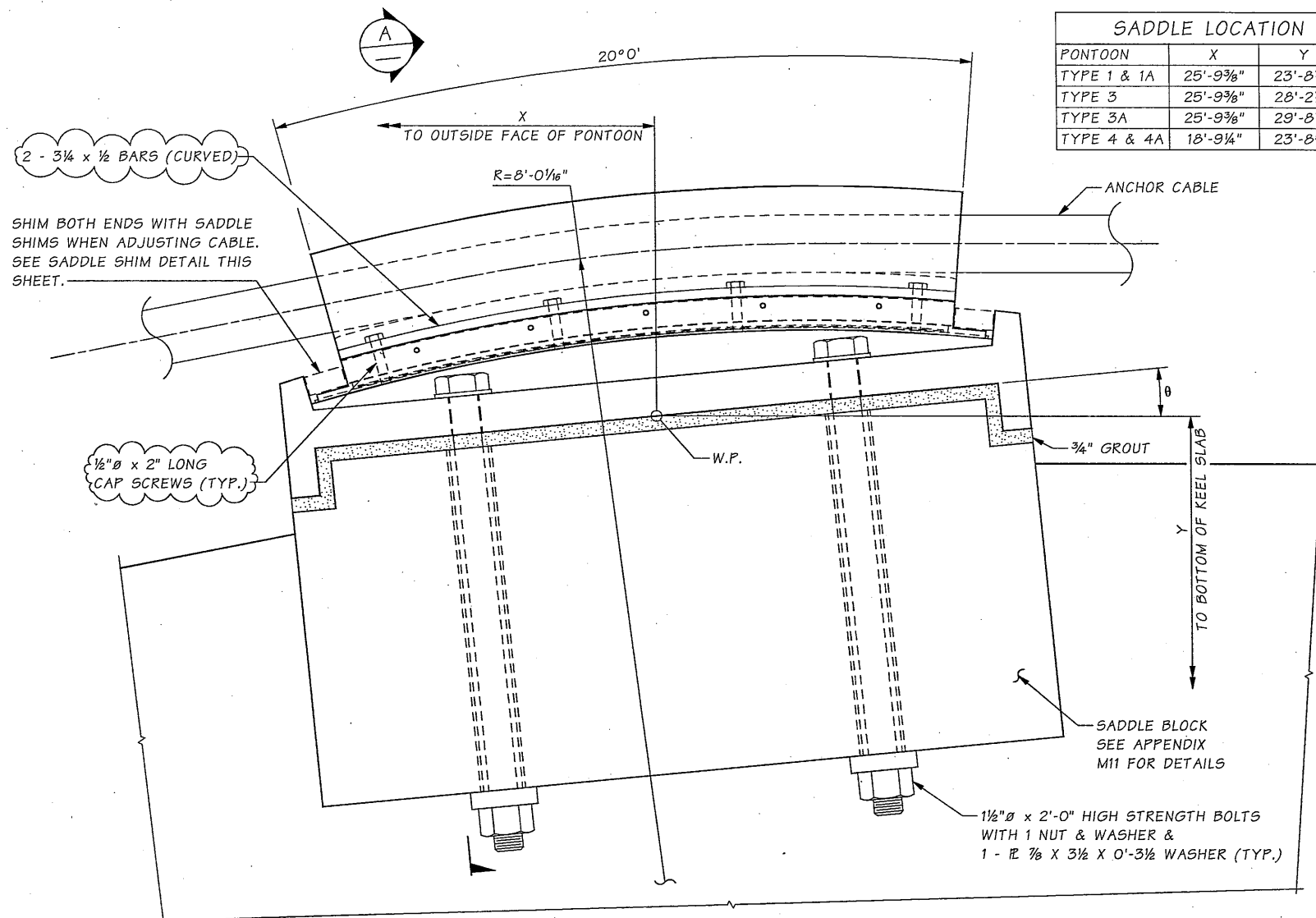
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

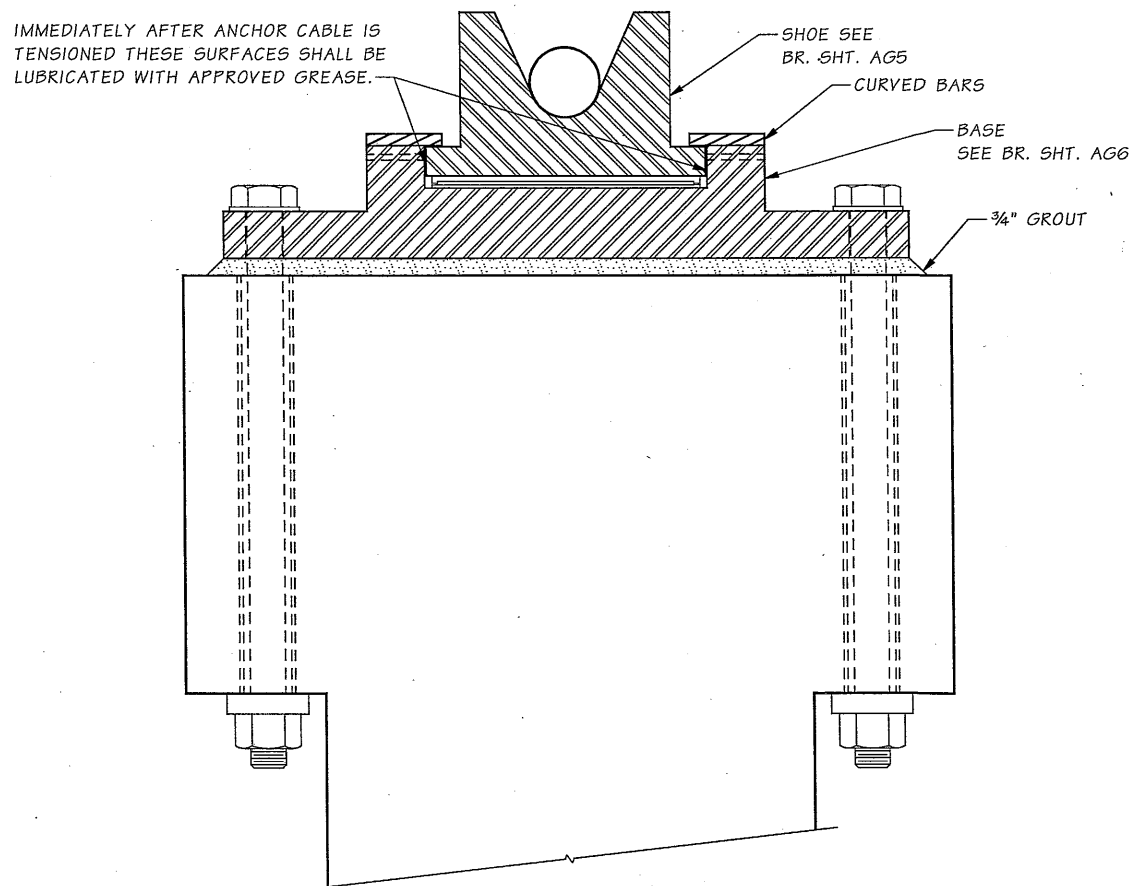
ANCHOR GALLERY HARDWARE  
ADJUSTMENT TRACK DETAILS

BRIDGE SHEET NO.	AG3
SHEET	
OF	
SHEETS	

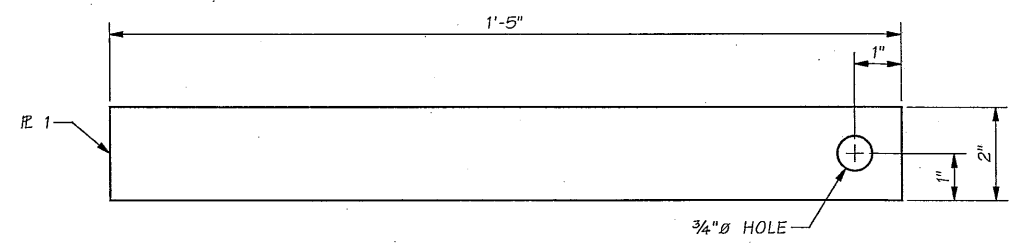
SADDLE LOCATION TABLE			
PONTOON	X	Y	θ
TYPE 1 & 1A	25'-9 3/8"	23'-0 7/8"	5.5°
TYPE 3	25'-9 3/8"	28'-2 7/8"	5.5°
TYPE 3A	25'-9 3/8"	29'-0 7/8"	5.5°
TYPE 4 & 4A	18'-9 1/4"	23'-0 5/8"	7.5°



CABLE SADDLE ASSEMBLY



SECTION A



SADDLE SHIM DETAIL  
(2) PER SADDLE  
HAND GRIND ALL EDGES TO 1/8" RADIUS

CABLE SADDLE NOTES

- ALL STEEL, EXCEPT CABLE GROOVE, BEARING SURFACES BETWEEN THE SHOE AND THE BASE AND STAINLESS STEEL, SHALL BE PAINTED IN ACCORDANCE WITH SECTION 6-07.3(9) OF THE STANDARD SPECIFICATIONS.
- UNLESS OTHERWISE NOTED, STRUCTURAL STEEL FOR THE CABLE SADDLE ASSEMBLY SHALL CONFORM TO ASTM A 36.
- THE SHOE AND BASE BE CAST STEEL AND CONFORM TO ASTM A 27 GRADE 70-36.
- THE SOLE PLATE ATTACHED TO THE SHOE SHALL CONFORM TO ASTM A 508. SEE RFP SECTION 2.12.5.16.5 FOR REQUIREMENTS OF THE PTFE SHEET ATTACHED TO THE SOLE PLATE.
- THE STAINLESS STEEL SHEET ATTACHED TO THE BASE SHALL CONFORM TO ASTM A 240 TYPE 304. SEE RFP SECTION 2.12.5.16.5 FOR ADDITIONAL REQUIREMENTS.
- BOLTS DESIGNATED AS HIGH STRENGTH SHALL CONFORM TO AASHTO M 164 TYPE 3 AND THE REQUIREMENTS OF SECTION 9-06-5(3) OF THE STANDARD SPECIFICATIONS.
- THE CAP SCREWS SHALL CONFORM TO AASHTO M 164 TYPE 3.
- ALL BEARING SURFACES SHALL RECEIVE A 125μ FINISH, UNLESS NOTED OTHERWISE. THE AREA OF THE CABLE GROOVE WHICH WILL BE IN CONTACT WITH THE CABLE SHALL BE GIVEN A 125μ FINISH. REMAINING AREAS OF THE CABLE GROOVE SHALL BE HAND GROUND TO ELIMINATE FINS AND GIVE A SMOOTH FINISH.
- FOR PROTECTION OF BEARING SURFACES, CABLE SHOE AND BASE SHALL BE SHOP ASSEMBLED AND GREASE HOLE FILLED WITH APPROVED GREASE PRIOR TO SHIPMENT.
- SET SADDLE BASE TO CORRECT ORIENTATION (SHOWN IN THE SADDLE LOCATION TABLE) BEFORE PLACING GROUT. TORQUE ANCHOR BOLTS AFTER CURING GROUT.

SR. 52 FILE NO. SHEET AG4

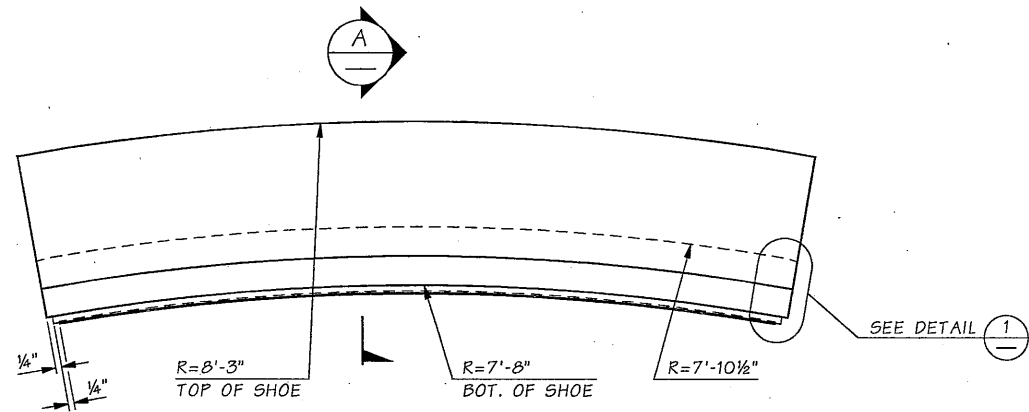
Bridge Design Engr. Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\AG HARDWARE 4.wnd	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor Clarke, PT		10	WASH.			
Designed By Ferluga, E	11/10	JOB NUMBER				
Checked By Messmer, A	03/11	10A057				
Detailed By Lemons, T	10/10					
Bridge Projects Engr.	03/2011	AD16 - REVISED AND ADDED NOTES	EJF			
Prelim. Plan By	01/2011	AD3 - REV. NOTES AND ADDED DIMS / TABLE	EJF			
Architect/Specialist	DATE	REVISION	BY	APP'D		

**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

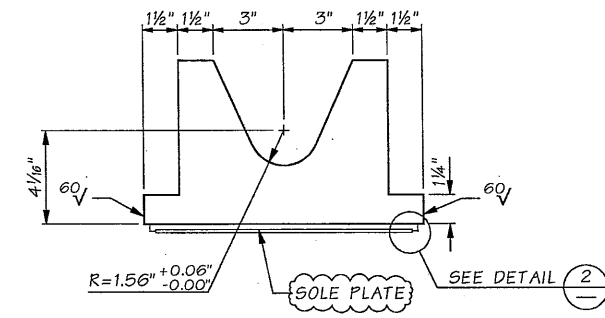
ANCHOR GALLERY HARDWARE  
CABLE SADDLE ASSEMBLY

BRIDGE SHEET NO. AG4  
OF SHEETS

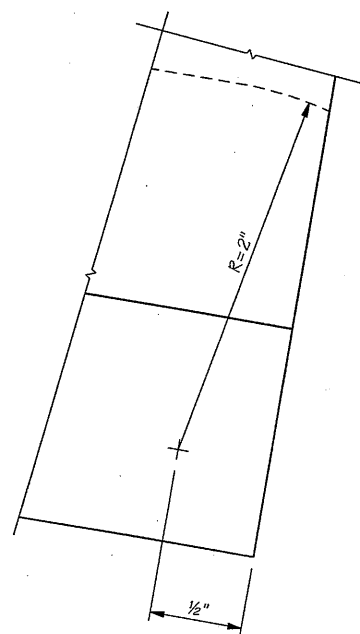


**ELEVATION - SHOE**

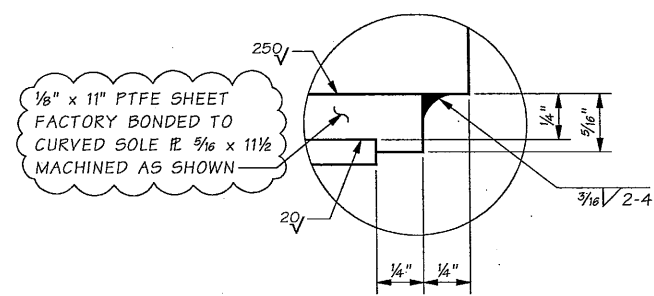
ALL RADII ARE MEASURED FROM THE SAME POINT (U.N.O.)



**SECTION A**



**DETAIL 1**  
BOTH ENDS



**DETAIL 2**

SR SR 52 FILE NO. SHEET AG5

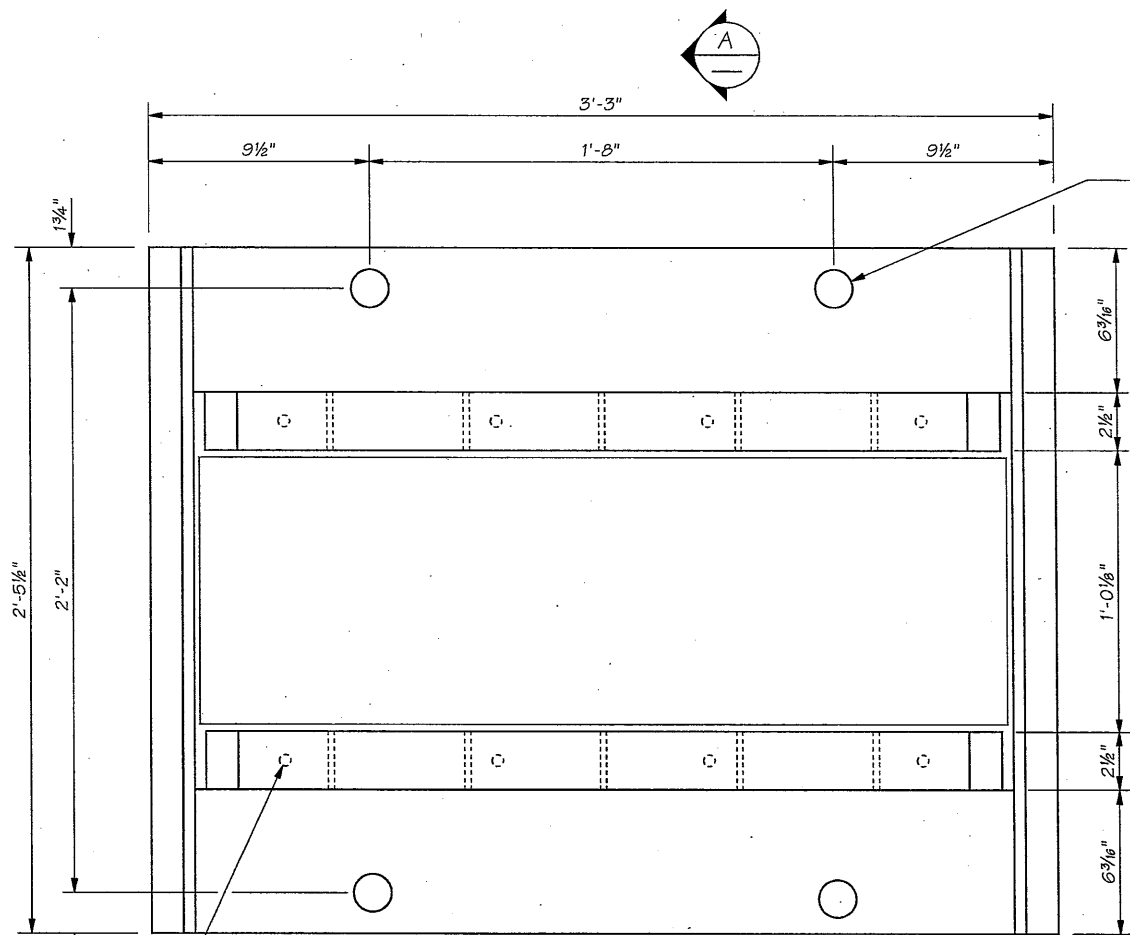
Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\AG HARDWARE 5.wnd				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT					10	WASH.			
Designed By	Ferluga, E	11/10								
Checked By	Messmer, A	03/11								
Detailed By	Lemons, T	10/10								
Bridge Projects Engr.		03/2011	AD16 - RELOCATED AND REVISED NOTES	EJF						
Prelim. Plan By		01/2011	AD3 - REVISED DIMS	EJF						
Architect/Specialist		DATE	REVISION	BY	APP'D					

**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23**  
**OUTFITTING & ASSEMBLY**  
**TECHNICAL REQUIREMENTS**  
ANCHOR GALLERY HARDWARE  
CABLE SADDLE SHOE

BRIDGE SHEET NO. AG5  
SHEET OF SHEETS

Thu Mar 31 11:36:46 2011



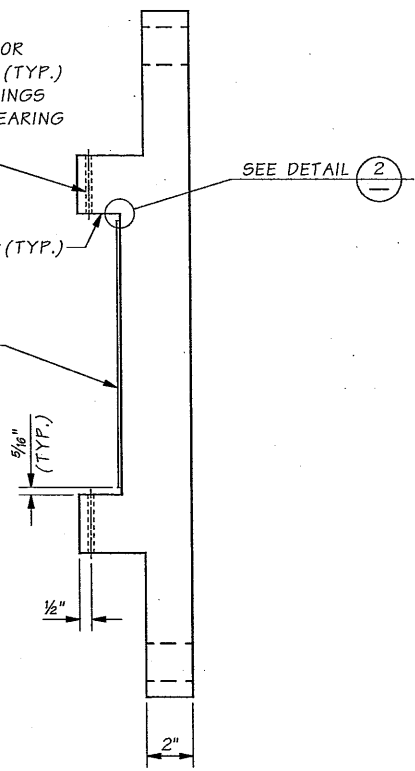
DRILL & TAP FOR 1/2" Ø  
13 UNC CAP SCREWS  
1 3/4" DEEP.

PLAN

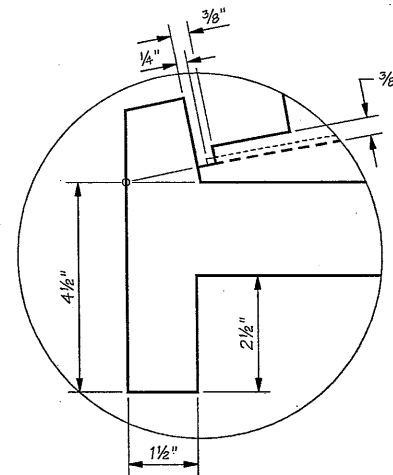
DRILL 1 1/16" Ø HOLE FOR  
1 1/2" Ø ANCHOR BOLTS

DRILL AND TAP FOR  
GREASE FITTING (TYP.)  
(10 GREASE FITTINGS  
REQUIRED PER BEARING  
PLATE)

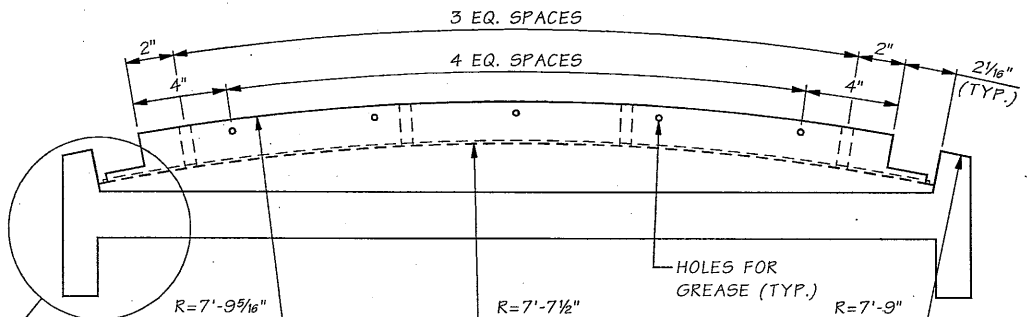
10GA x 11 1/2" WIDE  
STAINLESS STEEL SHEET



SECTION A

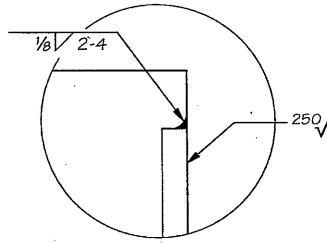


DETAIL 1



ELEVATION

ALL RADII ARE MEASURED FROM THE SAME  
POINT UNLESS OTHERWISE SHOWN

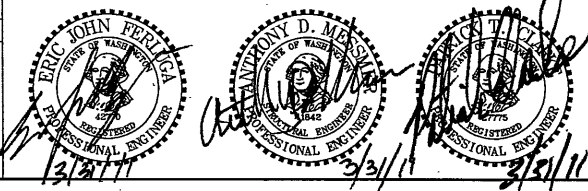


DETAIL 2

SEE DETAIL 1

SR SR 52 FILE NO. SHEET AG6

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\AG HARDWARE 6.wnd		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT			10	WASH.			
Designed By	Ferluga, E	11/10		JOB NUMBER				
Checked By	Messmer, A	03/11		10A057				
Detailed By	Lemons, T	10/10						
Bridge Projects Engr.								
Prelim. Plan By	EJF	03/2011	AD16 - RELOCATED AND REVISED NOTES					
Architect/Specialist		DATE	REVISION	BY	APP'D			



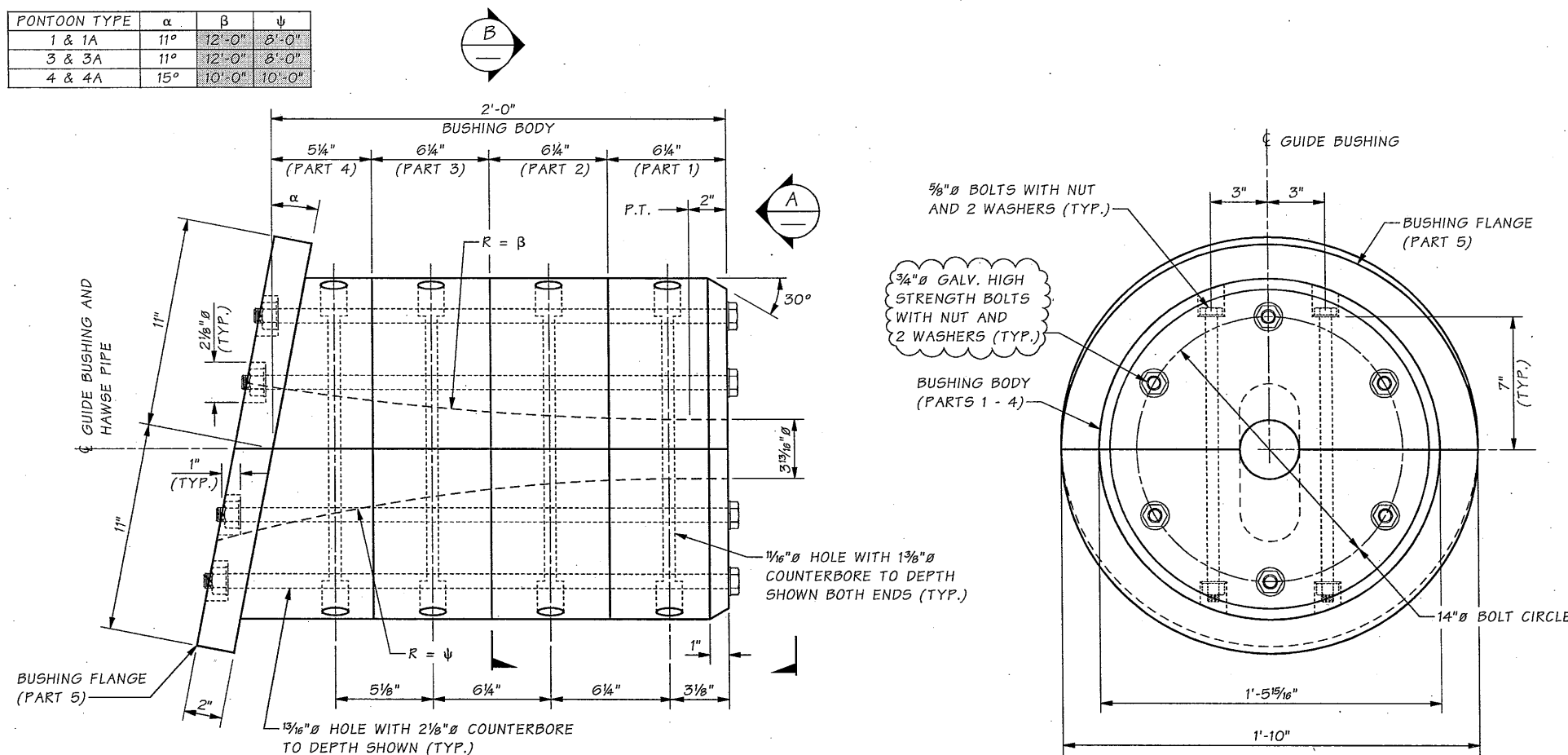
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

ANCHOR GALLERY HARDWARE  
CABLE SADDLE BASE

BRIDGE SHEET NO. AG6  
SHEET OF SHEETS

PONTOON TYPE	$\alpha$	$\beta$	$\psi$
1 & 1A	11°	12'-0"	8'-0"
3 & 3A	11°	12'-0"	8'-0"
4 & 4A	15°	10'-0"	10'-0"



**GUIDE BUSHING NOTES**

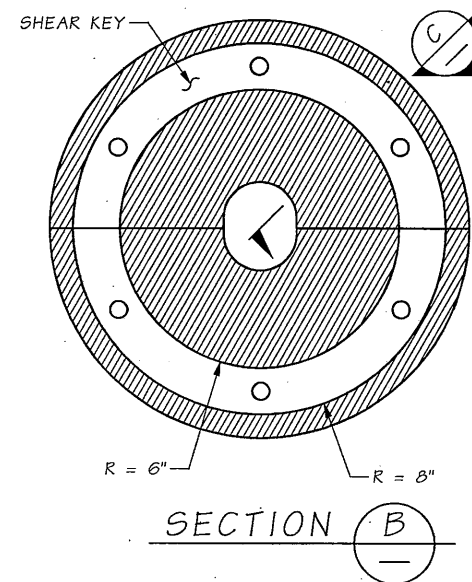
1. GUIDE BUSHING SHALL BE ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMW POLYETHYLENE) AND SHALL CONFORM TO ASTM D4020. THE UHMW POLYETHYLENE SHALL BE COMPRISED OF 100 PERCENT VIRGIN UHMW POLYETHYLENE MATERIAL, SHALL BE 100 PERCENT CROSS-LINKED FOR ABRASION RESISTNACE, SHALL BE FULLY ULTRAVIOLET (UV) STABILIZED AND SHALL CONFORM TO THE FOLLOWING MATERIAL REQUIREMENTS:

PROPERTY	TEST METHOD	VALUE
DENSITY	ASTM D 792	58.0 TO 59.0 PCF
HARDNESS	ASTM D 785	63 TO 69 SHORE D
ELONGATION AT BREAK	ASTM D 638	350 TO 450 PERCENT
IMPACT	ASTM D 256	NO BREAK
ABRASION WEAR	SAND SLURRY	7 TO 16
COEFFICIENT OF FRICTION	ASTM D 1894	0.11 TO 0.20
ULTIMATE TENSILE STRENGTH	ASTM D 638	5,600 TO 6,900 PSI

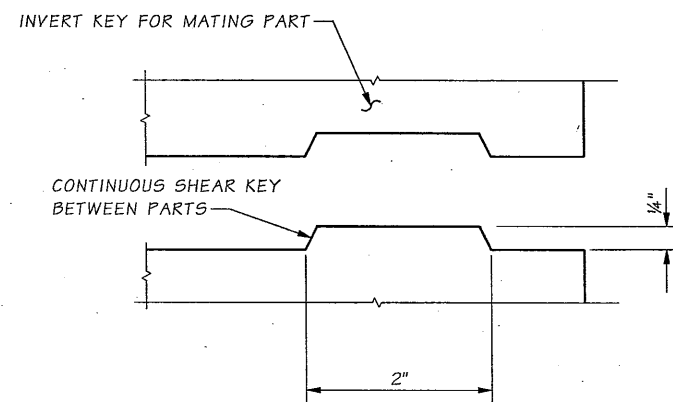
2. UHMW POLYETHYLENE WILL BE ACCEPTED BY WSDOT BASED ON THE MANUFACTURER'S CERTIFICATE OF COMPLIANCE THAT THE MATERIAL FURNISHED CONFORMS TO THESE SPECIFICATIONS.
3. BOLTS DESIGNATED AS HIGH STRENGTH SHALL CONFORM TO AASHTO M 164 TYPE 3 AND THE REQUIREMENTS OF SECTION 9-06-5(3), OF THE STANDARD SPECIFICATIONS.
4. "TOP" AND "BOTTOM" SHALL BE STAMPED ON THE INSIDE FLAT SURFACE OF EACH GUIDE BUSHING PART ALONG WITH THE PART NUMBER.
5. BUSHING KEEPER PLATE SHALL CONFORM TO ASTM A 588.
6. BOLTS FOR KEEPER PLATE SHALL BE STAINLESS STEEL AND CONFORM TO ASTM A 193 CLASS 2 GRADE B8M. WASHERS SHALL CONFORM TO ANSI B18.22.1 TYPE 316.
7. FIELD VERIFY EXISTING INSERT LOCATIONS BEFORE FABRICATING BUSHING KEEPER PLATE.

