

COUNTY OF MIDDLESEX, N.J.

PLANS FOR

PROJECT No. BR-0809 REPLACEMENT OF CULVERT 1-C-503

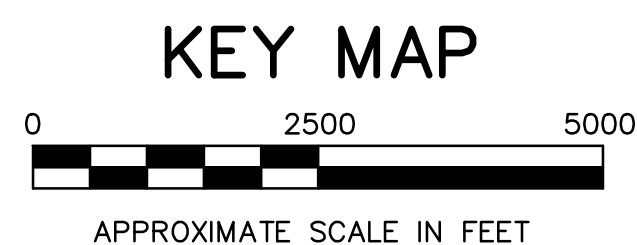
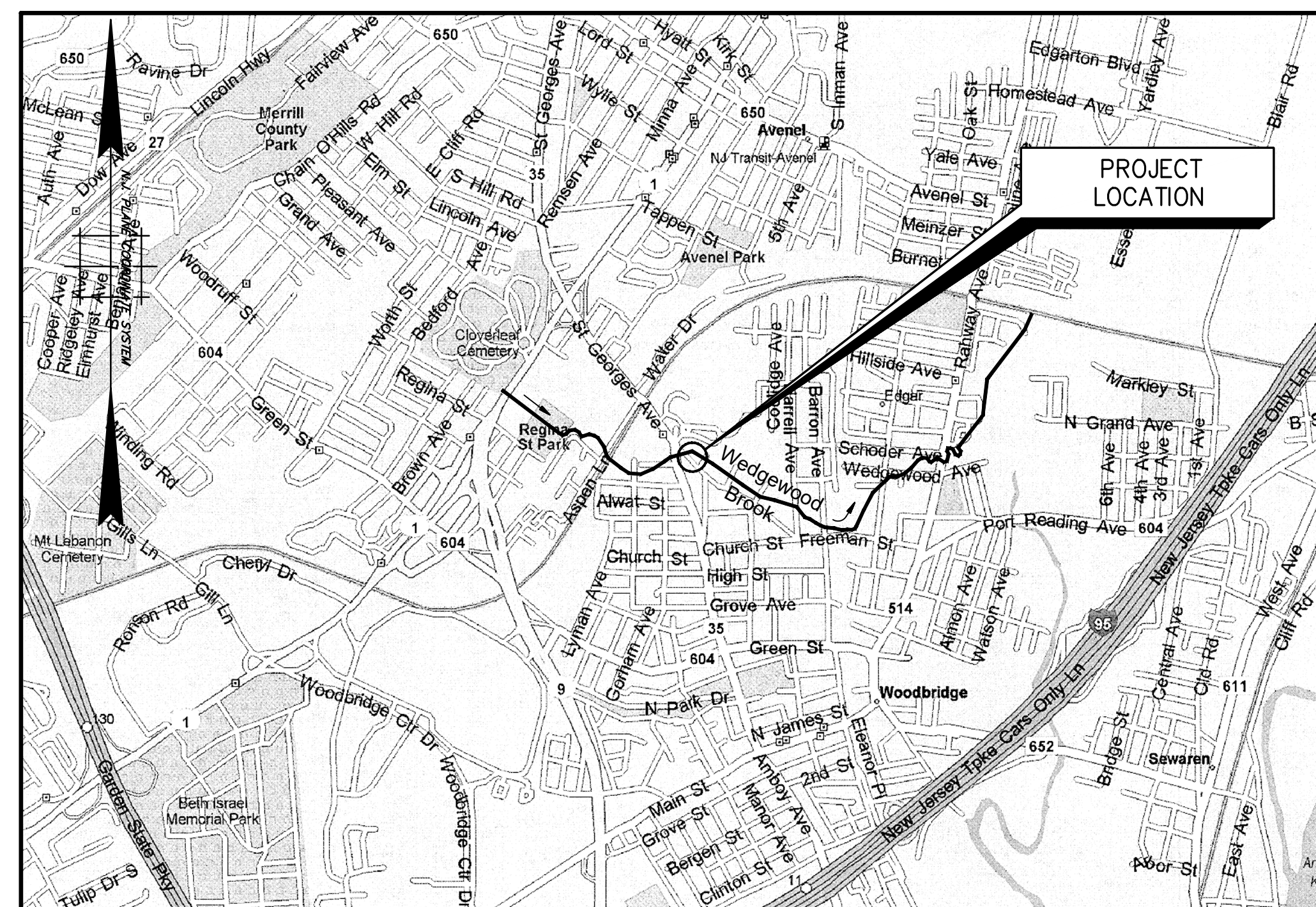
FREEMAN STREET OVER RAHWAY RIVER (AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK) TOWNSHIP OF WOODBRIDGE

ENVIRONMENTAL PERMITS	
PERMIT NO.	DESCRIPTION
1	NJDEP FLOOD HAZARD AREA INDIVIDUAL PERMIT AND FRESHWATER WETLANDS GENERAL PERMIT #10A (PERMIT NO. 1225-09-0013.1 FHA 180001/FWW 180001). PERMIT EXPIRES 9/25/23
2	FREEHOLD SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL PLAN CERTIFICATION (FSCD REF # 2019-0002). PERMIT EXPIRES 2/6/26.

TRAFFIC PERMIT	
PERMIT NO.	DESCRIPTION
1	NJDOT HIGHWAY OCCUPANCY PERMIT NO. DT-35-C-13561-2017

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE-DISTRIBUTION OF QUANTITIES
3	TYPICAL SECTIONS
4	STANDARD LEGEND AND GENERAL NOTES
5	TIES
6	CONSTRUCTION PLAN
7	PLANTING AND STRIPING PLAN
8	PROFILE
9	TRAFFIC CONTROL NOTES
10	TRAFFIC CONTROL PLAN
11	DETOUR PLAN
12	SOIL EROSION AND SEDIMENT CONTROL NOTES
13-14	SOIL EROSION AND SEDIMENT CONTROL DETAILS
15-24	STRUCTURES PLANS

PUBLIC UTILITIES	
TOWNSHIP OF WOODBRIDGE (SANITARY) ONE MAIN STREET WOODBRIDGE, NJ 07095	MR. SEAN BURNS P.E. MUNICIPAL ENGINEER TEL. (732) 602-6047 EXTENSION 4710
VERIZON - NJ, INC. (TELEPHONE) EASTERN SHORE DISTRICT 999 WEST MAIN STREET, FREEHOLD, NJ 07728	MR. ARTURO CABRERA TEL. (732) 683-5124 arturo.cabrera@verizon.com
MIDDLESEX WATER COMPANY (WATER) 1500 RONSON ROAD P.O. BOX 1500 ISELIN, NJ 08830-0452	MR. BRIAN CARR TEL. (732) 634-1500 bcarr@middlesexwater.com
COMCAST CABLE OF N.J. (CABLE TELEVISION) 800 RAHWAY AVENUE UNION, NJ 07083	MR. PHILIP GIBSON TEL. (908) 481-6253 Philip_Gibson@comcast.com
PUBLIC SERVICE ELECTRIC AND GAS COMPANY (ELECTRIC) 472 WESTON CANAL ROAD SOMERSET, NJ 08873	MR. ROBERT BUCHANAN TEL. (732) 764-3160 robert.buchanan@pseg.com
ELIZABETHTOWN GAS (GAS) 520 GREEN LANE UNION, NJ 07083	MR. GREGORY J. BLIGHT TEL. (908) 662-8321 gblaint@sindustries.com



NEW JERSEY ONE CALL SYSTEM 1-800-272-1000

DESIGN SPEED = 40 MPH

LENGTH OF PROJECT: 150 LIN. FT. OR 0.028 MILES

NEW JERSEY DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF 2019 AND ALL AMENDMENTS IN THE MIDDLESEX COUNTY FORMAT THERETO SHALL GOVERN.

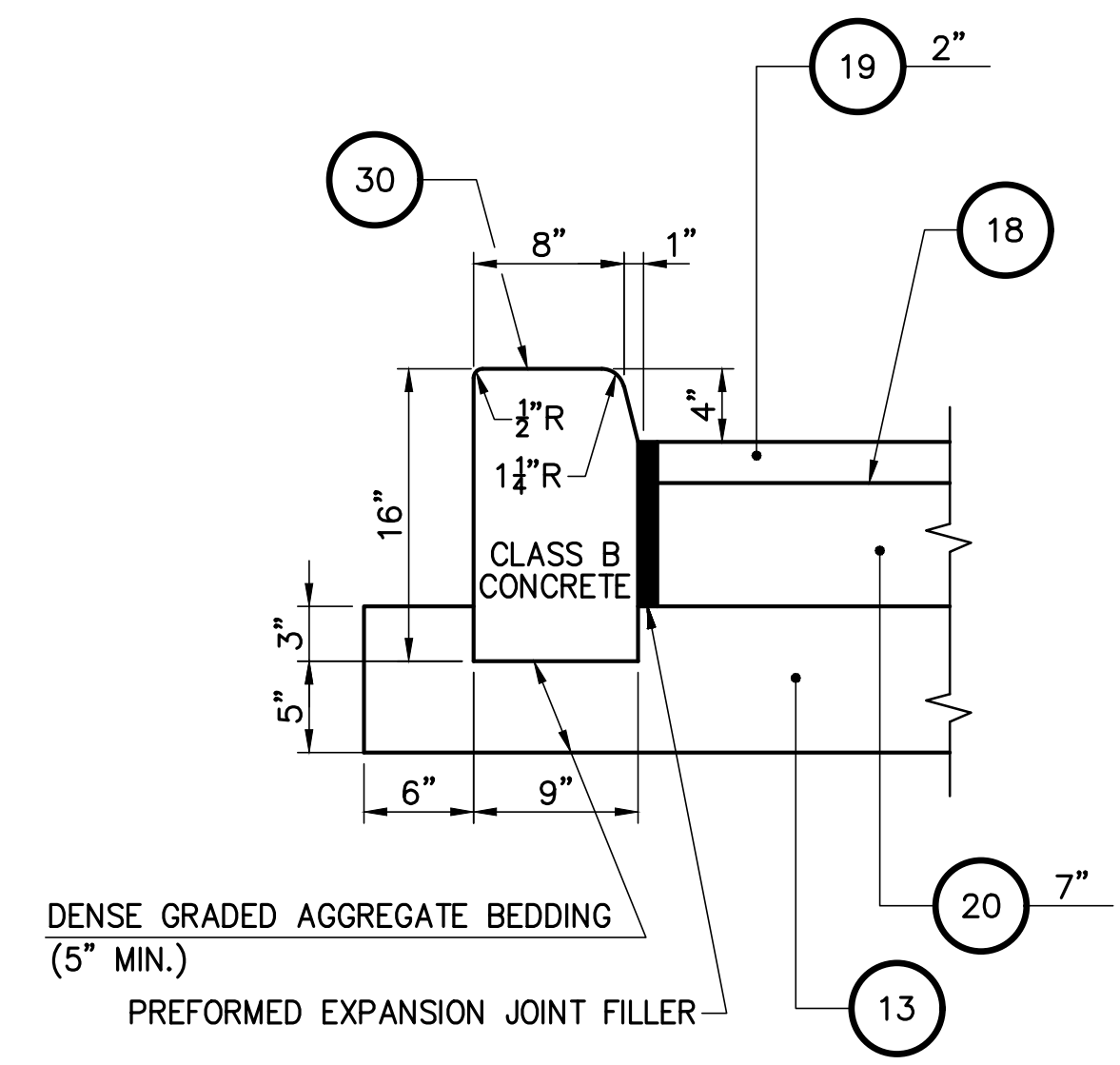
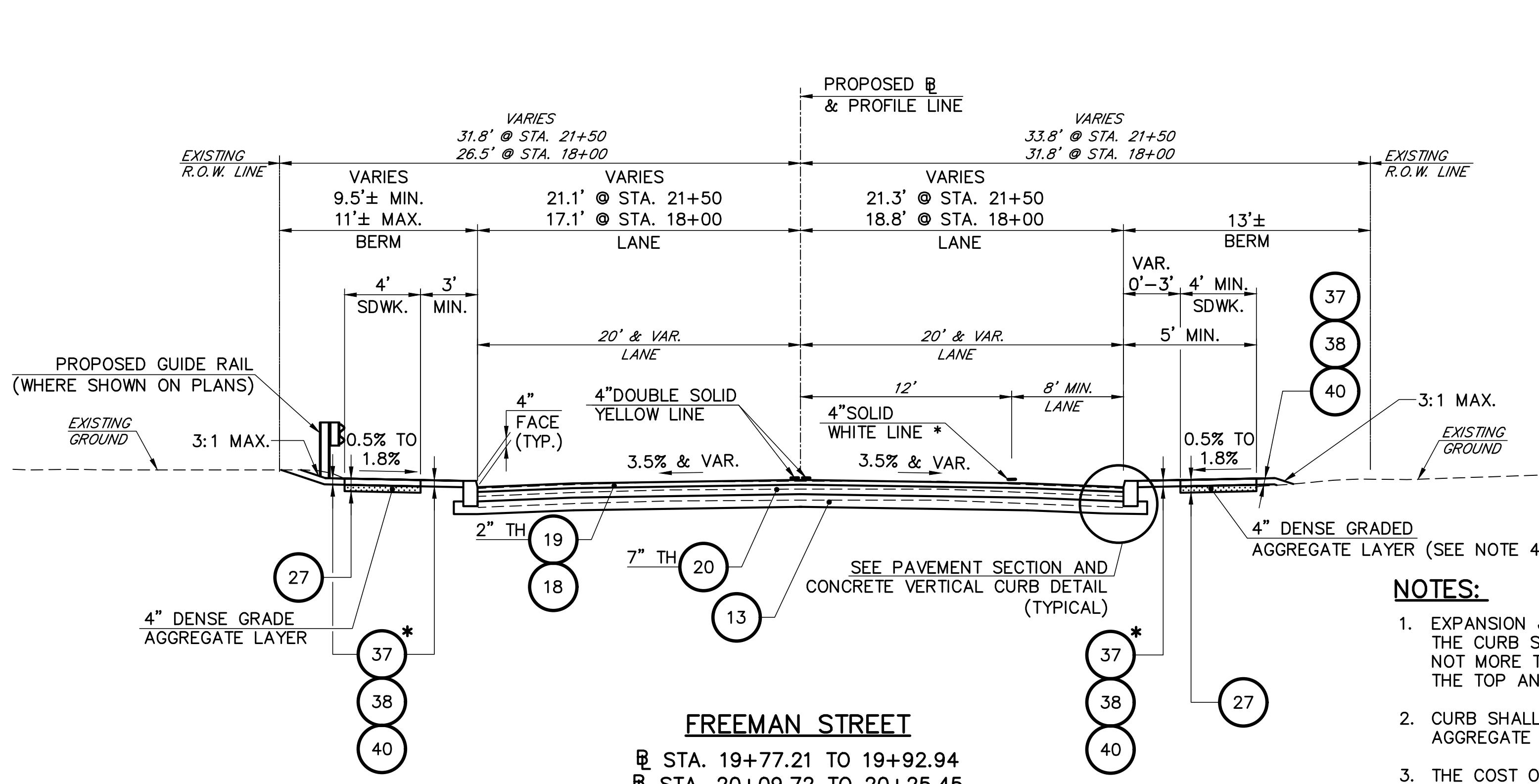
THE HEADINGS OF THE ARTICLES CONTAINED HEREIN CONFORM TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2019, AND ALL ADDENDA THERETO, WHICH IS TO BE USED IN THE EXECUTION OF THIS CONTRACT.

NEW JERSEY DEPARTMENT OF TRANSPORTATION, STANDARD ROADWAY CONSTRUCTION-TRAFFIC CONTROL-BRIDGE CONSTRUCTION DETAILS BOOKLET, 2016 AND ALL ITS AMENDMENTS (CASELINE DOCUMENT CHANGE), OR ADDENDA IS APPLICABLE TO THIS PROJECT EXCEPT FOR THOSE DETAILS CONTAINED HEREIN.

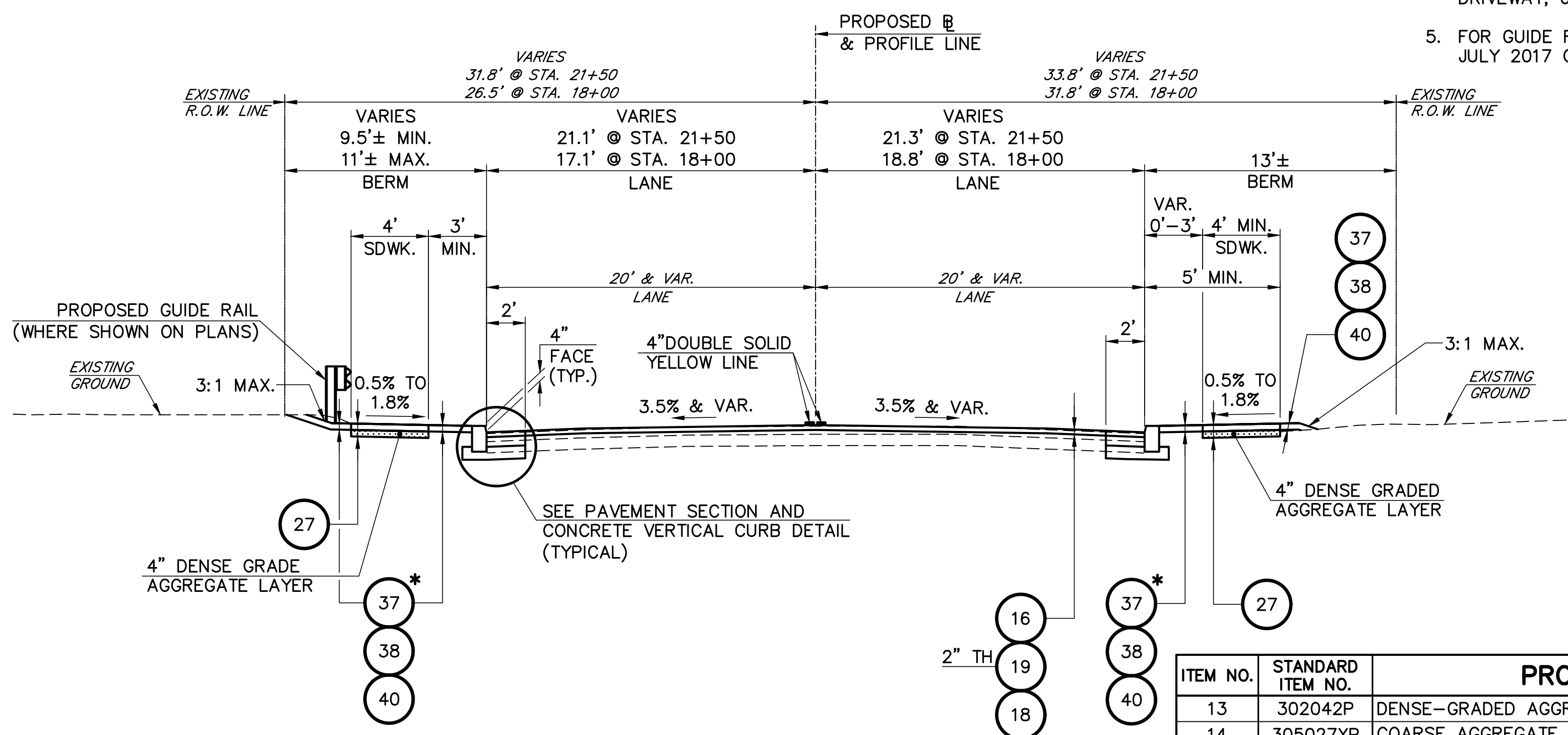
APPROVALS	
DATE	RONALD SENDNER, MIDDLESEX COUNTY ENGINEER LICENSED PROFESSIONAL ENGINEER, LICENSE NO. 24GE03162200
	MIDDLESEX COUNTY BOARD OF CHOSEN FREEHOLDERS
	AUTHORIZATION TO BID _____
	RESOLUTION DATE _____

	AECOM USA, Inc. 30 Knightsbridge Rd., Suite 520, Piscataway, New Jersey 08854 CERTIFICATE OF AUTHORIZATION NO. 24GA27986000
DATE	WILLIAM J. MEISTER, NEW JERSEY PROFESSIONAL ENGINEER, LICENSE NO. 24GE03772200

AECOM L:\Legacy\USPSW\FPSW001\Drawings\USPSW\FPSW001\Projects\Freeman Street\60049510-Freeman Street\001-CADD\Civil\Sheet\60049510-C-TS01.dwg lccy 06/29/2023 - 9:12 A



- NOTES:**
- EXPANSION JOINTS (PREMOLDED ASPHALT IMPREGNATED) 1/2" WIDE IN THE CURB SHALL BE PROVIDED APPROXIMATELY EQUAL DISTANCE OF NOT MORE THAN 20' BETWEEN JOINTS, AND SHALL BE FLUSH WITH THE TOP AND FACE OF CURB.
 - CURB SHALL BE INSTALLED ON TOP OF 5" THICK DENSE GRADED AGGREGATE BEDDING.
 - THE COST OF EXPANSION JOINTS IN THE CURB AND DENSE GRADED AGGREGATE BEDDING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PAY ITEM 9"x16" CONCRETE VERTICAL CURB.
 - THE COST OF EXPANSION JOINTS AND JOINT SEALER FOR SIDEWALK AND CONCRETE DRIVEWAY SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEMS CONCRETE SIDEWALK, 4" THICK, AND CONCRETE DRIVEWAY, 6" THICK.
 - FOR GUIDE RAIL AND BRIDGE ATTACHMENT DETAILS, SEE NJDOT BDC17D-02, ISSUED JULY 2017 OR AMENDED THEREAFTER, AND LATEST STANDARD DETAILS.



ITEM NO.	STANDARD ITEM NO.	PROPOSED MATERIALS
13	302042P	DENSE-GRADED AGGREGATE BASE COURSE, 8" THICK
14	305027XP	COARSE AGGREGATE, SIZE NO. 1
16	401009P	HMA MILLING, 3" OR LESS
18	401030M	TACK COAT
19	401042M	HOT MIX ASPHALT 9.5 M 64 SURFACE COURSE
20	401096M	HOT MIX ASPHALT 19 M 64 BASE COURSE
25	603017P	RIP RAP STONE SLOPE PROTECTION, 12" THICK (D50=6")
27	606012XP	CONCRETE SIDEWALK, REINFORCED, 4" THICK
30	607018P	9" X 16" CONCRETE VERTICAL CURB
35	610003M	TRAFFIC STRIPES, 4"
37	804006P	TOPSOILING, 4" THICK
38	806006P	FERTILIZING AND SEEDING, TYPE A-3
40	809003M	STRAW MULCHING

* WHERE SHOWN ON PLANS.

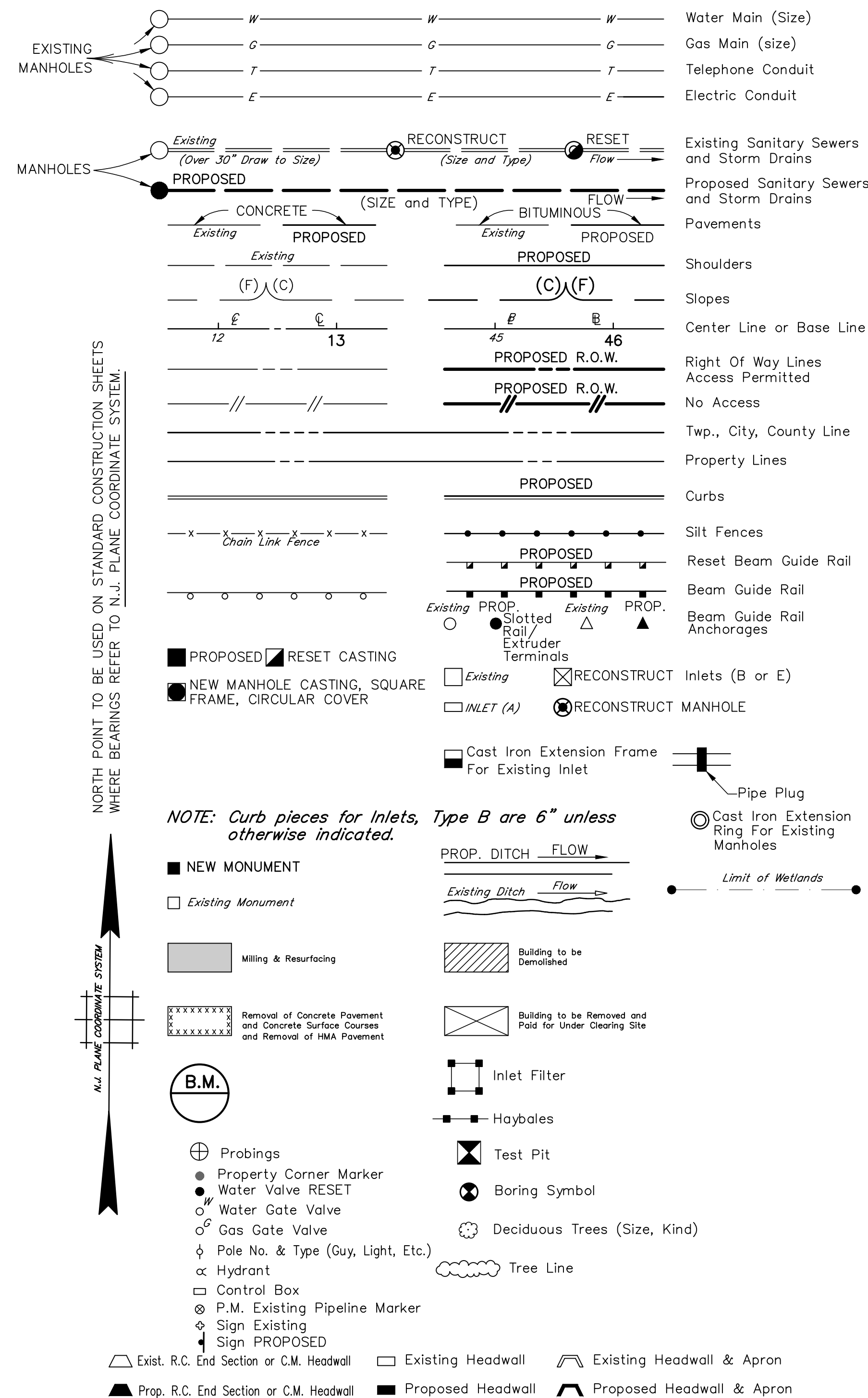
REVISION	BY	C'K'D	DATE

AECOM USA, Inc.
 30 Knightsbridge Road Suite 520
 Piscataway, New Jersey 08854
 TOWNSHIP OF WOODBRIDGE
 CERTIFICATE OF AUTHORIZATION
 NO. 24GE03716000
 EDWARD F. SITLER
 NEW JERSEY PROFESSIONAL ENGINEER
 LICENSE NO. 24GE037160

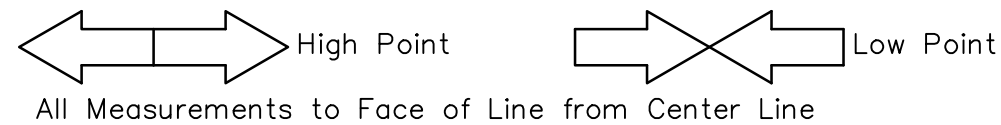
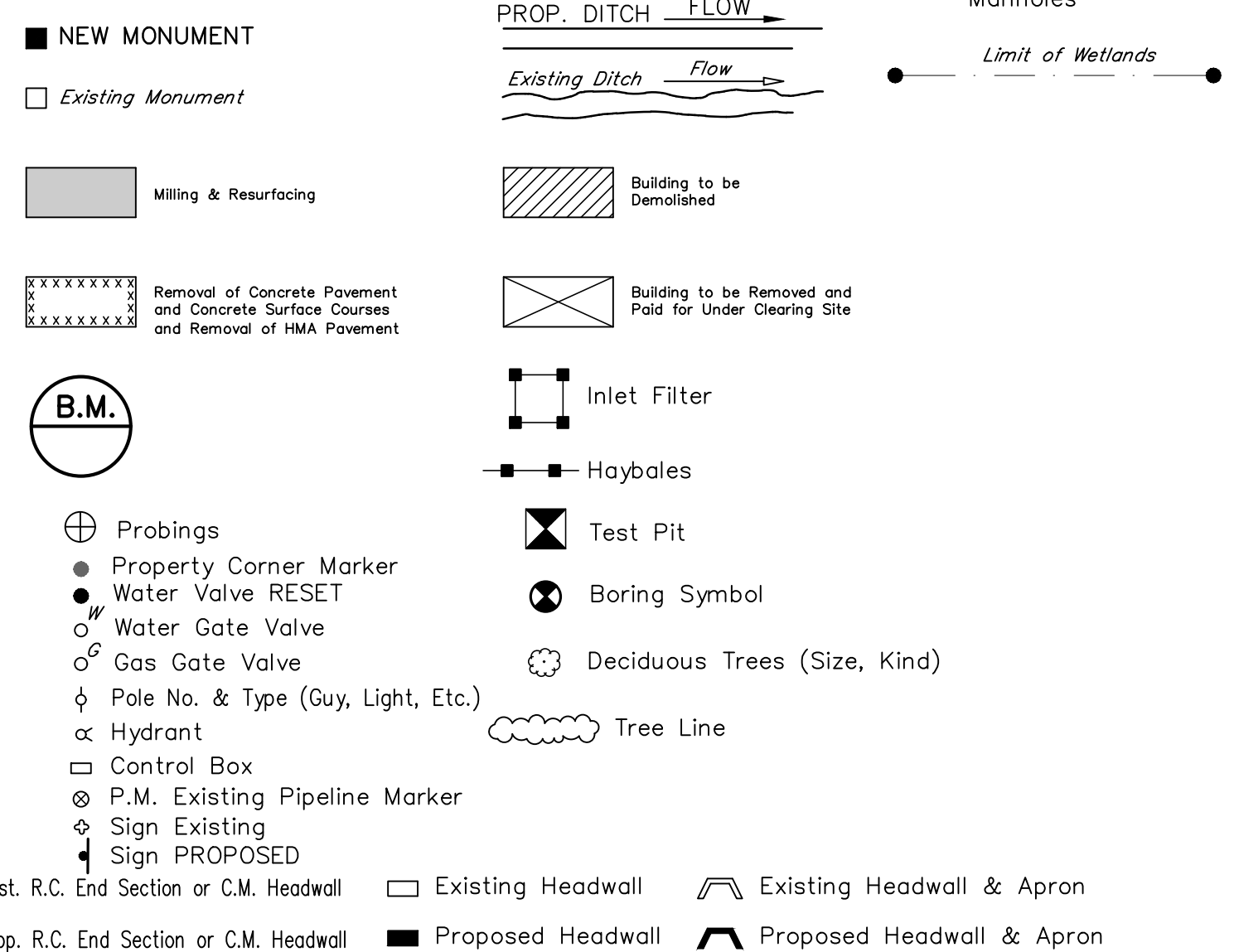
Middlesex County Engineering Department
 Office of the County Engineer
 P.O. Box 871, New Brunswick, N.J. 08903
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 (AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
 TOWNSHIP OF WOODBRIDGE
 MIDDLESEX COUNTY, NEW JERSEY
TYPICAL SECTIONS
 Scale:
 Sheet No. 3 of 24
 Date: JUNE 2023
 Ronald Sender
 County Engineer
 N.J.P.E. No. 24GE03162200

TS-1
TS-1

STANDARD LEGEND



NOTE: Curb pieces for Inlets, Type B are 6" unless otherwise indicated.



