

CITY OF ANN ARBOR

WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT

JULY 2015
ITB NO. 4390

NOTES:

THE PROPOSED IMPROVEMENTS ARE BASED ON THE 17TH EDITION OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS THE CONTRACT DOCUMENTS, ALL MATERIALS AND WORKMANSHIP SHALL BE ACCORDING TO THE CITY OF ANN ARBOR'S PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 2012 EDITION. ALL WORK UNDER THIS CONTRACT THAT IS NOT INCLUDED IN THE CITY OR MDOT STANDARD SPECIFICATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS.

IN CASE OF DISCREPANCY, THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN OVER THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

CONCRETE: GRADE S2	f'c = 3,000 psi
CONCRETE: GRADE 0	f'c = 4,000 psi
STEEL REINFORCEMENT	fy = 60,000 psi
STRUCTURAL STEEL:	
AASHTO M270	
GRADE 36	Fy = 36,000 psi

ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH 1/2" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

BIDDERS WILL BE FURNISHED WITH SCANNED IMAGES OF PLAN SHEETS OF THE EXISTING STRUCTURE IF REQUESTED.

THE BRIDGE PAINT MAY CONTAIN LEAD.

UNLESS OTHERWISE SHOWN ON THE PLANS PROVIDE MINIMUM CONCRETE CLEAR COVER FOR REINFORCEMENT ACCORDING TO THE FOLLOWING:

CONCRETE CAST AGAINST EARTH:	3 IN.
ALL OTHER UNLESS SHOWN ON PLANS:	2 IN.

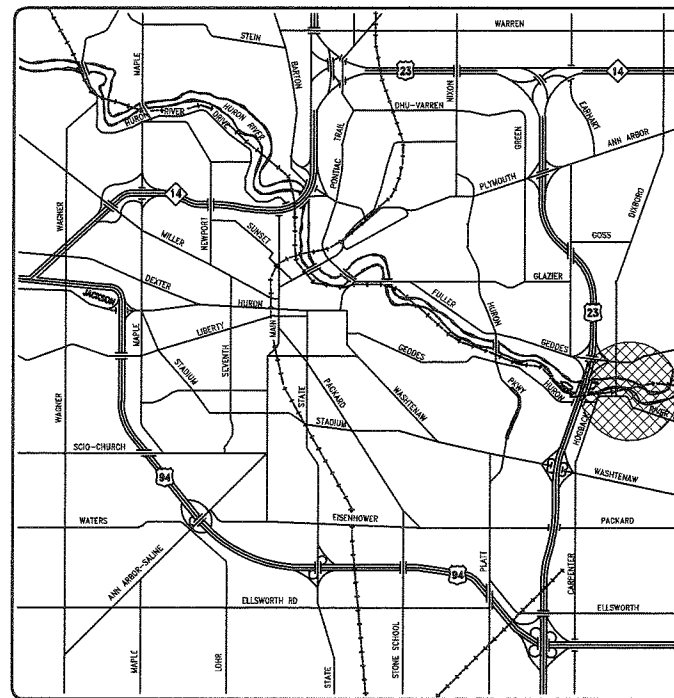
SHEET INDEX

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2	20154390-NOTE	NOTE SHEET
3	20154390-MOT	MAINTENANCE OF TRAFFIC
4	20154390-GPS	GENERAL PLAN OF STRUCTURE
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12	20154390-EX_STEEL_1	EXIST STRUCTURAL STEEL AND PIPE ASSEMBLY
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14-21	20154390-MDOT_SD	MDOT SPECIAL DETAILS

THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH THE CURRENT PUBLIC SERVICES STANDARD SPECIFICATIONS AND DETAILS.

3 WORKING DAYS |
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.



PROJECT LENGTH
0.05 MILES

PROJECT
LOCATION

THE FOLLOWING UTILITIES ARE LOCATED IN OR NEAR THE RIGHT-OF-WAY FOR THIS PROJECT.

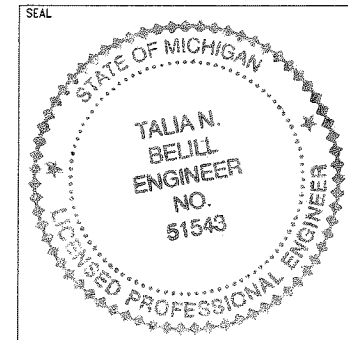
PUBLIC UTILITIES		
CITY OF ANN ARBOR FIELD OPERATIONS SERVICES UNIT		
WATER, SEWER AND STORM	W.R. WHEELER SVC. CTR 4251 STONE SCHOOL RD. ANN ARBOR, MI 48108	DENNY ZINK 734-794-8350
PRIVATE UTILITIES		
AT&T-PHONE	550 S. MAPLE SECOND FLOOR ANN ARBOR, MI 48103	ANDREW JOHNSON 734-996-5350
OTE ENERGY-ELECTRIC	ANN ARBOR SERVICE CENTER 982 BROADWAY ANN ARBOR, MI 48105	BRUCE CADY 313-330-0243
OTE ENERGY-GAS	1715D ALLEN RD. MELVINDALE, MI 48122	TOM LONGO 586-463-3142
COMCAST-CABLE	8455 RONDA DR CANTON, MI 48187	RICHARD EWASEK 313-215-8082
	24744 EUREKA RD. TAYLOR, MI 48180	RON SOUTHERLAND 313-999-8300
		JAMES FISTLER 313-389-7299

THE REGULATED WASTE ACTIVITY
IDENTIFICATION NUMBER FOR THIS
PROJECT IS: MIKXXXXXXXXXX

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR THESE PERMIT FEES.	
PERMIT	ISSUING AUTHORITY
GRAVING/ SOIL EROSION & SEEDMENTATION CONTROL PERMIT	CITY OF ANN ARBOR PLANNING AND DEVELOPMENT SERVICES UNIT

PERMITS REQUIRED TO BE OBTAINED BY THE CITY OF ANN ARBOR PRIOR TO THE BEGINNING OF CONSTRUCTION. CITY IS RESPONSIBLE FOR THESE PERMIT FEES.	
PERMIT	ISSUING AUTHORITY
MOOD INLAND LAKES & STREAMS PERMIT	MICHIGAN DEPARTMENT OF ENVIRONMENTAL DUALITY

TRAFFIC DATA	
PRESENT ADT	75 (2015)
FUTURE ADT	75 (2035)
% COMMERCIAL	3.0% (2015)
% COMMERCIAL	10.0% (2035)
POSTED SPEED	N/A MPH
DESIGN SPEED	25 MPH



Talia N. Belli 5/26/15
TALIA N. BELL, P.E., MICHIGAN NO. 51543
DRAWING NO. 20154390-C
DATE SHEET 1 OF 21

WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT; ITB NO. 4390

UTILITIES

MISS DIG/UNDERGROUND UTILITY NOTIFICATION

For the protection of underground utilities and in conformance with Public Act 174 of 2013, the Contractor shall contact MISS DIG System, Inc. by phone at 811 or 800-482-7171 or via the web at either elocate.missdig.org for single address or rte.missdig.org, a minimum of 3 business days prior to excavating, excluding weekends and holidays.

EXISTING WATER MAINS AND SEWERS

The Contractor shall be responsible for any damage to property identified existing water mains and/or existing sewers during the construction of this project.

ROW / REAL ESTATE

PROPERTY OWNERS

Property owner's names, where shown, are for information only, and their accuracy is not guaranteed.

SURVEY

ADJUSTING MONUMENT BOXES

All government corners on this project shall be preserved, whether shown or not. It may be necessary to place or adjust monument boxes, as required.

EXISTING INFORMATION

EXISTING INFORMATION

The following plans and reports were referred to in the design of this project.

- Bridge Rehabilitation Plans, City File No. 2000028
- Bridge Repair Plans, City File No. 85009
- Bridge Plans, City File No. 494D
- 2014 Underwater Bridge Inspection
- 2014 Concrete Testing Services
- 2012, 2014 Bridge Inspection Report

These files may be requested up to one week before the bids are due by contacting Michael Nearing, City of Ann Arbor, at mnearing@a2gov.org or 734-794-6410 ext 43635.

EARTHWORK

SOIL EROSION MEASURES

Appropriate soil erosion and sedimentation control measures shall be in place prior to earth-disturbing activities. Place turf establishment items as soon as possible on potential erodable slopes as directed by the Engineer. Critical grades shall be protected with either sod or seed/mulch or mulch blanket as directed by the Engineer.

TURF ESTABLISHMENT

SEED MIXTURE

The symbol for the permanent turf seed mixture on this project is symbol THM.

ENVIRONMENTAL

PROTECTED TURTLES

Historical records for protected turtles exist within or near this project. These turtle species warrant special consideration as they are rare in Michigan. In the event turtles are observed within the construction zone, move the turtle(s) into adjacent vegetative cover, away from physical work activities. If possible, please take a photo and immediately contact Richard Wolinski, MDOT Ecologist, at (517) 335-2633 or the Environmental Services Section at (517) 373-8350 to confirm identification.

VENOMOUS SNAKES

Historical records for the Eastern Massasauga Rattlesnake exist within or near this project. This venomous snake is a state special concern and federal candidate species that warrants special consideration. In the event that this species is discovered within the construction zone, immediately move personnel away from the snake and contact Richard Wolinski, MDOT Ecologist, at (517) 335-2633 or the Environmental Services Section at (517) 373-8350 to confirm identification.

INDIANA BAT AND LONG EARED BAT

No tree cutting will be conducted between April 1 and October 1 as a mitigation measure to avoid potential impacts to the Indiana Bat. Trees greater than 3 inches diameter at breast height (dbh) shall not be removed as part of vegetation clearing activities within the above dates.

EMERALD ASH BORER

All materials generated from removing ash trees or ash stumps shall be handled and disposed of as per the Michigan Department of Agriculture requirements. Any additional cost shall be included in the pay items for horticultural work, clearing, tree or stump removal.

NOTES APPLYING TO STANDARD PLANS

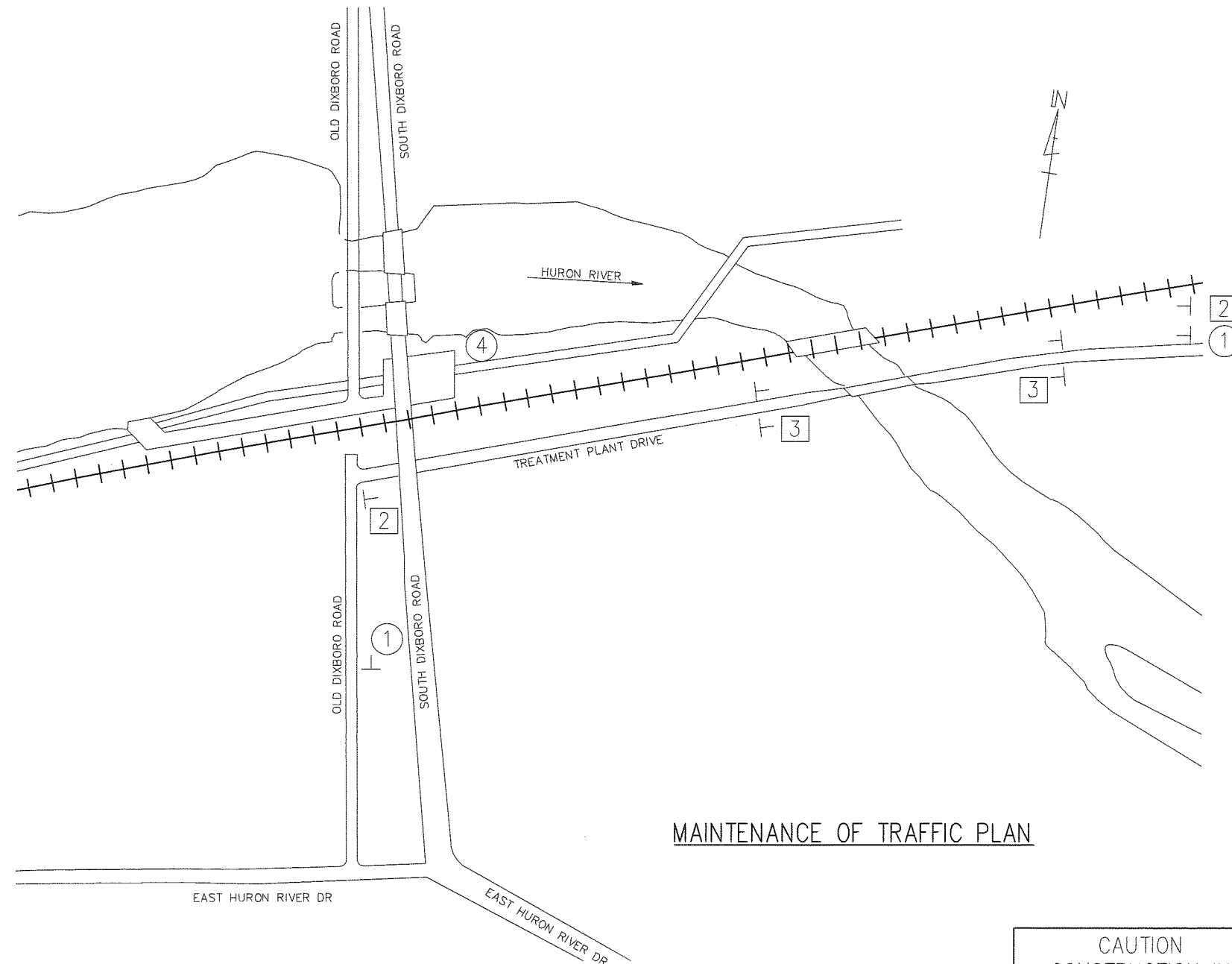
Where the following items are called for on plans, they are to be constructed according to the MDOT standard plan given below opposite each item unless otherwise indicated.

Title	Plan No.
ROAD	
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E
SEEDING AND TREE PLANTING	R-100-H
BRIDGE	
MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS	B-103-E
WORK ZONE DEVICES	
GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS	WZD-100-E*
TEMPORARY TRAFFIC CONTROL DEVICES	WZD-125-E*

*Denotes Special Detail

SEE ABOVE	XXX					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
			ORIGINAL ISSUE	5/21/15	DAF	TNB

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR	
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT	SCALE HOR. 1"=40' VERT. 1"=4'
NOTE SHEET	DRAWING NO. 20154390-NOTE
APPROVED BY: <i>Talia N. Belill</i>	SHEET NO. 2 OF 21



MAINTENANCE OF TRAFFIC PLAN

4 CAUTION
CONSTRUCTION IN
RIVER DOWNSTREAM
PORTION OF RIVER
IS BLOCKED

1 W20-1 (48" x 48")
16 SFT TYPE IIB SIGN

2 W20-3 (48" x 48")
16 SFT TYPE IIB SIGN

3 R11-2 (48" x 30")
10 SFT TYPE IIB SIGN
MOUNT ON SEPARATE POSTS
BEHIND BARRICADES

(2) TYPE III LIGHTED BARRICADES

NOTES:

SEE DETAILED SPECIFICATION FOR MAINTENANCE OF TRAFFIC AND CONSTRUCTION SEQUENCING AND HOURS OF WORK.

STAGE 1 SIGNING SHOWN IN LEGEND BELOW SHALL BE IN PLACE DURING THE DURATION OF THE PROJECT.

STAGE 2 SIGNING SHOWN IN THE LEGEND BELOW SHALL BE IN PLACE DURING THE DURATION OF ANY COMPLETE CLOSURE OF THE BRIDGE DURING TIMES ALLOWED IN THE DETAILED SPECIFICATION FOR MAINTENANCE OF TRAFFIC AND CONSTRUCTION SEQUENCING.

PLACE SIGN 4 ALONG THE GALLUP PARK PATHWAY, EAST OF THE SOUTH DIXBORO ROAD BRIDGE, AT A LOCATION SPECIFIED BY THE ENGINEER. SUPPORT SIGN ON TWO (2) DRIVEN 3# POSTS WITH BOTTOM OF SIGN HEIGHT AT 7 FEET ABOVE GRADE. SIGN SHALL BE PLACED PRIOR TO PLACING THE PORTLAND COFFERDAM AND REMAIN IN PLACE UNTIL COMPLETE REMOVAL OF THE COFFERDAM. FOR SPECIAL FABRICATION DETAILS FOR SIGN 4, SEE THE DETAILED SPECIFICATION FOR "MAINTENANCE OF TRAFFIC AND CONSTRUCTION SEQUENCING".

