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STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARDS PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS



CONTROL SECTION
XXX XXXXX

PROJECT JOB NO.
PW-6987

CULVERT REPLACEMENT PROJECT
REPLACEMENT OF THE W. PARKWAY CULVERT OVER ROUGE RIVER

THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AMERICAN ASSOCIATION OF THE STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO), FOR HIGHWAY BRIDGES HS 25 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/800 OF THE SPAN LENGTH. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR CONSTRUCTION 2003 EDITION.

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

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIALS OF THE FOLLOWING GRADES AND STRESSES.

- CONCRETE: GRADE S2 f'c = 3,000 PSI
- CONCRETE: GRADE D f'c = 4,000 PSI
- STEEL REINFORCEMENT: fy = 60,000 PSI
- PRESTRESSED CONCRETE: f'c = 5,000 PSI

ALL DIMENSIONS ON THESE PLANS ARE IN INCHES EXCEPT AS NOTED.



PUBLIC UTILITIES

<p>AT&T METRO EAST 100 S MAIN ST, SUITE 314 MT CLEMENS, MI 487043-2374 JOE SIKOKI</p> <p>RIGHT OF WAY- METRO WEST 17651 MICHIGAN AVE., RM 301 DEARBORN, MI 48126</p> <p>KEVIN LOGAN CELL FAX KJ29152att.com MARK BRANAM Mark.branam@att.com BRADLEY HALL Bradley.x.hall@att.com DEREK BULKLEY Derek.m.bulkley@att.com</p> <p>NOTE: AT&T WILL REQUIRE FIVE TO SEVEN BUSINESS DAYS ADVANCE NOTICE PRIOR TO ADJUSTING FRAMES AND COVERS. CONTACT AT&T AT (734) 523-6883.</p> <p>CITY OF DETROIT PUBLIC LIGHTING AUTHORITY OF DETROIT 65 CADILLAC SQUARE, SUITE 3100 DETROIT, MI 48226 PHONE WEBSITE: www.pladetroit.org</p> <p>CITY OF DETROIT DETROIT WATER & SEWERAGE DEPARTMENT 6425 HUBER (CS) A-219 DETROIT, MI 48211 DEBRA SINGLETON dsingleton@dwsd.org EMERGENCY 24 HOUR SERVICE</p>	<p>TELEPHONE (586) 466-6310</p> <p>(313) 240-5482 (734) 223-5645 (313) 982-1029</p> <p>(313) 240-5390</p> <p>(313) 466-1049</p> <p>(313) 240-5480</p> <p>ELECTRIC POWER AND STREET LIGHTING (313) 324-8290</p> <p>WATER MAINS & SEWERS (313) 267-8309 (313) 267-7401</p>	<p>CITY OF DETROIT DETROIT FIRE DEPARTMENT FIRE MARSHAL'S DIVISION 1301 THIRD STREET DETROIT, MI 48226 PHONE CHIEF OTIS B. HOLT FAX</p> <p>CITY OF DETROIT, DETROIT POLICE DEPARTMENT DETROIT PUBLIC SAFETY HEADQUARTERS 1301 THIRD STREET DETROIT, MI 48226 PHONE FAX</p> <p>CITY OF DETROIT TRAFFIC ENGINEERING, D.P.W. 2633 MICHIGAN AVENUE DETROIT, MI 48207 ASHOK PATEL FAX AshPat@detroitmi.gov JUBI CHACKUNKAL JubCha@detroitmi.gov KIRIT PATEL Patelki@detroitmi.gov</p> <p>SIGN SHOP 2425 FENKELL DETROIT, MI 48238 SIGN SHOP MANAGE FAX</p> <p>COMCAST CABLEVISION 12775 LYNDON DETROIT, MI 48227 BENE CUMMINGS FAX</p>	<p>FIRE CALL BOXES AND FIRE HYDRANTS (313) 596-2900 (313) 224-1311 (313) 596-2978</p> <p>POLICE CALL BOXES (313) 596-2200 (313) 596-1450</p> <p>PAVEMENT MARKINGS, SIGNS & TRAFFIC SIGNALS (313) 224-1610 (313) 224-1304</p> <p>(313) 224-1315 (313) 407-4124 (313) 628-5641</p> <p>SIGNS REMOVALS & INSTALLATIONS (313) 628-2923 (313) 628-4966</p> <p>TV CABLES (313) 934-2600 (313) 934-4824</p>	<p>DTE, GAS COMPANY ONE ENERGY PLAZA-WCB1722 DETROIT, MI 48226 DAVE ORZEL orzeld2@teenergy.com</p> <p>DTE, ELECTRIC COMPANY ONE ENERGY PLAZA IGS GROUP, 5185B DETROIT, MI 48226 ROBIN O'CONNELL FAX EXPOSED OR DAMAGED FACILITIES</p> <p>DTE, ENERGY/MICHIGAN GAS DATA INTEGRITY GAS ONE ENERGY PLAZA-WCB1836 DETROIT, MI 48226 BARBARA SAUNDERS CELL EXPOSED OR DAMAGED FACILITIES</p>	<p>HIGH PRESSURE GAS TRANSMISSION (313) 235-1135</p> <p>ELECTRIC POWER (313) 235-5632 (313) 235-9366 (313) 237-9564</p> <p>GAS MAINS (313) 235-5111 (313) 920-4488 (800) 477-4747</p>	<p>NOTE: CONTACT DTE TEN (10) WORKING DAYS PRIOR TO THE CONSTRUCTION START DATE TO COORDINATE ADJUSTMENTS FOR DETROIT EDISON MANHOLES.</p> <p>DETROIT THERMAL LLC 541 MADISON DETROIT, MI 48226 TOM MONRO FAX (313) 921-1922 (313) 921-1972</p> <p>ITC HOLDINGS CORP. 27175 ENERGY WAY NOVI, MI 48377 BRIANNA KOTELES bkoteles@itctransco.com (248) 946-3322</p> <p>MISS DIG CALL THREE (3) WORKING DAYS BEFORE YOU DIG (800) 482-7171 OR 811</p> <p>WAYNE COUNTY TRAFFIC OFFICE 29900 GODDARD RD. DETROIT, MI 48242 PHONE (734) 955-2154</p>	<p>STEAM LINES (313) 921-1922 (313) 921-1972</p> <p>ELECTRICITY TRANSMISSION COMPANY (248) 946-3322</p> <p>ALL UNDERGROUND UTILITIES</p>
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DESIGNED BY LA		Date: 12/04/2017
Drawn WLW		
Checked By ---	Approved By ---	Job No: PW-6987
CONTRACT FOR: REPLACEMENT OF THE W. PARKWAY CULVERT OVER ROUGE RIVER		
LOCAL AUTHORITY APPROVAL CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERING DIVISION		
APPROVED BY _____	DATE _____	
PREPARED UNDER THE SUPERVISION OF _____ REGISTERED PROFESSIONAL ENGINEER REGISTRATION NO. _____ CITY OF DETROIT ORGANIZATION CITY ENGINEERING DIVISION, D.P.W. 2 WOODWARD AVE. SUITE 601 DETROIT MI 48216 ADDRESS		
SHEET ___ OF ___		

CONTROL SECTION NO.: XXX XXXXX
JOB NO.: PW-6987

BENCHMARKS

BM#1 ELEV = 616.82
CHISEL MARK 26.4 FEET
RIGHT OF STA 4+81

BM#2 ELEV = 605.44
CHISEL MARK SW COR.
W. PARKWAY & MEADOWPARK

WITNESSES

WITNESSES TO CP#2 EAST - W. PARKWAY, NORTH HAZELTON
55' FRONT LIGHTPOLE NORTH

CP#86 SW COR. W. PARKWAY & MEADOWPARK
5' N. FIRE HYDRANT
7' W. CURB LINE
30' S. SOUTH CURB LINE OF MEADOWPARK

REF PT COORDINATES

REF PT A X=5000.00
Y=5092.93

REF PT B X=5040.57
Y=4555.99

NOTES:

THE WORK COVERED BY THESE PLANS INCLUDED REMOVAL OF THE EXISTING METAL CORRUGATED STEEL CULVERT, CONSTRUCTION OF THE PROPOSED CULVERT & RETAINING WALL AND PLACING RIPRAP TO THE LIMITS SHOWN, ALL OTHER WORK IS INCLUDED IN THE ROAD PLANS THAT ARE PART OF THE PACKAGE.

THE STATIONING SHOWN IS UNIQUE TO THIS PROJECT AND CANNOT BE RELATED TO ANY OTHER EXISTING STATIONING.

W. PARKWAY TRAFFIC IS TO BE DETOURED OVER OTHER EXISTING ROADS.

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING A DETERMINATION OF WATER LEVELS THAT MAY EXIST DURING CONSTRUCTION.

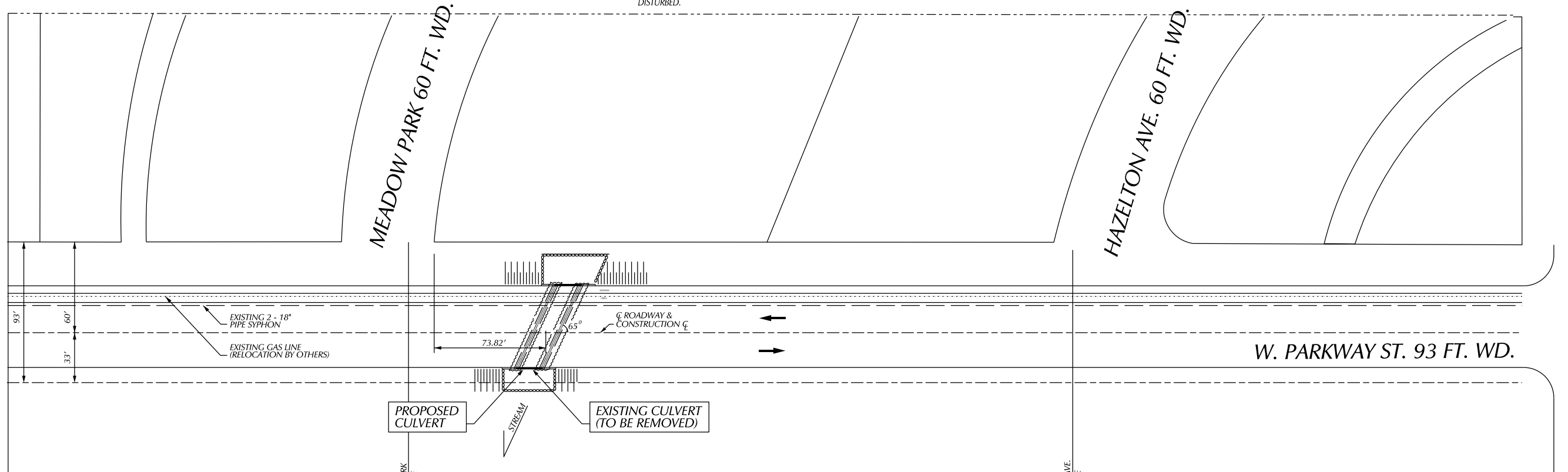
MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE STRUCTURES, IF DEBRIS FALLS INTO THE WATERWAY, IT SHALL BE REMOVED WITHIN 24 HOURS. SINCE DISTURBANCE OF THE WATERWAY BOTTOM MAY BE AS HARMFUL AS THE DEBRIS ITSELF, THE PREVENTIVE MEASURES MUST BE EFFECTIVE.