**SPLIT GUIDE BUSHING ASSEMBLY ~ ELEVATION**

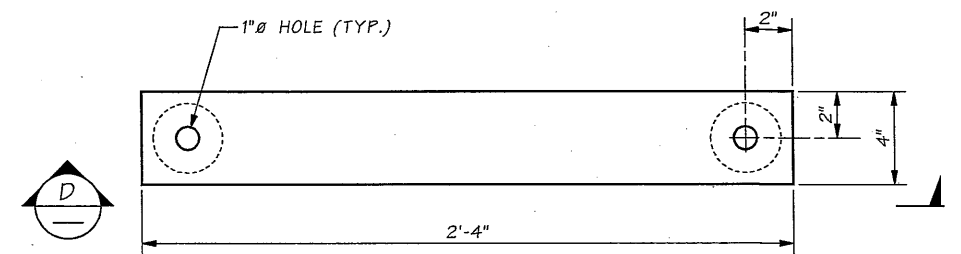
ASSEMBLY CONSISTS OF 5 PARTS, EACH PART HAS TWO HALVES.  
VERTICAL BOLTS NOT SHOWN FOR CLARITY.  
PONTOON TYPES 1, 1A, 3 & 3A SHOWN, TYPES 4 & 4A SIMILAR.



SECTION B

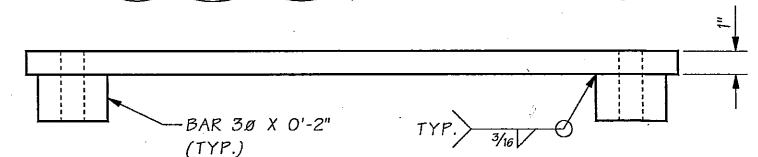


SECTION C



**BUSHING KEEPER PLATE**

2 REQUIRED PER SPLIT GUIDE BUSHING ASSEMBLY  
ATTACH TO EXTERIOR OF PONTOON USING EXISTING S.S. INSERTS AT HAWSE PIPE LOCATIONS WITH 1" S.S. BOLTS



VIEW D

SR 52 FILE NO. SHEET AG7

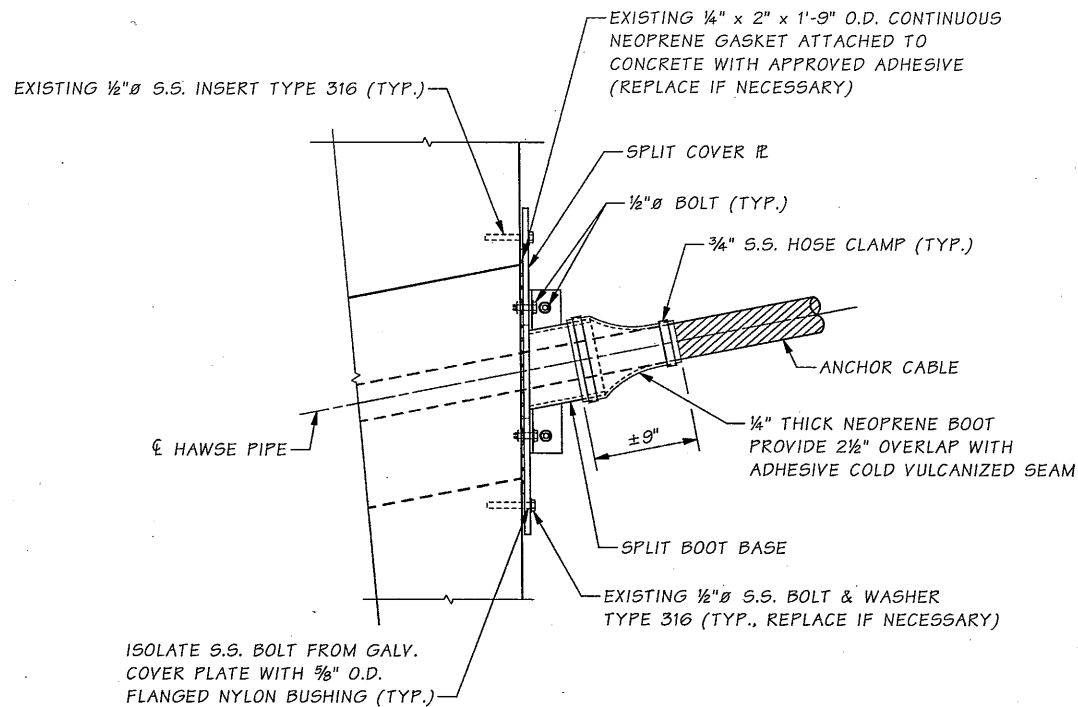
Bridge Design Engr.	Khaloghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\AG7 HARDWARE 7.wnd	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT		10	WASH.			
Designed By	Ferluga, E	11/10	JOB NUMBER 10A057				
Checked By	Messmer, A	03/11					
Detailed By	Ferluga, E	10/10					
Bridge Projects Engr.		03/2011 AD16 - REV. TABLE & ADDED NOTES	BY APPD				
Prelim. Plan By		01/2011 AD3 - REVISED SHEET					
Architect/Specialist		DATE REVISION					

**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

ANCHOR GALLERY HARDWARE  
SPLIT GUIDE BUSHING

BRIDGE SHEET NO. AG7  
SHEET OF SHEETS

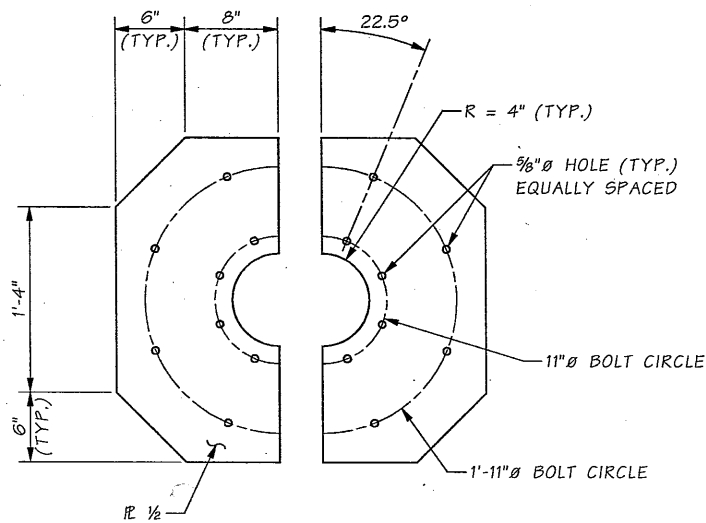


**HAWSE PIPE COVER ASSEMBLY**

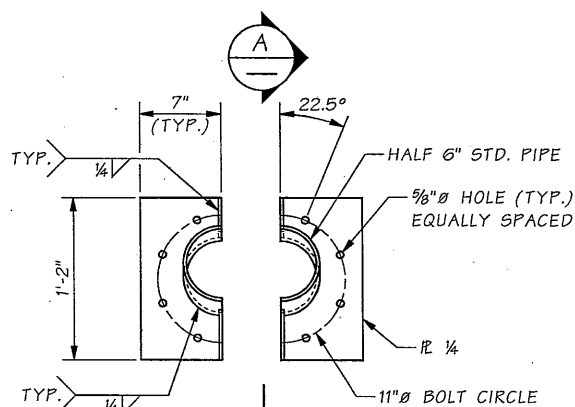
PONTOON TYPES 1, 1A, 3 & 3A SHOWN.  
PONTOON TYPES 4 & 4A SIMILAR.

**HAWSE PIPE COVER NOTES**

1. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL FOR THE HAWSE PIPE COVER SHALL CONFORM TO ASTM A 36.
2. UNLESS NOTED OTHERWISE, BOLTS SHALL CONFORM TO AASHTO M 164 TYPE 3 AND THE REQUIREMENTS OF SECTION 9-06-5(3). OF THE STANDARD SPECIFICATIONS.
3. BOLTS SPECIFIED AS STAINLESS STEEL SHALL CONFORM TO ASTM A 193, CLASS 2 GRADE B8M. NUTS SHALL CONFORM TO ASTM A 194, GRADE 8M, WASHERS SHALL CONFORM TO ANSI B18.22.1 TYPE 316.
4. STEEL COMPONENTS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FABRICATION. NON-STAINLESS STEEL BOLTS AND HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232.
5. NEOPRENE GASKET AND BOOT SHALL BE DUROMETER 50.
6. FIELD VERIFY EXISTING INSERT LOCATIONS BEFORE FABRICATING COVER PLATE.

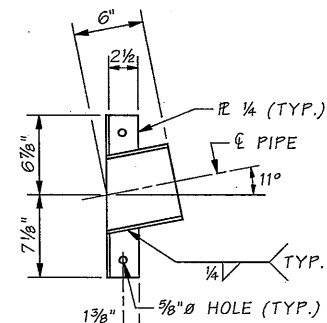


**SPLIT COVER PLATE**



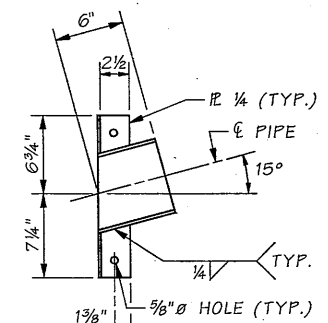
**SPLIT BOOT BASE**

PONTOON TYPES 1, 1A, 3 & 3A SHOWN,  
PONTOON TYPES 4 & 4A SIMILAR.



**VIEW A**

PONTOON TYPES 1, 1A, 3 & 3A

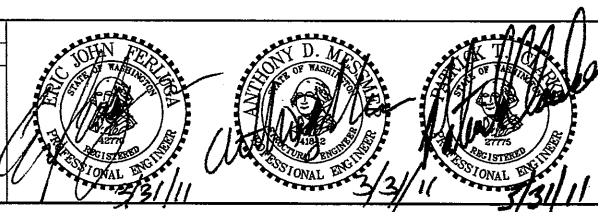


**VIEW A**

PONTOON TYPES 4 & 4A

SR SR 52 FILE NO. SHEET AG8

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\AG HARDWARE 8.wnd				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT					10	WASH.			
Designed By	Ferluga, E	03/11				JOB NUMBER				
Checked By	Messmer, A	03/11				10A057				
Detailed By	Ferluga, E	03/11								
Bridge Projects Engr.		05/2011	AD16 - REVISED SHEET	EJF						
Prelim. Plan By		01/2011	AD3 - REVISED NOTE	EJF						
Architect/Specialist		DATE	REVISION	BY	APP'D					

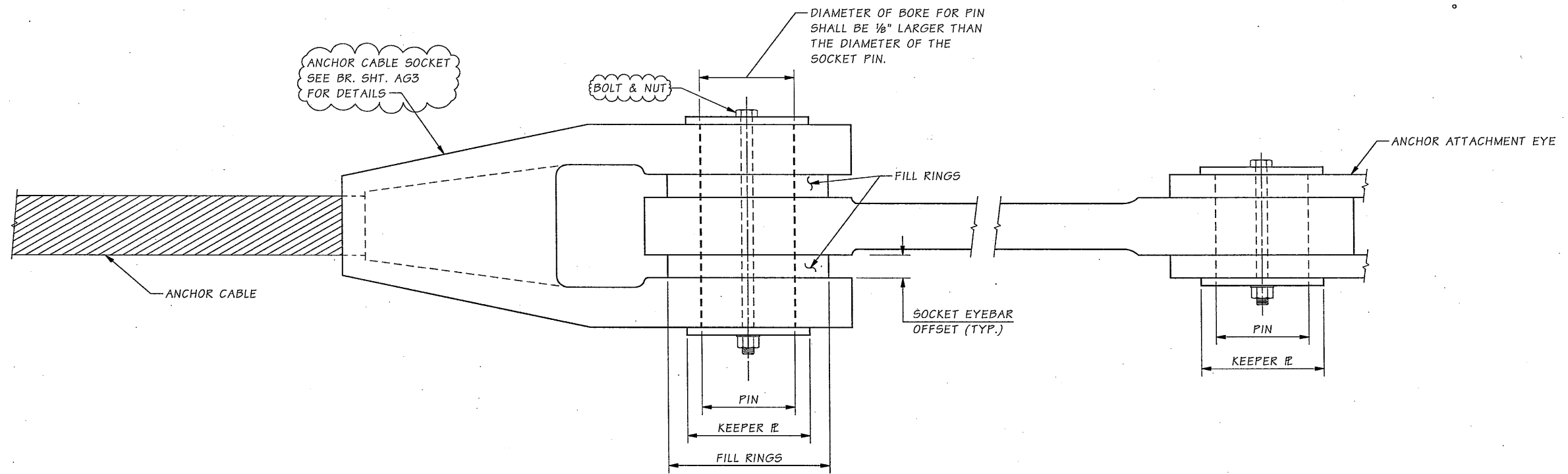


BRIDGE AND STRUCTURES OFFICE

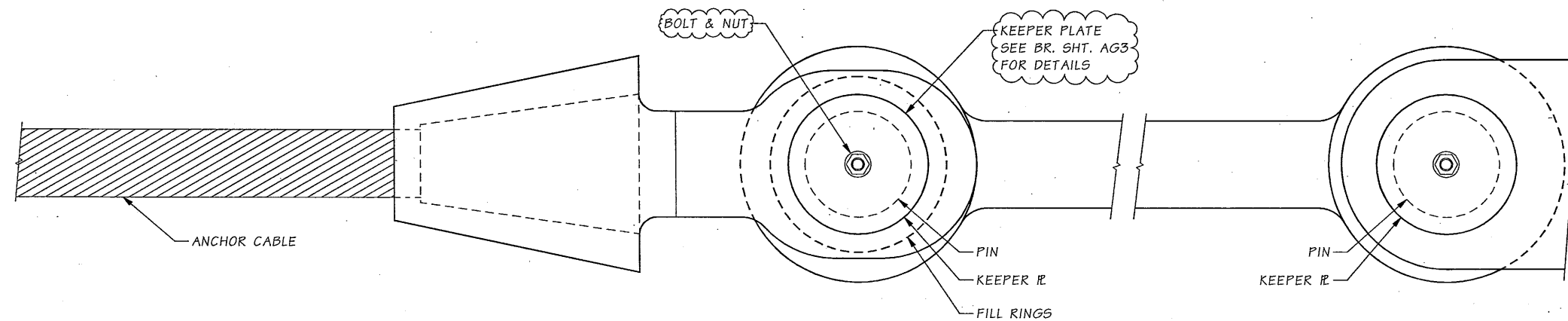
**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

ANCHOR GALLERY HARDWARE  
CABLE PORT COVER

BRIDGE SHEET NO. AGB  
SHEET OF SHEETS



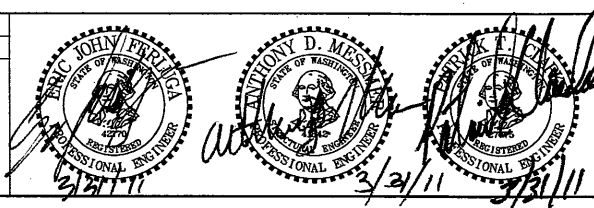
PLAN



ELEVATION

SR SR 52 FILE NO. SHEET AG9

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\EYEBAR.wnd				
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Designed By	Clarke, PT	10	WASH.			
Checked By	Messmer, A	JOB NUMBER 10A057				
Detailed By	Lemons, T					
Bridge Projects Engr.	03/2011	AD16 - REV. & APP. CALLOUTS	REV. SHT. NAME	EJF		
Prelim. Plan By	01/2011	AD3 - ADDED SHEET	PTC			
Architect/Specialist	DATE	REVISION	BY	APP'D		



**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

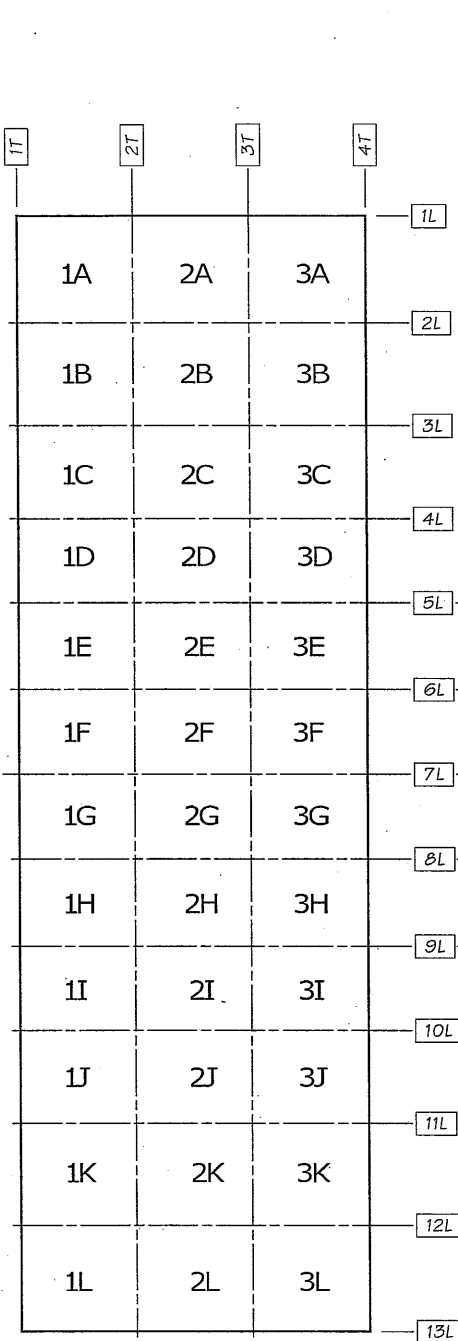
APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

ANCHOR EYEBAR DETAILS

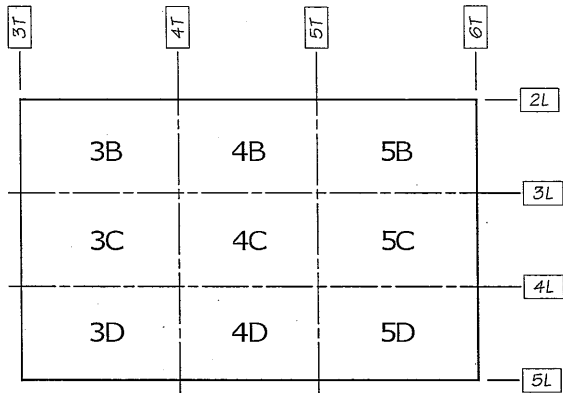
BRIDGE SHEET NO. AG9  
SHEET OF SHEETS

CROSS PONTOON & CONNECTED LONGITUDINAL PONTOONS

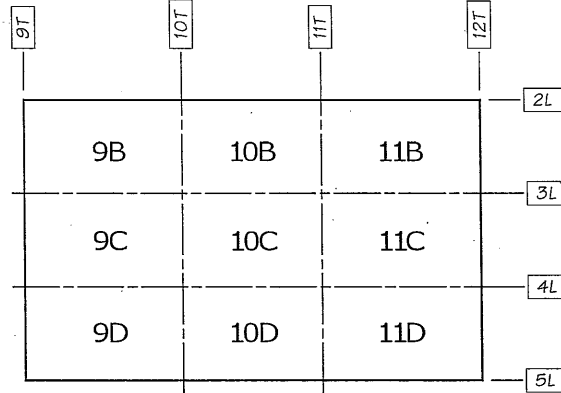
CROSS PONTOON & CONNECTED LONGITUDINAL PONTOONS



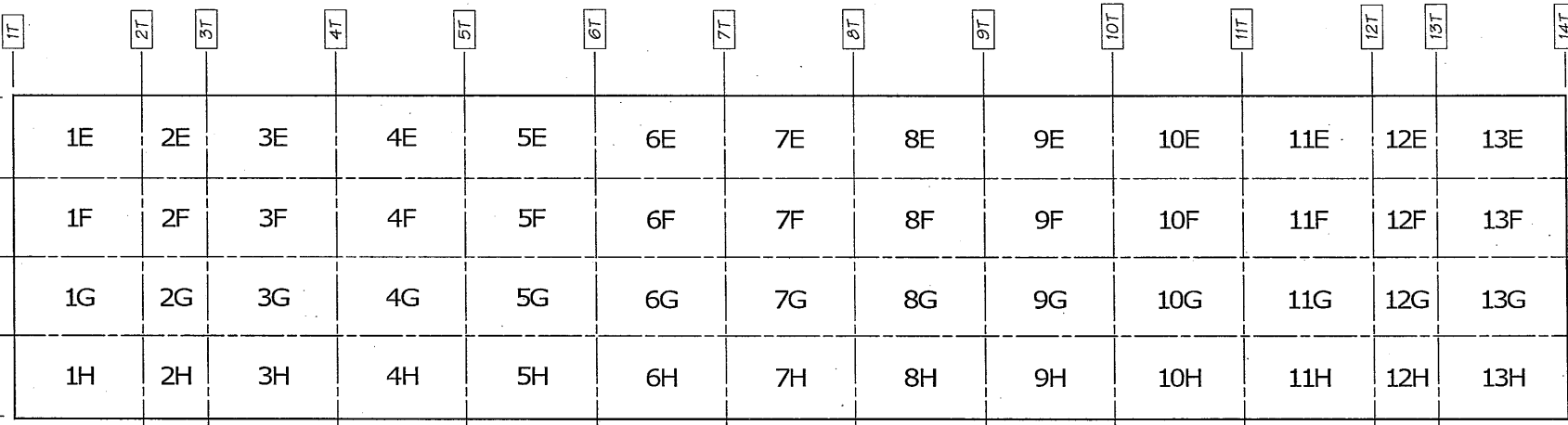
PONTOON A



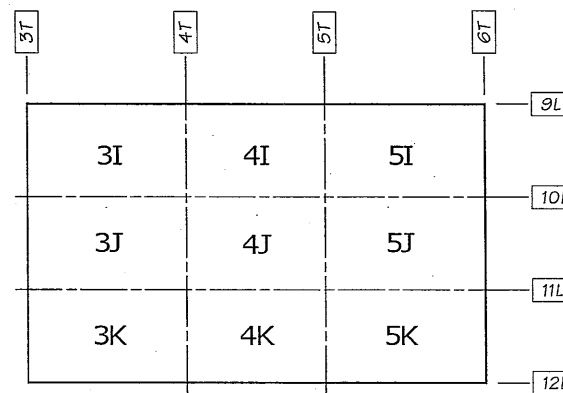
SSP NW



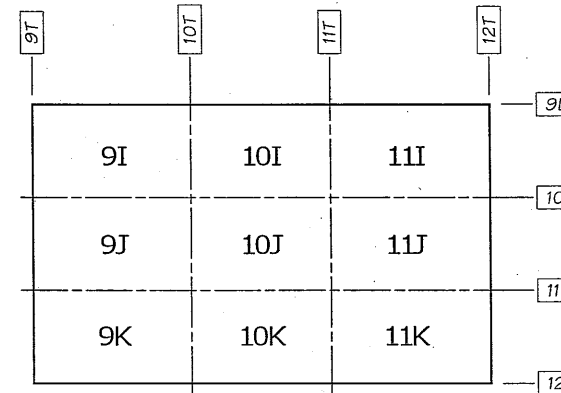
SSP NE



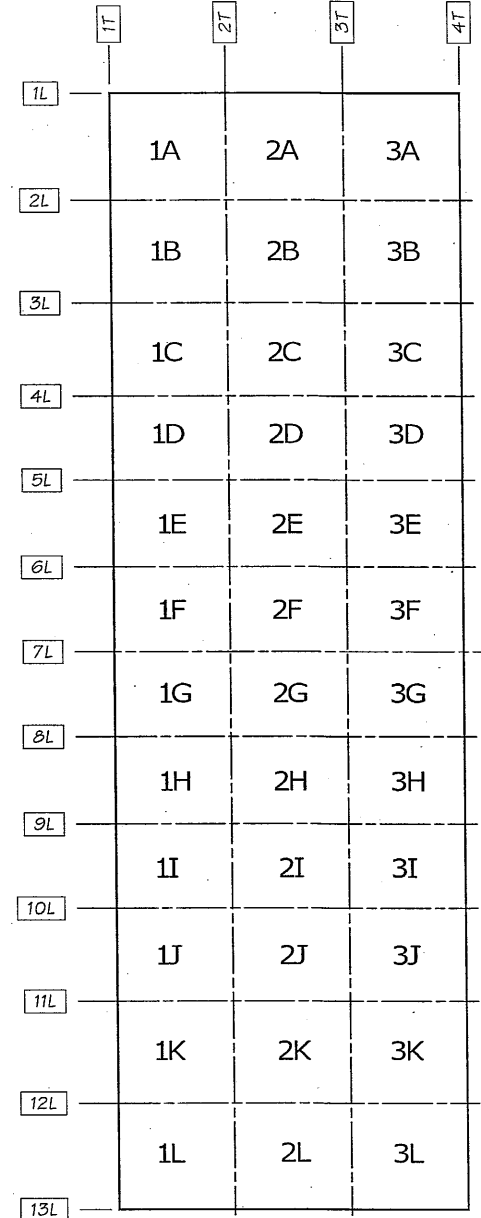
TYPICAL PONTOON



SSP SW



SSP SE



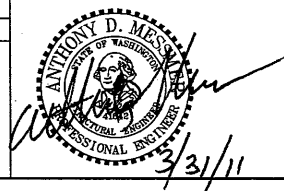
PONTOON W

13L = LONGITUDINAL WALL DESIGNATOR  
2T = TRANSVERSE WALL DESIGNATOR

CELLS 4C, 10C, 4J, AND 10J, ARE WELLS IN PONTOON TYPES 2 AND 5.

SR 52 FILE NO. SHEET ID1

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\GLOBAL CELL POSITON.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Messmer, A 11/10	10	WASH.		TOTAL SHEETS
Checked By	Ferluga, E 03/11				
Detailed By	Lemons, T 10/10				
Bridge Projects Engr.		JOB NUMBER 10A057			
Prelim. Plan By					
Architect/Specialist		DATE	REVISION	BY	APP'D

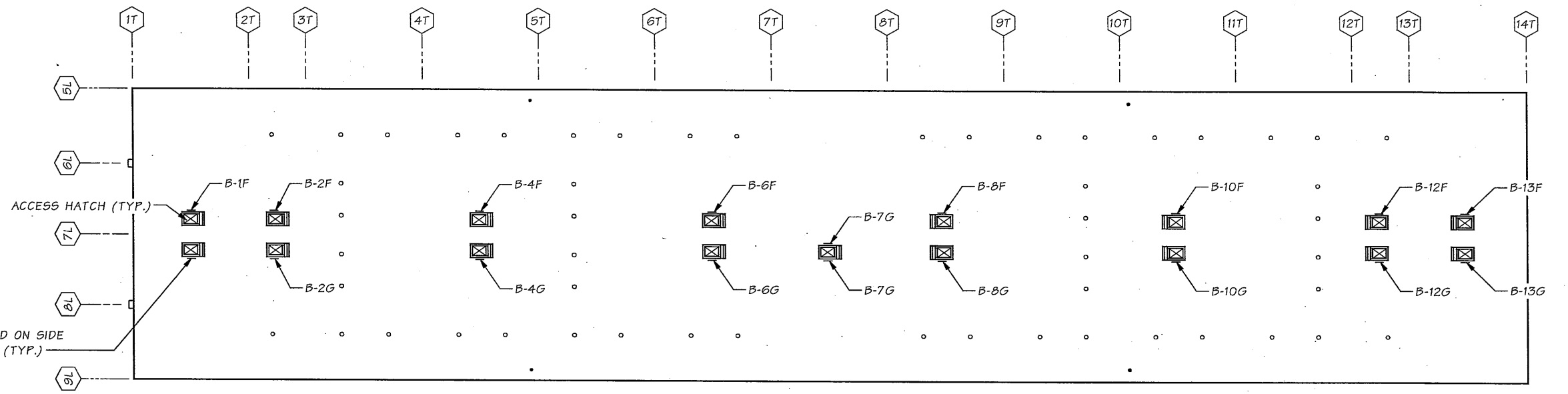


APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

GLOBAL CELL AND  
WALL NAME CONVENTION

BRIDGE SHEET NO. ID1  
SHEET OF SHEETS

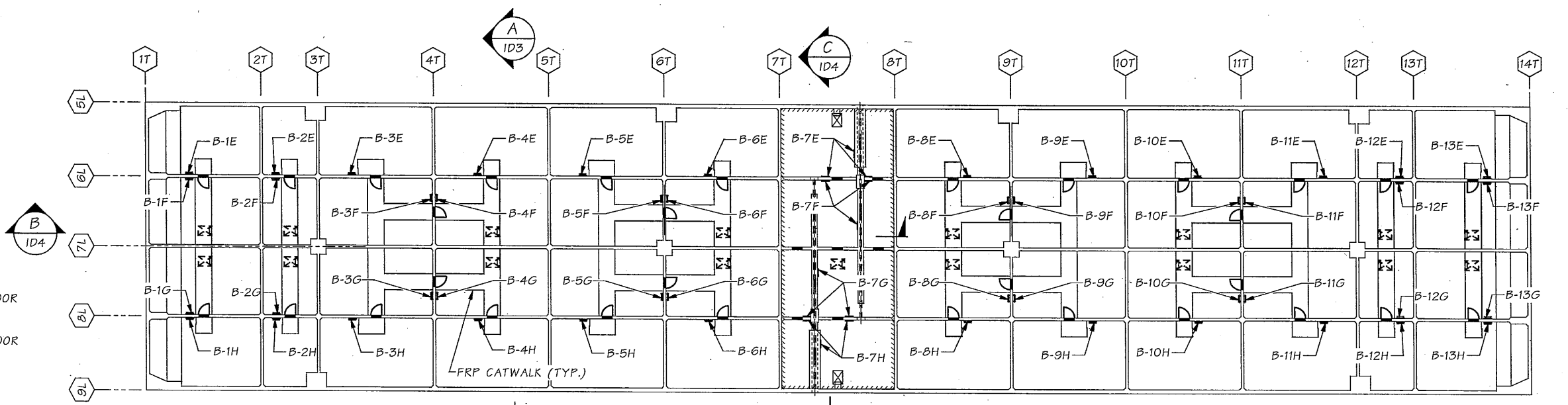




**DECK HATCH ID**  
PONTOON B SHOWN, PONTOONS C TO V SIMILAR

**NOTES:**

- CELL IDS ARE SHOWN FOR DIFFERENT PONTOON LOCATIONS. SEE BR. SHT. A1 & A2 FOR PONTOON ASSEMBLY LAYOUT, BR. SHT. ID1 FOR GLOBAL CELL AND WALL NAME CONVENTIONS AND RFP 2.12 FOR CREATING PONTOON AND SSP CELL IDS.
- SEE BR SHT. ID15 FOR DETAILS LOCATING CELL IDS.
- SEE APPENDIX M11 FOR EXTERNAL FEATURES.