All Measurements to Face of Line from Center Line

ABBREVIATIONS

AC	ACRE	N/F	NOW OR FORMERLY
APPROX.	APPROXIMATE	N.J.	NEW JERSEY
AVE.	AVENUE	NB	NORTHBOUND
BEL.	BELGIUM	NJAWC	NEW JERSEY AMERICAN WATER COMPANY
BGRA	BEAM GUIDE RAIL ANCHORAGE	No., #	NUMBER
B	BASELINE	NTS	NOT TO SCALE PROFILES
B.M.	BENCH MARK	PL	PROPERTY LINE
BLDG.	BUILDING	PAV'T	PAVEMENT
BLK.	BLOCK	PC	POINT OF CURVATURE
BT	SURVEY BASELINE-TIE	PCC	POINT OF COMMON CURVATURE
CL	CENTERLINE	PCCCB	PRECAST CONCRETE CURB
C	CUT		CONSTRUCTION BARRIER
CB	CATCH BASIN	PERF.	PERFORATED
C.F.	CUBIC FOOT	P.G.L., PGL	PROFILE GRADE LINE
C.M.	CORRUGATED METAL	P.I.	POINT OF INTERSECTION
CC	CENTER OF CURVE	PK	NAIL IN AN OBJECT
C/C	CENTER TO CENTER	PL	PLASTIC
C.I.P.	CAST IRON PIPE	POC	POINT ON CURVE
C.L.F., C.L.	CHAIN LINK FENCE	POL	POINT ON LINE
CMFND	CONCRETE MONUMENT FOUND	POT, P.O.T.	POINT ON TANGENT
CMP	CORRUGATED METAL PIPE	PROP.	PROPOSED
CO	COMPANY	PSE&G	PUBLIC SERVICE ELECTRIC AND GAS
CONC.	CONCRETE	PSI	POUNDS PER SQUARE INCH
CONST.	CONSTRUCTION	PT	POINT OF TANGENCY
CP	CONSTRUCTION PLAN	PVC	POLYVINYL CHLORIDE PIPE,
C.T.	CURB TRANSITION		POINT OF VERTICAL CURVATURE
CULV.	CULVERT	PVCC	POINT OF VERTICAL COMPOUND CURVATURE
CY	CUBIC YARD	PVI	POINT OF VERTICAL INTERSECTION
D	DIAMETER, DEED	PVRC	POINT OF VERTICAL REVERSE CURVATURE
DC, D/C	DROP CURB, DEPRESSED CURB	PVT	POINT OF VERTICAL TANGENCY, PAVEMENT
DE	DITCH EXCAVATION	R	RADIUS, REINFORCED, RIGHT
DIR.	DIRECTION	RC	REINFORCED CONCRETE
DWGL.	DWELLING	RCCP	REINFORCED CONCRETE CULVERT PIPE
DWY, DRIVE	DRIVEWAY	RCECP	REINFORCED CONCRETE ELLIPTICAL CULVERT PIPE
E	EAST, EXTERNAL	RCP	REINFORCED CONCRETE PIPE
EB	EASTBOUND	RD	ROAD
EDOQ	ESTIMATE DISTRIBUTION OF QUANTITIES	REINF.	REINFORCED
EL., ELEV.	ELEVATION	REM.	REMOVE
ELEC.	ELECTRIC	RET.	RETAINING
EP, EOP	EDGE OF EXISTING PAVEMENT	RMC	RIGID METALLIC CONDUIT
EQ.	EQUATION	RNMC	RIGID NONMETALLIC CONDUIT
EQUAL.	EQUIVALENT	R.O.W.	RIGHT OF WAY
ESMT.	EASEMENT	RR	RAILROAD
EST.	ESTIMATE	RT.	ROUTE, RIGHT
ET	EXTRUDER TERMINAL	S	SURVEY LINE
EXIST.	EXISTING	S	SOUTH, SEWER, SECOND
F	FILL	SP	SIGNING AND STRIPING PLAN
F.H.	FIRE HYDRANT	SDWK., S.W.	SIDEWALK
FR, FRM.	FRAME	SAN.	SANITARY SEWER
FT	FEET	SB	SOUTHBOUND
FNC.	FENCE	SC	STRIP IN CUT
G	GAS, GAS VALVE	SF	STRIP IN FILL
G.R.	GUIDE RAIL	SFCC	SQUARE FRAME, CIRCULAR COVER
GAL	GALLON	SHLDR.	SHOULDER
GAR.	GARAGE	SL	STANDARD LEGEND AND GENERAL NOTES
GR	GRADES	SOD	SUBBASE OUTLET DRAIN
GR.	GRATE	SRT	SLOTTED RAIL TERMINAL
H	HOUR, HORIZONTAL	ST.	STREET, STEEL
HMA	HOT MIX ASPHALT	STA.	STATION
HT.	HEIGHT	STD.	STANDARD
H.W.	HEAD WALL	STY.	STORY
Hyd.	HYDRANT	SY	SQUARE YARD
INV.	INVERT	T	TANGENT
IPFND	IRON PIPE FOUND	TCP	TRAFFIC CONTROL PLAN
JB	JUNCTION BOX	T.G.	TOP OF GRATE
JBF	JUNCTION BOX FOUNDATION	TBA	TO BE ABANDONED
L	LENGTH, LEFT	T.B.R.	TO BE RELOCATED
LF	LINEAR FEET	TeI	TELEPHONE
L.P.	LIGHT POLE	TEMP.	TEMPORARY
LBS	POUNDS	THK.	THICK
L.O.M.	LIMIT OF MILLING	TS	TOPSOIL, TYPICAL SECTIONS
LOP	LIMIT OF PAVEMENT	Twp.	TOWNSHIP
LT	LIGHT, LEFT	TYP.	TYPICAL
M	METER	UCS	UNDER "CLEARING SITE"
MH, M.H.	MANHOLE	U.D.	UNDERDRAIN
MIN.	MINIMUM	UP, U.P.	UTILITY POLE
M	MATCH LINE	V	VERTICAL
MAX.	MAXIMUM	VAR.	VARIABLE, VARIES
MON.	MONUMENT	VPD	VEHICLES PER DAY
MP	MILEPOST	W	WEST, WATER, WATER VALVE
MPH	MILES PER HOUR	WB	WESTBOUND
MRC	MIDDLESEX WATER COMPANY	WE	WET EXCAVATION
N	NORTH, NEWTON	WM	WATER METER
N/N	NO NUMBER	X	CROSS SECTION

GENERAL NOTES

- HORIZONTAL DATUM – REFERENCED TO NEW JERSEY PLANE COORDINATE SYSTEM (NAD83)
- VERTICAL DATUM – REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
- TRAVERSE POINTS AND BENCH MARKS WHICH ARE SUBJECT TO DISTURBANCE BY CONSTRUCTION ACTIVITIES SHALL BE RESET PRIOR TO SUCH DISTURBANCE.
- LOCATIONS FOR ALL EXISTING UTILITIES ARE APPROXIMATE. EXACT LOCATIONS ARE TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR. COST TO BE INCLUDED IN CONSTRUCTION ITEMS.
- PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CALL THE NEW JERSEY ONE CALL SYSTEM (1-800-272-1000) FOR UTILITY LOCATION MARK OUTS. THE CONTRACTOR SHALL MAINTAIN MARKINGS THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING ADJACENT TO BOTH UNDERGROUND AND OVERHEAD ACTIVE UTILITIES. EXTREME CARE SHALL BE EXERCISED TO AVOID DAMAGE TO THESE FACILITIES. IN THE EVENT OF AN UNDERGROUND DISRUPTION, THE CONTRACTOR SHALL CAREFULLY HAND EXCAVATE TO LOCATE, MARK AND PROTECT THE UNDERGROUND UTILITY LINE AGAINST DISTURBANCE OR DAMAGE, AND EXPOSE THESE LINES PRIOR TO PERFORMING ANY OTHER EXCAVATION WORK IN THE AREA. DAMAGE TO ANY OF THESE FACILITIES SHALL BE REPORTED TO THE AGENCY HAVING CONTROL AND THE ENGINEER AND SHALL BE IMMEDIATELY REPAIRED AT THE CONTRACTOR'S EXPENSE WITH NO ADDITIONAL COST TO THE COUNTY.
- THE CONTRACTOR SHALL ADHERE TO THE REGULATIONS LISTED IN THE HIGH VOLTAGE PROXIMITY ACT.
- WHERE PROPOSED PAVEMENT IS TO MEET EXISTING PAVEMENT, THE SUBBASE OF THE PROPOSED PAVEMENT MUST BE SLOPED TO DRAIN.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WORK LIMITS WITHIN RIGHT OF WAY AND EASEMENTS.
- SIGNAGE SHOWN ON THE PLANS MAY BE SUPPLEMENTED WITH ADDITIONAL SIGNS AT THE DIRECTION OF THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE ON THE PROJECT SITE DURING THE CONSTRUCTION PERIOD. NO ADDITIONAL PAYMENT WILL BE MADE FOR PUMPING OF STORMWATER, IF REQUIRED.
- MAINTAIN ACCESS TO ALL PROPERTIES WITHIN THE PROJECT LIMITS.
- THE CONTRACTOR SHALL USE EXTREME CAUTION DURING DEMOLITION AND CONSTRUCTION OPERATIONS ON THE SITE AROUND EXISTING TREES TO REMAIN AS DESIGNATED ON THE PLANS. CONTRACTOR SHALL SUBMIT A TREE PROTECTION PLAN TO BE APPROVED BY THE ENGINEER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. COORDINATION WITH THE COUNTY AND APPROPRIATE AGENCIES MAY BE REQUIRED.
- THE CONTRACTOR SHALL NOT PLACE ANY CONSTRUCTION EQUIPMENT WITHIN THE STREAM CHANNEL. IF THE CONTRACTOR FINDS IT NECESSARY TO SITUATE EQUIPMENT WITHIN THE STREAM CHANNEL OR WITHIN A REGULATED AREA NOT NOTED AS AN IMPACT ON THE ENVIRONMENTAL PERMIT PLANS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACQUIRE ANY AND ALL PERMITS FROM THE NJDEP AND/OR OTHER REGULATORY AGENCIES AS APPLICABLE.
- PRIOR TO THE START OF ANY ROAD WORK WITHIN THE PUBLIC RIGHT OF WAY THE CONTRACTOR MUST OBTAIN A ROAD OPENING PERMIT FROM THE TOWNSHIP ROAD SUPERVISOR. PRIOR TO THE FIRST PAYMENT FOR THE CONTRACTOR, THE CONTRACTOR MUST PROVIDE A COPY OF THE ROAD OPENING PERMIT.
- THE CONTRACTOR SHALL MAINTAIN THE WEDGEWOOD BROOK WATERWAY AT ALL TIMES SO THAT BROOK DISCHARGES CAN PASS THROUGH THE WORK SITE UNIMPEDED. THE CONTRACTOR SHALL NOT STORE MATERIALS, TOOLS, OR MACHINERY OR OTHER EQUIPMENT WITHIN THE BROOK CHANNEL. SHEETING SHALL BE DESIGNED BY THE CONTRACTOR SO THAT THE END CLOSURES COLLAPSE OR ARE OTHERWISE REMOVED BEFORE THE UPSTREAM WATER SURFACE ELEVATION REACHES ELEVATION 31.0 FEET, THEREBY ALLOWING BROOK DISCHARGES TO FLOW AROUND BOTH SIDES OF THE SHEETING, AND MINIMIZING OBSTRUCTION TO THE WATERWAY.

SL-1
SL-1

*Middlesex County Engineering Department
Office of the County Engineer
P.O. Box 871, New Brunswick, N.J. 08903*

PROJECT No. BR-0809
REPLACEMENT OF CULVERT 1-C-503

FREEMAN STREET OVER RAHWAY RIVER
(AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
TOWNSHIP OF WOODBRIDGE
MIDDLESEX COUNTY, NEW JERSEY

STANDARD LEGEND AND GENERAL NOTES

Ronald Sendner
County Engineer
N.J.P.E. No. 24GE03162200

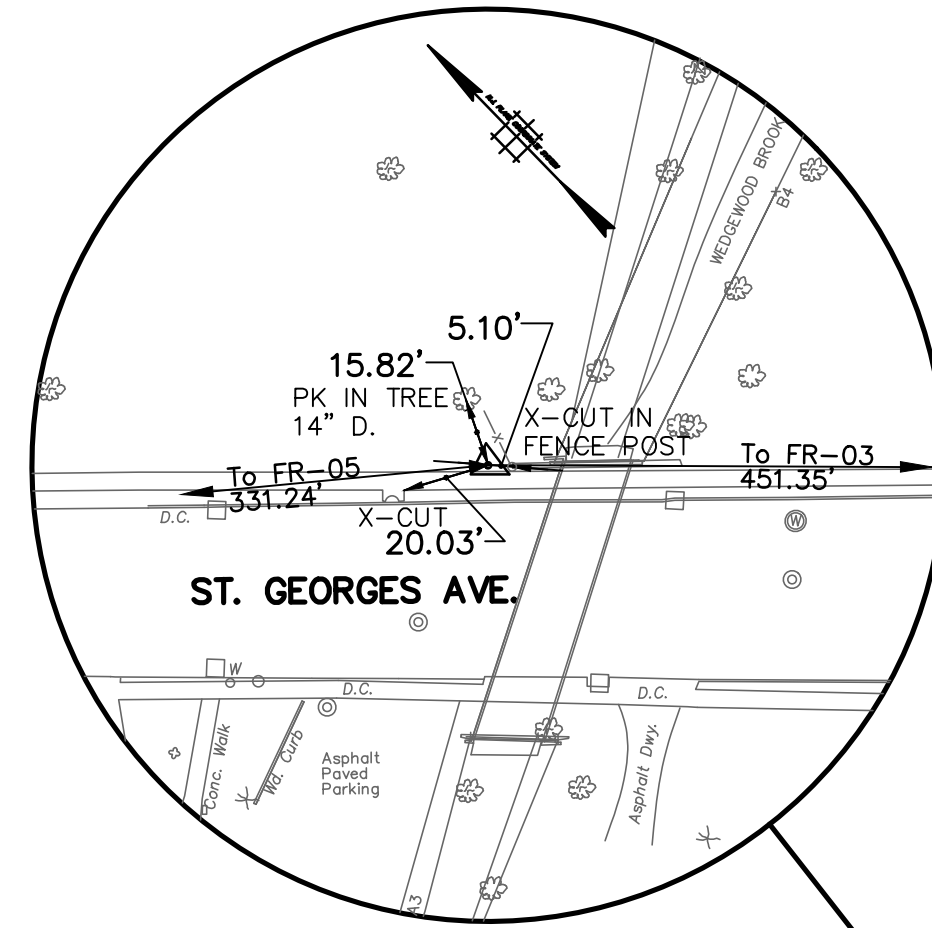
AECOM USA, Inc.
30 Knightsbridge Road Suite 520
Piscataway, New Jersey 08854
CERTIFICATE OF AUTHORIZATION
NO. 24GE03716000

EDWARD F. SITLER
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE037160

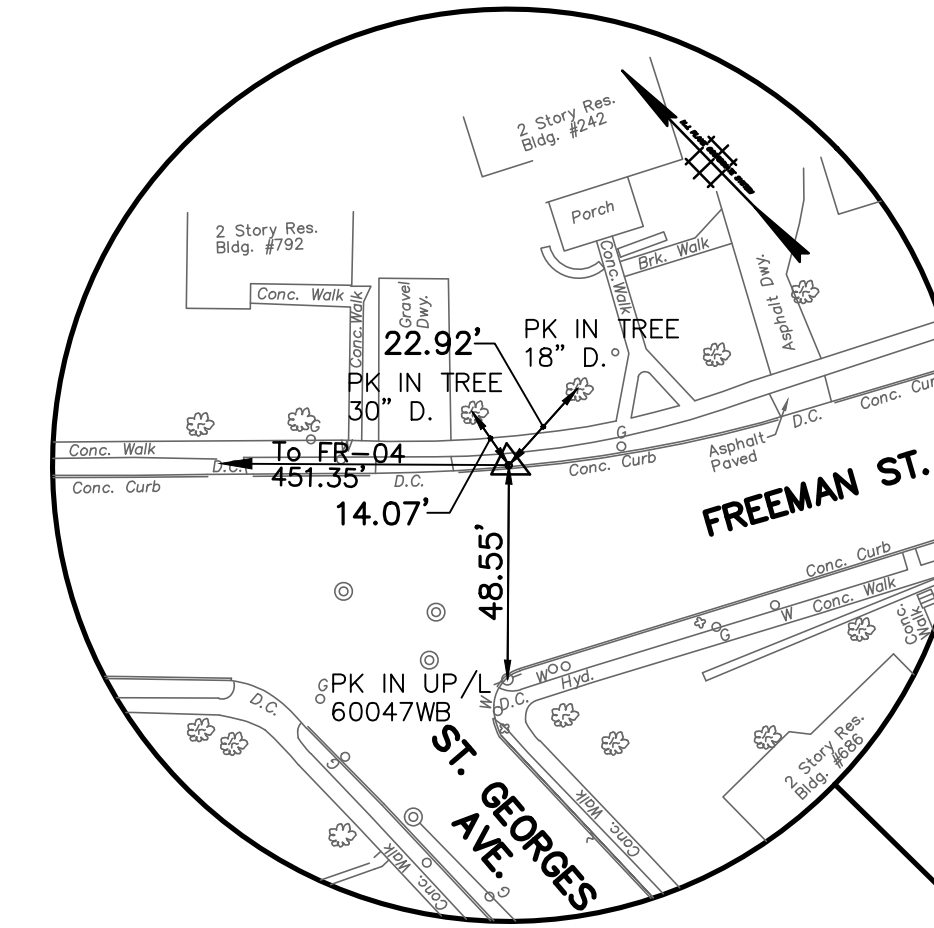
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Sheet No. 4 of 24
Date: JUNE 2023

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FR-04
REBAR WITH DISC
N630971.8855
E551486.3916
ELEV. 34.99
STA. 8+76.09

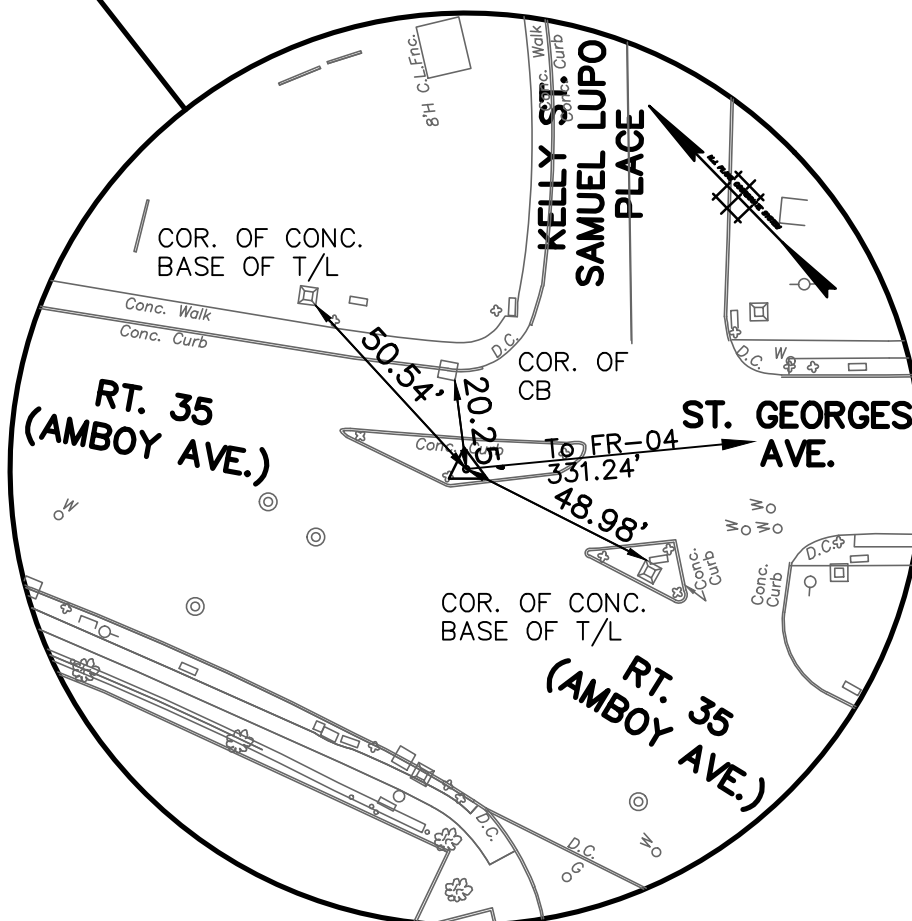


FR-03
REBAR WITH DISC
N630656.9001
E551809.6593
ELEV. 42.60
STA. 13+27.44



ST. GEORGES AVENUE @ POB STA. 17+00.00=
SURVEY BASELINE "A" STA. 5+90.45, 0.03' LT.
N 631149.5830
E 551262.7458

ST. GEORGES AVENUE @ POE STA. 23+50.00=
SURVEY BASELINE "A" STA. 12+41.90, 25.64' LT.
N 630698.2326
E 551730.4971



FR-05
CROSS CUT IN ISLAND
CONCRETE PAVEMENT
N631177.9834
E551227.0755
ELEV. 38.61
STA. 5+44.85

NOTES:

- HORIZONTAL DATUM:
GROUND COORDINATE SYSTEM BASED ON
NJ STATE PLANE COORDINATE SYSTEM NAD 83.
- VERTICAL DATUM:
NAVD88.
- ST. GEORGES AVENUE @ IS A BEST FIT LINE THROUGH
THE CENTER OF THE DOUBBLE YELLOW STRIPE THAT
EXISTED DURING SURVEYING FOR PROJECT MAPPING

REVISION	BY	C'K'D	DATE

AECOM USA, Inc.
30 Knightsbridge Road Suite 520
Piscataway, New Jersey 08854
CERTIFICATE OF AUTHORIZATION
NO. 24GE03716000

EDWARD F. SITLER

NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE037160

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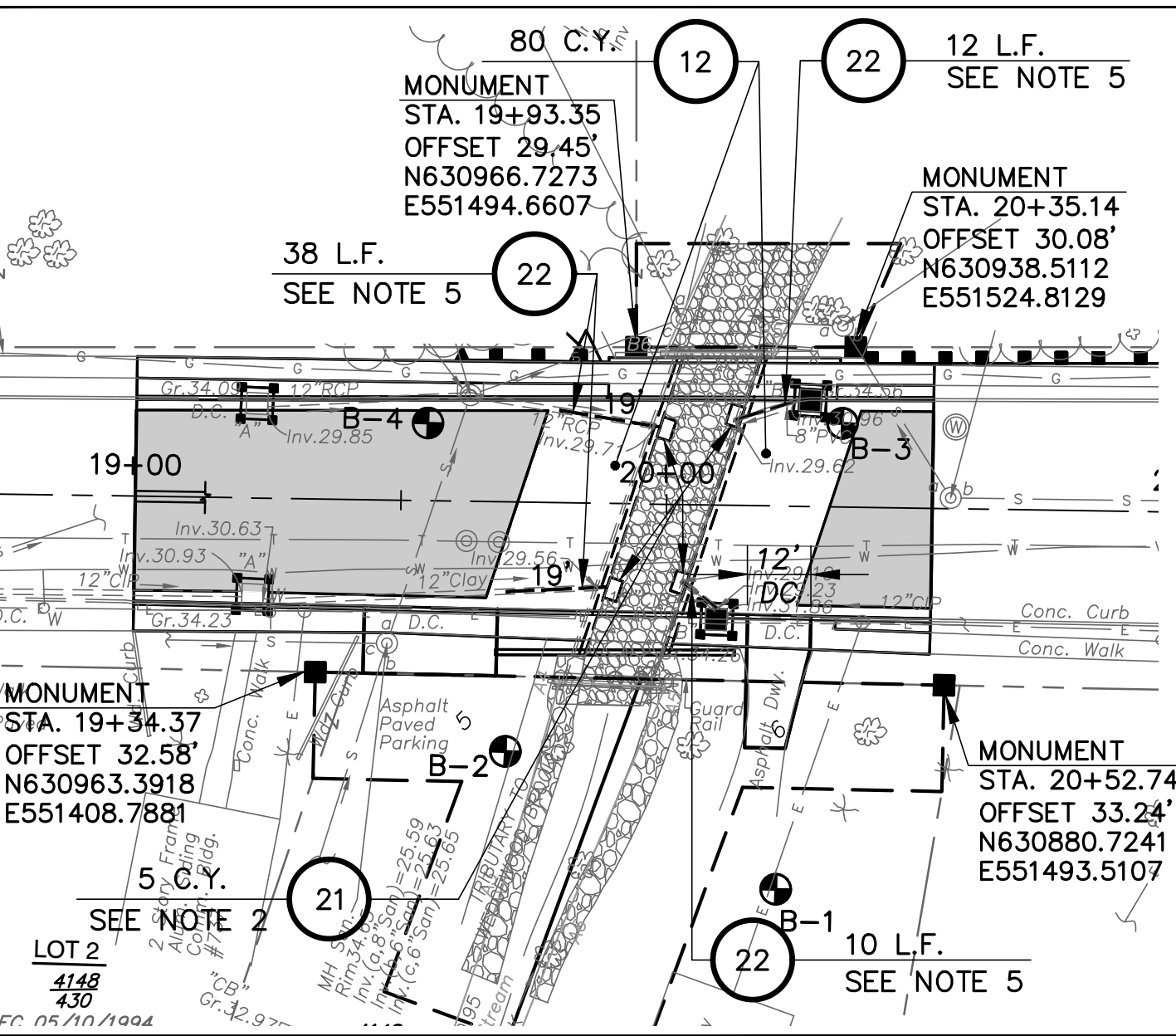
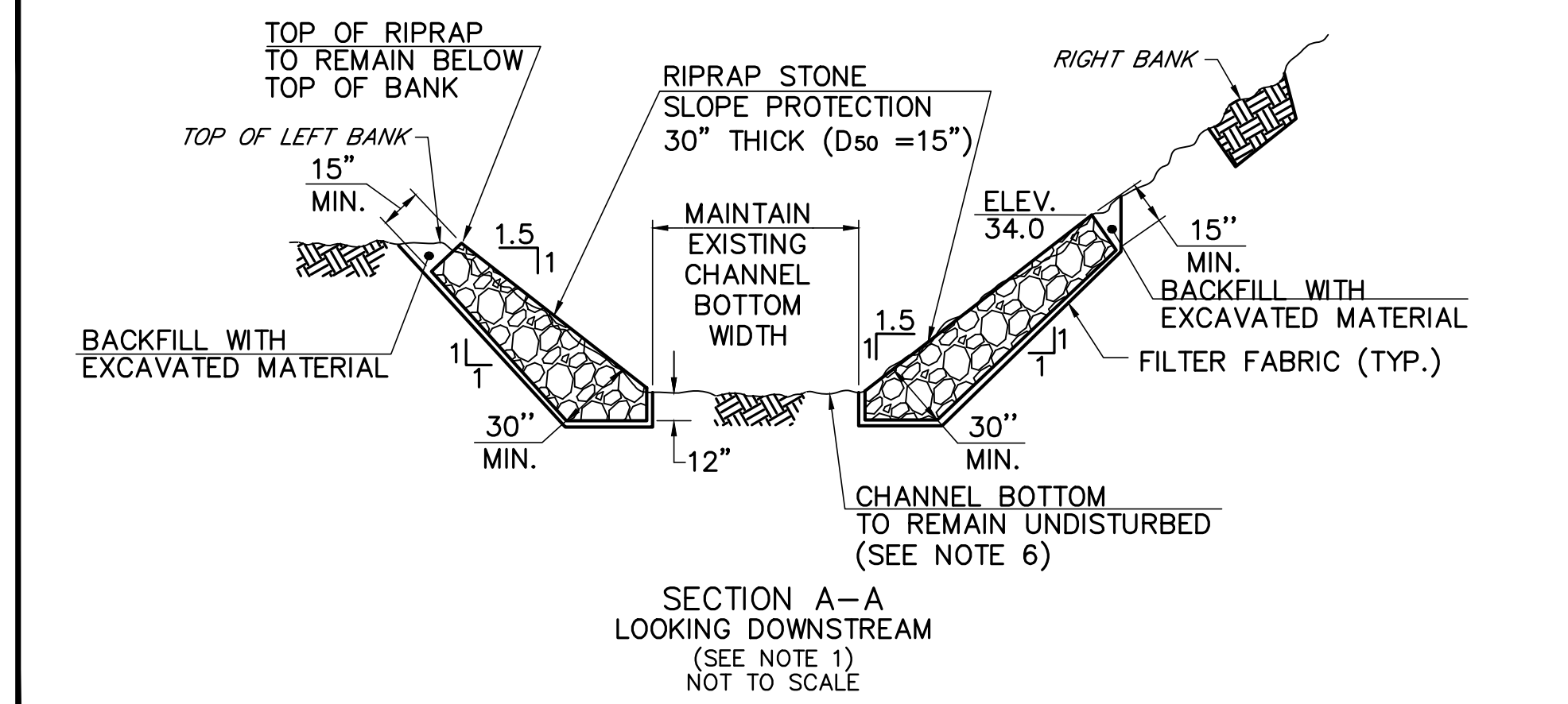
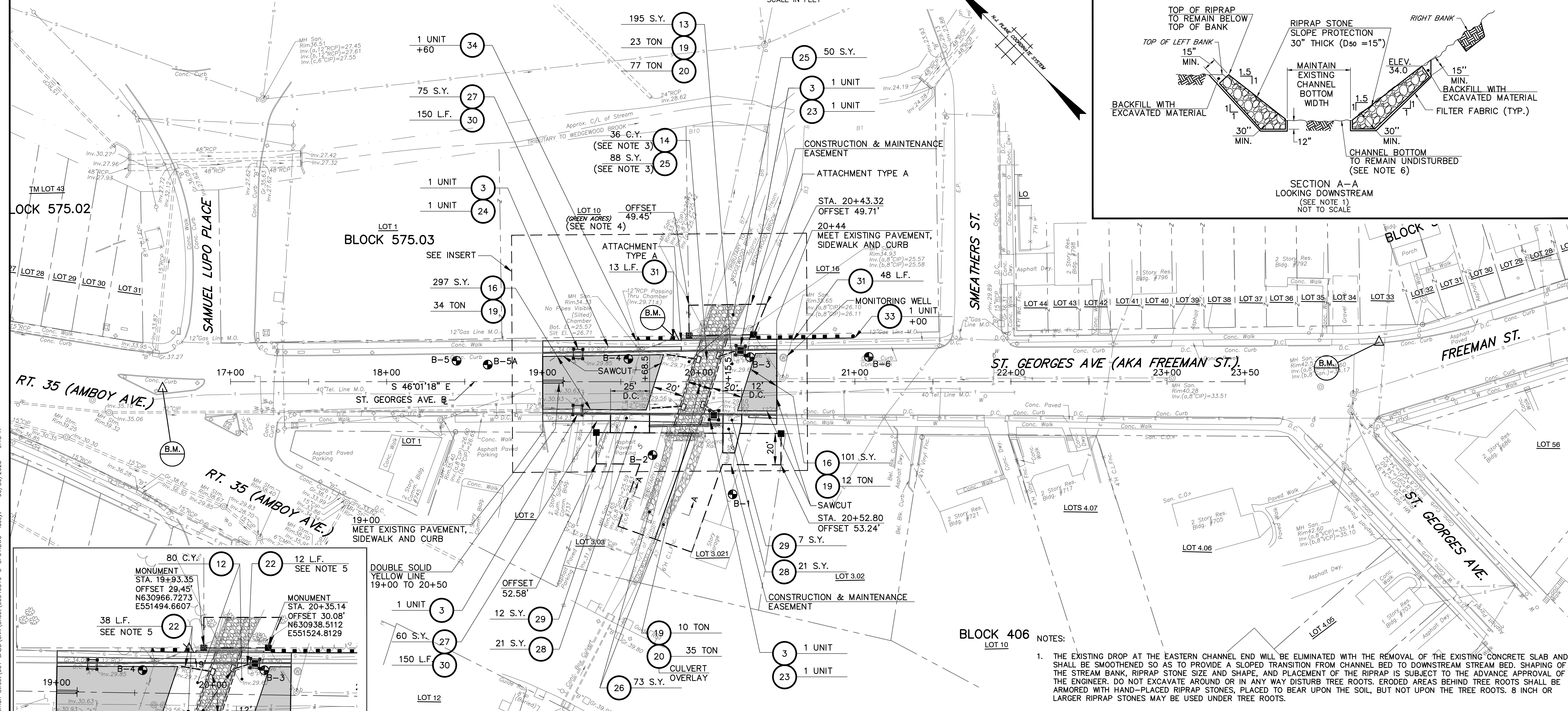
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TOWNSHIP OF WOODBRIDGE
MIDDLESEX COUNTY, NEW JERSEY

TIES

Scale: AS SHOWN
Sheet No. 5 of 24
Date: JUNE 2023

Ronald Sender
County Engineer
N.J.P.E. No. 24GE03162200



ITEM NO.	STANDARD ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
30	607018P	9" X 16" CONCRETE VERTICAL CURB	300 LF
31	609003M	BEAM GUIDE RAIL	61 LF
33	609027M	TANGENT GUIDERAIL TERMINAL	1 UNIT
34	609039M	BEAM GUIDERAIL ANCHORAGE	1 UNIT

ITEM NO.	STANDARD ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
3	158030M	INLET FILTER TYPE 2, 2' X 4'	4 UNIT
12	203009P	I-9 SOIL AGGREGATE	80 CY
13	302042P	DENSE-GRADED AGGREGATE BASE COURSE, 8" THICK	195 SY
14	305027XP	COARSE AGGREGATE, SIZE NO. 1, 12" THICK	36 CY
15	157006M	MONUMENT	4 UNIT
16	401009P	HMA MILLING, 3" OR LESS	398 SY
19	401042M	HOT MIX ASPHALT 9.5 M 64 SURFACE COURSE	79 T
20	401096M	HOT MIX ASPHALT 19 M 64 BASE COURSE	112 T
21	507069XP	CONCRETE SPLASH PAD	5 CY
22	601248XP	12" HIGH DENSITY POLYETHYLENE PIPE	60 LF
23	602012M	INLET, TYPE B	2 UNIT
24	602213M	CURB PIECE	1 UNIT
25	603042P	RIPRAP STONE CHANNEL PROTECTION, 18" THICK (D50=9")	138 SY
26	603027P	RIPRAP STONE SLOPE PROTECTION, 30" THICK (D50=15")	73 SY
27	606012XP	CONCRETE SIDEWALK, REINFORCED, 4" THICK	135 SY
28	606039P	HOT MIX ASPHALT DRIVEWAY, 6" THICK	42 SY
29	606057P	CONCRETE DRIVEWAY, REINFORCED, 6" THICK	19 UNIT

- NOTES:
1. THE EXISTING DROP AT THE EASTERN CHANNEL END WILL BE ELIMINATED WITH THE REMOVAL OF THE EXISTING CONCRETE SLAB AND SHALL BE SMOOTHENED SO AS TO PROVIDE A SLOPED TRANSITION FROM CHANNEL BED TO DOWNSTREAM STREAM BED. SHAPING OF THE STREAM BANK, RIPRAP STONE SIZE AND SHAPE, AND PLACEMENT OF THE RIPRAP IS SUBJECT TO THE ADVANCE APPROVAL OF THE ENGINEER. DO NOT EXCAVATE AROUND OR IN ANY WAY DISTURB TREE ROOTS. ERODED AREAS BEHIND TREE ROOTS SHALL BE ARMORED WITH HAND-PLACED RIPRAP STONES, PLACED TO BEAR UPON THE SOIL, BUT NOT UPON THE TREE ROOTS. 8 INCH OR LARGER RIPRAP STONES MAY BE USED UNDER TREE ROOTS.
 2. SEE SOIL EROSION AND SEDIMENT CONTROL DETAIL.
 3. SEE PLAN SHEET B-1 FOR UTILITY WORK AND PLAN SHEET B-2 FOR CHANNEL BOTTOM PROTECTION.
 4. BLOCK 575.03, LOT 10 IS GREEN ACRES ENCUMBERED. NO ACCESS OR DISTURBANCE ALLOWED.
 5. CONNECT PROPOSED DRAINAGE PIPE TO PROPOSED CULVERT WALL AND EXISTING PIPE SEGMENT.
 6. RIPRAP NOT TO BE PLACED ON CHANNEL BOTTOM UPSTREAM OF EXISTING CONCRETE SLAB AS DEPICTED ON PLAN.