LEGEND:

- 1 STAGE 1 - WORK IN BRIDGE AREA
- 2 3 STAGE 2 - CLOSURE OF BRIDGE

QUANTITIES

84	Sft	Sign, Type B, Temp, Prismatic, Furn
84	Sft	Sign, Type B, Temp, Prismatic, Oper
9	Sft	Sign, Type B, Temp, Prismatic, Special, Furn
9	Sft	Sign, Type B, Temp, Prismatic, Special, Oper
4	Ea	Barricade, Type III, High Intensity, Lighted, Furn
4	Ea	Barricade, Type III, High Intensity, Lighted, Oper

3 WORKING DAYS!
**BEFORE YOU DIG
CALL MISS DIG**
800-482-7171
(TOLL FREE)

SEE ABOVE	XXX	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
BENCH MARK	SURVEY BOOK		ORIGINAL ISSUE	5/21/15	DAF	TNB

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR

**WASTEWATER TREATMENT PLANT
2015 ACCESS BRIDGE REPAIR PROJECT**

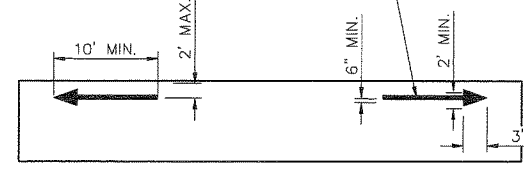
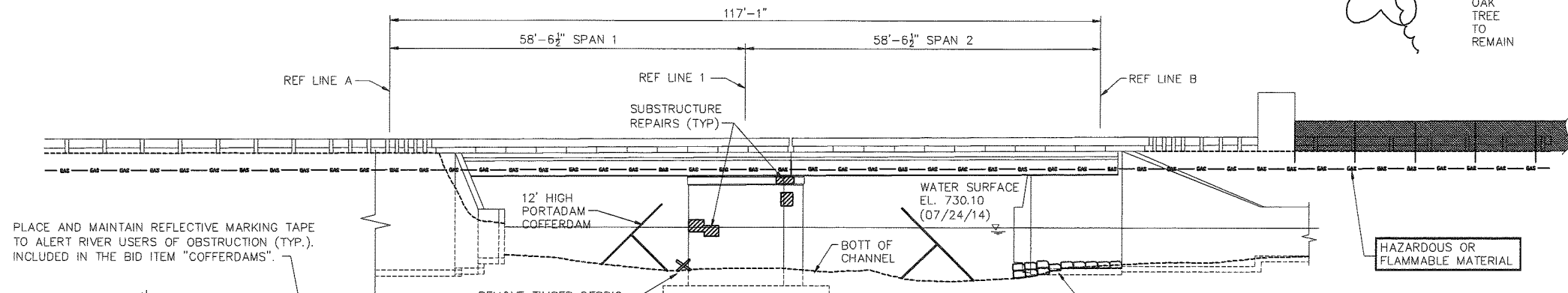
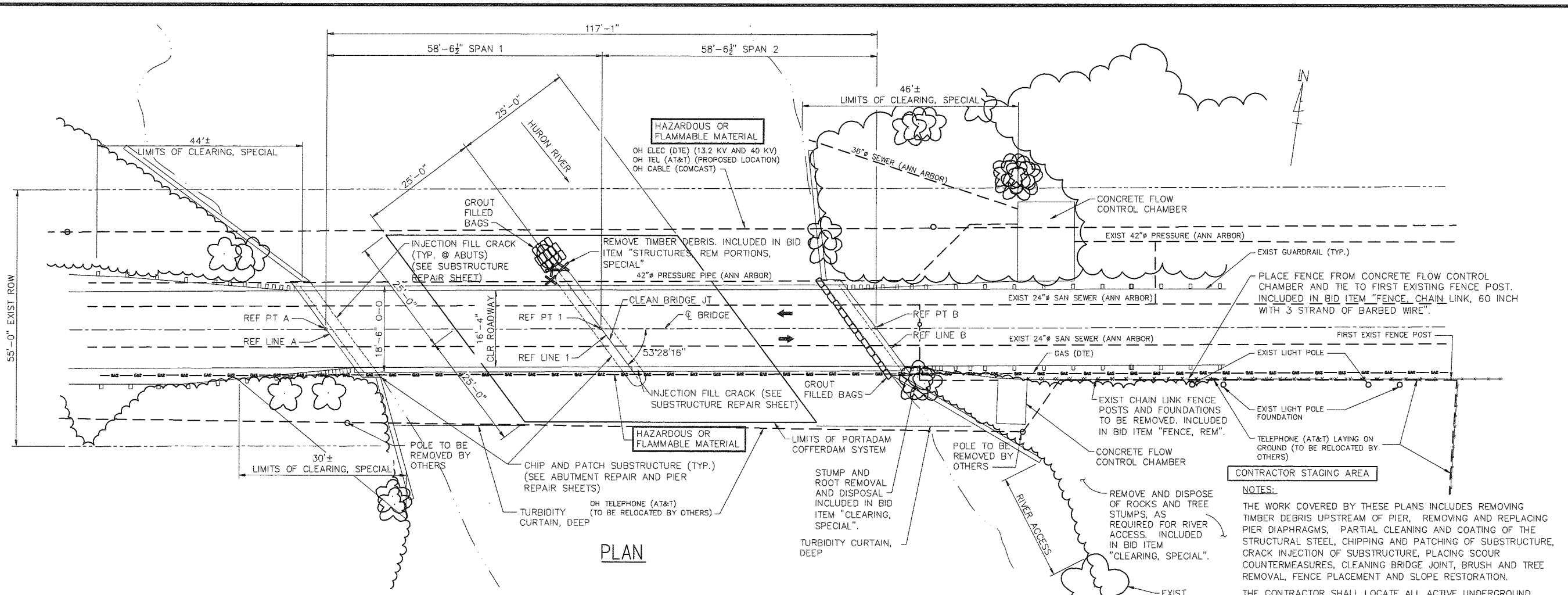
MAINTENANCE OF TRAFFIC

APPROVED BY *Talia N. Belill*

SCALE
HOR. 1"=40'
VERT. 1"=4'

DRAWING NO.
20154390-MOT

SHEET NO. 3 OF 21



ELEVATION OF UPSTREAM FACE OF PORTADAM COFFERDAM SHEETING

ALL DIMENSIONS TYPICAL. FILL AREA COMPLETELY WITH REFLECTIVE MARKING TAPE OR APPROVED EQUAL.

QUANTITIES

1	LS	Mobilization, Max. 10%
1	LS	Structures, Rem Portions, Special
450	Syd	Clearing, Special
310	Ft	Erosion Control, Silt Fence
2	Ea	Erosion Control, Filter Bag
60	Ft	Erosion Control, Turbidity Curtain, Deep
1	LS	Cofferdams
620	Syd	Slope Restoration
146	Ft	Fence, Chain Link, 60 inch With 3 Strand of Barbed Wire
146	Ft	Fence, Rem
23	Ft	Cleaning Bridge Joint
1	LS	Bridge Ltg, Furn and Oper

SEE ABOVE	XXX						
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	TNB
				5/21/15	DAF		TNB

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR

WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT

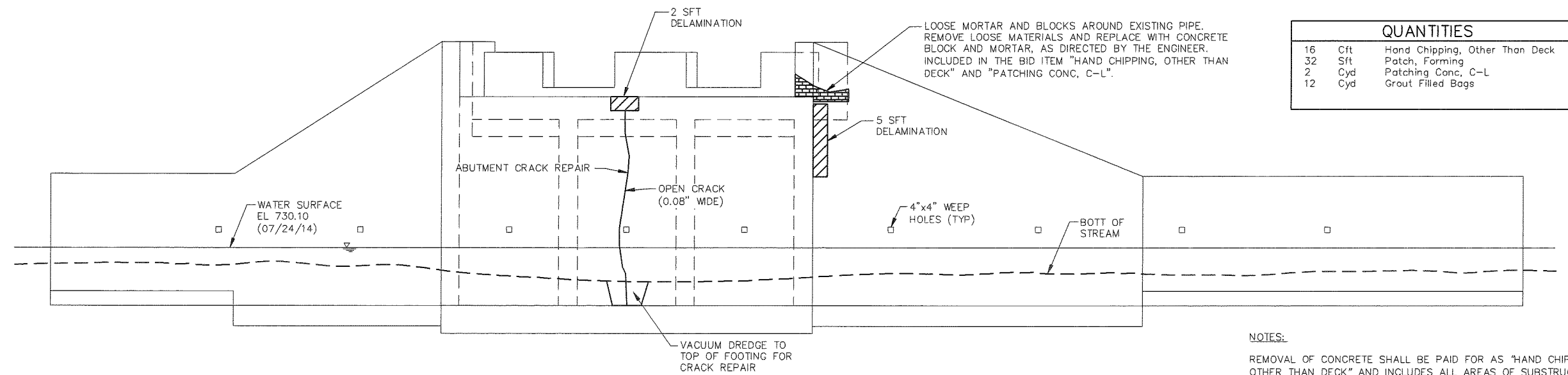
GENERAL PLAN OF STRUCTURE

SCALE: HOR. 1"=40' VERT. 1"=4'

DRAWING NO. 20154390-GPS

SHEET NO. 4 OF 21

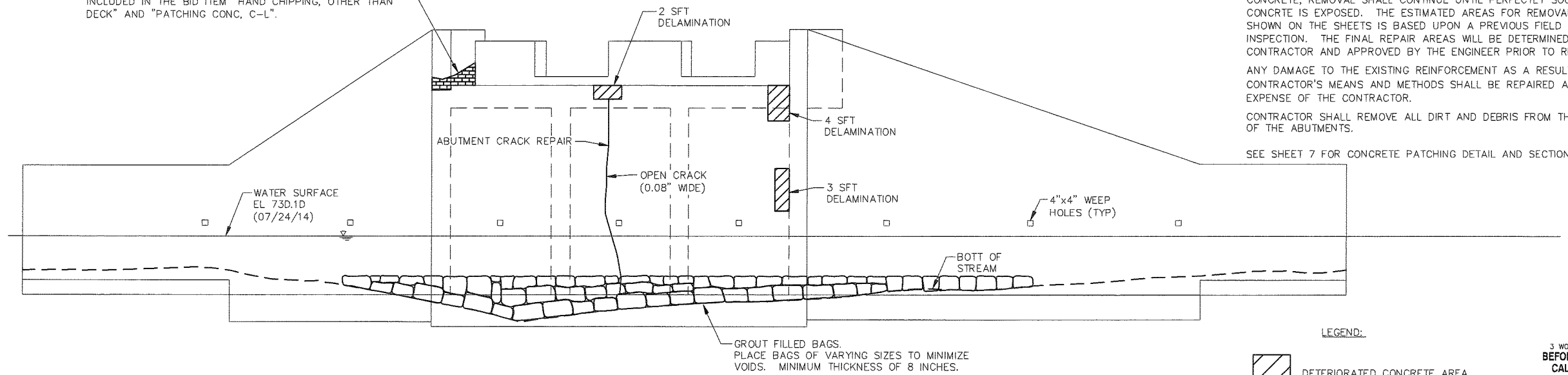
APPROVED BY: *Talia N. Belzil*



QUANTITIES		
16	Cft	Hand Chipping, Other Than Deck
32	Sft	Patch, Forming
2	Cyd	Patching Conc, C-L
12	Cyd	Grout Filled Bags

WEST ABUTMENT ELEVATION

LOOSE MORTAR AND BLOCKS AROUND EXISTING PIPE. REMOVE LOOSE MATERIALS AND REPLACE WITH CONCRETE BLOCK AND MORTAR, AS DIRECTED BY THE ENGINEER. INCLUDED IN THE BID ITEM "HAND CHIPPING, OTHER THAN DECK" AND "PATCHING CONC, C-L".



NOTES:

REMOVAL OF CONCRETE SHALL BE PAID FOR AS "HAND CHIPPING, OTHER THAN DECK" AND INCLUDES ALL AREAS OF SUBSTRUCTURE CHIPPING.

FORMS FOR LARGE PATCHES SHALL BE INSTALLED IN 2'-0" TO 4'-0" HIGH SECTIONS WITH THE TOP OF FORM NO MORE THAN 4'-0" ABOVE THE LEVEL OF CONCRETE AS THE POUR PROGRESSES.

PATCHING MIXTURE SHALL BE FINE, LATEX MODIFIED (C-L) CONCRETE.

THE HAND CHIPPING AND CLEANING OF DETERIORATED ABUTMENT AREAS SHALL BE AS DIRECTED BY THE ENGINEER. IT IS THE INTENT OF THESE PLANS THAT ALL SUCH DETERIORATED CONCRETE BE REMOVED AND SHOULD ANY DOUBT AS TO THE QUALITY OF THE CONCRETE, REMOVAL SHALL CONTINUE UNTIL PERFECTLY SOUND CONCRETE IS EXPOSED. THE ESTIMATED AREAS FOR REMOVAL AS SHOWN ON THE SHEETS IS BASED UPON A PREVIOUS FIELD INSPECTION. THE FINAL REPAIR AREAS WILL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO REMOVAL.

ANY DAMAGE TO THE EXISTING REINFORCEMENT AS A RESULT OF THE CONTRACTOR'S MEANS AND METHODS SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

CONTRACTOR SHALL REMOVE ALL DIRT AND DEBRIS FROM THE TOPS OF THE ABUTMENTS.

SEE SHEET 7 FOR CONCRETE PATCHING DETAIL AND SECTION.

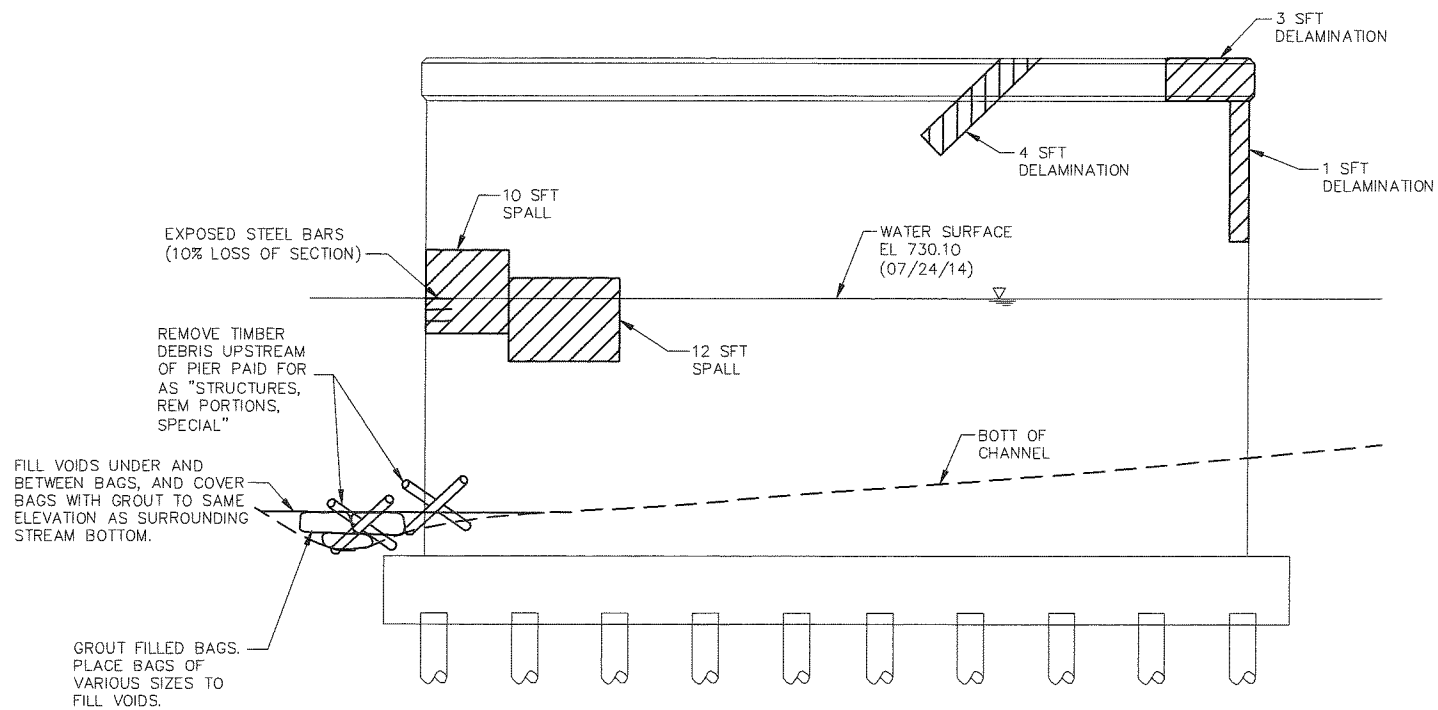
LEGEND:



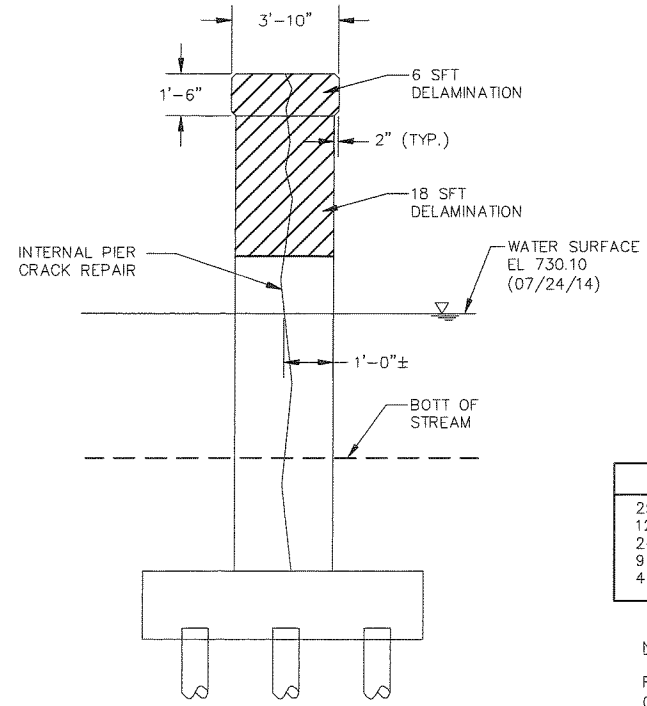
3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
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(TOLL FREE)