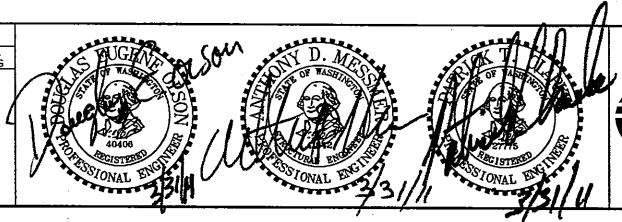
**CELL ID PLAN**  
PONTOON B SHOWN  
PONTOONS C TO V SIMILAR

**KEY**

- UPPER LEVEL PLATFORM & WATERTIGHT DOOR (SWING AS INDICATED ON PLAN)
- LOWER LEVEL PLATFORM & WATERTIGHT DOOR (SWING AS INDICATED ON PLAN)
- WALL OPENING BELOW ANCHOR GALLERY
- PONTOON DECK ACCESS OPENING & LADDER
- ANCHOR GALLERY SLAB ACCESS OPENING & LADDER
- LADDER

SR SR 52 FILE NO. SHEET ID2

Bridge Design Engr.	khalleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\P ID PLAN.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Olson, DE 11/10	10	WASH.		TOTAL SHEETS
Checked By	Messmer, A 03/11	JOB NUMBER 10A057			
Detailed By	Lemons, T 10/10				
Bridge Projects Engr.					
Prelim. Plan By	03/2011	AD16 - REMOVED NOTE 3	ADM		
Architect/Specialist	DATE	REVISION	BY	APPD	

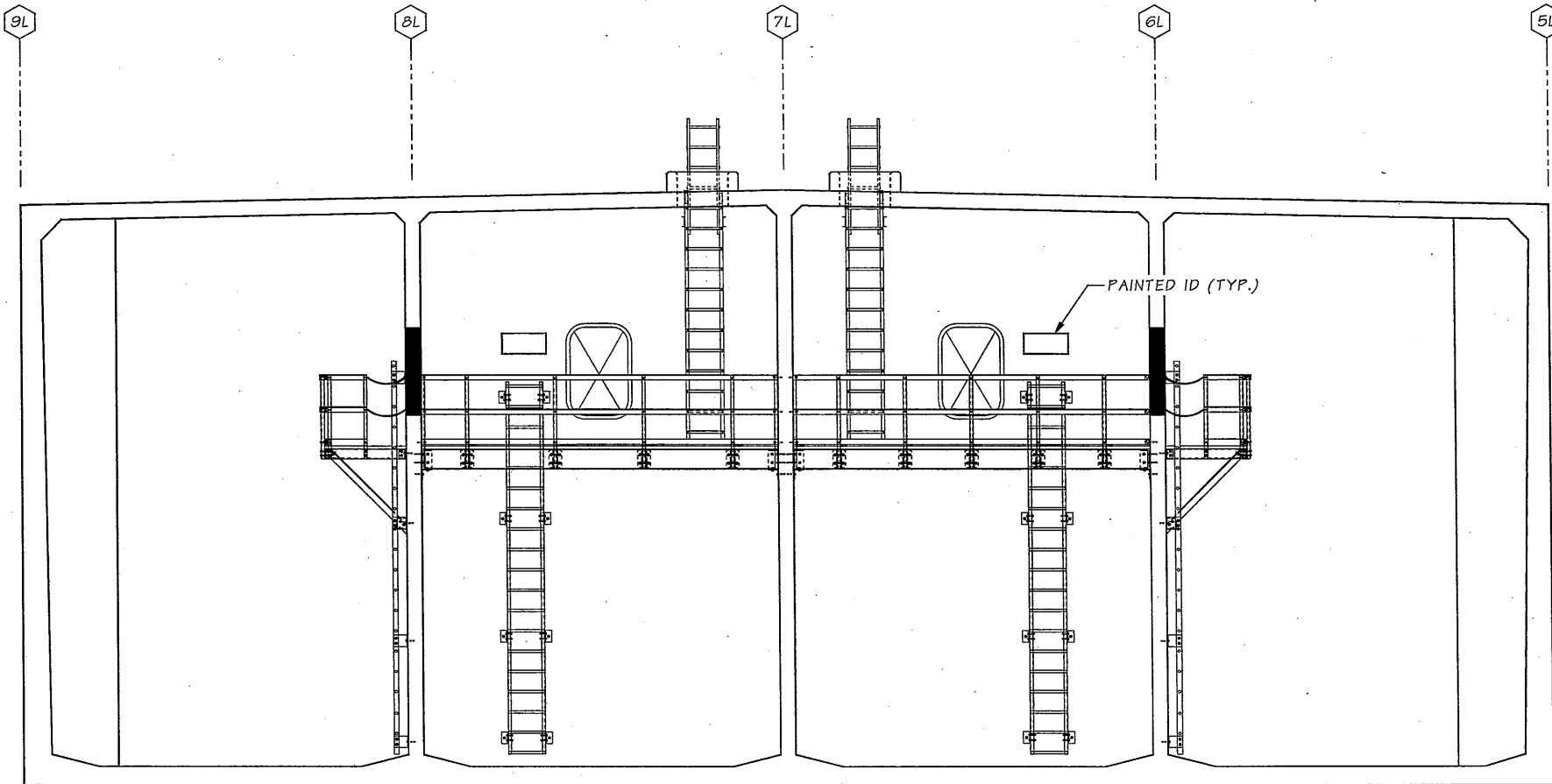


**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

ID PLANS  
PONTOONS B TO V

BRIDGE SHEET NO. 1D2  
SHEET OF SHEETS



SECTION A  
ID2

SR 52 FILE NO. SHEET ID3

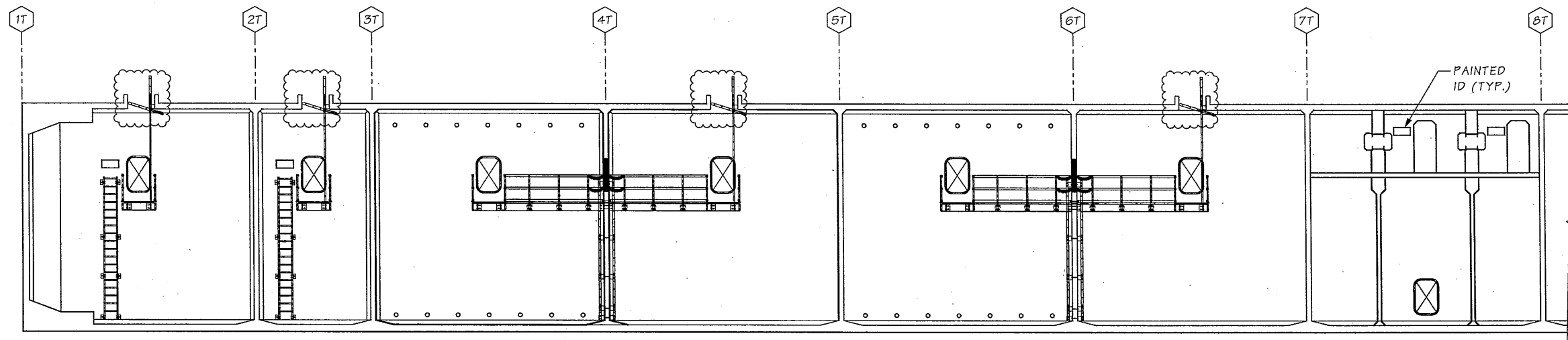
Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\P ID SECTIONS 1.wnd					
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
Designed By	Olson, DE 11/10	10	WASH.				
Checked By	Messmer, A 03/11	JOB NUMBER 10A057					
Detailed By	Lemons, T 10/10						
Bridge Projects Engr.							
Prelim. Plan By	03/2011	AD16 - REMOVED STRUCT. PT	ADM				
Architect/Specialist	DATE	REVISION	BY	APP'D			

**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

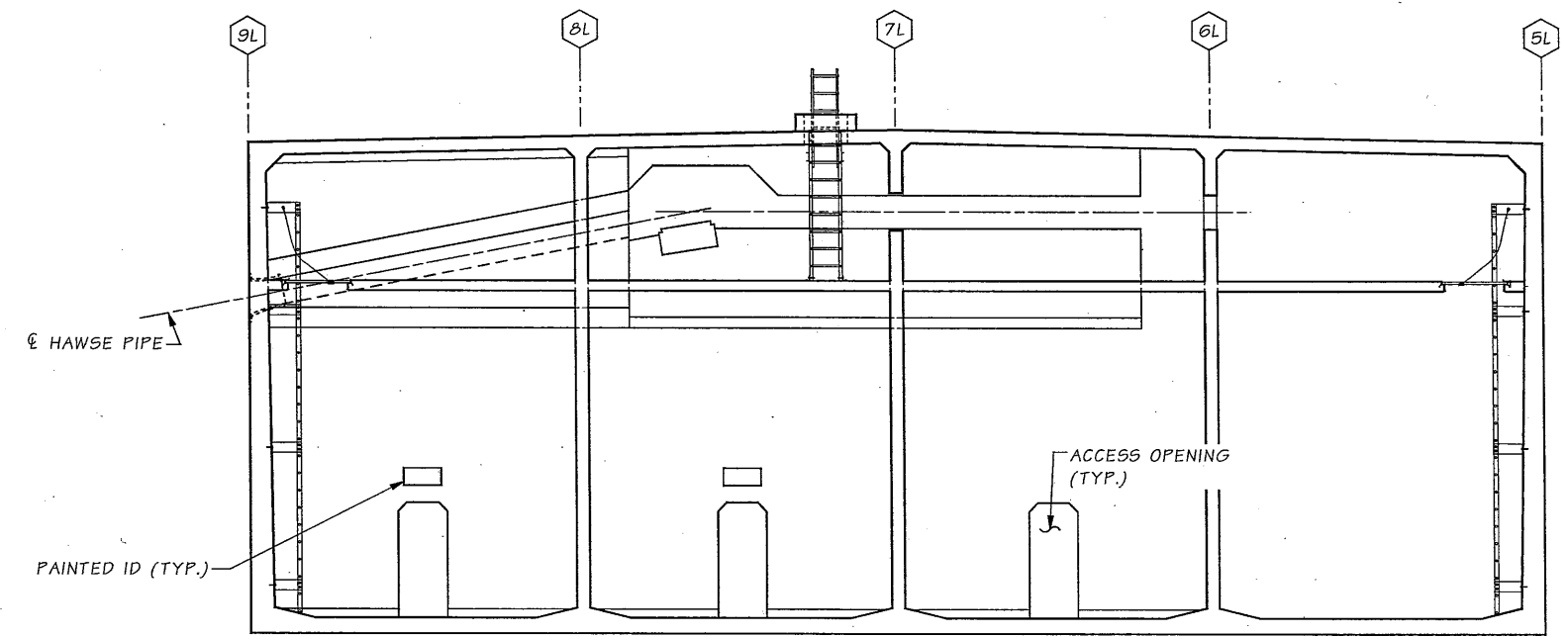
APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

CELL ID SECTIONS  
PONTONS B TO V

BRIDGE SHEET NO.  
103  
SHEET  
OF  
SHEETS



SECTION B  
ID2



SECTION C  
ID2

SR SR FILE NO. SHEET ID4

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\VP ID SECTIONS 2.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Olson, DE	10	WASH.		TOTAL SHEETS
Checked By	Messmer, A	JOB NUMBER 10A057			
Detailed By	Lemons, T				
Bridge Projects Engr.					
Prelim. Plan By	05/20/11	AD10 - REMOVED STRUCT. PT. REV. HATCHES	ADM		
Architect/Specialist	DATE	REVISION	BY	APP'D	

**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

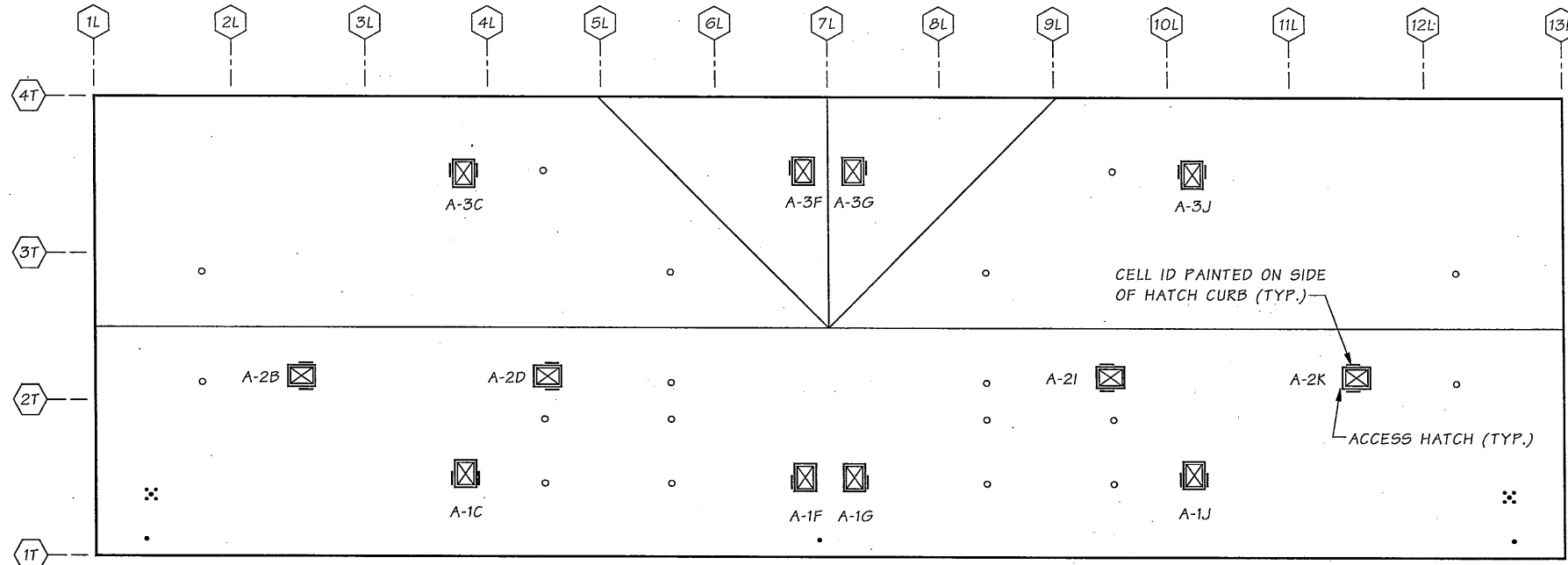
APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

CELL ID SECTIONS  
PONTOONS B TO V

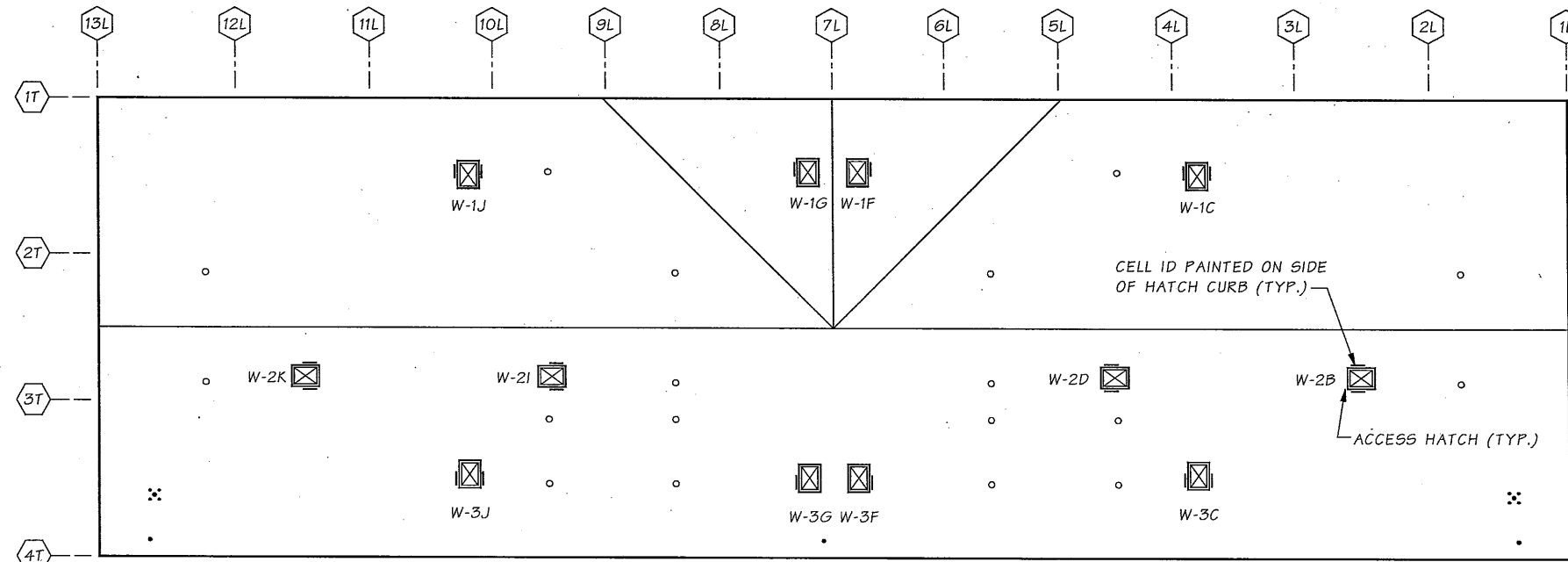
BRIDGE SHEET NO. 104  
SHEET OF SHEETS

**NOTES:**

1. CELL IDS ARE SHOWN FOR DIFFERENT PONTOON LOCATIONS. SEE BR. SHT. A1 & A2 FOR PONTOON ASSEMBLY LAYOUT, BR. SHT. ID1 FOR GLOBAL CELL AND WALL NAME CONVENTIONS AND RFP 2.12 FOR CREATING PONTOON AND SSP CELL IDS.
2. SEE BR SHT. ID15 FOR DETAILS LOCATING CELL IDS.
3. SEE APPENDIX M11 FOR EXTERNAL FEATURES.



**DECK HATCH ID PLAN**  
PONTON A



**DECK HATCH ID PLAN**  
PONTON W

SR SR 52 FILE NO. SHEET ID5

Bridge Design Engr.	Khaloghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\XP DECK ID PLAN.wnd				
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Designed By	Olson, DE 11/10	10	WASH.			
Checked By	Messmer, A 03/11	JOB NUMBER 10A057				
Detailed By	Lemons, T 10/10					
Bridge Projects Engr.						
Prelim. Plan By	05/2011 AD16 - REV. HATCHES REMOVED NOTE 3 ADM					
Architect/Specialist	DATE REVISION BY APPD					

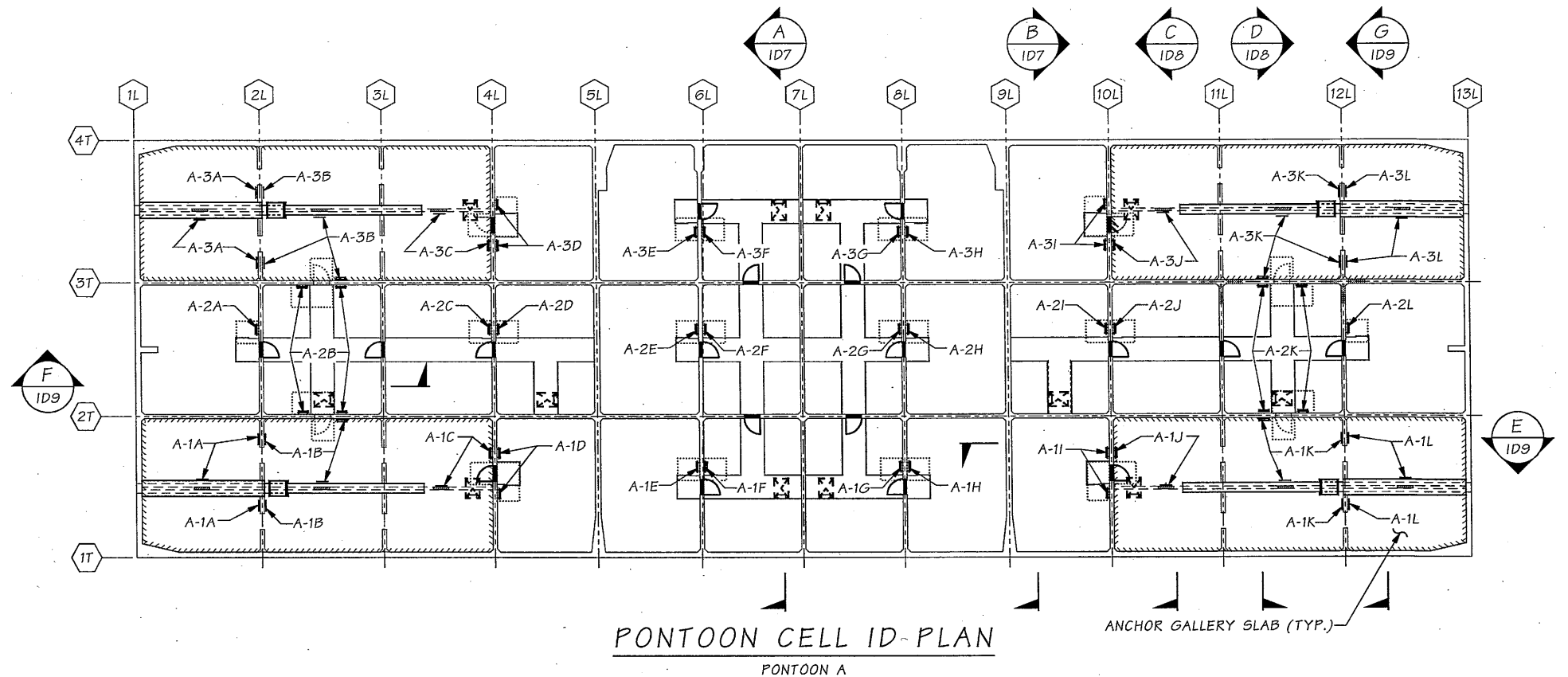
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

BRIDGE SHEET NO. **1D5**

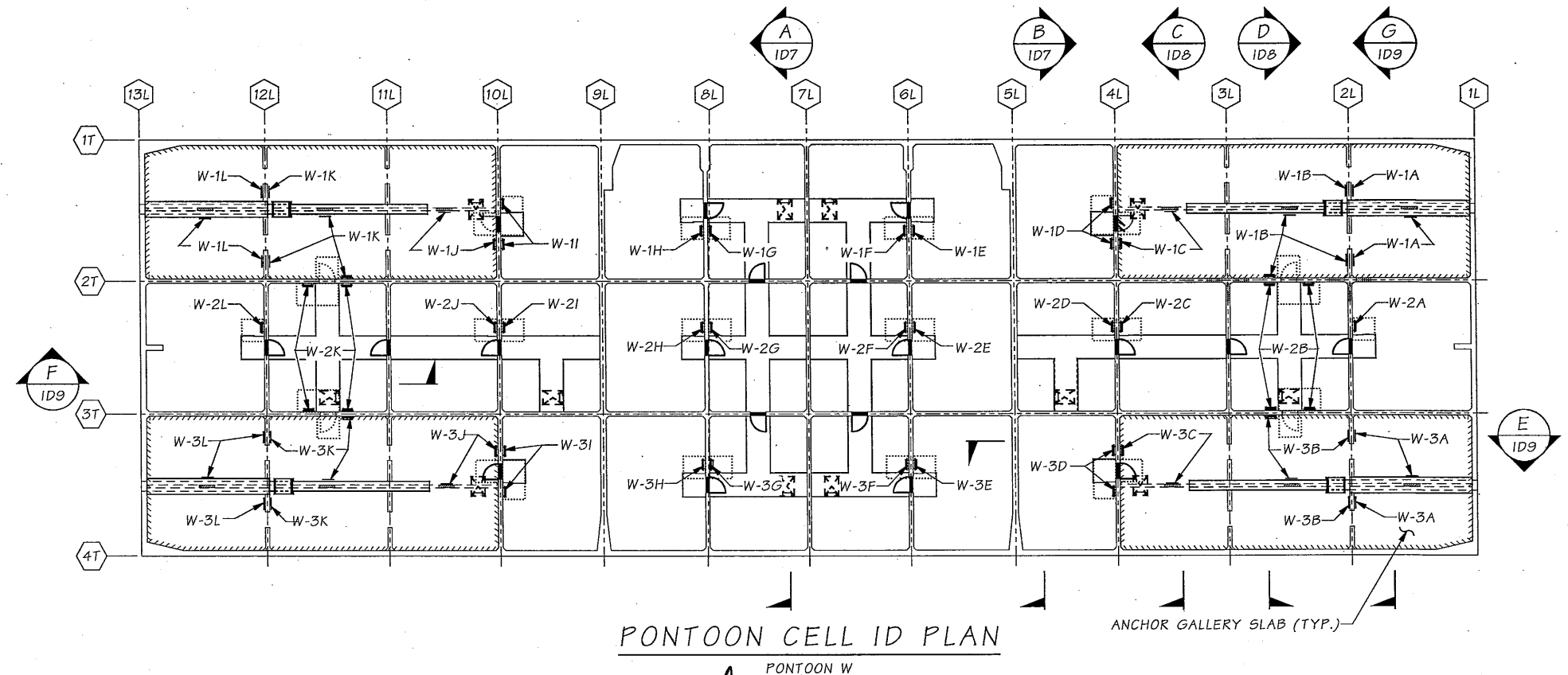
OF SHEETS

**DECK HATCH ID PLAN  
PONTOONS A & W**



PONTON CELL ID-PLAN

PONTON A



PONTON CELL ID PLAN

PONTON W

NOTES:

- CELL IDS ARE SHOWN FOR DIFFERENT PONTON LOCATIONS. SEE BR. SHT. A1 & A2 FOR PONTON ASSEMBLY LAYOUT, BR. SHT. ID1 FOR GLOBAL CELL AND WALL NAME CONVENTIONS AND RFP 2.12 FOR CREATING PONTON AND SSP CELL IDS.
- SEE BR. SHT. ID15 FOR DETAILS LOCATING CELL IDS.
- SEE APPENDIX M11 FOR EXTERNAL FEATURES.

KEY

- UPPER LEVEL PLATFORM & WATERTIGHT DOOR (SWING AS INDICATED ON PLAN).
- LOWER LEVEL PLATFORM & WATERTIGHT DOOR (SWING AS INDICATED ON PLAN).
- WALL OPENING BELOW ANCHOR GALLERY
- PONTON DECK ACCESS OPENING & LADDER
- ANCHOR GALLERY SLAB ACCESS OPENING & LADDER
- LADDER

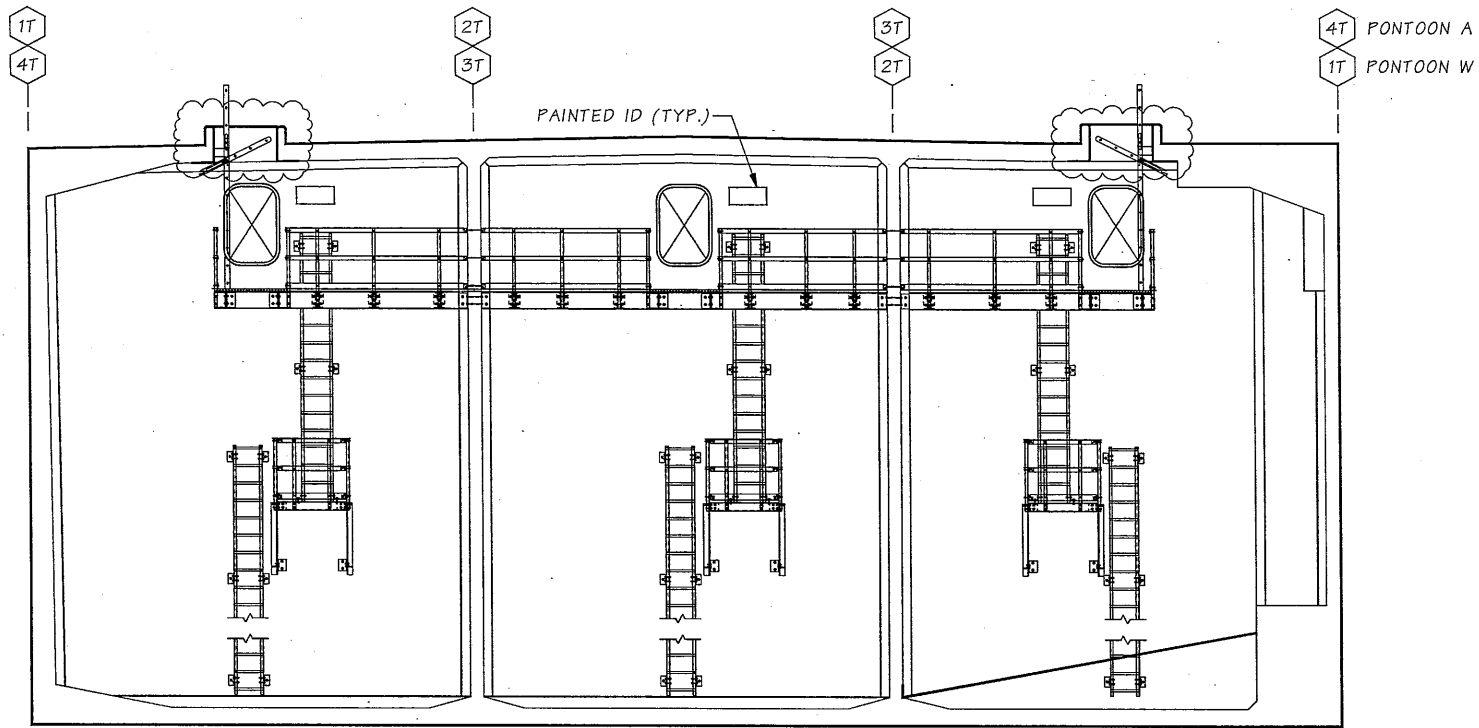
SR SR 52 FILE NO. SHEET ID6

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\XP CELL ID PLAN.wnd
Supervisor	Clarke, PT	
Designed By	Olson, DE	11/10
Checked By	Messmer, A	03/11
Detailed By	Lemons, T	10/10
Bridge Projects Engr.		
Prelim. Plan By	03/2011	AD16 - REMOVED NOTE 3
Architect/Specialist	DATE	REVISION
	BY	APP'D

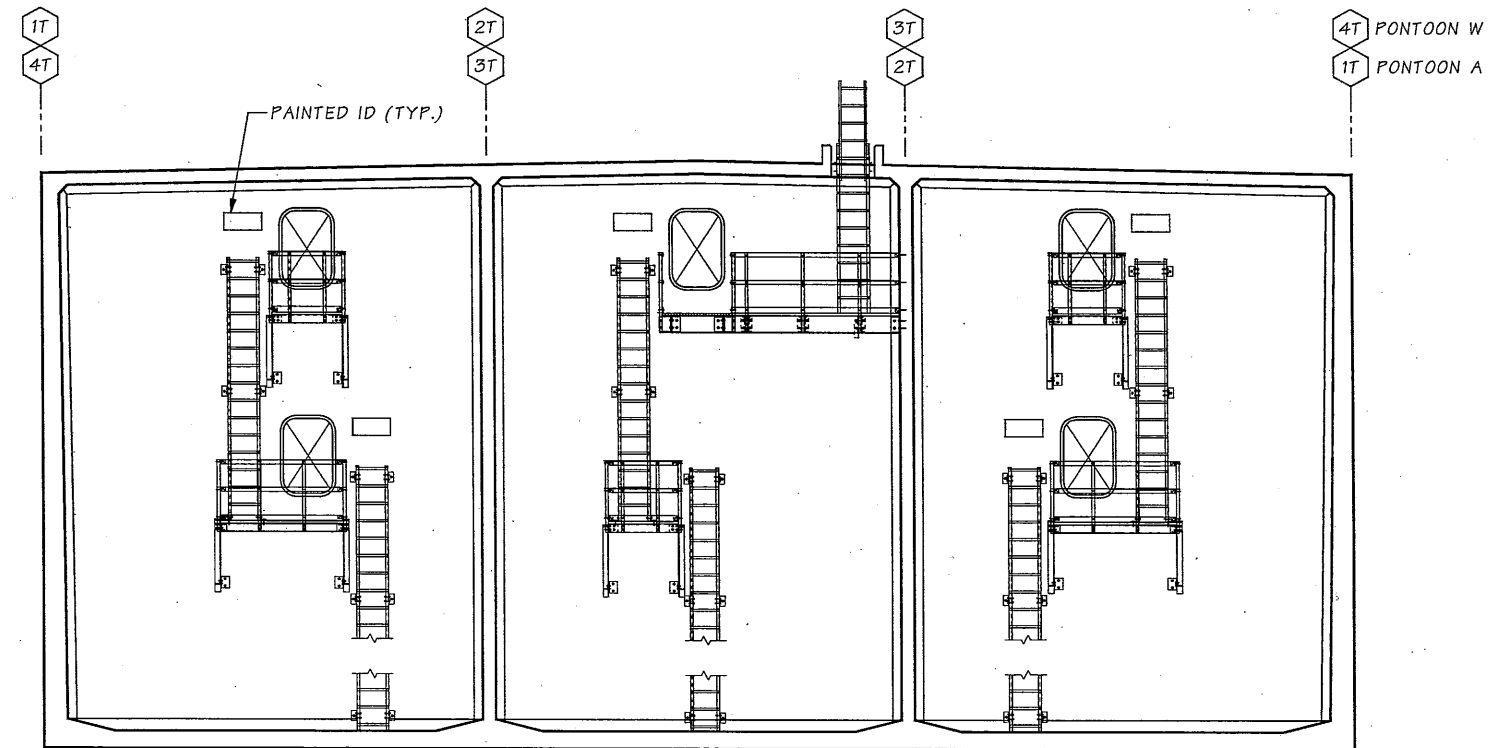
APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