CP-1
CP-1

Middlesex County Engineering Department
Office of the County Engineer
P.O. Box 871, New Brunswick, N.J. 08903

PROJECT No. BR-0809
REPLACEMENT OF CULVERT 1-C-503

FREEMAN STREET OVER RAHWAY RIVER
(AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
TOWNSHIP OF WOODBRIDGE
MIDDLESEX COUNTY, NEW JERSEY

CONSTRUCTION PLAN

AECOM USA, Inc.
30 Knightsbridge Road Suite 520
Piscataway, New Jersey 08854
CERTIFICATE OF AUTHORIZATION
NO. 24GE03716000

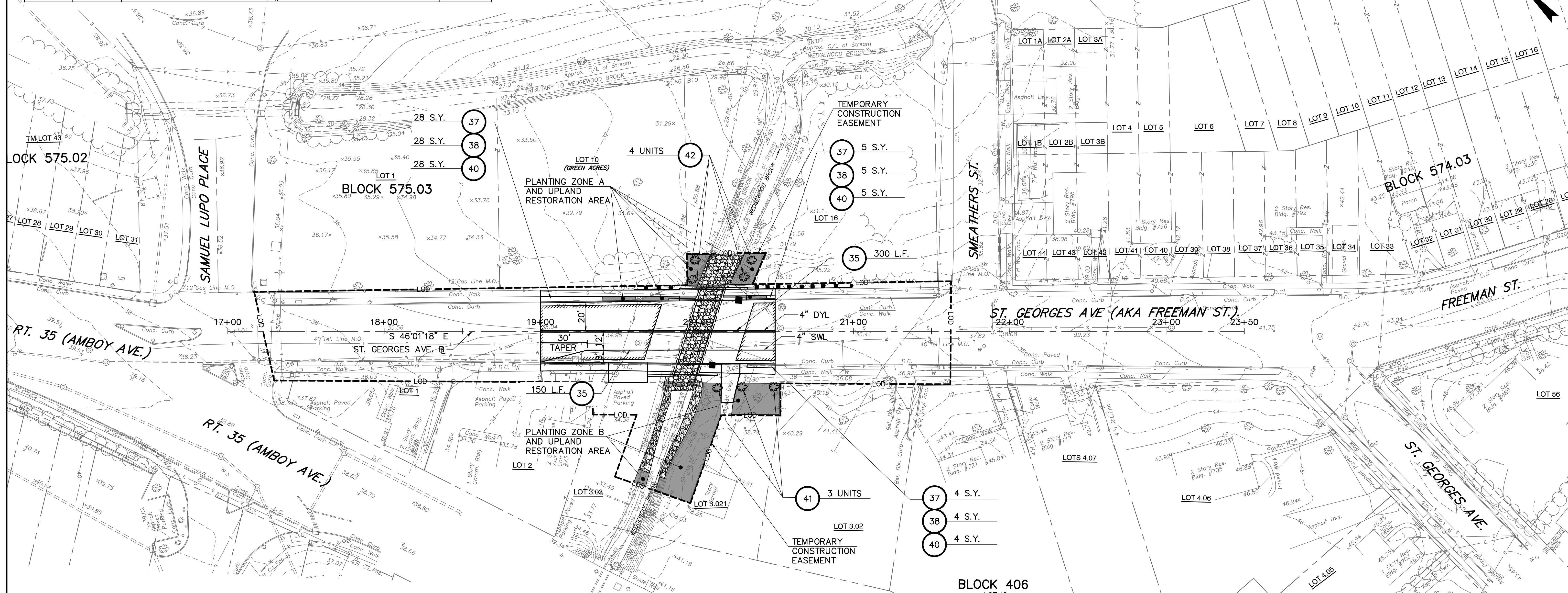
EDWARD F. SITLER
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE037160

Scale: AS SHOWN
Sheet No. 6 of 24
Date: JUNE 2023

Ronald Sender
County Engineer
N.J.P.E. No. 24GE03162200

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PAY ITEM NO.	STD. ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
35	610003M	TRAFFIC STRIPES, 4"	450 L.F.
37	804006	TOPSOILING, 4" THICK	37 S.Y.
38	806006	FERTILIZING AND SEEDING, TYPE A-3	37 S.Y.
40	809003	STRAW MULCHING	37 S.Y.
41	811018	LARGE DECIDUOUS TREE, SEEDLING 15-18" HIGH POT OR CONTAINER	3 UNITS
42	811066	DECIDUOUS SHRUB, 15-18" HIGH, #2 CONTAINER	4 UNITS



TYPE (TREE/SHRUB)	QUANTITY	COMMON NAME	SCIENTIFIC NAME	CONTAINER SIZE	PLANTING ZONE
S	4	FLOWERING DOGWOOD	CORNUS FLORIDA	2	A
T	2	WHITE OAK	QUERCUS ALBA	2	B
T	1	RED OAK	QUERCUS RUBRA	2	B

PLANTING RATE:
TREES TO BE SPACED APPROXIMATELY (1) PER 30 S.F.
SHRUBS TO BE SPACED APPROXIMATELY 25 FEET APART ON 20-FOOT CENTER

PLANTING RATE		COMMON NAME	SCIENTIFIC NAME
LBS./ACRE	LBS./1,000 SQ. FT.		
70	1.6	SWITCHGRASS	PANICUM VIRGATUM
70	1.6	LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM
60	1.3	ANNUAL RYE	LOLIUM MULTIFLORUM

LEGEND:
 PROPOSED TREE
 PLANTING ZONE

NOTES:
RESTORATION SITE PREPARATION
 1. GRADING WILL OCCUR AS NEEDED AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION. VEGETATION COVER WILL BE ESTABLISHED IMMEDIATELY IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE.
 2. SEEDBED PREPARATION SHOULD BE PERFORMED JUST BEFORE SEEDING.
 3. IF THE TOPSOIL HAS BEEN REMOVED, OR IS DEPLETED IN NUTRIENTS, ORGANIC MATERIALS WILL BE ADDED TO THE SOIL TO PROMOTE SEED GERMINATION.

SEEDING METHOD
 1. ONLY PURE LIVE SEEDS WILL BE USED WITHIN THE SEEDING MIXTURE.
 2. THE SEEDING MIXTURE SHOULD BE RAKED INTO THE TOP 2" OF THE SOIL.
 3. NEWLY SEEDED AREAS WILL BE KEPT MOIST THROUGHOUT THE SEED GERMINATION PERIOD.
 4. ONCE GERMINATION IS SUCCESSFUL, THE SEEDED AREAS SHALL BE PERIODICALLY INSPECTED FOR FAILURES, AND RESEEDED AND/OR REFERTILIZED WITH ORGANIC MATERIAL AS NECESSARY DURING THE PLANTING SEASON.

REVISION	BY	C'K'D	DATE

AECOM USA, Inc.
 30 Knightsbridge Road Suite 520
 Piscataway, New Jersey 08854
 CERTIFICATE OF AUTHORIZATION
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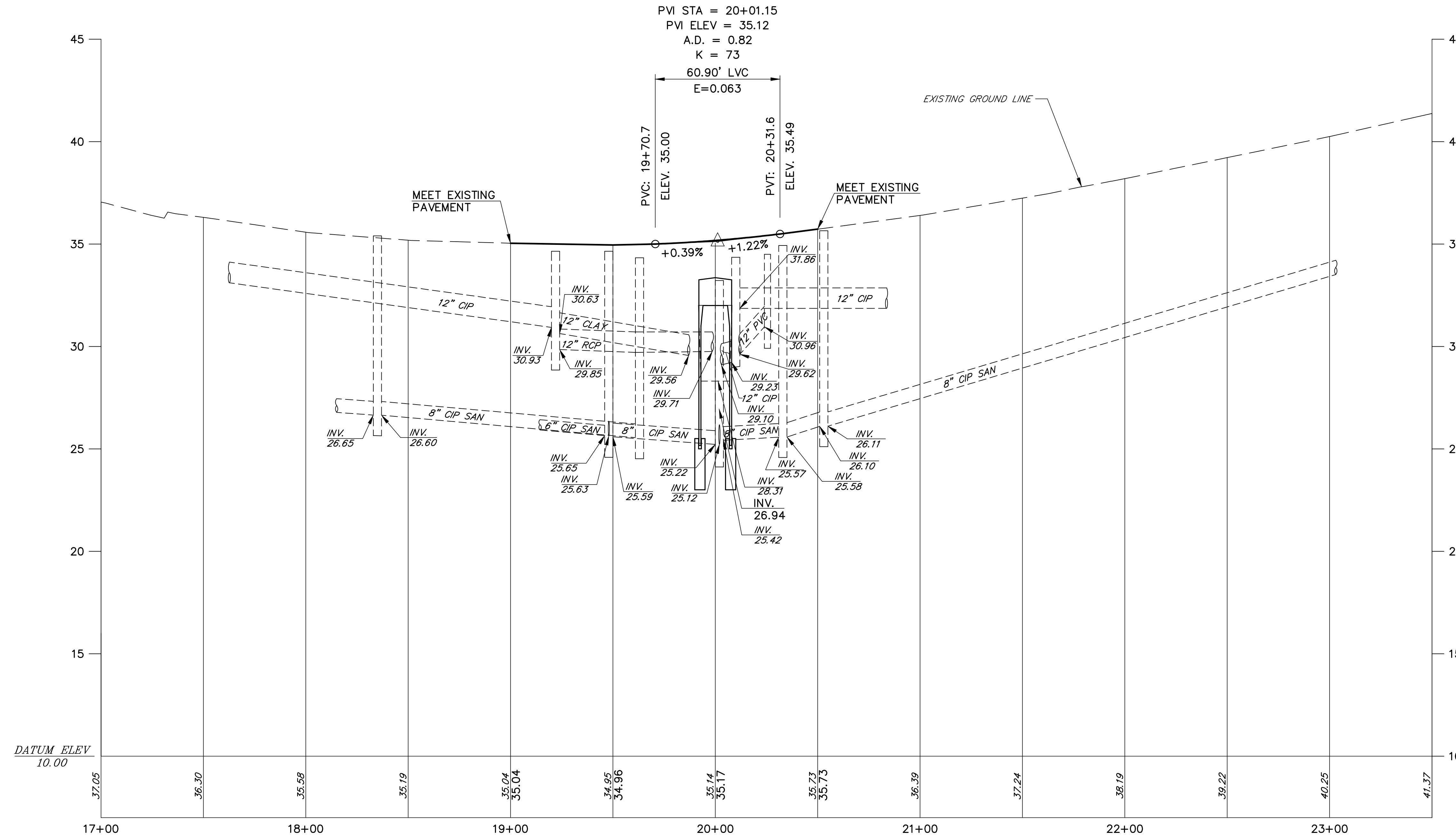
PROJECT No. BR-0809
REPLACEMENT OF CURB 1-C-503
 FREEMAN STREET OVER RAHWAY RIVER
 (AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
 TOWNSHIP OF WOODBRIDGE
 MIDDLESEX COUNTY, NEW JERSEY

PLANTING AND STRIPING PLAN

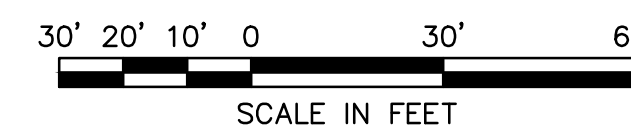
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 Date: JUNE 2023

Ronald Sender
 County Engineer
 N.J.P.E. No. 24GE03162200

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 lccsyf



ST. GEORGES AVENUE
DESIGN SPEED = 40 MPH



REVISION	BY	C'K'D	DATE

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PROJECT No. BR-0809
REPLACEMENT OF CULVERT 1-C-503
FREEMAN STREET OVER RAHWAY RIVER
(AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
TOWNSHIP OF WOODBRIDGE
MIDDLESEX COUNTY, NEW JERSEY

PROFILE

Scale: AS SHOWN
Sheet No. 8 of 24
Date: JUNE 2023

Ronald Sender
County Engineer
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GENERAL NOTES:

- ADVANCE WARNING SIGNS DISTANCES AND TAPER LENGTHS MAY BE EXTENDED, AT DIRECTION OF THE DEPARTMENT, TO ADJUST FOR REDUCED VISIBILITY DUE TO HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY.
- THE APPROXIMATE LOCATIONS OF THE ILLUMINATED FLASHING ARROW BOARDS ARE SHOWN ON THE TRAFFIC CONTROL PLANS. THESE LOCATIONS MAY BE MODIFIED AS APPROVED BY RE TO ADJUST FOR VISIBILITY DUE TO HORIZONTAL OR VERTICAL CURVATURE OF THE ROADWAY OR TO POSITION AT A SAFER LOCATION. ILLUMINATED FLASHING ARROW BOARDS ARE TO BE USED FOR TEMPORARY LANE CLOSINGS AND AT LOCATIONS SHOWN ON THE TRAFFIC CONTROL PLANS.
- PRIOR TO ANY ROAD CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES ARE TO BE IN PLACE.
- RAMPS AND/OR SIDE STREETS ENTERING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN ARE TO BE PROVIDED WITH AT LEAST ONE W20-IF SIGN (ROAD WORK AHEAD) AS A MINIMUM.
- ALL EXISTING ROAD SIGNS, PAVEMENT MARKINGS, AND / OR PLOWABLE PAVEMENT REFLECTORS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN ARE TO BE COVERED, REMOVED, OR RELOCATED AS DIRECTED BY THE RE.
- CONFLICTING OR NON-OPERATING SIGNAL INDICATIONS ON EITHER THE EXISTING, TEMPORARY, OR PROPOSED TRAFFIC SIGNAL SYSTEMS ARE TO BE BAGGED OR COVERED.
- MAINTENANCE AND PROTECTION OF TRAFFIC TO BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - PART VI "STANDARDS AND GUIDES FOR TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND INCIDENT MANAGEMENT OPERATIONS", UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS.
- CONSTRUCTION SIGN W99-2 (GIVE US A BRAKE) TO BE LOCATED 200 FEET IN ADVANCE OF PROJECT LIMITS.
- A W1-6 (ARROW) SIGN MOUNTED ON A BREAKAWAY BARRICADE AND CENTERED ON THE CLOSED WIDTH TO BE LOCATED 100 FEET BEYOND EACH INTERSECTION OR MAIN ACCESS POINT WITHIN THE AREA OF A LANE OR SHOULDER CLOSURE.
- CONSTRUCTION SIGNS R11-4 (ROAD CLOSED TO THRU TRAFFIC) TO BE PLACED AT THE INTERSECTING STREETS WHICH ARE CLOSED TO TRAFFIC BECAUSE OF CONSTRUCTION.
- CONSTRUCTION SIGNS W8-9A (SYMBOL FOR UNEVEN PAVEMENT) AND W8-14A (GROOVED PAVEMENT) TO BE USED WHEN SUCH PAVEMENT CONDITIONS EXIST.
- MOVING WORK AREAS IN A LANE CLOSURE REQUIRE A TRAILER MOUNTED ILLUMINATED FLASHING ARROW TO REMAIN AT THE END OF THE TAPER, THE TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION THAT IS TO MOVE WITH THE WORK AREAS TO KEEP A 70 FEET MIN. AND 150 FEET MAX. BUFFER IN ADVANCE OF EACH WORK AREA.
- THE CONTRACTOR TO SUBMIT A PLAN FOR THE SAFE ACCESS OF CONSTRUCTION VEHICLES THROUGHOUT THE WORK SITE WHERE SPACE CONSTRAINTS PREVENT THE USE OF LANE CLOSURES. THE PLAN TO BE SUBMITTED TO THE RE AS SPECIFIED IN THE SPECIFICATIONS.
- BACKFILL ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY AND PLACE ON AT LEAST 6H:1V SLOPE BEFORE THE END OF EACH WORK DAY. OTHER EXCAVATED AREA WITHIN THE CLEAR ZONE ARE TO BE BACKFILLED.
- WHERE REQUIRED, THE CONTRACTOR IS TO MAKE PROVISIONS FOR MAINTAINING PEDESTRIAN CROSSING LOCATIONS AND TYPE AS DIRECTED BY THE RE.
- BITUMINOUS CONCRETE PLACED DURING THE VARIOUS CONSTRUCTION STAGES TO BE TRANSITIONED ON A MINIMUM 20H:1V SLOPE TO MEET THE ADJACENT EXISTING GRADE AT THE LONGITUDINAL AND TRANSVERSE LIMITS OF THE STAGE CONSTRUCTION AREAS UNLESS OTHERWISE NOTED ON THE STAGE CONSTRUCTION PLANS.
- THE PLACEMENT AND / OR RELOCATION OF CONSTRUCTION BARRIER CURB TO BE DONE DURING ALLOWABLE LANE CLOSURE HOURS.
- CONSTRUCTION ZONE SPEED LIMIT WILL BE DETERMINED BY THE BUREAU OF TRAFFIC ENGINEERING, REGIONAL TRAFFIC ENGINEER - WORK ZONE, AT THE TIME OF OR DURING CONSTRUCTION, AS REQUESTED BY THE RE.
- THE SPEED LIMIT, R2-1 (BLACK ON WHITE) WITH ADDED WORK ZONE PLATE (BLACK ON ORANGE) SIGNS TO BE LOCATED THROUGH WORK AREAS AS DIRECTED BY THE BUREAU OF TRAFFIC ENGINEERING, REGIONAL TRAFFIC ENGINEER - WORK ZONE.
- THE REDUCED SPEED AHEAD SIGN, W3-5(S) (BLACK ON ORANGE) TO BE LOCATED IN ADVANCE OF SPEED LIMIT R2-1 SIGNS WHICH REDUCE THE NORMAL POSTED SPEED LIMIT THROUGH THE CONSTRUCTION ZONE.
- TRAFFIC FINES DOUBLED IN WORK AREA R(NJ)5-17(S) , 4 FEET BY 2.5 FEET SIGN TO BE LOCATED 500 FEET AFTER THE FIRST ADVANCE WARNING SIGN, (W20 SERIES) AT EACH WORK AREA LOCATED WITHIN URBAN AREAS. THIS SIGN TO ALSO BE USED ON PROJECTS REQUIRING MOVING OPERATIONS IN WHICH CASE THE SIGN IS TO BE MOUNTED ON A SLOW MOVING CONSTRUCTION VEHICLE.
- DO NOT CONSTRUCT THE FINAL HMA SURFACE PAVEMENT UNTIL THE FINAL STAGE OF THE PROJECT UNLESS OTHERWISE DIRECTED BY THE RE OR INDICATED ON THE PLANS. SET MANHOLES AND INLETS TO FINISHED GRADE AND CONSTRUCT TEMPORARY PAVEMENT RAMPS AROUND THEM WITH A MINIMUM 20H:1V SLOPE IN ALL DIRECTIONS USING HOT MIX ASPHALT PAVEMENT. THIS TEMPORARY MATERIAL WILL BE REMOVED IMMEDIATELY PRIOR TO PLACING THE SURFACE COURSE.
- PLACE TRAFFIC CONTROL DEVICES FOR LANE CLOSURES INCLUDING SIGNS, CONES, BARRICADES, ETC. AS SHOWN ON PLANS. NO SIGNS ARE TO BE PLACED WITHOUT ACTUAL LANE CLOSURES AND REMOVE IMMEDIATELY UPON REMOVAL OF THE CLOSURES.
- CONES MAY BE SUBSTITUTED FOR DRUMS AND INSTALLED UPON THE APPROVAL OF THE RE.
- TRAFFIC IMPACT NOTICES AND CHANGES

A. TERMS:
WHEN THE FOLLOWING TERMS ARE USED, THE INTENT AND MEANING IS AS FOLLOWS:

- IMPACTS TO NORMAL TRAFFIC FLOW - WORK THAT REQUIRES A PORTION OF THE PAVED ROADWAY BEING BLOCKED OR CLOSED WITH SAFETY DEVICES OR VEHICLES, INCLUDING, BUT NOT LIMITED TO, FULL OR PARTIAL LANE CLOSURES, FULL OR PARTIAL RAMP CLOSURES, SHOULDER CLOSURES, MOVING OPERATIONS SUCH AS TRAFFIC STRIPING OR SWEEPING, LANE SHIFTS, OR ALTERNATING TRAFFIC. THIS APPLIES EVEN WHEN DETOURS ARE PROVIDED.
- TEMPORARY LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH IS ROUTINELY SET UP AND REMOVED ON A DAILY BASIS.
- PERMANENT LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH REMAINS IN PLACE CONTINUOUSLY FOR 24 HOURS OR MORE.

25. TRAFFIC IMPACT NOTICES AND CHANGES (CONTINUED)

B. ADVANCE NOTICES

FOR THE INITIAL START OF WORK THAT REQUIRES "IMPACTS TO NORMAL TRAFFIC FLOW", THE CONTRACTOR IS TO NOTIFY THE RE IN WRITING, ON THE ADVANCE FORM TO-103 PROVIDED BY THE DEPARTMENT, OF THE PROPOSED DATE. THE NOTICE IS TO BE SUBMITTED AT LEAST TWENTY-EIGHT CALENDAR DAYS, BUT NOT MORE THAN SIXTY CALENDAR DAYS, BEFORE THE PROPOSED DATE. START OF WORK THAT IMPACTS NORMAL TRAFFIC FLOW WILL NOT BE PERMITTED PRIOR TO THE DATE STATED IN THE NOTICE. THE CONTRACTOR IS TO CONFIRM, IN WRITING TO THE RE, THE PROPOSED DATE SEVEN (AND/OR FOURTEEN) CALENDAR DAYS BEFORE STARTING THE ESTABLISHMENT OF THE TRAFFIC CONTROL MEASURES FOR THE TRAFFIC IMPACT. THE CONTRACTOR IS TO IMMEDIATELY NOTIFY THE RE IF THE PROPOSED ESTABLISHMENT CANNOT BE COMPLETED ON THE PROPOSED DATE.

FOR A "PERMANENT LANE CLOSURE", THE CONTRACTOR IS TO NOTIFY THE RE IN WRITING ON ADVANCE FORM TO-103, OF THE PROPOSED DATE A NEW TRAFFIC PATTERN WILL BE ESTABLISHED. THE NOTICE IS TO BE SUBMITTED AT LEAST TWENTY-EIGHT CALENDAR DAYS, BUT NOT MORE THAN SIXTY CALENDAR DAYS, IN ADVANCE OF THE PROPOSED DATE. START OF A NEW TRAFFIC PATTERN WILL NOT BE PERMITTED PRIOR TO THE DATE STATED IN THE NOTICE. THE CONTRACTOR IS TO CONFIRM, IN WRITING TO THE RE, THE PROPOSED DATE OF THE NEW TRAFFIC PATTERN SEVEN (AND/OR FOURTEEN) DAYS BEFORE STARTING TRAFFIC CONTROL MEASURES FOR THE ESTABLISHMENT OF THE NEW PATTERN. THE CONTRACTOR IS TO IMMEDIATELY NOTIFY THE RE IF THE PROPOSED ESTABLISHMENT CANNOT BE COMPLETED ON THE PROPOSED DATE.

STARTING THE ESTABLISHMENT OF A NEW PERMANENT TRAFFIC PATTERN IS TO BEGIN NO EARLIER THAN 11:00 PM FRIDAY AND BE COMPLETED AND READY FOR OPERATIONS BY 6:00 PM THE FOLLOWING SUNDAY. THE ESTABLISHMENT IS TO BE COMPLETED IN ACCORDANCE WITH THE LANE CLOSURE HOURS SPECIFIED IN THE CONTRACT.

ADVANCE NOTICES SENT PRIOR TO THE PRE-CONSTRUCTION MEETING ARE TO BE ADDRESSED TO THE CONTACT PERSON AS SPECIFIED IN SUBSECTION 101.04 OF THE SPECIAL PROVISIONS.

C. PROGRESS NOTICES

ALL "IMPACTS TO NORMAL TRAFFIC FLOW" SCHEDULED FOR THE SEVEN DAY PERIOD STARTING ON THE FOLLOWING MONDAY ARE TO BE SUBMITTED TO THE RE BY 9:00 AM OF EACH FRIDAY ON WEEKLY FORM TO-100 PROVIDED BY THE DEPARTMENT.

EACH DAY OF "TEMPORARY LANE CLOSURES" ARE TO BE SUBMITTED TO THE RE BY 9:00 AM THE DAY IN ADVANCE OF THE START OF THOSE OPERATIONS ON DAILY FORM TO-101 PROVIDED BY THE DEPARTMENT.

"TEMPORARY LANE CLOSURES" FOR WEEKENDS ARE TO BE SUBMITTED TO THE RE BY 9:00 AM ON THE IMMEDIATELY PRECEDING FRIDAY ON THE DAILY FORM TO-101 PROVIDED BY THE DEPARTMENT.

D. CHANGES TO THE SCHEDULED CLOSURES

REQUEST FOR A CHANGE TO THE TRAFFIC CONTROL REQUIREMENTS IN THE CONTRACT DOCUMENTS ARE TO BE SUBMITTED IN WRITING TO THE RE AS FOLLOWS:

CHANGES TO THE SCHEDULED HOURS FOR "TEMPORARY LANE CLOSURES" ARE TO BE SUBMITTED TO THE RE AT LEAST EIGHT CALENDAR DAYS IN ADVANCE OF WHEN THE CHANGE IS PROPOSED TO START.

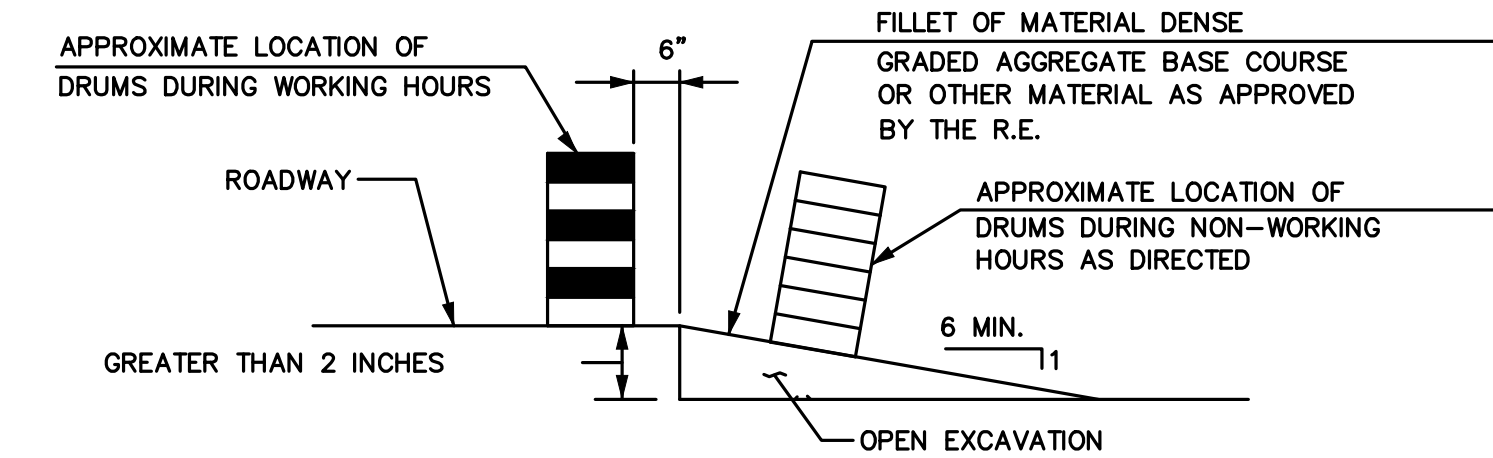
OTHER PROPOSED CHANGES TO "TEMPORARY LANE CLOSURES" AND ALL CHANGES TO "PERMANENT LANE CLOSURES" ARE TO BE SUBMITTED TO THE RE AS SPECIFIED IN THE SPECIFICATIONS.

- WHERE MILLING OR HMA PAVING IS PERFORMED AND THE LANE IS TO BE RE-OPENED TO TRAFFIC EACH DAY, APPLY TRAFFIC STRIPES AS DIRECTED BY THE RE.
- FOR MORE INFORMATION ABOUT STANDARD AND SPECIAL SIGNS, REFER TO THE CURRENT EDITION OF STANDARD HIGHWAY SIGNS AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, BOTH FROM THE FEDERAL HIGHWAY ADMINISTRATION.
- ONLY TYPE III BREAKAWAY BARRICADES THAT ARE NCHRP-350 COMPLIANT SHALL BE USED; WOODEN ARRICADES ARE NOT ALLOWED. IN ADDITION, FLASHING/STEADY WARNING LIGHTS SHALL NOT BE AFFIXED TO ANY SIGN OR BARRICADE. SEE CD-617-1 FOR DETAILS.
- THE ADVANCE WARNING SIGNS (SIGN S-2) ARE TO BE POSTED A MINIMUM OF TWO WEEKS PRIOR TO THE EFFECTIVE DATE OF THE DETOUR, AND ARE TO BE REMOVED AT THE START OF CONSTRUCTION.
- THE CONTRACTOR IS TO NOTIFY THE COUNTY ENGINEERING DEPARTMENT AT LEAST 48 HOURS PRIOR TO THE INSTALLATION OF DETOUR SIGNS.
- UNLESS NOTED OTHERWISE, ALL SIGNS AND BARRICADES SHALL BE FURNISHED BY THE CONTRACTOR AND PLACED AT THE LOCATIONS DESIGNATED BY THE ENGINEER, AND AT THE UNIT PRICE BID. THE CONTRACTOR SHALL SUPPLY AND PLACE ADDITIONAL SIGNS AND BARRICADES.
- THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND THE LOCAL BOROUGH OR TOWNSHIP SHOULD THE NEED ARISE TO CLOSE A LOCAL ROAD.
- IF APPLICABLE, THE CONTRACTOR SHALL STAGE CONSTRUCTION SO THAT ONLY ONE INTERSECTION IS CLOSED TO ALL VEHICULAR TRAFFIC AT ANY GIVEN TIME. SAFE PASSAGE IS TO BE PROVIDED TO ALL LOCAL TRAFFIC WITHIN THE PROJECT'S LIMITS, AND EMERGENCY VEHICLES SHALL HAVE ACCESS.
- ALL SIGNS SHALL BE LOCATED WITHIN THE TOWNSHIP, COUNTY OR STATE RIGHT-OF-WAY.
- WHERE A ROAD CONSTRUCTION AREA IS ADJACENT TO SIDEWALKS, ORANGE PLASTIC RETROREFLECTIVE CONSTRUCTION FENCING SHALL BE USED FOR PEDESTRIAN PROTECTION.
- THE CONTRACTOR IS DIRECTED TO NOTIFY THE WOODBRIDGE TOWNSHIP POLICE AND FIRE DEPARTMENTS TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND 24 HOURS PRIOR TO IMPLEMENTATION.
- CLOSURE SHALL BE MAINTAINED USING OFFSET PRECAST CONCRETE CURB, CONSTRUCTION BARRIER DURING NONWORKING HOURS IS SHOWN ON DRAWING MPT-2. THE CURB NEED NOT BE BOLTED DOWN. SEE CD-617-4 FOR DETAILS.
- PLACEMENT OF CONSTRUCTION SIGNS SHALL NOT OBSTRUCT THE VISIBILITY OF ANY PERMANENT SIGNAGE.

RECOMMENDED TAPER LENGTH AND SPACING FOR CHANNELIZING TAPERS				RECOMMENDED SPACING ALONG TANGENTS	
REGULATORY APPROACH SPEED OF TRAFFIC IN MILES/HOUR	MINIMUM TAPER RATIO IN LENGTH PER FOOT OF WIDTH	MINIMUM TAPER LENGTH L-FOR LANE WIDTHS			MAXIMUM DEVICE (D) SPACING ALONG TANGENTS IN FEET
		10'	11'	12'	
25	10.5:1	105	115	125	25
30	15:1	150	165	180	30
35	20.5:1	205	225	245	35
40	27:1	270	300	325	40
45	45:1	450	495	540	45
50	50:1	500	550	600	50

NOTE:

THE MAXIMUM DEVICE SPACING ALONG CURVES SHALL BE AS DEFINED FOR TAPERS (B) IN THE ABOVE TABLE.



NOTE: ESCAPE RAMPS MUST BE CONSTRUCTED AND MAINTAINED DURING NON-WORKING HOURS WHERE A VERTICAL DROP OF GREATER THAN 2 INCHES EXISTS ADJACENT TO TRAVELED LANE.

ESCAPE RAMP DETAIL

NOT TO SCALE

SCHEDULE OF ALLOWABLE LANE CLOSURE HOURS

STATE ROUTE NJ-35: NO LANE CLOSURE IS ALLOWED AT ANY TIME.

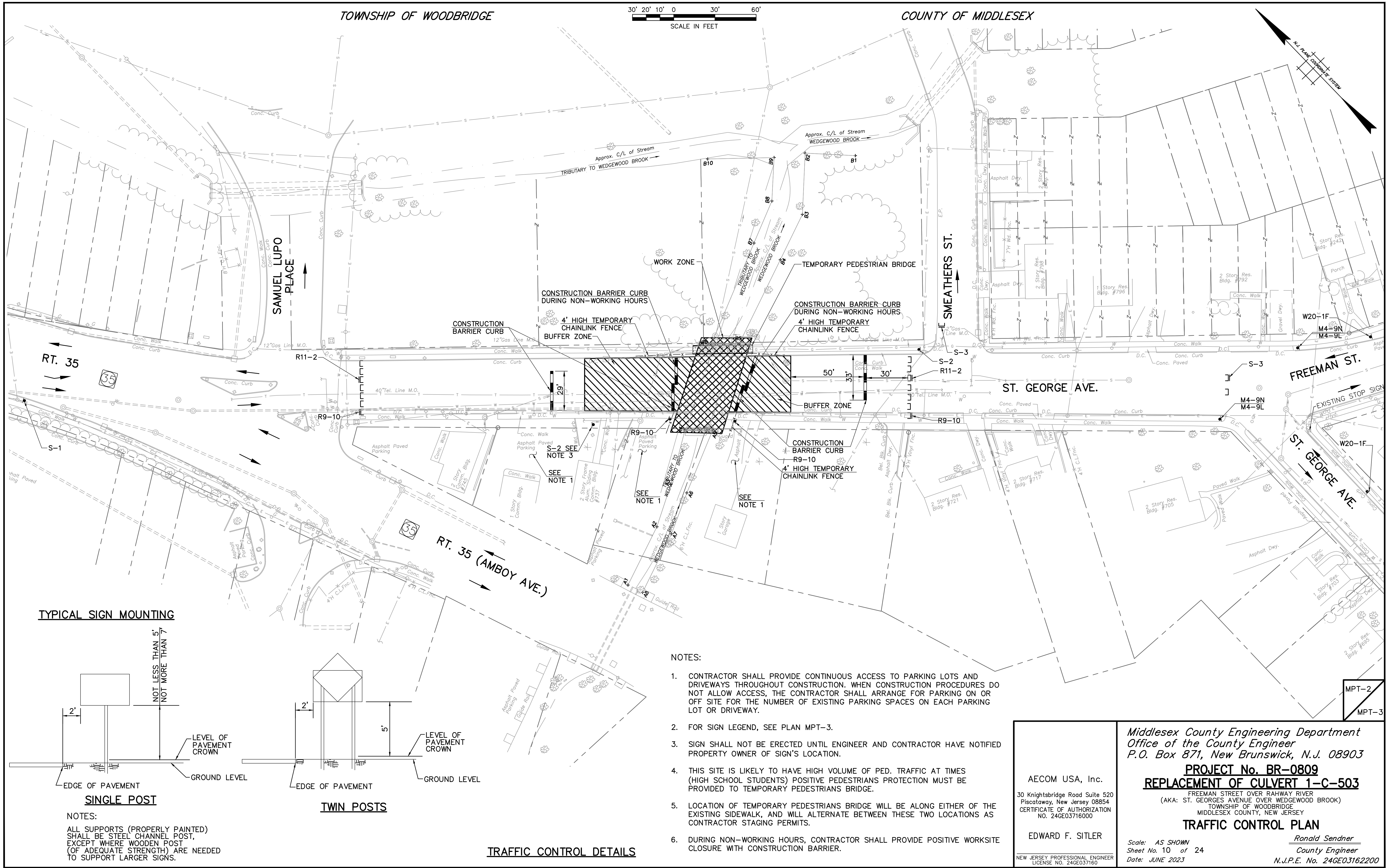
SAINT GEORGES AVE (MUNICIPAL ROAD): THIS TWO-LANE ROADWAY WILL BE CLOSED AT ALL TIMES DURING CONSTRUCTION, AS SHOWN ON PLANS.

