DRAWING INDEX	
SHEET NO.	SHEET TITLE
T1	TITLE SHEET
G1	GENERAL NOTES & QUANTITIES
S1	SITE PLAN
D1	DETOUR PLAN
D2	TRAFFIC CONTROL QUANTITIES
	MECHANICAL PLANS
M1	MACHINERY NOTES
M2	CENTER LOCK DEMOLITION
M3	CENTER LOCK ASSEMBLY
M4	CENTER LOCK DETAILS 1 OF 2
M5	CENTER LOCK DETAILS 2 OF 2
	ELECTRICAL PLANS
E1	GENERAL ELECTRICAL NOTES
E2	SCHEMATIC

WISCONSIN
BRADLEY ROBERT KOPPING
E-44714
TAMPA, FL
PROFESSIONAL ENGINEER
3/3/16

CITY OF MILWAUKEE

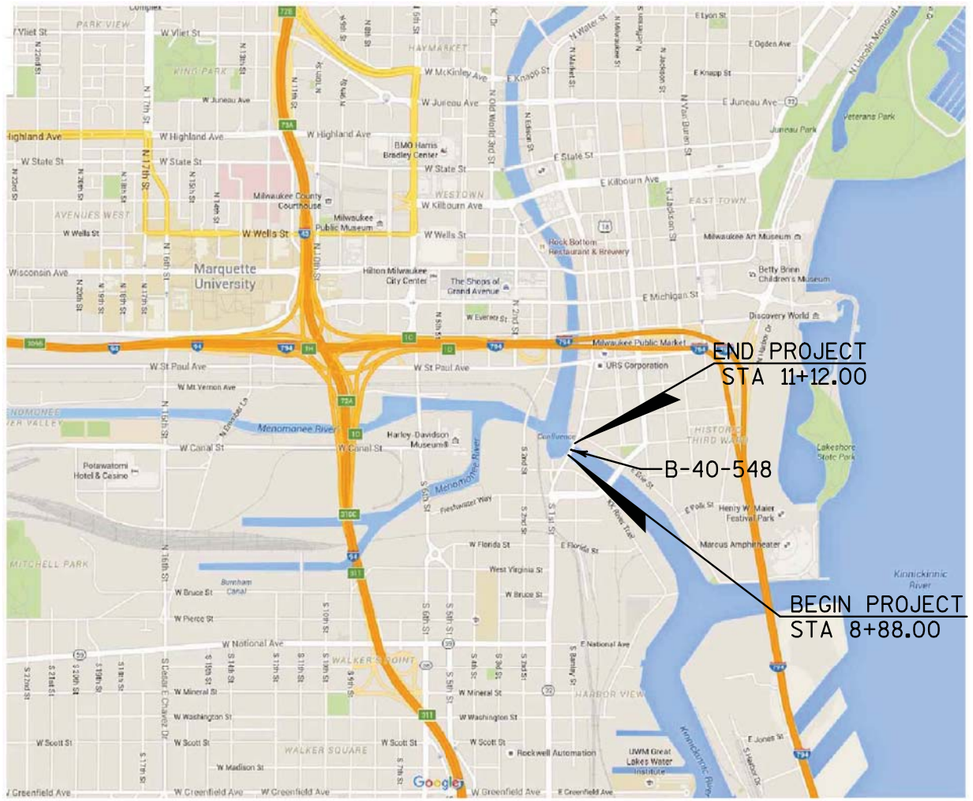
CENTER LOCK REPLACEMENT FOR

WATER STREET

BASCULE BRIDGE
OVER MILWAUKEE RIVER

LOCAL STREET
MILWAUKEE COUNTY

N



APPROVED BY:

Craig S. Roberts — 3/3/2016
STRUCTURAL DESIGN MANAGER — DATE

3/3/16
CITY ENGINEER & SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS — DATE

TOTAL NET LENGTH OF CENTERLINE = 0.042 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY, NAD83 (1991).

TO CONVERT GROUND COORDINATES (N & E) TO GRID COORDINATES (X & Y) MULTIPLY BY 0.99992362.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE CITY OF MILWAUKEE DATUM.

TO CONVERT ELEVATIONS SHOWN ON THIS PLAN TO NATIONAL GEODETIC VERTICAL DATUM OF 1929, ADD 580.603 TO ELEVATIONS SHOWN ON THIS PLAN.

City of Milwaukee
Department of Public Works
Infrastructure Services Division

AECOM
1555 North RiverCenter Drive
Suite 214
Milwaukee, WI 53212
(414) 944-6080

WATER ST BASCULE BRIDGE
OVER THE MILWAUKEE RIVER
TITLE SHEET

REVISIONS

DESIGNED BY XXX
DRAWN BY XXX
CHECKED BY XXX
DATE
SCALE
JOB NUMBER
SHEET NUMBER T1 OF T1
OF

GENERAL NOTES

1. DO NOT SCALE THE DRAWINGS.

2. ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE CITY OF MILWAUKEE DATUM = 580.60 NGVD.

3. DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND NOT "AS-BUILT" DIMENSIONS. THE EXISTING STRUCTURE (B-40-548) IS A ONE-SPAN STEEL BASCULE BRIDGE WITH A CLEAR ROADWAY WIDTH OF 48 FEET AND A SPAN OVER THE MILWAUKEE RIVER OF 160 FEET FROM TRUNNION-TO-TRUNNION. THIS PROJECT INVOLVES REPLACEMENT OF THE TWO CENTER LOCK DEVICES (OR SPAN LOCKS) AT THE CENTER OF THE SPAN.

3. ORIGINAL STRUCTURE PLANS AND SHOP DRAWINGS ARE AVAILABLE UPON REQUEST FROM THE CITY OF MILWAUKEE.

4. IF THERE IS A CONFLICT BETWEEN THE STANDARD SPECIFICATIONS AND THE PLANS OR SPECIAL PROVISIONS, THE PLANS OR SPECIAL PROVISIONS SHALL GOVERN.

5. IN THE EVENT THAT THERE IS A DISCREPANCY IN THE PLANS AND SPECIAL PROVISIONS, BRING IT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION AND THE ENGINEER'S DECISION SHALL GOVERN.

6. IF AN ITEM IS LISTED OR DESCRIBED IN THE SPECIAL PROVISIONS AND IS NOT SPECIFICALLY SHOWN ON THE PLANS, CONSIDER IT AS A PART OF THE WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED. IF IT IS NOT OBVIOUS AS TO WHICH BID ITEM IT BELONGS, CONSULT THE ENGINEER FOR INTERPRETATION, AND THE ENGINEER'S DECISION SHALL GOVERN.

7. MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

8. PAINT COLOR IS TO MATCH THE EXISTING COLOR OF THE BRIDGE GIRDERS. PROVIDE PAINT SWATCHES TO THE CITY FOR FINAL APPROVAL OF THE TOP COAT PAINT COLOR.

9. ELECTRICAL WORK WILL BE PERFORMED BY THE CITY.

TOTAL ESTIMATED QUANTITIES

ITEM	UNIT	ITEM DESCRIPTION	QUANTITY
517.4000.S	LS	CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE B-40-548	1
619.1000	EACH	MOBILIZATION	1
SPV.0105.01	LS	CENTER LOCK REPLACEMENT	1
SPV.0105.02	LS	FIELD VERIFICATION SURVEY	1

City of Milwaukee
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WATER ST BASCULE BRIDGE
OVER THE MILWAUKEE RIVER
GENERAL NOTES & QUANTITIES

REVISIONS

DESIGNED BY

DRAWN BY
DNJ

CHECKED BY

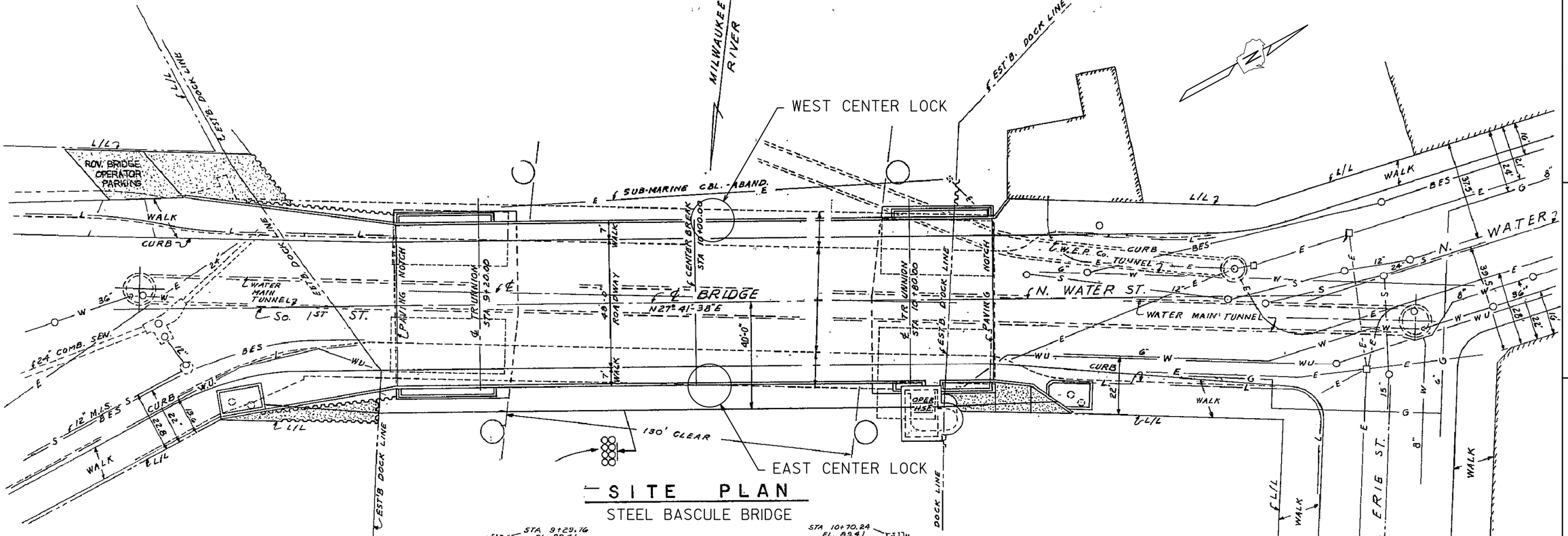
DATE
1/14/16

SCALE

JOB NUMBER

SHEET NUMBER
G1 OF G1

OF



LEGEND:

S	SEWER
W	WATER
T	TELEPHONE
E	ELECTRIC
BES	BUREAU OF TRAF. ENG. & ELECTRIC SERVICES
L	LIGHTING
G	GAS
	MANHOLE
	MANHOLE
DP26	DOCK POINT 26
STA 0+00	BRIDGE STATIONING
10.00 LT or 10.00 RT	10.00 LEFT TURN or 10.00 RIGHT TURN OFF BRIDGE ℄
EL. 10.00	ELEVATION 10'-0" ABOVE CITY DATUM
L/L	LOT LINE
EST'D.	ESTABLISHED
PROP.	PROPOSED
EXIST.	EXISTING
W.U.	WESTERN UNION

City of Milwaukee
Department of Public Works
Infrastructure Services Division

AECOM
1555 North RiverCenter Drive
Suite 214
Milwaukee, WI 53212
(414) 944-6080

WATER ST BASCULE BRIDGE OVER THE MILWAUKEE RIVER SITE PLAN

REVISIONS

DESIGNED BY

DRAWN BY DNJ

CHECKED BY

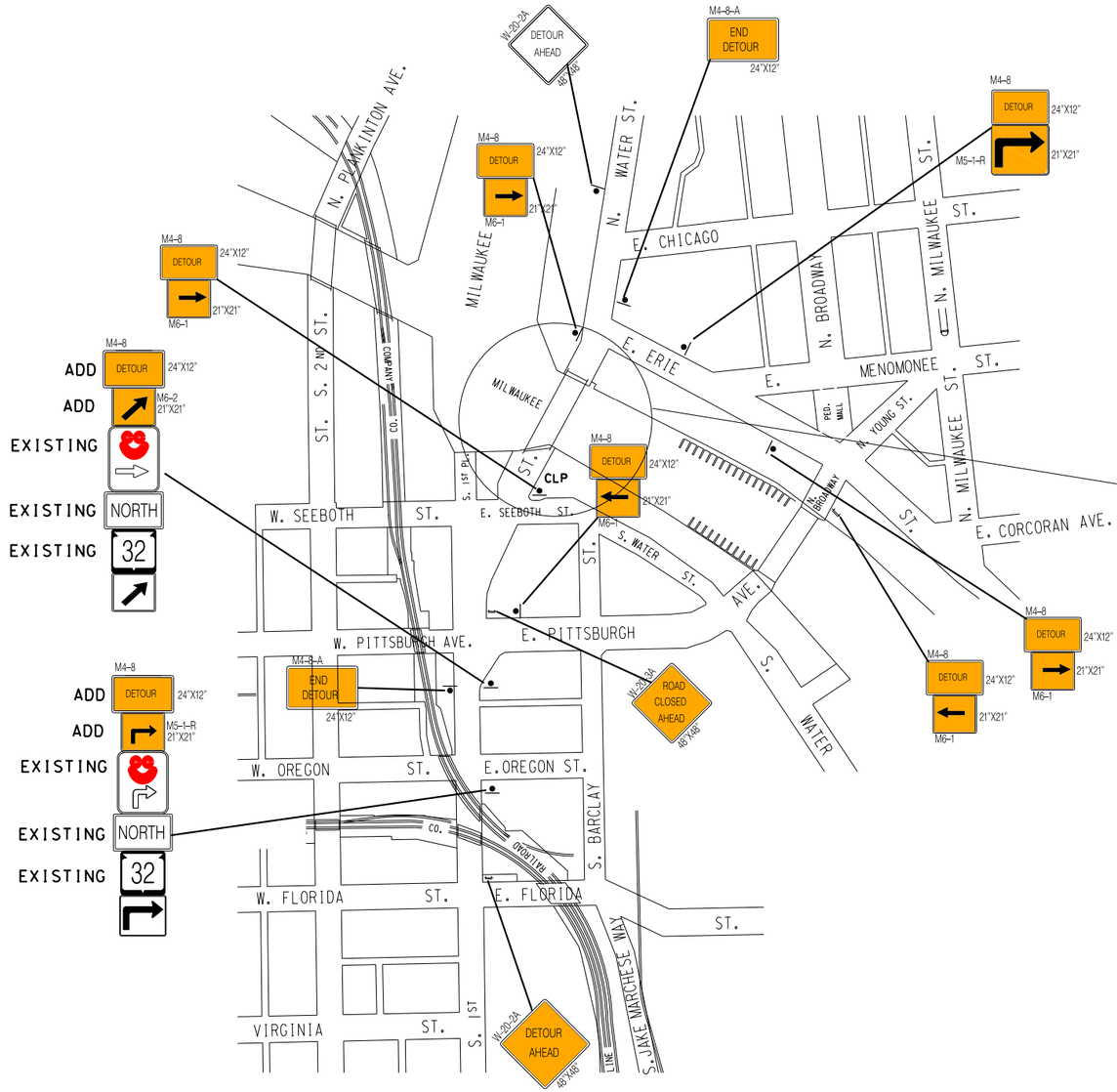
DATE 1/14/16 | SCALE

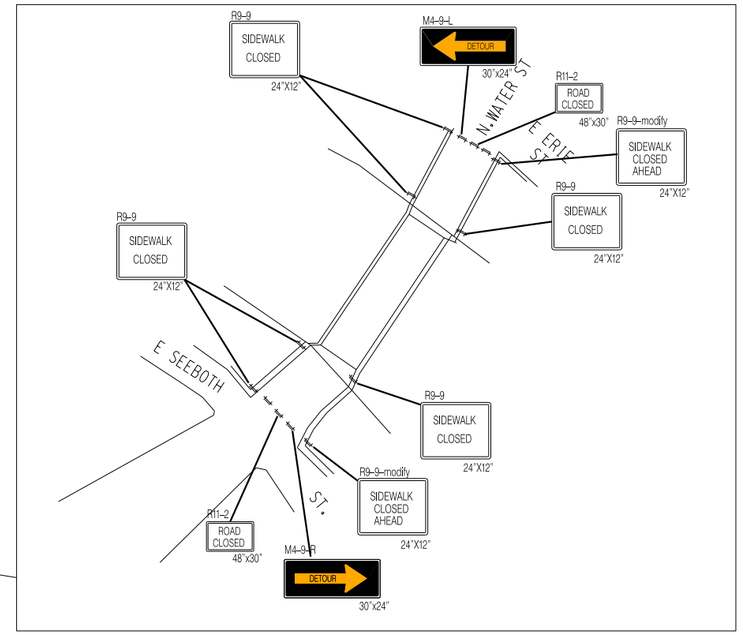
JOB NUMBER

SHEET NUMBER S1 OF S1

OF

W:\STR\B0101\2016 CENTERLOCK WORK\D1_WATER_BRIDGE_DETOUR.DGN 02-08-2016





DETAIL

N

CITY OF MILWAUKEE

TYPE III BARRICADES

TYPE III BARRICADES W/ SIGN

SIGNS BANDED TO TRAFFIC CONTROL DEVICE

City of Milwaukee

Department of Public Works

Infrastructure Services Division

WATER ST. BASCULE BRIDGE OVER THE MILWAUKEE RIVER DETOUR PLAN

REVISIONS

DESIGNED BY	S.B.
DRAWN BY	D.B.
CHECKED BY	
DATE	02/2016
SCALE	NONE
JOB NUMBER	
SHEET NUMBER	D1 OF D2
OF	

FILE: W:\STR\B0101\2016 CENTERLOCK WORK\D1_WATER_BRIDGE_DETOUR.DGN

PRINT DATE: 09-FEB-2016

PEN TABLE: Q:\SOFTWARE\PENLIB\BTESP400.PEN

REVISED:

W:\STR\B0101\ 2016 CENTERLOCK WORK\D2_TRAFFIC QUANTITIES.DGN 02-08-2016

Traffic Control Items Required (Category 0010)

Item #	Description	Stage 1 (Each)	* (Days)				UNDIST-RIBUTED	Total
643.0300	Traffic Control Drums	0	50				0	0
643.0420	Traffic Control Barricades Type III	16	50				0	800
643.0705	Traffic Control Warning Lights Type A	32	50				0	1,600
643.0715	Traffic Control Warning Lights Type C	0	50				0	0
643.0800	Traffic Control Arrow Boards	0	50				0	0
643.0900	Traffic Control Signs	31	50				0	1,550

NOTES:

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" WILL BE COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
THIS WORK WILL BE INCIDENTAL TO THE ITEM OF TRAFFIC CONTROL.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVELLED LANE WHEN WORK IS NOT IN PROGRESS.

WARNING SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

(1) All Drums have one steady burning yellow light (Type C)
(2) All Type III Barricades have 2 flashing yellow lights (Type A)
(3) When placing temporary pavement marking removable tape, the tape shall be sliced or cut across its width every 25 feet. This will limit ravelling.