CELL ID PLAN  
PONTONS A & W

BRIDGE SHEET NO. 106  
SHEET OF SHEETS



SECTION A  
ID6



SECTION B  
ID6

SR SR FILE NO. SHEET ID7

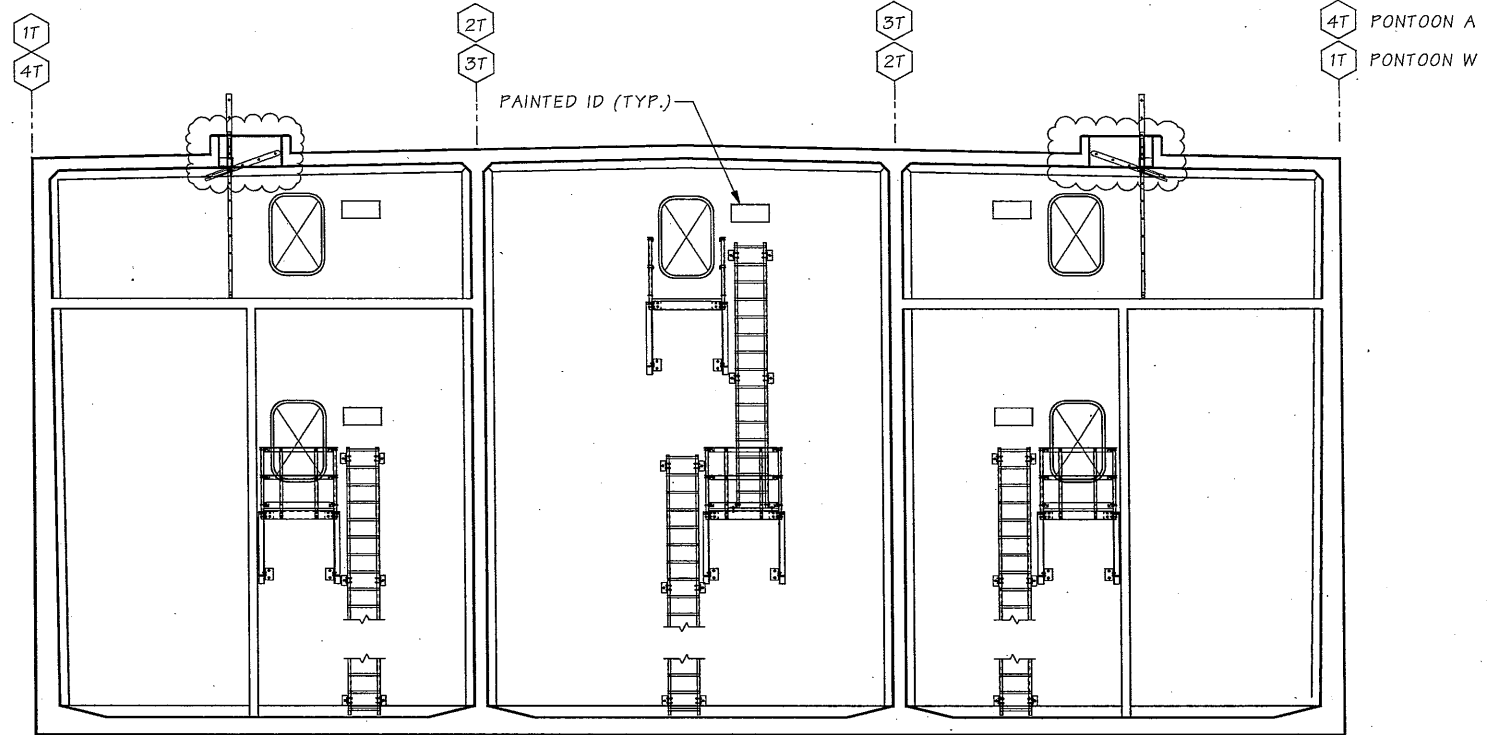
Bridge Design Engr.	Khaleghi, B	M:\w-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\XP ID SECTIONS 1.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Olson, DE	10	WASH.		TOTAL SHEETS
Checked By	Messmer, A	JOB NUMBER 10A057			
Detailed By	Lemons, T				
Bridge Projects Engr.					
Prelim. Plan By	03/2011	AD16 - REMOVED STRUCT. PT. REV. HATCHES	ADM		
Architect/Specialist	DATE	REVISION	BY	APP'D	

**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

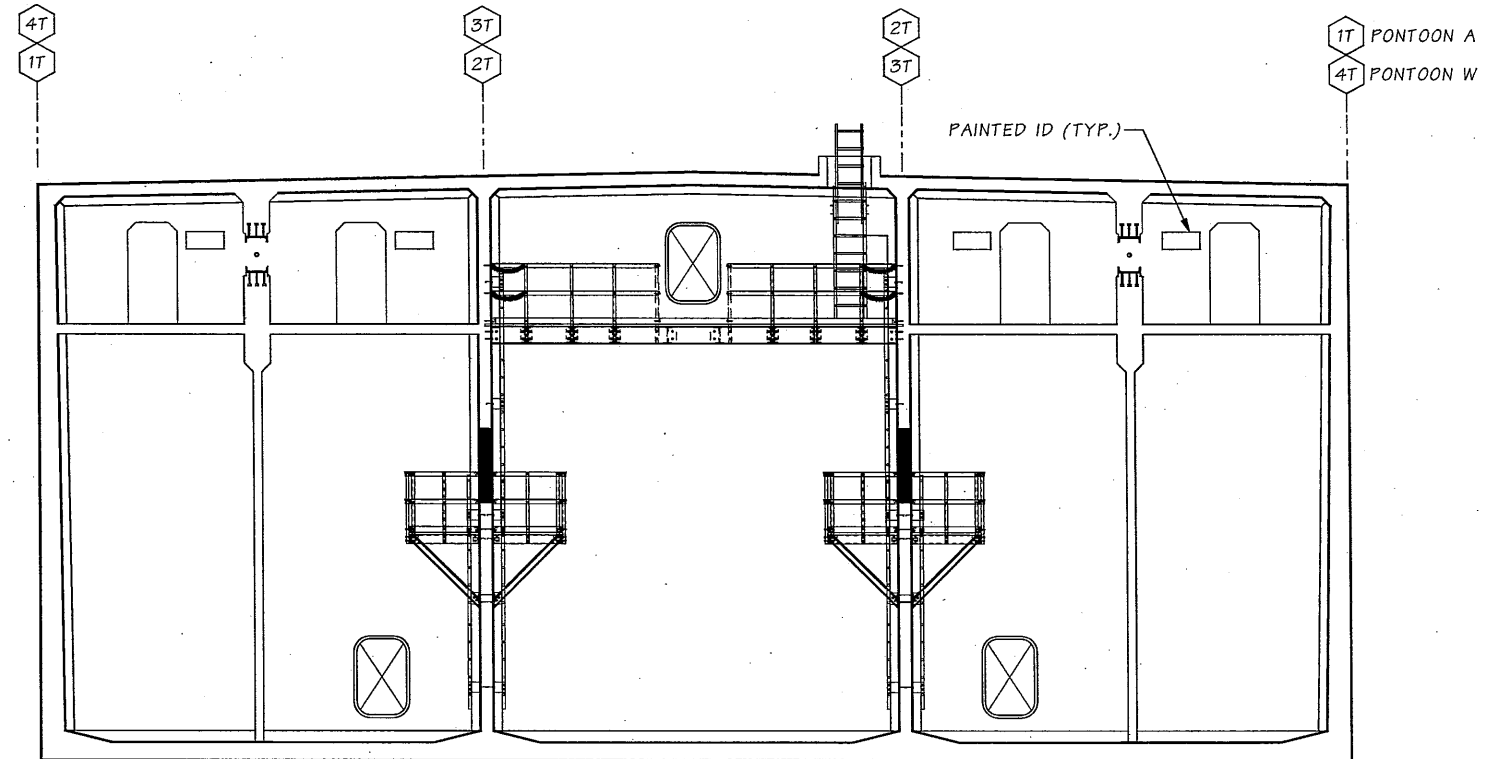
APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

CELL ID SECTIONS  
PANTOONS A & W

BRIDGE SHEET NO. 107 OF SHEETS



SECTION C  
ID6



SECTION D  
ID6

SR SR 52 FILE NO. SHEET ID8

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\XP ID SECTIONS 2.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Olson, DE	10	WASH.		
Checked By	Messmer, A	JOB NUMBER 10A057			
Detailed By	Lemons, T				
Bridge Projects Engr.					
Prelim. Plan By		03/2011	AD16 - REMOVED STRUCT. PT. REV. HATCHES	ADM	
Architect/Specialist		DATE	REVISION	BY	APPD

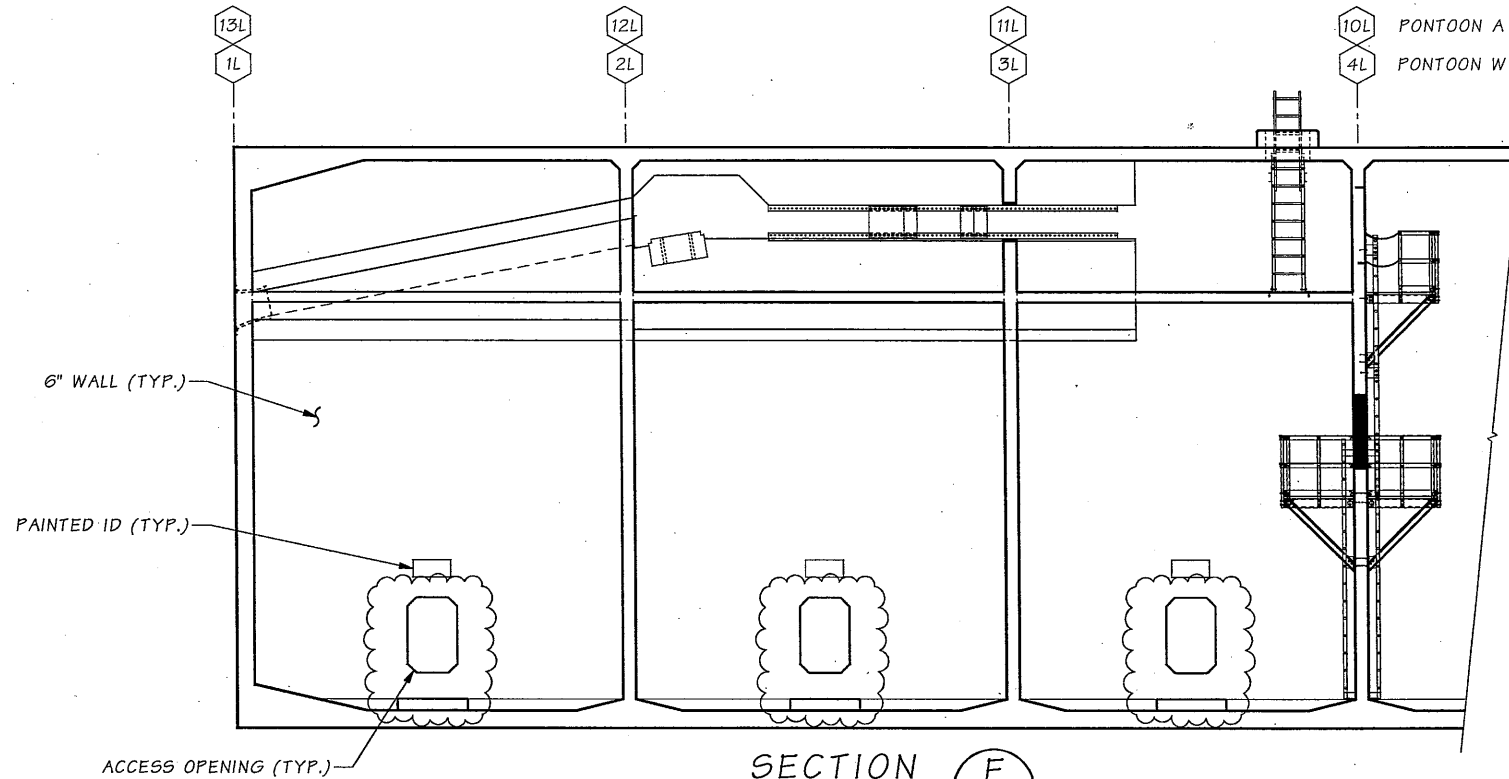
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

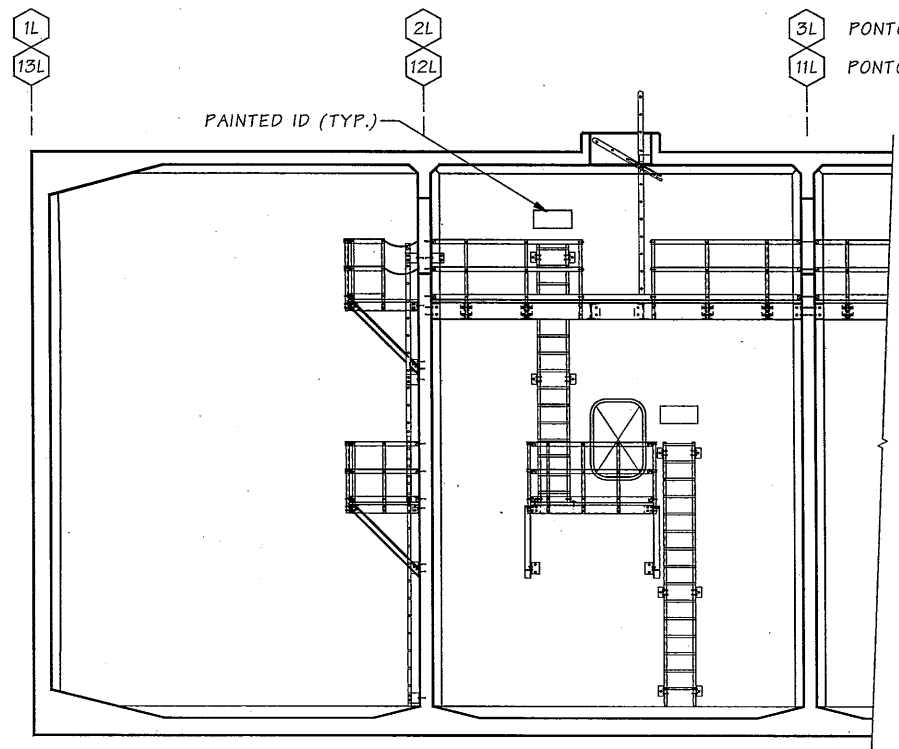
CELL ID SECTIONS  
PONTOONS A & W

BRIDGE SHEET NO. 108  
SHEET OF SHEETS

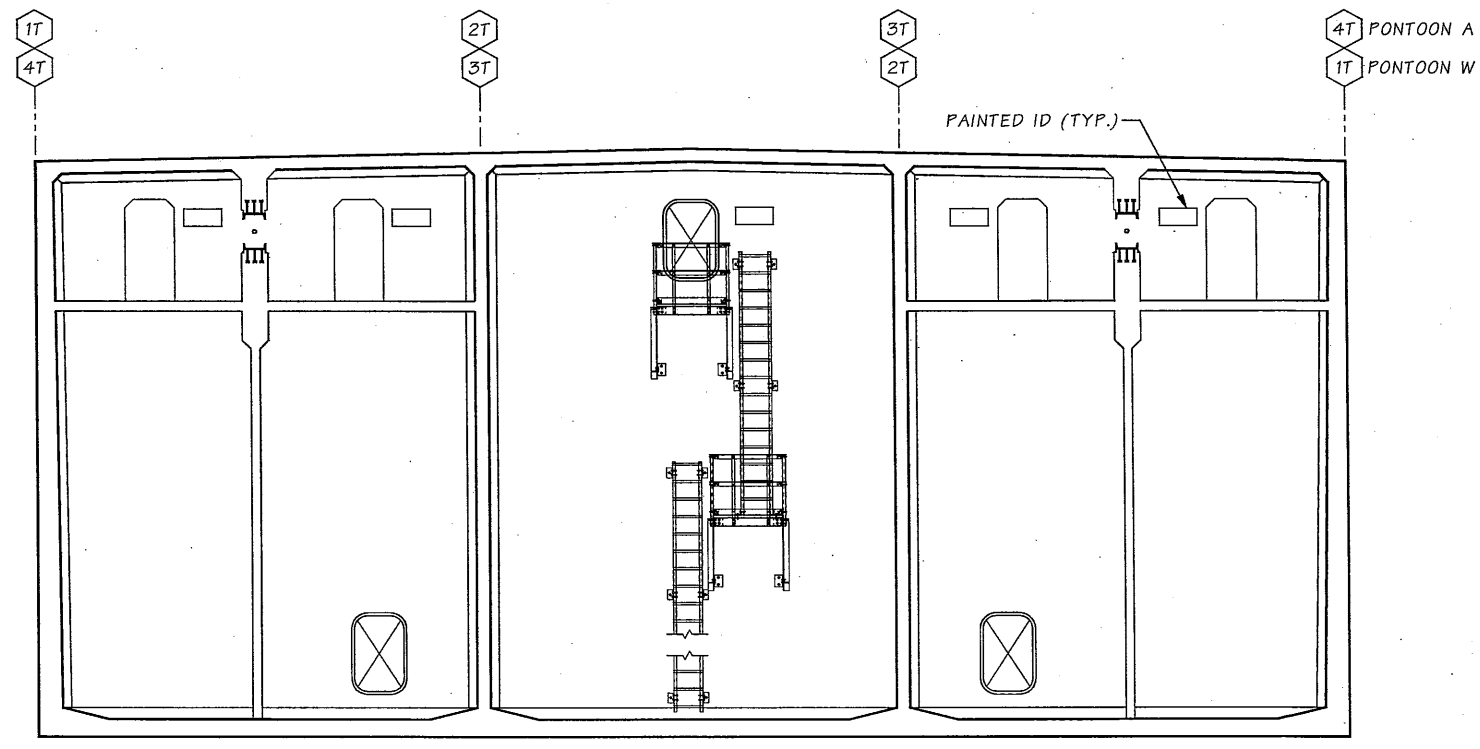
Thu Mar 31 11:36:53 2011



SECTION E  
 SYMMETRICAL ABOUT LONGITUDINAL AND TRANSVERSE C OF PONTOON



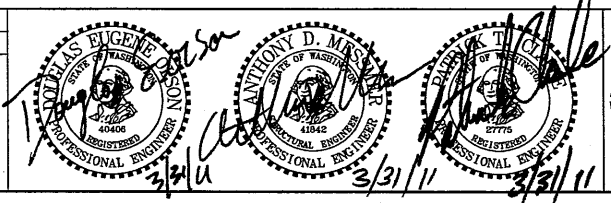
SECTION F  
 SYMMETRICAL ABOUT LONGITUDINAL AND TRANSVERSE C OF PONTOON



SECTION G  
 SYMMETRICAL ABOUT LONGITUDINAL AND TRANSVERSE C OF PONTOON

SR 52 FILE NO. SHEET ID9

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\XP ID SECTIONS 3.wnd				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT					10	WASH.			
Designed By	Olson, DE	11/10				JOB NUMBER				
Checked By	Messmer, A	03/11				10A057				
Detailed By	Lemons, T	10/10								
Bridge Projects Engr.										
Prelim. Plan By		03/2011	AD16 - REV. ACCESS OPENINGS	DEO						
Architect/Specialist		DATE	REVISION	BY	APP'D					



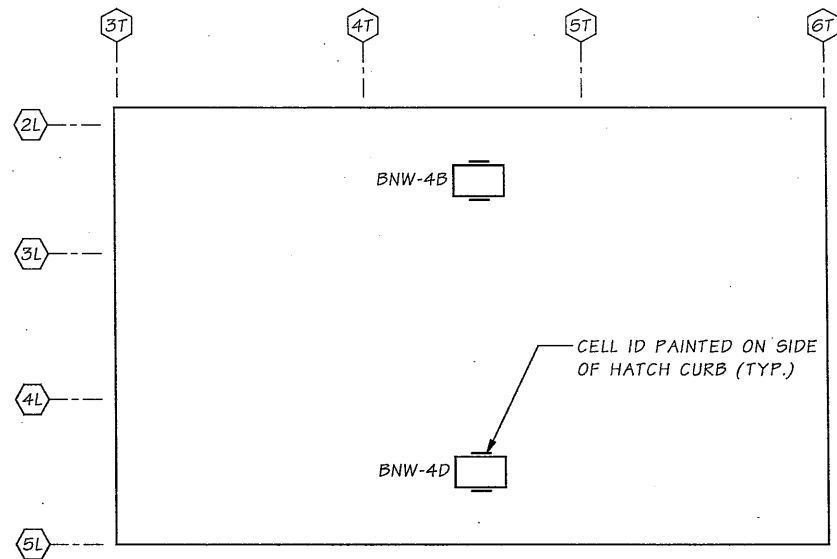
**Washington State Department of Transportation**  
 BRIDGE AND STRUCTURES OFFICE

APPENDIX M23  
 OUTFITTING & ASSEMBLY  
 TECHNICAL REQUIREMENTS

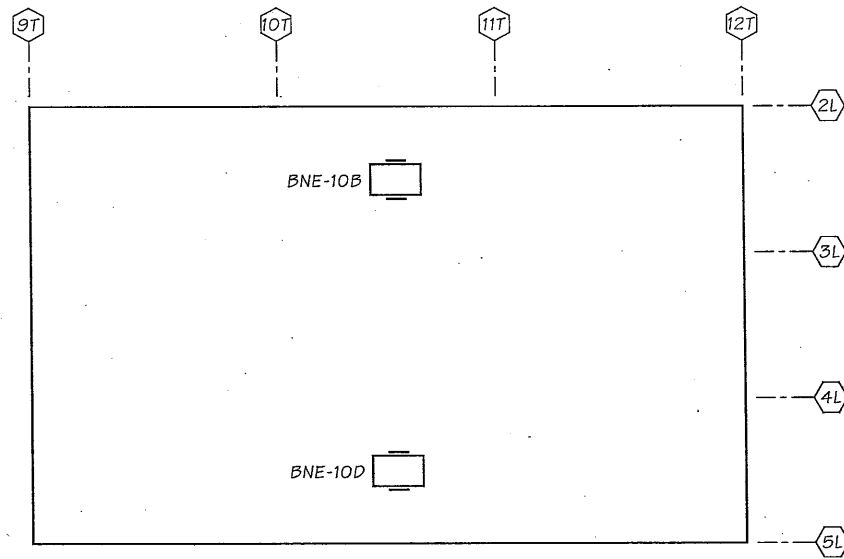
CELL ID SECTIONS  
 PONTOONS A & W

BRIDGE SHEET NO. 1D9  
 SHEET OF SHEETS

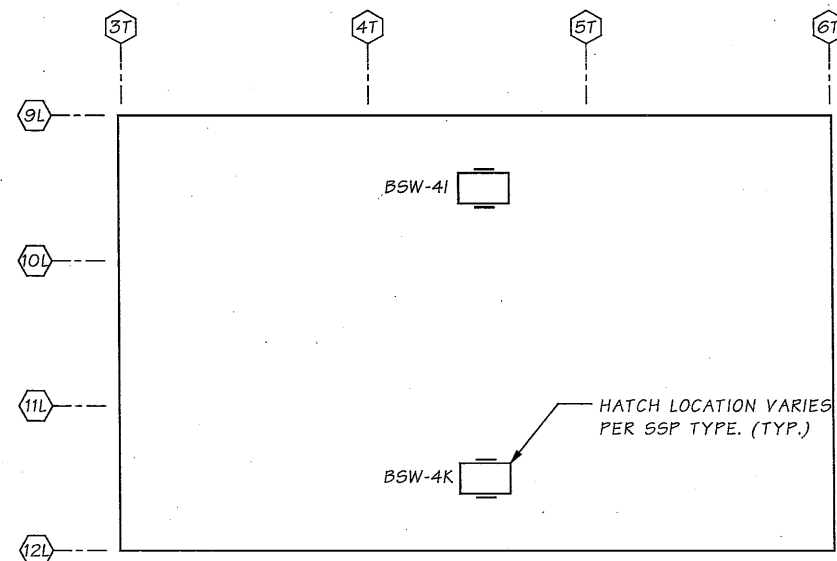




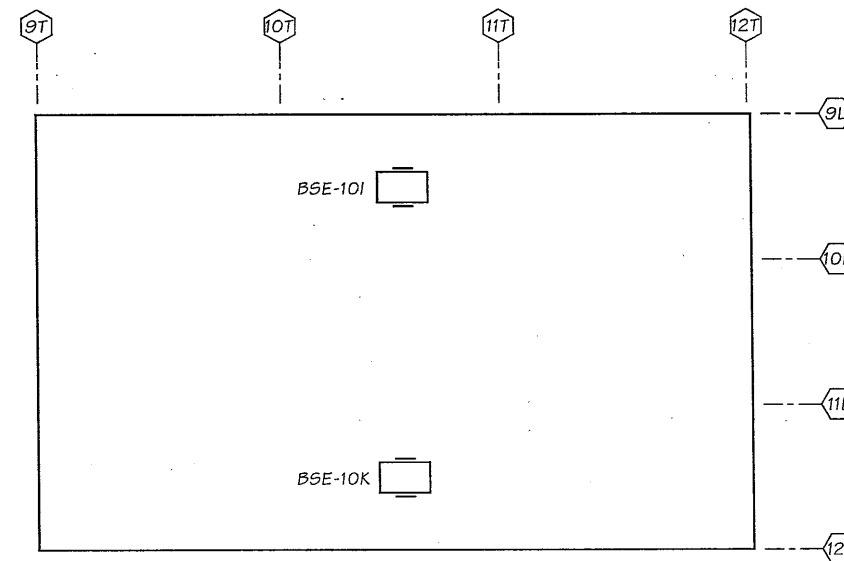
SSP NW



SSP NE



SSP SW



SSP SE

NOTES:

- CELL IDS ARE SHOWN FOR DIFFERENT PONTOON LOCATIONS. SEE BR. SHT. A1 FOR PONTOON ASSEMBLY LAYOUT, BR. SHT. ID1 FOR GLOBAL CELL AND WALL NAME CONVENTIONS AND RFP 2.12 FOR CREATING PONTOON AND SSP CELL IDS.
- SEE BR SHT. ID15 FOR DETAILS LOCATING CELL IDS.
- SEE APPENDIX M11 & M22 FOR EXTERNAL FEATURES.

PONTOON DECK HATCH ID PLAN

SSP ATTACHED TO PONTOON B SHOWN  
SSP ATTACHED TO OTHER PONTOONS SIMILAR

SR SR FILE NO. SHEET ID10

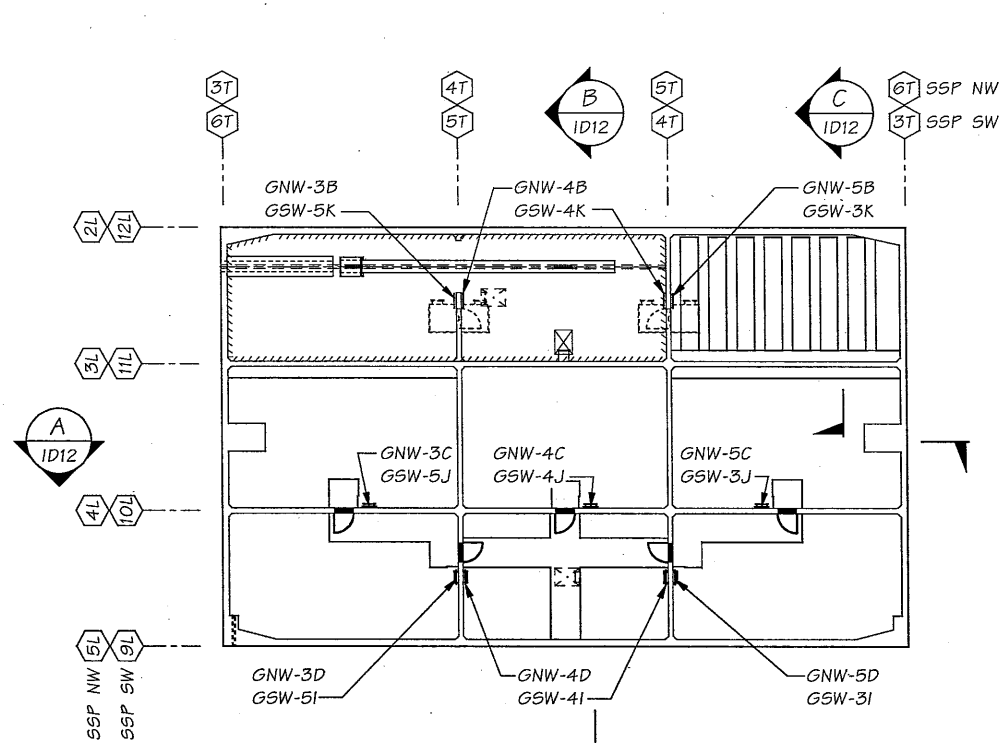
Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\SSP DECK ID PLAN.wnd		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT			10	WASH.			
Designed By	Olson, DE	11/10		JOB NUMBER				
Checked By	Messmer, A	03/11		10A057				
Detailed By	Lemons, T	10/10						
Bridge Projects Engr.		05/2011	AD18 - REVISED NOTE & REMOVED NOTE 3	DEC				
Prelim. Plan By		01/2011	AD3 - REVISED NOTE	DEC				
Architect/Specialist		DATE	REVISION	BY	APP'D			

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS  
  
DECK HATCH ID PLAN  
SSP

BRIDGE SHEET NO. ID10  
SHEET OF SHEETS

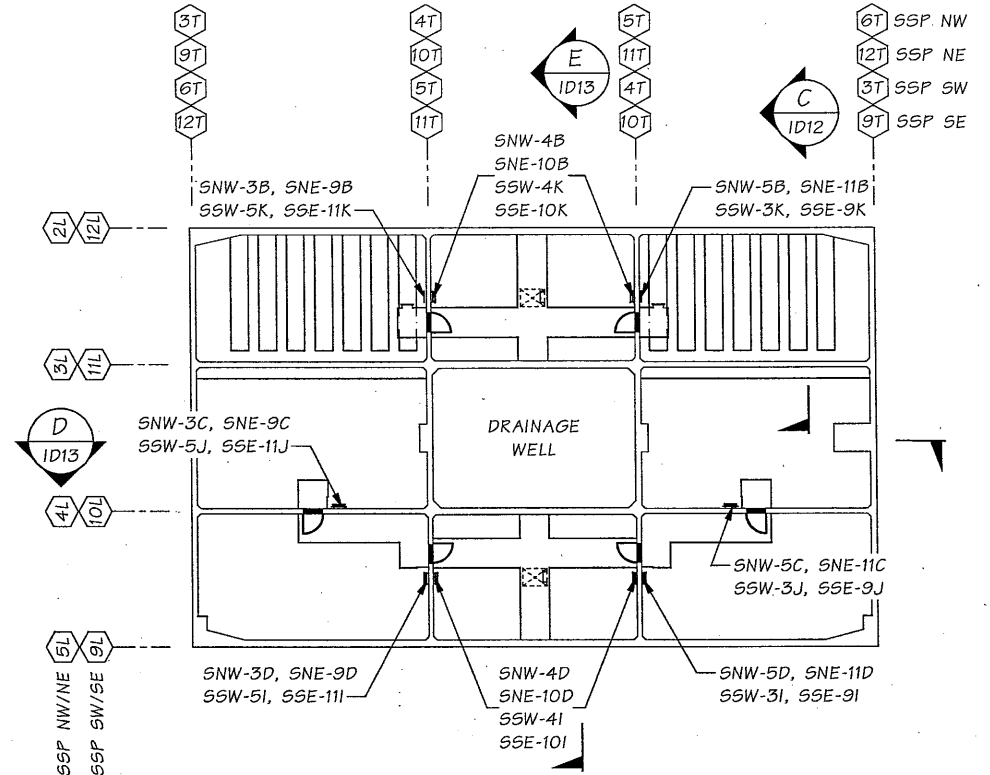
**NOTES:**

- MULTIPLE CELL IDS ARE SHOWN FOR DIFFERENT PONTOON LOCATIONS USE CELL ID SPECIFIC TO FINAL ASSEMBLED LOCATION. SEE BR. SHT. A1 FOR PONTOON ASSEMBLY LAYOUT, BR. SHT. ID1 FOR GLOBAL CELL AND WALL NAME CONVENTIONS AND RFP 2.12 FOR CREATING PONTOON AND SSP CELL IDS.
- SEE BR. SHT. ID15 FOR DETAILS LOCATING CELL IDS.