MPT-1
MPT-3

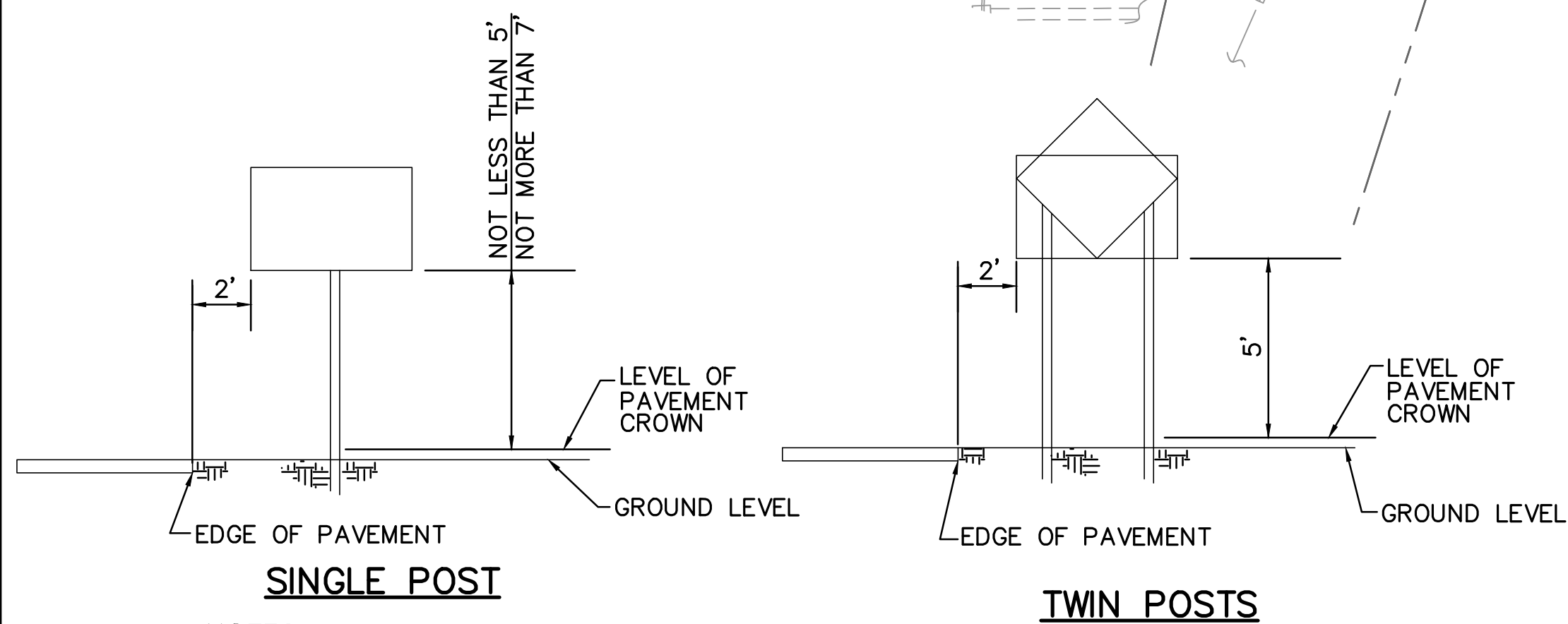
AECOM USA, Inc. 30 Knightsbridge Road Suite 520 Piscataway, New Jersey 08854 CERTIFICATE OF AUTHORIZATION NO. 24GE03716000	Middlesex County Engineering Department Office of the County Engineer P.O. Box 871, New Brunswick, N.J. 08903 PROJECT No. BR-0809 REPLACEMENT OF CURBET 1-C-503 FREEMAN STREET OVER RAHWAY RIVER (AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK) TOWNSHIP OF WOODBRIDGE MIDDLESEX COUNTY, NEW JERSEY TRAFFIC CONTROL NOTES
	EDWARD F. SITLER NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE037160

Scale: AS SHOWN
Sheet No. 9 of 24
Date: JUNE 2023

Ronald Sender
County Engineer
N.J.P.E. No. 24GE03162200



TYPICAL SIGN MOUNTING



NOTES:

ALL SUPPORTS (PROPERLY PAINTED) SHALL BE STEEL CHANNEL POST, EXCEPT WHERE WOODEN POST (OF ADEQUATE STRENGTH) ARE NEEDED TO SUPPORT LARGER SIGNS.

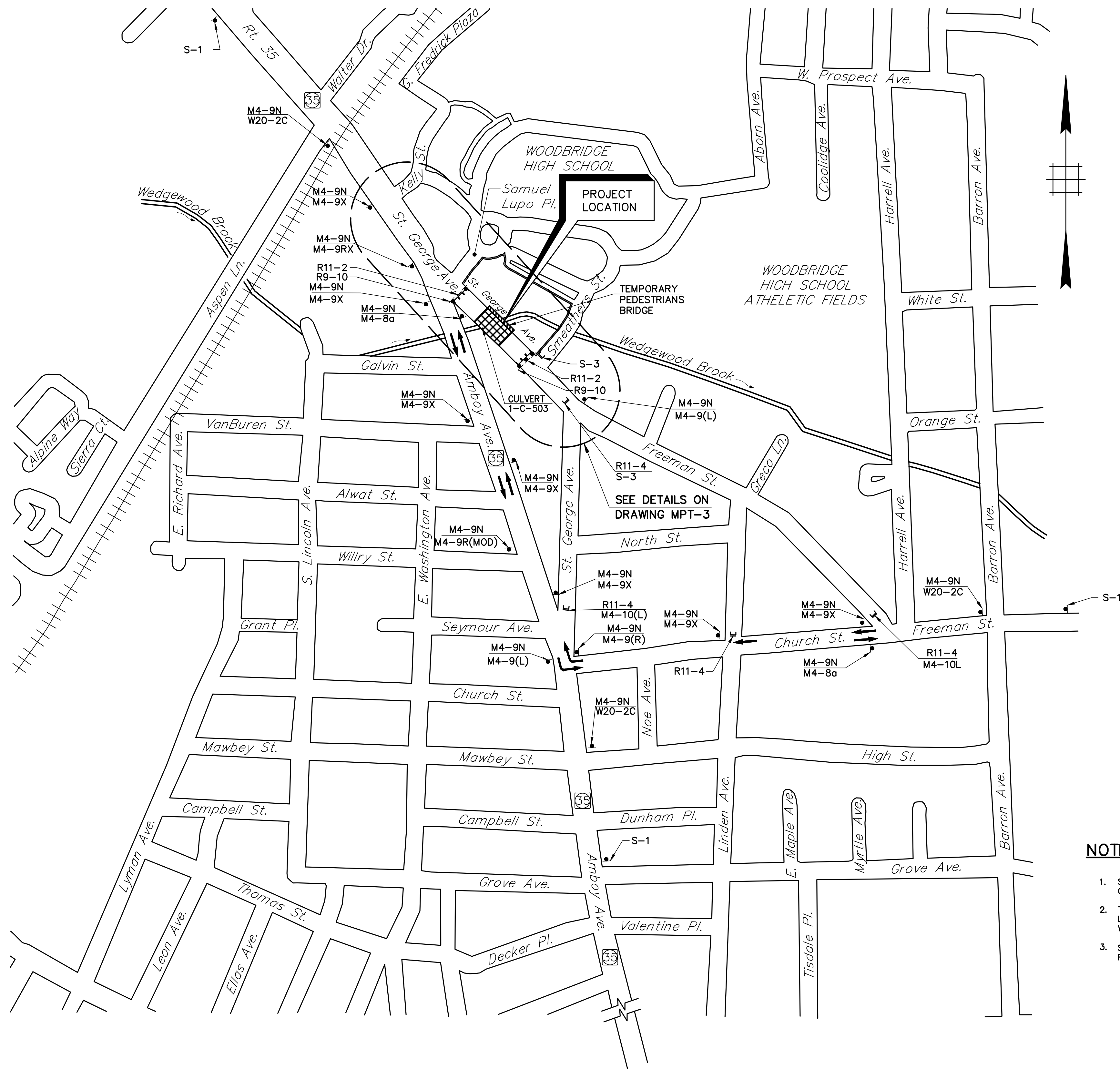
NOTES:

1. CONTRACTOR SHALL PROVIDE CONTINUOUS ACCESS TO PARKING LOTS AND DRIVEWAYS THROUGHOUT CONSTRUCTION. WHEN CONSTRUCTION PROCEDURES DO NOT ALLOW ACCESS, THE CONTRACTOR SHALL ARRANGE FOR PARKING ON OR OFF SITE FOR THE NUMBER OF EXISTING PARKING SPACES ON EACH PARKING LOT OR DRIVEWAY.
2. FOR SIGN LEGEND, SEE PLAN MPT-3.
3. SIGN SHALL NOT BE ERECTED UNTIL ENGINEER AND CONTRACTOR HAVE NOTIFIED PROPERTY OWNER OF SIGN'S LOCATION.
4. THIS SITE IS LIKELY TO HAVE HIGH VOLUME OF PED. TRAFFIC AT TIMES (HIGH SCHOOL STUDENTS) POSITIVE PEDESTRIANS PROTECTION MUST BE PROVIDED TO TEMPORARY PEDESTRIANS BRIDGE.
5. LOCATION OF TEMPORARY PEDESTRIANS BRIDGE WILL BE ALONG EITHER OF THE EXISTING SIDEWALK, AND WILL ALTERNATE BETWEEN THESE TWO LOCATIONS AS CONTRACTOR STAGING PERMITS.
6. DURING NON-WORKING HOURS, CONTRACTOR SHALL PROVIDE POSITIVE WORKSITE CLOSURE WITH CONSTRUCTION BARRIER.

TRAFFIC CONTROL DETAILS

<p>AECOM USA, Inc. 30 Knightsbridge Road Suite 520 Piscataway, New Jersey 08854 CERTIFICATE OF AUTHORIZATION NO. 24GE03716000</p> <p>EDWARD F. SITLER NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE037160</p>	<p>Middlesex County Engineering Department Office of the County Engineer P.O. Box 871, New Brunswick, N.J. 08903</p> <p>PROJECT No. BR-0809 REPLACEMENT OF CURB 1-C-503 FREEMAN STREET OVER RAHWAY RIVER (AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK) TOWNSHIP OF WOODBRIDGE MIDDLESEX COUNTY, NEW JERSEY</p> <p>TRAFFIC CONTROL PLAN</p> <p>Scale: AS SHOWN Sheet No. 10 of 24 Date: JUNE 2023</p> <p><i>Ronald Sandler</i> County Engineer N.J.P.E. No. 24GE03162200</p>
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DETOUR PLAN
N.T.S.

NOTES

- SPECIAL SIGNS SHALL HAVE A BLACK MESSAGE OR SYMBOL ON A FLUORESCENT ORANGE RETROREFLECTIVE BACKGROUND.
- THE BARRICADE SYMBOLS SHOWN ON THESE MPT PLANS REPRESENT THE GENERAL LOCATION OF BARRICADE PLACEMENT. ACTUAL NUMBER OF BARRICADES REQUIRED WILL BE BASED ON CLOSURE NEEDS.
- SIGN R9-10 (SIDEWALK CLOSED / USE OTHER SIDE) TO BE PLACED ON THE ROADSIDE WHERE SIDEWALK IS CLOSED TO PEDESTRIANS.

STANDARD SIGNS				
SIGN	SIGN LAYOUT	SIGN TYPE	SIGN SIZE	MOUNT TYPE
		M4-8a	24"x18"	1 POST
		M4-9X	30"x24"	1 POST
		M4-9R	30"x24"	1 POST
		M4-9L	30"x24"	1 POST
		M4-9L(MOD)	30"x24"	1 POST
		M4-9RX	30"x24"	1 POST
		R11-2	48"x30"	BARRICADE
		R11-4	60"x30"	BARRICADE
		R9-10	48"x24"	2 POSTS
		W20-1D	48"x48"	2 POSTS
		W20-1F	48"x48"	2 POSTS
		W20-2C	48"x48"	2 POSTS
		W20-3A	48"x48"	2 POSTS
		M4-10L	48"x18"	BARRICADE

SPECIAL SIGNS				
SIGN	SIGN LAYOUT	COLOR		MOUNT TYPE
S-1		4" 4" 1" 4"	SEE NOTE 1	2 POSTS
S-2		4" 4" 1" 4"	SEE NOTE 1	2 POSTS
S-3		4" 6" 1" 4"	SEE NOTE 1	BARRICADE
M4-9N		4" 4"	SEE NOTE 1	2 POSTS

TRAFFIC CONTROL QUANTITIES		
ITEM	UNITS	QUANTITY
CONSTRUCTION SIGNS	S.F.	420
PRECAST CONCRETE CURB, CONSTRUCTION BARRIER, TYPE 4	L.F.	80
BREAKAWAY BARRICADE	UNIT	30

SIGN SUMMARY									
SIGN ID	# REQUIRED	SIGN ID	# REQUIRED	SIGN ID	# REQUIRED	SIGN ID	# REQUIRED	SIGN ID	# REQUIRED
M4-8a	2	M4-10L	1	S-2	2				
M4-9X	7	M6-2R	1	S-3	2				
M4-9(R)	1	W20-1D	2	R9-10	4				
M4-9(L)	2	W20-1F	1	R11-2	2				
M4-9N	16	W20-2C	2	R11-4	4				
M4-9RX	1	W20-3A	2						
M4-9R(MOD)	1	S-1	3						

LEGEND

- BREAKAWAY BARRICADES
- BREAKAWAY BARRICADES WITH SIGN
- CONSTRUCTION SIGNS
- DIRECTION OF TRAFFIC FLOW
- WORK AREA

REVISION	BY	C'K'D	DATE

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CERTIFICATE OF AUTHORIZATION
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EDWARD F. SITLER
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Office of the County Engineer
P.O. Box 871, New Brunswick, N.J. 08903

PROJECT No. BR-0809
REPLACEMENT OF CULVERT 1-C-503
FREEMAN STREET OVER RAHWAY RIVER
(AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
TOWNSHIP OF WOODBRIDGE
MIDDLESEX COUNTY, NEW JERSEY

DETOUR PLAN

Scale: AS SHOWN
Sheet No. 11 of 24
Date: JUNE 2023

Ronald Sender
County Engineer
N.J.P.E. No. 24GE03162200

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SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED SEVENTY TWO (72) HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
2. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL OF NEW JERSEY.
3. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
5. IN THAT N.J.S.A. 4:24-39 ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR EROSION CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISION, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
6. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN THIRTY (30) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2½ TONS PER ACRE, ACCORDING TO THE STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.
7. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E., STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF 1½ TO 2 TONS PER ACRE, ACCORDING TO THE STATE STANDARDS.
8. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
9. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION CONTINUES (I.E., SLOPES GREATER THAN 3:1).
10. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF ONE INCH TO TWO INCH (1"-2") STONE FOR A MINIMUM LENGTH OF TEN (10) FEET EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
11. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY.
12. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
13. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
14. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF TWENTY FOUR (24) INCHES OF SOIL HAVING A PH OF 5 OR MORE.
15. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
16. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
17. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
18. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
19. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
20. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

TOPSOIL STOCKPILE PROTECTION

1. CONSTRUCT TEMPORARY DIVERSION BERM AND/OR HAY BALE BARRIER AROUND STOCKPILE AREA AS REQUIRED.
2. APPLY LIMESTONE AT A RATE OF 90 LBS./1,000 S.F.
3. APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS./1,000 S.F.
4. APPLY PERENNIAL RYEGRASS AT A RATE OF 100 LBS./ACRE.
5. MULCH WITH UNROTTED SALT HAY OR SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. APPLY AT A RATE OF 90 LBS./1,000 S.F.

TEMPORARY STABILIZATION SPECIFICATIONS

1. APPLY GROUND LIMESTONE AT A RATE OF 90 LBS./1,000 S.F.
2. APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS./1,000 S.F. AND WORK INTO SOIL 4" DEEP.
3. APPLY SEED MIXTURE: PERENNIAL RYEGRASS AT 100 LBS./ACRE.
4. MULCH WITH UNROTTED SALT HAY OR SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, AND APPLY AT A RATE OF 90 LBS./1,000 S.F. AND SECURE BY APPROVED METHODS (I.E., PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).
5. PLANT SEED BETWEEN MARCH 1 & MAY 15 OR BETWEEN AUGUST 15 & OCTOBER 1, IF POSSIBLE.

PERMANENT STABILIZATION SPECIFICATIONS

1. APPLY TOPSOIL TO A DEPTH OF 4".
2. APPLY GROUND LIMESTONE AT A RATE OF 90 LBS./1,000 S.F.
3. APPLY FERTILIZER (10-20-10) AT A RATE OF 14 LBS./1,000 S.F.
4. PERMANENT SEED MIXTURE SHALL BE SWITCHGRASS, LITTLE BLUESTEM AND ANNUAL RYE. THE SEED MIXTURE SHALL BE APPLIED AT A RATE AS FOLLOWS: SWITCHGRASS 70 LBS./ACRE, LITTLE BLUESTEM 70 LBS./ACRE AND ANNUAL RYE 60 LBS./ACRE.
5. MULCH WITH UNROTTED SALT HAY OR SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, AND APPLY AT A RATE OF 90 LBS./1,000 S.F. ACCORDING TO THE N.J. STANDARDS.
6. ANCHOR MULCH WITH EMULSIFIED ASPHALT APPLIED AT A RATE OF 194 GAL./ACRE. OTHER APPROVED METHODS (I.E., PEG AND TWINE, OR MULCH NETTING) MAY BE USED. IF POSSIBLE, PLANT BETWEEN MARCH 1 AND MAY 15, OR BETWEEN AUGUST 15 AND OCTOBER 1.

SUGGESTED SEQUENCE OF CONSTRUCTION

1. ESTABLISH DETOUR. INSTALL TEMPORARY PEDESTRIAN BRIDGE. (7 DAYS)
2. INSTALL INLET FILTERS AND SILT FENCE. (1 DAY)
3. SET UP LOW FLOW STREAM BYPASS THROUGH EXISTING BRIDGE. LOW FLOW STREAM BYPASS WILL CONSIST OF A CONTRACTOR DESIGNED BERM AND TEMPORARY PIPE TO CAPTURE WEDGEWOOD BROOK LOW FLOW DISCHARGES UPSTREAM OF THE PROPOSED WATER AND GAS MAIN CROSSINGS AND CONVEY THE DISCHARGES TO AN OUTLET POINT DOWNSTREAM OF THE BRIDGE DEMOLITION. (15 DAYS)
4. CONSTRUCT WATER AND GAS MAIN RELOCATIONS (BY MIDDLESEX WATER COMPANY AND ELIZABETHTOWN GAS). (20 DAYS)
5. DEMOLISH BRIDGE WHILE SUPPORTING TELEPHONE CONDUITS. EXCAVATE PAVED INVERT AND UNDERLYING MATERIAL. BACKFILL WITH RIPRAP STONE CHANNEL PROTECTION, 18" THICK (D50=9") AND THEN 12" THICK LAYER OF COURSE AGGREGATE NO. 1. (5 DAYS)
6. INSTALL SEDIMENT CONTROL BAG TO FILTER PUMPAGE. (1 DAY)
7. CONSTRUCT TEMPORARY SHEETING. REMOVE LOW FLOW STREAM BYPASS AFTER SHEETING IS IN PLACE. (15 DAYS)
8. EXCAVATE FOR NEW BRIDGE. (5 DAYS)
9. CONSTRUCT BRIDGE FOOTINGS. (10 DAYS)
10. INSTALL PRECAST RIGID FRAME SEGMENTS. (5 DAYS)
11. CONSTRUCT HEADWALLS. (12 DAYS)
12. BACKFILL EXCAVATIONS. (3 DAYS)
13. PERMANENTLY INSTALL TELEPHONE CONDUITS (BY VERIZON). (5 DAYS)
14. CONSTRUCT SIDEWALK, CURB, NEW PAVEMENT, ROADWAY STRIPING. (15 DAYS)
15. REMOVE INLET FILTERS AND SILT FENCE. PROVIDE PERMANENT SOIL STABILIZATION FOR ALL DISTURBED AREAS. (3 DAYS)
16. REMOVE DETOUR. REMOVE TEMPORARY PEDESTRIAN BRIDGE. (3 DAYS)
17. ALL WORK WILL BE COMPLETED IN 6 MONTHS.

EROSION CONTROL NOTES FOR DISTURBANCE TO WATERCOURSES

1. THE AREA OF SOIL DISTURBANCE SHALL BE NO LARGER THAN THAT WHICH IS ABSOLUTELY NECESSARY FOR THE CONSTRUCTION OF THE PROJECT.
2. APPLICANTS SHALL PROVIDE THE NJDEP WITH SOIL DISTURBANCE PLANS WHICH MINIMIZE THE EXPOSURE OF SOILS TO EROSION TO THE GREATEST EXTENT POSSIBLE.
3. IF EROSION AND SEDIMENT CONTROL MEASURES SUCH AS DIVERSIONS, SEDIMENT BASINS, OR SEDIMENT BARRIERS (THE PURPOSE OF WHICH IS TO DIVERT SURFACE RUNOFF BEFORE IT REACHES EXPOSED SOIL OR TO INTERCEPT SEDIMENT ERODED FROM EXPOSED SOIL) ARE PART OF THE EROSION AND SEDIMENT CONTROL PLAN FOR THE PROJECT, SUCH MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THE NJDEP-APPROVED SEQUENCE WITH RESPECT TO OTHER PHASES OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT DELIVERY TO WATERWAYS. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL THE SOIL IS STABILIZED BY VEGETATION OR ENGINEERING MEASURES.
4. DISTURBED SOIL ON THE BANKS OF WATERWAYS SHALL BE PROTECTED WITHIN FORTY EIGHT (48) HOURS OF DISTURBANCE BY RIP-RAP, SANDBAGS, SOD, OR NJDEP-APPROVED MULCH NETTING, AS CONDITIONS WARRANT, IN ACCORDANCE WITH THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL".
 - I. ASPHALT OR OTHER LIQUID BINDERS SHALL NOT BE APPLIED FOR THE PURPOSE OF ANCHORING MULCH ALONG THE BANKS OF A WATERCOURSE.
 - II. NEITHER CALCIUM CHLORIDE NOR ANY SPRAY-ON ADHESIVE SHALL BE APPLIED FOR DUST CONTROL ALONG THE BANKS OF A WATERCOURSE.
5. IN AREAS WHERE VEGETATIVE METHODS (INCLUDING "MULCH ONLY") ARE RELIED UPON FOR EROSION AND SEDIMENT CONTROL WITHOUT DOWN-SLOPE CONTROLS TO INTERCEPT SEDIMENT (SUCH AS SEDIMENT BASINS OR SEDIMENT BARRIERS), THE APPLICANT SHALL SEED, MULCH, OR PLACE SOD WITHIN FORTY EIGHT (48) HOURS OF SOIL EXPOSURE IN ACCORDANCE WITH THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL". SOIL SEEDING SHALL ALWAYS BE ACCOMPANIED BY MULCHING AND ADEQUATE WATERING.
 - I. IF WEATHER CONDITIONS ARE UNFAVORABLE FOR SUCCESSFUL SEEDING, SOD PLACEMENT OR THE ESTABLISHMENT OF VEGETATION, THE AREA SHALL BE MULCHED WITHIN FORTY EIGHT (48) HOURS OF SOIL EXPOSURE IN ACCORDANCE WITH THE "STANDARDS FOR STABILIZATION WITH MULCH ONLY" IN THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL".
 - II. IN AREAS WITHOUT DOWNSLOPE SEDIMENT CONTROLS, SLOPES EXCEEDING 15 PERCENT GRADIENT SHALL BE PROTECTED WITHIN FORTY EIGHT (48) HOURS OF SOIL EXPOSURE BY SPECIAL TREATMENT, SUCH AS WATER DIVERSION BERMS, SODDING OR NJDEP-APPROVED MULCH NETTING, IN ACCORDANCE WITH THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL".
6. SEDIMENT-LADEN WATER ("PUMPAGE") FROM THE DEWATERING OF TRENCHES OR OTHER EXCAVATIONS SHALL NOT BE PUMPED DIRECTLY INTO WATERWAYS OR WETLANDS WITHOUT TREATMENT EXCEPT AS EXPRESSLY APPROVED BY THE NJDEP.
 - I. PUMPAGE SHALL BE PIPED TO SEDIMENT CONTROL BAGS THAT MEET THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL". MECHANICAL FILTRATION OR SEDIMENTATION DEVICES SHALL BE USED TO MINIMIZE THE DISCHARGE OF SEDIMENT INTO WATERWAYS.
 - II. PUMP INTAKES SHALL BE PLACED NEAR THE WATER SURFACE TO MINIMIZE THE SEDIMENT CONTENT OF PUMPAGE.
 - III. UPON GOOD CAUSE SHOWN BY THE APPLICANT WHY THE FOREGOING REQUIREMENTS CANNOT FEASIBLY BE MET, THE NJDEP MAY PERMIT PUMPAGE TO BE SPREAD ONTO LAND LOCATED AS FAR FROM THE WATERCOURSE BANK AS POSSIBLE, PROVIDED THAT THE APPLICANT AVOIDS DAMAGE TO TREES NOT APPROVED FOR REMOVAL BY THE NJDEP.
7. ALL DEBRIS OF ANY KIND THAT FALLS INTO THE WATERCOURSES SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
8. CONTRACTOR SHALL PROVIDE A CONCRETE WASHOUT SYSTEM THAT WILL CONTAIN AND STORE ALL CONCRETE TRUCK WASHOUT WATER AND SLURRY. THE CONCRETE WASHOUT SYSTEM SHALL BE PLACED AT LEAST 50 FEET FROM WEDGEWOOD BROOK. SLURRY AND HARDENED CONCRETE SHALL BE REMOVED AND DISPOSED OF AS REGULATED MATERIAL.

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SE-3

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**PROJECT No. BR-0809
REPLACEMENT OF CULVERT 1-C-503**

FREEMAN STREET OVER RAHWAY RIVER
(AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
TOWNSHIP OF WOODBRIDGE
MIDDLESEX COUNTY, NEW JERSEY

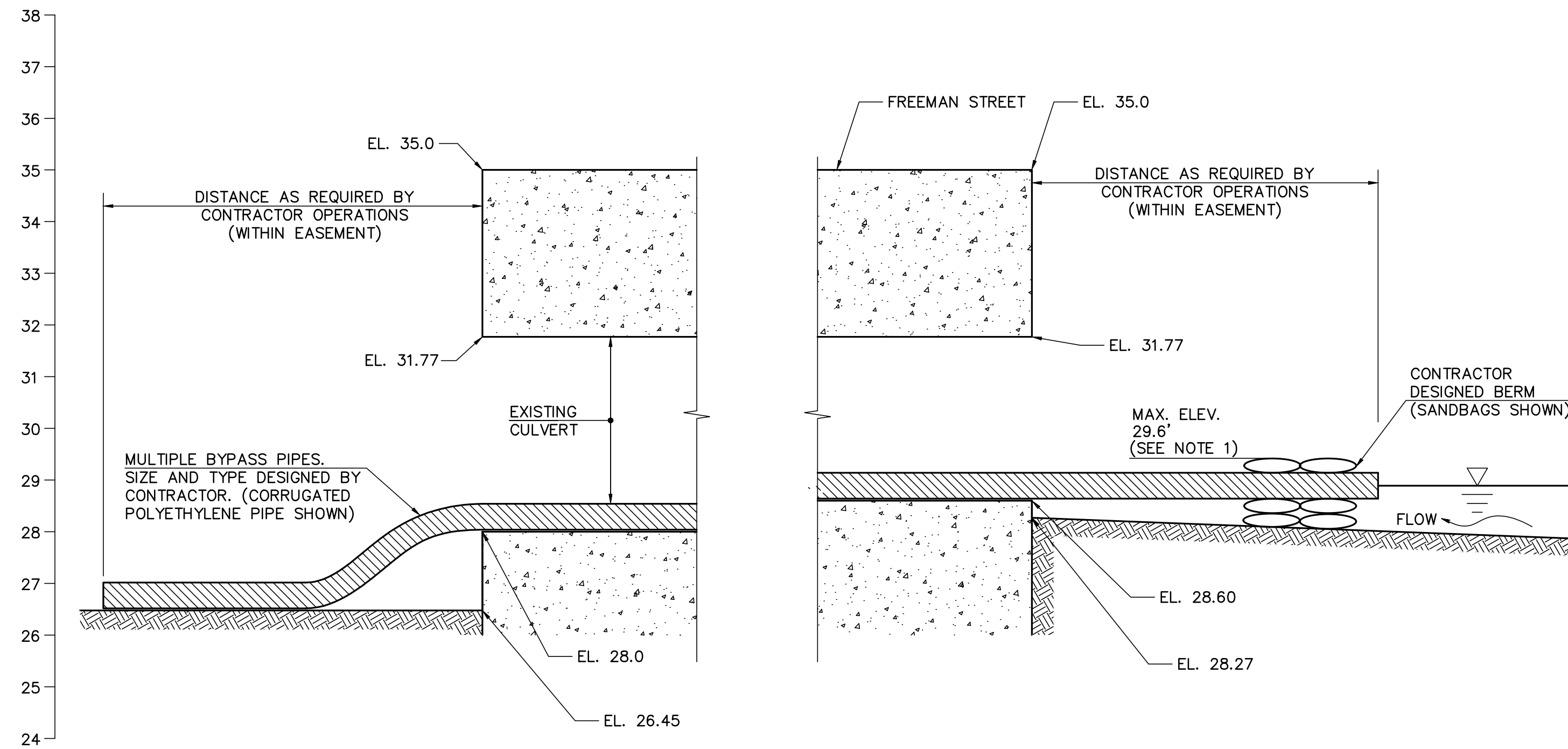
SOIL EROSION AND SEDIMENT CONTROL NOTES

Ronald Sender
County Engineer

Scale: NO SCALE
Sheet No. 12 of 24
Date: JUNE 2023

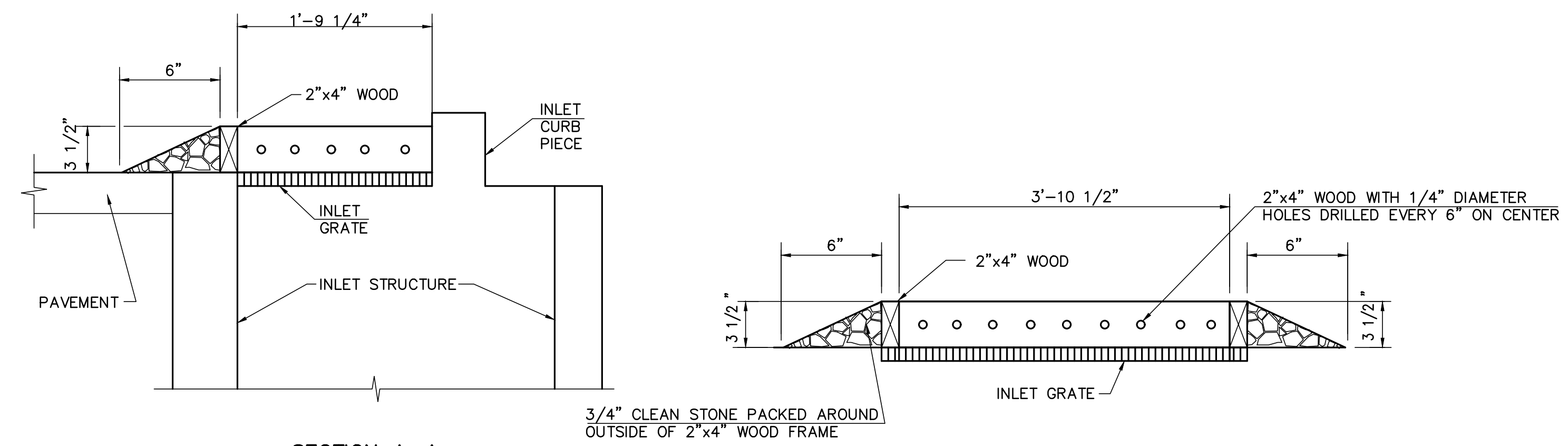
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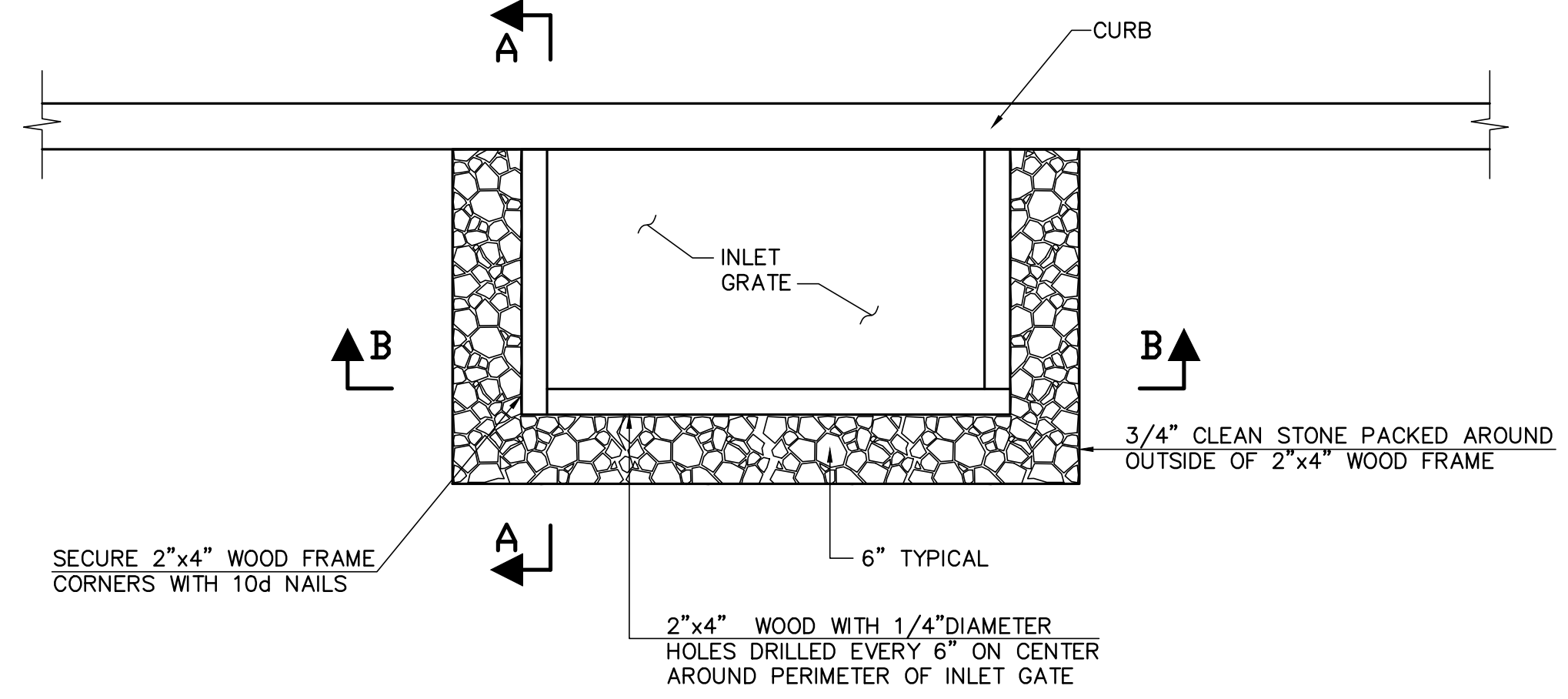


PROFILE
LOW FLOW STREAM BYPASS
NOT TO SCALE

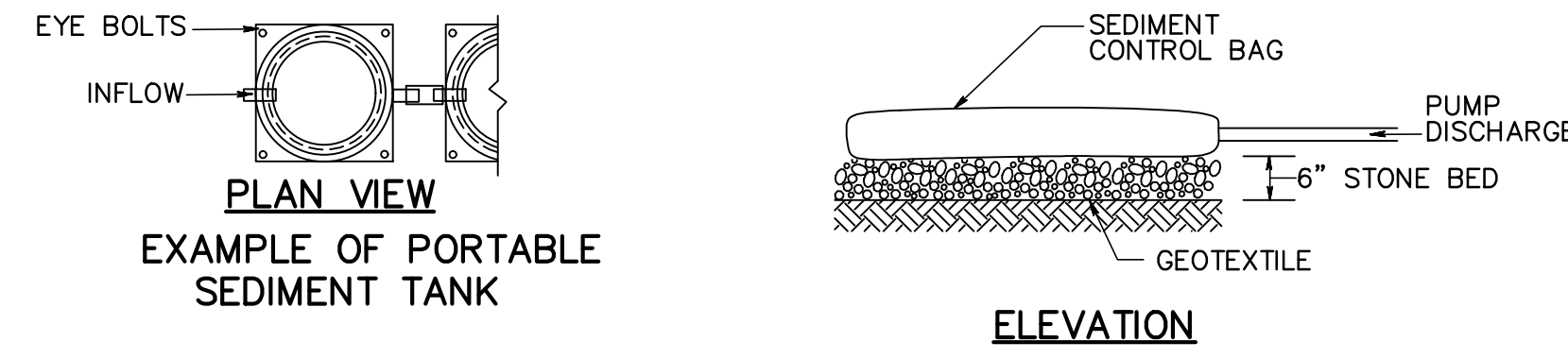
NOTE:
1. TOP OF BERM ELEVATION SHALL NOT EXCEED INVERT ELEVATION OF WEDGEWOOD BROOK CULVERT UNDER ROUTE 35.