EAST ABUTMENT ELEVATION

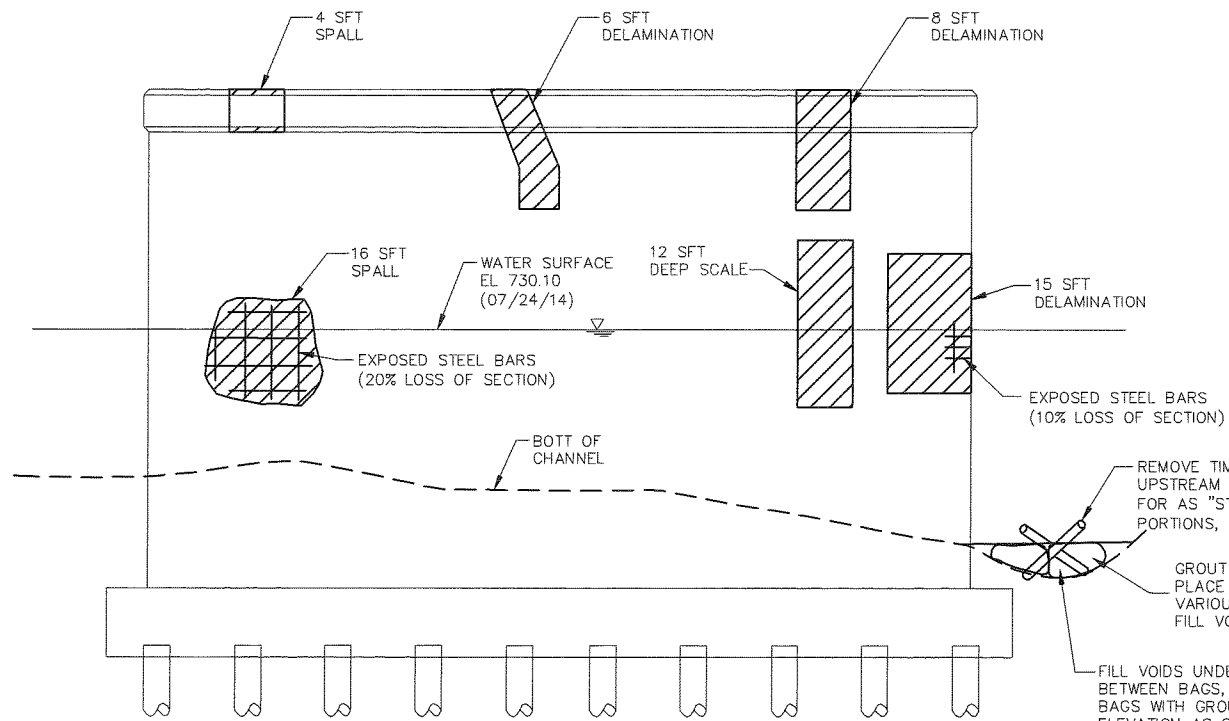
WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR							
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT							
ABUTMENT REPAIR							
SCALE	HOR. 1"=40'		VERT. 1"=4'		INCH		
DRAWING NO.	20154930-ABUT					SHEET NO.	5 OF 21
APPROVED BY	Talia N. Belill						
SEE ABOVE	XXX	ORIGINAL ISSUE	5/21/15	DAF	TNB		
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	



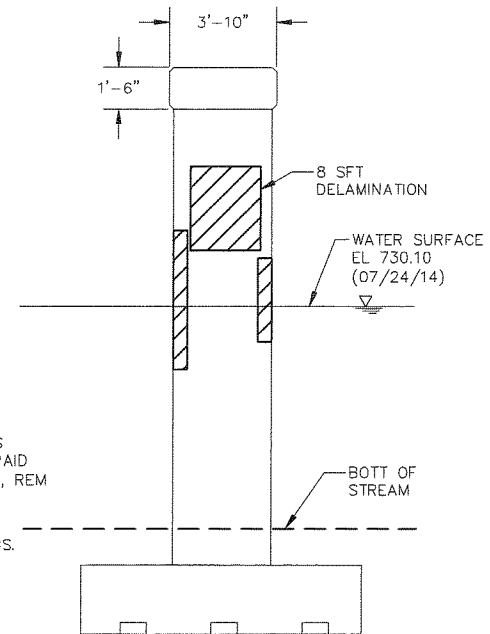
WEST PIER ELEVATION



SOUTH PIER END



EAST PIER ELEVATION



NORTH PIER END

QUANTITIES		
25	Lb	Reinforcement, Steel, Epoxy Coated
123	Cft	Hand Chipping, Other Than Deck
246	Sft	Patch, Forming
9	Cyd	Patching Conc. C-L
4	Cyd	Grout Filled Bags

NOTES:

REMOVAL OF CONCRETE SHALL BE PAID FOR AS "HAND CHIPPING, OTHER THAN DECK" AND INCLUDES ALL AREAS OF SUBSTRUCTURE CHIPPING.

FORMS FOR LARGE PATCHES SHALL BE INSTALLED IN 2'-0" TO 4'-0" HIGH SECTIONS WITH THE TOP OF FORM NO MORE THAN 4'-0" ABOVE THE LEVEL OF CONCRETE AS THE POUR PROGRESSES.

PATCHING MIXTURE SHALL BE FINE, LATEX MODIFIED (C-L) CONCRETE.

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CONTRACTOR SHALL REMOVE ALL DIRT AND DEBRIS FROM THE TOPS OF THE PIERS.

SEE SHEET 7 FOR CONCRETE PATCHING DETAIL AND SECTION.

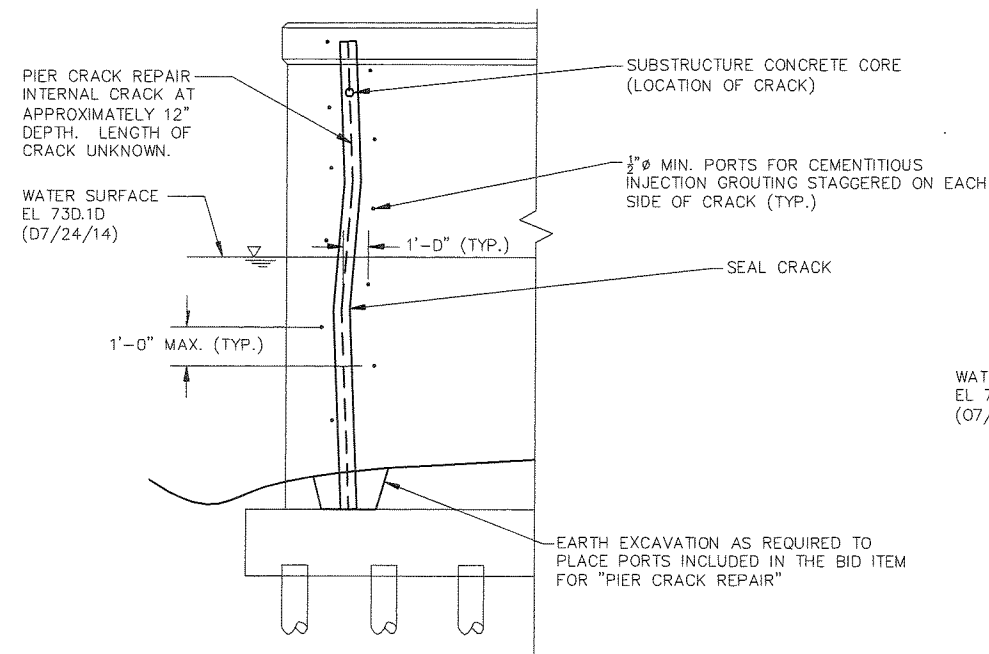
LEGEND:



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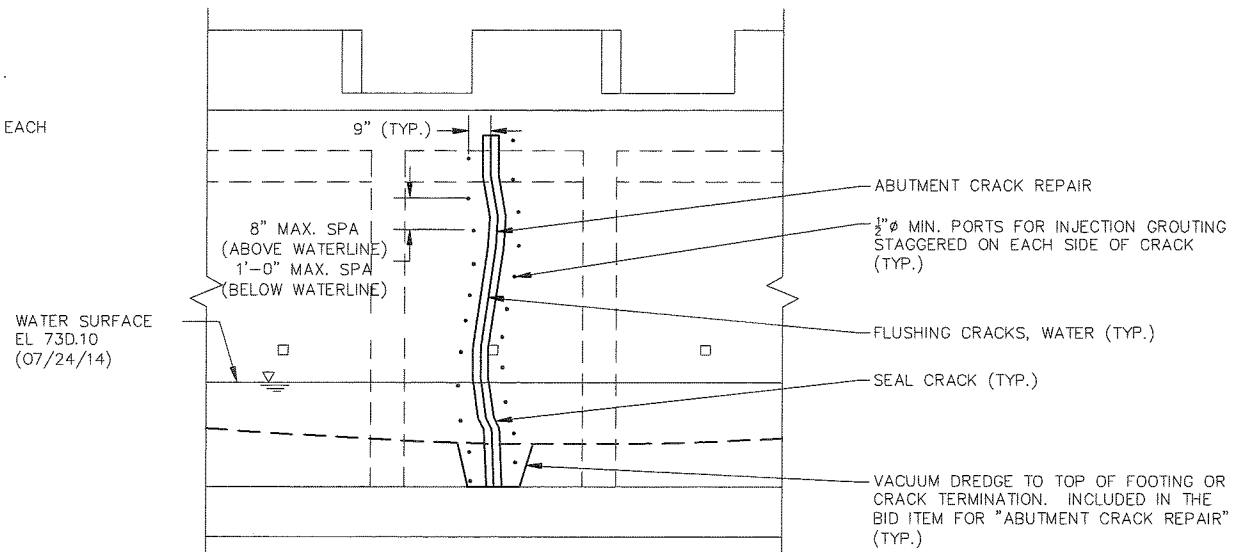
WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR					
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT					
PIER REPAIR				SCALE HOR. 1"=40' VERT. 1"=4'	INCH
DRAWING NO. 20154930-PIER				SHEET NO. 6 OF 21	
SEE ABOVE	XXX	ORIGINAL ISSUE	5/21/15	DAF	TNB
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR.BY
APPROVED BY: <i>Talia N. Belill</i>					

TALIA N. BELILL, P.E., NO. 51543



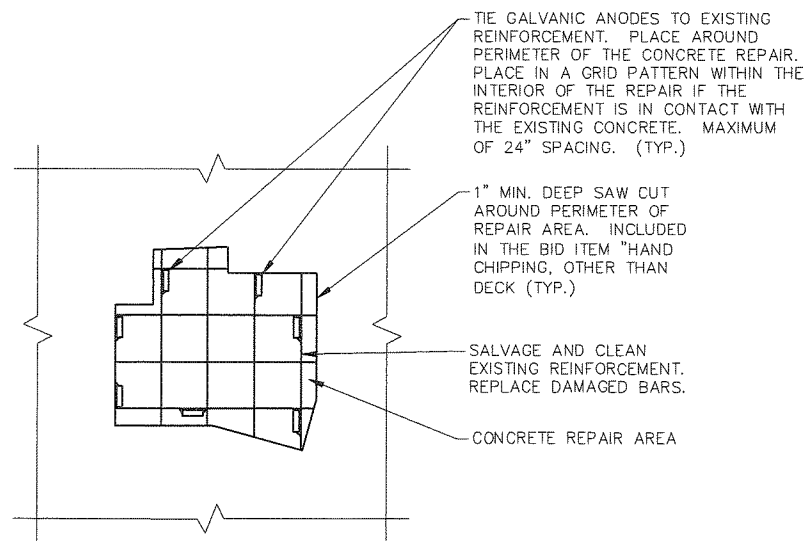
PIER ELEVATION

LOOKING WEST
REPAIR TO BE MADE WITHIN COFFERDAM



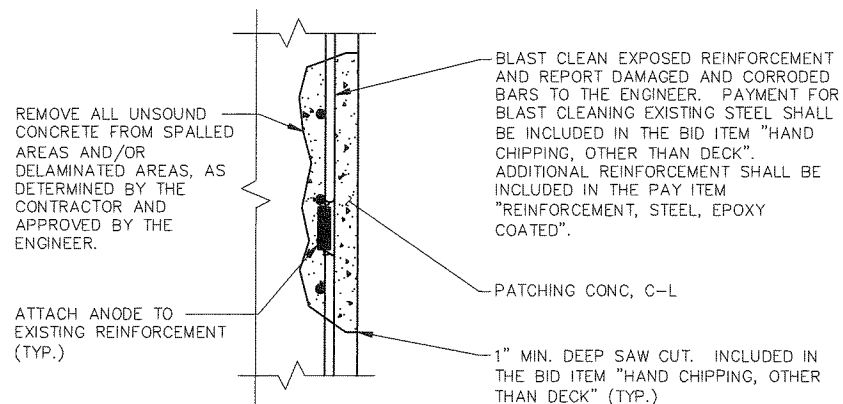
ABUTMENT ELEVATION

WEST ABUTMENT SHOWN



CONCRETE PATCHING DETAIL

NOTE: LIMITS OF REPAIR TO BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. TO BE USED FOR SUBSTRUCTURE REPAIRS AS DIRECTED BY THE ENGINEER. SEE NOTE 1 FOR MORE DETAILS.



SECTION AT SUBSTRUCTURE PATCHING

NO MORE THAN ONE BAR SHALL BE REPLACED AT ANY TIME, AS DIRECTED BY THE ENGINEER.

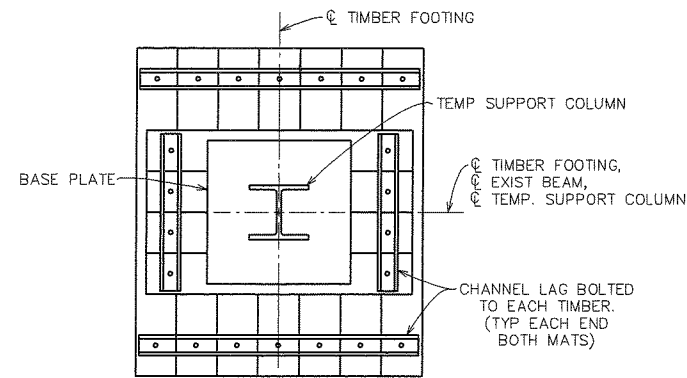
QUANTITIES	
29	Ft Flushing Cracks, Water
29	Ft Abutment Crack Repair
18	Ft Pier Crack Repair
70	Ea Embedded Galvanic Anode, Special

NOTES:

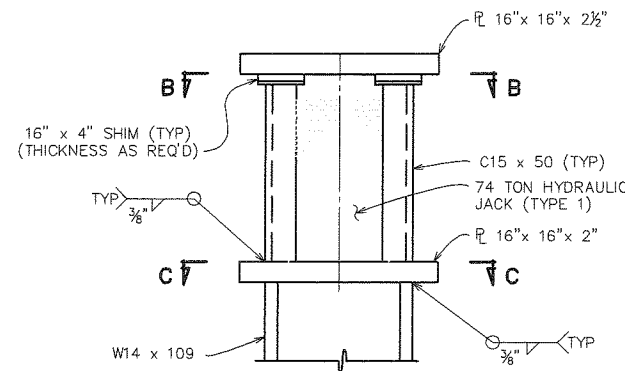
- CONTRACTOR TO PREPARE AREAS FOR CONCRETE REPAIRS, FOR REVIEW BY THE ENGINEER, PRIOR TO FORMING AND PLACING PATCHING MATERIAL. PREPARATION OF REPAIR AREAS PRIOR TO FORMING AND PATCHING SHALL INCLUDE, BUT NOT BE LIMITED TO: COMPLETING THE SPECIFIED SAW CUTTING; REMOVING UNSOUND CONCRETE; BLAST CLEANING EXPOSED REINFORCING STEEL; FLUSHING AREA WITH CLEAN WATER UNDER PRESSURE AND BLOWING OUT AREA WITH OIL-FREE COMPRESSED AIR; PLACING GALVANIC ANODES; AND, REPLACING DETERIORATED REINFORCING BARS, AS REQUIRED.
- INJECT ABUTMENT CRACKS PER THE DETAILED SPECIFICATION FOR ABUTMENT CRACK REPAIR.
- INJECT PIER CRACK PER THE DETAILED SPECIFICATIONS FOR PIER CRACK REPAIR.