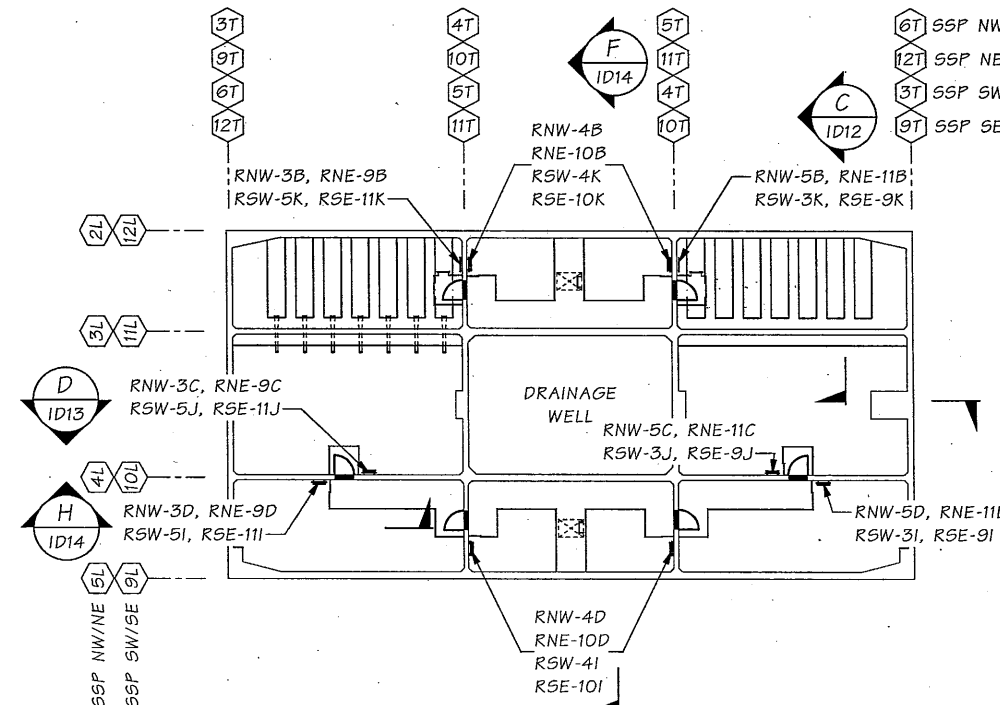
**TYPE 4 & TYPE 4A**

PONTOON GSW & GNW SHOWN  
OTHERS SIMILAR



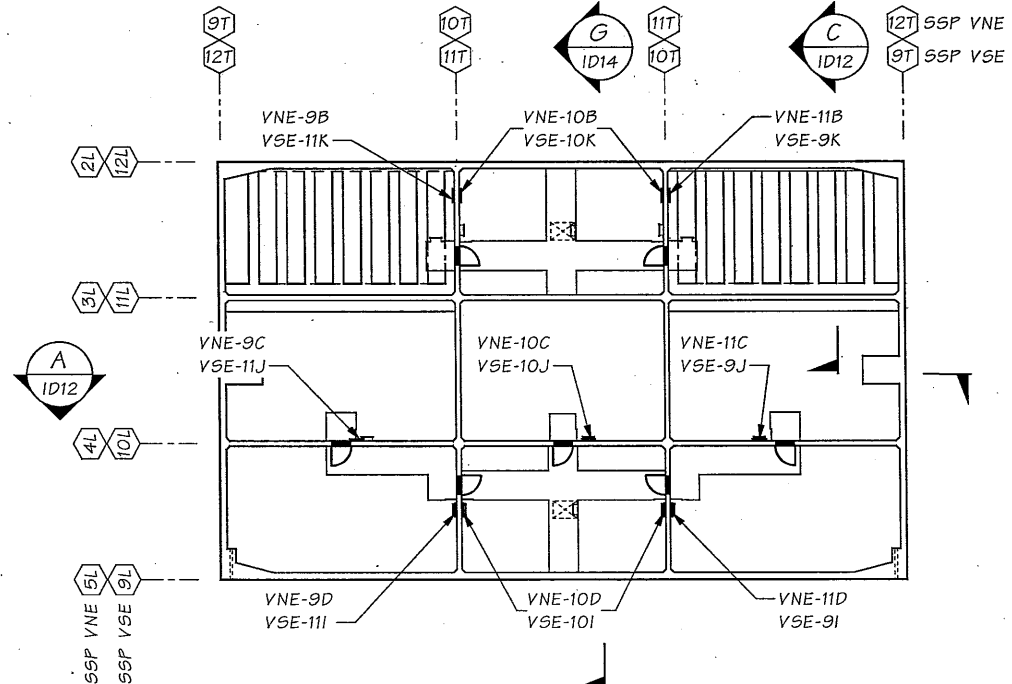
**TYPE 5**

SSP ATTACHED TO PONTOON S SHOWN  
OTHERS SIMILAR



**TYPE 2**

SSP ATTACHED TO PONTOON R SHOWN  
OTHERS SIMILAR



**TYPE 6**

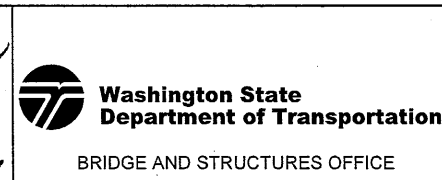
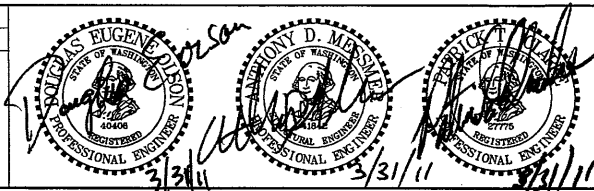
SSP ATTACHED TO PONTOON V SHOWN

**KEY**

- UPPER LEVEL PLATFORM & WATERTIGHT DOOR (SWING AS INDICATED ON PLAN)
- LOWER LEVEL PLATFORM & WATERTIGHT DOOR (SWING AS INDICATED ON PLAN)
- WALL OPENING BELOW ANCHOR GALLERY
- PONTOON DECK ACCESS OPENING & LADDER
- ANCHOR GALLERY SLAB ACCESS OPENING & LADDER
- LADDER

SR 52 FILE NO. SHEET ID11

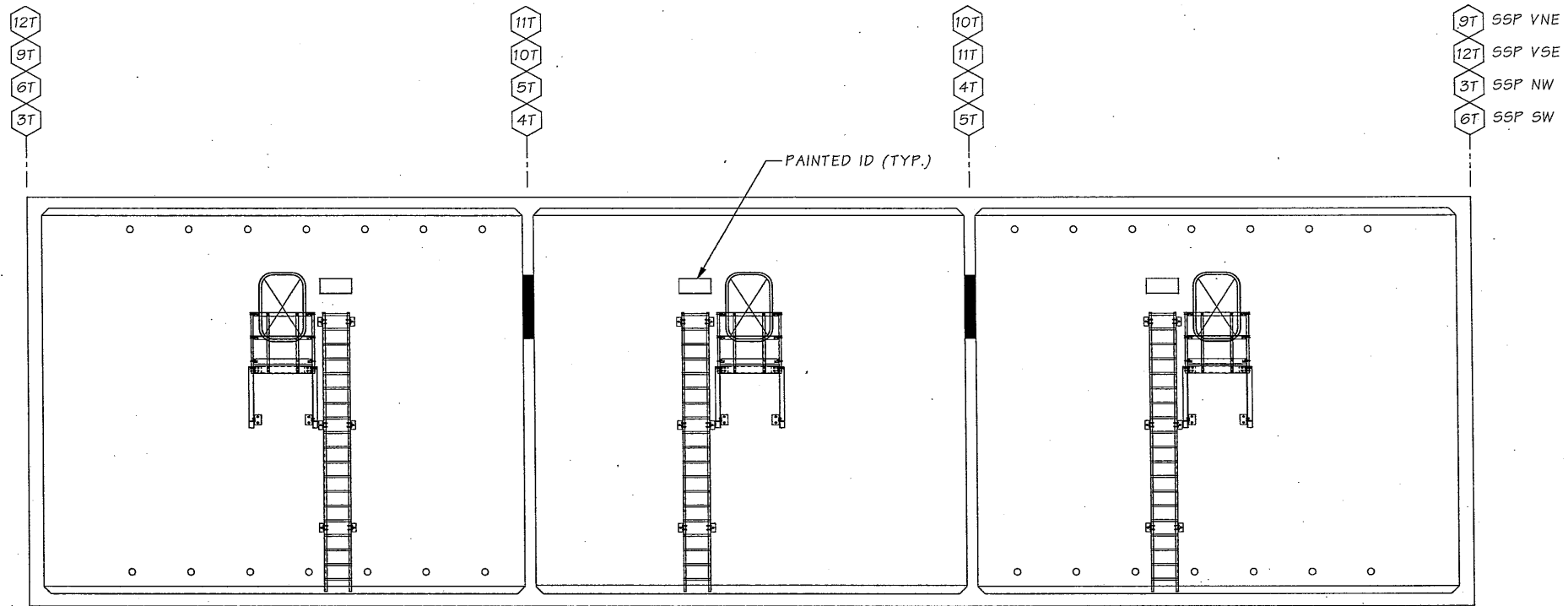
Bridge Design Engr.	Khaloghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\SSP CELL ID PLAN.wnd
Supervisor	Clarke, PT	
Designed By	Olson, DE	11/10
Checked By	Messmer, A	03/11
Detailed By	Lemons, T	10/10
Bridge Projects Engr.		05/2011 AD16 - REMOVED NOTE 3
Prelim. Plan By		01/2011 AD3 - REVISED SHEET
Architect/Specialist		DATE REVISION BY APPD
	REGION NO.	STATE
	10	WASH.
	FED. AID PROJ. NO.	
	SHEET NO.	TOTAL SHEETS
	JOB NUMBER	
	10A057	



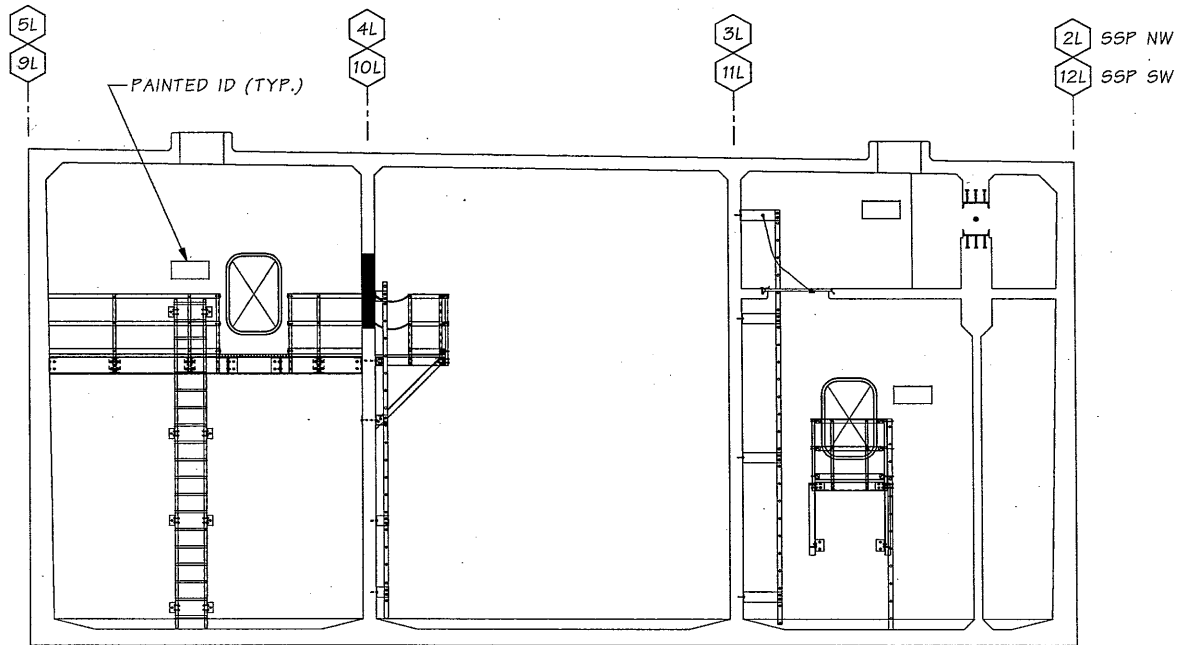
**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

CELL ID PLAN  
SSP

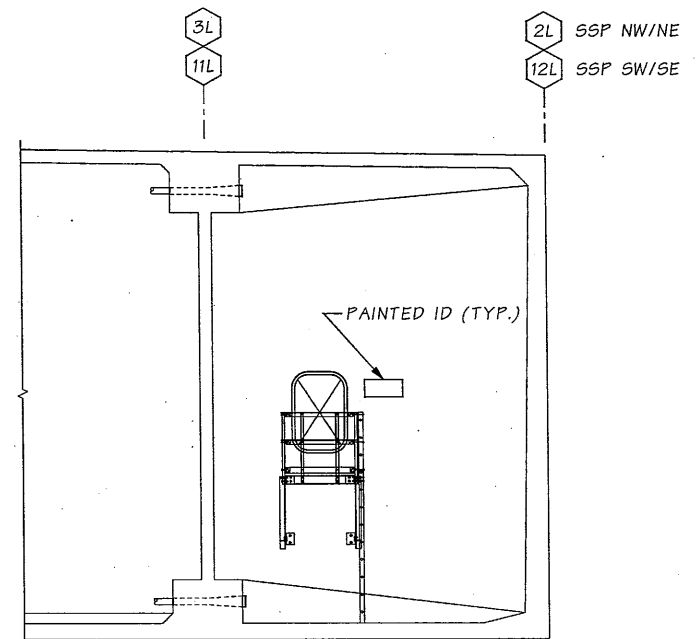
BRIDGE SHEET NO. ID11  
SHEET OF SHEETS



SECTION A  
ID11



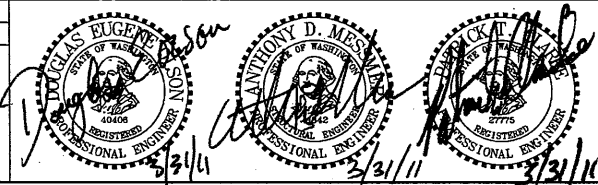
SECTION B  
DECK HATCH LADDERS  
NOT SHOWN FOR CLARITY  
ID11



SECTION C  
ID11

SR SR 52 FILE NO. SHEET ID12

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\SSP ID SECTIONS 1.wnd				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT					10	WASH.			
Designed By	Olson, DE	11/10				JOB NUMBER				
Checked By	Messmer, A	03/11				10A057				
Detailed By	Lemons, T	10/10								
Bridge Projects Engr.										
Prelim. Plan By		03/2011	AD16 - REMOVED STRUCT. PT	ADM						
Architect/Specialist		DATE	REVISION	BY	APPD					



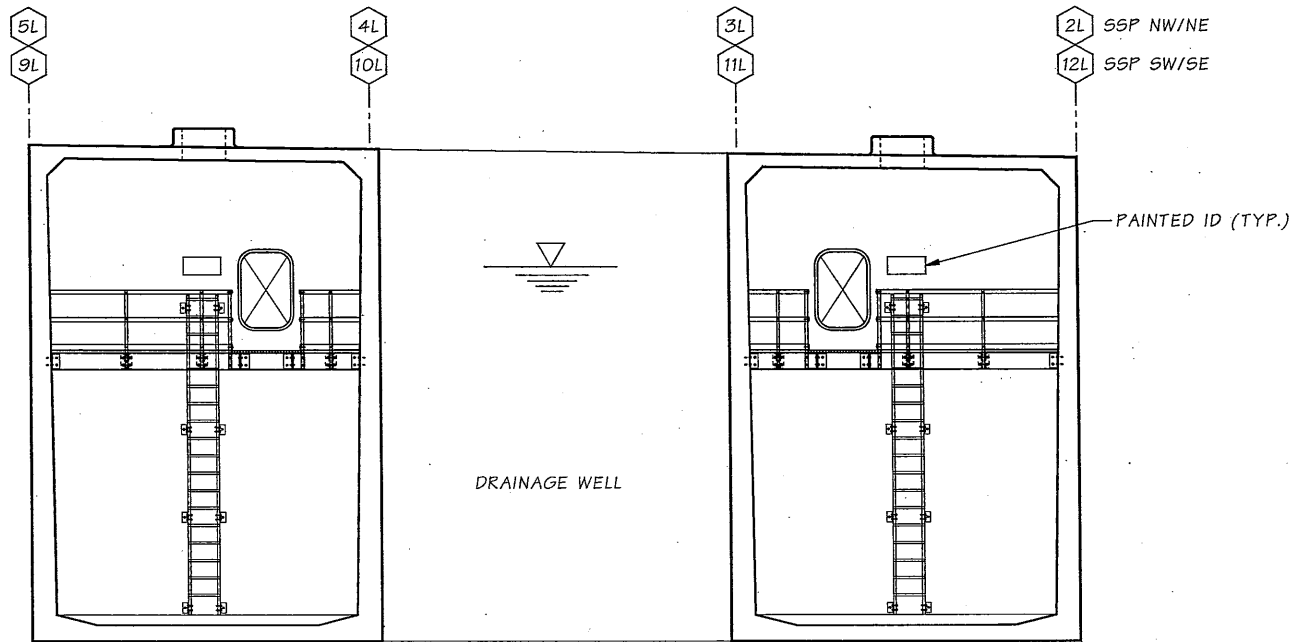
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS  
CELL ID SECTIONS  
SSP

BRIDGE SHEET NO. 1D12  
SHEET OF SHEETS



SECTION D

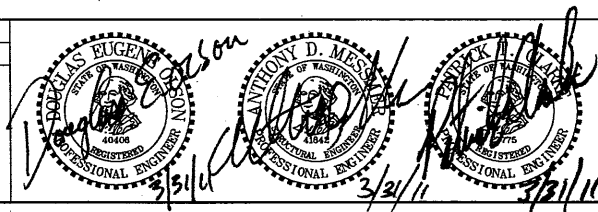


SECTION E

DECK HATCH LADDERS  
NOT SHOWN FOR CLARITY

SR 52 FILE NO. SHEET ID13

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\SSP ID SECTIONS 2.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Olson, DE	10	WASH.		
Checked By	Messmer, A	JOB NUMBER: 10A057			
Detailed By	Lemons, T				
Bridge Projects Engr.					
Prelim. Plan By	03/2011	AD16 - REMOVED STRUCT. PT	ADM		
Architect/Specialist	DATE	REVISION	BY	APP'D	

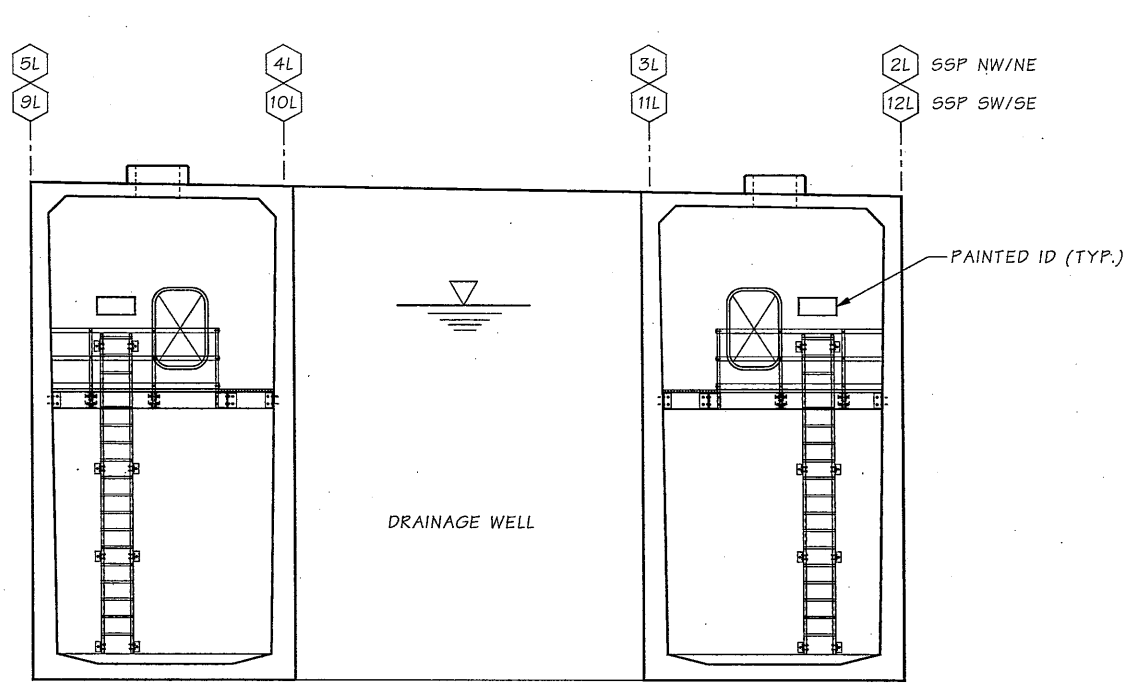


**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

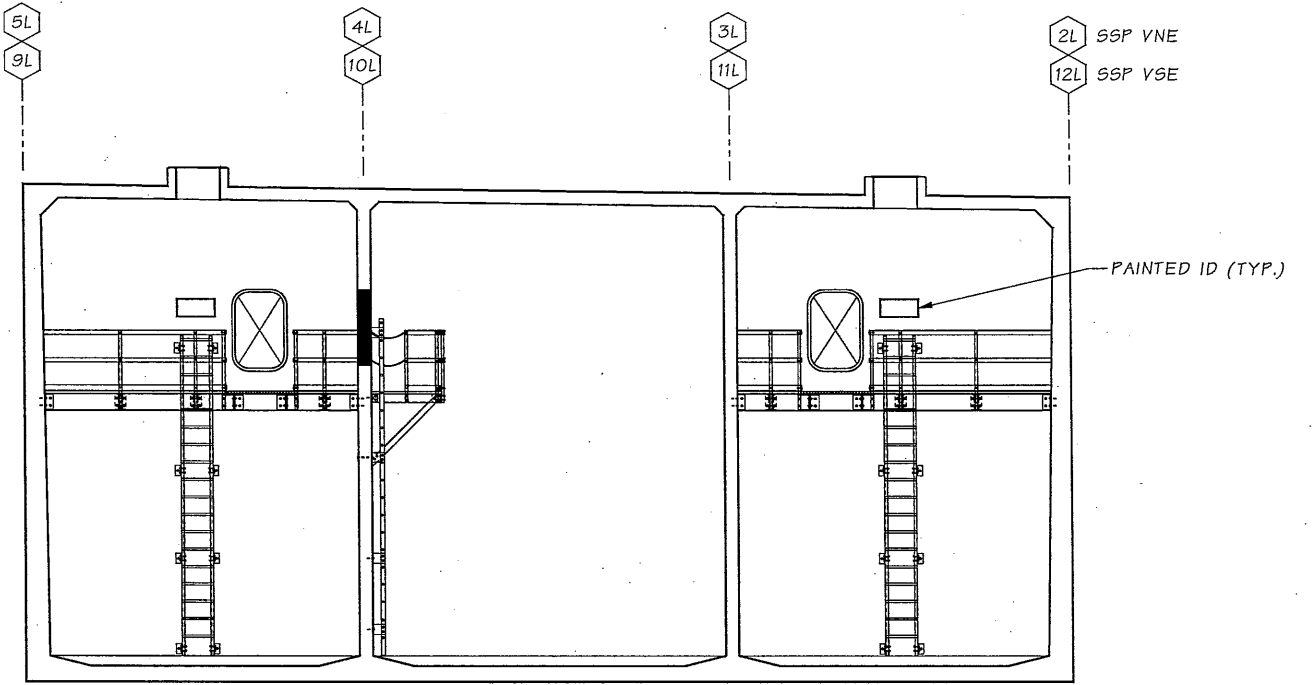
APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

CELL ID SECTIONS  
SSP

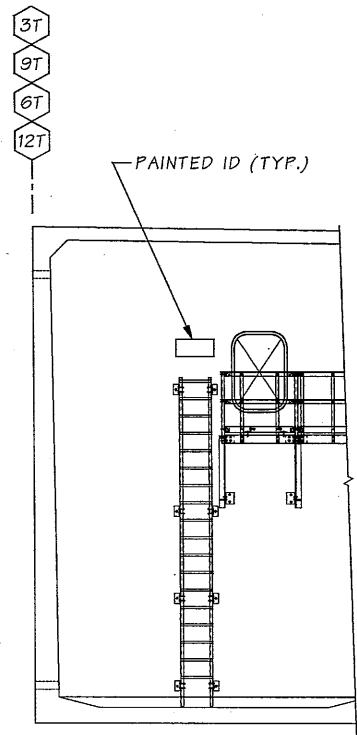
BRIDGE SHEET NO. 1D13  
SHEET OF SHEETS



SECTION **F**  
DECK HATCH LADDERS  
NOT SHOWN FOR CLARITY  
ID11



SECTION **G**  
DECK HATCH LADDERS  
NOT SHOWN FOR CLARITY  
ID11



SECTION **H**  
ID11

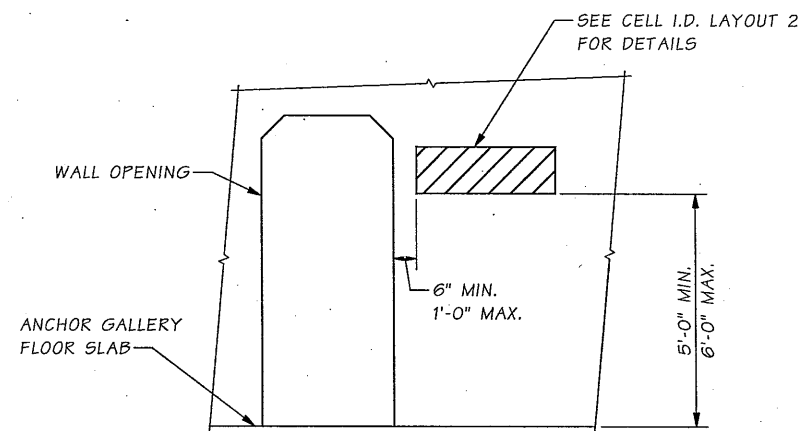
SR SR 52 FILE NO. SHEET ID14

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\SSP ID SECTIONS 3.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Olson, DE 11/10	10	WASH.		
Checked By	Messmer, A 03/11	JOB NUMBER 10A057			
Detailed By	Lemons, T 10/10				
Bridge Projects Engr.					
Prelim. Plan By	03/2011	AD16 - REMOVED STRUCT. PT	ADM		
Architect/Specialist	DATE	REVISION	BY	APPD	

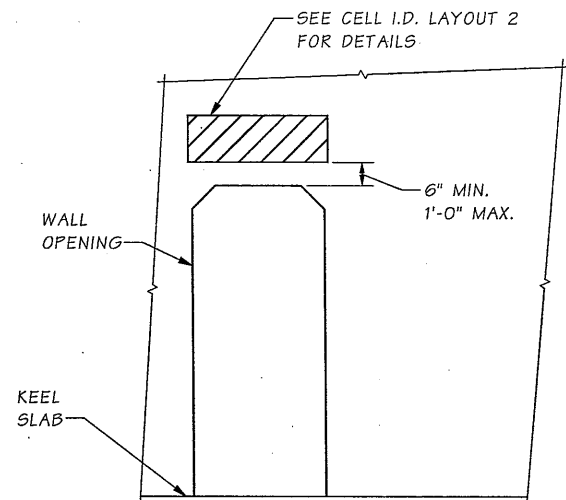
**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

CELL ID SECTIONS  
SSP

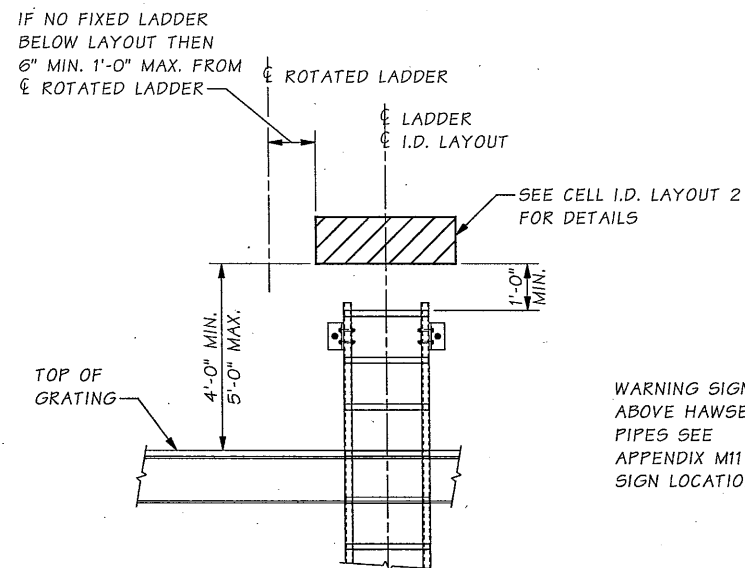
BRIDGE SHEET NO. ID14
SHEET
OF
SHEETS



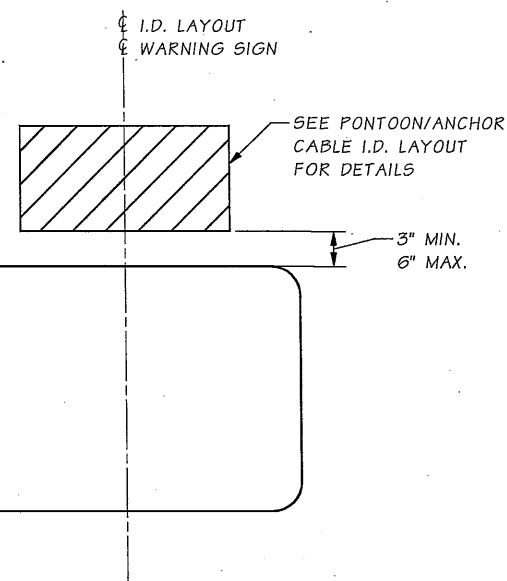
CELL I.D. LOCATED WITHIN ANCHOR GALLERIES



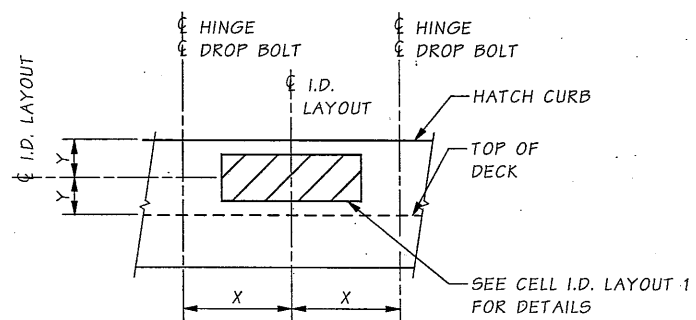
CELL I.D. LOCATED NEAR KEEL SLAB



CELL I.D. LOCATED AT FIXED LADDERS  
(ROTATED LADDER LOCATED BELOW SSP ANCHOR GALLERIES)

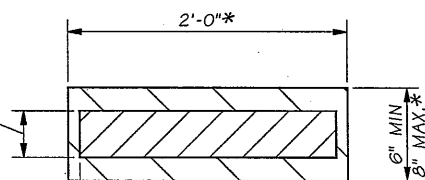


PONTON/ANCHOR CABLE I.D. LOCATION ABOVE "WARNING SUBMERGED CABLE" SIGNS



CELL I.D. LOCATED ON FACE OF HATCH CURB

3" MIN. 4" MAX CELL ADDRESS I.D. UPPERCASE LETTERS/NUMBERS WITH 3/4" MIN. STROKE WIDTH. I.D. PAINTED BLACK OVER AND CENTERED WITHIN BACKGROUND.