IMMEDIATELY AFTER THE CONSTRUCTION OF A CULVERT SLOPE IS COMPLETED, SLOPE PROTECTION AND SEEDING OR SODDING SHALL BE PLACED ON THE ADJACENT EMBANKMENT SLOPES.

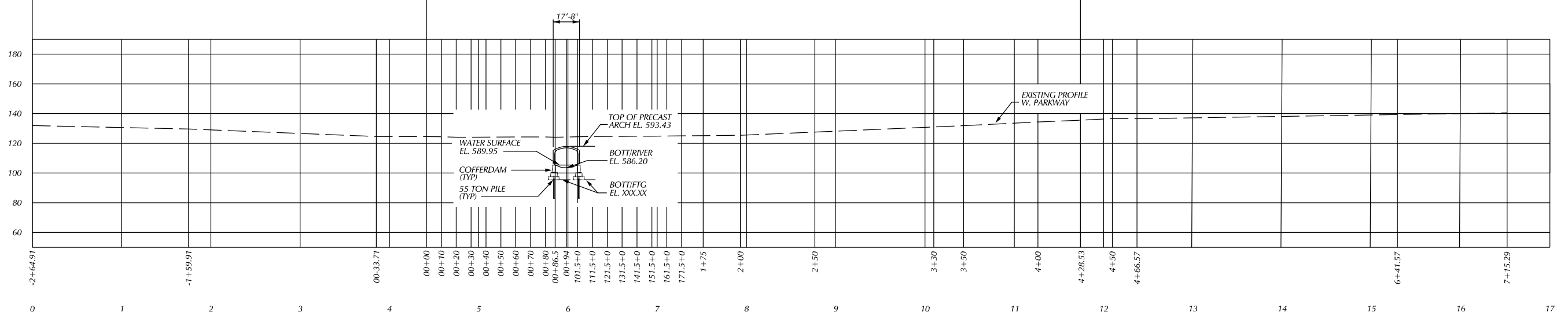
BENCH MARKS ELEV

PLANS REFER TO THE NAVD88 DATUM.

THE SURVEY INFORMATION ON THIS PROJECT WAS ACQUIRED BY THE CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS, CITY ENGINEER DIVISION SURVEYOR.

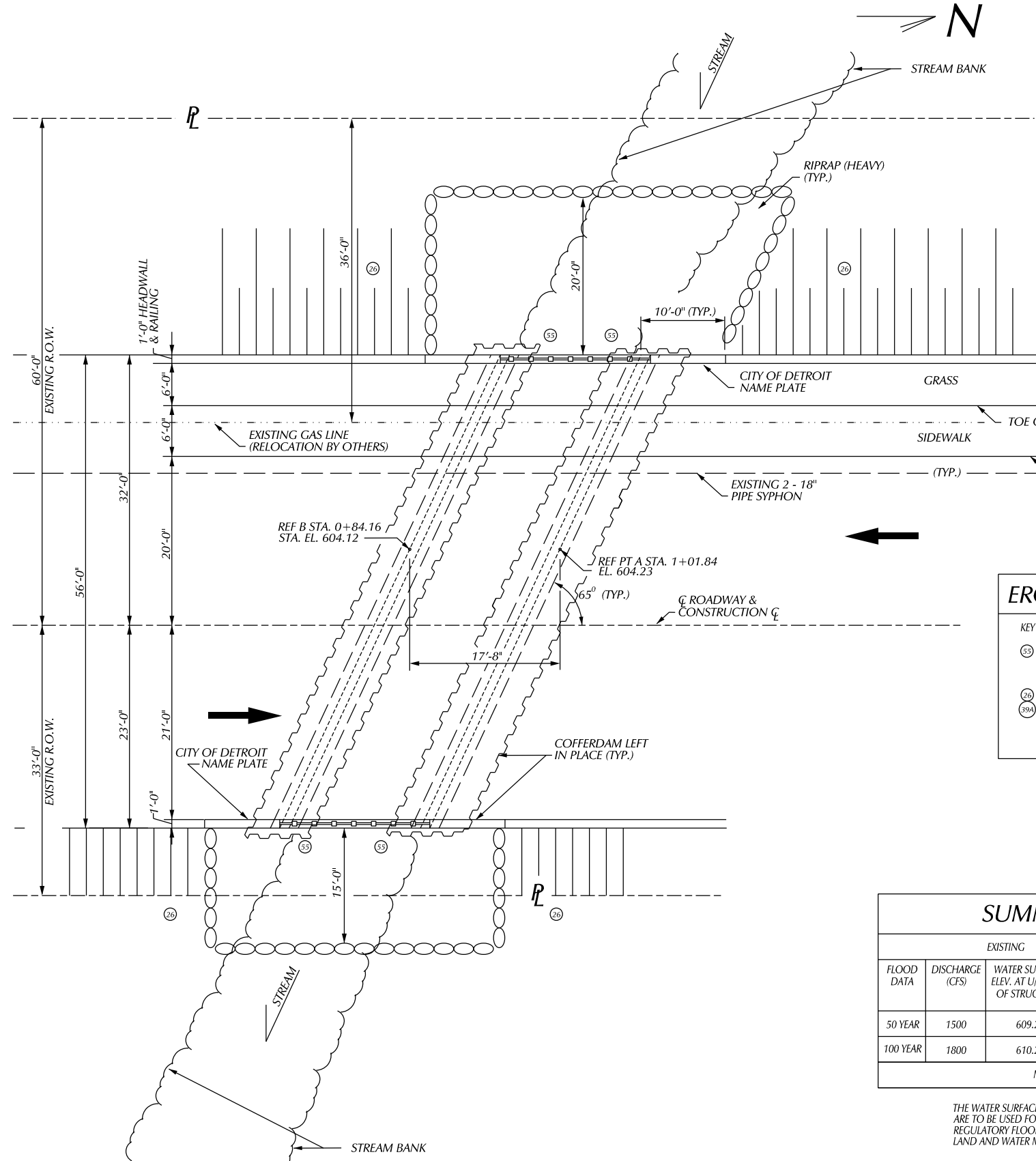


SITUATION PLAN
SCALE: 1"=40'-0"



PROPOSED PROFILE ALONG W. PARKWAY GRADE
VERT. SCALE: 1"=10'
HOR. SCALE: 1"=40'

BY: _____ CHECKED BY: _____ APPROVED: _____ ENGINEER OF STREETS		CITY OF DETROIT CITY ENGINEERING DIVISION - D.P.W. BUREAU OF STREETS AND HIGHWAYS FOR	WEST PARKWAY CULVERT OVER ROUGE RIVER GENERAL PLAN OF SITE	SHEET _____ OF _____ SHEETS
PLAN GRADE ESTIMATE REVISIONS				CONTRACT NO. _____ ASSIGNMENT NO. _____ DATE _____



MISCELLANEOUS QUANTITIES

1 LS	MONITORING VIBRATIONS (STRUCTURES)
1 LS	MONITORING VIBRATIONS (SANITARY SEWERS)
1 LS	STRUCTURES, REM (B01 OF 63021)
1 LS	STRUCTURES, REM *
4 CYD	EXCAVATION, FDN **
1570 CYD	BACKFILL, STRUCTURE, CIP
569 CYD	EMBANKMENT, CIP
610 CYD	NON HAZ CONTAMINATED MATERIAL HANDLING AND DISPOSAL, LM
400 TON	RIPRAP, HEAVY, SPECIAL
1 LS	CONFFERDAMS, LEFT IN PLACE
150 SYD	CONC. SURFACE COATING

* STRUCTURE, REM INCLUDED: REMOVAL OF EXISTING CORRUGATED PIPE-CULVERT, REMOVAL EXISTING GUARDRAIL, EXCAVATING, FDN FOR CULVERT REMOVAL.
 ** THIS QUANTITY FOR EXCAVATION FOUNDATION FOR PROPER INSTALLATION OF PROPOSED COFFERDAMS.

NOTES:

THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO STANDARDS SPECIFICATIONS FOR HIGHWAY BRIDGES HS25 LOADING. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.

THE REMOVAL OF THE EXISTING STRUCTURE, SLOPEWALLS AND GABIONS IS INCLUDED IN THE PAY ITEM, "STRUCTURE, REM". SEE "STRUCTURES REMOVAL SEQUENCE" ON SHEET.

REMOVAL OF THE EXISTING SUBSTRUCTURE UNITS SHALL BE ISOLATED FROM THE WATERWAY USING TEMPORARY STEEL SHEET PILING. TEMPORARY SHEETING FOR THE REMOVAL SHALL ADHERE TO THE SAME REQUIREMENTS FOR CONSTRUCTION AND DE-WATERING AS THE COFFERDAM. TEMPORARY SHEETING SHALL BE CUT OFF 1'-0" BELOW FINISH GRADE AND SHALL NOT INTERFERE WITH PROPOSED CONSTRUCTION. ALL COST ASSOCIATED WITH THE TEMPORARY SHEETING IS INCLUDING IN THE REMOVAL ITEMS.

DURING WORK ON THE EXISTING AND PROPOSED RETAINING WALLS CASE SHALL BE TAKEN TO PREVENT ANY MATERIAL FROM ENTERING THE WATERWAY. THE CONTRACTOR SHALL PROPOSE A SYSTEM FOR PROTECTION OF THE WATERWAY & SUBMIT IT TO THE ENGINEER FOR APPROVAL. PAID FOR AS "SEDIMENTATION CONTROL". SEE SPECIAL PROVISION.

PAYMENT FOR FALSE DECKING SHALL BE BASED ON THE AREA OF THE EXISTING ARCH BARREL OVER THE WATERWAY REGARDLESS OF THE SIZE OF THE BARGE OR PLATFORM USED. THE CONTRACTOR SHALL TAKE CARE NOT TO ALLOW THE EXISTING EARTH FILL TO FALL INTO THE WATERWAY.

GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP. PAYMENT FOR GEOTEXTILE LINER SHALL BE INCLUDED IN THE PAYMENT FOR "RIPRAP, HEAVY, SPECIAL".

THE EXISTING STRUCTURE PROVIDES A WATERWAY AREA OF 91 SQUARE FEET. TO UNDERCLEARANCE ELEVATION 592.15.

WITHOUT THE PREVENTIVE MEASURES SHOWN ON THESE PLANS, THERE IS A POSSIBILITY THAT STREAM BED SCOUR MAY OCCUR. THE ESTIMATED TOTAL SCOUR DEPTH IS CALCULATED TO BE 12.6 AT ABUMENT A AND 12.6 AT ABUMENT B. THESE DEPTHS ARE BASED ON A 100 YEAR RUNOFF EVENT.

THE DRAINAGE AREA CONTRIBUTORY TO THIS CROSSING IS ___ SQUARE MILES.

BROKEN CONCRETE SHALL NOT BE USED AS RIPRAP.

THE TREMIE SEAL DESIGN WAS BASED ON A WATER SURFACE AT EL. 589.95.

THE WIDTH OF THE TREMIE UNDER THE STRUCTURE MAY NOT BE INCREASED EXCEPT IN THE SOUTHWEST QUADRANT IN THE VICINITY OF THE EXISTING AND PROPOSED SANITARY SEWER.

THE USE OF VIBRATORY HAMMERS FOR INSTALLATION COFFERDAM SHALL NOT BE ALLOWED.