Items	Stage 1	Size (")
M4-8-A	2	24"x12"
M4-8	8	24"x12"
M5-1-R	2	21"x21"
M6-1	5	21"x21"
M6-2	1	21"x21"
M4-9-R	2	30"x24"
R9-9	4	24"x12"
R9-9-MOD	2	24"x12"
R11-2	2	48"x 30"
W-20-2A	2	48"x48"
W-20-3A	1	48"x48"
Total	31	

City of Milwaukee

Department of Public Works

Infrastructure Services Division

WATER ST. BASCULE BRIDGE
OVER THE MILWAUKEE RIVER
TRAFFIC CONTROL QUANTITIES

REVISIONS

DESIGNED BY S.O.
DRAWN BY D.B.
CHECKED BY
DATE 02/2016 | SCALE NONE
JOB NUMBER
SHEET NUMBER D2 OF D2
OF

FILE: W:\STR\B0101\2016 CENTERLOCK WORK\D2_TRAFFIC QUANTITIES.DGN

MACHINERY NOTES

1. SCOPE OF WORK (INCLUDED BUT NOT LIMITED TOO):
   - REMOVE THE EXISTING CENTER LOCK SYSTEM INCLUDING ACTUATOR, ALL CENTER LOCK HOUSINGS, LOCK BAR, AND ASSOCIATED HARDWARE.
   - FABRICATE AND INSTALL NEW CUSHIONLOK LOCKS WITH ELECTRO-MECHANICAL OPERATOR AND CENTERING GUIDE.
   - MODIFIY THE EXISTING FIBERGLASS COVERS TO CLEAR THE NEW ELECTRO-MECHANICAL OPERATOR.

2. FASTENERS:
   WHERE REQUIRED, PROVIDE TURNED BOLTS IN ACCORDANCE WITH THE TYPICAL TURNED BOLT DETAIL. ALL HIGH STRENGTH FASTENERS FOR BOLTING WILL BE 7/8" DIA. H.S. BOLTS UNLESS OTHERWISE NOTED.

3. SHIMS:
   PROVIDE STAINLESS STEEL SHIMS FOR ALIGNING ALL MACHINERY COMPONENTS. SHIM PACKS ARE TO BE 1/4" NOMINAL THICKNESS, UNLESS OTHERWISE SPECIFIED. PROVIDE SHIM MATERIAL TO BE FABRICATED FROM TYPE 316 S.S. WITH ADJUSTMENT VARIATIONS OF .005".

4. PAINT:
   FACTORY PAINT ALL NEW FERROUS MACHINERY AND SUPPORT WELDMENTS IN ACCORDANCE WITH THE SPECIFICATIONS AND PLANS. MOUNTING SURFACES ARE TO BE PRIME COATED ONLY. ALL PAINTING IS INCIDENTAL TO BID ITEM SPV.0105.01 CENTER LOCK REPLACEMENT.

   -NEW LOCK BAR OPERATOR-
   FACTORY PAINT IN ACCORDANCE WITH SPECIFICATION AND COLOR MATCH EXISTING BASCULE GIRDER.

   -NEW REAR AND FORWARD GUIDES AND RECEIVERS-
   FACTORY PAINT IN ACCORDANCE WITH SPECIFICATION, TOP COAT WITH COLOR MATCHING EXISTING BASCULE GIRDER.

   -BOLTS AND MISC. HARDWARE-
   FIELD PAINT IN ACCORDANCE WITH SPECIFICATION, TOP COAT WITH COLOR MATCHING EXISTING BASCULE GIRDER.

   -NEW LOCK BAR-
   SPRAY HEAVY FILM OF ANTI-CORROSION INHIBITOR ON ALL SURFACES

   -TOUCH UP PAINT / DAMAGED PAINT SURFACES / EXPOSED AREAS (BARE METAL)-
   FIELD PAINT IN ACCORDANCE WITH SPECIFICATION, TOP COAT WITH COLOR MATCHING EXISTING BASCULE GIRDER.

   -ALL STAINLESS STEEL COMPONENTS-
   NOT TO BE PAINTED.

5. INSTALLATION AND ALIGNMENT EQUIPMENT:
   PROVIDE ALL EQUIPMENT REQUIRED TO INSTALL THE MACHINERY TO THE SPECIFIED TOLERANCES SHOWN ON THE PLANS AND IN THE SPECIFICATIONS, INCLUDING SPECIAL SURVEYING, JACKING FRAMES, JIGS, LEVELING SCREWS, ETC. SUBMIT DETAILED PROCEDURES OUTLINING THE ASSEMBLY AND INSTALLATION OF THE MACHINERY, FOR REVIEW, PRIOR TO FABRICATION.

6. BID ITEM NOTES:
   - UNLESS SO SPECIFIED ELSEWHERE, THE FOLLOWING ITEMS SHALL BE INCIDENTAL TO THE BID ITEM COVERING THE MACHINERY OF WHICH THEY ARE ASSOCIATED:

     TURNED BOLTS, NUTS, WASHERS
     DOWEL PINS
     TEMPORARY FASTENERS
     LIFTING EYE BOLTS
     SHIM PACKS AND HARDWARE
     LUBRICATION
     LUBE FITTINGS
     TEMPORARY SUPPORTS

   - SPECIFIC ITEMS ARE SHOWN TO ESTABLISH CONFIGURATION AND RATING REQUIREMENTS. COMPONENTS ARE BASED ON CATALOG DATA CURRENT AT THE TIME THE PLANS WERE PREPARED. ITEMS OF EQUAL OR GREATER QUALITY AND RATING MAY BE SUBSTITUTED WITH APPROVAL OF THE ENGINEER. IF OTHER ITEMS ARE APPROVED FOR USE, MAKE ALL REVISIONS NECESSARY TO ACCOMMODATE THEM AT NO ADDITIONAL COST TO THE DEPARTMENT.
   - UNLESS OTHERWISE NOTED, QUANTITIES SHOWN ARE FOR TWO BASCULE LEAVES, OR TOTAL FOR THE PROJECT.
   - ALL DIMENSIONS SHOWN ARE TAKEN FROM THE ORIGINAL DRAWINGS OR FIELD MEASUREMENTS AND ARE FOR REFERENCE AND BIDDING PURPOSE ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD BEFORE SUBMITTING SHOP DRAWINGS. FIELD VERIFYING DIMENSIONS IS COVERED UNDER BID ITEM SPV.0105.03 FIELD VERIFICATION SURVEY.

FIT AND SURFACE FINISHES

(UNLESS OTHERWISE SPECIFIED)

SURFACE	FIT	FINISH
MACHINERY BASE ON STEEL	--------	250
MACHINERY PARTS IN FIXED CONTACT	--------	125
SHAFT JOURNALS	RC6	8
JOURNAL BUSHINGS	RC6	16
SOLID BUSHING IN BASE (TO 1/4" WALL)	FN1	63
SOLID BUSHING IN BASE (OVER 1/4" WALL)	FN2	63
SPLIT BUSHING IN BASE	LC1	125
HUBS ON SHAFTS (UP TO 2" DIAMETER)	FN2	32
HUBS ON SHAFTS (OVER 2" DIAMETER)	FN2	63
KEY AND KEYWAYS SIDE-SIDE	LC4	63
KEY AND KEYWAYS TOP-BOTTOM	LC11	63
TEETH OF OPEN SPUR GEARS	--------	125
PERMANENT DOWELS	FN4	32

SYMBOL LEGEND

XXX	SIGNIFIES THAT THE ACTUAL OR CERTIFIED DIMENSION OF THE MATING COMPONENT IS TO BE USED TO DETERMINE THE EXACT VALUE.
XX.XX	MAXIMUM SURFACE ROUGHNESS (RA) PER ANSI/ ASME B46.1, IN MICROINCHES. IMPLIES FLATNESS REQUIREMENT AS DEFINED IN THE SPECIFICATIONS.
(XXX)	REFERENCE DIMENSION INDICATING THAT THE DIMENSION IS SHOWN ONLY FOR INFORMATION AND IS DEFINED ELSEWHERE IN THE PLANS OR SPECIFICATIONS.

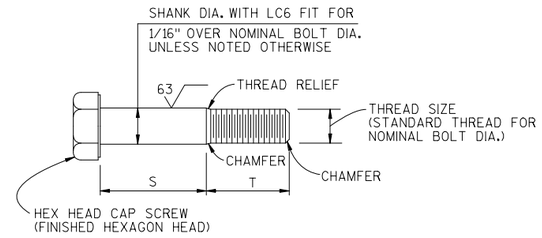
ACRONYMS:

(AISI)	AMERICAN IRON AND STEEL INSTITUTE
(ASTM)	AMERICAN SOCIETY FOR TESTING AND MATERIALS
(CJP)	COMPLETE JOINT PENETRATION
(CL)	CENTERLINE
(DIA)	DIAMETER
(ES)	EACH SIDE
(HS)	HIGH STRENGTH
(MIN)	MINIMUM
(MISC)	MISCELLANEOUS
(PL)	PLATE
(PLCS)	PLACES
(QTY)	QUANTITY
(SS)	STAINLESS STEEL
(TYP)	TYPICAL

MACHINERY TOLERANCE

(UNLESS OTHERWISE SPECIFIED)

X	< 1/16"
X/X, X.X	< 1/32"
X.XX	< 0.020"
X.XXX	< 0.005"
ANGLES	< 1/2°
BREAK ALL EDGES 0.015"	



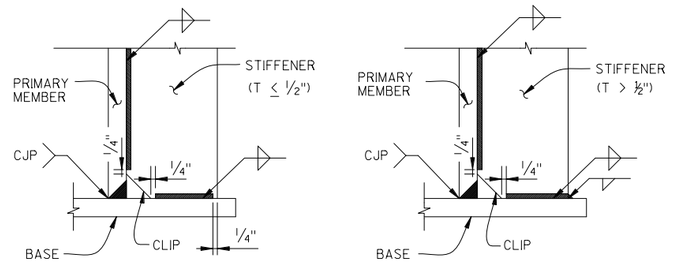
S = SHANK LENGTH, GRIP LESS NOMINAL SHIM THICKNESS T = SUFFICIENT FOR DOUBLE NUTS PLUS NOMINAL SHIM THICKNESS

TYPICAL TURNED BOLT DETAIL

MATERIAL: BOLT- ASTM F3125 GRADE A449
NUTS- ASTM A563
WASHERS- ASTM F436

MACHINERY WELDMENT NOTES

1. CLIP STIFFENERS AS NECESSARY TO AVOID OVERLAP OF WELDS OR CLEAR FILLET WELDS BY A MINIMUM OF 1/4".
2. WHERE CJP IS NOT REQUIRED, MILL ALL VERTICAL PLATES TO BEAR ON HORIZONTAL PLATES PRIOR TO WELDING.
3. WHERE MACHINING IS REQUIRED, STRESS RELIEVE ALL WELDMENTS AFTER WELDING AND BEFORE MACHINING. SURFACE WELDS MAY BE PERFORMED AFTER STRESS RELIEF AND MACHINING.
4. PERFORM NONDESTRUCTIVE TESTING ON ALL WELDS IN ACCORDANCE WITH THE MACHINERY TECHNICAL SPECIAL PROVISIONS.
5. BREAK ALL SHARP EDGES.