SECTION A-A **SECTION B-B**

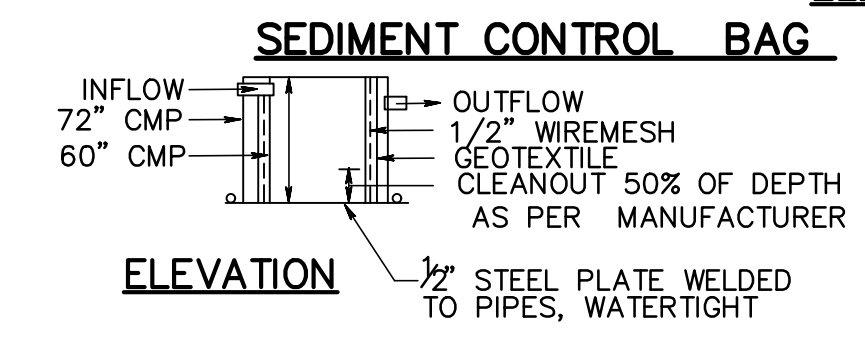


PLAN
INLET FILTER
(FOR TYPE "B" INLETS)
NOT TO SCALE

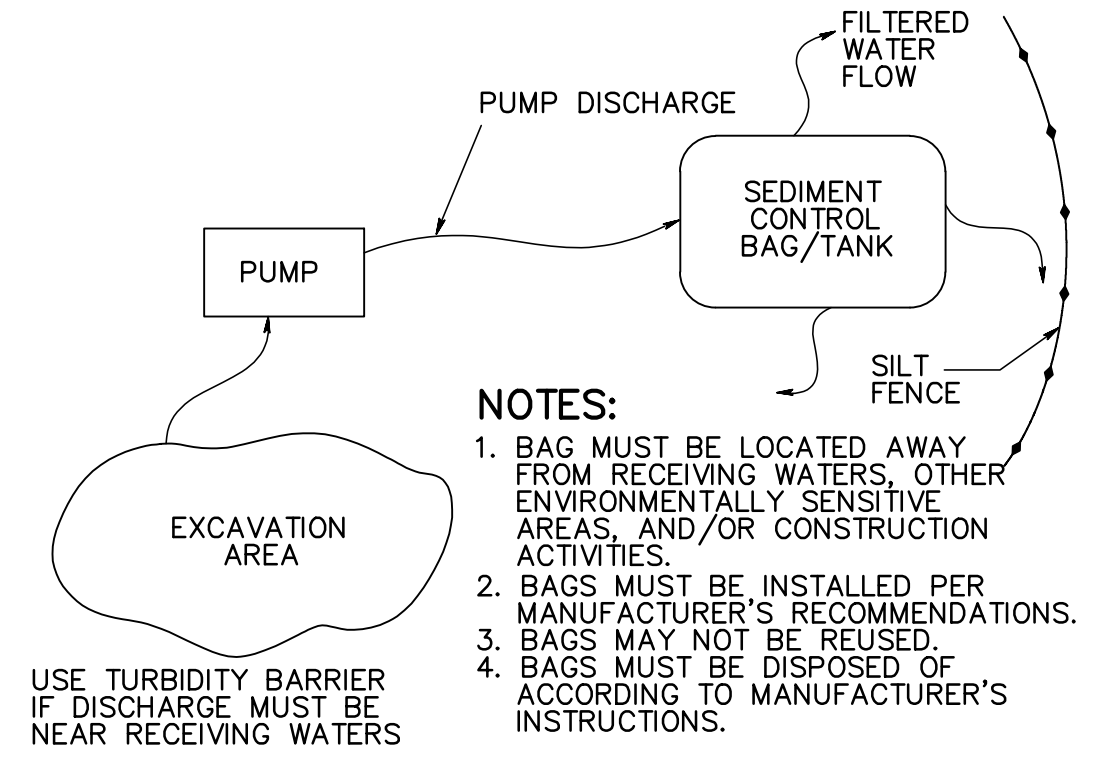


PLAN VIEW
EXAMPLE OF PORTABLE SEDIMENT TANK

ELEVATION

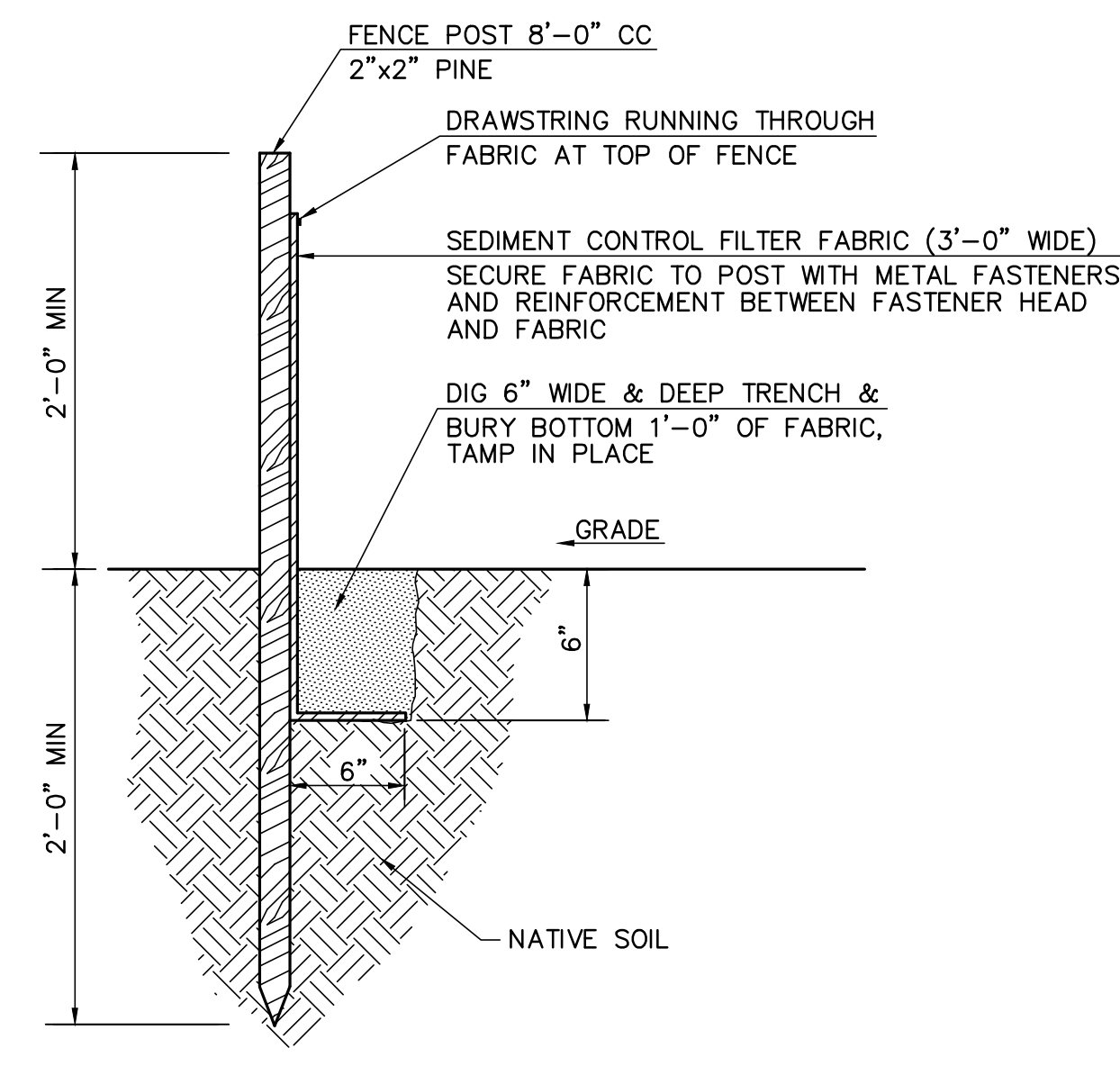


ELEVATION

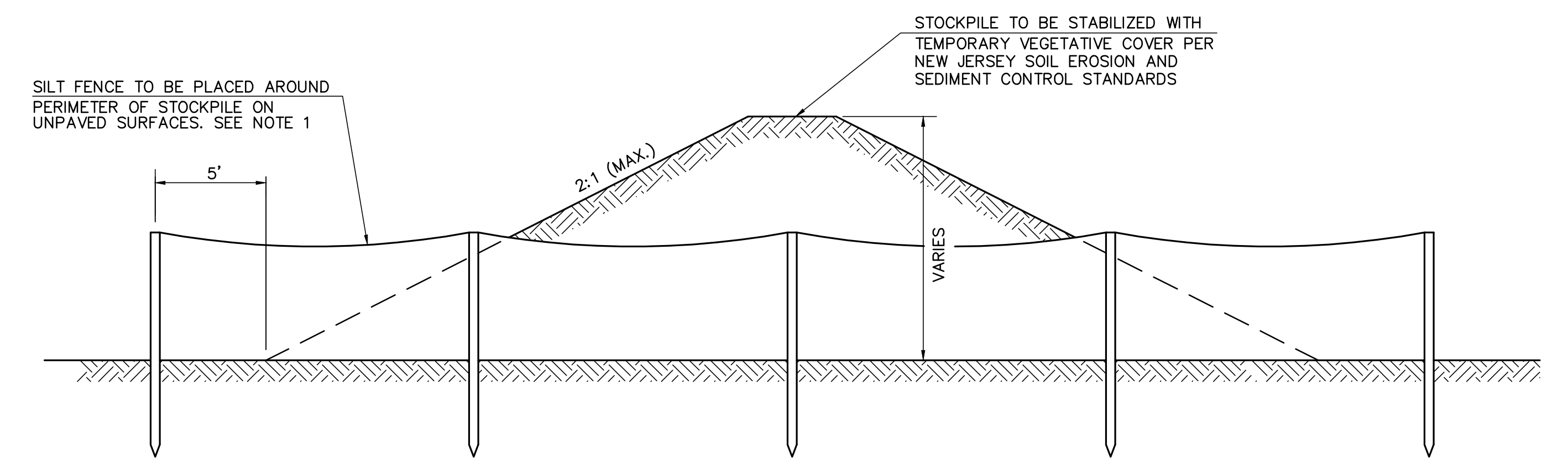


NOTES:
1. BAG MUST BE LOCATED AWAY FROM RECEIVING WATERS, OTHER ENVIRONMENTALLY SENSITIVE AREAS, AND/OR CONSTRUCTION ACTIVITIES.
2. BAGS MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. BAGS MAY NOT BE REUSED.
4. BAGS MUST BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

PLAN VIEW
SEDIMENT CONTROL TANK OR BAG
NOT TO SCALE



SILT FENCE SEDIMENT BARRIER
NOT TO SCALE



TYPICAL STOCKPILE DETAIL
NOT TO SCALE

NOTE:
1. STOCKPILES ON PAVED SURFACES SHALL BE ENCIRCLED BY HAY BALES, PLACED IN CONTINUOUS CONTACT AND BOUND TOGETHER WITH WIRE OR BALING TWINE.

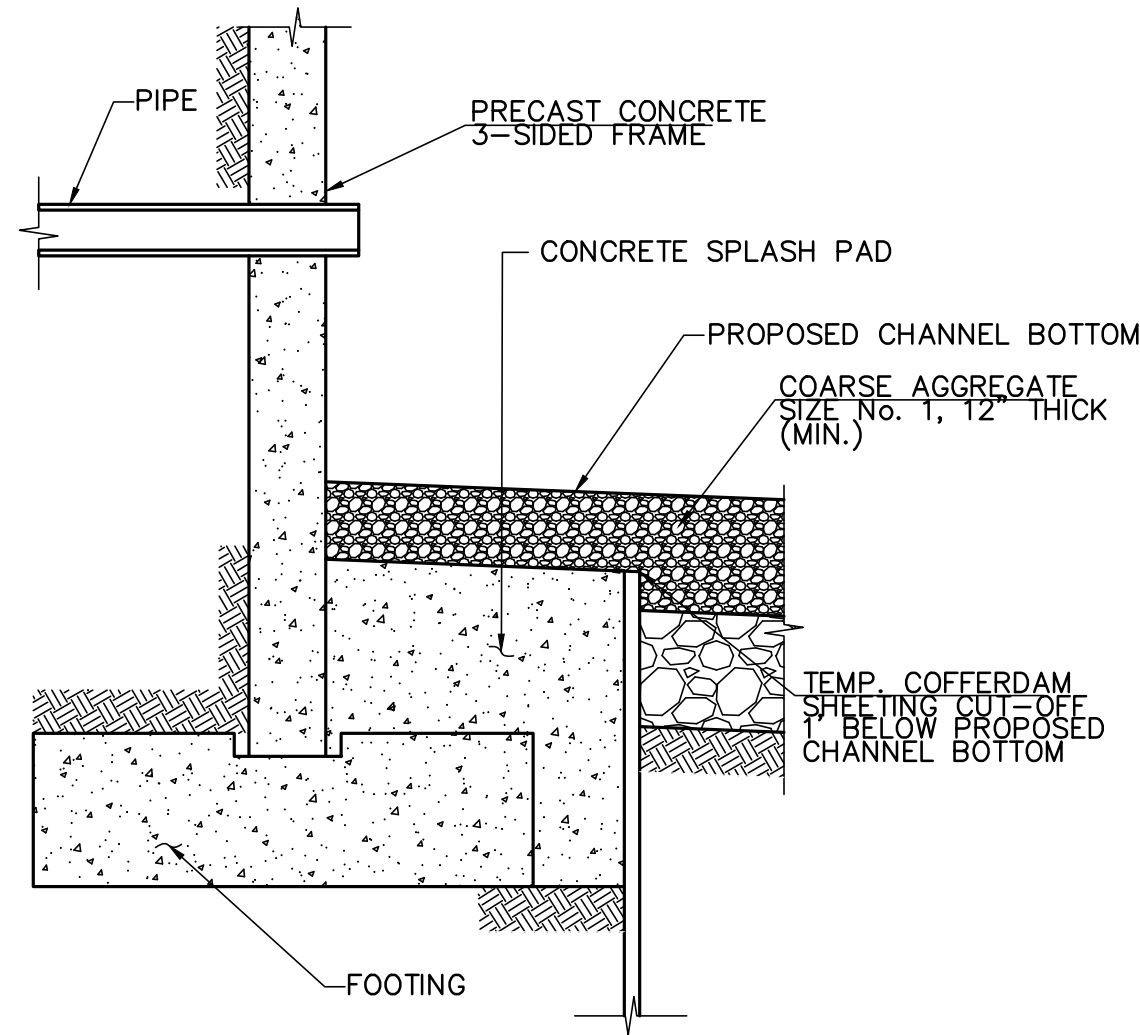
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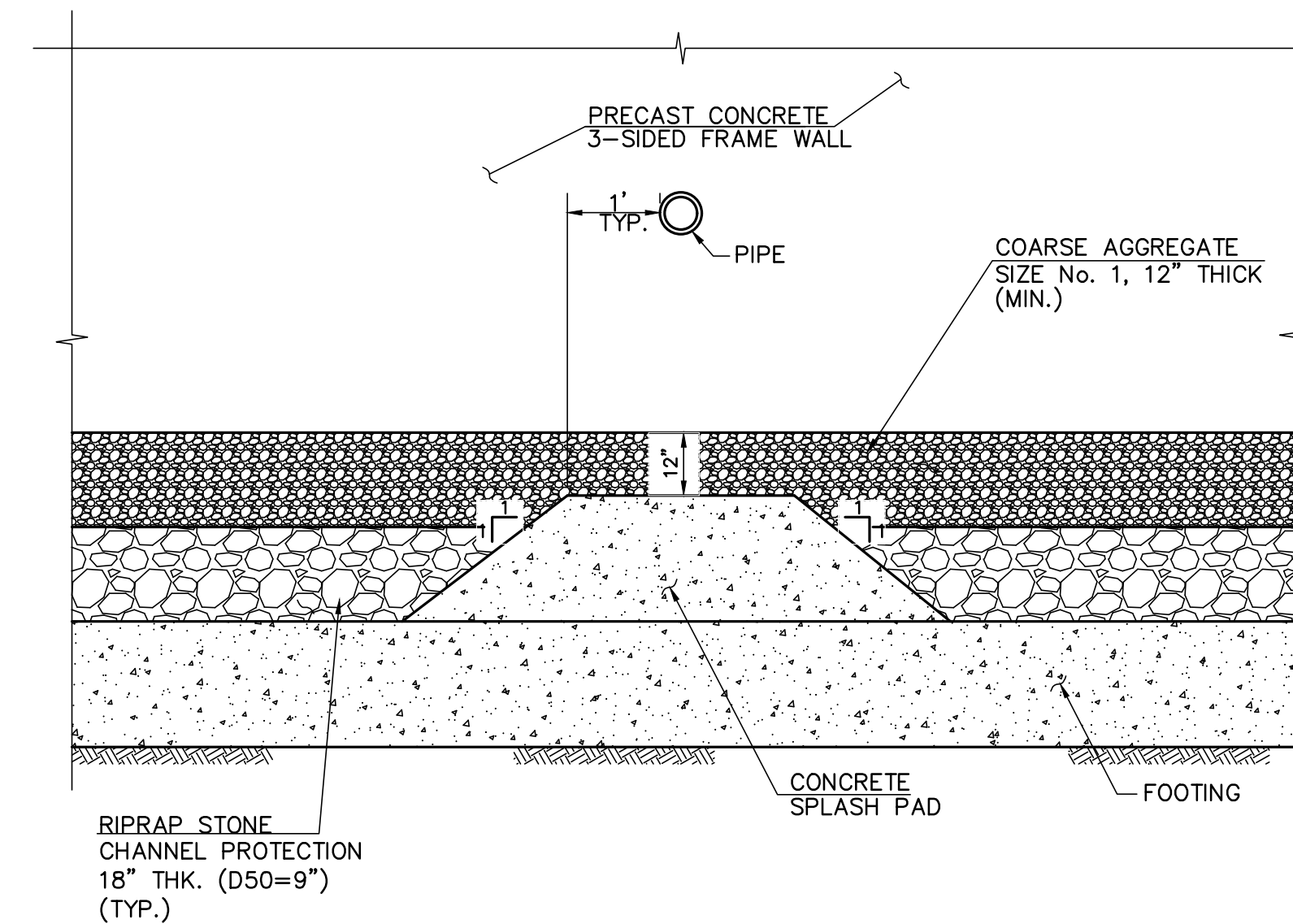
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TOWNSHIP OF WOODBRIDGE
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SOIL EROSION AND SEDIMENT CONTROL DETAILS
Scale: Sheet No. 13 of 24
Date: JUNE 2023
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County Engineer
N.J.P.E. No. 24GE03162200

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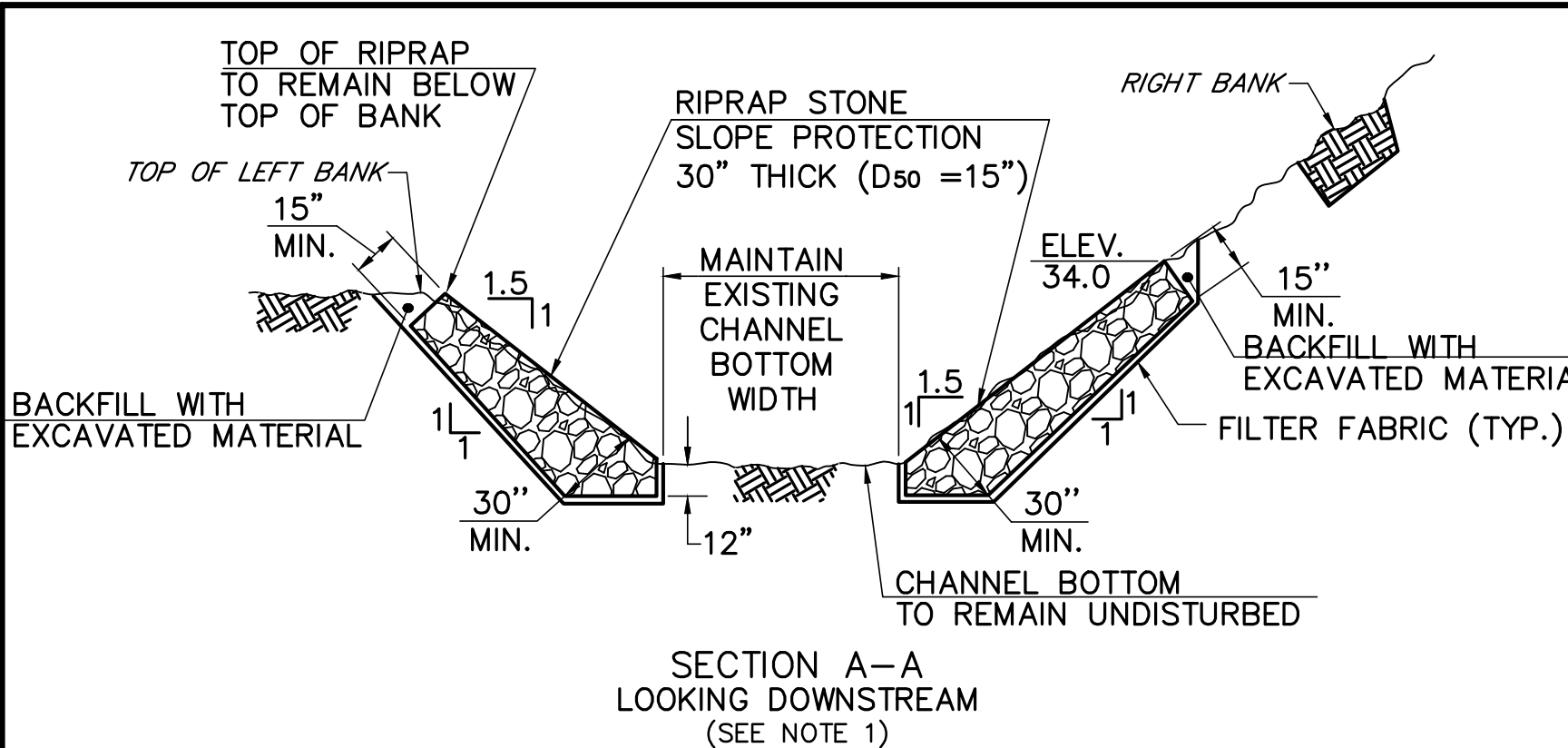


TYPICAL SECTION



ELEVATION

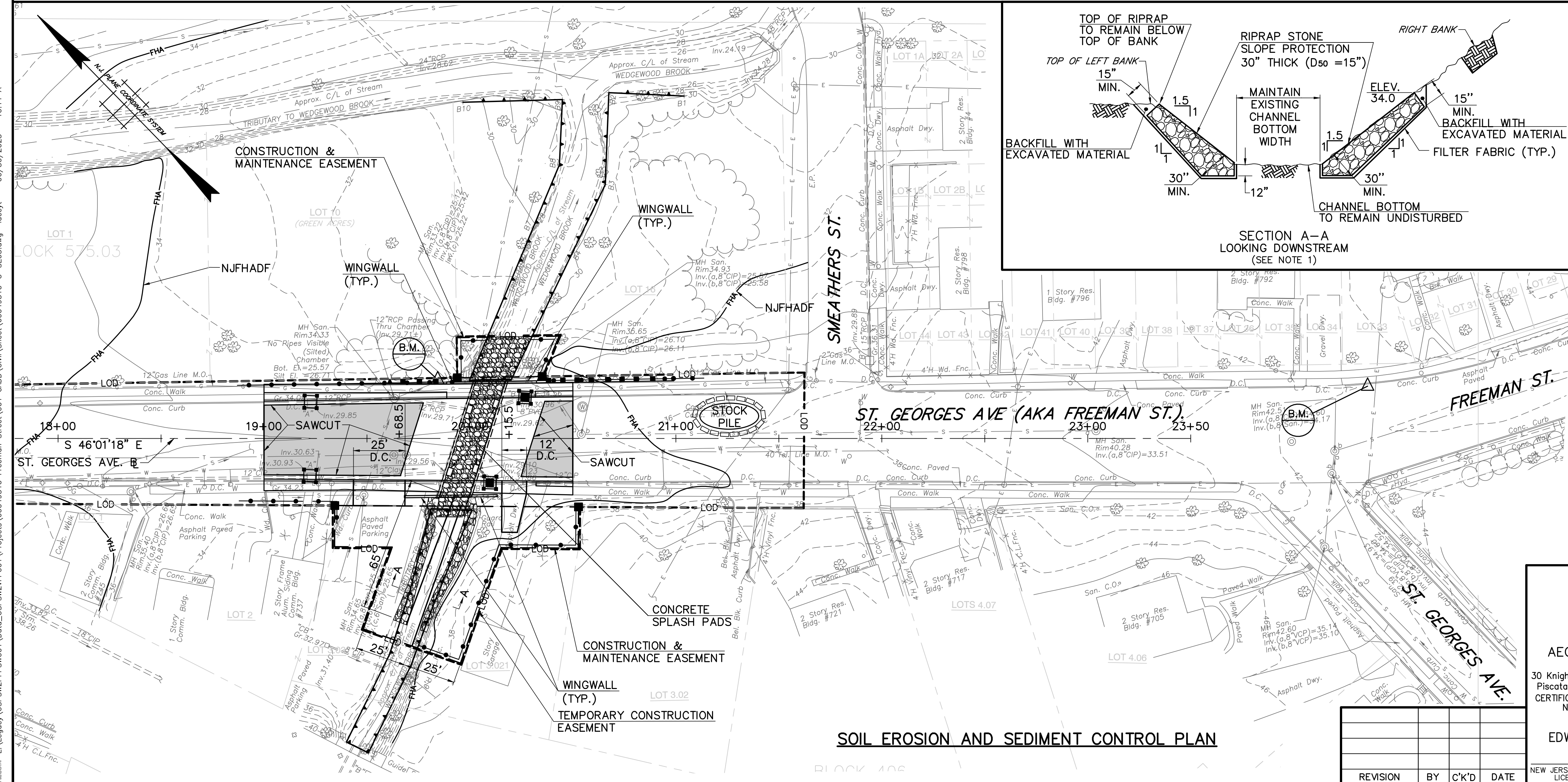
**CONCRETE SPLASH PAD
(NOT TO SCALE)**



SECTION A-A
LOOKING DOWNSTREAM
(SEE NOTE 1)

NOTE:
SHAPING OF THE STREAM BANK, RIPRAP STONE SIZE AND SHAPE, AND PLACEMENT OF THE RIPRAP IS SUBJECT TO THE ADVANCE APPROVAL OF THE ENGINEER. DO NOT EXCAVATE AROUND OR IN ANY WAY DISTURB TREE ROOTS. ERODED AREAS BEHIND TREE ROOTS SHALL BE ARMORED WITH HAND-PLACED RIPRAP STONES, PLACED TO BEAR UPON THE SOIL, BUT NOT UPON THE TREE ROOTS. 8 INCH OR LARGER RIPRAP STONES MAY BE USED UNDER TREE ROOTS.