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

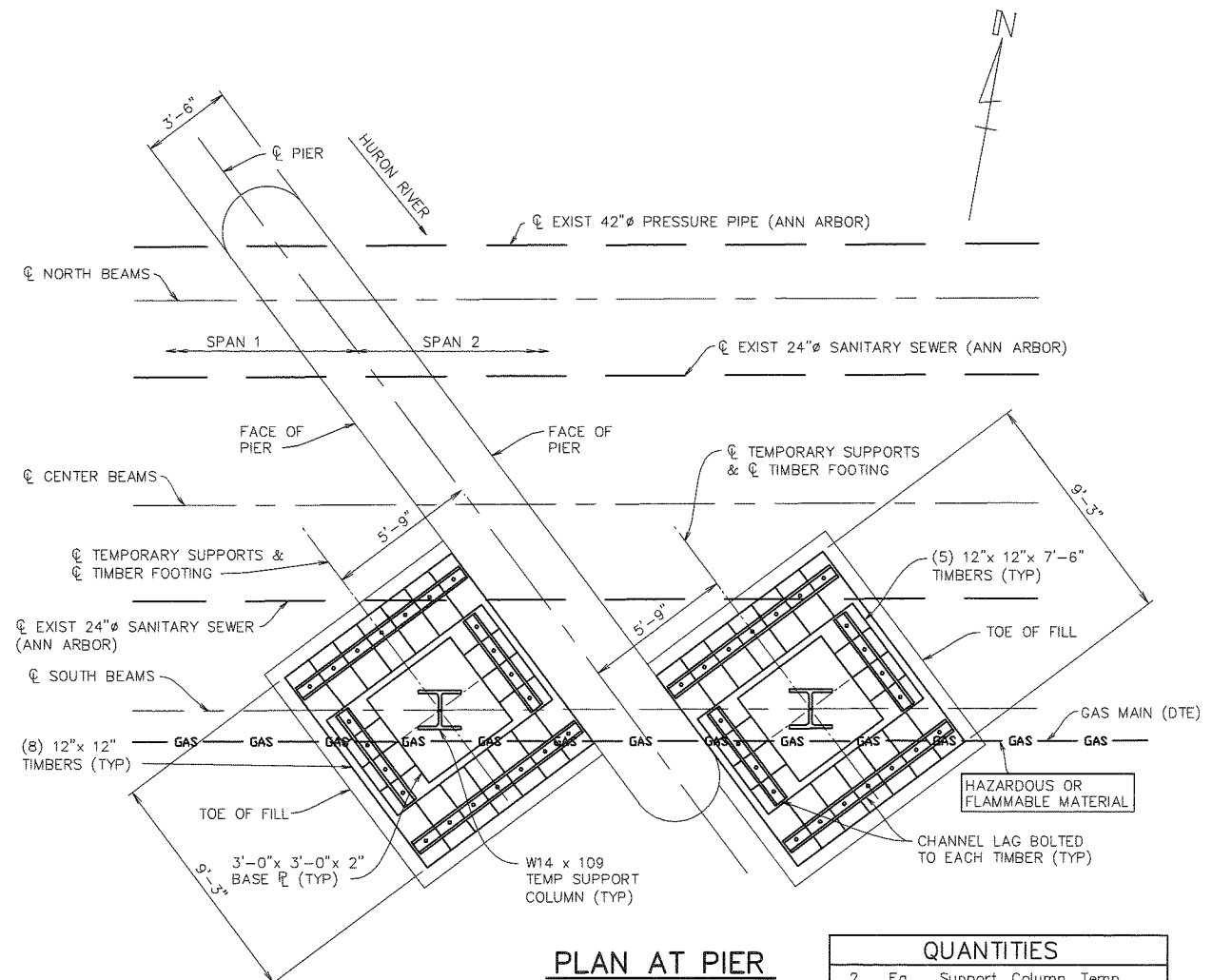
SEE ABOVE							xxx											WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR	
BENCH MARK							SURVEY BOOK	ORIGINAL ISSUE	5/21/15	DAF	TNR	SCALE		HOR. 1"=40'		VERT. 1"=4'		DRAWING NO.	
							REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY	2015 ACCESS BRIDGE REPAIR PROJECT		0		1		20154390-SUB	
							APPROVED BY					Talia N. Belill		SHEET NO.		7		OF 21	



TIMBER FOOTING PLAN

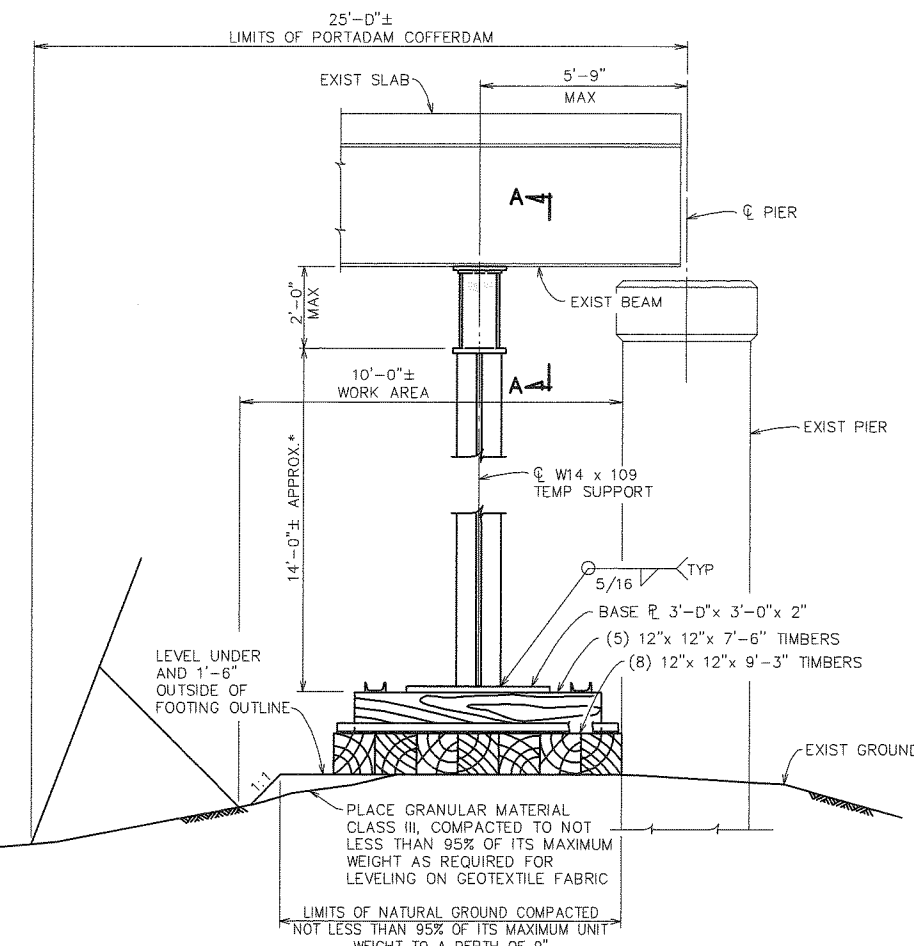


SECTION A-A



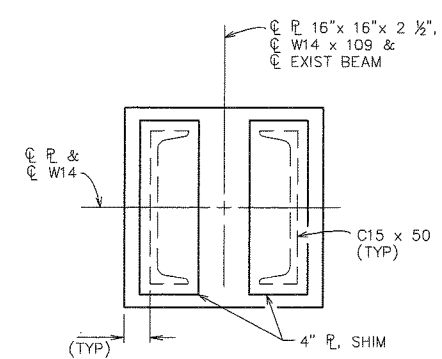
PLAN AT PIER

QUANTITIES	
2	Ea Support, Column, Temp

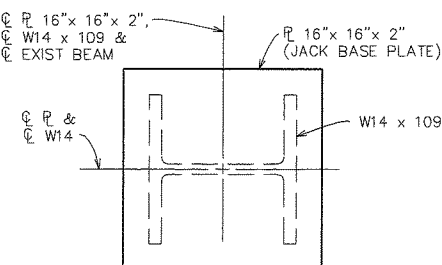


TEMPORARY SUPPORT ELEVATION

* EXACT HEIGHT TO BE DETERMINED BY CONTRACTOR. INCLUDED IN THE PAY ITEM "SUPPORT, COLUMN, TEMP". GRANULAR MATERIAL AND GEOTEXTILE FABRIC IS INCLUDED IN THE PAY ITEM "SUPPORT, COLUMN, TEMP".



SECTION B-B



SECTION C-C

NOTES:

IF SUBSTRUCTURE CONCRETE CHIPPING DEPTH IS 6 INCHES UNDER THE SOUTH FASCIA BEAM BEARINGS, CHIPPING ACTIVITIES SHALL CEASE UNTIL A TEMPORARY SUPPORT IS INSTALLED WITHIN THE COFFERDAM LIMITS AS DETAILED ON THE PLANS AT THE LOCATION(S) REQUIRED.

THE CONTRACTOR SHALL INSTALL THE TEMPORARY COLUMN SUPPORT AS DETAILED ON THE PLANS OR PROVIDE AN ALTERNATE DESIGN WHICH SHALL MEET THE APPROVAL OF THE ENGINEER. SEE THE DETAILED SPECIFICATION FOR TEMPORARY SUPPORT.

ANY TEMPORARY SUPPORT SHALL REMAIN IN PLACE UNTIL SUCH A TIME AS THE SUBSTRUCTURE CONCRETE HAS ATTAINED 70 PERCENT OF ITS 28-DAY STRENGTH, AND IN NO CASE SHALL THEY BE REMOVED IN LESS THAN FIVE DAYS AFTER THE CONCRETE HAS BEEN PLACED. THE CONTRACTOR SHALL REMOVE THE TEMPORARY SUPPORTS IN SUCH A MANNER AS TO ENSURE A GRADUAL AND UNIFORM REDUCTION OF LOADS.

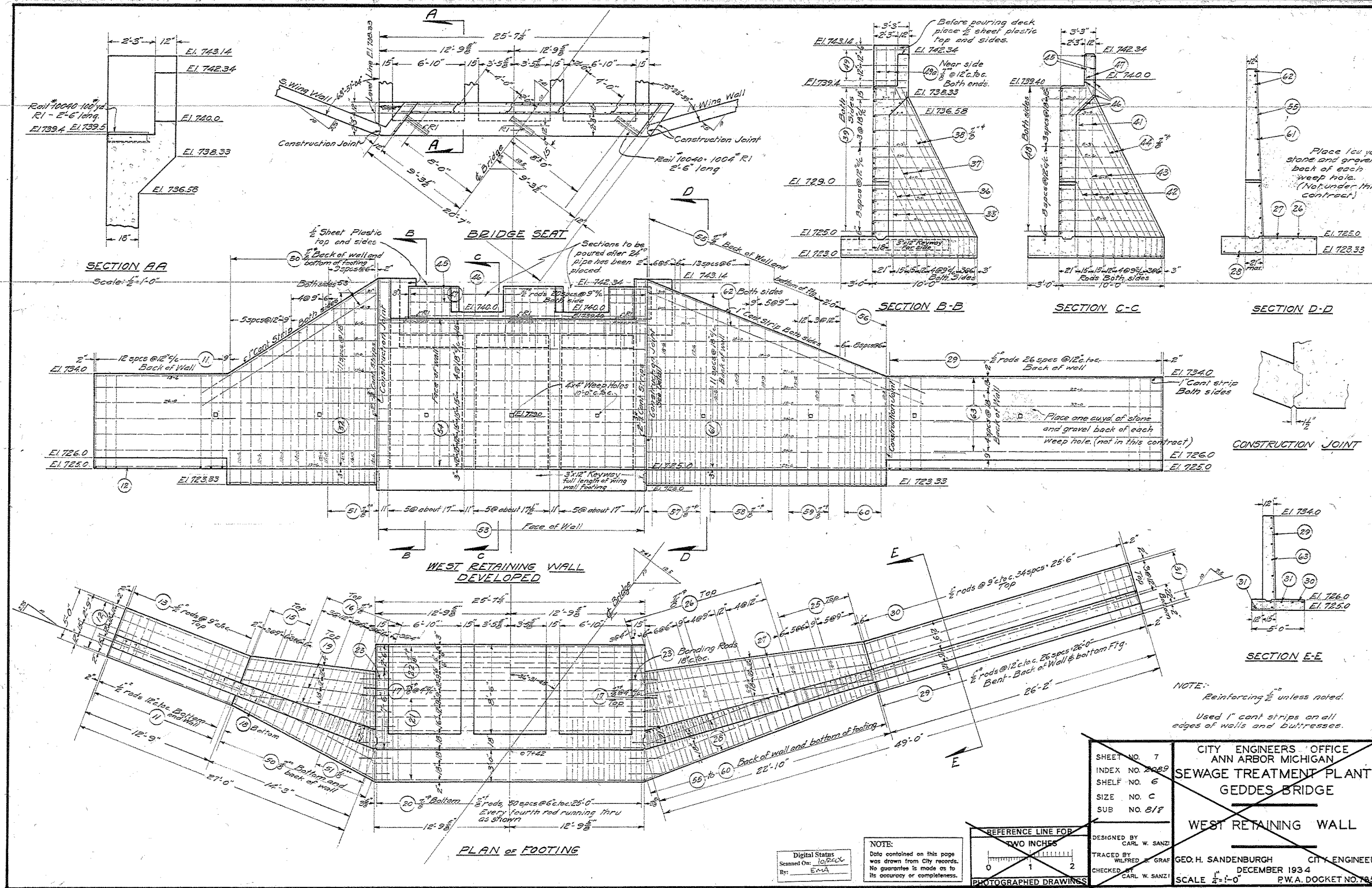
TEMPORARY SUPPORTS SHALL SUPPORT THE BEAMS AT THEIR EXISTING ELEVATION. THE TEMPORARY SUPPORT HAS BEEN DESIGNED FOR A VERTICAL LOAD OF 74 TONS. THE SOIL PRESSURE UNDER THE FOOT OR SILL OF EACH SUPPORT SHALL NOT EXCEED 2000 PSF.

THE ALLOWABLE SOIL PRESSURE FOR TEMPORARY SUPPORTS IS BASED ON SOILS INFORMATION AVAILABLE AT THE TIME OF DESIGN. THIS MAY BE ADJUSTED BY THE ENGINEER DUE TO CONDITIONS AT THE TIME OF CONSTRUCTION.

3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

SEE ABOVE	XXX	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR		SCALE HOR: 1"=40' VERT: 1"=8'	
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT		DRAWING NO. 20154390-TEMP	
TEMPORARY SUPPORT DETAILS		SHEET NO. 8 OF 21	
APPROVED BY: <i>Talia N. Bellil</i>			



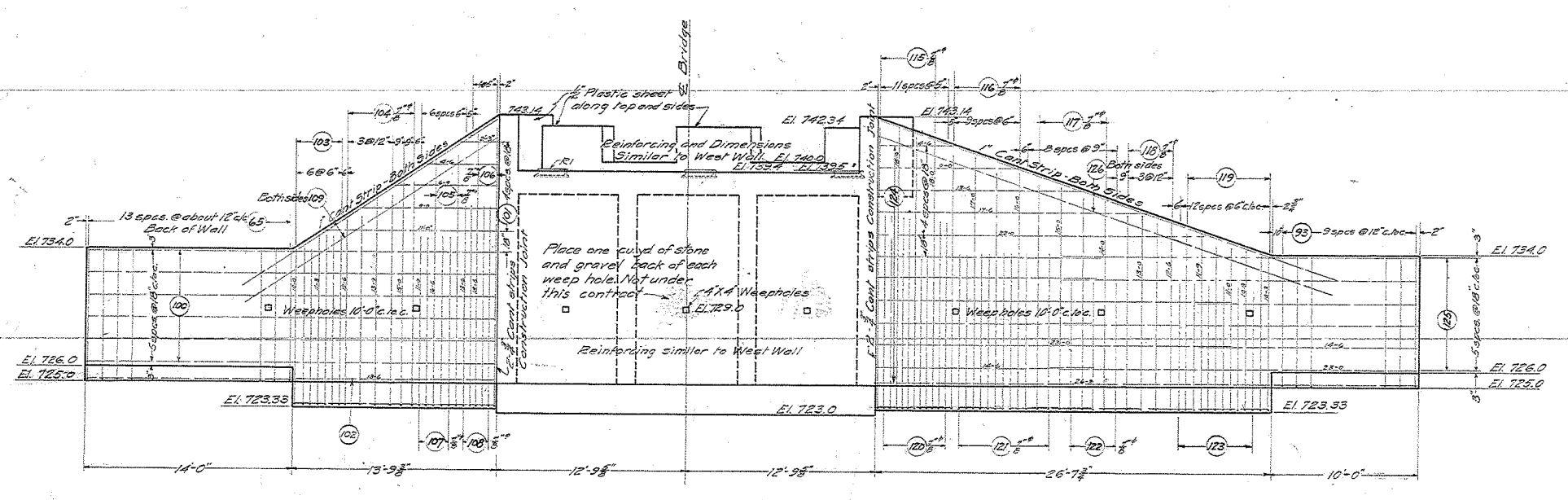
SHEET NO. 7
 INDEX NO. 2029
 SHELF NO. 6
 SIZE NO. C
 SUB NO. 8/7
 CITY ENGINEERS' OFFICE
 ANN ARBOR MICHIGAN
 SEWAGE TREATMENT PLANT
 GEDDES BRIDGE
 WEST RETAINING WALL
 DESIGNED BY CARL W. SANZI
 TRACED BY WILFRED S. GRAF
 CHECKED BY CARL W. SANZI
 GEO. H. SANDENBURGH CITY ENGINEER
 DECEMBER 1934
 SCALE 1/2"=1'-0"
 P.W.A. DOCKET NO. 745