TYPICAL MACHINERY WELDMENT DETAILS

City of Milwaukee
Department of Public Works
Infrastructure Services Division

AECOM
1555 North RiverCenter Drive
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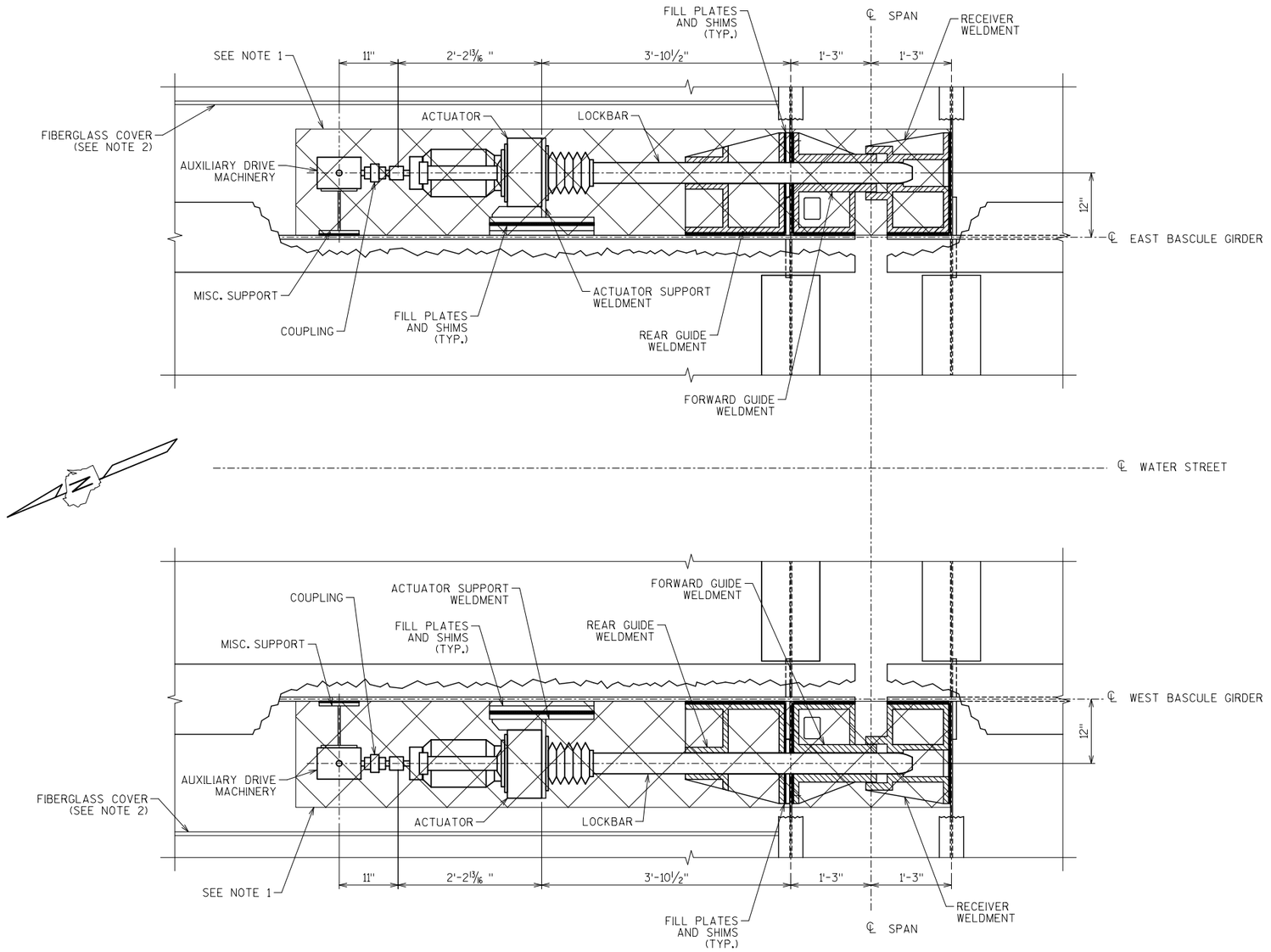
(414) 944-6080

WATER ST BASCULE BRIDGE
OVER THE MILWAUKEE RIVER
MACHINERY NOTES

REVISIONS

DESIGNED BY JMC
DRAWN BY BAC
CHECKED BY BRK
DATE 02/16
SCALE
JOB NUMBER
SHEET NUMBER M1 OF M5
OF



EXISTING CENTER LOCK ASSEMBLY - PLAN VIEW

(CONNECTING BOLTS, ELECTRICAL WIRING AND MISC. HARDWARE, NOT SHOWN FOR CLARITY)

NOTES:

1. REMOVE ALL EXISTING AUXILIARY CENTER LOCK MACHINERY AND CENTER LOCK MACHINERY SHOWN IN THE HATCHED AREA INCLUDING FORWARD GUIDE, REAR GUIDE AND RECEIVER WELDMENTS, SHIMS, LOCKBAR, FILL PLATES, MISC. SUPPORTS, COUPLINGS, ACTUATOR, AND ETC.
2. EXISTING MOTORS AND MOTOR BRAKES SHALL BE SALVAGED AND PROVIDED TO THE CITY OF MILWAUKEE ACCORDING TO SPV.0105.01.
3. TEMPORARILY REMOVE THE EXISTING EAST FIBERGLASS COVER WITHOUT DAMAGE TO GAIN ACCESS TO ALLOW THE REMOVAL AND DISPOSAL OF THE EXISTING CENTER LOCK ASSEMBLY AND THE INSTALLATION OF THE NEW CENTER LOCK ASSEMBLY. AFTER FINAL INSTALLATION AND TESTING OF THE NEW CENTER LOCK ASSEMBLIES, RE-INSTALL THE EAST AND WEST EXISTING (MODIFIED) FIBERGLASS COVERS WITH NEW S. S. HARDWARE. EXISTING WEST FIBERGLASS COVER MUST BE RECEIVED FROM THE CITY FOR INSTALLATION. DO NOT USE EXISTING HARDWARE TO RE-INSTALL THE EXISTING (MODIFIED) FIBERGLASS COVERS.
4. SEE ELECTRICAL PLANS AND SPECIFICATIONS FOR REMOVAL AND DISPOSAL OF EXISTING ELECTRICAL CONDUIT AND WIRING.

City of Milwaukee

Department of Public Works

Infrastructure Services Division

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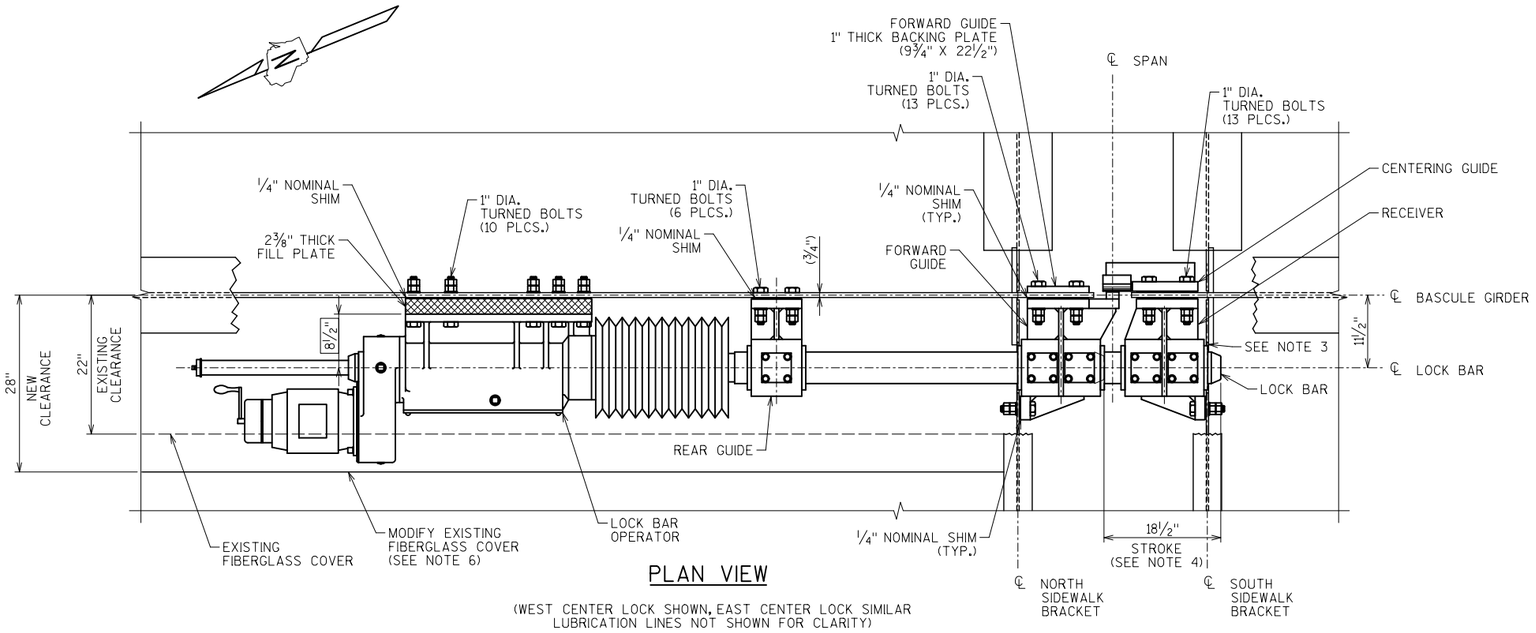
WATER ST BASCULE BRIDGE
OVER THE MILWAUKEE RIVER
CENTER LOCK DEMOLITION