- LEGEND:**
- NEW JERSEY FLOOD HAZARD AREA DESIGN FLOOD LINE
 - FRESHWATER WETLAND BOUNDARY LINE
 - LIMIT OF DISTURBANCE
 - SILT FENCE
 - CATCH BASIN INLET FILTER
 - HAY BALE
 - RIPRAP



SOIL EROSION AND SEDIMENT CONTROL PLAN

Middlesex County Engineering Department
Office of the County Engineer
P.O. Box 871, New Brunswick, N.J. 08903

PROJECT No. BR-0809
REPLACEMENT OF CULVERT 1-C-503

FREEMAN STREET OVER RAHWAY RIVER
(AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
TOWNSHIP OF WOODBRIDGE
MIDDLESEX COUNTY, NEW JERSEY

SOIL EROSION AND SEDIMENT CONTROL DETAILS

AECOM USA, Inc.
30 Knightsbridge Road Suite 520
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CERTIFICATE OF AUTHORIZATION
NO. 24GE03716000

EDWARD F. SITLER
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NO. 24GE037160

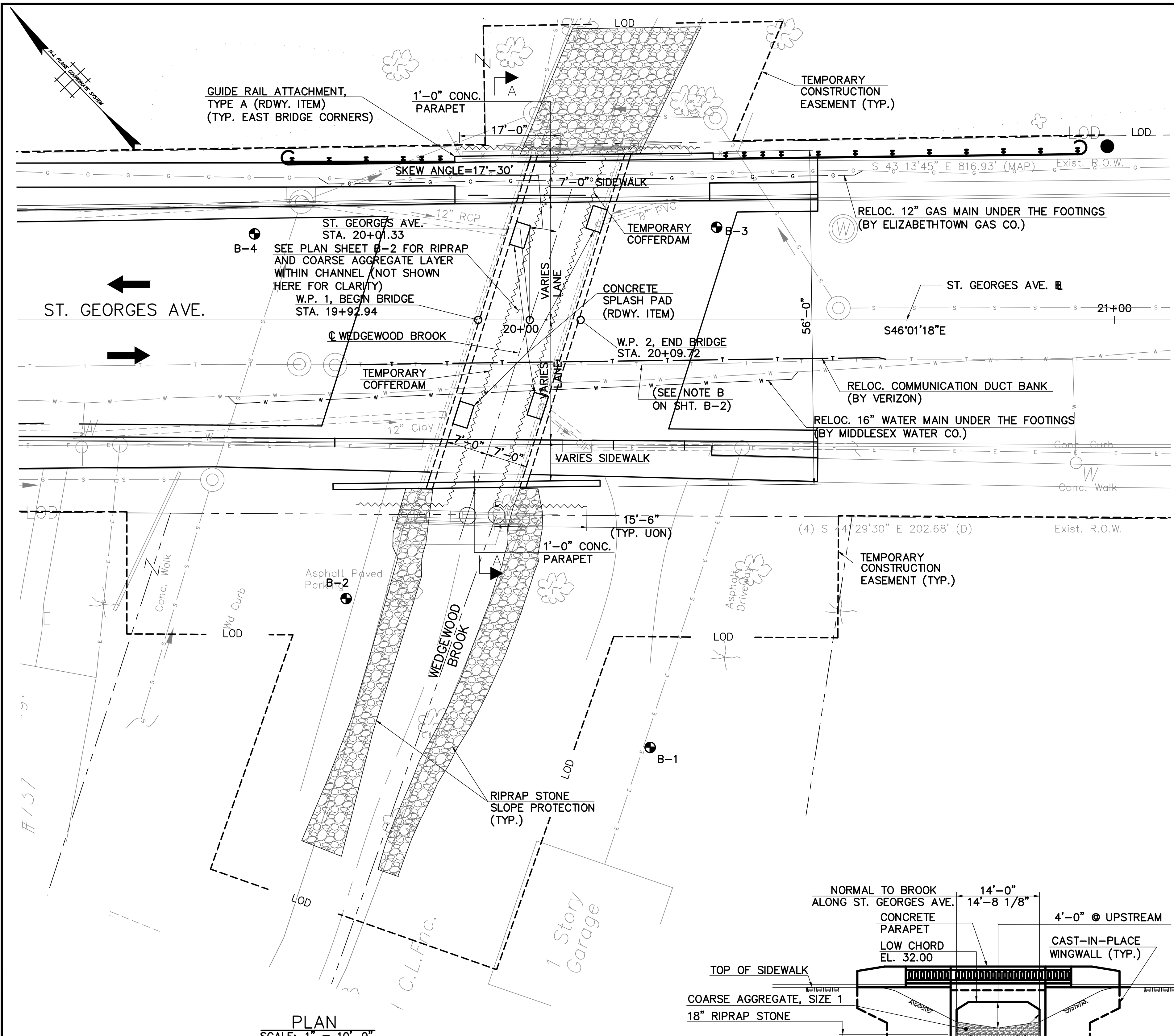
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Sheet No. 14 of 24
Date: JUNE 2023

Ronald Sender
County Engineer
N.J.P.E. No. 24GE03162200

REVISION	BY	C'K'D	DATE

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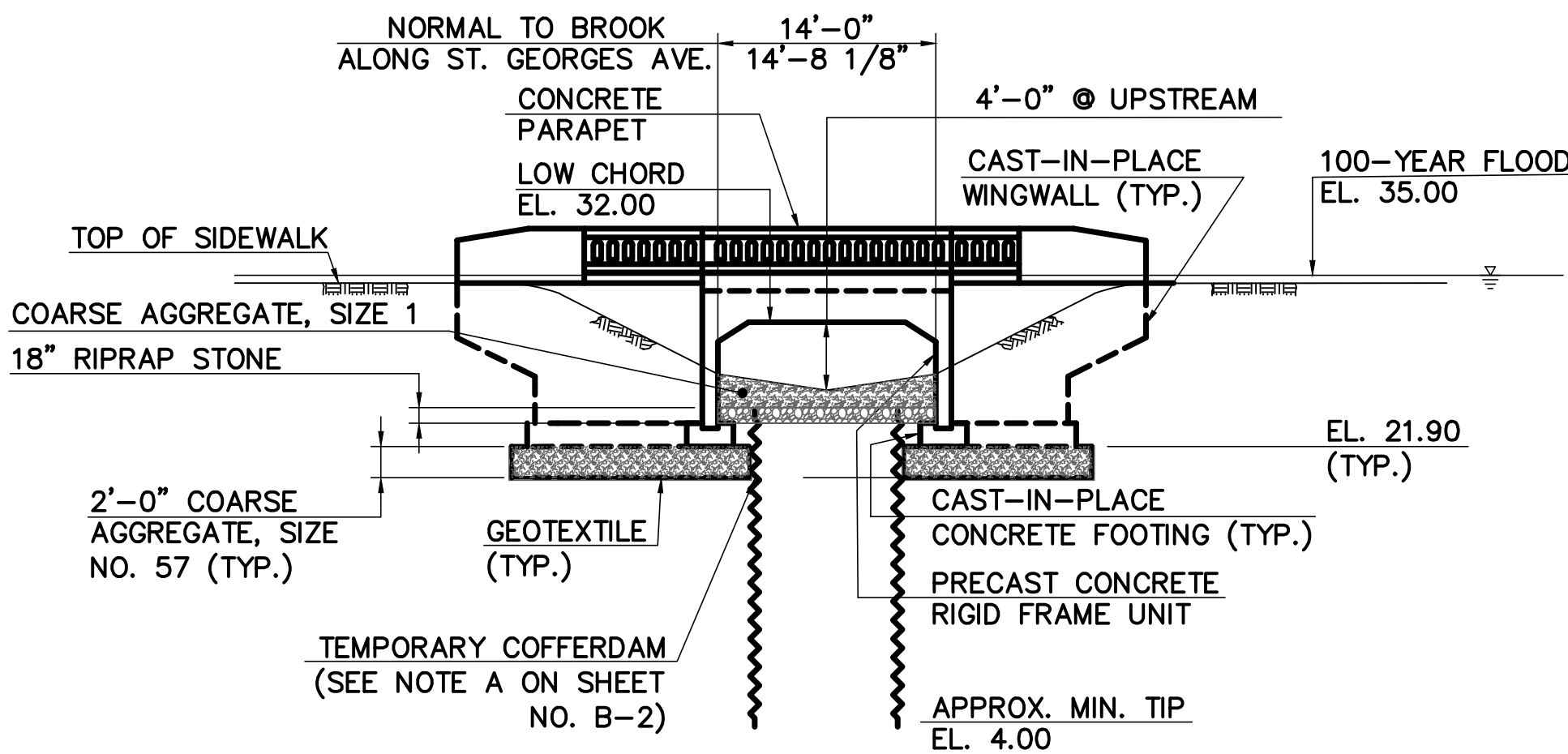
HYDRAULIC AND HYDROLOGIC DATA	
DRAINAGE AREA (SQ. MI.)	0.42
DESIGN DISCHARGE (C.F.S.)	555
DESIGN WATER SURFACE ELEVATION (FT)	35.00
ENERGY LINE ELEVATION (FT)	35.36
FREQUENCY (FLUVIAL)	100 YR.

- NOTES:**
- FOR INFORMATION REGARDING EXISTING AND PROPOSED UTILITIES, SEE CONSTRUCTION PLANS. CONTRACTOR TO VERIFY LOCATION OF UTILITIES AND PROVIDE ADEQUATE PROTECTION AND SUPPORT OF UTILITIES DURING CONSTRUCTION, AS REQUIRED.
 - DEWATERING SHALL BE DONE IN SUCH A MANNER TO MAINTAIN A STABLE BOTTOM OF EXCAVATION DURING CONSTRUCTION AND BACKFILLING.
 - THE CONTRACTOR IS ALERTED TO THE PRESENCE OF OVERHEAD, HIGH-VOLTAGE POWER LINES IN THE VICINITY OF THE BRIDGE. THE CONTRACTOR SHALL SATISFY THE REQUIREMENTS OF THE "HIGH-VOLTAGE PROXIMITY ACT" DURING THE VARIOUS CONSTRUCTION OPERATIONS.
 - GEOTEXTILE SHALL BE STABILIZATION FABRIC TYPE 2 AS PER NJDOT SPECIFICATIONS.
 - THE CONTRACTOR SHALL COORDINATE WITH VERIZON, MIDDLESEX WATER COMPANY, ELIZABETHTOWN GAS COMPANY, PSEG-ELECTRIC AND WOODBRIDGE TOWNSHIP (SANITARY SEWER) PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
 - THE MINIMUM TIP ELEVATION PROVIDED IS APPROXIMATE AND NOT INTENDED FOR EXPLICIT USE. SEE DWG. NO. B-3 FOR TEMPORARY COFFERDAM NOTES

- GENERAL NOTES:**
- DESIGN SPECIFICATIONS:**
2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9TH EDITION WITH CURRENT INTERIMS AS MODIFIED SECTION 3 OF THE 2016 NJDOT DESIGN MANUAL FOR BRIDGES AND STRUCTURES, 6TH EDITION
 - CONSTRUCTION SPECIFICATIONS:**
2019 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS MODIFIED BY THE SPECIAL PROVISIONS.
 - DESIGN METHOD:**
LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHOD.
 - LIVE LOAD:**
AASHTO LRFD HL-93 VEHICULAR LIVE LOADING OR NJDOT PERMIT VEHICLE, WHICHEVER GOVERNS.
 - CONCRETE**
 - DESIGN COMPRESSIVE STRENGTH (F'C)
CLASS A.....4,000 PSI
CLASS B.....3,000 PSI
CLASS P.....5,000 PSI
 - CLASS MIX DESIGN STRENGTH (F'C)
CLASS A.....4,600 PSI
CLASS B.....3,700 PSI
CLASS P.....5,500 PSI
 - VERIFICATION STRENGTH (F'C)
CLASS A.....5,400 PSI
CLASS B.....4,500 PSI
CLASS P.....6,000 PSI
 - CONCRETE STRUCTURES
CLASS A: SIDEWALKS & PARAPETS
CLASS B: FOOTINGS AND WINGWALLS
CLASS P: 3-SIDED PRECAST FRAMES
 - REINFORCEMENT STEEL:**
ASTM A615 (GRADE 60)
ALL REINFORCEMENT BARS IN CAST-IN-PLACE CONCRETE SHALL BE EPOXY COATED.
 - PROVIDE 1/2" DIA. 7 WIRE GRADE 270 STRANDS CONFORMING TO AASHTO M 203 (ASTM A416) OR 3/4" DIA. HIGH TENSILE STRENGTH STEEL BARS CONFORMING TO AASHTO M 275 (ASTM A722) TYPE 1. NO SPLICES PERMITTED.
 - INSTALL STRANDS IN PRECAST SECTIONS. STRESS EACH STRAND TO A TENSION OF 28.9 KIPS OR BAR TO A TENSION OF 30 KIPS OVER THE CROSS SECTION OF ANY SECTION. BARS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.
 - BORINGS:**
● B-X INDICATES LOCATION OF BORING.
 - FOUNDATION DESIGN CRITERIA:**
3-SIDED FRAME FOUNDED ON SPREAD FOOTINGS
NOMINAL BEARING RESISTANCE = 11.0 KSF
FACTORED BEARING RESISTANCE = 5.0 KSF
 - SEISMIC DESIGN NOTES:**
SEISMIC DESIGN CATEGORYA
SITE CLASSD
EFFECTIVE PEAK GROUND ACCELERATION COEFFICIENT, A_g.....0.151g

INDEX OF DRAWINGS	
DWG. NO.	TITLE
B-1	GENERAL PLAN AND ELEVATION I
B-2	GENERAL PLAN AND ELEVATION II
B-3	DEMOLITION PLAN
B-4	FRAMING PLAN AND CULVERT DETAILS
B-5	3-SIDED FRAME AND FOOTING
B-6	WINGWALLS
B-7	WALL DETAILS
B-8	PARAPET DETAILS
B-9	ARCHITECTURAL DETAILS
B-10	BAR LIST

- REFERENCES:**
- FOR TYPICAL SECTION, WORKING POINT LAYOUT AND PROFILE, SEE SHEET NO. B-2.
 - FOR SECTION A-A, SEE SHEET NO. B-2
 - FOR SUMMARY OF QUANTITIES, SEE SHEET NO. B-2.
 - FOR RIPRAP LIMITS AND DETAILS, SEE CIVIL SHEET CP-1.



REVISION	BY	C'K'D	DATE

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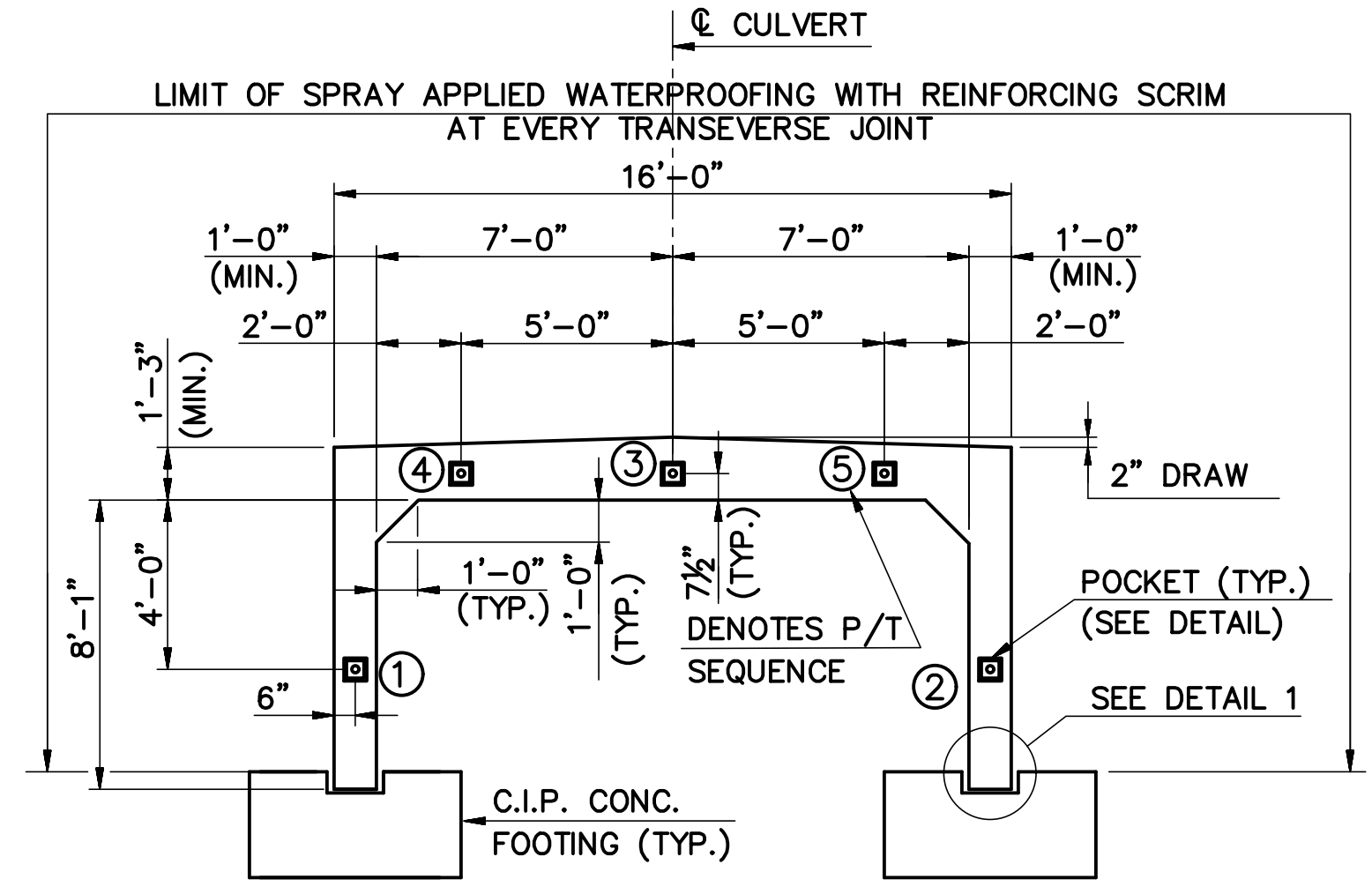
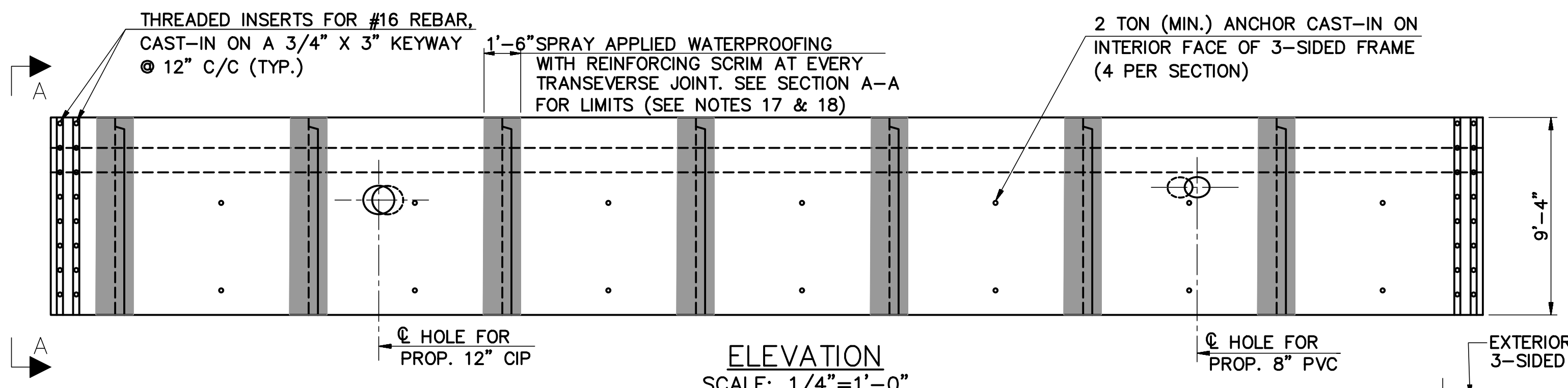
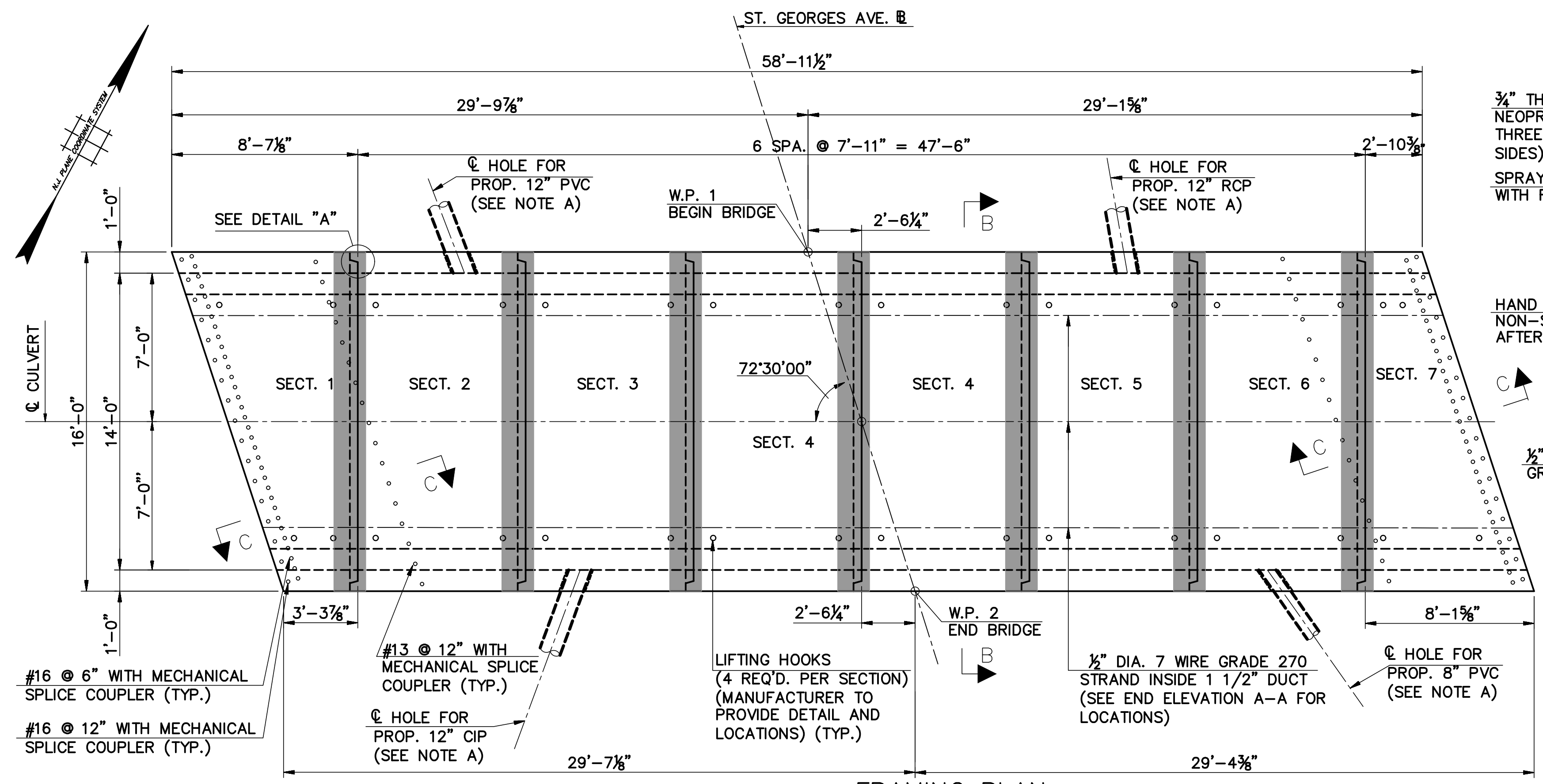
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TOWNSHIP OF WOODBRIDGE
MIDDLESEX COUNTY, NEW JERSEY

GENERAL PLAN AND ELEVATION I

Scale: AS NOTED
Sheet No. 15 of 24
Date: JUNE 2023

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County Engineer
N.J.P.E. No. 24GE03162200

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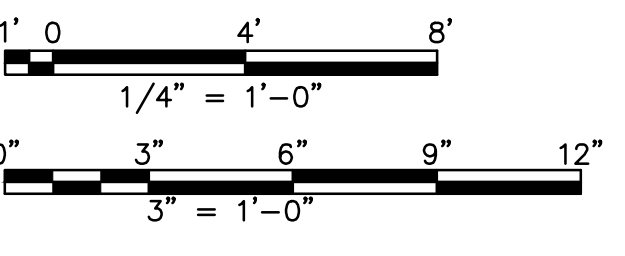
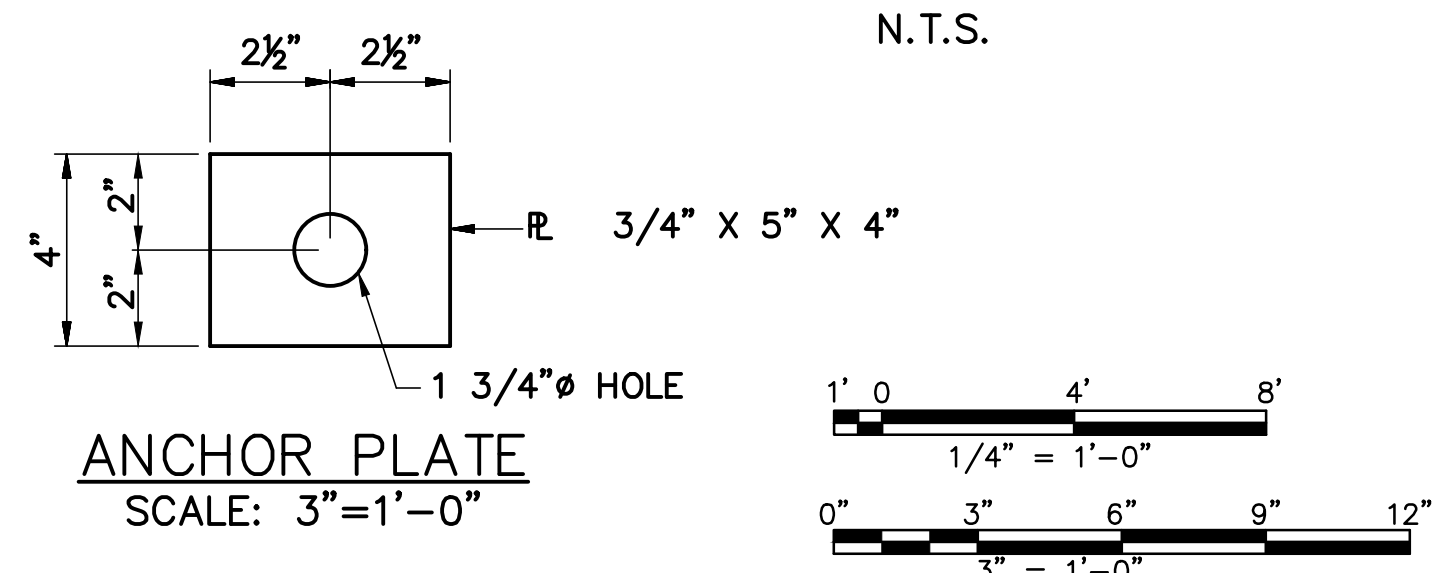
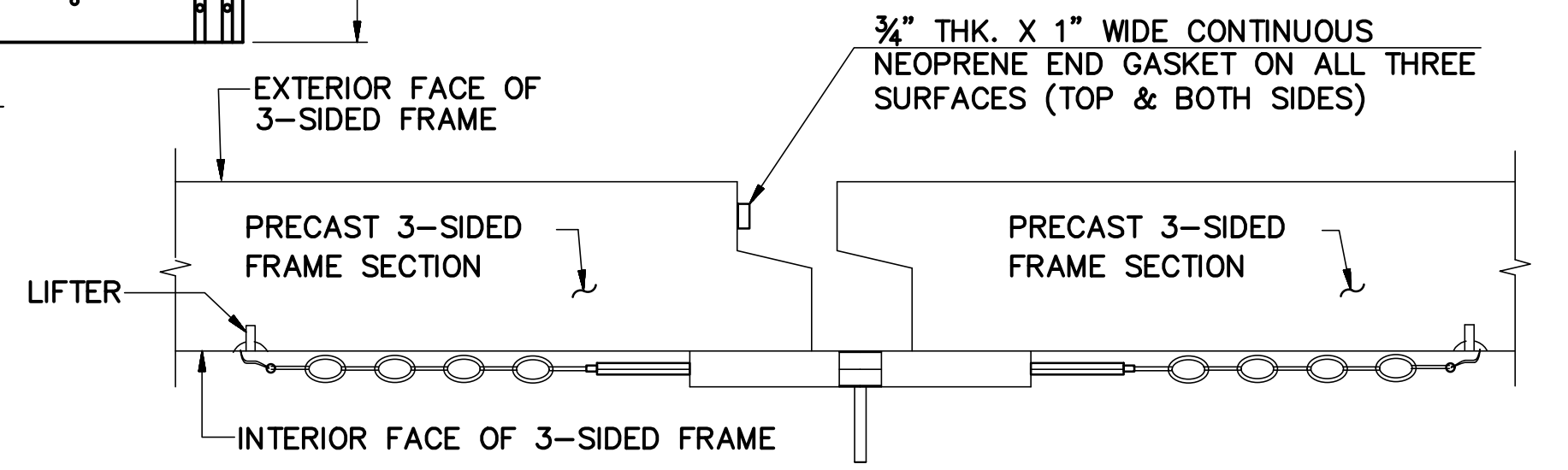
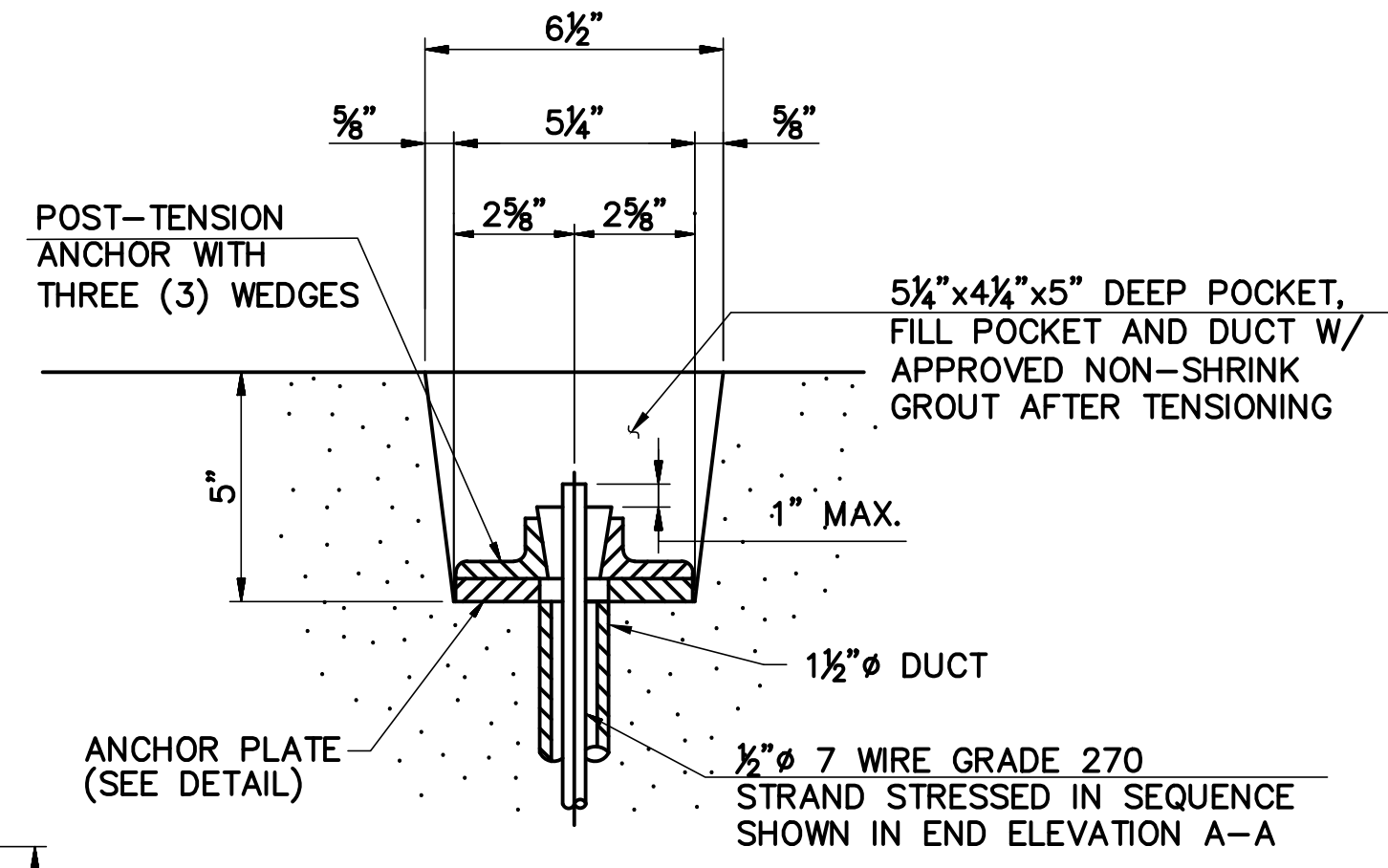
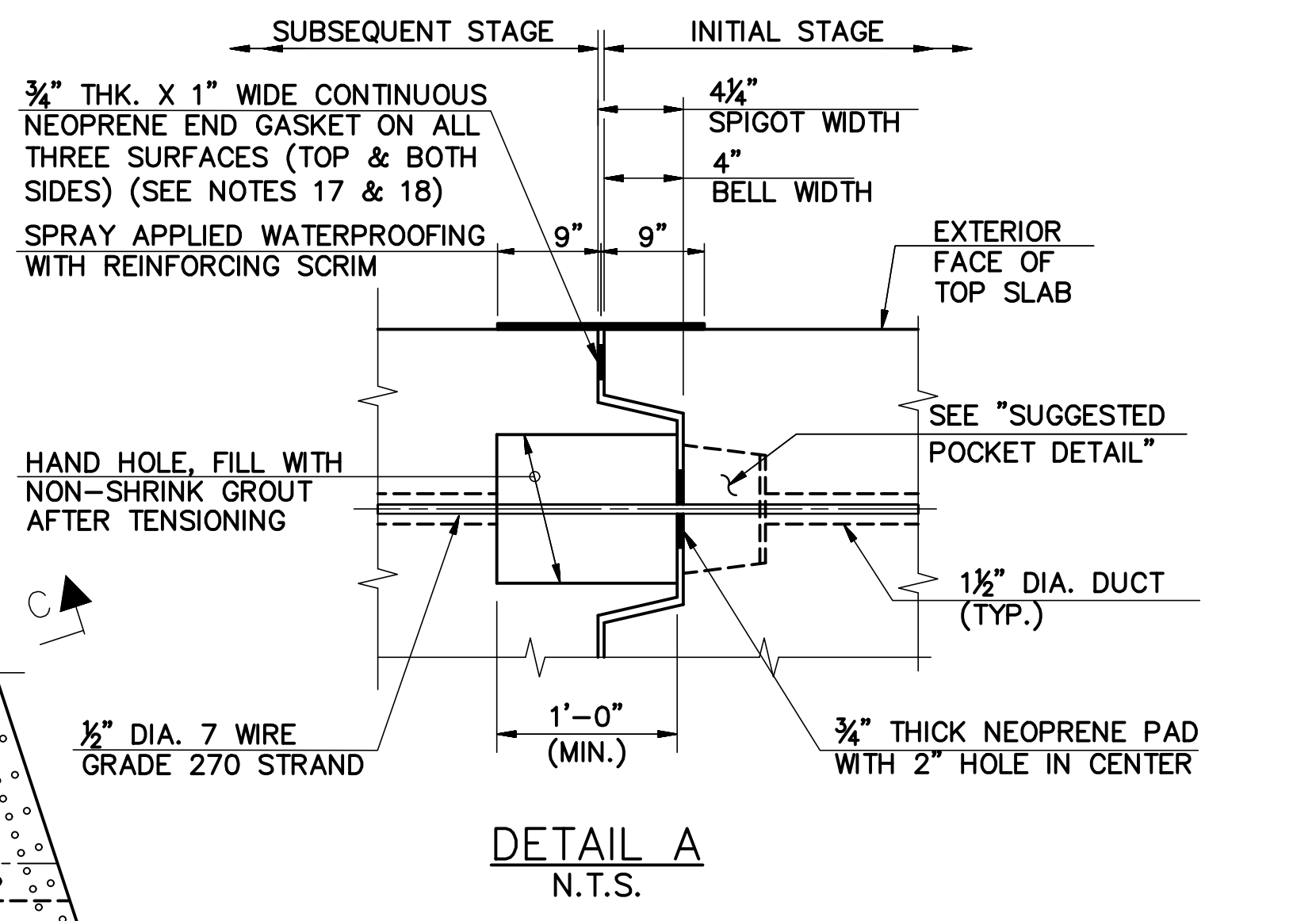
SECTION SCHEDULE					
SECTION NO.	NOS. REQ'D.	CL DIM.	TOTAL LENGTH	WEIGHT LBS.	CU. YDS.
1	1	5'-11 1/2"	5'-11 1/2"	34,365	8.49
2	1	7'-11"	7'-11"	45,648	11.27
3	1	7'-11"	7'-11"	45,648	11.27
4	2	7'-11"	15'-10"	91,295	22.54
5	1	7'-11"	7'-11"	45,648	11.27
6	1	7'-11"	7'-11"	45,648	11.27
7	1	5'-6"	5'-6"	31,713	7.83
TOTAL	8	-	58'-11 1/2"	339,965	83.94

NOTE A:
THE CONTRACTOR SHALL LOCATE ALL EXISTING DRAINAGE PIPES, CUT EXISTING DRAINAGE PIPES, AND SPLICE NEW DRAINAGE PIPES. CONTRACTOR SHALL PROVIDE PROPOSED DRAINAGE PIPE LOCATIONS AND OPENING REQUIREMENTS TO THE 3-SIDED PRECAST FRAME SUPPLIER.