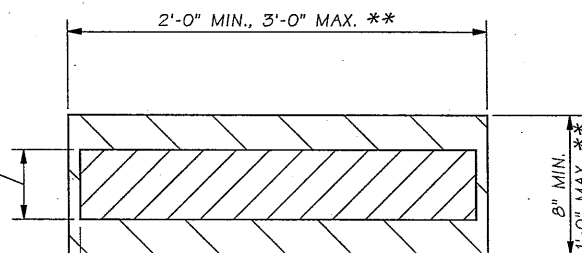


\* WHITE BACKGROUND PAINTED OVER CLEAN, DRY CONCRETE HATCH CURB FACE. CENTER BETWEEN DROP BOLT ASSEMBLIES AND ALSO BETWEEN HATCH HINGES ON OPPOSITE CURB.

CELL I.D. LAYOUT 1

PAINTED ON SIDES OF DECK ACCESS HATCH CURBS.

4" MIN. 6" MAX CELL ADDRESS I.D. UPPERCASE LETTERS/NUMBERS WITH 3/4" MIN. STROKE WIDTH. I.D. PAINTED BLACK OVER AND CENTERED WITHIN BACKGROUND.

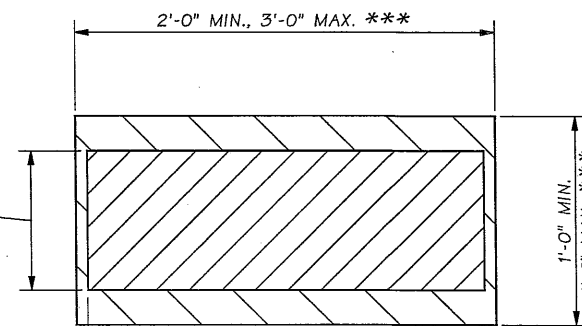


\*\* WHITE BACKGROUND PAINTED OVER CLEAN, DRY CONCRETE WALL OF PONTOON INTERIOR.

CELL I.D. LAYOUT 2

PAINTED ON WALLS INSIDE PONTOON CELLS

8" MIN. 1'-0" MAX. PONTOON/ANCHOR CABLE I.D. UPPERCASE LETTERS WITH 2" MIN. STROKE WIDTH. I.D. PAINTED BLACK OVER AND CENTERED WITHIN BACKGROUND.



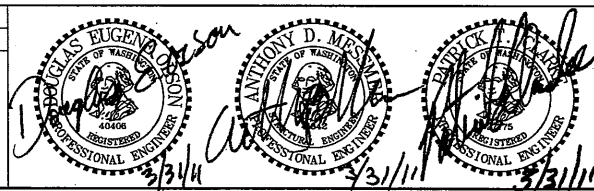
\*\*\* WHITE PAINTED OVER CLEAN, DRY EXTERIOR CONCRETE WALLS OF PONTOON.

1" MIN. CLR. BETWEEN I.D. AND EDGE OF BACKGROUND (TYP.)

PONTOON / ANCHOR CABLE I.D. LAYOUT

SR SR 52 FILE NO. SHEET ID15

Bridge Design Engr.	Khaloghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\ID DETAILS.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Olson, DE	10	WASH.		TOTAL SHEETS
Checked By	Messmer, A	JOB NUMBER 10A057			
Detailed By	Lemons, T				
Bridge Projects Engr.					
Prelim. Plan By	01/2011	AD3 - REVISED SHEET	DEO		
Architect/Specialist	DATE	REVISION	BY	APPD	

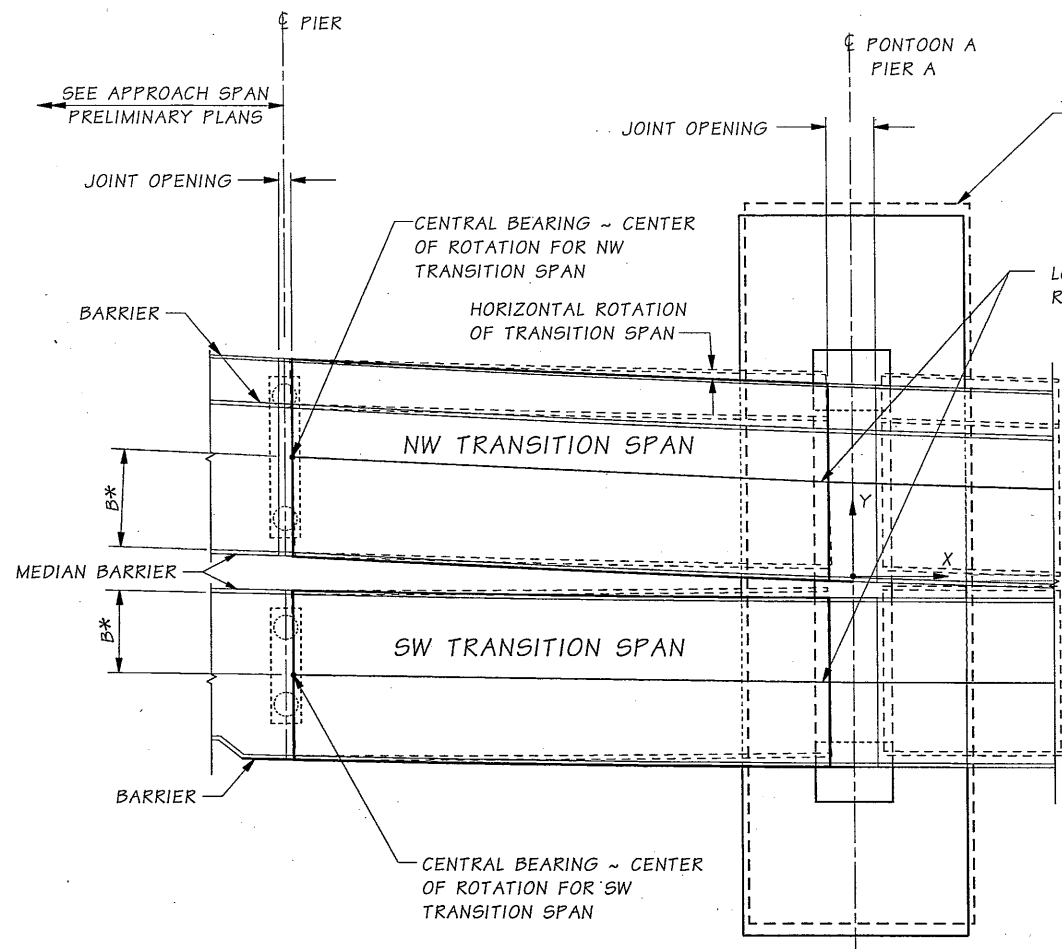


**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

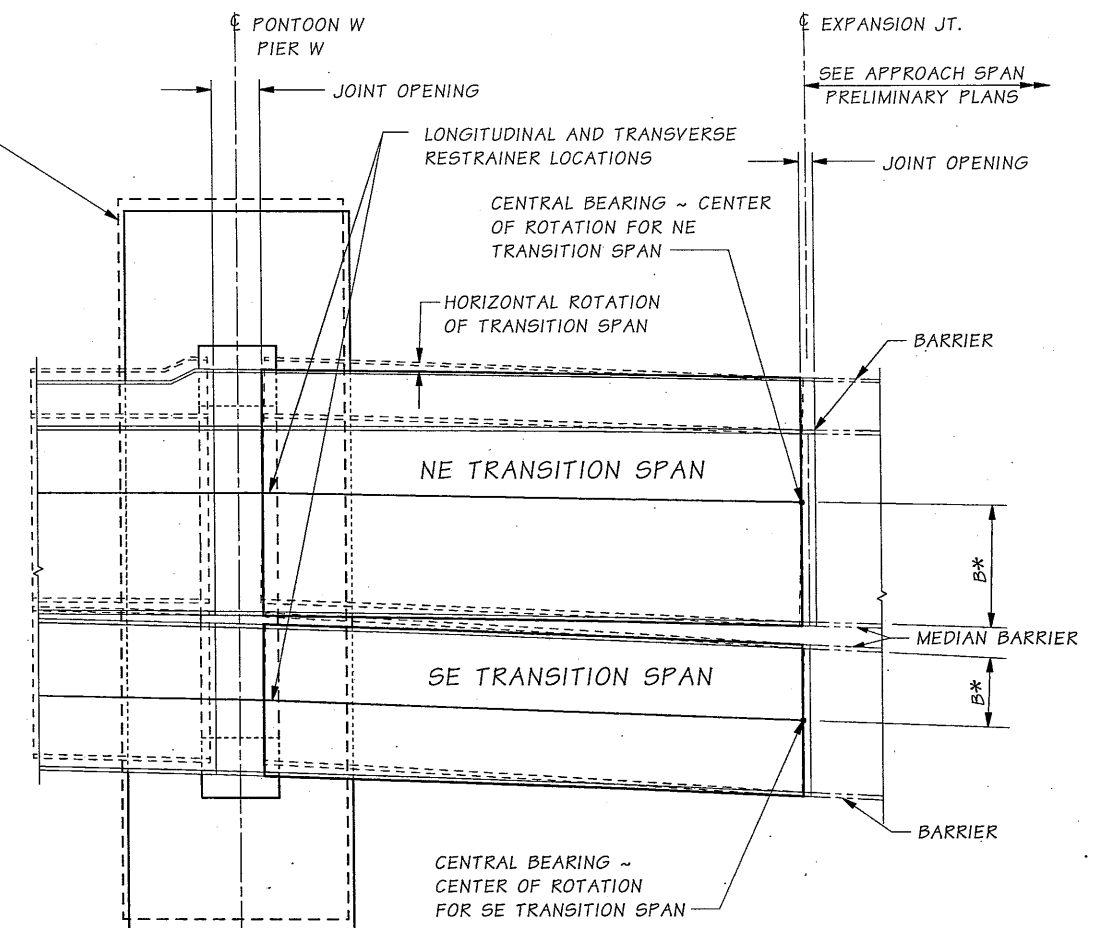
**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

PAINTED ID DETAILS

BRIDGE SHEET NO. ID15  
SHEET OF SHEETS



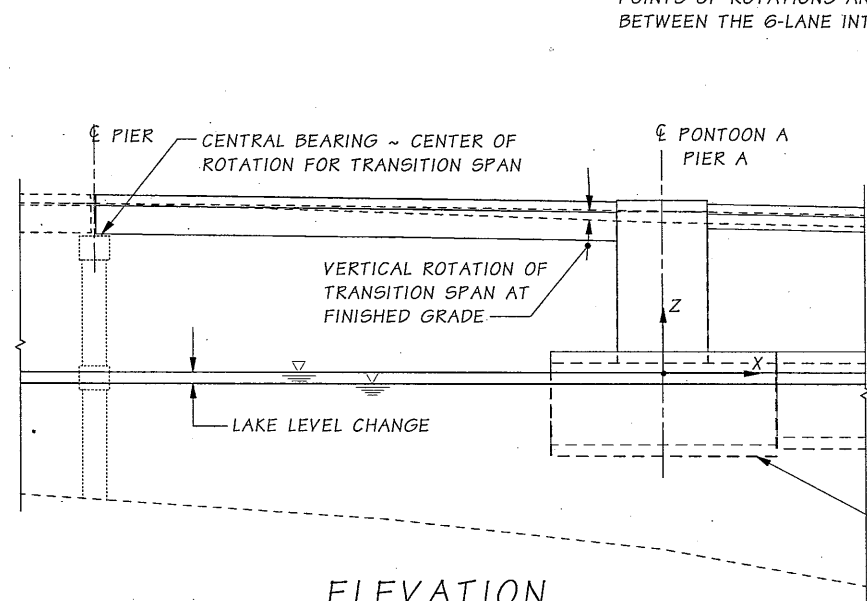
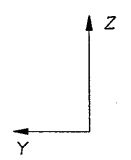
PLAN



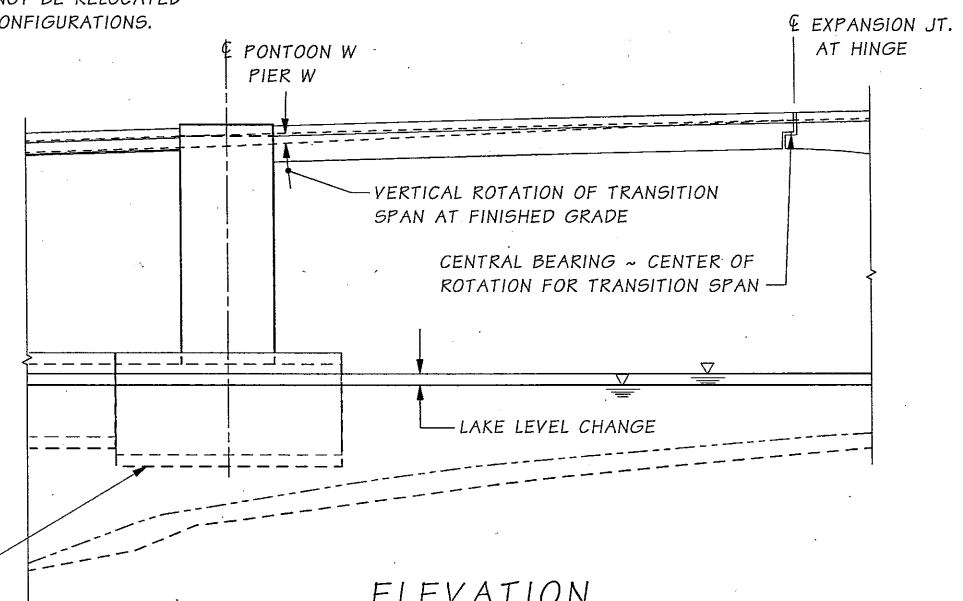
PLAN

\* SEE BRIDGE SHEET NO. T3 FOR DIMENSIONS

ROTATIONS MAY OCCUR EITHER CLOCKWISE OR COUNTERCLOCKWISE DIRECTIONS. DISPLACEMENTS MAY OCCUR IN ANY DIRECTION. CENTRAL BEARING FOR EACH TRANSITION SPAN SHALL BE LOCATED AT THE CENTERLINE OF EACH TRANSITION SPAN. POINTS OF ROTATIONS AND OTHER BEARING LOCATIONS SHALL NOT BE RELOCATED BETWEEN THE 6-LANE INTERIM, 6-LANE, AND 6-LANE + 2-HCT CONFIGURATIONS.



ELEVATION

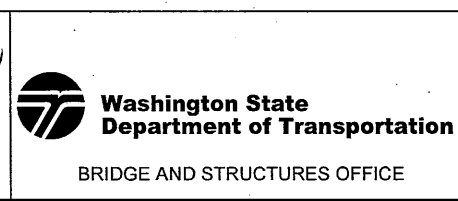
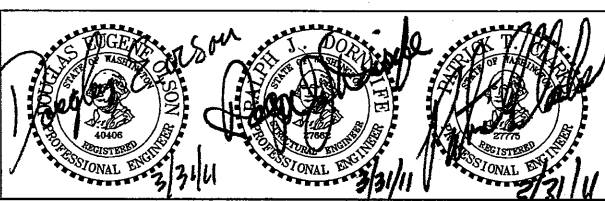


ELEVATION

NOTE: X, Y, Z COORDINATE SYSTEM CORRESPONDS TO THAT USED IN THE WIND / WAVE ANALYSIS.

SR SR FILE NO. SHEET T1

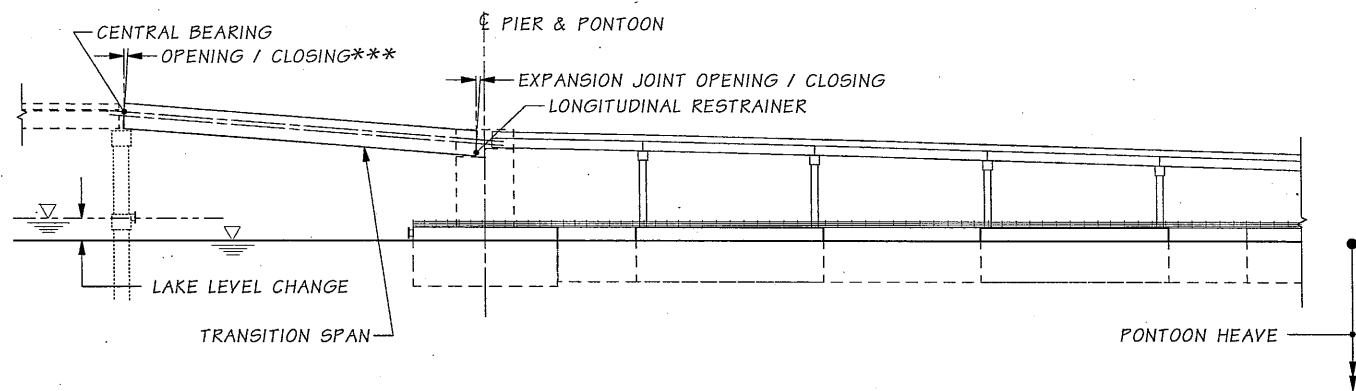
Bridge Design Engr.	khaleghi, B	M:\w-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING\window files\MOVMENT LAYOUT.WND			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Olson, DE 11/10	10	WASH.		
Checked By	Dornsife, RJ 03/11	JOB NUMBER 10A057			
Detailed By	Lemons, T 10/10				
Bridge Projects Engr.	03/2011 AD15 - ADD ROTATION NOTE RJD				
Prelim. Plan By	01/2011 AD3 - REVISED SHEET TITLE ADM				
Architect/Specialist	DATE REVISION BY APPD				



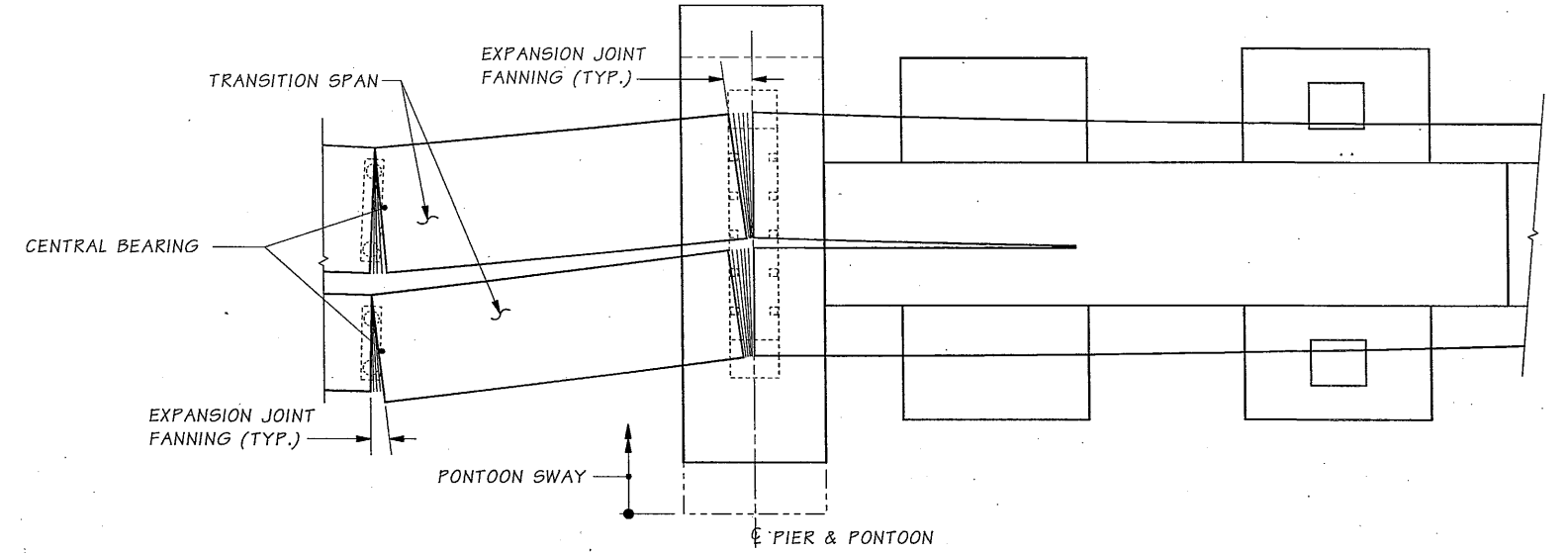
APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

TRANSITION SPAN MOVEMENT LAYOUT  
6-LANE CONFIGURATION

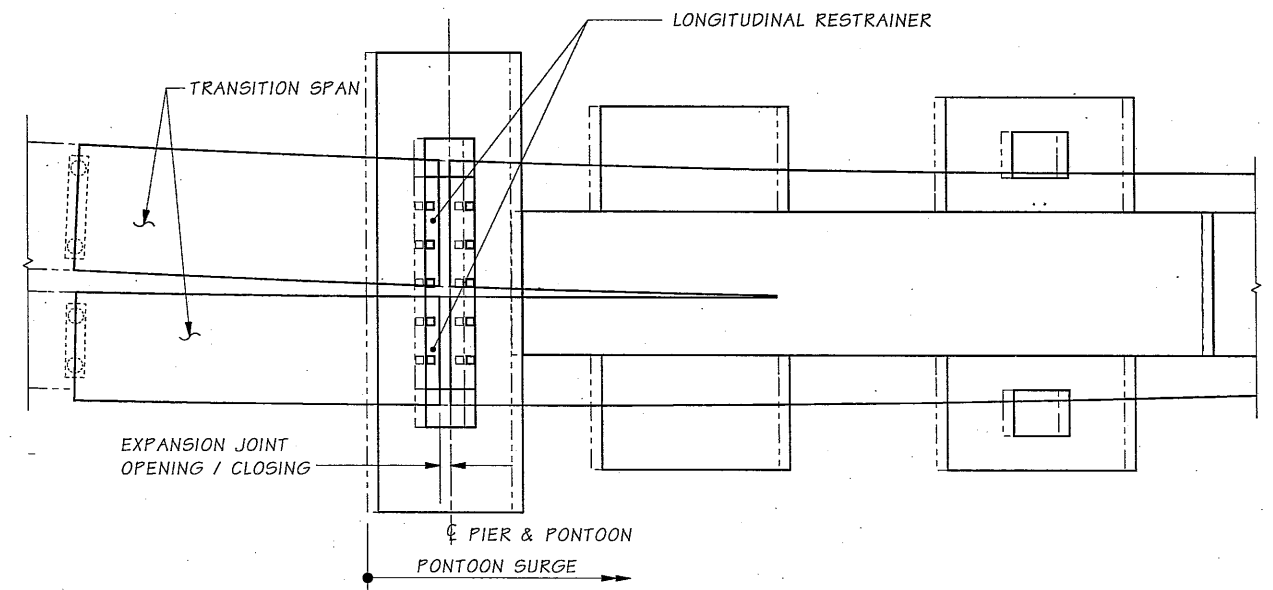
BRIDGE SHEET NO. T1  
SHEET OF SHEETS



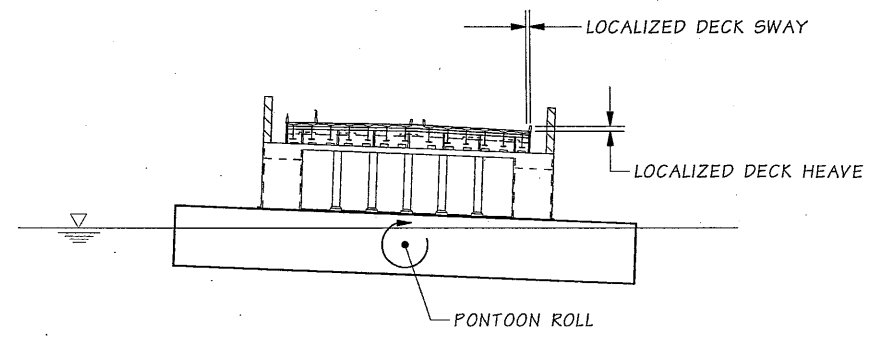
**PONTOON HEAVE ~ ELEVATION**  
 LAKE LEVEL CHANGE, PONTOON HEAVE, AND EXPANSION JOINT MOVEMENT SHOWN IN ONE DIRECTION ONLY AND EXAGGERATED FOR CLARITY.



**PONTOON SWAY ~ PLAN**  
 PONTOON SWAY AND EXPANSION JOINT MOVEMENT SHOWN IN ONE DIRECTION ONLY AND EXAGGERATED FOR CLARITY.



**PONTOON SURGE ~ PLAN**  
 PONTOON SURGE AND EXPANSION JOINT MOVEMENT SHOWN IN ONE DIRECTION ONLY, LIMITED BY LONGITUDINAL RESTRAINER, AND SHOWN EXAGGERATED FOR CLARITY.

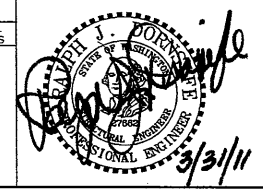


**PONTOON ROLL ~ SECTION**  
 PONTOON ROLL SHOWN IN ONE DIRECTION ONLY AND EXAGGERATED FOR CLARITY.

**PONTOON MOVEMENT TYPES AFFECTING EXPANSION JOINT OPENING/CLOSING AT TRANSITION SPANS**

SR\_SR\_520 FILE NO. SHEET T2

Bridge Design Engr.	Khaleghi, B	M:\w-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING\window files\MOVMENT DET 3.WND			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Dornsife, RJ 03/11	10	WASH.		
Checked By	Olson, DE 03/11	JOB NUMBER			
Detailed By	Puryear, D 03/11	10A057			
Bridge Projects Engr.	03/2011 AD16 - REVISED SHEET NAME	BY	RJD		
Prelim. Plan By	03/2011 AD15 - NEW SHEET	BY	RJD		
Architect/Specialist	DATE REVISION	BY	APPD		

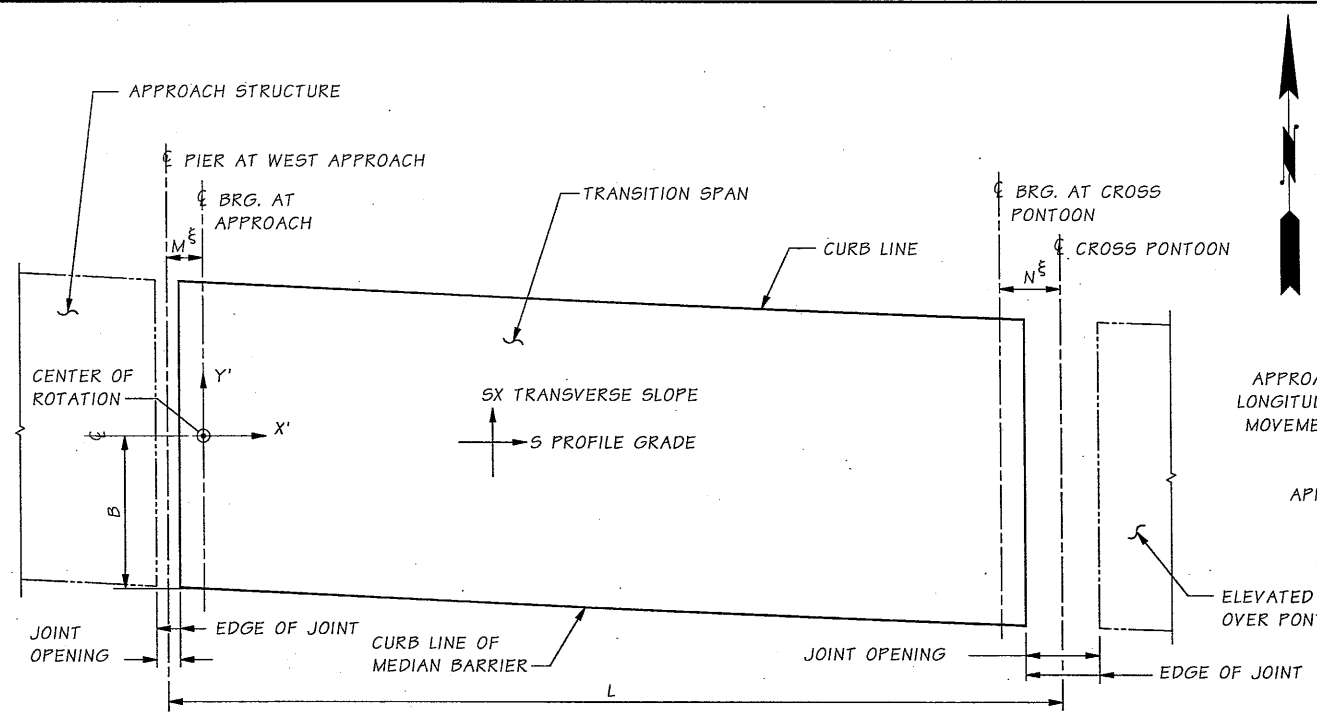


APPENDIX M23  
 OUTFITTING & ASSEMBLY  
 TECHNICAL REQUIREMENTS

TRANSITION SPAN MOVEMENT DETAILS  
 MOVEMENT DIAGRAMS

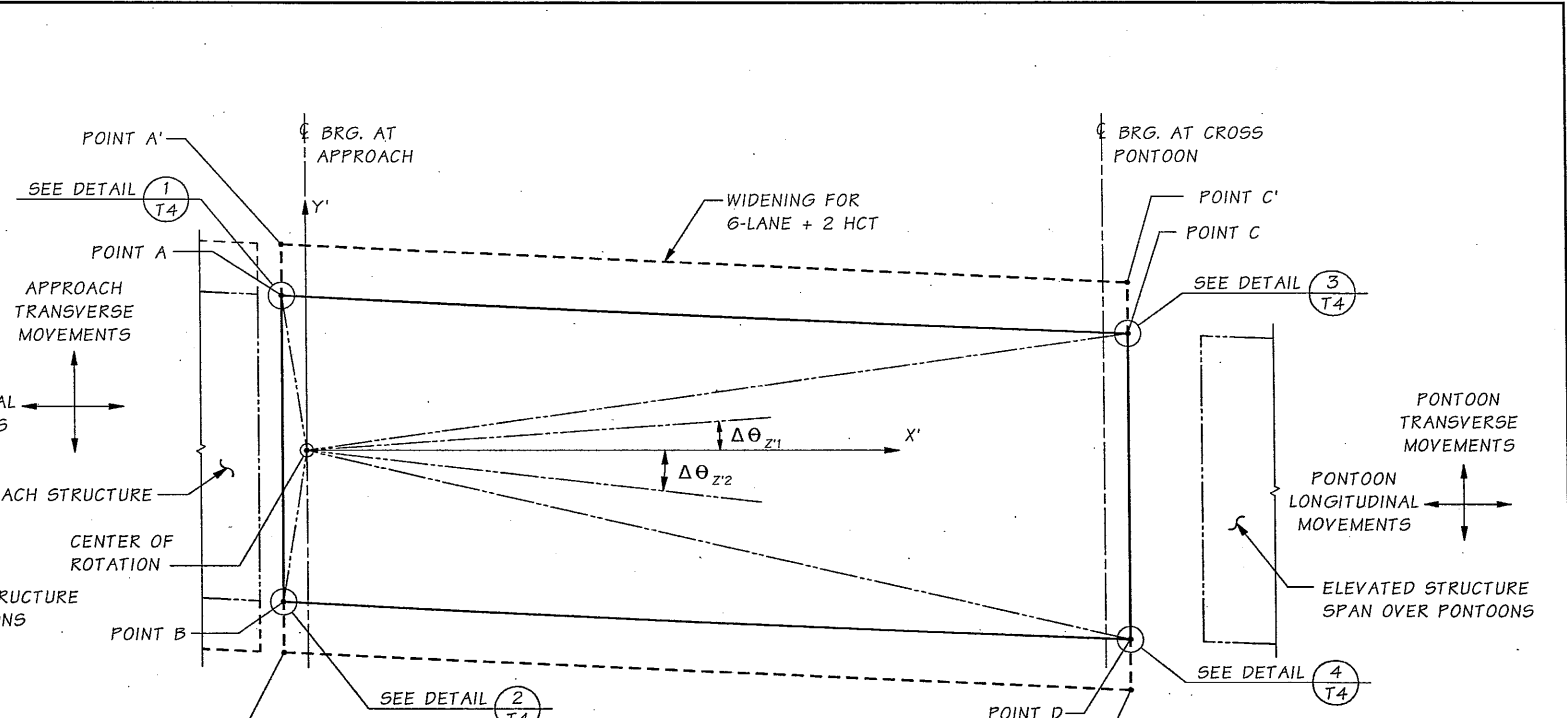
BRIDGE SHEET NO. T2  
 SHEET OF SHEETS





**TRANSITION SPAN PLAN**

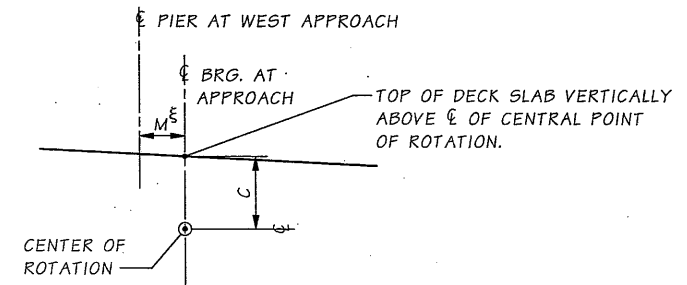
NW TRANSITION SPAN SHOWN, OTHER SPANS SIMILAR. DIMENSION "B" MEASURED FROM NEAREST MEDIAN BARRIER.