REVISIONS	
DESIGNED BY JMC	
DRAWN BY BAC	
CHECKED BY BRK	
DATE 02/16	SCALE
JOB NUMBER	
SHEET NUMBER M2 OF M5	
OF	



PLAN VIEW

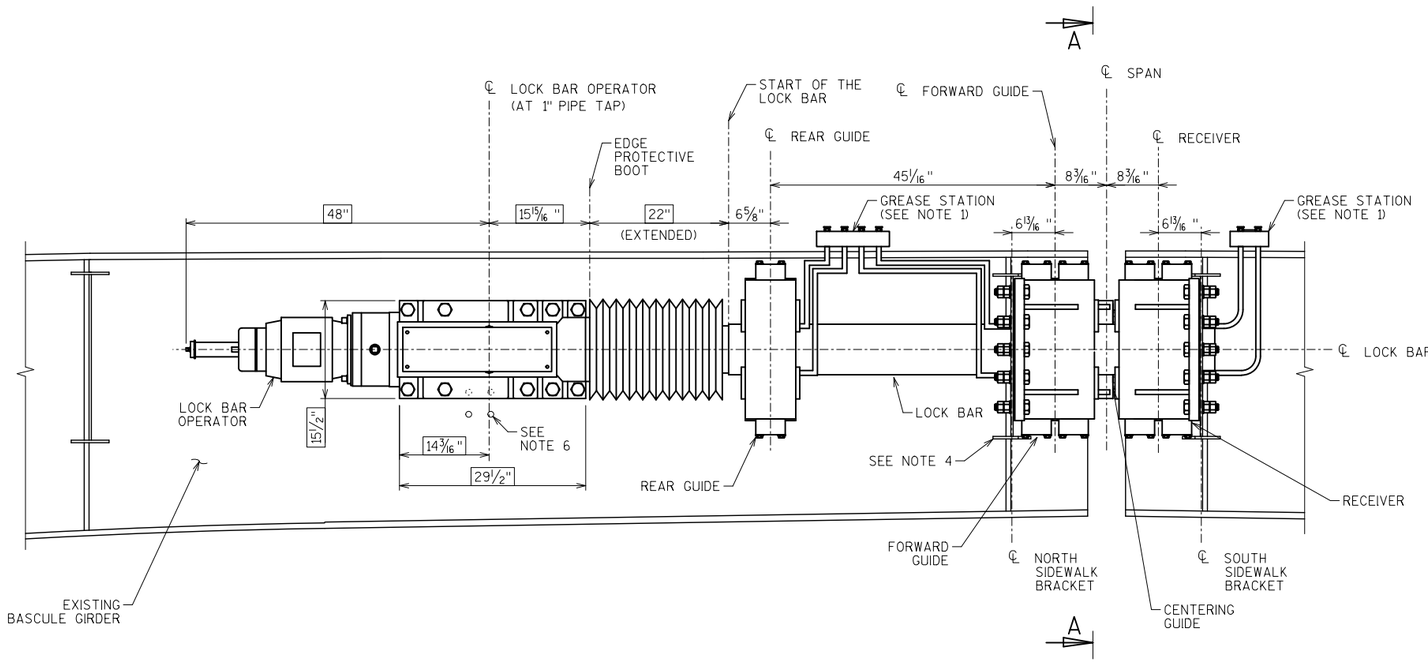
(WEST CENTER LOCK SHOWN, EAST CENTER LOCK SIMILAR
LUBRICATION LINES NOT SHOWN FOR CLARITY)

NOTES:

1. PIPE LUBRICATION LINES TO THE LOCATION CHOSEN BY THE ENGINEER FOR MAINTENANCE ACCESS. LOCATION TO BE AT SIDEWALK LEVEL. PROVIDE LUBRICATION STATIONS AT THE END OF ALL LUBRICATION LINES. ALL LUBRICATION LINES AND MOUNTING HARDWARE ARE TO BE TYPE 316 S. S.
2. ELECTRICAL WIRING LINES ARE NOT SHOWN FOR CLARITY.
3. SEE PROVIDED DETAILS ON SHEET NUMBER (M5) FOR COPING AND CUT-OUT DETAILS OF THE NORTH AND SOUTH SIDEWALK BRACKETS.
4. PROVIDE EAR LE EG-3 LOCK BAR OPERATOR WITH A TOTAL OF 20" OF STROKE WITH ¾" RESERVE STROKE ON EACH SIDE AND INTERNAL LIMIT SWITCHES. SEE ADDITIONAL REQUIREMENTS IN THE SPECIFICATION.
5. PLUG ALL EXISTING HOLES WITH U.S. BOLTS THAT ARE NOT USED IN THE NEW CONSTRUCTION.
6. MODIFY CONNECTING PORTION OF THE EXISTING FIBERGLASS COVER TO PROVIDE ADDITIONAL CLEARANCE FOR THE NEW LOCK BAR OPERATOR, DETAIL IN SHOP DRAWINGS. THIS WORK SHALL BE PAID AS PART OF THE BID ITEM "CENTER LOCK REPLACEMENT."

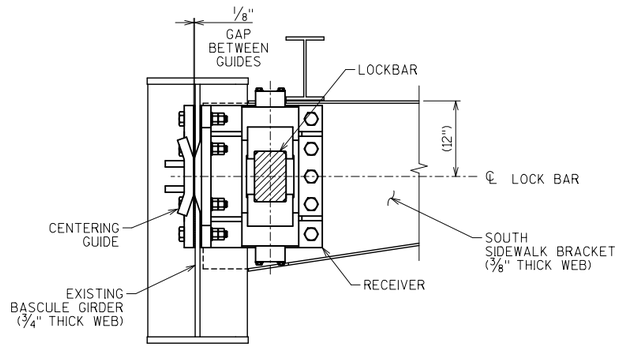
PROPOSED CONSTRUCTION SEQUENCE:

1. REMOVE EXISTING CENTER LOCKS AND CENTERING DEVICE PER THE CENTER LOCK DEMOLITION SHEET.
2. CUTOUT AND COPE THE NORTH AND SOUTH SIDEWALK BRACKETS AS SHOWN THE PLANS TO CLEAR THE NEW CUSHIONLOK'S.
3. USING TEMPORARY BOLTS INSTALL THE FORWARD GUIDE BACKING PLATE AND CENTERING GUIDE. USING EXISTING FORWARD GUIDE AND RECEIVER HOLES DRILL THROUGH 15/16" DIAMETER ONLY.
4. USING TEMPORARY BOLTS LOCATE NEW FORWARD AND REAR GUIDES AND RECEIVER. SHIM SUCH THAT THERE IS NO BINDING WHEN DRIVING LOCKBAR AFTER TIGHTENING TEMPORARY BOLTS. THE LOCKBAR SHOULD SLIDE FREELY IN GUIDES AND RECEIVER WITHOUT THE ASSISTANCE OF THE NEW ACTUATOR. USE TOOLS PROVIDED BY CENTER LOCK MANUFACTURER TO ENGAGE LOCKBAR INTO GUIDES AND RECEIVER.
5. DRILL FINAL TURNED BOLTS FOR NEW FORWARD AND REAR GUIDE AND RECEIVER. REMOVE ONE TEMPORARY BOLT AT A TIME WHEN DRILLING FOR FINAL TURNED BOLTS.
6. INSTALL NEW LOCK BAR OPERATOR.
7. WIRE AND TEST NEW LOCK BAR OPERATOR AND LIMIT SWITCHES.