LEGEND:
P/T - POST TENSIONING

REFERENCES:

- FOR DETAIL 1, SEE SHEET NO. B-5.
- FOR SECTIONS B-B AND C-C, SEE SHEET NO. B-5.



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NOTES:

- FABRICATOR SHALL PROVIDE ALL DETAILS FOR POST-TENSION CONNECTIONS.
- FABRICATOR SHALL SUBMIT POST-TENSIONING PROCEDURES INCLUDING STRESSING SEQUENCE STEPS IN ACCORDANCE WITH THE SPECIFICATIONS.
- SNUG FIT ALL JOINTS BEFORE POST-TENSIONING.
- AFTER TENSIONING, THE EXPOSED ENDS OF THE TIES SHALL BE REMOVED SO THAT NO PART OF THE TIES, OR OF THE END FITTINGS, EXTEND BEYOND A POINT 1" INSIDE THE ANCHORAGE POCKET.
- AFTER STRESSING, GROUT ALL STRAND VOIDS USING AN APPROVED COMPOUND.
- PROVIDE SEALS OR GASKETS AROUND THE DUCTS AT THE JOINTS TO MAKE THE JOINTS GROUT TIGHT.
- ALL POST-TENSIONING MUST BE WITNESSED AND APPROVED BY THE ENGINEER.
- AFTER POST-TENSIONING IS APPROVED, CUT STRANDS TO PROVIDE A MINIMUM OF 2 1/4" CLEAR FROM OUTSIDE FACE OF CONCRETE, COAT ANCHORAGE AND STRANDS WITH COAL TAR EPOXY AND COAT RECESS WITH EPOXY BONDING COMPOUND AND FILL WITH NON-SHRINK GROUT. THE USE OF EPOXY BONDING COMPOUND SHALL BE IN CONFORMANCE WITH NJDOT STANDARD SPECIFICATIONS, SUBSECTION 919.07.
- POST-TENSION AND GROUT BEFORE BACKFILLING AND PLACING TRAFFIC OVER THE BOX. ALLOW GROUT TO ACHIEVE MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI OR 7 DAYS BEFORE BACKFILLING.
- FABRICATOR MAY ALTER NUMBER OF SECTIONS AND SECTION LENGTH OF PRECAST FRAME FOR THE EASE OF SHIPPING OR INSTALLATION AT NO ADDITIONAL COST.
- A 1'-6" FOOT WIDE STRIP OF SPRAY APPLIED WATERPROOFING WITH REINFORCING SCRIM SHALL BE PLACED OVER TOP AND SIDE OF TRANSVERSE JOINTS OF PRECAST FRAME PRIOR TO ANY BACKFILL.
- NO SPLICES ARE PERMITTED IN THE STRANDS.
- THE END ANCHORAGE (NUTS, WASHERS AND ANCHOR PLATE) SHALL BE GALVANIZED.
- COST OF FILLING THE HOLES WITH NON-SHRINK GROUT, INSTALLING SPRAY APPLIED WATERPROOFING, GALVANIZING OF END ANCHORAGES AND POST-TENSIONING OF STRANDS SHALL BE INCLUDED IN PAY ITEM "14'-0" X 8'-1" REINFORCED CONCRETE 3-SIDED FRAME, PRECAST".
- PRECAST CONCRETE 3-SIDED FRAME UNITS SHALL NOT BE SHIPPED UNTIL 72 HOURS AFTER FABRICATION AND THE 28 DAY COMPRESSIVE STRENGTH REQUIREMENT IS MET.
- WORKING DRAWINGS SHALL BE IN FORMAT SPECIFIED IN NJDOT STANDARD SPECIFICATIONS.
- THE SPRAY APPLIED WATERPROOFING WITH REINFORCING SCRIM SHALL BE ELIMINATOR WATERPROOFING MEMBRANE (2 COATS) AS MANUFACTURED BY GCP APPLIED TECHNOLOGIES, ALPHARETTA, GA., PHONE (877)-423-6491 OR APPROVED EQUAL PRIOR TO APPLYING SPRAY WATERPROOFING MEMBRANE, CONTRACTOR SHALL PREPARE THE SURFACE AS PER MANUFACTURER'S REQUIREMENTS.
- THE COST OF SPRAY APPLIED WATERPROOFING WITH REINFORCING SCRIM AT EVERY TRANSVERSE JOINT OF PRECAST CULVERT SHALL BE INCLUDED IN THE PAY ITEM "14'-0" X 8'-1" REINFORCED CONCRETE 3-SIDED FRAME, PRECAST".

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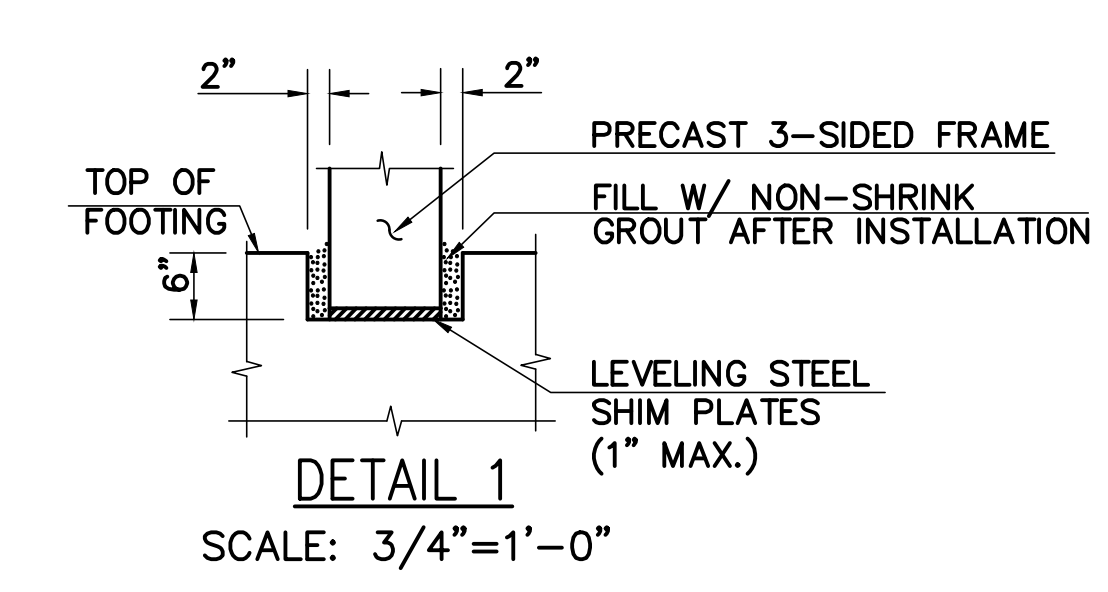
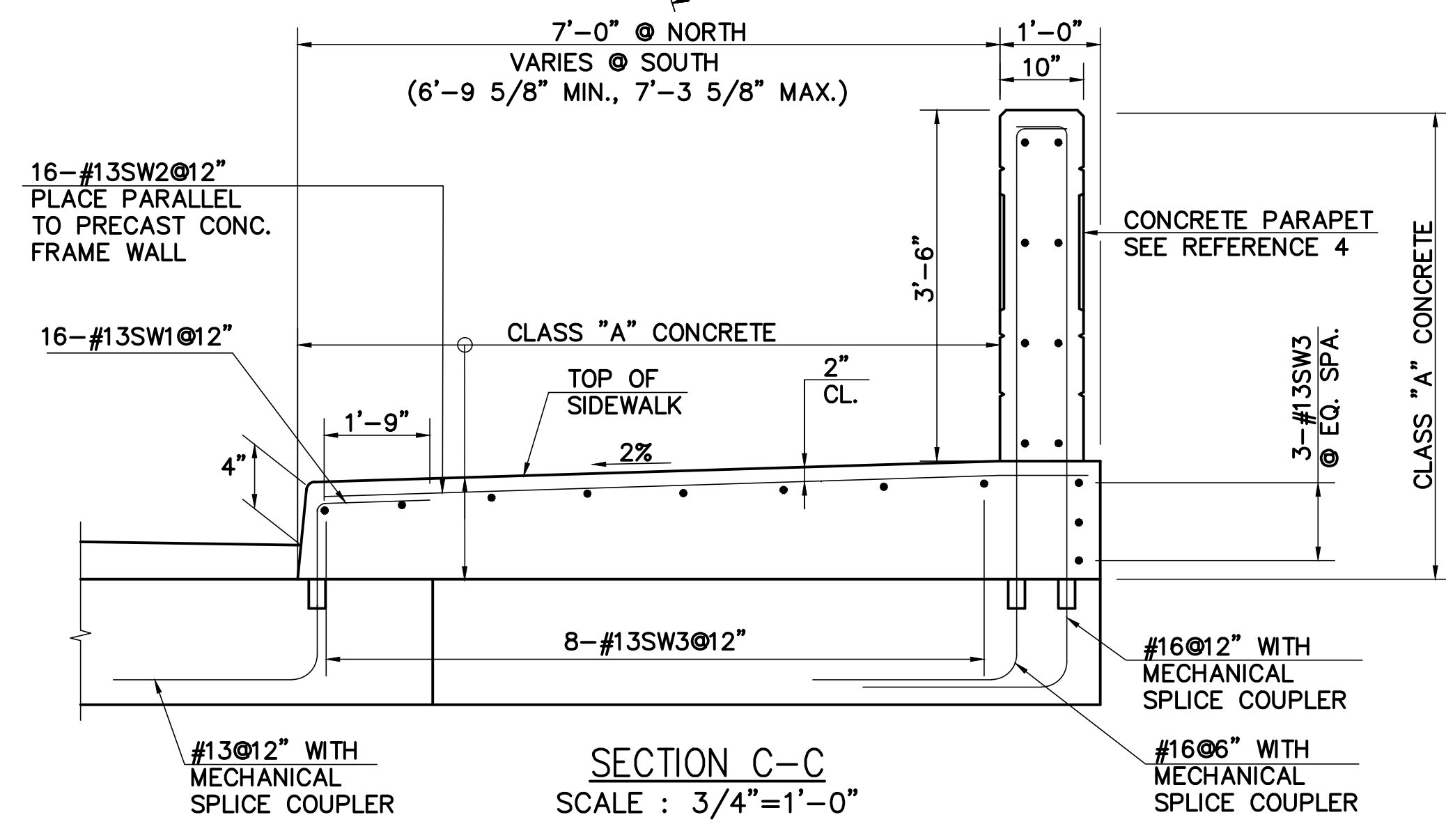
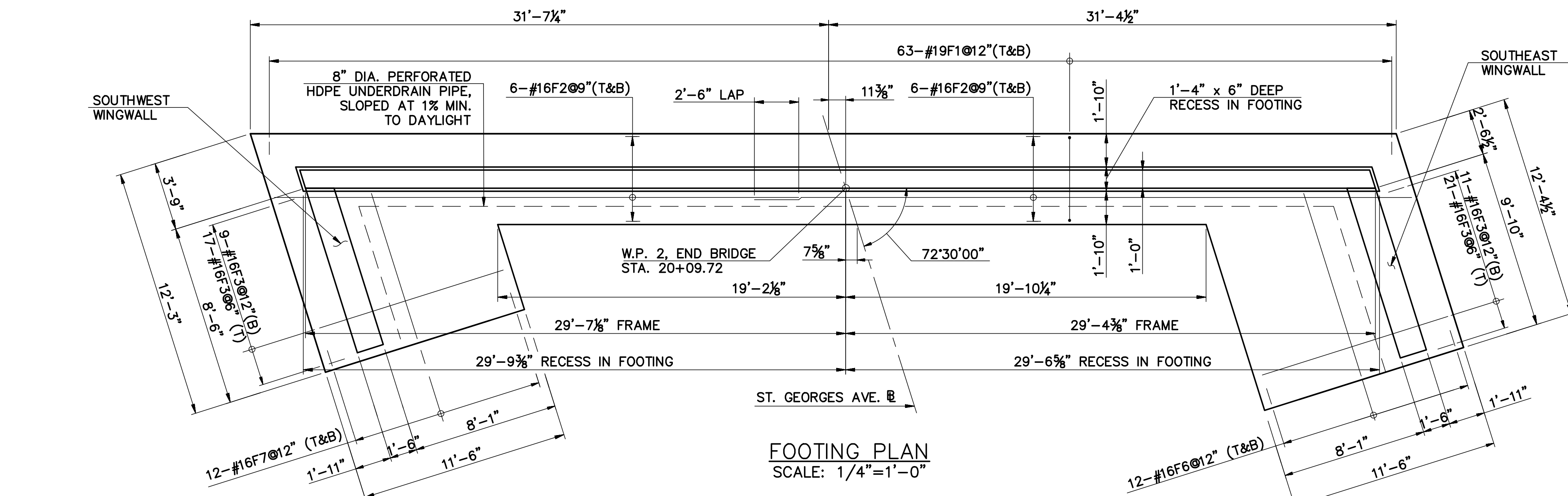
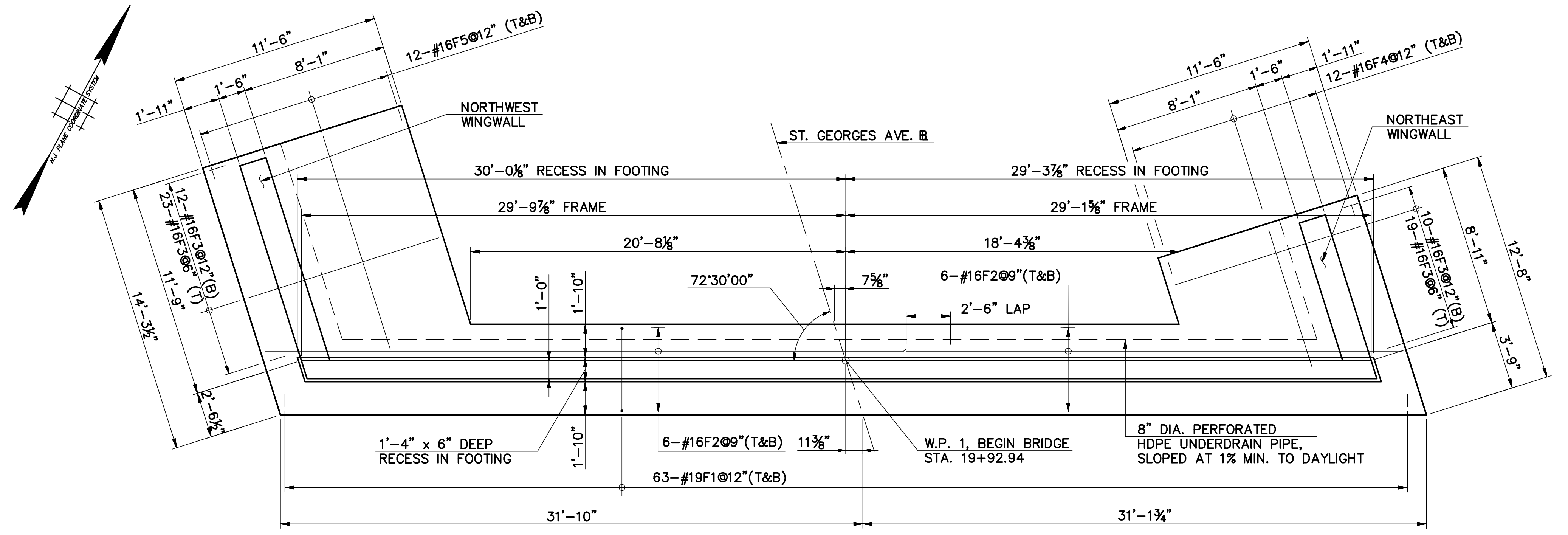
PROJECT No. BR-0809
REPLACEMENT OF CULVERT 1-C-503
FREEMAN STREET OVER RAHWAY RIVER
(AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
TOWNSHIP OF WOODBRIDGE
MIDDLESEX COUNTY, NEW JERSEY

FRAMING PLAN AND CULVERT DETAILS

Scale: AS NOTED
Sheet No. 18 of 24
Date: JUNE 2023

Ronald Sender
County Engineer
N.J.P.E. No. 24GE03162200

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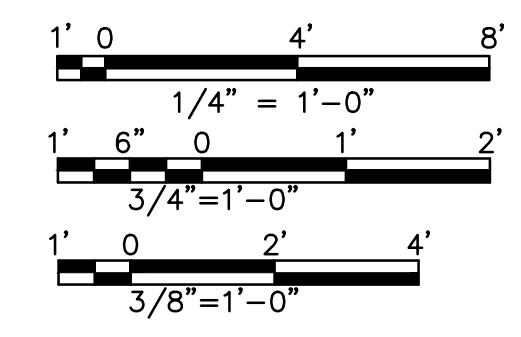


REFERENCES:

- FOR GENERAL NOTES, SEE SHEET NO. B-1.
- FOR LOCATION OF DETAIL 1 AND SECTION B-B & C-C, SEE SHEET NO. B-4.
- FOR BAR LIST, SEE SHEET NO. B-10.
- FOR CONCRETE PARAPET DETAILS AND REINFORCEMENT, SEE SHEET NO B-8.

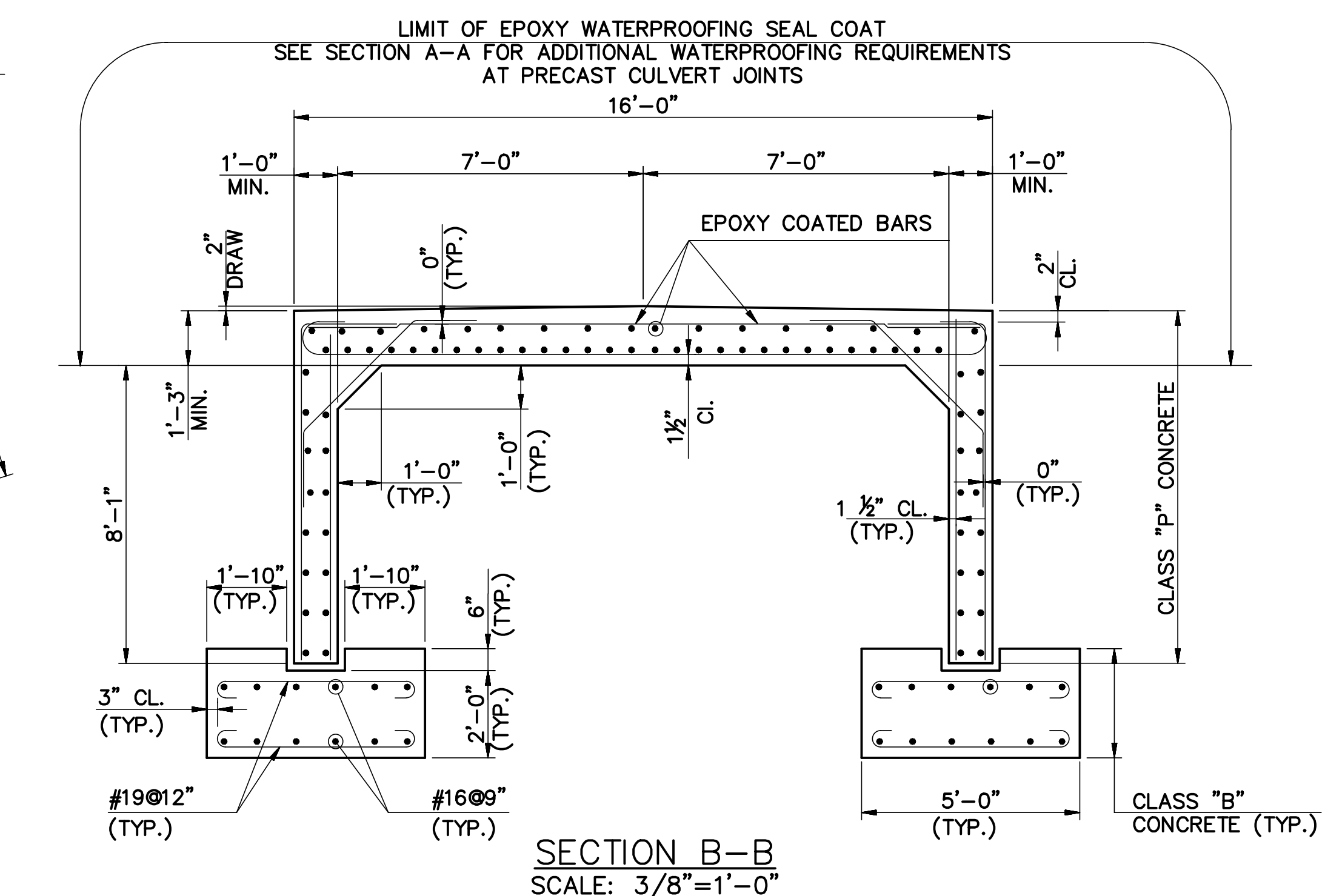
LEGEND:

- (T) TOP
- (B) BOTTOM
- (T & B) TOP AND BOTTOM
- (FF) FRONT FACE
- (RF) REAR FACE
- (EF) EACH FACE
- (NW) NORTHWEST
- (SW) SOUTHWEST
- (NE) NORTHEAST
- (SE) SOUTHEAST
- (UON) UNLESS OTHERWISE NOTED



NOTES:

- PRECAST THREE SIDED RIGID FRAME STRUCTURE SECTIONS SHALL BE DESIGNED BY THE CONTRACTOR/MANUFACTURER IN ACCORDANCE WITH 2020 (9TH EDITION) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AS MODIFIED BY SECTION 3 OF THE NJDOT DESIGN MANUAL FOR BRIDGES AND STRUCTURES, 6TH EDITION.
- SIZE AND SPACING OF REINFORCEMENT, INSERTS FOR REINFORCEMENT, AND OTHER NECESSARY DETAILS IN PRECAST 3-SIDED FRAME SHALL BE PROVIDED BY THE 3-SIDED FRAME MANUFACTURER AND SUBMITTED TO THE ENGINEER FOR APPROVAL. MANUFACTURER SHALL PROVIDE CALCULATIONS AND DRAWINGS SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW JERSEY. THE WALL THICKNESS AND REINFORCEMENT SHOWN ARE THE MINIMUM TO BE PROVIDED. THE PRECAST MANUFACTURER SHALL VERIFY THE SIZES AND AMEND THEM AS REQUIRED.
- ALL LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT. AFTER THE GROUT HAS CURED, THE AREA SHALL BE COATED WITH AN EPOXY WATERPROOFING SEAL COAT.
- LAP SPlice AND DEVELOPMENT LENGTHS IN PRECAST 3-SIDED FRAME SHALL BE DETERMINED BY THE 3-SIDED FRAME MANUFACTURER IN ACCORDANCE WITH CURRENT AASHTO DESIGN CRITERIA. THE TOP MAT OF REINFORCEMENT IN TOP SLAB SHALL BE EPOXY COATED.
- A PLASTIC WATERSTOP (OPTIONAL COPPER WATERSTOP) SHALL BE PROVIDED TO PREVENT WATER FROM ENTERING VERTICAL JOINTS BETWEEN THE END OF PRECAST 3-SIDED RIGID FRAME SECTIONS AND ANY CAST-IN-PLACE ELEMENTS SUCH AS WINGWALLS, CUT OFF WALLS, AND APRONS.
- ALL EXPOSED EDGES OF CONCRETE (PRECAST AND CAST-IN-PLACE) TO BE CHAMFERED 3/4".
- ALL INSERTS SHALL BE THREADED MECHANICAL INSERTS, INSTALLED PRIOR TO CASTING OF CONCRETE. GROUTED ANCHORS WILL NOT BE PERMITTED. THE INSERT SHALL DEVELOP THE FULL TENSILE STRENGTH OF THE NOMINAL REINFORCEMENT SIZE.
- THE COST OF SHOP AND FIELD APPLIED WATERPROOFING SEAL COAT SHALL BE INCLUDED IN THE PAY ITEM "14'-0" x 8'-1" REINFORCED CONCRETE 3-SIDED FRAME, PRECAST".



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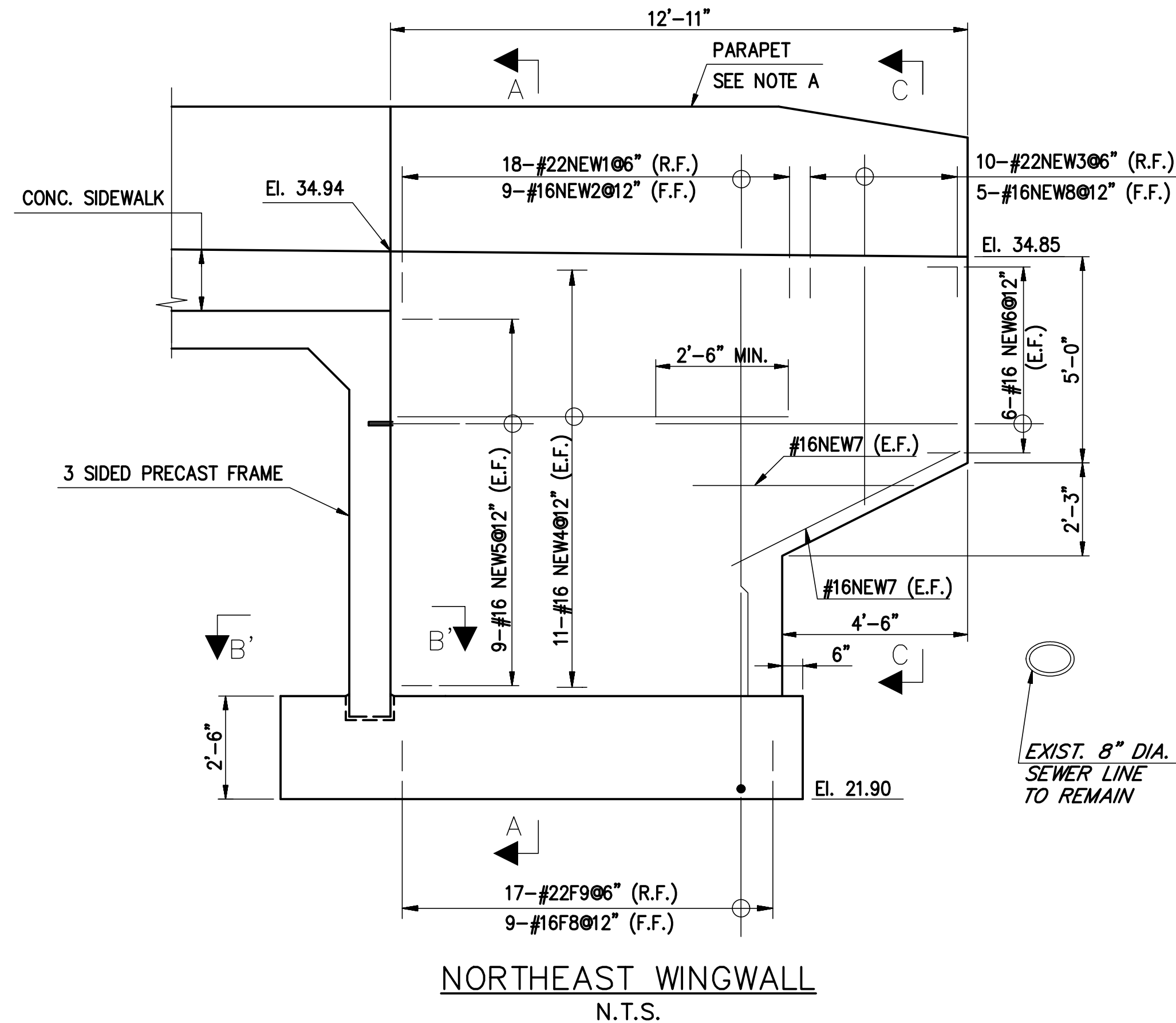
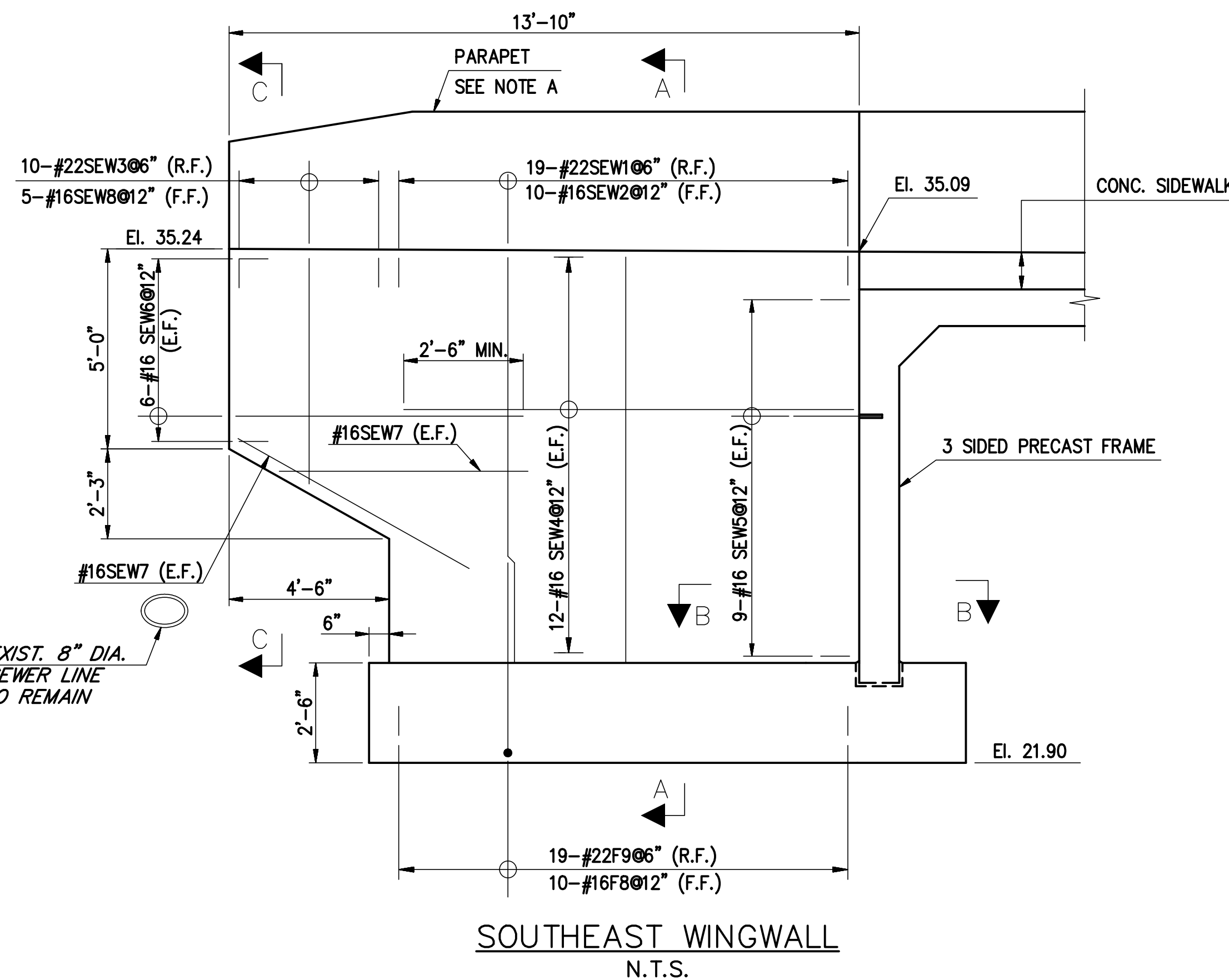
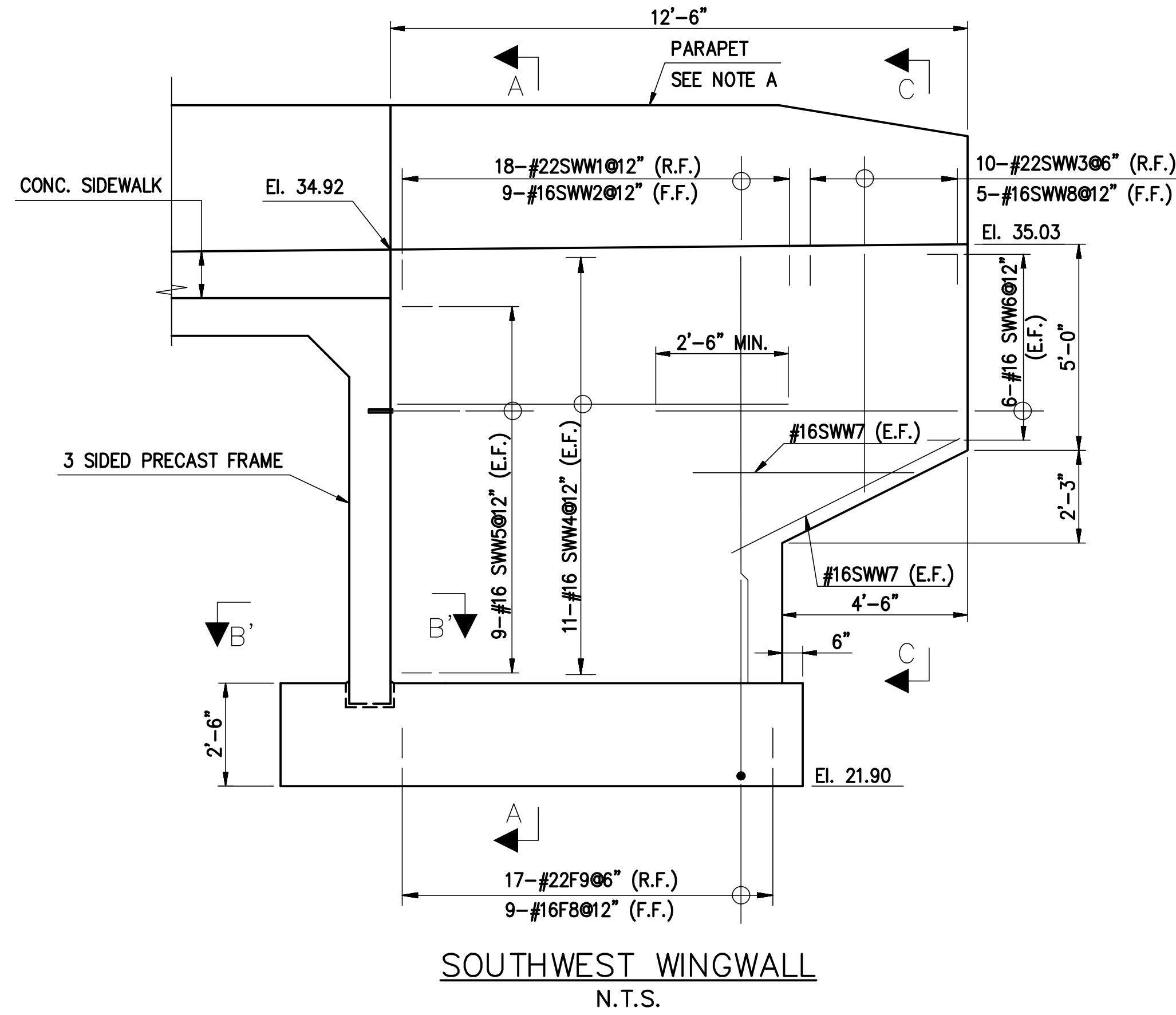
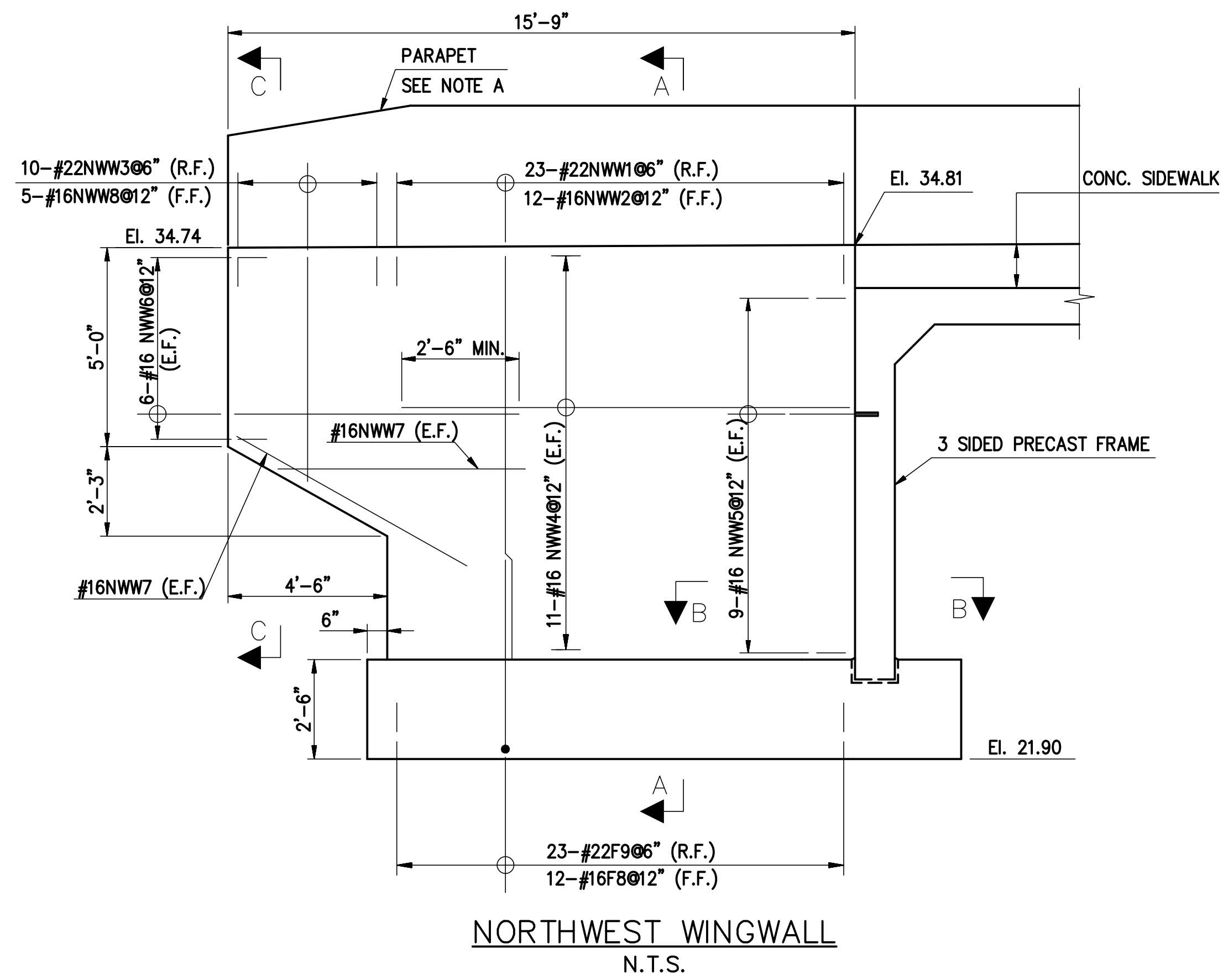
3-SIDED FRAME AND FOOTING