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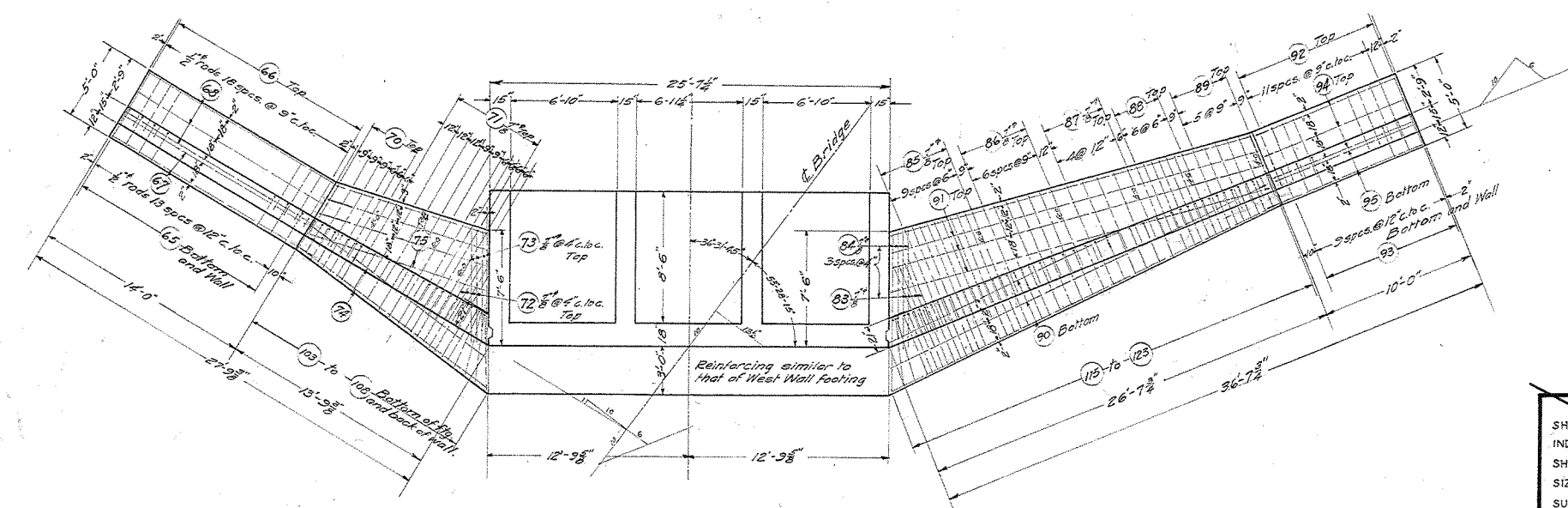
SEE ABOVE	XXX	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
				5/21/15	DAF	TNB

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR
WASTEWATER TREATMENT PLANT
2015 ACCESS BRIDGE REPAIR PROJECT
EXIST WEST RETAINING WALL
 APPROVED BY: *Talia N. Behell*
 TALIA N. BEHELL, P.E., NO. 51543

SCALE	HOR. 1"=40'	VERT. 1"=4'
DRAWING NO.	20154390-EX_ABUT_E	
SHEET NO.	9 OF 21	



EAST RETAINING WALL DEVELOPED



PLAN OF FOOTING

NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

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By: [Signature]

Note: Use 1" cant strips on all edges of walls and footings
Reinforcing 1/2" unless noted

SHEET NO. 8	CITY ENGINEERS OFFICE
INDEX NO. 2000	ANN ARBOR MICHIGAN
SHELF NO. 6	SEWAGE TREATMENT PLANT
SIZE NO. C	GEDDES BRIDGE
SUB. NO. 519	EAST RETAINING WALL
DESIGNED BY CARL W. SANZI	GEO. H. SANDENBURGH CITY ENGINEER
TRACED BY WILFRED B. GRAF	DECEMBER 1934
CHECKED BY CARL W. SANZI	SCALE 1/2" = 1'-0" P.W.A. DOCKET NO. 785

494D-08

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				5/21/13	DAF	TNB

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR

WASTEWATER TREATMENT PLANT
2015 ACCESS BRIDGE REPAIR PROJECT

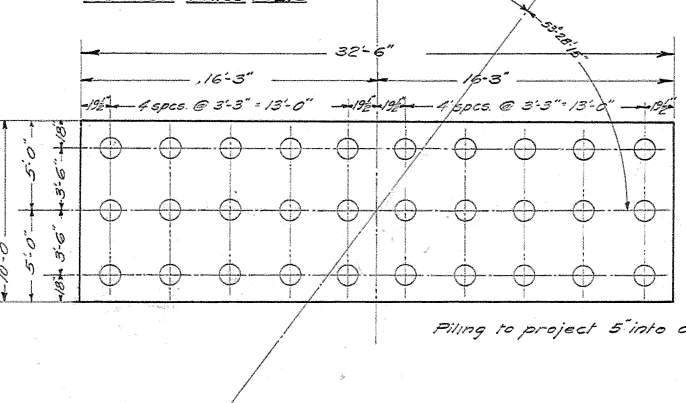
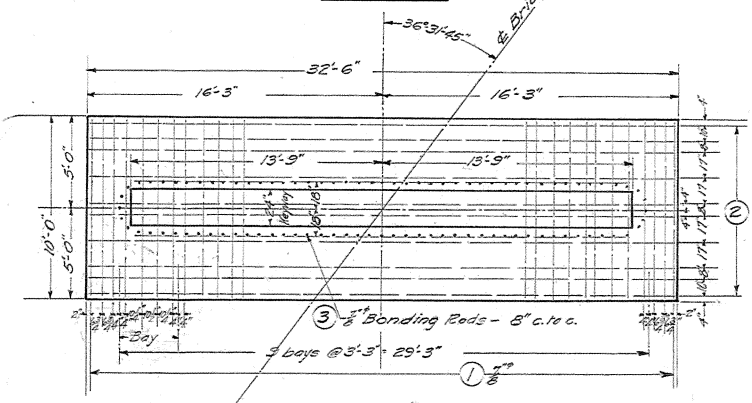
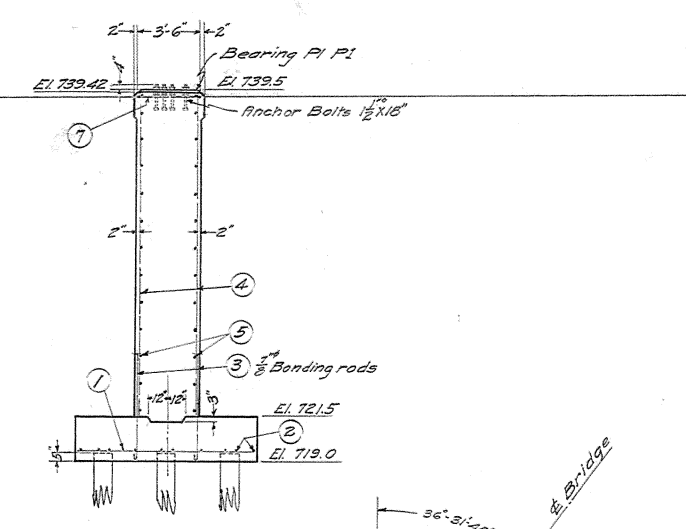
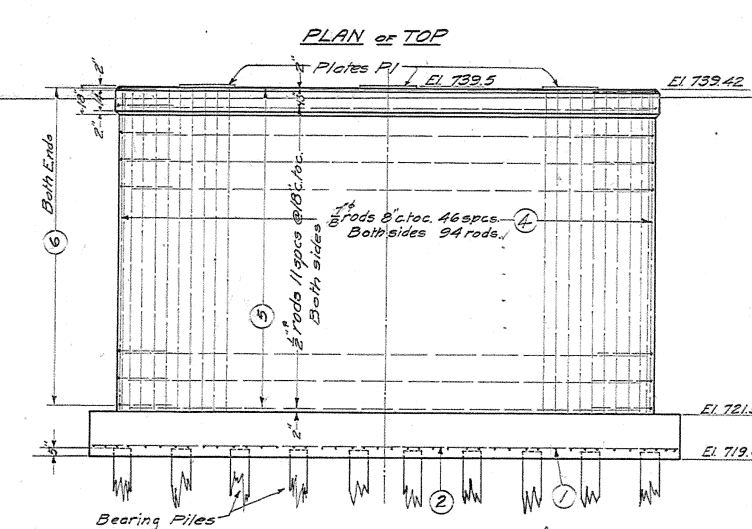
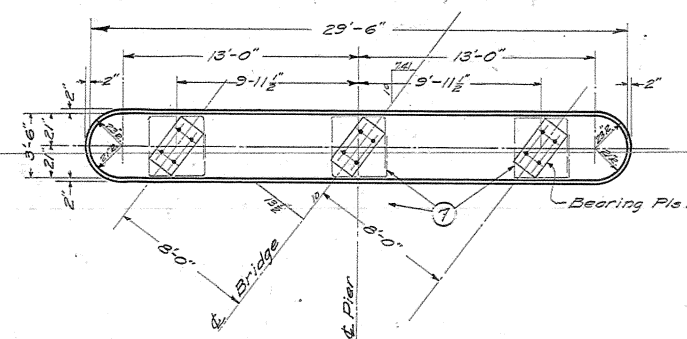
EXIST EAST RETAINING WALL

APPROVED BY: *Talia N. Belill*

SCALE: HOR. 1" = 40' VERT. 1" = 4'

DRAWING NO. 20154930-EX_ABUT_W

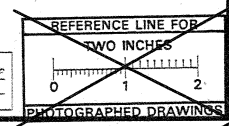
SHEET NO. 19 OF 21



Note: Reinforcing rods are #5 square unless noted

NOTE: Date contained on this page was drawn from city records. No guarantee is made as to its accuracy or completeness.

Digital Status Scanned On: 10/20/10 By: EMM



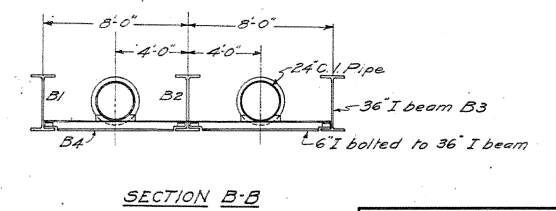
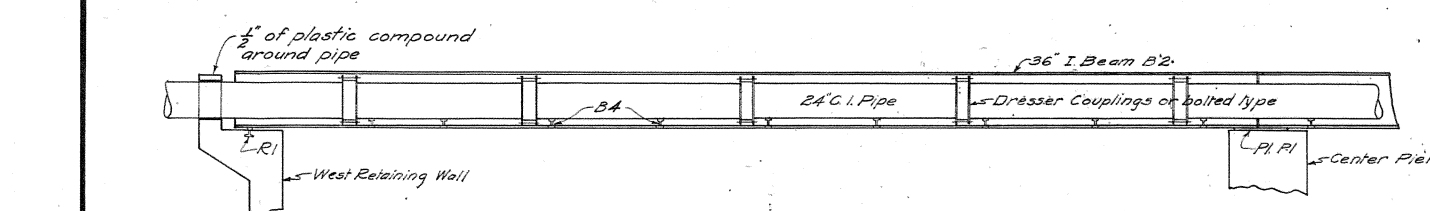
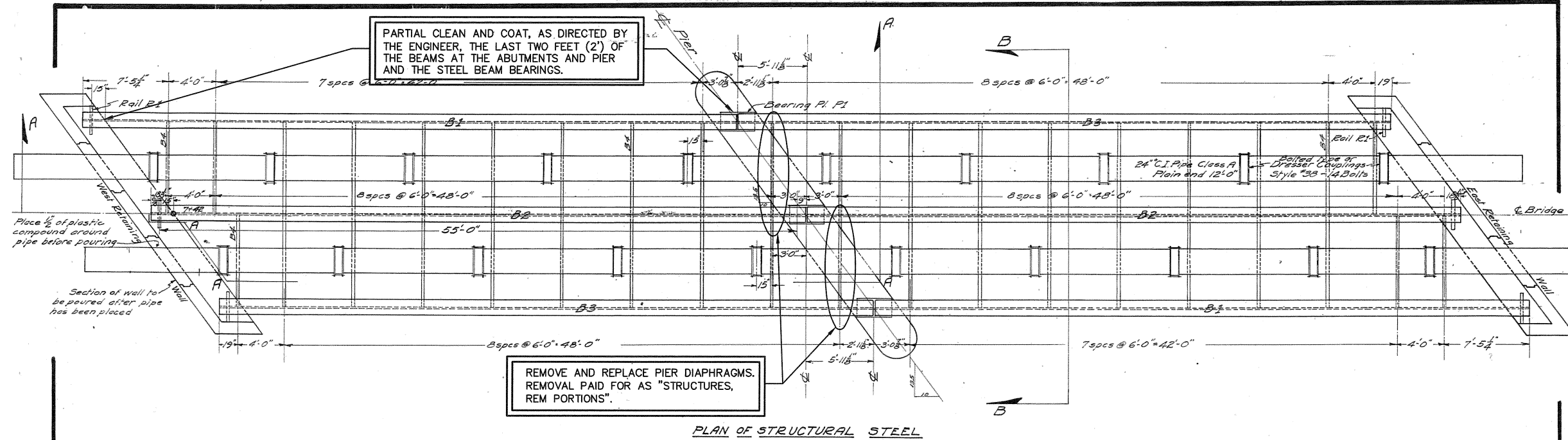
SHEET NO. 6	CITY ENGINEERS OFFICE ANN ARBOR MICHIGAN SEWAGE TREATMENT PLANT GEDDES BRIDGE CENTER PIER AND PILING LAYOUT
INDEX NO. 2082	
SHELF NO. 6	
SIZE NO. C	
SUB. NO. 817	
DESIGNED BY CARL W. SANZI	GEO. H. SANDENBURGH CITY ENGINEER DECEMBER 1934 SCALE 1/4" = 1'-0" R.W.A. DOCKET NO. 785
TRACED BY WILFRED E. GRAF	
CHECKED BY CARL W. SANZI	
PHOTOGRAPHED DRAWINGS	

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BENCH MARK	SURVEY BOOK		ORIGINAL ISSUE	5/21/15	DAF	TNB

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR	
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT	
EXIST CENTER PIER AND PILING LAYOUT	
SCALE HOR. 1" = 40' VERT. 1" = 4'	INCH 0 1
DRAWING NO. 20154390-EX_PIER	SHEET NO. 11 OF 21

APPROVED BY: *Talia N. Belill*



NOTES:

THIS BRIDGE MAY CONTAIN LEAD BASED PAINT. RECORDS INDICATE THAT THE STRUCTURAL STEEL WAS PARTIALLY SCRAPED OR 100% SANDBLASTED AND COATED IN THE REHABILITATION IN 1986.

WORK INCLUDES PARTIAL CLEANING AND COATING OF THE LAST 2 FEET OF THE BEAM ENDS AND STEEL BEARINGS AT THE ABUTMENTS AND PIER.

SEE SUBSECTION 715 OF THE STANDARD SPECIFICATIONS FOR PROTECTION OF WORK AND ENVIRONMENT DURING THE BLAST CLEANING OF STRUCTURES.

THE ENGINEER SHALL INSPECT THE STRUCTURAL STEEL PARTS THAT HAVE BEEN CLEANED FOR EVIDENCE OF CRACKS OR LOSS OF SECTION DUE TO CORROSION OF MORE THAN 25 PERCENT. SUCH DETERIORATION SHALL BE REPORTED IN WRITING TO THE ENGINEER.

THE COLOR OF THE URETHANE PROTECTIVE COAT SHALL BE LIGHT BLUE TO MATCH THE EXISTING PAINT COLOR AND APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL TAKE NECESSARY MEASURES TO AVOID OVER SPRAY ON ADJACENT SUBSTRUCTURE, UTILITIES AND SUPERSTRUCTURE CONCRETE SURFACES INCLUDED IN THE BID ITEM "STEEL STRUCTURE, COATING, PARTIAL, TYPE 4".

THE CONTRACTOR SHALL WRAP THE GAS MAIN IN HEAVY CANVAS TO PREVENT DAMAGE TO ITS PROTECTIVE COATING DURING THE CLEANING AND COATING OPERATIONS INCLUDED IN THE BID ITEM "STEEL STRUCTURE, CLEANING, PARTIAL, TYPE 4".