DEWATERING OF THE COFFERDAM IS TO BE MADE THRU FILTER BAGS UNTIL COMPLETION OF THE TREMIE SEAL. ALL COST ASSOCIATED WITH DEWATERING ARE THE RESPONSIBILITY OF THE CONTRACTOR.

COFFERDAMS IN STREAM SHALL BE CUT OFF AT ELEVATION 585.2 OR A MINIMUM OF 1'-0" BELOW THE STREAM BOTTOM OR 1'-0" BELOW GRADE. WORK IS INCLUDED IN THE BID ITEM, "CONFFERDAMS, LEFT IN PLACE (C01 OF 63821).

CONCRETE SURFACE COATING IS TO BE APPLIED TO BOTH SIDES OF THE RAILING, THE HEADRAIL FACIA, THE CULVERT AND PEDESTAL WALL END FACES, THE TOP AND EXPOSED SIDE OF THE WINGWALL, RETURNWALLS AND THE RETAINING WALL. COATING SHALL EXTEND 6 INCHES MINIMUM BELOW FINISHED GRADE.

ALL EXCAVATION ON THE PROJECT SHALL BE CONSIDERED NONHAZARDOUS CONTAMINATED. STORAGE AREA FOR THE MATERIAL ON SITE MAY BE LIMITED.

EROSION AND SEDIMENTATION CONTROL

KEY	QUANTITY	PAY ITEM
(55)	4 EA	EROSION CONTROL, FILTER BAG
	500 FT	TURBIDITY CURTAIN (SHALLOW)
(20)	100 FT	EROSION CONTROL, SILT FENCE
(39A)	4 EA	EROSION CONTROL, INLET PROTECTION, FABRIC DROP
	1 LS	SEDIMENTATION CONTROL

SUMMARY OF HYDRAULIC ANALYSIS

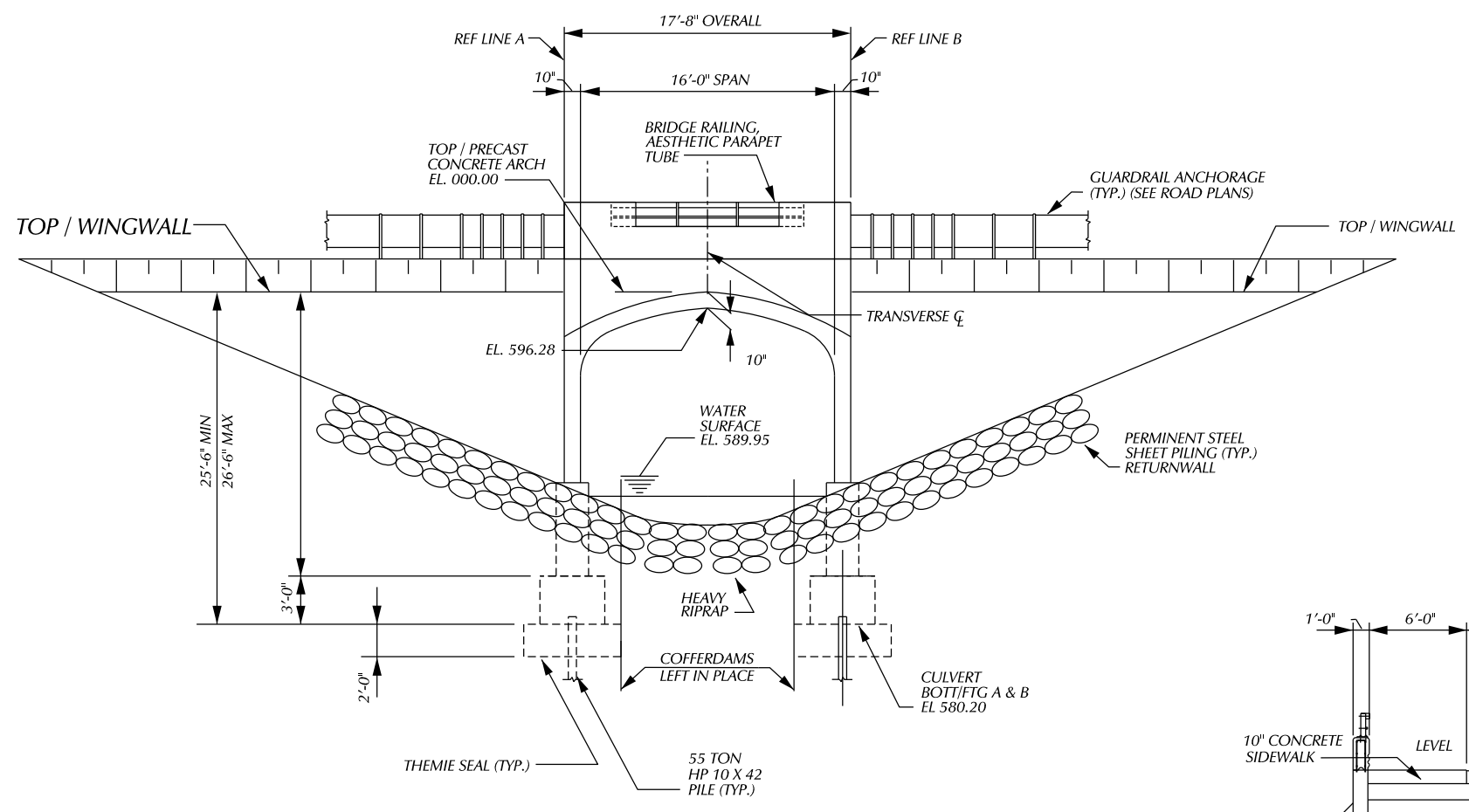
FLOOD DATA	EXISTING				PROPOSED			
	DISCHARGE (CFS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE	VELOCITY AT D/S FACE (FPS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE	VELOCITY AT D/S FACE (FPS)	WATERWAY AREA (SFT) AT D/S FACE	CHANGE IN WS EL 3 U/S OF PROPOSED STRUCTURE	
50 YEAR	1500	609.2	13.3	606	9.9	1321	3.2	
100 YEAR	1800	610.2	13.8	607.8	11.9	1842	1.9	

MAXIMUM BRIDGE AREA BELOW LOW CHORD IS 151 SQUARE FEET

THE WATER SURFACE AND/OR ENERGY GRADE ELEVATIONS SHOWN ON THE ABOVE HYDRAULIC TABLE ARE TO BE USED FOR COMPARISON PURPOSES ONLY AND ARE NOT TO BE USED FOR ESTABLISHING A REGULATORY FLOORPLAIN. THE ELEVATIONS MAY NOT BE USED PROVIDED THEY ARE VERIFIED WITH THE LAND AND WATER MANAGEMENT DIVISION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY.

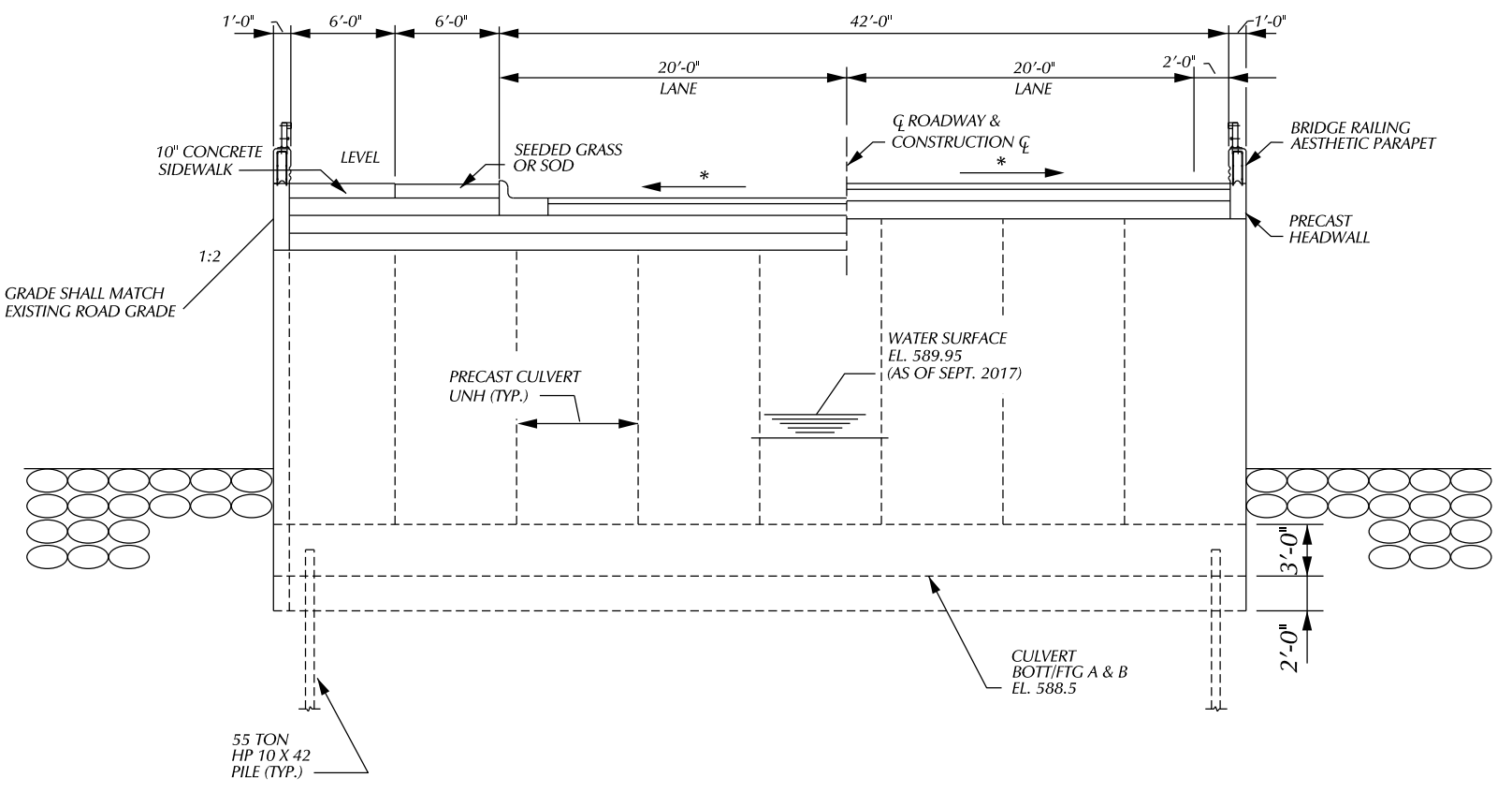
PLAN

PLAN	BY	CHECKED BY	APPROVED:	CITY OF DETROIT CITY ENGINEERING DIVISION - D.P.W. BUREAUS OF STREETS AND HIGHWAYS FOR	WEST PARKWAY CULVERT OVER ROUGE RIVER	SHEET OF SHEETS
GRADE						CONTRACT NO.
ESTIMATE						ASSIGNMENT NO.
REVISIONS	DESCRIPTION	DR	CHK	APP	DATE	DATE