Scale: AS NOTED
Sheet No. 19 of 24
Date: JUNE 2023

Ronald Sender
County Engineer
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B-5
B-10

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REFERENCES:

1. FOR FOOTING PLAN, SEE SHEET NO. B-5.
2. FOR SECTIONS A-A, B-B, B'-B', AND C-C SEE SHEET NO. B-7.
3. FOR CULVERT DETAILS, SEE SHEET NO. B-4.
4. FOR BAR LIST, SEE SHEET NO. B-10.

NOTE A:

PARAPET REINFORCEMENT, INCLUDING BARS EMBEDDED IN THE TOP OF THE WINGWALLS, AND PARAPET AESTHETIC DETAILS, ARE NOT SHOWN ON THIS SHEET FOR CLARITY. FOR PARAPET DETAILS AND REINFORCEMENT, SEE SHEET NO. B-8.

REVISION	BY	C'K'D	DATE

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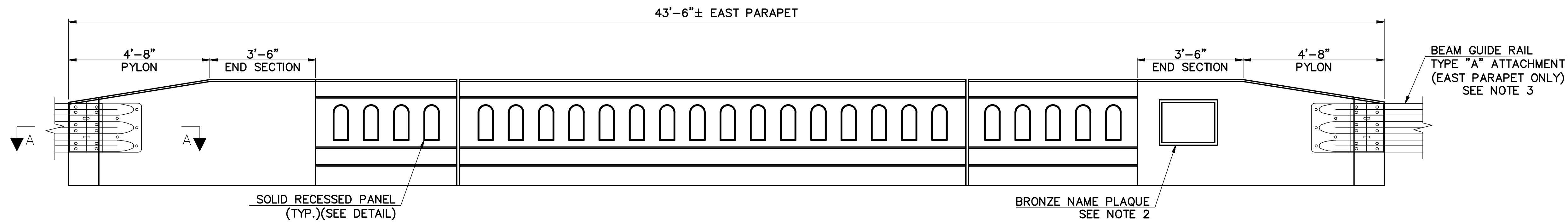
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WINGWALLS

Scale: AS NOTED
Sheet No. 20 of 24
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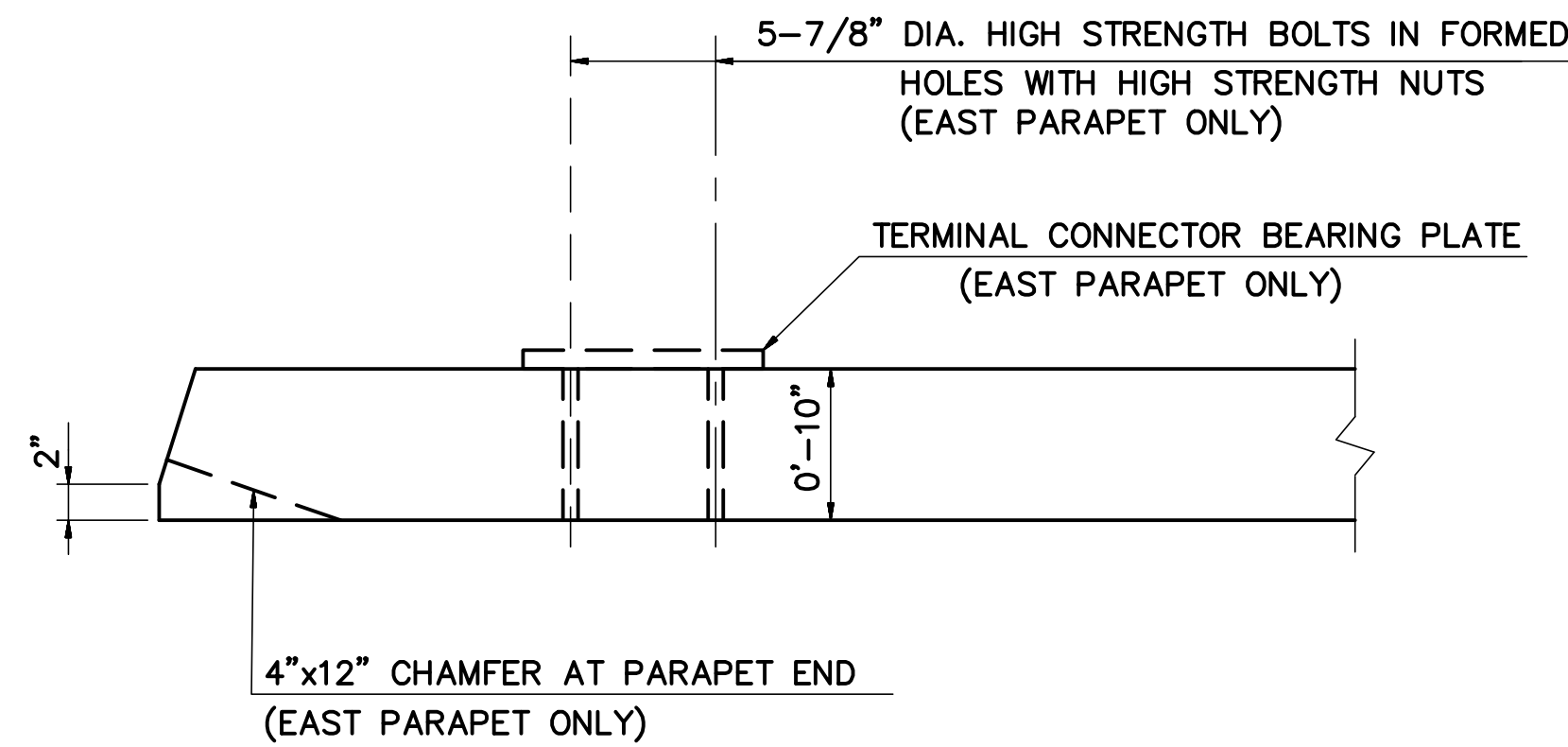
B-6
B-10



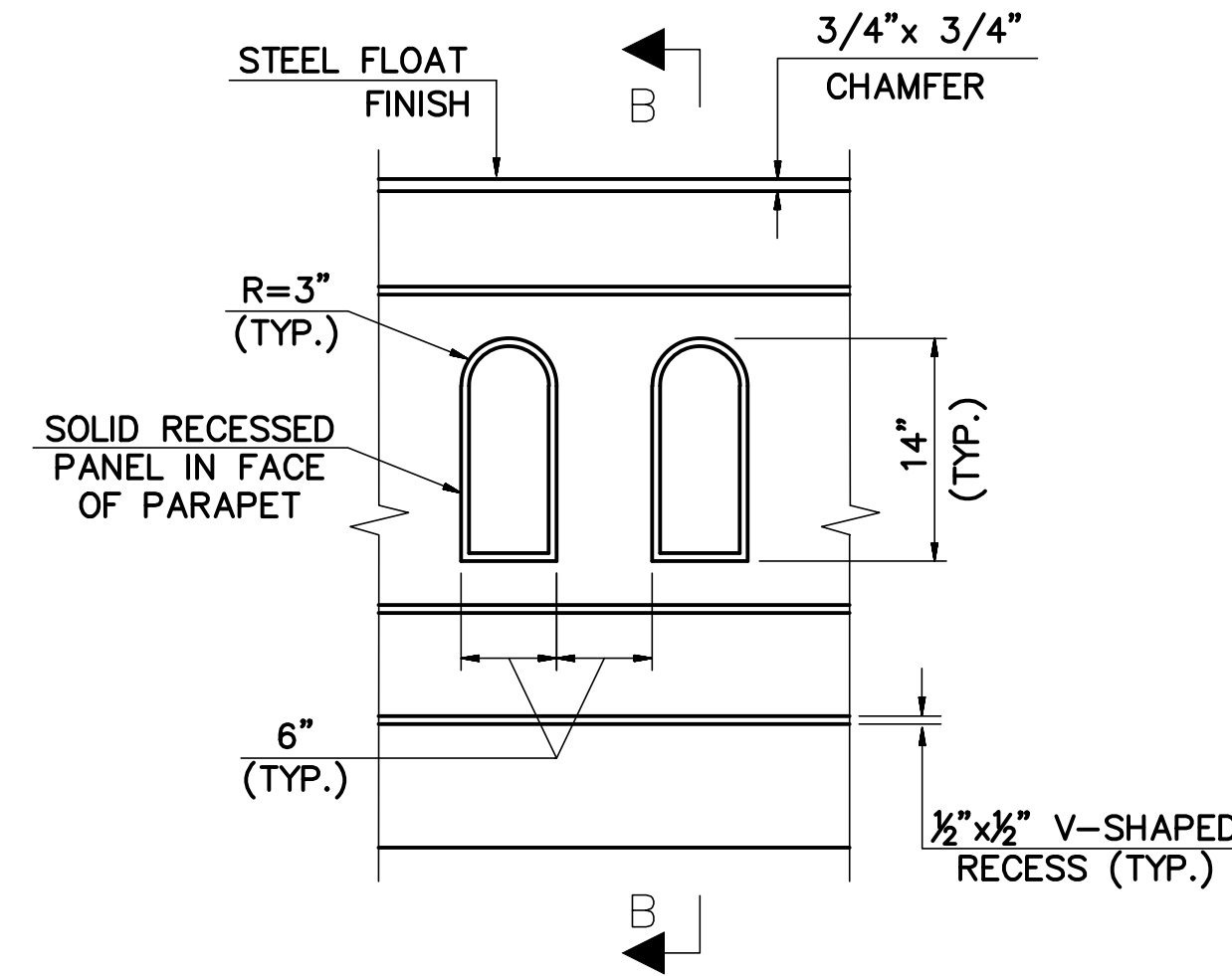
PARAPET ARCHITECTURAL ELEVATION
 EAST PARAPET SHOWN, WEST PARAPET SIMILAR
 SCALE: 1/2" = 1'-0"

NOTES:

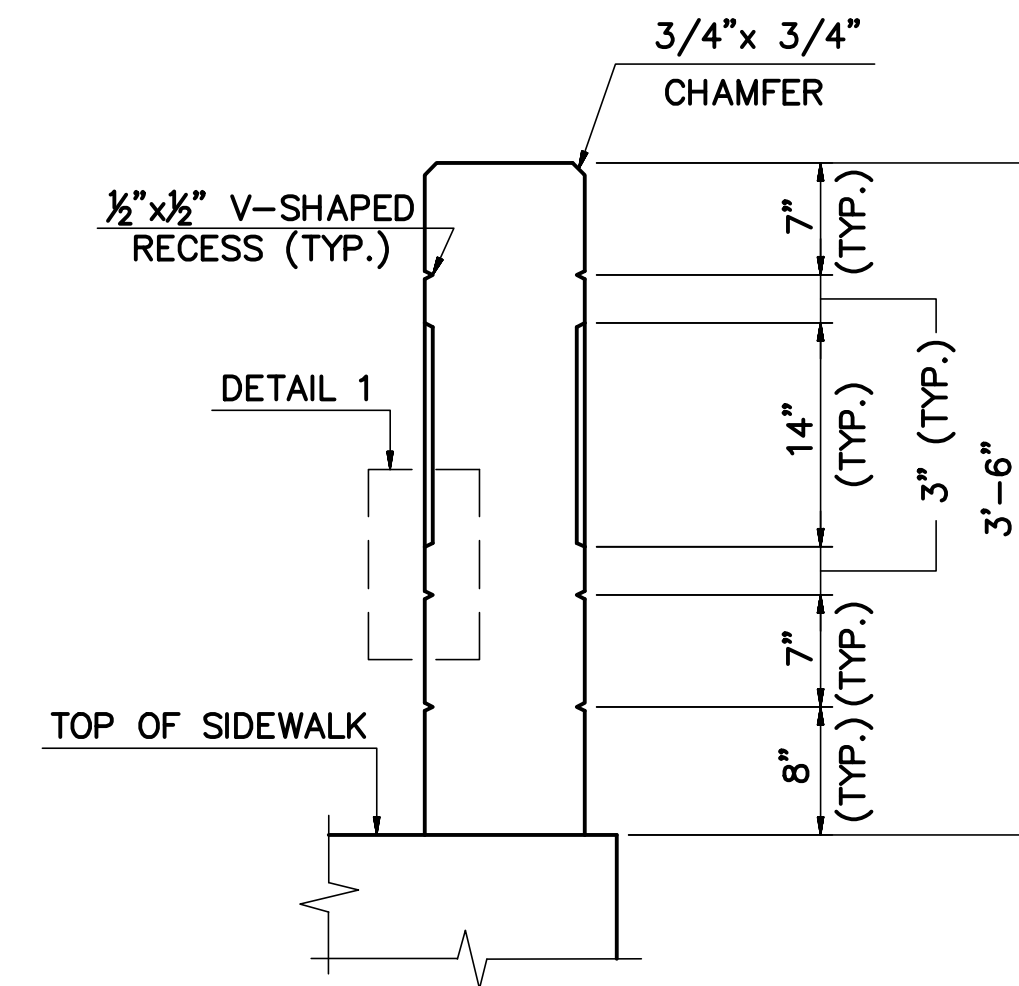
- BRIDGE RAILING SHALL BE THE HAWAII DEPARTMENT OF TRANSPORTATION (HDOT) 42" TALL AESTHETIC CONCRETE BRIDGE RAIL. FOR ADDITIONAL INFORMATION, SEE FHWA LETTER OF ELIGIBILITY B-346.
- CENTER BRONZE NAME PLAQUE ON THE END SECTION PORTION OF THE EAST PARAPET DIRECTLY OVER THE SOUTHEAST RETAINING WALL AS SHOWN. SEE BRONZE NAME PLAQUE DETAIL FOR ADDITIONAL INFORMATION.
- TYPE A GUIDERAIL ATTACHMENT DETAILS SHALL BE INSTALLED IN ACCORDANCE WITH THE NJDOT ROADWAY CONSTRUCTION DETAILS.



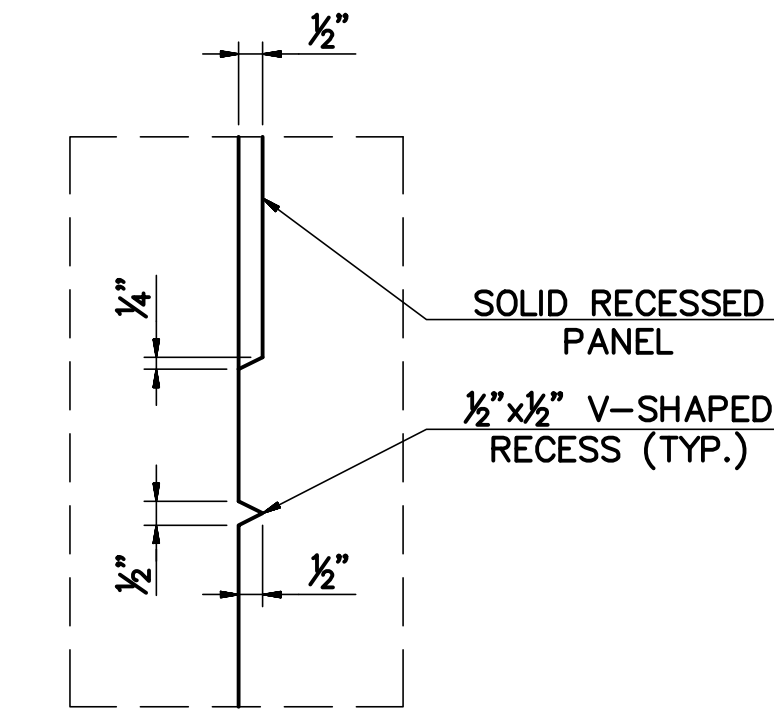
SECTION A-A
 N.T.S.



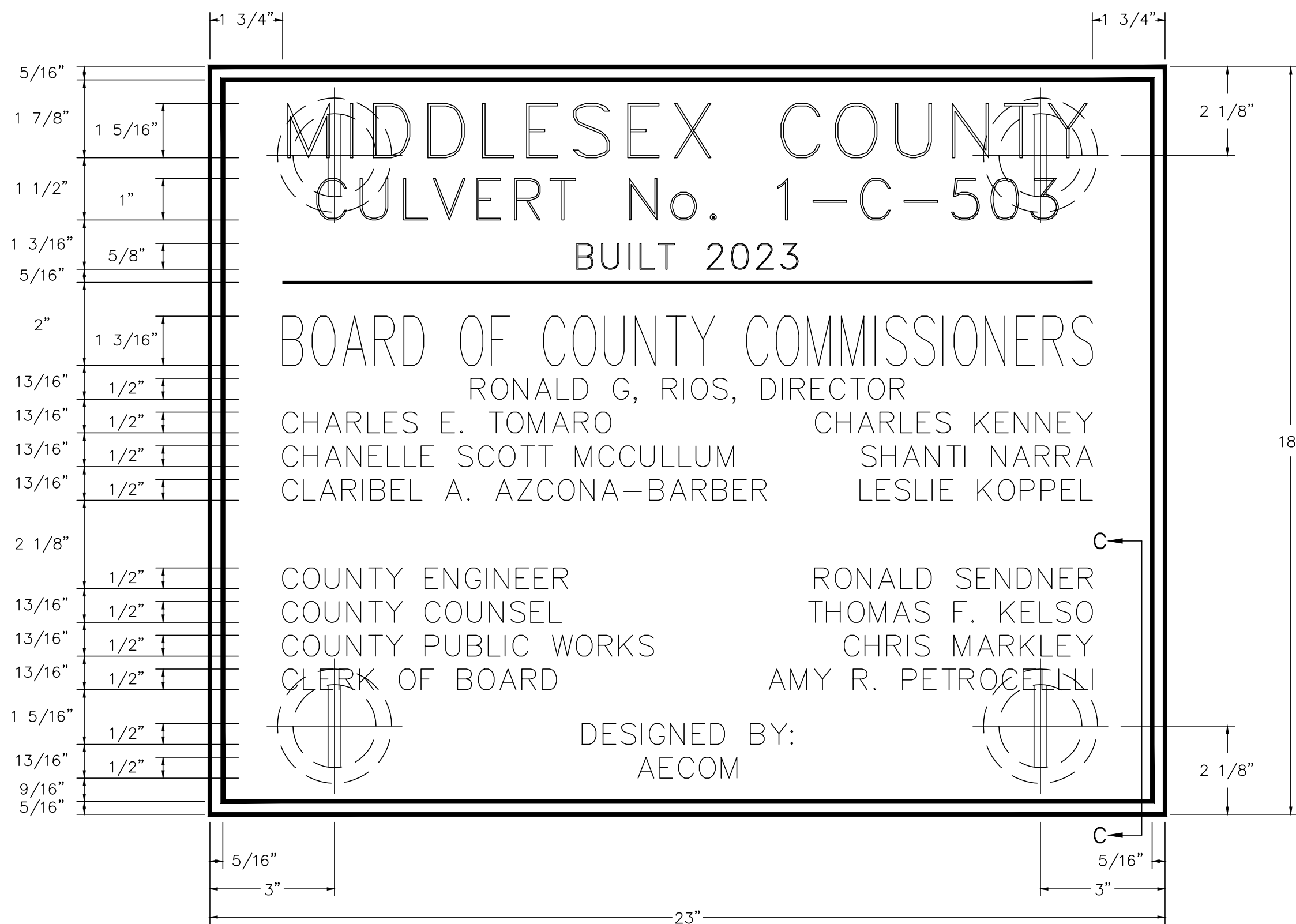
SOLID RECESSED PANEL DETAIL
 N.T.S.



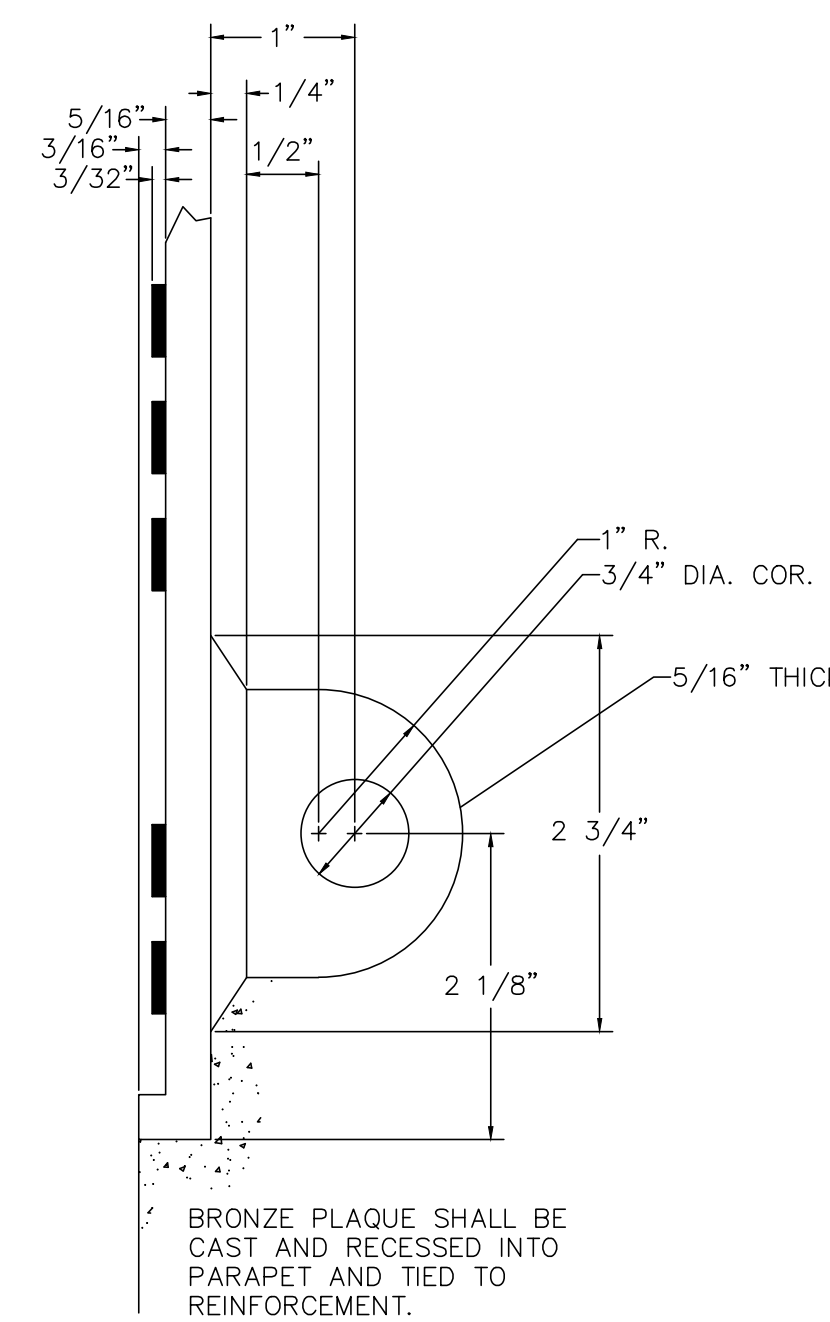
SECTION B-B
 N.T.S.



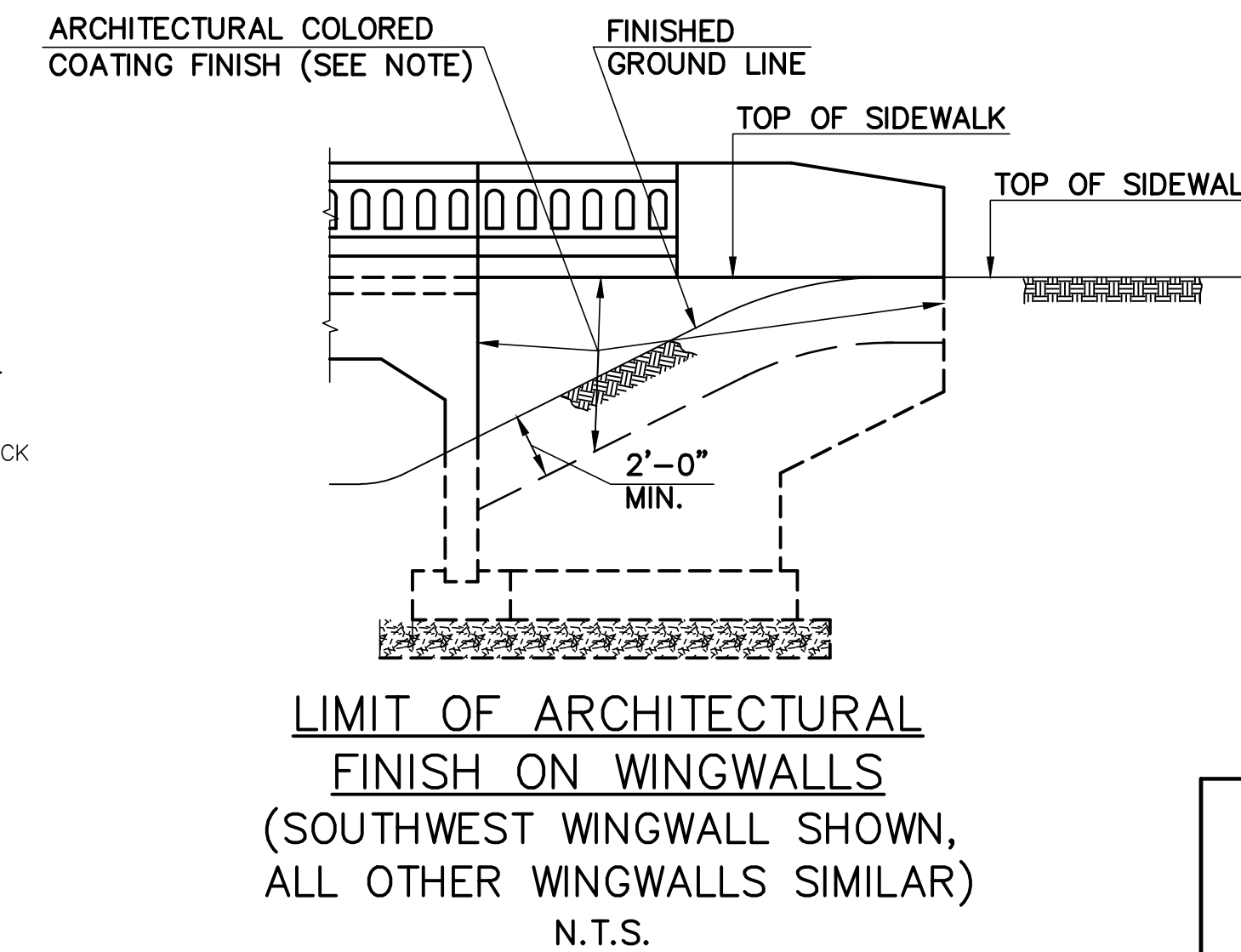
DETAIL 1
 N.T.S.



BRONZE NAME PLAQUE
 N.T.S.



SECTION C-C
 N.T.S.



NOTE FOR ARCHITECTURAL FINISH:

A DURABLE, WATERPROOF, COLORED ARCHITECTURAL COATING SHALL BE USED ON THE EXPOSED SURFACE OF PARAPETS AND RETAINING WALLS (TO 2' BELOW FINISHED GRADE). COATING SHALL BE APPLIED IN TWO COATS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. COATING SHALL BE A COLORED, ACRYLIC-BASED STAIN SPECIFICALLY INTENDED FOR SEALING OF CONCRETE. COATING SHALL BE STOCOLOR ACRYL PLUS, PRODUCT 80648, MANUFACTURED BY THE STO CORP., ATLANTA, GA., PHONE (800) 221-2397, OR APPROVED EQUAL. THE CONTRACTOR SHALL SUBMIT A COLOR CHART TO THE ENGINEER FOR SELECTION OF THE STAIN'S COLOR. PRIOR TO COATING ALL SPECIFIED SURFACES, THE AREA IS TO BE CLEANED OF ALL LAITENCE BY A POWER WASH ROTATING-NOZZLE WATER JET. A 3' X 6' TEST PANEL OF CONCRETE SHALL BE CAST AND STAINED FOR APPROVAL OF THE COLOR AND FINISH BY THE ENGINEER. NO SEPARATE PAYMENT WILL BE MADE FOR ARCHITECTURAL DETAILS & CONCRETE STAINING. THE COST THEREOF SHALL BE INCLUDED IN THE PAY ITEM "CONCRETE BRIDGE PARAPET".

AECOM USA, Inc.
 30 Knightsbridge Rd. Suite 520
 Piscataway, New Jersey 08854
 CERTIFICATE OF AUTHORIZATION
 NO. 24GA27986000

STEWART WILLIS
 NEW JERSEY PROFESSIONAL ENGINEER
 LICENSE NO. 24GE03430000

Middlesex County Engineering Department
Office of the County Engineer
P.O. Box 871, New Brunswick, N.J. 08903

PROJECT No. BR-0809
REPLACEMENT OF CULVERT 1-C-503

FREEMAN STREET OVER RAHWAY RIVER
 (AKA: ST. GEORGES AVENUE OVER WEDGEWOOD BROOK)
 TOWNSHIP OF WOODBRIDGE
 MIDDLESEX COUNTY, NEW JERSEY

ARCHITECTURAL DETAILS

Scale: AS NOTED
 Sheet No. 23 of 24
 Date: JUNE 2023

Ronald Sender
 County Engineer
 N.J.P.E. No. 24GE03162200

REVISION	BY	C'K'D	DATE

AECOM L:\Legacy\USPSW2\FPSW001\Data_USPSW2\FPSW001\Projects\60049510_Freeman Street\001_CADD\Struct\Sheet\9_02ER-04.dwg Titleless 06/29/2023 - 1:46 P