**MOVEMENT PLAN**

TYP. MOVEMENTS IN HORIZONTAL PLANE FOR WEST TRANSITION SPANS, EAST TRANSITION SPANS MIRRORED ABOUT Y'-AXIS, X'-AXIS REMAINS POSITIVE TO THE EAST

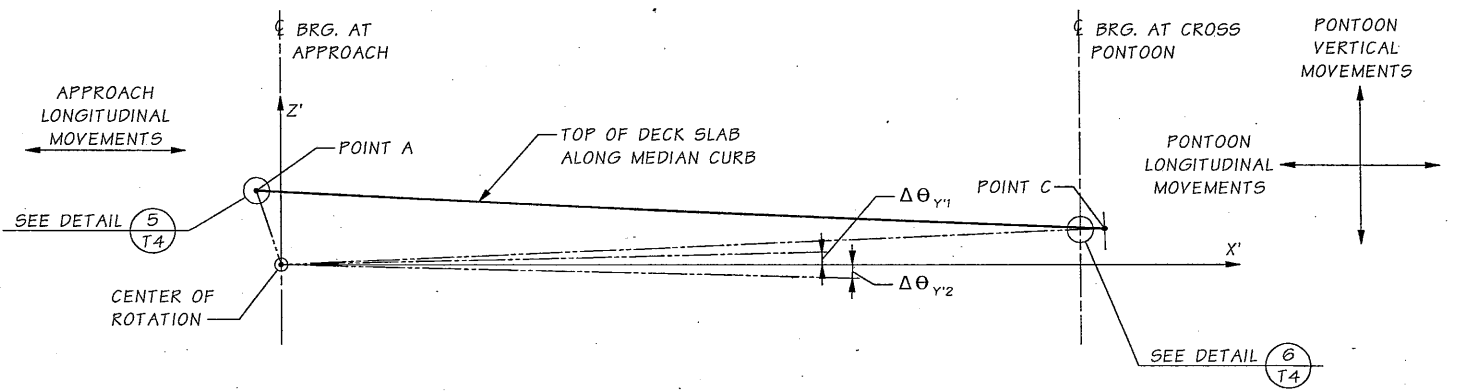
ξ DIMENSIONS "M" AND "N" ARE ASSUMED FROM PLANS. DESIGN-BUILDER SHALL PERFORM AS-BUILT SURVEY OF COMPLETED PONTOON AND APPROACH STRUCTURES AND PROVIDE PLAN FOR RECONCILING DEVIATIONS IN AS-BUILT LENGTHS AS THEY RELATE TO THE INSTALLATION OF BEARINGS, EXPANSION JOINTS, AND PONTOON ELEVATED STRUCTURE.



**ELEVATION CENTER OF ROTATION**

APPROACH END OF WEST TRANSITION SPANS SHOWN, EAST TRANSITION SPANS SIMILAR

NOTE: LOCAL X', Y', Z' COORDINATE SYSTEM FOR EACH TRANSITION SPAN IS PARALLEL TO X, Y, Z COORDINATE SYSTEM USED IN THE WIND / WAVE ANALYSIS.



**MOVEMENT ELEVATION**

TYP. MOVEMENTS IN VERTICAL PLANE FOR WEST TRANSITION SPANS, EAST TRANSITION SPANS MIRRORED ABOUT Y'-AXIS, X'-AXIS REMAINS POSITIVE TO THE EAST

NOTE: LOCAL X', Y', Z' COORDINATE SYSTEM FOR EACH TRANSITION SPAN IS PARALLEL TO X, Y, Z COORDINATE SYSTEM USED IN THE WIND / WAVE ANALYSIS.

SPAN	B*	C*	L	M*ξ	Nξ	S	SX
NW	31'-0"	7'-0"	**	2'-0"	9'-0"	**	**
SW	31'-0"	7'-0"	**	2'-0"	9'-0"	**	**
NE	39'-0"	5'-6"	**	2'-0"	9'-0"	**	**
SE	28'-0"	5'-6"	**	2'-0"	9'-0"	**	**

\* ALLOWABLE TOLERANCE OF +/- 1.0FT ALONG ξ BEARING  
 \*\* SEE APPENDIX M1 FOR DIMENSIONS

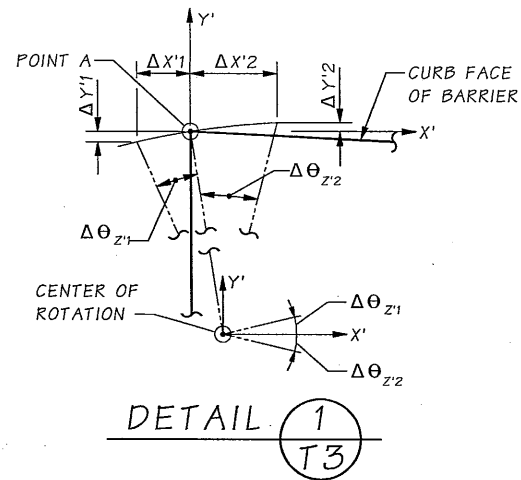
SR SR 52 FILE NO. SHEET T3

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING\window files\MOVMENT CENT.wid	
Supervisor	Clarke, PT	REGION NO.	STATE
Designed By	Olson, DE 11/10	10	WASH.
Checked By	Dornsife, RJ 03/11	FED. AID PROJ. NO.	
Detailed By	Lemons, T 10/10	SHEET NO.	
Bridge Projects Engr.	03/2011 AD16 - REVISED SHEET NAME	TOTAL SHEETS	
Prelim. Plan By	01/2011 AD3 - REVISED TABLE AND NOTE		
Architect/Specialist	DATE REVISION		

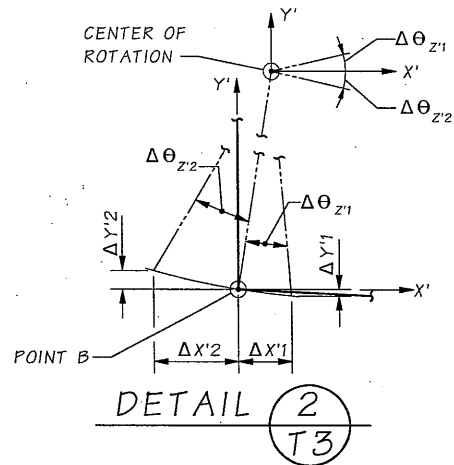
**Washington State Department of Transportation**  
 BRIDGE AND STRUCTURES OFFICE

**APPENDIX M23 OUTFITTING & ASSEMBLY TECHNICAL REQUIREMENTS**  
 TRANSITION SPAN MOVEMENT DETAILS  
 CENTRAL POINT OF ROTATION 1

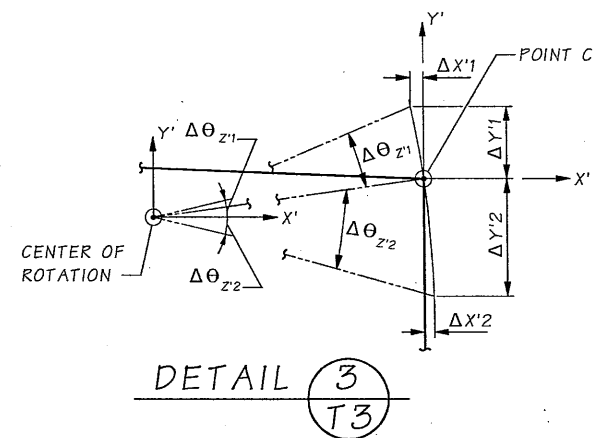
BRIDGE SHEET NO. T3  
 SHEET OF SHEETS



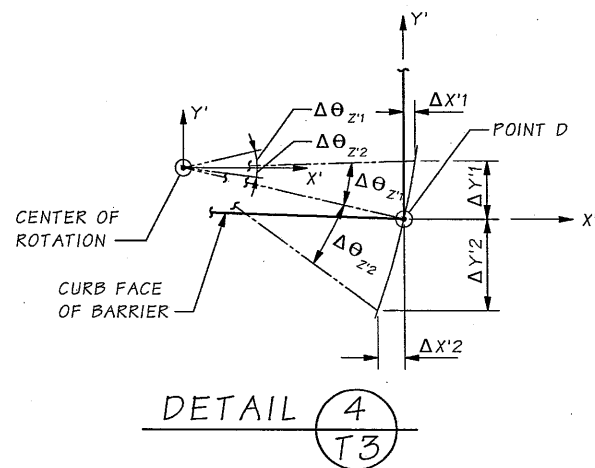
POINT "A" MOVEMENTS SHOWN DUE TO ROTATIONS IN X'-Y' PLANE. OTHER LOCATIONS NORTH (+Y') AND WEST (-X') OF CENTRAL POINT HAVE MOVEMENTS IN SAME DIRECTION AS POINT "A".



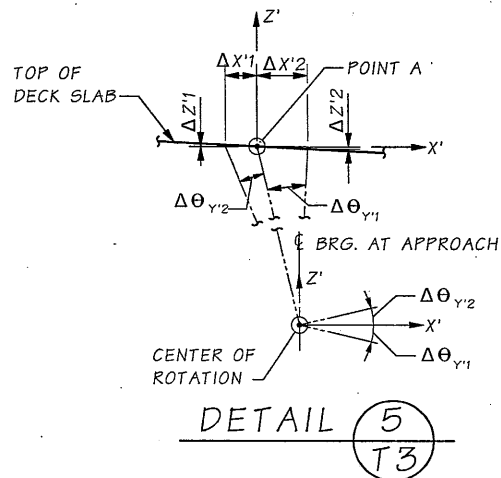
POINT "B" MOVEMENTS SHOWN DUE TO ROTATIONS IN X'-Y' PLANE. OTHER LOCATIONS SOUTH (-Y') AND WEST (-X') OF CENTRAL POINT HAVE MOVEMENTS IN SAME DIRECTION AS POINT "B".



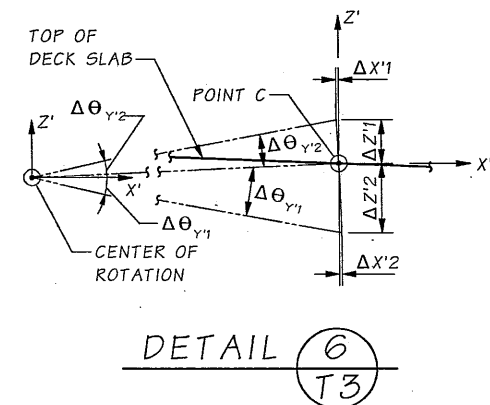
POINT "C" MOVEMENTS SHOWN DUE TO ROTATIONS IN X'-Y' PLANE. OTHER LOCATIONS NORTH (+Y') AND EAST (+X') OF CENTRAL POINT HAVE MOVEMENTS IN SAME DIRECTION AS POINT "C".



POINT "D" MOVEMENTS SHOWN DUE TO ROTATIONS IN X'-Y' PLANE. OTHER LOCATIONS SOUTH (-Y') AND EAST (+X') OF CENTRAL POINT HAVE MOVEMENTS IN SAME DIRECTION AS POINT "D".



POINT "A" MOVEMENTS SHOWN DUE TO ROTATIONS IN X'-Z' PLANE. OTHER LOCATIONS ABOVE (+Z') AND WEST (-X') OF CENTRAL POINT HAVE MOVEMENTS IN SAME DIRECTION AS POINT "A".

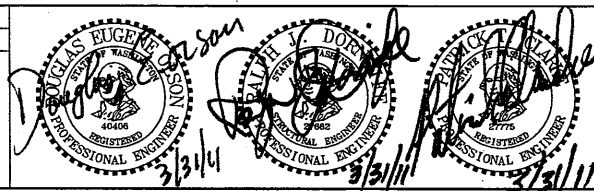


POINT "C" MOVEMENTS SHOWN DUE TO ROTATIONS IN X'-Z' PLANE. OTHER LOCATIONS ABOVE (+Z') AND EAST (+X') OF CENTRAL POINT HAVE MOVEMENTS IN SAME DIRECTION AS POINT "C".

NOTE: LOCAL X', Y', Z' COORDINATE SYSTEM FOR EACH TRANSITION SPAN IS PARALLEL TO X, Y, Z COORDINATE SYSTEM USED IN THE WIND / WAVE ANALYSIS.

SR 52 FILE NO. SHEET T4

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING\window files\MOVMENT DET 1.wnd		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT			10	WASH.			
Designed By	Olson, DE	11/10						
Checked By	Dornsife, RJ	03/11						
Detailed By	Lemons, T	10/10	03/2011	AD16 - REVISED SHEET NAME	FJF			
Bridge Projects Engr.			03/2011	AD15 - RENAMED Δ's, REV. NOTES	RJD			
Prelim. Plan By			01/2011	AD3 - REVISED SHEET	DEO			
Architect/Specialist			DATE	REVISION	BY	APP'D		



**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23 OUTFITTING & ASSEMBLY TECHNICAL REQUIREMENTS		BRIDGE SHEET NO. T4
TRANSITION SPAN MOVEMENT DETAILS CENTER POINT OF ROTATION 2		SHEET OF SHEETS

NORTHWEST AND SOUTHWEST TRANSITION SPAN (FEET, DEGREES)

MOVEMENTS	MOVEMENT OF PONTOON RELATIVE TO APPROACH STRUCTURE*														MOVEMENT OF APPROACH STRUCTURE			
	LAKE LEVEL DROP	LAKE LEVEL RISE	CAT. LAKE LEVEL DROP $\psi$	LIVE LOAD I	LIVE LOAD II	LIVE LOAD III	20 YRP STORM PERPENDICULAR	20 YRP STORM OBLIQUE	100 YRP STORM PERPENDICULAR	100 YRP STORM OBLIQUE	100 YRP STORM PERPENDICULAR TRANSV. MOORING FAILURE	100 YRP STORM OBLIQUE LONGIT. MOORING FAILURE	PONTOON TEMPERATURE DROP (-15° F)	PONTOON TEMPERATURE RISE (+15° F)	APPROACH TEMPERATURE DROP	APPROACH TEMPERATURE RISE	APPROACHES SHRINKAGE & CREEP	APPROACHES SEISMIC
$\Delta X$	—	—	—	—	—	—	—	-1.50 $\lambda$	—	-1.50 $\lambda$	—	-1.50 $\lambda$	+0.34	-0.34	**	**	**	**
$\Delta Y$	—	—	—	—	—	—	$\pm 0.97'$	+0.70'	$\pm 1.47'$	+1.04'	$\pm 1.84'$	+1.10'	—	—	—	—	—	**
$\Delta Z$	-3.8	+0.8	-20.0	-0.47	-0.37	-0.84	$\pm 0.29'$	$\pm 0.18'$	$\pm 0.55'$	$\pm 0.37'$	$\pm 0.55'$	$\pm 0.37'$	—	—	—	—	—	—
$\Delta \theta_x$	—	—	—	-0.17°	+0.16°	-0.01°	$\pm 0.18^\circ$	$\pm 0.11^\circ$	$\pm 0.36^\circ$	$\pm 0.22^\circ$	$\pm 0.36^\circ$	$\pm 0.22^\circ$	—	—	—	—	—	—

NORTHEAST AND SOUTHWEST TRANSITION SPAN (FEET, DEGREES)

MOVEMENTS	MOVEMENT OF PONTOON RELATIVE TO APPROACH STRUCTURE*														MOVEMENT OF APPROACH STRUCTURE			
	LAKE LEVEL DROP	LAKE LEVEL RISE	CAT. LAKE LEVEL DROP $\psi$	LIVE LOAD I	LIVE LOAD II	LIVE LOAD III	20 YRP STORM PERPENDICULAR	20 YRP STORM OBLIQUE	100 YRP STORM PERPENDICULAR	100 YRP STORM OBLIQUE	100 YRP STORM PERPENDICULAR TRANSV. MOORING FAILURE	100 YRP STORM OBLIQUE LONGIT. MOORING FAILURE	PONTOON TEMPERATURE DROP (-15° F)	PONTOON TEMPERATURE RISE (+15° F)	APPROACH TEMPERATURE DROP	APPROACH TEMPERATURE RISE	APPROACHES SHRINKAGE & CREEP	APPROACHES SEISMIC
$\Delta X$	—	—	—	—	—	—	—	-1.50 $\lambda$	—	-1.50 $\lambda$	—	-1.50 $\lambda$	-0.34	+0.34	**	**	**	**
$\Delta Y$	—	—	—	—	—	—	$\pm 1.35'$	+0.81'	$\pm 2.01'$	+1.23'	$\pm 2.45'$	+1.24'	—	—	—	—	—	**
$\Delta Z$	-3.8	+0.8	-20.0	-0.49	-0.37	-0.86	$\pm 0.28'$	$\pm 0.16'$	$\pm 0.52'$	$\pm 0.32'$	$\pm 0.52'$	$\pm 0.32'$	—	—	—	—	—	—
$\Delta \theta_x$	—	—	—	-0.20°	+0.20°	0.00°	$\pm 0.16^\circ$	$\pm 0.08^\circ$	$\pm 0.36^\circ$	$\pm 0.20^\circ$	$\pm 0.36^\circ$	$\pm 0.20^\circ$	—	—	—	—	—	—

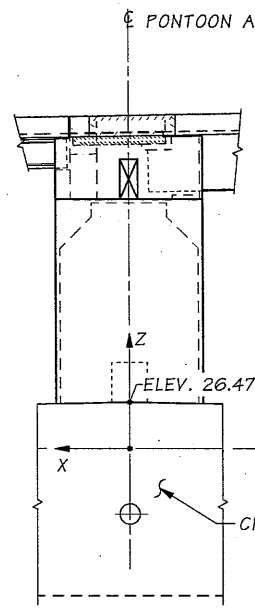
\* PONTOON MOVEMENTS SHOWN OCCUR AT REFERENCE POINTS DEPICTED IN ELEVATIONS BELOW. STORM MOVEMENTS HAVE COMBINED STATIC AND DYNAMIC COMPONENTS WITH 1.20 DYNAMIC FACTOR.

\*\* TO BE DETERMINED BY THE DESIGN-BUILDER.

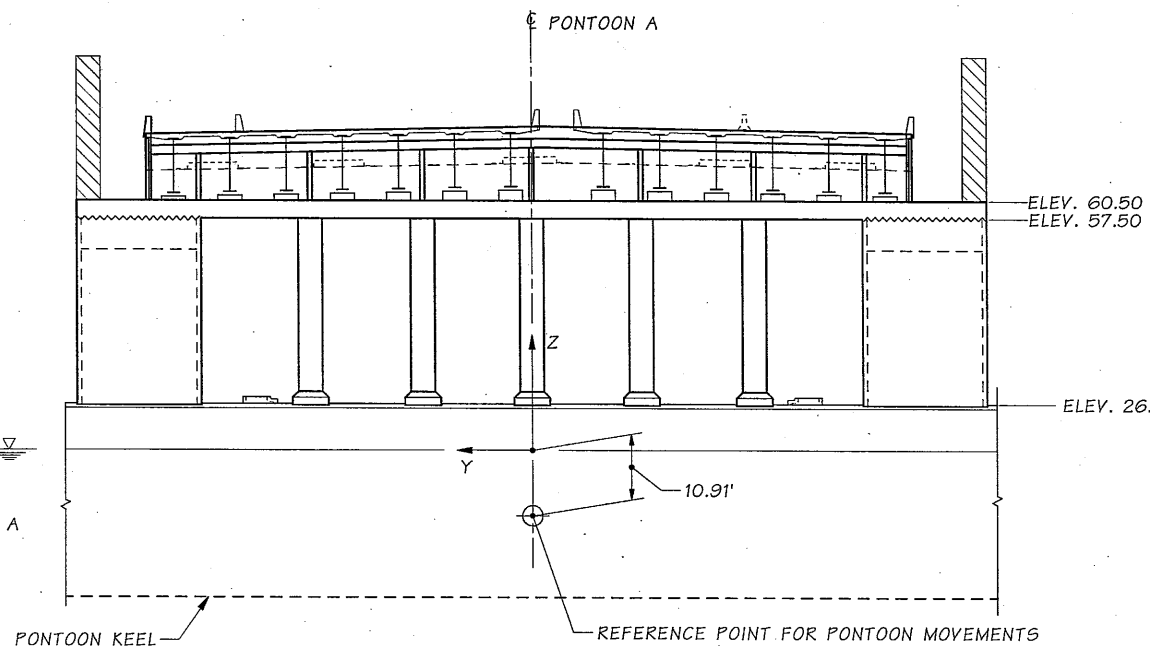
$\lambda$  FURTHER MOVEMENT RESTRICTED BY LONGITUDINAL RESTRAINER, WHICH SHALL BE SET TO AN INITIAL GAP OF 18 INCHES.

$\psi$  CATASTROPHIC LAKE LEVEL DROP ASSOCIATED WITH LOSS OF CHITTENDEN LOCKS REQUIRES REMOVAL AND REINSTALLATION OF LONGITUDINAL RESTRAINERS TO AN INITIAL GAP OF 24 INCHES TO ACCOMMODATE ADDITIONAL JOINT OPENING MOVEMENT.

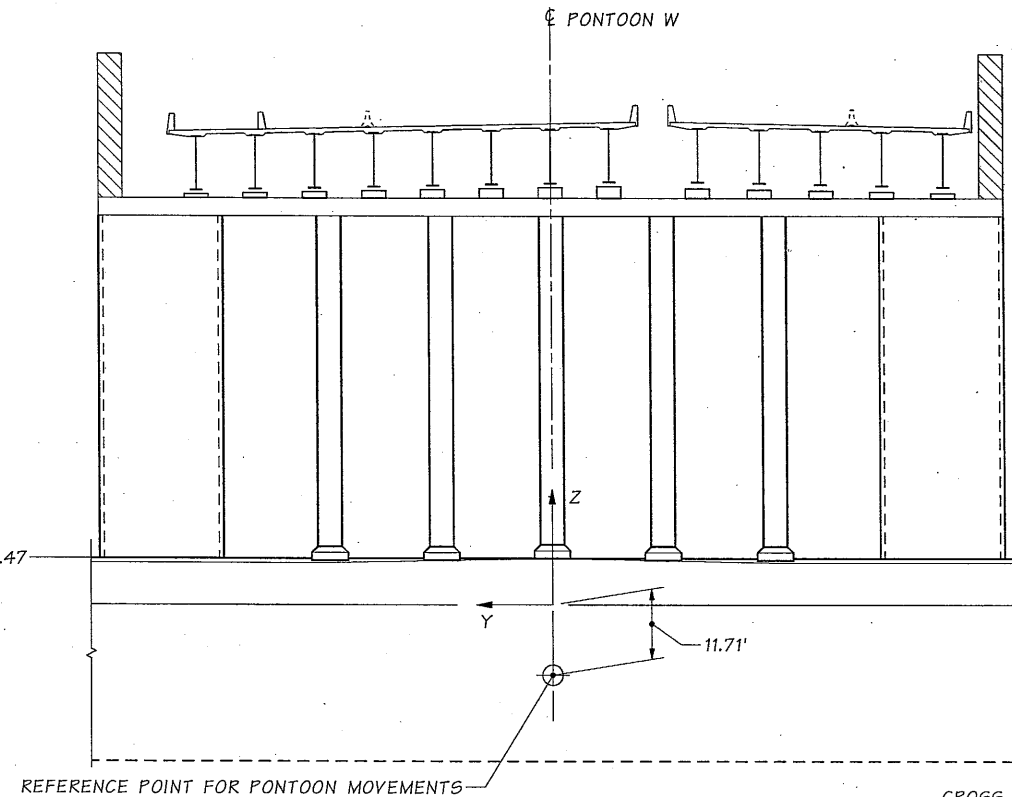
NOTE: X, Y, Z COORDINATE SYSTEM CORRESPONDS TO THAT USED IN THE WIND / WAVE ANALYSIS.



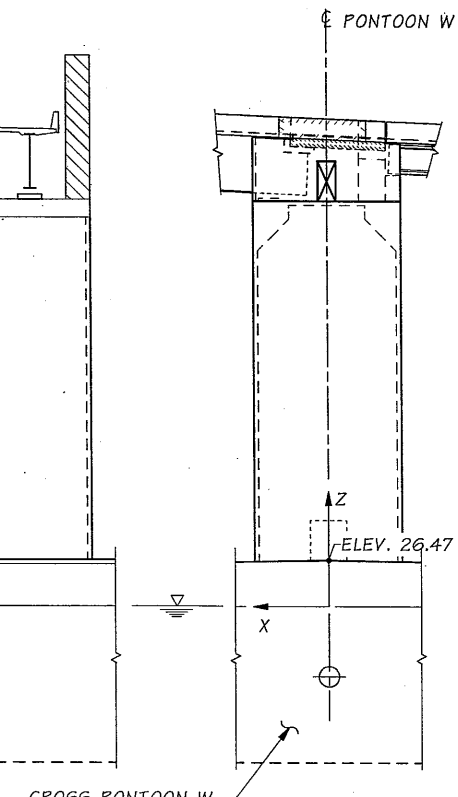
NORTH ELEVATION PIER A



ELEVATION ~ PIER A  
LOOKING AHEAD ON STATIONING



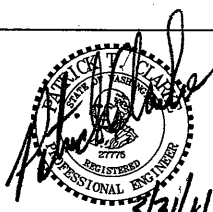
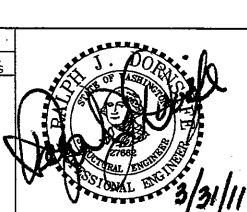
ELEVATION ~ PIER W  
LOOKING AHEAD ON STATIONING



NORTH ELEVATION PIER W

SR SR 52 FILE NO. SHEET T5

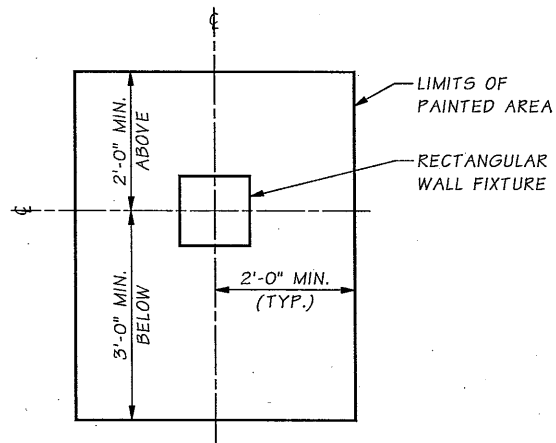
Bridge Design Engr.	Khaloghi, B	M:\w-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\MOVMENT DET 2.WND	
Supervisor	Clarke, PT	REGION NO.	TOTAL SHEETS
Designed By	Dornsife, RJ 03/11	10	
Checked By	Olson, DE 03/11	STATE	
Detailed By	Puryear, D 03/11	WASH.	
Bridge Projects Engr.	03/2011 AD16 - REVISED SHEET NAME EJP	JOB NUMBER	
Prelim. Plan By	03/2011 AD15 - NEW SHEET RJD	10A057	
Architect/Specialist	DATE REVISION	BY	APPD



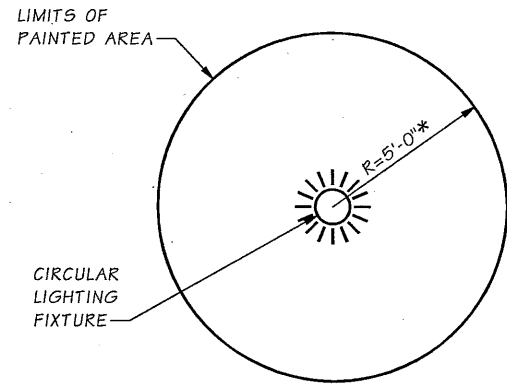
**Washington State Department of Transportation**  
BRIDGE AND STRUCTURES OFFICE

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS  
TRANSITION SPAN MOVEMENT DETAILS  
ELEVATIONS & TABLES

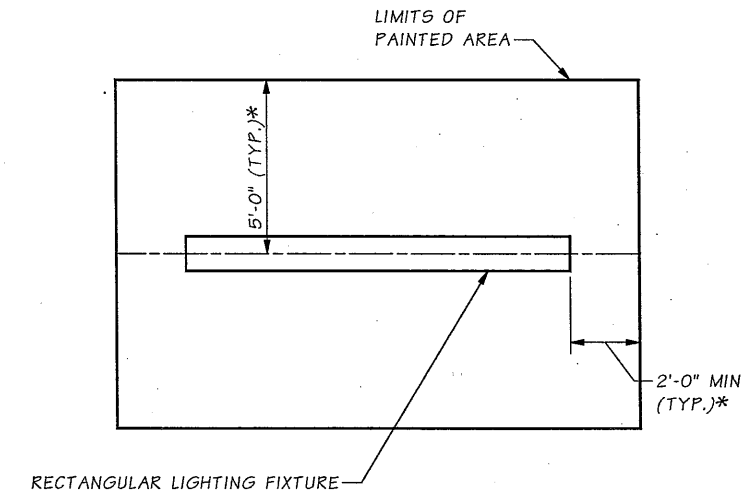
BRIDGE SHEET NO. T5  
SHEET OF SHEETS



PAIN T LIMITS AT  
WALL FIXTURES



PAIN T LIMITS AT  
TYPICAL CEILING LIGHT FIXTURES



\* DIMENSION TO BE REDUCED IN 6" INCREMENTS IF AVAILABLE CONCRETE SURFACE IS LESS THAN 5'-0"