ELEVATION

NOTE: * - GRADE SHALL MATCH EXISTING ROAD GRADE



SECTION A - A

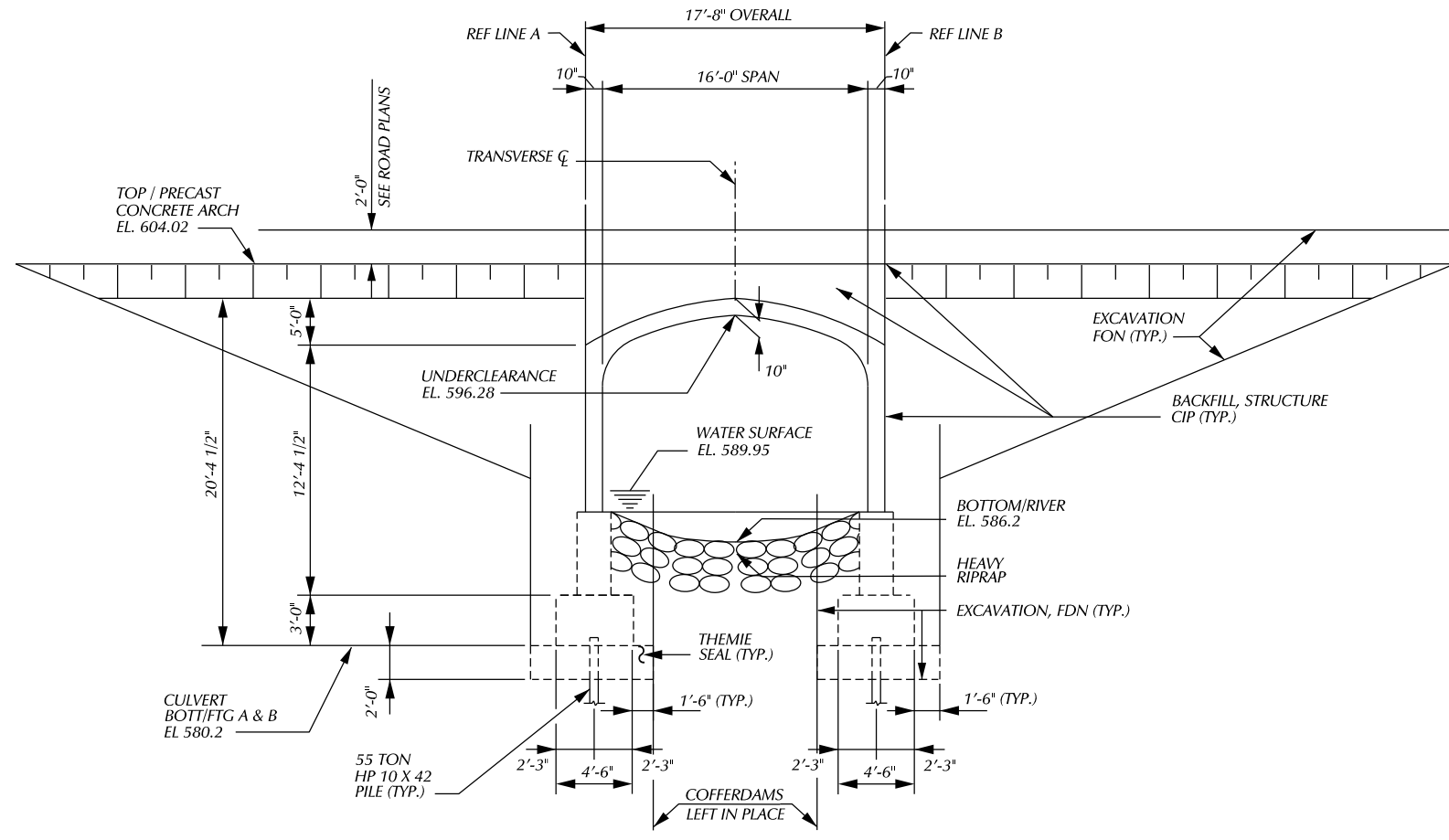
DESCRIPTION	DATE	BY	CHECKED BY	APPROVED
PLAN				
GRADE				
ESTIMATE				
FINAL				
REVISIONS				

CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAUS OF STREETS AND HIGHWAYS
FOR

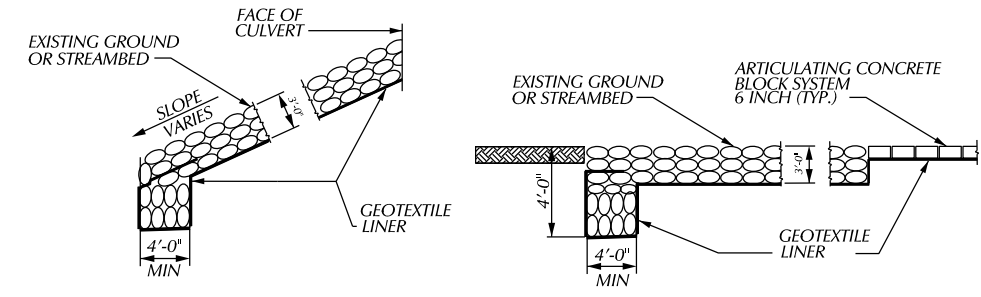
WEST PARKWAY CULVERT OVER ROUGE RIVER

GENERAL PLAN OF STRUCTURE

SHEET	OF	SHEETS
CONTRACT	NO.	
ASSIGNMENT	NO.	
DATE		



CULVERT SECTION



TOE HEADER

END HEADER

RIPRAP HEADER DETAILS

RIPRAP SHALL BE BURIED BELOW TOP OF EXISTING SLOPE

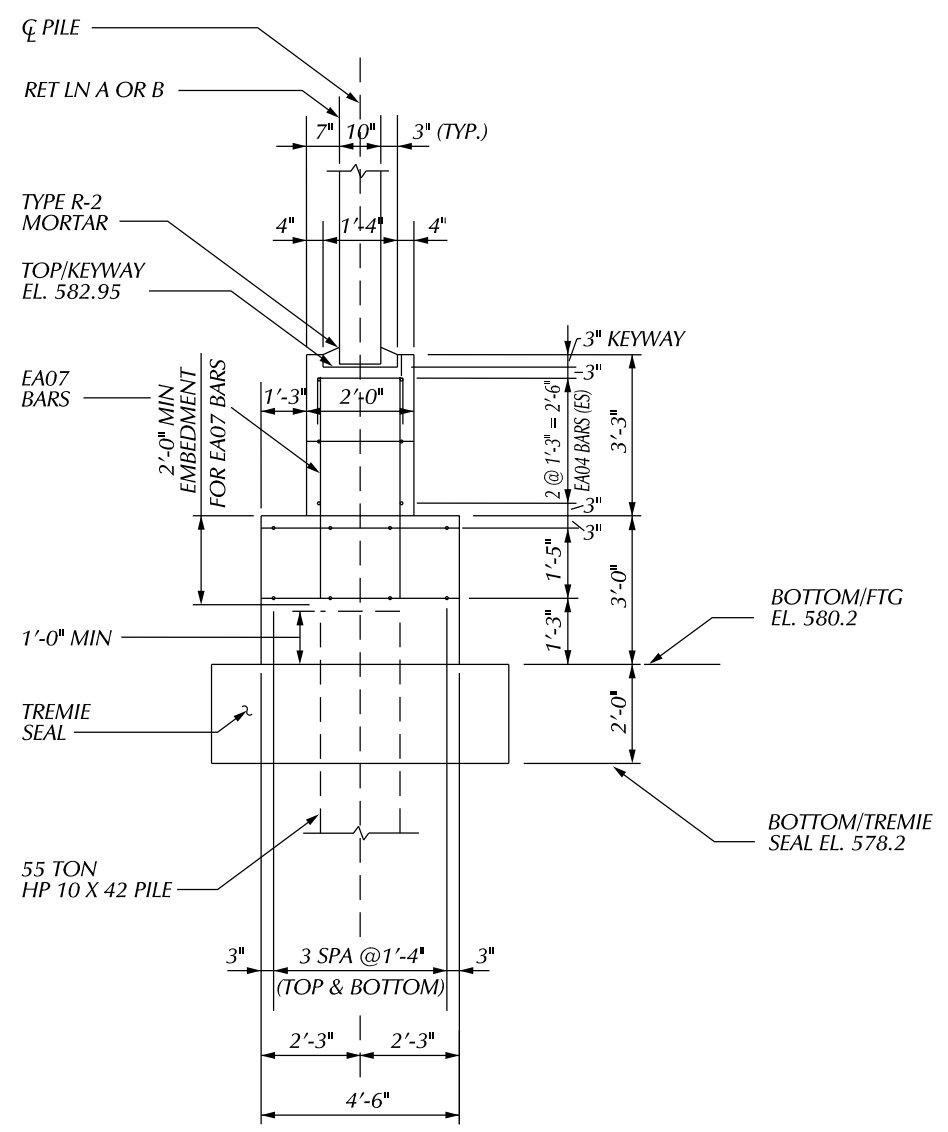
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GRADE			CHIEF OF STREETS
ESTIMATE			
DESCRIPTION	DR	CHK	APP
REVISIONS	DATE	BY	REASON

CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAUS OF STREETS AND HIGHWAYS
FOR

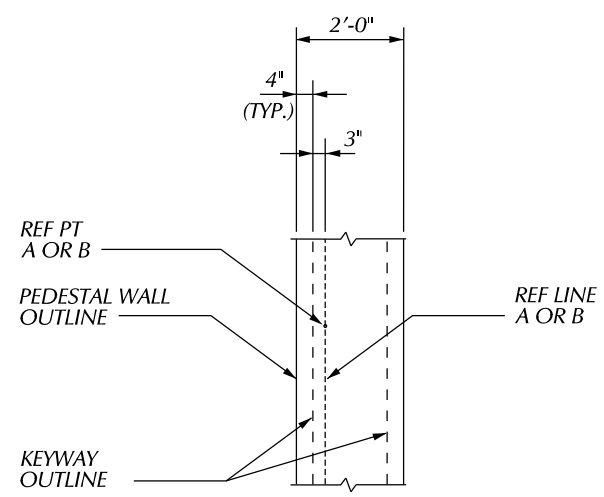
WEST PARKWAY CULVERT OVER ROUGE RIVER

GENERAL PLAN OF STRUCTURE

SHEET	OF	SHEETS
CONTRACT		
NO.		
ASSIGNMENT		
NO.		
DATE		



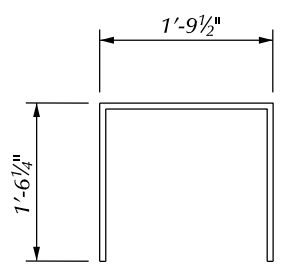
SECTION THRU PEDESTAL WALL



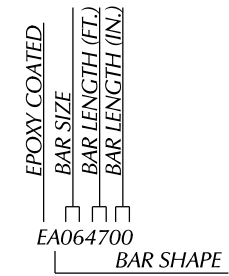
DETAIL A

EPOXY COATED STEEL REINFORCEMENT

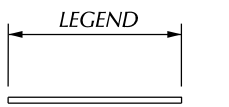
BAR	NO. REQ'D	TOTAL WT FTG A	TOTAL WT FTG B