QUANTITIES		
126	Sft	Steel Structure, Cleaning, Partial, Type 4, Abutment
128	Sft	Steel Structure, Cleaning, Partial, Type 4, Pier
126	Sft	Steel Structure, Coating, Partial, Type 4, Abutment
128	Sft	Steel Structure, Coating, Partial, Type 4, Pier

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O.C.R.:

REFERENCE LINE FOR TWO INCHES

PHOTOGRAPHED DRAWINGS

DESIGNED BY CARL W. SANZI
TRACED BY WILFRED E. GRAF
CHECKED BY CARL W. SANZI

CITY ENGINEERS OFFICE
ANN ARBOR MICHIGAN
**SEWAGE TREATMENT PLANT
GEDDES BRIDGE**
**STRUCTURAL STEEL AND
PIPE ASSEMBLY**

GEO. H. SANDENBURGH CITY ENGINEER
DECEMBER 1934
SCALE 1" = 4'-0" R.W.A. DOCKET NO. 785

494D-04

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR

**WASTEWATER TREATMENT PLANT
2015 ACCESS BRIDGE REPAIR PROJECT**

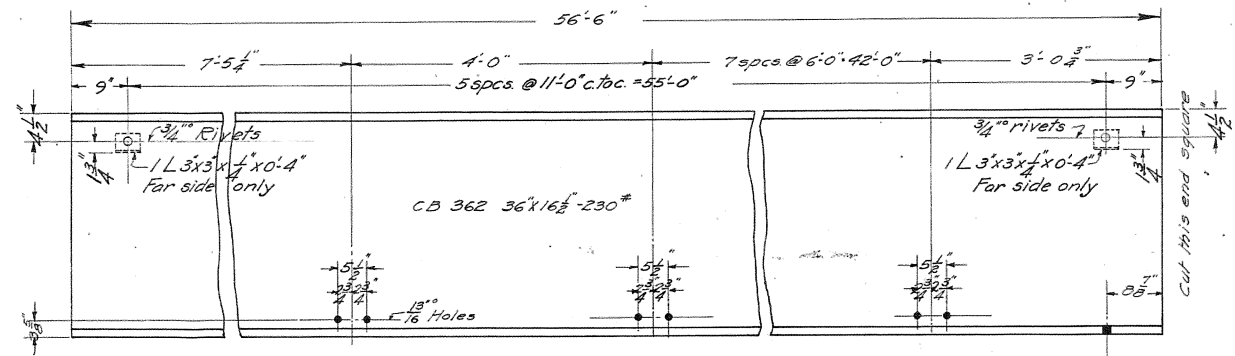
EX STRUCTURAL STEEL AND PIPE ASSEMBLY

APPROVED BY: *Talia N. Belill*

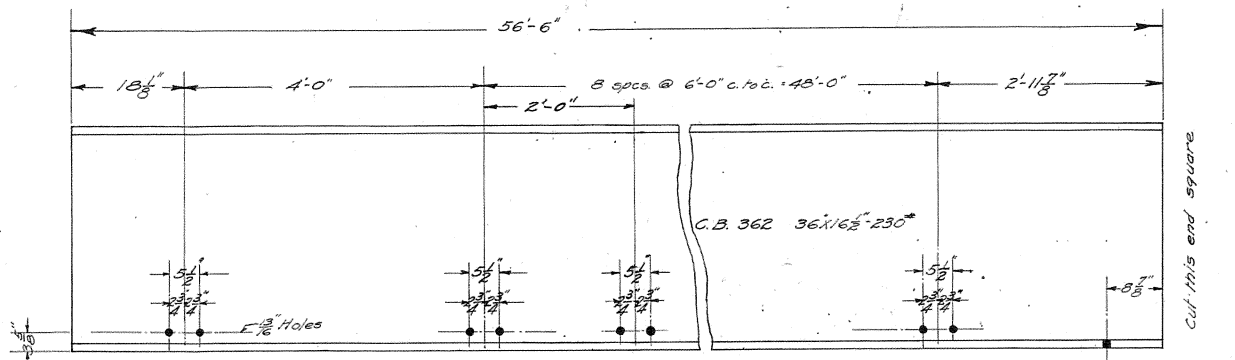
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DRAWING NO. 20154390-EX_STEEL_1
SHEET NO. 12 OF 21

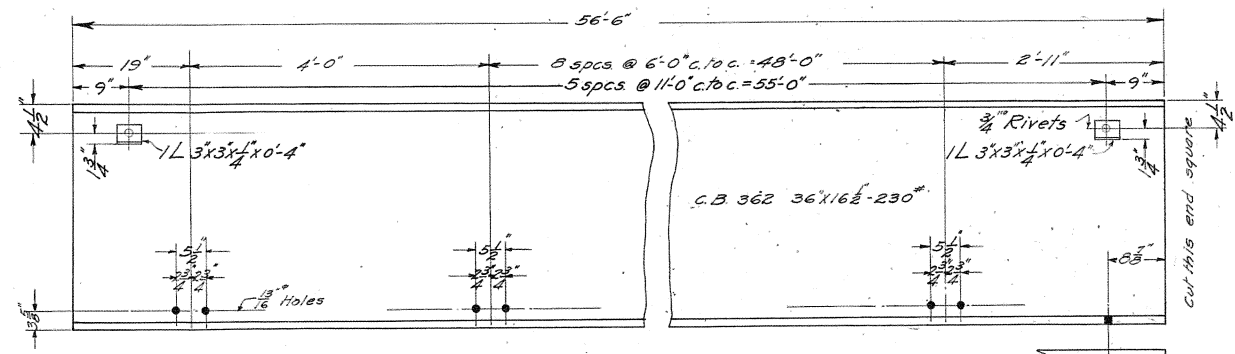
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BENCH MARK	SURVEY BOOK		ORIGINAL ISSUE	5/21/15	DAF	TNB



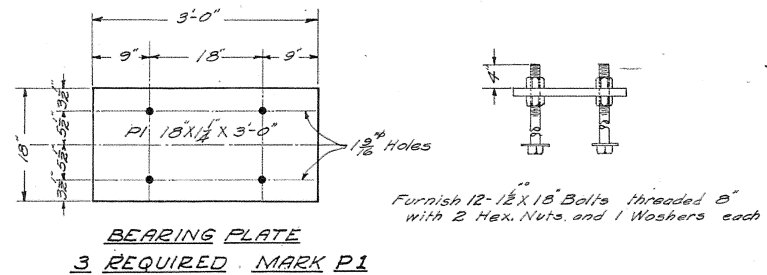
BRIDGE BEAM
2 REQUIRED MARK B1



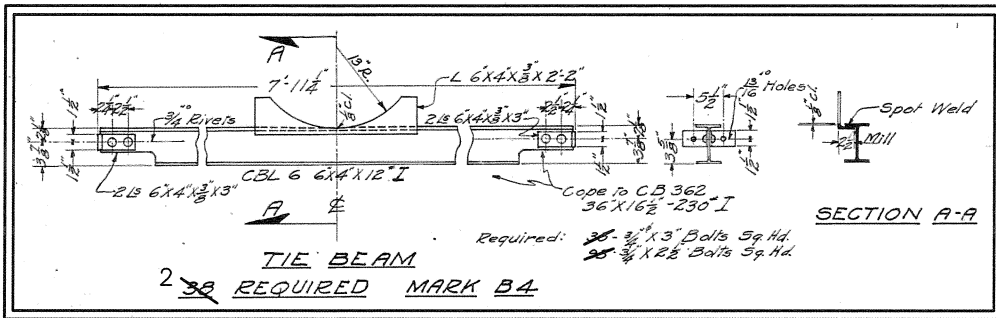
BRIDGE BEAM
2 REQUIRED MARK B2



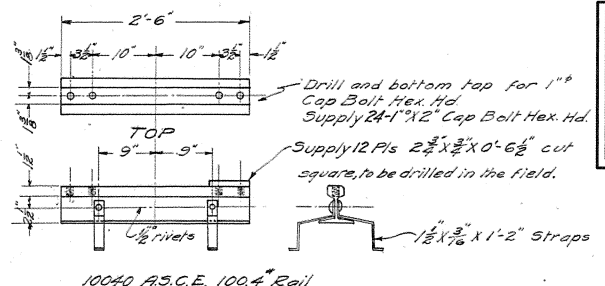
BRIDGE BEAM
2 REQUIRED MARK B3



BEARING PLATE
3 REQUIRED MARK P1



TIE BEAM
2 REQUIRED MARK B4



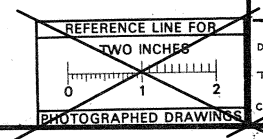
SLIDING JOINT
6 REQUIRED MARK R1

REMOVE AND REPLACE PIER DIAPHRAGMS WITH W6x12 BEAMS AS SHOWN ON EXIST STRUCTURAL STEEL AND PIPE ASSEMBLY SHEET.
FIELD CONNECTIONS SHALL BE 3/8" HIGH STRENGTH BOLTS.

QUANTITIES	
215 Lb	Structural Steel, Rolled Shape, Erect
215 Lb	Structural Steel, Rolled Shape, Furn and Fab

Note: Shop Paint - 1 Coat of Red Lead and Linseed Oil.
Field Paint - 1 Coat of Aluminum Paint - See Spec. to be applied after completion of Bridge.

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By: BGK
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Vectors:
Q.C.R.:



SHEET NO. 10	CITY ENGINEERS OFFICE ANN ARBOR MICHIGAN SEWAGE TREATMENT PLANT GEDDES BRIDGE STRUCTURAL STEEL
INDEX NO. 2002	
SHELF NO. 6	
SIZE NO. C	
SIZE NO. B21	
DESIGNED BY CARL W. SANZI	GEO. H. SANDENBURGH CITY ENGINEER DECEMBER 1934 SCALE 1"=1'-0" P.W.A. DOCKET NO. 785
TRACED BY WILFRED B. GRAF	
CHECKED BY CARL W. SANZI	
PHOTOGRAPHED DRAWINGS	

494D-10

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR						
WASTEWATER TREATMENT PLANT						
2015 ACCESS BRIDGE REPAIR PROJECT						
EXIST STRUCTURAL STEEL						
APPROVED BY	Talia N. Belill			SCALE 1"=1'-0"		
SEE ABOVE	XXX	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
BENCH MARK	SURVEY BOOK		ORIGINAL ISSUE	5/21/15	DAF	TNB

TALIA N. BELILL, P.E., NO. 51543

SIGN MATERIAL SELECTION TABLE

SIGN SIZE	SIGN MATERIAL TYPE		
	TYPE I	TYPE II	TYPE III
≤ 36" X 36"		X	X
>36" X 36" < 96" TO WIDE		X	
> 96" WIDE TO 144" WIDE	X	X	
> 144" WIDE	X		


TYPE I ALUMINUM EXTRUSION
 TYPE II PLYWOOD
 TYPE III ALUMINUM SHEET

ROUNDING OF CORNERS IS NOT REQUIRED FOR TYPE I OR II SIGNS.
 VERTICAL JOINTS ARE NOT PERMITTED.
 HORIZONTAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE NOT PERMITTED.

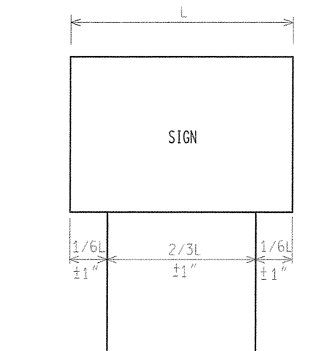
POST SIZE REQUIREMENTS TABLE

SIGN AREA (ft ²)	POST TYPE		
	U-CHANNEL STEEL	SQUARE TUBULAR STEEL	WOOD
≤9	1 - 3 lb/ft*	1 - 2" 12 or 14 GA*	N/A
9 ≤ 20	2 - 3 lb/ft	2 - 2" 12 or 14 GA	1 - 4" X 6"*
> 20 ≤ 30	N/A	N/A	2 - 4" X 6"
> 30 ≤ 60	N/A	N/A	2 - 6" X 8"
> 60 ≤ 84	N/A	N/A	3 - 6" X 8"

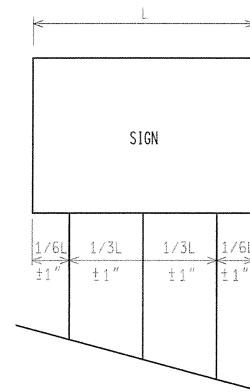
*SIGNS 4 FEET AND GREATER IN WIDTH REQUIRE 2 POSTS.
 SIGNS GREATER THAN 8 FEET IN WIDTH REQUIRE 2 OR 3 WOOD POSTS DEPENDING ON AREA OF SIGN.
 A MAXIMUM OF 2 POSTS WITHIN A 7' PATH IS PERMITTED.

 PREPARED BY: CON/ECH DESIGN DIVISION DRAWN BY: CON/ECH CHECKED BY: AJC	DEPARTMENT DIRECTOR Esk. T. Steude APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS
	APPROVED BY: _____ DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT	PENDING F.H.W.A. APPROVAL 8/2006 PLAN DATE WZD-100-A SHEET 1 OF 11

2 POST SIGN SUPPORT SPACING



3 POST SIGN SUPPORT SPACING



* FOR ALL 11' AND 12' LONG SIGNS ON 3 WOOD SUPPORTS, SPREAD POSTS SO AS TO HAVE A 8" MIN. TO 9" MAX. DISTANCE BETWEEN OUTSIDE POSTS.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN	PENDING F.H.W.A. APPROVAL	8/2006 PLAN DATE	WZD-100-A	SHEET 2 OF 11
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NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

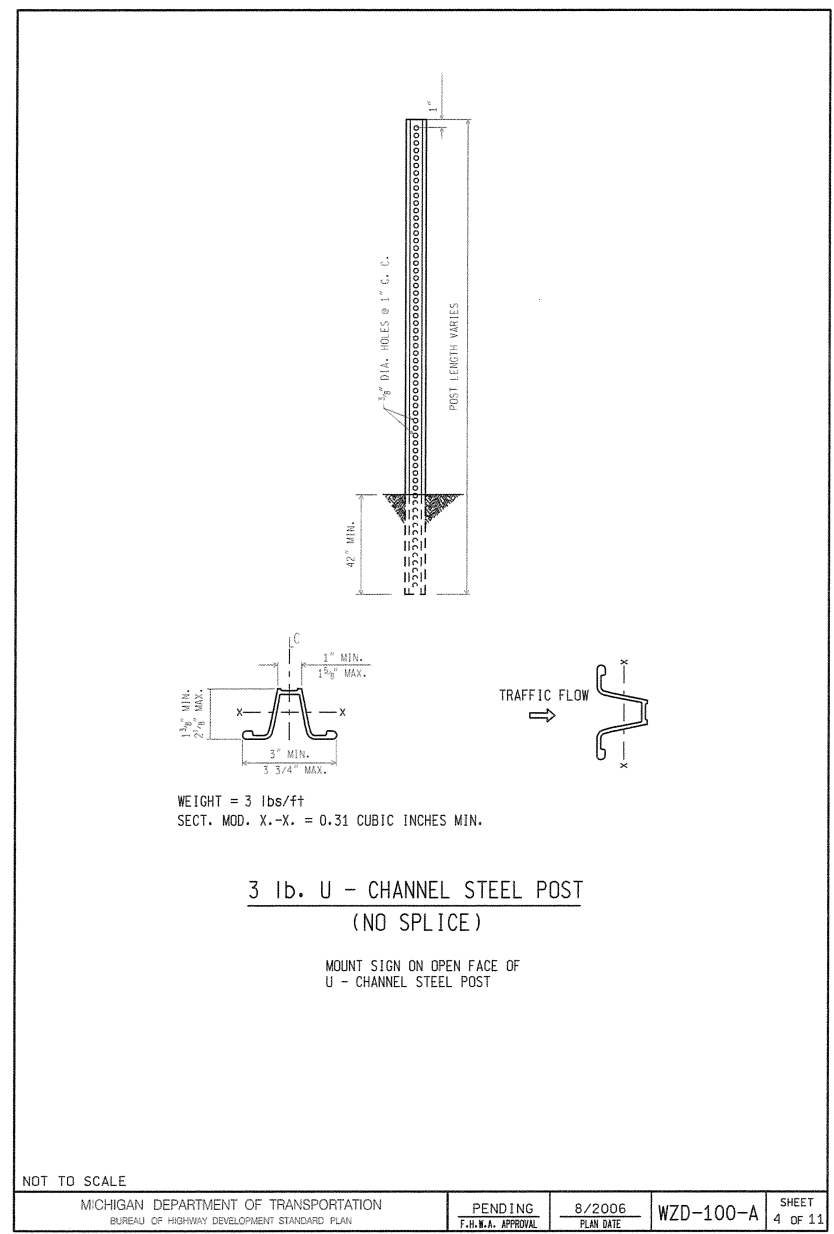
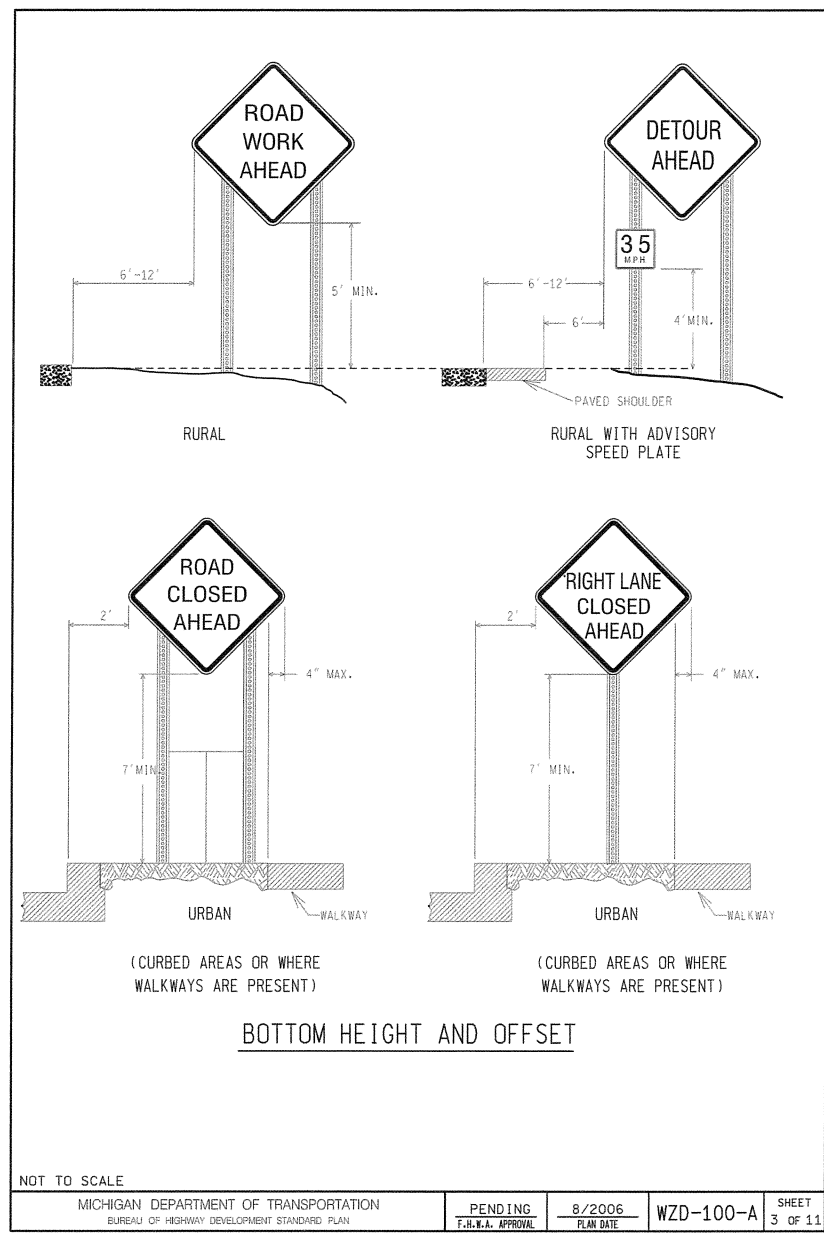
AS-LET PLAN REVISIONS							
NO.	DATE	AUTH.	DESCRIPTION	NO.	DATE	AUTH.	DESCRIPTION