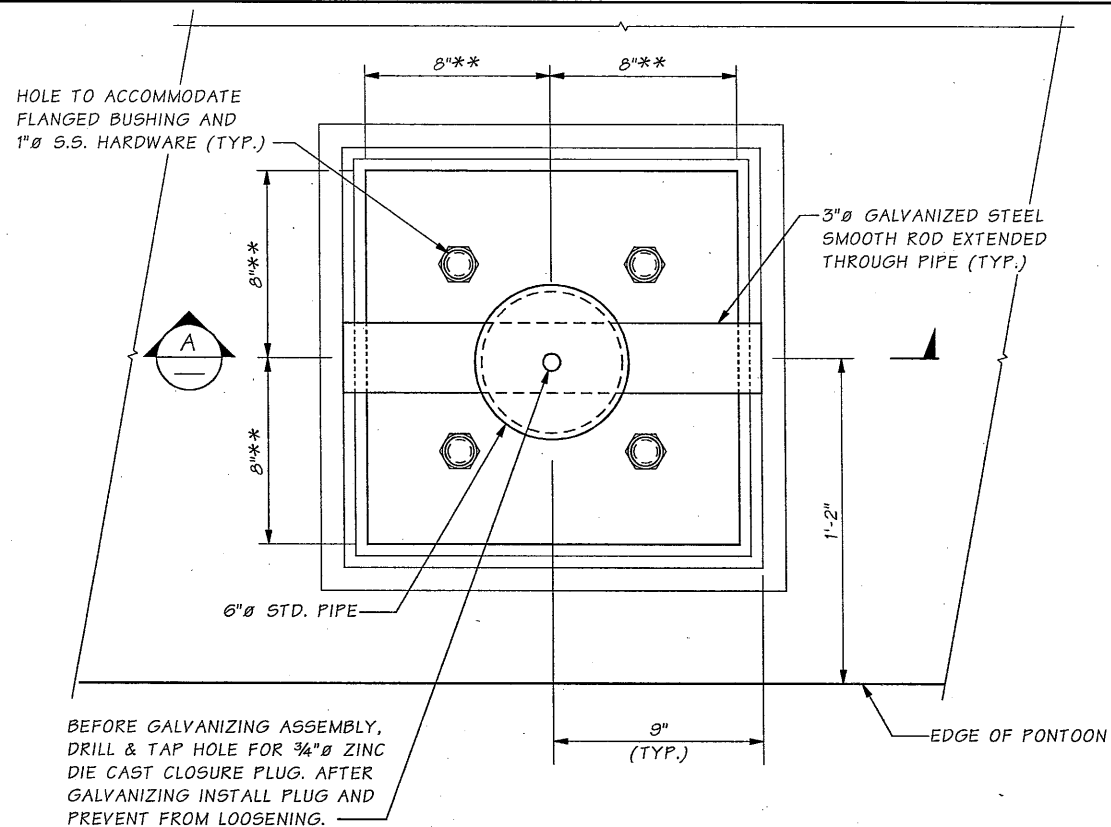
SR SR FILE NO. SHEET .M1

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\DETAILS.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Olson, DE	10	WASH.		
Checked By	Messmer, A	JOB NUMBER 10A057			
Detailed By	Lemons, T				
Bridge Projects Engr.					
Prelim. Plan By	01/2011	AD3 -ADDED SHEET	DEO		
Architect/Specialist	DATE	REVISION	BY	APP'D	

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

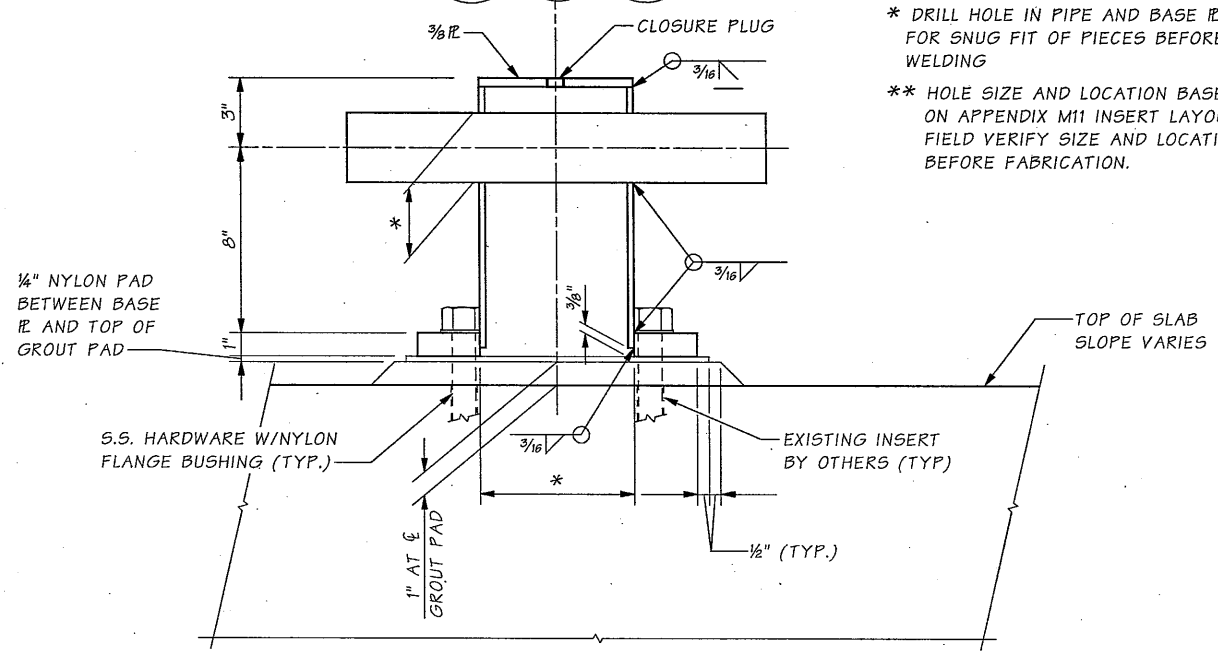
DETAILS 1  
PAINT LIMITS

BRIDGE SHEET NO. M1 OF SHEETS



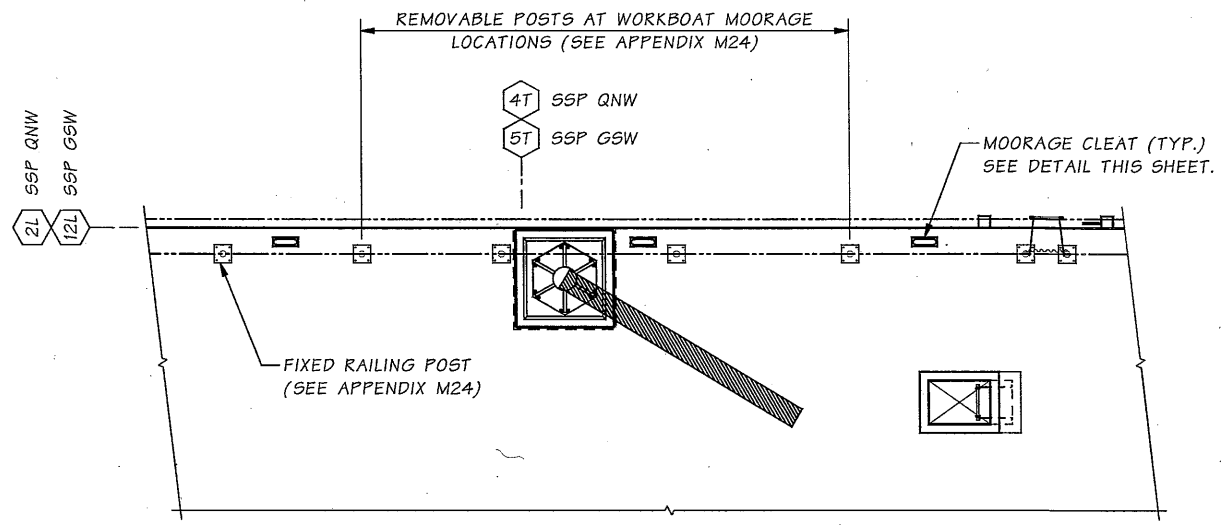
**MOORAGE CLEAT DETAIL**

NOTE: CLEAT DESIGNED FOR MAXIMUM ALLOWABLE SERVICE PULL OF 12 KIPS APPLIED IN ANY DIRECTION, 10" MAXIMUM ABOVE DECK AT CLEAT.



SECTION A

- \* DRILL HOLE IN PIPE AND BASE RE FOR SNUG FIT OF PIECES BEFORE WELDING
- \*\* HOLE SIZE AND LOCATION BASED ON APPENDIX M11 INSERT LAYOUT. FIELD VERIFY SIZE AND LOCATION BEFORE FABRICATION.



**WORKBOAT MOORAGE FEATURES AT SSP GSW AND QNW**

SR SR 52 FILE NO. SHEET M2

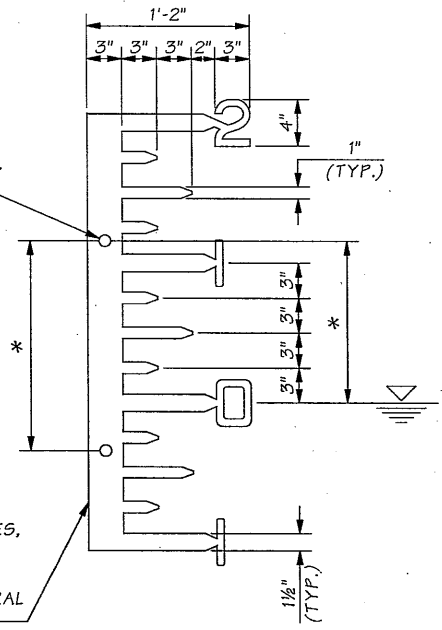
Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING\window files\DETAILS 2.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO. TOTAL SHEETS
Designed By	Olson, DE 11/10	10	WASH.		
Checked By	Messmer, A 03/11	JOB NUMBER 10A057			
Detailed By	Lemons, T 10/10				
Bridge Projects Engr.	03/2011 AD16 - ADDED NOTE	DEO			
Prelim. Plan By	01/2011 AD3 - ADDED SHEET	DEO			
Architect/Specialist	DATE REVISION	BY	APPD		

APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS

DETAILS 2  
MOORAGE CLEAT

BRIDGE SHEET NO. M2  
SHEET OF SHEETS

ATTACH INDICATOR TO INSERT WITH 3/4" Ø S.S. HARDWARE (TYP.)



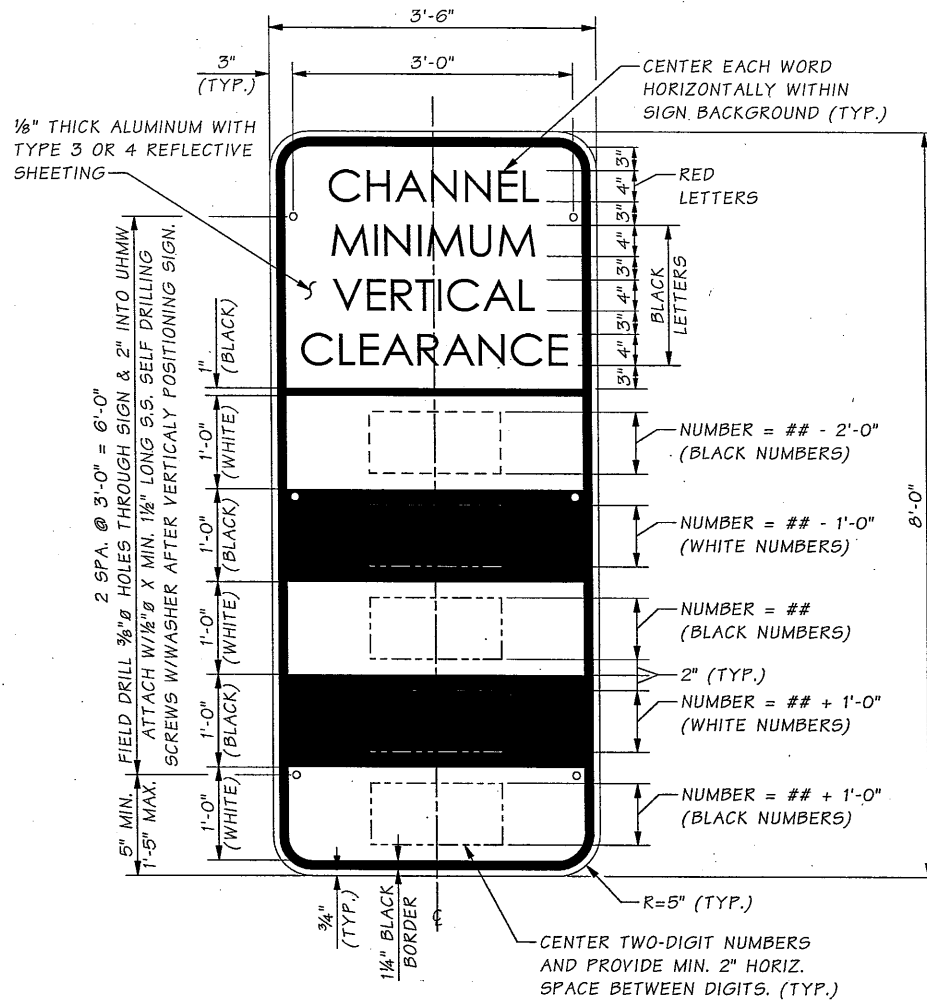
3/8" R - ASTM A588.  
AFTER DRILLING OF MOUNTING HOLES,  
GALVANIZE PER AASHTO M111 AND  
FINISH PER STD. SPEC 6-07.3(11)  
WITH FINISH COAT COLOR OF FEDERAL  
STD. 595 F5 13655

### WATER LINE INDICATOR

\* VARIES BY PONTOON LOCATION. SEE APPENDIX M11 AND M22 FOR [WL] INSERT LOCATIONS. DRILL MOUNTING HOLES IN INDICATOR AFTER CONSTRUCTION AND BALLASTING OF PONTOONS IS COMPLETE FOR 6-LANE CONFIGURATION. SET ZERO MARK AT STATIC WATER LEVEL.

#### NOTES:

1. STAINLESS STEEL HARDWARE SHALL BE EITHER THREADED ROD WITH NUT AND WASHERS, OR BOLT WITH WASHERS. NYLON FLANGE BUSHING SHALL BE USED TO ISOLATE ROD/BOLT AT EACH INSERT LOCATION.
2. FIELD VERIFY INSERT LOCATIONS BEFORE DRILLING HOLES IN SIGNS AND INDICATORS. OVERSIZED HOLES MAY BE USED TO ACCOMMODATE BUSHINGS.
3. APPLY ANTI-SEIZING COMPOUND TO THREADS AT TIME OF INSTALLATION.
4. END OF THREADED RODS SHALL EXTEND MIN. 1/2" TO MAX. 1" PAST EXPOSED FACE OF NUT AFTER TIGHTENED.
5. REFER TO RFP SECTION 2.12 FOR ADDITIONAL INFORMATION.

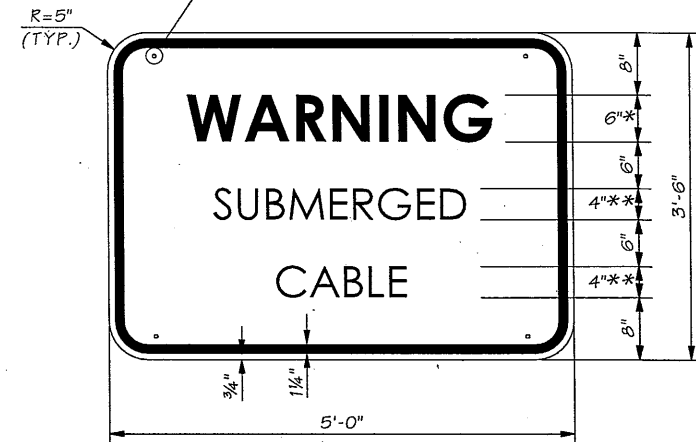


### SIGN

ALL NUMBERS SHALL BE 8" HIGH.  
ALL LETTERS/NUMBERS SHALL BE GOTHIC STYLE AND TRUE WITH 3/4" MIN. STROKE WIDTH.

## TWO -DIGIT WHOLE NUMBER AFTER DETERMINING ACTUAL MIN. VERTICAL CLEARANCE IN FEET WITHIN DEFINED NAVIGATIONAL CHANNEL AFTER CONSTRUCTION OF TRANSITION SPANS AND PONTOONS AFTER FINAL BALLASTING.  
EXAMPLES: MIN. VERTICAL CLEARANCE VALUE BETWEEN 44'-6" AND 45'-6" GIVES A VALUE ## EQUAL TO 45.  
MIN. VERTICAL CLEARANCE VALUE BETWEEN 45'-6" AND 46'-6" GIVES A VALUE ## EQUAL TO 46.  
CHANNEL MARKER SIGN IS THEN POSITIONED VERTICALLY SO THAT ACTUAL MIN. VERTICAL CLEARANCE VALUE TO NEAREST INCH ALIGNS HORIZONTALLY WITH STATIC WATER LINE. BOTTOM EDGE OF COLORED AREA WITH NUMBER REPRESENTS THE WHOLE NUMBER WITHIN THAT AREA.

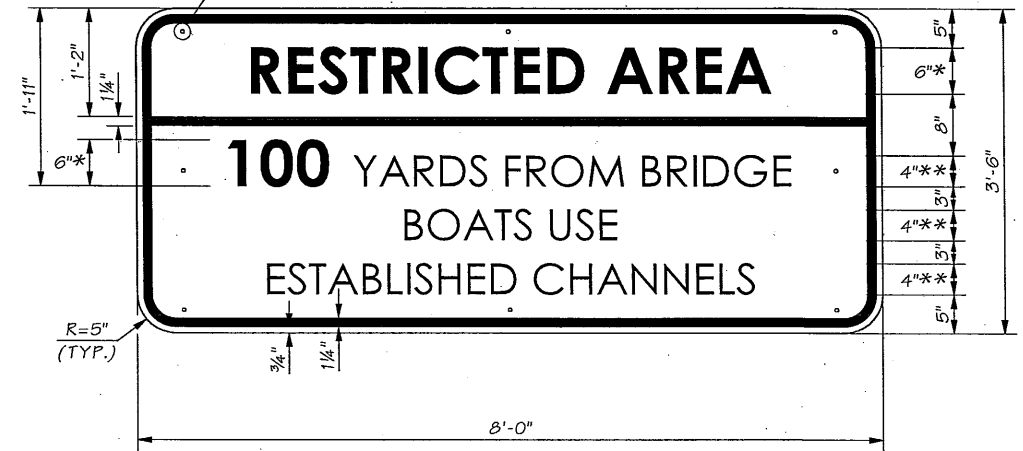
SEE APPENDIX M11 FOR [5W] INSERT LOCATIONS. ATTACH SIGN TO INSERT WITH 1/2" Ø S.S. HARDWARE (SEE NOTES) (TYP.).



### SIGN

\* RED LETTERS  
\*\* BLACK LETTERS

SEE APPENDIX M11 FOR [5R] INSERT LOCATIONS. ATTACH SIGN TO INSERT WITH 1/2" Ø S.S. HARDWARE (SEE NOTES) (TYP.).

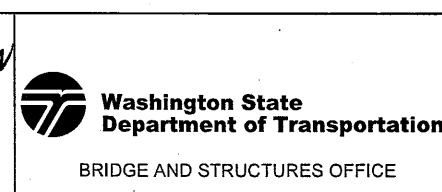
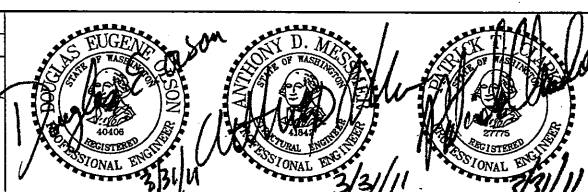


### SIGN

\* RED LETTERS  
\*\* BLACK LETTERS

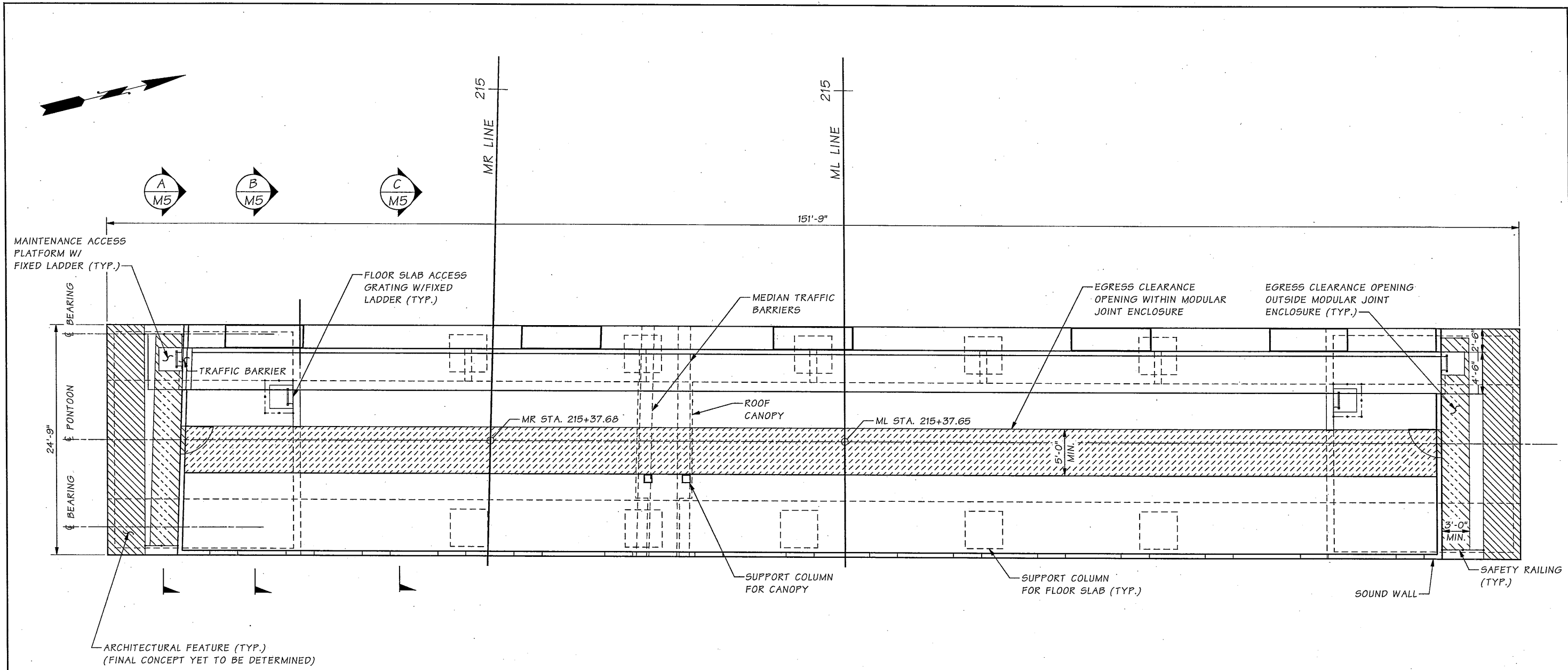
SR SR FILE NO. SHEET M3

Bridge Design Engr.	khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\SIGNS.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Olson, DE	10	WASH.		TOTAL SHEETS
Checked By	Messmer, A	JOB NUMBER 10A057			
Detailed By	Lemons, T				
Bridge Projects Engr.					
Prelim. Plan By	01/2011	ADS - ADDED SHEET	DEC		
Architect/Specialist	DATE	REVISION	BY	APPD	



APPENDIX M23 OUTFITTING & ASSEMBLY TECHNICAL REQUIREMENTS		BRIDGE SHEET NO. M3
DETAILS 3 PONTOON SIGNS		SHEET OF SHEETS

SR SR 52 FILE NO. SHEET M4



**PLAN**  
GIRDERS AND BEARINGS NOT SHOWN FOR CLARITY

Bridge Design Engr.	Khaleghi, B	M:\w-team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\EXP JOINT ENCLOSURE.wnd			
Supervisor	Clarke, PT	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Olson, DE	10	WASH.		TOTAL SHEETS
Checked By	Messmer, A	03/11			
Detailed By	Lemons, T	JOB NUMBER 10A057			
Bridge Projects Engr.					
Prelim. Plan By	01/2011	AD3 - ADDED SHEET	DEO		
Architect/Specialist	DATE	REVISION	BY	APPD	

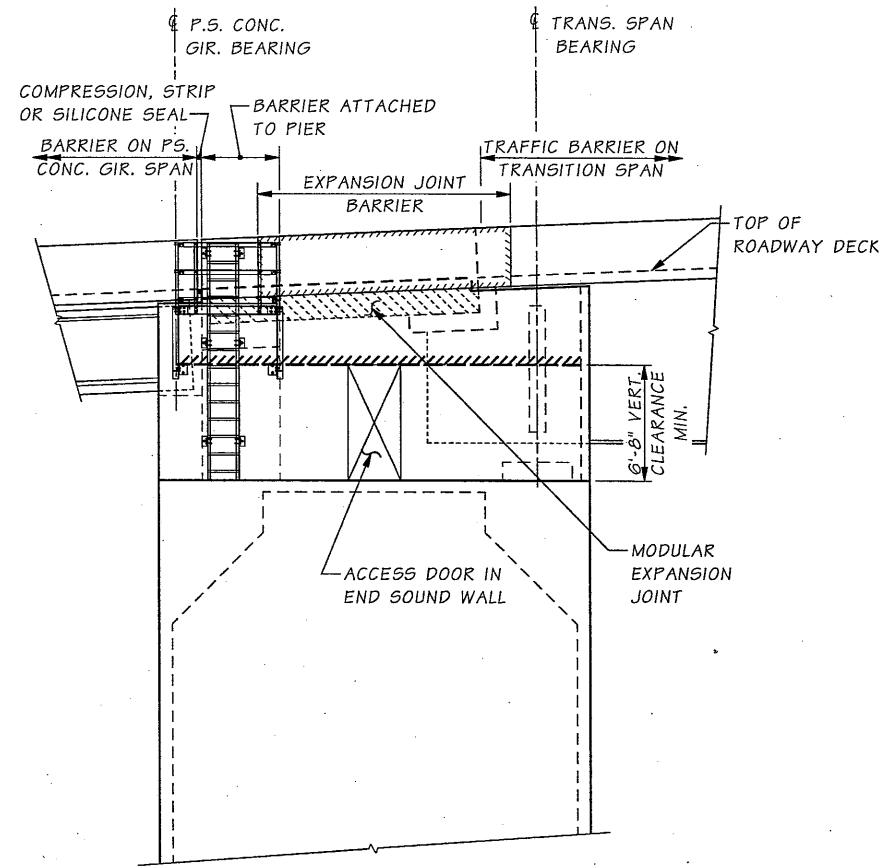
**APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS**

BRIDGE SHEET NO. **M4**

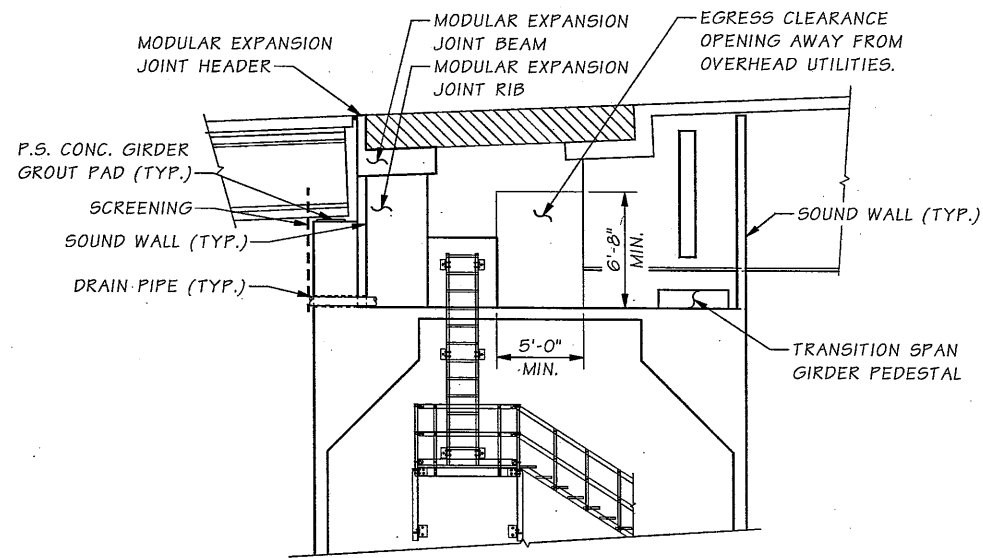
OF SHEETS

**MODULAR JOINT ENCLOSURE  
EGRESS PLAN**

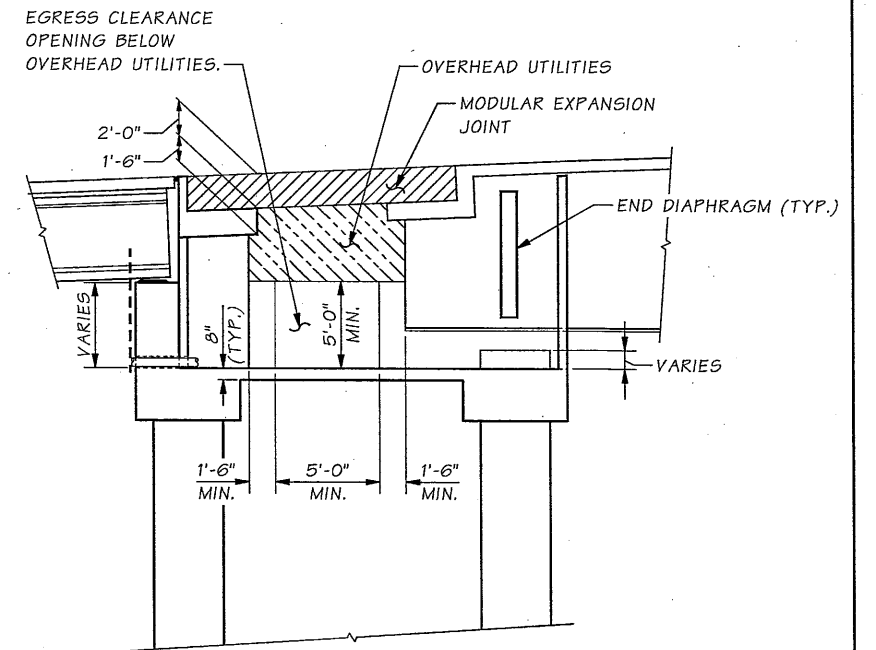
Thu Mar 31 11:37:03 2011



SECTION A  
M4

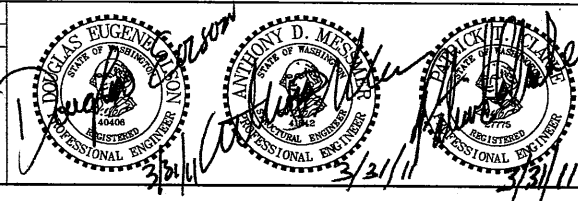


SECTION B  
AT BOX PIER  
LOOKING NORTH  
M4



SECTION C  
AT COLUMN  
LOOKING NORTH  
M4

Bridge Design Engr.	Khaleghi, B	M:\W-Team\SR 520 FLOATING BRIDGE\M23 OUTFITTING>window files\ENCLOSURE DETAILS.wnd		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	Clarke, PT			10	WASH.			
Designed By	Olson, DE							
Checked By	Messmer, A	03/11						
Detailed By	Lemons, T							
Bridge Projects Engr.								
Prelim. Plan By		01/2011	AD3 - ADDED SHEET					
Architect/Specialist		DATE	REVISION	BY	APPD			



APPENDIX M23  
OUTFITTING & ASSEMBLY  
TECHNICAL REQUIREMENTS  
MODULAR JOINT ENCLOSURE  
DETAILS

BRIDGE SHEET NO. M5 OF SHEETS