CENTER LOCK ASSEMBLY - ELEVATION VIEW

(WEST CENTER LOCK SHOWN, EAST CENTER LOCK SIMILAR)
(ALL CENTER LOCK COMPONENTS SHOWN
ARE NEW, UNLESS NOTED OTHERWISE)



SECTION A-A

City of Milwaukee

Department of Public Works

Infrastructure Services Division

AECOM
1555 North RiverCenter Drive
Suite 214
Milwaukee, WI 53212
(414) 944-6080

WATER ST BASCULE BRIDGE OVER THE MILWAUKEE RIVER CENTER LOCK ASSEMBLY

REVISIONS

DESIGNED BY
JMC

DRAWN BY
BAC

CHECKED BY
BRK

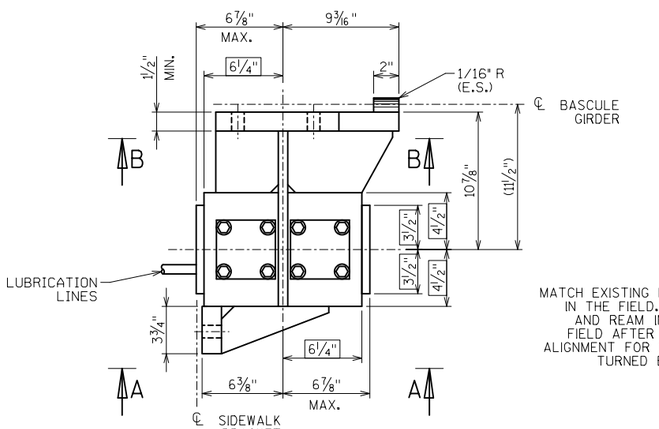
DATE
02/16

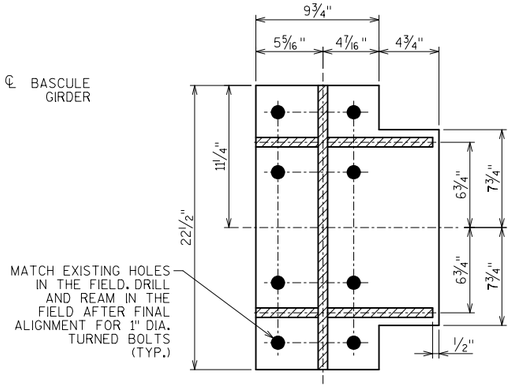
SCALE

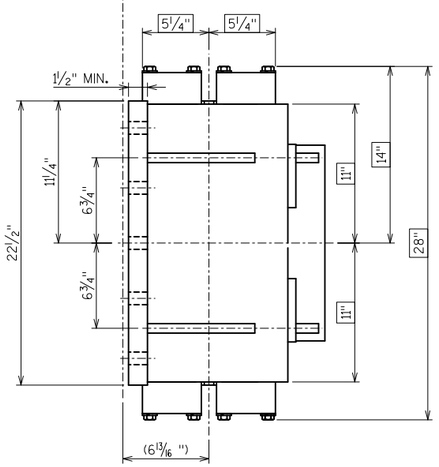
JOB NUMBER

SHEET NUMBER
M3 OF M5

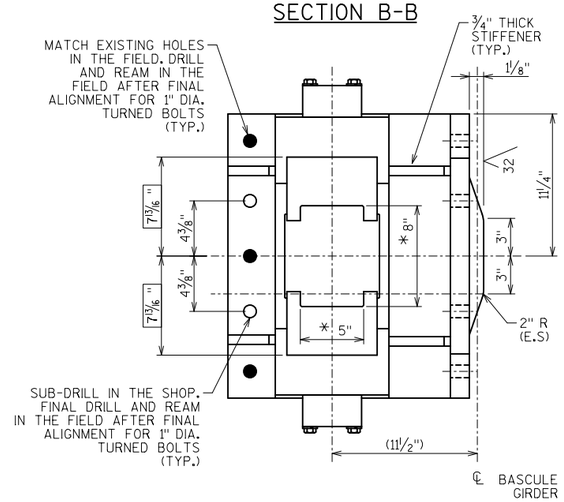
OF





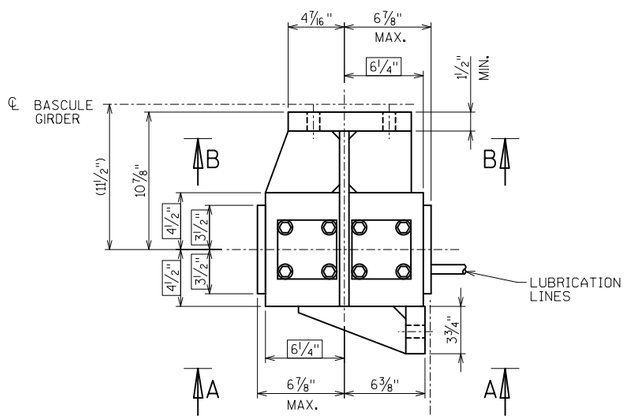


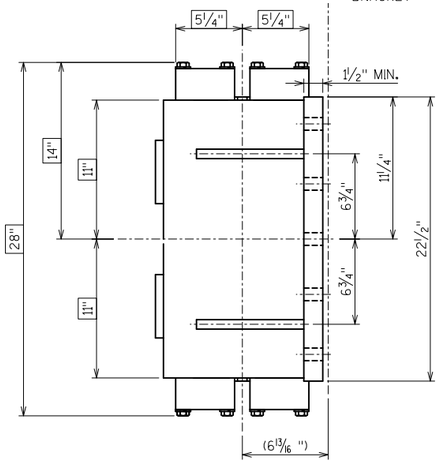
VIEW A-A



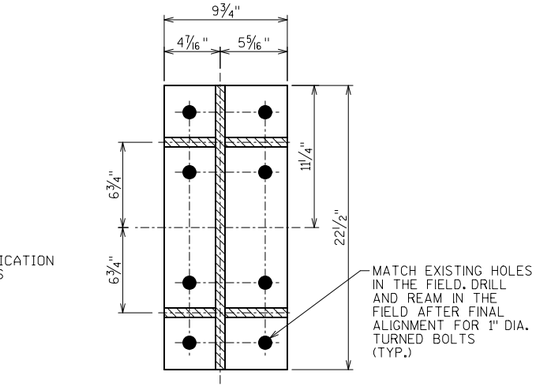
FORWARD GUIDE

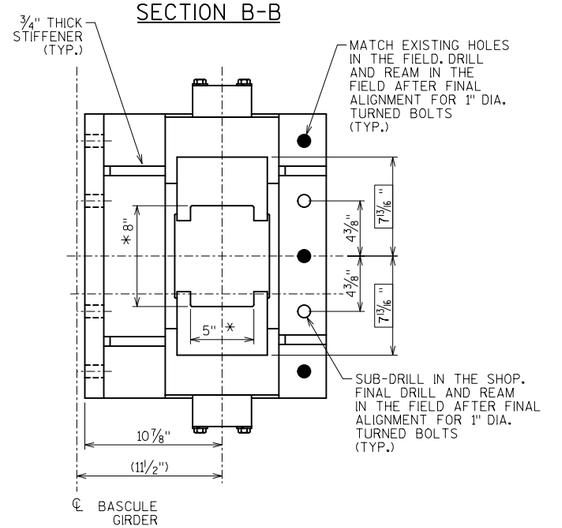
(CUSHIONLOK)
QTY: 1=LEFT-HAND AND 1=RIGHT-HAND





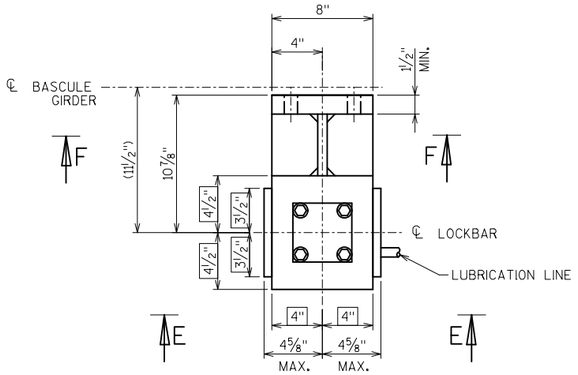
VIEW A-A





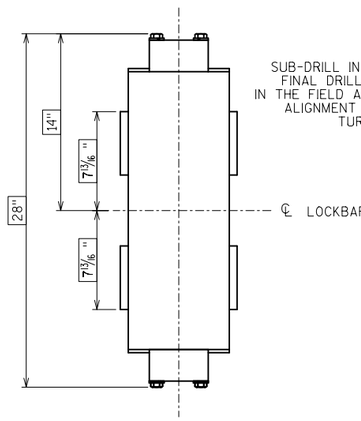
RECEIVER

(CUSHIONLOK)
QTY: 1=LEFT-HAND AND 1=RIGHT-HAND

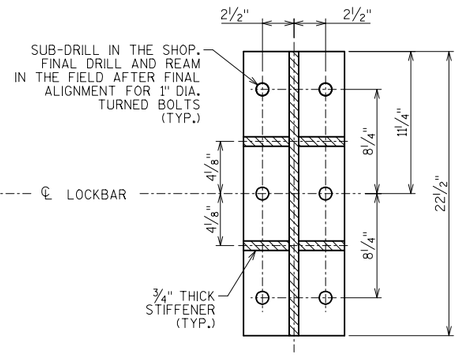


REAR GUIDE - PLAN VIEW

(CUSHIONLOK)
QTY: 1=LEFT-HAND AND 1=RIGHT-HAND



VIEW E-E



SECTION F-F

NOTES:

1. INTERNAL SURFACES OF THE RECEIVER AND GUIDE SHOES SHALL HAVE 32 MICROINCH FINISH MAX.
2. * TOLERANCE PER CUSHIONLOK MANUFACTURER'S RECOMMENDATION FOR A 5" X 8" LOCKBAR.
3. CENTER LOCK GUIDES AND RECEIVER SPRINGS DESIGNED FOR THE FOLLOWING LIVE LOAD REACTIONS (INCLUDES IMPACT).

REAR GUIDE	FORWARD GUIDE	RECEIVER
31.3 KIPS	116.6 KIPS	85.3 KIPS

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Department of Public Works

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WATER ST BASCULE BRIDGE OVER THE MILWAUKEE RIVER CENTER LOCK DETAIL 1 OF 2

REVISIONS

DESIGNED BY JMC

DRAWN BY BAC

CHECKED BY BRK

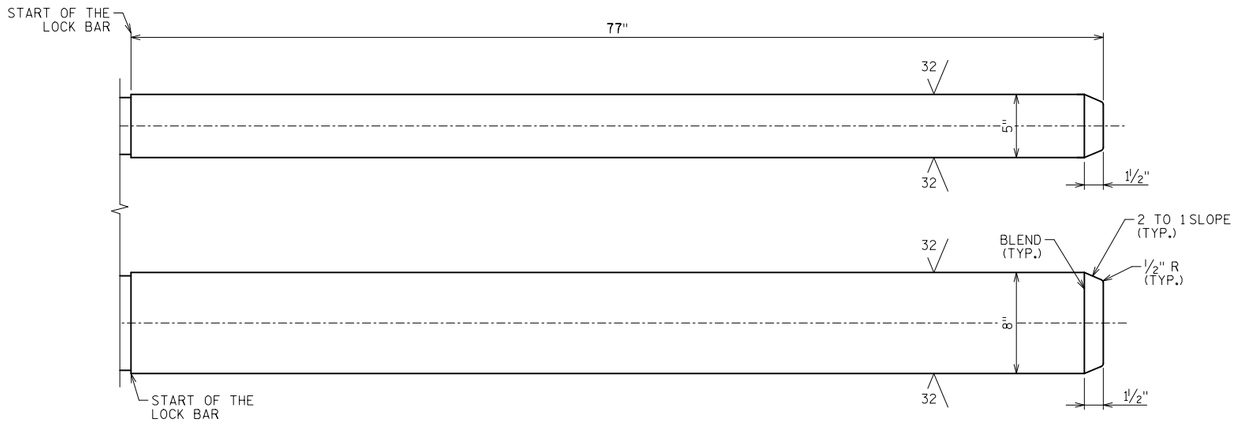
DATE 02/16

SCALE

JOB NUMBER

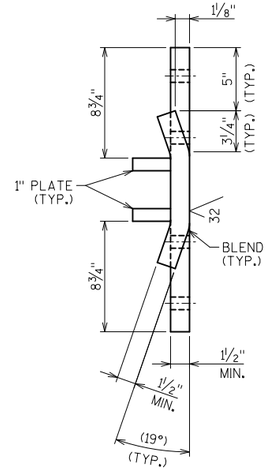
SHEET NUMBER M4 OF M5

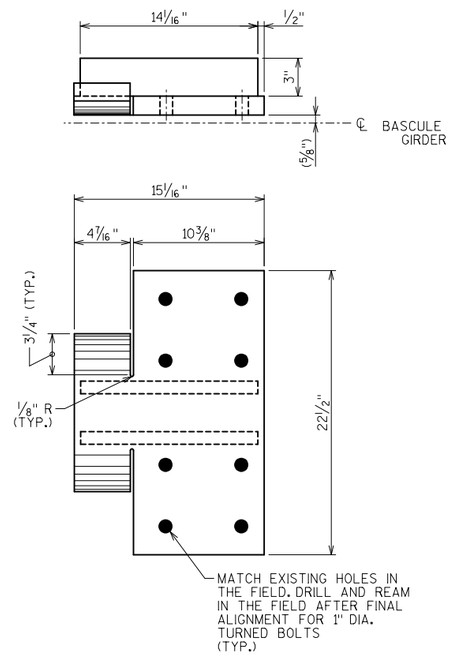
OF



LOCK BAR

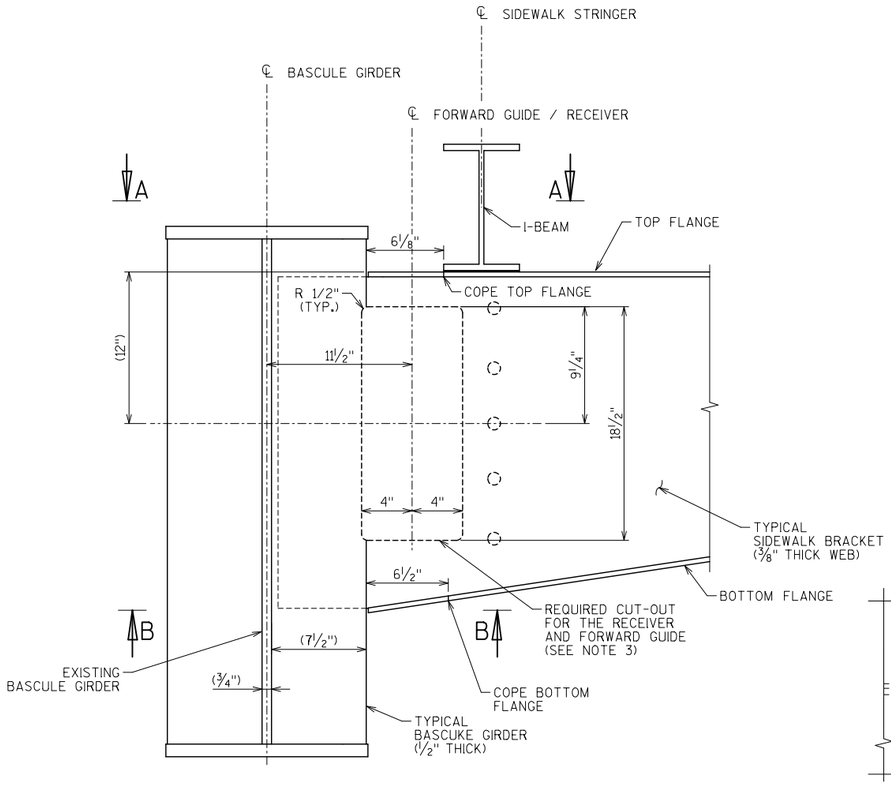
MATERIAL: ASTM A668 CLASS J
QTY: 2





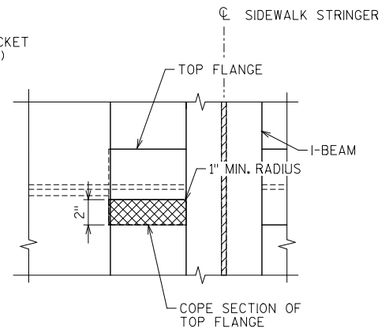
CENTERING GUIDE

MATERIAL: ASTM A709 GRADE 50
QTY: 1=LEFT-HAND AND 1=RIGHT-HAND

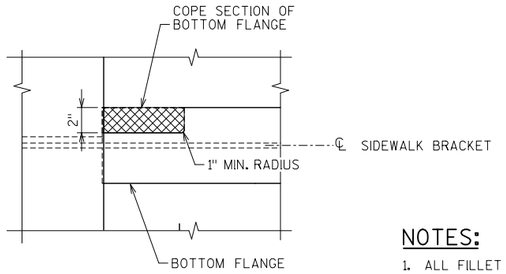


ELEVATION VIEW OF TYPICAL SIDEWALK BRACKET

QTY: 4 PLCS.
(SEE NOTE 2)



SECTION A-A



SECTION B-B

NOTES:

1. ALL FILLET WELDS SHALL BE 5⁄16" FILLET, UNLESS NOTED OTHERWISE.
2. ENLARGE THE EXISTING CUTOUT AND COPE THE TOP AND BOTTOM FLANGES IN THE NORTH AND SOUTH SIDEWALK BRACKETS TO DIMENSIONS SHOWN IN THE "ELEVATION VIEW OF TYPICAL SIDEWALK BRACKET" DRAWING. NO FLAME CUTTING ALLOWED. GRIND ALL SHARP EDGES SMOOTH.
3. NO LOADS SHALL BE PLACED ON OR SUPPORTED BY THE SIDEWALK OR ASSOCIATED FRAMING UNTIL CENTER LOCK RECEIVER/GUIDE HAS BEEN COMPLETELY INSTALLED.

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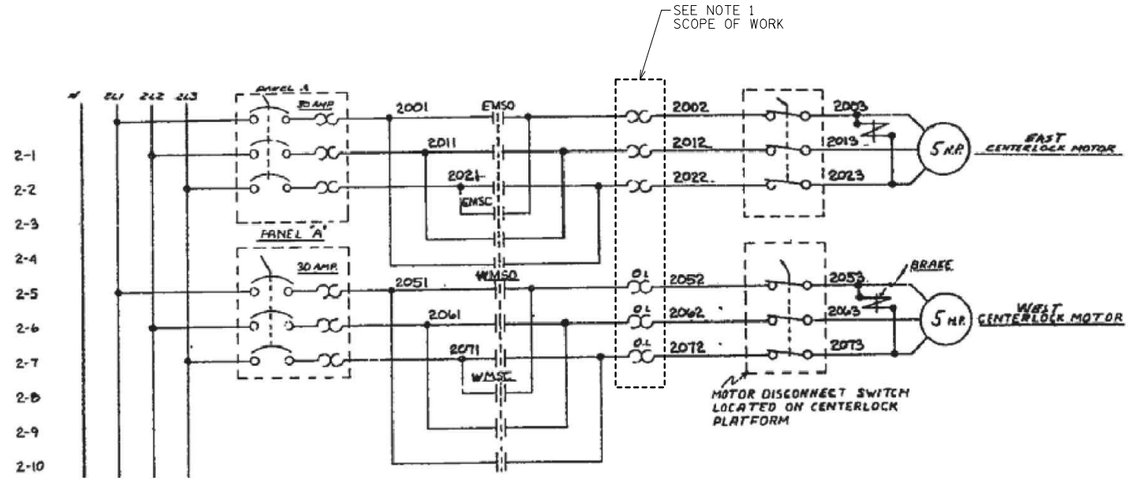
WATER ST BASCULE BRIDGE OVER THE MILWAUKEE RIVER CENTER LOCK DETAIL 2 OF 2

REVISIONS

DESIGNED BY JMC
DRAWN BY BAC
CHECKED BY BRK
DATE 02/16
SCALE
JOB NUMBER
SHEET NUMBER M5 OF M5
OF

ELECTRICAL SCOPE OF WORK

1. REPLACE EAST AND WEST CENTERLOCK MOTOR OVERLOADS. SIZE BASED ON FULL LOAD AMPS OF NEW LOCK MOTORS.
2. FURNISH, INSTALL, TEST AND ADJUST NEW CENTER LOCKS LIMIT SWTICHES, SEE MECHANICAL PLANS FOR DETAILS.
3. INSTALL ALL LIMITS WITH 3-AXIS ADJUSTABILITY USING STAINLESS STEEL HARDWARE.
4. INSTALL NEW CENTER LOCK HAND CRANK INTERLOCK IN SERIES WITH MOTOR STARTER OVERLOAD. INTERLOCK LIMIT INCLUDED AS PART OF NEW CENTER LOCKS.



EXISTING STARTER CIRCUITS

GENERAL NOTES:

A. SUBMIT ALL CONTROL SYSTEM RELATED SUBMITTALS AND WORK TO THE ENGINEER FOR APPROVAL. PROVIDE SUBMITTALS THAT INCLUDE ALL MATERIALS, DATA SHEETS, AND DRAWINGS AS REQUIRED BY THE CONTRACT DOCUMENTS. MATERIALS SHALL NOT BE PURCHASED UNTIL THE RELATED SUBMITTAL IS APPROVED BY THE ENGINEER.

B. CONFORM TO ALL NEC, UL, IEEE, NEMA, AND AASHTO CODES, STANDARDS AND PRACTICES.

C. ELECTRICAL DEVICES AND EQUIPMENT ARE SHOWN SYMBOLICALLY ON THE PLANS. THE USE OF SYMBOLS AND NOTATIONS (OR THE OMISSION THEREOF) DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING A SAFE, COMPLETE AND FULLY FUNCTIONAL SYSTEM. FIELD LOCATE DEVICES AND EQUIPMENT TO FACILITATE ACCESSIBILITY WITH RESPECT TO OPERATIONS AND MAINTENANCE CONDITIONS.

D. ALL MOUNTING HARDWARE SHALL BE 300 SERIES STAINLESS STEEL. ALL EXTERIOR BOXES SHALL BE NEMA 4X. ALL INTERIOR BOXES AND CABINETS SHALL BE NEMA 1 OR AS SHOWN ON THE PLANS.

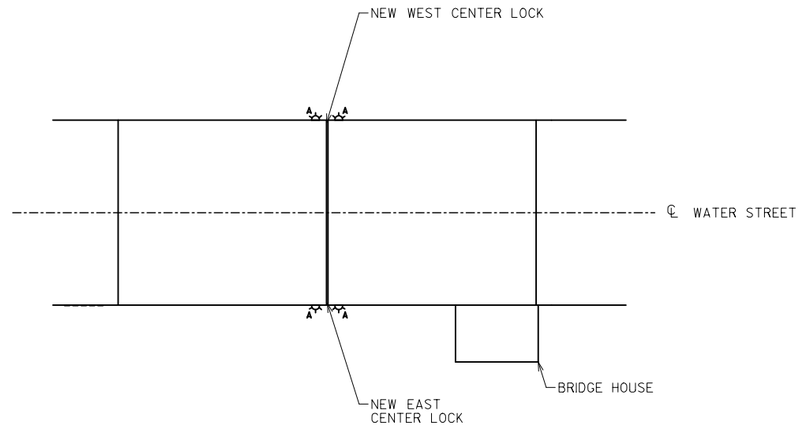
E. MINIMUM CONDUIT SIZE IS 3/4" FOR RGS AND PVC COATED RGS. ALL EXPOSED CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL. ALL POWER AND CONTROL CONDUITS SHALL BE RIGID GALVANIZED STEEL. EMT IS ALLOWED FOR LIGHTING AND RECEPTACLES IN INTERIOR WALLS OF OPERATOR AND ENTRY LEVEL.

F. ALL WIRES SHALL BE THHN/MTW UNLESS OTHERWISE NOTED. MINIMUM WIRE SIZE IS #14 AWG FOR CONTROL AND #10 AWG FOR POWER. USE CAT 5E FOR DATA, AND RG-11 OR RG-59 FOR COAX. PROVIDE AND INSTALL SPECIALIZED CABLES AS RECOMMENDED BY EQUIPMENT MANUFACTURERS.

G. PULL BOXES SHALL BE UTILIZED FOR CONTINUOUS PULLING OF WIRES, NO SPLICING ALLOWED. JUNCTION BOXES SHALL BE UTILIZED TO BRING WIRES INTO AND TERMINATE ONTO TERMINAL BLOCKS. WIRE NUTS AND COMPRESSION SPLICES ARE NOT PERMITTED. DO NOT EXCEED 3-90 DEGREE CONDUIT BENDS WITHOUT PROVIDING A PULL BOX.

H. CORE, SLEEVE, AND PROPERLY SEAL ALL HOLES REQUIRED IN FLOORS AND/OR WALLS OF OPERATOR HOUSES AS REQUIRED FOR ROUTING OF CONDUITS.

I. FURNISH EQUIPMENT THAT IS U.L. LISTED AND LABELED, AS APPLICABLE.



GENERAL PLAN
N.T.S.

FOR REFERENCE ONLY

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Department of Public Works
Infrastructure Services Division

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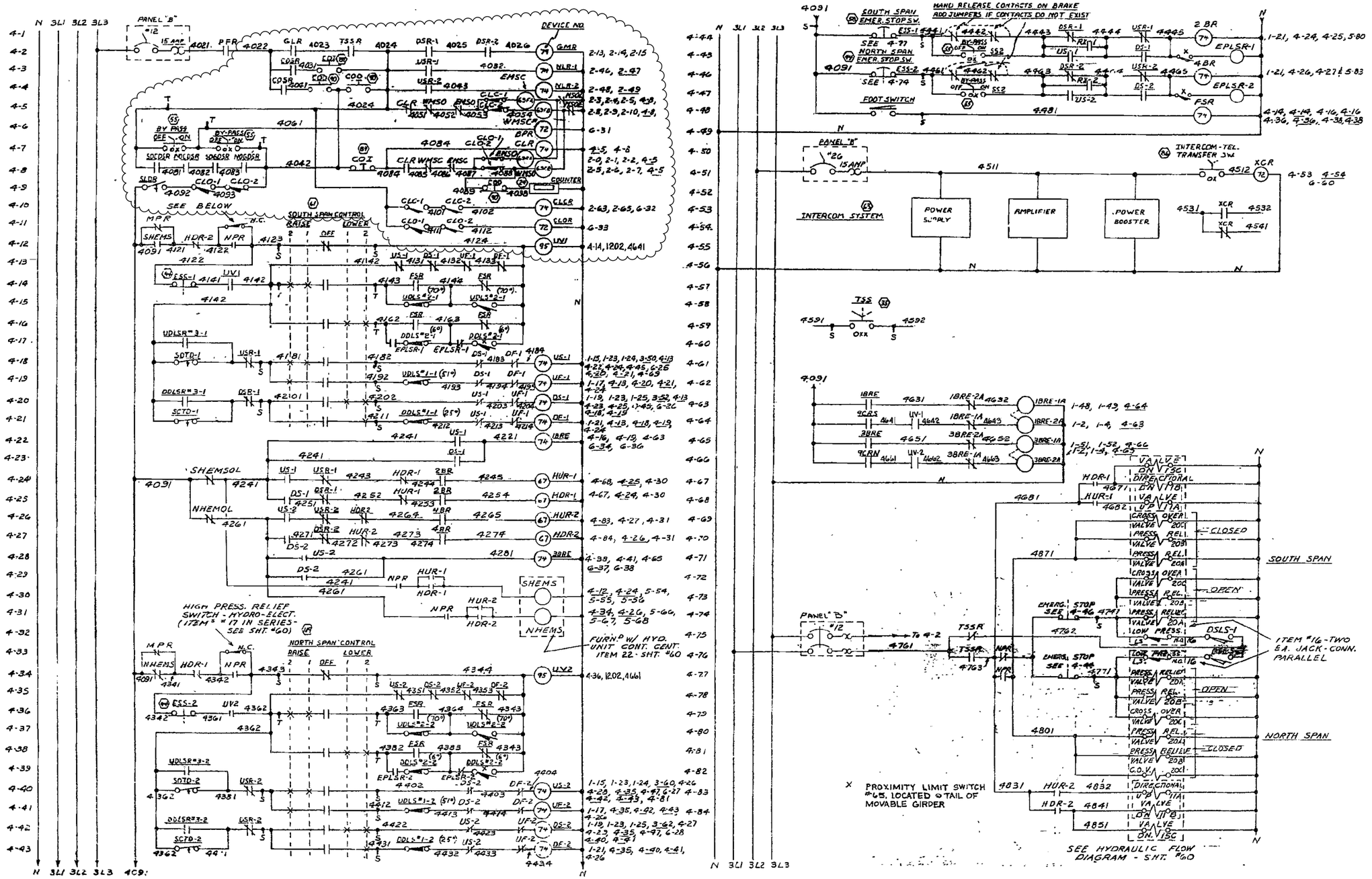
WATER ST BASCULE BRIDGE OVER THE MILWAUKEE RIVER
GENERAL ELECTRICAL NOTES

REVISIONS

DESIGNED BY MAE
DRAWN BY CAM
CHECKED BY DAD
DATE 02/16
SCALE
JOB NUMBER
SHEET NUMBER E1 OF E2
OF



NOTES

CLC-1 - CENTERLOCK 1 CLOSED LIMIT
CLC-2 - CENTERLOCK 2 CLOSED LIMIT
CLD-1 - CENTERLOCK 1 OPEN LIMIT
CLD-2 - CENTERLOCK 2 OPEN LIMIT

FOR REFERENCE ONLY

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WATER ST BASCULE BRIDGE OVER THE MILWAUKEE RIVER SCHEMATIC

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DATE 02/16

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SHEET NUMBER E2 OF E2

OF