ED060410



BAR LEGEND

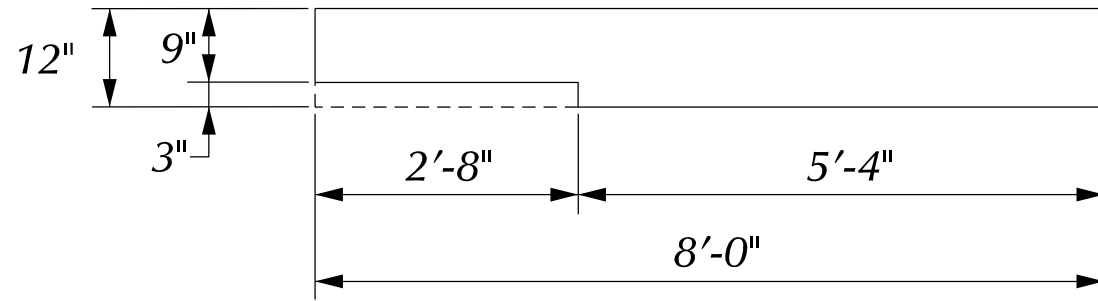


EA BAR

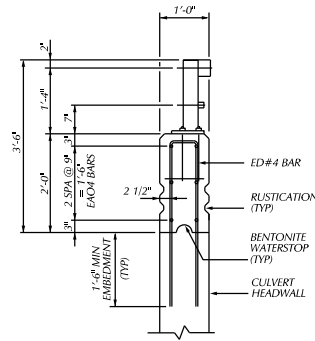
CITY OF DETROIT
 CITY ENGINEERING DIVISION - D.P.W.
 BUREAUS OF STREETS AND HIGHWAYS
 FOR

WEST PARKWAY CULVERT OVER ROUGE RIVER
CULVERT SUBSTRUCTURE DETAILS

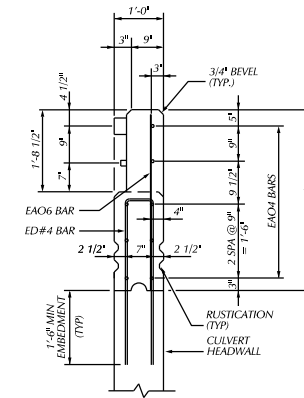
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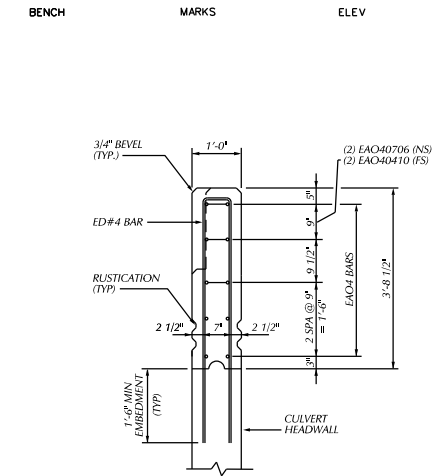
PLAN - CULVERT END WALL



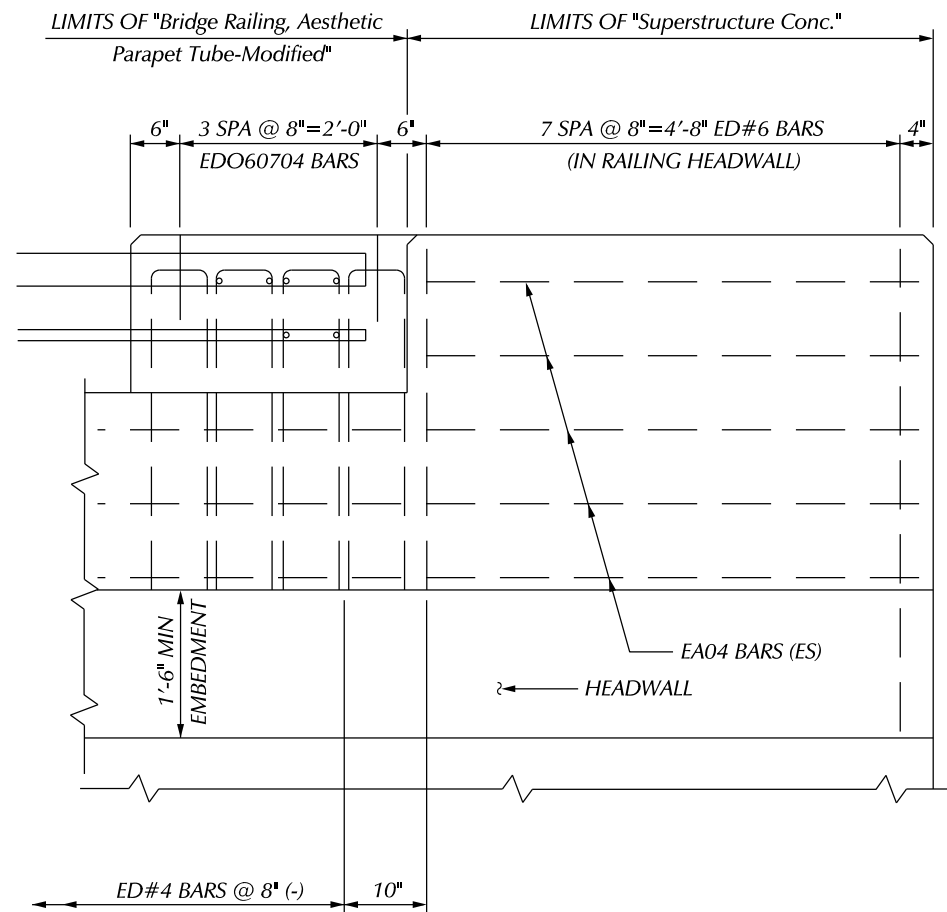
TYPICAL CULVERT RAILING SECTION



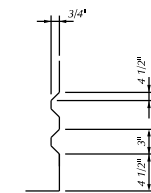
SECTION AT CULVERT END WALL (TUBE CONNECTION AREA)



SECTION AT CULVERT END WALL (FULL CONCRETE AREA)



PLAN - CULVERT END WALL DETAIL



RUSTICATION DETAIL (SHOWING RUSTICATION)

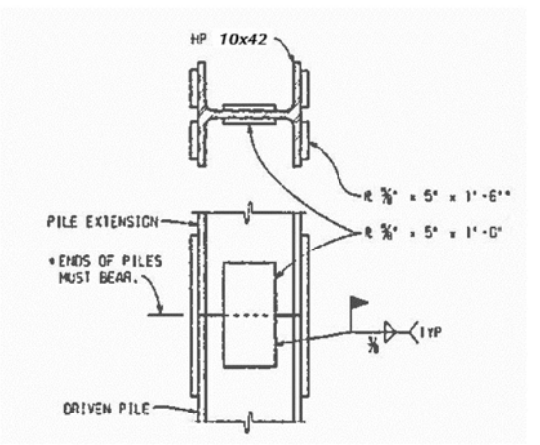
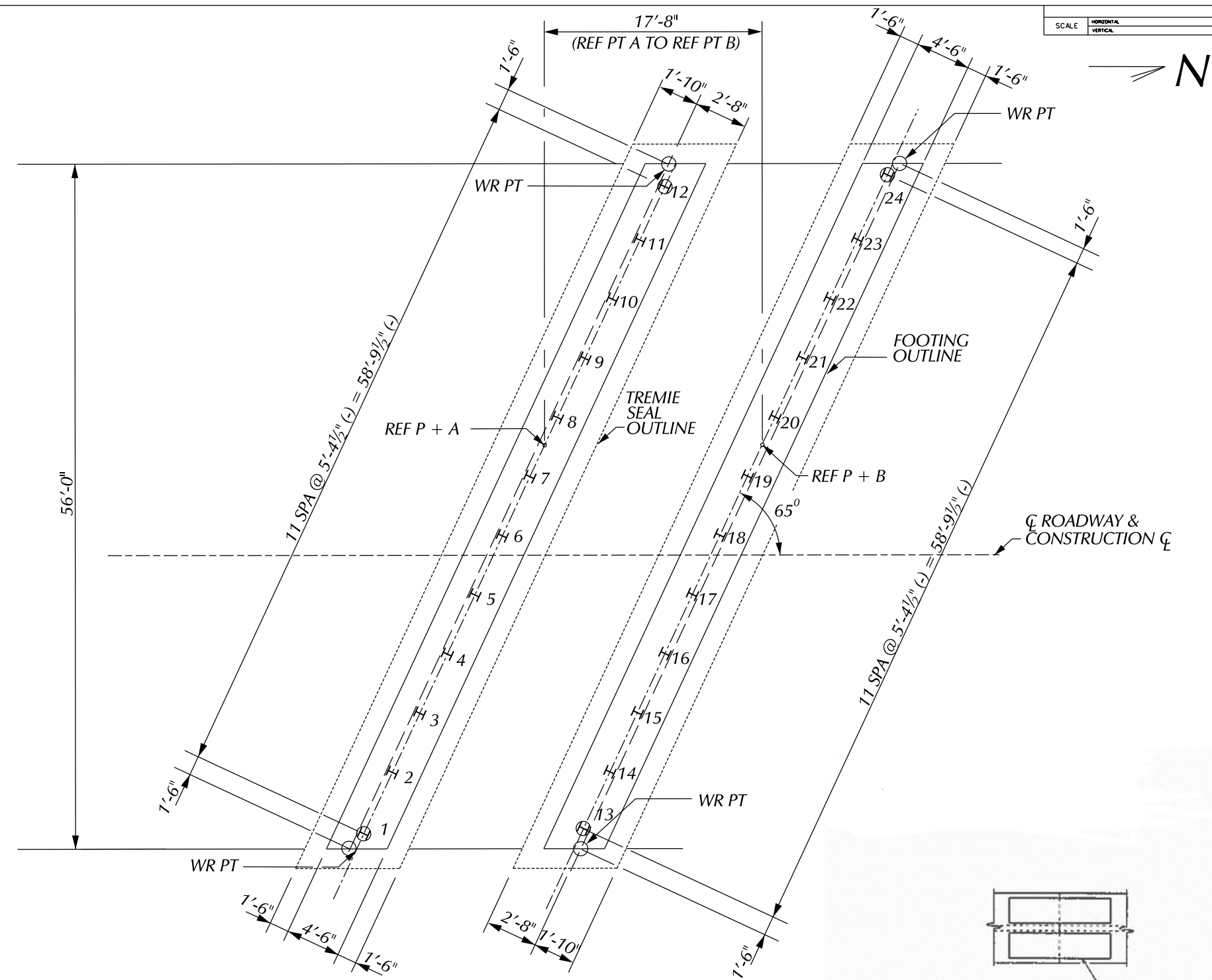
BY	CHECKED BY	APPROVED:
PLAN		
GRADE		
ESTIMATE		
DESCRIPTION	DR	CHK
REVISIONS	DATE	

CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAUS OF STREETS AND HIGHWAYS
FOR

WEST PARKWAY CULVERT OVER ROUGE RIVER

CULVERT RAILING DETAILS

SHEET	OF	SHEETS
CONTRACT NO.		
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DATE		