DATE:	CS:	DRAWING SHEET
DESIGN UNIT:	JN:	
TSC:		

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR						
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT						
MDOT SPECIAL DETAILS						
SCALE HOR. 1"=40' VERT. 1"=4'	DRAWING NO. 20154390-MDOT_SD		SHEET NO. 14 OF 21		APPROVED BY: <i>Talia N. Belill</i>	
TALIA N. BELILL, P.E., NO. 51543						

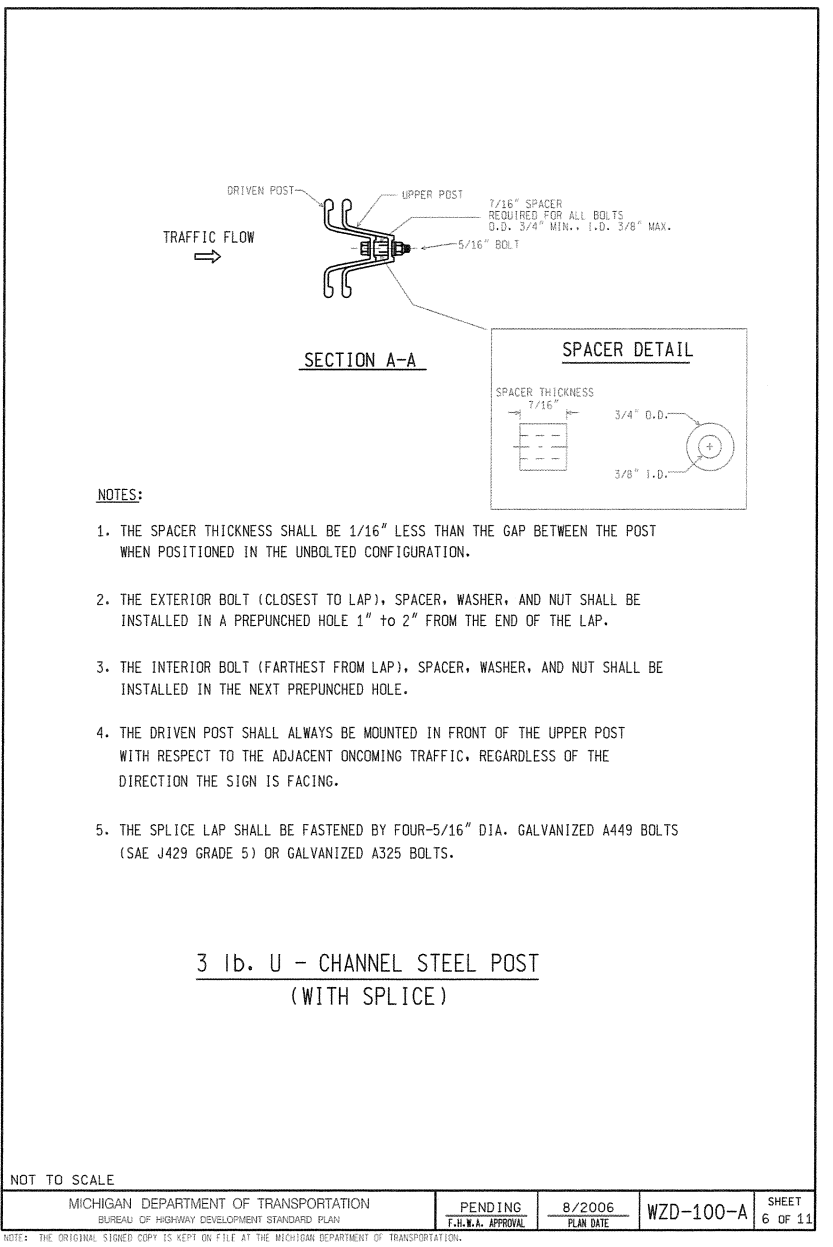
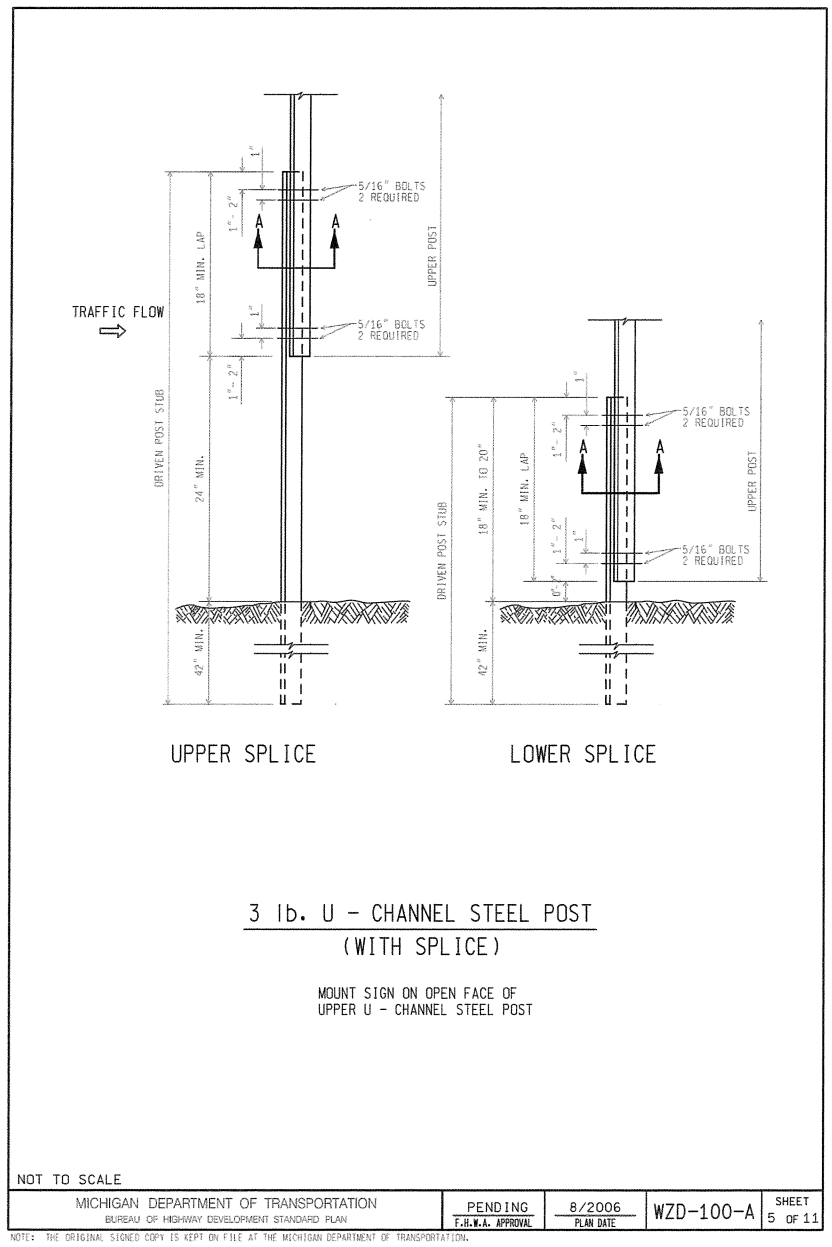
SEE ABOVE	XXX	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
			ORIGINAL ISSUE	5/21/15	DAF	TNB



AS-LET PLAN REVISIONS							DATE:	CS:	DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE					

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR			
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT			
MDOT SPECIAL DETAILS			
SCALE	HOR. 1"=40'	VERT. 1"=4'	
DRAWING NO. 20154390-MDOT_SD			
SHEET NO. <u>15</u> OF <u>21</u>			
APPROVED BY: <i>Talia N. Belill</i>			

SEE ABOVE	XXX					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
				5/21/15	DAF	TNB



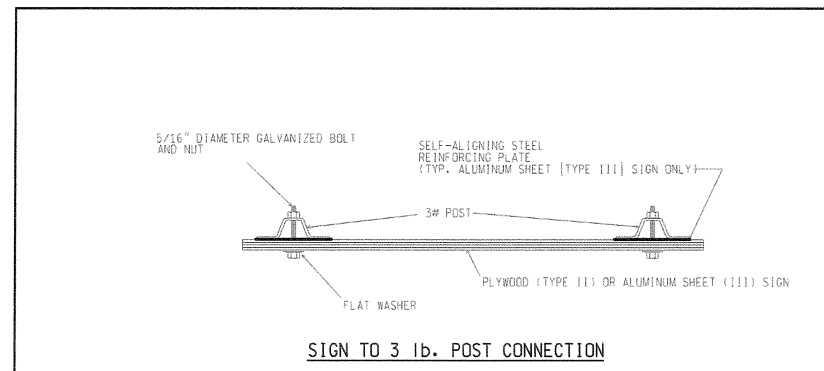
AS-LET PLAN REVISIONS					
NO.	DATE	AUTH.	DESCRIPTION	NO.	DATE



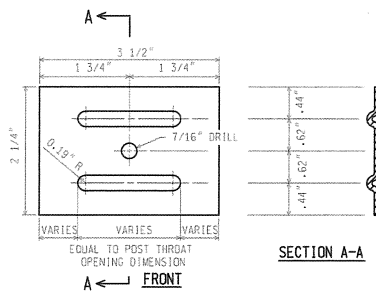
DATE:	CS:	DRAWING:	SHEET:
DESIGN UNIT:	JN:		
FILE:	TSC:		

SEE ABOVE	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR	
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT	
MDOT SPECIAL DETAILS	
APPROVED BY: <i>Talia N. Belill</i>	SCALE HOR. 1"=40' VERT. 1"=4'
	DRAWING NO. 20154390-MDOT_SD
	SHEET NO. <u>16</u> OF <u>21</u>



SIGN TO 3 lb. POST CONNECTION



- NOTES: (FOR STEEL SIGN REINF' PLATE)
1. MATERIAL: 12 GAUGE CARBON STEEL.
 2. TOLERANCE ON ALL DIMENSIONS $\pm 0.0625"$
 3. FINISH-AFTER STAMPING AND PUNCHING, GALVANIZE ACCORDING TO CURRENT SPECIFICATIONS FOR ZINC (HOT GALVANIZE) COATINGS ON PRODUCTS FABRICATED FROM PLATES OR STRIPS

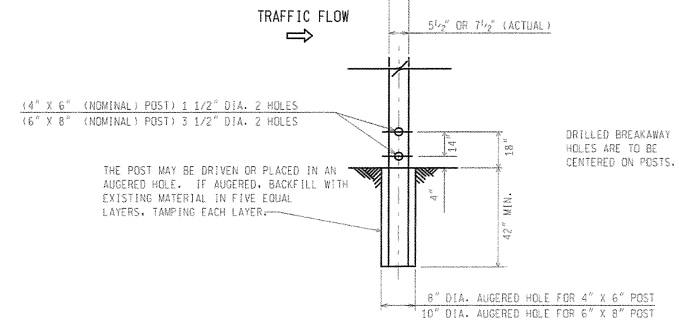
STEEL SIGN REINFORCING PLATE
REQUIRED FOR TYPE III SIGNS ONLY

3 lb. U - CHANNEL STEEL POST SIGN CONNECTION

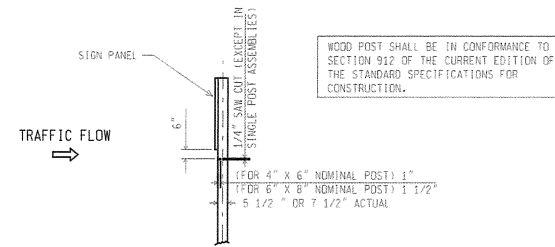
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN	PENDING F.H.W.A. APPROVAL	8/2006 PLAN DATE	WZD-100-A	SHEET 7 OF 11
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NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



**WOOD POST BREAKAWAY HOLES/
DIRECT EMBEDMENT DETAILS**



**SAW CUT DETAIL
(MULTIPLE POST INSTALLATIONS)**

WOOD POST DETAILS

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN	PENDING F.H.W.A. APPROVAL	8/2006 PLAN DATE	WZD-100-A	SHEET 8 OF 11
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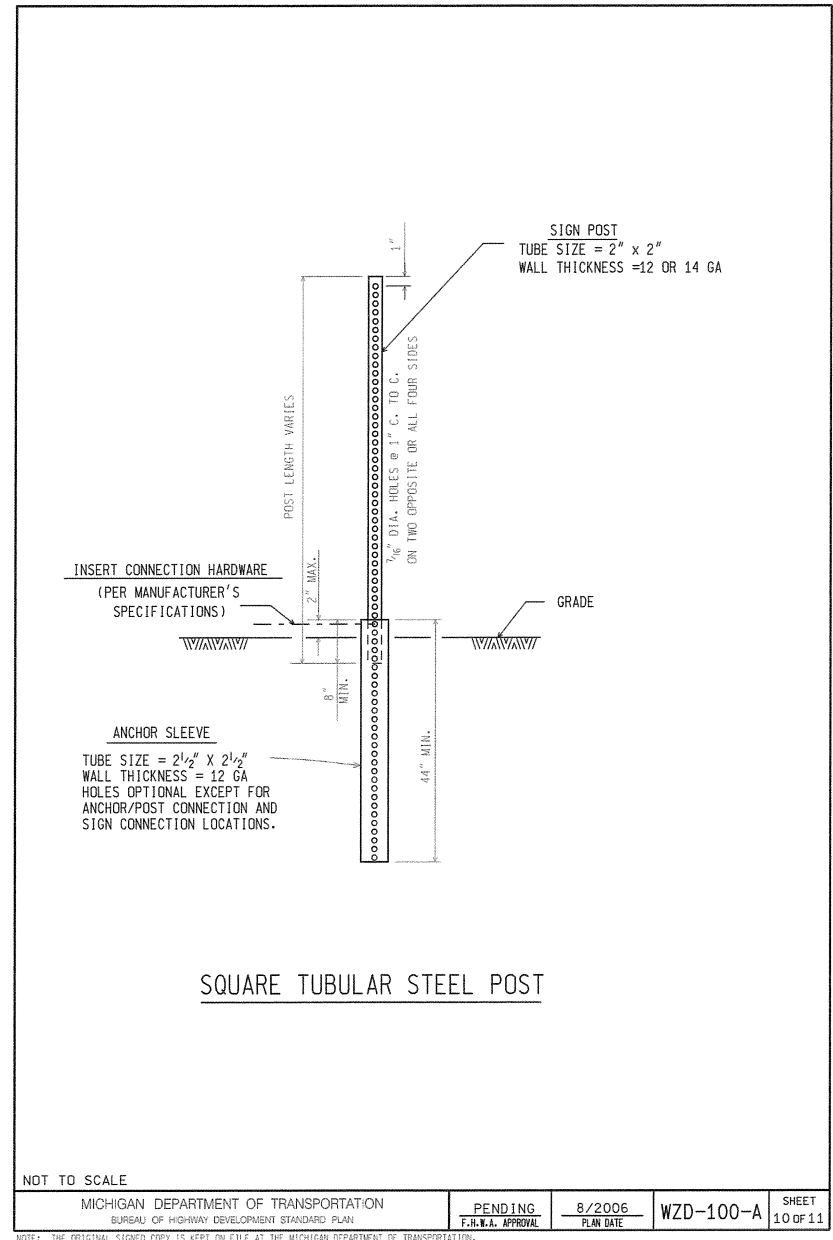
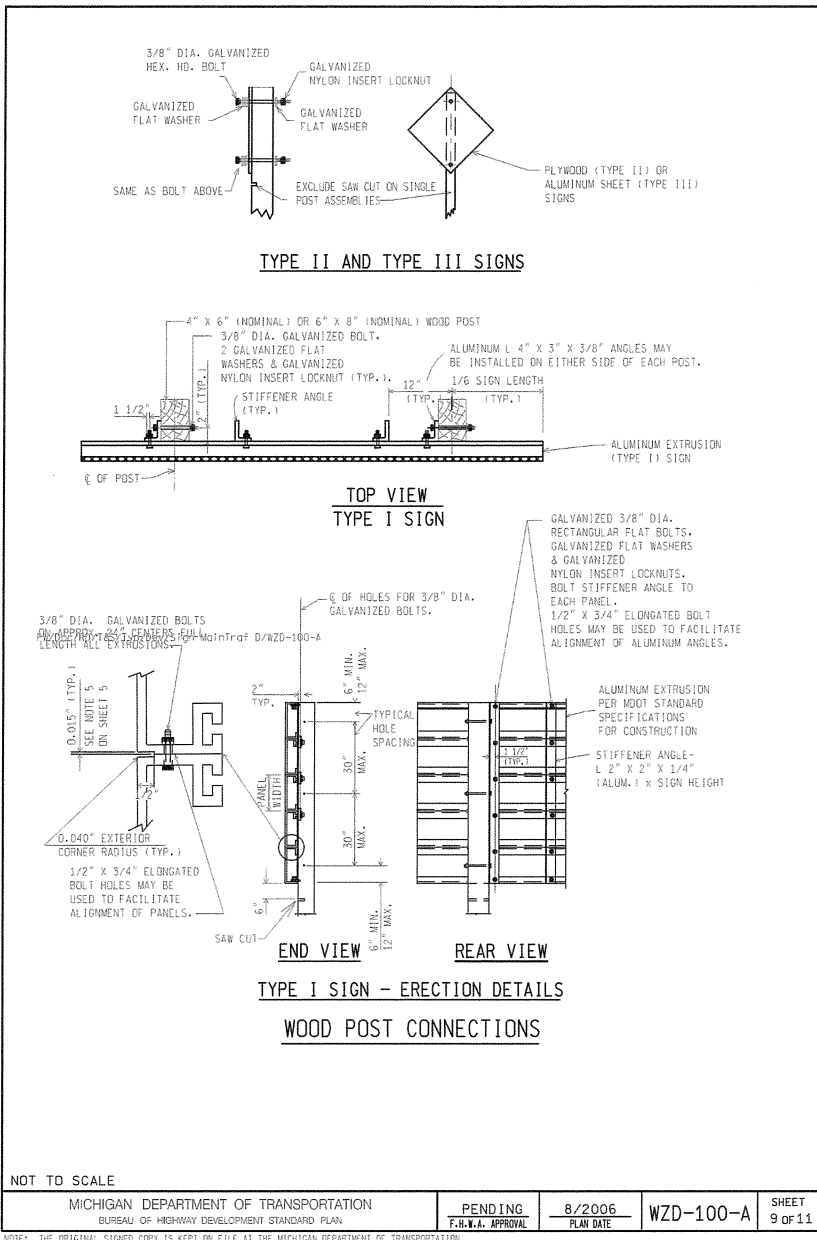
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AS-LET PLAN REVISIONS							
NO.	DATE	AUTH.	DESCRIPTION	NO.	DATE	AUTH.	DESCRIPTION



DATE:	CS:	DRAWING:	SHEET:
DESIGN UNIT:	JN:		
TSC:			

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR						
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT						
MDOT SPECIAL DETAILS						
SEE ABOVE	XXX					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
				5/21/15	DAF	TNB
APPROVED BY: <i>Talia N. Belill</i>						
SCALE						
HOR. 1"=40'						
VERT. 1"=4'						
DRAWING NO.						
20154390-MDOT_SD						
SHEET NO.						
.17 OF .21						



AS-LET PLAN REVISIONS							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE	CS:	DRAWING	SHEET
DESIGN UNIT	JN:		
TSC:			
FILE:			

SEE ABOVE	XXX				
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR.BY CH.BY
				5/21/15	DAF TNB

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR

WASTEWATER TREATMENT PLANT
2015 ACCESS BRIDGE REPAIR PROJECT

MDOT SPECIAL DETAILS

SCALE
 HOR. 1"=40'
 VERT. 1"=4'

DRAWING NO.
 20154390-MDOT_SD

SHEET NO. 18 OF 21

APPROVED BY: *Talia N. Belill*

TALIA N. BELILL, P.E., NO. 51543

GENERAL NOTES:

1. A MAXIMUM OF TWO POSTS WITHIN A 7 FOOT PATH IS PERMITTED.
2. ALL SIGN POSTS SHALL COMPLY WITH NCHRP 350.
3. ALL POSTS SHALL BE EMBEDDED A MINIMUM OF 42".
4. BRACING OF POST IS NOT PERMITTED.
5. SIGN SHALL BE LEVEL, AND UPRIGHT FOR THE DURATION OF INSTALLATION.
6. ERECT POSTS SO THE SIGN FACE AND SUPPORTS DO NOT VARY FROM PLUMB BY MORE THAN 3/16" IN 3'. PROVIDE A CENTER-TO-CENTER DISTANCE BETWEEN POSTS WITHIN 2 PERCENT OF PLAN DISTANCE.
7. NO MORE THAN ONE SPLICE PER POST, AS SHOWN, WILL BE PERMITTED.
8. POST TYPES SHALL NOT BE MIXED WITHIN A SIGN SUPPORT INSTALLATION.
9. NO VERTICAL JOINTS ARE PERMITTED IN SIGN. NO HORIZONTAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE PERMITTED IN SIGN
10. REMOVE SIGN POSTS AND/OR POST STUBS IN THEIR ENTIRETY WHEN NO LONGER REQUIRED.
11. ALL LABOR, MATERIALS, AND EQUIPMENT, INCLUDING TEMPORARY SUPPORTS REQUIRED TO INSTALL, MAINTAIN, RELOCATE, COVER, AND/OR REMOVE THE TEMPORARY SIGN, INCLUDING SUPPORTS, ARE CONSIDERED TO BE INCLUDED IN THE COST OF THE TEMPORARY SIGN.
12. SAW CUTS IN WOOD POSTS ARE TO BE PARALLEL TO THE BOTTOM OF THE SIGN.
13. POSTS SHALL NOT EXTEND MORE THAN 4" ABOVE TOP OF SIGN.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN	PENDING F.H.W.A. APPROVAL	8/2006 PLAN DATE	WZD-100-A	SHEET 11 OF 11
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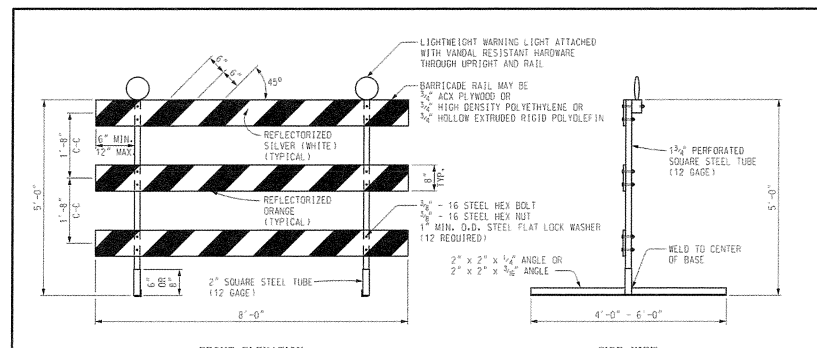
AS-LET PLAN REVISIONS							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



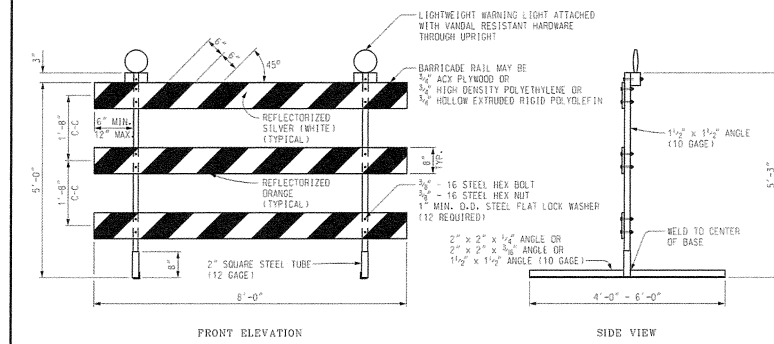
DATE:	CS:	DRAWING	SHEET
DESIGN UNIT:	JN:		
FILE:	TSC:		

SEE ABOVE	xxx					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
				5/21/15	DAF	TNB

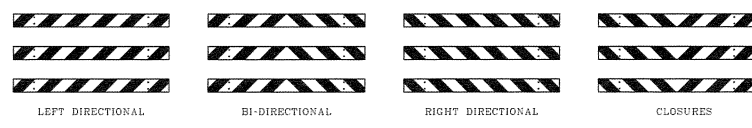
WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR	
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT	
MDOT SPECIAL DETAILS	
SCALE HOR. 1"=40' VERT. 1"=4'	INCH 0 1
DRAWING NO. 20154390-MDOT_SD	
SHEET NO. 19 OF 21	
APPROVED BY <i>Talia N. Belill</i>	



FRONT ELEVATION
SIDE VIEW
PERFORATED SQUARE STEEL TUBE OPTION



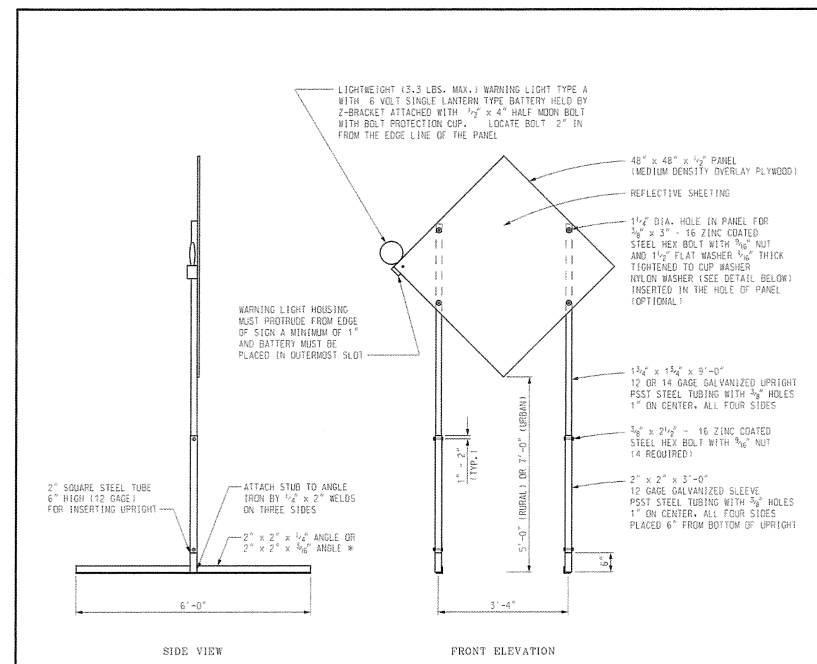
FRONT ELEVATION
SIDE VIEW
ANGLE IRON OPTION



**BARRICADE RAIL SHEETING OPTIONS
TYPE III BARRICADES**

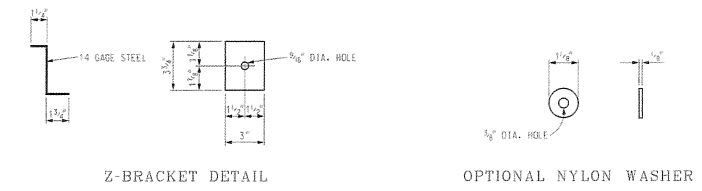
Other Type III Barricades meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

	DEPARTMENT DIRECTOR Kirk T. Steudte	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
	APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES	Temporary Traffic Control Devices
	APPROVED BY: ENGINEER OF DEVELOPMENT	
	APPROVED BY: (SPECIAL DETAIL) DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT	F.H.W.A. APPROVAL: <u>1/18/11</u> PLAN DATE: <u>WZD-125-E</u> SHEET: <u>1 OF 3</u>



SIDE VIEW
FRONT ELEVATION
TEMPORARY SIGN SUPPORT

(WARNING LIGHT PLACED ON SIDE CLOSEST TO TRAFFIC)
* SIGN STAND IS BALLASTED WITH FOUR OR MORE 35 LB SANDBAGS. A MINIMUM OF ONE ON EACH END.
UPRIGHTS SHALL NOT EXTEND ABOVE THE SIGN PANEL.



Other temporary sign supports meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN	SPECIAL DETAIL F.H.W.A. APPROVAL	<u>1/18/11</u> PLAN DATE	<u>WZD-125-E</u>	SHEET <u>2 OF 3</u>
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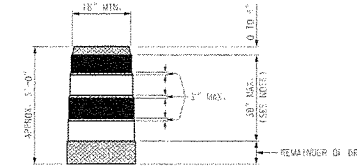
NOTE: THE ORIGINAL STORED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

AS-LET PLAN REVISIONS							DATE:	CS:	DRAWING SHEET
NO.	DATE	AUTH.	DESCRIPTION	NO.	DATE				

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR						
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT						
SCALE HOR. 1"=40' VERT. 1"=4'	DRAWING NO. 20154390-MDOT_SD		SHEET NO. <u>20</u> OF <u>21</u>		APPROVED BY: <i>Talia N. Bellill</i> TALIA N. BELLILL, P.E., NO. 51543	
SEE ABOVE	XXX					
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR. BY	CH. BY
				5/21/15	DAF	TNB

- PLASTIC DRUM
- ▲ PROPOSED TYPE 113 BARRICADE
- ▲ EXISTING TYPE 113 BARRICADE

SYMBOLS TO BE USED ON PLANS



- REFLECTORIZED ORANGE
- REFLECTORIZED WHITE
- ▨ NON REFLECTORIZED ORANGE

NOTE:
DRUMS SHALL HAVE AT LEAST 4 HORIZONTAL REFLECTORIZED STRIPES 1/2 INCH AND 3 INCHES OF 4\"/>

PLASTIC DRUM

NOTES:

2\"/>

ANCHOR LEGS SHALL BE PLACED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ALL OTHER PROVISIONS IN THE CONTRACT ON TYPE 113 BARRICADES.

SEE ROAD STANDARD PLAN P-113-SERIES FOR TEMPORARY CROSSINGS FOR DIVIDED HIGHWAY AND R-120-SERIES FOR TYPICAL LOCATION AND SPACING OF PLASTIC DRUMS FOR PLACEMENT OF TEMPORARY CRACKS AND JUNCTIONS.

SIGNS, BARRICADES, AND PLASTIC DRUMS SHALL BE FACED WITH PROVISION-INDICATING REFLECTIVE SHEETING ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SANDBAGS SHALL BE USED WHEN SUPPLEMENTAL WEIGHTS ARE REQUIRED TO ACHIEVE STABILITY OF THE BARRICADE. THE SANDBAGS SHALL BE PLACED SO THEY WILL NOT TOWER OR OBSTRUCT ANY REFLECTIVE PORTION OF THE TRAFFY CONTROL DEVICE.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN	(SPECIAL DETAIL) F.R.V.A. APPROVAL	1/18/11 PLAN DATE	WZD-125-E	SHEET 3 OF 3
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AS LET PLAN REVISIONS							
NO.	DATE	AUTH.	DESCRIPTION	NO.	DATE	AUTH.	DESCRIPTION



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TSC		

SEE ABOVE	xxx					
BENCH MARK	SURVEY BOOK	REV NO.	DESCRIPTION	DATE	DR. BY	CH. BY
				5/21/15	DAF	TNB

WASTEWATER TREATMENT PLANT - CITY OF ANN ARBOR	
WASTEWATER TREATMENT PLANT 2015 ACCESS BRIDGE REPAIR PROJECT	
SCALE HOR 1"=40' VERT 1"=4'	INCH 0 1
DRAWING NO. 20154390-MDOT_SD	
SHEET NO. 21 OF 21	
APPROVED BY <i>Talia N. Belill</i>	

TALIA N. BELILL, P.E., NO. 51543