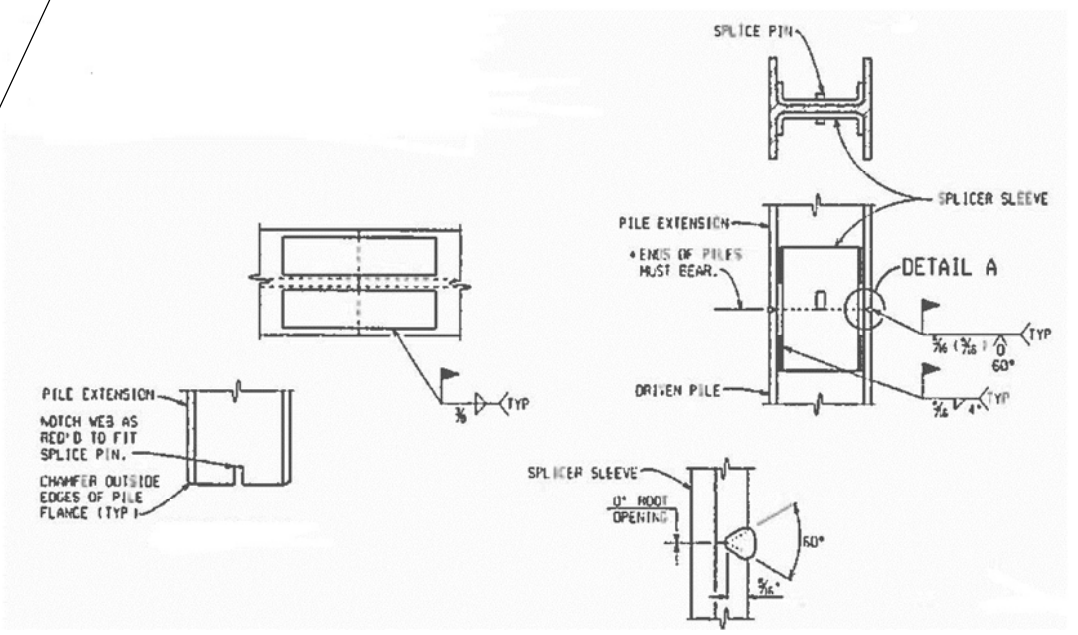
SPlice DETAILS

* SET PILE EXTENSION IN PLACE WITH SPlice PLATES ATTACHED. TAP SEVERAL TIMES WITH THE HAMMER TO IMPROVE BEARING CONTACT, THEN COMPLETE WELDING OF PLATES TO THE LOWER SECTION.

55 TON STEEL "H" PILES					
LOCATION	PILE TYPE	NUMBER OF PILES	ESTIMATED LENGTH FURNISHED & DRIVEN EACH LFT	TOTAL LFT	CUT-OFF ELEV.
FTG A	TEST	2	50	100	669.00
	VERTICAL	22	40	720	669.00
FTG B	TEST	2	50	100	669.00
	VERTICAL	22	40	720	669.00
TOTAL				1640	

MISCELLANEOUS QUANTITIES

1 LS	PILE DRIVING EQUIPMENT, FURN
1640 FT	PILE STEEL, FURN AND DRIVEN, 10 INCH
4 EA	TEST PILE STEEL 10 INCH



NOTCH DETAIL

DETAIL A

ALTERNATE SPlice DETAILS

* SET PILE EXTENSION IN PLACE WITH SPlice PLATES ATTACHED. TAP SEVERAL TIMES WITH THE HAMMER TO IMPROVE BEARING CONTACT, THEN COMPLETE WELDING OF PLATES TO THE LOWER SECTION.

NOTES:

- H - DENOTES VERTICAL PILES.
- (H) - DENOTES VERTICAL TEST PILES.
- ALL PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 55 TONS.
- STEEL PILES SHALL BE HP 10 X 42.
- ESTIMATED PILE PENETRATIONS HAVE BEEN DETERMINED BY USE OF THE STATIC FORMULA.
- THE PILE DRIVING FORMULAS IN THE STANDARD SPECIFICATIONS ARE NOT TO BE USED TO DETERMINE BATTERED PILE CAPACITY. BATTERED PILES ARE TO BE DRIVEN TO THE ELEVATION ESTABLISHED FOR VERTICAL FILES.
- THE USE OF VIBRATORY HAMMERS FOR INSTALLING H-PILES SHALL NOT BE ALLOWED.

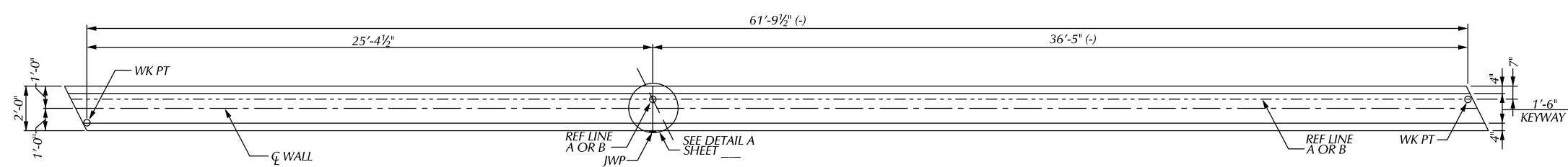
PLAN	BY	CHECKED BY	APPROVED
GRADE			
ESTIMATE			
DESCRIPTION	DR	CHK	DATE
REVISIONS			

CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAUS OF STREETS AND HIGHWAYS
FOR

WEST PARKWAY CULVERT OVER ROUGE RIVER

CULVERT H PILE DETAILS

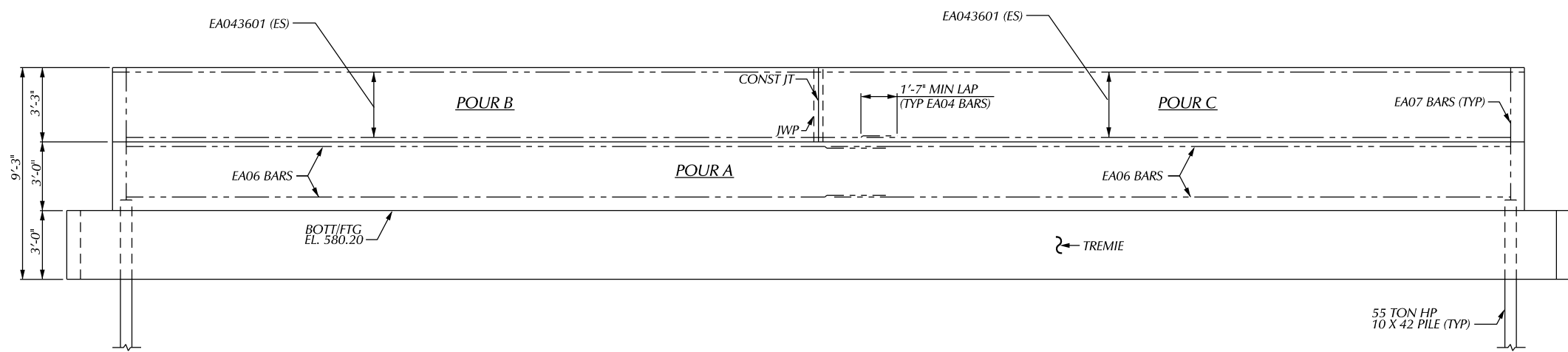
SHEET	OF	SHEETS
CONTRACT		
NO.		
ASSIGNMENT		
NO.		
DATE		



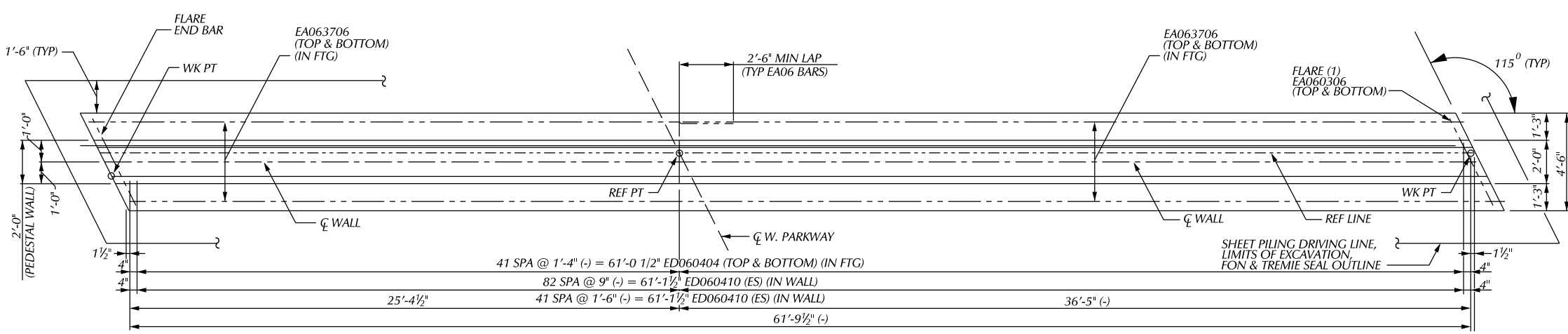
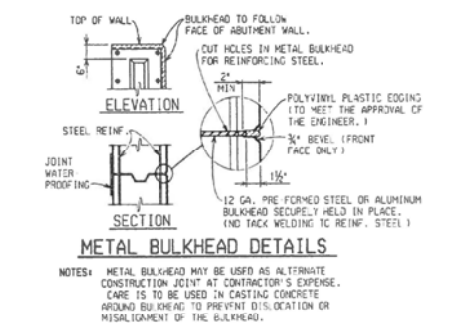
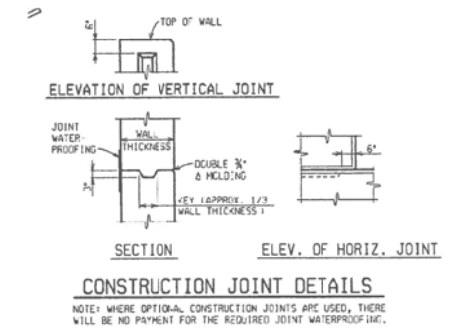
PLAN OF PEDESTAL WALL

MISCELLANEOUS QUANTITIES			
WALL A	WALL B	TOTAL	
36	36	158 CYD	CONC. GRADE T
—	—	171 CYD	SUBSTRUCTURE CONC.
—	—	14610 LB	REINFORCEMENT STEEL, EPOXY COATED
28	28	56 SFT	JOINT WATERPROOFING

SUBSTRUCTURE CONCRETE QUANTITIES		
POUR	FTG A	FTG B
A	32.2	32.2
B	18	18
C	17.3	17.3
D	18	18



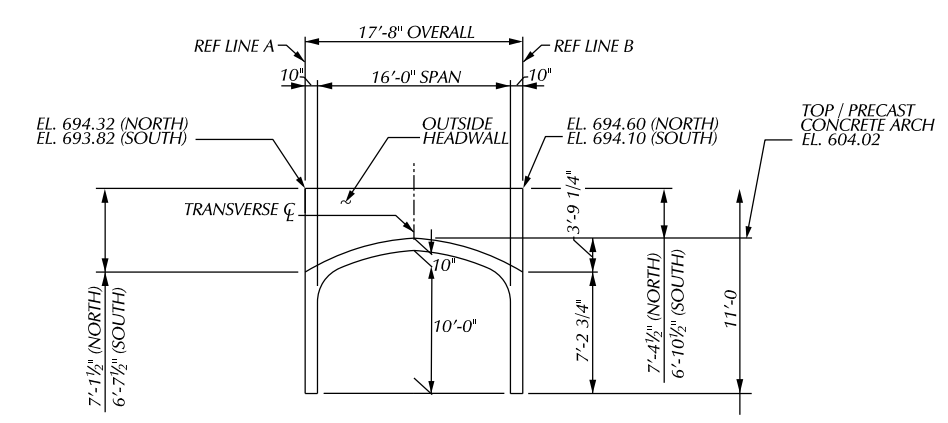
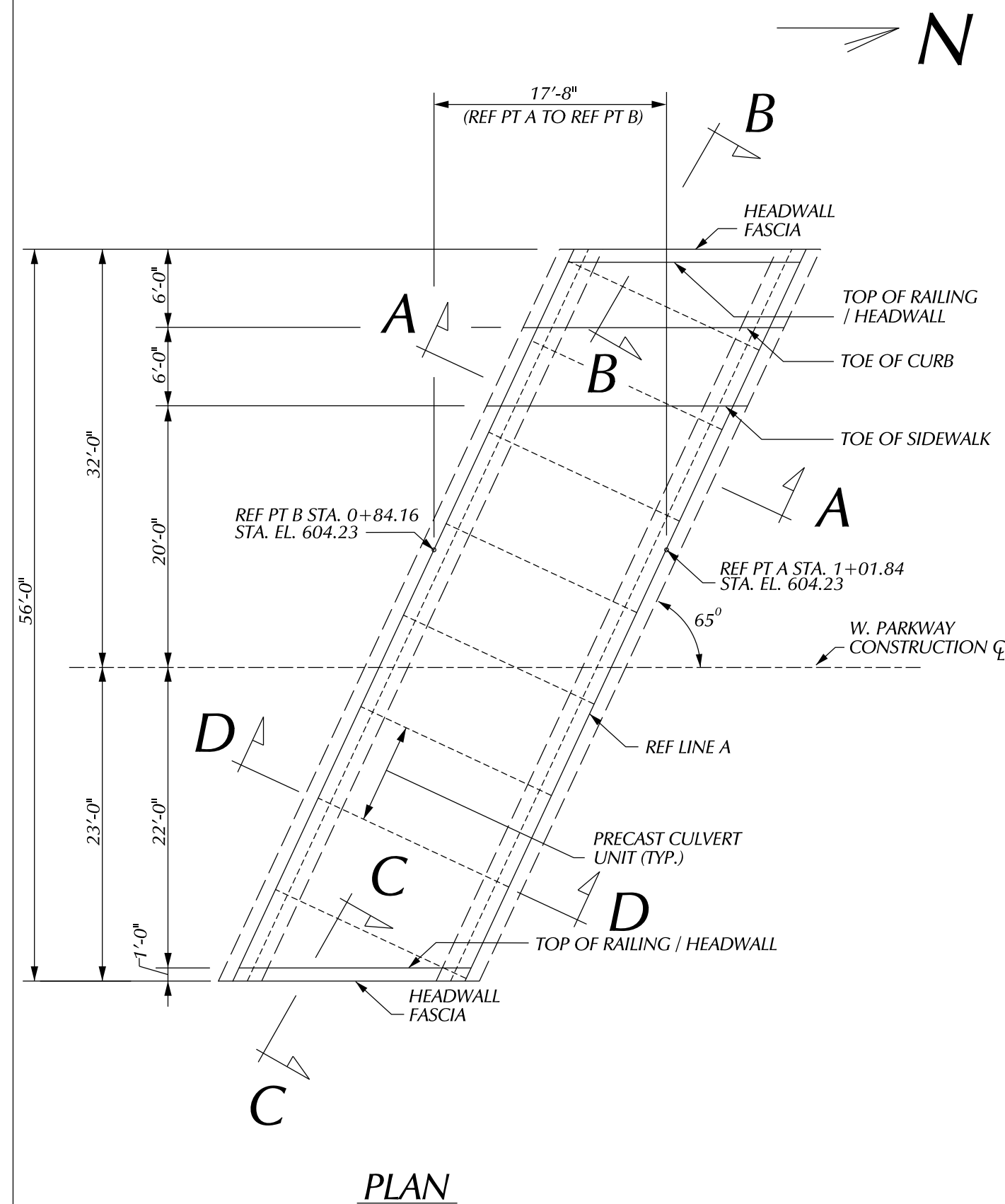
ELEVATION - PEDESTAL WALL



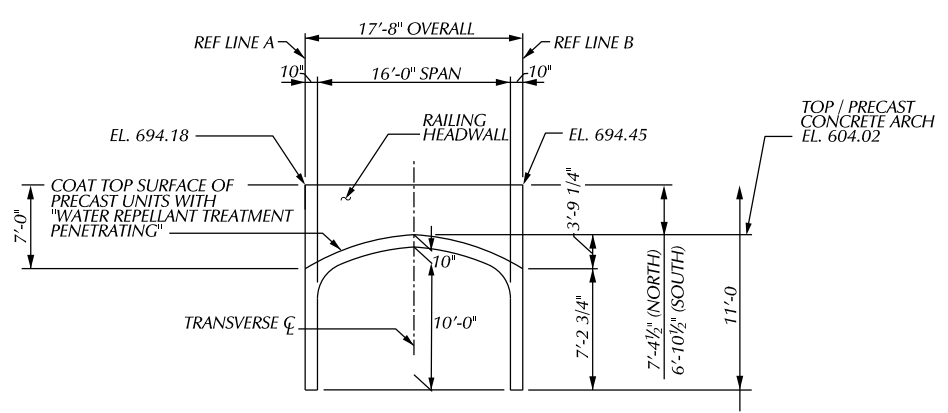
PLAN OF FOOTINGS
(FTG A SHOWN, FTG B OPPOSITE)

NOTES:
 THE SUBSTRUCTURE DESIGN IS BASED ON A FACTORED MAXIMUM VERTICAL LOAD OF 20 KIPS/FT AND A HORIZONTAL LOAD OF 8 KIPS/FT.
 JWP DENOTES JOINT WATERPROOFING.
 FOR PILE QUANTITIES, LAYOUT AND NOTES, SEE SHEET ____.
 LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03J OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
 LOW TEMPERATURE PROTECTION OF CONCRETE WILL NOT PAID FOR SEPARATELY BUT WILL INCLUDED IN THE BID ITEM FOR "SUBSTRUCTURE CONC" AND "CONCRETE GRADE T".

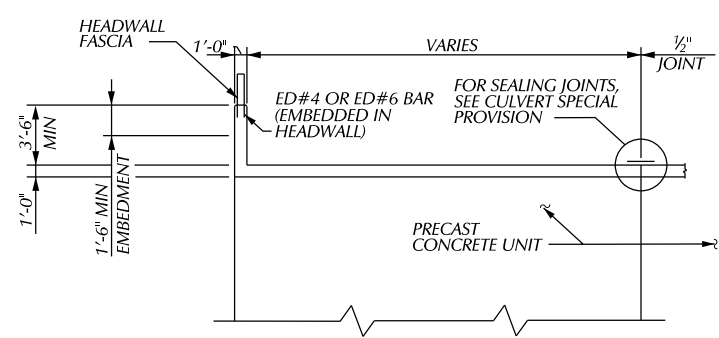
<table border="1"> <tr> <td>BY</td> <td>CHECKED BY</td> <td>APPROVED</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>		BY	CHECKED BY	APPROVED				CITY OF DETROIT CITY ENGINEERING DIVISION - D.P.W. BUREAUS OF STREETS AND HIGHWAYS FOR	WEST PARKWAY CULVERT OVER ROUGE RIVER CULVERT SUBSTRUCTURE DETAILS	SHEET ____ OF ____ SHEETS
BY	CHECKED BY	APPROVED								
<table border="1"> <tr> <td>DESCRIPTION</td> <td>DATE</td> <td>BY</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>		DESCRIPTION	DATE	BY				CONTRACT NO.		
DESCRIPTION	DATE	BY								
<table border="1"> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>					ASSIGNMENT NO.	DATE				



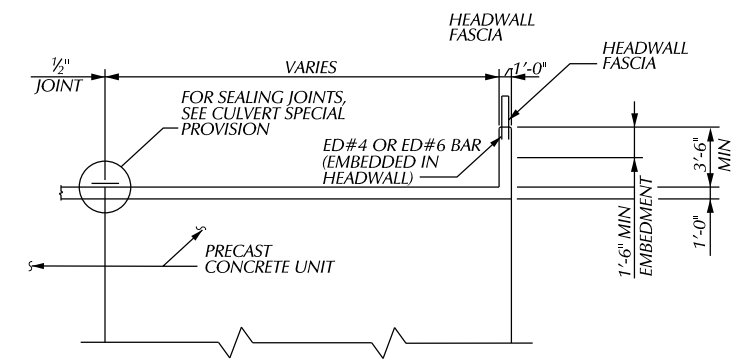
SECTION A-A
(ED BARS NOT SHOWN FOR NORTH HEADWALL)



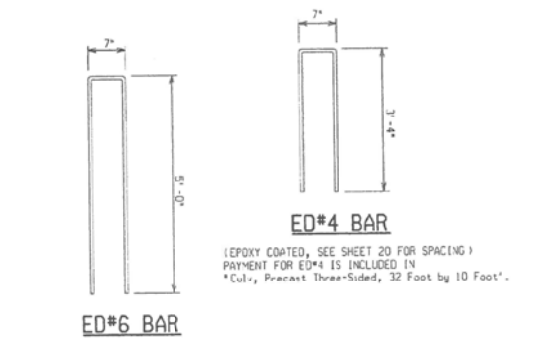
SECTION D-D
(ED BARS NOT SHOWN)



SECTION B-B



SECTION C-C



MISCELLANEOUS QUANTITIES

___ FT	CULV, PRECAST THREE-SIDED OR ARCH, ___ FOOT BY ___ FOOT
___ SYD	WATER REPELLANT TREATMENT, PENETRATING

NOTES:

DESIGN ALL CULVERT / HEADWALL CONNECTIONS FOR TRAFFIC LOADS.

PAYMENT FOR TEXTURING ON HEADWALLS SHALL BE INCLUDED IN, *CULV, PRECAST THREE-SIDED, ___ FOOT BY ___ FOOT. SEE SPECIAL PROVISION FOR TEXTURING CONCRETE. THE FORM LINERS FOR THE HEADWALL MUST BE THE SAME AS THOSE USED ON THE SHEET PILING WALLS.

DESCRIPTION	DR	CHK	APP	DATE
REVISIONS				
PLAN				
GRADE				
ESTIMATE				
FINAL	****	****		

CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAUS OF STREETS AND HIGHWAYS
FOR

WEST PARKWAY CULVERT OVER ROUGE RIVER

CONCRETE ARCH DETAILS

SHEET	OF	SHEETS
CONTRACT		
NO.		
ASSIGNMENT		
NO.		
DATE		

TEST BORING NO. SB-01

LOCATION: WEST PARKWAY STREET

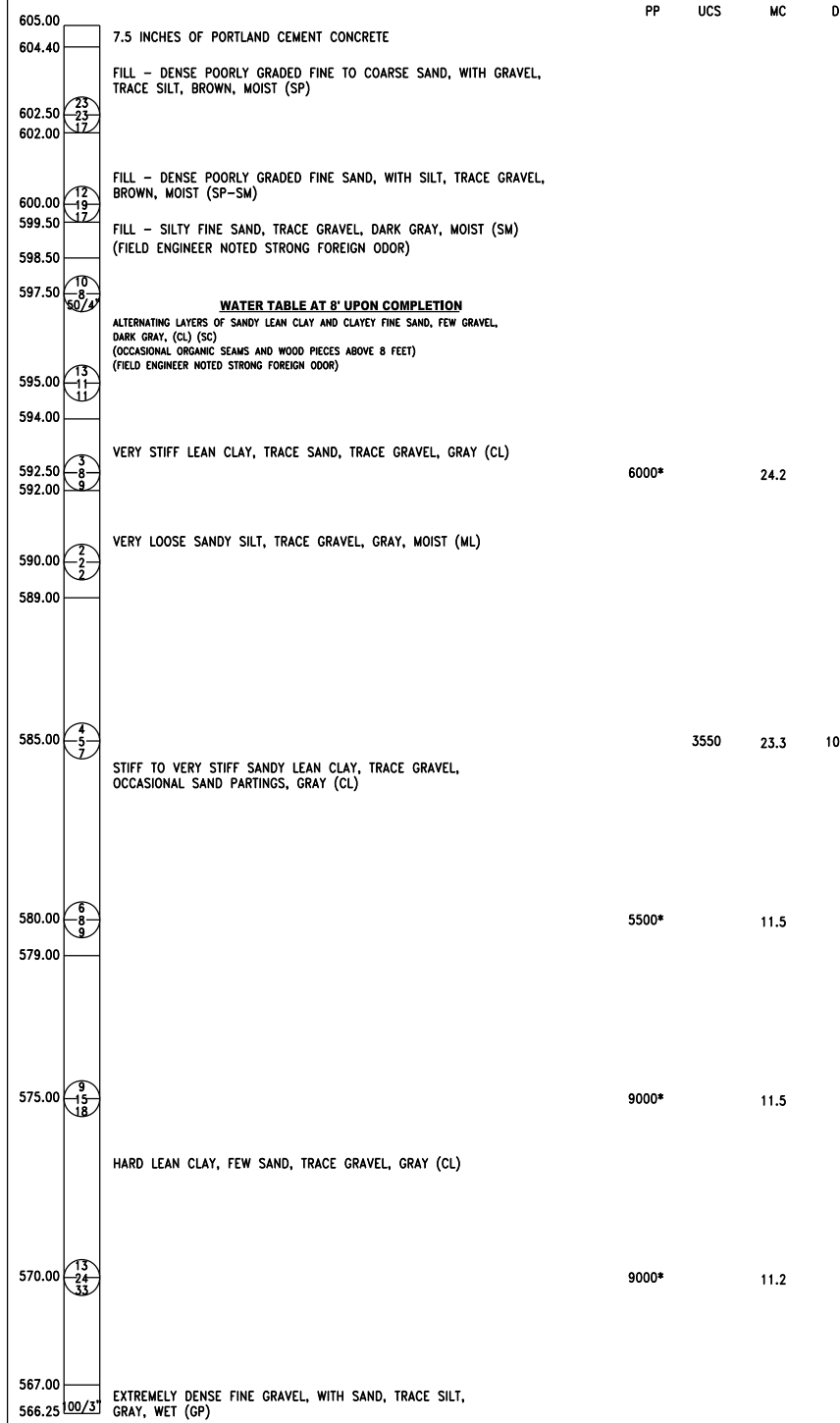
PHYSICAL REFERENCE: 20' NORTH OF EXISTING CULVERT CENTER LINE

PHYSICAL OFFSET: 21' EAST OF TOE OF THE WEST SIDE SIDEWALK

STATION: -

GROUND SURFACE ELEVATION: 605.0 FT

BORING DATE: 9/11/17



E.O.B. 38.75 FEET (EL. 566.25)
BORING TERMINATED AT SAMPLER AND AUGER REFUSAL.
POSSIBLE TOP OF BEDROCK

TEST BORING NO. SB-02

LOCATION: WEST PARKWAY STREET

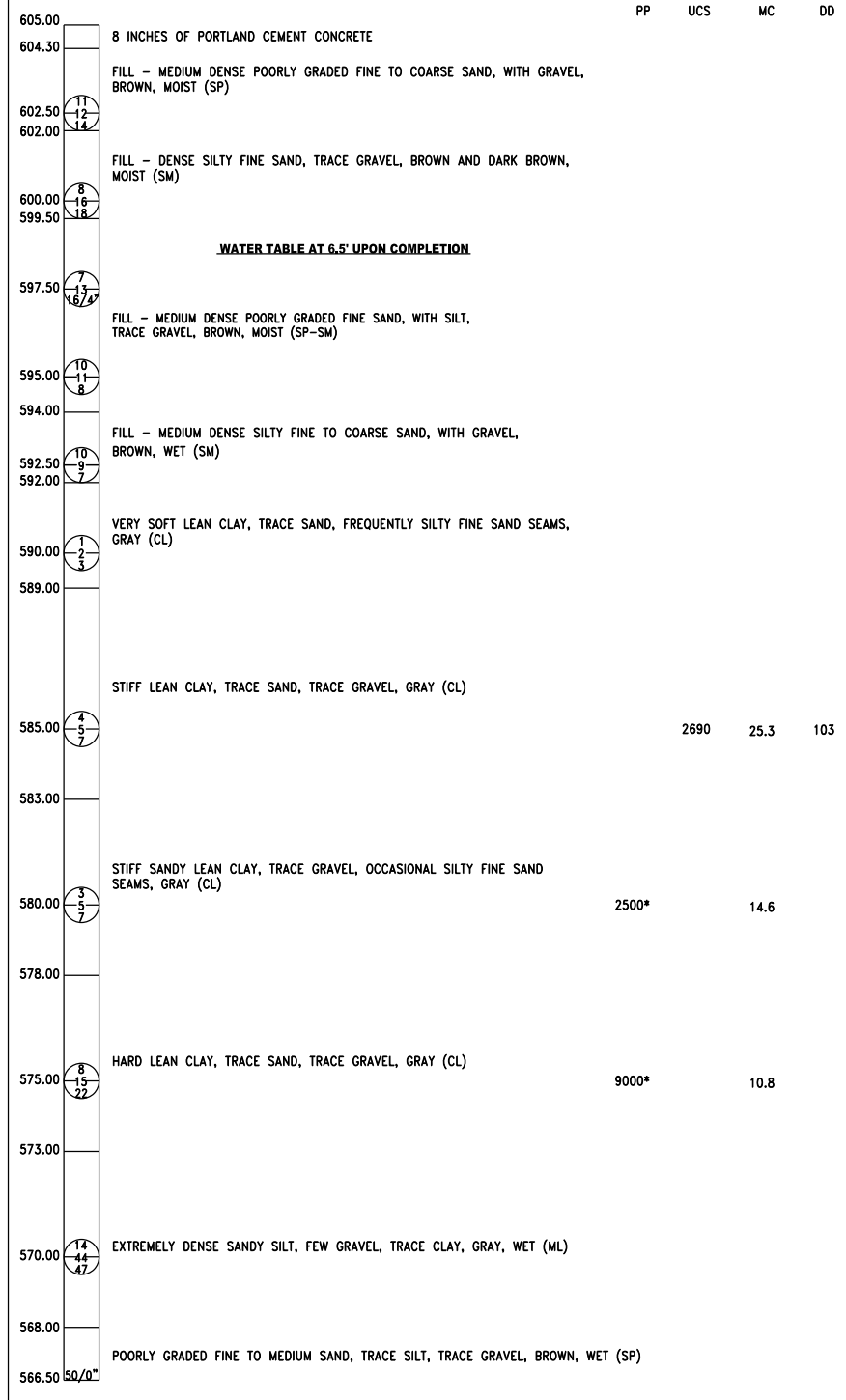
PHYSICAL REFERENCE: 36" SOUTH OF EXISTING CULVERT CENTER LINE

PHYSICAL OFFSET: 36" EAST OF TOE OF THE WEST SIDE SIDEWALK

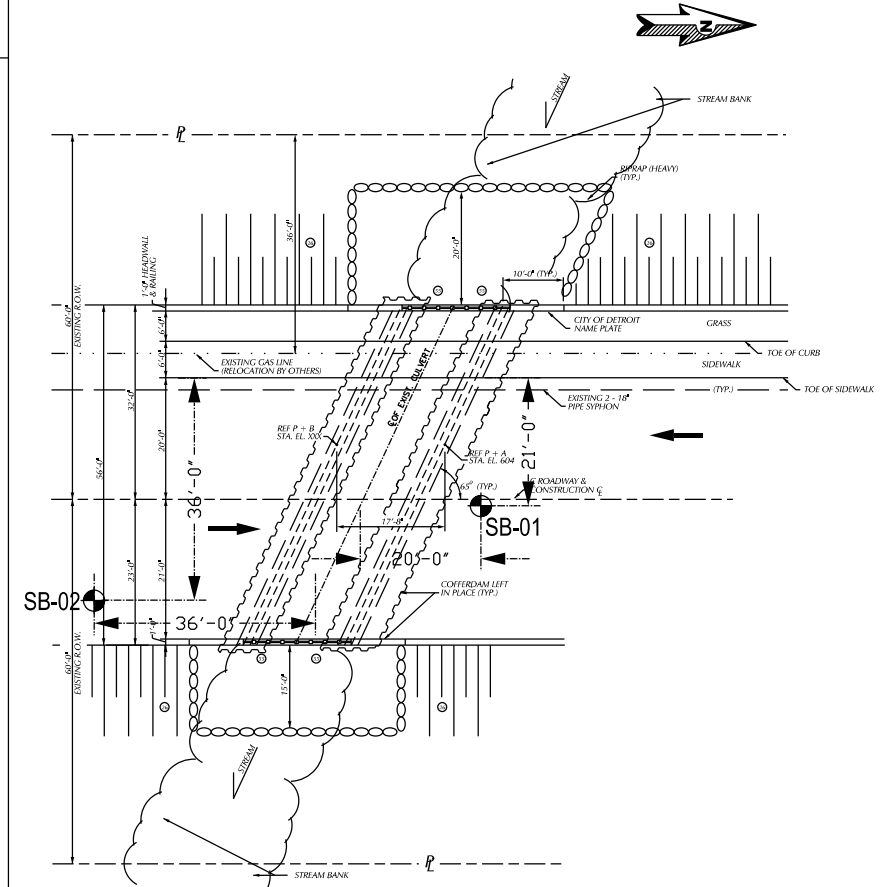
STATION: -

GROUND SURFACE ELEVATION: 605.0 FT

BORING DATE: 9/11/17



E.O.B. 38.50 FEET (EL. 566.50)
BORING TERMINATED AT SAMPLER AND AUGER REFUSAL.
POSSIBLE TOP OF BEDROCK



SOIL BORING LOCATION PLAN

SOIL BORING LOCATION

NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" O.D. X 1.5" I.D. SPLIT SPOON SAMPLER 3 SUCCESSIVE 6" INCREMENTS USING A 140 LB HAMMER FALLING 30".

1st 6 in
2nd 6 in
3rd 6 in

PP = POCKET PENETROMETER, UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 UCS = LAB DETERMINED UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 MC = MOISTURE CONTENT - (%)
 DD = DRY DENSITY - LBS/CU.FT (PCF)

NO.	REV#	DATE	DESCRIPTION

3031 W. Grand Blvd., Ste. 228
 Detroit, MI 48202
 Tel: 313-963-2751
 Fax: 313-963-2736
 www.somatiel.com

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION
 WEST PARKWAY CULVERT REPLACEMENT
 SOIL BORING LOG PLAN

ISSUED FOR:
 DATE:
 BY:

JOB NO.:

SHEET.: