

NOTES:
 DETAIL 3 - CURBED-HIGH SIDE OF SUPERELEVATED SECTION
 SEE SHEET 17
 APPROACH SLAB TYPICAL SECTIONS INCLUDE SLEEPER SLABS

FOR LEGEND, SEE SHEET 16

DESIGN AGENCY	B&N burgessniple.com
DESIGNER	AJS
REVIEWER	MRT 05/01/24
PROJECT ID	82382
SHEET	TOTAL
31	2696

GENERAL

UTILITIES

EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CORRECTNESS AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED.

ALL UTILITY RELOCATIONS SHALL BE COORDINATED BETWEEN THE CONTRACTOR AND THE UTILITY OWNERS IN SUCH A WAY AS TO AVOID AND/OR MINIMIZE ANY INCONVENIENCE TO POTENTIALLY AFFECTED CUSTOMERS. ALL UTILITY RELOCATIONS NOT INCLUDED IN THIS CONTRACT SHALL BE PERFORMED BY THE AFFECTED UTILITY OWNER OR ITS CONTRACTOR AND WILL BE COMPLIANT WITH ODOT ROADWAY DESIGN STANDARDS. UPON THE CONTRACT AWARD, THE COORDINATION OF ALL NECESSARY RELOCATIONS WITH THE UTILITIES SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR.

IT IS REQUIRED OF THE ODOT CONTRACTOR TO SCHEDULE A FIELD REVIEW A MINIMUM OF 2 WEEKS PRIOR TO EQUIPMENT INSTALLATION TO INSURE ALL UTILITIES ARE CLEAR AND ALL CURRENT LOCATIONS ARE KNOWN. IF ANY UTILITY ISSUES ARISE IT IS THE RESPONSIBILITY OF THE ODOT CONTRACTOR TO WORK OUT AN ACCEPTABLE SOLUTION WITH THE UTILITY AND ODOT TO KEEP THE PROJECT MOVING FORWARD.

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

ELECTRIC
CLEVELAND PUBLIC POWER:
POWER DIVISION
ATTN: CHRISTOPHER HIRZEL
1300 LAKESIDE AVE., ROOM 152
CLEVELAND, OH 44114
(216) 664-3922, EXT. 76115
CHIRZEL@CPP.ORG

SEWER (CONT.)
NEORS
ATTN: ROBERT STOERKEL
3900 EUCLID AVE.
CLEVELAND, OH 44115
(216) 881-6600 EXT. 6802
STOERKELR@NEORS.D.ORG

TELECOM (CONT.)
CROWN CASTLE
ATTN: JON TARNOWSKI
15565 NEO PKWY.
GARFIELD HTS, OH 44128
(614) 940-2462
JON.TARNOWSKI@CROWNCastle.COM

TRAFFIC
ODOT D12 LIGHTING & TRAFFIC CONTROL
ATTN: JOHN BACON
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OH 44125
(216) 408-8748
JOHN.BACON@DOT.OHIO.GOV

CLEVELAND PUBLIC POWER:
STREETLIGHTING DIVISION
ATTN: BRYAN SHEPHERD
1300 LAKESIDE AVE., ROOM 152
CLEVELAND, OH 44114
(216) 664-3922 EXT. 76183
BSHEPHERD@CPP.ORG

STEAM
CORIX
ATTN: SCOTT TEMPLETON
1921 HAMILTON AVE.
CLEVELAND, OH 44114
(216) 218-7505
SCOTT.TEMPLETON@CORIX.COM

EVERSTREAM
ATTN: GIO REILLO
800 WEST ST. CLAIR AVE.
CLEVELAND, OH 44113
(216) 905-0780
GREILLO@EVERSTREAM.NET

CITY OF CLEVELAND:
DIVISION OF TRAFFIC ENGINEERING
ATTN: ROB MAVEC
601 LAKESIDE AVE., ROOM 25
CLEVELAND, OH 44114
(216) 664-6135
RMAVEC@CLEVELANDOHIO.GOV

FIRST ENERGY (CEI) OVERHEAD
ATTN: MARK CESARESPADA
735 BRADLEY RD.
WESTLAKE, OH 44145
(440) 221-7375
MCESAESPADA@FIRSTENERGYCORP.COM

TELECOM
AT&T
ATTN: JAMES JANIS
13630 LORAIN AVE., 2ND FLOOR
CLEVELAND, OH 44111
(216) 534-7285
PJ8191@ATT.COM

VERIZON
ATTN: DAVID GROSS
12300 RIDGE RD.
NORTH ROYALTON, OH 44133
(216) 347-7661
DAVID.GROSS1@VERIZON.COM

ODOT ITS - TRAFFIC
MONITORING SECTION
ATTN: BRYAN COMER
1606 WEST BROAD ST.
COLUMBUS, OH 43223
(614) 981-3028
BRYAN.COMER@DOT.OHIO.GOV

FIRST ENERGY (CEI) UNDERGROUND
ATTN: DAN CARMAN
6896 MILLER RD.
BRECKSVILLE, OH 44141
(740) 314-9986
DRCARMAN@FIRSTENERGYCORP.COM

BRIGHTSPEED (LUMEN/CENTURY LINK)
(LITEL TELECOMMUNICATIONS
CORPORATION/ BROADWING/
WIL-TEL COMMUNICATIONS)
ATTN: DOUG HOLLOWAY
4000 CHESTER AVE.
CLEVELAND, OH 44103
(216) 906-6284
DOUG.HOLLOWAY@LUMEN.COM

WESTERN RESERVE
ATTN: RYAN WIEGNER
3867 W. MARKET ST.
AKRON, OH 44333
(330) 343-7926
RYAN@WRCFIBER.COM

WATER
CITY OF CLEVELAND:
DIVISION OF WATER
ATTN: FRED ROBERTS, P.E.
1201 LAKESIDE AVE.
CLEVELAND, OH 44114
(216) 664-2444 EXT. 75590
FRED_ROBERTS@CLEVELANDWATER.COM

FIRST ENERGY (CEI) TRANSMISSION
ATTN: MARY WALTON
76 SOUTH MAIN ST
AKRON, OH 44308
(321) 626-1079
MWALTON@FIRSTENERGYCORP.COM

DOUG.HOLLOWAY@LUMEN.COM
ATTN: ED NICHOLS
ED.NICHOLS@LUMEN.COM
ATTN: KENDALL WILLIAMS-ZETINA
100 S. CINCINNATI AVE, SUITE 1200
TULSA, OK 74103
(918) 547-0547
ATTN: SCOTT STONE
100 CENTURY LINK DR
MONROE, LA 71203
(318) 330-6722
SCOTT.STONE1@LUMEN.COM
ATTN: GEORGE MCELVAIN
(303) 992-9931
GEORGE.MCELVAIN@LUMEN.COM

WINDSTREAM
ATTN: LEON TAYLOR
2165 STATE ROUTE 133 S
BLANCHESTER, OHIO 45107
(937) 725-5358
LEON.TAYLOR@UNITI.COM

ROUNDING
THE ROUNDING AT SLOPE
BREAKPOINTS SHOWN ON THE TYPICAL
SECTIONS APPLIES TO ALL CROSS-
SECTIONS, EVEN THOUGH OTHERWISE
SHOWN.

GAS
ENBRIDGE (DOMINION)
ATTN: DOUG SMITH
320 SPRINGSIDE DR., SUITE 320
AKRON, OH 44333
(330) 664-2529
DOUG.SMITH2@DOMINIONENERGY.COM

CHARTER COMMUNICATIONS
ATTN: RICK PALENCAR
8179 DOW CIR.
STRONGSVILLE, OH 44136
(440) 343-6606
RICK.PALENCAR@CHARTER.COM

- UTILITY SYMBOL LEGEND**
- ||||| UTILITY LINE ABANDONED
 - xxxxxxx UTILITY LINE REMOVED
 - ✕ STRUCTURE REMOVED / ABANDONED
 - Ⓜ ATG STORM MH
 - Ⓜ ATG SANITARY MH
 - Ⓜ ATG WATER MH
 - Ⓜ ATG WATER METER
 - Ⓜ ATG WATER SERVICE STOP
 - Ⓜ ATG HYDRANT
 - Ⓜ ATG TELECOM MH
 - Ⓜ ATG GAS MH
 - Ⓜ ATG GAS METER
 - Ⓜ ATG GAS VALVE
 - Ⓜ ATG GAS SERVICE STOP
 - Ⓜ ATG ELECTRIC MH
 - Ⓜ ATG ELECTRIC METER

EXISTING PLANS
EXISTING PLANS MAY BE INSPECTED
IN THE ODOT DISTRICT 12 OFFICE IN
GARFIELD HEIGHTS, OH.

SEWER
CITY OF CLEVELAND: DIVISON
OF WATER POLLUTION CONTROL
ATTN: ALAN SCHIELY
12302 KIRBY AVE.
CLEVELAND, OH 44108
(216) 664-3638
ASCHIELY@CLEVELANDWPC.COM

ABBREVIATIONS

AA = ANCHOR ASSEMBLY
ABND = ABANDONED
ATG = ADJUST TO GRADE
ATGBO = ADJUST TO GRADE
BY OTHERS
@ = BASELINE
BM = BENCHMARK
BOC = BACK OF CURB
BTA = BRIDGE TERMINAL ASSEMBLY
CI = CURB INLET
CL = CLASS
@ CONST. = CENTERLINE OF
CONSTRUCTION
@ = CENTERLINE
COC = CITY OF CLEVELAND
COMM = COMMERCIAL
CONST. LIMIT = CONSTRUCTION
LIMITS
CS = COMBINED SEWER
CUY = CUYAHOGA COUNTY
CWD = CLEVELAND WATER
DEPARTMENT
DI = DUCTILE IRON PIPE
DND = DO NOT DISTURB
EB = EASTBOUND
ELEC = ELECTRIC

EL = ELEVATION
ELEV = ELEVATION
EOP = EDGE OF PAVEMENT
EX = EXISTING
FOC = FACE OF CURB
FDO = FOR DIRECTION ONLY
FF = FINISHED FLOOR ELEVATION
FH = FIRE HYDRANT
FL = FLOW LINE
ƒ = FLOW LINE
GR = GUARDRAIL
INV = INVERT
LON = LENGTH OF NEED
LT = LEFT
MH = MANHOLE
NB = NORTHBOUND
OHE = OVERHEAD ELECTRIC
PR = PROPOSED
R&R = REMOVE AND REERECT
RCHP = ROCK CHANNEL
PROTECTION
RCP = REINFORCED CONCRETE
PIPE
RES = RESIDENTIAL
RNS = ROUNDED END SECTION
RR = RAILROAD

RT = RIGHT
RTG = RECONSTRUCT TO GRADE
RW = RIGHT OF WAY
SAN = SANITARY SEWER
SB = SOUTHBOUND
SH = STANDARD HIGHWAY EASEMENT
STA = STATION
STM = STORM
TBA = TO BE ABANDONED
TBR = TO BE REMOVED
TBRBO = TO BE REMOVED
BY OTHERS
TBRL = TO BE RELOCATED
TBRLBO = TO BE RELOCATED
BY OTHERS
TOC = TOP OF CURB
TC = TOP OF CASTING
TELE = TELEPHONE
TR = TO REMAIN
TYP = TYPICAL
UD = UNDERDRAIN
UNKN = UNKNOWN
UTIL = UTILITY
VCP = VITRIFIED CLAY PIPE
WB = WESTBOUND
WV = WATER VALVE

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL
POSITIONING ON ODOT PROJECTS. SEE SHEET 4 OF THE
PLANS FOR A TABLE CONTAINING PROJECT CONTROL
INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL
POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS
FOR ALL SURVEYING:

PROJECT CONTROL
POSITIONING METHOD: STATIC GPS/ODOT VRS RTK GPS /
CONVENTIONAL
MONUMENT TYPE: MAG NAILS / IRON PINS

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID 12A

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE
(3401)
COMBINED SCALE FACTOR: 0.99994020409
ORIGIN OF COORDINATE SYSTEM: (0,0)

USE THE POSITIONING METHODS AND MONUMENT TYPE
USED IN THE ORIGINAL SURVEY TO RESTORE ALL
MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT
ARE DAMAGED OR DESTROYED BY CONSTRUCTION
ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED
MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR
PHYSICAL CONSTRUCTION ONLY. PROVIDE THE
INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC
CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES
REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE
THESE WORK LIMITS.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE
PROJECT ENGINEER, AND A REPRESENTATIVE OF THE
MAINTAINING AGENCY WILL REVIEW AND RECORD ALL
LANDSCAPING ITEMS WITHIN THE RIGHT-OF-WAY (BOTH
WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS). A
RECORD OF THIS REVIEW WILL BE KEPT IN THE
PROJECT ENGINEER'S FILES. PRIOR TO FINAL
ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS
WILL BE MADE.

CONSTRUCT ALL ACTIVITIES, EQUIPMENT STORAGE, AND
STAGING TO WITHIN THE CONSTRUCTION LIMITS.
UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR
PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED
AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT
ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS.
THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY
THE AREA AND EXPLAIN THE PROPOSED USE AND
RESTORATION OF THE AREA. USE OF THESE AREAS FOR
DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION
DEBRIS, EXCAVATION OF BORROW MATERIAL AND
PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE
REQUEST MUST BE APPROVED, IN WRITING, BEFORE
THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION
LIMITS, AS DEFINED ABOVE, WILL BE REPLACED IN KIND
OR AS APPROVED BY THE PROJECT ENGINEER.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED
FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER
THE LUMP SUM BID FOR ITEM 201, **CLEARING AND
GRUBBING**. THE FOLLOWING IS AN APPROXIMATE
ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE
REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	59	4	63
30"	6	0	6
48"	1	0	1

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER

JTH

REVIEWER

KGJ 05/10/24

PROJECT ID

82382

SHEET TOTAL

73 2696

**ROADWAY (CONT.)
ITEM SPECIAL - UTILITY TEST HOLE**

WHERE PLANS INDICATE OTHER UTILITIES ARE IN CLOSE PROXIMITY OF A NEW DRAINAGE STRUCTURE, SIGNAL POLE FOUNDATION / PEDESTAL, LIGHT POLE / TOWER FOUNDATION, AND/OR SIGN FOUNDATION, THE ENGINEER MAY DECIDE TO EXCAVATE TO CONFIRM THE STRUCTURE / FOUNDATION CAN BE PLACED WITHOUT INTERFERENCE. IF INTERFERENCE IS FOUND, THE STRUCTURE / FOUNDATION LOCATION OR TYPE IS TO BE REVISED, AS DIRECTED BY THE ENGINEER.

2

DRAINAGE CONDUITS AND STRUCTURES ARE PROPOSED IN CLOSE PROXIMITY TO EXISTING TELECOMMUNICATIONS AND GAS FACILITIES ALONG E. 18TH AND E. 14TH STREETS; TEST HOLES SHALL BE PERFORMED AT LOCATIONS WHERE THESE EXISTING AND PROPOSED FACILITIES INTERSECT BETWEEN @ E. 18TH ST. STA. 24+27 AND @ E. 14TH ST. NB STA. 54+00.

ONCE THE TEST HOLE IS COMPLETE, THE EXCAVATION SHALL BE BACKFILLED AND SURFACE RESTORED. NO PAYMENT FOR UTILITY TEST HOLE WILL BE GIVEN WITHOUT PRIOR APPROVAL FROM THE ENGINEER. PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT AND OTHER INCIDENTALS, INCLUDING BACKFILL, COMPACTION AND SURFACE RESTORATION SHALL BE AT THE CONTRACT UNIT PRICE BID FOR ITEM SPECIAL - UTILITY TEST HOLE.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM SPECIAL - UTILITY TEST HOLE 40 EACH

ITEM SPECIAL - PERMITS

IN THE CITY OF CLEVELAND, ALL STREET PERMITS MUST BE OBTAINED FROM THE DIVISION OF ASSESSMENTS AND LICENSES PRIOR TO BEGINNING ANY WORK WITHIN THE CITY OF CLEVELAND RIGHT-OF-WAY. PERMITS INCLUDE BUT ARE NOT LIMITED TO STREET OPENING PERMIT, OVERLOAD PERMIT, OBSTRUCTION PERMIT AND/OR SIDEWALK PERMIT AND MAY BE OBTAINED THROUGH THE FOLLOWING CONTACT:

CITY OF CLEVELAND, DEPARTMENT OF FINANCE
DIVISION OF ASSESSMENTS AND LICENSES
601 LAKESIDE AVENUE, ROOM 122
CLEVELAND, OHIO 44114
PHONE: (216) 664-2174
E-MAIL: DALPERMITS@CITY.CLEVELAND.OH.US

ALL STREET OPENING REPAIRS, CURB REPAIRS, AND/OR SIDEWALK REPAIRS EITHER INCIDENTAL TO THE PROJECT OR PART OF THE PROJECT MUST BE PERFORMED IN ACCORDANCE TO CITY OF CLEVELAND STANDARDS. A COPY OF THE STANDARDS CAN BE OBTAINED ON-LINE UNDER THE "FORMS AND PUBLICATIONS" TAB OF THE OFFICE OF CAPITAL PROJECTS WEBSITE OR FROM THE DIVISION OF ENGINEERING AND CONSTRUCTION BY CALLING (216) 664-2381.

ALL STREET PERMITS, FEES, AND CHARGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THEIR ASSOCIATED COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THIS ITEM. THE COST BELOW MAY NOT BE FULLY INCLUSIVE OF ALL PERMIT FEES REQUIRED TO BE PAID. NOTE THAT CLEVELAND WATER DEPARTMENT CHARGES ARE PAID UNDER A SEPARATE ITEM.

FOR BIDDING PURPOSES, FEES AND CHARGES WERE ESTIMATED BY THE CITY OF CLEVELAND DIVISION OF ENGINEERING AND CONSTRUCTION ON BEHALF OF THE DIVISION OF ASSESSMENTS AND LICENSES (DAL).

THE ASSIGNED RECORD NUMBER FOR THIS PROJECT IS STP25-00610. THE AWARDED CONTRACTOR SHALL CONTACT DAL AS DESCRIBED ABOVE, USING THE ASSIGNED STP NUMBER FOR REFERENCE. THE CONTRACTOR SHALL PROVIDE DAL WITH THEIR CERTIFICATE OF INSURANCE (COI) MEETING THE CITY OF CLEVELAND REQUIREMENTS. UPON SUBMITTAL OF THE COI AND RECEIPT OF PAYMENT, DAL WILL ISSUE THE PERMIT.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL - PERMITS 900,000 EACH

ENVIRONMENTAL

**ARCHAEOLOGICAL SITES / HISTORIC PROPERTIES
ADJACENT TO RIGHT-OF-WAY**

AS A RESULT OF A CULTURAL RESOURCE SURVEY, ARCHAEOLOGICALLY OR HISTORICALLY SENSITIVE AREAS HAVE BEEN IDENTIFIED ADJACENT TO THE PROPOSED RIGHTS-OF-WAY. THESE ARCHAEOLOGICALLY OR HISTORICALLY SENSITIVE AREAS HAVE BEEN DENOTED ON MAPPING THAT IS AVAILABLE FOR REVIEW AT THE STATE HISTORIC PRESERVATION OFFICE, (OHIO HISTORICAL SOCIETY, 800 EAST 17TH AVENUE, COLUMBUS, OHIO 43211-2474), ODOT'S OFFICE OF ENVIRONMENTAL SERVICES, AND THE DISTRICT 12 OFFICE (5500 E 98TH ST, GARFIELD HEIGHTS, OH 44125) THESE IDENTIFIED AREAS CANNOT BE USED FOR BORROW AREAS, WASTE, OR ANY OTHER PROJECT RELATED ACTIVITIES, SUCH AS TEMPORARY OFF-SITE STORAGE OR FIELD OFFICE PLACEMENT, PORTABLE PLANT LOCATIONS, ETC., UNLESS PRIOR APPROVAL IS OBTAINED, IN WRITING, FROM THE OHIO HISTORIC PRESERVATION OFFICE IN COLUMBUS.

CONSTRUCTION NOISE

NOISE SENSITIVE RECEPTORS (AS DEFINED IN THE NOISE TECHNICAL REPORT: PID 82382 CUY-90-16.28 CCG3A; 2/6/23) WILL ALSO BE SUBJECTED TO NOISE IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE OF THE PROPOSED PROJECT. CONSTRUCTION NOISE WILL GENERATE TEMPORARY NOISE IMPACTS ON ADJACENT AND NEARBY PROPERTIES, PARTICULARLY THOSE IN RESIDENTIAL LAND USE. CONSTRUCTION NOISE WILL BE EMITTED INTERMITTENTLY BY A RANGE OF CONSTRUCTION EQUIPMENT AT VARYING LEVELS OF INTENSITY BASED ON THE TYPES OF OPERATIONS BEING PERFORMED AND THE NUMBER OF PIECES OF EQUIPMENT IN OPERATION AT ANY GIVEN TIME. DEPENDING ON PROJECT CIRCUMSTANCES, OPTIONS ARE AVAILABLE TO MINIMIZE THE TEMPORARY ADVERSE NOISE IMPACTS, INCLUDING THE PROPER MAINTENANCE OF EQUIPMENT, MOST NOTABLY ADEQUATE LUBRICATION, AND NON-LEAKING MUFFLERS, EQUIPMENT RESTRICTION MODIFICATIONS TO REDUCE NOISE EMISSIONS AND RESTRICT THE USE OF CERTAIN EQUIPMENT BY LOCATION AND TIME OF DAY, CONTROLLING NON-CONSTRUCTION TRAFFIC BY LIMITING HEAVY TRUCK MOVEMENTS ON RESIDENTIAL STREETS, MAXIMIZING THE DISTANCE BETWEEN EQUIPMENT AND RECEPTORS WHERE POSSIBLE AND, ENCLOSING OR SCREENING NOISY ACTIVITIES OR STATIONARY EQUIPMENT. THE CONTRACTOR WILL BE REQUIRED TO ADHERE TO ANY AND ALL FEDERAL, STATE, AND LOCAL NOISE CONTROLS OR ORDINANCES IN EFFECT WITHIN THE PROJECT LIMITS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MONITOR CONSTRUCTION NOISE AND BE AWARE OF VIOLATIONS OF THE MAXIMUM ALLOWABLE NOISE LEVELS. CONSIDERATION OF CONSTRUCTION NOISE MINIMIZATION AND MITIGATION (AS NECESSARY) IS REQUIRED PURSUANT TO CFR772.19. ADDITIONAL INFORMATION ON CONSTRUCTION NOISE CAN BE ACCESSED IN THE FHWA CONSTRUCTION NOISE HANDBOOK (FHWA-HEP-06-015) AND THE ROADWAY CONSTRUCTION NOISE MODEL (RCNM) VERSION 2.0.

DURING CONSTRUCTION, THE PROJECT TEAM WILL BE BOTH PROACTIVE AND REACTIVE WITH RESPECT TO CONSTRUCTION NOISE. THIS WILL BE ACCOMPLISHED THROUGH:

EQUIPMENT SELECTION

OFTEN THERE IS A VARIETY OF EQUIPMENT AVAILABLE TO THE CONTRACTOR TO PERFORM A PARTICULAR TASK. WHERE NOISE SENSITIVE RECEPTORS ARE PRESENT, SPECIFIC CONSIDERATION WILL BE GIVEN TO THE SELECTION OF EQUIPMENT TO BE UTILIZED. THIS MAY INCLUDE: THE AGE OF THE EQUIPMENT AS NEWER EQUIPMENT TYPICALLY EMPLOYS NEW TECHNOLOGY WITH RESPECT TO EMISSIONS AND NOISE, IF SHIELDING OR ENGINE ENCLOSURES ARE STANDARD, SIZE APPROPRIATENESS AND POWER SOURCE (GAS/DIESEL, ELECTRIC/SOLAR, PNEUMATIC, HYDRAULIC).

EQUIPMENT MAINTENANCE

THE CONTRACTOR WILL HAVE AN ESTABLISHED MAINTENANCE PROGRAM FOR THEIR EQUIPMENT FLEET. THEY WILL ENSURE THAT NECESSARY MAINTENANCE/REPAIRS ARE PERFORMED BEFORE PUTTING EQUIPMENT INTO SERVICE.

CONSTRUCTION NOISE (CONT.)

EQUIPMENT MAINTENANCE (CONT.)

THEY WILL ALSO BE PULLED OUT OF SERVICE TO ADDRESS DEFICIENCIES IDENTIFIED DURING OPERATION. WHEN NOISE SENSITIVE RECEPTORS ARE PRESENT, SPECIFIC ATTENTION WILL BE GIVEN TO THE MUFFLER SYSTEMS ON ALL COMBUSTION ENGINES, AS THAT IS OFTEN A PRIMARY SOURCE OF CONSTRUCTION NOISE.

STORAGE AND STAGING AREAS

IDENTIFICATION OR ACQUISITION OF LOCATIONS/PROPERTIES THAT PROVIDE SEPARATION FROM SENSITIVE RECEPTORS.

SCREENING / SHIELDING / BARRIERS

HAVING SOMETHING BETWEEN THE SOURCE AND THE RECEPTOR IS AN EFFECTIVE MITIGATION TECHNIQUE AND CAN TAKE ON MANY FORMS. THE PROJECT TEAM WILL TAKE ADVANTAGE OF EXISTING FEATURES WHERE PRACTICAL TO MINIMIZE THE IMPACTS OF CONSTRUCTION NOISE ON RECEPTORS. THIS WILL INCLUDE BRIDGES, BERMS, RETAINING WALLS, BUILDINGS AND NOISE WALLS. ADDITIONALLY, TEMPORARY FEATURES ALREADY NECESSARY FOR PERFORMING THE WORK LIKE STOCKPILES AND TOOL TRAILERS CAN ALSO BE BY STRATEGICALLY UTILIZED TO ASSIST IN THIS EFFORT. LASTLY, IT MAY BE NECESSARY TO CONSTRUCT TEMPORARY FEATURES SUCH AS HAY BALES SPECIFICALLY FOR THIS PURPOSE.

SCHEDULING OF WORK

IF NOT DICTATED DURING DESIGN, THE CONTRACTOR WILL GIVE CONSIDERATION TO NOISE SENSITIVE RECEPTORS WHEN SCHEDULING WORK. THIS MAY INCLUDE: TIME OF DAY, DAY OF WEEK, NUMBER OF CONSECUTIVE HOURS/DAYS, SPECIAL EVENTS AND NUMBER OF CREWS. WITH A PROJECT OF THIS MAGNITUDE, THERE WILL ALSO BE OPPORTUNITIES TO SCHEDULE CONCURRENT OPERATIONS IN THE SAME TIMEFRAME TO REDUCE THE OVERALL DURATION OF EXPOSURE, WITH POTENTIALLY MINIMAL INCREASE IN INTENSITY.

EDUCATION OF STAFF

THE PROJECT STAFF WILL BE EDUCATED ON THE NOISE SENSITIVE RECEPTORS. THIS WILL INCLUDE NOT ONLY THEIR LOCATION, BUT ALSO THE TYPE (RESIDENT, SCHOOL, BUSINESS, ETC.), HOURS OF OPERATION AND ANY PRIOR CONCERNS COMMUNICATED.

COMMUNICATION PLAN

AS PART OF THE PROJECT'S OVERALL COMMUNICATION PLAN, THERE WILL BE A PROTOCOL ESTABLISHED TO NOTIFY THE PUBLIC, RECEIVE CONCERNS/COMPLAINTS AND PROVIDE RESPONSES AND/OR RESOLUTIONS. IT WILL CLEARLY PROVIDE CONTACT INFORMATION TO SUBMIT ELECTRONICALLY OR VIA PHONE. ALL NOISE RELATED COMPLAINTS WILL BE INVESTIGATED BY PROJECT PERSONNEL.

THE CITY OF CLEVELAND DEPARTMENT OF PUBLIC SAFETY APPROVED THE CONSTRUCTION NOISE VARIANCE REQUEST SUBMITTED FOR THIS PROJECT WITH THE FOLLOWING CONDITIONS:

THE WORK WILL BE PERFORMED AT THE APPROVED LOCATION (THE I-90/I-77 CENTRAL INTERCHANGE) ONLY AND WITHIN THE SPECIFIED TIME FRAME (APRIL 2026 THROUGH JUNE 2032) OUTLINED.

THE CITY OF CLEVELAND DEPARTMENT OF PUBLIC SAFETY AND COUNCILPERSON FOR THE RESPECTIVE WARDS SHALL BE NOTIFIED AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY CHANGES RELATIVE TO THE DATES AND HOURS OF OPERATIONS AS REFERENCED IN THE APPROVAL LETTER.

THE CITY OF CLEVELAND DEPARTMENT OF PUBLIC SAFETY AND COUNCILPERSON FOR THE RESPECTIVE WARDS SHALL BE NOTIFIED AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF THE USE OF HEAVY EQUIPMENT OTHER THAN THOSE MENTIONED IN THE APPROVAL LETTER.

THE CITY OF CLEVELAND DEPARTMENT OF PUBLIC SAFETY AND COUNCILPERSON FOR THE RESPECTIVE WARDS SHALL RECEIVE A SEVENTY-TWO (72) HOUR NOTICE ON THE SPECIFIC DATES/TIMES THIS PROJECT WILL BEGIN OUTSIDE.

ASBESTOS ABATEMENT BRIDGE DEMOLITION

A LICENSED ASBESTOS HAZARD EVALUATION SPECIALIST INSPECTED THE BRIDGE STRUCTURES SCHEDULED FOR DEMOLITION; THE ASBESTOS INSPECTION DETERMINED THAT ASBESTOS IS PRESENT AND REQUIRES ABATEMENT ON THE BRIDGE STRUCTURES LISTED BELOW. NO ASBESTOS WAS IDENTIFIED ON CEDAR AVENUE (CUY-90-1681 | SFN 1807862).

- CARNEGIE AVENUE (CUY-90-1692 | SFN 1807897)
- E. 22ND STREET (CUY-90-1676 | SFN 1807838)
- E5 (CUY-90-1640 | SFN 1807773)
- E6 (CUY-77-1593 | SFN 1806939)
- E7 (CUY-77-1597L | SFN 1807919)
- E8 (CUY-90-1651L | SFN 1807900)
- E9 (CUY-90-1651R | SFN 1807803)
- E10 (CUY-77-1575 SN | SFN 1806912)

THE DISTRICT ENVIRONMENTAL COORDINATOR OR PROJECT ENGINEER SHALL MAKE THE ASBESTOS INSPECTION REPORT AVAILABLE TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING AND THEY SHALL SUBMIT THE NOTIFICATION OF DEMOLITION & RENOVATION FORM AND APPLICABLE FEES 10 DAYS PRIOR TO CONSTRUCTION, WHICH CONTAINS THE QUANTITIES AND LOCATIONS OF THE ASBESTOS CONTAINING MATERIALS.

THE CONTRACTOR SHALL ENSURE THAT THE ABATEMENT, TRANSPORT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIAL IS CONDUCTED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS. THE CONTRACTOR SHALL ENSURE THAT ALL DOCUMENTATION RELATED TO THE ABATEMENT, TRANSPORT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS IS SUBMITTED TO THE PROJECT ENGINEER OR DISTRICT ENVIRONMENTAL COORDINATOR FOR RECORD KEEPING WITHIN 2 WEEKS OF COMPLETION.

IT IS POSSIBLE THAT THERE MAY BE NON-VISIBLE OR PREVIOUSLY UNIDENTIFIED ACM ENCOUNTERED DURING CONSTRUCTION. ANY MATERIAL SUSPECTED OF CONTAINING ASBESTOS SHALL BE EVALUATED BY A CERTIFIED ASBESTOS EVALUATION SPECIALIST TO DETERMINE WHETHER THE MATERIAL ACTUALLY CONTAINS ASBESTOS. IF IT DOES, THEN THE ACM SHALL BE REMOVED AS DESCRIBED ABOVE.

BASIS OF PAYMENT

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY ABATE, TRANSPORT, AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN A LANDFILL LICENSED BY THE LOCAL HEALTH DEPARTMENT AND PERMITTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF AIR POLLUTION CONTROL TO ACCEPT ASBESTOS CONTAINING MATERIAL. PAYMENT FOR THIS WORK SHALL BE MADE AT THE BID PRICE OF LUMP SUM.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

- ITEM SPECIAL - WORK INVOLVING ASBESTOS CONTAINING MATERIALS (CARNEGIE AVENUE, CUY-90-1692, SFN 1807897) LS**
- ITEM SPECIAL - WORK INVOLVING ASBESTOS CONTAINING MATERIALS (E. 22ND STREET, CUY-90-1676, SFN 1807838) LS**
- ITEM SPECIAL - WORK INVOLVING ASBESTOS CONTAINING MATERIALS (E5, CUY-90-1640, SFN 1807773) LS**
- ITEM SPECIAL - WORK INVOLVING ASBESTOS CONTAINING MATERIALS (E6, CUY-77-1593, SFN 1806939) LS**
- ITEM SPECIAL - WORK INVOLVING ASBESTOS CONTAINING MATERIALS (E7, CUY-77-1597L, SFN 1807919) LS**
- ITEM SPECIAL - WORK INVOLVING ASBESTOS CONTAINING MATERIALS (E8, CUY-90-1651L, SFN 1807900) LS**
- ITEM SPECIAL - WORK INVOLVING ASBESTOS CONTAINING MATERIALS (E9, CUY-90-1651R, SFN 1807803) LS**
- ITEM SPECIAL - WORK INVOLVING ASBESTOS CONTAINING MATERIALS (E10, CUY-77-1575 SN, SFN 1806912) LS**

DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER
JTH
REVIEWER
KGJ 05/10/24
PROJECT ID
82382
SHEET
77
TOTAL
2696

ENVIRONMENTAL (CONT.)

EROSION CONTROL COMPLIANCE

THE CONTRACTOR IS REQUIRED TO FOLLOW BEST MANAGEMENT PRACTICES FOR TEMPORARY SEDIMENT AND EROSION CONTROL DURING CONSTRUCTION IN ACCORDANCE WITH ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND APPLICABLE SUPPLEMENTAL SPECIFICATIONS (SS). IN ADDITION TO THE CURRENT CMS, SS, PLAN NOTES AND SWPPP STIPULATIONS, THE REGULATIONS AND CONDITIONS OF THE NPDES PERMIT WILL REQUIRE CONTRACTOR'S FULL COMPLIANCE.

HISTORIC ARCHITECTURE SITES / SECTION 4(F) / SECTION 106 CONSULTATION

BASED UPON COORDINATION WITH THE OHIO HISTORIC PRESERVATION OFFICE, THE FOLLOWING COMMITMENTS ARE KNOWN FOR THE FOLLOWING PROPERTIES WHERE THERE IS "NO ADVERSE EFFECT":

WALKER WEEKS BUILDING - NO ADVERSE EFFECT, NO USE - MAINTAIN DESIGN TO NOT PERMANENTLY INCORPORATE PROPERTY WITHIN PROJECT; TEMPORARY RIGHT-OF-WAY FOR THE CONSTRUCTION OF RETAINING WALL AND SIDEWALKS.

PETROLEUM CONTAMINATED SOIL RM-006

ENVIRONMENTAL STUDIES INDICATED THAT PETROLEUM CONTAMINATED SOIL (PCS) MAY BE ENCOUNTERED DURING EXCAVATIONS WITHIN THE PROJECT LIMITS IN PARCEL 331 AT 2350 E. 22ND STREET FROM STA 24+50 TO STA 26+00 LEFT. ENVIRONMENTAL STUDIES ARE AVAILABLE AT ODOT DISTRICT 12. THE CONTRACTOR MUST DETERMINE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT FOR THOSE WHO CONDUCT WORK WITHIN THE LIMITS OF THE PCS.

ALL EXCAVATED PCS THAT CANNOT BE REUSED AS PROJECT FILL PER CMS 203.03(J), SHALL BE MANAGED AND DISPOSED OF AT A LICENSED LANDFILL. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED PCS INTO TRUCKS FOR TRANSPORT AND DISPOSAL. AS AN ALTERNATE, THE ENGINEER MAY PERMIT THE CONTRACTOR TO TEMPORARILY STOCKPILE THE EXCAVATED PCS ON AN IMPERMEABLE MEMBRANE, IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE STOCKPILE SHOULD BE SURROUNDED BY STRAW BALES TO REDUCE RUNOFF. THE CONTRACTOR WILL PROVIDE COMPLETED LOG FORMS AND MANIFESTS FOR TRANSPORT AND DISPOSAL TO THE ENGINEER FOR SIGNATURE. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL TESTING AND FEES THAT THE LANDFILL MAY REQUIRE FOR DISPOSAL.

IF EXCAVATIONS WITHIN THE PCS REQUIRE DEWATERING FOR CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL DEWATER, CONTAINERIZE AND DISPOSE OF WATERS BY METHOD APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS NEEDED TO STORE, TRANSPORT AND DISPOSE OF WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL TESTING AND FEES REQUIRED FOR DISPOSAL. ALL EXCAVATED AREAS SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN ACCORDANCE WITH PROJECT PLANS, APPLICABLE ODOT SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PROPERLY MANAGE, STORE (IF NECESSARY), TEST FOR DISPOSAL, TRANSPORT AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS OR FEES WITHIN THE IDENTIFIED LIMITS. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

ITEM SPECIAL - WORK INVOLVING NON-REGULATED MATERIALS	5 TON
ITEM SPECIAL - WORK INVOLVING PETROLEUM CONTAMINATED SOIL	50 TON
ITEM SPECIAL - WORK INVOLVING NON-REGULATED WATER	5,000 GAL
ITEM SPECIAL - WORK INVOLVING REGULATED WATER	2,000 GAL

PETROLEUM CONTAMINATED SOIL RM-042

ENVIRONMENTAL STUDIES INDICATED THAT PETROLEUM CONTAMINATED SOIL (PCS) MAY BE ENCOUNTERED DURING EXCAVATIONS WITHIN THE PROJECT LIMITS IN PARCEL 303 AT 1802 CENTRAL AVENUE STA 13+25 TO STA 17+27 RIGHT. ENVIRONMENTAL STUDIES ARE AVAILABLE AT ODOT DISTRICT 12. THE CONTRACTOR MUST DETERMINE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT FOR THOSE WHO CONDUCT WORK WITHIN THE LIMITS OF THE PCS.

ALL EXCAVATED PCS THAT CANNOT BE REUSED AS PROJECT FILL PER CMS 203.03(J), SHALL BE MANAGED AND DISPOSED OF AT A LICENSED LANDFILL. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED PCS INTO TRUCKS FOR TRANSPORT AND DISPOSAL. AS AN ALTERNATE, THE ENGINEER MAY PERMIT THE CONTRACTOR TO TEMPORARILY STOCKPILE THE EXCAVATED PCS ON AN IMPERMEABLE MEMBRANE, IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE STOCKPILE SHOULD BE SURROUNDED BY STRAW BALES TO REDUCE RUNOFF. THE CONTRACTOR WILL PROVIDE COMPLETED LOG FORMS AND MANIFESTS FOR TRANSPORT AND DISPOSAL TO THE ENGINEER FOR SIGNATURE. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL TESTING AND FEES THAT THE LANDFILL MAY REQUIRE FOR DISPOSAL.

IF EXCAVATIONS WITHIN THE PCS REQUIRE DEWATERING FOR CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL DEWATER, CONTAINERIZE AND DISPOSE OF WATERS BY METHOD APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS NEEDED TO STORE, TRANSPORT AND DISPOSE OF WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL TESTING AND FEES REQUIRED FOR DISPOSAL. ALL EXCAVATED AREAS SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN ACCORDANCE WITH PROJECT PLANS, APPLICABLE ODOT SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PROPERLY MANAGE, STORE (IF NECESSARY), TEST FOR DISPOSAL, TRANSPORT AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS OR FEES WITHIN THE IDENTIFIED LIMITS. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

ITEM SPECIAL - WORK INVOLVING NON-REGULATED MATERIALS	750 TON
ITEM SPECIAL - WORK INVOLVING PETROLEUM CONTAMINATED SOIL	7,500 TON
ITEM SPECIAL - WORK INVOLVING NON-REGULATED WATER	100,000 GAL
ITEM SPECIAL - WORK INVOLVING REGULATED WATER	40,000 GAL

PUBLIC NOTIFICATIONS

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE CLOSURES, AND ROAD CLOSURES. THE PUBLIC INFORMATION OFFICE WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS VIA MEDIA SOURCES.

ENDANGERED BAT HABITAT REMOVAL

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30.

ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

DRAINAGE

CLEVELAND WPC COORDINATION

THE CONTRACTOR SHOULD NOTIFY THE DIVISION OF WATER POLLUTION CONTROL (WPC) PRIOR TO START OF CONSTRUCTION OF ANY CITY OF CLEVELAND SEWERS. CALL THE ENGINEERING OFFICE AT (216) 664-2756 OR (216) 664-3638 TO COORDINATE THE SEWER WORK.

THE CONTRACTOR IS REQUIRED TO SUBMIT SEWER SHOP DRAWINGS TO WPC PRIOR TO ANY CITY SEWER INSTALLATION. THE DRAWINGS SHOULD INCLUDE THE SEWER PIPES, MANHOLES, CATCH BASINS AND OTHER SEWER APPURTENANCES.

ANY PROPOSED CITY OF CLEVELAND SEWERS SHOULD BE CONSTRUCTED IN ACCORDANCE TO THE PLANS AND SPECIFICATIONS APPROVED BY WPC. ANY DEVIATIONS FROM THE APPROVED PLANS OR SPECIFICATIONS REQUIRE A NEW PLAN SUBMITTAL REFLECTING THE CHANGES. UPON REVIEW OF THE REVISED ITEMS, WPC WILL RE-ISSUE A NEW APPROVAL WITHIN 30 CALENDAR DAYS OF RECEIPT OF THE PLAN OR SPECIFICATION CHANGE SUBMITTAL. IT IS STRICTLY PROHIBITED TO CONSTRUCT ANY CITY OF CLEVELAND SEWERS UNLESS THEY ARE APPROVED BY WPC.

UPON COMPLETION OF ANY CITY OF CLEVELAND SEWER INSTALLATION, THE CONTRACTOR IS REQUIRED TO SUBMIT A HARD COPY AND AN ELECTRONIC COPY OF AS-BUILT PLANS, AND A CCTV COPY OF THE NEW CITY SEWERS. WPC RESERVES THE RIGHT NOT TO APPROVE ANY SEWER THAT DOES NOT MEET THE CITY REQUIREMENTS.

ALL DISTURBED/DAMAGED SEWER CONNECTIONS SHOULD BE REPAIRED ACCORDING TO THE FOLLOWING CITY STANDARDS:

- USE VCP FOR ALL REPAIRED/RELOCATED SEWER CONNECTIONS.
- ALL REPAIRED/RELOCATED SEWER CONNECTIONS SHOULD BE LAID AT NO LESS THAN 1% GRADE.
- THE MINIMUM SIZE FOR A SEWER CONNECTION SHOULD BE 6".
- A MINIMUM COVER OF 3 FT IS REQUIRED FOR ALL PROPOSED SEWER CONNECTIONS.
- NO HORIZONTAL BENDS ARE ALLOWED FOR SEWER CONNECTIONS.
- USE A VCP WYE OR TEE FOR SEWER CONNECTIONS THAT TIE TO A VCP MAIN SEWER.
- USE A SADDLE FOR SEWER CONNECTIONS THAT TIE TO A BRICK OR RCP MAIN SEWER.
- IT IS PROHIBITED TO TIE THE SEWER CONNECTION TO THE BOTTOM, OR NEAR THE BOTTOM, OF THE CITY MAIN SEWER.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN EXISTING CONDUIT WITH THE SPECIFIED DIAMETER AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, NOTIFY THE ENGINEER BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, NOTIFY THE ENGINEER BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

ITEM 611 - CONDUIT BORED OR JACKED

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 30 FEET TO THE EDGE OF PAVEMENT ^{IF NOT BEHIND}  PORTABLE BARRIER. PROVIDE A STEEL CASING PIPE CONFORMING TO 748.06. JOINTS WITH A CIRCUMFERENCIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER OR MACHINED INTERLOCKING JOINTS ARE PERMITTED. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

REVIEW OF DRAINAGE FACILITIES

PRIOR TO THE START OF EACH PHASE OF WORK AND AGAIN BEFORE FINAL ACCEPTANCE, PERFORM AN INSPECTION WITH REPRESENTATIVES OF THE DEPARTMENT, CONTRACTOR AND LOCALS OF ALL EXISTING DRAINAGE FACILITIES THAT ARE TO REMAIN IN SERVICE WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES IS DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION ARE MAINTAINED BY THE DEPARTMENT.

CONFIRM ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES ARE MAINTAINED AND LEFT IN A CONDITION COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THEIR OPERATIONS AS DIRECTED AND APPROVED BY THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED

CAREFULLY REMOVE AND STORE ALL CASTINGS WITHIN CITY OF CLEVELAND RIGHT OF WAY FOR SALVAGE BY CITY OF CLEVELAND DIVISION OF WATER POLLUTION CONTROL FORCES.

CAREFULLY REMOVE AND STORE ALL CASTINGS WITHIN ODOT RIGHT OF WAY FOR SALVAGE BY ODOT FORCES.

PAYMENT FOR ALL OF THE ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	JTH
REVIEWER	KGJ 05/10/24
PROJECT ID	82382
SHEET	TOTAL
78	2696

DRAINAGE (CONT.)

ITEM SPECIAL - MISCELLANEOUS METAL
 EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL - MISCELLANEOUS METAL 10,000 LB

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED ON THE MOT PLANS AND CARRIED TO THE GENERAL SUMMARY.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

MANUFACTURED WATER QUALITY STRUCTURE

THIS PLAN UTILIZES MANUFACTURED WATER QUALITY STRUCTURES FOR WATER QUALITY TREATMENT. AREAS HAVE BEEN SHOWN IN THE PLANS FOR PLACEMENT OF AN OFF-LINE SYSTEM. PAYMENT FOR THESE DEVICES SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 895, MANUFACTURED WATER QUALITY STRUCTURE, TYPE 4.

EXTENDED DETENTION BASIN

THIS PLAN UTILIZES EXTENDED DETENTION BASIN(S) FOR FLOW RESTRICTION. DETENTION BASINS MAY BE USED AS SEDIMENT CONTROL DEVICES DURING CONSTRUCTION. FOLLOWING STABILIZATION OF THE TRIBUTARY AREA, FINAL GRADING OF THE DETENTION BASIN MUST MATCH THE PLANS. THE DETENTION BASIN OUTLET STRUCTURE FOR CONSTRUCTION SEDIMENT CONTROL MUST BE REMOVED AND THE OUTLET STRUCTURE MUST BE MADE TO MATCH THE DESIGN SHOWN IN THE PLANS.

SURFACE DRAINAGE CONTINGENCY

EVERY EFFORT HAS BEEN MADE TO PROVIDE FOR ADEQUATE CURB INLETS AND PIPE TO PROPERLY ACCOUNT FOR THE SURFACE DRAINAGE. IN THE EVENT THAT ISOLATED LOW AREAS DEVELOP DURING CONSTRUCTION OF THE PROJECT, THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED TO BE USED AS DIRECTED BY THE ENGINEER:

- ITEM 611 - 12" CONDUIT, TYPE B, AS PER PLAN 2, 706.08 & 706.12 2,000 FT**
- ITEM 611 - 15" CONDUIT, TYPE B, AS PER PLAN 2, 706.08 & 706.12 200 FT**
- ITEM 611 - CATCH BASIN, NO. 2-2B, AS PER PLAN 4 EACH**
- ITEM 611 - CATCH BASIN, NO. 3A, AS PER PLAN 4 EACH**
- ITEM 611 - MANHOLE, NO. 3, AS PER PLAN 4 EACH**

PAVEMENT

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, PROVIDE CONTRACTION JOINTS IN THE NEW CONCRETE TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE ARE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2, IF NECESSARY, ADDITIONAL JOINTS MAY BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1. CONSTRUCT LONGITUDINAL JOINTS PER CMS 401.08(D).

MEDIAN AND/OR CURBING ON APPROACH SLABS

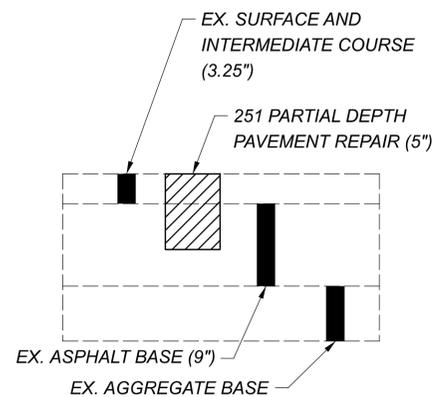
WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442)

THE PLANS CALL FOR RESURFACING THE I.R. 90 PAVEMENT BETWEEN THE INNERBELT BRIDGES AND THE ONTARIO STREET BRIDGES AND BETWEEN THE ONTARIO STREET BRIDGES AND THE EAST 9TH STREET BRIDGES. QUANTITIES HAVE BEEN PROVIDED IN THE PAVEMENT SUBSUMMARY FOR THIS WORK.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER TO REPAIR ANY PAVEMENT DEFICIENCIES IN THESE AREAS. SEE DETAIL BELOW FOR A TYPICAL PAVEMENT BUILDUP. THE QUANTITY IS BASED ON AN ASSUMED DEPTH OF FIVE (5) INCHES. FINAL DEPTH IS TO BE DETERMINED BY THE ENGINEER.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442) 180 CY



SEE FULL DETAIL ON SHEET 1432A

- ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN A**
- ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN B**

THIS ITEM SHALL CONSIST OF REPLACING EXISTING PAVEMENT PER ITEM 255 AND THE NOTES BELOW AND DETAILS ON SHEET 1432A.

EXISTING CONCRETE PAVEMENT THICKNESS MAY VARY FROM THAT SHOWN ON THE TYPICAL SECTIONS BY PLUS TWO INCHES OR MINUS ONE INCH. NO ADJUSTMENT IN PAYMENT FOR THIS ITEM SHALL BE MADE PROVIDING THAT THE AVERAGE PAVEMENT THICKNESS IS WITHIN ONE INCH OF THE THICKNESS SHOWN ON THE TYPICAL SECTIONS. ADDITIONAL COMPENSATION SHALL BE MADE BY CHANGE ORDER FOR THE MATERIAL COST OF CONCRETE ONLY WHEN THE AVERAGE THICKNESS EXCEEDS THE ONE INCH MAXIMUM TOLERANCE ABOVE. THE VOLUME OF CONCRETE PAID FOR SHALL BE BASED UPON THE AMOUNT OF CONCRETE ADDITIONAL ABOVE THE ONE INCH TOLERANCE LIMIT.

THE CONTRACTOR SHALL SAW THROUGH THE REMAINING ASPHALT OVERLAY AFTER THE PAVEMENT PLANING OPERATION. THE CONTRACTOR SHALL REMOVE THE EXISTING OVERLAY AND RIGID PAVEMENT WITH CARE SO AS TO NOT DISTURB THE ADJACENT REMAINING CONCRETE PAVEMENT AND OVERLAY.

IF, AFTER REMOVAL OF THE RIGID PAVEMENT THE ENGINEER DETERMINES THAT THE SUBBASE OR SUBGRADE HAS FAILED OR IS PUMPING, THE ENGINEER WILL DIRECT THE CONTRACTOR TO EXCAVATE THE UNSUITABLE MATERIAL AND REPLACE IT WITH COMPACTED 304 AGGREGATE. QUANTITIES OF ITEM 203 - EXCAVATION AND ITEM 304 - AGGREGATE BASE HAVE BEEN PROVIDED TO REPAIR SAID FAILED SUBBASE OR SUBGRADE AREAS.

PAVEMENT REPAIR LESS THAN OR EQUAL TO TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN, A". PAVEMENT REPAIRS GREATER THAN TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN B".

ITEM	UNIT	DESCRIPTION
255	SY	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN A
255	SY	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN B
255	FT	FULL DEPTH PAVEMENT SAWING
203	CY	EXCAVATION
304	CY	AGGREGATE BASE

FOR ESTIMATED QUANTITIES, SEE SHEET 167

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN C

ALL REQUIREMENTS OF C&MS 255 SHALL APPLY EXCEPT THE DOWEL BARS, DEFORMED BARS, AND TIEBARS SHALL BE INSTALLED PER THE DETAILS SHOWN ON CITY OF CLEVELAND SCD CONC 1.

IN ADDITION TO THE REQUIREMENTS ABOVE, APPLY THE OTHER REQUIREMENTS FOR ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN A AND B.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442), AS PER PLAN

THIS ITEM IS INTENDED FOR USE AS DIRECTED BY THE ENGINEER FOR PARTIAL DEPTH PAVEMENT REPAIRS TO CITY STREETS. QUANTITIES WERE DEVELOPED BASED ON AN ASSUMED DEPTH OF THREE (3) INCHES. FINAL DEPTH IS TO BE DETERMINED BY THE ENGINEER.

PAVEMENT REPAIRS SHALL BE COMPLETED USING THE FOLLOWING ITEMS:
 ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M
 ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)

- ITEM 305 - 9" CONCRETE BASE, CLASS QC 1P, AS PER PLAN**
- ITEM 451 - 12" REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN**
- ITEM 452 - 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN**

ALL REQUIREMENTS OF C&MS 305, 451, AND 452 SHALL APPLY EXCEPT THE DOWEL BARS, DEFORMED BARS, AND TIEBARS SHALL BE INSTALLED PER THE DETAILS SHOWN ON CITY OF CLEVELAND SCD CONC 1.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M

THE COARSE VIRGIN AGGREGATE FOR THIS ITEM SHALL CONSIST OF A BLEND OF 60% MIN. AIR COOLED BLAST FURNACE SLAG (ACBFS) OR TRAP ROCK FROM ONTARIO WITH LIMESTONE COMPRISING THE REMAINING PERCENTAGE.

ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), AS PER PLAN, PG64-22

PAVING BETWEEN THE MEDIAN BARRIERS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN FROM THE HIGH SIDE BARRIER TO LOW SIDE BARRIER.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG76-22M

THE COARSE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO A BLEND OF AIR COOLED BLAST FURNACE SLAG (ACBFS) OR TRAP ROCK FROM ONTARIO AND LIMESTONE. THE CONTRACTOR SHALL USE A MINIMUM 60% OF ACBFS OR TRAP ROCK FROM ONTARIO WITH LIMESTONE COMPRISING THE REMAINING PERCENTAGE. AT LEAST 50% OF FINE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO ACBFS OR TRAP ROCK FROM ONTARIO.

TABLE 442.02-2 APPLIES EXCEPT NO. 4 SIEVE REQUIREMENTS ARE 52 TO 60 TOTAL PERCENT PASSING. FOR THE NO. 4 SIEVE DO NOT EXCEED 63 IN PRODUCTION.

WHEN ACBFS IS USED FOR A FRACTION OF THE COARSE AGGREGATE, PROVIDE A TOTAL ASPHALT BINDER CONTENT GREATER THAN OR EQUAL TO 6.2 PERCENT. IF ACBFS MAKES UP 100% OF THE COARSE AGGREGATE, APPLY THE BINDER CONTENT REQUIREMENTS OF C&MS 442.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE B

THIS ITEM SHALL MEET ALL THE SPECIFICATIONS OF ITEM 451. SEE SCD AS-2-15 AND SCD BP-2.4 FOR DETAILS.

CITY STREET CONTINGENCY

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDE FOR USED AS DIRECTED BY THE ENGINEER FOR ANY UNANTICIPATED WORK ALONG CITY STREETS:

ITEM 452 - 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	775 SY
ITEM 608 - 6" CONCRETE WALK, AS PER PLAN	4,500 SF
ITEM 608 - CURB RAMP, AS PER PLAN	475 SF
ITEM 609 - CURB, TYPE 6	750 FT

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	JTH
REVIEWER	KGJ 05/10/24
PROJECT ID	82382
SHEET	TOTAL
80	2696

INCIDENTALS

ITEM 619 - FIELD OFFICE, TYPE C, AS PER PLAN

ALL REQUIREMENTS OF C&MS 619 SHALL APPLY EXCEPT AS MODIFIED HEREIN:

THE FIELD OFFICE SHALL BE A SUITE TYPE OFFICE (NO TRAILER OR MODULAR OFFICE) WITH A MINIMUM OF 4,000 SQUARE FEET AT GROUND LEVEL WITH A MINIMUM CEILING HEIGHT OF EIGHT (8) FEET. PROVIDE TWO (2) OUTSIDE DOORS, LOCKABLE VANDAL-PROOF CYLINDER-TYPE DEADBOLTS, AND LOCKABLE WINDOWS. THE FLOOR SPACE WILL BE DIVIDED INTO TWO (2) RESTROOMS, ONE (1) GENERAL OFFICE AREA (MINIMUM 400 SQUARE FEET), NOT LESS THAN SEVEN (7) INDIVIDUAL OFFICES (MINIMUM 300 SQUARE FEET EACH) AS SEPARATE ENCLOSED ROOMS (NO CUBICLE DIVIDERS WILL BE ACCEPTED), ONE (1) KITCHEN SPACE INCLUDING SINK, REFRIGERATOR, AND MICROWAVE, AND ONE (1) CONFERENCE ROOM (MINIMUM 1000 SQUARE FEET).

FURNISH NEAT, SANITARY, ENCLOSED TOILET ACCOMMODATIONS CONNECTED TO AN EXISTING SANITARY SEWER LINE FOR THE USE OF THE OCCUPANTS OF THE FIELD OFFICE, MEETING APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. FURNISH ASSOCIATED LAVATORY AND SANITARY SUPPLIES. POTABLE HOT AND COLD RUNNING WATER WILL BE PROVIDED IN THE RESTROOM FOR SANITARY PURPOSES.

FURNISH TRASH COLLECTION SERVICE/DUMPSTER.

FURNISH A PROFESSIONAL, BONDED, AND INSURED JANITORIAL SERVICE WITH A WEEKLY CLEANING OF THE ENTIRE OFFICE TO INCLUDE THE RESTROOM FACILITIES FOR THE DURATION OF THE PROJECT.

FURNISH BOTTLED DRINKING WATER SERVICES WITH A HOT AND COLD DISPENSER AND ASSOCIATED SUPPLIES.

FURNISH A BOX FOR STORING A NUCLEAR DENSITY GAUGE WITH REQUIREMENTS AS SET FORTH IN C&MS 619.02.

FURNISH AND MAINTAIN A BROADBAND INTERNET CONNECTION CAPABLE OF MINIMUM DOWNLOAD SPEEDS OF 1.0 GB/S. PROVIDE A WIRELESS ROUTER THAT SUPPORTS WI-FI STANDARD 802.11AX (WIFI 6) AND A MINIMUM WIRELESS DATA TRANSFER RATE OF 4000 MB/S. PROVIDE PRE-WIRED ETHERNET ACCESS FOR ALL INDIVIDUAL OFFICES AND THE CONFERENCE ROOM.

FURNISH TEN (10) DESK AND CHAIR SETS, THIRTY (30) STACKABLE CHAIRS, TWENTY (20) WORK TABLES (30" X 72") AND TWELVE (12) 24-QUART WASTE BASKETS WITH APPROPRIATELY SIZED TRASH BAGS.

FURNISH AND INSTALL TWO (2) WALL-MOUNTED 8' X 4' GLASS, MAGNETIC DRY ERASE BOARDS.

FURNISH ONE (1) NEW TELEVISION WITH THE FOLLOWING SPECIFICATIONS:

- A) DIAGONAL SCREEN SIZE: 70" MINIMUM
- B) NATIVE RESOLUTION: 4K
- C) HDMI PORTS: 3
- D) ALL ACCESSORIES NECESSARY TO OPERATE
- E) ALL HARDWARE AND INSTALLATION NECESSARY TO HANG THE TELEVISION ON THE WALL IN THE CONFERENCE ROOM.

THE FIELD OFFICE WILL BE APPROVED IN ADVANCE BY THE ENGINEER AND FULLY OPERATIONAL WITHIN THIRTY (30) DAYS AFTER THE SIGNING AND EXECUTION OF THE PROJECT OR PRIOR TO THE START OF ANY CONSTRUCTION WORK, WHICHEVER COMES FIRST.

THE DEPARTMENT WILL MEASURE FIELD OFFICE, TYPE C, AS PER PLAN BY THE NUMBER OF MONTHS THE OFFICE IS MAINTAINED. A PARTIAL MONTH AT THE END OF THE PROJECT WILL BE PAID AS A FULL MONTH. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE PER MONTH OF ITEM 619 - FIELD OFFICE, TYPE C, AS PER PLAN.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK:

ITEM 619 - FIELD OFFICE, TYPE C, AS PER PLAN 72 MNTH

STRUCTURES ADJUSTED TO GRADE, RECONSTRUCTED TO GRADE OR REPLACED, AS PER PLAN

ALL ADJUSTMENT, RECONSTRUCTION OR REPLACED WORK, EXCEPT FOR THOSE STRUCTURES OWNED BY PRIVATE COMPANIES, SHALL BE PERFORMED BY THE CONTRACTOR, WHERE APPLICABLE. THE TIME BETWEEN RESETTING THE CASTINGS AND RESURFACING SHALL BE KEPT TO AN ABSOLUTE MINIMUM.

ALL EXISTING CASTINGS FOR STRUCTURES TO BE ADJUSTED OR RECONSTRUCTED TO GRADE SHALL BE FIELD CHECKED AT THE TIME OF CONSTRUCTION AND MARKED SUITABLE FOR SALVAGE AND REUSE OR REPLACED AS DIRECTED BY THE ENGINEER. UNLESS OTHERWISE INDICATED ON THE PLAN. REPLACEMENT CASTINGS ARE PAID UNDER ITEM SPECIAL - MISCELLANEOUS METAL.

ADDITIONALLY, WHILE ADJUSTING OR RECONSTRUCTING DRAINAGE MANHOLES TO GRADE THE CONTRACTOR SHALL ROTATE ALL CASTING AWAY FROM CONFLICTS WITH THE PROPOSED CURBS.

ANY SUCH WORK MADE NECESSARY DUE TO THE CONTRACTOR'S NEGLIGENT OPERATIONS, AS DETERMINED BY THE ENGINEER, SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

SPECIAL - MANHOLE ADJUSTED TO GRADE (BY OTHERS)

PRIVATE UTILITY MANHOLES TO BE ADJUSTED BY OTHERS. CONTRACTOR SHALL PROVIDE UTILITIES A MINIMUM 30-DAY NOTICE FOR STRUCTURE ADJUSTED TO GRADE UNLESS OTHERWISE NOTED IN THE PLANS OR CONTRACT DOCUMENTS. ATG LOCATIONS ARE INCLUDED IN THE PLANS FOR REFERENCE.

NO PAYMENT IS ASSOCIATED WITH THIS ITEM.



DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER
JTH

REVIEWER
KGJ 05/10/24

PROJECT ID
82382

SHEET	TOTAL
80A	2696

MAINTENANCE OF TRAFFIC GENERAL NOTES (CONTINUED)

I.R. 90 WEEKEND CLOSURES

CLOSURES OF I.R. 90 WILL BE PERMITTED FOR THE FOLLOWING OPERATIONS:

A. DURING PHASE 1 FOR THE DEMOLITION OF THE FOLLOWING BRIDGES:

- EX. E. 22ND ST. BRIDGE OVER I.R. 90
- EX. CEDAR AVE. BRIDGE OVER I.R. 90

B. DURING PHASE 2 FOR ERECTING STRUCTURAL STEEL FOR THE FOLLOWING BRIDGE:

- BRIDGE 13 (E. 22ND ST. BRIDGE OVER I.R. 90)

C. DURING PHASE 2 FOR THE DEMOLITION OF THE FOLLOWING BRIDGE:

- EX. CARNEGIE AVE. BRIDGE OVER I.R. 90

D. DURING PHASE 4 FOR ERECTING STRUCTURAL STEEL FOR THE FOLLOWING BRIDGE:

- BRIDGE 9 (I.R. 90 WB TO I.R. 77 SB INTERCHANGE RAMP)

E. DURING PHASE 7 FOR ERECTING STRUCTURAL STEEL FOR THE FOLLOWING BRIDGE:

- BRIDGE 14 (CARNEGIE AVE. BRIDGE OVER I.R. 90)

WEEKEND CLOSURES OF I.R. 90 SHALL BE PERMITTED FROM 8:00PM FRIDAY UNTIL 6:00AM MONDAY. A DISINCENTIVE WILL BE APPLIED PER PN127 FOR CLOSURES IN PLACE OUTSIDE OF THIS PERMITTED TIMEFRAME.

A MAXIMUM OF 20 WEEKEND CLOSURES ARE PERMITTED OVER THE LIFE OF THE PROJECT. THE ANTICIPATED NUMBER OF WEEKENDS NEEDED PER PHASE ARE SUMMARIZED IN THE SUPPLEMENTAL CLOSURE CHART.

CLOSURES ARE TO BE IMPLEMENTED WITH ASSISTANCE OF LAW ENFORCEMENT, PORTABLE CHANGEABLE MESSAGE SIGNS, QUEUE DETECTION, AND PUBLIC INFORMATION CAMPAIGNS. CLOSURES OF I.R. 90 SHALL NOT BE PERMITTED WHEN SPECIAL EVENTS THAT HAVE A SEATING CAPACITY OF 10,000 OR MORE ARE SCHEDULED IN THE DOWNTOWN CLEVELAND AREA.

THE CONTRACTOR SHALL COORDINATE ALL INTERSTATE CLOSURES WITH ODOT AND PROVIDE NOTIFICATION TO ALL ENTITIES LISTED IN THE "NOTIFICATIONS" NOTE. ALL INTERSTATE CLOSURES WILL REQUIRE A MINIMUM NOTICE OF 14-CALENDAR DAYS AND ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.

PHASE	DIRECTION OF CLOSURE	BRIDGE NO.	BRIDGE NAME	CONSTRUCTION ACTIVITY	NUMBER OF OCCURANCES
1	EB	E11, E12	E. 22ND ST. & CEDAR AVE.	DEMOLITION	2
1	WB	E11, E12	E. 22ND ST. & CEDAR AVE.	DEMOLITION	2
2	EB & WB	13	E. 22ND ST.	ERECT STRUCTURAL STEEL	4
2	WB	E13	CARNEGIE AVE.	DEMOLITION	2
2	EB	E13	CARNEGIE AVE.	DEMOLITION	2
4	EB & WB	9	I.R. 90 WB TO I.R. 77 SB INTERCHANGE RAMP	ERECT STRUCTURAL STEEL	4
7	EB & WB	14	CARNEGIE AVE.	ERECT STRUCTURAL STEEL	4

NOTE 1 DEMOLITION OF E. 22ND ST. AND CEDAR AVE. BRIDGES OVER I.R. 90 TO BE PERFORMED CONCURRENTLY DURING WEEKEND CLOSURES

NOTE 2 CONCURRENT EB & WB CLOSURES ARE LIMITED TO THE NUMBER OF OCCURRENCES SHOWN IN THE TABLE

E. 14TH ST WEEKEND CLOSURES

AFTER CONSTRUCTION OF E. 14TH ST IN PHASE 1, ADDITIONAL CLOSURES OF E. 14TH ST WILL BE PERMITTED FOR THE FOLLOWING OPERATIONS.

- 6 A. DURING PHASE 1, 2, OR 3 FOR ERECTING STRUCTURAL STEEL FOR THE FOLLOWING BRIDGE:
BRIDGE 9 (I.R. 90 WB TO I.R. 77 SB INTERCHANGE RAMP), SPAN 1
- B. DURING PHASE 3 OR 4 FOR ERECTING STRUCTURAL STEEL FOR THE FOLLOWING BRIDGE:
BRIDGE 9 (I.R. 90 WB TO I.R. 77 SB INTERCHANGE RAMP), SPAN 11
- C. DURING PHASE 5 FOR THE DEMOLITION OF THE FOLLOWING BRIDGE:
EX. I.R. 90 WB
- D. DURING PHASE 5 FOR ERECTING STRUCTURAL STEEL FOR THE FOLLOWING BRIDGE:
BRIDGE 10 (I.R. 90 WB)
- E. DURING PHASE 7 FOR THE PARTIAL DEMOLITION OF THE FOLLOWING BRIDGE:
EX. I.R. 90 EB
- F. DURING PHASE 7 FOR ERECTING STRUCTURAL STEEL FOR THE FOLLOWING BRIDGE:
BRIDGE 11 (I.R. 90 EB)
- G. DURING PHASE 8 FOR DEMOLITION OF THE FOLLOWING BRIDGE:
EX. I.R. 90 EB
- H. DURING PHASE 9 FOR ERECTING STRUCTURAL STEEL FOR THE FOLLOWING BRIDGE:
BRIDGE 12 (RAMP B6 BRIDGE OVER E. 14TH ST. AND RAMP H5), SPAN 1

WEEKEND CLOSURES OF E. 14TH ST SHALL BE PERMITTED FROM 8:00PM FRIDAY UNTIL 6:00AM MONDAY. A DISINCENTIVE WILL BE APPLIED PER PN127 FOR CLOSURES IN PLACE OUTSIDE OF THIS PERMITTED TIMEFRAME.

A MAXIMUM OF 16 WEEKEND CLOSURES ARE PERMITTED OVER THE LIFE OF THE PROJECT. THE ANTICIPATED NUMBER OF WEEKENDS NEEDED PER PHASE ARE SUMMARIZED IN THE SUPPLEMENTAL CLOSURE CHART.

PHASE	BRIDGE NO.	BRIDGE NAME	CONSTRUCTION ACTIVITY	NUMBER OF OCCURANCES
1, 2, OR 3	9	I.R. 90 WB TO I.R. 77 SB INTERCHANGE RAMP	ERECT STRUCTURAL STEEL	2
3 OR 4	9	I.R. 90 WB TO I.R. 77 SB INTERCHANGE RAMP	ERECT STRUCTURAL STEEL	2
5	E7	EX. I.R. 90 WB	DEMOLITION	4
5	10	I.R. 90 WB	ERECT STRUCTURAL STEEL	4
7	E8	EX. I.R. 90 EB	DEMOLITION	4
7	11	I.R. 90 EB	ERECT STRUCTURAL STEEL	2
8	E8, E9	EX. I.R. 90 EB	DEMOLITION	2
9	12	RAMP B6 BRIDGE OVER E. 14TH ST. AND RAMP H5	ERECT STRUCTURAL STEEL	2

I.R. 77 NB TO I.R. 90 EB WEEKEND CLOSURES

CLOSURES OF THE I.R. 77 NB TO I.R. 90 EB RAMP WILL BE PERMITTED FOR THE FOLLOWING OPERATIONS:

A. DURING PHASE 9 FOR ERECTING STRUCTURAL STEEL FOR THE FOLLOWING BRIDGE:
BRIDGE 12 (RAMP B6 BRIDGE OVER E. 14TH ST. AND RAMP H5), SPAN 1

WEEKEND CLOSURES OF THE I.R. 77 NB TO I.R. 90 EB RAMP SHALL BE PERMITTED FROM 8:00PM FRIDAY UNTIL 6:00AM MONDAY. A DISINCENTIVE WILL BE APPLIED PER PN127 FOR CLOSURES IN PLACE OUTSIDE OF THIS PERMITTED TIMEFRAME.

A MAXIMUM OF 2 WEEKEND CLOSURES ARE PERMITTED OVER THE LIFE OF THE PROJECT. THE ANTICIPATED NUMBER OF WEEKENDS NEEDED PER PHASE ARE SUMMARIZED IN THE SUPPLEMENTAL CLOSURE CHART.

CLOSURES ARE TO BE IMPLEMENTED WITH ASSISTANCE OF LAW ENFORCEMENT, PORTABLE CHANGEABLE MESSAGE SIGNS, QUEUE DETECTION, AND PUBLIC INFORMATION CAMPAIGNS. CLOSURES OF THE I.R. 77 NB TO I.R. 90 EB RAMP SHALL NOT BE PERMITTED WHEN SPECIAL EVENTS THAT HAVE A SEATING CAPACITY OF 10,000 OR MORE ARE SCHEDULED IN THE DOWNTOWN CLEVELAND AREA.

THE CONTRACTOR SHALL COORDINATE ALL INTERSTATE CLOSURES WITH ODOT AND PROVIDE NOTIFICATION TO ALL ENTITIES LISTED IN THE "NOTIFICATIONS" NOTE. ALL INTERSTATE CLOSURES WILL REQUIRE A MINIMUM NOTICE OF 14-CALENDAR DAYS AND ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.

TRAFFIC SHALL BE DETOURED AS SHOWN ON SHEET 184.

4

MAINTENANCE OF TRAFFIC GENERAL NOTES (CONTINUED)
LANE VALUE CONTRACT WITH PRORATES

THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES AS DESIGNATED IN THE LANE VALUE CONTRACT TABLE FOR EACH UNIT OF TIME THE DESCRIBED CRITICAL LANE/RAMP IS RESTRICTED FROM FULL USE BY THE TRAVELING PUBLIC WITHIN THE RESTRICTED TIME PERIOD. THE LANE VALUE CONTRACT TABLE IS LOCATED BELOW. THE DISINCENTIVES WILL BE ASSESSED FOR ALL RESTRICTIONS OF THE CRITICAL WORK.

CRITICAL WORK IS SHOWN IN THE CRITICAL WORK TABLE.

CRITICAL WORK IS DEFINED AS HAVING THE DESIGNATED SECTIONS OPEN TO UNRESTRICTED TRAFFIC AS SHOWN IN THE TABLE, OR THE ENTIRE PROJECT IF NOT OTHERWISE LISTED.

UNRESTRICTED TRAFFIC IS DEFINED AS ALL TRAFFIC LANES BEING AVAILABLE FOR USE WITH SPECIFIED STRIPING AND SAFETY FEATURES IN PLACE.

DISINCENTIVES WITHIN THE FIRST HOUR AFTER THE LANE VALUE CONTRACT TABLE'S RESTRICTED TIME PERIOD WILL BE PRORATED. THOSE PRORATES WILL BE AS FOLLOWS:

MINUTES AFTER RESTRICTED TIME PERIOD, T*	PRORATE APPLIED TO MAXIMUM DISINCENTIVE, P*
0 - 30	0.25
31-60	0.75
61+	1.00

*THE MAXIMUM DISINCENTIVE IS DETERMINED BY THE LANE VALUE CONTRACT TABLE LOCATED IN THE PLAN GENERAL NOTES. ONLY ONE PRORATE WILL BE APPLIED PER EVENT. FOR ANY CONTRACTOR RESTRICTIONS PRIOR TO THE LANE VALUE CONTRACT TABLE'S RESTRICTED TIME PERIOD, THE CONTRACTOR WILL BE ASSESSED THE MAXIMUM DISINCENTIVES. FOR A SINGLE EVENT, THE TOTAL DISINCENTIVE WILL BE CALCULATED AS SUCH:

$$TD = P \times T \times LV \times L$$

WHERE:

TD = TOTAL DISINCENTIVE, \$
 T = TIME EXCEEDING RESTRICTED TIME PERIOD, MIN
 LV = LANE VALUE MAXIMUM DISINCENTIVE, \$/MIN/LANE
 L = NUMBER OF LANES RESTRICTED, LANE

DISINCENTIVES WILL NOT BE ASSESSED FOR DELAYS OUTSIDE THE CONTRACTOR'S CONTROL OR RESPONSIBILITY, SUCH AS PRIVATE MOTORIST ACCIDENTS, EQUIPMENT BREAKDOWNS, CIVIL DISTURBANCES, OR ENGINEER-ORDERED REVISIONS TO THE WORK. THE DEPARTMENT RESERVES THE RIGHT TO ASSESS THE MAXIMUM DISINCENTIVE WITHOUT PRORATION IF THERE HAVE BEEN THREE OR MORE EVENTS ON THE PROJECT INCLUDING, BUT NOT LIMITED TO, THREE OR MORE EQUIPMENT BREAKDOWNS OR OTHER INCIDENTS WHICH THE CONTRACTOR'S INACTIONS/ACTIONS CONTRIBUTED TO THE EVENT.

PRIOR TO ASSESSING ANY SINGLE DISINCENTIVE AMOUNT EXCEEDING \$50,000, THE RESTRICTION EVENT AND THE PROPOSED DISINCENTIVE WILL BE EVALUATED BY THE MAINTENANCE OF TRAFFIC EXECUTIVE COMMITTEE (MOTEC) TO CONFIRM APPLICABILITY, CALCULATION, AND JUSTIFICATION OF THE ASSESSMENT.

LANE VALUE CONTRACT TABLE

LOCATION	DIRECTION	LANES	1 LANE CLOSED	2 LANES CLOSED	DISINCENTIVE AMOUNTS PER MINUTE PER LANE
I.R. 90					
I.R. 77 TO INNERBELT CURVE	EB/WB	4	8:00 AM MON TO 2:00 PM MON	7:00 PM MON TO 6:00 AM TUE	\$365
			5:30 PM MON TO 7:00 AM TUE		
			8:00 AM TUE TO 2:00 PM TUE	7:00 PM TUE TO 6:00 AM WED	
			5:30 PM TUE TO 7:00 AM WED		
			8:00 AM WED TO 2:00 PM WED	7:30 PM WED TO 6:00 AM THU	
			5:30 PM WED TO 7:00 AM THU		
			8:00 AM THU TO 2:00 PM THU	7:30 PM THU TO 6:00 AM FRI	
			5:30 PM THU TO 7:00 AM FRI		
			8:00 AM FRI TO 2:00 PM FRI	7:30 PM SAT TO 10:30 AM SUN	
			5:30 PM FRI TO 7:00 AM MON		
I.R. 77					
SR-422 UNDERPASS TO I.R. 90 EB	NB	2	10:00 AM MON TO 2:30 PM MON	NA	\$295
			6:00 PM MON TO 6:00 AM TUE		
			10:00 AM TUE TO 2:30 PM TUE		
			6:00 PM TUE TO 6:00 AM WED		
			10:00 AM WED TO 2:30 PM WED		
			6:00 PM WED TO 6:00 AM THU		
			10:00 AM THU TO 2:30 PM THU		
			6:00 PM THU TO 6:00 AM FRI		
			10:00 AM FRI TO 2:30 PM FRI		
			6:00 PM FRI TO 3:30 PM SAT		
			6:00 PM SAT TO 6:00 AM MON		
			8:30 AM MON TO 1:00 PM MON		
			6:30 PM MON TO 7:00 AM TUE		
			8:30 AM TUE TO 1:00 PM TUE		
6:30 PM TUE TO 7:00 AM WED					
8:30 AM WED TO 1:00 PM WED					
6:30 PM WED TO 7:00 AM THU					
8:30 AM THU TO 1:00 PM THU					
6:30 PM THU TO 7:00 AM FRI					
8:30 AM FRI TO 1:00 PM FRI					
6:30 PM FRI TO 7:00 AM MON					
I.R. 90 WB TO CROTON AVE UNDERPASS	SB	2		NA	\$295

CRITICAL WORK TABLE

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	PHASE	RESTRICTED TIME PERIOD	TIME UNIT	AADT	DISINCENTIVE \$ PER TIME UNIT
I.R. 90 EB & WB (CONCURRENTLY) (BETWEEN E. 22ND ST. AND CARNEGIE AVE.)	2, 4, & 7	WEEKEND CLOSURES (8:00PM FRIDAY UNTIL 6:00AM MONDAY)	PER HOUR	138,000	\$25,100.00
I.R. 90 WB (BETWEEN E. 22ND ST. AND CARNEGIE AVE.)	1, 2, & 7	WEEKEND CLOSURES (8:00PM FRIDAY UNTIL 6:00AM MONDAY)	PER HOUR	71,760	\$13,052.00
I.R. 90 EB (BETWEEN E. 22ND ST. AND CARNEGIE AVE.)	1, 2, & 7	WEEKEND CLOSURES (8:00PM FRIDAY UNTIL 6:00AM MONDAY)	PER HOUR	66,240	\$12,048.00
E. 14TH ST. (BETWEEN COMMUNITY COLLEGE AVE. AND CARNEGIE AVE.)	1	90 DAYS	PER HOUR	17,200	\$625.00
E. 14TH ST. (BETWEEN ORANGE AVE. AND COMMUNITY COLLEGE AVE.)	1	150 DAYS	PER HOUR	17,200	\$625.00
COMMUNITY COLLEGE AVE. (BETWEEN E. 14TH ST. AND E. 22ND ST.)	1	90 DAYS	PER HOUR	17,200	\$625.00
I.R. 77 NB TO E. 14TH ST. / E. 22ND ST. EXIT RAMP (EXIT RAMP 162B)	1	150 DAYS	PER HOUR	5,215	\$315.00
E. 22ND ST. (BETWEEN CARNEGIE AVE. AND CENTRAL AVE.)	1 & 2	365 DAYS	PER HOUR	13,400	\$732.00
CEDAR AVE. (BETWEEN E. 28TH ST. AND E. 22ND ST.)	1 & 2	365 DAYS	PER HOUR	8,300	\$732.00
I.R. 90 EB TO E. 9TH ST. EXIT RAMP (EXIT RAMP 172A)	2	120 DAYS	PER HOUR	10,357	\$188.00
CARNEGIE AVE. (BETWEEN E. 22ND ST. AND E. 28TH ST.)	2 - 8	1,200 DAYS	PER HOUR	25,700	\$535.00
PROSPECT AVE. TO I.R. 90 EB RAMP	3 - 8	1,200 DAYS	PER HOUR	3,392	\$68.00
PROSPECT AVE. TO I.R. 90 WB ENTRANCE RAMP	3 - 8	1,200 DAYS	PER HOUR	7,308	\$291.00
E. 21ST ST. TO I.R. 77 SB ENTRANCE RAMP	3 & 4	420 DAYS	PER HOUR	5,600	\$606.00
I.R. 90 EB (BETWEEN E. 9TH ST. AND E. 14TH ST.)	1, 2, & 7	WEEKEND CLOSURES (8:00PM FRIDAY UNTIL 6:00AM MONDAY)	PER HOUR	66,240	\$1,500.00
I.R. 90 WB (BETWEEN E. 9TH ST. AND E. 14TH ST.)	1, 2, & 7	WEEKEND CLOSURES (8:00PM FRIDAY UNTIL 6:00AM MONDAY)	PER HOUR	71,760	\$3,251.00
E. 14TH ST. (BETWEEN COMMUNITY COLLEGE AVE. AND CARNEGIE AVE.)	4, 5, 7, & 8	WEEKEND CLOSURES (8:00PM FRIDAY UNTIL 6:00AM MONDAY)	PER HOUR	17,200	\$625.00
I.R. 77 NB TO E. 22ND ST. EXIT RAMP (EXIT RAMP 162B)	6	30 DAYS	PER HOUR	3,700	\$57.00
I.R. 90 EB TO E. 9TH ST. NB EXIT RAMP (EXIT RAMP 172A)	8	30 DAYS	PER HOUR	7,600	\$156.00
I.R. 77 NB TO I.R. 90 EB INTERCHANGE RAMP	9	WEEKEND CLOSURES (8:00PM FRIDAY UNTIL 6:00AM MONDAY)	PER HOUR	18,014	\$1000

6

SEQUENCE OF CONSTRUCTION

PRE PHASE 1

6 WORK TO BE COMPLETED THIS PHASE:

- I.R. 77 SIGN TRUSS (STA. 76+50.00 - @ EX. I.R. 77) SEE SHEET 288
- REMOVE PORTIONS OF EXISTING MEDIAN BARRIER AT PR. OVERHEAD SIGN TRUSS LOCATION
- INSTALL PROPOSED SIGN TRUSS FOUNDATIONS AND ADJACENT PR. MEDIAN BARRIER
- INSTALL PROPOSED SIGN TRUSS AND PR. OVERHEAD SIGNS
- REMOVE EXISTING SIGN TRUSS AND EX. OVERHEAD SIGNS
- DEMOLISH EXISTING MEDIAN BARRIER AT EX. OVERHEAD SIGN TRUSS
- INSTALL REMAINDER OF PROPOSED MEDIAN BARRIER

EXISTING OR PROPOSED OVERHEAD SIGNAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AT THIS LOCATION.

WHILE WORK IS ONGOING BUT NO WORKERS ARE PRESENT AND ALL LANES OF TRAFFIC ARE OPEN, POSITION PORTABLE BARRIER 2' OFF OF EXISTING EDGE LINE TO PROTECT WORK AREA. ALL COSTS ASSOCIATED WITH THE WORK DESCRIBED ABOVE SHOULD BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC

- I.R. 77
- CLOSE I.R. 77 NORTHBOUND AND SOUTHBOUND INSIDE LANE PER MT-95.40 DURING OFF PEAK HOURS LISTED IN THE LANE VALUE CONTRACT TABLE ON SHEET 88

PHASE 1

WORK TO BE COMPLETED THIS PHASE PRIOR TO THE E. 22ND ST. AND CEDAR AVE. BRIDGE REMOVALS:

PAVEMENT:

- E. 14TH ST.
- BUILD E. 14TH ST. BETWEEN CARNEGIE AVE. AND COMMUNITY COLLEGE AVE. TEMPORARY CONNECTION. SEE SHEETS 289 TO 291 FOR WORK LIMITS.
- OMIT CONSTRUCTION OF E. 14TH ST. ENTRANCE RAMP TO I.R. 90 AT CARNEGIE AVE. AND SOUTHWEST CORNER OF E. 14TH ST. AND CARNEGIE AVE. INTERSECTION.
- OMIT CONSTRUCTION OF FULL DEPTH PAVEMENT AND CURB ON E. 14TH ST. SOUTHBOUND AND NORTHBOUND PAVEMENT ADJACENT TO EXISTING I.R. 90 BRIDGE OVER E. 14TH ST. PIER.
- BUILD PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AND SIDEWALK CONNECTIONS BETWEEN E. 14TH ST. AND COMMUNITY COLLEGE AVE. SEE SHEETS 289 TO 291 FOR DETAILS.

CARNEGIE AVE.

- BUILD OUTSIDE PAVEMENT WIDENING ON THE SOUTH SIDE BETWEEN E. 14TH ST. AND E. 18TH ST.

BRIDGES:

- BRIDGE 9 (I.R. 90 WESTBOUND TO I.R. 77 SOUTHBOUND INTERCHANGE RAMP)
- BUILD PIER 10

UTILITIES:

- INSTALL 30" WATERLINE ALONG E. 14TH ST. BETWEEN CARNEGIE AVE. AND COMMUNITY COLLEGE AVE.
- TEMPORARILY RELOCATE CPP PRIOR TO REMOVAL OF EX. E. 22ND ST. BRIDGE OVER I.R. 90. SEE SHEET 1783 FOR DETAILS.
- ADDITIONAL UTILITIES ON E. 22ND ST. BRIDGE TO BE RELOCATED BY OTHERS PRIOR TO EX. BRIDGE E 11 DEMO.

SIGNALS:

- INSTALL TEMPORARY SIGNAL AT E. 14TH ST. & COMMUNITY COLLEGE AVE. FOR DETAILS, SEE SHEET 309

WORK TO BE COMPLETED THIS PHASE AFTER COMPLETION OF ABOVE WORK:

PAVEMENT:

- I.R. 77 NORTHBOUND RAMPS
- CONSTRUCT PORTION OF RAMP IH4 DURING AN I.R. 90 WB WEEKEND CLOSURE. CLOSE RIGHT LANE PER MT-95.30. MAINTAIN ACCESS TO E. 14TH ST. SB EXIT RAMP. FOR DETAILS, SEE SHEET

BRIDGES:

- EX. BRIDGE E11 (E. 22ND ST. OVER I.R. 90)
- REMOVE EXISTING BRIDGE DECK AND MEDIAN PIER.

EX. BRIDGE E12 (CEDAR AVE. OVER I.R. 90)

- REMOVE EXISTING BRIDGE DECK AND MEDIAN PIER.

PHASE 1 (CONTINUED)

WORK TO BE COMPLETED PRIOR TO PHASE 2:

- I.R. 77 NORTHBOUND EXIT RAMPS
- BUILD ENTIRE RAMP IH4 FROM I.R. 77 NORTHBOUND TO E. 14TH ST. NORTHBOUND
- BUILD RAMP H5 FROM I.R. 77 NORTHBOUND TO STA. 988+50.00
- BUILD RAMP H6 FROM I.R. 77 NORTHBOUND TO STA. 1187+43.56

E. 14TH ST.

- BUILD E. 14TH ST. PAVEMENT BETWEEN ORANGE AVE. AND COMMUNITY COLLEGE AVE. TEMPORARY CONNECTION.

E. 19TH ST./ CENTRAL AVE.

- BUILD CONNECTION PAVEMENT BETWEEN E. 19TH ST. AND E. 18TH ST. NORTHBOUND STUB, SOUTH OF CARNEGIE AVE. LIMIT DRIVE CONSTRUCTION, PARKING LOT CURB, AND RESTORATION TO TWO WEEKS.

COMMUNITY COLLEGE AVE.

- BUILD PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONNECTIONS BETWEEN COMMUNITY COLLEGE AVE. AND RAMP H6. SEE SHEETS 195 TO 201 FOR DETAILS.

PRIVATE PROPERTIES:

- COMPLETE PARKING LOT RECONFIGURATION FOR 2554 E. 22ND ST. BUILDING.

BRIDGES:

- REMOVE EXISTING BRIDGE E10 (COMMUNITY COLLEGE AVE. BRIDGE OVER E. 14TH ST. NORTHBOUND)

RETAINING WALLS:

- BUILD WALL T
- BUILD WALL AD

UTILITIES:

- INSTALL CURED-IN-PLACE PIPE LINER IN THE WOODLAND AVE. SEWER DURING PHASE 1 PRIOR TO BEGINNING ANY WORK ON WALL T AND BRIDGE 9 (PIER 3) **6**
- INSTALL CURED-IN-PLACE PIPE LINER IN THE CENTRAL AVE. SEWER DURING PHASE 1 PRIOR TO BEGINNING WORK ON THE CENTRAL AVE. CONNECTION TO E. 19TH ST.
- INSTALL 12" WATER ON E. 18TH ST.
- INSTALL 12" WATER ON CENTRAL AVE.
- INSTALL HYDRANT ON E. 19TH ST.

WORK TO BE ONGOING THIS PHASE:

PAVEMENT:

- I.R. 90 WESTBOUND / RAMP A2
- BUILD PORTIONS OF I.R. 90 WESTBOUND PAVEMENT AND LIGHTWEIGHT FILL BETWEEN BRIDGE 10 FORWARD ABUTMENT / BRIDGE 9 FORWARD ABUTMENT AND EXISTING I.R. 77 SOUTHBOUND ENTRANCE RAMP FROM E. 21ST ST.

BRIDGES:

- BRIDGE 9 (I.R. 90 WESTBOUND TO I.R. 77 SOUTHBOUND INTERCHANGE RAMP)
- BUILD PIERS 1, 2, AND 3
- BUILD REAR AND FORWARD ABUTMENTS
- BUILD BRIDGE DECK BETWEEN REAR ABUTMENT AND PIER 3

RETAINING WALLS:

- BUILD WALL N

SIGNALS:

- BEGIN INSTALLING PROPOSED SIGNAL AT CARNEGIE AVE. & E. 14TH ST.
- BEGIN INSTALLING PROPOSED SIGNAL AT CARNEGIE AVE. & E. 18TH ST.

PHASE 1 (CONTINUED)

MAINTENANCE OF TRAFFIC:

- I.R. 77 NORTHBOUND
- CONVERT RIGHT LANE OF I.R. 77 NORTHBOUND INTO EXIT ONLY LANE FOR EXIT RAMP 162A (I.R. 77 NORTHBOUND TO WOODLAND AVE.). MAINTAIN 2 THROUGH LANES ONTO I.R. 77 NORTHBOUND TO I.R. 90 EASTBOUND INTERCHANGE RAMP.

- I.R. 77 NORTHBOUND EXIT RAMP TO COMMUNITY COLLEGE AVE. AND E. 14TH ST. NORTHBOUND
- CLOSE EXIT RAMPS PER MT-98.29 AND MT-101.60. DETOUR TRAFFIC AS SHOWN ON SHEET 154

- I.R. 77 NORTHBOUND EXIT RAMP TO E. 14TH ST. SOUTHBOUND
- REMOVE CURB, COVER CATCH BASINS, AND PLACE TEMPORARY PAVEMENT ALONG E. 14TH ST. SOUTHBOUND PRIOR TO PHASE 1 TO MAINTAIN ONE LANE OF TRAFFIC TO E. 14TH ST. SOUTHBOUND AT ALL TIMES.

E. 14TH ST.

- CLOSE E. 14TH ST. PER MT-101.60 BETWEEN CARNEGIE AVE. AND ORANGE AVE. DETOUR TRAFFIC AS SHOWN ON SHEET 153
- CLOSE SIDEWALK AND DETOUR PEDESTRIAN TRAFFIC PER MT-110.10 AND AS SHOWN ON SHEET 168
- PRIOR TO REMOVAL OF EX. BRIDGE E11, RECONFIGURE PEDESTRIAN DETOUR AS SHOWN ON SHEET 169

E. 22ND ST.

- PRIOR TO THE EX. BRIDGE E11 DEMOLITION, CLOSE E. 22ND ST. PER MT-101.60 BETWEEN CARNEGIE AVE. AND CENTRAL AVE. DETOUR TRAFFIC AS SHOWN ON SHEET 155
- CLOSE SIDEWALK AND DETOUR PEDESTRIAN TRAFFIC PER MT. 110.10 AND AS SHOWN ON SHEET 169

COMMUNITY COLLEGE AVE.

- CLOSE COMMUNITY COLLEGE AVE. PER MT-101.60 BETWEEN E. 14TH ST. AND E. 22ND ST. DETOUR TRAFFIC AS SHOWN ON SHEET 153
- REMOVE DETOUR AT THE COMPLETION OF WORK PERFORMED PRIOR TO THE E. 22ND ST. AND CEDAR AVE. BRIDGE REMOVALS.

CARNEGIE AVE.

- RESTRICT EASTBOUND CURB LANE TO RIGHT TURN ONLY MOVEMENT WEST OF THE CARNEGIE AVE./ E. 14TH ST. INTERSECTION. REOPEN EASTBOUND CURB LANE EAST OF E. 18TH ST. DETOUR PEDESTRIANS FROM SOUTH SIDE OF CARNEGIE AVE. TO NORTH SIDE OF CARNEGIE AVE. PER MT-110.10, CROSSING CARNEGIE AVE. ON THE WEST END OF THE E. 14TH ST. INTERSECTION AND THE WEST END OF THE E. 19TH ST. INTERSECTION.

- EX. BRIDGE E11 (E. 22ND ST. OVER I.R. 90) DEMO
- EX. BRIDGE E12 (CEDAR AVE. OVER I.R. 90) DEMO
- DURING PERMITTED WEEKEND FULL CLOSURES OF I.R. 90 EB AND I.R. 90 WB FOR DEMOLITION OF EXISTING BRIDGES, SEE SHEET 171 FOR THE OVERALL REGIONAL DETOUR PLAN. I.R. 90 EB AND WB ARE NOT TO BE CLOSED CONCURRENTLY.

- FOR THE I.R. 90 EB WEEKEND CLOSURES, SEE THE FOLLOWING FOR PCMS LOCATIONS AND LANE CLOSURE DETAILS:

- I.R. 90 / I.R. 77 INTERCHANGE - SHEET 178
- I.R. 71 / I.R. 480 INTERCHANGE - SHEET 175
- I.R. 480 / I.R. 77 INTERCHANGE - SHEET 179
- I.R. 77 / I.R. 480 INTERCHANGE - SHEET 180
- I.R. 90 / I.R. 490 / I.R. 71 INTERCHANGE - SHEET 176
- I.R. 71 / S.R. 176 INTERCHANGE - SHEET 176
- LOCAL DETOUR REROUTE - SHEET 172

- FOR THE I.R. 90 WB WEEKEND CLOSURES SEE THE FOLLOWING FOR PCMS LOCATIONS AND LANE CLOSURE DETAILS:

- I.R. 90 / S.R. 2 (EAST) INTERCHANGE - SHEET 173
- I.R. 90 / I.R. 271 INTERCHANGE - SHEET 173
- I.R. 90 / S.R. 2 (WEST) INTERCHANGE - SHEET 174
- I.R. 90 AT E. 22ND ST. AND CEDAR AVE. BRIDGES - SHEET 177
- I.R. 480 / I.R. 77 INTERCHANGE - SHEET 179
- LOCAL DETOUR REROUTE - SHEET 172

SIGNALS:

- CARNEGIE AVE. & E. 14TH ST. SIGNAL MODIFICATIONS
- CARNEGIE AVE. & E. 18TH ST. SIGNAL MODIFICATIONS
- FOR PHASE 1 CONFIGURATION NOTES AND DETAILS SEE SHEET 93

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER

GSH

REVIEWER

DJJ 05/22/24

PROJECT ID

82382

SHEET TOTAL

89 | 2696

SEQUENCE OF CONSTRUCTION (CONTINUED)

PHASE 6

WORK TO BE COMPLETED PRIOR TO PHASE 7:

PAVEMENT:

I.R. 90 MEDIAN
 - RESTORE SHOULDERS AND MEDIAN BARRIER NORTH OF EUCLID AVE. AFTER REMOVAL OF I.R. 90 WB CROSSOVER LANE.

I.R. 90 WESTBOUND
 - BUILD REMAINING PORTIONS OF I.R. 90 WESTBOUND PAVEMENT AND MEDIAN BARRIER BETWEEN BEGIN PROJECT LIMITS TO STA. 182+00 AND FROM STA. 200+30 TO END PROJECT LIMITS.

I.R. 90 EASTBOUND
 - BUILD I.R. 90 EASTBOUND TEMPORARY CROSSOVER PAVEMENT BETWEEN E. 14TH ST. AND E. 22ND ST. SEE SHEETS 250 TO 262 FOR DETAILS.

I.R. 77 NORTHBOUND EXIT RAMP
 - BUILD REMAINING PORTION OF RAMP H6 BETWEEN STA. 1187+43.56 TO E. 22ND ST. INTERSECTION (END PROJECT LIMITS)

E. 14TH ST./COMMUNITY COLLEGE AVE.
 - REMOVE PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONNECTIONS BETWEEN E. 14TH ST. AND COMMUNITY COLLEGE AVE. AND BETWEEN COMMUNITY COLLEGE AVE. AND RAMP H6.
 - BUILD COMMUNITY COLLEGE AVE. TURN-AROUND.

SIGNALS:

- INSTALL PROPOSED SIGNAL AT E. 22ND ST. & COMMUNITY COLLEGE AVE.

MAINTENANCE OF TRAFFIC:

I.R. 77 NORTHBOUND EXIT RAMP TO E. 22ND ST.
 - CLOSE EXIT RAMP PER MT-98.29 AND MT-101.60. DETOUR TRAFFIC AS SHOWN ON SHEET 166

I.R. 90 EASTBOUND ENTRANCE RAMP FROM PROSPECT AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 160

I.R. 90 WESTBOUND ENTRANCE RAMP FROM PROSPECT AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 160

I.R. 90 EASTBOUND EXIT RAMP TO CARNEGIE AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 161

CARNEGIE AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 165
 DETOUR PEDESTRIAN TRAFFIC AS SHOWN ON SHEET 170

PHASE 7

WORK TO BE COMPLETED PRIOR TO PHASE 8:

PAVEMENT:

I.R. 90 EASTBOUND
 - BUILD PORTIONS OF I.R. 90 EASTBOUND PAVEMENT, LIGHTWEIGHT FILL, AND MEDIAN BARRIER BETWEEN BEGIN PROJECT LIMITS AND E. 22ND ST.

I.R. 90 WESTBOUND
 - REMOVE I.R. 90 WESTBOUND TEMPORARY CROSSOVER PAVEMENT ON I.R. 90 BETWEEN ONTARIO ST. AND E. 9TH ST. AND RESTORE MEDIAN BACK TO EXISTING CONDITION.

I.R. 77 NORTHBOUND EXIT RAMP
 - BUILD PORTIONS OF RAMP H5 BETWEEN STA. 988+50.00 TO STA. 990+40.00
 - BUILD PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, CONNECTION BETWEEN RAMP H5 AND I.R. 90 EASTBOUND EXISTING PAVEMENT. SEE SHEETS 260 TO 263 FOR DETAILS.

BRIDGES:

EXISTING BRIDGE E8 (I.R. 90 AND INTERCHANGE RAMP OVER E. 14TH ST.)
 - REMOVE I.R. 90 WESTBOUND PORTION OF EXISTING BRIDGE E8. FOR DETAILS SEE SHEET 2043

EXISTING BRIDGE E5 (I.R. 90 BRIDGE OVER I.R. 90 WESTBOUND TO I.R. 77 SOUTHBOUND INTERCHANGE RAMP)
 - REMOVE I.R. 90 WESTBOUND PORTION OF EXISTING BRIDGE E5. FOR DETAILS SEE SHEET 2371

- BUILD BRIDGE 11 (I.R. 90 EASTBOUND OVER E. 14TH ST.)

BRIDGE 14 (CARNEGIE AVE. OVER I.R. 90)

- BUILD PIER 1
 - COMPLETE STEEL INSTALLATION USING I.R. 90 FULL WEEKEND CLOSURES

WORK TO BE ONGOING THIS PHASE:

PAVEMENT:

CARNEGIE AVE. (EAST OF I.R. 90)
 - BUILD CARNEGIE AVE. PAVEMENT BETWEEN FORWARD ABUTMENT AND END PROJECT LIMITS. FOR SUBPHASING DETAILS SEE SHEETS 390 AND 391

MAINTENANCE OF TRAFFIC:

I.R. 90 EASTBOUND ENTRANCE RAMP FROM PROSPECT AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 160

I.R. 90 EASTBOUND EXIT RAMP TO CARNEGIE AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 161

E. 14TH ST.
 - CLOSE E. 14TH ST. PER MT-101.60 BETWEEN CARNEGIE AVE. AND ORANGE AVE. DURING BRIDGE 11 WEEKEND CLOSURES. DETOUR TRAFFIC AS SHOWN ON SHEET 153

CARNEGIE AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 165
 DETOUR PEDESTRIAN TRAFFIC AS SHOWN ON SHEET 170

PR. BRIDGE 14 (CARNEGIE AVE. OVER I.R. 90) STEEL INSTALLATION - DURING PERMITTED WEEKEND FULL CLOSURES OF I.R. 90 EB AND I.R. 90 WB FOR PR. BRIDGE 14 STEEL INSTALLATION, SEE SHEET 171 FOR THE OVERALL REGIONAL DETOUR PLAN. I.R. 90 EB AND WB ARE NOT TO BE CLOSED CONCURRENTLY.

- FOR THE I.R. 90 EB WEEKEND CLOSURES, SEE THE FOLLOWING FOR PCMS LOCATIONS AND LANE CLOSURE DETAILS:

- I.R. 90 / I.R. 77 INTERCHANGE - SHEET 183
- I.R. 71 / I.R. 480 INTERCHANGE - SHEET 175
- I.R. 480 / I.R. 77 INTERCHANGE - SHEET 179
- I.R. 77 / I.R. 480 INTERCHANGE - SHEET 180
- I.R. 90 / I.R. 490 / I.R. 71 INTERCHANGE - SHEET 176
- I.R. 71 / S.R. 176 INTERCHANGE - SHEET 176
- LOCAL DETOUR REROUTE - SHEET 184

- FOR THE I.R. 90 WB WEEKEND CLOSURES SEE THE FOLLOWING FOR PCMS LOCATIONS AND LANE CLOSURE DETAILS:

- I.R. 90 / S.R. 2 (EAST) INTERCHANGE - SHEET 173
- I.R. 90 / I.R. 271 INTERCHANGE - SHEET 173
- I.R. 90 / S.R. 2 (WEST) INTERCHANGE - SHEET 174
- I.R. 90 AT E. 22ND ST. AND CEDAR AVE. BRIDGES - SHEET 177
- I.R. 480 / I.R. 77 INTERCHANGE - SHEET 179
- LOCAL DETOUR REROUTE - SHEET 184

PHASE 8

WORK TO BE COMPLETED PRIOR TO PHASE 9:

PAVEMENT:

I.R. 90 EASTBOUND
 - BUILD PORTIONS OF I.R. 90 EASTBOUND PAVEMENT AND LIGHTWEIGHT FILL BETWEEN BEGIN PROJECT LIMITS TO STA. 184+00 AND FROM STA. 192+45 TO STA. 198+74.

I.R. 77 NORTHBOUND
 - BUILD I.R. 77 NORTHBOUND PAVEMENT BETWEEN BEGIN PROJECT LIMITS AND RAMP IH4 GORE.

I.R. 90 EASTBOUND ENTRANCE RAMP
 - BUILD I.R. 90 EASTBOUND ENTRANCE RAMP FROM PROSPECT AVE.

I.R. 90 EASTBOUND EXIT RAMP
 - BUILD RAMP B6 PAVEMENT AND LIGHTWEIGHT FILL FROM STA. 1600+00 TO STA. 1607+57

I.R. 77 NORTHBOUND EXIT RAMP
 - BUILD PORTIONS OF RAMP H5 BETWEEN STA. 990+40.00 AND PROPOSED I.R. 90 EASTBOUND PAVEMENT. OMIT 12' WIDE SECTION OF RAMP H5 BETWEEN THESE LIMITS TO MAINTAIN I.R. 77 NORTHBOUND TO I.R. 90 EASTBOUND INTERCHANGE RAMP AT ALL TIMES.

CARNEGIE AVE. (EAST OF I.R. 90)
 - BUILD CARNEGIE AVE. PAVEMENT BETWEEN FORWARD ABUTMENT AND END PROJECT LIMITS. FOR SUBPHASING DETAILS SEE SHEETS 390 AND 391

PRIVATE PROPERTIES:

CENTRAL CADILLAC (2801 CARNEGIE AVE.) (PARCEL 346)
 - LIMIT RECONSTRUCTION OF PARKING LOT (12 TOTAL PARKING STALLS) TO 6 TOTAL WEEKS. MAINTAIN 6 PARKING STALLS WITH ACCESS AT ALL TIMES. CONTRACTOR TO PROVIDE 14-DAY NOTICE TO CENTRAL CADILLAC OWNER PRIOR TO DRIVE CLOSURES, PARKING RESTRICTIONS, AND CHANGES IN PHASES IMPACTING PARCEL.

BRIDGES:

EXISTING BRIDGE E8/E9 (I.R. 90 AND INTERCHANGE RAMP OVER E. 14TH ST.)
 - REMOVE REMAINING PORTION OF EXISTING BRIDGE E8/E9. FOR DETAILS SEE SHEET 2093

EXISTING BRIDGE E5 (I.R. 90 BRIDGE OVER I.R. 90 WESTBOUND TO I.R. 77 SOUTHBOUND INTERCHANGE RAMP)
 - REMOVE REMAINING PORTION OF EXISTING BRIDGE E5. FOR DETAILS SEE SHEET 2371

BRIDGE 12 (RAMP B6 BRIDGE OVER E. 14TH ST. AND RAMP H5)
 - BUILD PIER 2
 - BUILD REAR ABUTMENT

BRIDGE 14 (CARNEGIE AVE. BRIDGE OVER I.R. 90)
 - COMPLETE BRIDGE DECK

UTILITIES:

- REMOVE TEMPORARY CPP OVERHEAD LINE AND POLES ADJACENT TO CARNEGIE AVE. ONCE THE PERMANENT UTILITY HAS BEEN INSTALLED ON THE CARNEGIE AVE. BRIDGE THIS PHASE.

SIGNALS:

- INSTALL PROPOSED SIGNAL AT CARNEGIE AVE. & MIDTOWN CONNECTOR

MAINTENANCE OF TRAFFIC:

I.R. 90 EASTBOUND ENTRANCE RAMP FROM PROSPECT AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 160

I.R. 90 EASTBOUND EXIT RAMP TO E. 9TH ST. NORTHBOUND
 - CLOSE EXIT RAMP PER MT-98.29 AND MT-101.60 DURING CONSTRUCTION OF GORE AREA. DETOUR TRAFFIC AS SHOWN ON SHEET 167

I.R. 90 EASTBOUND EXIT RAMP TO CARNEGIE AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 161

CARNEGIE AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 165
 DETOUR PEDESTRIAN TRAFFIC AS SHOWN ON SHEET 170

PHASE 9

WORK TO BE COMPLETED THIS PHASE:

PAVEMENT:

I.R. 90 EASTBOUND
 - BUILD REMAINING PORTIONS OF I.R. 90 EASTBOUND PAVEMENT BETWEEN BEGIN AND END PROJECT LIMITS.

I.R. 77 NORTHBOUND EXIT RAMP
 - BUILD REMAINING 12' WIDE PORTION OF RAMP H5 THAT WAS OMITTED DURING PHASE 8 CONSTRUCTION.

I.R. 90 EASTBOUND EXIT RAMP
 - BUILD RAMP B6 PAVEMENT AND LIGHTWEIGHT FILL

I.R. 77 SOUTHBOUND ENTRANCE RAMP
 - BUILD RAMP IJ3 BETWEEN E. 14TH ST. SOUTHBOUND AND EXISTING I.R. 77 SOUTHBOUND.

BRIDGES:

- BUILD BRIDGE 12 (RAMP B6 BRIDGE OVER E. 14TH ST. AND RAMP H5)

RETAINING WALLS:

- BUILD WALL AJ
 - BUILD WALL Y
 - BUILD WALL Z

MAINTENANCE OF TRAFFIC:

I.R. 90 EASTBOUND EXIT RAMP TO CARNEGIE AVE.
 - TO REMAIN CLOSED FROM PREVIOUS PHASE. DETOUR TRAFFIC AS SHOWN ON SHEET 161

6
 I.R. 77 NB TO I.R. 90 EB RAMP
 - CLOSE I.R. 77 NB TO I.R. 90 EB RAMP DURING BRIDGE 12 WEEKEND CLOSURES. DETOUR TRAFFIC AS SHOWN ON SHEET 184

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

DESIGNER

GSH

REVIEWER

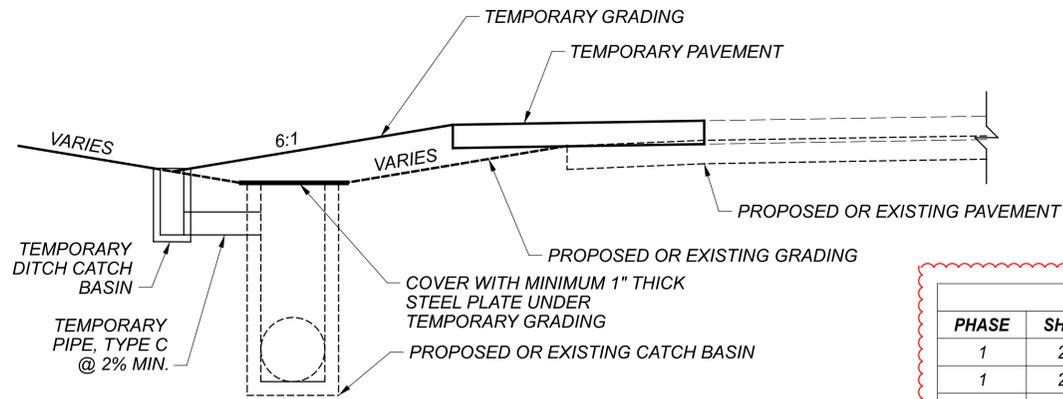
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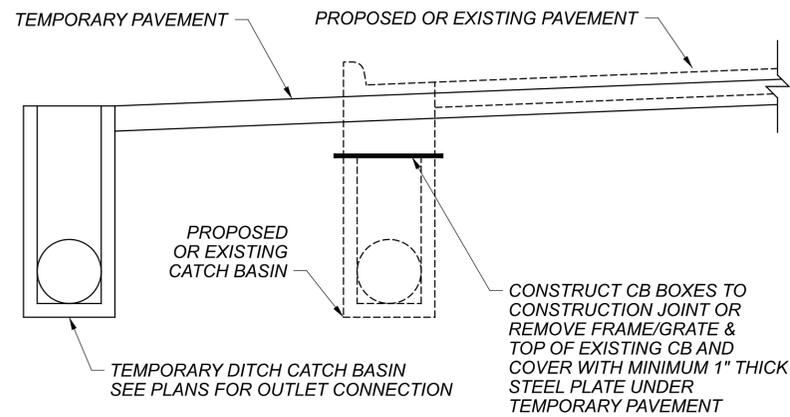
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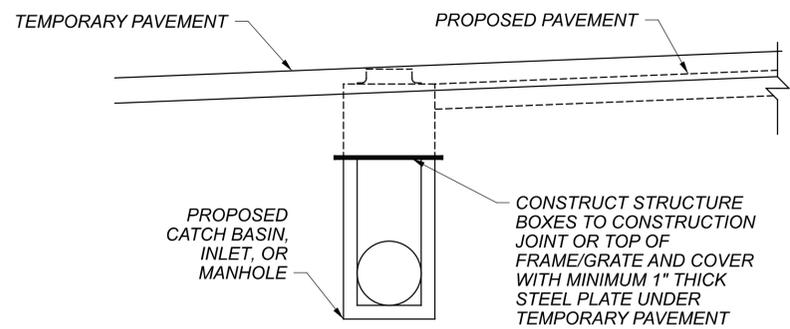
92 2696



TEMPORARY DITCH CATCH BASIN
 DETAIL 1
 (NOT TO SCALE)



TEMPORARY DITCH CATCH BASIN
 DETAIL 2
 (NOT TO SCALE)



TEMPORARY STRUCTURE COVER
 DETAIL 3
 (NOT TO SCALE)

TEMPORARY STRUCTURE COVER						
PHASE	SHEET	DETAIL	ALIGNMENT	STATION	SIDE	REFERENCE
1	289	3	E. 14TH ST NB	53+50	RT	D-634
1	289	3	E. 14TH ST NB	53+85	RT	D-635
1	289	3	INTERIM E. 14TH ST SB	208+25	LT	D-616
1	291	3	INTERIM E. 14TH ST SB	209+01	LT	D-610
7	375	3	I.R. 90	85+51	RT	D-218

PROPOSED INSTALLATION OUT OF PHASE					
PHASE	SHEET	ALIGNMENT	STATION	SIDE	NOTE
1	291	RAMP A3	585+55	LT	JACK AND BORE PROP 66"
2	300 & 303	RAMP IB5	1710+85	LT	D-410A TO D-411 TO EXISTING
3	317	EX. RAMP E-17	54+61	LT/RT	JACK AND BORE PROP 15" D-321 TO D-322
3	322	EX. I.R. 90	84+20	LT	EXISTING TO D-211 TO D-220 TO TEMP MH
6	365	I.R. 90 EB	199+00	RT	D-211 TO D-217 TO TEMP MH
7	374	RAMP H5	991+75	RT	D-530 TO DETENTION BASIN

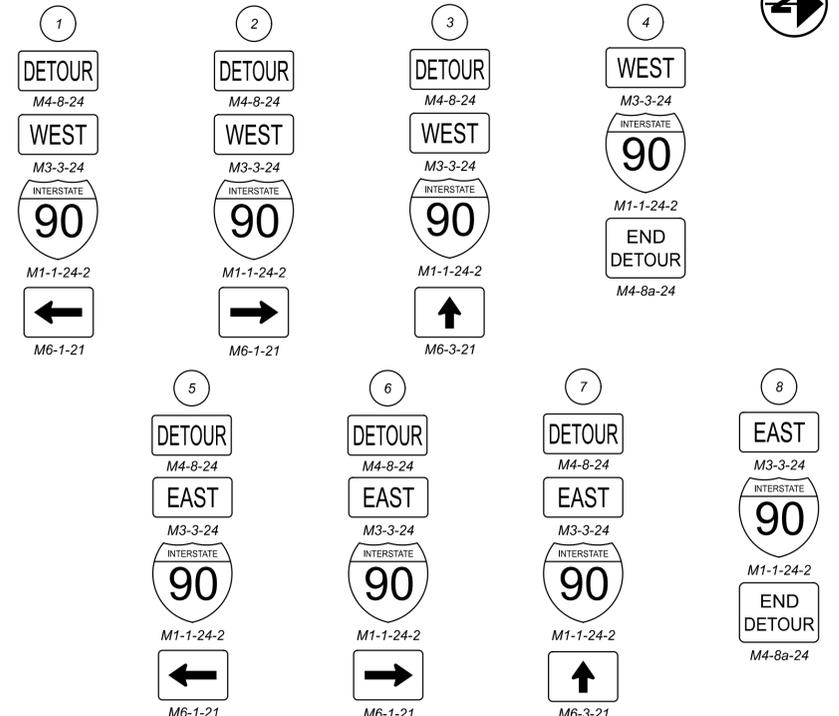
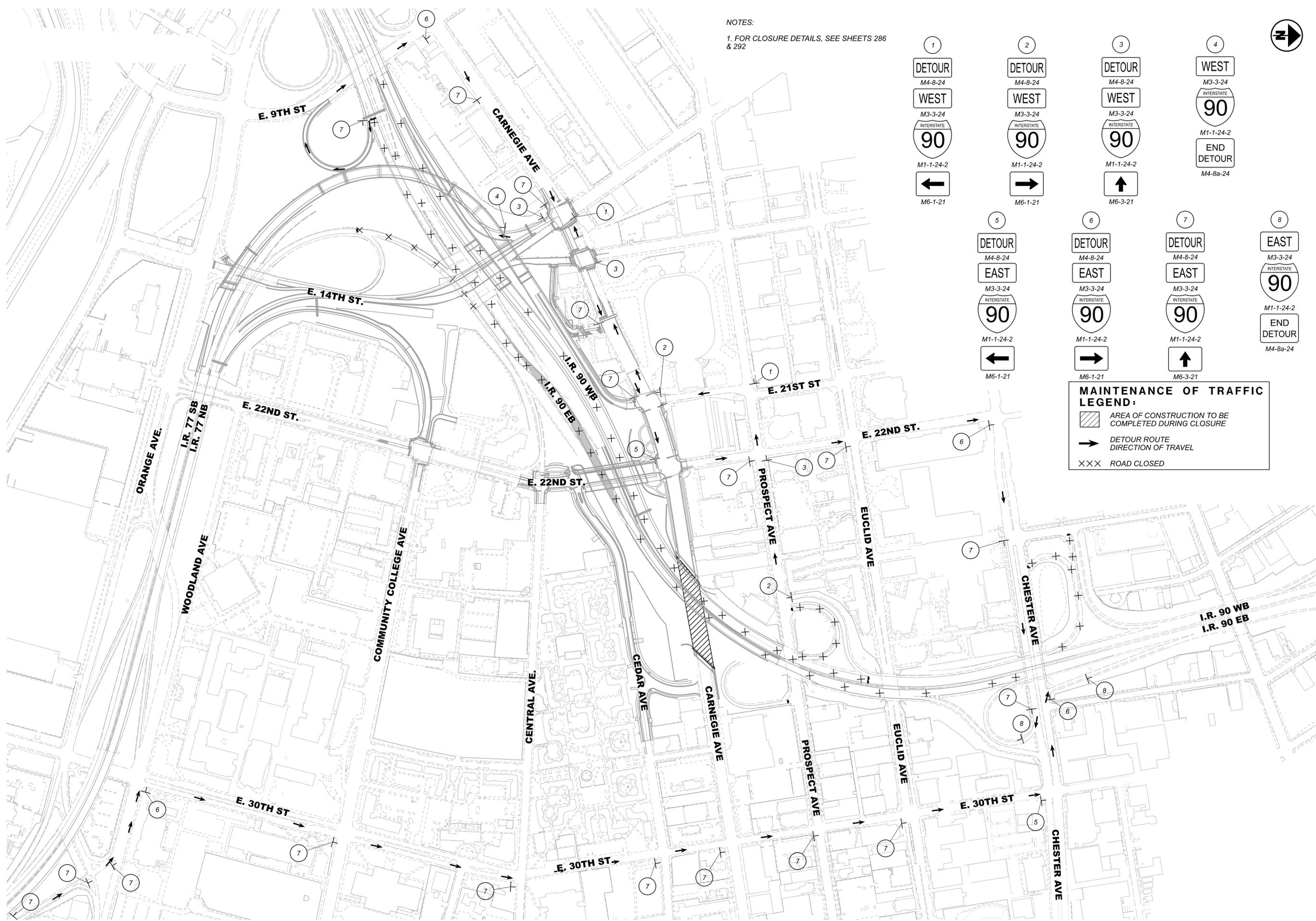
TEMPORARY INLET SCHEDULE									
PHASE	SHEET	DETAIL	ALIGNMENT	STATION	SIDE	REFERENCE	GRATE/RIM ELEV.	START INVERT ELEV. (OUT)	STOP INVERT ELEV.
1	289	2	INTERIM E. 14TH ST. SB	198+90	LT	D-1.1	671.18	668.02	667.88
1	289	2	INTERIM E. 14TH ST. SB	200+95	LT	D-1.3	671.94	668.61	668.47
1	290	N/A	RAMP H6 TEMPORARY PAVEMENT	10+70	RT	D-1.4	667.50	664.17	663.00
1	291	2	INTERIM E. 14TH ST. SB	208+65	LT	D-1.5	662.08	657.58	657.47
3	321	N/A	RAMP A2	437+95	RT	D-3.1	659.38	656.05	647.45
3	322	N/A	RAMP A2	440+01	RT	D-3.2	650.78	647.45	644.54
3	322	N/A	I.R. 90 TEMPORARY RUNAROUND	7+77	RT	D-3.4	641.99	638.66	638.62
3	322	N/A	I.R. 90 TEMPORARY RUNAROUND	8+00	LT	D-3.5	640.55	EX. PIPE	EX. PIPE
3	323	1	I.R. 90 TEMPORARY RUNAROUND	16+50	RT	D-3.6	648.41	646.49	645.71
3	323	1	I.R. 90 TEMPORARY RUNAROUND	18+08	RT	D-3.7	648.19	646.27	646.17
4	330	1	I.R. 90 WB	173+88	RT	D-4.1	696.04	692.71	689.82
7	374	1	TEMPORARY RAMP H5	106+69	RT	D-7.3	670.56	667.73	667.25
7	374	1	TEMPORARY RAMP H5	108+33	LT	D-7.4	671.57	668.74	667.00

TEMPORARY CB-6								
PHASE	SHEET	ALIGNMENT	STATION	SIDE	REFERENCE	GRATE/RIM ELEV.	START INVERT ELEV. (OUT)	STOP INVERT ELEV.
3	324	EX. I.R. 90	105+51	RT	D-3.8	638.60	634.00	632.00

TEMPORARY MANHOLE SCHEDULE									
PHASE	SHEET	ALIGNMENT	STATION	SIDE	REFERENCE	GRATE/RIM ELEV.	START INVERT ELEV. (OUT)	STOP INVERT ELEV.	
2	305	EX. I.R. 90	84+51	LT	D-2.1	649.88	643.93	641.97	
2	305	EX. I.R. 90	85+90	LT	D-2.2	646.06	641.61	637.25	
2	305	EX. I.R. 90	88+53	LT	D-2.3	643	EX. PIPE	EX. PIPE	
4	333	EX. I.R. 90	88+58	LT	D-4.2	664.16	637.57	634.60	
4	334	EX. I.R. 90	91+08	RT	D-4.3	644.92	637.51	632.22	
4	334	EX. I.R. 90	94+45	RT	D-4.4	647.88	641.60	631.81	
4	334	EX. I.R. 90	97+41	LT	D-4.5	649.02	642.97	640.00	
5	350	I.R. 90 WB	185+58	RT	D-5.1	701.06	697.00	678.87	
5	351	I.R. 90 WB	187+91	RT	D-5.2	670.95	666.30	654.87	
5	353	EX. I.R. 90	97+17	RT	D-5.3	649.31	643.49	643.33	
6	365	I.R. 90 TEMPORARY RUNAROUND	4+54	LT	D-6.1	647.59	639.40	637.20	
6	365	I.R. 90 TEMPORARY RUNAROUND	7+57	LT	D-6.2	641.92	637.20	636.79	
6	366	I.R. 90 TEMPORARY RUNAROUND	16+31	LT	D-6.3	650.85	EX. PIPE	EX. PIPE	
7	373	I.R. 90 EB	185+33	RT	D-7.1	691.32	678.77	666.88	
7	374	I.R. 90 EB	186+38	RT	D-7.2	670.86	666.88	666.30	

TEMPORARY CONDUIT SCHEDULE								
PHASE	SHEET	ALIGNMENT	STATION	SIDE	NOTE	SIZE	START INVERT ELEV.	STOP INVERT ELEV.
1	289	COMMUNITY COLLEGE AVE.	52+04	RT	EX. CB TO D-551	18"	656.12	655.58
2	305	EX. I.R. 90	84+20	LT	EX. MH TO D-2.1	12"	644.50	643.93
2	305	EX. I.R. 90	85+69	LT	D-220 TO D-2.2	12"	641.97	641.61
3	322	EX. I.R. 90	84+42	LT	D-211 TO D-2.1	12"	644.54	643.93
4	333	EX. I.R. 90	85+90	LT	D-2.2 TO D-4.2	12"	641.97	637.57
4	333	EX. I.R. 90	90+11	RT	EX. INLET TO D-4.3	12"	638.49	637.51
4	334	EX. I.R. 90	93+70	RT	EX. INLET TO D-4.4	12"	642.35	641.60
5	350	I.R. 90 WB	187+08	RT	D-202 TO D-5.2	12"	678.87	667.51
6	365	I.R. 90 TEMPORARY RUNAROUND	3+49	LT	D-217 TO D-6.1	12"	640.14	639.40
6	365	I.R. 90 TEMPORARY RUNAROUND	10+20	LT	EX. TO D-3.5	12"	640.34	638.16
6	365	I.R. 90 TEMPORARY RUNAROUND	8+00	LT	D-3.5 TO D-6.2	12"	638.16	637.73
6	366	EX. I.R. 90	94+93	RT	EX. CB TO PR. 18" STORM	12"	644.01	634.71
7	374	TEMPORARY RAMP H5	107+12	LT	EX. CB TO D-531	12"	669.81	669.40
7	375	EX. I.R. 90	85+51	RT	D-218 TO TEMP. OUTLET	24"	639.51	639.38

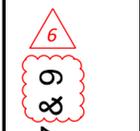
NOTES:
 1. FOR CLOSURE DETAILS, SEE SHEETS 286 & 292



MAINTENANCE OF TRAFFIC LEGEND:

- AREA OF CONSTRUCTION TO BE COMPLETED DURING CLOSURE
- DETOUR ROUTE DIRECTION OF TRAVEL
- ROAD CLOSED

HORIZONTAL SCALE IN FEET
 0 125 250 500



MAINTENANCE OF TRAFFIC - I.R. 90 CLOSURE DETOUR - PHASE 7 & 9
E. 22ND ST./CEDAR AVE. BRIDGE DEMO & INSTALLATION

DESIGN AGENCY

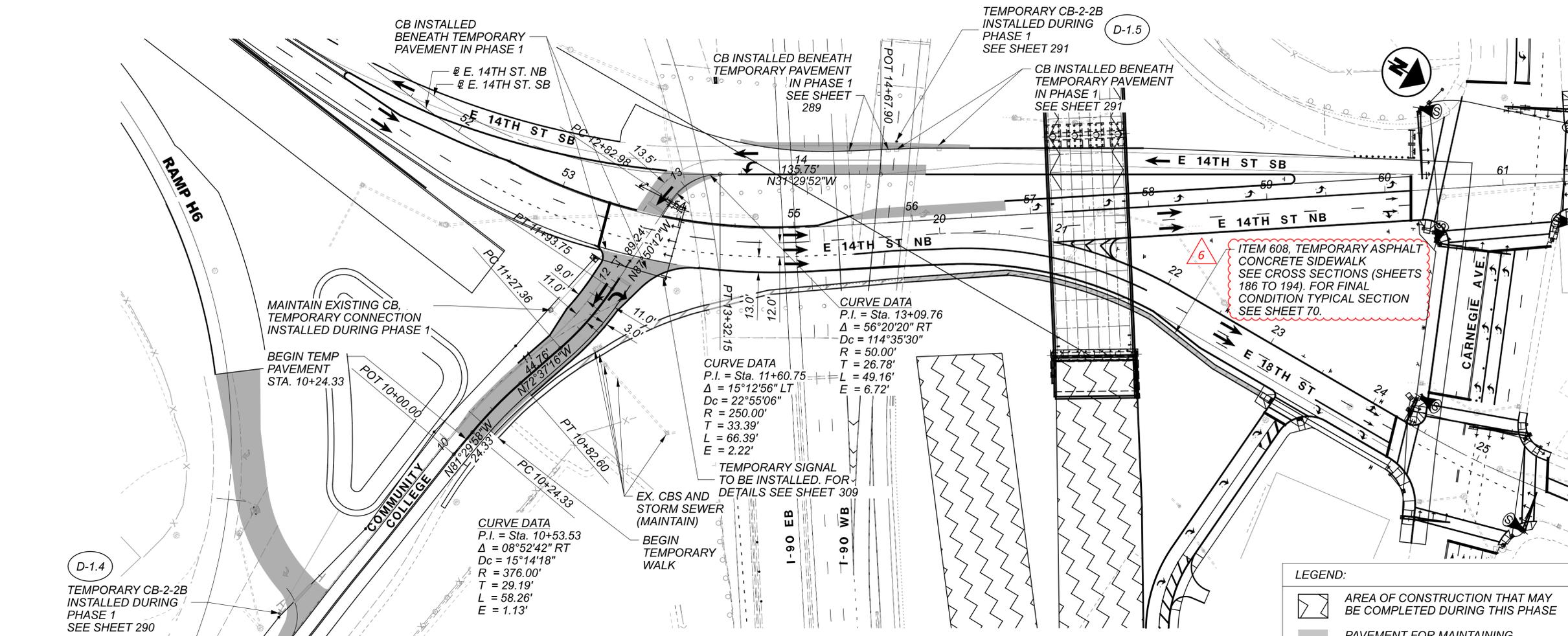
Michael Baker INTERNATIONAL

DESIGNER
 CRK

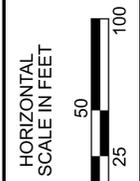
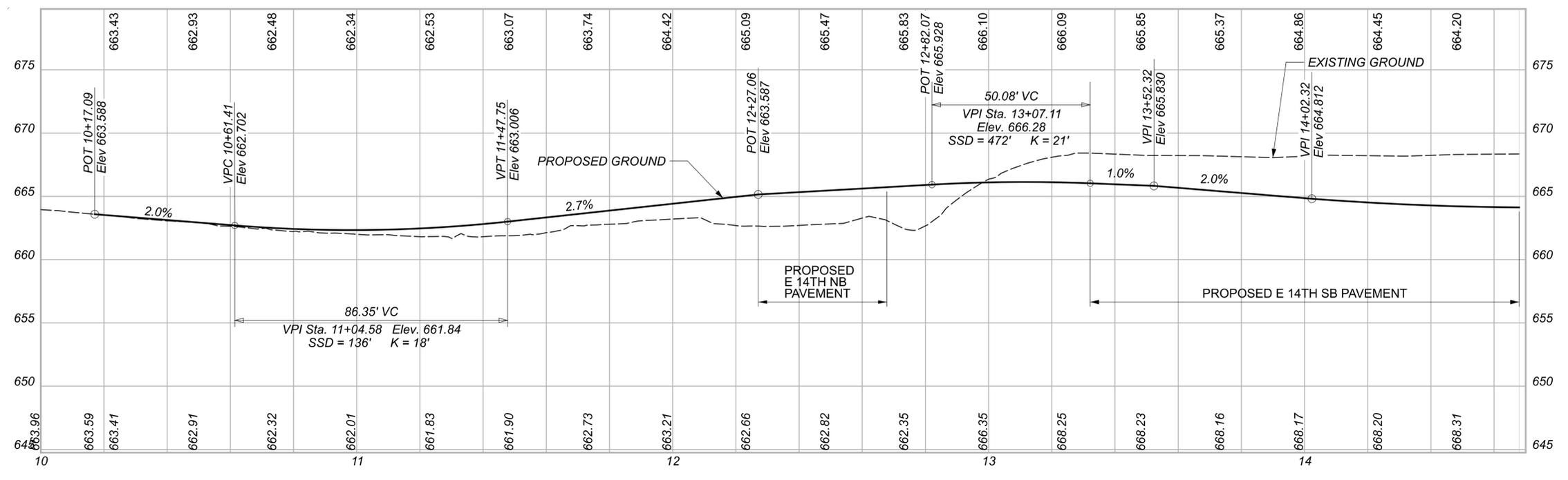
REVIEWER
 GSH 05/22/24

PROJECT ID
 82382

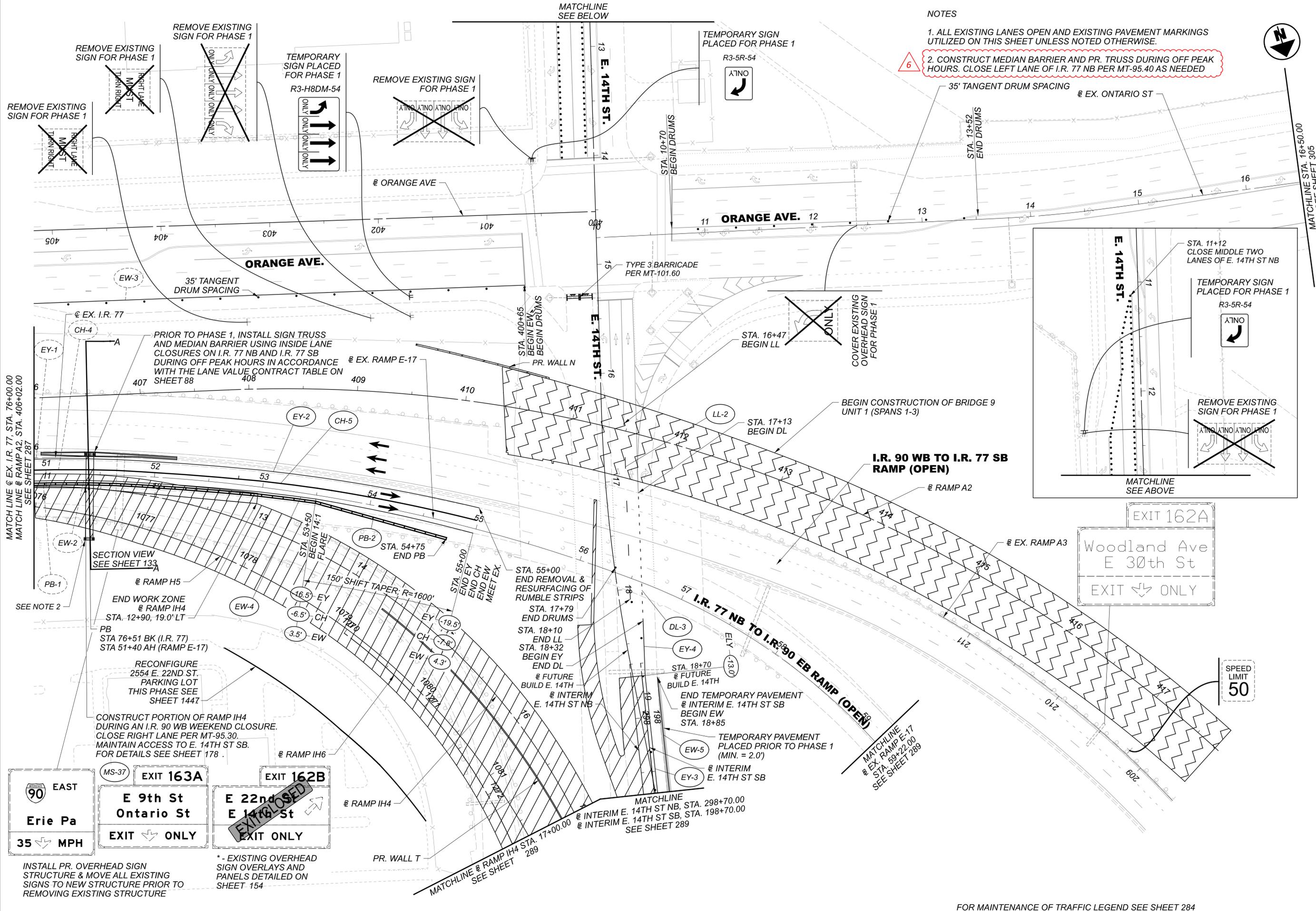
SHEET TOTAL
 184 2696



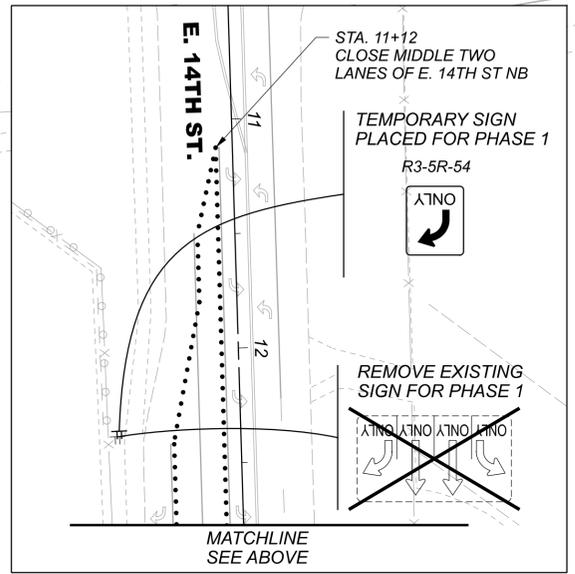
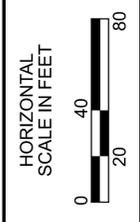
CROSS SECTIONS BY ALIGNMENT	STATIONS	SHEETS
COMMUNITY COLLEGE CONNECTION	10+50 - 13+00	186 - 188
E. 14TH ST. EXISTING SIDEWALK	54+50 - 56+00	189 - 190
E. 18TH ST. SIDEWALK	20+00 - 24+30.03	191 - 194



MAINTENANCE OF TRAFFIC - PHASE 2
 PLAN & PROFILE - TEMPORARY E. 14TH ST. TO COMMUNITY COLLEGE BLVD.



- NOTES
1. ALL EXISTING LANES OPEN AND EXISTING PAVEMENT MARKINGS UTILIZED ON THIS SHEET UNLESS NOTED OTHERWISE.
 2. CONSTRUCT MEDIAN BARRIER AND PR. TRUSS DURING OFF PEAK HOURS. CLOSE LEFT LANE OF I.R. 77 NB PER MT-95.40 AS NEEDED



SPEED LIMIT 50

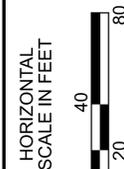


* - EXISTING OVERHEAD SIGN OVERLAYS AND PANELS DETAILED ON SHEET 154

INSTALL PR. OVERHEAD SIGN STRUCTURE & MOVE ALL EXISTING SIGNS TO NEW STRUCTURE PRIOR TO REMOVING EXISTING STRUCTURE

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET	288
TOTAL	2696

* - ALL EXISTING LANES OPEN AND EXISTING PAVEMENT MARKINGS UTILIZED ON THIS SHEET UNLESS NOTED OTHERWISE.



INSTALL TEMPORARY CB-2-2B. OUTLET TO EXISTING CB WITH 12" CONDUIT.

REMOVE CURB, REMOVE FRAME AND GRATE OF EXISTING CATCH BASINS AND COVER WITH STEEL PLATE BEFORE COVERING WITH TEMPORARY PAVEMENT. TEMPORARY PAVEMENT (MIN. WIDTH = 2.0') PLACED PRIOR TO PHASE 1. REPLACE CURB AND RECONSTRUCT EX. CB TO GRADE AT THE CONCLUSION OF PHASE 1.

INSTALL TEMPORARY CB-2-2B. OUTLET TO EXISTING CB WITH 12" CONDUIT.

CONSTRUCT TEMP COVER OF PR. CB (D-616)
OMIT CURB AND PROPOSED PAVEMENT CONSTRUCTION. PLACE TEMPORARY PAVEMENT.

COMPLETE PORTION OF E. 14TH ST & TEMPORARY CONNECTION TO COMMUNITY COLLEGE AVE PRIOR TO E. 22ND ST. BRIDGE DEMOLITION
STA. 207+80, 5.0' RT
STA. 207+33, 16.7' LT
@ INTERIM E. 14TH ST SB STA. 206+25
BEGIN WORK TO BE COMPLETED PRIOR TO E. 22ND ST. BRIDGE DEMOLITION
@ E. 14TH ST NB
@ INTERIM E. 14TH ST NB STA. 205

CONSTRUCT TEMP COVER OF PROP CB (D-634 & D-635)

TEMPORARY SIGNAL TO BE INSTALLED DURING THIS TIME, BUT WILL NOT BE ACTIVE UNTIL BEGINNING OF PHASE 2. INTERSECTION TO BE STOP CONTROLLED BETWEEN E. 22ND ST. BRIDGE CLOSURE AND END OF PHASE 1
FOR SIGNAL DETAILS, SEE SHEET 309

INSTALL 30" WATER LINE SEE SHEETS 1402 & 1403 FOR DETAILS
EX. WALK (MAINTAIN)

@ TEMPORARY CROSSOVER COMMUNITY COLLEGE AVE TO E. 14TH ST. SEE SHEET 185 FOR DETAILS.

INSTALL PR. OVERHEAD STRUCTURE & SIGNS; REFER TO SIGNING PLAN FOR FINAL SIGN DESIGNS - 90 EAST SIGN TO REMAIN COVERED UNTIL PHASE 8 OR INSTALL AT A LATER DATE PRIOR TO PHASE 8 TRAFFIC SWITCH AS DIRECTED BY THE ENGINEER

FOR BRIDGE E10 REMOVAL DETAILS, SEE SHEET 2381
STA. 988+50.00
END PHASE 1 RAMP H5 CONSTRUCTION
@ E. 14TH ST NB STA. 53+45
BEGIN WORK TO BE COMPLETED PRIOR TO E. 22ND ST. BRIDGE DEMOLITION

MAINTAIN EXISTING CB. OUTLET TO PROPOSED CB (D-551) WITH 18" CONDUIT

END CONSTRUCTION OF RAMP H6 IN PHASE 1/BEGIN TEMPORARY PAVEMENT AT STA. 1187+43.56

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 284

MAINTENANCE OF TRAFFIC - PHASE 1
INTERIM E. 14TH ST SB - STA. 198+70.00 TO STA. 208+51.00

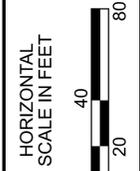
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET	TOTAL
289	2696

NOTES:

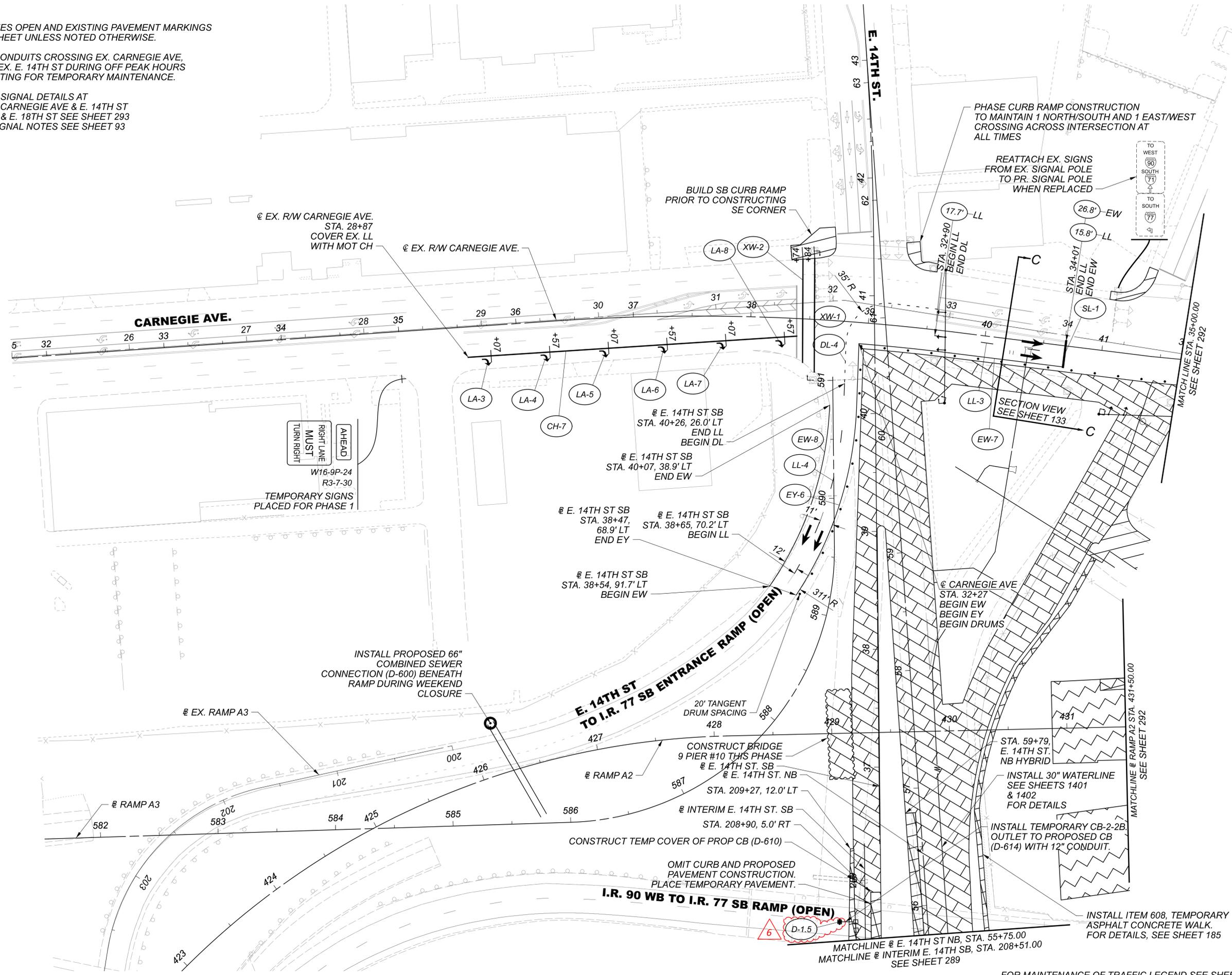
1. ALL EXISTING LANES OPEN AND EXISTING PAVEMENT MARKINGS UTILIZED ON THIS SHEET UNLESS NOTED OTHERWISE.

2. INSTALL SIGNAL CONDUITS CROSSING EX. CARNEGIE AVE, EX. E. 18TH ST AND EX. E. 14TH ST DURING OFF PEAK HOURS AND USE STEEL PLATING FOR TEMPORARY MAINTENANCE.

3. FOR TEMPORARY SIGNAL DETAILS AT INTERSECTIONS OF CARNEGIE AVE & E. 14TH ST AND CARNEGIE AVE & E. 18TH ST SEE SHEET 293 FOR TEMPORARY SIGNAL NOTES SEE SHEET 93



CUY-90-16.28 (CCG3A)
 MODEL: MPO08 PAPER SIZE: 34x22 (in.) DATE: 10/15/2025 TIME: 10:24:55 AM USER: Julie.Ross
 p:\mb-us-pw\ben\ty.com\mb-us-pw-03\Documents\Cleveland_01\HOL\Projects\ODOT\Dist\121\82382_400-Engineering\WOT_Sheets\82382_MPO08.dgn



MAINTENANCE OF TRAFFIC - PHASE 1
CARNEGIE AVE - BEGIN TO STA. 35+00.00

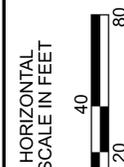
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET TOTAL	291 2696

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 284

NOTES:

1. ALL EXISTING LANES OPEN AND EXISTING PAVEMENT MARKINGS UTILIZED ON THIS SHEET UNLESS NOTED OTHERWISE.
2. REFER TO SEQUENCE OF CONSTRUCTION NOTES FOR ORDER OF OPERATIONS FOR INSTALLING WALL AE, WALL AF, WALL AG, AND REMOVAL OF RETAINING WALLS.
3. FOR STAGING DETAILS AND INFORMATION WITHIN THIS AREA DURING THE E. 22ND ST BRIDGE CONSTRUCTION FULL I.R. 90 EB AND WB WEEKEND CLOSURES, SEE SHEETS 177 & 178
4. INSTALL SIGNAL CONDUITS CROSSING E. 22ND ST, CENTRAL AVE AND EXIT RAMP DURING OFF PEAK HOURS AND USE STEEL PLATING FOR TEMPORARY MAINTENANCE.
5. FOR TEMPORARY SIGNAL NOTES SEE SHEET 93
6. THE CONTRACTOR SHALL NOT ACCESS PARCEL 319 UNTIL MARCH 15, 2027, UNLESS AUTHORIZED BY THE ENGINEER. WORK IMPACTED BY THIS ACCESS RESTRICTION INCLUDES CONSTRUCTION OF PORTIONS OF WALL AG, BRIDGE 13, AND CEDAR AVE/MIDTOWN CONNECTOR ROADWAYS.

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 295

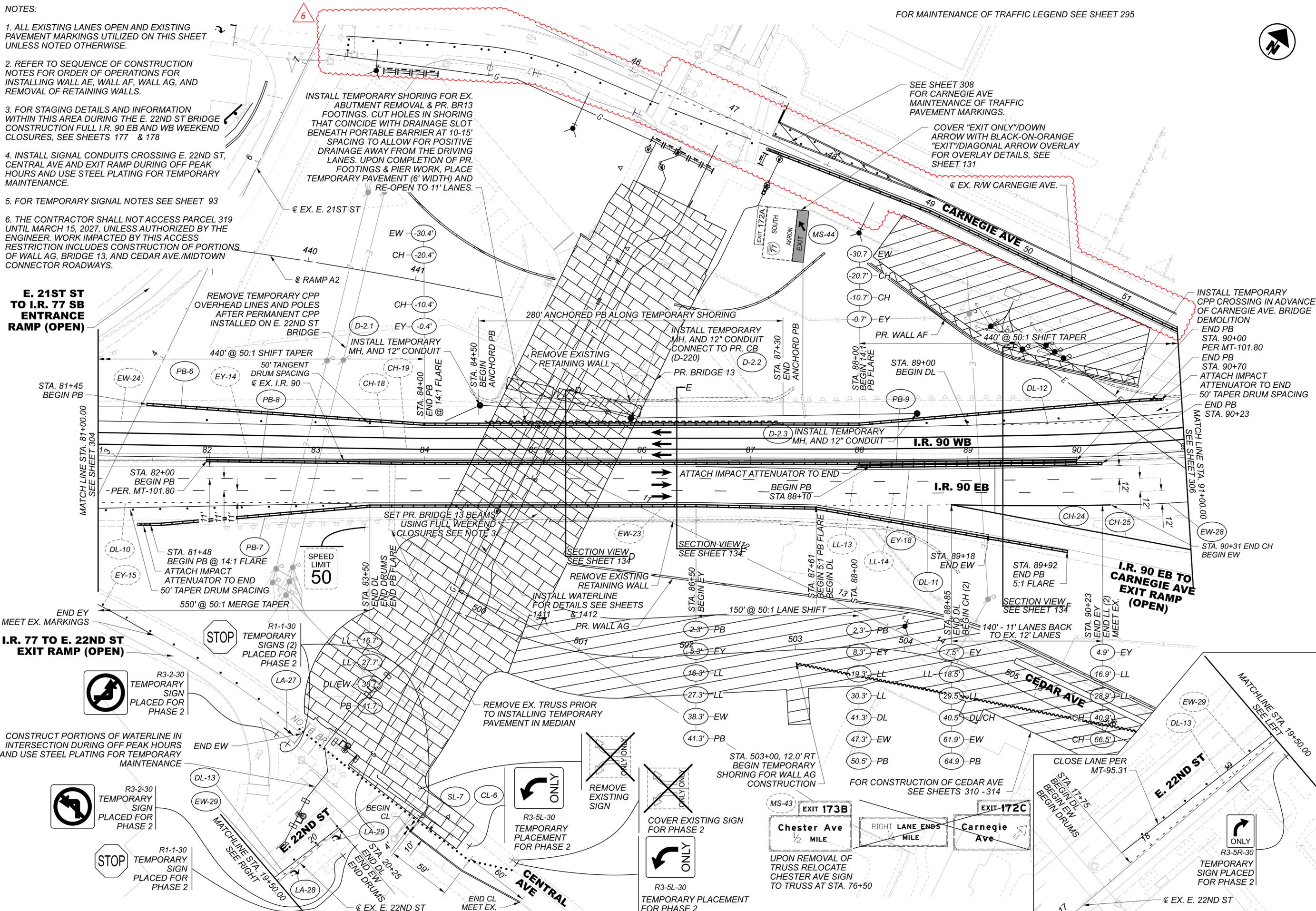


E. 21ST ST TO I.R. 77 SB ENTRANCE RAMP (OPEN)

I.R. 77 TO E. 22ND ST EXIT RAMP (OPEN)

I.R. 90 EB TO CARNEGIE AVE EXIT RAMP (OPEN)

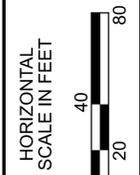
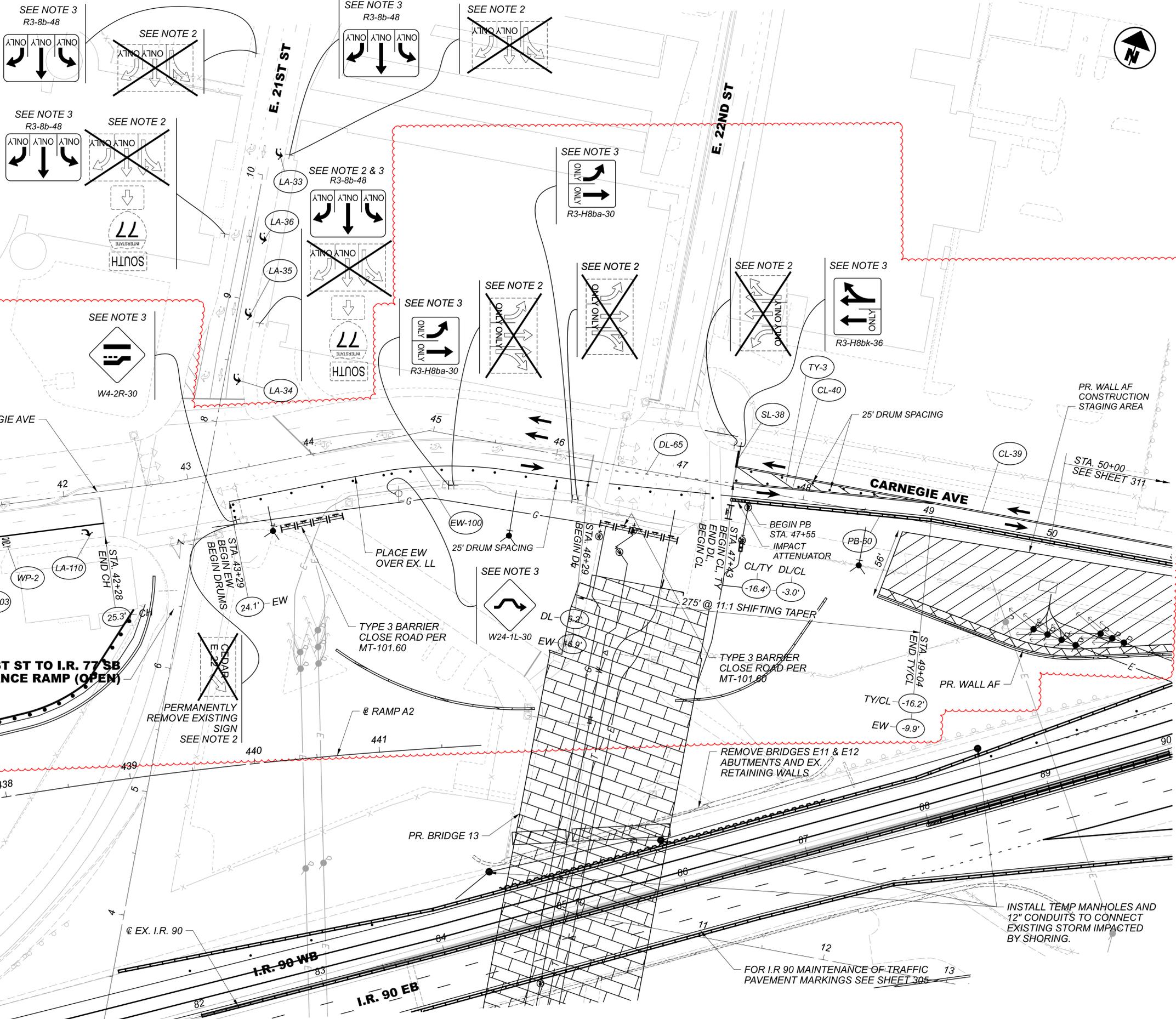
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 MODEL: MP2011 PAPER SIZE: 34x22 (in.) DATE: 10/16/2025 TIME: 3:59:06 PM USER: Caroline.Owings
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MAINTENANCE OF TRAFFIC - PHASE 2
 I.R. 90 - STA. 81+00.00 TO STA. 91+00.00

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET	305
TOTAL	2696

- NOTES:
1. ALL EXISTING LANES OPEN AND EXISTING PAVEMENT MARKINGS UTILIZED ON THIS SHEET UNLESS NOTED OTHERWISE
 2. REMOVE EXISTING SIGN IN PHASE 1 PRIOR TO E. 22ND ST/ CEDAR AVE CLOSURE
 3. TEMPORARY SIGN PLACED IN PHASE 1 PRIOR TO E. 22ND ST/ CEDAR AVE CLOSURE
 4. FOR TEMPORARY SIGNAL NOTES SEE SHEET 93 .

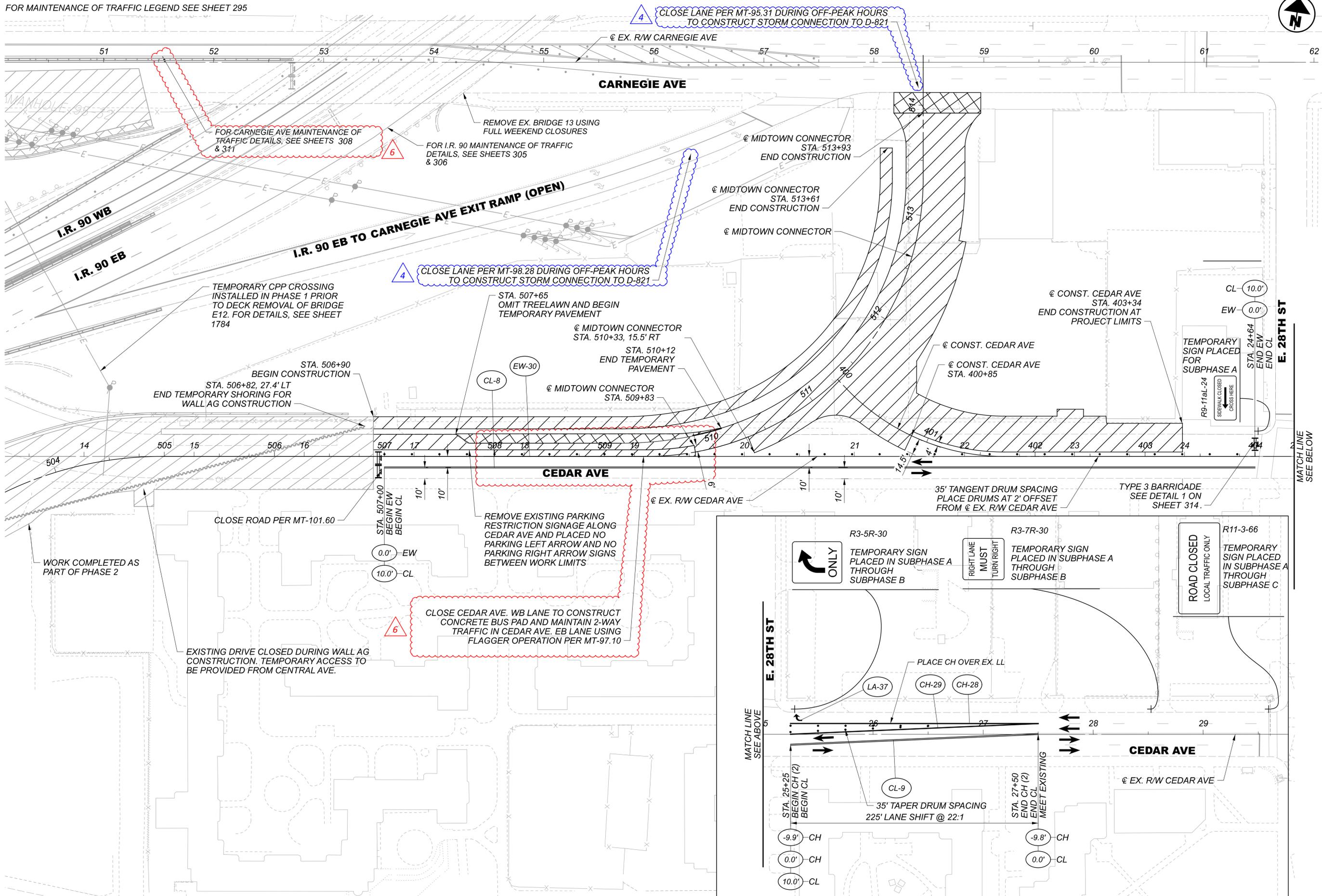


MAINTENANCE OF TRAFFIC - PHASE 2
 CARNEGIE AVE - STA. 39+00.00 TO 50+00.00

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET	TOTAL
308	2696

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 295

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 295



MAINTENANCE OF TRAFFIC - PHASE 2 - CEDAR SUBPHASE A
CEDAR AVE - BEGIN TO END

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

CRK

REVIEWER

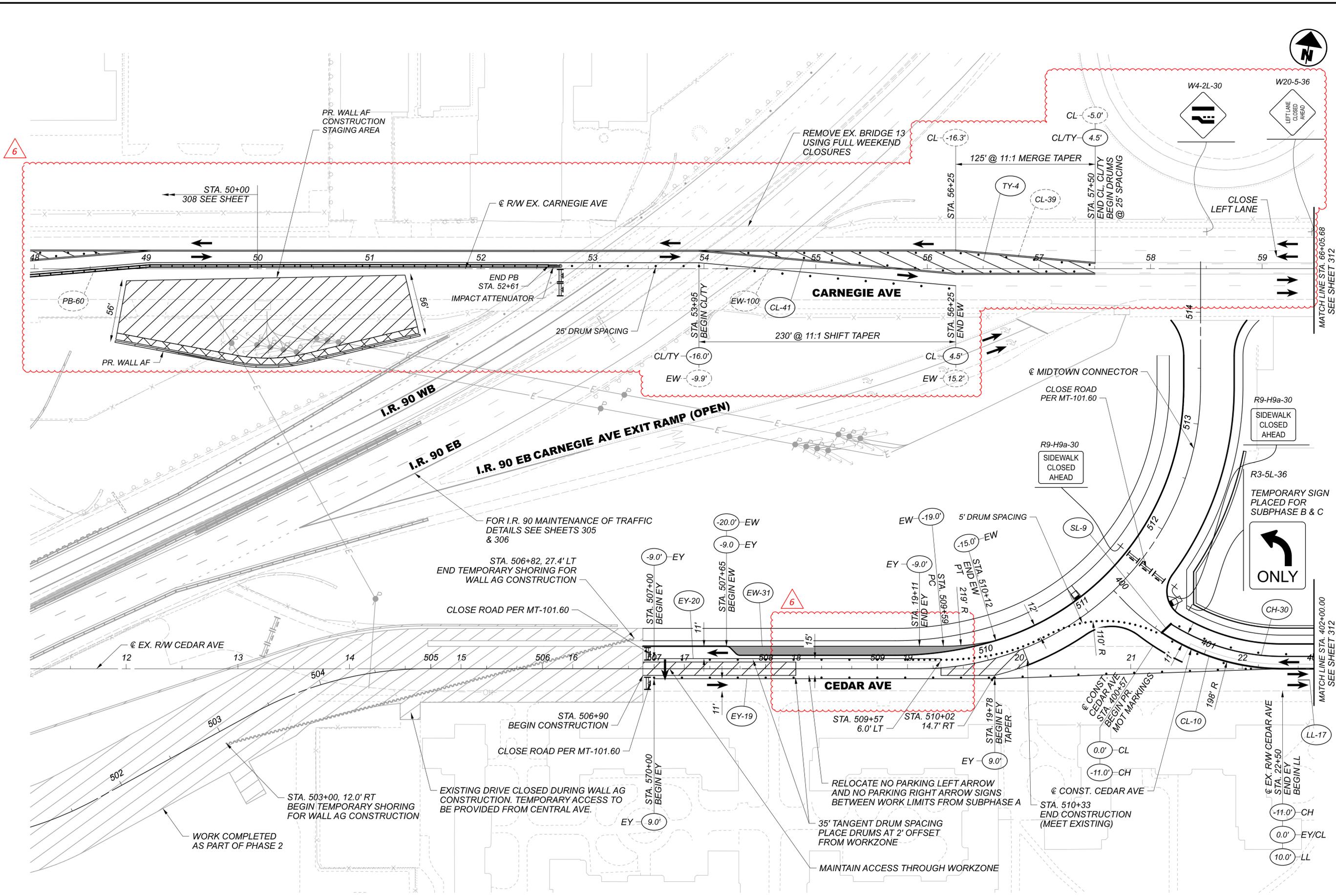
GSH 05/22/24

PROJECT ID

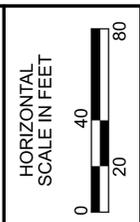
82382

SHEET TOTAL

310 2696

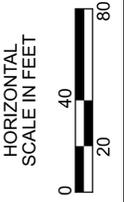
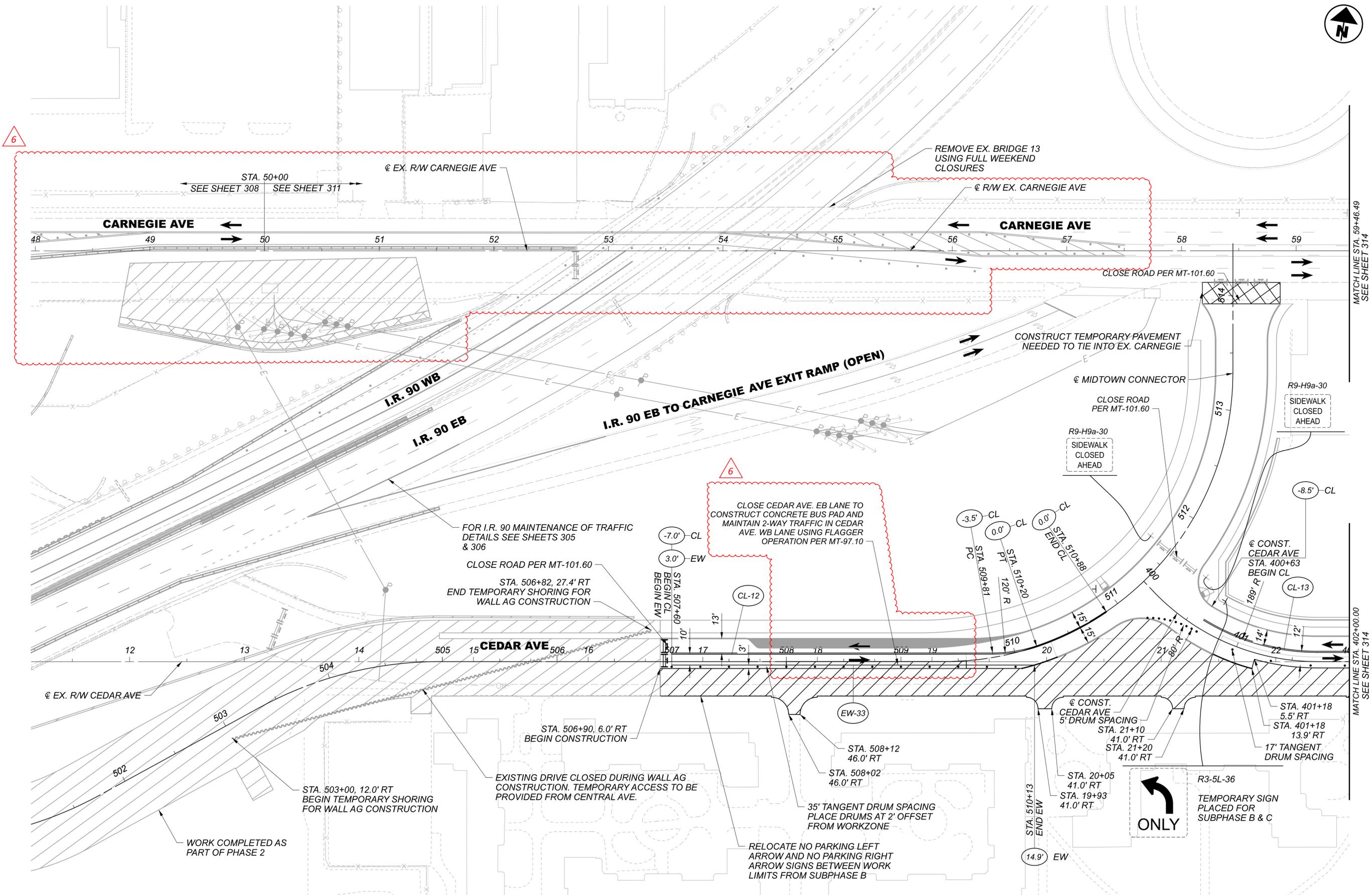


FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 295



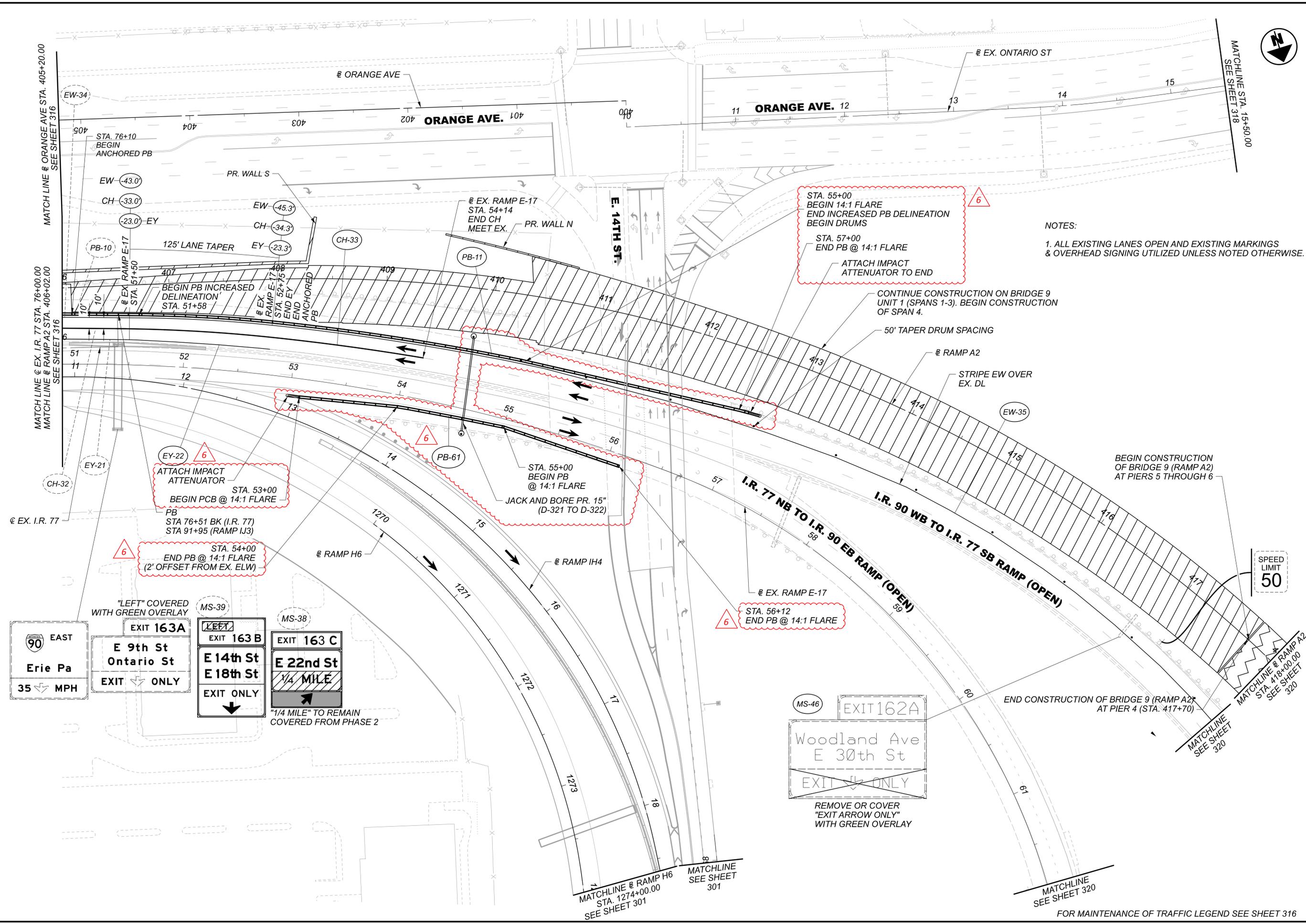
MAINTENANCE OF TRAFFIC - PHASE 2 - CEDAR SUBPHASE B
CEDAR AVE - BEGIN TO STA. 402+00.00

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET	311
TOTAL	2696

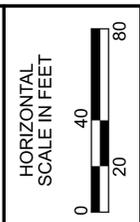


MAINTENANCE OF TRAFFIC - PHASE 2 - CEDAR SUBPHASE C
CEDAR AVE - BEGIN TO STA. 402+00.00

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET TOTAL	313 2696



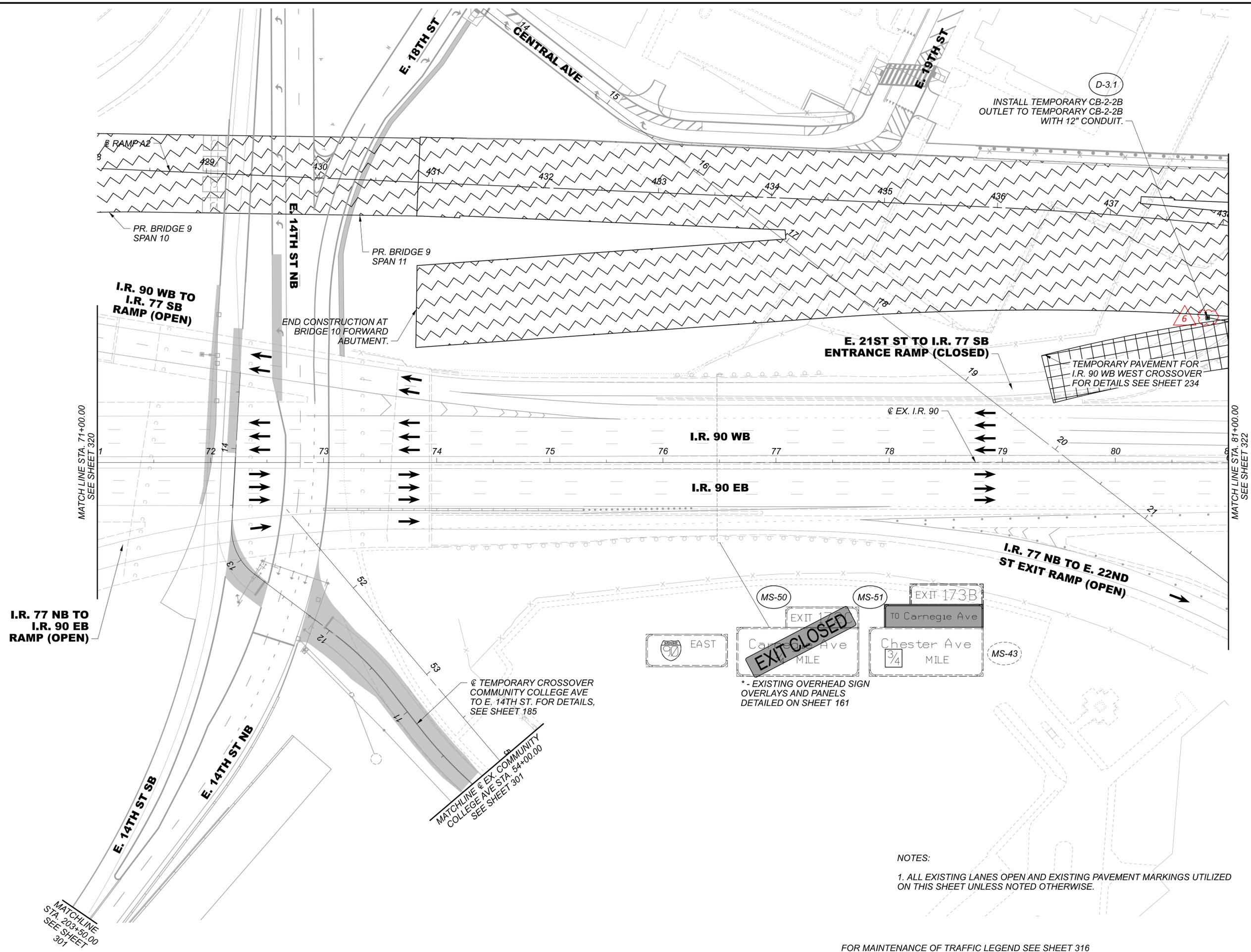
NOTES:
 1. ALL EXISTING LANES OPEN AND EXISTING MARKINGS & OVERHEAD SIGNING UTILIZED UNLESS NOTED OTHERWISE.



MAINTENANCE OF TRAFFIC - PHASE 3
 I.R. 77 - STA. 76+00.00 TO END / RAMP A2 STA. 406+02.00 TO STA. 418+00.00

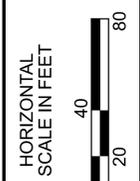
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET TOTAL	317 2696

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 316



NOTES:
 1. ALL EXISTING LANES OPEN AND EXISTING PAVEMENT MARKINGS UTILIZED ON THIS SHEET UNLESS NOTED OTHERWISE.

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 316

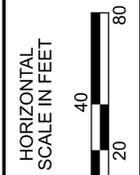
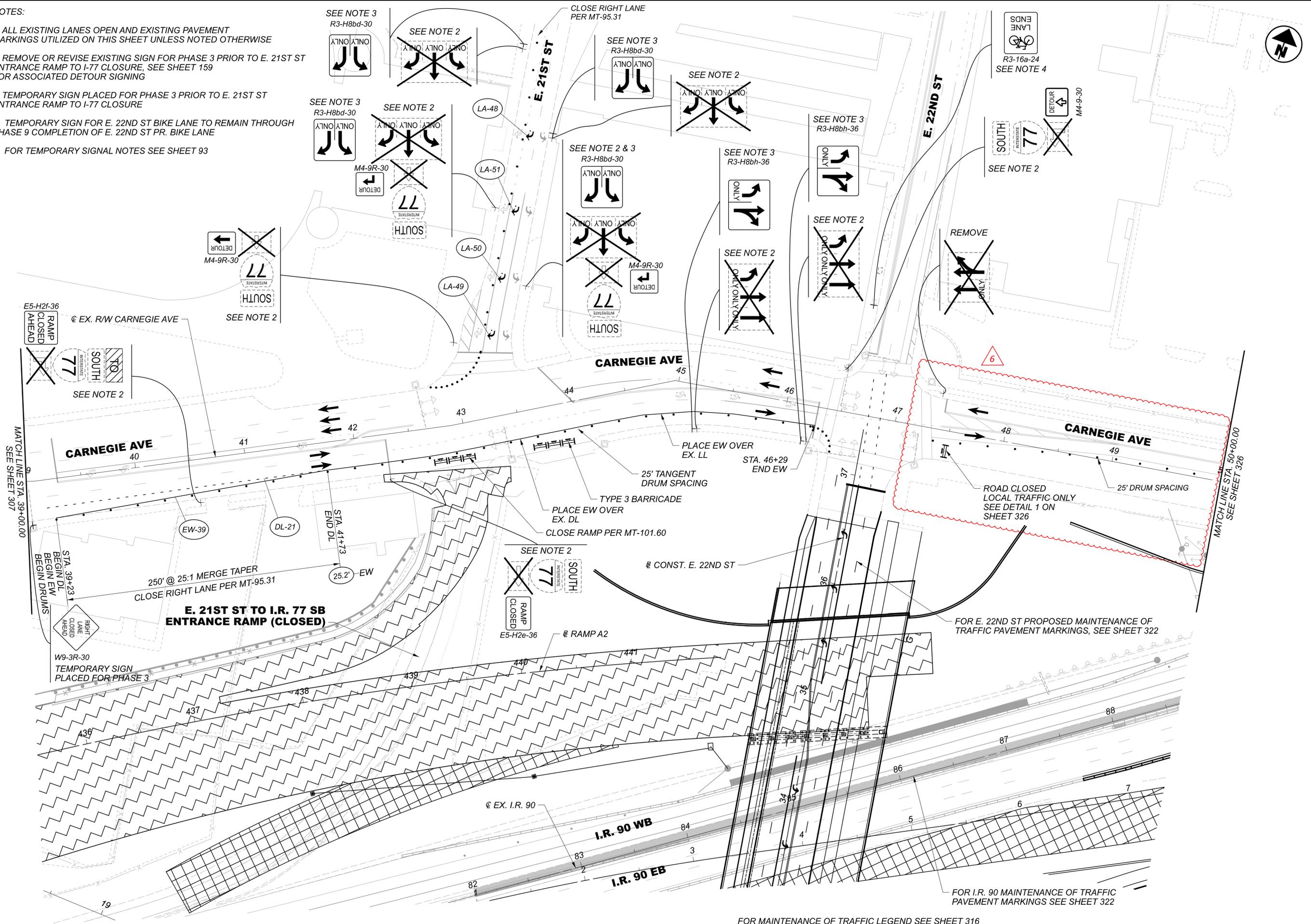


MAINTENANCE OF TRAFFIC - PHASE 3
 I.R. 90 - STA. 71+00.00 TO STA. 81+00.00

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET TOTAL	321 2696

NOTES:

1. ALL EXISTING LANES OPEN AND EXISTING PAVEMENT MARKINGS UTILIZED ON THIS SHEET UNLESS NOTED OTHERWISE
2. REMOVE OR REVISE EXISTING SIGN FOR PHASE 3 PRIOR TO E. 21ST ST ENTRANCE RAMP TO I-77 CLOSURE. SEE SHEET 159 FOR ASSOCIATED DETOUR SIGNING
3. TEMPORARY SIGN PLACED FOR PHASE 3 PRIOR TO E. 21ST ST ENTRANCE RAMP TO I-77 CLOSURE
4. TEMPORARY SIGN FOR E. 22ND ST BIKE LANE TO REMAIN THROUGH PHASE 9 COMPLETION OF E. 22ND ST PR. BIKE LANE
5. FOR TEMPORARY SIGNAL NOTES SEE SHEET 93



MAINTENANCE OF TRAFFIC - PHASE 3
CARNEGIE AVE - STA. 39+00.00 TO STA. 50+00.00

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET	TOTAL
325	2696

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 316

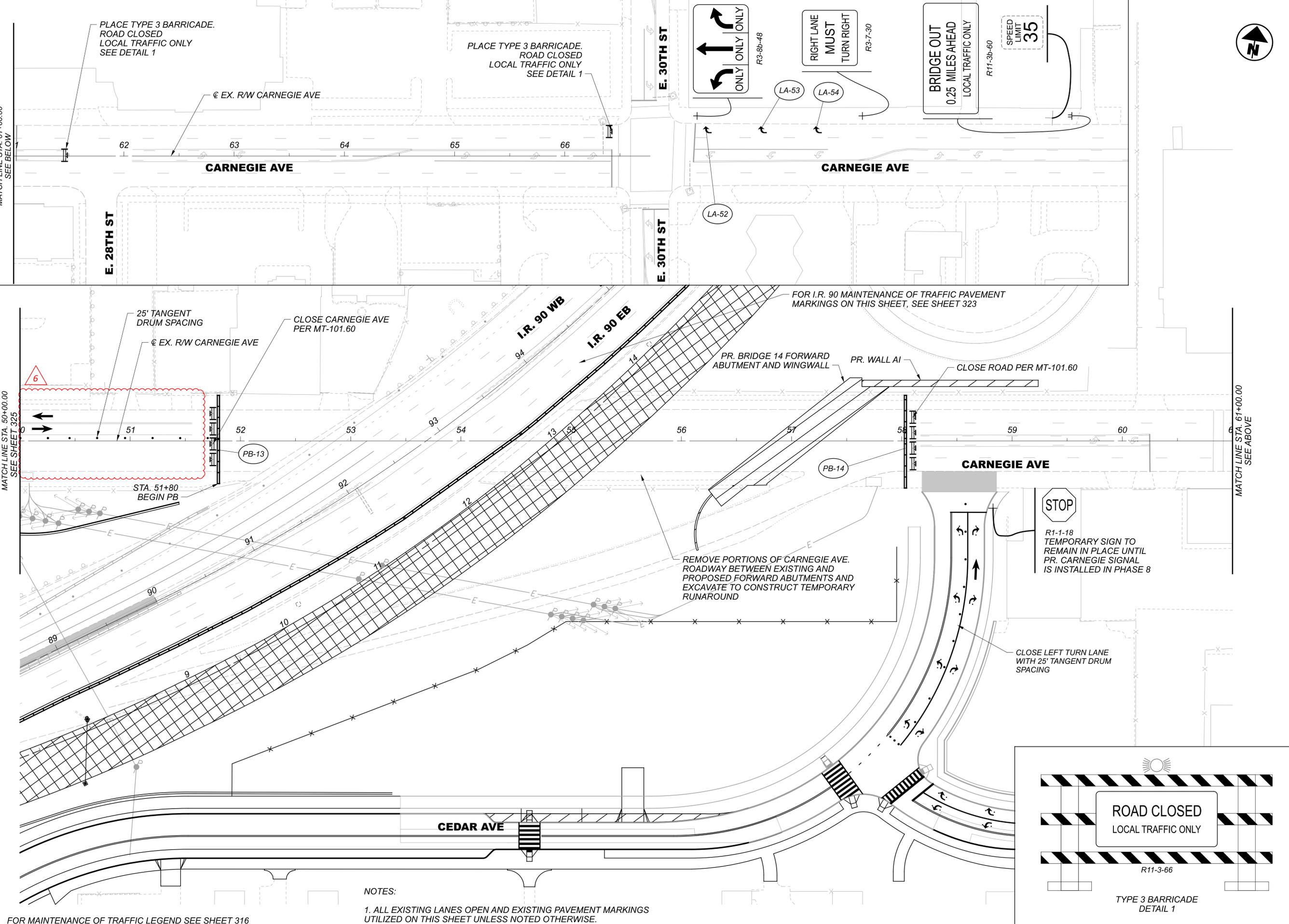
MATCH LINE STA. 61+00.00
SEE BELOW

MATCH LINE STA. 50+00.00
SEE SHEET 325



MAINTENANCE OF TRAFFIC - PHASE 3
CARNEGIE AVE - STA. 50+00.00 TO END

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET	326
TOTAL	2696



PLACE TYPE 3 BARRICADE.
ROAD CLOSED
LOCAL TRAFFIC ONLY
SEE DETAIL 1

PLACE TYPE 3 BARRICADE.
ROAD CLOSED
LOCAL TRAFFIC ONLY
SEE DETAIL 1

ONLY ONLY ONLY
R3-8b-48

RIGHT LANE
MUST
TURN RIGHT
R3-7-30

BRIDGE OUT
0.25 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-36-60

SPEED
LIMIT
35

EX. R/W CARNEGIE AVE

CARNEGIE AVE

CARNEGIE AVE

E. 28TH ST

E. 30TH ST

25' TANGENT
DRUM SPACING

EX. R/W CARNEGIE AVE

CLOSE CARNEGIE AVE
PER MT-101.60

I.R. 90 WB

I.R. 90 EB

FOR I.R. 90 MAINTENANCE OF TRAFFIC PAVEMENT
MARKINGS ON THIS SHEET, SEE SHEET 323

PR. BRIDGE 14 FORWARD
ABUTMENT AND WINGWALL

PR. WALL A1

CLOSE ROAD PER MT-101.60

CARNEGIE AVE

STA. 51+80
BEGIN PB

REMOVE PORTIONS OF CARNEGIE AVE.
ROADWAY BETWEEN EXISTING AND
PROPOSED FORWARD ABUTMENTS AND
EXCAVATE TO CONSTRUCT TEMPORARY
RUNAROUND

STOP

R1-1-18
TEMPORARY SIGN TO
REMAIN IN PLACE UNTIL
PR. CARNEGIE SIGNAL
IS INSTALLED IN PHASE 8

CLOSE LEFT TURN LANE
WITH 25' TANGENT DRUM
SPACING

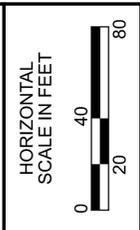
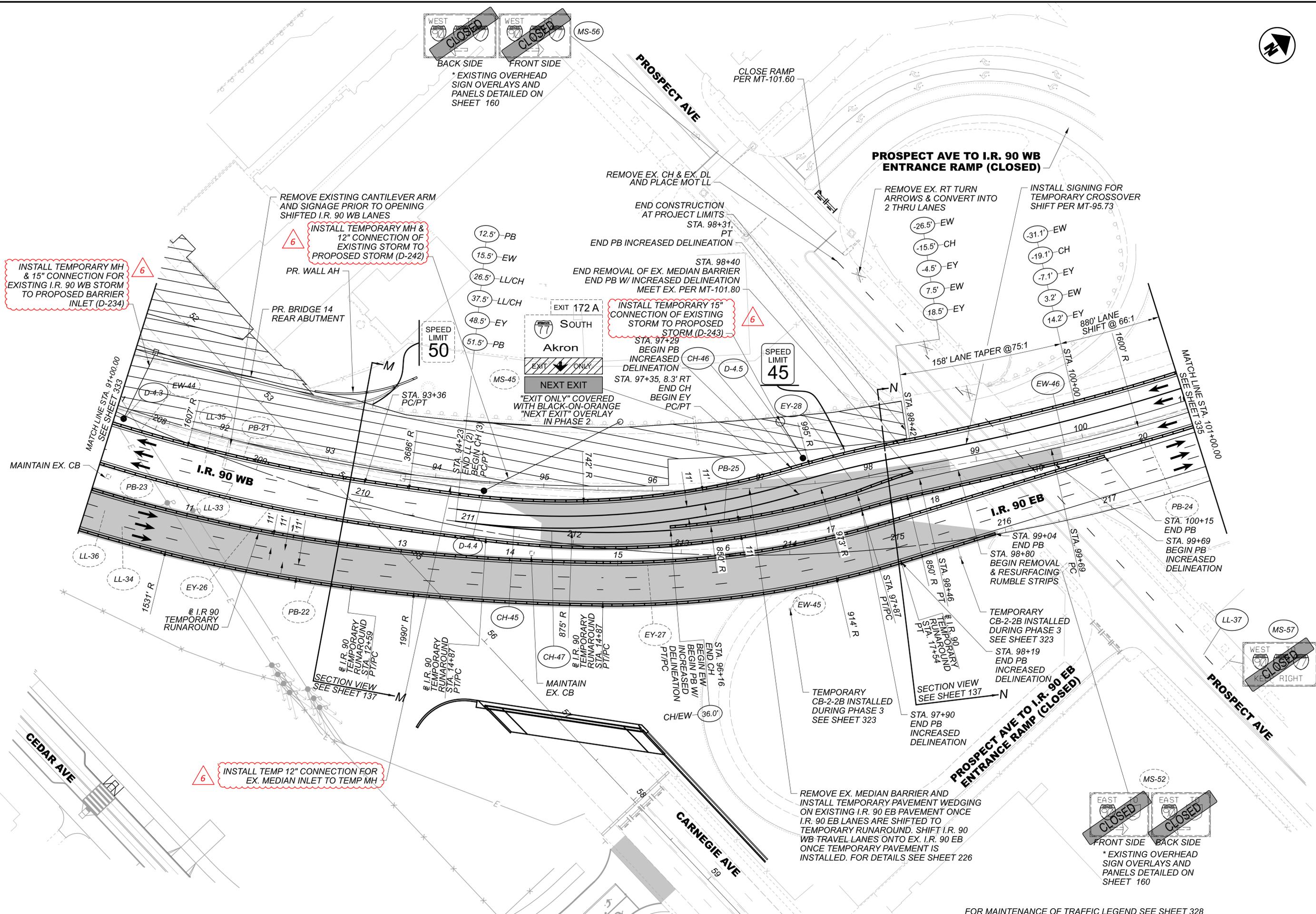
CEDAR AVE

NOTES:

1. ALL EXISTING LANES OPEN AND EXISTING PAVEMENT MARKINGS UTILIZED ON THIS SHEET UNLESS NOTED OTHERWISE.

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 316

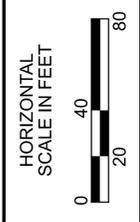
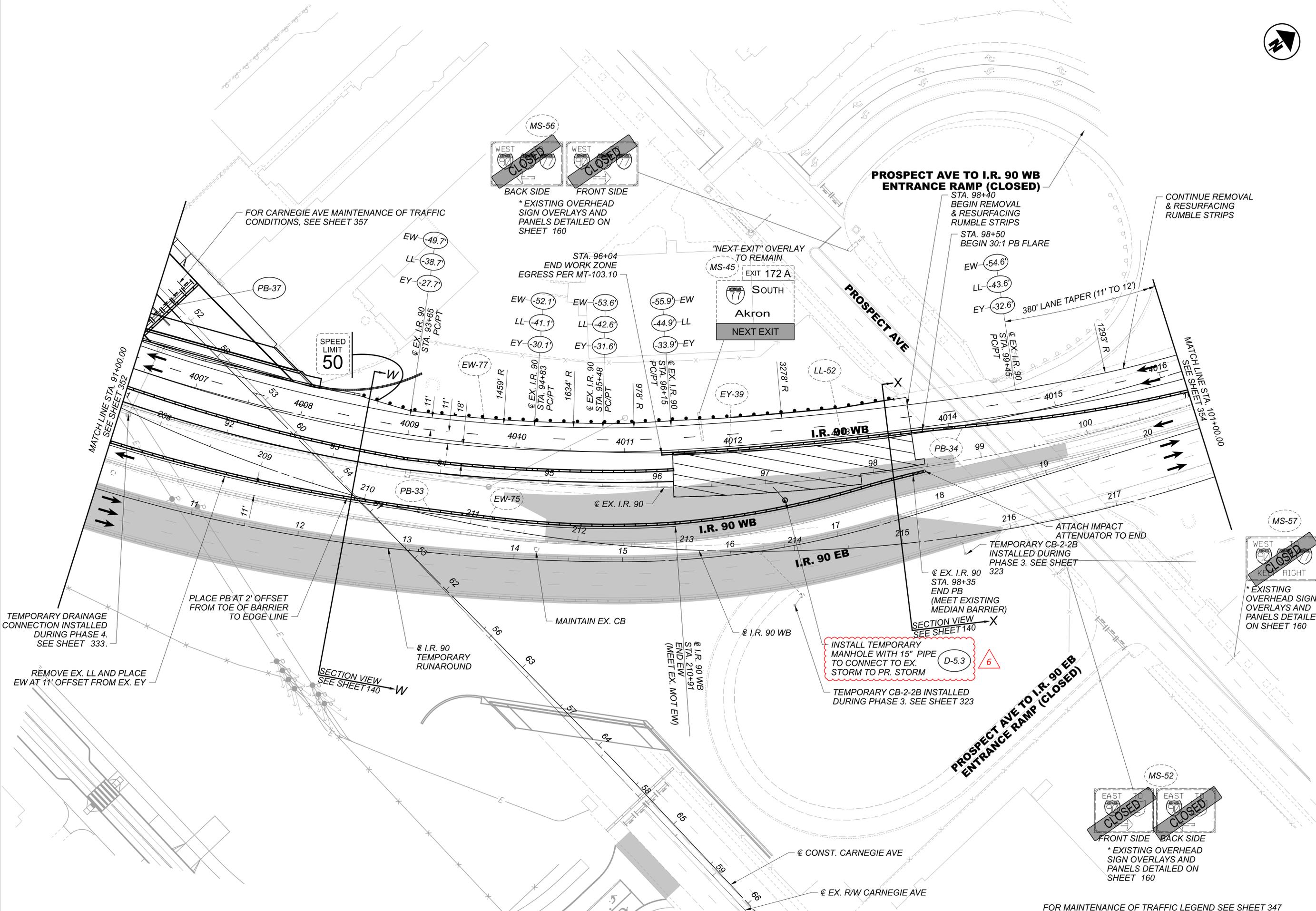




MAINTENANCE OF TRAFFIC - PHASE 4
I.R. 90 - STA. 91+00.00 TO STA. 101+00.00

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET	334
TOTAL	2696

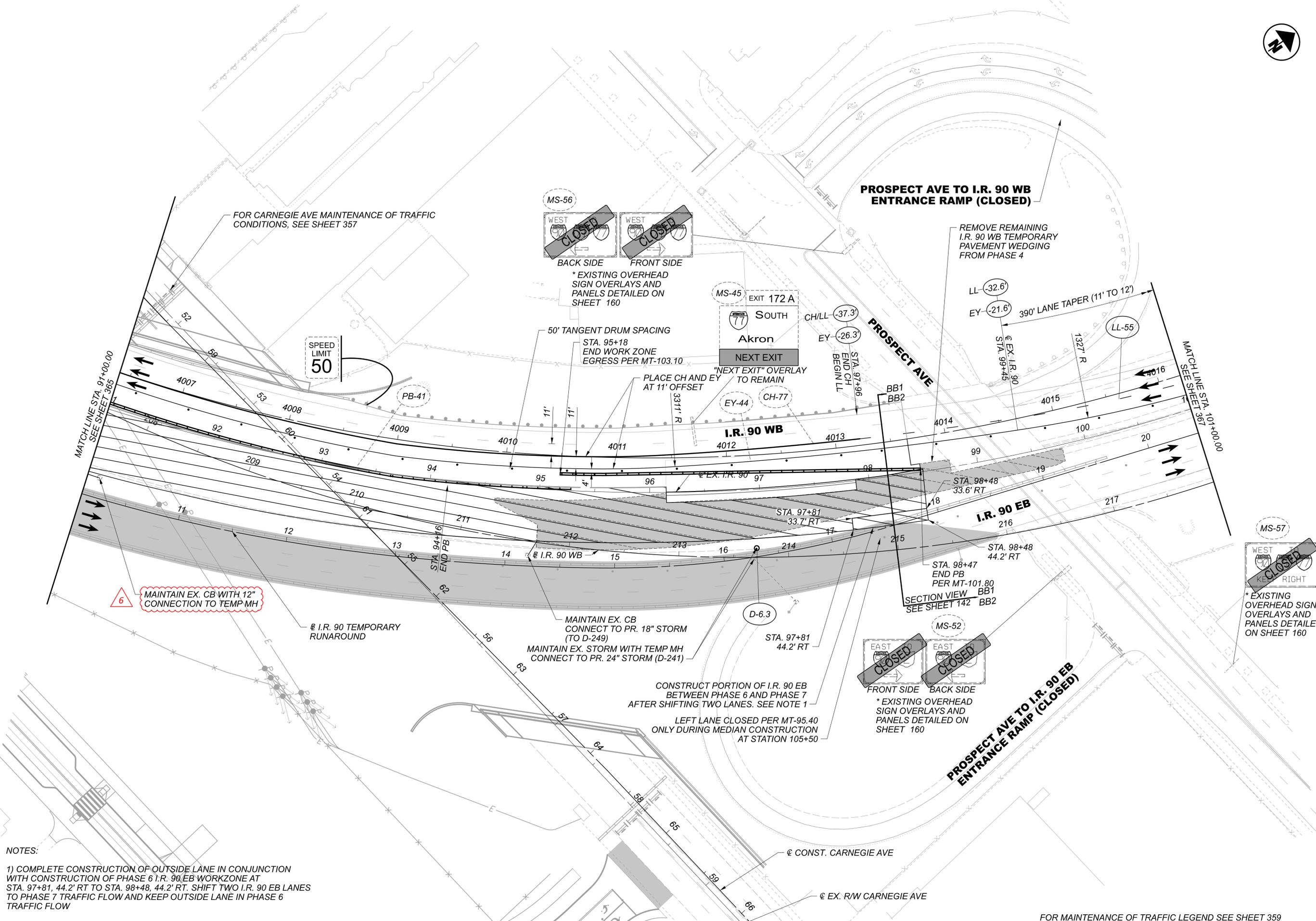
FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 328



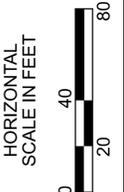
MAINTENANCE OF TRAFFIC - PHASE 5
I.R. 90 - STA. 91+00.00 TO STA. 101+00.00

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET TOTAL	353 2696

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 347



NOTES:
 1) COMPLETE CONSTRUCTION OF OUTSIDE LANE IN CONJUNCTION WITH CONSTRUCTION OF PHASE 6 I.R. 90 EB WORKZONE AT STA. 97+81, 44.2' RT TO STA. 98+48, 44.2' RT. SHIFT TWO I.R. 90 EB LANES TO PHASE 7 TRAFFIC FLOW AND KEEP OUTSIDE LANE IN PHASE 6 TRAFFIC FLOW



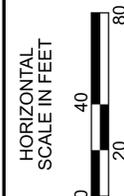
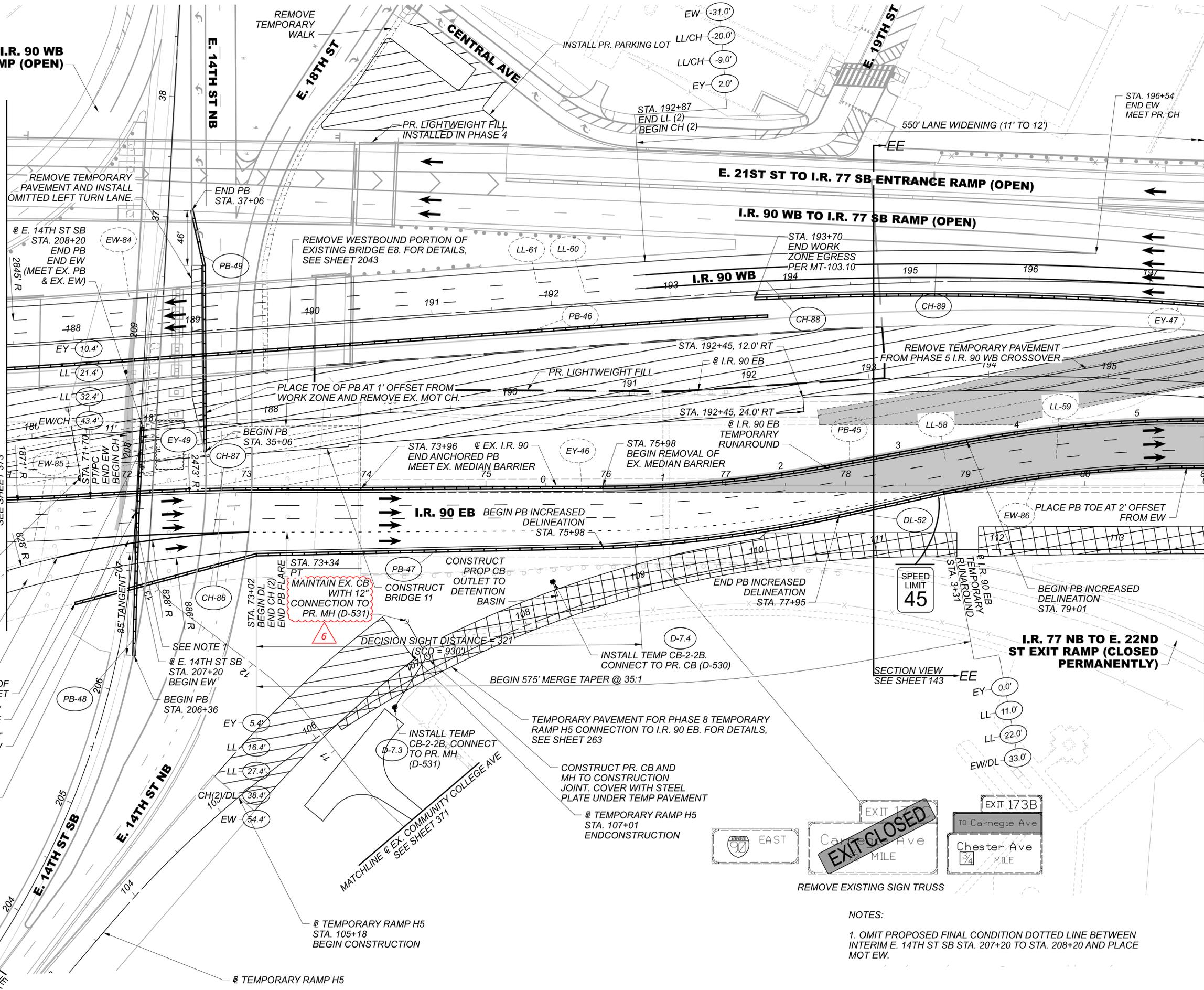
MAINTENANCE OF TRAFFIC - PHASE 6
 I.R. 90 - STA. 91+00.00 TO STA. 101+00.00

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CRK
REVIEWER	GSH 05/22/24
PROJECT ID	82382
SHEET	TOTAL
366	2696

E. 14TH ST TO I.R. 90 WB ENTRANCE RAMP (OPEN)

I.R. 77 NB TO I.R. 90 EB RAMP (OPEN)

STA. 71+42
END EY
BEGIN CH
PLACE PB TOE OF BARRIER AT 1' OFFSET
STA. 71+57
BEGIN 4:1 PB FLARE
PLACE EY 11' OFFSET FROM EX. EW
STA. 72+00
END REMOVAL & RESURFACING RUMBLE STRIPS



MAINTENANCE OF TRAFFIC - PHASE 7
I.R. 90 - STA. 71+00.00 TO STA. 81+00.00

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER
CRK

REVIEWER
GSH 05/22/24

PROJECT ID
82382

SHEET TOTAL
374 2696



NOTES:

- 1. OMIT PROPOSED FINAL CONDITION DOTTED LINE BETWEEN INTERIM E. 14TH ST SB STA. 207+20 TO STA. 208+20 AND PLACE MOT EW.

FOR MAINTENANCE OF TRAFFIC LEGEND SEE SHEET 371

SHEET NUMBER													PARTICIPATION			ALT (X)	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
427	435	470	471	489	1399								01/IMS /04	02/IMS /10	03/IMS /08							
LS													LS				201	11000	LS		CLEARING AND GRUBBING	
				133744									133744				202	23000	133744	SY	PAVEMENT REMOVED	
				101667									101667				202	30000	101667	SF	WALK REMOVED	
				509									509				202	30600	509	SY	CONCRETE MEDIAN REMOVED	
1510				4595									6105				202	30700	6105	FT	CONCRETE BARRIER REMOVED	
				714									714				202	30800	714	SY	TRAFFIC ISLAND REMOVED	
				23863									23863				202	32000	423863	FT	CURB REMOVED	
				7065									7265				202	35100	7265	FT	PIPE REMOVED, 24" DIAMETER AND UNDER	
				609									609				202	35200	609	FT	PIPE REMOVED, OVER 24" DIAMETER	
				6379									6379				202	38000	6379	FT	GUARDRAIL REMOVED	
				1									1				202	42000	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A	
				2									2				202	42010	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
				7									7				202	42040	7	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
				2									2				202	42050	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE B	
				6									6				202	47000	6	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
				1									1				202	47001	1	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED, AS PER PLAN	74
				2									2				202	47800	2	EACH	IMPACT ATTENUATOR REMOVED	
				15									15				202	58000	15	EACH	MANHOLE REMOVED	78
				63									63				202	58100	63	EACH	CATCH BASIN REMOVED	78
				21									21				202	58200	21	EACH	INLET REMOVED	78
				11									11				202	58400	11	EACH	INLET ABANDONED	78
				21									21				202	58500	21	EACH	CATCH BASIN ABANDONED	78
				9									9				202	58700	9	EACH	MANHOLE ABANDONED	78
				2317									2317				SPECIAL	202E70000	2317	FT	FILL AND PLUG EXISTING CONDUIT (12" AND UNDER)	78
				1186									1186				SPECIAL	202E70000	1186	FT	FILL AND PLUG EXISTING CONDUIT (15")	78
				510									510				SPECIAL	202E70000	510	FT	FILL AND PLUG EXISTING CONDUIT (18")	78
				51									51				SPECIAL	202E70000	51	FT	FILL AND PLUG EXISTING CONDUIT (21")	78
				255									255				SPECIAL	202E70000	255	FT	FILL AND PLUG EXISTING CONDUIT (24")	78
				48									48				SPECIAL	202E70000	48	FT	FILL AND PLUG EXISTING CONDUIT (30")	78
				695									695				SPECIAL	202E70000	695	FT	FILL AND PLUG EXISTING CONDUIT (36")	78
				475									475				SPECIAL	202E70000	475	FT	FILL AND PLUG EXISTING CONDUIT (66")	78
				349									349				SPECIAL	202E70000	349	FT	FILL AND PLUG EXISTING CONDUIT (NO. 8 BR)	78
				10915									10915				202	75000	10915	FT	FENCE REMOVED	
				13									13				202	75250	13	EACH	GATE REMOVED	
				2									2				202	98100	2	EACH	REMOVAL MISC.: BILLBOARD	74
				26									26				202	98100	26	EACH	REMOVAL MISC.: BOLLARD	74
				2									2				202	98100	2	EACH	REMOVAL MISC.: CONCRETE STRUCTURES	74
				1									1				202	98100	1	EACH	REMOVAL MISC.: PAY BOX	74
				1									1				202	98100	1	EACH	REMOVAL MISC.: UTILITY POLE	74
1000													1000				202	98200	1000	FT	REMOVAL MISC.: BURIED TRACK	74
				266									266				202	98200	266	FT	REMOVAL MISC.: DELINEATOR CURB	74
				264									264				202	98200	264	FT	REMOVAL MISC.: PORTABLE BARRIER	74
				345447									345447				203	10000	345447	CY	EXCAVATION	
				34789									34789				203	10001	34789	CY	EXCAVATION, AS PER PLAN	75
				86656									86656				203	20000	86656	CY	EMBANKMENT	
				27322									27322				203	20001	27322	CY	EMBANKMENT, AS PER PLAN	75
				99839									99839				203	98000	99839	CY	ROADWAY, MISC.: EPS GEOFOAM FILL	75
				110		84							194				203	98100	4 194	SY	ROADWAY, MISC.: REINFORCED TURF	75
				70757									70757				204	10000	70757	SY	SUBGRADE COMPACTION	74
3100				272									3372				204	13000	3372	CY	EXCAVATION OF SUBGRADE	
3100				272									3372				204	30010	3372	CY	GRANULAR MATERIAL, TYPE B	
9300				80									80				204	45000	4 80	HOUR	PROOF ROLLING	74
				556									9856				204	50000	9856	SY	GEOTEXTILE FABRIC	
				1855									1855				206	10500	1855	TON	CEMENT	
				75578									75578				206	11000	75578	SY	CURING COAT	
				75866									75866				206	15010	75866	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	74
				LS									LS				206	30000	LS		MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS	
				8772.2									8772.2				606	15050	8772.2	FT	GUARDRAIL, TYPE MGS	
				5									5				606	26050	5	EACH	ANCHOR ASSEMBLY, MGS TYPE B (MASH 2016)	76

DESIGN AGENCY
Michael Baker
 INTERNATIONAL
 DESIGNER
 KJM
 REVIEWER
 KGJ 05/22/24
 PROJECT ID
 82382
 SHEET TOTAL
 403 2696

SHEET NUMBER										PARTICIPATION			ALT (X)	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
122	427	435	442	443	447	457	470	1399		01/IMS /04	02/IMS /10	03/IMS /08							
			3							3				611	98371	3	EACH	DRAINAGE (CONT.)	1166
			2		1					3				611	98371	3	EACH	CATCH BASIN, NO. 6, AS PER PLAN 2	1163
			1							1				611	98371	1	EACH	CATCH BASIN, NO. 6, AS PER PLAN 3	1172
			8							8				611	98410	8	EACH	CATCH BASIN, NO. 8	
				2	1					3				611	98411	3	EACH	CATCH BASIN, NO. 8, AS PER PLAN 2	1163
				1						1				611	98450	1	EACH	CATCH BASIN, NO. 2-2A	
				1	1					1				611	98451	1	EACH	CATCH BASIN, NO. 2-2A, AS PER PLAN 2	1163
				7	6					20				611	98470	20	EACH	CATCH BASIN, NO. 2-2B	
	4			1	4					10				611	98471	10	EACH	CATCH BASIN, NO. 2-2B, AS PER PLAN	1171
				1						5				611	98471	5	EACH	CATCH BASIN, NO. 2-2B, AS PER PLAN 2	1163
				6						6				611	98504	6	EACH	CATCH BASIN, NO. 2-2C	
				2						2				611	98511	2	EACH	CATCH BASIN, NO. 2-3, AS PER PLAN 2	1163
					2					2				611	98630	2	EACH	CATCH BASIN ADJUSTED TO GRADE	
					1					1				611	98634	1	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
				8						8				611	99100	8	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1	
				1						1				611	99104	1	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C	
				4						4				611	99110	4	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1	
				5						5				611	99111	5	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN	1173
				9						9				611	99114	9	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D	
				3						3				611	99115	3	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D, AS PER PLAN	1164
				1						1				611	99115	1	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D, AS PER PLAN 2	1163
15			22	4	26					37				611	99574	37	EACH	MANHOLE, NO. 3	
	4		5	5						30				611	99575	30	EACH	MANHOLE, NO. 3, AS PER PLAN	1170
			5							10				611	99575	10	EACH	MANHOLE, NO. 3, AS PER PLAN 2	1163
			5							5				611	99575	5	EACH	MANHOLE, NO. 3, AS PER PLAN 3	1163
			1							1				611	99586	1	EACH	MANHOLE, NO. 3 WITH 108" BASE I.D. AND 12" WEIR	
		35	3	16						54				611	99654	54	EACH	MANHOLE ADJUSTED TO GRADE	
			1					2		2				611	99655	2	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN, WATER MANHOLE	1384
			1	2	2					2				611	99660	2	EACH	MANHOLE RECONSTRUCTED TO GRADE	
				2						2				611	99661	2	EACH	MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN	1163
			2	1						3				611	99661	3	EACH	MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN 2	1163
										7				611	99710	7	EACH	PRECAST REINFORCED CONCRETE OUTLET	
	10000									10000				SPECIAL	611E99820	10000	LB	MISCELLANEOUS METAL	80
			3							3				611	99900	3	EACH	DRAINAGE STRUCTURE, MISC.: FLOW RESTRICTOR OUTLET	1161
488			501							989				839	29000	989	FT	TRENCH DRAIN, TYPE A WITH STANDARD GRATE	
			1							1				895	10040	1	EACH	MANUFACTURED WATER QUALITY STRUCTURE, TYPE 4	79
				459						459				899	10001	459	FT	CURED-IN-PLACE PIPE LINER, AS PER PLAN, NO. 6 EGG-SHAPED	1365
				656						656				899	10001	656	FT	CURED-IN-PLACE PIPE LINER, AS PER PLAN, NO. 7 EGG-SHAPED	1365
				413						413				899	10001	413	FT	CURED-IN-PLACE PIPE LINER, AS PER PLAN, NO. 10 EGG-SHAPED	1365
				270						270				899	10001	270	FT	CURED-IN-PLACE PIPE LINER, AS PER PLAN, NO. 11 EGG-SHAPED	1365
				595						595				899	10001	595	FT	CURED-IN-PLACE PIPE LINER, AS PER PLAN, NO. 12 EGG-SHAPED	1365
																		PAVEMENT	
	480									480				251	01030	480	CY	PARTIAL DEPTH PAVEMENT REPAIR (442)	80
	400									400				251	01031	400	CY	PARTIAL DEPTH PAVEMENT REPAIR (442), AS PER PLAN	80
							1000			1000				252	01500	1000	FT	FULL DEPTH PAVEMENT SAWING	
	64786									64786				254	01000	64786	SY	PAVEMENT PLANING, ASPHALT CONCRETE (1.5")	
	38540									38540				254	01000	38540	SY	PAVEMENT PLANING, ASPHALT CONCRETE (3")	
	56010							15080		71090				254	01000	71090	SY	PAVEMENT PLANING, ASPHALT CONCRETE (3.25")	
	2800									2800				255	11001	2800	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN A	80
	2800									2800				255	11001	2800	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN B	80
	3850									3850				255	11001	3850	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, TYPE 1, CLASS QC1, AS PER PLAN C	80
										54				301	56000	54	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
										20962				302	56000	20962	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
										24305				304	20000	24305	CY	AGGREGATE BASE	
										36513				305	13011	36513	SY	9" CONCRETE BASE, CLASS QC 1P, AS PER PLAN	80
	14303									36198				407	20000	36198	GAL	NON-TRACKING TACK COAT	
	1340									2602				441	50101	2602	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M	80
	1870									3643				441	50300	3643	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	

DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
REVIEWER	KJM
PROJECT ID	82382
SHEET TOTAL	406 2696

SHEET NUMBER										PARTICIPATION			ALT (X)	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
427	428	443	470	1399	1839					01/IMS /04	02/IMS /10	03/IMS /08							
			4							4				441	70000	12	CY	PAVEMENT (CONT.) ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	
			12							76				441	70201	76	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), AS PER PLAN, PG64-22	80
			40							40				441	70500	40	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)	
			55							55				441	70700	55	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS)	
			7043							7043				442	00100	7043	CY	ANTI-SEGREGATION EQUIPMENT	
2330			3971							6301				442	10001	6301	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG76-22M	80
2720			4756							7476				442	10100	7476	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
64										64				442	22101	64	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (449), AS PER PLAN, PG70-22M	85
			4							715				451	1601	715	SY	12" REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	80
			6							1015				451	20000	1015	SY	REINFORCED CONCRETE PAVEMENT, MISC.: INTEGRALLY COLORED CONCRETE CROSSWALK	1825
										61.00				SPECIAL	451E31000	61.00	FT	PRESSURE RELIEF JOINT, TYPE B	80
										337				452	09010	337	SY	4" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
										1231				452	12010	1231	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
			4							15565				452	14010	15565	SY	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
775										775				452	14011	775	SY	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	80
1000										1000				452	19200	1000	SY	NON-REINFORCED CONCRETE PAVEMENT, MISC.: SURCHARGE FOR CLASS MS CONCRETE	87
			4							51				609	12000	51	FT	COMBINATION CURB AND GUTTER, TYPE 2	
										2172				609	14000	2172	FT	CURB, TYPE 2-A	
										67				609	24000	67	FT	CURB, TYPE 4-A	
										1766				609	24510	1766	FT	CURB, TYPE 4-C	
750			4							15327				609	26000	15327	FT	CURB, TYPE 6	
										46				609	33200	46	FT	CURB, TYPE 10-B	
										366				609	72000	366	SY	CONCRETE MEDIAN	
	1.28									1.28				618	40600	1.28	MILE	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	76
																		WATER WORK	
										3666				202	98200	3666	FT	REMOVAL MISC.: WATER MAIN REMOVED 24" AND UNDER	1376
										476				202	98200	476	FT	REMOVAL MISC.: WATER MAIN REMOVED OVER 24"	1376
			71							71				638	06713	71	FT	30" STEEL PIPE ENCASEMENT, OPEN CUT, AS PER PLAN	1163
										15				638	10701	15	EACH	FIRE HYDRANT REMOVED AND DISPOSED OF, AS PER PLAN	1376
										49				638	10801	49	EACH	VALVE BOX ADJUSTED TO GRADE, AS PER PLAN	1384
										1				638	11201	1	EACH	METER, SETTING, STOP AND CHAMBER, AS PER PLAN (CLEVELAND WATER)	1428
										909				SPECIAL	638E20172	909	FT	12" WATER MAIN DIP CLASS 52 BOLTLESS RESTRAINED JOINTS AND FITTINGS (CLEVELAND WATER)	1376
										427				SPECIAL	638E20174	427	FT	12" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS (CLEVELAND WATER)	1376
										289				SPECIAL	638E20292	289	FT	24" WATER MAIN DIP CLASS 52 BOLTLESS RESTRAINED JOINTS AND FITTINGS (CLEVELAND WATER)	1378
										252				SPECIAL	638E20294	252	FT	24" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS (CLEVELAND WATER)	1378
										291				SPECIAL	638E20336	291	FT	30" WATER MAIN DIP CLASS 52 BOLTLESS RESTRAINED JOINTS AND FITTINGS (CLEVELAND WATER)	1378
										1225				SPECIAL	638E20338	1225	FT	30" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS (CLEVELAND WATER)	1378
										40				SPECIAL	638E20480	40	FT	48" STEEL PIPE ENCASEMENT, BORED OR JACKED (CLEVELAND WATER)	1385
										2				SPECIAL	638E20580	2	EACH	10" CUTTING IN SLEEVE (CLEVELAND WATER)	1383
										5				SPECIAL	638E20586	5	EACH	12" GATE VALVE WITH VALVE BOX (CLEVELAND WATER)	1381
										4				SPECIAL	638E20596	4	EACH	12" CUTTING IN SLEEVE (CLEVELAND WATER)	1383
										3				SPECIAL	638E20598	3	EACH	12" CUTTING IN SLEEVE, VALVE WITH VALVE BOX (CLEVELAND WATER)	1383
										3				SPECIAL	638E20746	3	EACH	2" AIR RELEASE VALVE WITH VALVE BOX (CLEVELAND WATER)	1383
										14				SPECIAL	638E20750	14	EACH	6" FIRE HYDRANT, COMPLETE (CLEVELAND WATER)	1383
										1				SPECIAL	638E20762	1	EACH	FIRE HYDRANT SERVICE LINE EXTENDED AND ADJUSTED TO GRADE (CLEVELAND WATER)	1419
										177				SPECIAL	638E20770	177	FT	1" COPPER WATER SERVICE LINE (CLEVELAND WATER)	1384
										587				SPECIAL	638E20794	587	FT	REMOVE WATER SERVICE CONNECTION (CLEVELAND WATER)	1376
										10				SPECIAL	638E20842	10	FT	EXTEND 1-1/2" COPPER WATER SERVICE CONNECTION (CLEVELAND WATER)	1418
										31				SPECIAL	638E20844	31	FT	INSTALL 1-1/2" COPPER WATER SERVICE CONNECTION (CLEVELAND WATER)	1384
										4				SPECIAL	638E20894	4	EACH	1" CORPORATION STOP (CLEVELAND WATER)	1384
										2				SPECIAL	638E20896	2	EACH	1-1/2" CORPORATION STOP (CLEVELAND WATER)	1384
										1				SPECIAL	638E21002	1	EACH	INSTALL 1" METER SETTING, COMPLETE (CLEVELAND WATER)	1384
										3				638	98000	3	EACH	WATER WORK, MISC.: 12" EXPANSION VALVE (BRIDGE)	1378
										2				638	98000	2	EACH	WATER WORK, MISC.: 24" EXPANSION VALVE (BRIDGE)	1380
										3				638	98000	3	EACH	WATER WORK, MISC.: 24" VALVE ASSEMBLY COMPLETE (CLEVELAND WATER)	1381
										1				638	98000	1	EACH	WATER WORK, MISC.: 30" CUTTING IN SLEEVE (CLEVELAND WATER)	1380
										2				638	98000	2	EACH	WATER WORK, MISC.: 30" VALVE ASSEMBLY COMPLETE (CLEVELAND WATER)	1381
										2				638	98000	2	EACH	WATER WORK, MISC.: 36" CUTTING IN SLEEVE (CLEVELAND WATER)	1380
										300000				638	98000	300000	EACH	WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT CHARGES	1374

DESIGN AGENCY
Michael Baker
 INTERNATIONAL

DESIGNER
 KJM

REVIEWER
 KGJ 05/22/24

PROJECT ID
 82382

SHEET TOTAL
 407 2696

SHEET NUMBER													PARTICIPATION			ALT (X)	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
1399	1400	1688	1689									01/IMS /04	02/IMS /10	03/IMS /08								
										WATER WORK (CONT.)												
												3			638	98000	3	EACH	WATER WORK, MISC.: CONCRETE PIER	1426		
												2			638	98000	2	EACH	WATER WORK, MISC.: SLEEVE FOR ABUTMENT WALL - 12" DIP LINE (CLEVELAND WATER)	1429		
												2			638	98000	2	EACH	WATER WORK, MISC.: SLEEVE FOR ABUTMENT WALL - 24" STEEL LINE (CLEVELAND WATER)	1429		
												2			638	98000	2	EACH	WATER WORK, MISC.: STEEL TO DIP TRANSITION (CLEVELAND WATER)	1429		
		507										507			638	98600	507	FT	WATER WORK, MISC.: 12" INSULATION FOR BRIDGE (CLEVELAND WATER)	1381		
												354			638	98600	354	FT	WATER WORK, MISC.: 24" INSULATION FOR BRIDGE (CLEVELAND WATER)	1381		
		354										354			638	98600	354	FT	WATER WORK, MISC.: 24" POLYURETHANE COATED CEMENT LINED STEEL	1380		
										LIGHTING												
												2			202	75704	2	EACH	REMOVAL OF EXISTING CONTROL CENTER AND FOUNDATION			
												2			202	75800	2	EACH	DISCONNECT EXISTING CIRCUIT			
												12	154		625	00450	166	EACH	CONNECTION, FUSED PULL APART			
													77		625	00460	77	EACH	CONNECTION, UNFUSED PULL APART			
												15			625	00470	15	EACH	CONNECTION, UNFUSED BOLTED			
												123	84		625	00480	207	EACH	CONNECTION, UNFUSED PERMANENT			
												4			625	10494	4	EACH	LIGHT POLE, LOW MAST, ALM50			
												2			625	10494	2	EACH	LIGHT POLE, LOW MAST, ATLM50			
													44		625	10500	44	EACH	LIGHT POLE, MISC.: 15' ROUND TAPERED FIBERGLASS STREETLIGHT	1686		
													33		625	10500	33	EACH	LIGHT POLE, MISC.: 30' ROUND TAPERED FIBERGLASS STREETLIGHT	1686		
												32			625	10614	32	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE			
												1			625	13500	1	EACH	LIGHT TOWER, MISC.: BB80 MODIFIED FOR FAA TYPE L-810 OBSTRUCTION LIGHTING	1685		
												2			625	13500	2	EACH	LIGHT TOWER, MISC.: BB100 MODIFIED FOR FAA TYPE L-810 OBSTRUCTION LIGHTING	1685		
												1			625	13500	1	EACH	LIGHT TOWER, MISC.: BB110 MODIFIED FOR FAA TYPE L-810 OBSTRUCTION LIGHTING	1685		
												2			625	13500	2	EACH	LIGHT TOWER, MISC.: BBB80 MODIFIED FOR FAA TYPE L-810 OBSTRUCTION LIGHTING	1685		
												8			625	13500	8	EACH	LIGHT TOWER, MISC.: BBB100 MODIFIED FOR FAA TYPE L-810 OBSTRUCTION LIGHTING	1685		
												1			625	13500	1	EACH	LIGHT TOWER, MISC.: BBB120 MODIFIED FOR FAA TYPE L-810 OBSTRUCTION LIGHTING	1685		
												1			625	13500	1	EACH	LIGHT TOWER, MISC.: BBBB60 MODIFIED FOR FAA TYPE L-810 OBSTRUCTION LIGHTING	1685		
												2			625	13500	2	EACH	LIGHT TOWER, MISC.: BBBB90 MODIFIED FOR FAA TYPE L-810 OBSTRUCTION LIGHTING	1685		
												2			625	13500	2	EACH	LIGHT TOWER, MISC.: BBBB100 MODIFIED FOR FAA TYPE L-810 OBSTRUCTION LIGHTING	1685		
												1			625	13500	1	EACH	LIGHT TOWER, MISC.: TOWER LIGHTING RING WITH 4 LUMINAIRE MOUNTS	1685		
												58			625	14000	58	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP			
												2			625	14200	2	EACH	LIGHT POLE FOUNDATION, 24" X 10' DEEP			
												4			625	14307	4	EACH	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN	1685		
												2			625	15000	2	EACH	LIGHT TOWER FOUNDATION, 36" X 15' DEEP			
												10			625	15100	10	EACH	LIGHT TOWER FOUNDATION, 36" X 20' DEEP			
												4			625	15200	4	EACH	LIGHT TOWER FOUNDATION, 36" X 25' DEEP			
												1			625	15400	1	EACH	LIGHT TOWER FOUNDATION, 42" X 25' DEEP			
												1			625	15700	1	EACH	LIGHT TOWER FOUNDATION, MISC.: 42" X 20' DEEP	1685		
												2			625	15700	2	EACH	LIGHT TOWER FOUNDATION, MISC.: 48" X 25' DEEP	1685		
												4			625	23200	4	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE			
												49071			625	23304	49071	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE			
												159			625	23308	159	FT	DISTRIBUTION CABLE, MISC.: NO. 4 / 0 AWG 2400 VOLT DISTRIBUTION CABLE	1686		
												900			625	23400	900	FT	NO. 10 AWG POLE AND BRACKET CABLE			
												4950			625	23410	4950	FT	NO. 12 AWG POLE AND BRACKET CABLE			
												4			625	24320	4	FT	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES			
												1796			625	25012	1796	FT	CONDUIT, 3/4", 725.051			
												2427			625	25300	2427	FT	CONDUIT, 1-1/2", 725.04			
												116			625	25404	116	FT	CONDUIT, 2-1/2", 725.04			
												8541			625	25408	8541	FT	CONDUIT, 2", 725.051			
												712			625	25504	712	FT	CONDUIT, 3", 725.051			
												43			625	25802	43	FT	CONDUIT, CONCRETE ENCASED, 2", 725.051			
												132			625	25803	132	FT	CONDUIT, CONCRETE ENCASED, AS PER PLAN (2-2" CONDUIT, 725.051)	1686		
												1974			625	25803	4	FT	CONDUIT, CONCRETE ENCASED, AS PER PLAN (4-2" CONDUIT, 725.051)	1686		
												7218			625	25902	7218	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"			
												63			625	26253	2	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN (CPP LED COBRA HEAD)	1686		
												64			625	26263	64	EACH	LUMINAIRE, HIGH MAST, SOLID STATE (LED), AS PER PLAN (480V)	1685		
												6			625	26273	6	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN (480V)	1685		
												23			625	27503	23	EACH	LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN (480V)	1685		
												1			625	27503	1	EACH	LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN (480V, CROSS FRAME MOUNTED)	1685		

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
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PROJECT ID	
82382	
SHEET	TOTAL
408	2696

SHEET NUMBER													PARTICIPATION			ALT (X)	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
120	125	1455	1468	1485	1493							01/IMS /04	02/IMS /10	03/IMS /08								
										TRAFFIC CONTROL (CONT.)												
				6								6			630	72420	6	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 2			
				1								1			630	72430	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 3			
				1								1			630	72550	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 13			
	26			61								87			630	75000	87	EACH	SIGN ATTACHMENT ASSEMBLY			
				2								2			630	79100	2	EACH	SIGN HANGER ASSEMBLY, MAST ARM			
				112								112			630	79500	112	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED			
				18								18			630	79604	18	EACH	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED, TYPE 2			
	146.0			4044.7								4190.7			630	80100	4190.7	SF	SIGN, FLAT SHEET			
				899.5								899.5			630	80200	899.5	SF	SIGN, GROUND MOUNTED EXTRUSHEET			
	1026.0			7235.5								8261.5			630	80224	8261.5	SF	SIGN, OVERHEAD EXTRUSHEET			
	781.3											781.3			630	80300	781.3	SF	SIGN, TEMPORARY OVERLAY			
				6								6			630	80501	6	EACH	SIGN, DOUBLE FACED, STREET NAME, AS PER PLAN	1449		
				5								5			630	84010	5	EACH	CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TYPE TC-21.50			
	2			4								6			630	84500	6	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION			
				27								27			630	84510	27	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION			
	1				229							230			630	84900	230	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL			
					5							5			630	85000	5	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE			
					2							2			630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION			
					14							14			630	85400	14	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL			
					198							198			630	86002	198	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL			
					2							2			630	86010	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND REERECTION			
	2				28							30			630	86102	30	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL			
					1							1			630	86270	1	EACH	REMOVAL OF GROUND MOUNTED PIPE SUPPORT AND STORAGE			
	5											5			630	87000	5	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE			
	5											5			630	87100	5	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION			
	20				69							89			630	87400	89	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL			
					248							248			630	87500	248	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL			
					1							1			630	87510	1	EACH	REMOVAL OF POLE MOUNTED SIGN AND STORAGE			
					3							3			630	87520	3	EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION			
					18							18			630	89702	18	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL			
					1							1			630	89804	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-15.115			
	33											33			630	89894	33	EACH	REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL			
	4											4			630	89898	4	EACH	REMOVAL OF TEMPORARY OVERLAY SIGN AND STORAGE			
95970												95970			642	30000	95970	FT	REMOVAL OF PAVEMENT MARKING			
70												70			642	30020	70	EACH	REMOVAL OF PAVEMENT MARKING			
				1.33								1.33			644	00100	1.33	MILE	EDGE LINE, 4"			
1.96		7.62										9.58			644	00104	9.58	MILE	EDGE LINE, 6"			
0.46				2.04								2.50			644	00200	2.50	MILE	LANE LINE, 4"			
2.20		3.69										5.89			644	00204	5.89	MILE	LANE LINE, 6"			
0.04		0.17		1.56								1.77			644	00300	1.77	MILE	CENTER LINE			
517				5365								5882			644	00400	5882	FT	CHANNELIZING LINE, 8"			
1153		9020										10173			644	00404	10173	FT	CHANNELIZING LINE, 12"			
				1161								1161			644	00500	1161	FT	STOP LINE			
				3092								3145			644	00620	3145	FT	CROSSWALK LINE, 12"			
				1219								1219			644	00621	1219	FT	CROSSWALK LINE, 12", AS PER PLAN	1449		
												4153			644	00700	4153	FT	TRANSVERSE/DIAGONAL LINE			
74		2687		1466								1573			644	00720	1573	FT	CHEVRON MARKING			
		1026		473								581			644	00900	581	SF	ISLAND MARKING			
				581								2960			644	01200	2960	FT	PARKING LOT STALL MARKING			
				2960								164			644	01300	164	EACH	LANE ARROW			
				136																		
				2								2			644	01350	2	EACH	LANE REDUCTION ARROW			
												11			644	01360	11	EACH	WRONG WAY ARROW			
												2			644	01370	2	EACH	TWO WAY LEFT TURN ARROW			
257				3053								3310			644	01500	3310	FT	DOTTED LINE, 4"			
2449		2420										4869			644	01510	4869	FT	DOTTED LINE, 6"			
												1448			644	01514	1448	FT	DOTTED LINE, 8"			
				1448								1365			644	01520	1365	FT	DOTTED LINE, 12"			
				6								6			644	01630	6	EACH	BIKE LANE SYMBOL MARKING			
				4								4			644	19000	4	EACH	SHARED LANE MARKING			

SHEET NUMBER													PARTICIPATION			ALT (X)	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
429	1642	1806	1839							01/IMS /04	02/IMS /10	03/IMS /08										
TRAFFIC SIGNALS (CONT.)																						
	8									8				632	90101	8	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	1638			
	7									7				633	65511	7	EACH	CABINET, TYPE TS-2, AS PER PLAN	1641			
	7									7				633	67100	7	EACH	CABINET FOUNDATION				
	6									6				633	67200	6	EACH	CONTROLLER WORK PAD				
	7									7				809	69123	7	EACH	ATC CONTROLLER, AS PER PLAN	1641			
TRAFFIC SIGNALS ALTERNATES 1																						
	7									7			X	633	45001	7	EACH	GPS (GLOBAL POSITIONING SYSTEM) CLOCK ASSEMBLY, AS PER PLAN (GENERIC) (ALTERNATE 1)	1641			
	7									7			X	633	45001	7	EACH	GPS (GLOBAL POSITIONING SYSTEM) CLOCK ASSEMBLY, AS PER PLAN (ELTEC) (ALTERNATE 2)	1641			
TRAFFIC SIGNALS ALTERNATES 2																						
	20									20			X	809	69101	20	EACH	STOP LINE RADAR DETECTION, AS PER PLAN (GENERIC) (ALTERNATE 1)	1638			
	20									20			X	809	69101	20	EACH	STOP LINE RADAR DETECTION, AS PER PLAN (ITERIS) (ALTERNATE 2)	1638			
LANDSCAPING																						
			26							26				511	53010	26	CY	CLASS QC1 CONCRETE, MISC.: GATEWAY MONUMENT SIGN, FOUNDATION	1827			
			52							52				511	71100	52	CY	CONCRETE, MISC.: CLASS QC SCC CONCRETE WITH QC/QA, GATEWAY MONUMENT SIGN, WALL	1827			
			LS							LS				607	98200	LS		FENCE, MISC.: BRIDGE 13 SCREEN WALL PANELS	1832-1835			
			LS							LS				607	98200	LS		FENCE, MISC.: GATEWAY MONUMENT SIGN SCREEN WALL PANELS	1832			
			923							923				608	98000	923	SF	WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 1)	1825			
			10437							10437				608	98000	10437	SF	WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 2)	1825			
			1527							1527				608	98000	1527	SF	WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 3)	1825			
			743							743				608	98000	743	SF	WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 4)	1825			
	243									243				661	00501	243	CY	MULCH, AS PER PLAN	1804			
	48400									48400				661	31000	48400	GAL	LANDSCAPE WATERING				
		9								9				661	40100	9	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, AMERICAN SYCAMORE (POC)				
		5								5				661	40100	5	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, BUR OAK (QMA)				
		7								7				661	40100	7	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, CHINESE ELM (ULM)				
		15								15				661	40100	15	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, CHINKAPIN OAK (QMU)				
		11								11				661	40100	11	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, GREEN VASE ZELKOVA (ZSE)				
		18								18				661	40100	18	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, KENTUCKY COFFEETREE (GDI)				
		1								1				661	40100	1	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, LITTLELEAF LINDEN (TCO)				
		19								19				661	40100	19	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, OHIO BUCKEYE (AGL)				
		18								18				661	40100	18	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, SCARLET OAK (QCO)				
		12								12				661	40100	12	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, SOMERSET RED MAPLE (ARS)				
		10								10				661	40100	10	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, THORNLESS HONEYLOCUST (GTR)				
		6								6				661	50160	6	EACH	EVERGREEN TREE, 8' HEIGHT, AMERICAN HOLLY (IOK)				
		26								26				661	50160	26	EACH	EVERGREEN TREE, 8' HEIGHT, AMERICAN HOLLY (IOP)				
		72								72				661	50160	72	EACH	EVERGREEN TREE, 8' HEIGHT, EASTERN REDCEDAR (JVI)				
		58								58				661	50160	58	EACH	EVERGREEN TREE, 8' HEIGHT, PITCH PINE (PRI)				
		53								53				661	99900	53	EACH	PLANTING, MISC.: FLOWERING TREE, 2-1/2" CALIPER, CRABAPPLE SP. (MAL)	1824			
		128								128				661	99900	128	EACH	PLANTING, MISC.: FLOWERING TREE, 2-1/2" CALIPER, EASTERN REDBUD (CCN)	1824			
		43								43				661	99900	43	EACH	PLANTING, MISC.: FLOWERING TREE, 2-1/2" CALIPER, FLOWERING DOGWOOD (CFL)	1824			
		90								90				661	99900	90	EACH	PLANTING, MISC.: FLOWERING TREE, 2-1/2" CALIPER, GREEN HAWTHORN (CVI)	1824			
		33								33				661	99900	33	EACH	PLANTING, MISC.: FLOWERING TREE, 2-1/2" CALIPER, IVORY SILK JAPANESE TREE LILAC (SRE)	1824			
		36								36				661	99900	36	EACH	PLANTING, MISC.: FLOWERING TREE, 2-1/2" CALIPER, KWANZAN FLOWERING CHERRY (PSE)	1824			
		88								88				661	99900	88	EACH	PLANTING, MISC.: FLOWERING TREE, 6-8' HEIGHT, AUTUMN BRILLIANCE SERVICEBERRY (ACA)	1824			
		14								14				661	99900	14	EACH	PLANTING, MISC.: FLOWERING TREE, 6-8' HEIGHT, COMMON WITCH HAZEL (HVI)	1824			
		196								196				661	99900	196	EACH	PLANTING, MISC.: SHRUB, 3 GALLON, SHORE JUNIPER (JCB)	1824			
			9							9				SPECIAL	680E14550	9	EACH	TRASH RECEPTACLE	1826			
			1							1				SPECIAL	680E43100	1	EACH	COMPLETE IRRIGATION SYSTEM	1836			
	2									2				SPECIAL	690E98000	2	EACH	BRICK 1 PAVER MOCK UP	1826			
	2									2				SPECIAL	690E98000	2	EACH	BRICK 2 PAVER MOCK UP	1826			
	2									2				SPECIAL	690E98000	2	EACH	BRICK 3 PAVER MOCK UP	1826			
	2									2				SPECIAL	690E98000	2	EACH	BRICK 4 PAVER MOCK UP	1826			
	1									1				SPECIAL	690E98000	1	EACH	BRIDGE 13 PLANTER MOCK UP	1831			
	1									1				SPECIAL	690E98000	1	EACH	BRIDGE 13 SCREEN WALL MOCK UP	1833			
	1									1				SPECIAL	690E98000	1	EACH	GATEWAY MONUMENT SIGN SCREEN WALL MOCK UP	1833			
			21							21				SPECIAL	690E98000	21	EACH	GATEWAY SIGN ALUMINUM LETTERS	1827			
	2									2				SPECIAL	690E98000	2	EACH	INTEGRALLY COLORED CONCRETE CROSSWALK MOCK UP	1825			
			24							24				SPECIAL	690E98000	24	EACH	PARK BENCH	1826			

DESIGN AGENCY

Michael Baker
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82382

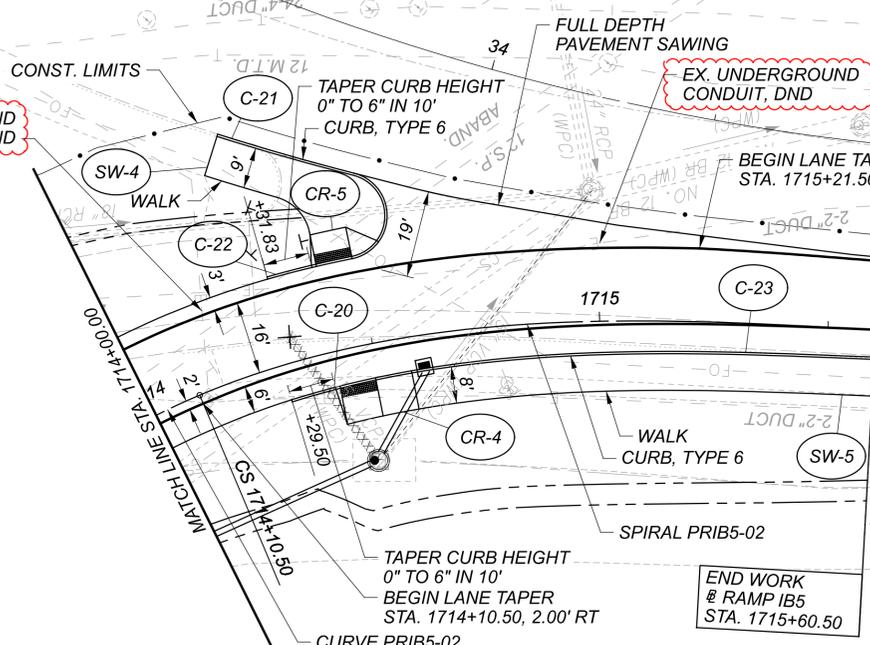
SHEET TOTAL
413 2696

SHEET NUMBER													PARTICIPATION			ALT (X)	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET
120	428	429	435									01/IMS /04	02/IMS /10	03/IMS /08								
										MAINTENANCE OF TRAFFIC (CONT.)												
	42											42			614	13360	42	EACH	OBJECT MARKER, TWO WAY	85		
	3											3			614	18000	3	EACH	MAINTAINING TRAFFIC, MISC.: PARTIAL TEMPORARY TRAFFIC SIGNAL	87		
	1											1			614	18000	1	EACH	MAINTAINING TRAFFIC, MISC.: TEMPORARY TRAFFIC SIGNAL	85		
	200											200			614	18601	200	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	83		
1.04	0.50											1.54			614	20000	1.54	MILE	WORK ZONE LANE LINE, CLASS I, 4"			
8.75	2.50											11.25			614	20010	11.25	MILE	WORK ZONE LANE LINE, CLASS I, 6"			
2.32	0.50											2.82			614	21000	2.82	MILE	WORK ZONE CENTER LINE, CLASS I			
3.63	1.00											4.63			614	22000	4.63	MILE	WORK ZONE EDGE LINE, CLASS I, 4"			
18.26	4.50											22.76			614	22010	22.76	MILE	WORK ZONE EDGE LINE, CLASS I, 6"			
3024	650											3674			614	23000	3674	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8"			
34686	8750											43436			614	23010	43436	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12"			
14781	3650											18431			614	24000	18431	FT	WORK ZONE DOTTED LINE, CLASS I			
1048	150											1198			614	25000	1198	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I			
718	175											893			614	26000	893	FT	WORK ZONE STOP LINE, CLASS I			
657	175											832			614	27010	832	FT	WORK ZONE CROSSWALK LINE, CLASS I, 12"			
92	25											117			614	30000	117	EACH	WORK ZONE ARROW, CLASS I			
2	1											3			614	31000	3	EACH	WORK ZONE WORD ON PAVEMENT, 72", CLASS I			
4	1											5			614	98200	5	EACH	WORK ZONE PAVEMENT MARKING, MISC.: SHARED LANE MARKING	84		
												LS			615	10000	LS		ROADS FOR MAINTAINING TRAFFIC			
30133												30133			615	20000	30133	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	84		
	2285											2285			616	10000	2285	MGAL	WATER			
	150											150			616	20000	150	TON	CALCIUM CHLORIDE			
58608												58608			622	41011	58608	FT	PORTABLE BARRIER, 50", AS PER PLAN	84		
3												3			622	41060	3	EACH	DUAL PORTABLE BARRIER TRANSITION/TERMINATION			
			1150									1150			622	41101	1150	FT	PORTABLE BARRIER, UNANCHORED, AS PER PLAN	76		
2054												2054			622	41111	2054	FT	PORTABLE BARRIER, ANCHORED, AS PER PLAN	84		
			190									190			622	41111	190	FT	PORTABLE BARRIER, ANCHORED, AS PER PLAN 2	76		
		64										64			829	00100	64	SNMT	WORK ZONE EGRESS WARNING SYSTEM	84		
		648										648			896	00010	648	SNMT	PORTABLE NON-INTRUSIVE TRAFFIC SENSOR, CLASS I			
		216										216			896	00020	216	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN			
										INCIDENTALS												
												LS			108	10000	LS		CPM PROGRESS SCHEDULE			
												21000			SPECIAL	111E10100	21000	EACH	DEPARTMENTS SHARE FACILITATED PARTNERING COSTS	PN 111		
												LS			614	11000	LS		MAINTAINING TRAFFIC	81		
	72											72			619	16021	72	MNTH	FIELD OFFICE, TYPE C, AS PER PLAN	80A		
												LS			623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING			
												LS			624	10000	LS		MOBILIZATION			

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	KJM
REVIEWER	KGJ 05/22/24
PROJECT ID	82382
SHEET	415
TOTAL	2696

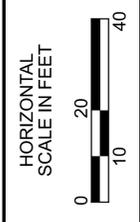
CROSS REFERENCES	
SHEET	DESCRIPTION
73	UTILITY SYMBOL LEGEND
22	EX. TYPICAL SECTIONS
48	PR. TYPICAL SECTIONS
430 - 489	SUBSUMMARIES
679 - 710	REMOVAL PLAN
833 - 841	CROSS SECTIONS
1023	SUPERELEVATION TABLES
1052	RAMP TERMINAL DETAILS
1092 - 1120	DRAINAGE PLANS
1716 - 1723	LIGHTING PLAN
1807 - 1817	LANDSCAPING
2383 - 2386	FENCE PLAN

6
EX. UNDERGROUND
CONDUIT, DND



CURVE PRIB5-02
 CURVE DATA
 P.I. = Sta. 1720+55.32
 $\Delta = 195^\circ 33' 01''$ RT
 $D_c = 34^\circ 45' 00''$
 $R = 164.88'$
 $T = 1,207.55'$
 $L = 562.73'$
 $E = 1,053.88'$
 $e_{max} = 0.060$
 $V = 25$ MPH

SPIRAL PRIB5-02
 SPIRAL DATA
 P.I. = Sta. 1714+61.51
 $L_s = 150.00'$
 $\theta_s = 26^\circ 03' 45''$
 $LT = 101.11'$
 $ST = 51.01'$
 $x = 141.83'$
 $y = 44.42'$
 $k = 74.49'$
 $p = 5.64'$
 $C = 148.63'$
 Start = Sta. 1714+10.50
 End = Sta. 1715+60.50
 C.B. = $N45^\circ 59' 16''$ W

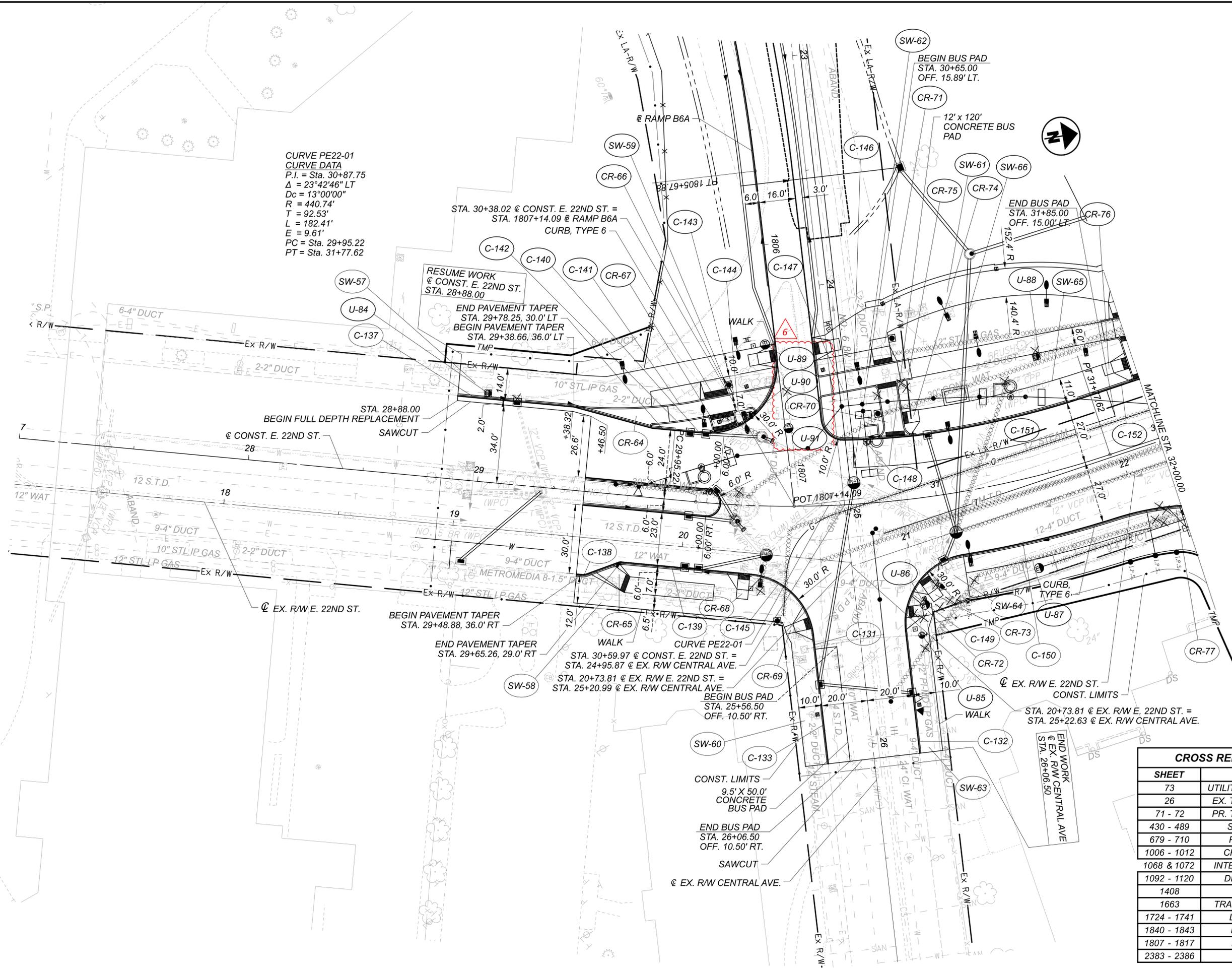


PLAN - RAMP IB5
 STA. 1714+00.00 TO END

DESIGN AGENCY



DESIGNER	BMV
REVIEWER	TJS 04/30/24
PROJECT ID	82382
SHEET	TOTAL
576	2696



CURVE PE22-01
 CURVE DATA
 P.I. = Sta. 30+87.75
 $\Delta = 23^{\circ}42'46''$ LT
 $Dc = 13^{\circ}00'00''$
 $R = 440.74'$
 $T = 92.53'$
 $L = 182.41'$
 $E = 9.61'$
 $PC = Sta. 29+95.22$
 $PT = Sta. 31+77.62$

RESUME WORK
 @ CONST. E. 22ND ST.
 STA. 28+88.00
 END PAVEMENT TAPER
 STA. 29+78.25, 30.0' LT
 BEGIN PAVEMENT TAPER
 STA. 29+38.66, 36.0' LT

STA. 28+88.00
 BEGIN FULL DEPTH REPLACEMENT
 @ CONST. E. 22ND ST.
 SAWCUT

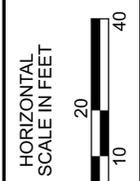
BEGIN PAVEMENT TAPER
 STA. 29+48.88, 36.0' RT
 END PAVEMENT TAPER
 STA. 29+65.26, 29.0' RT

STA. 30+59.97 @ CONST. E. 22ND ST. =
 STA. 24+95.87 @ EX. R/W CENTRAL AVE.
 STA. 20+73.81 @ EX. R/W E. 22ND ST. =
 STA. 25+20.99 @ EX. R/W CENTRAL AVE.

BEGIN BUS PAD
 STA. 25+56.50
 OFF. 10.50' RT.

END WORK
 @ EX. R/W CENTRAL AVE
 STA. 26+06.50

CROSS REFERENCES	
SHEET	DESCRIPTION
73	UTILITY SYMBOL LEGEND
26	EX. TYPICAL SECTIONS
71 - 72	PR. TYPICAL SECTIONS
430 - 489	SUBSUMMARIES
679 - 710	REMOVAL PLAN
1006 - 1012	CROSS SECTIONS
1068 & 1072	INTERSECTION DETAIL
1092 - 1120	DRAINAGE PLANS
1408	WATER WORK
1663	TRAFFIC SIGNAL PLAN
1724 - 1741	LIGHTING PLAN
1840 - 1843	HARDSCAPING
1807 - 1817	LANDSCAPING
2383 - 2386	FENCE PLAN



PLAN - E. 22ND ST.
 BEGIN TO STA. 32+00.00

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

DESIGNER
 KJM

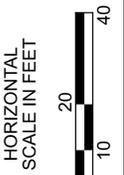
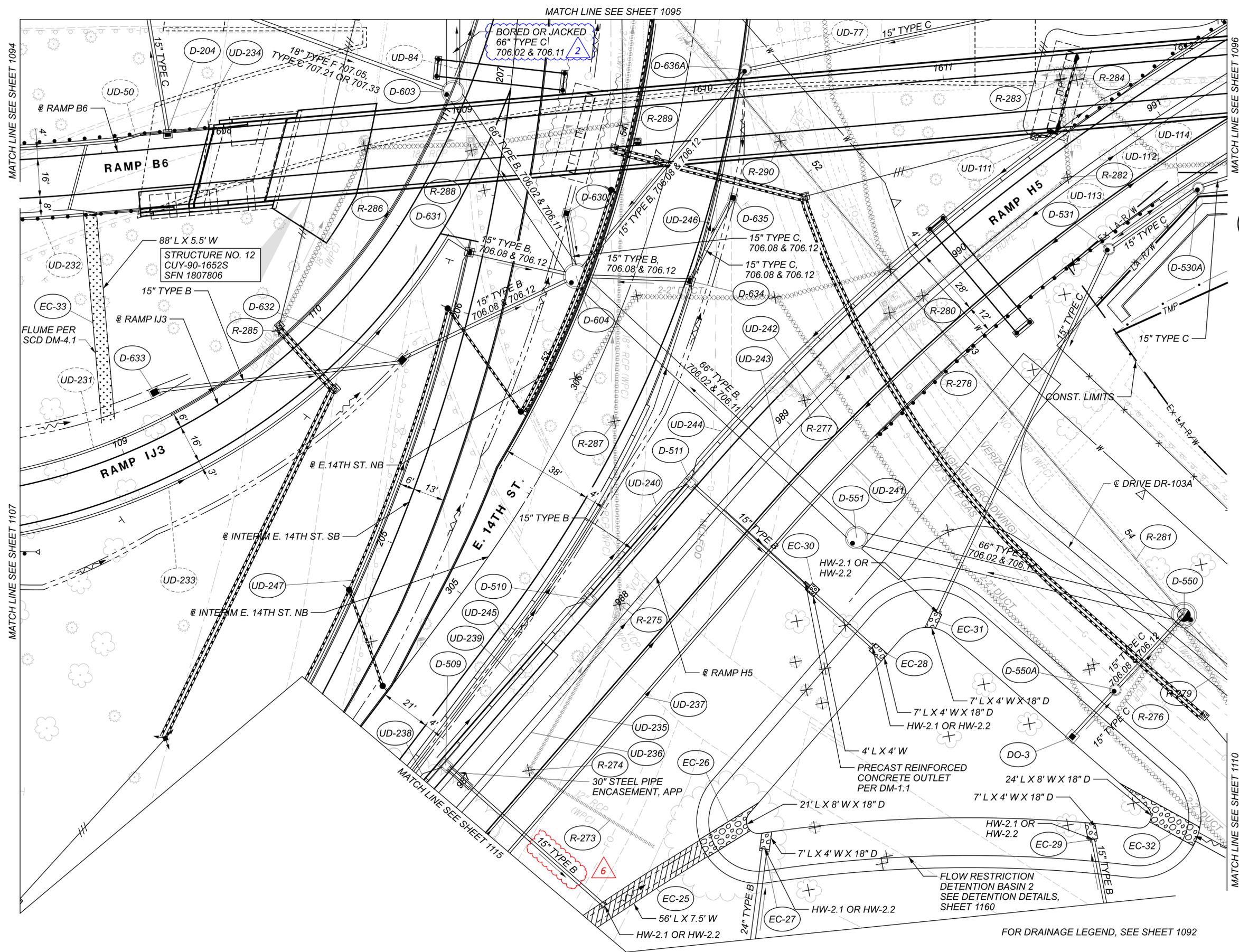
REVIEWER
 KGJ 05/22/24

PROJECT ID
 82382

SHEET TOTAL
 673 2696

CROSS REFERENCES

STRUCTURE	SHEET
D-204	1155
D-509	1137
D-510	1137
D-511	1137
D-530A	1138
D-531	1138
D-550	1149
D-551	1149
D-603	1149
D-604	1149
D-630	1154
D-631	1155
D-632	1155
D-633	1155
D-634	1150
D-635	1150
D-636A	1150



**DRAINAGE PLAN
SHEET 16 OF 28**

DESIGN AGENCY

**Michael Baker
INTERNATIONAL**

DESIGNER
BJT

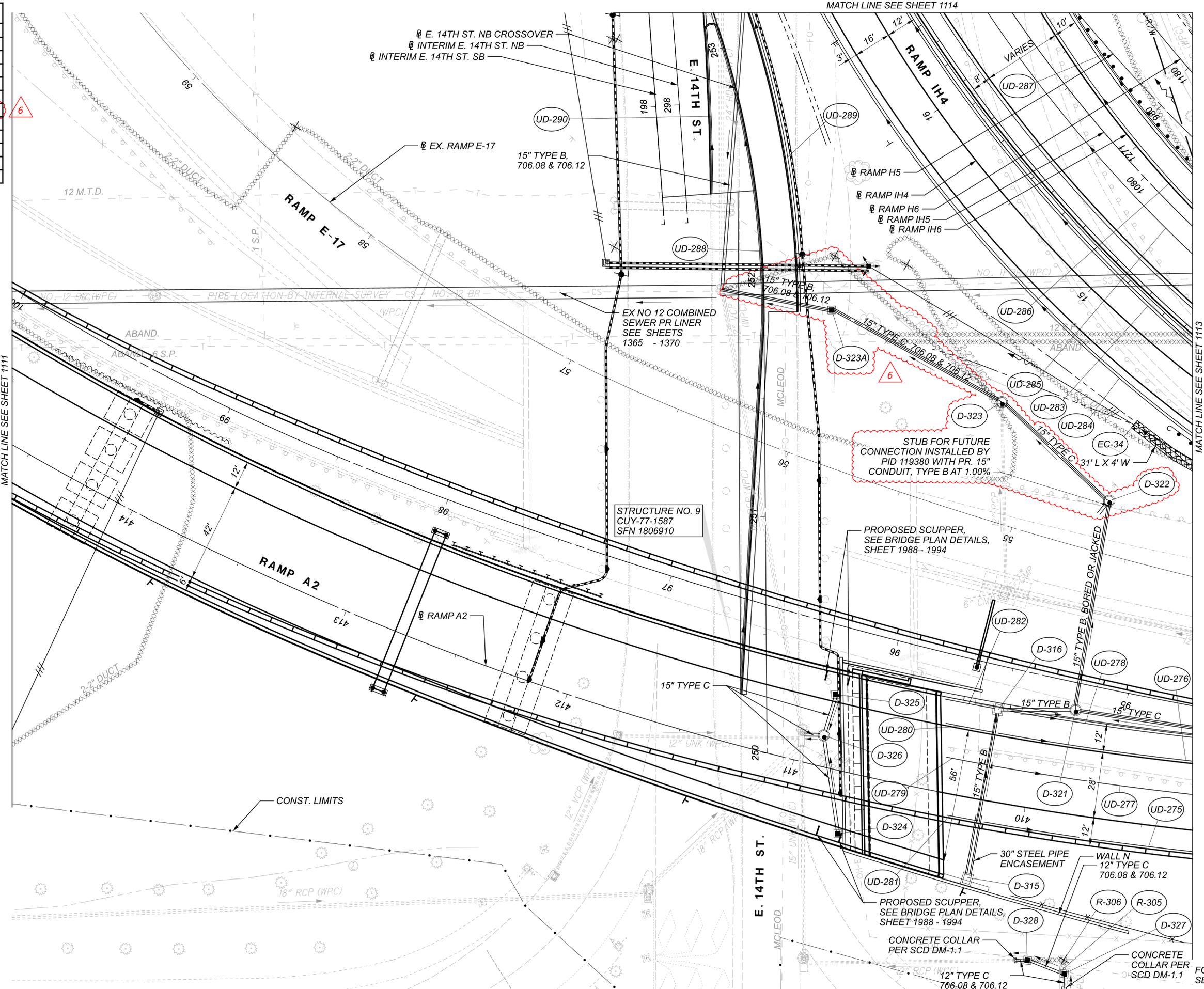
REVIEWER
KGJ 05/22/24

PROJECT ID
82382

SHEET TOTAL
1108 2696

FOR DRAINAGE LEGEND, SEE SHEET 1092

CROSS REFERENCES	
STRUCTURE	SHEET
D-315	1134
D-316	1134
D-321	1134
D-322	1134
D-323	1134
D-323A	1134
D-324	1135
D-325	1135
D-326	1135
D-327	1134
D-328	1134



HORIZONTAL SCALE IN FEET
 0 10 20 40

DRAINAGE PLAN
SHEET 20 OF 28

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

DESIGNER
 BJT

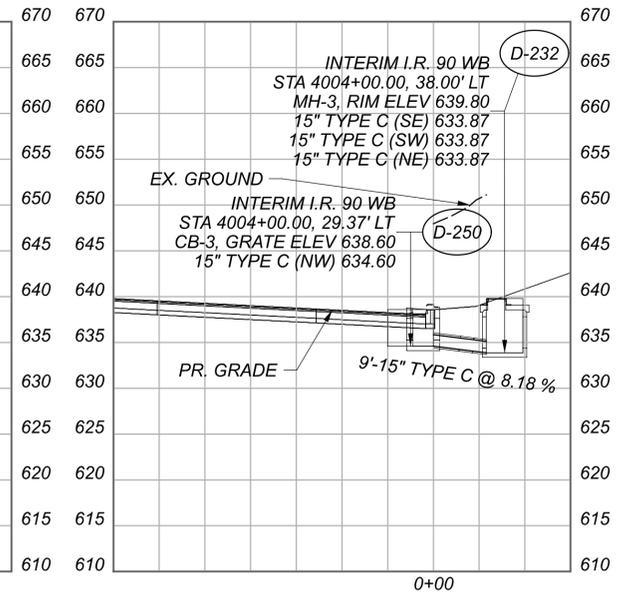
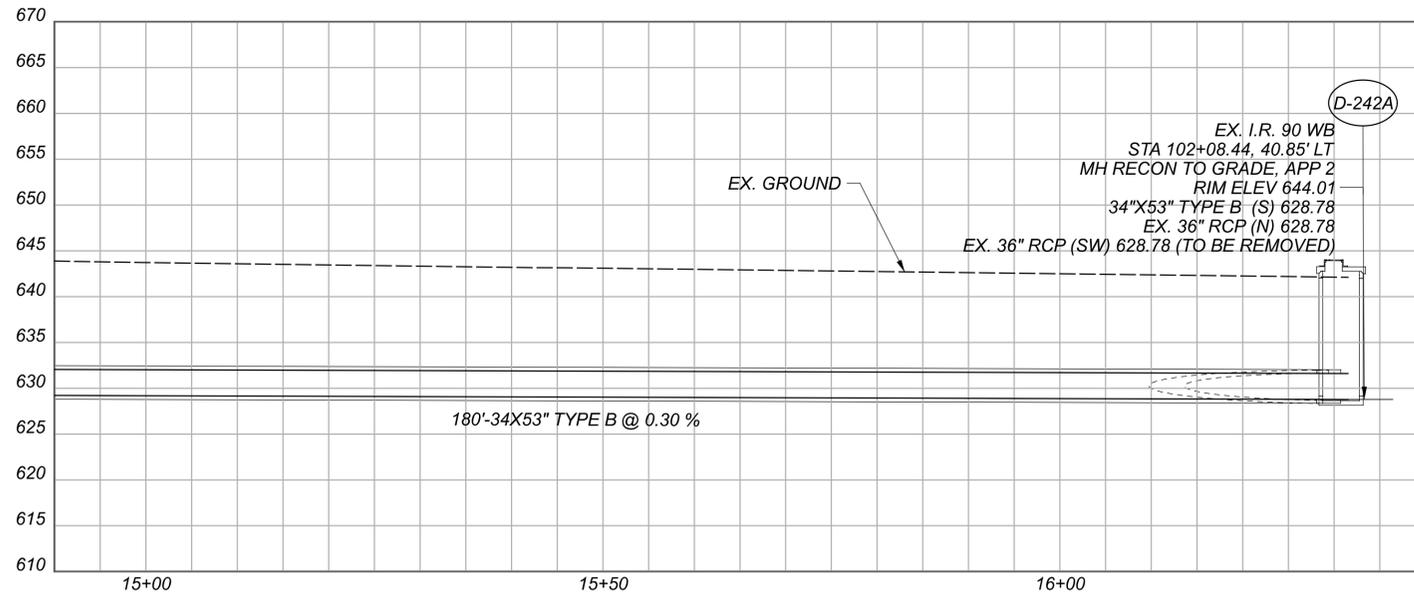
REVIEWER
 KGJ 05/22/24

PROJECT ID
 82382

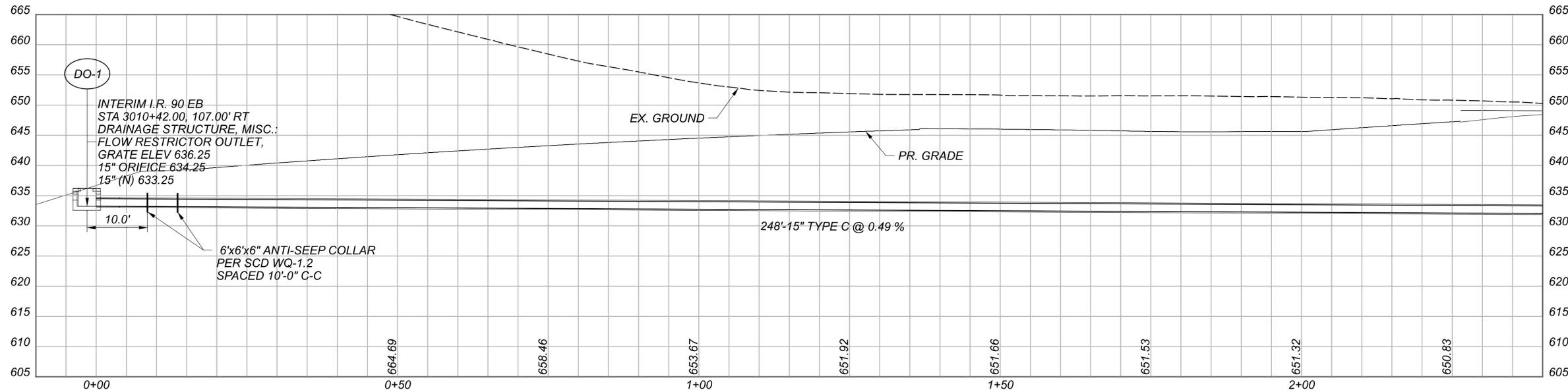
SHEET	TOTAL
1112	2696

FOR DRAINAGE LEGEND, SEE SHEET 1092

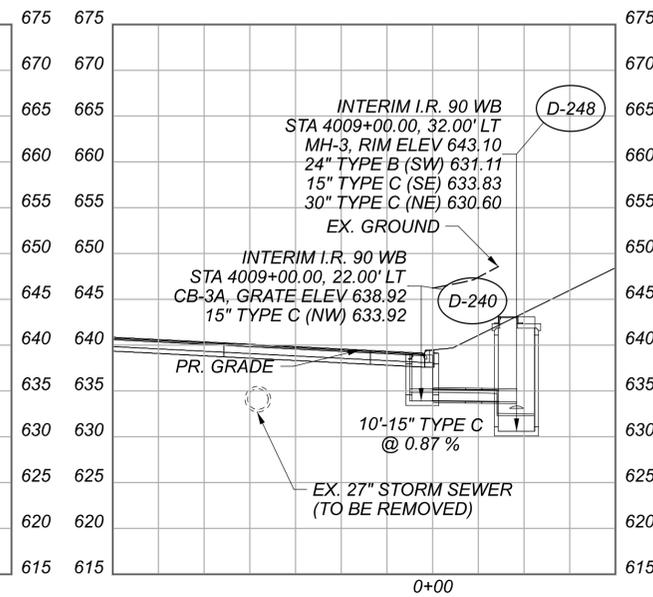
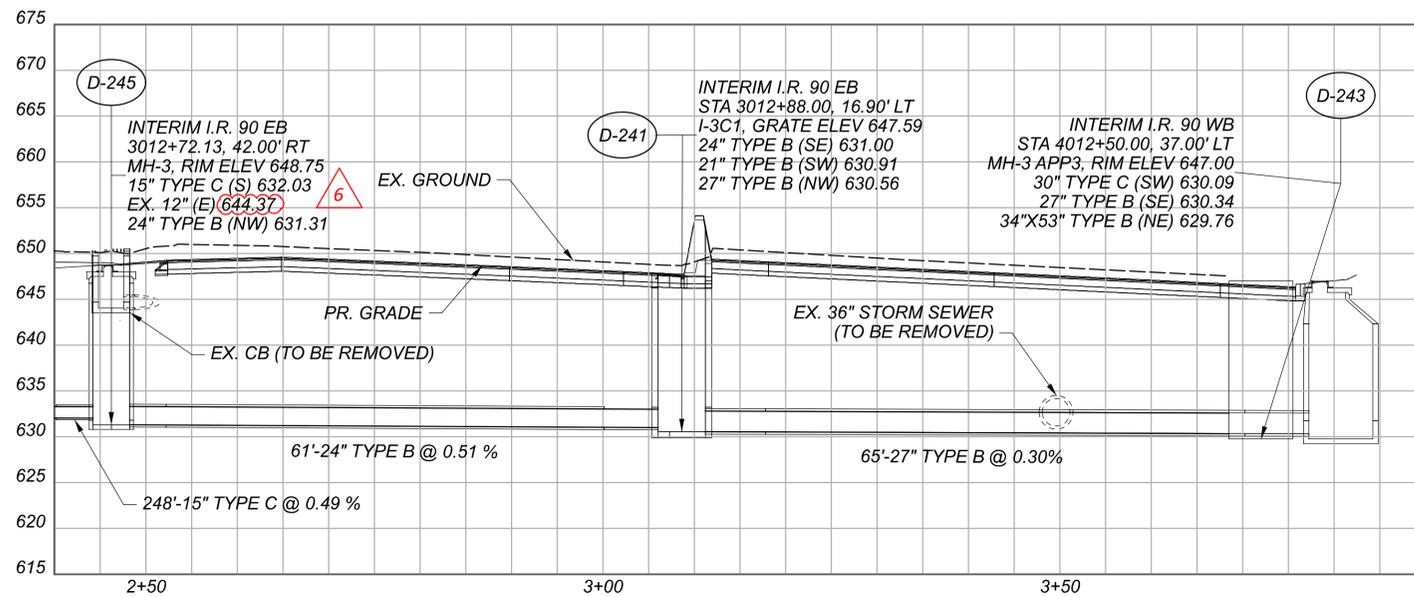
MATCHLINE F-F
SEE SHEET 1126



MATCHLINE A-A
SEE BELOW



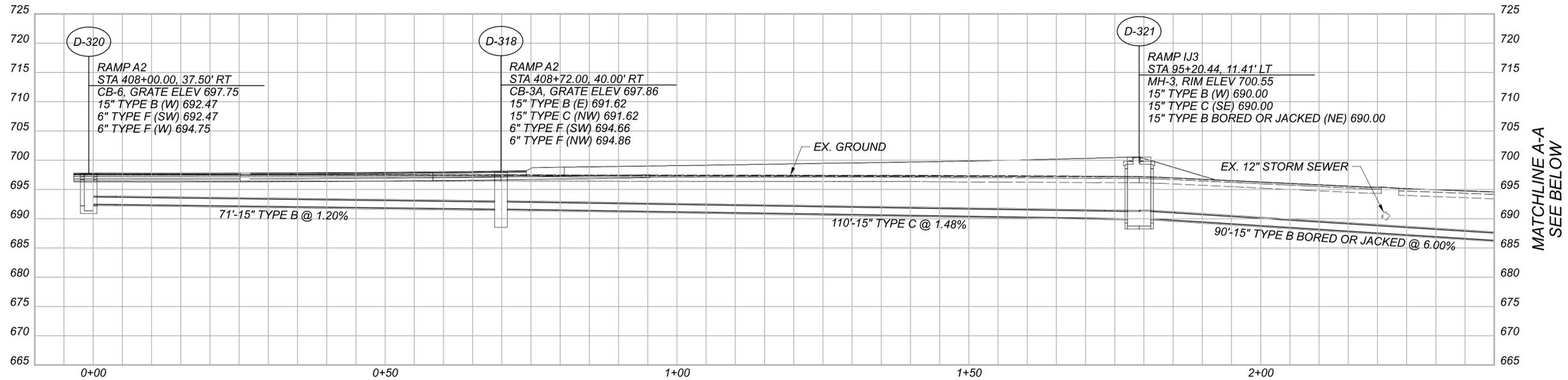
MATCHLINE A-A
SEE ABOVE



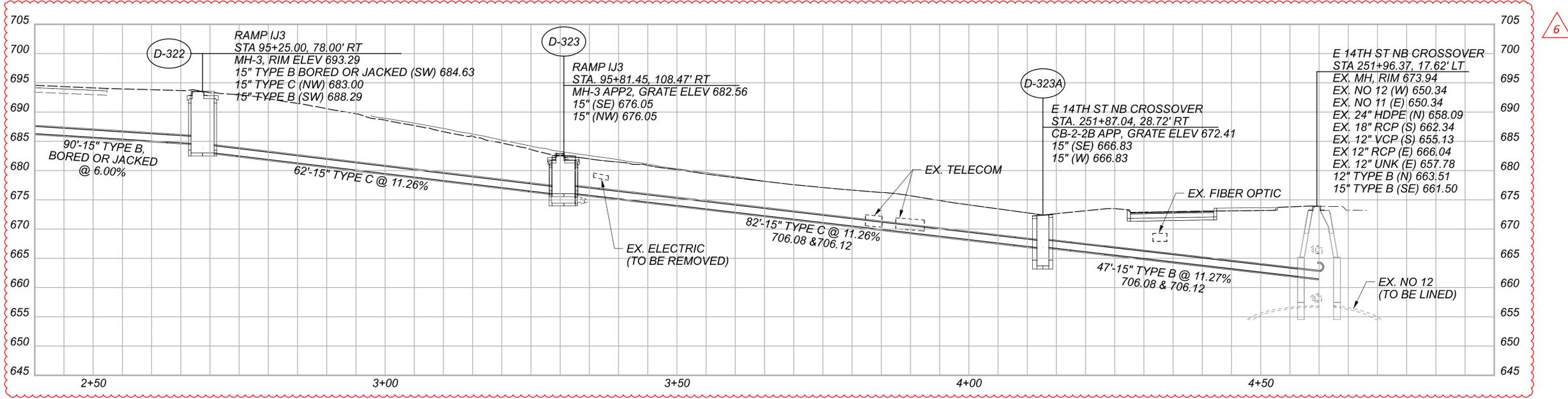
CROSS REFERENCES	
STRUCTURE	SHEET
D-240	1099
D-241	1100
D-242A	1100
D-245	1100
D-250	1098
DO-1	1099

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	BJT
REVIEWER	KGJ 05/22/24
PROJECT ID	82382
SHEET	1127
TOTAL	2696

STORM SEWER PROFILES
I.R. 90 EB/WB (NEAR CARNEGIE AVE. BRIDGE)

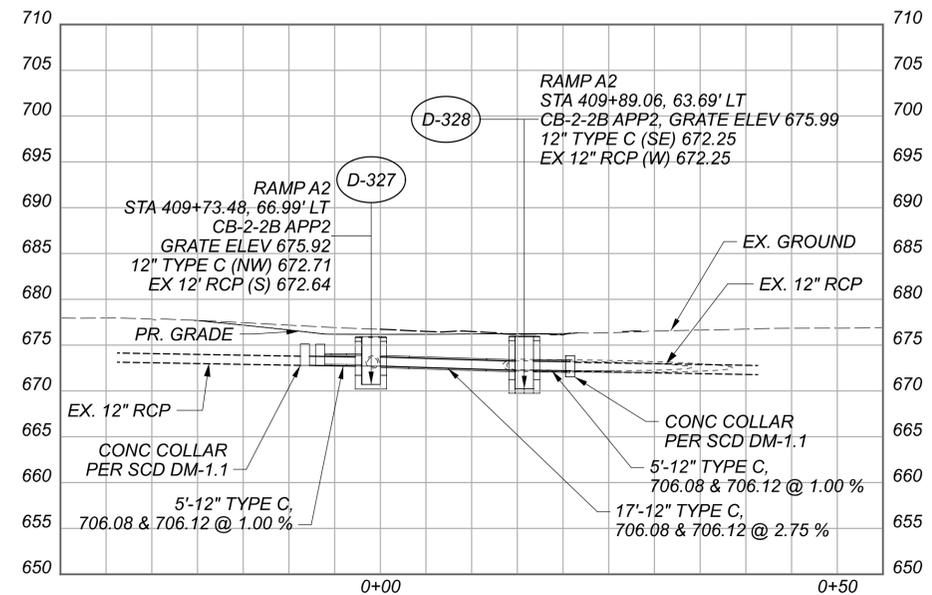
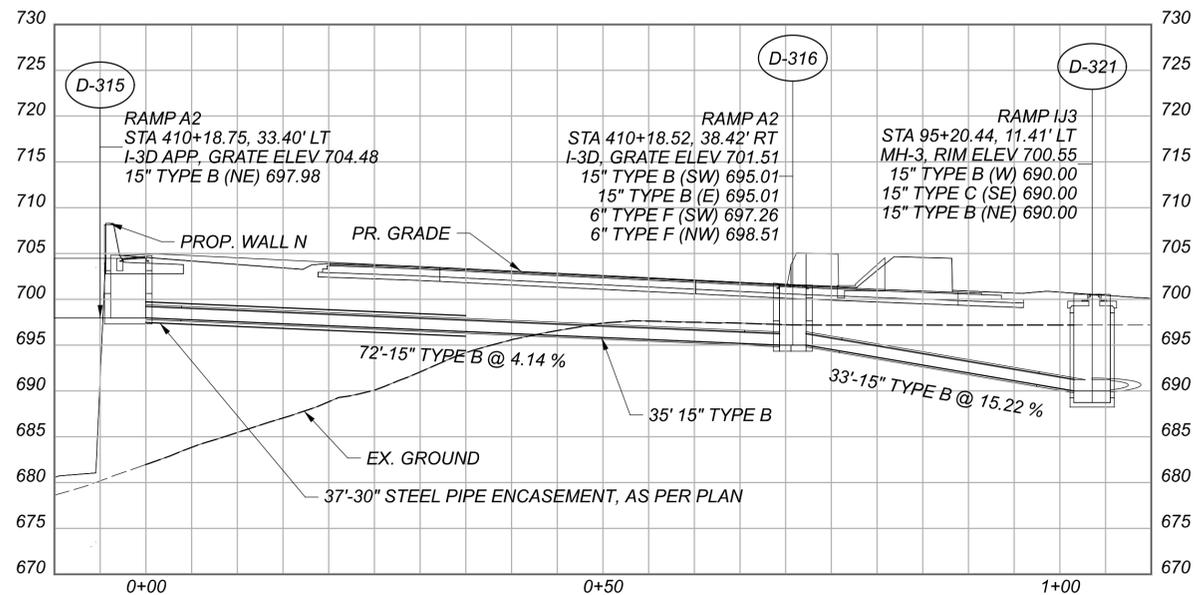


MATCHLINE A-A
SEE BELOW



MATCHLINE A-A
SEE ABOVE

6



CROSS REFERENCES	
STRUCTURE	SHEET
D-315	1112
D-316	1112
D-318	1113
D-320	1113
D-321	1112
D-322	1112
D-323	1112
D-323A	1112
D-327	1112
D-328	1112

6

STORM SEWER PROFILES
RAMP A2/E. 14TH ST NB CROSSOVER

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	BJT
REVIEWER	KGJ 05/22/24
PROJECT ID	82382
SHEET	TOTAL
1134	2696

PROPOSED WORK:
THE PROPOSED WORK CONSISTS OF CONSTRUCTING RETAINING WALLS AND MOMENT SLABS WITH PARAPETS ALONG THE LEFT SIDE OF I.R.90 WB. THE EAST PORTION OF THE WALL IS TOP DOWN CONSTRUCTION CONSISTING OF SOLDIER PILES, ANCHORS, TIMBER LAGGING AND CAST IN PLACE CONCRETE FACING. THE WEST PORTION OF THE WALL IS BOTTOM UP CONSTRUCTION UTILIZING MSE TYPE WALLS.

REFER TO THE FOLLOWING STANDARD DRAWINGS:
SBR-1-20 DATED 7-19-24

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
800 DATED SEE TITLE SHEET 840 DATED 7-21-23
866 DATED 4-21-17

AND THE FOLLOWING SUPPLEMENT:
1083 DATED 1-20-17

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA:
CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (CAST IN PLACE WALL FACING AND COPING)
CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (MOMENT SLAB AND PARAPETS)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI
STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

MSE WALL DESIGN PARAMETERS:
THE MINIMUM SOIL REINFORCEMENT LENGTH IS AT LEAST 8 FEET OR 70% OF THE WALL HEIGHT, WHICHEVER IS GREATER.

FACTORED BEARING RESISTANCE = 9.4 ksf

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN
THIS WORK CONSISTS OF EXCAVATION NECESSARY TO INSTALL THE TEMPORARY TIMBER LAGGING AND ANY EMBANKMENT/EXCAVATION REQUIRED TO INSTALL A DRILLING BENCH TO INSTALL THE SOLDIER PILES. THE EXCAVATION SHALL BE PERFORMED IN ACCORDANCE WITH C&MS 503, EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

THE SOLDIER PILE WALL SHALL BE CONSTRUCTED IN A TOP-DOWN MANNER. EXCAVATION FOR THE WALL SHALL BE MINIMIZED UNTIL ALL SOLDIER PILES ARE INSTALLED. DO NOT EXCAVATE MORE THAN 3 FEET OF THE EXISTING GRADE FOR INSTALLATION OF THE SOLDIER PILES.

REMOVE LOW STRENGTH MORTAR FROM THE PILE AS THE EXCAVATION PROGRESSES, SUFFICIENT TO PLACE THE TIMBER LAGGING AGAINST THE PILE FLANGE. FOLLOW THE EXCAVATION CLOSELY WITH PLACEMENT OF THE TIMBER LAGGING. LIMIT HEIGHT OF UNSUPPORTED, EXPOSED FACE OF SOIL TO 3 FEET OR LESS AS REQUIRED BY LOCAL SITE CONDITIONS DURING EXCAVATION.

CAREFULLY PERFORM EXCAVATION FOR THE INSTALLATION OF LAGGING TO MINIMIZE THE FORMATION OF VOIDS. BACKPACK VOIDS BETWEEN SOIL AND LAGGING WITH NUMBER 57 STONE PER C&MS TABLE 703.01-1 OR APPROVED EQUAL TO THE SATISFACTION OF THE ENGINEER.

EXCAVATION SHALL PROCEED AT A PACE THAT PREVENTS MOVEMENT OF THE WALL AND LOSS OF GROUND. WHEN UNSTABLE MATERIAL IS ENCOUNTERED DURING EXCAVATION, TAKE NECESSARY ACTIONS TO STABILIZE THE MATERIAL AND PREVENT GROUND DISPLACEMENT.

BEFORE PLACING LAGGING, SMOOTH THE SOIL FACE TO CREATE A CONTACT SURFACE FOR THE LAGGING. FLOWABLE FILL SHALL BE PLACED TO FILL LARGE VOIDS BEHIND THE LAGGING. MAINTAIN A GAP OF 1/4 INCH TO 1/2 INCH BETWEEN EACH HORIZONTAL LAGGING BOARD FOR DRAINAGE BETWEEN ADJACENT LAGGING TIMBERS.

PAYMENT FOR LABOR, EQUIPMENT AND MATERIALS FOR THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN.

ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES HP14X73
THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES AND INCLUDES MONITORING PLUMBNESS. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE REQUIREMENTS AND CONFORM TO ASTM A572 GRADE 50. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES. THE ANCHOR DETAIL WHERE THE TIE BACK ANCHOR PASSES THROUGH THE FLANGES AND WEB SHALL BE SHOP FABRICATED AND NOT BE WELDED ON SITE.

ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES HP14X73 (CONT.)
MEASUREMENT FOR PAYMENT WILL BE THE DISTANCE FROM THE TOP OF THE PILE TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. PAYMENT IS FULL COMPENSATION FOR FURNISHING AND PLACING THE SOLDIER PILES AND MONITORING THEIR PLUMBNESS UNTIL PLACEMENT OF THE CONCRETE FACING HAS BEGUN. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT OF ITEM 507 - STEEL PILES, MISC., SOLDIER PILES HP14X73.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN
THIS ITEM CONSISTS OF CONSTRUCTING A CAST IN PLACE REINFORCED CONCRETE WALL ON THE FRONT SIDE OF THE SOLDIER PILES TO SERVE AS PERMANENT FACING OVER THE TEMPORARY TIMBER LAGGING.

HORIZONTAL JOINTS ARE PROHIBITED IN THE CAST IN PLACE CONCRETE FACING.

PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE CAST IN PLACE FACING, INCLUDING 1/2 INCH AND 1 INCH PREFORMED EXPANSION JOINT FILLER, CONCRETE COPING, DOWELS AT JOINTS, BOND BREAKER AT DOWELS AT EXPANSION JOINTS, NON-BITUMINOUS JOINT SEALER AT THE JOINTS AND FORM LINERS.

ITEM 511 - CLASS QC2 CONCRETE, MISC.: CONCRETE MOMENT SLAB AND BARRIER WITH QC/QA
ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE MOMENT SLABS WITH PARAPETS ALONG THE RETAINING WALL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET WITH QC/QA. ALL STEEL AND GFRP REINFORCING EMBEDDED IN THE MOMENT SLAB AND WITHIN THE PARAPET SHALL BE INCLUDED IN THE APPROPRIATE ITEM 509 QUANTITY FOR PAYMENT. QUALITY CONTROL MEETING THE REQUIREMENTS OF C&MS 455 AND 511.04 SHALL BE INCLUDED.

ITEM 511- CONCRETE, MISC.: ARCHITECTURAL TREATMENT
THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE ARCHITECTURAL TREATMENTS IN THE CONCRETE SURFACE OF THE RETAINING WALL.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 511 CONCRETE, MISC.: ARCHITECTURAL TREATMENT.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)
APPLY A PERMANENT GRAFFITI COATING MEETING THE REQUIREMENTS OF SUPPLEMENT 1083. THE GRAFFITI COATING MUST BE COMPATIBLE WITH THE UNDERLYING CONCRETE SEALER. APPLY THE GRAFFITI COATING ACCORDING TO THE MANUFACTURE'S REQUIREMENTS. THE ADDITIONAL MATERIAL AND LABOR REQUIRED TO SEAL THE FORM LINER RELIEF SHALL BE INCLUDED IN THIS ITEM. TO ACCOUNT FOR THE SURFACE VARIATIONS DUE TO THE FORM LINERS, AN EXTRA 20 PERCENT HAS BEEN ADDED TO THE SEALING QUANTITIES FOR THE PURPOSE OF ESTIMATING.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

APPLY SEALER TO ALL EXPOSED SURFACES INCLUDING THE CAST IN PLACE CONCRETE FACING AND COPING, MOMENT SLAB PARAPET, 2 INCH HORIZONTAL SURFACE ON THE TOP OF THE MOMENT SLAB FOOTING, MSE WALL PANELS, MSE WALL COPING AND THE 6 INCH THICK CONCRETE SLAB BETWEEN THE MSE COPING AND THE PARAPET. THE ADDITIONAL MATERIAL AND LABOR REQUIRED TO SEAL THE FORM LINER RELIEF SHALL BE INCLUDED IN THIS ITEM. TO ACCOUNT FOR THE SURFACE VARIATIONS DUE TO THE FORM LINERS, AN EXTRA 20 PERCENT HAS BEEN ADDED TO THE SEALING QUANTITIES FOR THE PURPOSE OF ESTIMATING.

SEAL SURFACES OF THE MSE WALL PANELS, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

COPING SEALER:	"DOVETAIL"	7018
WALL FACING SEALER:	"ALPACA"	7022
MOMENT SLAB:	"ALPACA"	7022

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIERS COLOR PALATE.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN
TYPE 2 WATERPROOFING SHALL BE ATTACHED TO THE WOOD LAGGING, CENTERED AT ALL EXPANSION AND CONTRACTION JOINTS VERTICALLY FROM THE TOP OF THE TIMBER LAGGING DOWN TO THE TOP OF THE POROUS BACKFILL. TYPE 2 WATERPROOFING SHALL ALSO BE ATTACHED TO THE BACK SIDE OF THE CAST IN PLACE CONCRETE FACING AND COPING ABOVE THE TIMBER LAGGING AT ALL EXPANSION AND CONTRACTION JOINTS.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN (CONT.)
PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIAL FOR THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE PAYMENT PER SQUARE YARD CONTRACT PRICE FOR ITEM 512, TYPE 2 WATERPROOFING, AS PER PLAN.

ITEM 513 - WELDED STUD SHEAR CONNECTORS, AS PER PLAN
STEEL STUDS SHALL BE WELDED ACCORDING TO C&MS 513.22 AND AS SHOWN ON THE PLANS TO THE FRONT FLANGES OF THE SOLDIER PILES FOR CONNECTION OF THE REINFORCED CONCRETE FACING. STUDS SHALL BE SPACED AT 12 INCHES VERTICALLY STARTING 6 INCHES BELOW THE TOP OF THE PILE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL WELDED AND ACCEPTED STEEL STUDS AGAINST DAMAGE UNTIL THE PERMANENT CAST IN PLACE REINFORCED CONCRETE FACING IS CAST. ALL DAMAGED STUDS SHALL BE REPLACED AT NO EXTRA COST TO THE DEPARTMENT.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIAL FOR THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE PAYMENT PER EACH CONTRACT PRICE FOR ITEM 513, WELDED STUD SHEAR CONNECTORS, AS PER PLAN.

ITEM 516 - JOINT SEALER, AS PER PLAN
HOT APPLIED JOINT SEALER SHALL BE PLACED ABOVE THE 1 INCH PREFORMED EXPANSION JOINT FILLER THAT IS PLACED BETWEEN THE MOMENT SLAB AND THE ROADWAY ASPHALT. JOINT SEALER SHALL MEET THE REQUIREMENTS OF C&MS 705.04.

ITEM 518 - PREFABRICATED GEOCOMPOSITE DRAIN
THIS WORK CONSISTS OF FURNISHING AND PLACING PREFABRICATED GEOCOMPOSITE DRAIN (PGD) AGAINST THE TIMBER LAGGING OR AGAINST THE CONCRETE WALL FACING WHERE THE TIMBER LAGGING IS NOT PRESENT.

FURNISH PGD CONSISTING OF A DRAINAGE CORE WITH A GEOTEXTILE FABRIC BONDED TO AT LEAST ONE SIDE. USE CORE MATERIAL THAT CONSISTS OF A STABLE, POLYMER PLASTIC MATERIAL WITH A CUSPATED OR GEONET STRUCTURE. THE CORE MATERIAL SHALL HAVE SUFFICIENT FLEXIBILITY TO WITHSTAND BENDING AND HANDLING DURING INSTALLATION WITHOUT DAMAGE. FURNISH GEOTEXTILE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS FORMED INTO A WOVEN OR NON-WOVEN FABRIC. FURNISH PGD CONFORMING TO THE FOLLOWING REQUIREMENTS. FURNISH MANUFACTURER'S CERTIFIED TEST DATA.

	PROPERTY	TEST METHOD	VALUE
CORE	THICKNESS	ASTM D5199	0.4 INCH
	COMPRESSIVE STRENGTH	ASTM D1621	13,650 PSF MIN.
	FLOW RATE	ASTM D4716	9 TO 25 GPM/FT.
FABRIC	APPARENT OPENING SIZE	ASTM D4751	0.3 MM MAX.
	FLOW RATE	ASTM D4491	40 GPM/ SQ.FT. MIN.
	GRAB TENSILE STRENGTH	ASTM D4632	90 LBS MIN.
	CBR PUNCTURE	ASTM D6241	65 LBS MIN.

PLACE PGD BETWEEN THE SOLDIER PILES, INCLUDING THE CANTILEVERED PORTION AT THE END OF THE WALL. PLACE THE SIDE FACED WITH THE GEOTEXTILE AGAINST THE TIMBER LAGGING, FACING TOWARDS THE RETAINED GROUND, AND SECURE THE PGD TO THE LAGGING. USE NAILS AND WASHERS AT LEAST 1 INCH DIAMETER IN SIZE TO SECURE THE PGD ALONG ITS EDGES AT A MAXIMUM SPACING OF 4 FEET.

SPLICE ABUTTING SECTIONS TOGETHER BY OVERLAPPING THE GEOTEXTILE FLAP (IF PROVIDED) ON ONE SECTION WITH THE ADJACENT SECTION OF PGD. OVERLAP THE GEOTEXTILE IN A SHINGLED OVERLAP SO THAT THE UPPER GEOTEXTILE IS ON TOP OF THE LOWER GEOTEXTILE. IF A GEOTEXTILE FLAP IS NOT PROVIDED, COVER THE SEAM WITH A 12 INCH WIDE STRIP OF GEOTEXTILE FABRIC CENTERED OVER THE SEAM AND SECURED IN PLACE USING 3 INCH WIDE WATERPROOF PLASTIC TAPE.

SEAL ALL EXPOSED EDGES OF THE CORE MATERIAL TO PREVENT SOIL INTRUSION. SEAL EXPOSED EDGES BY FOLDING THE GEOTEXTILE FLAPS OVER AND AROUND THE PGD OR, IF A FLAP IS NOT PROVIDED, COVERING THE EXPOSED EDGE WITH A 12 INCH WIDE STRIP OF GEOTEXTILE FABRIC, TAPING THE STRIP TO THE PGD GEOTEXTILE 8 INCHES FROM THE EXPOSED EDGE, AND FOLDING THE REMAINING 4 INCHES OVER AND AROUND THE PGD. SECURE LOOSE EDGES OF THE GEOTEXTILE FABRIC WITH 3 INCH WIDE WATERPROOF PLASTIC TAPE.

REPAIR ANY DAMAGE TO THE GEOTEXTILE FABRIC BY COVERING WITH A PATCH WHICH OVERLAPS THE DAMAGED AREA AND EXTENDS AT LEAST 6 INCHES BEYOND THE EDGE OF THE DAMAGED AREA. TAPE THE EDGES OF THE PATCH IN PLACE USING 3 INCH WIDE WATERPROOF PLASTIC TAPE. IF THE CORE OF THE PGD IS DAMAGED, REPLACE IT WITH A NEW SECTION OF PGD AND SPLICE AS DESCRIBED ABOVE.

WHERE SHOWN ON THE PLANS, PLACE THE BOTTOM OF THE PGD ADJACENT TO A PERFORATED DRAINAGE COLLECTION PIPE AND POROUS BACKFILL AND COVER WITH GEOTEXTILE FABRIC. ENSURE A CONTINUOUS DRAINAGE PATH FROM THE PGD CORE TO THE PIPE.

IF TIMBER LAGGING IS NOT REQUIRED BECAUSE THE PORTION OF THE WALL IS ABOVE THE EXISTING GROUND, ATTACH THE PGD TO THE BACK FACE OF THE CONCRETE WALL FACING UNTIL BACKFILL IS PLACED.

GENERAL NOTES - 1
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN	N/A
DESIGN AGENCY	
B&N burgessniple.com	
DESIGNER	CHECKER
CAS	ODW
REVIEWER	
DWL	06/22/22
PROJECT ID	82382
SUBSET	TOTAL
3	17
SHEET	TOTAL
1176	2696

PARTICIPATION	ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	REF. SHEET
ANCHORED SOLDIER PILE WITH LAGGING WALL						
01/IMS/04	503	21301	1	LS	UNCLASSIFIED EXCAVATION, AS PER PLAN	3/17
01/IMS/04	507	00400	1455	FT	STEEL PILES, MISC.: SOLDIER PILES HP14X73	3/17
01/IMS/04	509	10000	22971	LB	EPOXY COATED STEEL REINFORCEMENT	
01/IMS/04	511	46013	276	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN	3/17
01/IMS/04	511	71200	5325	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT	3/17
01/IMS/04	512	10001	266	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	3/17
01/IMS/04	512	10101	646	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	3/17
01/IMS/04	512	33001	40	SY	TYPE 2 WATERPROOFING, AS PER PLAN	3/17
01/IMS/04	513	20001	663	EACH	WELDED STUD SHEAR CONNECTORS, AS PER PLAN	3/17
01/IMS/04	518	20000	570	SY	PREFABRICATED GEOCOMPOSITE DRAIN	
01/IMS/04	518	21200	20	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
01/IMS/04	518	40000	250	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
01/IMS/04	518	40010	20	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
01/IMS/04	524	94603	775	FT	DRILLED SHAFTS, 30" DIAMETER ABOVE BEDROCK, AS PER PLAN	4/17
01/IMS/04	SPECIAL	530E51020	5225	SF	RETAINING WALL, TIMBER LAGGING	4/17
01/IMS/04	866	00100	9	EACH	GROUND ANCHOR, 122 KIP MAX TEST LOAD	
01/IMS/04	866	00100	22	EACH	GROUND ANCHOR, 113 KIP MAX TEST LOAD	
01/IMS/04	866	00100	9	EACH	GROUND ANCHOR, 100 KIP MAX TEST LOAD	
01/IMS/04	866	00100	22	EACH	GROUND ANCHOR, 77 KIP MAX TEST LOAD	
01/IMS/04	866	00100	22	EACH	GROUND ANCHOR, 73 KIP MAX TEST LOAD	
01/IMS/04	866	00300	1	LS	INVESTIGATIVE ANCHOR PULLOUT TESTS	
01/IMS/04	866	00400	5	EACH	PERFORMANCE TEST	
01/IMS/04	866	00500	2	EACH	EXTENDED CREEP TEST	
MSE WALL						
01/IMS/04	203	20000	120	CY	EMBANKMENT	
01/IMS/04	512	10001	329	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	3/17
01/IMS/04	512	10101	570	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	3/17
01/IMS/04	601	11000	28	SY	RIPRAP, TYPE D	
01/IMS/04	840	20001	5365	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	4/17
01/IMS/04	840	21000	1330	CY	WALL EXCAVATION	
01/IMS/04	840	22000	638	SY	FOUNDATION PREPARATION	
01/IMS/04	840	23000	2631	CY	SELECT GRANULAR BACKFILL	
01/IMS/04	840	25010	810	FT	6" DRAINAGE PIPE, PERFORATED	
01/IMS/04	840	26000	381	FT	CONCRETE COPING	
01/IMS/04	840	26050	4300	SF	AESTHETIC SURFACE TREATMENT	
01/IMS/04	840	27000	5	DAY	ON SITE ASSISTANCE	
01/IMS/04	840	28000	1	LS	SGB INSPECTION AND COMPACTION TESTING	
MOMENT SLAB AND PARAPET						
01/IMS/04	509	10000	65531	LB	EPOXY COATED STEEL REINFORCEMENT	
01/IMS/04	509	30020	9490	FT	NO. 4 GFRP DEFORMED BARS	
01/IMS/04	511	53012	375	CY	CLASS QC2 CONCRETE, MISC.: CONCRETE MOMENT SLAB AND BARRIER WITH QC/QA	3/17
01/IMS/04	512	10101	570	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	3/17
01/IMS/04	516	31001	634	FT	JOINT SEALER, AS PER PLAN	3/17

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

- | | |
|---|--|
| ABUT. - ABUTMENT
APPR. - APPROACH
@ - BASELINE
BOT. - BOTTOM
BRG. - BEARING
BRGS. - BEARINGS
BTA - BRIDGE TERMINAL ASSEMBLY
@ - CENTERLINE
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CP - COMPLETE PENETRATION BUTT WELD
C&MS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONST. - CONSTRUCTION
C.P.P. - CORRUGATED PLASTIC PIPE
CS - INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY
CU YD - CUBIC YARD
CVN - CHARPY V-NOTCH TESTING
DIA. - DIAMETER
E.F. - EACH FACE
ELEV., EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
F/F - FACE TO FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD
GEN. - GENERAL
INT. - INTEGRAL
LF - LEFT FORWARD
LT. - LEFT
MAX. - MAXIMUM
M.E. - MATCH EXISTING
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC | NPCPP - NONPERFORATED CORRUGATED PLASTIC PIPE
N.F. - NEAR FACE
NO./# - NUMBER
O/O - OUT TO OUT
P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PGL - PROFILE GRADE LINE
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
R. - RADIUS
R.A. - REAR ABUTMENT
RCP - ROCK CHANNEL PROTECTION
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY
SAN. - SANITARY
SER. - SERIES
SHLDR. - SHOULDER
SHT. - SHEET
S.O. - SERIES OF
SPA. - SPACES OR SPACING
SR - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT
TBM - TEMPORARY BENCH MARK
TEMP. - TEMPORARY
T.O.S. - TOE OF SLOPE
T/PARAPET - TOE OF PARAPET
T/T - TOE TO TOE
TYP. - TYPICAL
U.G. - UNDERGROUND
U.N.O - UNLESS NOTED OTHERWISE
VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL
W/O - WITHOUT |
|---|--|

ESTIMATED QUANTITIES
 WALL AC
 ALONG NORTH SIDE OF I-90 WB

SFN	N/A
DESIGN AGENCY	
B&N burgessniple.com	
DESIGNER	CAS
CHECKER	ODW
REVIEWER	DWL 06/22/22
PROJECT ID	82382
SUBSET	5
TOTAL	17
SHEET	1178
TOTAL	2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING:
 SBR-1-20 REVISED 07-19-24

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:
 800 DATED SEE TITLE SHEET
 840 DATED 04-15-22

REFER TO THE FOLLOWING SUPPLEMENT:
 1073 DATED 10-16-20
 1083 DATED 01-20-17

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-16-2021).

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (MOMENT SLAB AND RAILING)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CAST-IN-PLACE COPING, LOAD DISTRIBUTION SLAB, GRADE BEAM, AND FOOTING AND STEM OF CAST-IN-PLACE CONCRETE WALL)

CONCRETE REINFORCEMENT:
 EPOXY COATED STEEL REINFORCEMENT - MIN. YIELD STRENGTH 60 KSI (MOMENT SLAB, RAILING, CAST-IN-PLACE COPING, LOAD DISTRIBUTION SLAB, GRADE BEAM, AND FOOTING AND STEM OF CAST-IN-PLACE CONCRETE WALL)
 GFRP REINFORCEMENT (RAILING)

WALL DESIGN CRITERIA:

THE FACTORED BEARING RESISTANCE FOR EACH WALL IS LISTED IN THE TABLE BELOW:

WALL LETTER	FACTORED BEARING RESISTANCE		
	WALL LIMITS		(PSF)
	FROM STA.	TO STA.	
AD	599+44.21	600+00.00	5,100
AD	600+00.00	603+64.84	5,500

WALL EXCAVATION:

LIMITS OF WALL EXCAVATION SHOWN IN WALL SECTIONS ARE FOR QUANTITY PURPOSES ONLY. CONTRACTOR HAS THE OPTION TO USE AN EXCAVATED SLOPE OR SUPPORTED EXCAVATION. SEE MAINTENANCE OF TRAFFIC PLANS FOR ANY REQUIRED WORK ZONE SHEETING.

MAINTENANCE OF TRAFFIC:

REFER TO THE PROJECT OVERALL MAINTENANCE OF TRAFFIC FOR ADDITIONAL INFORMATION WITH RESPECT TO MAINTENANCE OF TRAFFIC.

ITEM 511, CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND RAILING:

ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE MOMENT SLABS AND RAILINGS ALONG THE PRECAST TILT-UP PANEL WALLS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL DOWEL RODS AND ALL JOINT MATERIALS IN CONTACT WITH THE MOMENT SLAB. ALL CONCRETE REINFORCING EMBEDDED IN THE MOMENT SLAB AND WITHIN THE RAILING SHALL BE INCLUDED WITH ITEM 509. THIS ITEM SHALL ALSO REQUIRE QUALITY CONTROL, MEETING THE REQUIREMENTS PER CMS 455 AND CMS 511.04.

ITEM 511, CLASS QC2 CONCRETE, MISC.: RAILING ON RETAINING WALL:

ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE RAILING ON TOP OF THE CAST-IN-PLACE CONCRETE RETAINING WALL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE. ALL CONCRETE REINFORCING EMBEDDED IN THE RETAINING WALL AND LOCATED WITHIN THE RAILING SHALL BE INCLUDED WITH ITEM 509 FOR PAYMENT. THE QUALITY CONTROL REQUIREMENTS SHALL BE PER CMS 455.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE):

SEAL SURFACES OF THE PRECAST TILT-UP PANELS AND COPING AS SHOWN IN THE PLANS WITH EPOXY URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR SEALING STRUCTURAL ELEMENTS:

COPING SEALER:	"DOVETAIL"	7018
PRECAST TILT-UP PANELS:	"ALPACA"	7022
MOMENT SLAB:	"ALPACA"	7022

ALL COLOR NAME AND REFERENCE NUMBERS ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION:

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 530 SPECIAL - RETAINING WALL, PRECAST WALL FACADE PANEL:

THIS BID ITEM CONSISTS OF PRECAST PANELS MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH THIS SPECIFICATION AND DESIGNED IN ACCORDANCE WITH THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-16-2021)

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI REINFORCING STEEL / WELDED WIRE REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI

MATERIALS - CONCRETE:

PROVIDE CONCRETE IN CONFORMANCE WITH CMS SECTION 511, CLASS QC1.

MATERIALS - REINFORCING AND HARDWARE:

REINFORCEMENT SHALL CONSIST OF WELDED WIRE FABRIC, OR FORMED BILLET-STEEL BARS CONFORMING TO CMS SECTION 509. ALL STEEL SHALL BE EPOXY COATED OR GALVANIZED. ALL INSERTS AND MISCELLANEOUS HARDWARE OR APPURTENANCES SHALL CONFORM TO PLAN REQUIREMENTS.

SHOP DRAWING REQUIREMENTS:

THE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO MANUFACTURE. THE SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING:

- ALL STRUCTURAL DESIGN AND LOADING INFORMATION
- A PLAN VIEW
- ALL ELEVATION VIEWS
- ALL DIMENSIONS

MANUFACTURING SHALL NOT BEGIN UNTIL WRITTEN APPROVAL OF THE SUBMITTED SHOP DRAWINGS HAS BEEN RECEIVED.

TESTING AND INSPECTION:

ACCEPTABILITY OF THE CONCRETE FOR THE PRECAST PANELS WILL BE DETERMINED ON THE BASIS OF COMPRESSION TESTS, CERTIFICATIONS AND VISUAL INSPECTION. THE CONCRETE STRENGTH REQUIREMENTS FOR THE PRECAST PANELS SHALL BE CONSIDERED ATTAINED REGARDLESS OF CURING AGE WHEN COMPRESSION TEST RESULTS INDICATE STRENGTH WILL CONFORM TO 28-DAY SPECIFICATIONS AS STATED BELOW. THE MANUFACTURER SHALL FURNISH FACILITIES AND PERFORM ALL NECESSARY SAMPLING AND TESTING IN AN EXPEDITIOUS AND SATISFACTORY MANNER. PANELS UTILIZING TYPE I OR TYPE II CEMENT SHALL BE CONSIDERED ACCEPTABLE FOR PLACEMENT IN THE WALL WHEN 7-DAY INITIAL STRENGTHS EXCEED 85 PERCENT OF 28-DAY REQUIREMENTS. PANELS UTILIZING TYPE III CEMENT SHALL BE CONSIDERED ACCEPTABLE FOR PLACEMENT IN THE WALL PRIOR TO 28 DAY ONLY WHEN COMPRESSIVE STRENGTH EXCEEDS THE 28-DAY SPECIFICATION.

MANUFACTURE:

THE AGGREGATES, CEMENT AND WATER SHALL BE PROPORTIONED AND MIXED IN A BATCH MIXER TO PRODUCE HOMOGENEOUS CONCRETE MEETING THE STRENGTH REQUIREMENTS OF THESE NOTES. THE PROPORTION OF PORTLAND CEMENT IN THE MIXTURE SHALL NOT BE LESS THAN 564 POUNDS PER CUBIC YARD OF CONCRETE. THE WALL SECTIONS SHALL BE CURED FOR A SUFFICIENT LENGTH OF TIME SO THAT THE CONCRETE WILL DEVELOP THE SPECIFIED COMPRESSIVE STRENGTH IN 28 DAYS OR LESS. ANY ONE OF THE FOLLOWING METHODS OF CURING OR COMBINATION THEREOF SHALL BE USED:

STEAM CURING - THE SECTIONS MAY BE LOW PRESSURE, STEAM CURED BY A SYSTEM THAT WILL MAINTAIN A MOIST ATMOSPHERE.

WATER CURING - THE SECTIONS MAY BE WATER CURED BY ANY METHOD THAT WILL KEEP THE SECTIONS MOIST.

THE FORMS USED IN MANUFACTURE SHALL BE SUFFICIENTLY RIGID AND ACCURATE TO MAINTAIN THE SECTION DIMENSIONS WITHIN THE PERMISSIBLE VARIATIONS GIVEN IN THESE NOTES.

THE WALL SECTIONS SHALL BE STORED IN SUCH A MANNER TO PREVENT CRACKING OR DAMAGE.

THE FRONT FACE OF THE REINFORCED CONCRETE PANELS SHALL HAVE A TEXTURED FINISH AS SHOWN IN THE PLANS. CAULKING BETWEEN PRECAST PANELS SHALL BE IN ACCORDANCE WITH THE PLAN DETAILS. THE BACK SIDE OF THE REINFORCED CONCRETE PANELS SHALL HAVE A UNIFORM SURFACE FINISH AND SHALL BE ROUGH SCREEDED TO ELIMINATE OPEN POCKETS OF AGGREGATE AND SURFACE DISTORTIONS IN EXCESS OF 1/4".

ALL PANELS SHALL BE MANUFACTURED WITH ALL PANEL DIMENSIONS WITHIN 1/4".

COMPRESSIVE STRENGTH:

ACCEPTANCE OF THE CONCRETE PANELS WITH RESPECT TO COMPRESSIVE STRENGTH WILL BE DETERMINED ON THE BASIS OF PRODUCTION LOTS. A PRODUCTION LOT IS DEFINED AS A GROUP OF PANELS THAT WILL BE REPRESENTED BY A SINGLE COMPRESSIVE STRENGTH SAMPLE AND WILL CONSIST OF EITHER 6 PANELS OR A SINGLE DAY'S PRODUCTION, WHICHEVER IS LESS.

DURING THE PRODUCTION OF THE CONCRETE PANELS, THE MANUFACTURER WILL RANDOMLY SAMPLE THE CONCRETE IN ACCORDANCE WITH ASTM C 172. A SINGLE COMPRESSIVE STRENGTH SAMPLE, CONSISTING OF A MINIMUM OF FOUR CYLINDERS, WILL BE RANDOMLY SELECTED FOR EVERY PRODUCTION LOT.

COMPRESSIVE STRENGTH (CONT.):

CYLINDERS FOR COMPRESSIVE STRENGTH TESTS SHALL BE 6" DIA. x 12" OR 4" DIA. x 8" SPECIMENS PREPARED IN ACCORDANCE WITH ASTM C 31. FOR EVERY COMPRESSIVE STRENGTH SAMPLE, A MINIMUM OF 2 CYLINDERS WILL BE CURED IN THE SAME MANNER AS THE PANELS AND TESTED AT APPROXIMATELY 7 DAYS. THE AVERAGE COMPRESSIVE STRENGTH OF THESE CYLINDERS, WHEN TESTED IN ACCORDANCE WITH ASTM C 39, WILL PROVIDE A TEST RESULT WHICH WILL DETERMINE THE INITIAL STRENGTH OF THE CONCRETE. IN ADDITION, 2 CYLINDERS SHALL BE CURED IN ACCORDANCE WITH ASTM C 31 AND TESTED AT 28 DAYS. THE AVERAGE COMPRESSIVE STRENGTH OF THESE TWO CYLINDERS, WHEN TESTED IN ACCORDANCE WITH ASTM C 39, WILL PROVIDE A COMPRESSIVE STRENGTH TEST RESULT WHICH WILL DETERMINE THE COMPRESSIVE STRENGTH OF THE PRODUCTION LOT.

IF THE INITIAL STRENGTH TEST RESULTS INDICATE A COMPRESSIVE STRENGTH IN EXCESS OF 4000 PSI, THEN THESE TEST RESULTS WILL BE UTILIZED AS THE COMPRESSIVE STRENGTH TEST RESULT FOR THE PRODUCTION LOT AND THE REQUIREMENT FOR TESTING AT 28 DAYS WILL BE WAIVED FOR THAT PARTICULAR PRODUCTION LOT.

ACCEPTANCE OF A PRODUCTION LOT WILL BE MADE IF THE COMPRESSIVE STRENGTH TEST RESULT IS GREATER THAN OR EQUAL TO 4000 PSI. IF THE RESULT IS LESS THAN 4000 PSI, THE ACCEPTANCE OF THE PRODUCTION LOT WILL BE BASED ON ITS MEETING OR EXCEEDING THE FOLLOWING THREE ACCEPTANCE CRITERIA:

- 90% OF THE COMPRESSIVE STRENGTH TEST RESULTS FOR THE OVERALL PRODUCTION SHALL EXCEED 4000 PSI.
- THE AVERAGE OF ANY THREE CONSECUTIVE COMPRESSIVE STRENGTH TEST RESULTS SHALL EXCEED 4000 PSI.
- NO INDIVIDUAL COMPRESSIVE STRENGTH TEST RESULT SHALL FALL BELOW 3800 PSI.

IN THE EVENT THAT A PRODUCTION LOT FAILS TO MEET THE SPECIFIED COMPRESSIVE STRENGTH REQUIREMENTS, THE PRODUCTION LOT SHALL BE REJECTED. SUCH REJECTION SHALL PREVAIL UNLESS THE MANUFACTURER, AT HIS OWN EXPENSE, OBTAINS AND SUBMITS EVIDENCE ACCEPTABLE TO THE ENGINEER THAT THE STRENGTH AND QUALITY OF THE CONCRETE PLACED WITHIN THE PANELS OF THE PRODUCTION IS ACCEPTABLE. IF SUCH EVIDENCE CONSISTS OF TESTS MADE ON CORES TAKEN FROM THE PANELS WITHIN THE PRODUCTION LOT, THE CORES SHALL BE OBTAINED AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS OF ASTM C 42.

REJECTION:

PANELS SHALL BE SUBJECT TO REJECTION BECAUSE OF FAILURE TO MEET ANY OF THE REQUIREMENTS SPECIFIED ABOVE. IN ADDITION, ANY OR ALL OF THE FOLLOWING DEFECTS MAY BE SUFFICIENT CAUSE FOR REJECTION:

- DEFECTS THAT INDICATE IMPERFECT MOLDING
- DEFECTS INDICATING HONEYCOMBED OR OPEN TEXTURED CONCRETE.
- DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, SUCH AS BROKEN OR CHIPPED CONCRETE.
- STAINED FORM FACE, DUE TO EXCESS FORM OIL OR OTHER CONTAMINATIONS.
- SIGNS OF AGGREGATE SEGREGATION
- BROKEN OR CRACKED CORNERS
- LIFTING INSERTS NOT USABLE
- EXPOSED REINFORCING STEEL
- INSUFFICIENT CONCRETE COMPRESSIVE STRENGTH
- CRACKS WIDER THAN 0.01 INCH, PENETRATING MORE THAN 1", OR LONGER THAN 12 INCHES
- MISSING COPING DOWELS

THE ENGINEER WILL DECIDE IF AN ATTEMPT MAY BE MADE TO REPAIR A DEFECTIVE PANEL. THE CONTRACTOR OR MANUFACTURER SHALL MAKE THE REPAIRS. IF THE REPAIRS ARE MADE TO THE ENGINEER'S SATISFACTION, THE PANEL WILL BE ACCEPTABLE.

MARKING:

THE DATE OF MANUFACTURE, THE PRODUCTION LOT NUMBER AND THE PIECE OF MARK SHALL BE CLEARLY SCRIBED ON THE BACK SURFACE OF EACH PANEL.

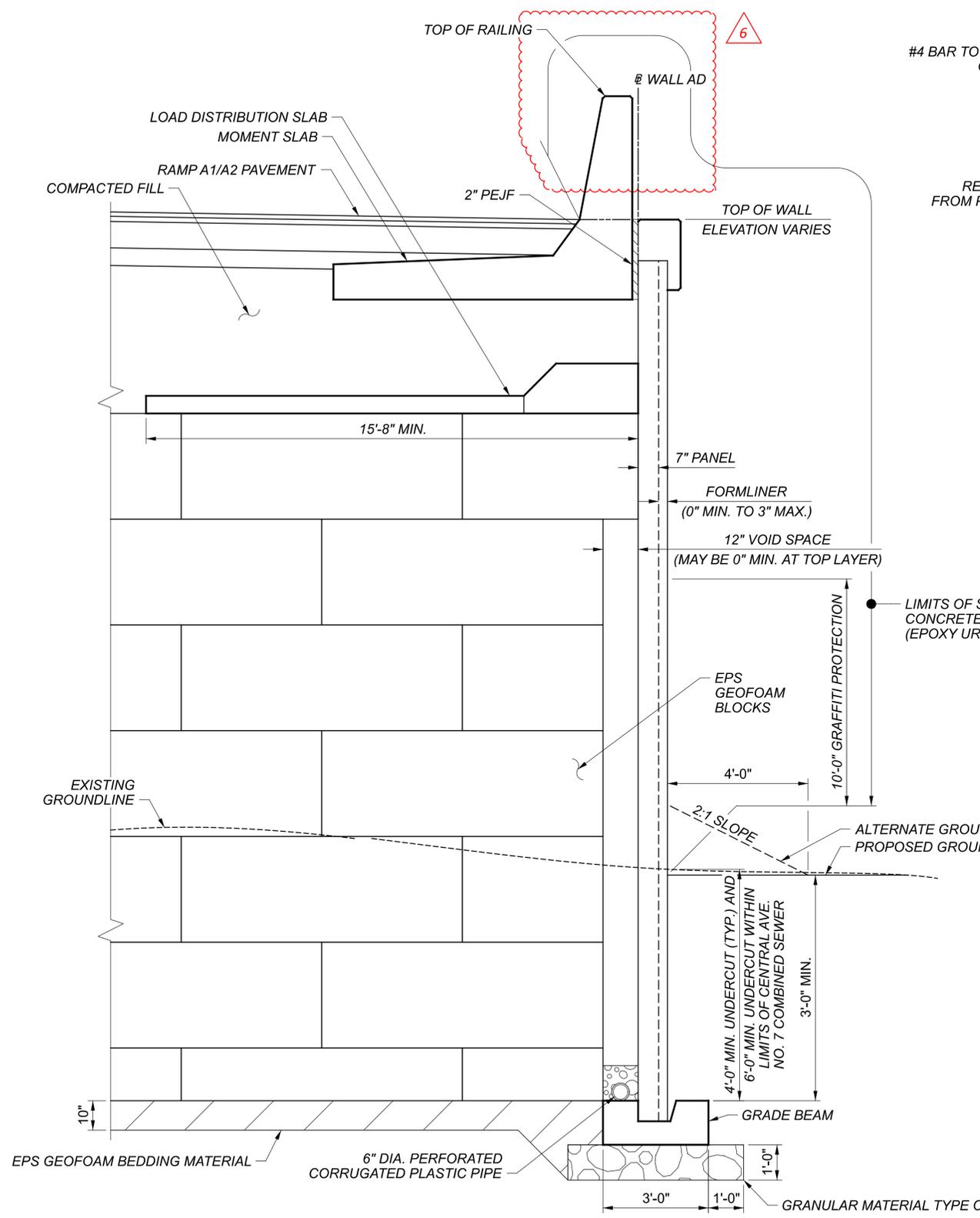
WALL ERECTION:

PANELS ARE HANDLED BY MEANS OF A LIFTING DEVICE CONNECTED TO LIFTING INSERTS CAST INTO THE BACK SIDE OF THE PANELS. ALL PANELS SHALL BE BRACED TO RESIST THE TEMPORARY CONSTRUCTION LOADS INCLUDING WIND LOADS, PRIOR TO POURING THE THICKENED EDGE BEAM FOR THE LOAD DISTRIBUTION SLAB.

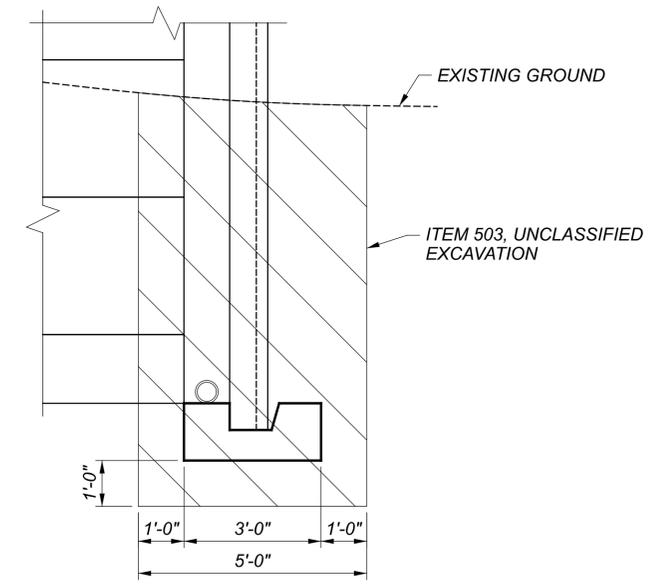
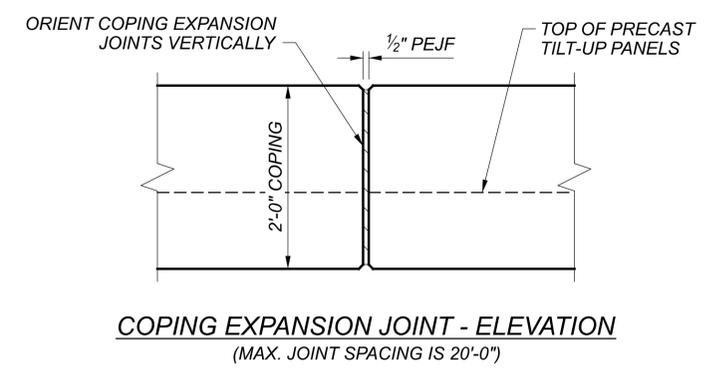
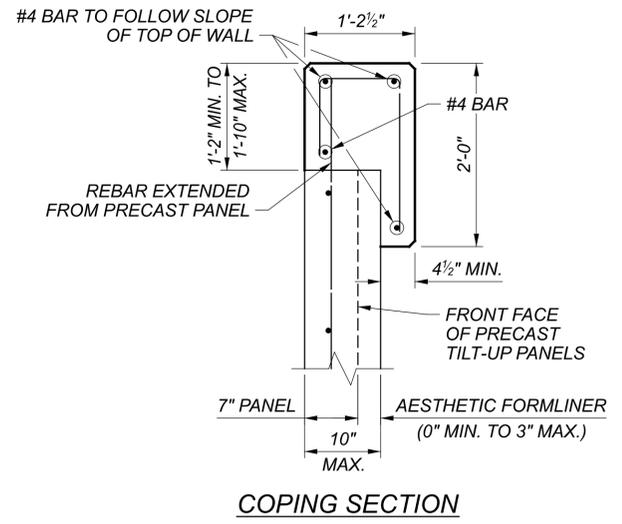
MEASUREMENT AND PAYMENT:

ACCEPTED PRECAST FACADE WALL PANELS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE FOOT FOR ITEM 530 SPECIAL - RETAINING WALL, PRECAST WALL FACADE PANEL. WHICH PRICE SHALL CONSTITUTE FULL COMPENSATIONS FOR ALL LABOR, MATERIALS, EQUIPMENT, SHIPPING AND APPURTENANCES TO FABRICATE AND INSTALL THE PANELS IN ACCORDANCE WITH THESE SPECIFICATIONS.

SFN	N/A
DESIGN AGENCY	
DESIGNER	CHECKER
TJE	JML
REVIEWER	
DWW 01/11/24	
PROJECT ID	
82382	
SUBSET	TOTAL
3	17
SHEET	TOTAL
1193	2696



TILT-UP PANEL WALL TYPICAL SECTION
 (WALL AD STA. 603+65.01 TO WALL AD STA. 608+13.01)
 (SECTION ALONG ROADWAY PAVEMENT LIMITS SHOWN)



TYPICAL WALL EXCAVATION LIMITS

TILT-UP PANEL WALL SECTION
 WALL AD
 ALONG RAMP A1

SFN	N/A
DESIGN AGENCY	
DESIGNER	TJE
CHECKER	JML
REVIEWER	DWW
DATE	01/11/24
PROJECT ID	82382
SUBSET	11
TOTAL	17
SHEET	1201
TOTAL	2696

- NOTES:**
- FOR TILT-UP PANEL WALL ELEVATIONS, SEE SHEETS 7 / 17 AND 8 / 17.
 - FOR ADDITIONAL NOTES AND DETAILS, SEE SHEETS 12 / 17 AND 13 / 17.

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:
SBR-1-20 REVISED 07-19-24

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
800 DATED SEE TITLE SHEET

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

ABBREVIATIONS:

FOR LIST OF ABBREVIATIONS SEE THE QUANTITY SHEET.

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (MOMENT SLAB AND PARAPET)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CAST-IN-PLACE WALL)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

GFRP - C&MS 705.28 (MODULUS = 8700 KSI)

FOUNDATION BEARING RESISTANCE:

FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 2.80 KSF AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 4.49 KSF. THE FACTORED BEARING RESISTANCE IS 7.6 KSF.

UTILITY LINES:

THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

WALL EXCAVATION:

LIMITS OF WALL EXCAVATION SHOWN IN WALL SECTION ON THIS SHEET IS FOR QUANTITY PURPOSES ONLY. CONTRACTOR HAS THE OPTION TO USE AN EXCAVATED SLOPE OR SUPPORTED EXCAVATION, SEE MAINTENANCE OF TRAFFIC PLANS FOR ANY REQUIRED WORK ZONE SHEETING.

MAINTENANCE OF TRAFFIC:

REFER TO THE OVERALL PROJECT MAINTENANCE OF TRAFFIC FOR ADDITIONAL INFORMATION WITH RESPECT TO MAINTENANCE OF TRAFFIC.

ITEM 511, CONCRETE, MISC.: ARCHITECTURAL TREATMENT

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE ARCHITECTURAL TREATMENTS IN THE CONCRETE SURFACE OF THE RETAINING WALL.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS:
ITEM 511 CONCRETE, MISC.: ARCHITECTURAL TREATMENT.

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ITEM 511, CLASS QC2 CONCRETE, MISC.: MOMENT SLAB WITH QC/QA

ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE MOMENT SLABS ALONG THE RETAINING WALLS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE. ALL REINFORCING STEEL EMBEDDED IN THE MOMENT SLAB AND WITHIN THE PARAPET SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL FOR PAYMENT. THIS ITEM SHALL ALSO REQUIRE QUALITY CONTROL, MEETING THE REQUIREMENTS PER CMS 455 AND CMS 511.04.

4

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN:

SEAL SURFACES OF THE MSE WALL PANELS, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

COPING SEALER:	"ALPACA"	7022
WALL FACING SEALER:	"ALABASTER"	7008
MOMENT SLAB:	"ALPACA"	7022

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIERS COLOR PALATE.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION:

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

SEALING LIMITS TO MATCH THAT OF THE EPOXY-URETHANE SEALER.

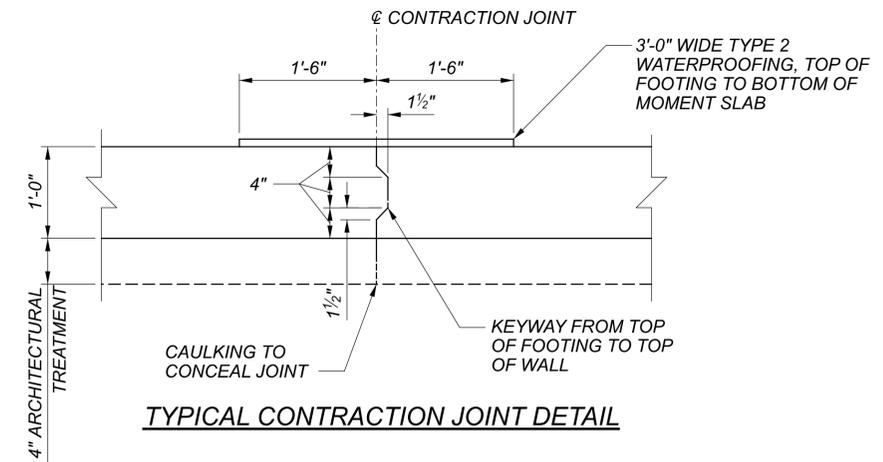
ITEM 516 - JOINT SEALER, AS PER PLAN:

HOT APPLIED JOINT SEALER SHALL BE APPLIED ABOVE THE 1" PREFORMED EXPANSION JOINT FILLER THAT IS PLACED BETWEEN THE MOMENT SLAB AND ROADWAY ASPHALT. JOINT SEALER SHALL MEET THE REQUIREMENTS OF ODOT CMS 705.04.

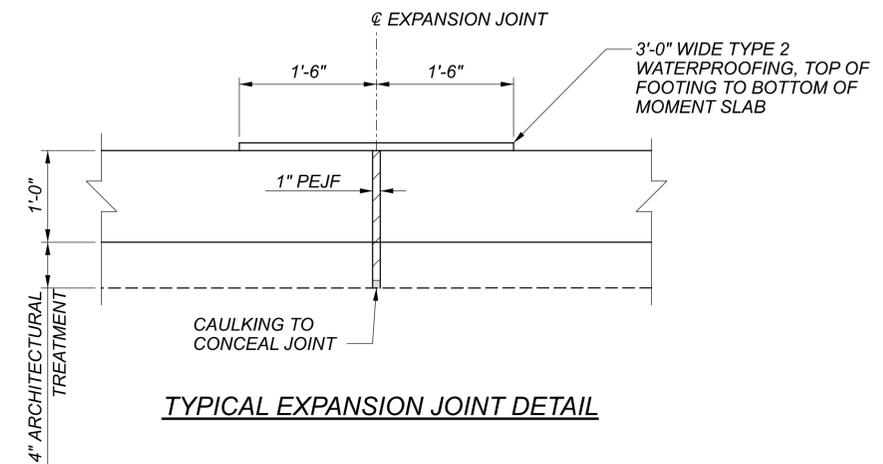
ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN:

SEAL ALL RETAINING WALL EXPANSION JOINTS WITH NON-SAG POLYURETHANE SEALANT CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2" UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

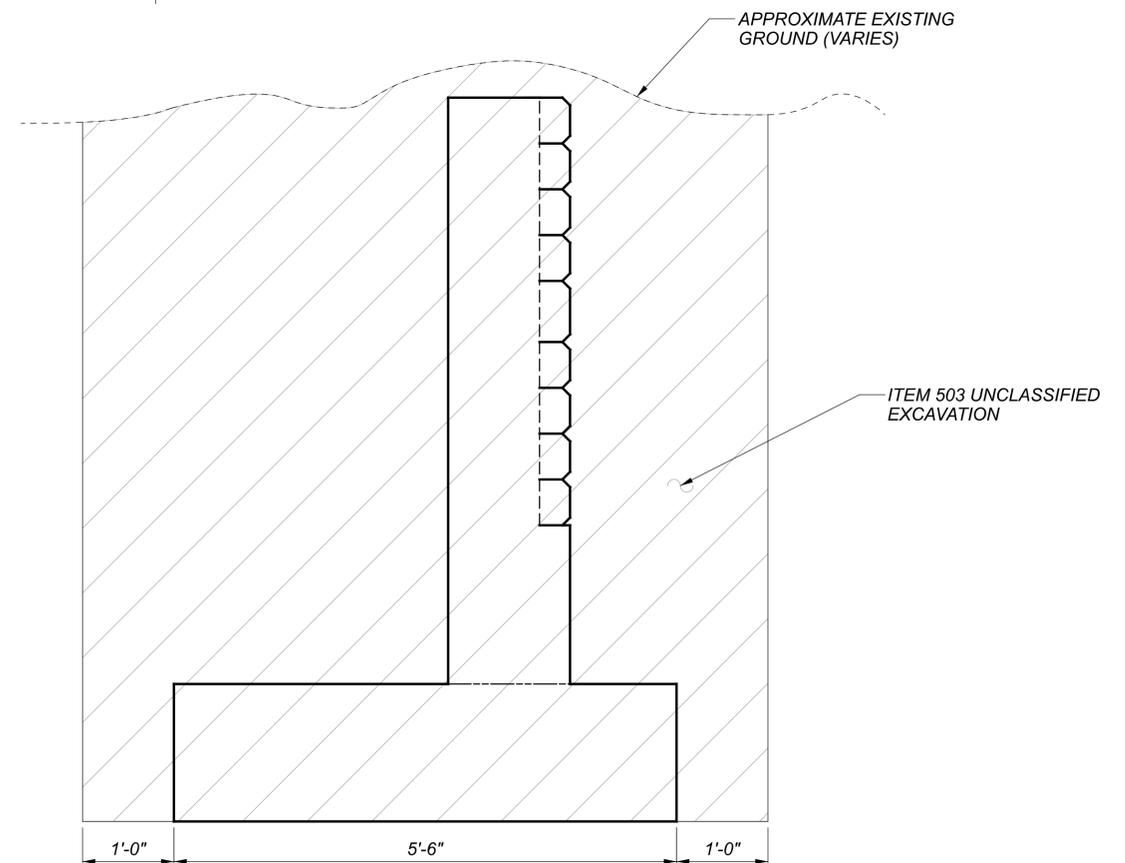
THIS ITEM SHALL INCLUDE, BUT IS NOT LIMITED TO THE PEJF AND JOINT SEAL NECESSARY TO FORM AND PLACE THE RETAINING WALL EXPANSION JOINTS. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL OTHER NECESSARY MATERIAL, LABOR, AND EQUIPMENT AND SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN.



TYPICAL CONTRACTION JOINT DETAIL



TYPICAL EXPANSION JOINT DETAIL



TYPICAL UNCLASSIFIED EXCAVATION SECTION

WALL GENERAL NOTES
WALL AE
ALONG SOUTH SIDE OF RAMP A1

SFN	N/A
DESIGN AGENCY	B&N burgessniple.com
DESIGNER	CHECKER
JFM	JMK
REVIEWER	
DWL	06/16/22
PROJECT ID	82382
SUBSET	TOTAL
2	10
SHEET	TOTAL
1209	2696

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPER/DATE: 3/4/22 (in.) DATE: 10/16/2025 TIME: 11:19:21 AM USER: Maia Gallagher
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ESTIMATED QUANTITIES						
PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REFERENCE
01/IMS/04	503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING	
01/IMS/04	503	21101	559	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	2/10
01/IMS/04	509	10000	30805	LB	EPOXY COATED STEEL REINFORCEMENT	
01/IMS/04	509	30020	2846	FT	NO. 4 GFRP DEFORMED BARS	
01/IMS/04	511	34450	28	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
01/IMS/04	511	46012	75	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING	4
01/IMS/04	511	46512	68	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
01/IMS/04	511	53012	6 77	CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB WITH QC/QA	4
01/IMS/04	511	71200	800	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT	2/10
01/IMS/04	512	10001	261	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION	2/10
01/IMS/04	512	10101	261	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	2/10
01/IMS/04	512	33000	12	SY	TYPE 2 WATERPROOFING	
01/IMS/04	516	31001	209	FT	JOINT SEALER, AS PER PLAN	2/10
01/IMS/04	516	13601	224	SF	1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	2/10
01/IMS/04	516	13900	469	SF	2" PREFORMED EXPANSION JOINT FILLER	
01/IMS/04	518	21200	78	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
01/IMS/04	518	40000	212	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
01/IMS/04	518	40010	12	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

- | | |
|---|--|
| ABUT. - ABUTMENT
APPR. - APPROACH
- BASELINE
BOT. - BOTTOM
BRG. - BEARING
BRGS. - BEARINGS
BTA - BRIDGE TERMINAL ASSEMBLY
@ - CENTERLINE
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CP - COMPLETE PENETRATION BUTT WELD
C&MS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONST. - CONSTRUCTION
C.P.P. - CORRUGATED PLASTIC PIPE
CS - INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY
CU YD - CUBIC YARD
CVN - CHARPY V-NOTCH TESTING
DIA. - DIAMETER
E.F. - EACH FACE
ELEV., EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
F/F - FACE TO FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD
GEN. - GENERAL
INT. - INTEGRAL
LF - LEFT FORWARD
LT. - LEFT
MAX. - MAXIMUM
M.E. - MATCH EXISTING
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC | N.F. - NEAR FACE
NO./# - NUMBER
O/O - OUT TO OUT
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PGL - PROFILE GRADE LINE
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
R. - RADIUS
R.A. - REAR ABUTMENT
RCP - ROCK CHANNEL PROTECTION
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY
SAN. - SANITARY
SER. - SERIES
SHLDR. - SHOULDER
SHT. - SHEET
S.O. - SERIES OF
SPA. - SPACES OR SPACING
SR - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT
TBM - TEMPORARY BENCH MARK
TEMP. - TEMPORARY
T.O.S. - TOE OF SLOPE
T/PARAPET - TOE OF PARAPET
T/T - TOE TO TOE
TYP. - TYPICAL
U.G. - UNDERGROUND
U.N.O - UNLESS NOTED OTHERWISE
VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL
W/O - WITHOUT |
|---|--|

ESTIMATED QUANTITIES
 WALL AE
 ALONG SOUTH SIDE OF RAMP A1

SFN	N/A
DESIGN AGENCY	
B&N burgessniple.com	
DESIGNER	CHECKER
DBH	BCS
REVIEWER	
DWL	06/16/22
PROJECT ID	82382
SUBSET	TOTAL
3	10
SHEET	TOTAL
1210	2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

- VPF-1-90 REVISED 7/21/2023
- DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

- 800 DATED SEE TITLE SHEET

REFER TO THE FOLLOWING SUPPLEMENT:

- 1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE FACING, DRILLED SHAFT CAP & FENCE WALL)

CONCRETE CLASS QC SCC, WITH 3/8 IN MAX. AGGREGATE SIZE:
COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

PERMANENT STEEL CASING - ASTM A252 GRADE 3 - MINIMUM YIELD STRESS 45 KSI

SEQUENCE OF CONSTRUCTION

CONSTRUCT WALL AF DURING MOT PHASE 2.

SEE MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL PHASES AND INFORMATION

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - 1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - 2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
 - 3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - 4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - 5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - 6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL ALL EXPOSED SURFACES INCLUDING THE CAST IN PLACE CONCRETE FACING SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLOR SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

6	COPING SEALER:	"ALPACA"	7022
	WALL FACING SEALER:	SEE WALL AESTHETIC DETAILS	
	PARAPET:	"ALPACA"	7022

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

THE ADDITIONAL MATERIAL AND LABOR REQUIRED TO SEAL THE FORM LINER RELIEF SHALL BE INCLUDED IN THIS ITEM. TO ACCOUNT FOR THE SURFACE VARIATIONS DUE TO THE FORM LINERS, AN EXTRA 20 PERCENT HAS BEEN ADDED TO THE SEALING QUANTITIES FOR THE PURPOSE OF ESTIMATING.

ITEM 518 - PREFABRICATED GEOCOMPOSITE DRAIN

THIS WORK CONSISTS OF FURNISHING AND PLACING PREFABRICATED GEOCOMPOSITE DRAIN (PGD) AGAINST THE CONCRETE WALL FACING.

FURNISH PGD CONSISTING OF A DRAINAGE CORE WITH A GEOTEXTILE FABRIC BONDED TO AT LEAST ONE SIDE. USE CORE MATERIAL THAT CONSISTS OF A STABLE, POLYMER PLASTIC MATERIAL WITH A CUSPATED OR GEONET STRUCTURE. THE CORE MATERIAL SHALL HAVE SUFFICIENT FLEXIBILITY TO WITHSTAND BENDING AND HANDLING DURING INSTALLATION WITHOUT DAMAGE. FURNISH GEOTEXTILE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS FORMED INTO A WOVEN OR NON-WOVEN FABRIC. FURNISH PGD CONFORMING TO THE FOLLOWING REQUIREMENTS. FURNISH MANUFACTURER'S CERTIFIED TEST DATA.

	PROPERTY	TEST METHOD	VALUE
	THICKNESS	ASTM D 5199	0.4 INCH
	COMPRESSIVE STRENGTH	ASTM D 1621	13,650 PSF MIN.
CORE	FLOW RATE	ASTM D 4716	9 TO 25 GPM/FT
	APPARENT OPENING SIZE	ASTM D 4751	0.3 MM MAX.
	FLOW RATE	ASTM D 4491	40 GPM/SQ.FT. MIN.
	FABRIC	GRAB TENSILE STRENGTH	ASTM D 4632
	CBR PUNCTURE	ASTM D 6241	65 LBS MIN.

PLACE PGD BETWEEN THE DRILLED SHAFTS. PLACE THE SIDE FACED WITH GEOTEXTILE AGAINST THE DRILLED SHAFTS, FACING TOWARDS THE RETAINED GROUND, AND SECURE THE PGD TO THE SACRIFICIAL PLYWOOD FORMS BETWEEN THE DRILLED SHAFTS.

SPLICE ABUTTING SECTIONS TOGETHER BY OVERLAPPING THE GEOTEXTILE FLAP (IF PROVIDED) ON ONE SECTION WITH THE ADJACENT SECTION OF PGD. OVERLAP THE GEOTEXTILE IN A SHINGLED OVERLAP SO THAT THE UPPER GEOTEXTILE IS ON TOP OF THE LOWER GEOTEXTILE. IF A GEOTEXTILE FLAP IS NOT PROVIDED, COVER THE SEAM WITH A 12-INCH WIDE STRIP OF GEOTEXTILE FABRIC CENTERED OVER THE SEAM AND SECURED IN PLACE USING 3-INCH WIDE WATERPROOF PLASTIC TAPE.

SEAL ALL EXPOSED EDGES OF THE CORE MATERIAL TO PREVENT SOIL INTRUSION. SEAL EXPOSED EDGES BY FOLDING THE GEOTEXTILE FLAPS OVER AND AROUND THE PGD OR, IF A FLAP IS NOT PROVIDED, COVERING THE EXPOSED EDGE WITH A 12-INCH WIDE STRIP OF GEOTEXTILE FABRIC, TAPING THE STRIP TO THE PGD GEOTEXTILE 8 INCHES FROM THE EXPOSED EDGE, AND FOLDING THE REMAINING 4 INCHES OVER AND AROUND THE PGD. SECURE LOOSE EDGES OF THE GEOTEXTILE FABRIC WITH 3-INCH WIDE WATERPROOF PLASTIC TAPE.

REPAIR ANY DAMAGE TO THE GEOTEXTILE FABRIC BY COVERING WITH A PATCH WHICH OVERLAPS THE DAMAGED AREA AND EXTENDS AT LEAST 6 INCHES BEYOND THE EDGE OF THE DAMAGED AREA. TAPE THE EDGES OF THE PATCH IN PLACE USING 3 INCH WIDE WATERPROOF PLASTIC TAPE. IF THE CORE OF THE PGD IS DAMAGED, REPLACE IT WITH A NEW SECTION OF PGD SPLICE AS DESCRIBED ABOVE.

**ITEM 524 - DRILLED SHAFTS, 42" DIAMETER, AS PER PLAN
ITEM 524 - DRILLED SHAFTS, 48" DIAMETER, AS PER PLAN**

GENERAL:

THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO INSTALL DRILLED SHAFTS AS DETAILED IN THE PLANS IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT C&MS SECTION 524, AND WITH THE ADDITIONAL REQUIREMENTS DEFINED BELOW.

ANTICIPATED DRILLED SHAFT DEFLECTIONS:

TANGENT DRILLED SHAFTS ("SHAFT", "SHAFTS") ARE INCORPORATED AS WALLS IN VARIOUS STRUCTURAL ELEMENTS FOR THIS BRIDGE. AS DESIGNED AND DETAILED THE SHAFTS ARE EXPECTED TO DEFLECT UNDER THE APPLIED PERMANENT LOADS (DC, DW, EP, WA) AND TRANSIENT LOADS (LL, LS, TU) AT THE SERVICE LIMIT STATE. MEASURES FOR ACCOMODATING THESE DEFLECTIONS ARE DETAILED BELOW.

THE SHAFT HEAD IS CONSIDERED TO BE THE DESIGN BEAM SEAT ELEVATION FOR SHAFTS INCORPORATED IN ABUTMENTS. THE SHAFT HEAD IS CONSIDERED TO BE THE DESIGN TOP OF CAP ELEVATION FOR SHAFTS INCORPORATED IN RETAINING WALLS. IN BOTH CASES THE FINISHED TOP OF SHAFT IS LOWER THAN THE SHAFT HEAD ELEVATION.

THE ANTICIPATED DEFLECTION AT THE SHAFT HEAD ELEVATION RELATIVE TO THE DREDGE LINE ELEVATION DUE TO PERMANENT LOADS ARE AS FOLLOWS:

WALL AF	6.00 INCHES	SHAFTS AF29 THROUGH AF66 ONLY
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DESIGN ASSUMPTIONS:

BEHAVIOR OF THE DRILLED SHAFTS AS DESCRIBED ABOVE IS PREDICATED UPON THE FOLOWING DESIGN ASSUMPTIONS:

- 1. DESIGN HEIGHT OF DRILLED SHAFT IS THE DISTANCE FROM THE SHAFT HEAD ELEVATION TO THE DREDGE LINE ELEVATION
- 2. PERMANENT LOAD DEFLECTIONS ARE ASSUMED TO OCCUR FOLLOWING REMOVAL OF SOIL IN FRONT OF THE TANGENT SHAFT WALLS
- 3. ADDITIONAL ASSUMPTIONS AND CONSTRAINTS ARE DETAILED IN THE PLANS.

DREDGE LINE ELEVATIONS:

SHAFTS AF01 THROUGH AF58:	SLOPING GROUND 42 INCHES BELOW FINAL GRADE AT NEAR FACE OF WALL.
SHAFTS AF58 THROUGH AF66:	ELEV. 631.0 FOR DRAINAGE STRUCTURE EXCAVATION.

DRILLED SHAFT LOCATION SURVEY:

THE CORRECT LOCATION OF SHAFT IS CRITICAL TO ESTABLISHING AND MAINTAINING THE STRUCTURE GEOMETRY. THE CONTRACTOR SHALL EMPLOY THE SERVICES OF A OHIO REGISTERED PROFESSIONAL SURVEYOR ("THE SURVEYOR") TO ESTABLISH, MAINTAIN AND VERIFY HORIZONTAL AND VERTICAL SHAFT GEOMETRY. THE SURVEYOR SHALL BE READILY AVAILABLE TO ESTABLISH GEOMETRIC CONTROL AND PERFORM THE SURVEYS REQUIRED BELOW.

CONTRACTOR'S INSTALLATION PLAN:

THE CONTRACTOR SHALL PROVIDE AN INSTALLATION PLAN AS REQUIRED BY ODOT C&MS SECTION 524.03. THE INSTALLATION PLAN SHALL ALSO INCLUDE:

- 1. CONTRACTOR'S PROPOSED METHODS TO MAINTAIN LOCATION AND ALIGNMENT OF SHAFTS
- 2. CONTRACTOR'S PROPOSED METHODS FOR PERFORMING THE DRILLED SHAFT LOCATION SURVEY

CONSTRUCTION CONSTRAINTS:

THE CONTRACTOR IS ADVISED THAT THE PROPOSED DRILLED SHAFT INSTALLATIONS MAY REQUIRE ADVANCING SHAFTS THROUGH EXISTING PILES. ADDITIONAL INFORMATION AND NOTES REGARDING POSSIBLE CONFLICTS ARE PROVIDED IN THE PLANS.

MATERIALS:

CONCRETE AND REINFORCING STEEL FOR DRILLED SHAFTS SHALL CONFORM TO ODOT C&MS SECTION 524.02.

A SELF CONSOLIDATING CONCRETE MIX SHALL BE INCORPORATED

THE MAXIMUM COARSE AGGREGATE SIZE SHALL BE: 3/8"

PERMANENT STEEL CASINGS SHALL BE ASTM A252 GRADE 3 WITH A MINIMUM YIELD STRESS OF 45 KSI. CASING SECTION LENGTHS SHALL BE MAXIMIZED TO MINIMIZE THE NUMBER OF FIELD SPLICE LOCATIONS. FIELD SPLICE LOCATIONS SHALL BE AS REQUIRED BY THE PLAN DETAILS. THE USE OF SPIRAL WELDED PIPE IS PERMITTED.

CUY-90-16.28 (CCG3A)

MODEL: Sheet (1 of 2) PAPER SIZE: 34x22 (in.) DATE: 10/16/2025 TIME: 9:13:39 AM USER: Maia Gallagher
pvc:\mb-us-pw-bentley.com\mb-us-pw-03\Documents\Cleveland_OH01_Projects\ODOT\District12\28232400-Engineering\Structures\WALL_AF_Sheets\82382_AF_WN001.dgn

WALL GENERAL NOTES (1 OF 2)

WALL AF

ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.

SFN

N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER CHECKER
SW/GZ JC/SD

REVIEWER
LPC 05-09-24

PROJECT ID
82382

SUBSET TOTAL
2 11

SHEET TOTAL
1219 2696

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING MEETING THE REQUIREMENTS OF SUPPLEMENT 1083. THE GRAFFITI COATING MUST BE COMPATIBLE WITH THE UNDERLYING CONCRETE SEALER. APPLY THE GRAFFITI COATING ACCORDING TO THE MANUFACTURE'S REQUIREMENTS. THE ADDITIONAL MATERIAL AND LABOR REQUIRED TO SEAL THE FORM LINER RELIEF SHALL BE INCLUDED IN THIS ITEM. TO ACCOUNT FOR THE SURFACE VARIATIONS DUE TO THE FORM LINERS, AN EXTRA 20 PERCENT HAS BEEN ADDED TO THE SEALING QUANTITIES FOR THE PURPOSE OF ESTIMATING. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED) NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIC COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - 1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - 2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - 3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - 4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - 5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - 6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL SURFACES OF THE CONCRETE FACING AND THE PRECAST CONCRETE LAGGING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

COPING SEALER:	"ALPACA"	7022	6
WALL FACING SEALER:	SEE WALL AESTHETIC DETAILS		
PARAPET:	"ALPACA"	7022	

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 607 - VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

INSTALL VANDAL PROTECTION FENCE ACCORDING TO STD. CONSTRUCTION DRAWING VPF-1-90 AND C&MS 607, EXCEPT AS MODIFIED BELOW.

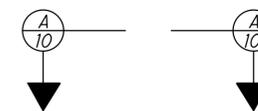
POSTS, PLATES, TIE WIRES, CAULK AND ADDITIONAL VISIBLE HARDWARE SHALL BE COLOR BLACK (FEDERAL STD. 595C #17038). FENCE FABRIC SHALL BE BLACK VINYL-COATED, CHAIN LINK STYLE. MOUNT FENCING TO TOP OF RETAINING WALL WITH CAST-IN-PLACE ANCHORS.

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE ARCHITECTURAL TREATMENTS IN THE CONCRETE SURFACE OF THE RETAINING WALL.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 511 CONCRETE, MISC.: ARCHITECTURAL TREATMENT.

SECTION/DETAIL/VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)



(SECTION A CUT FROM SHEET 10)

PLAN ABBREVIATIONS:

- ABUT. = ABUTMENT
- APPR. = APPROACH
- B = BOTTOM
- @ = BASELINE
- BM = BENCHMARK
- BOT. OR BTM. = BOTTOM
- @ = CENTERLINE
- C/C = CENTER TO CENTER
- C.I.P. = CAST-IN-PLACE
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
- CONC. = CONCRETE
- CONST. = CONSTRUCTION
- DIA. = DIAMETER
- DIM. = DIMENSION
- DTBD = DISPOSITION TO BE DETERMINED
- DWG. = DRAWING
- EB = EASTBOUND
- E.F. = EACH FACE
- EL. OR ELEV. = ELEVATION
- EQ. = EQUAL
- EST. = ESTIMATED
- EX. = EXISTING
- F.A. = FORWARD ABUTMENT
- F/F = FACE TO FACE
- F.F. = FAR FACE
- FT. = FOOT OR FEET
- FTG. = FOOTING
- FWD. = FORWARD
- IN. = INCH
- JT. = JOINT
- LT. = LEFT
- MAX. = MAXIMUM
- MIN. = MINIMUM
- MISC. = MISCELLANEOUS
- N = NORTH
- NB = NORTHBOUND
- N.F. = NEAR FACE
- NO. = NUMBER
- N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
- OHWM = ORDINARY HIGH WATER MARK
- O/O = OUT TO OUT
- P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
- P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- PROP. = PROPOSED
- PSF = POUNDS PER SQUARE FOOT
- R.A. = REAR ABUTMENT
- S = SOUTH
- SB = SOUTHBOUND
- SER. = SERIES
- SHLDR = SHOULDER
- SPA. = SPACE OR SPACES
- STA. = STATION
- STD. = STANDARD
- STR = STRAIGHT
- T = TOP
- T&B = TOP & BOTTOM
- TBR = TO BE REMOVED
- TBRBO = TO BE RELOCATED BY OTHERS
- TEMP. = TEMPORARY
- TYP. = TYPICAL
- U.N.O. = UNLESS NOTED OTHERWISE
- VAR. = VARIES
- WB = WESTBOUND
- WWR = WELDED WIRE REINFORCEMENT

WALL GENERAL NOTES (2 OF 2)
 WALL AG
 ALONG SOUTH SIDE OF I.R. 90

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
SSW	KAG
REVIEWER	
LPC 05-09-24	
PROJECT ID	
82382	
SUBSET	TOTAL
4	12
SHEET	
TOTAL	
1232	2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

- VPF-1-90 REVISED 7/21/2023
- DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

- 800 DATED SEE TITLE SHEET

REFER TO THE FOLLOWING SUPPLEMENT:

- 1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE FACING, DRILLED SHAFT CAP & FENCE WALL)

CONCRETE CLASS QC SCC, WITH 3/8 IN MAX. AGGREGATE SIZE:
COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

PERMANENT STEEL CASING - ASTM A252 GRADE 3 - MINIMUM YIELD STRESS 45 KSI

SEQUENCE OF CONSTRUCTION:

CONSTRUCT WALL AH DURING MOT PHASE 4.

SEE MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL PHASES AND INFORMATION

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - 1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - 2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
 - 3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - 4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - 5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - 6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL ALL EXPOSED SURFACES INCLUDING THE CAST IN PLACE CONCRETE FACING SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLOR SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

6	COPING SEALER:	"ALPACA"	7022
	WALL FACING SEALER:	SEE WALL AESTHETIC DETAILS	
	PARAPET:	"ALPACA"	7022

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

THE ADDITIONAL MATERIAL AND LABOR REQUIRED TO SEAL THE FORM LINER RELIEF SHALL BE INCLUDED IN THIS ITEM. TO ACCOUNT FOR THE SURFACE VARIATIONS DUE TO THE FORM LINERS, AN EXTRA 20 PERCENT HAS BEEN ADDED TO THE SEALING QUANTITIES FOR THE PURPOSE OF ESTIMATING.

ITEM 518 - PREFABRICATED GEOCOMPOSITE DRAIN

THIS WORK CONSISTS OF FURNISHING AND PLACING PREFABRICATED GEOCOMPOSITE DRAIN (PGD) AGAINST THE CONCRETE WALL FACING.

FURNISH PGD CONSISTING OF A DRAINAGE CORE WITH A GEOTEXTILE FABRIC BONDED TO AT LEAST ONE SIDE. USE CORE MATERIAL THAT CONSISTS OF A STABLE, POLYMER PLASTIC MATERIAL WITH A CUSPATED OR GEONET STRUCTURE. THE CORE MATERIAL SHALL HAVE SUFFICIENT FLEXIBILITY TO WITHSTAND BENDING AND HANDLING DURING INSTALLATION WITHOUT DAMAGE. FURNISH GEOTEXTILE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS FORMED INTO A WOVEN OR NON-WOVEN FABRIC. FURNISH PGD CONFORMING TO THE FOLLOWING REQUIREMENTS. FURNISH MANUFACTURER'S CERTIFIED TEST DATA.

	PROPERTY	TEST METHOD	VALUE
CORE	THICKNESS	ASTM D 5199	0.4 INCH
	COMPRESSIVE STRENGTH	ASTM D 1621	13,650 PSF MIN.
	FLOW RATE	ASTM D 4716	9 TO 25 GPM/FT
FABRIC	APPARENT OPENING SIZE	ASTM D 4751	0.3 MM MAX.
	FLOW RATE	ASTM D 4491	40 GPM/SQ.FT. MIN.
	GRAB TENSILE STRENGTH	ASTM D 4632	90 LBS MIN.
	CBR PUNCTURE	ASTM D 6241	65 LBS MIN.

PLACE PGD BETWEEN THE DRILLED SHAFTS. PLACE THE SIDE FACED WITH GEOTEXTILE AGAINST THE DRILLED SHAFTS, FACING TOWARDS THE RETAINED GROUND, AND SECURE THE PGD TO THE SACRIFICIAL PLYWOOD FORMS BETWEEN THE DRILLED SHAFTS.

SPLICE ABUTTING SECTIONS TOGETHER BY OVERLAPPING THE GEOTEXTILE FLAP (IF PROVIDED) ON ONE SECTION WITH THE ADJACENT SECTION OF PGD. OVERLAP THE GEOTEXTILE IN A SHINGLED OVERLAP SO THAT THE UPPER GEOTEXTILE IS ON TOP OF THE LOWER GEOTEXTILE. IF A GEOTEXTILE FLAP IS NOT PROVIDED, COVER THE SEAM WITH A 12-INCH WIDE STRIP OF GEOTEXTILE FABRIC CENTERED OVER THE SEAM AND SECURED IN PLACE USING 3-INCH WIDE WATERPROOF PLASTIC TAPE.

SEAL ALL EXPOSED EDGES OF THE CORE MATERIAL TO PREVENT SOIL INTRUSION. SEAL EXPOSED EDGES BY FOLDING THE GEOTEXTILE FLAPS OVER AND AROUND THE PGD OR, IF A FLAP IS NOT PROVIDED, COVERING THE EXPOSED EDGE WITH A 12-INCH WIDE STRIP OF GEOTEXTILE FABRIC, TAPING THE STRIP TO THE PGD GEOTEXTILE 8 INCHES FROM THE EXPOSED EDGE, AND FOLDING THE REMAINING 4 INCHES OVER AND AROUND THE PGD. SECURE LOOSE EDGES OF THE GEOTEXTILE FABRIC WITH 3-INCH WIDE WATERPROOF PLASTIC TAPE.

REPAIR ANY DAMAGE TO THE GEOTEXTILE FABRIC BY COVERING WITH A PATCH WHICH OVERLAPS THE DAMAGED AREA AND EXTENDS AT LEAST 6 INCHES BEYOND THE EDGE OF THE DAMAGED AREA. TAPE THE EDGES OF THE PATCH IN PLACE USING 3 INCH WIDE WATERPROOF PLASTIC TAPE. IF THE CORE OF THE PGD IS DAMAGED, REPLACE IT WITH A NEW SECTION OF PGD SPLICE AS DESCRIBED ABOVE.

**ITEM 524 - DRILLED SHAFTS, 42" DIAMETER, AS PER PLAN
ITEM 524 - DRILLED SHAFTS, 48" DIAMETER, AS PER PLAN**

GENERAL:

THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO INSTALL DRILLED SHAFTS AS DETAILED IN THE PLANS IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT C&MS SECTION 524, AND WITH THE ADDITIONAL REQUIREMENTS DEFINED BELOW.

ANTICIPATED DRILLED SHAFT DEFLECTIONS:

TANGENT DRILLED SHAFTS ("SHAFT", "SHAFTS") ARE INCORPORATED AS WALLS IN VARIOUS STRUCTURAL ELEMENTS FOR THIS BRIDGE. AS DESIGNED AND DETAILED THE SHAFTS ARE EXPECTED TO DEFLECT UNDER THE APPLIED PERMANENT LOADS (DC, DW, EP, WA) AND TRANSIENT LOADS (LL, LS, TU) AT THE SERVICE LIMIT STATE. MEASURES FOR ACCOMODATING THESE DEFLECTIONS ARE DETAILED BELOW.

THE SHAFT HEAD IS CONSIDERED TO BE THE DESIGN BEAM SEAT ELEVATION FOR SHAFTS INCORPORATED IN ABUTMENTS. THE SHAFT HEAD IS CONSIDERED TO BE THE DESIGN TOP OF CAP ELEVATION FOR SHAFTS INCORPORATED IN RETAINING WALLS. IN BOTH CASES THE FINISHED TOP OF SHAFT IS LOWER THAN THE SHAFT HEAD ELEVATION.

THE ANTICIPATED DEFLECTION AT THE SHAFT HEAD ELEVATION RELATIVE TO THE DREDGE LINE ELEVATION DUE TO PERMANENT LOADS ARE AS FOLLOWS:

WALL AH	6.00 INCHES	SHAFTS AH01 THROUGH AF14 ONLY
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DESIGN ASSUMPTIONS:

BEHAVIOR OF THE DRILLED SHAFTS AS DESCRIBED ABOVE IS PREDICATED UPON THE FOLOWING DESIGN ASSUMPTIONS:

- DESIGN HEIGHT OF DRILLED SHAFT IS THE DISTANCE FROM THE SHAFT HEAD ELEVATION TO THE DREDGE LINE ELEVATION
- PERMANENT LOAD DEFLECTIONS ARE ASSUMED TO OCCUR FOLLOWING REMOVAL OF SOIL IN FRONT OF THE TANGENT SHAFT WALLS
- THE GROUND SURFACE BEHIND THE WALL WAS CONSIDERED AT ELEV. 673 TO ACCOUNT FOR POSSIBLE FILL IN THE FUTURE.
- ADDITIONAL ASSUMPTIONS AND CONSTRAINTS ARE DETAILED IN THE PLANS.

DREDGE LINE ELEVATIONS:

SHAFTS AH01 THROUGH AH08: ELEV. 631.0
FOR DRAINAGE STRUCTURE EXCAVATION.

SHAFTS AH09 THROUGH AH22: SLOPING GROUND 42 INCHES BELOW FINAL GRADE AT NEAR FACE OF WALL.

DRILLED SHAFT LOCATION SURVEY:

THE CORRECT LOCATION OF SHAFT IS CRITICAL TO ESTABLISHING AND MAINTAINING THE STRUCTURE GEOMETRY. THE CONTRACTOR SHALL EMPLOY THE SERVICES OF A OHIO REGISTERED PROFESSIONAL SURVEYOR ("THE SURVEYOR") TO ESTABLISH, MAINTAIN AND VERIFY HORIZONTAL AND VERTICAL SHAFT GEOMETRY. THE SURVEYOR SHALL BE READILY AVAILABLE TO ESTABLISH GEOMETRIC CONTROL AND PERFORM THE SURVEYS REQUIRED BELOW.

CONTRACTOR'S INSTALLATION PLAN:

THE CONTRACTOR SHALL PROVIDE AN INSTALLATION PLAN AS REQUIRED BY ODOT C&MS SECTION 524.03. THE INSTALLATION PLAN SHALL ALSO INCLUDE:

- CONTRACTOR'S PROPOSED METHODS TO MAINTAIN LOCATION AND ALIGNMENT OF SHAFTS
- CONTRACTOR'S PROPOSED METHODS FOR PERFORMING THE DRILLED SHAFT LOCATION SURVEY

COSTRUCTION CONSTRAINTS:

THE CONTRACTOR IS ADVISED THAT THE PROPOSED DRILLED SHAFT INSTALLATIONS MAY REQUIRE ADVANCING SHAFTS THROUGH EXISTING PILES. ADDITIONAL INFORMATION AND NOTES REGARDING POSSIBLE CONFLICTS ARE PROVIDED IN THE PLANS.

MATERIALS:

CONCRETE AND REINFORCING STEEL FOR DRILLED SHAFTS SHALL CONFORM TO ODOT C&MS SECTION 524.02.

A SELF CONSOLIDATING CONCRETE MIX SHALL BE INCORPORATED

THE MAXIMUM COARSE AGGREGATE SIZE SHALL BE: 3/8"

PERMANENT STEEL CASINGS SHALL BE ASTM A252 GRADE 3 WITH A MINIMUM YIELD STRESS OF 45 KSI. CASING SECTION LENGTHS SHALL BE MAXIMIZED TO MINIMIZE THE NUMBER OF FIELD SPLICE LOCATIONS. FIELD SPLICE LOCATIONS SHALL BE AS REQUIRED BY THE PLAN DETAILS. THE USE OF SPIRAL WELDED PIPE IS PERMITTED.

CUY-90-16.28 (CCG3A)

MODEL: Sheet (1 of 2) PAPER: 34x22 (in.) DATE: 10/16/2025 10:15:37 AM USER: Maia.Gallagher
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WALL GENERAL NOTES (1 OF 2)
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
SW/GZ	JC/SD
REVIEWER	
LPC	05-09-24
PROJECT ID	82382
SUBSET	TOTAL
2	9
SHEET	TOTAL
1242	2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

- VPF-1-90 REVISED 7/21/2023
- BR-2-15 REVISED 1/21/2022

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

- 800 DATED SEE TITLE SHEET

REFER TO THE FOLLOWING SUPPLEMENTS:

- 1073 DATED 4/21/2023
- 1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

- CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (PRECAST LAGGING)
- CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (MOMENT SLAB)
- CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
- REINFORCING STEEL / WELDED WIRE REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
- STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI
- RETENTION ANGLE - ASTM A709 - YIELD STRENGTH 50 KSI

SEQUENCE OF CONSTRUCTION:

CONSTRUCT WALL AI DURING MOT PHASE 3.

SEE MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL PHASES AND INFORMATION.

ITEM 507 - STEEL PILES, MISC.: W24x162, FURNISHED
ITEM 507 - STEEL PILES, MISC.: W24x229, FURNISHED

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 IN ACCORDANCE WITH C&MS 711.01. GALVANIZE SOLDIER PILES AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH C&MS 711.02. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

THE DEPARTMENT WILL MEASURE SOLDIER PILES ALONG THE AXIS OF THE SOLDIER PILE FROM THE TOP OF WALL ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507, STEEL PILES, MISC.: W24x162, FURNISHED AND ITEM 507, STEEL PILES, MISC.: W24x229, FURNISHED.

ITEM 511 - CONCRETE, MISC.: CLASS QC1 CONCRETE FOR RAISED PANEL SEAT

PROVIDE LEVEL CAST-IN-PLACE SEATS FOR LEVEL INSTALLATION OF THE BOTTOM ROW OF LAGGING. SEATS SHALL BE PLACED AS SHOWN IN THE PLANS ON SOUND CONCRETE FROM THE SOLDIER PILE DRILLED SHAFT.

THE CONTRACTOR IS PERMITTED TO USE A PRECAST ALTERNATIVE SUBJECT TO APPROVAL OF THE ENGINEER.

ITEM 511 - CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET WITH QC/QA

ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE MOMENT SLABS AND PARAPETS ALONG WALL AI SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET WITH QC/QA. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL DOWEL RODS, SLEEVES, AND ALL JOINT MATERIALS IN CONTACT WITH THE MOMENT SLAB. ALL REINFORCING STEEL EMBEDDED IN THE MOMENT SLAB AND WITHIN THE PARAPET SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL FOR PAYMENT. THIS ITEM SHALL ALSO REQUIRE QUALITY CONTROL, MEETING THE REQUIREMENTS PER CMS 455 AND CMS 511.04.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN

ALL PORTIONS OF THE WALL CAP SHALL BE PAID FOR UNDER THIS ITEM, UNLESS NOTED OTHERWISE. THIS INCLUDES, BUT IS NOT LIMITED TO WALL CAP CONCRETE, PEJF, JOINT SEALER, AND ANY OTHER INCIDENTALS REQUIRED TO COMPLETE THE WALL CAP.

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE PER CUBIC YARD FOR ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL SURFACES OF THE PRECAST CONCRETE LAGGING AND CAST IN PLACE CONCRETE CAP AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

COPING SEALER:	"DOVETAIL"	7018	
WALL FACING SEALER:	"ALPACA"	7022	
PARAPET/MOMENT SLAB:	"ALPACA"	7022	

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALETTE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALETTE.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - 1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - 2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
 - 3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - 4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - 5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - 6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 513 - STRUCTURAL STEEL, MISC.: RETENTION ANGLE

PROVIDE RETENTION ANGLE FOR PRECAST LAGGING WHERE WALL AI CONNECTS TO THE BRIDGE 14 FORWARD ABUTMENT AS SHOWN IN THE PLANS. ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE RETENTION ANGLE SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513-STRUCTURAL STEEL, MISC.: RETENTION ANGLE.

ITEM 524 - DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE AND LAGGING WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL THE DRILLED SHAFTS IN ACCORDANCE WITH C&MS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 1½ INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL AND NOT INCLINED MORE THAN 1 INCH BETWEEN TOP TO BOTTOM. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC 5 CONCRETE ACCORDING TO C&MS 511. PLACE CONCRETE TO THE ELEVATION FOR THE TOP OF THE DRILLED SHAFT. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES. IF SHOWN ON THE PLANS, FILL THE HOLE ABOVE THE BOTTOM OF THE LAGGING TO THE EXISTING GROUND SURFACE WITH ITEM C&MS 613 LOW STRENGTH MORTAR BACKFILL (LSM).

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. PLACE LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 3 INCHES AT BOTH ENDS OF THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

SEQUENCE OF INSTALLATION: THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48-HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THESE CRITERIA IS PERMISSIBLE.

PROTECTION OF UNATTENDED OPEN SHAFTS: CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED OVERNIGHT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS AND PLACE LAGGING. ANY TEMPORARY GRADING, EXCAVATION, EMBANKMENT, AGGREGATE, DRAINAGE, SHEETING, ETC. NEEDED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE COST OF ANY EXCAVATION AND SUBSEQUENT REPLACEMENT OF EMBANKMENT (PER ITEM 203 EMBANKMENT) SHALL BE INCLUDED IN THE VARIOUS BID ITEMS FOR THE DRILLED SHAFTS AND LAGGING, UNLESS SEPARATELY ITEMIZED. NO SEPARATE PAYMENT WILL BE MADE.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM THE EXISTING GROUND SURFACE TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL MEASURE DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM TOP OF BEDROCK TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING CONCRETE AND LSM, REMOVAL OF CONCRETE OR LSM FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE LAGGING.

WALL GENERAL NOTES (1 OF 2)
WALL AI
ALONG NORTH SIDE OF CARNEGIE AVE.

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
MKB	YC
REVIEWER	
LPC	05-09-24
PROJECT ID	
82382	
SUBSET	TOTAL
2	12
SHEET	TOTAL
1251	2696

ESTIMATED QUANTITIES

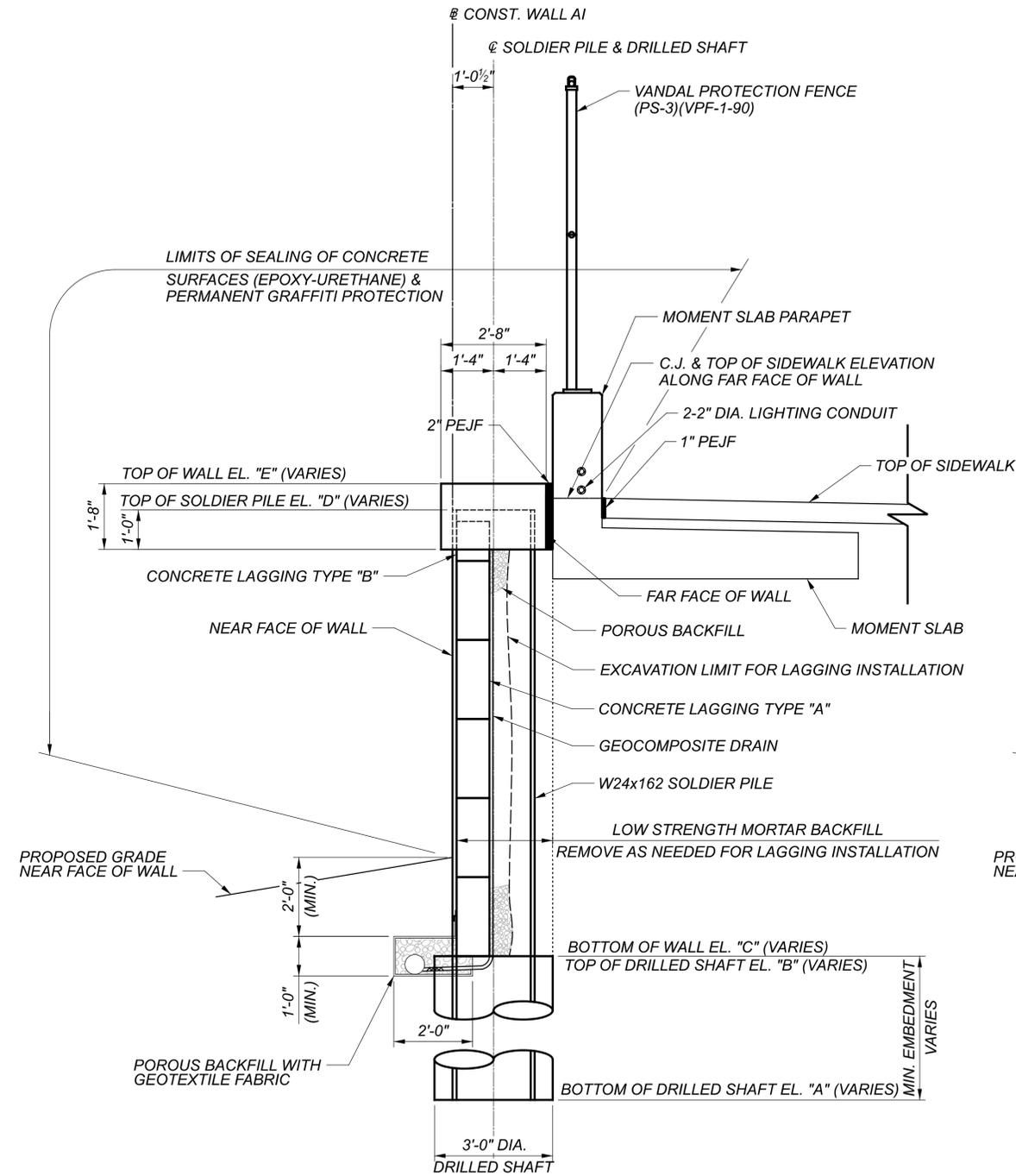
CALCULATED BY: ZES DATE: 04/24/24

CHECKED BY: SSW DATE: 05/14/24

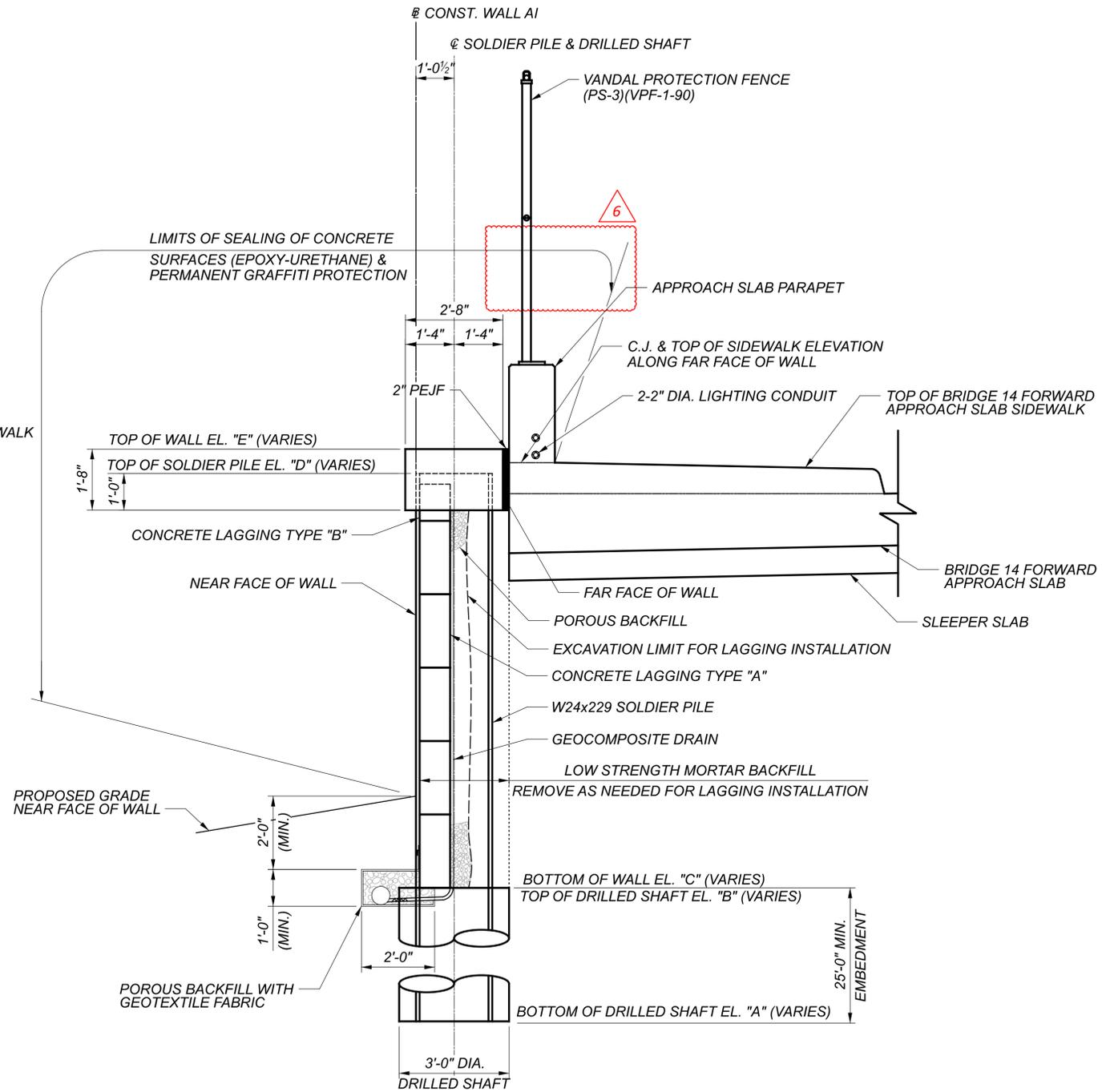
PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SHEET REF.	
	01/IMS/04	503	21100	223	CY	UNCLASSIFIED EXCAVATION	
6	01/IMS/04	507	00400	462	FT	STEEL PILES, MISC.: W24x162, FURNISHED	2
	01/IMS/04	507	00400	115	FT	STEEL PILES, MISC.: W24x229, FURNISHED	2
	01/IMS/04	509	10000	12,522	LB	EPOXY COATED STEEL REINFORCEMENT	
	01/IMS/04	511	46013	27	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN	9
	01/IMS/04	511	53012	70	CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET WITH QC/QA	2
	01/IMS/04	511	81300	11	EACH	CONCRETE, MISC.: CLASS QC1 CONCRETE FOR RAISED PANEL SEAT	2
	01/IMS/04	512	10001	276	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	2
	01/IMS/04	512	10101	276	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	2
	01/IMS/04	513	90000	526	LB	STRUCTURAL STEEL, MISC.: RETENTION ANGLE	2
	01/IMS/04	516	13600	87	SF	1" PREFORMED EXPANSION JOINT FILLER	
	01/IMS/04	516	13900	276	SF	2" PREFORMED EXPANSION JOINT FILLER	
6	01/IMS/04	516	42000	190	EACH	ELASTOMERIC BEARING PAD, MISC.: 6" x 10" x 3/8" THICK	8
	01/IMS/04	518	21050	102	SY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
	01/IMS/04	518	40000	161	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
	01/IMS/04	518	40010	14	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	2
	01/IMS/04	524	94703	391	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	3
	01/IMS/04	SPECIAL	530E51010	1,373	SF	RETAINING WALL, PRECAST CONCRETE LAGGING	
6	01/IMS/04	607	39910	136	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC	

ESTIMATED QUANTITIES
WALL A1
ALONG NORTH SIDE OF CARNEGIE AVE.

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
MKB	YC
REVIEWER	
LPC	05-09-24
PROJECT ID	
82382	
SUBSET	TOTAL
4	12
SHEET	TOTAL
1253	2696



SOLDIER PILE AND LAGGING WALL AI TYP. SECTION
 (ALONG MOMENT SLAB)



SOLDIER PILE AND LAGGING WALL AI TYP. SECTION
 (ALONG BRIDGE 14 APPROACH SLAB)

NOTES:

- SEE BRIDGE 14 APPROACH SLAB DETAILS FOR ADDITIONAL INFORMATION.

WALL TYPICAL SECTIONS

WALL AI

ALONG NORTH SIDE OF CARNEGIE AVE.

SFN

N/A

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER CHECKER

MKB YC

REVIEWER

LPC 05-09-24

PROJECT ID

82382

SUBSET TOTAL

5 12

SHEET TOTAL

1254 2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

- F-1.1 REVISED 7/19/2013
- DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

- 800 DATED SEE TITLE SHEET

REFER TO THE FOLLOWING SUPPLEMENTS:

- 1073 DATED 4/21/2023
- 1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (PRECAST LAGGING AND PANEL SEAT)
 CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
 REINFORCING STEEL / WELDED WIRE REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
 STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI

SEQUENCE OF CONSTRUCTION:

CONSTRUCT WALL AJ DURING MOT PHASE 9.

SEE MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL PHASES AND INFORMATION.

- ITEM 507 - STEEL PILES, MISC.: HP16x121, FURNISHED
- ITEM 507 - STEEL PILES, MISC.: W24x131, FURNISHED
- ITEM 507 - STEEL PILES, MISC.: W24x192, FURNISHED
- ITEM 507 - STEEL PILES, MISC.: W24x229, FURNISHED

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 IN ACCORDANCE WITH C&MS 711.01. GALVANIZE SOLDIER PILES AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH C&MS 711.02. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

THE DEPARTMENT WILL MEASURE SOLDIER PILES ALONG THE AXIS OF THE SOLDIER PILE FROM THE TOP OF WALL ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507, STEEL PILES, MISC.: HP16x121, FURNISHED, ITEM 507, STEEL PILES, MISC.: W24x131, FURNISHED, AND ITEM 507, STEEL PILES, MISC.: W24x192, FURNISHED AND ITEM 507, STEEL PILES, MISC.: W24x229, FURNISHED.

ITEM 511 - CONCRETE, MISC.: CLASS QC1 CONCRETE FOR RAISED PANEL SEAT

PROVIDE LEVEL CAST-IN-PLACE SEATS FOR LEVEL INSTALLATION OF THE BOTTOM ROW OF LAGGING. SEATS SHALL BE PLACED AS SHOWN IN THE PLANS ON SOUND CONCRETE FROM THE SOLDIER PILE DRILLED SHAFT.

THE CONTRACTOR IS PERMITTED TO USE A PRECAST ALTERNATIVE SUBJECT TO APPROVAL OF THE ENGINEER.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - 1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - 2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
 - 3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - 4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - 5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - 6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL SURFACES OF THE PRECAST CONCRETE LAGGING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

WALL FACING SEALER: "ALPACA" 7022 

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

**ITEM 524 - DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN
 ITEM 524 - DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN**

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE AND LAGGING WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL THE DRILLED SHAFTS IN ACCORDANCE WITH C&MS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 1½ INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL AND NOT INCLINED MORE THAN 1 INCH BETWEEN TOP TO BOTTOM. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC 5 CONCRETE ACCORDING TO C&MS 511. PLACE CONCRETE TO THE ELEVATION FOR THE TOP OF THE DRILLED SHAFT. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES. IF SHOWN ON THE PLANS, FILL THE HOLE ABOVE THE BOTTOM OF THE LAGGING TO THE EXISTING GROUND SURFACE WITH ITEM C&MS 613 LOW STRENGTH MORTAR BACKFILL (LSM).

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. PLACE LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 3 INCHES AT BOTH ENDS OF THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

SEQUENCE OF INSTALLATION: THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48-HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THESE CRITERIA IS PERMISSIBLE.

PROTECTION OF UNATTENDED OPEN SHAFTS: CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED OVERNIGHT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS AND PLACE LAGGING. ANY TEMPORARY GRADING, EXCAVATION, EMBANKMENT, AGGREGATE, DRAINAGE, SHEETING, ETC. NEEDED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE COST OF ANY EXCAVATION AND SUBSEQUENT REPLACEMENT OF EMBANKMENT (PER ITEM 203 EMBANKMENT) SHALL BE INCLUDED IN THE VARIOUS BID ITEMS FOR THE DRILLED SHAFTS AND LAGGING, UNLESS SEPARATELY ITEMIZED. NO SEPARATE PAYMENT WILL BE MADE.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM THE EXISTING GROUND SURFACE TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL MEASURE DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM TOP OF BEDROCK TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING CONCRETE AND LSM, REMOVAL OF CONCRETE OR LSM FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE LAGGING.

WALL GENERAL NOTES (1 OF 2)
 WALL AJ
 ALONG SOUTH SIDE OF RAMP IJ3

SFN	N/A
DESIGN AGENCY	
DESIGNER	CHECKER
MKB	YC
REVIEWER	
LPC	05-09-24
PROJECT ID	
82382	
SUBSET	TOTAL
2	8
SHEET	TOTAL
1263	2696

Michael Baker
 INTERNATIONAL

ESTIMATED QUANTITIES

CALCULATED BY: ZES DATE: 04/24/24

CHECKED BY: SSW DATE: 05/14/24

PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SHEET REF.
01/IMS/04	503	21100	649	CY	UNCLASSIFIED EXCAVATION	
6 01/IMS/04	507	00400	114	FT	STEEL PILES, MISC.: HP16x121, FURNISHED	2
01/IMS/04	507	00400	527	FT	STEEL PILES, MISC.: W24x131, FURNISHED	2
01/IMS/04	507	00400	439	FT	STEEL PILES, MISC.: W24x192, FURNISHED	2
01/IMS/04	507	00400	130	FT	STEEL PILES, MISC.: W24x229, FURNISHED	2
01/IMS/04	511	81300	11	EACH	CONCRETE, MISC.: CLASS QC1 CONCRETE FOR RAISED PANEL SEAT	2
01/IMS/04	512	10001	440	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	2
01/IMS/04	512	10101	440	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	2
01/IMS/04	516	42000	472	EACH	ELASTOMERIC BEARING PAD, MISC.: 6" x 10" x 3/8" THICK	8
01/IMS/04	518	40000	280	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
01/IMS/04	518	40010	34	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
01/IMS/04	524	94603	75	FT	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN	2
01/IMS/04	524	94703	659	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	2
01/IMS/04	SPECIAL	530E51010	3,489	SF	RETAINING WALL, PRECAST CONCRETE LAGGING	3
01/IMS/04	607	23000	274	FT	FENCE, TYPE CLT	
01/IMS/04	611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	

6

ESTIMATED QUANTITIES
 WALL AJ
 ALONG SOUTH SIDE OF RAMP IJ3

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
MKB	YC
REVIEWER	
LPC	05-09-24
PROJECT ID	82382
SUBSET	TOTAL
4	8
SHEET	TOTAL
1265	2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

- F-1.1 REVISED 7/19/2013
- DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

- 800 DATED SEE TITLE SHEET
- 840 DATED 7/21/2023

REFER TO THE FOLLOWING SUPPLEMENTS:

- 1073 DATED 4/21/2023
- 1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
 (CONCRETE COPING, LEVELING PAD, AND PRECAST LAGGING)
 CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
 REINFORCING STEEL / WELDED WIRE REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
 STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI

REINFORCED FILL:

EFFECTIVE INTERNAL FRICTION ANGLE = 34°
 UNIT WEIGHT = 120 pcf
 EFFECTIVE COHESION = N/A

RETAINED FILL

EFFECTIVE INTERNAL FRICTION ANGLE = 30°
 UNIT WEIGHT = 120 pcf
 EFFECTIVE COHESION = N/A

FOUNDATION SOIL - DRAINED CONDITIONS

EFFECTIVE INTERNAL FRICTION ANGLE = 29°
 UNIT WEIGHT = 108 pcf
 EFFECTIVE COHESION = N/A

FOUNDATION SOIL - UNDRAINED CONDITIONS

EFFECTIVE INTERNAL FRICTION ANGLE = 29°
 UNIT WEIGHT = 108 pcf
 EFFECTIVE COHESION = N/A

SURCHARGE LOADS

LIVE LOAD SURCHARGE = 250 psf

THE DESIGN ASSUMES NO WATER PRESSURE ACT ON THE WALL

MSE WALL DESIGN PARAMETERS:

THE MINIMUM SOIL REINFORCEMENT LENGTH IS AT LEAST 8 FEET OR 70% OF THE WALL HEIGHT, WHICHEVER IS GREATER. FOR WALL SECTIONS AROUND ABUTMENTS, THE STRAP LENGTH WILL NEED TO BE 70% OF THE DISTANCE BETWEEN THE TOP OF THE LEVELING PAD AND THE TOP OF THE PAVEMENT.

FACTORED BEARING RESISTANCE = 13.2 ksf

SEQUENCE OF CONSTRUCTION:

CONSTRUCT WALL N DURING MOT PHASE 4.

SEE MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL PHASES AND INFORMATION.

PROPRIETARY RETAINING WALL DATA:

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO RETAIN EARTH FILL AROUND AND BELOW THE ABUTMENT. FOR LOADS AND NOTES PERTAINING TO THE ABUTMENT, SEE THE GENERAL NOTES SHEETS FOR BRIDGE 9, BRIDGE NUMBER CUY-77-1587.

**ITEM 507 - STEEL PILES, MISC.: W21x101, FURNISHED
ITEM 507 - STEEL PILES, MISC.: W24x192, FURNISHED**

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 IN ACCORDANCE WITH C&MS 711.01. GALVANIZE SOLDIER PILES AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH C&MS 711.02. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

THE DEPARTMENT WILL MEASURE SOLDIER PILES ALONG THE AXIS OF THE SOLDIER PILE FROM THE TOP OF WALL ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507, STEEL PILES, MISC.: W21x101 OR W24x192.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL SURFACES OF THE PRECAST CONCRETE LAGGING, MSE WALL PANELS, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

6	COPING SEALER:	"DOVETAIL"	7018
	WALL FACING SEALER:	"ALPACA"	7022

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - 1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - 2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
 - 3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - 4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - 5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - 6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 513 - STRUCTURAL STEEL, MISC.: RETENTION ANGLE

PROVIDE RETENTION ANGLES FOR PRECAST LAGGING ON ALL PILES WITHIN THE LIMITS OF THE PRECAST LAGGING, AS SHOWN IN THE PLANS. RETENTION ANGLES MUST BE INSTALLED ON THE PILES PRIOR TO PLACEMENT OF THE PILES. ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE RETENTION ANGLE SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513-STRUCTURAL STEEL, MISC.: RETENTION ANGLE.

ADDITIONALLY, PAYMENT FOR LAGGING SUPPORT ANGLES, AS SHOWN IN PLANS, ARE TO BE INCLUDED WITH ITEM 513-STRUCTURAL STEEL, MISC.: RETENTION ANGLE.

ITEM 524 - DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE AND LAGGING WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL THE DRILLED SHAFTS IN ACCORDANCE WITH C&MS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 1½ INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL AND NOT INCLINED MORE THAN 1 INCH BETWEEN TOP TO BOTTOM. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC 5 CONCRETE ACCORDING TO C&MS 511. PLACE CONCRETE TO THE ELEVATION FOR THE TOP OF THE DRILLED SHAFT. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES. IF SHOWN ON THE PLANS, FILL THE HOLE ABOVE THE BOTTOM OF THE LAGGING TO THE EXISTING GROUND SURFACE WITH ITEM C&MS 613 LOW STRENGTH MORTAR BACKFILL (LSM).

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. PLACE LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 3 INCHES AT BOTH ENDS OF THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

SEQUENCE OF INSTALLATION: THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48-HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THESE CRITERIA IS PERMISSIBLE.

PROTECTION OF UNATTENDED OPEN SHAFTS: CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED OVERNIGHT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS AND PLACE LAGGING. ANY TEMPORARY GRADING, EXCAVATION, EMBANKMENT, AGGREGATE, DRAINAGE, SHEETING, ETC. NEEDED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE COST OF ANY EXCAVATION AND SUBSEQUENT REPLACEMENT OF EMBANKMENT (PER ITEM 203 EMBANKMENT) SHALL BE INCLUDED IN THE VARIOUS BID ITEMS FOR THE DRILLED SHAFTS AND LAGGING, UNLESS SEPARATELY ITEMIZED. NO SEPARATE PAYMENT WILL BE MADE.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM THE EXISTING GROUND SURFACE TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL MEASURE DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM TOP OF BEDROCK TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING CONCRETE AND LSM, REMOVAL OF CONCRETE OR LSM FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE LAGGING.

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPER: 34x22 (in.) DATE: 10/16/2025 TIME: 10:50:43 AM USER: Maha.Gallagher
pvc:\mb-us-pw-bentley.com\mb-us-pw-03\Documents\Cleveland_OH101_Projects\ODOT\District12\82382\400-Engineering\Structures\WALL_N_Sheets\82382_N_WN001.dgn

WALL GENERAL NOTES (1 OF 2)

WALL N

UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN	N/A
DESIGN AGENCY	
DESIGNER	CHECKER
SSW	MKB
REVIEWER	
LPC	05-09-24
PROJECT ID	
82382	
SUBSET	TOTAL
3	13
SHEET	TOTAL
1272	2696

Michael Baker INTERNATIONAL

ESTIMATED QUANTITIES

CALCULATED BY: ZES DATE: 04/24/24

CHECKED BY: SSW DATE: 05/14/24

PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SHEET REF.
01/IMS/04	503	21100	180	CY	UNCLASSIFIED EXCAVATION	
6 01/IMS/04	507	00400	194	FT	STEEL PILES, MISC.: W21x101, FURNISHED	3
01/IMS/04	507	00400	210	FT	STEEL PILES, MISC.: W24x192, FURNISHED	3
01/IMS/04	512	10001	279	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	3
01/IMS/04	512	10101	486	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	3
01/IMS/04	513	90000	6,851	LB	STRUCTURAL STEEL, MISC.: RETENTION ANGLE	3
01/IMS/04	516	13600	20	SF	1" PREFORMED EXPANSION JOINT FILLER	
01/IMS/04	516	13900	44	SF	2" PREFORMED EXPANSION JOINT FILLER	
01/IMS/04	516	42000	5	EACH	ELASTOMERIC BEARING PAD, MISC.: 6" x 8" x 3/8" THICK	12
01/IMS/04	516	42000	165	EACH	ELASTOMERIC BEARING PAD, MISC.: 6" x 10" x 3/8" THICK	12
01/IMS/04	524	94703	200	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	3
01/IMS/04	SPECIAL	530E51010	1,195	SF	RETAINING WALL, PRECAST CONCRETE LAGGING	4
01/IMS/04	607	23000	62	FT	FENCE, TYPE CLT	
01/IMS/04	840	20000	4,643	SF	MECHANICALLY STABILIZED EARTH WALL	
01/IMS/04	840	20001	823	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN: WIRE FACED MSE WALL	4
01/IMS/04	840	21000	2,149	CY	WALL EXCAVATION	
01/IMS/04	840	22000	626	SY	FOUNDATION PREPARATION	
01/IMS/04	840	23000	4,380	CY	SELECT GRANULAR BACKFILL	
01/IMS/04	840	23050	173	CY	NATURAL SOIL	
01/IMS/04	840	25020	40	FT	6" DRAINAGE PIPE, NON-PERFORATED	
01/IMS/04	840	25010	424	FT	6" DRAINAGE PIPE, PERFORATED	
01/IMS/04	840	26000	243	FT	CONCRETE COPING	
01/IMS/04	840	26050	4,643	SF	AESTHETIC SURFACE TREATMENT	
01/IMS/04	840	27000	1	DAY	ON-SITE ASSISTANCE	
6 01/IMS/04	840	28000	LS		SGB INSPECTION AND COMPACTION TESTING	

ESTIMATED QUANTITIES

WALL N

UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN

N/A

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER: SSW CHECKER: MKB

REVIEWER: LPC 05-09-24

PROJECT ID: 82382

SUBSET TOTAL: 5 13

SHEET TOTAL: 1274 2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

- VPF-1-90 REVISED 7/21/2023
- DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

- 800 DATED SEE TITLE SHEET

REFER TO THE FOLLOWING SUPPLEMENTS:

- 1073 DATED 4/21/2023
- 1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

- CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE FACING AND PRECAST LAGGING)
- CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (MOMENT SLAB)
- CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
- REINFORCING STEEL / WELDED WIRE REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
- STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI

SEQUENCE OF CONSTRUCTION:

CONSTRUCT WALL S DURING MOT PHASE 4.

SEE MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL PHASES AND INFORMATION.

ITEM 507 - STEEL PILES, MISC.: W36X262, FURNISHED

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 IN ACCORDANCE WITH C&MS 711.01. GALVANIZE SOLDIER PILES S01-S06 AND S37-S42 IN ACCORDANCE WITH C&MS 711.02. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

THE DEPARTMENT WILL MEASURE SOLDIER PILES ALONG THE AXIS OF THE SOLDIER PILE FROM THE TOP OF WALL ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507, STEEL PILES, MISC.: W36X262, FURNISHED.

ITEM 509 - WALL FACING REINFORCEMENT

THE CONTRACTOR MAY REPLACE THE REINFORCING BARS IN THE RETAINING WALL FACING WITH EPOXY COATED WELDED WIRE FABRIC CONFORMING TO C&MS 709.14. THE EPOXY COATED WELDED WIRE FABRIC MUST PROVIDE AN EQUIVALENT AREA OF STEEL IN EACH DIRECTION AS THE REINFORCING BARS SHOWN IN THE PLANS.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN

PLACE WATERPROOFING MEMBRANE AT THE LOCATIONS OF THE PROPOSED JOINTS IN THE CONCRETE WALL FACING. PLACE THE WATERPROOFING MEMBRANE OVER THE PREFABRICATED GEOCOMPOSITE DRAIN AND SECURELY ATTACH TO THE TIMBER LAGGING WITH SCREWS AND 1-INCH OUTER DIAMETER FENDER WASHERS. PLACE THE MEMBRANE SO THAT THE ADHESIVE SIDE FACES THE CAST-IN-PLACE CONCRETE. THE SURFACE PREPARATION DESCRIBED IN C&MS 512.08 IS NOT REQUIRED.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL SURFACES OF THE CONCRETE FACING AND THE PRECAST CONCRETE LAGGING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

WALL FACING SEALER:	"ALPACA"	7022	6
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ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 513 - WELDED STUD SHEAR CONNECTORS

SOLDIER PILES WHICH REQUIRE HEADED STUDS ARE SHOWN IN THE TABLE ON THE TYPICAL SECTION SHEETS FOR EACH WALL. WELD HEADED STEEL STUDS TO THE FLANGES OF THE SOLDIER PILE IN ORDER TO CONNECT THE CONCRETE WALL FACING TO THE SOLDIER PILE. ATTACH HEADED STUDS ACCORDING TO C&MS 513.22 AND AS SHOWN IN THE PLANS. THE CONTRACTOR MAY ATTACH THE STUDS EITHER BEFORE PLACING THE SOLDIER PILE IN THE DRILLED HOLE OR AFTER EXCAVATING IN FRONT OF THE WALL. PROTECT THE HEADED STUDS FROM DAMAGE UNTIL THE CONCRETE WALL FACING IS POURED. REPAIR OR REPLACE DAMAGED HEADED STUDS AT NO EXPENSE TO THE DEPARTMENT.

ITEM 524 - DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL THE DRILLED SHAFTS ACCORDING TO C&MS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 3 INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC5 CONCRETE ACCORDING TO C&MS 511. PLACE CONCRETE TO THE ELEVATION FOR THE TOP OF THE DRILLED SHAFT. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES. FILL THE HOLE ABOVE THE CONCRETE TO THE EXISTING GROUND SURFACE WITH ITEM 613 LOW STRENGTH MORTAR BACKFILL (LSM).

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. PLACE LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 3 INCHES AT BOTH ENDS OF THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

SEQUENCE OF INSTALLATION: THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48-HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THESE CRITERIA IS PERMISSIBLE.

PROTECTION OF UNATTENDED OPEN SHAFTS: CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED OVERNIGHT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS AND PLACE LAGGING. ANY TEMPORARY GRADING, EXCAVATION, EMBANKMENT, AGGREGATE, DRAINAGE, SHEETING, ETC. NEEDED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE COST OF ANY EXCAVATION AND SUBSEQUENT REPLACEMENT OF EMBANKMENT (PER ITEM 203 EMBANKMENT) SHALL BE INCLUDED IN THE VARIOUS BID ITEMS FOR THE DRILLED SHAFTS AND LAGGING, UNLESS SEPARATELY ITEMIZED. NO SEPARATE PAYMENT WILL BE MADE.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM THE EXISTING GROUND SURFACE TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL MEASURE DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM TOP OF BEDROCK TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING CONCRETE AND LSM, REMOVAL OF CONCRETE OR LSM FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE LAGGING.

ITEM SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING

THIS WORK CONSISTS OF FURNISHING AND PLACING PRECAST REINFORCED CONCRETE PANELS BETWEEN THE SOLDIER PILES TO FUNCTION AS LAGGING FOR THE RETAINING WALL. PROVIDE PRECAST CONCRETE LAGGING FROM A PRECAST CONCRETE MANUFACTURER CERTIFIED ACCORDING TO SUPPLEMENT 1073. PROVIDE CLASS QC1 CONCRETE ACCORDING TO C&MS 499. PROVIDE EPOXY COATED REINFORCING STEEL ACCORDING TO C&MS 709.00. IN LIEU OF EPOXY COATING, A CORROSION INHIBITING CONCRETE ADMIXTURE MAY BE USED AT THE SPECIFIED DOSAGE RATE. A QUALIFIED PRODUCT LIST OF CORROSION INHIBITING ADMIXTURES IS ON FILE AT THE LABORATORY. MANUFACTURERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR MAY AFFECT THE STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE MANUFACTURER'S CHOICE TO USE ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING ALL DESIGN REQUIREMENTS. DO NOT ALLOW THE DIMENSIONS OF THE LAGGING OR LOCATION OF THE REINFORCING STEEL TO VARY BY MORE THAN 1/4-INCH. CAST THREADED INSERTS INTO THE TOP OF EACH PANEL FOR LIFTING AND PLACEMENT.

FINISH THE FACES OF THE PRECAST CONCRETE LAGGING PANELS THAT WILL NOT BE EXPOSED TO A UNIFORM SURFACE, FREE OF OPEN POCKETS OF AGGREGATE. *FINISH THE EXPOSED FACE OF THE PANELS TO A SMOOTH SURFACE. SEAL THE FRONT (EXPOSED) FACE AND SIDES OF EACH CONCRETE PANEL WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY URETHANE). THE COLOR OF THE URETHANE SHALL BE SHERWIN WILLIAMS ALABASTER 7008 OR APPROVED EQUAL.

PERMANENTLY MARK EACH PRECAST CONCRETE LAGGING PANEL TO INDICATE WHICH FACE WILL BE PLACED AGAINST THE SOIL. PLACE THE PANEL BETWEEN THE FLANGES OF THE SOLDIER PILES AND BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST ONE INCH MORE THAN THE CONCRETE COVER OVER THE REINFORCING STEEL AT BOTH ENDS OF THE LAGGING.

HANDLE, STORE, AND SHIP THE PRECAST CONCRETE LAGGING PANELS TO AVOID CHIPPING, CRACKING AND FRACTURING THE PANELS. SUPPORT THE PANELS ON FIRM BLOCKING WHILE STORING AND SHIPPING. DO NOT SHIP PANELS UNTIL CONCRETE HAS ATTAINED THE REQUIRED COMPRESSIVE STRENGTH. SUBMIT SHIPMENT DOCUMENTATION TO THE ENGINEER AS THE PANELS ARE DELIVERED TO THE PROJECT, INCLUDING THE PRECASTER'S RECORD OF FINAL INSPECTION, THE MEASUREMENTS AND TOLERANCES, STRENGTH, AND DIMENSIONS OF EACH PANEL, ALONG WITH THE TE-24 SHIPPING DOCUMENT AND THE DAMAGE SURVEY REPORT FOR ALL WALL PANELS.

INSPECT ALL PRECAST CONCRETE LAGGING PANELS AND REJECT PANELS HAVING ANY OF THE FOLLOWING:

- DEFECTS THAT INDICATE IMPERFECT MOLDING.
- DEFECTS THAT INDICATE HONEYCOMBED OR OPEN TEXTURE CONCRETE.
- DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, OR DAMAGE TO THE AESTHETIC SURFACE TREATMENTS.
- CONCRETE CHIPS OR SPALLS THAT ARE LARGER THAN 4 INCHES WIDE OR 2 INCHES DEEP. REPAIR ALL CHIPS AND SPALLS THAT ARE SMALLER.
- STAINED FORM FACES, DUE TO FORM OIL, CURING OR OTHER CONTAMINANTS.
- SIGNS OF AGGREGATE SEGREGATION.
- CRACKS WIDER THAN 0.01 INCH OR PENETRATING MORE THAN 1 INCH OR LONGER THAN 20 PERCENT OF THE LENGTH OF THE FACE CONTAINING THE CRACK.
- PANELS THAT DO NOT MEET THE SPECIFIED DIMENSIONAL TOLERANCES.
- UNUSABLE LIFTING INSERTS.
- EXPOSED REINFORCING STEEL.
- INSUFFICIENT CONCRETE COMPRESSIVE STRENGTH.

EITHER REPLACE DAMAGED PRECAST CONCRETE LAGGING PANELS OR DOCUMENT THE DAMAGE AND PROPOSE TO THE ENGINEER A REPAIR METHOD FOR THE DAMAGED PANEL. PROVIDE ACCEPTABLE REPLACEMENT PANELS FOR ANY THAT ARE REJECTED. WHEN INSTALLING THE PRECAST CONCRETE LAGGING PANELS, PLACE HARDWOOD WEDGES NEAR THE TOP AND BOTTOM ON EACH SIDE TO HOLD THE LAGGING PANELS AGAINST THE FRONT INSIDE FLANGE OF THE STEEL PILES.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIAL REQUIRED TO FABRICATE, TRANSPORT, AND INSTALL THE PRECAST REINFORCED CONCRETE PANELS SHALL BE MADE AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR ITEM SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING.

CUY-90-16.28 (CCG3A)

MODEL: Sheet (1 of 2) | PAPER SIZE: 34x22 (in.) | DATE: 10/16/2025 11:04:26 AM | USER: Maia Gallagher | p:\mb-us-pw-bentley.com\mb-us-pw-03\Documents\Cleveland_OH101_P\Projects\ODOT\District12\82382400-Engineering\Structures\WALL_S\Sheets\82382_S_WN001.dgn

WALL GENERAL NOTES (1 OF 2)
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
SSW	YC
REVIEWER	
LPC	05-09-24
PROJECT ID	82382
SUBSET	TOTAL
2	13
SHEET	TOTAL
1284	2696

ESTIMATED QUANTITIES

CALCULATED BY: ZES DATE: 04/24/24

CHECKED BY: SSW DATE: 05/14/24

PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SHEET REF.
01/IMS/04	507	00400	2,290	FT	STEEL PILES, MISC.: W36x262, FURNISHED	2
01/IMS/04	509	10000	48,626	LB	EPOXY COATED STEEL REINFORCEMENT	
01/IMS/04	509	30020	3,660	FT	NO. 4 DEFORMED GFRP REINFORCEMENT	
01/IMS/04	511	46012	152	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING	
01/IMS/04	511	53012	138	CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND BARRIER WITH QC/QA	3
01/IMS/04	511	71200	3,769	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT	3
01/IMS/04	512	10001	275	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	3
01/IMS/04	512	10101	496	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	2
01/IMS/04	512	33001	41	SY	TYPE 2 WATERPROOFING, AS PER PLAN	2
01/IMS/04	513	20000	1,116	EACH	WELDED STUD SHEAR CONNECTORS	
01/IMS/04	516	13600	231	SF	1" PREFORMED EXPANSION JOINT FILLER	
01/IMS/04	516	42000	120	EACH	ELASTOMERIC BEARING PAD, MISC.: 6" x 9" x 3/8" THICK	8
01/IMS/04	518	20000	364	SY	PREFABRICATED GEOCOMPOSITE DRAIN	3
01/IMS/04	518	21200	168	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
01/IMS/04	518	40000	273	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
01/IMS/04	518	40010	62	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
01/IMS/04	524	94803	1,512	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK, AS PER PLAN	2
01/IMS/04	SPECIAL	530E51010	743	SF	RETAINING WALL, PRECAST CONCRETE LAGGING	2
01/IMS/04	SPECIAL	530E51020	3,273	SF	RETAINING WALL, TIMBER LAGGING	3

6

ESTIMATED QUANTITIES
 WALL S
 ALONG SOUTH SIDE OF I.R. 77

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
SSW	YC
REVIEWER	
LPC	05-09-24
PROJECT ID	82382
SUBSET	TOTAL
4	13
SHEET	TOTAL
1286	2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:
DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
800 DATED SEE TITLE SHEET
840 DATED 07/21/2023

REFER TO THE FOLLOWING SUPPLEMENT:
1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CONCRETE COPING AND LEVELING PAD)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (BARRIER AND MOMENT SLAB)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60 KSI.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED PER CMS 709.00

REINFORCED FILL:

EFFECTIVE INTERNAL FRICTION ANGLE = 34°
UNIT WEIGHT = 120 pcf
EFFECTIVE COHESION = N/A

RETAINED FILL

EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 120 pcf
EFFECTIVE COHESION = N/A

FOUNDATION SOIL - DRAINED CONDITIONS

EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 115 pcf
EFFECTIVE COHESION = N/A

FOUNDATION SOIL - UNDRAINED CONDITIONS

EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 115 pcf
EFFECTIVE COHESION = N/A

SURCHARGE LOADS

LIVE LOAD SURCHARGE = 250 psf

THE DESIGN ASSUMES NO WATER PRESSURE ACT ON THE WALL

MSE WALL DESIGN PARAMETERS:

THE MINIMUM SOIL REINFORCEMENT LENGTH IS AT LEAST 8 FEET OR 70% OF THE WALL HEIGHT, WHICHEVER IS GREATER.

FACTORED BEARING RESISTANCE = 11.1 ksf

ITEM 511 - CLASS QC2 CONCRETE MISC.: MOMENT SLAB AND BARRIER WITH QC/QA

ALL PORTIONS OF THE BARRIER MOMENT SLAB SHALL BE PAID FOR UNDER THIS ITEM, UNLESS NOTED OTHERWISE. THIS INCLUDES, BUT IS NOT LIMITED TO MOMENT SLAB CONCRETE, BARRIER CONCRETE, PEJF, SAWCUTTING, JOINT SEALER, SLEEVED DOWELS, TRANSVERSE AND LONGITUDINAL JOINT TREATMENT ADJACENT TO ROADWAY PAVEMENT AND SHOULDERS, COMPACTION AND PREPARATION OF SOIL UNDERNEATH THE SLABS, AND ANY OTHER INCIDENTALS REQUIRED TO COMPLETE THE BARRIER MOMENT SLABS.

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE PER CUBIC YARD FOR ITEM 511 - CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND BARRIER WITH QC/QA.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL SURFACES OF THE C.I.P. WALL, MSE WALL PANELS, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

6	COPING SEALER:	"DOVETAIL"	7018
	MSE PANEL AND C.I.P. WALL SEALER:	"ALPACA"	7022
	MOMENT SLAB:	"ALPACA"	7022

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - 1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - 2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
 - 3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - 4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - 5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - 6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

PROPRIETARY RETAINING WALL DATA:

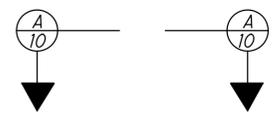
THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO RETAIN EARTH FILL BELOW ADJACENT ROADWAY.

MSE WALLS, EXCAVATION, SELECT GRANULAR BACKFILL, AND FOUNDATION PREPARATION WILL BE PAID PER STRAP LENGTH DETERMINED IN THE SUPPLIER'S SHOP DRAWING APPROVED BY THE ENGINEER AS DESCRIBED IN ODOT SUPPLEMENTAL SPECIFICATION 840.

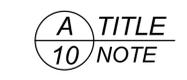
CONSTRUCTION SEQUENCE:

- 1. EXCAVATE TO THE ELEVATION OF THE MSE WALL LEVELING PAD. EXCAVATE TO THE ELEVATION OF THE C.I.P. WALL FOOTING.
- 2. PLACE CONCRETE LEVELING PAD. PLACE FORMWORK AND CAST C.I.P. WALL.
- 3. INSTALL MSE WALL UP TO PROPOSED HEIGHT.
- 4. INSTALL CAST-IN-PLACE CONCRETE COPING ALONG TOP OF WALL.

SECTION/DETAIL/VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)



(SECTION A CUT FROM SHEET 10)

PLAN ABBREVIATIONS:

- ABUT. = ABUTMENT
- APPR. = APPROACH
- B = BOTTOM
- ℄ = BASELINE
- BM = BENCHMARK
- BOT. OR BTM. = BOTTOM
- ℄ = CENTERLINE
- C/C = CENTER TO CENTER
- C.I.P. = CAST-IN-PLACE
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
- CONC. = CONCRETE
- CONST. = CONSTRUCTION
- DIA. = DIAMETER
- DIM. = DIMENSION
- DTBD = DISPOSITION TO BE DETERMINED
- DWG. = DRAWING
- EB = EASTBOUND
- E.F. = EACH FACE
- EL. OR ELEV. = ELEVATION
- EQ. = EQUAL
- EST. = ESTIMATED
- EX. = EXISTING
- F.A. = FORWARD ABUTMENT
- F/F = FACE TO FACE
- F.F. = FAR FACE
- FT. = FOOT OR FEET
- FTG. = FOOTING
- FWD. = FORWARD
- IN. = INCH
- JT. = JOINT
- LT. = LEFT
- MAX. = MAXIMUM
- MIN. = MINIMUM
- MISC. = MISCELLANEOUS
- N = NORTH
- NB = NORTHBOUND
- N.F. = NEAR FACE
- NO. = NUMBER
- N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
- OHWM = ORDINARY HIGH WATER MARK
- O/O = OUT TO OUT
- P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
- P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- PROP. = PROPOSED
- PSF = POUNDS PER SQUARE FOOT
- R.A. = REAR ABUTMENT
- S = SOUTH
- SB = SOUTHBOUND
- SER. = SERIES
- SHLDR = SHOULDER
- SPA. = SPACE OR SPACES
- STA. = STATION
- STD. = STANDARD
- STR = STRAIGHT
- T = TOP
- T&B = TOP & BOTTOM
- TBR = TO BE REMOVED
- TBRBO = TO BE RELOCATED BY OTHERS
- TEMP. = TEMPORARY
- TYP. = TYPICAL
- U.N.O. = UNLESS NOTED OTHERWISE
- VAR. = VARIES
- WB = WESTBOUND
- WWR = WELDED WIRE REINFORCEMENT

WALL GENERAL NOTES
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN	N/A
DESIGN AGENCY	
DESIGNER	CHECKER
SSW	MKB
REVIEWER	
LPC	05-09-24
PROJECT ID	82382
SUBSET	TOTAL
7	14
SHEET	TOTAL
1302	2696

Michael Baker
INTERNATIONAL

ESTIMATED QUANTITIES

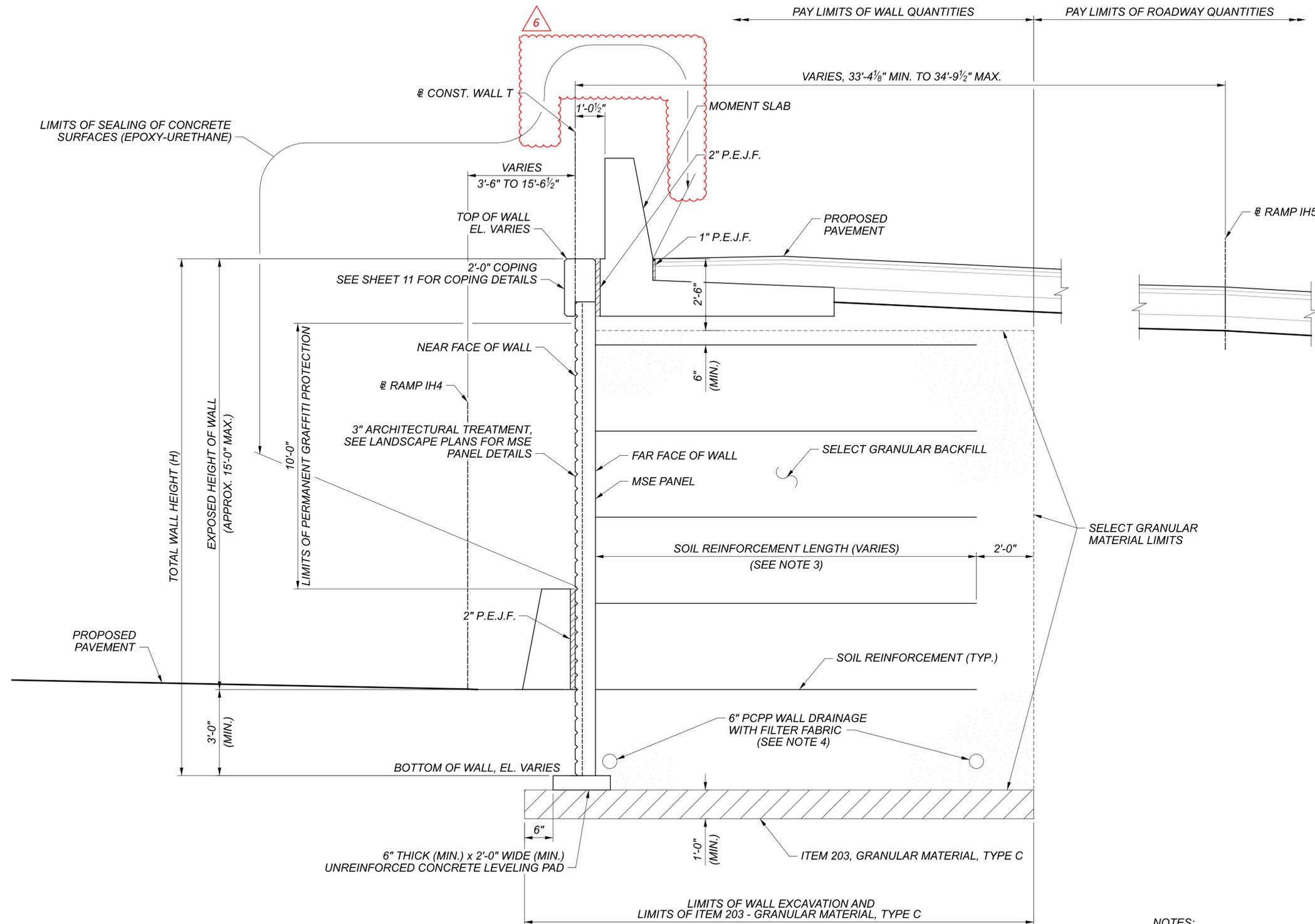
CALCULATED BY: ZES DATE: 04/24/24

CHECKED BY: SSW DATE: 05/14/24

PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SHEET REF.	
6	01/IMS/04	509	10000	126,999	LB	EPOXY COATED STEEL REINFORCEMENT	
	01/IMS/04	509	30020	15,914	FT	NO. 4 DEFORMED GFRP REINFORCEMENT	
	01/IMS/04	511	46212	59	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL INCLUDING FOOTING	
	01/IMS/04	511	53012	555	CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND BARRIER WITH QC/QA	7
	01/IMS/04	512	10001	905	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	7
	01/IMS/04	512	10101	1,902	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	7
	01/IMS/04	516	13600	989	SF	1" PREFORMED EXPANSION JOINT FILLER	
	01/IMS/04	516	13900	5,364	SF	2" PREFORMED EXPANSION JOINT FILLER	
	01/IMS/04	840	20000	13,557	SF	MECHANICALLY STABILIZED EARTH WALL	
	01/IMS/04	840	21000	4,343	CY	WALL EXCAVATION	
	01/IMS/04	840	22000	1,391	SY	FOUNDATION PREPARATION	
	01/IMS/04	840	23000	5,858	CY	SELECT GRANULAR BACKFILL	
	01/IMS/04	840	25010	1,871	FT	6" DRAINAGE PIPE, PERFORATED	
	01/IMS/04	840	25020	163	FT	6" DRAINAGE PIPE, NON-PERFORATED	
	01/IMS/04	840	26000	888	FT	CONCRETE COPING	
	01/IMS/04	840	26050	12,384	SF	AESTHETIC SURFACE TREATMENT	
	01/IMS/04	840	27000	1	DAY	ON-SITE ASSISTANCE	
	01/IMS/04	840	28000	LS		SGB INSPECTION AND COMPACTION TESTING	

ESTIMATED QUANTITIES
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
SSW	MKB
REVIEWER	
LPC 05-09-24	
PROJECT ID	
82382	
SUBSET	TOTAL
8	14
SHEET	TOTAL
1303	2696

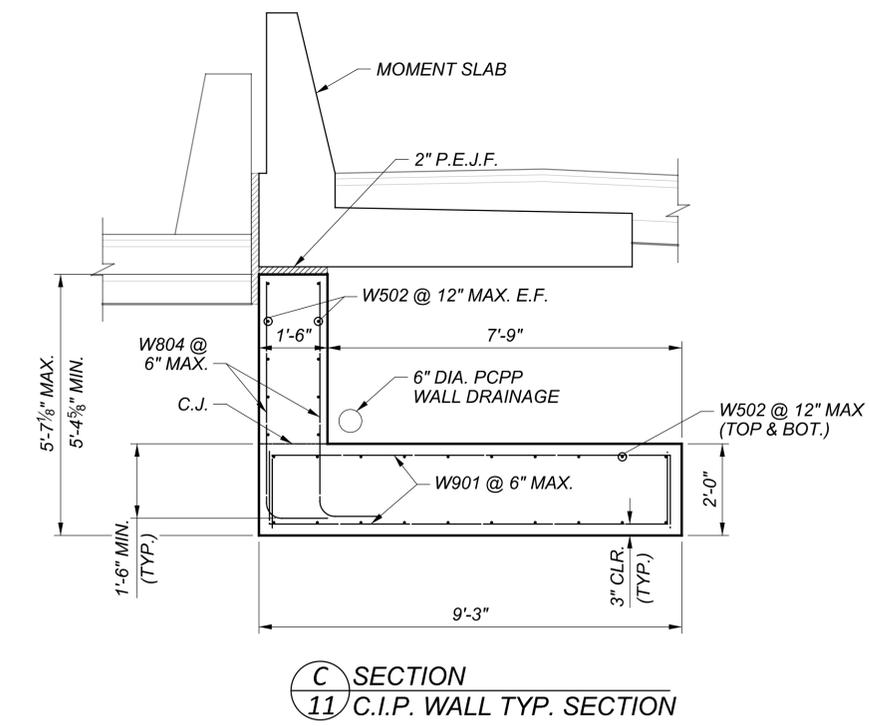
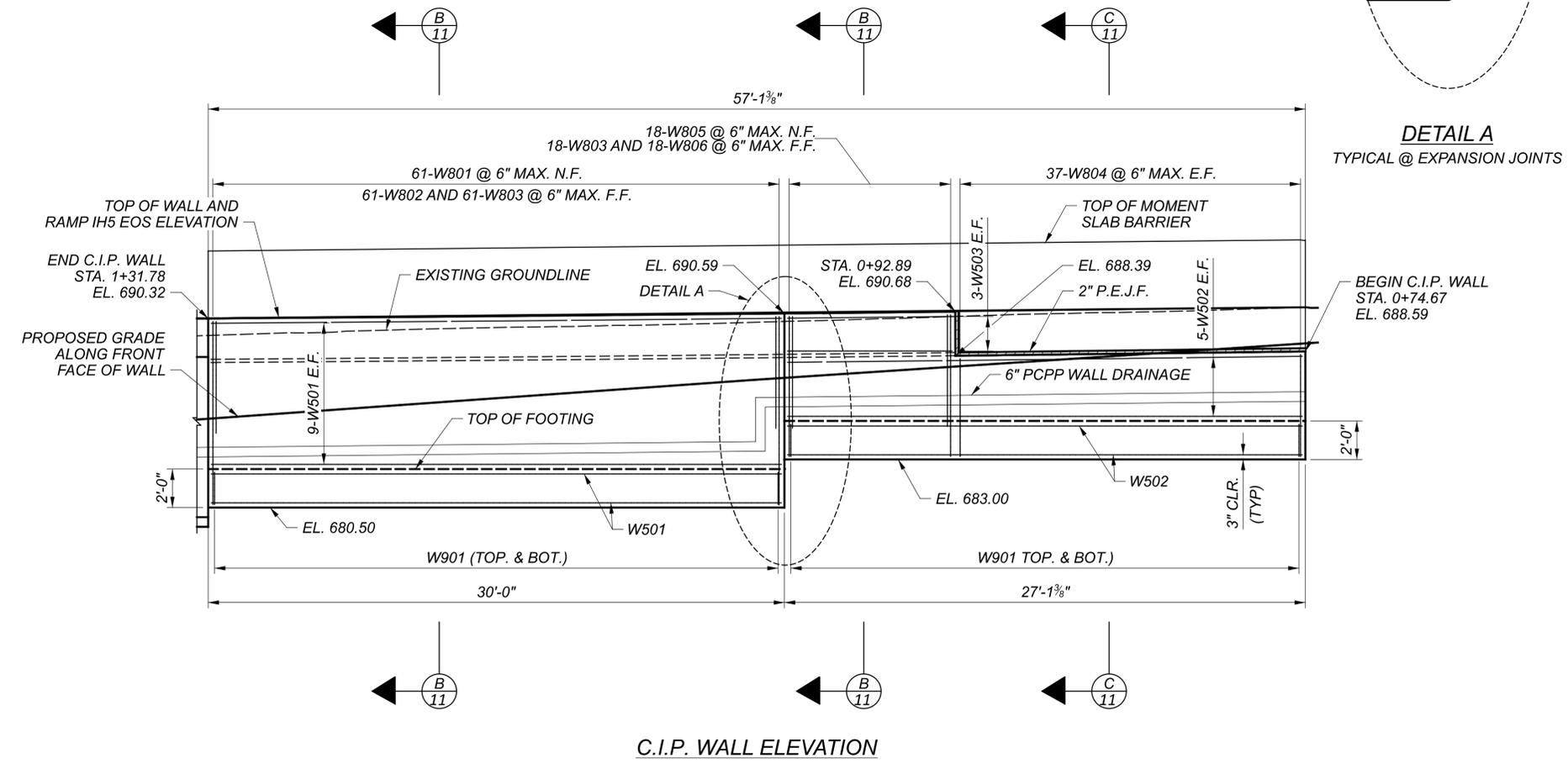
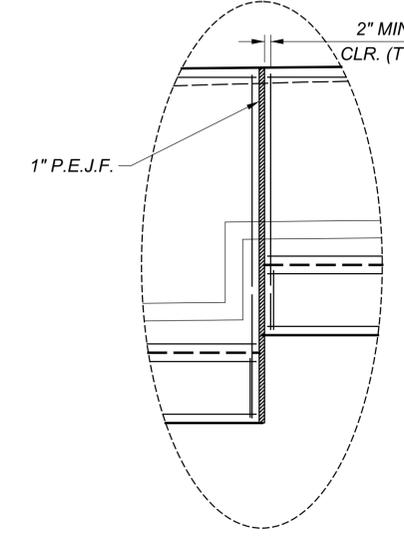
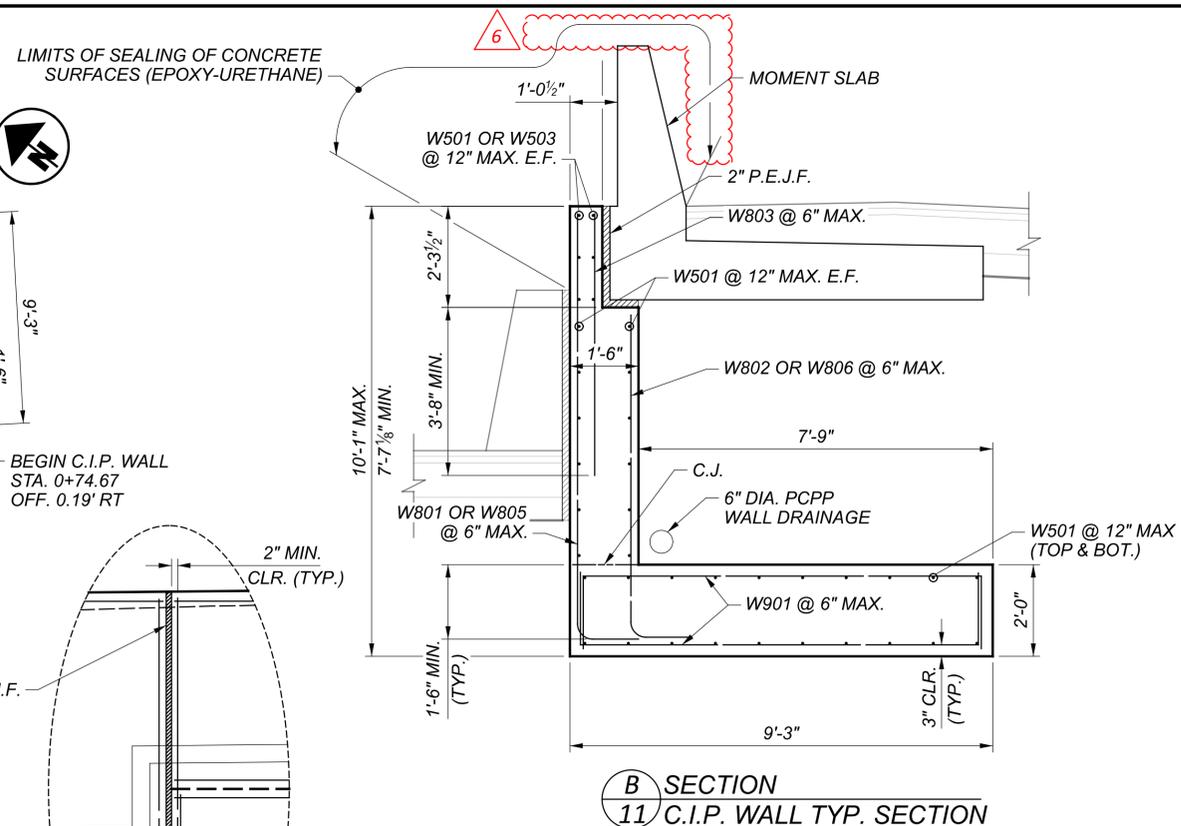
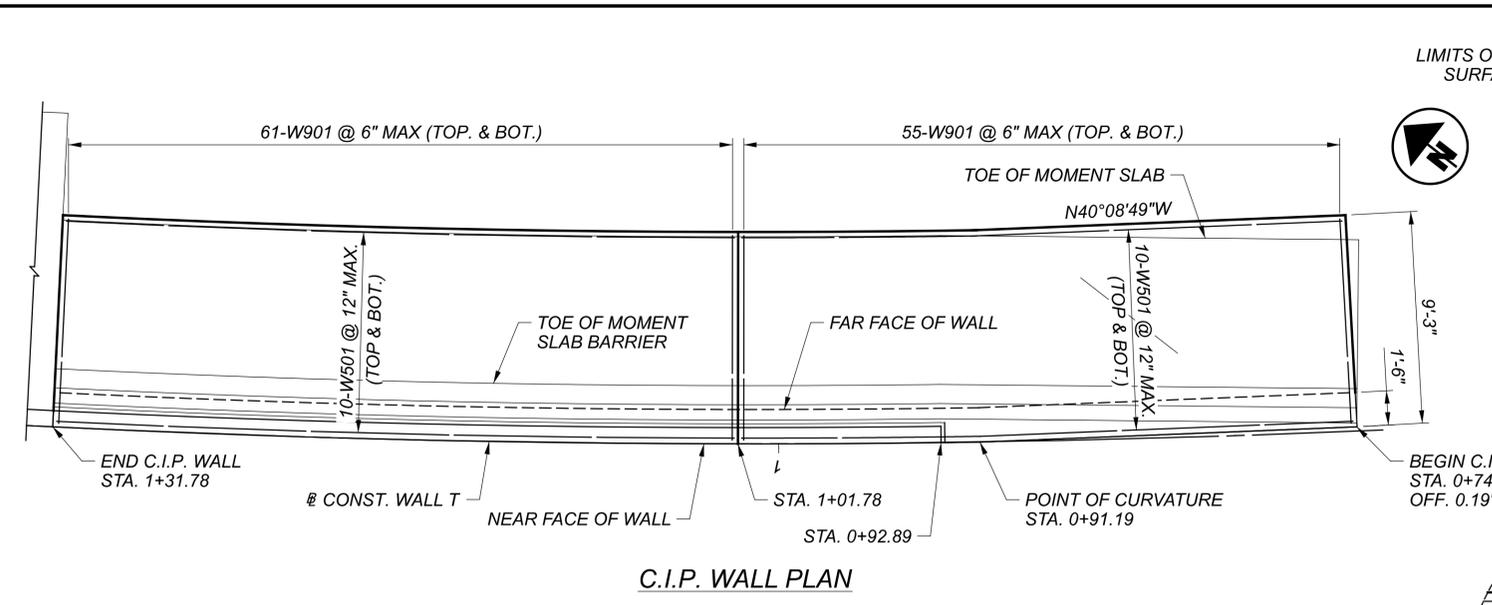


A MSE WALL TYP. SECTION
9 VALID FOR EXPOSED WALL HEIGHTS H < 20'-0"

- NOTES:**
- MSE WALL PANELS ARE TO BE 5'-0" x 5'-0", ARRANGED IN VERTICAL RUNNING BOND.
 - SEE LANDSCAPE DETAILS FOR MSE PANEL AESTHETIC TREATMENT DETAILS.
 - SOIL REINFORCEMENT LENGTH TO BE DETERMINED BY WALL SUPPLIER OF THE APPROVED WALL SYSTEM, BUT SHALL NOT BE LESS THAN 70 PERCENT OF THE DESIGN HEIGHT OF THE WALL OR 8 FT, WHICH EVER IS GREATER.
 - FILTER FABRIC US TO BE INCLUDED WITH ITEM 840 - 6" DRAINAGE PIPE, PERFORATED, FOR PAYMENT.

MSE WALL TYPICAL SECTION
 WALL T
 BETWEEN RAMP IH4 AND RAMP IH5

SFN	N/A
DESIGN AGENCY	
DESIGNER	CHECKER
SSW	MKB
REVIEWER	
LPC	05-09-24
PROJECT ID	82382
SUBSET	TOTAL
9	14
SHEET	TOTAL
1304	2696



CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPER: SIZE: 34x22 (in.) DATE: 10/16/2025 TIME: 11:08:30 AM USER: Maria.Gallagher
pvc:\mb-us-pw-bentley.com\mb-us-pw-03\Documents\Cleveland_OH101_Projects\ODOT\District12\82382\400-Engineering\Structures\WALL_Y_Sheets\82382_Y_WN001.dgn

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

- F-1.1 REVISED 7/19/2013
- DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

- 800 DATED SEE TITLE SHEET
- 840 DATED 7/21/2023

REFER TO THE FOLLOWING SUPPLEMENT:

- 1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CONCRETE COPING AND LEVELING PAD)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60 KSI.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED PER CMS 709.00

REINFORCED FILL:

EFFECTIVE INTERNAL FRICTION ANGLE = 34°
UNIT WEIGHT = 120 pcf
EFFECTIVE COHESION = N/A

RETAINED FILL

EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 120 pcf
EFFECTIVE COHESION = N/A

FOUNDATION SOIL - DRAINED CONDITIONS

EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 115 pcf
EFFECTIVE COHESION = N/A

FOUNDATION SOIL - UNDRAINED CONDITIONS

EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 115 pcf
EFFECTIVE COHESION = N/A

SURCHARGE LOADS

LIVE LOAD SURCHARGE = 250 psf

THE DESIGN ASSUMES NO WATER PRESSURE ACT ON THE WALL

MSE WALL DESIGN PARAMETERS:

THE MINIMUM SOIL REINFORCEMENT LENGTH IS AT LEAST 8 FEET OR 70% OF THE WALL HEIGHT, WHICHEVER IS GREATER. FOR WALL SECTIONS AROUND ABUTMENTS, THE STRAP LENGTH WILL NEED TO BE 70% OF THE DISTANCE BETWEEN THE TOP OF THE LEVELING PAD AND THE TOP OF THE PAVEMENT.

FACTORED BEARING RESISTANCE = 11.2 ksf

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL SURFACES OF THE MSE WALL PANELS AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

COPING SEALER:	"DOVETAIL"	7018
WALL FACING SEALER:	"ALPACA"	7022



ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
 - NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").

PROPRIETARY RETAINING WALL DATA:

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO RETAIN EARTH FILL AROUND AND BELOW THE ABUTMENT. FOR LOADS AND NOTES PERTAINING TO THE ABUTMENT, SEE THE GENERAL NOTES SHEETS FOR BRIDGE 12, BRIDGE NUMBER CUY-90-1652S.



MSE WALLS, EXCAVATION, SELECT GRANULAR BACKFILL, AND FOUNDATION PREPARATION WILL BE PAID PER STRAP LENGTH DETERMINED IN THE SUPPLIER'S SHOP DRAWING APPROVED BY THE ENGINEER AS DESCRIBED IN ODOT SUPPLEMENTAL SPECIFICATION 840.

ITEM 607 - FENCE, TYPE CLT, AS PER PLAN

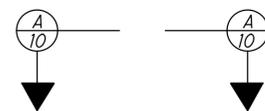
INSTALL CHAIN LINK FENCE ACCORDING TO STD. CONSTRUCTION DRAWING F-1.1 AND C&MS 607, EXCEPT AS MODIFIED BELOW.

POSTS, PLATES, TIE WIRES, CAULK AND ADDITIONAL VISIBLE HARDWARE SHALL BE COLOR BLACK (FEDERAL STD. 595C #17038). FENCE FABRIC SHALL BE BLACK VINYL-COATED, CHAIN LINK STYLE.

CONSTRUCTION SEQUENCE:

- EXCAVATE TO THE ELEVATION OF THE MSE WALL LEVELING PAD.
- DRIVE ABUTMENT PILES.
- PLACE CONCRETE LEVELING PAD.
- INSTALL MSE WALL UP TO BOTTOM OF FOOTING.
- CONSTRUCT ABUTMENT FOOTING AFTER WAITING PERIOD (SEE BRIDGE 12 PLANS FOR DETAILS).

SECTION/DETAIL/VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)



(SECTION A CUT FROM SHEET 10)

PLAN ABBREVIATIONS:

- ABUT. = ABUTMENT
- APPR. = APPROACH
- B = BOTTOM
- @ = BASELINE
- BM = BENCHMARK
- BOT. OR BTM. = BOTTOM
- @ = CENTERLINE
- C/C = CENTER TO CENTER
- C.I.P. = CAST-IN-PLACE
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
- CONC. = CONCRETE
- CONST. = CONSTRUCTION
- DIA. = DIAMETER
- DIM. = DIMENSION
- DTBD = DISPOSITION TO BE DETERMINED
- DWG. = DRAWING
- EB = EASTBOUND
- E.F. = EACH FACE
- EL. OR ELEV. = ELEVATION
- EQ. = EQUAL
- EST. = ESTIMATED
- EX. = EXISTING
- F.A. = FORWARD ABUTMENT
- F/F = FACE TO FACE
- F.F. = FAR FACE
- FT. = FOOT OR FEET
- FTG. = FOOTING
- FWD. = FORWARD
- IN. = INCH
- JT. = JOINT
- LT. = LEFT
- MAX. = MAXIMUM
- MIN. = MINIMUM
- MISC. = MISCELLANEOUS
- N = NORTH
- NB = NORTHBOUND
- N.F. = NEAR FACE
- NO. = NUMBER
- N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
- OHWM = ORDINARY HIGH WATER MARK
- O/O = OUT TO OUT
- P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
- P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- PROP. = PROPOSED
- PSF = POUNDS PER SQUARE FOOT
- R.A. = REAR ABUTMENT
- S = SOUTH
- SB = SOUTHBOUND
- SER. = SERIES
- SHLDR = SHOULDER
- SPA. = SPACE OR SPACES
- STA. = STATION
- STD. = STANDARD
- STR = STRAIGHT
- T = TOP
- T&B = TOP & BOTTOM
- TBR = TO BE REMOVED
- TBRBO = TO BE RELOCATED BY OTHERS
- TEMP. = TEMPORARY
- TYP. = TYPICAL
- U.N.O. = UNLESS NOTED OTHERWISE
- VAR. = VARIES
- WB = WESTBOUND
- WWR = WELDED WIRE REINFORCEMENT

WALL GENERAL NOTES
WALL Y
UNDER BRIDGE 12 AND ALONG SOUTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	
DESIGNER	CHECKER
SSW	MKB
REVIEWER	
LPC	05-09-24
PROJECT ID	82382
SUBSET	TOTAL
3	7
SHEET	TOTAL
1312	2696

Michael Baker INTERNATIONAL

ESTIMATED QUANTITIES

CALCULATED BY: ZES DATE: 04/24/24

CHECKED BY: SSW DATE: 05/14/24

PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SHEET REF.	
6	01/IMS/04	512	10001	370	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	3
	01/IMS/04	512	10101	492	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	3
	01/IMS/04	516	13600	251	SF	1" PREFORMED EXPANSION JOINT FILLER	
	01/IMS/04	607	23001	325	FT	FENCE, TYPE CLT, AS PER PLAN	3
	01/IMS/04	840	20000	5,681	SF	MECHANICALLY STABILIZED EARTH WALL	
	01/IMS/04	840	21000	1,390	CY	WALL EXCAVATION	
	01/IMS/04	840	22000	716	SY	FOUNDATION PREPARATION	
	01/IMS/04	840	23000	2,377	CY	SELECT GRANULAR BACKFILL	
	01/IMS/04	840	23050	741	CY	NATURAL SOIL	
	01/IMS/04	840	25010	827	FT	6" DRAINAGE PIPE, PERFORATED	
	01/IMS/04	840	25020	151	FT	6" DRAINAGE PIPE, NON-PERFORATED	
	01/IMS/04	840	26000	401	FT	CONCRETE COPING	
	01/IMS/04	840	26050	5,483	SF	AESTHETIC SURFACE TREATMENT	
	01/IMS/04	840	27000	1	DAY	ON-SITE ASSISTANCE	
	01/IMS/04	840	28000	LS		SGB INSPECTION AND COMPACTION TESTING	

ESTIMATED QUANTITIES
WALL Y
UNDER BRIDGE 12 AND ALONG SOUTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
ZES	SSW
REVIEWER	
LPC 05-09-24	
PROJECT ID	
82382	
SUBSET	TOTAL
4	7
SHEET	TOTAL
1313	2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

- F-1.1 REVISED 7/19/2013
- DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

- 800 DATED SEE TITLE SHEET
- 840 DATED 7/21/2023

REFER TO THE FOLLOWING SUPPLEMENTS:

- 1073 DATED 4/21/2023
- 1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
 (CONCRETE FACING, LEVELING PAD, LOAD DISTRIBUTION SLAB, GRADE BEAM)
 CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (MOMENT SLAB)
 REINFORCING STEEL / WELDED WIRE REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
 RETAINED SOIL UNIT WEIGHT, $\gamma = 120 \text{ pcf}$
 ANGLE OF INTERNAL FRICTION, $\phi = 30^\circ$

SEQUENCE OF CONSTRUCTION:

CONSTRUCT WALL Z DURING MOT PHASE 10.

SEE MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL PHASES AND INFORMATION.

MSE WALL DESIGN PARAMETERS:

THE MINIMUM SOIL REINFORCEMENT LENGTH IS AT LEAST 8 FEET OR 70% OF THE WALL HEIGHT, WHICHEVER IS GREATER. FOR WALL SECTIONS AROUND ABUTMENTS, THE STRAP LENGTH WILL NEED TO BE 70% OF THE DISTANCE BETWEEN THE TOP OF THE LEVELING PAD AND THE TOP OF THE PAVEMENT.

FACTORED BEARING RESISTANCE = 16.8 ksf

PROPRIETARY RETAINING WALL DATA:

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO RETAIN EARTH FILL FOR RAMP B6.

THE PROPRIETARY WALL SUPPLIER SHALL PROVIDE SLIP JOINTS LOCATED AS REQUIRED TO ACCOUNT FOR LONG TERM SETTLEMENT AS DESCRIBED IN THE STAGE 2 GEOTECHNICAL REPORT FOR THIS WALL. REFER TO "CUY-90-1652S_WallY-Z_SFE_062022_Stage2.pdf".

ITEM 509 - WALL FACING REINFORCEMENT

THE CONTRACTOR MAY REPLACE THE REINFORCING BARS IN THE RETAINING WALL FACING WITH EPOXY COATED WELDED WIRE FABRIC CONFORMING TO C&MS 709.14. THE EPOXY COATED WELDED WIRE FABRIC MUST PROVIDE AN EQUIVALENT AREA OF STEEL IN EACH DIRECTION AS THE REINFORCING BARS SHOWN IN THE PLANS.

ITEM 511 - CLASS QC1 CONCRETE MISC.: LOAD DISTRIBUTION SLAB WITH QC/QA

ALL PORTIONS OF THE LOAD DISTRIBUTION SLAB SHALL BE PAID FOR UNDER THIS ITEM, UNLESS NOTED OTHERWISE. THIS INCLUDES, BUT IS NOT LIMITED TO LOAD DISTRIBUTION SLAB CONCRETE, JOINT SEALER, COMPACTION AND PREPARATION OF SOIL UNDERNEATH THE SLAB, FASTENERS AND UNISTRUT (OR EQUIVALENT) CHANNEL CONNECTORS, AND ANY OTHER INCIDENTALS REQUIRED TO COMPLETE THE LOAD DISTRIBUTION SLAB.

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE PER CUBIC YARD FOR ITEM 511 - CLASS QC1 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB WITH QC/QA.

ITEM 511 - CLASS QC2 CONCRETE MISC.: MOMENT SLAB AND BARRIER WITH QC/QA

ALL PORTIONS OF THE BARRIER MOMENT SLAB SHALL BE PAID FOR UNDER THIS ITEM, UNLESS NOTED OTHERWISE. THIS INCLUDES, BUT IS NOT LIMITED TO MOMENT SLAB CONCRETE, BARRIER CONCRETE, PEJF, SAWCUTTING, JOINT SEALER, SLEEVED DOWELS, TRANSVERSE AND LONGITUDINAL JOINT TREATMENT ADJACENT TO ROADWAY PAVEMENT AND SHOULDERS, COMPACTION AND PREPARATION OF SOIL UNDERNEATH THE SLABS, AND ANY OTHER INCIDENTALS REQUIRED TO COMPLETE THE BARRIER MOMENT SLABS.

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE PER CUBIC YARD FOR ITEM 511 - CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND BARRIER WITH QC/QA.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - 1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - 2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
 - 3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - 4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - 5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - 6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEAL SURFACES OF THE MSE WALL PANELS, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

6	COPING SEALER:	"ALPACA"	7022
	WALL FACING SEALER:	SEE WALL AESTHETIC DETAILS	
	MOMENT SLAB:	"ALPACA"	7022

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN

TYPE 2 WATERPROOFING SHALL BE ATTACHED TO THE WOOD LAGGING, CENTERED AT ALL EXPANSION AND CONTRACTION JOINTS VERTICALLY FROM THE TOP OF THE TIMBER LAGGING DOWN TO THE TOP OF THE POROUS BACKFILL. TYPE 2 WATERPROOFING SHALL ALSO BE ATTACHED TO THE BACK SIDE OF THE CAST IN PLACE CONCRETE FACING AND THE TIMBER LAGGING AT ALL EXPANSION AND CONTRACTION JOINTS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIAL FOR THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE PAYMENT PER SQUARE YARD CONTRACT PRICE FOR ITEM 512, TYPE 2 WATERPROOFING, AS PER PLAN.

ITEM 840 - MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN: WIRE FACED WALL

GENERAL:

THIS WORK CONSISTS OF DESIGNING THE INTERNAL STABILITY OF THE WALL; PREPARING SHOP DRAWINGS; AND FABRICATING AND CONSTRUCTING THE WIRE FACED MSE WALLS.

ALL MSE WALL DESIGN, FABRICATION, ERECTION AND CONSTRUCTION SHALL CONFORM TO ODOT SUPPLEMENTAL SPECIFICATION 840 "MECHANICALLY STABILIZED EARTH WALLS" EXCEPT AS MODIFIED BELOW, AND AS SHOWN IN THE PLANS.

MATERIALS:

MATERIALS SHALL COMPLY WITH 840.03 EXCEPT THAT WIRE FACING AND SOIL RETENTION FABRIC SHALL BE PROVIDED INSTEAD OF PRECAST CONCRETE FACING PANELS.

- A. WIRE FACING
THE WIRE FACING SHALL BE WELDED WIRE FABRIC (WWF) SATISFYING THE REQUIREMENTS OF CMS 709.10.
- B. SOIL RETENTION FABRIC
THE INSIDE OF THE WIRE FACED MSE WALL SHALL HAVE RETENTION OR FILTER FABRIC PLACED WITHIN THE REINFORCED FILL AS SHOWN IN THE PLANS. RETENTION FABRIC SHALL BE A WOVEN POLYPOPYLENE FABRIC.

ITEM 840 - MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN: 2 STAGE MSE WALL

GENERAL:

THIS WORK CONSISTS OF DESIGNING THE INTERNAL STABILITY OF THE WALL; PREPARING SHOP DRAWINGS; AND FABRICATING AND CONSTRUCTING THE 2 STAGE MSE WALLS.

ALL MSE WALL DESIGN, FABRICATION, ERECTION AND CONSTRUCTION SHALL CONFORM TO ODOT SUPPLEMENTAL SPECIFICATION 840 "MECHANICALLY STABILIZED EARTH WALLS" EXCEPT AS MODIFIED BELOW, AND AS SHOWN IN THE PLANS. AESTHETIC TREATMENT SHALL BE AS DEPICTED IN THE PLANS.

MATERIALS:

MATERIALS SHALL COMPLY WITH 840.03 EXCEPT THAT WIRE FACING AND SOIL RETENTION FABRIC SHALL BE PROVIDED INSTEAD OF PRECAST CONCRETE FACING PANELS.

- A. WIRE FACING
THE WIRE FACING SHALL BE WELDED WIRE FABRIC (WWF) SATISFYING THE REQUIREMENTS OF CMS 709.10. THE DESIGN SHALL PROVIDE POSITIVE ANCHORAGE OF THE CAST IN PLACE REINFORCED CONCRETE FACING TO THE SOIL REINFORCEMENT.
- B. SOIL RETENTION FABRIC
THE INSIDE OF THE WIRE FACED MSE WALL SHALL HAVE RETENTION OR FILTER FABRIC PLACED WITHIN THE REINFORCED FILL AS SHOWN IN THE PLANS. RETENTION FABRIC SHALL BE A WOVEN POLYPOPYLENE FABRIC.
- C. LEVELING PAD
THE CONCRETE LEVELING PAD SHALL BE CONSTRUCTED PER THE REQUIREMENTS OF 840.03 EXCEPT THAT THE PAD SHALL BE REINFORCED AS SHOWN IN THESE PLANS.
- D. CAST-IN-PLACE FACING
THE CAST-IN-PLACE CONCRETE FACING SHALL BE CONSTRUCTED ON THE FRONT SIDE OF THE WELDED WIRE FABRIC TO SERVE AS A PERMANENT FACING OVER THE WELDED WIRE WALL.

4 HORIZONTAL JOINTS ARE PROHIBITED IN THE CAST-IN-PLACE CONCRETE FACING.

PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE CAST-IN-PLACE FACING. THIS INCLUDES, BUT IS NOT LIMITED TO NON-BITUMINOUS JOINT SEALER AT JOINTS AND FORM LINERS. .

SN	N/A
DESIGN AGENCY	
DESIGNER	CHECKER
SSW	MKB
REVIEWER	
LPC	05-09-24
PROJECT ID	82382
SUBSET	TOTAL
4	17
SHEET	TOTAL
1320	2696

Michael Baker INTERNATIONAL

ESTIMATED QUANTITIES

CALCULATED BY: ZES DATE: 04/24/24
 CHECKED BY: SSW DATE: 05/14/24

PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SHEET REF.	
6	01/IMS/04	509	10000	99,488	LB	EPOXY COATED STEEL REINFORCEMENT	
	01/IMS/04	509	30020	6,162	FT	NO. 4 DEFORMED GFRP REINFORCEMENT	
	01/IMS/04	511	53010	166	CY	CLASS QC1 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB WITH QC/QA	4
	01/IMS/04	511	53012	257	CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND BARRIER WITH QC/QA	4
	01/IMS/04	512	10001	564	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	4
	01/IMS/04	512	10101	1,109	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	4
	01/IMS/04	516	13600	523	SF	1" PREFORMED EXPANSION JOINT FILLER	
	01/IMS/04	516	13900	1,026	SF	2" PREFORMED EXPANSION JOINT FILLER	
	01/IMS/04	SPECIAL	530E50020	416	FT	RETAINING WALL, GRADE BEAM	5
6	01/IMS/04	SPECIAL	530E51000	7,515	SF	RETAINING WALL, PRECAST WALL FACADE PANEL	5
	01/IMS/04	611	99710	1	EACH	PRECAST REINFORCED CONCRETE OUTLET	4
	01/IMS/04	840	20001	1,193	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN: 2 STAGE MSE WALL	4
	01/IMS/04	840	20001	4,964	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN: WIRE FACED MSE WALL	
	01/IMS/04	840	21000	2,525	CY	WALL EXCAVATION	
	01/IMS/04	840	22000	1,128	SY	FOUNDATION PREPARATION	
	01/IMS/04	840	23000	6,486	CY	SELECT GRANULAR BACKFILL	
	01/IMS/04	840	25010	825	FT	6" DRAINAGE PIPE, PERFORATED	
	01/IMS/04	840	25020	38	FT	6" DRAINAGE PIPE, NON-PERFORATED	
	01/IMS/04	840	26050	8,708	SF	AESTHETIC SURFACE TREATMENT	
	01/IMS/04	840	27000	1	DAY	ON-SITE ASSISTANCE	
	01/IMS/04	840	28000	LS		SGB INSPECTION AND COMPACTION TESTING	

SECTION/DETAIL/VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)

(SECTION A CUT FROM SHEET 10)

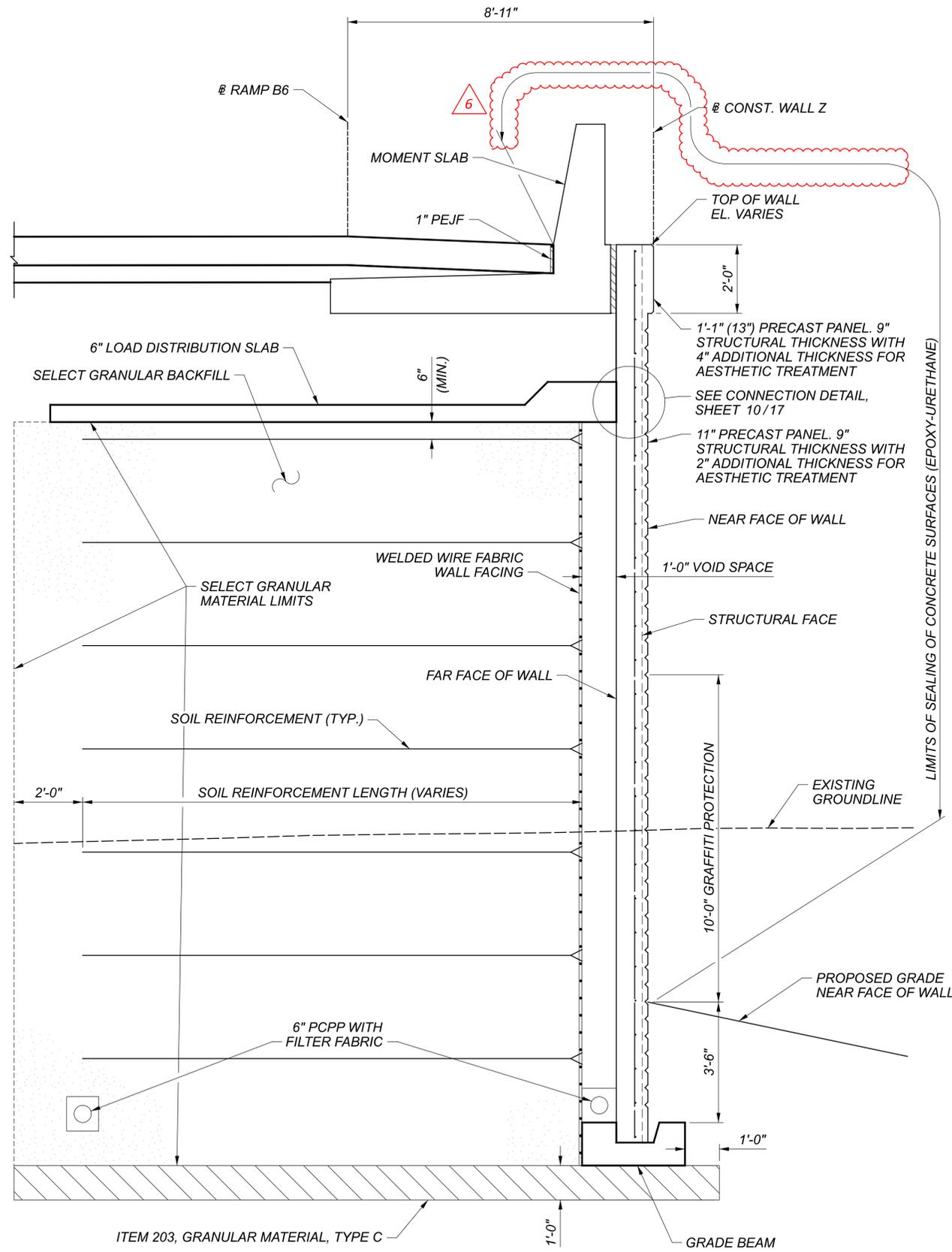
PLAN ABBREVIATIONS:

- ABUT. = ABUTMENT
- APPR. = APPROACH
- B = BOTTOM
- @ = BASELINE
- BM = BENCHMARK
- BOT. OR BTM. = BOTTOM
- ¢ = CENTERLINE
- C/C = CENTER TO CENTER
- C.I.P. = CAST-IN-PLACE
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
- CONC. = CONCRETE
- CONST. = CONSTRUCTION
- DIA. = DIAMETER
- DIM. = DIMENSION
- DTBD = DISPOSITION TO BE DETERMINED
- DWG. = DRAWING
- EB = EASTBOUND
- E.F. = EACH FACE
- EL. OR ELEV. = ELEVATION
- EQ. = EQUAL
- EST. = ESTIMATED
- EX. = EXISTING
- F.A. = FORWARD ABUTMENT
- F/F = FACE TO FACE
- F.F. = FAR FACE
- FT. = FOOT OR FEET
- FTG. = FOOTING
- FWD. = FORWARD
- IN. = INCH
- JT. = JOINT
- LT. = LEFT
- MAX. = MAXIMUM
- MIN. = MINIMUM
- MISC. = MISCELLANEOUS
- N = NORTH
- NB = NORTHBOUND
- N.F. = NEAR FACE
- NO. = NUMBER
- N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
- OHWM = ORDINARY HIGH WATER MARK
- O/O = OUT TO OUT
- P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
- P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- PROP. = PROPOSED
- PSF = POUNDS PER SQUARE FOOT
- R.A. = REAR ABUTMENT
- S = SOUTH
- SB = SOUTHBOUND
- SER. = SERIES
- SHLDR = SHOULDER
- SPA. = SPACE OR SPACES
- STA. = STATION
- STD. = STANDARD
- STR = STRAIGHT
- T = TOP
- T&B = TOP & BOTTOM
- TBR = TO BE REMOVED
- TBRBO = TO BE RELOCATED BY OTHERS
- TEMP. = TEMPORARY
- TYP. = TYPICAL
- U.N.O. = UNLESS NOTED OTHERWISE
- VAR. = VARIES
- WB = WESTBOUND
- WWR = WELDED WIRE REINFORCEMENT

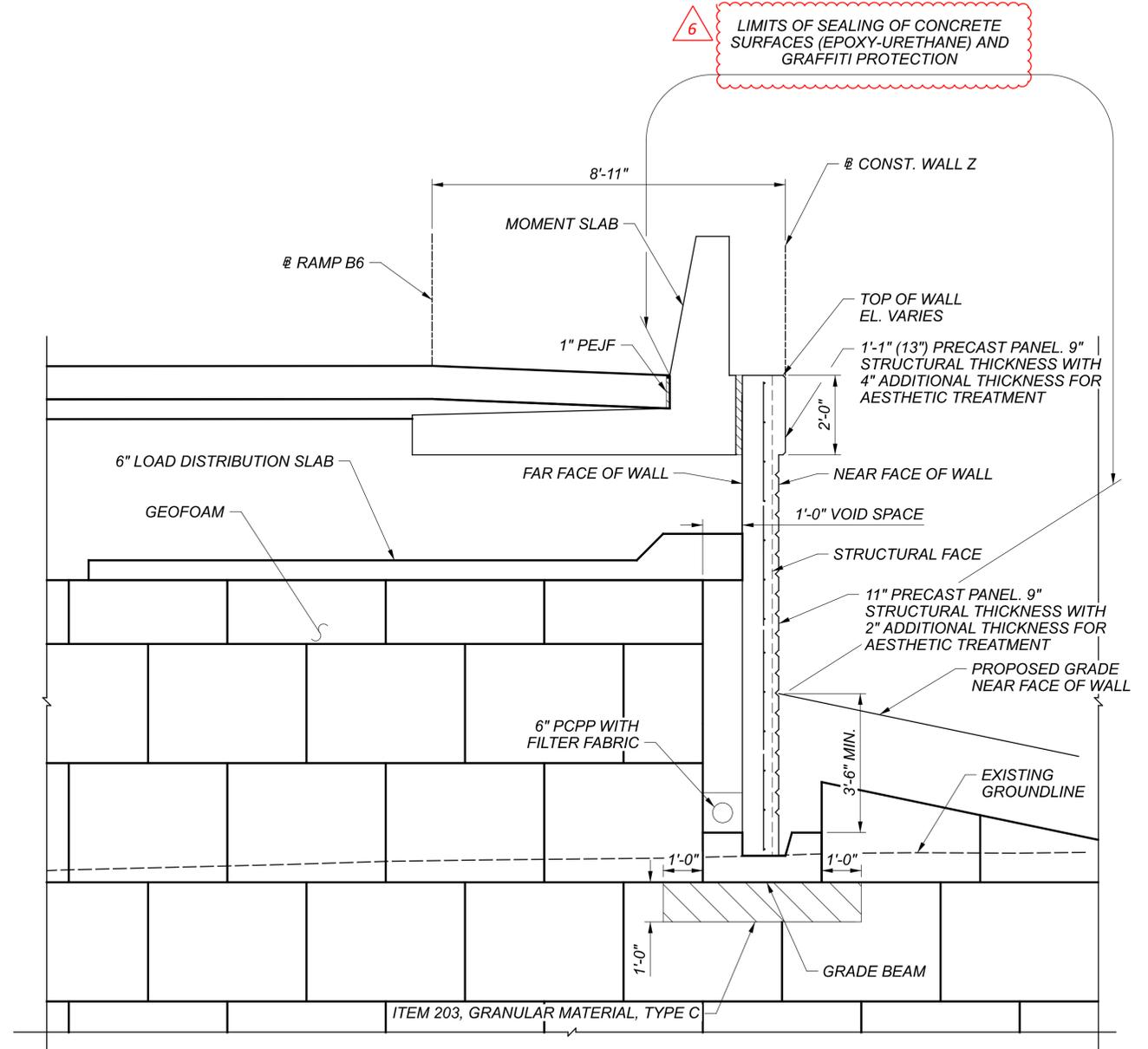
ESTIMATED QUANTITIES
 WALL Z
 ALONG NORTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	
DESIGNER	CHECKER
SSW	MKB
REVIEWER	
LPC	05-09-24
PROJECT ID	82382
SUBSET	TOTAL
6	17
SHEET	TOTAL
1322	2696

Michael Baker
INTERNATIONAL



A TILT-UP PANEL WALL TYP. SECTION
1 **2**



B TILT-UP PANEL WALL TYP. SECTION
1 OVER EX. CENTRAL AVE. SEWER

6 LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) AND GRAFFITI PROTECTION

- NOTES:**
- SHIM BOTTOM OF WALL PANELS AS REQUIRED TO ALIGN VERTICAL WALL JOINTS.
 - SEE LANDSCAPING PLANS FOR WALL AESTHETIC TREATMENT DETAILS.

WALL TYPICAL SECTION (1 OF 2)
 WALL Z
 ALONG NORTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	MKB
REVIEWER	LPC
PROJECT ID	82382
SUBSET	7
TOTAL	17
SHEET	1323
TOTAL	2696

CONTACT OHIO UTILITIES PROTECTION SERVICE, TWO WORKING DAYS PRIOR TO START OF CONSTRUCTION. IN OHIO, CALL TOLL FREE 1-800-362-2764. IT'S THE LAW.

UTILITIES SHOWN ARE FROM BEST AVAILABLE RECORDS AND FIELD INVESTIGATION, AND ARE NOT NECESSARILY COMPLETE OR EXACT. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THIS PLAN OR NOT.

ALL POWER CONDUIT RUNS ARE TO BE CONSTRUCTED BY USING 2", 4", 5", OR 6" PVC TYPE EB CONDUITS, AS DEPICTED ON THE PLANS, ENCASED WITH A 3" CONCRETE ENVELOPE AND 2" SPACING BETWEEN CONDUITS, UNLESS OTHERWISE NOTED ON THE PLANS OR SPECIFICATIONS. THE CONCRETE ENVELOPE IS TO BE 4000PSI (CITY OF CLEVELAND CONCRETE MIX).

A RUGGED POLYETHYLENE MATERIAL WARNING TAPE CAPABLE OF RESISTING HIGH OR LOW PH CONDITIONS MUST BE PLACED ABOVE THE ELECTRICAL CONDUIT BANK. THIS WARNING TAPE IS TO BE SIX INCHES WIDE, RED IN COLOR, AND IMPRINTED WITH THE WORDS, "DANGER - BURIED HIGH VOLTAGE CABLES BELOW". THIS TAPE IS TO BE PLACED 6" ABOVE THE NEWLY INSTALLED DUCT BANK. THIS SHALL CONFORM WITH THE STANDARDS AS SET BY OHIO UTILITIES PROTECTION SERVICE. WARNING TAPE PAYMENT INCLUDED IN APPROPRIATE CONDUIT, PAY ITEM.

AS AN OPTION, CONTRACTOR MAY ELECT TO ENCASE CPP'S CONDUITS IN RED CONCRETE. BOTH METHODS ARE APPROVED BY CLEVELAND PUBLIC POWER AND ARE RECOMMENDED BY OHIO UTILITIES PROTECTION SERVICE. PAYMENT FOR TINTED DUCT CONCRETE, OR TINTED CONCRETE PROTECTIVE SLABS INCLUDED IN APPROPRIATE CONDUIT PAY ITEM.

THE TOP OF THE CONCRETE ENCASED CONDUIT SHALL BE INSTALLED AT A MINIMUM DEPTH OF 3'-0" BELOW THE EXISTING AND/OR PROPOSED GRADES. THE TOTAL TRENCH DEPTH WILL BE BASED UPON THE CONDUIT FORMATION. SEE DRAWINGS ISSUED BY CLEVELAND PUBLIC POWER FOR DETAILS.

VERTICAL AND HORIZONTAL CURVES SHALL HAVE A MINIMUM RADIUS OF NO LESS THAN 30 FEET. THESE CURVES ARE TO BE CONDUITS AS NOTED CONSTRUCTED BY USING THE APPROPRIATE 5" COUPLINGS, AND ASSOCIATED CHORD LENGTHS AS SHOWN ON THE CONDUIT CURVE CONSTRUCTION CHART. ANY OTHER CURVE DESIGN, FIELD CHANGES, OR THE USE OF PREFORMED RADIUS BENDS MUST BE APPROVED BY THE ENGINEERING DEPARTMENT OF CLEVELAND PUBLIC POWER.

ALL MANHOLES OUTSIDE WALLS AND CONDUIT RUNS ARE TO HAVE A MINIMUM CLEARANCE OF 5' (FACE TO FACE), HORIZONTALLY FROM ALL WATER LINES. VERTICAL CLEARANCE SHALL BE AT A MINIMUM OF 1'-6". CLEARANCE BETWEEN OTHER UTILITIES SHALL BE 1 FOOT, UNLESS NOTED OTHERWISE. CPP'S DUCT BANK SHALL CROSS OVER OR UNDER OTHER UTILITIES AT AN ANGLE OF NO MORE THAN 45°.

ANY CONDUIT RUNS THAT ARE CROSSING ANY STEAM LINES SHALL HAVE A MINIMUM CLEARANCE OF 5', OR BE INSTALLED PER THE CPP ENGINEERING DEPARTMENT. IN THE EVENT THAT THIS CAN'T BE ACCOMPLISHED, NOTIFY THE ENGINEERING DEPARTMENT OF CLEVELAND PUBLIC POWER PRIOR TO THE INSTALLATION OF CONDUITS.

EACH NEWLY CONSTRUCTED MANHOLE SHALL BE FREE OF ALL FOREIGN OBJECTS AND DEBRIS. THE CONTRACTOR SHALL ALSO PROVIDE A PULLING LINE IN EACH OF THE NEW CONDUITS. ALL MANHOLE COVERS SHOULD BE INSCRIBED WITH THE CLEVELAND PUBLIC POWER LOGO "CPP".

THE CONTRACTOR SHALL PROVIDE CLEVELAND PUBLIC POWER WITH AS-BUILT PLANS OF THE NEWLY INSTALLED CONDUIT SYSTEM, SHOWING BOTH VERTICAL AND HORIZONTAL LOCATIONS. THESE LOCATIONS SHALL BE AT 50' INTERVALS. ALL ELEVATIONS ARE TO BE BASED ON HORIZONTAL AND VERTICAL STATE PLANE COORDINATES. PAYMENT INCLUDED IN APPROPRIATE CONDUIT PAY ITEM. IN ADDITION, THE CONTRACTOR SHALL PROVIDE AS-BUILTS OF THE MANHOLES, INCLUDING AS-BUILTS PHOTOGRAPHS OF ALL INTERIOR SURFACES (WALLS, FLOOR, CEILING).

BACKFILL MATERIAL AND BACKFILLING PROCEDURES

FOR ALL BACKFILL UNDER ROADWAY PAVEMENT, REFER TO FLOWABLE FILL SPECIFICATIONS IN THIS SHEET. FOR ALL OTHER LOCATIONS, THE BACKFILL MATERIAL USED SHALL BE CRUSHED LIMESTONE OR GRAVEL AS PER ODOT ITEM 304-AGGREGATE BASE. CRUSHED AIR-COOLED SLAG MEETING #304 GRADATION MAY BE USED WITH PRIOR WRITTEN APPROVAL OF THE ENGINEER. THE USE OF SAND OR #57 AGGREGATE AS A PREMIUM BACKFILL IS PROHIBITED. SAND MAY ONLY BE USED AS INDICATED ON THE PLAN DETAILS FOR ITEMS SUCH AS CONDUIT COVER. THE SAND MATERIAL SHALL BE NATURAL RIVER OR BANK SAND; FREE OF SILT, CLAY, LOAM, FRIABLE OR SOLUBLE MATERIALS AND ORGANIC MATTER. THE BACKFILL SHALL BE INSTALLED IN 4 INCH (4") LIFTS AND COMPACTED USING MECHANICAL MEANS ONLY. COMPACT TO WITHIN 12" OF SUBGRADE

AND EACH LAYER OF BACKFILL TO 95% MAXIMUM DRY DENSITY AS DETERMINED BY STANDARD PROCTOR TEST (ASTM D698). THE USE OF WATER FOR COMPACTION IS PROHIBITED, E.G. FLOODING OR PUDDLING. SAND USED AS EMBANKMENT CONSTRUCTION AND AS BACKFILL AROUND STRUCTURES SHALL BE ODOT ITEM 203- EMBANKMENT OR MEETING THE REQUIREMENTS OF 703 - SPECIAL BACKFILL MATERIAL OF THE SECTION.

EMPLOY A PLACEMENT METHOD THAT DOES NOT DISTURB OR DAMAGE CONDUIT ENCASEMENT.

DO NOT BACKFILL OVER WET, FROZEN OR UNSTABLE SUBGRADE SURFACES.

FLOWABLE FILL SPECIFICATION FOR UTILITY TRENCHES

PART I CERTIFICATE OF COMPLIANCE

MATERIAL MUST COME FROM A PLANT WITH A CURRENT CERTIFICATE OF COMPLIANCE DEMONSTRATING THE ABILITY OF THE MIX DESIGN TO MEET THE SPECIFIED REQUIREMENTS. CERTIFICATES IN EXCESS OF ONE YEAR WILL NOT BE ACCEPTED. CERTIFICATES MUST CONTAIN THE NAME OF SUPPLIER, DATE, CONTRACT NUMBER AND MIX DESIGN DATA ON EACH DELIVERY TICKET.

PART II MATERIALS

ALL MATERIALS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS STATED HERIN.

1. CEMENT SHALL BE ASTM C-150 TYPE I.
2. THE USE OF FLY ASH IS STRICTLY PROHIBITED.
3. FINE AGGREGATE SHALL CONFORM TO ODOT SPECIFICATION 703.03. FINE AGGREGATE FOR MORTAR OR GROUT. (ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS MOST CURRENT EDITION). THE USE OF SPENT FOUNDRY SAND OR CORE SAND IS STRICTLY PROHIBITED.

PART III PERFORMANCE ENHANCING ADMIXTURE

AN AIR-ENHANCING ADMIXTURE SHALL BE INCORPORATED IN THE MIX THAT WILL HAVE THE EFFECT OF LOWERING THE WATER/CEMENT RATIO TO BETWEEN 95 AND 105 LBS/CUBIC FOOT. THE AIR ENTRAINED CONTENT FOR THE MIX SHALL BE 30% TO ELIMINATE/MINIMIZE THE EXCESSIVE WATER AND SEGREGATION. COMPRESSIVE STRENGTHS SHALL HAVE A RANGE OF 50 PSI TO 80 PSI AT 28 DAYS WILL BE REQUIRED IF ADDITIONAL EXCAVATION BY MACHINE OR HAND IS REQUIRED.

SPECIFICATIONS

ALL WORK IN THIS CONTRACT SHALL CONFORM TO THE LATEST STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIALS SPECIFICATIONS, NATIONAL ELECTRIC SAFETY CODE FOR INSTALLATION BEFORE METER, NATIONAL ELECTRIC CODE FOR INSTALLATION AFTER METER AND OSHA REQUIREMENTS, EXCEPT WHERE LOCAL REGULATIONS ARE MORE STRINGENT, IN WHICH CASE LOCAL REGULATIONS SHALL GOVERN.

SCOPE OF WORK

- A. THE CONTRACTOR SHALL RELOCATE OR REMOVE ALL CLEVELAND PUBLIC POWER (CPP) FACILITIES AS INDICATED ON THE PLANS AND/OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE PROPERLY COMPLETED, INCLUDING INCIDENTALS, AS SHOWN ON THE DRAWINGS AND HEREINAFTER SPECIFIED.
- B. THE MAJOR ITEMS OF WORK TO BE FURNISHED AND INSTALLED BY THE CONTACTOR SHALL BE AS FOLLOWS.

WORK BY CONTRACTOR (E. 22ND ST.)

THE CONTRACTOR SHALL PROVIDE TEMPORARY PRIMARY ELECTRIC FACILITIES TO RE-ROUTE POWER OFF THE 22ND STREET BRIDGE DURING THE DEMOLITION AND REPLACEMENT OF THE BRIDGE. FOLLOWING CONSTRUCTION OF THE NEW BRIDGE, PERMANENT UNDERGROUND FACILITIES WILL BE PLACED ON THE BRIDGE, THE TEMPORARY FACILITIES WILL BE REMOVED AND PERMANENT CONNECTIONS MADE. THIS WORK INCLUDES:

- FURNISHING AND INSTALLING CONCRETE ENCASED PVC AND FRE DUCT BANKS OF VARIOUS ARRANGEMENTS.
- INSTALLING TEMPORARY WOODEN POWER POLES AND OVERHEAD ELECTRICAL CABLE SPANS OVER INTERSTATE 90.
- INSTALLING ELECTRICAL CABLES IN DUCTS AND INSTALLING CABLE ID TAGS
- INSTALLING DUCT BANK SYSTEM ACROSS BRIDGE INCLUDING BEAM SUPPORT SYSTEM
- TESTING ELECTRICAL SYSTEM
- FURNISHING AND INSTALLING ELECTRICAL VAULT/MANHOLE RACKING SYSTEMS WITHIN VAULTS OR MANHOLES.
- FURNISHING AND INSTALLING ELECTRICAL SPLICES, TRAINING AND BONDING WITHIN VAULTS OR MANHOLES.
- COORDINATING WITH CPP AND ITS CONTRACTORS
- REMOVAL OF EXISTING ELECTRICAL CABLES.

WORK BY CONTRACTOR (CARNEGIE AVE.)

THE CONTRACTOR SHALL PROVIDE TEMPORARY PRIMARY ELECTRIC FACILITIES TO RE-ROUTE POWER OFF THE CARNEGIE AVENUE BRIDGE DURING THE DEMOLITION AND REPLACEMENT OF THE BRIDGE. FOLLOWING CONSTRUCTION OF THE NEW BRIDGE, PERMANENT UNDERGROUND FACILITIES WILL BE PLACED ON THE BRIDGE, THE TEMPORARY FACILITIES WILL BE REMOVED AND PERMANENT CONNECTIONS MADE. THIS WORK INCLUDES:

- FURNISHING AND INSTALLING CONCRETE ENCASED PVC AND FRE DUCT BANKS OF VARIOUS ARRANGEMENTS.
- FURNISHING AND INSTALLING TEMPORARY WOODEN POWER POLES AND OVERHEAD ELECTRICAL CABLE SPANS OVER INTERSTATE 90.
- FURNISHING AND INSTALLING ELECTRICAL CABLES IN DUCTS AND INSTALLING CABLE ID TAGS
- FURNISHING AND INSTALLING DUCT BANK SYSTEM ACROSS BRIDGE INCLUDING BEAM SUPPORT SYSTEM
- TESTING ELECTRICAL SYSTEM
- FURNISHING AND INSTALLING ELECTRICAL VAULT/MANHOLE RACKING SYSTEMS WITHIN VAULTS OR MANHOLES.
- FURNISHING AND INSTALLING ELECTRICAL SPLICES, TRAINING AND BONDING WITHIN VAULTS OR MANHOLES.
- COORDINATING WITH CPP AND ITS CONTRACTORS
- REMOVAL OF EXISTING ELECTRICAL CABLES.

WORK BY CPP

- ENERGIZING ELECTRICAL SYSTEM
- DE-ENERGIZING OF EXISTING ELECTRICAL CABLES WITHIN DUCTS

ALONG PORTIONS OF THE CORRIDOR THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE EXISTING UNDERGROUND ELECTRICAL SERVICE UNTIL COMPLETION AND ACTIVATION OF THE PROPOSED UNDERGROUND POWER SYSTEM. THE CONTRACTOR SHALL COORDINATE THE DETAILS OF THIS WORK WITH CPP.

CABLE MARKING

FEEDER CABLE LOCATION IN CONDUIT BANK SHALL BE ASSIGNED BY CPP. EACH CABLE UPON ENTERING AND LEAVING MANHOLES SHALL BE MARKED WITH TAGS, INDICATING THE FEEDER NUMBER AND CABLE SIZE. THE LETTER SIZE SHALL BE A MINIMUM OF 1/2 IN., 1 IN. HIGH IS PREFERRED.

SUBMITTALS

IN ADDITION TO THE REQUIREMENTS OF CMS105 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIAL FURNISHED AND REQUIRED TO PERFORM THE WORK.

DEFINITIONS

WHENEVER IN THESE SPECIFICATIONS OR IN ANY DOCUMENT OR INSTRUCTIONS ON CONSTRUCTION WHERE THESE SPECIFICATIONS GOVERN, THE FOLLOWING TERMS (OR PRONOUNS IN PLACE OF THEM) ARE USED, THE INTENT AND MEANING SHALL BE INTERPRETED AS FOLLOWS:

THE CITY OR THE CITY OF CLEVELAND, IS THE DIRECTOR OF THE CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES.

STATUS OF CITY INSPECTOR

INSPECTORS AS DESIGNATED BY THE CITY OF CLEVELAND SHALL BE AUTHORIZED TO INSPECT ALL WORK DONE AND MATERIALS FURNISHED. SUCH INSPECTING MAY EXTEND TO ALL OR ANY PART OF THE WORK, AND TO THE PREPARATION OR MANUFACTURE OF THE MATERIALS TO BE USED IN THE WORK. THE CITY INSPECTOR AS DESIGNATED BY THE DIRECTOR OF PUBLIC UTILITIES SHALL GIVE WORK INSTRUCTIONS THROUGH THE PROJECT ENGINEER.

ITEM 625 - CONDUIT, CONCRETE ENCASED, AS PER PLAN (XX) - 5" PVC

A. WORK INCLUDED

THE CONTRACTOR SHALL FURNISH ALL MATERIALS FOR AND SHALL PROPERLY CONSTRUCT AND CONNECT TO MANHOLES, AS SHOWN ON THE PLANS OR AS DIRECTED, ALL NON-REINFORCED AND REINFORCED CONCRETE-ENCASED PVC (EB) CONDUIT AS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT. ALL CONDUITS SHALL BE ENCASED IN CONCRETE UNLESS NOTED OTHERWISE.

B. CONDUIT AND FITTINGS

1. POLYVINYL CHLORIDE (PVC) EB 20 CONDUIT SHALL CONFORM TO THE UL651 STANDARDS, 5 INCH INSIDE DIAMETER WITH CONCRETE ENCASEMENT AS DETAILED ON PLANS, COUPLINGS SHALL BE SOCKET TYPE, END BELLS AT MANHOLE ENTRANCE, 5 DEGREE SWEEPS, 11-1/4 DEGREE TO 90 DEGREES INCLUDING FILED DEGREES ANGLE COUPLINGS, STANDARD COUPLINGS, VARIOUS BENDS AND PLUGS OR CAPS TO CLOSE UNUSED CONDUITS, SHALL BE MADE OF THE SAME MATERIAL AS THE

CONDUIT. CONDUIT SPACERS SHALL BE AS SHOWN IN THE PLAN DETAILS. CONCRETE BLOCK SPACERS WILL NOT BE ACCEPTED. CONTRACTOR SHALL CONTACT CPP BEFORE CONCRETE ENCASEMENT ANY BENDS IN CONDUITS

2. FIBERGLASS REINFORCED EPOXY CONDUIT SHALL CONFORM TO UL 1684 AND UL1684A. FIBERGLASS CONDUIT SHALL HAVE A MINIMUM WALL THICKNESS OF 0.095". FIBERGLASS CONDUIT SHALL HAVE 5 INCH INSIDE DIAMETER EITHER CONCRETE ENCASED OR RACK MOUNTED AS INDICATED ON THE DRAWINGS. COUPLINGS SHALL HAVE BELL ON ONE END AND A SPIGOT ON THE OTHER END. ALL COUPLINGS SHALL BE MADE OF THE SAME MATERIAL. EXPANSION FITTINGS SHALL BE PROVIDED ON ALL EXPOSED CONDUIT RUNS.

C. CONCRETE

CONCRETE USED FOR ENCASEMENT OF CONDUITS SHALL CONFORM TO ODOT CLASS QC 1 PER C&MS 499.

D. INSTALLATION

CONDUIT SHALL BE INSTALLED BY THE BUILT-UP METHOD WITH JOINTS IN ADJACENT DUCTS STAGGERED. NECESSARY SPACERS SHALL BE PLACED NO GREATER THAN 8-FEET INTERVALS TO HOLD DUCTS IN THE DESIRED CONFIGURATION, WITH THE DUCT BANK BRACED SECURELY TO KEEP IT FROM SHIFTING AND FLOATING WHILE CONCRETE IS POURED. SEALER COMPOUND FURNISHED BY THE CONDUIT AND EACH SECTION SHALL BE TAPPED SECURELY INTO PLACE IN THE PREVIOUS COUPLING TO OBTAIN JOINTS THAT ARE TIGHT AND LEAK-PROOF.

1. CONCRETE SHALL BE WORKED INTO THE SPACES BETWEEN DUCTS SO THAT THE CONDUIT BANK IS EFFECTIVELY ENCASED IN CONCRETE WITHOUT VOIDS OR EMPTY SPACES. REINFORCING RODS SHALL BE INSTALLED AS REQUIRED AND WHERE SHOWN ON THE PLANS.

2. CONDUIT WHICH IS CUT TO FIT SHORT SECTIONS SHALL BE DEBURRED ON THE DUCT END AND THE END OF THE BELL SHALL BE REAMED IN THE INSIDE DIAMETER FOR EACH ENTRY OF THE DUCT INTO COUPLING TO PRODUCE THE SAME JOINTING CONDITIONS AS PROVIDED BY FACTORY-MADE CONDUIT SECTIONS.

3. THE END BELLS SHALL BE GROUTED IN PLACE.

E. BACKFILLING

REFER TO NOTES "BACKFILL MATERIAL AND BACKFILLING PROCEDURES" AND "FLOWABLE FILL SPECIFICATION FOR UTILITY TRENCHES".

F. MEASUREMENT

THE NUMBER OF FEET OF CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET FURNISHED AND PLACED AND ACCEPTED IN ACCORDANCE WITH THESE SPECIFICATIONS, AS MEASURED ALONG THE AXIS OF THE CONDUIT LINE, INCLUDING FITTINGS.

G. PAYMENT

THE FOOTAGE MEASURED AS PROVIDED ABOVE SHALL BE AID FOR AT THE CONTRACTOR PRICE BID PER FOOT UNDER ITEM 625 AS DESCRIBED BELOW, CLASSIFIED AS TO SIZE AND TYPE, WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR EXCAVATING AND FOR FURNISHING, HAULING, PLACING THE CONDUIT, FITTINGS, CAPPING, SPACERS, CONCRETE, REINFORCING STEEL, SHEETING AND BRACING, BACKFILL, PLASTIC CAUTION TAPE (OR RED TINTED CONCRETE), INCIDENTAL CONCRETE, REMOVAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIAL, BREAKING AND RESTORATION OF EXISTING MANHOLE WALLS AND ALL LABOR EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

THESE ITEMS AS MEASURED AS PROVIDED ABOVE SHALL BE PAID FOR UNDER:

ITEM	UNIT	DESCRIPTION
625	FT	CONDUIT, CONCRETE ENCASED, AS PER PLAN, (XX)-5" PVC
625	FT	CONDUIT, CONCRETE ENCASED, AS PER PLAN, (XX) -5" FRE
625	FT	CONDUIT, RACK MOUNTED, AS PER PLAN, (XX) -5" FRE

CLEVELAND PUBLIC POWER
GENERAL NOTES (1 OF 3)

DESIGN AGENCY	AFCO ADVANCED ENGINEERING CONSULTANTS
DESIGNER	JCS
REVIEWER	WH 05/17/24
PROJECT ID	82382
SHEET	TOTAL
1777	2696

ITEM 625 - LIGHTING MISC.: 24" SPACER CABLE TANGENT BRACKET

24" SPACER CABLE TANGENT BRACKETS SHALL CONFORM TO THE FOLLOWING:

- A. 24" SPACER CABLE TANGENT BRACKET SHALL BE SUPPLIED WITH MESSENGER CLAMP FOR 1/2 INCH TO 9/16 INCH MESSENGER. HENDRIX BM-24 OR APPROVED EQUAL.
B. GROUND WIRE - THE GROUND WIRE SHALL BE #6 SOLD SOFT DRAWN BARE COPPER.
C. CONNECTORS - COPPER COMPRESSION TYPE.
D. ALL STEEL HARDWARE SHALL BE HOT DIP GALVANIZED.

INSTALLATION:

- A. THE 24" BRACKET SHALL BE USED ON TANGENT POLES AND LINE ANGLES UP TO AND INCLUDING FIVE (5) DEGREES, TO ATTACH THE MESSENGER WIRE TO THE POLE. CABLE SPACERS SHALL BE USED TO SUPPORT THE SPACER CABLE FROM THE MESSENGER.
B. THE BRACKET SHALL BE ATTACHED TO THE POLE USING 5/8" DIAMETER MACHINE BOLTS WITH 2-1/4"x2-1/4"x3/16" SQ. CURVED WASHERS, SPRING LOCK DOUBLE COIL WASHERS. ALL STEEL HARDWARE SHALL BE GALVANIZED.
C. A #6 AWG COPPER GROUND WIRE SHALL CONNECT THE MESSENGER WIRE AND POLE GROUND.

THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE 24" SPACER CABLE TANGENT BRACKET IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING MISC.: PRIMARY CONDUIT RISER

PRIMARY CONDUIT RISER SHALL CONSIST OF UNDERGROUND CONDUIT TURNED UP AND SECURED TO A POWER POLE, INCLUDED STANDOFF BRACKETS, CUTOUTS, LIGHTNING ARRESTERS AND CABLE TERMINATION EQUIPMENT. MATERIAL SHALL BE AS FOLLOWS:

- A. CONDUIT SHALL BE 5" SCHEDULE 40 PVC IN CONFORMANCE WITH CONDUIT SPECIFICATIONS AS DETAILED IN THESE SPECIFICATIONS.
B. CONDUIT STAND-OFF BRACKET SHALL BE ALUMAFORM # CSO-6 OR -9 WITH #STS-5 STRAPS OR ENGINEER APPROVED EQUAL.
C. CUTOUTS SHALL BE 600A SOLID BLADE CUTOUT SWITCHES.
D. LIGHTNING ARRESTERS SHALL BE RISER POLE TYPE, 12KV RATED VOLTAGE, 10.2KV MCOV, 35.5IR-KV 0.5USEC 10KA MAXIMUM, 23.6 IRKV 500A SWITCHING SURGE MAXIMUM. ARRESTERS SHALL BE CONNECTED TO POLE GROUND USING #6 SOFT DRAWN SOLID BARE COPPER WIRE.
E. RISER TERMINATION POTHEADS SHALL BE 15KV AND RATED FOR MINIMUM 600A.

INSTALLATION:

- A. INSTALLATION SHALL BE AS SHOWN ON POLE DETAIL SHEETS.
B. THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL PRIMARY CONDUIT RISER IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING MISC.: SPACER CABLE DEADEND ASSEMBLY

SPACER CABLE DEADEND ASSEMBLY SHALL INCLUDE A DOUBLE CROSSARM, PRIMARY CONDUCTOR DEADEND HARDWARE, MESSENGER HARDWARE, AND ALL ASSOCIATED INCIDENTAL HARDWARE REQUIRED TO CONSTRUCT THE DEADEND ASSEMBLY. MATERIAL SHALL INCLUDE:

- A. TWO WOOD CROSSARMS, DOUGLAS FIR, 3-3/4" x 10'-0", WITH ALUMAFORM RA6018 CROSSARM BRACES. CROSSARMS SHALL CONFORM TO ANSI 05.1, AWWA C-1-89, AWWA P-8-89, AWWA-C-9-87, REA 1728H-701, AND SHALL BE CURED AND TREATED WITH PENTACHLOROPHENAL IN ACCORDANCE WITH THE AWWA BOOK OF STANDARDS. TREATMENT SHALL HAVE A MINIMUM RETENSION OF 0.40, AND AN ASSAY ZONE OF 0.25-1.0.
B. GROUND WIRE SHALL BE #6 SOLID SOFT DRAWN BARE COPPER
C. CONNECTORS SHALL BE COPPER COMPRESSION TYPE
D. PRESHAPED TYPE GRIP FOR MESSENGER SHALL BE PREFORMED LINE PRODUCTS #AWDE-4128.
E. PRESHAPED TYPE GRIP FOR 556 MCM SPACER CABLE SHALL BE PREFORMED LINE PRODUCTS #ND-0123.
F. 15KV POLYMER DEADEND INSULATOR SHALL BE 5/8" DIAMETER ROD DEADEND INSULATOR, 16" LEAKAGE DISTANCE, OHIO BRASS #401015-0215
G. ALL STEEL HARDWARE SHALL BE HOT DIP GALVANIZED.

INSTALLATION:

- A. INSTALLATION SHALL BE AS SHOWN ON POLE DETAIL SHEETS.
B. THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE SPACER CABLE DEADEND ASSEMBLY IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING MISC.: SPACER CABLE TO SPACER CABLE DOUBLE DEADEND ASSEMBLY

SPACER CABLE TO SPACER CABLE DOUBLE DEADEND ASSEMBLY SHALL INCLUDE A DOUBLE CROSSARM, PRIMARY CONDUCTOR DEADEND HARDWARE ON EACH SIDE OF THE CROSSARM ASSEMBLY, MESSENGER HARDWARE, AND ALL ASSOCIATED INCIDENTAL HARDWARE REQUIRED TO CONSTRUCT THE DEADEND ASSEMBLY. MATERIAL SHALL INCLUDE:

- A. TWO WOOD CROSSARMS, DOUGLAS FIR, 3-3/4" x 10'-0", WITH ALUMAFORM RA6018 CROSSARM BRACES. CROSSARMS SHALL CONFORM TO ANSI 05.1, AWWA C-1-89, AWWA P-8-89, AWWA-C-9-87, REA 1728H-701, AND SHALL BE CURED AND TREATED WITH PENTACHLOROPHENAL IN ACCORDANCE WITH THE AWWA BOOK OF STANDARDS. TREATMENT SHALL HAVE A MINIMUM RETENSION OF 0.40, AND AN ASSAY ZONE OF 0.25-1.0.
B. GROUND WIRE SHALL BE #6 SOLID SOFT DRAWN BARE COPPER
C. CONNECTORS SHALL BE COPPER COMPRESSION TYPE
D. PRESHAPED TYPE GRIP FOR MESSENGER SHALL BE PREFORMED LINE PRODUCTS #AWDE-4128.
E. PRESHAPED TYPE GRIP FOR 556 MCM SPACER CABLE SHALL BE PREFORMED LINE PRODUCTS #ND-0123.
F. 15KV POLYMER DEADEND INSULATOR SHALL BE 5/8" DIAMETER ROD DEADEND INSULATOR, 16" LEAKAGE DISTANCE, OHIO BRASS #401015-0215
G. ALL STEEL HARDWARE SHALL BE HOT DIP GALVANIZED.

INSTALLATION:

- A. INSTALLATION SHALL BE AS SHOWN ON POLE DETAIL SHEETS.
B. THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE SPACER CABLE TO SPACER CABLE DOUBLE DEADEND ASSEMBLY IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING MISC.: DEADEND ASSEMBLY.

DEADEND ASSEMBLY SHALL INCLUDE A DOUBLE CROSSARM, PRIMARY CONDUCTOR DEADEND HARDWARE AND ALL ASSOCIATED INCIDENTAL HARDWARE REQUIRED TO CONSTRUCT THE DEADEND ASSEMBLY. MATERIAL SHALL INCLUDE:

- A. TWO WOOD CROSSARMS, DOUGLAS FIR, 3-3/4" x 10'-0", WITH ALUMAFORM RA6018 CROSSARM BRACES. CROSSARMS SHALL CONFORM TO ANSI 05.1, AWWA C-1-89, AWWA P-8-89, AWWA-C-9-87, REA 1728H-701, AND SHALL BE CURED AND TREATED WITH PENTACHLOROPHENAL IN ACCORDANCE WITH THE AWWA BOOK OF STANDARDS. TREATMENT SHALL HAVE A MINIMUM RETENSION OF 0.40, AND AN ASSAY ZONE OF 0.25-1.0.
B. GROUND WIRE SHALL BE #6 SOLID SOFT DRAWN BARE COPPER
C. CONNECTORS SHALL BE COPPER COMPRESSION TYPE
D. CLAMP, STRAIN, CLEVIS AS REQUIRED, STRAIGHT LINE DEADEND SIZED FOR THE CONDUCTOR AND MATERIAL AS SHOWN ON THE DRAWINGS.
E. 15KV GREAD DEADEND INSULATORS
G. ALL STEEL HARDWARE SHALL BE HOT DIP GALVANIZED.

INSTALLATION:

- A. INSTALLATION SHALL BE AS SHOWN ON POLE DETAIL SHEETS.
B. THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE DEADEND ASSEMBLY IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING MISC.: DOUBLE DEADEND ASSEMBLY.

DEADEND ASSEMBLY SHALL INCLUDE A DOUBLE CROSSARM, PRIMARY CONDUCTOR DEADEND HARDWARE ON EACH SIDE OF THE CROSSARM ASSEMBLY AND ALL ASSOCIATED INCIDENTAL HARDWARE REQUIRED TO CONSTRUCT THE DOUBLE DEADEND ASSEMBLY. MATERIAL SHALL INCLUDE:

- A. TWO WOOD CROSSARMS, DOUGLAS FIR, 3-3/4" x 10'-0", WITH ALUMAFORM RA6018 CROSSARM BRACES. CROSSARMS SHALL CONFORM TO ANSI 05.1, AWWA C-1-89, AWWA P-8-89, AWWA-C-9-87, REA 1728H-701, AND SHALL BE CURED AND TREATED WITH PENTACHLOROPHENAL IN ACCORDANCE WITH THE AWWA BOOK OF STANDARDS. TREATMENT SHALL HAVE A MINIMUM RETENSION OF 0.40, AND AN ASSAY ZONE OF 0.25-1.0.
B. GROUND WIRE SHALL BE #6 SOLID SOFT DRAWN BARE COPPER
C. CONNECTORS SHALL BE COPPER COMPRESSION TYPE
D. CLAMP, STRAIN, CLEVIS AS REQUIRED, STRAIGHT LINE DEADEND SIZED FOR THE CONDUCTOR AND MATERIAL AS SHOWN ON THE DRAWINGS.
E. 15KV GREAD DEADEND INSULATORS
G. ALL STEEL HARDWARE SHALL BE HOT DIP GALVANIZED.

INSTALLATION:

- A. INSTALLATION SHALL BE AS SHOWN ON POLE DETAIL SHEETS.
B. THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE DOUBLE DEADEND ASSEMBLY IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING MISC.: JOINT-USE CONDUIT RISER

JOINT CONDUIT RISER SHALL CONSIST OF UNDERGROUND CONDUIT TURNED UP AND SECURED TO A POWER POLE, INCLUDED STANDOFF BRACKETS AND WEATHERHEAD. MATERIAL SHALL BE AS FOLLOWS:

- A. CONDUIT SHALL BE 4" SCHEDULE 40 PVC IN CONFORMANCE WITH CONDUIT SPECIFICATIONS AS DETAILED IN THESE SPECIFICATIONS.
B. CONDUIT STAND-OFF BRACKET SHALL BE ALUMAFORM # CSO-6 OR -9 WITH #STS-5 STRAPS OR ENGINEER APPROVED EQUAL.
C. WEATHERHEAD FOR 4" PVC CONDUIT.

INSTALLATION:

- A. INSTALLATION SHALL BE AS SHOWN ON POLE DETAIL SHEETS.
B. THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE JOINT-USE CONDUIT RISER IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING MISC.: JOINT-USE MESSENGER ASSEMBLY

JOINT USE MESSENGER ASSEMBLIES SHALL CONSIST OF A DEADEND OR SPOOL/CLEVIS ASSEMBLY FOR SUPPORTING JOINT-USE MESSENGER WIRES. MATERIAL SHALL BE COORDINATED WITH EACH JOINT USER AND FURNISHED ACCORDING TO THEIR REQUIREMENTS.

THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE JOINT-USE MESSENGER ASSEMBLY IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING MISC.: TWO-WAY BUCK

EACH TWO WAY BUCK SHALL INCLUDE TWO DEADEND ASSEMBLIES, WITH PIN INSULATORS AND COPPER CONDUCTOR TIES BETWEEN BRANCHES OF THE PRIMARY CIRCUIT.

- A. DEADEND ASSEMBLY, PER ITEM 625: LIGHTING MISC.: DEADEND ASSEMBLY.
B. 15 KV PIN INSULATORS
C. CONNECTORS SHALL BE COPPER COMPRESSION TYPE
D. ALL STEEL HARDWARE SHALL BE HOT DIP GALVANIZED.

INSTALLATION:

- A. INSTALLATION SHALL BE AS SHOWN ON POLE DETAIL SHEETS.
B. THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE TWO-WAY BUCK IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 625 - GROUND ROD, AS PER PLAN

GROUND ROD AS PER PLAN SHALL CONSIST OF UTILITY POLE GROUNDING, INCLUDING GROUNDING WIRE, ATTACHMENT STAPLES, A GROUND ROD AND WOOD MOLDING FOR CONNECTION OF GROUNDED EQUIPMENT ON A WOOD UTILITY POLE.

- A. GROUNDING WIRE SHALL BE #4 AWG SOFT DRAWN COPPER. GROUND WIRE JUMPERS FROM SOFT DRAWN POLE GROUND TO FIXED APPARATES SHALL BE #4 SOT DRAWN COPPER. THE GROUND WIRE JUMPERS FROM POLE GROUND TO VIBRATING CONDUCTORS SHALL BE #4 STRANDED SOFT DRAWN.
B. GROUND ROD SHALL BE 1/2" DIAMETER X 10' LONG COPPERWELD. ERICO, JOSLYN, CHANCE OR APPROVED EQUAL.
C. GROUND ROD CONNECTORS SHALL BE ERICO #CC12F COMPRESSION COUPLING OR APPROVED EQUAL FOR CONNECTION BETWEEN GROUND RODS AND SHALL BE TYPE GR EXOTHERMIC WELDING FOR CONNECTION BETWEEN GROUND WIRE AND GROUND ROD.
D. GROUND WIRE MOLDING SHALL BE TREATED WOOD, 8' LONGE, 1" WIDE, JOSLYN #EE-1/2 OR APPROVED EQUAL.
E. STAPLES SHALL BE ROLLED DIAMOND POINT COPPER COATED.

INSTALLATION:

- A. INSTALLATION SHALL BE AS SHOWN ON POLE DETAIL SHEETS.
B. THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE POLE GROUNDING IN A COMPLETE AND WORKMANLIKE MANNER.

ITEM 632 - DOWN GUY, AS PER PLAN

DOWN GUY, AS PER PLAN SHALL INCLUDE ALL HARDWARE FOR POLE ATTACHMENT, THE STRANDED GUY WIRE, SCREW ANCHOR, INSULATORS, ANCHOR EXTENSIONS AND ALL OTHER HARDWARE REQUIRED TO COMPLETE THE INSTALLATION OF THE DOWN GUY. MATERIAL IS AS FOLLOWS:

- A. ALL STEEL HARDWARE SHALL BE HOT DIP GALVANIZED.
B. GUY PLATE - 6" BOLT HOLE SPACING FOR 3/4" TO 7/8" BOLT, FOR USE WITH GUY STRAIN INSULATOR, 7/8" PIN, MATERIAL DUCTILE IRON, GALVANIZED, MACLEAN #EPR-66S-7 OR APPROVED EQUAL.
C. GUY WIRE - EHS GALVANIZED STEEL, 5/8" O.D. 1x7 STRANDED, 42400 LB STRENGTH.
D. SCREW ANCHOR - 1-1/2" SQUARE SHAFT, 5' LENGTH WITH 1-10" AND 1-12" HELIX, GALVANIZED STEEL, 24,000 LB PULLOUT. CHANCE #PO12642-EJ, JOSLYN #J23382ACA OR APPROVED EQUAL.
E. ANCHOR EXTENSION - 1-1/2" SQ. SHAFT X 7' LENGTH, GALVANIZED STEEL, CHANCE #12655, JOSLYN #J23378.3 OR APPROVED EQUAL.
F. ANCHOR EXTENSION - 1-1/2" SQ. SHAFT X 3-1/2' LENGTH, GALVANIZED STEEL, CHANCE #12655, JOSLYN #J23378.3 OR APPROVED EQUAL.
G. ADAPTER - DOUBLE EYE FOR 1-1/2" SQUARE SHAFT, GALVANIZED STEEL, CHANCE #C102-0024, JOSLYN #J23365 OR APPROVED EQUAL.
H. GUY GUARD - PLASTIC, 1-1/2" X 2" X 8', YELLOW, FOR USE ON 5/8" GUY WIRE.
I. PREFORMED GRIP - FOR 5/8" 1x7 EHS GALVANIZED STEEL GUY WIRE.
K. INSULATOR - INSULATOR STRAIN, FIBERGLASS, 1/8" X 96", MIN STRENGTH 30,000 LBS, CLEVIS-CLEVIS END FITTINGS, ONE SHEAVE WHEEL, JOSLYN # 300-96, ANDERSON #APF396R OR APPROVED EQUAL.

INSTALLATION:

- A. THE ANCHOR MUST PENETRATE INTO SOIL STIFF ENOUGH FOR THE REQUIRED HOLDING STRENGTH. ADDITIONAL ANCHOR EXTENSIONS SHALL BE INSTALLED AS NECESSARY TO REACH SUFFICIENTLY STIFF SOILS.
B. THE DIGGER OPERATOR SHALL MAINTAIN CONSTANT DOWNWARD PRESSURE ON THE ANCHOR AS IT IS INSTALLED SUCH THAT FOR EACH REVOLUTION OF THE ANCHOR DURING INSTALLATION THE ANCHOR ADVANCES AT A RATE EQUAL TO THE PITCH OF THE ANCHOR'S HELIX.
C. UNIFORM ADVANCEMENT OF THE ANCHOR IS NECESSARY TO SCREW THE ANCOR INTO THE SOIL. TURNING THE ANCHOR WITHOUT ADVANCEMENT WILL HAVE A NEGATIVE IMPACT ON THE ANCHOR'S HOLDING CAPABILITIES.
D. ANCHORS AND EXTENSIONS SHALL BE INSTALLED IN LINE WITH GUY WIRE. THE DIFFERENCE BETWEEN THE ANGLE OF ANCHOR INSTALLATION AND GUY ANGLE SHALL NOT EXCEED +/- 5 DEGREES. ANCHORS MUST BE INSTALLED A MINIMUM OF 6 FEET AS MEASURED ALONG THE ANCHOR EXTENSION.
F. ANCHOR EXTENSION RODS SHOULD BE INSTALLED SO THAT THE ANCHOR EYE IS 6 TO 12 INCHES ABOVE GRADE.
G. MULTIPLE ANCHOR INSTALLATIONS SOULD BE SEPARATED BY A MINIMUM FO 5 FEET.
H. THE ANCHOR SHALL BE INSTALLED APPROXIMATELY 25 FEET FROM THE POLE, OR AS INDICATED ON THE DRAWINGS. WHEN AN ANCHOR MUST BE MOVED DUE TO AN OBSTRUCTION, EVERY EFFORT SHOULD BE MADE TO MOVE IT FURTHER FROM THE POLE THAN SPECIFIED.
I. THE GUY PLATE SHALL BE INSTALLED ON THE POLE AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER. THE GUY PLATE SHALL BE BOLTED TO THE POLE USING PRE-DRILLED HOLES. WHEN NEW HOLES MUST BE DRILLED INT HE POLE, THE NEW HOLES SHALL BE TREATED TO PREVENT DECAY OF THE WOOD POLE.
J. THE FIBERGLASS GUY INSULATOR SHALL ATTACH TO THE GUY PLATE WITH A 3/4" CLEVIS PIN WHICH IS SECURED WITH A COTTER PIN.
K. ADDITIONAL FIBERGLASS GUY INSULATORS MAY BE REQUIRED FOR ADEQUATE CLEARANCE. WHEN CONNECTING THE INSULATORS BACK TO BACK USE A 90 DEGREE FIGURE 8 LINK.
L. GUY WIRES MUST BE INSTALLED BEFORE LINE CONDUCTORS ARE INSTALLED. GUY WIRES SHALL BE PULLED TAUT BY MEANS OF A HOIST UNTIL THE POLE IS PULLED OVER SLIGHTLY TOWARD THE GUY.
M. PREFORMED GUY GRIPS SHALL BE USED TO TERMINATE THE GUY STRAND TO THE FIBERGLASS GUY INSULATOR AND ANCHOR ADAPTER. THE ENDS OF THE GRIPS ARE WRAPPED AROUND THE GUY STRAND AND SNAPPED INTO POSITION COMPLETING THE INSTALLATION.
N. THE GUY GUARD SHALL BE INSTALLED OVER THE GROUND WIRE FROM A POINT NEAR THE GROUND.
O. THIS ITEM SHALL INCLUDE ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE POLE GROUNDING IN A COMPLETE AND WORKMANLIKE MANNER.

DESIGN AGENCY

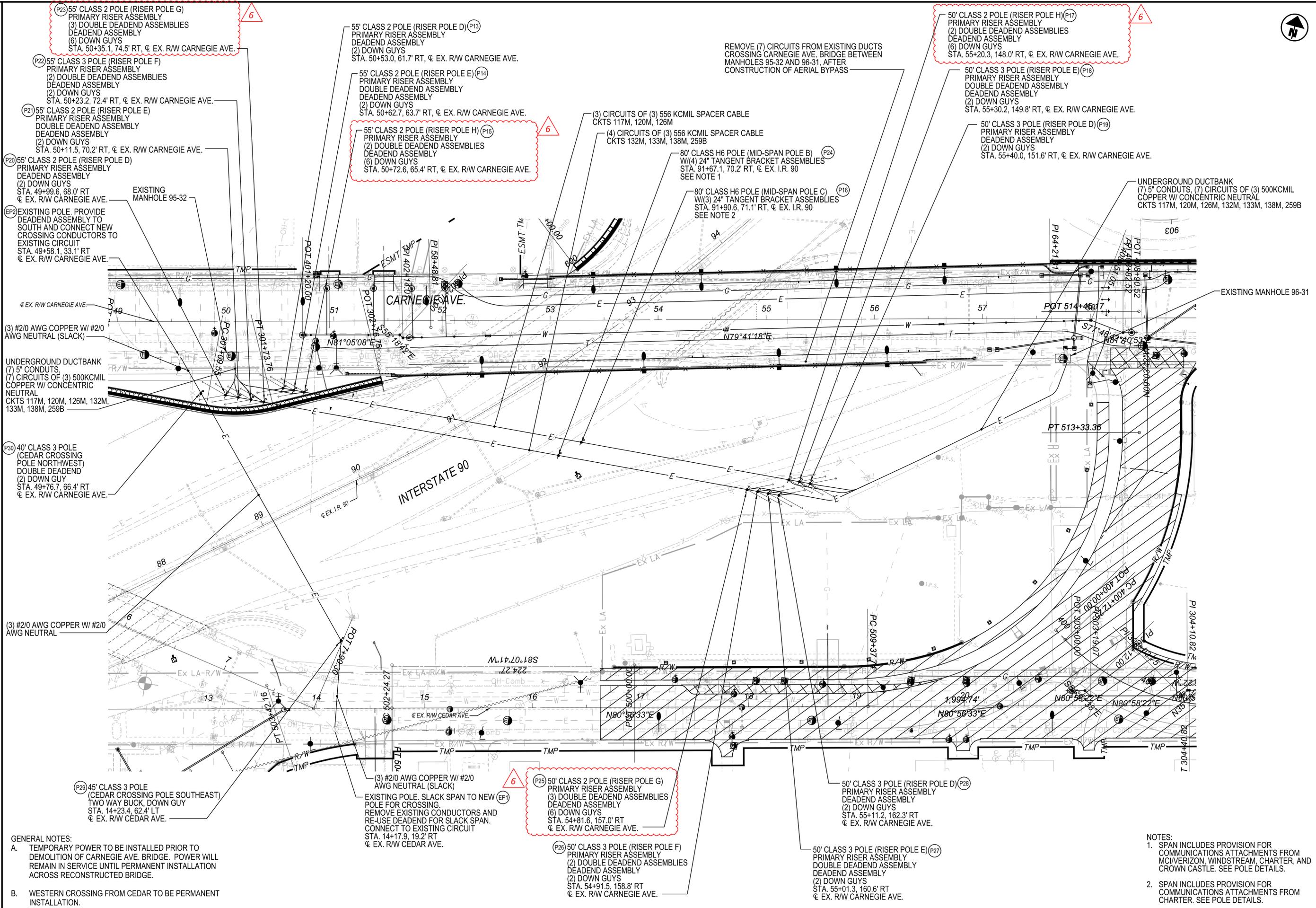


DESIGNER JCS

REVIEWER WH 05/17/24

PROJECT ID 82382

SHEET TOTAL 1779 2696



GENERAL NOTES:

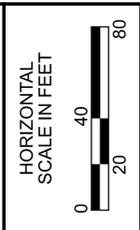
A. TEMPORARY POWER TO BE INSTALLED PRIOR TO DEMOLITION OF CARNEGIE AVE. BRIDGE. POWER WILL REMAIN IN SERVICE UNTIL PERMANENT INSTALLATION ACROSS RECONSTRUCTED BRIDGE.

B. WESTERN CROSSING FROM CEDAR TO BE PERMANENT INSTALLATION.

NOTES:

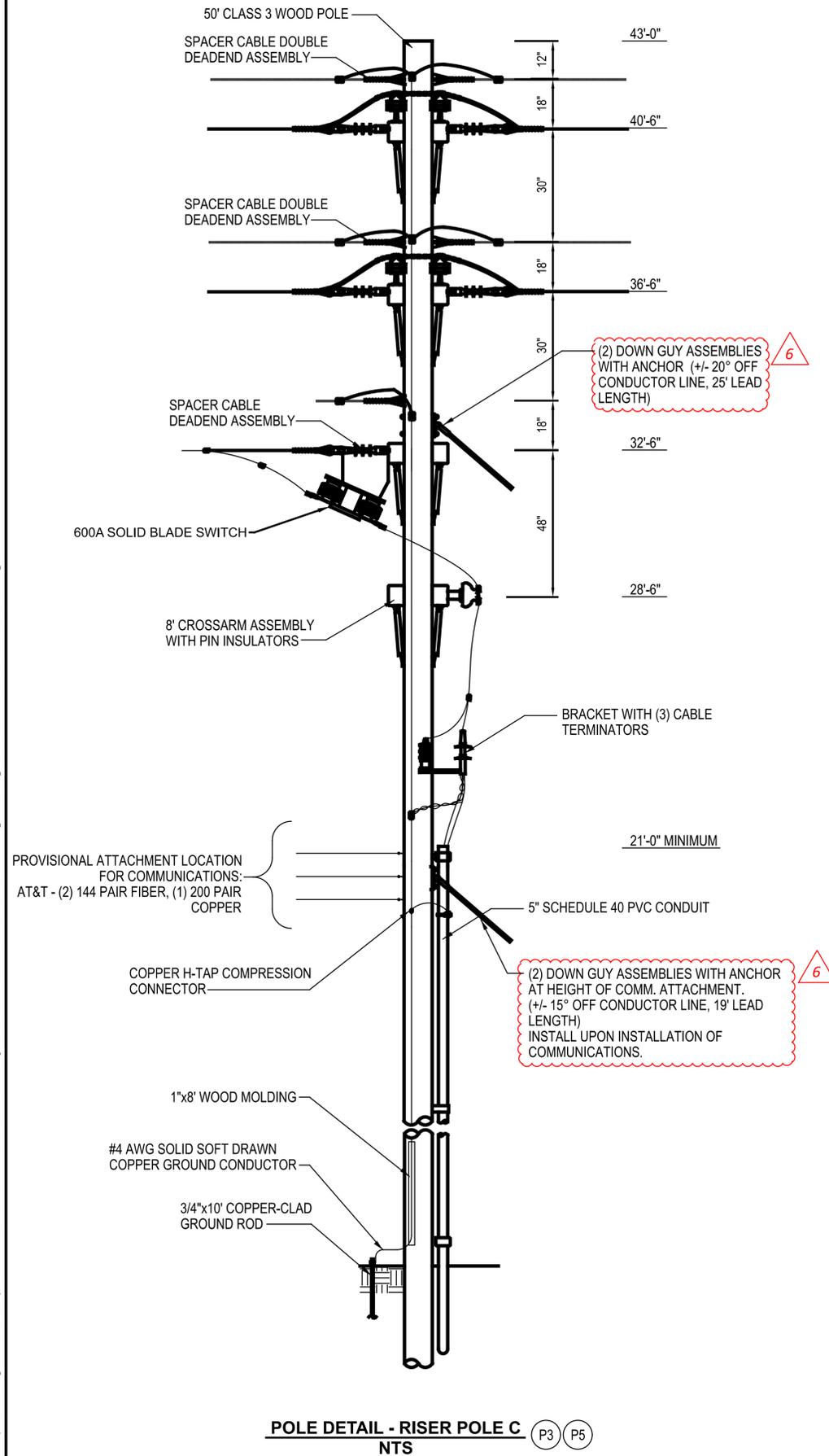
1. SPAN INCLUDES PROVISION FOR COMMUNICATIONS ATTACHMENTS FROM MCIVERIZON, WINDSTREAM, CHARTER, AND CROWN CASTLE. SEE POLE DETAILS.

2. SPAN INCLUDES PROVISION FOR COMMUNICATIONS ATTACHMENTS FROM CHARTER. SEE POLE DETAILS.

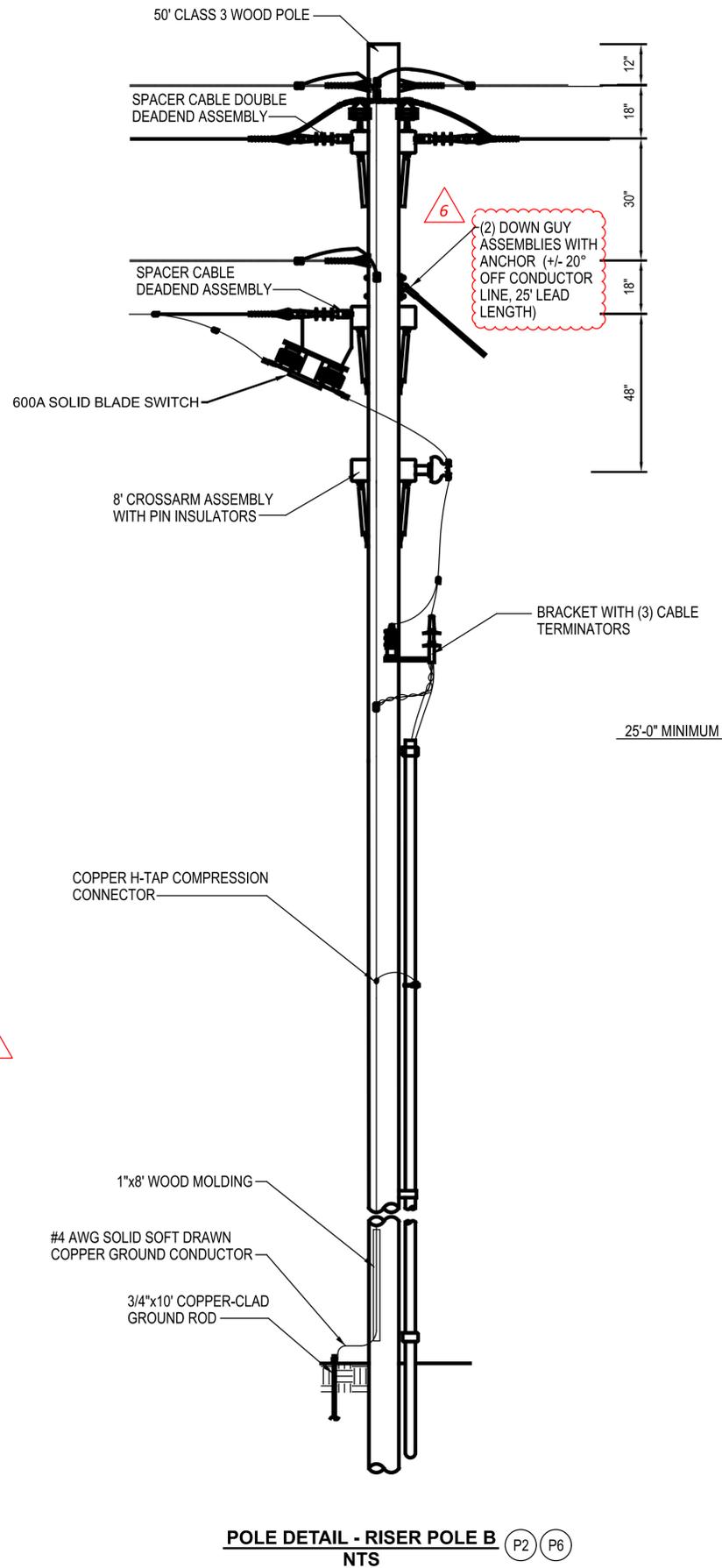


CLEVELAND PUBLIC POWER
 TEMPORARY POWER SCHEMATIC PLAN
 CARNEGIE AVE. BRIDGE REPLACEMENT

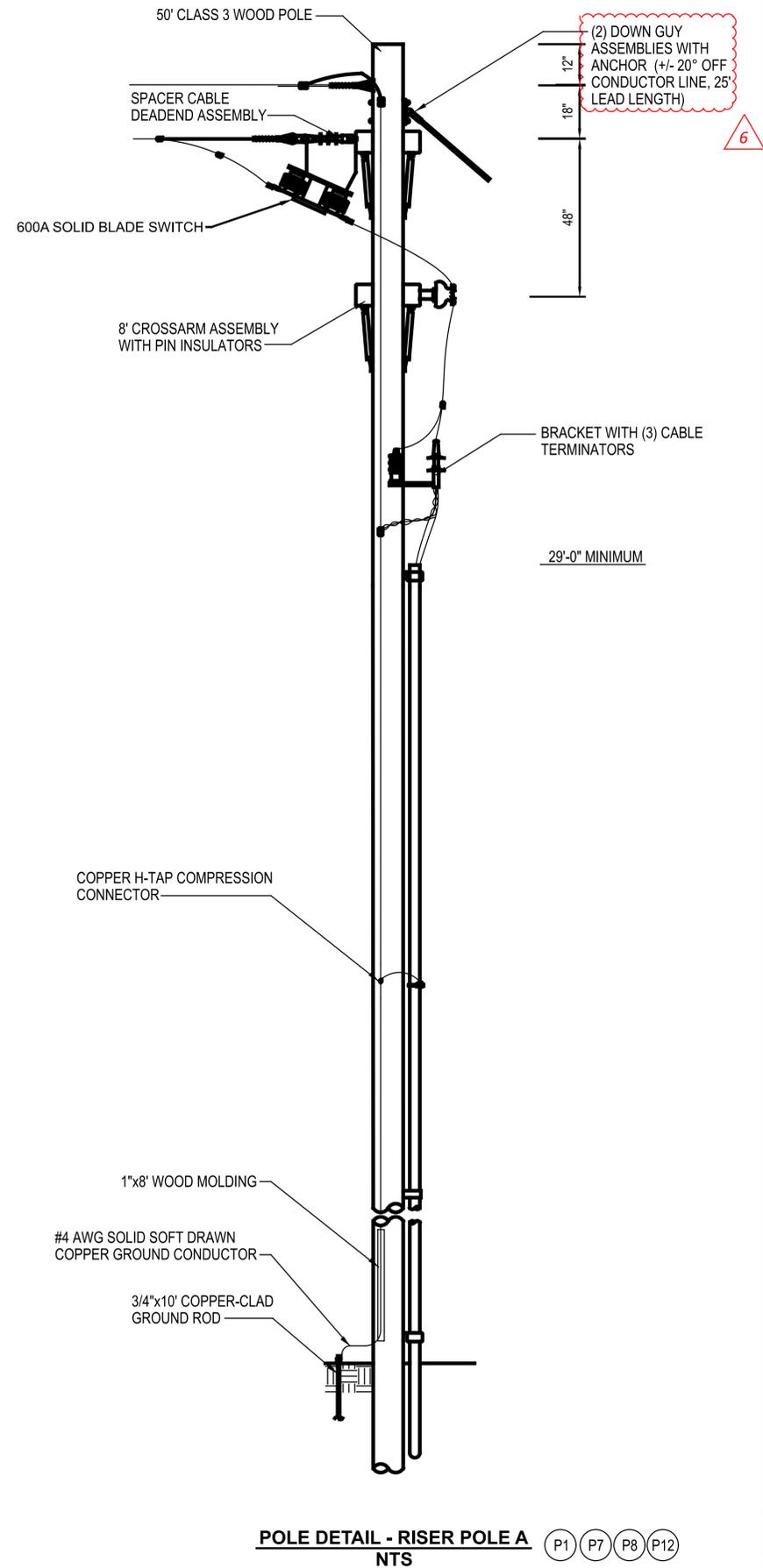
DESIGN AGENCY	
AFC ADVANCED ENGINEERING CONSULTANTS	
DESIGNER	
JCS	
REVIEWER	
WH 05/17/24	
PROJECT ID	
82382	
SHEET	TOTAL
1784	2696



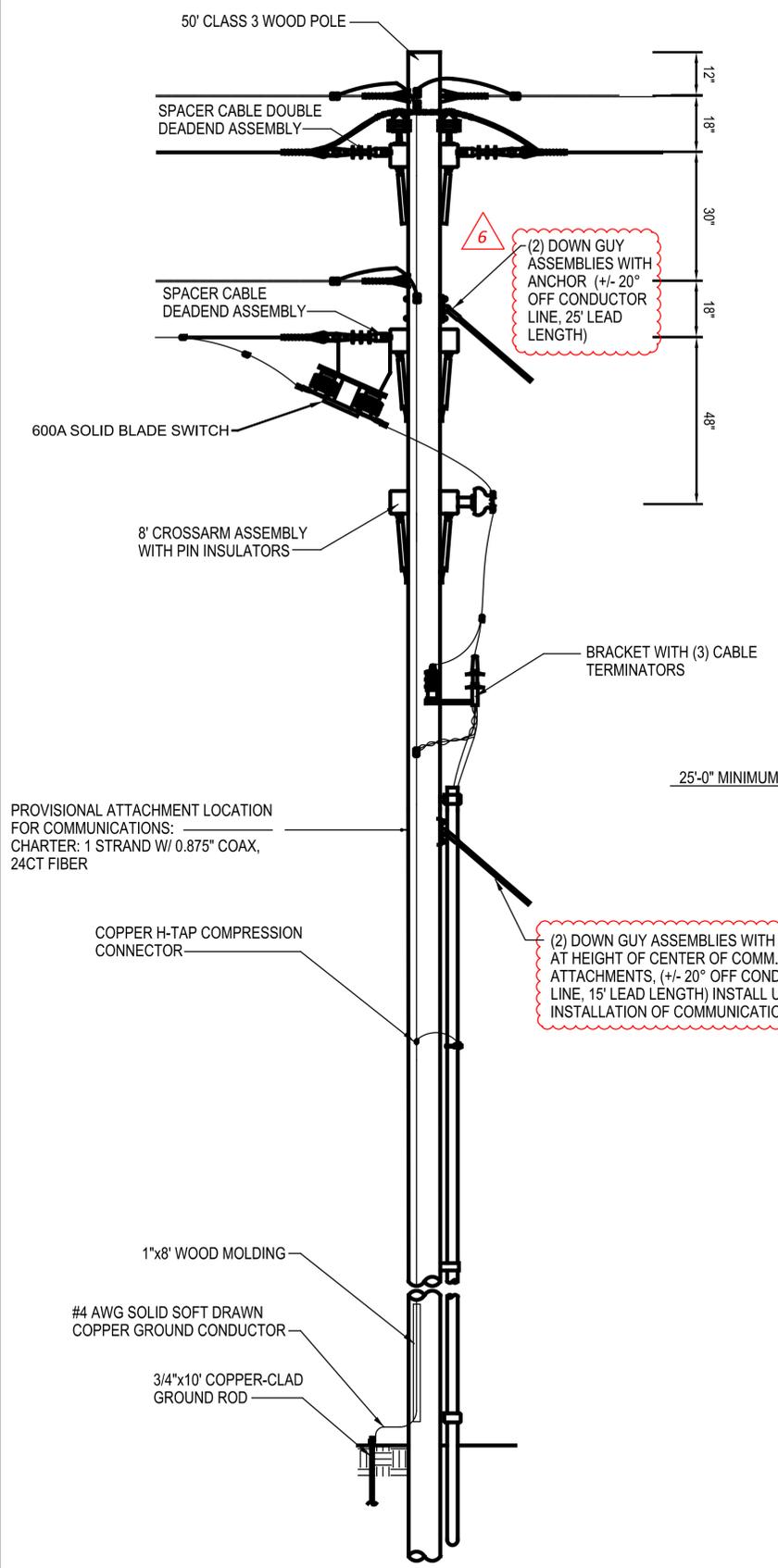
POLE DETAIL - RISER POLE C (P3 P5)
 NTS



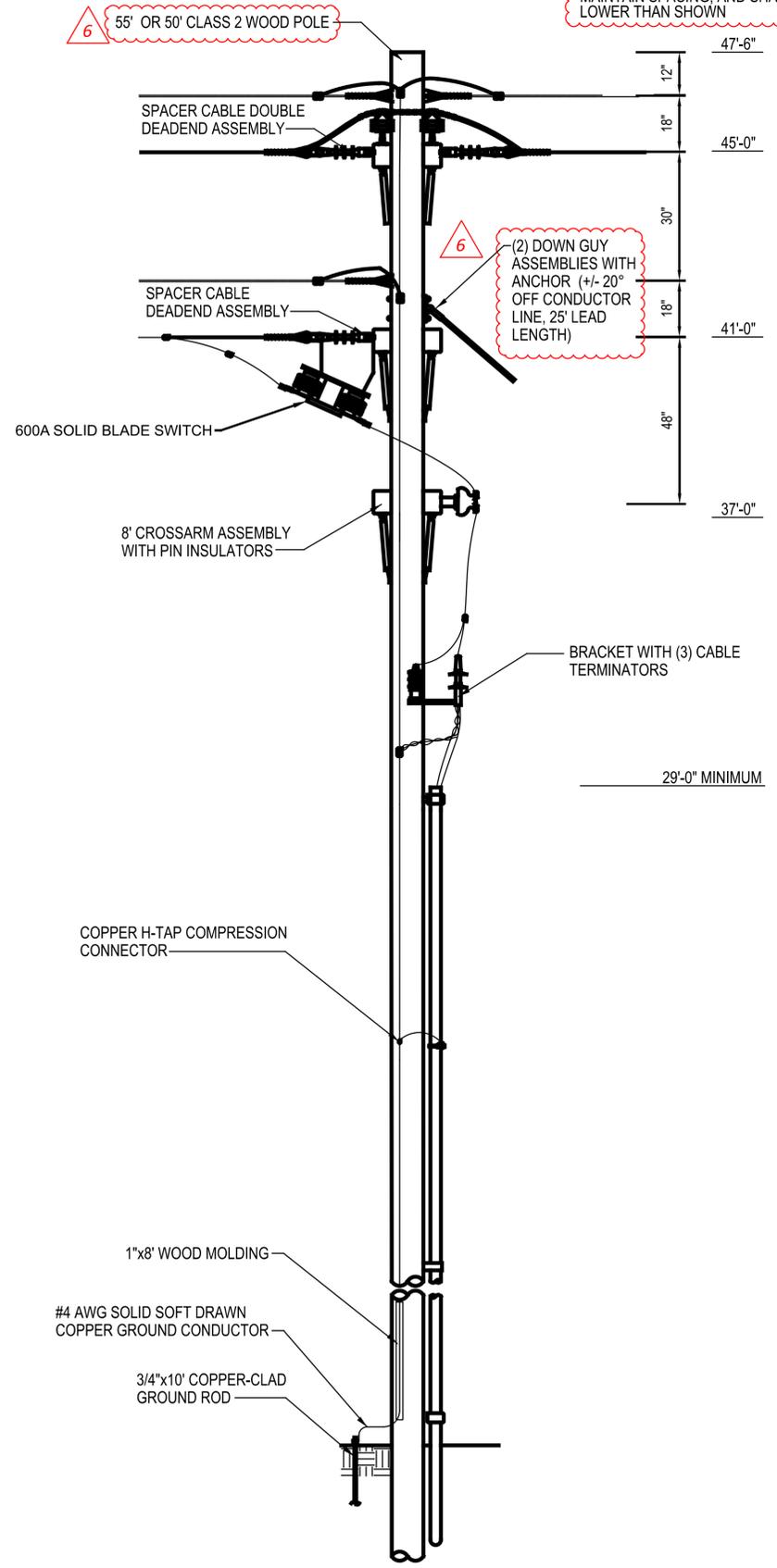
POLE DETAIL - RISER POLE B (P2 P6)
 NTS



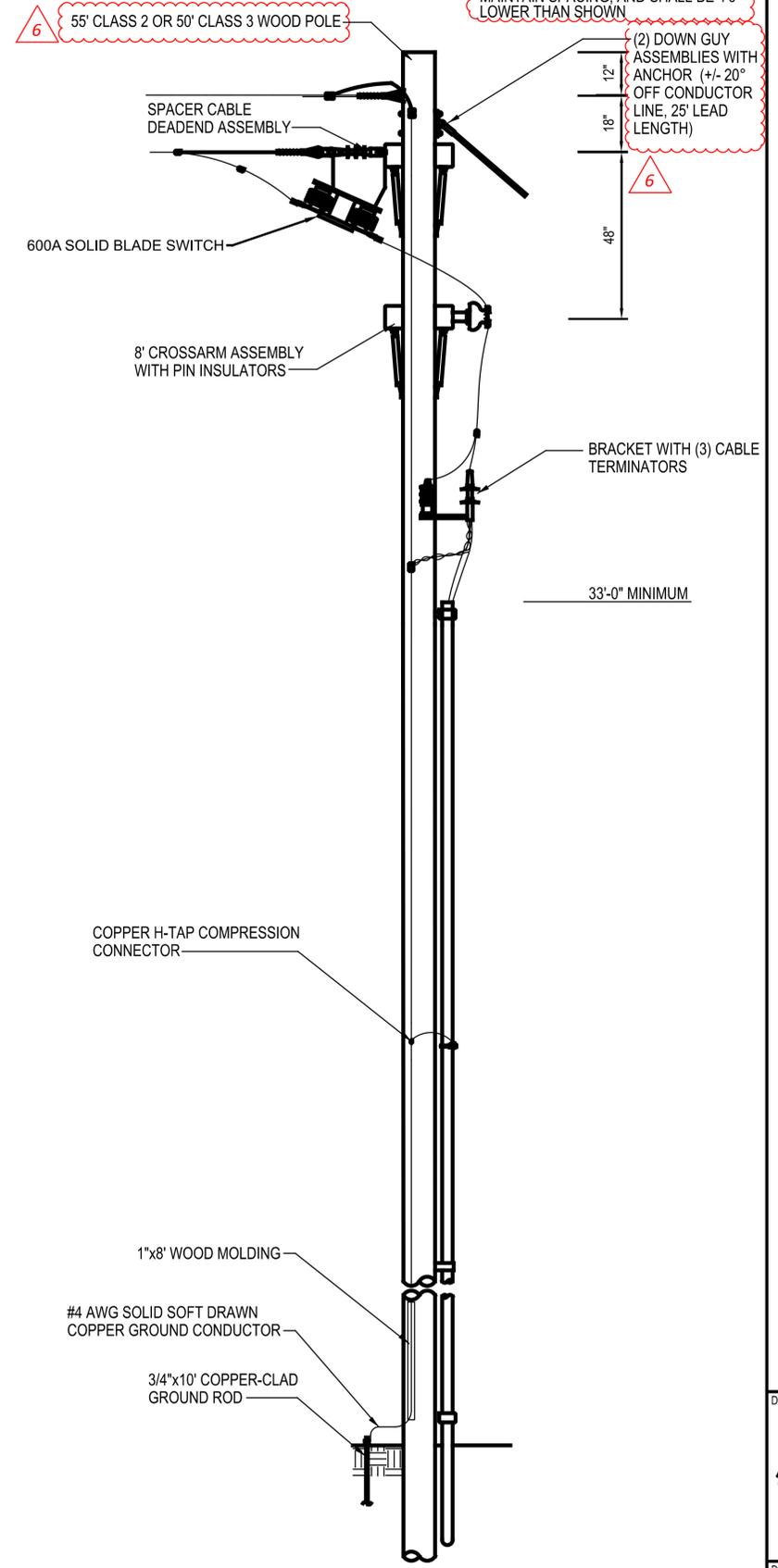
POLE DETAIL - RISER POLE A (P1 P7 P8 P12)
 NTS



POLE DETAIL - RISER POLE BR (P9) (P11)
 NTS



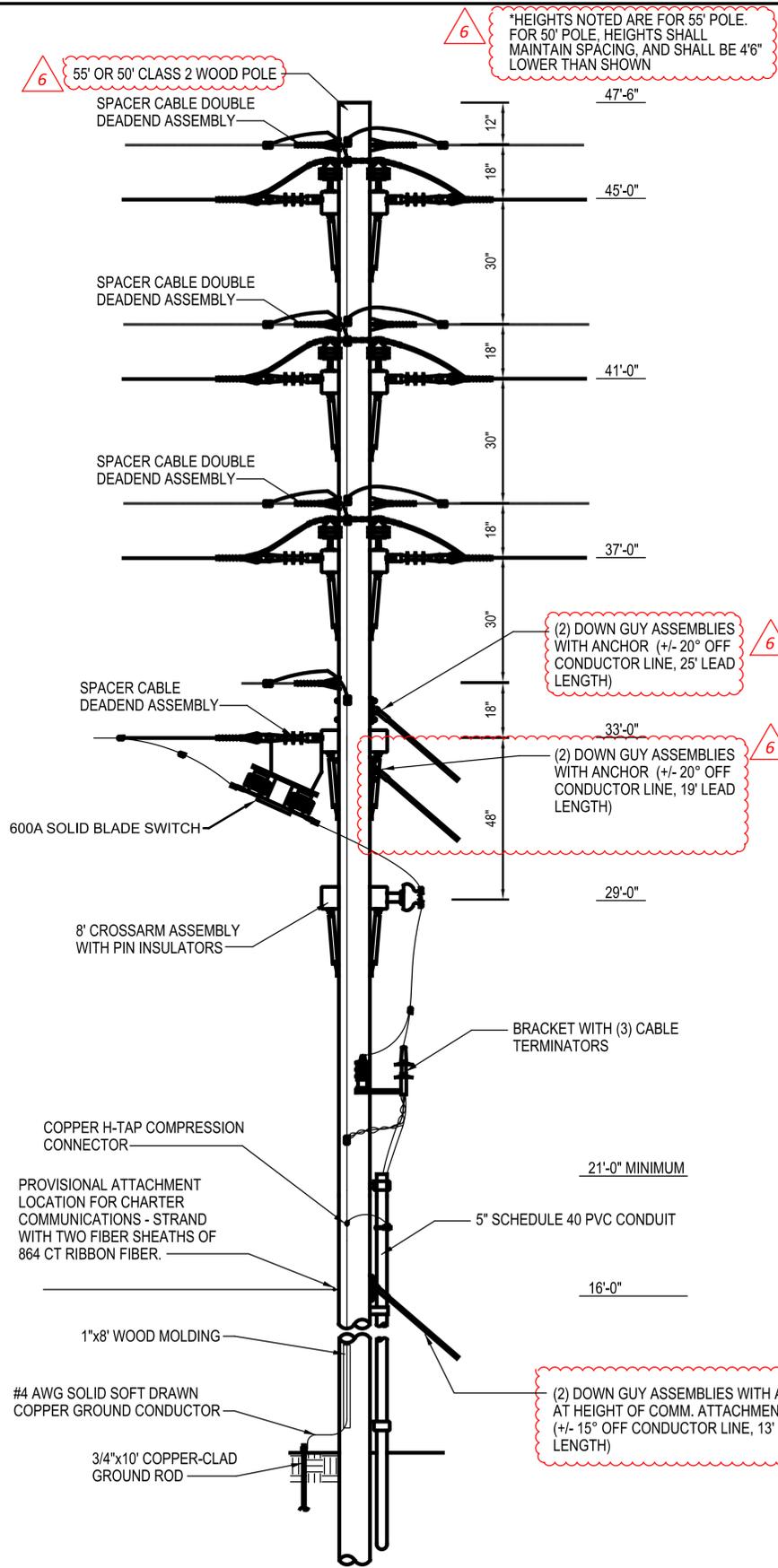
POLE DETAIL - RISER POLE E (P14) (P18) (P21) (P27)
 NTS



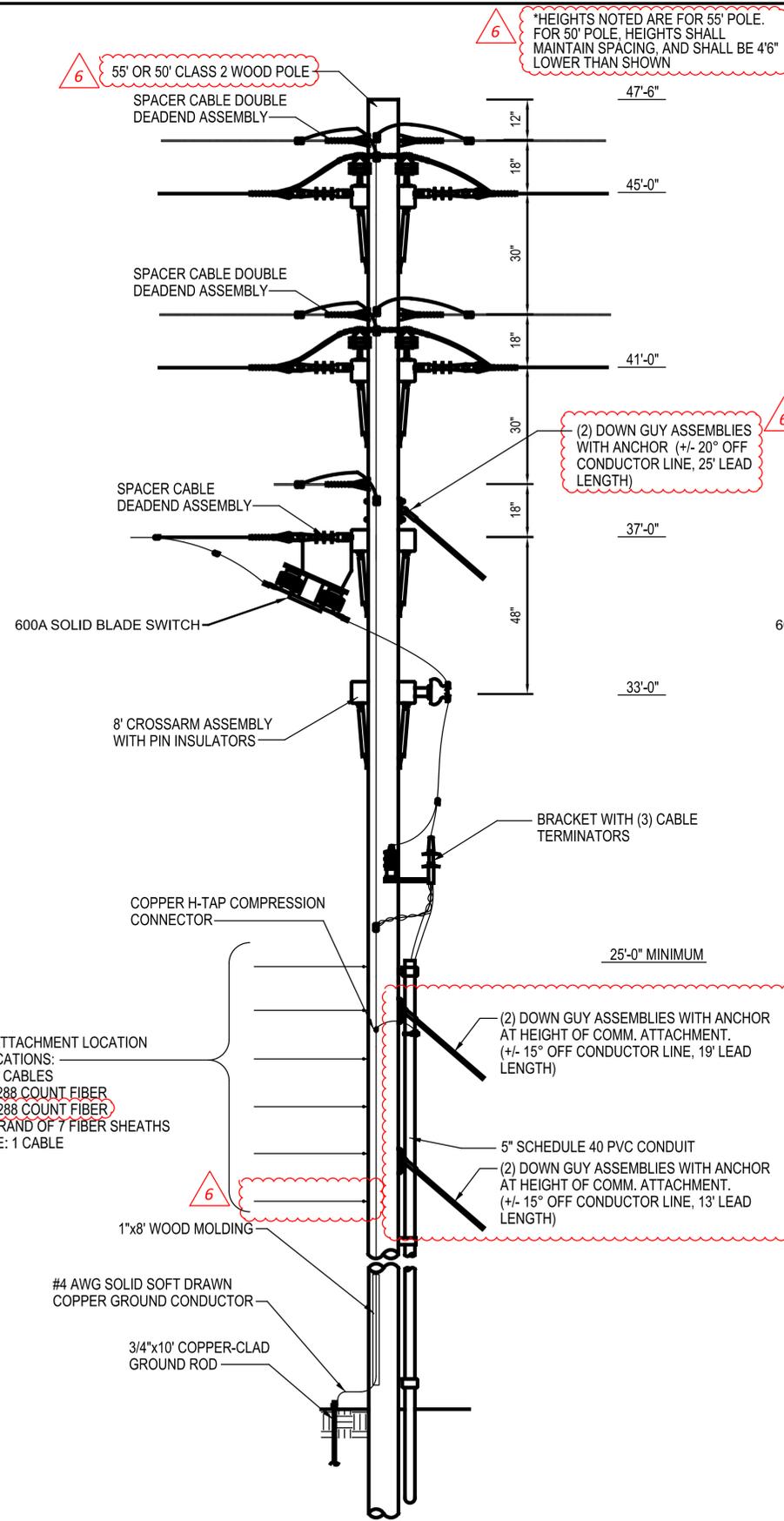
POLE DETAIL - RISER POLE D (P13) (P19) (P20) (P28)
 NTS

CLEVELAND PUBLIC POWER
 POLE DETAILS
 22ND ST & CARNEGIE AVE. TEMPORARY RELOCATION

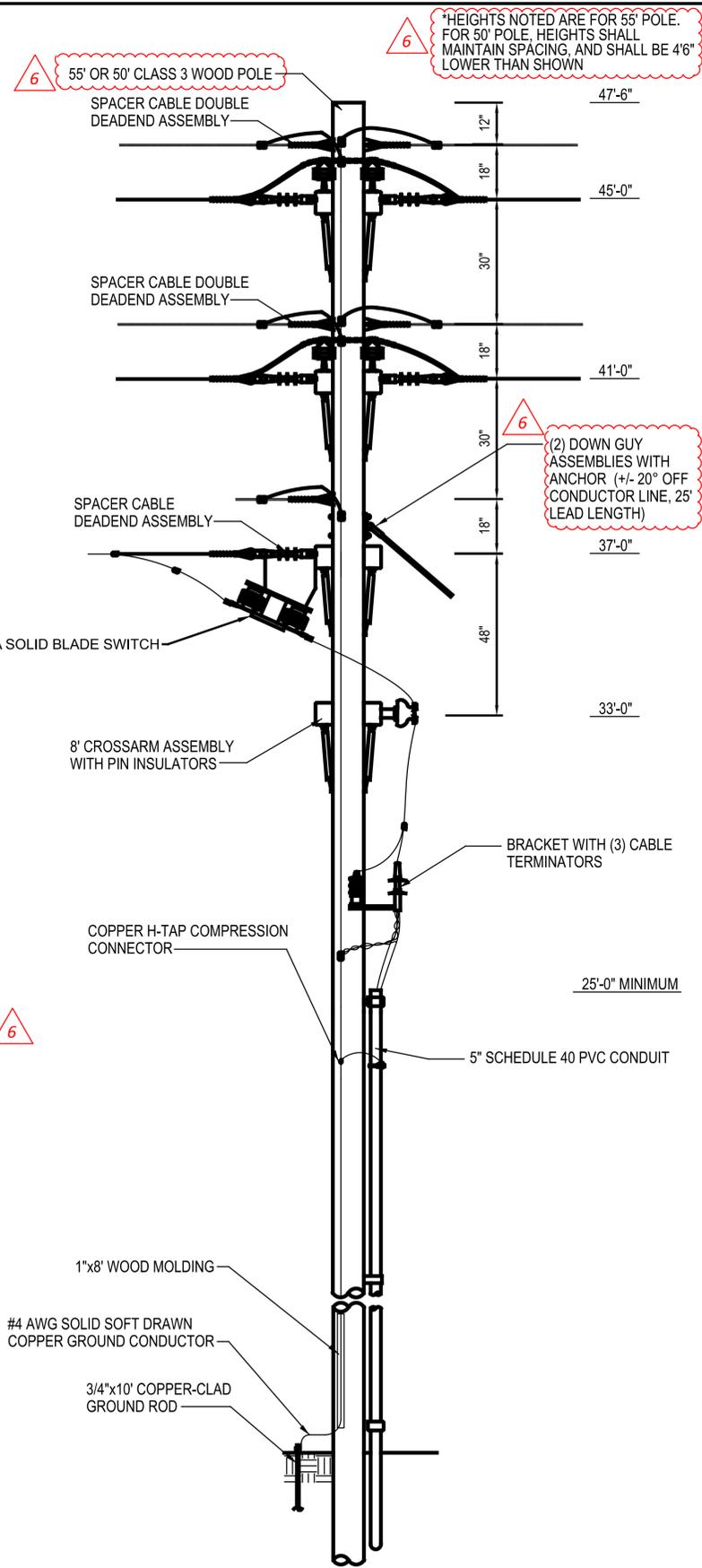
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DESIGNER	JCS
REVIEWER	WH
DATE	05/17/24
PROJECT ID	82382
SHEET TOTAL	1792 2696



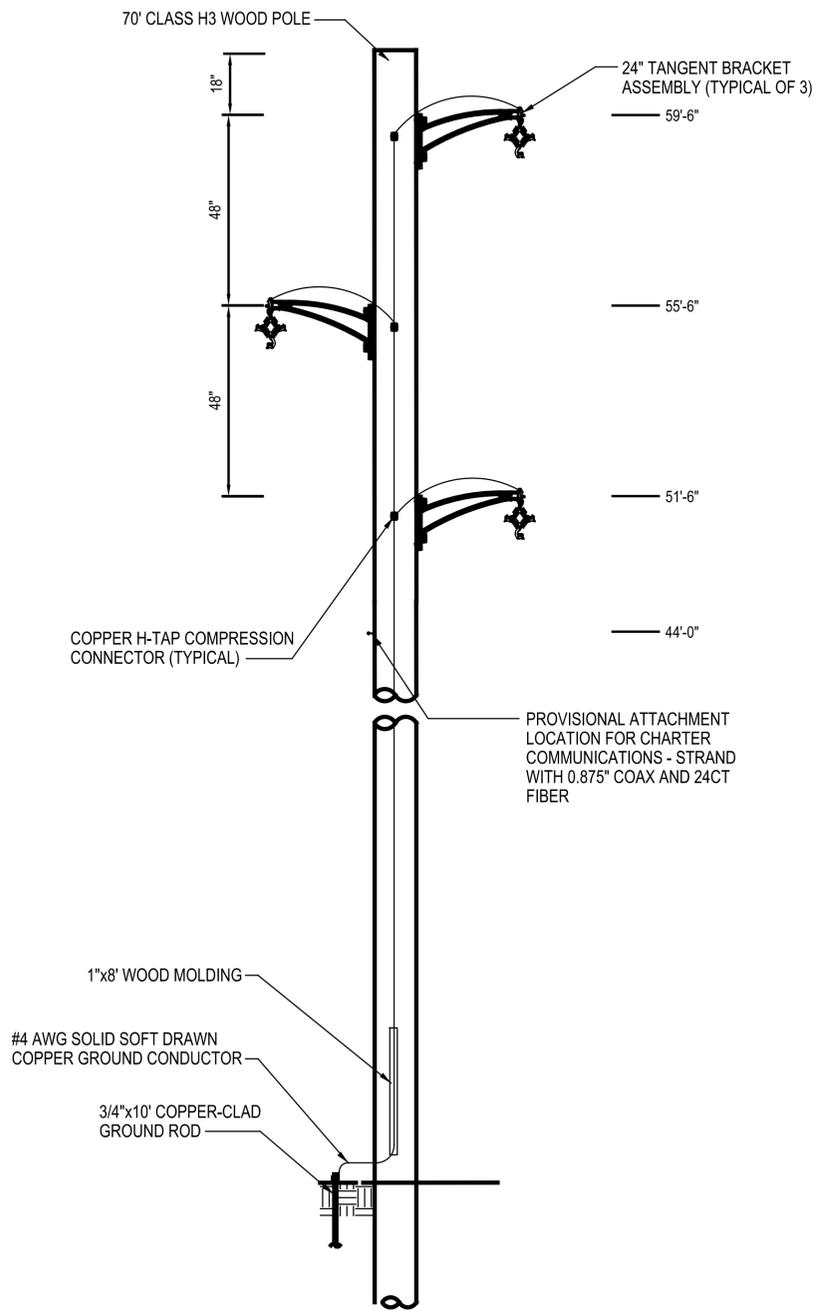
POLE DETAIL - RISER POLE G
NTS P23 P25



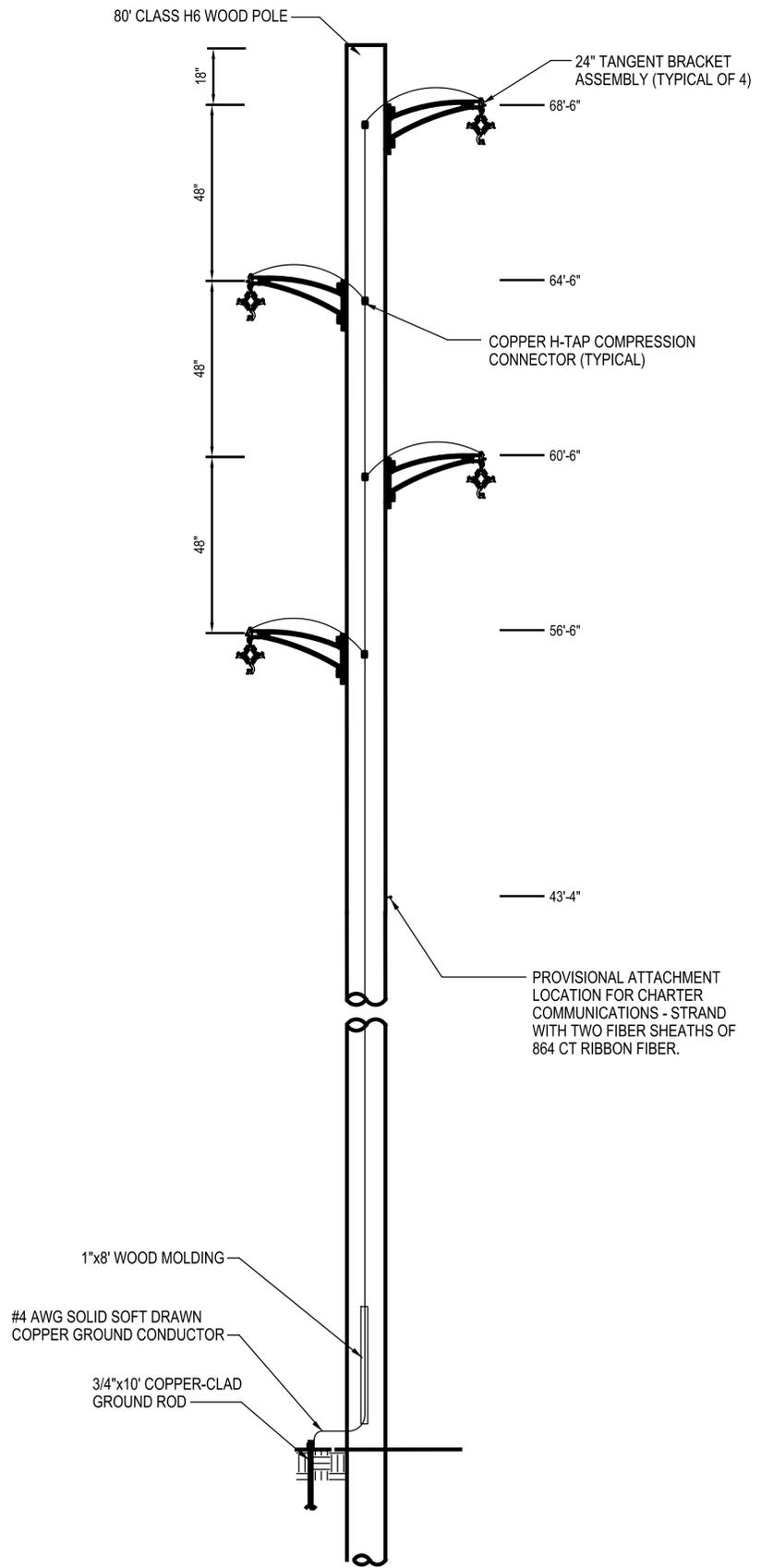
POLE DETAIL - RISER POLE H
NTS P15 P17



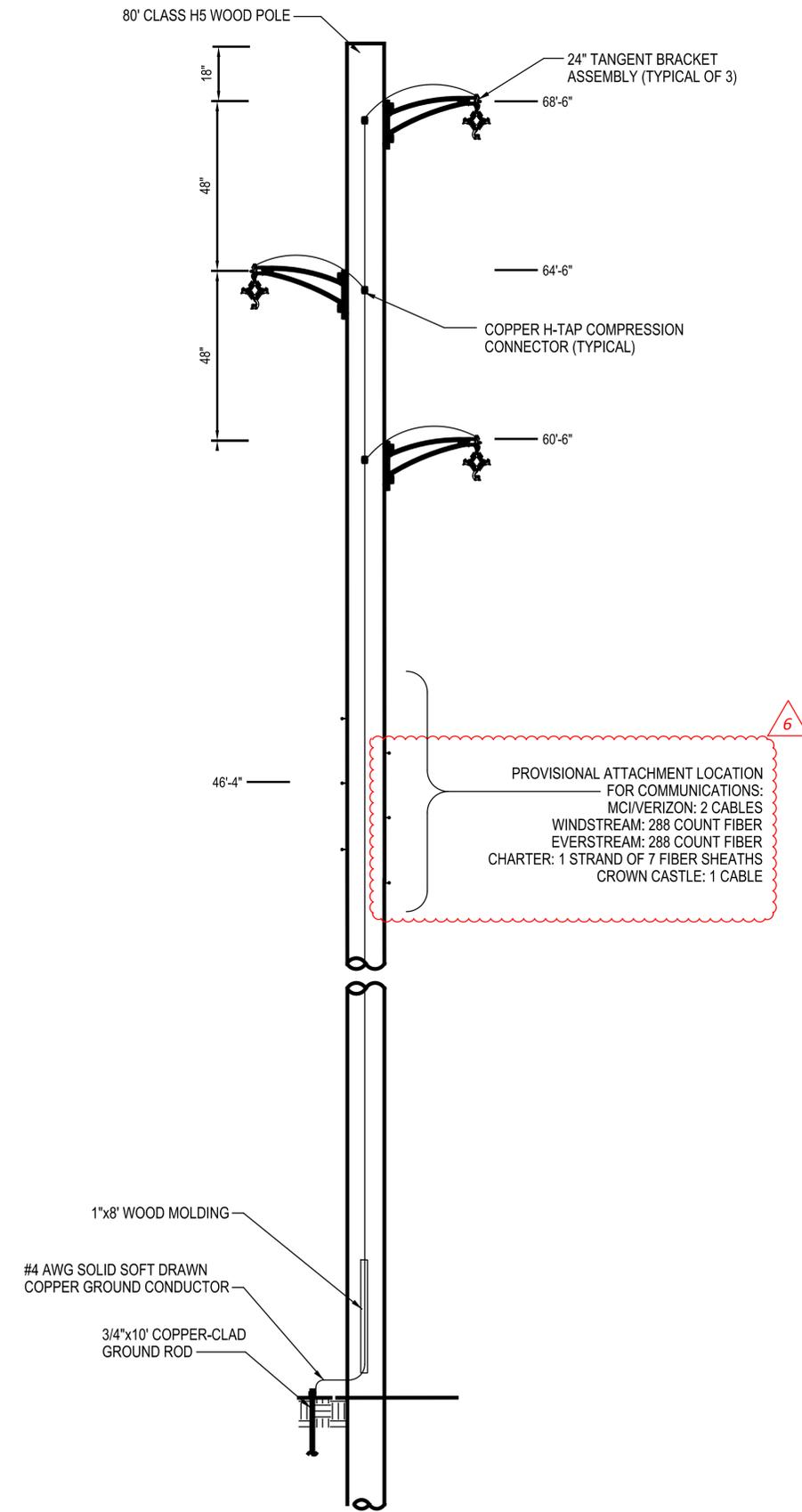
POLE DETAIL - RISER POLE F
NTS P22 P26



POLE DETAIL - MID-SPAN POLE A (22ND ST) NTS P4



POLE DETAIL - MID-SPAN POLE B (CARNEGIE) NTS



POLE DETAIL - MID-SPAN POLE C (CARNEGIE) NTS

CLEVELAND PUBLIC POWER
 POLE DETAILS
 22ND ST. AND CARNEGIE AVE. MID-SPAN POLES

DESIGN AGENCY



DESIGNER
 JCS

REVIEWER
 WH 05/17/24

PROJECT ID
 82382

SHEET TOTAL
 1794 2696

ITEM 451 - REINFORCED CONCRETE MISC.: INTEGRALLY COLORED CONCRETE CROSSWALK

CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, LABOR, SUBMITTALS, MEETINGS AND INCIDENTALS FOR A COMPLETE AND FUNCTIONING CONCRETE CROSSWALK AS PER ITEM 451, DRAWINGS, SPECIFICATIONS AND THE FOLLOWING.

CONTRACTOR SHALL SUBMIT PRODUCT DATA FOR EACH DECORATIVE CEMENT CONCRETE PAVEMENT MIXTURE AND CONCRETE COLOR SAMPLES AT LEAST 4-INCHES BY 4-INCHES IN SIZE TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTING MOCK UP OR ORDERING CONCRETE. INCLUDE ALTERNATE MIXTURE DESIGNS WHEN CHARACTERISTICS OF MATERIALS, PROJECT CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT ADJUSTMENTS.

COLOR CONCRETE PIGMENT SHALL BE ASTM C 979, SYNTHETIC MINERAL-OXIDE PIGMENTS OR COLORED WATER REDUCING ADMIXTURES; COLOR SHALL BE STABLE, NONFADING, AND RESISTANT TO LIME AND OTHER ALKALIS. COLOR SHALL BE INTEGRALLY MIXED WITH THE CONCRETE. INTEGRAL CONCRETE COLOR BASIS OF DESIGN IS L.M. SCOFIELD'S CHROMIX 1017 BARCELONA BROWN.

CONCRETE PIGMENT APPROVED MANUFACTURERS ARE:

1. INCRETE SYSTEMS INC.
2. L.M. SCOFIELD COMPANY.
3. SOLOMON COLORS.

LIQUID RELEASE AGENTS SHALL BE MANUFACTURER'S STANDARD CLEAR, EVAPORATING FORMULATION THAT FACILITATES RELEASE OF STAMP MATS AND TEXTURE ROLLERS. APPROVED PRODUCTS AND MANUFACTURES ARE:

1. ARTCRETE, INC.: FAUX BRICK LIQUID RELEASE AGENT.
2. BON TOOL CO.: LIQUIFORM RELEASE AGENT.
3. DECORATIVE CONCRETE SUPPLY INC.: DECOSUP LIQUID RELEASE.
4. INCRETE SYSTEMS INC.: LIQUID RELEASE.
5. RAFCO PRODUCTS; BRICKFORM LIQUID RELEASE AGENT.
6. SOUTHERN COLOR COMPANY, INC.; CLEAR LIQUID RELEASE AGENT.
7. SUPERSTONE, INC.; BUBBLE GUM LIQUID RELEASE.
8. SYMONS CORPORATION; CLEAR LIQUID RELEASE.

CONTRACTOR SHALL SEAL CROSSWALKS. SEALANT SHALL BE CLEAR ACRYLIC SEALER. APPLY UNIFORMLY IN TWO COATS IN CONTINUOUS OPERATIONS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. ALLOW FIRST COAT TO DRY BEFORE APPL YING SECOND COAT, AT 90-DEGREES TO THE DIRECTION OF THE FIRST COAT USING SAME APPLICATION METHOD AND RATE.

BEGIN SEALING DRY SURFACE NO SOONER THAN 28 DAYS AFTER CONCRETE PLACEMENT.

MOCK UP ONE SAMPLE PER ITEM SPECIAL - INTEGRALLY COLORED CONCRETE CROSSWALK MOCK UP

THIS ITEM INCLUDES ALL LABOR, EQUIPMENT, TOOLS, SUBMITTALS, INCIDENTALS AND MATERIALS REQUIRED TO CONSTRUCT THE COMPLETE AND FUNCTIONING CONCRETE CROSSWALK INCLUDING THE CONCRETE HEADER, AS REQUIRED IN THIS SPECIFICATION AND SHOWN IN THE DRAWINGS, SHALL BE PAID UNDER THE UNIT PRICE OF ITEM 451 - REINFORCED CONCRETE, MISC.: INTEGRALLY COLORED CONCRETE CROSSWALK

REFER TO DETAIL ON SHEET 1848 FOR ADDITIONAL REQUIREMENTS

ITEM SPECIAL - INTEGRALLY COLORED CONCRETE CROSSWALK MOCK UP

THIS ITEM CONSISTS OF BUILDING A CAST-IN-PLACE MOCK UP OF THE INTEGRALLY COLORED/ BROOM FINISHED CONCRETE CROSSWALK FOR ENGINEERS REVIEW AND APPROVAL OF INTEGRAL COLOR AND BRUSH TEXTURE. UPON ENGINEERS APPROVAL OF FINISH AND COLOR SAMPLES SUBMITTED AS PER ITEM 451 - REINFORCED CONCRETE MISC.: INTEGRALLY COLORED CONCRETE CROSSWALK, CONTRACTOR SHALL CAST AND CONSTRUCT MOCK UP SECTION OF CROSSWALK TO DEMONSTRATE TYPICAL PATTERN, TEXTURE, SURFACE FINISH, COLOR, JOINTS, AND STANDARD OF WORKMANSHIP.

MOCK UP SHALL BE 36 BY 36 INCHES AND DEMONSTRATE TYPICAL PATTERN, TEXTURE, SURFACE FINISH, COLOR, JOINTS, AND STANDARD OF WORKMANSHIP OF ALL PORTIONS OF CROSSWALK. MOCK UP SHALL NOT INCLUDE AGGREGATE BASE OR WIRE/REBAR. BUILD MOCK UP IN THE LOCATION DIRECTED BY THE ENGINEER. THE MOCK UP SHALL BE REVIEWED BY THE ENGINEER FOR COLOR AND TEXTURE, AESTHETIC QUALITIES OF WORKMANSHIP, AND OTHER MATERIAL AND CONSTRUCTION QUALITIES.

IF DIRECTED BY THE ENGINEER, CONSTRUCT ONE ADDITIONAL MOCK UP TO ACHIEVE THE DESIRED RESULTS. DO NOT ORDER MATERIALS IN EXCESS OF MATERIALS REQUIRED TO CONSTRUCT THE MOCK UP. RETAIN AND MAINTAIN ACCEPTED SAMPLE PAVEMENT DURING CONSTRUCTION IN AN UNDISTURBED CONDITION AS A CRITERION FOR JUDGING THE ACCEPTANCE OF THE BEING PERFORMED. UPON COMPLETION OF THE PROJECT, REMOVE AND DISPOSE OF THE MOCK UP S PER CMS 202.

THIS ITEM INCLUDES ALL LABOR, EQUIPMENT, TOOLS, SUBMITTALS, INCIDENTALS AND MATERIALS REQUIRED TO CONSTRUCT AND DISPOSE OF THE MOCK UP(S), INCLUDING INTEGRALLY COLORED CONCRETE, CONCRETE CURING COMPOUND AND SEALER.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL - INTEGRALLY COLORED CONCRETE CROSSWALK MOCK UP 2 EACH



**ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 1)
 ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 2)
 ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 3)
 ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 4)**

THIS ITEM SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND AS PER ODOT 305, 452, AND 609. PAYMENT FOR THIS ITEM INCLUDES ALL EQUIPMENT, LABOR, AND MATERIAL FOR EXCAVATION, SUBGRADE COMPACTION, ITEM 304 AGGREGATE BASE COURSE, COMPACTION, ODOT 305 CONCRETE PAVER BASE (INCLUDING EXPANSION AND CONTROL JOINTS WITH FILLER, ODOT #2 DIA. PVC FORMED WEEP HOLES, INSTALLATION OF THE SAND SETTING BED, POLYMERIC SAND JOINT FILLER, GEOTEXTILE FILTER FABRIC, #9 STONE), AND ANY OTHER INCIDENTAL WORK RELATING TO THE COMPLETE IN PLACE INSTALLATION OF THE PAVERS OVER CONCRETE. FOR ADDITIONAL REQUIREMENTS, SEE DETAIL ON SHEET 1849

CONTRACTOR TO SUBMIT PAVER AND POLYMERIC SAND MATERIAL SAMPLES TO PROJECT ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION OF MOCK UP OR INSTALLATION. CONTRACTOR SHALL SUPPLY FOUR (4) REPRESENTATIVE FULL-SIZE SAMPLES OF PAVER, THAT INDICATE THE RANGE OF COLOR VARIATION AND TEXTURE EXPECTED IN THE FINISHED INSTALLATION. PROVIDE PAVERS WITHOUT FROGS, CHIPS, CRACKS, DISCOLORATIONS, CORES, OR OTHER DEFECTS IN SURFACES EXPOSED TO VIEW IN THE COMPLETED WORK. MIX PAVERS FROM SEVERAL PALLETS OR CUBES, AS THEY ARE PLACED, TO PRODUCE A UNIFORM BLEND OF COLORS AND TEXTURES. CUT PAVERS WITH A MOTOR-DRIVEN MASONRY SAW EQUIPMENT TO PROVIDE CLEAN, SHARP EDGES. USE FULL UNITS WITHOUT CUTTING WHERE POSSIBLE. HAMMER CUTTING IS NOT ACCEPTABLE. SET PAVER WITH JOINTS TO BE A MINIMUM OF 1/16" AND A MAXIMUM OF 1/8". DO NOT EXCEED 1/8" PAVER-TO-PAVER OFFSET FROM FLUSH NOR 1/8" INCH IN 10 FEET FROM INDICATED SLOPE FOR FINISHED SURFACE. INSTALL WEEP HOLES AS SHOWN ON DETAILS. ALL PAVERS SHALL HAVE BEVELED EDGE WITH SPACING LUGS. HANDLE AND COMPACT AND INSTALL BRICKS AS PER DRAWINGS AND MANUFACTURER'S RECOMMENDATIONS.

POLYMERIC SAND SHALL BE PLACED IN THE JOINTS AS SOON AS POSSIBLE AFTER FINAL PAVER SETTING. PAVER SURFACE SHALL BE COMPLETELY DRY AT THE TIME OF GROUTING. SPECIFIC POLYMERIC SAND PLACEMENT SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS. POLYMERIC SAND SHALL BE PLACED INTO JOINTS SO FINISH GRADE OF POLYMERIC SAND IS A MINIMUM OF 1/8" LOWER THAN PAVER SURFACE AND AS PER MANUFACTURER'S RECOMMENDED METHODS. ALL RESIDUAL SAND RESIDUE SHALL BE REMOVED FROM THE PAVER SURFACE PRIOR TO BEGINNING THE CURING PROCESS. THE CURING PROCESS FOR THE POLYMERIC SAND SHOULD BE PER THE MANUFACTURER'S SPECIFICATIONS. AFTER CURING PERIOD, EXCESS POLYMERIC SAND SHOULD BE REMOVED FROM EXPOSED PAVER SURFACES; WASH AND SCRUB CLEAN.

MOCK UP ONE SAMPLE FOR EACH BRICK STYLE PER
 ITEM SPECIAL - BRICK 1 PAVER MOCK UP
 ITEM SPECIAL - BRICK 2 PAVER MOCK UP
 ITEM SPECIAL - BRICK 3 PAVER MOCK UP
 ITEM SPECIAL - BRICK 4 PAVER MOCK UP

SUPPLIER CONTACT INFORMATION:	
<u>ENDICOTT CLAY PRODUCTS</u>	57120 707TH RD, ENDICOTT, NE 68350 (402) 729-3315 WWW.ENDICOTT.COM
<u>HANOVER ARCHITECTURAL PRODUCTS</u>	5000 HANOVER RD, HANOVER, PA 17331 (717) 637-0500 WWW.HANOVERPAVERSATHOME.COM
<u>UNILOCK PREMIER PAVERS</u>	12560 SHEETS RD, RITTMAN, OH 44270 (800) UNILOCK WWW.UNILOCK.COM
<u>WHITACRE GREER COMPANY</u>	1400 S. MAHONING AVE, ALLIANCE, OH 44601 (330) 823-5502 WWW.WGPAVER.COM

**ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 1)
 ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 2)
 ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 3)
 ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK 4) (CONT.)**

BRICK #1 (E. 22ND ST.)
 PAVER COLORS SHALL MATCH THE EAST 22ND STREETSCAPE TREATMENT BETWEEN CENTRAL AVE AND WOODLAND AVE.

ALT. 1:
 ENDICOTT CLAY PRODUCTS
 RUNNING BOND CLAY PAVER COLOR:
 RED BLEND
 SOLDIER COURSE CLAY PAVER COLOR:
 DARK IRONSPOT.
 THE STYLE FOR ALL CLAY PAVERS SHALL BE 4" X 8" LUGGED WITH A RELIEVED EDGE.

ALT. 2:
 WHITACRE GREER COMPANY
 RUNNING BOND CLAY PAVER PATTERN COLOR:
 BLENDED RATIO OF:
 CINNAMON #42 (35%)
 TANGERINE #43 (65%)
 SOLDIER COURSE CLAY PAVER COLOR:
 CIMMEREAN #53

BRICK #2 (BRIDGE 13 FIELD PAVER)

ALT. 1:
 UNILOCK PREMIER PAVERS
 RUNNING BOND, PERPENDICULAR TO ROADWAY
 6" X 12" X 7CM, TUSCANY

ALT. 2:
 HANOVER ARCHITECTURAL PRODUCTS
 RUNNING BOND, PERPENDICULAR TO ROADWAY
 PAVERS ON GRADE, COLOR: "MATRIX #1914"
 6" X 18" X 3", TUDOR #13 FINISH

BRICK #3 (BRIDGE 13 ACCENT PAVERS AT PILASTERS)

ALT. 1:
 UNILOCK SERIES PAVERS
 RUNNING BOND, PERPENDICULAR TO ROADWAY
 4" X 8" X 7CM, SERIES BLACK GRANITE

ALT. 2:
 HANOVER ARCHITECTURAL PRODUCTS
 RUNNING BOND, PERPENDICULAR TO ROADWAY
 PREST-BRICK, SOLID COLOR, "SUPER BLACK"
 4" X 8" X 3", NATURAL (NON-TUDOR) FINISH

BRICK #4 (FIELD PAVER OVER CONCRETE, NONSTRUCTURE)

ALT. 1:
 UNILOCK PREMIER PAVERS
 RUNNING BOND, PERPENDICULAR TO ROADWAY
 6" X 12" X 7CM, TUSCANY

ALT. 2:
 HANOVER ARCHITECTURAL PRODUCTS
 RUNNING BOND, PERPENDICULAR TO ROADWAY
 PAVERS ON GRADE, COLOR: "MATRIX #1914",
 6" X 18" X 3", TUDOR #13 FINISH

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER
 BDC

REVIEWER
 JCF 01/10/24

PROJECT ID
 82382

SHEET TOTAL
 1825 2696

GATEWAY MONUMENT SIGN

THE GATEWAY MONUMENT SIGN (SEE HARDSCAPE PLAN AND DETAILS) IS PAID UNDER THE FOLLOWING ITEMS:

1. ITEM 511 - CONCRETE, MISC.: CLASS QC SCC CONCRETE WITH QC/QA, GATEWAY MONUMENT SIGN, WALL
2. ITEM 511 - CLASS QC1 CONCRETE, MISC.: GATEWAY MONUMENT SIGN, FOUNDATION
3. ITEM 607 - FENCE, MISC.: GATEWAY MONUMENT SIGN SCREEN WALL PANELS
4. ITEM SPECIAL - GATEWAY SIGN ALUMINUM LETTERS
5. MOCK UPS:
 - I. ITEM SPECIAL - GATEWAY MONUMENT SIGN SCREEN WALL MOCK UP
 - II. ITEM SPECIAL - GATEWAY MONUMENT SIGN ARCHITECTURAL CONCRETE MIX MOCK UP

ITEM SPECIAL - GATEWAY SIGN ALUMINUM LETTERS
 CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, INCIDENTALS, AND INSTALLATION NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL GATEWAY SIGN ALUMINUM LETTERS AS SHOWN ON DRAWINGS. THIS ITEM INCLUDES ALL LABOR, EQUIPMENT, TOOLS, SUBMITTALS, INCIDENTALS AND MATERIALS REQUIRED TO CONSTRUCT THIS ITEM AND SHALL BE PAID BY EACH UNDER ITEM SPECIAL - GATEWAY SIGN ALUMINUM LETTERS.

CAST ALUMINUM, DEPTH 3/8" TO 1.5" (VARIES BY LETTER).

COLOR: BLACK FOX SW7020. 1/4-20 BOTTOM STUD ON EACH LETTER.

REFER TO DETAIL ON SHEET 1854 FOR LOCATION AND SPACING REQUIREMENTS.

ITEM 511 - CONCRETE, MISC.: CLASS QC SCC CONCRETE WITH QC/QA, GATEWAY MONUMENT SIGN, WALL

GENERAL

G-1 THE GATEWAY MONUMENT SIGN VERTICAL WALL AND PILASTERS SHALL RECEIVE A BUFF WASH FINISH WITH CLEAR SEALER (NON-EPOXY) PER THE LANDSCAPE PLANS AND DETAILS.

G-2 THIS ITEM APPLIES TO USE OF SELF-CONSOLIDATING CONCRETE FOR THE GATEWAY MONUMENT SIGN WALL TO IMPROVE CONCRETE CONSOLIDATION AND THE SURFACE FINISH OF ARCHITECTURAL CONCRETE ELEMENTS. USE AN APPROVED CONCRETE MIX DESIGN WITH MAXIMUM SIZE COARSE THAT DOES NOT EXCEED 3/4-INCH NOMINAL.

G-3 PRIOR TO PLACING ANY CONCRETE ELEMENTS UNDER THIS PAY ITEM, INCLUDING ANY VERTICAL PORTION OF THE CONCRETE GATEWAY MONUMENT SIGN WALL, THE CONTRACTOR SHALL CAST CONCRETE SAMPLE PANELS AS REQUIRED IN THE LANDSCAPE PLANS AND MEET THE APPROVAL STANDARDS THEREIN. CONFIRM, AND ADJUST IF NECESSARY, THE MIX DESIGN, PLACEMENT TECHNIQUES, AND BUFF WASH FINISH TO DEMONSTRATE SATISFACTORY RESULTS THROUGH THE SAMPLE PANELS.

G-4 THE FINAL APPROVED SAMPLE PANELS WILL SERVE AS A JOB SITE STANDARD FROM WHICH THE ACCEPTANCE OF ALL OTHER WORK WILL BE DETERMINED. THOSE SAMPLE PANELS DETERMINED BY THE ENGINEER TO BE UNSATISFACTORY IN TERMS OF CONFORMANCE TO THE QUANTITY AND REPRESENTATIVE APPEARANCE OF THE JOB STANDARD SAMPLE PANELS WILL BE REPAIR OR REPLACED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE PROJECT.

G-5 IN ADDITION TO THE REQUIREMENTS OF ITEM 499 SELF-CONSOLIDATING CONCRETE (QC -SCC) UNDER THE ITEM 511 WORK FOR STRUCTURAL POUR ELEMENTS REQUIRING ARCHITECTURAL FINISHES, PROVIDE QC PERSONNEL, ACI CERTIFIED IN THE SELF-CONSOLIDATING CONCRETE TESTING, TO PERFORM CONCRETE FIELD TESTS FOR THIS MATERIAL TO ENSURE A QUALITY MIX AND PLACEMENT ON THE SELF-CONSOLIDATING CONCRETE QC/QA WORK.

REINFORCING STEEL PER ODOT CMS 509 AND AS DESCRIBED HEREIN IS INCLUDED WITH ITEM 511 - CONCRETE, MISC.: CLASS QC SCC CONCRETE WITH QC/QA, GATEWAY MONUMENT SIGN, WALL.

REINFORCED CONCRETE

C-1 OPENING IN CONCRETE SLABS AND/OR CONCRETE WALLS MUST HAVE ADDITIONAL REINFORCEMENT. NUMBER AND SIZE OF REINFORCEMENT TO MATCH REINFORCEMENT INTERRUPTED BY OPENING (HALF TO EA SIDE). NO PENETRATIONS ARE PERMITTED THROUGH ANY CONCRETE BEAM, JOIST, COLUMN, PIER OR JAMB WITHOUT THE ENGINEER'S WRITTEN APPROVAL. PENETRATIONS MUST BE RE-ROUTED AS REQUIRED AT THESE LOCATIONS.

C-2 PENETRATIONS THROUGH CONCRETE SLABS AND/OR CONCRETE WALLS MUST BE PLACED DURING CONSTRUCTION OF THE WALL WITH THE APPROPRIATE SLEEVE.

C-3 PROVIDE BLOCK-OUTS FOR ART PANEL ANCHORAGE. FILL WITH CONCRETE ONCE PANEL IS IN PLACE.

C-4 ANCHOR RODS TO BE ASTM F 1554 Fy-36 KS MINIMUM, GALVANIZED, UNLESS NOTED OTHERWISE.

GATEWAY MONUMENT SIGN REINFORCING

STANDARD HOOKS IN TENSION PER (ACI 318-14)	
HOOK DEVELOPMENT LENGTH (REQ'D EMBEDMENT)	
Ldh (INCHES)	
BAR SIZE	f _c (4000 psi)
#3	8
#4	10
#5	12
#6	15
#7	17
#8	19
#9	22
#10	24
#11	27

- NOTES:
1. CONCRETE IS NORMAL WEIGHT CONCRETE.
 2. BAR YIELD STRENGTH, F_y = 60 ksi
 3. REDUCTION FACTORS BASED ON ACI 318 SECTION 25.4.3.2 FOR COVER, STIRRUPS, OR EXCESS REINFORCEMENT HAVE NOT BEEN APPLIED AND ARE ASSUMED TO NOT BE MET.
 4. ANY REDUCTION BASED ON FACTORS FROM ACI 318 SECTION 25.4.3.2 SHALL NOT REDUCE L_{dh} TO LESS THAN 8db OR 6"
 5. DEVELOPMENT LENGTHS LISTED ABOVE ARE TO BE MULTIPLIED BY 1.2 FOR COATED REINFORCEMENT AND/OR MULTIPLIED BY 1.33 FOR LIGHTWEIGHT CONCRETE

CONCRETE COVER SCHEDULE	
MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS (RE: ACI 318-14):	
FOOTINGS (EARTH FORMED)	3"
RETAINING WALLS (NO SURFACES SHALL BE EARTH FORMED) EARTH SIDE AND FRONT (EXPOSED TO WEATHER):	
#5 BAR & SMALLER	1 1/2"
#6 THRU #11 BAR	2"
NOTES:	
1. DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE.	
2. PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN MAINTAIN CONCRETE PROTECTION SPECIFIED.	

MINIMUM TENSION DEVELOPMENT LAP SPLICES (CLASS B) OF REINFORCING BARS (PER ACI 318)

BAR DESIGNATION	f _c = 4000 psi			
	TOP BARS		OTHER BARS	
	CASE 1	CASE 2	CASE 1	CASE 2
#3	25	37	19	28
#4	33	49	25	37
#5	41	61	31	47
#6	49	73	37	56
#7	71	106	54	81
#8	81	121	62	93
#9	91	136	70	105
#10	102	153	79	118
#11	114	170	87	131

- NOTES:
1. LAP SPlice LENGTH IS IN INCHES
 2. TABULATED VALUES ARE BASED ON A MINIMUM YIELD STRENGTH OF REINFORCEMENT OF F_y = 60 ksi
 3. CONCRETE IS NORMAL WEIGHT
 4. TOP BAR INDICATES HORIZONTAL REINFORCEMENT WHICH IS PLACED ABOVE 12" OR MORE OF FRESH CONCRETE.
 5. UNLESS NOTED OTHERWISE COLUMNS AND PIERS UTILIZE CLASS B LAP SPLICES
 6. DEVELOPMENT LENGTH OF AN UNLAPPED, OR CLASS A SPlice, BAR IS EQUAL TO VALUE FROM TABLE DIVIDED BY 1.3.
 7. FOR SLABS AND WALLS, CONTRACTOR MAY PROVIDED REDUCED SPlice LENGTHS IN ACCORDANCE WITH ACI 318 CHAPTER 25.
 8. FOR EPOXY COATED REINFORCEMENT OR LIGHTWEIGHT CONCRETE REFER TO ACI 318 CHAPTER 25.

	CASES FOR CLASS B LAP SPLICES	
	CASE 1	CASE 2
BEAMS OR COLUMNS	CASE 1	COVER ≥ 1 db AND C-C SPA > 2 db
	CASE 2	COVER < 1 db AND C-C SPA > 2 db
ALL OTHERS	CASE 1	COVER ≥ 1 db AND C-C SPA > 3 db
	CASE 2	COVER < 1 db AND C-C SPA > 3 db

ITEM 511 - CLASS QC1 CONCRETE, MISC.: GATEWAY MONUMENT SIGN, FOUNDATION

DESIGN CRITERIA

DC-1 BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC) 2015, AS AMENDED BY THE 2017 OHIO BUILDING CODE

DC-2 LATERAL LOAD DESIGN CRITERIA

- A. RISK CATEGORY II
- B. WIND DESIGN CRITERIA
1. BASIC DESIGN WIND SPEED (V) 115 MPH
 2. ALLOWABLE DESIGN WIND SPEED (V_{asd}) 90 MPH
 3. EXPOSURE CATEGORY D

C. SEISMIC DESIGN CRITERIA

1. SEISMIC IMPORTANCE FACTOR (I_e) 1.0
2. SITE CLASS D
3. SHORT PERIOD SPECTRAL ACCELERATION (S_s) 0.174g
4. ONE SECOND SPECTRAL ACCELERATION (S₁) 0.058g
5. SHORT PERIOD RESPONSE ACCELERATION (S_{DS}) 0.185g
6. ONE SECOND RESPONSE ACCELERATION (S_{D1}) 0.092g
7. SEISMIC DESIGN CATEGORY B

DC-3 FOUNDATION DESIGN CRITERIA

A. FOUNDATION DESIGN IS BASED UPON THE FOLLOWING SOIL PARAMETERS:

1. ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE:
 - A. SPREAD FOOTINGS 2000 PSF
 - B. CONTINUOUS FOOTINGS 2000 PSF
2. ASSUMED LATERAL EARTH PRESSURE PARAMETERS:
 1. SOIL DENSITY = 110 PCF
 2. COEFFICIENT OF ACTIVE PRESSURE (K_a) = 0.26
 3. COEFFICIENT OF AT-REST PRESSURE (K_o) = <0.60>
 4. COEFFICIENT OF PASSIVE EARTH PRESSURE (K_p) = <3.00>
 5. ANGLE OF INTERNAL FRICTION (φ) = 36 DEGREES
 6. COEFFICIENT OF FRICTION (u) = 0.4
 7. MODULUS OF SUB-GRADE REACTION (k_s) = 100 PCI
- C. FROST DEPTH: 36 INCHES

GENERAL

G-1 METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND IMPLEMENTING THE NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT EACH STAGE OF CONSTRUCTION.

G-2 TEMPORARY BRACING, SHEETING, SHORING, ETC, REQUIRED TO ENSURE THE STRUCTURAL INTEGRITY/STABILITY OF THE EXISTING BUILDINGS, SIDEWALKS, UTILITIES, ETC, DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER EMPLOYED BY THE CONTRACTOR.

G-3 IMPLEMENTATION OF JOB SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

G-4 WHEN NOT SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS, THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING SLEEVE AND BLOCK-OUT REQUIREMENTS FOR PENETRATIONS PRIOR TO FABRICATION OR ERECTION OF THE STRUCTURE. PENETRATIONS OF STRUCTURAL MEMBERS ARE SUBJECT TO APPROVAL BY THE ENGINEER. THE CONTRACTOR IS ALSO RESPONSIBLE FOR DETERMINING ANCHORAGE AND HANGER REQUIREMENTS REQUIRED FOR SUPPORTING EQUIPMENT, FINISHES, UTILITIES ETCETERA NOT INDICATED ON THE STRUCTURAL DRAWINGS.

G-5 DO NOT SCALE DRAWINGS.

6 **ITEM 511 - CLASS QC1 CONCRETE, MISC.:
 GATEWAY MONUMENT SIGN, FOUNDATION (CONT.)**

GENERAL (CONTINUED)

G-6 THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND COORDINATING DIMENSIONS AND INSTALLATION DETAILS OF PURCHASED EQUIPMENT WITH THE SUPPORTING STRUCTURE. CONFLICTS BETWEEN THESE ITEMS AND THE BUILDING STRUCTURE MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.

G-7 THE STRUCTURAL DRAWINGS GOVERN THE WORK FOR STRUCTURAL FEATURES, UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ON PLANS AND DETAILS ARE TO GOVERN THE STRUCTURAL WORK. THE CONTRACTOR IS TO REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND DETAILS NOT PROVIDED. DIMENSIONAL CONFLICTS IN THE DOCUMENTS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER

G-8 IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, SPECIFICATIONS, DRAWINGS, OR WITHIN THESE DOCUMENTS, THE MOST STRINGENT REQUIREMENTS AS DETERMINED BY THE ENGINEER WILL GOVERN.

G-9 WORK NOT INDICATED ON A PART OF THE DRAWINGS, BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING LOCATIONS, IS TO BE REPEATED.

G-10 DETAILS DESIGNATED AS "TYPICAL DETAILS," APPLY GENERALLY TO THE DRAWINGS IN AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.

6 **G-11 REINFORCING STEEL PER ODOT CMS 509 AND AS DESCRIBED
 HEREIN IS INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, MISC.:
 GATEWAY MONUMENT SIGN, FOUNDATION.**

FOUNDATIONS

F-1 FOUNDATIONS HAVE BEEN DESIGNED AND MUST BE CONSTRUCTED IN ACCORDANCE WITH CRITERIA ESTABLISHED BY NATIONAL ENGINEERING AND ARCHITECTURAL SERVICES INC. IN THEIR GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT DATED AUGUST 15, 2023. THIS REPORT IS CONSIDERED PART OF THESE CONTRACT DOCUMENTS.

F-2 FOUNDATIONS MUST BE PLACED ON UNDISTURBED SOIL OR COMPACTED FILL CONFORMING TO 95% STANDARD DENSITY PER ASTM D 698 (MAXIMUM FILL LIFT = 8").

F-3 THE CONTRACTOR IS TO RETAIN THE SERVICES OF A PROFESSIONAL GEOTECHNICAL ENGINEER, SUBJECT TO THE APPROVAL OF THE OWNER TO VERIFY THAT THE MATERIAL ON WHICH FOUNDATIONS BEAR HAS AT LEAST THE CAPACITY AS NOTED IN THE DESIGN CRITERIA. THE GEOTECHNICAL ENGINEER IS TO MAKE RECOMMENDATIONS FOR IMPROVING AREAS THAT DO NOT MEET THE DESIGN CRITERIA.

F-4 EXTERIOR FOOTINGS ARE TO BEAR A MINIMUM OF 36 INCHES BELOW FINISHED GRADE. ELEVATIONS SHOWN ON THE DRAWINGS AT WHICH FOUNDATIONS BEAR ARE APPROXIMATE AND MAY VARY TO SUIT SUBSURFACE SOIL CONDITIONS. STEP-IN FOOTING LOCATIONS SHOWN ON THE DRAWINGS MUST BE FIELD VERIFIED AND ADJUSTED SO THAT FOUNDATIONS BEAR ON MATERIAL OF AT LEAST THE CAPACITY NOTED ABOVE.

F-5 PRIOR TO PLACING CONCRETE, WATER PRESENT MUST BE PUMPED OUT FROM THE BOTTOM OF EXCAVATIONS.

F-6 EQUIPMENT AND/OR MATERIALS WITH WEIGHT GREATER THAN THE DESIGN SURCHARGE MUST MAINTAIN A SAFE HORIZONTAL CLEAR DISTANCE FROM BASEMENT AND RETAINING WALLS. A SAFE HORIZONTAL CLEAR DISTANCE IS DEFINED AS THE DISTANCE FROM THE BASE OF THE RETAINING WALL TO THE TOP OF FINISHED GRADE. DESIGN SURCHARGE EQUALS 100 PSF.

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	BDC
REVIEWER	JCF 01/10/24
PROJECT ID	82382
SHEET	TOTAL
1828	2696

BUFF WASH FINISH CONCRETE

1.0 GENERAL:

SECTION INCLUDES DECORATIVE FINISH AND SAW-CUT JOINTING ON ALL BRIDGE 13 AND GATEWAY MONUMENT WALL CONCRETE AS DESIGNATED IN THE PLANS.

6 THE DECORATIVE FINISH IS A MONOLITHIC FINE EXPOSED AGGREGATE FINISH, COMMONLY REFERRED TO AS A BUFF WASH FINISH, AS DESCRIBED IN THIS SECTION.

1.1 BASIS OF PAYMENT:

THE ACCEPTED BUFF WASHED FINISHED CONCRETE WILL BE PAID FOR AT THE CONTRACT PRICE DESIGNATED AS PART OF BRIDGE CONCRETE. ALL COSTS FOR WORK IN THIS SECTION ARE TO BE INCLUDED IN PRICE INCLUDING FINISH AND SAW CUT JOINTING. EXPANSION JOINT BETWEEN BUFF WASHED CONCRETE AND ARCHITECTURAL PRECAST SHALL BE INCLUDED IN PRECAST PRICE.

1.2 SUBMITTALS:

- A. PRODUCT DATA: FOR EACH TYPE OF MANUFACTURED MATERIAL AND PRODUCT INDICATED.
- B. DESIGN MIXTURES: FOR EACH CONCRETE PAVEMENT MIXTURE. INCLUDE ALTERNATE MIXTURE DESIGNS WHEN CHARACTERISTICS OF MATERIALS, PROJECT CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT ADJUSTMENTS. SUBMIT STATEMENT OF MIX DESIGN PREPARED BY BATCH PLANT SERVICING PROJECT FOR EACH LOAD DELIVERED TO PROJECT. STATEMENT OF MIX DESIGN SHALL BE ACCORDING TO ITEM 499.07.
- C. QUALIFICATION DATA: FOR INSTALLER.
- D. MATERIAL TEST REPORTS: FROM A QUALIFIED TESTING AGENCY INDICATING AND INTERPRETING TEST RESULTS FOR COMPLIANCE OF THE FOLLOWING WITH REQUIREMENTS INDICATED, BASED ON COMPREHENSIVE TESTING OF CURRENT MATERIALS:
 - 1. AGGREGATES: INCLUDE SERVICE RECORD DATA INDICATING ABSENCE OF DELETERIOUS EXPANSION OF CONCRETE DUE TO ALKALI-AGGREGATE REACTIVITY.
- E. MATERIAL CERTIFICATES: SIGNED BY MANUFACTURERS CERTIFYING THAT EACH OF THE FOLLOWING MATERIALS COMPLIES WITH REQUIREMENTS:
 - 1. CEMENTITIOUS MATERIALS.
 - 2. STEEL REINFORCEMENT AND REINFORCEMENT ACCESSORIES.
 - 3. ADMIXTURES.
 - 4. LIQUID DENSIFIER.
 - 5. CURING COMPOUNDS.
 - 6. APPLIED FINISH MATERIALS.
 - 7. BONDING AGENT OR EPOXY ADHESIVE.
 - 8. JOINT FILLERS.

6 F. STATEMENT OF COMPATIBILITY BETWEEN LIQUID DENSIFIER, CURING, JOINT SEALANT, AND SEALER PRODUCTS.

- G. FIELD QUALITY CONTROL TEST REPORTS.
- H. SHOP DRAWINGS:
 - 1. PAVING, JOINTING, AND POUR SEQUENCE PLAN: SUBMIT FIELD MEASURED DRAWING OF AREAS RECEIVING CONCRETE PAVING. SHOW LOCATIONS OF CONTROL AND EXPANSION JOINTS.
 - A. OVERALL PLAN: NOT LESS THAN 1" = 20'.
 - B. DETAIL PLANS: SCALE: NOT LESS THAN 1" = 10'. SHOW ALL FEATURES INCLUDING SURFACE UTILITY STRUCTURES AND VERTICAL PENETRATIONS IN PAVEMENT.
 - C. PROPOSED LAYOUT OF CONTRACTION, CONSTRUCTION AND ISOLATION JOINTS. CLEARLY DELINEATE THE THREE DIFFERENT JOINT TYPES. SHOW SIZE, REINFORCING, DOWELS, AND SEALANT ASSEMBLY.
 - D. CONCRETE POUR SEQUENCE. INDICATE SEQUENCE OF CONCRETE PAVING INSTALLATION.
- I. MINUTES OF PRE-INSTALLATION CONFERENCE.
- J. FIELD RECORDS OF TIME AND DATE OF PLACING, CURING, AND REMOVAL OF FORMS IN EACH PORTION OF THE WORK.

1.3 QUALITY ASSURANCE:

- A. CONCRETE INSTALLER:
 - 1. TIME: NOT LESS THAN 5 YEARS SUCCESSFUL EXPERIENCE WITH INSTALLATION OF WORK OF THE TYPE REQUIRED BY THIS PROJECT.
 - 2. PROJECTS: SUCCESSFULLY COMPLETED A MINIMUM OF THREE PROJECTS WITH CONCRETE FINISHES REQUIRED BY THE WORK OF THIS SECTION. THE PROJECT SIZES MUST REPRESENT THE TYPE AND AESTHETIC EFFECT OF CONCRETE SIMILAR TO THAT REQUIRED FOR THIS PROJECT.

BUFF WASH FINISH CONCRETE (CONT.)

1.3 QUALITY ASSURANCE (CONT.):

- B. READY-MIX MANUFACTURER QUALIFICATIONS: MANUFACTURER OF READY-MIXED CONCRETE PRODUCTS WHO COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT.
 - 1. MANUFACTURER CERTIFIED ACCORDING TO NRMCA'S "CERTIFICATION OF READY MIXED CONCRETE PRODUCTION FACILITIES."
- C. TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT AGENCY QUALIFIED ACCORDING TO ASTM C 1077 AND ASTM E 329 FOR TESTING INDICATED, AS DOCUMENTED ACCORDING TO ASTM E 548.
 - 1. PERSONNEL CONDUCTING FIELD TESTS SHALL BE QUALIFIED AS ACI CONCRETE FIELD TESTING TECHNICIAN, GRADE 1, ACCORDING TO ACI CP-01 OR AN EQUIVALENT CERTIFICATION PROGRAM.
- D. ACI PUBLICATIONS: COMPLY WITH ACT 301, "SPECIFICATION FOR STRUCTURAL CONCRETE," UNLESS MODIFIED BY REQUIREMENTS IN THE CONTRACT DOCUMENTS.
- E. CONCRETE TESTING SERVICE: ENGAGE A QUALIFIED INDEPENDENT TESTING AGENCY TO PERFORM MATERIAL EVALUATION TESTS AND TO DESIGN CONCRETE MIXTURES.
- F. SOURCE LIMITATIONS: OBTAIN DECORATIVE CEMENT CONCRETE PAVEMENT PRODUCTS AND EACH TYPE OR CLASS OF CEMENTITIOUS MATERIAL OF THE SAME BRAND FROM THE SAME MANUFACTURER'S PLANT AND EACH AGGREGATE THROUGH ONE SOURCE.
- G. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE:
 - 1. BEFORE SUBMITTING DESIGN MIXTURES, REVIEW CEMENT CONCRETE PAVEMENT MIXTURE DESIGN AND EXAMINE PROCEDURES FOR ENSURING QUALITY OF CONCRETE MATERIALS AND PAVEMENT CONSTRUCTION PRACTICES. REQUIRE REPRESENTATIVES OF EACH ENTITY DIRECTLY CONCERNED WITH DECORATIVE CEMENT CONCRETE PAVEMENT TO ATTEND, INCLUDING THE FOLLOWING:
 - A. CONTRACTOR'S SUPERINTENDENT.
 - B. INDEPENDENT TESTING AGENCY RESPONSIBLE FOR CONCRETE DESIGN MIXES.
 - C. READY-MIX CONCRETE PRODUCER.
 - D. PROJECT ENGINEER.

6 H. CONSTRUCT CONCRETE SAMPLE PANELS PER ITEM SPECIAL - BRIDGE 13 ARCHITECTURAL CONCRETE MIX MOCK UP
 I. CONSTRUCT CONCRETE SAMPLE PANELS PER ITEM SPECIAL - GATEWAY MONUMENT SIGN ARCHITECTURAL CONCRETE MIX MOCK UP

2.0 CONCRETE MIX DESIGN:

ACCORDING TO ITEM 499.03. REFER TO BRIDGE 13 GENERAL NOTE ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN ON SHEET 2186.

2.1 MISCELLANEOUS PRODUCTS:

- A. LIQUID DENSIFIER: WATER-BASED SODIUM SILICAT SOLUTION TO DENSIFY AND DUSTPROOF CONCRETE.
- B. PENETRATING SEALER: REFER TO BRIDGE GENERAL NOTES.

3.0 MONOLITHIC EXPOSED AGGREGATE FINISH:

ALL VISIBLE SURFACES OF THE BRIDGE PARAPET, PILASTERS, AND PLANTERS AS SHOWN ON THE PLANS TO RECEIVE A NON-EPOXY SEALER, SHALL BE TREATED TO ACHIEVE A MONOLITHIC FINE EXPOSED AGGREGATE FINISH (COMMONLY REFERRED TO AS BUFF WASH) PRIOR TO SEALING WITH NON-EPOXY SEALER AS FOLLOWS:

HORIZONTAL SURFACES

- A. SURFACE OF CONCRETE SHALL BE AS SMOOTH AS POSSIBLE WITH NO TROWEL OR EDGER MARKS.
- B. CONCRETE SURFACE SHALL BE FREE OF BLEED AFTER WHILE STILL CONTAINING HIGH DEGREE OF MOISTURE.

VERTICAL SURFACES

PERFORM LIGHT SANDBLASTING TO ACHIEVE A MONOLITHIC EXPOSED AGGREGATE FINISH THAT IS ACCEPTABLE TO THE ENGINEER. DEVELOP AND DEMONSTRATE THE USE OF AN APPROPRIATE BLAST MEDIUM, SUCH AS GARNET, AND TECHNIQUES THAT ACHIEVE THE DESIRED FINISH ON THE ARCHITECTURAL CONCRETE MOCK-UP. ADJUST THE BLAST MEDIUM AND TECHNIQUES AS NEEDED TO OBTAIN AN APPROVED MOCK-UP. APPLY THESE STANDARDS TO ACHIEVE AN EXPOSED AGGREGATE FINISHES ON THE SURFACES SPECIFIED IN THE PLANS.

BUFF WASH FINISH CONCRETE (CONT.)

3.1 FINISH EXAMPLE

6 THIS SECTION INCLUDES AN EXAMPLE OF THE VISUAL TARGET FOR THE BUFF WASH SURFACE TREATMENT. THE EXAMPLE SHOWN WAS CONSTRUCTED AS PART OF FRA-71-17.46 (PID 105453).



3.2 PAVEMENT JOINTS:

- A. DECORATIVE JOINTS: CONSTRUCT DECORATIVE JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED ON THE DRAWINGS AS FOLLOWS:
 - 1. SAW CUT JOINTS WITH POWER SAWS EQUIPPED WITH SHATTERPROOF ABRASIVE OR DIAMOND-RIMMED BLADES. CUT 1/8-INCH WIDE X 1/4-INCH DEPTH JOINTS INTO CONCRETE WHEN CUTTING ACTION WILL NOT TEAR, ABRADE, OR OTHERWISE DAMAGE SURFACE AND BEFORE DEVELOPING RANDOM CONTRACTION CRACKS.
 - 2. USE A HAND TOOL TO EXTEND CUTS ALL THE WAY TO VERTICAL EDGES SUCH AS WALLS, STEPS, CURBS AND COLUMNS, AND EXPANSION JOINT ARMOR AS REQUIRED. NO CUTTING INTO VERTICAL SURFACES WILL BE ALLOWED.
 - 3. SAW-CUT JOINTS IN STRAIGHT, TRUE LINES WITH NO OVER CUTTING.
 - 4. SAW-CUT OPERATIONS SHALL COMMENCE WITHIN 24 HOURS OF POUR UTILIZING "SOFF-CUT" SAWS AND BLADES SUITABLE FOR MATERIAL BEING CUT.
- B. EXPANSION JOINTS: PREFORMED EXPANSION JOINT FILLER AND SEALANT IS INCLUDED FOR PAYMENT WITH PRECAST CONCRETE. REFER TO PRECAST CONCRETE SPECIFICATION.

3.3 PENETRATING SEALER:

REFER TO BRIDGE GENERAL NOTES.

3.4 FIELD QUALITY CONTROL:

- A. REMOVE AND REPLACE CONCRETE PAVEMENT THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION.
- B. PROTECT CONCRETE FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVEMENT FOR AT LEAST 14 DAYS AFTER PLACEMENT. WHEN CONSTRUCTION TRAFFIC IS PERMITTED, MAINTAIN PAVEMENT AS CLEAN AS POSSIBLE BY REMOVING SURFACE STAINS AND SPILLAGE OF MATERIALS AS THEY OCCUR.
- C. MAINTAIN CONCRETE PAVEMENT FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. CLEAN CONCRETE PAVEMENT NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR FINAL ACCEPTANCE.

ITEM SPECIAL - BRIDGE 13 ARCHITECTURAL CONCRETE MIX MOCK UP

PROVIDE 5' X 5' MOCK UPS REPRESENTATIVE OF VERTICAL SURFACES AND HORIZONTAL FLATWORK INCLUDING DECORATIVE FINISH, ALL JOINT CONDITIONS, JOINT FILLERS, JOINT SEALANTS, AND SURFACE SEALERS FOR REVIEW BY PROJECT ENGINEER.

MOCK UPS SHALL INCLUDE DAMAGE REPAIR OF DECORATIVE SURFACE.

THE CONTRACTOR SHALL CREATE AS MANY SEPARATE 5' X 5' SAMPLE PANELS AS NEEDED TO OBTAIN AN APPROVED MOCK UP WHICH WILL BE THE STANDARD WHICH ALL SUBSEQUENT WORK WILL BE COMPARED TO.

OBTAIN WRITTEN APPROVAL OF MOCK UP BY PROJECT ENGINEER.

INCORPORATE APPROVED FINISH INTO FULL SIZE MOCK UP OF VERTICAL BRIDGE ELEMENTS PER STRUCTURAL DRAWINGS FOR REVIEW BY PROJECT ENGINEER.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL - BRIDGE 13 ARCHITECTURAL CONCRETE MIX MOCK UP

6 LS

ITEM SPECIAL - GATEWAY MONUMENT SIGN ARCHITECTURAL CONCRETE MIX MOCK UP

PROVIDE 5' X 5' MOCK UPS REPRESENTATIVE OF VERTICAL SURFACES AND HORIZONTAL FLATWORK INCLUDING DECORATIVE FINISH, ALL JOINT CONDITIONS, JOINT FILLERS, JOINT SEALANTS, AND SURFACE SEALERS FOR REVIEW BY PROJECT ENGINEER.

MOCK UPS SHALL INCLUDE DAMAGE REPAIR OF DECORATIVE SURFACE.

THE CONTRACTOR SHALL CREATE AS MANY SEPARATE 5' X 5' SAMPLE PANELS AS NEEDED TO OBTAIN AN APPROVED MOCK UP WHICH WILL BE THE STANDARD WHICH ALL SUBSEQUENT WORK WILL BE COMPARED TO.

OBTAIN WRITTEN APPROVAL OF MOCK UP BY PROJECT ENGINEER.

INCORPORATE APPROVED FINISH INTO FULL SIZE MOCK UP OF VERTICAL BRIDGE ELEMENTS PER STRUCTURAL DRAWINGS FOR REVIEW BY PROJECT ENGINEER.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL - GATEWAY MONUMENT SIGN ARCHITECTURAL CONCRETE MIX MOCK UP

6 LS

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER
BDC

REVIEWER
JCF 01/10/24

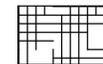
PROJECT ID
82382

SHEET TOTAL
1829 | 2696

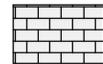
LEGEND



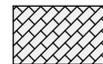
ITEM 451 - REINFORCED CONCRETE PAVEMENT, MISC.: INTEGRALLY COLORED CONCRETE CROSSWALK



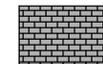
ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #1)



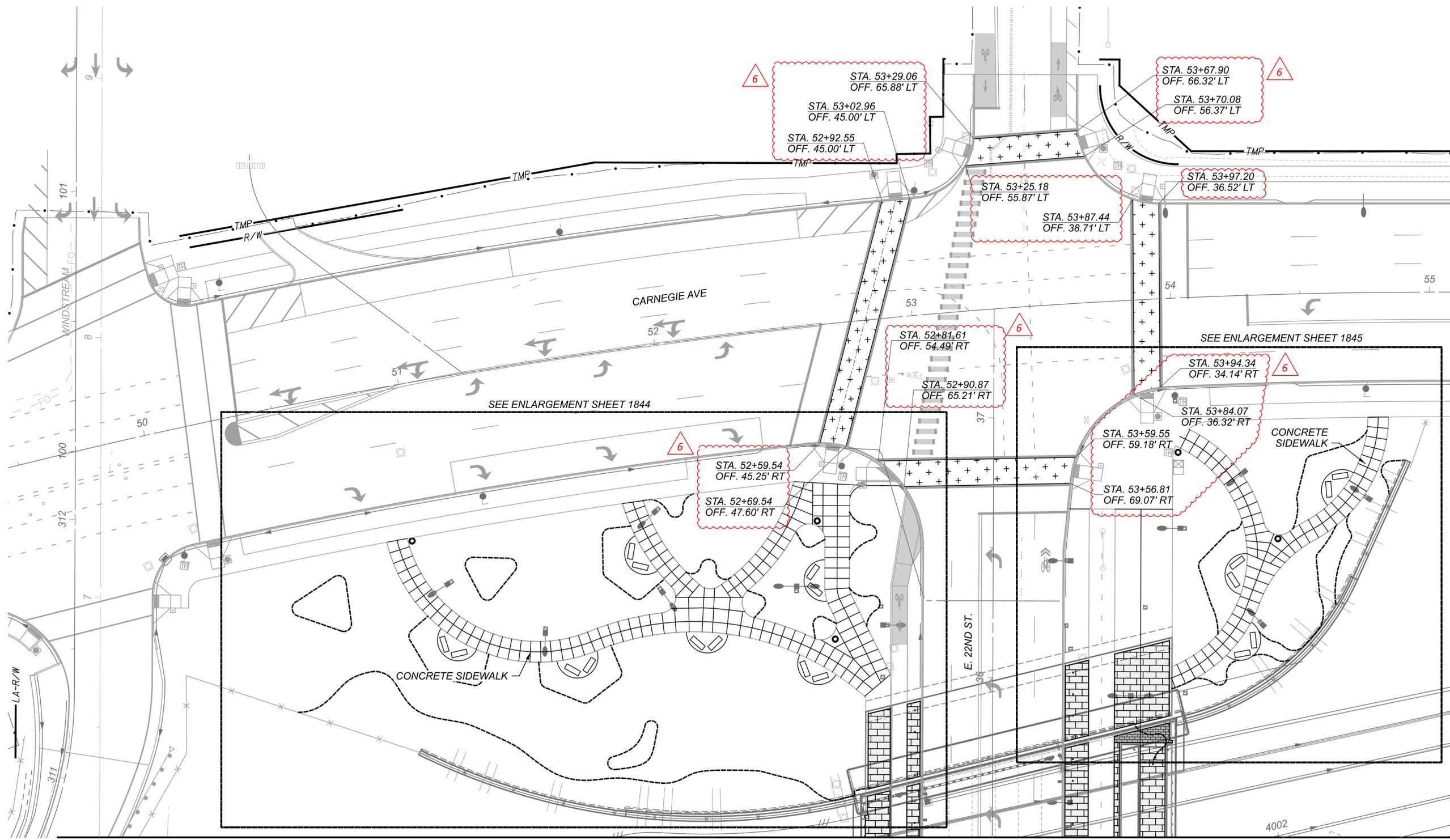
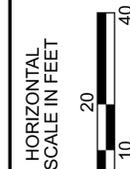
ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #2)



ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #4)



ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #3)



HARDSCAPE PLAN SHEET 01

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

BDC

REVIEWER

JCF 01/10/24

PROJECT ID

82382

SHEET TOTAL

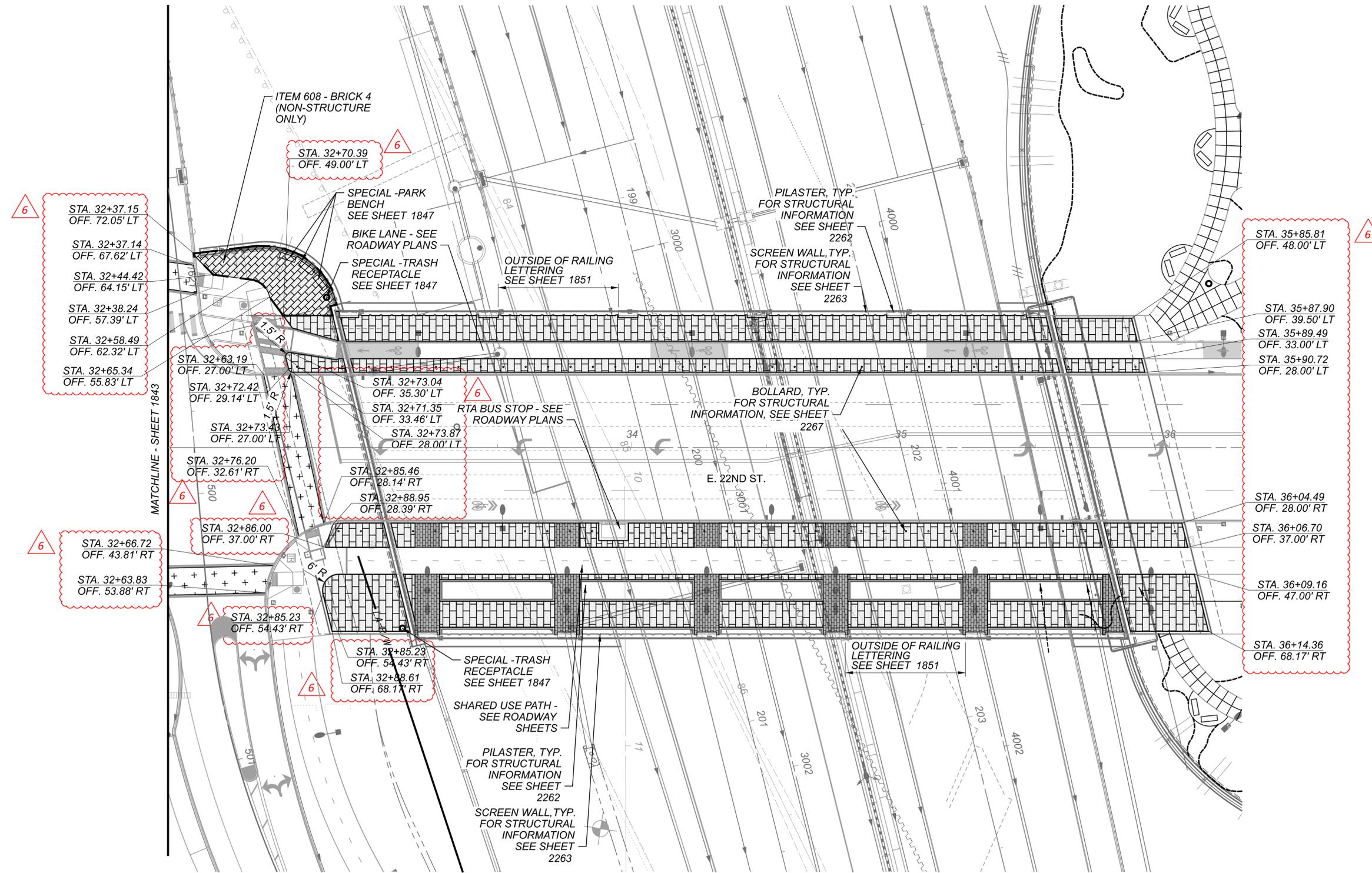
1841 2696

LEGEND

- ITEM 451 - REINFORCED CONCRETE PAVEMENT, MISC.: INTEGRALLY COLORED CONCRETE CROSSWALK
- ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #1)

- ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #2)
- ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #4)

- ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #3)



HARDSCAPE PLAN SHEET 02

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER BDC

REVIEWER JCF 01/10/24

PROJECT ID 82382

SHEET TOTAL 1842 2696

LEGEND



ITEM 451 - REINFORCED CONCRETE PAVEMENT, MISC.: INTEGRALLY COLORED CONCRETE CROSSWALK



ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #1)



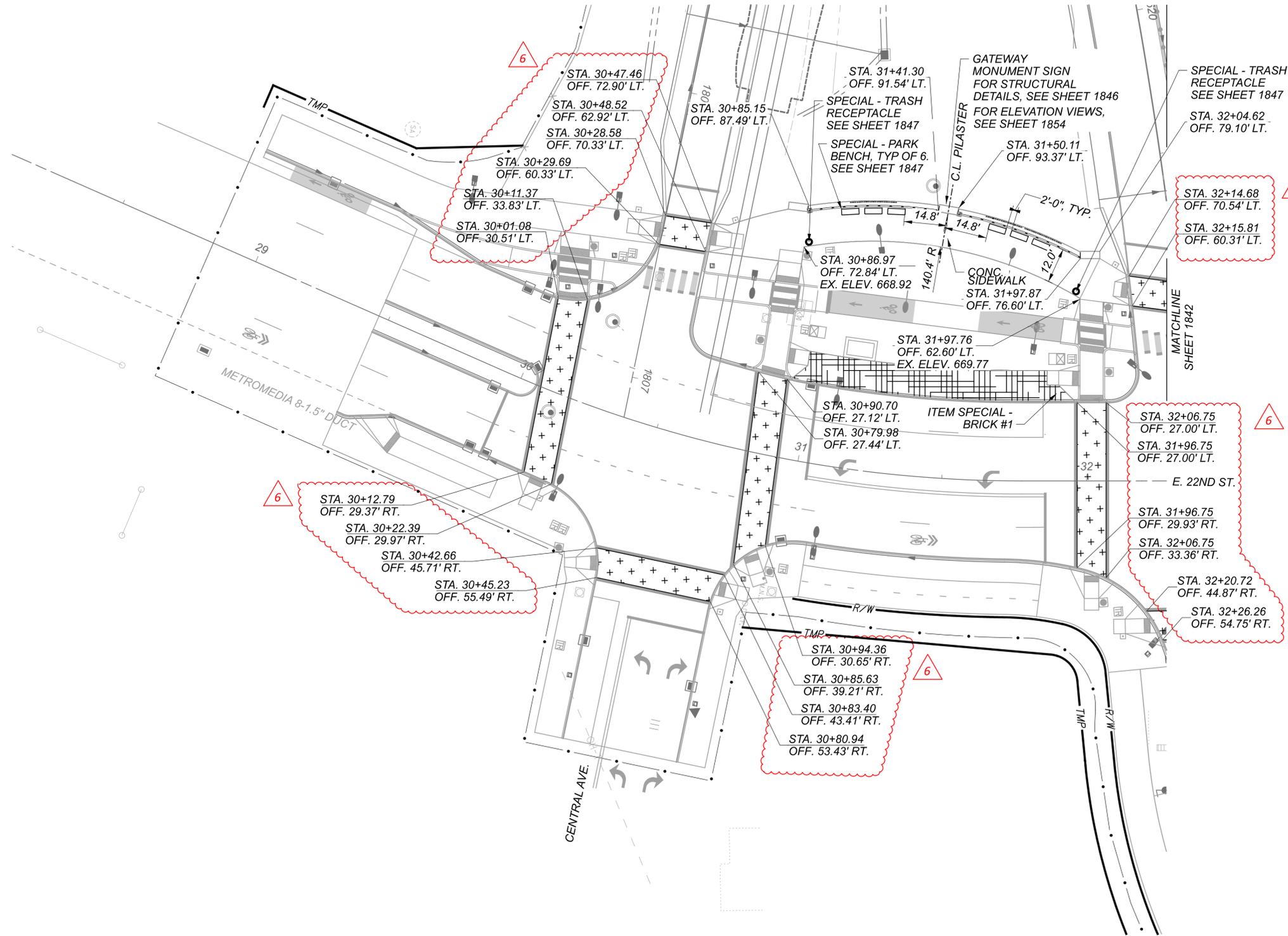
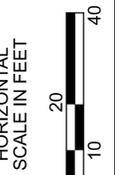
ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #2)



ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #4)



ITEM 608 - WALKWAY, MISC.: PAVERS OVER CONCRETE (BRICK #3)



HARDSCAPE PLAN
SHEET 03

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER

BDC

REVIEWER

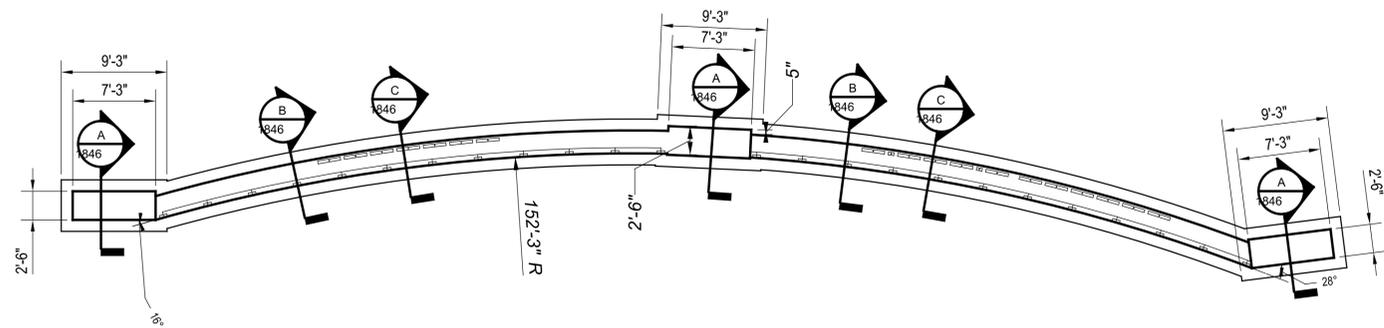
JCF 01/10/24

PROJECT ID

82382

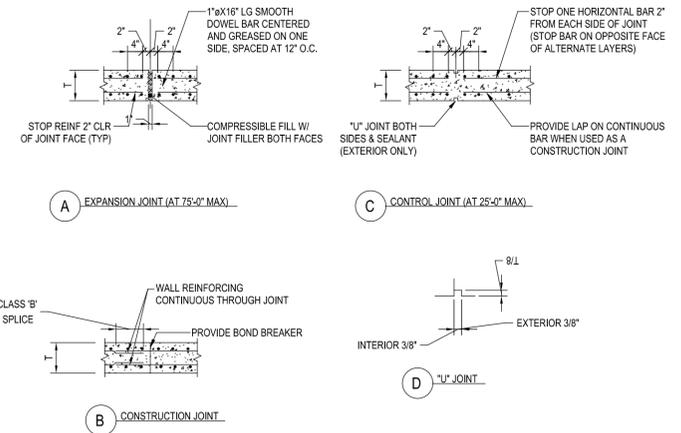
SHEET TOTAL

1843 2696



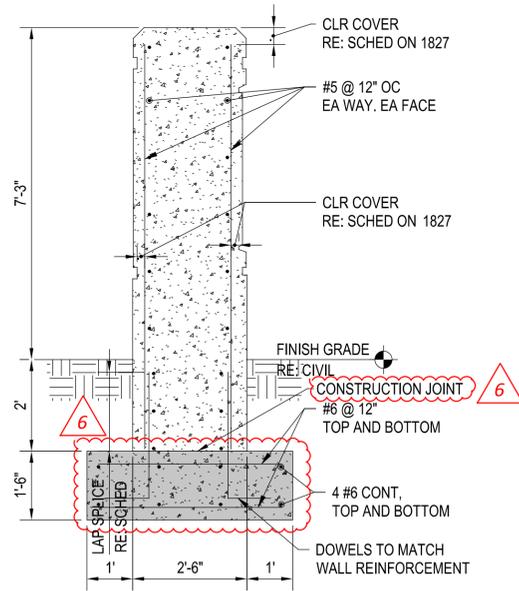
GATEWAY MONUMENT SIGN FOUNDATION PLAN

SCALE: 1/8" = 1'-0"



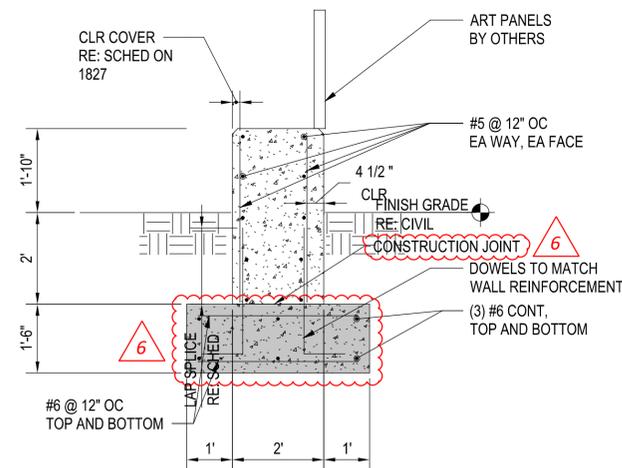
TYPICAL CONCRETE WALL JOINT DETAILS

SCALE: 1/2" = 1'-0"



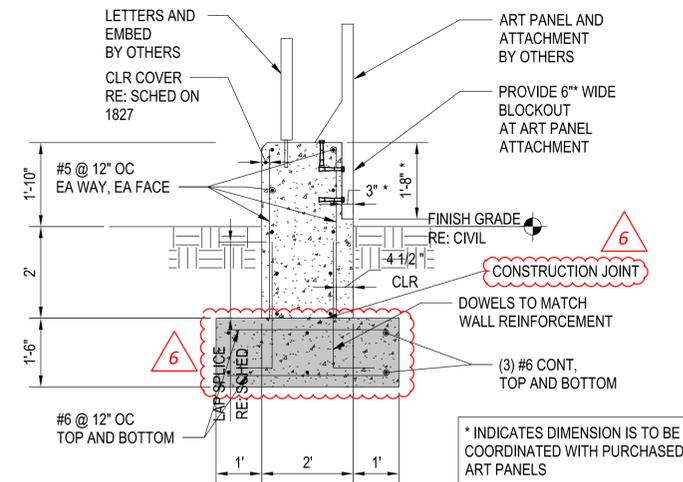
SECTION A-A

SCALE: 1/2" = 1'-0"



SECTION B-B

SCALE: 1/2" = 1'-0"



SECTION C-C

SCALE: 1/2" = 1'-0"

6

	ITEM 511 - CONCRETE, MISC.: CLASS QC SCC CONCRETE WITH QC/QA, GATEWAY MONUMENT SIGN, WALL (ABOVE CONSTRUCTION JOINT)
	ITEM 511 - CLASS QC1 CONCRETE, MISC.: GATEWAY MONUMENT SIGN, FOUNDATION (BELOW CONSTRUCTION JOINT)



DESIGN AGENCY

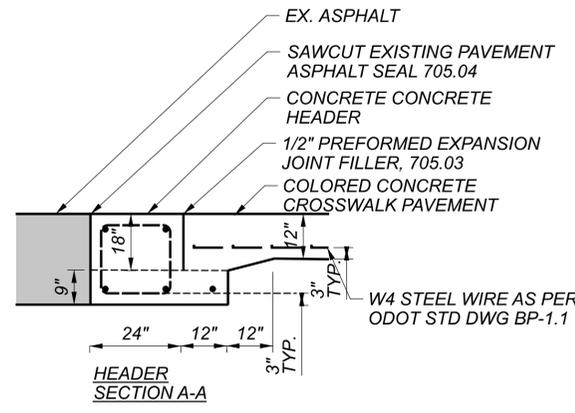
Michael Baker
INTERNATIONAL

DESIGNER
BDC

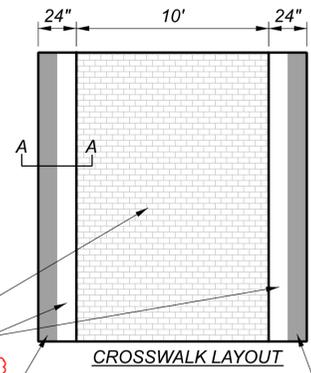
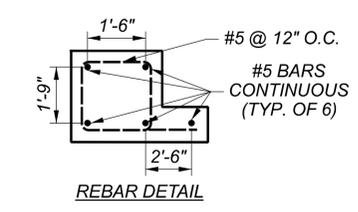
REVIEWER
JCF 01/10/24

PROJECT ID
82382

SHEET TOTAL
1846 2696



CROSSWALK NOTES:
 1. ALL REINFORCING STEEL AND TIES ARE TO BE EPOXY COATED
 2. THE CONCRETE HEADER SHALL BE A SEPARATE POUR FROM THE COLORED CONCRETE PAVEMENT



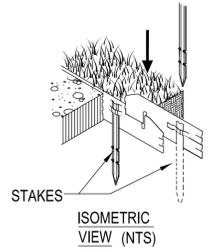
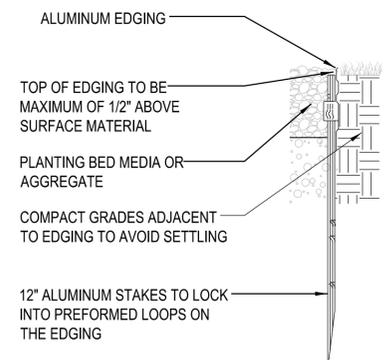
ITEM 646 - CROSSWALK, 12" ALIGNED WITH OUTSIDE EDGE OF CONCRETE CROSSWALK HEADER



ITEM 646 - CROSSWALK, 12" ALIGNED WITH OUTSIDE EDGE OF CONCRETE CROSSWALK HEADER

ITEM 451 - REINFORCED CONCRETE, MISC.: INTEGRALLY COLORED CONCRETE CROSSWALK

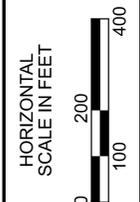
SCALE: NTS

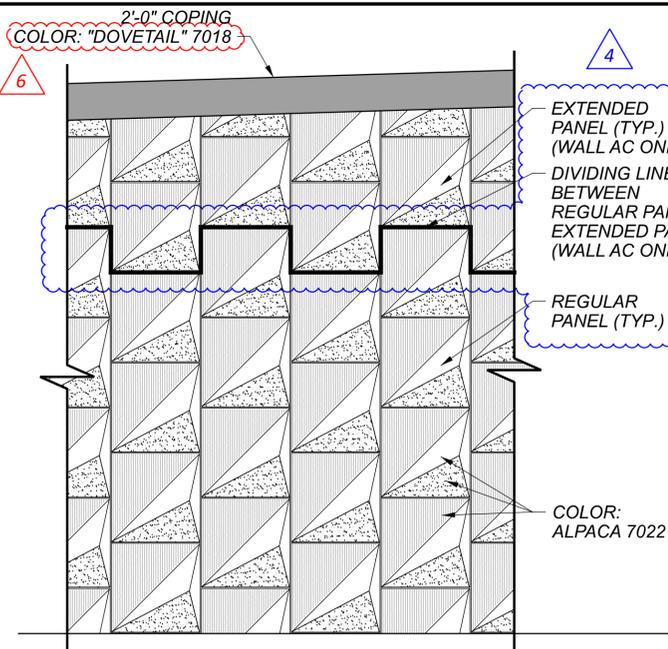


NOTES:
 1. INSTALL PER MANUFACTURER'S "INSTALLATION GUIDELINES"
 2. 8'-0" SECTIONS TO INCLUDE (3) 12" ALUMINUM STAKES.
 3. 16'-0" SECTIONS TO INCLUDE (5) 12" ALUMINUM STAKES.
 4. CORNERS - CUT BASE EDGING UP HALFWAY AND FORM A CONTINUOUS CORNER.

ITEM SPECIAL - METAL EDGING

SCALE: 3"=1'-0"





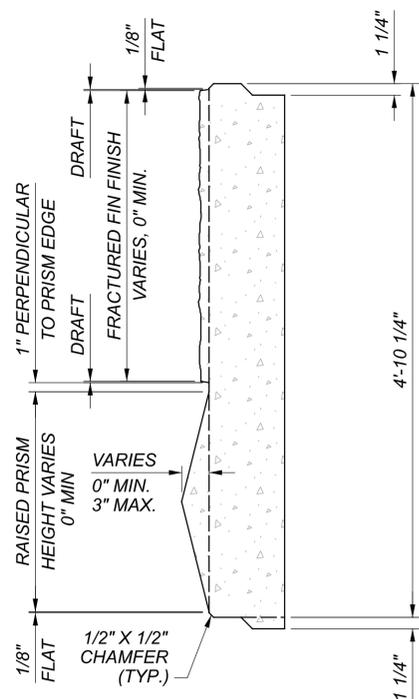
- APPLY TO WALLS:**
- N MSE WALL WITH REGULAR RAISED PRISM PANELS
 - S RAISED PRISM TILED FORMLINER
 - T MSE WALL WITH REGULAR RAISED PRISM PANELS
 - Y MSE WALL WITH REGULAR RAISED PRISM PANELS
 - AC RAISED PRISM TILED FORMLINER (ANCHORED SOLDIER PILE WALL PORTION)
REGULAR AND EXTENDED RAISED PRISM PANELS (MSE WALL PORTION)
 - AD RAISED PRISM TILED FORMLINER
 - BRIDGE 10 WINGWALL A RAISED PRISM TILED FORMLINER

WALL AC NOTES:

1. THE TOP ROW OF PRISM PANELS SHALL BE EXTENDED TO MEET THE COPING PER WALL AC PLANS. TOP PANELS MUST ACCOMMODATE AT LEAST ONE ROW OF SOIL REINFORCEMENT STRAPS BELOW THE MOMENT SLAB.
2. THE ARCHITECTURAL TREATMENT SHALL BE REPLICATED ON THE EXTENDED PANELS. DO NOT ALTER GEOMETRY OR SCALE OF PATTERN.

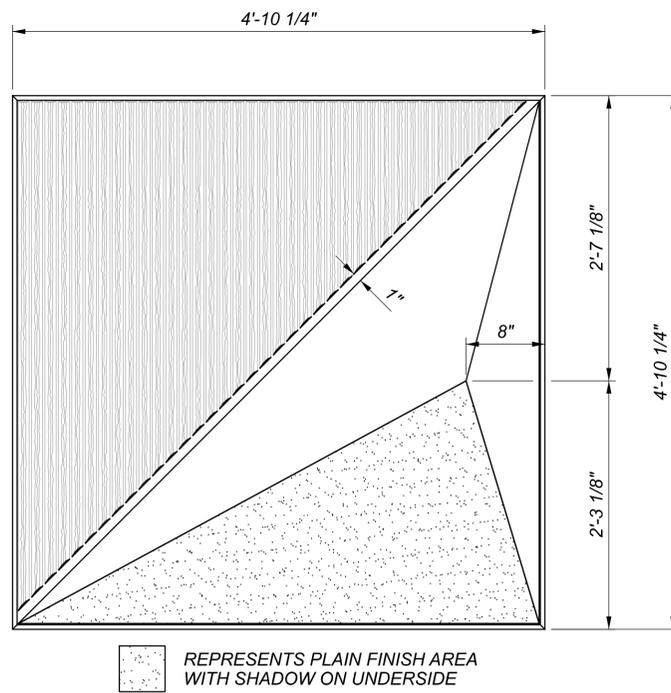
MECHANICALLY STABILIZED EARTH WALL WITH RAISED PRISM ARCHITECTURAL TREATMENT

SCALE: NTS



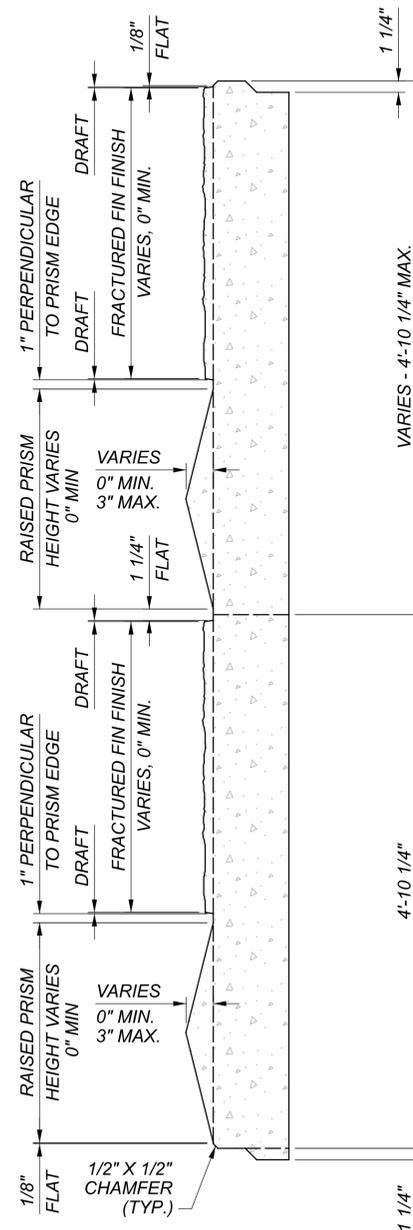
VERTICAL PRISM SECTION: REGULAR PANEL

SCALE: NTS



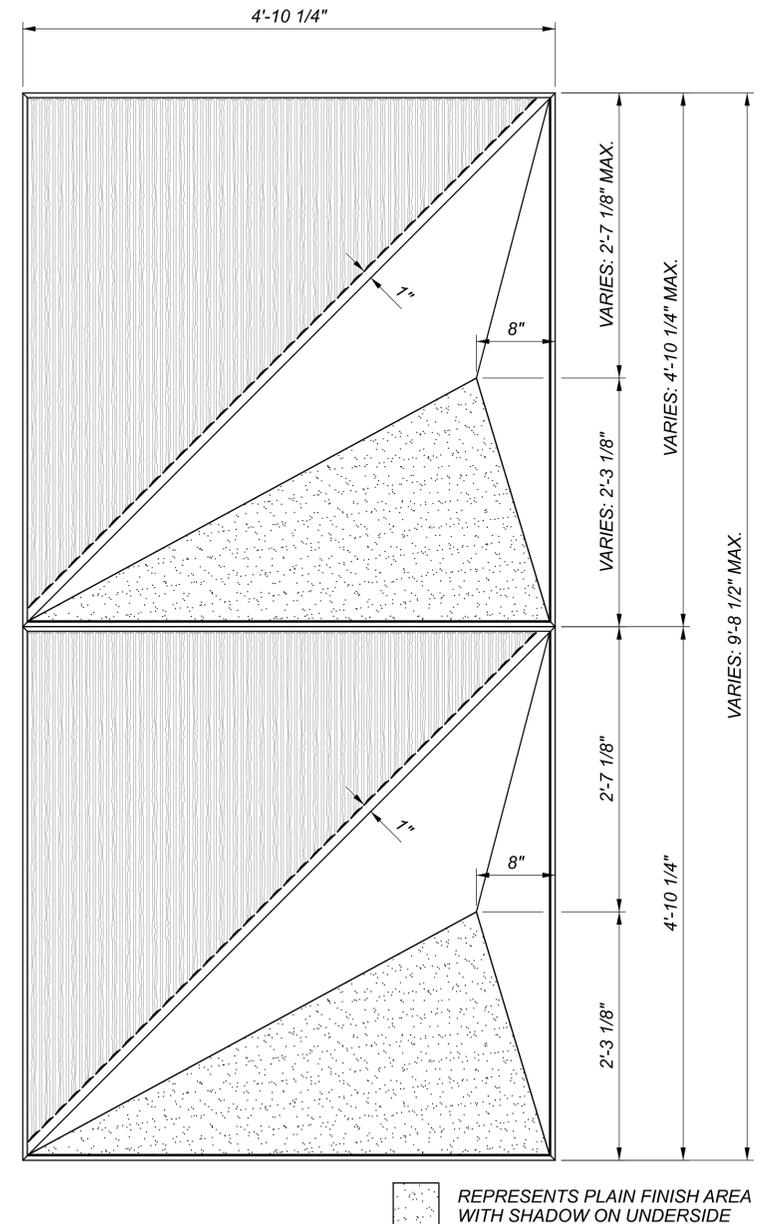
TYPICAL PRISM DETAIL: REGULAR PANEL

SCALE: NTS



VERTICAL PRISM SECTION: EXTENDED PANEL

SCALE: NTS



TYPICAL PRISM DETAIL: EXTENDED PANEL

SCALE: NTS



WALL AESTHETIC DETAILS SHEET 01

DESIGN AGENCY

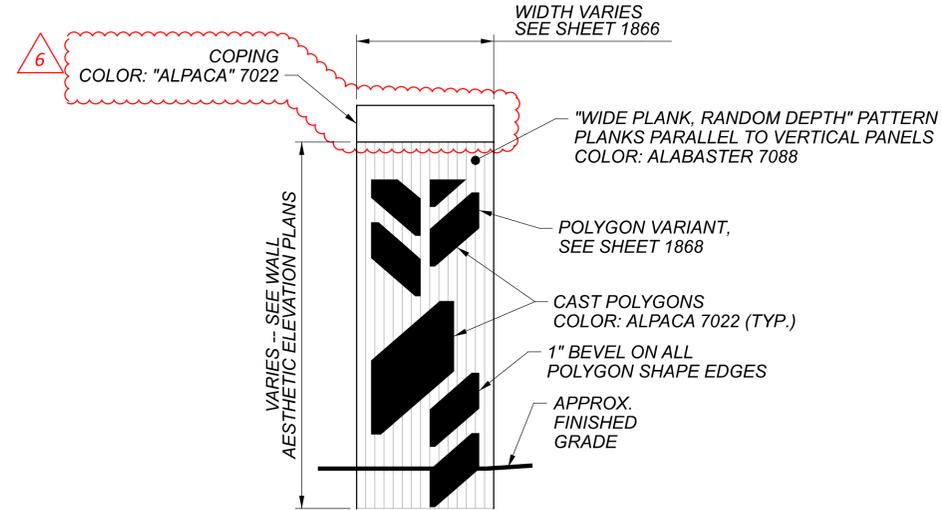
Michael Baker INTERNATIONAL

DESIGNER BDC

REVIEWER JCF 01/10/24

PROJECT ID 82382

SHEET TOTAL 1865 2696



RETAINING WALL LOCATION	FORMLINER SHAPE CONFIGURATION											WIDE PLANK FORMLINER ONLY (NO POLYGONS)	
	A1	A2	A3	B1	B2	B3	C1	C2	D1	D2	D3		
WALL AE													•
WALL Z			•			•				•	•	•	
BRIDGE 12 FORWARD ABUTMENT PORTION OF WALL Y (STA. 1300+00 TO STA. 1300+63.50)													•
WALL AG	•	•	•	•	•	•		•					
BRIDGE 13 REAR ABUTMENT	•	•											
BRIDGE 13 REAR RIGHT WINGWALL	•			•	•	•							
BRIDGE 13 FORWARD LEFT WINGWALL	•	•	•	•	•	•		•					
BRIDGE 13 FORWARD ABUTMENT	•	•	•	•	•	•							
BRIDGE 13 FORWARD RIGHT WINGWALL	•	•	•	•	•	•		•					
BRIDGE 13 PIERS & ABUTMENT END CAPS													•
WALL AF	•	•	•	•	•	•	•	•					
BRIDGE 14 REAR ABUTMENT	•	•	•	•	•	•							
WALL AH	•	•	•	•				•					
BRIDGE 14 FORWARD ABUTMENT	•	•	•	•	•	•							
BRIDGE 14 FORWARD RIGHT WINGWALL	•	•		•									
BRIDGE 14 PIERS & ABUTMENT END CAPS													•

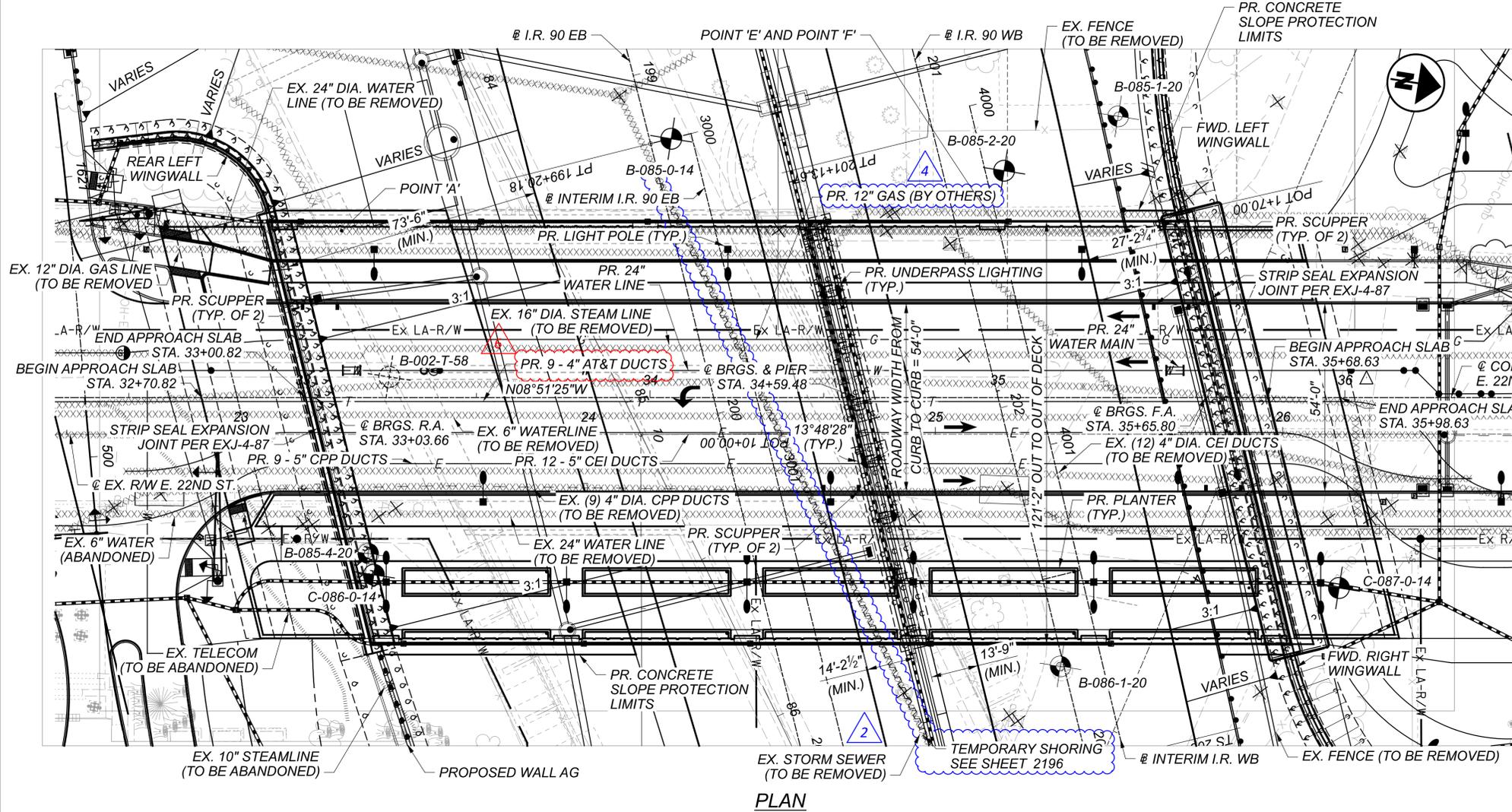
• INDICATES FORMLINER TYPE AND LOCATION

TYPICAL RETAINING WALL PANEL AND LOCATIONS

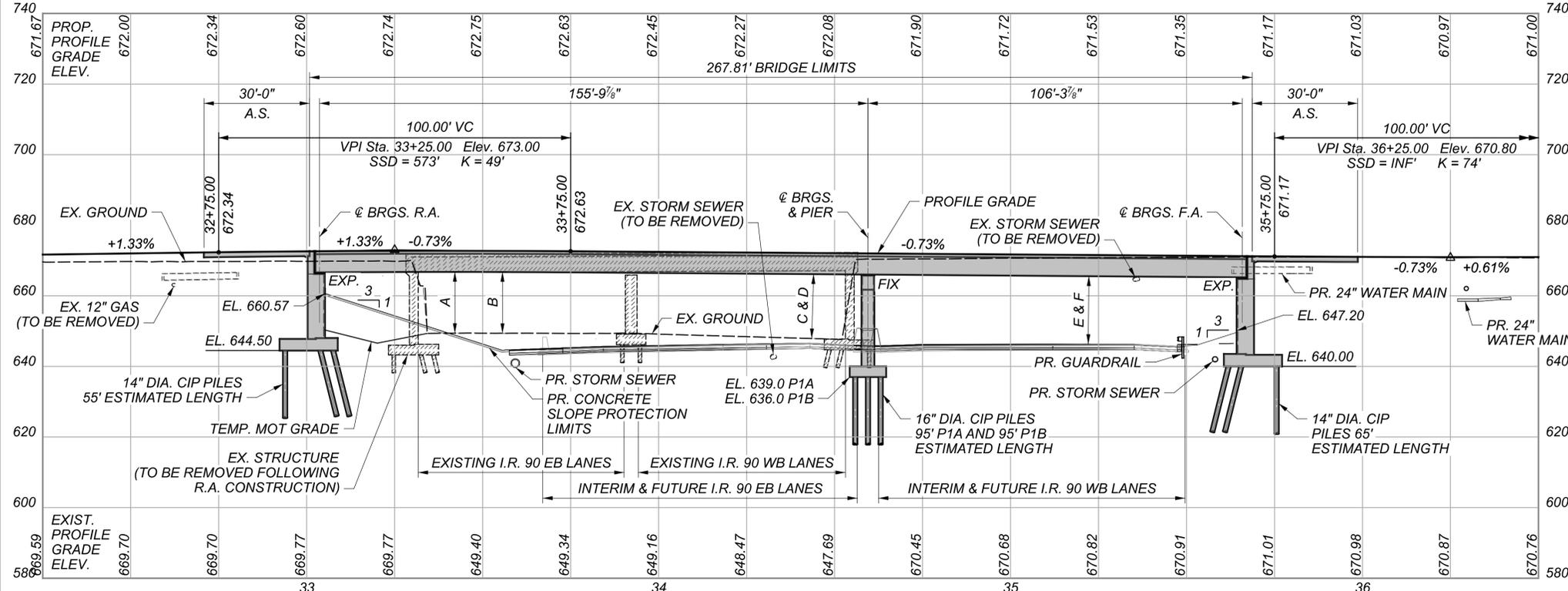
SCALE: NTS

CUY-90-16.28 (CCG3A)

MODEL: CUP_E 22ND ST - Bridge 13 Plan PAPER SIZE: 34x22 (in.) DATE: 10/16/2025 TIME: 1:04:55 PM USER: John Carey
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PLAN



PROFILE GRADE ALONG CL CONST. E. 22ND ST.

BENCHMARK DATA

BM #54 STA. 33+03.27	ELEV. 672.54	OFFSET 36.13 RT.	CUT CROSS
BM #62 STA. 35+24.62	ELEV. 672.11	OFFSET 1174.60 LT.	RR SPIKE
BM #72 STA. 23+49.63	ELEV. 674.06	OFFSET 52.19 LT.	CUT CROSS
BM #73 STA. 37+05.22	ELEV. 671.90	OFFSET 407.77 LT.	CUT CROSS

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 4 / 2696

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:

2015 ADT = 13,400 2015 ADTT = 536
 2035 ADT = 15,300 2035 ADTT = 612
 DIRECTIONAL DISTRIBUTION = 0.57

LEGEND

- TO BE REMOVED
 - HISTORIC BORING LOCATION
 - PROJECT BORING LOCATION
 - INSTRUMENTED BORING LOCATION
- VERTICAL CLEARANCES**
- A = M.V.C. EX. STRUCTURE TO EX. I-90
 - B = PR. STRUCTURE TO EX. I-90
 - C = PR. STRUCTURE TO INTERIM I-90
 - D = PR. STRUCTURE TO FUTURE I-90
 - E = M.V.C. PR. STRUCTURE TO INTERIM I-90
 - F = M.V.C. PR. STRUCTURE TO INTERIM I-90

HORIZONTAL CLEARANCE				
LOCATION	R.A.	PIER 1 SOUTH	PIER 1 NORTH	F.A.
REQ'D CLR. ZONE	30'-0"	30'-0"	30'-0"	30'-0"
PROVIDED MIN.	73'-6"	14'-2 1/2"	13'-9"	27'-2 3/4"

* BARRIER PROTECTION REQ'D & PROVIDED

VERTICAL CLEARANCE						
LOCATION	A	B	C	D	E	F
REQUIRED MIN.	-	14'-6"	15'-6"	15'-6"	15'-6"	15'-6"
PROVIDED MIN.	14'-6"	14'-11"	18'-2"	18'-2"	17'-0"	17'-1"

LOCATIONS A, B, C, AND D ARE MEASURED TO EB I-90 LANES
 LOCATIONS E AND F ARE MEASURED TO WB I-90 LANES

EXISTING STRUCTURE

TYPE: CONTINUOUS BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 61'-3"±, 61'-3"± C/C BEARINGS ALONG @ CONSTRUCTION

ROADWAY: 74'-0"±, F/F OF CURBS WITH TWO 8'-0" WALKS

LOADING: CF 2000 (51)

SKEW: 25°51'00" RF

WEARING SURFACE: 2"± CONCRETE OVERLAY

APPROACH SLABS: AS-1-54 (25'± LONG), 1'-6 1/2" THICK

ALIGNMENT: TANGENT

CROWN: 0.0156±

STRUCTURE FILE NUMBER: 1807838

DATE BUILT: 1958

DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDER WITH COMPOSITE REINFORCED CONCRETE DECK SUPPORTED ON REINFORCED CONCRETE PIER & ABUTMENTS ON PILES

SPANS: 155'-9 1/8" & 106'-3 3/8" C/C BRGS. ALONG @ CONST. E. 22ND ST.

ROADWAY: 54'-0" TOE/TOE CURB WITH 9'-6" AND 22'-2" SIDEWALKS

LOADING: HL93, 60 PSF FUTURE WEARING SURFACE, & SIDEWALK PEDESTRIAN LL

SKEW: 13°48'28" RIGHT FORWARD

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: 30'-0" LONG (AS-1-15, AS-2-15), TYPE A, INSTALLATION, 1'-5" THICK

ALIGNMENT: TANGENT

CROWN: 0.02 FT/FT

DECK AREA: 32,042 SF

STRUCTURE FILE NUMBER: 1807839

COORDINATES: LATITUDE N 41°29'52.40"
 LONGITUDE W 81°40'25.98"

SITE PLAN
 CUY-90-1678 (BRIDGE 13)
 CR-710 (E. 22ND ST.) OVER I.R. 90

SFN	1807839
DESIGN AGENCY	
Michael Baker	INTERNATIONAL
DESIGNER/CHECKER	ZES ETB
REVIEWER	
CDC	05/10/24
PROJECT ID	82382
SUBSET	TOTAL
1	99
SHEET	TOTAL
2182	2696

ITEM 506 - STATIC LOAD TEST, AS PER PLAN

AT THE REAR AND FORWARD ABUTMENTS, PERFORM DYNAMIC TESTING ON THE FIRST TWO PRODUCTION PILES. PERFORM THE STATIC LOAD TEST ON EITHER PILE. ALSO PERFORM DYNAMIC TESTING ON TWO OTHER PILES, TO BE USED AS ANCHOR PILES. DRIVE ALL PILES TO THE FULL ESTIMATED LENGTH FOR THE REAR & FORWARD ABUTMENT SUBSTRUCTURE UNITS (55 FT & 65 FT), IN ACCORDANCE WITH THE PLAN NOTE "PILES DRIVEN TO FULL ESTIMATED LENGTH WITH PILE/SOIL SETUP." OTHER PRODUCTION PILES IN THE SAME SUBSTRUCTURE UNIT MAY BE USED AS ANCHOR PILES. THE STATIC LOAD TEST PILE AND ALL ANCHOR PILES SHALL NOT BE BATTERED. AFTER DRIVING ALL PILES TO THE FULL ESTIMATED LENGTH, CEASE ALL DRIVING OPERATIONS AT THE SUBSTRUCTURE FOR A MINIMUM OF 14 DAYS. AFTER THE WAITING PERIOD, PERFORM THE STATIC LOAD TEST, AND THEN PERFORM PILE RESTRIKES ON THE FOUR DYNAMIC LOAD TEST PILES (TWO RESTRIKE TEST ITEMS). PERFORM A CAPWAP ANALYSIS ON EACH PILE TESTED IN THE SAME SUBSTRUCTURE UNIT FOR EVERY DYNAMIC LOAD TEST AND EVERY RESTRIKE TEST. THE ENGINEER WILL REVIEW THE RESULTS OF THE PILE RESTRIKES AND ESTABLISH THE DRIVING CRITERIA FOR THE PILING IN THE SUBSTRUCTURE IN ACCORDANCE WITH THE PLAN NOTE "PILES DRIVEN TO FULL ESTIMATED LENGTH WITH PILE/SOIL SETUP." SUBMIT ALL TEST RESULTS TO THE OFFICE OF GEOTECHNICAL ENGINEERING.

IF THE RESTRIKE TEST RESULTS INDICATE THAT ANY OF THE PILES DID NOT ACHIEVE THE REQUIRED UBV, DRIVE THE PILE TO THE ESTABLISHED DRIVING CRITERIA IN ACCORDANCE WITH THE PLAN NOTE "PILES DRIVEN TO FULL ESTIMATED LENGTH WITH PILE/SOIL SETUP."

THE CONTRACTOR HAS THREE ALTERNATIVES TO PERFORM THE STATIC LOAD TEST, AS PER PLAN:

1. PERFORM THE STATIC LOAD TEST ON A PRODUCTION PILE IN THE REAR ABUTMENT AND FORWARD ABUTMENT SUBSTRUCTURE UNITS AND USE OTHER PRODUCTION PILES IN THE SAME SUBSTRUCTURE UNIT AS ANCHOR PILES, PER THE NOTE ABOVE.
2. PERFORM THE STATIC LOAD TEST ON A PRODUCTION PILE IN THE REAR ABUTMENT AND FORWARD ABUTMENT SUBSTRUCTURE UNITS AND DRIVE SUPPLEMENTAL PILES FOR ANCHOR PILES. STILL DRIVE ALL PILES TO THE FULL ESTIMATED LENGTH FOR THE ABUTMENT SUBSTRUCTURE UNIT. IN THIS CASE, PERFORM DYNAMIC LOAD TESTING AND RESTRIKE TESTING ON THE STATIC LOAD TEST PILE, ONE OTHER PILE IN THE SAME SUBSTRUCTURE UNIT, AND ON TWO OF THE ANCHOR PILES.
3. PERFORM THE STATIC LOAD TEST OFFLINE, ON A SUPPLEMENTAL TEST PILE WITHIN 50 FEET OF BOTH THE REAR ABUTMENT AND FORWARD ABUTMENT AND DRIVE AN ARRAY OF SUPPLEMENTAL PILES AS ANCHOR PILES. STILL DRIVE ALL PILES TO THE FULL ESTIMATED LENGTH FOR THE ABUTMENT SUBSTRUCTURE UNIT. IN THIS CASE, PERFORM DYNAMIC LOAD TESTING AND RESTRIKE TESTING ON THE STATIC LOAD TEST PILE, ONE OF THE ANCHOR PILES, AND ON TWO PRODUCTION PILES IN THE ABUTMENT SUBSTRUCTURE UNIT, IN ACCORDANCE WITH THE PLAN NOTE "PILES DRIVEN TO FULL ESTIMATED LENGTH WITH PILE/SOIL SETUP."

INCLUDE FOR PAYMENT WITHIN THIS ITEM A QUANTITY OF TWO (2)- ITEM 523 DYNAMIC LOAD TESTING, AS PER PLAN AND TWO (2)- ITEM 523 RESTRIKE, AS PER PLAN, ONE EACH FOR THE REAR AND FORWARD ABUTMENT SUBSTRUCTURE UNITS. EACH OF THESE INCLUDES TESTING ON TWO PILES, IN ACCORDANCE WITH ITEM 523. ANY SUPPLEMENTAL PILES DRIVEN FOR THE STATIC LOAD TEST ARE INCIDENTAL TO ITEM 506 STATIC LOAD TEST, AS PER PLAN.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN:

PROVIDE BUFF WASH FINISH ON EDGES AND BOTTOM OF DECK OVERHANGS AS DETAILED IN THE LANDSCAPE PLANS.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN:

PLACE CONTROL JOINTS PER THE AESTHETIC ENHANCEMENT PLANS. PROVIDE PEJF AND SEALANT AROUND LUMINAIRES AT SIDEWALK PENETRATIONS AS SHOWN IN THESE PLANS.

ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN:

ALL BRIDGE RAILS (PARAPETS), PILASTERS, AND PLANTERS SHALL RECEIVE A BUFF WASH FINISH WITH CLEAR SEALER (NON-EPOXY) PER THE LANDSCAPE PLANS AND DETAILS. THIS ITEM APPLIES TO USE OF SELF-CONSOLIDATING CONCRETE FOR BRIDGE PARAPETS, PILASTERS, AND WALLS TO IMPROVE CONCRETE CONSOLIDATION AND THE SURFACE FINISH OF ARCHITECTURAL CONCRETE ELEMENTS. USE AN APPROVED CONCRETE MIX DESIGN WITH MAXIMUM SIZE COARSE THAT DOES NOT EXCEED ¾-INCH NOMINAL.

PRIOR TO PLACING ANY CONCRETE ELEMENTS UNDER THIS PAY ITEM, INCLUDING ANY OF THE CONCRETE PARAPET, PILASTERS, AND PLANTERS, THE CONTRACTOR SHALL CAST PARAPET, PILASTER, AND PLANTER CONCRETE SAMPLE PANELS AS REQUIRED IN THE LANDSCAPE PLANS AND MEET THE APPROVAL STANDARDS THEREIN. CONFIRM, AND ADJUST, IF NECESSARY, THE MIX DESIGN, PLACEMENT TECHNIQUES, AND BUFF WASH FINISH TO DEMONSTRATE SATISFACTORY RESULTS THROUGH THE SAMPLE PANELS.

THE FINAL APPROVED SAMPLE PANELS WILL SERVE AS A JOB SITE STANDARD FROM WHICH THE ACCEPTANCE OF ALL OTHER WORK WILL BE DETERMINED. THOSE SAMPLE PANELS DETERMINED BY THE ENGINEER TO BE UNSATISFACTORY IN TERMS OF CONFORMANCE TO THE QUANTITY AND REPRESENTATIVE APPEARANCE OF THE JOB STANDARD SAMPLE PANELS WILL BE REPAIR OR REPLACED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE PROJECT.

IN ADDITION TO THE REQUIREMENTS OF ITEM 499 SELF-CONSOLIDATING CONCRETE (QC -SCC) UNDER THE ITEM 511 WORK FOR STRUCTURAL POUR ELEMENTS REQUIRING ARCHITECTURAL FINISHES, PROVIDE QC PERSONNEL, ACI CERTIFIED IN THE SELF-CONSOLIDATING CONCRETE TESTING, TO PERFORM CONCRETE FIELD TESTS FOR THIS MATERIAL TO ENSURE A QUALITY MIX AND PLACEMENT ON THE SELF-CONSOLIDATING CONCRETE QC/QA WORK.

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT, ABUTMENT

FORMLINER FIELD PATTERN ON SHEET 1867

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT, PIER

FORMLINER FIELD PATTERN ON SHEET 1867

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT, PLANTER AESTHETIC TREATMENT

SHEET 1850

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT, RAILING LETTERING

SHEET 1850 AND 1851

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING MEETING THE REQUIREMENTS OF SUPPLEMENT 1083. THE GRAFFITI COATING MUST BE COMPATIBLE WITH THE UNDERLYING CONCRETE SEALER. APPLY THE GRAFFITI COATING ACCORDING TO THE MANUFACTURE'S REQUIREMENTS. THE ADDITIONAL MATERIAL AND LABOR REQUIRED TO SEAL THE FORM LINER RELIEF SHALL BE INCLUDED IN THIS ITEM. TO ACCOUNT FOR THE SURFACE VARIATIONS DUE TO THE FORM LINERS, AN EXTRA 20 PERCENT HAS BEEN ADDED TO THE SEALING QUANTITIES FOR THE PURPOSE OF ESTIMATING. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW.

THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED) NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES OR POLYURETHANE COMPONENTS.

THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).

THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIC COMPOUNDS (EPA METHOD 24).

THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.

GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.

NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.

BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".

ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").

ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

FINISH COLORS:

ITEM 514 - FIELD PAINTING OF STURCUTRAL STEEL, FINISH COAT, AS PER PLAN

PAINT COLORS SHALL BE AS FOLLOWS:

BLACK FOX (SW 7020) - FASCIA GIRDERS (OUTER FACE AND BOTTOM FLANGE ONLY)

ALABASTER (SW 7008) - INSIDE GIRDERS, BRACING MEMBERS AND INSIDE FACE OF FASCIA GIRDERS

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

CONCRETE SEALER COLORS SHALL BE AS FOLLOWS:

BLACK FOX (SW 7020) - STREET NAME LETTERING ON RAILINGS

ALABASTER (SW 7008) - SUBSTRUCTURE - PIERS, ABUTMENTS AND ABUTMENT WALLS

ALPACA (SW 7022) - ABUTMENT AND WINGWALL ACCENTS

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN

CONSTRUCT REAR APPROACH SLAB AS DETAILED ON SHEET . SEE LANDSCAPING PLANS FOR INTEGRALLY COLORED CONCRETE DETAILS.

ITEM 607, VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

CANTILEVER FENCE PANELS AT CHEEKWALL LOCATIONS TO ENSURE AN OPENING GREATER THAN OR EQUAL TO 1" AND LESS THAN 4" EXISTS BETWEEN THE FENCE AND THE BACK FACE OF THE PILASTER. FENCE FABRIC SHALL BE BLACK.

**ITEM 625, LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN
ITEM 625, LIGHTING, MISC.: PEDESTRIAN POLE ANCHORAGE**

WHEN A LIGHT POLE OR PEDESTRIAN POLE IS MOUNTED ON A STRUCTURE, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE STRUCTURE IS ALSO PART OF THIS WORK.

PAYMENT SHALL BE AT THE UNIT PRICE FOR THE ITEM INCLUDING PLATE(S), ANCHOR ASSEMBLY, LABOR, EQUIPMENT, CONNECTIONS, INSPECTIONS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

12" GAS LINE INSTALLATION

ENBRIDGE GAS OHIO WILL INSTALL GAS PIPELINE ON BRIDGE AND WILL INSTALL LINK SEALS, SPACERS AND BOOT SEAL WHEN INSTALLING THE PIPELINE.

ITEM 625 - CONDUIT MISC.: AT&T 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES PAYMENT FOR INSTALLATION OF THE AT&T CONDUIT ON THE STRUCTURE, AS SHOWN IN THE PLANS. MATERIALS WILL BE SUPPLIED TO THE GENERAL CONTRACTOR FOR INSTALLATION. AT&T WILL PROVIDE CONDUIT RACKS, FIBERGLASS CONDUITS TO ENDS OF APPROACH SLAB, FITTINGS AND EXPANSION JOINTS. CONTRACTOR TO INSTALL ALL MATERIALS ON BRIDGE. AT&T WILL INSTALL CONDUITS OUTSIDE OF APPROACH SLABS TO MANHOLES. AT&T WILL COMPLETE THE CABLE WORK.

ITEM 625 - CONDUIT, MISC.: CEI 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES INSTALLATION OF THE CONDUIT ON THE STRUCTURE. CEI WILL PROVIDE ALL MATERIALS. CEI PULLS ALL CABLES. CEI CONTRACTOR WILL COMPLETE WORK UP TO THE OUTSIDE EDGE OF THE APPROACH SLABS (ALL CONDUIT OFF THE BRIDGE). CONTRACTOR WILL INSTALL THE CONDUIT BETWEEN THE OUTSIDE EDGES OF APPROACH SLABS (ALL CONDUIT UNDER APPROACH SLABS, ON THE BRIDGE AND THROUGH THE ABUTMENTS).

ITEM 625 - CONDUIT, MISC.: CPP 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES FURNISHING AND INSTALLING THE CPP CONDUIT ON THE STRUCTURE, AS SHOWN IN THE PLANS, AND PULLING THE WIRE. CPP WILL MAKE THE FINAL CONNECTION. CONTRACTOR TO PERFORM INTERMEDIATE (DEAD) SPLICING WITH CPP INSPECTION. CPP WILL COMPLETE CUT OVER SPLICING. CPP WILL REQUIRE NOTIFICATION OF SCHEDULE FOR THE PULLING OF CONDUIT. CPP TO INSPECT ALL WORK BEFORE FINAL CONNECTIONS ARE MADE IN MANHOLES.

ITEM 690 - ROLLER SUPPORTS (GAS LINE)

THIS ITEM INCLUDES FURNISHING AND INSTALLING STEEL ANGLE SUPPORT, ROLLERS AND HANGER ASSEMBLIES OF ALL GAS LINE SUPPORTS ON THE BRIDGE, AS SHOWN IN THE PLANS.

ITEM 690 - UTILITY SUPPORTS (AT&T DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL AT&T DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. AT&T WILL PROVIDE CONDUIT RACKS, FIBERGLASS CONDUITS TO ENDS OF APPROACH SLAB, FITTINGS AND EXPANSION JOINTS. CONTRACTOR TO INSTALL ALL MATERIALS ON BRIDGE.

ITEM 690 - UTILITY SUPPORTS (CEI DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL CEI DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. MATERIAL PROVIDED BY CEI FOR THIS WORK INCLUDES UTILITY HANGERS, CONDUIT RACKS, EXPANSION JOINTS AND SLEEVES. STEEL ANGLE SUPPORTS PROVIDED BY CONTRACTOR. CONTRACTOR TO INSTALL HANGERS AND CONDUIT RACKS. CONTRACTOR TO WORK WITH CEI TO GUARANTEE THAT THERE IS A PROPER ARRANGEMENT FOR THE DELIVERY OF MATERIALS.

ITEM 690 - UTILITY SUPPORTS (CPP DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL CPP DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS.

ITEM 690 - UTILITY SUPPORTS (WATER LINE)

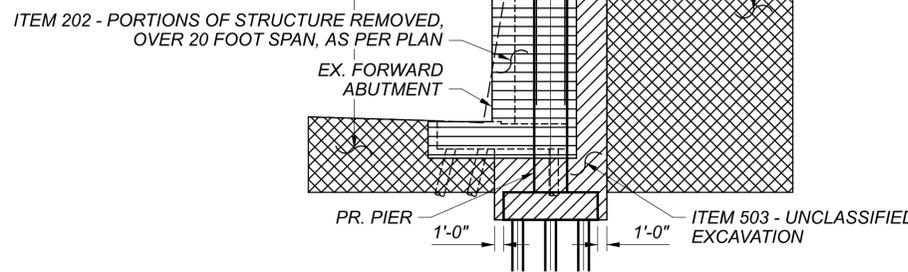
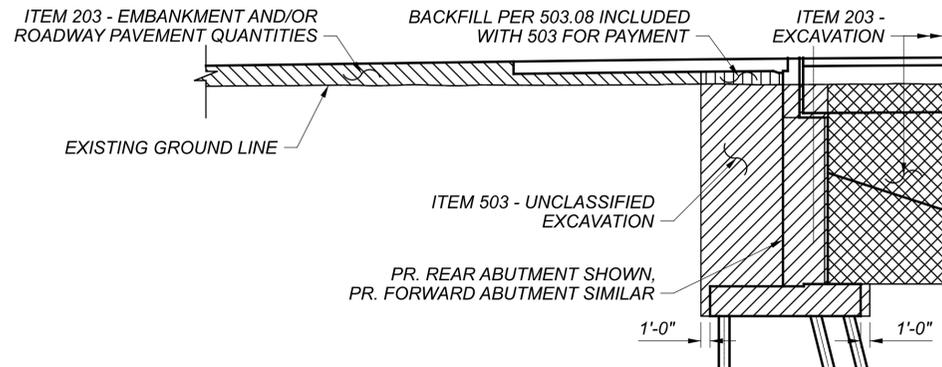
THIS ITEM INCLUDES INSTALLATION OF ALL WATER LINE SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND ELEMENTS SHOWN IN THE PLANS FOR THE WATER LINE.

SFN	1807839
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
ZES	KAG
REVIEWER	
CDC	05/10/24
PROJECT ID	82382
SUBSET	TOTAL
5	99
SHEET	TOTAL
2186	2696

ESTIMATED QUANTITIES

CALCULATED BY: ZES DATE: 03/20/24
 CHECKED BY: DAF DATE: 04/12/24

PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	SHEET REF.
02/IMS/10	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	4, 9-14
02/IMS/10	202	11501	8	EACH	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	8				16-17
02/IMS/10	202	22900	678	SY	APPROACH SLAB REMOVED				678	
02/IMS/10	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	4
02/IMS/10	503	21101	11,081	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN				11,081	4
02/IMS/10	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
02/IMS/10	506	11101	LS		STATIC LOAD TEST, AS PER PLAN				LS	5
02/IMS/10	507	00600	22,230	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	22,230				
02/IMS/10	507	00650	24,040	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	24,040				
02/IMS/10	507	00700	6,935	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN			6,935		
02/IMS/10	507	00750	7,300	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED			7,300		
02/IMS/10	509	10000	711,695	LB	EPOXY COATED STEEL REINFORCEMENT	272,681	104,588	334,426		
02/IMS/10	511	34447	910	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			910		5
02/IMS/10	511	34463	265	CY	CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			265		5
02/IMS/10	511	41012	129	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS	129				
02/IMS/10	511	44112	1,673	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	1,673				
02/IMS/10	511	46512	1,404	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	1,248	156			
02/IMS/10	511	51513	484	CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN			484		5
02/IMS/10	511	71200	13,047	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT, ABUTMENT	13,047				5
02/IMS/10	511	71200	3,218	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT, PIER		3,218			5
02/IMS/10	511	71200	1,532	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT, PLANTER AESTHETIC TREATMENT			1,532		5
02/IMS/10	511	71200	295	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT, RAILING LETTERING			295		5
02/IMS/10	512	10001	656	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	656				5
02/IMS/10	512	10050	3,848	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)			3,336	512	
02/IMS/10	512	10101	1,947	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	1,744	203			5
02/IMS/10	512	33000	32	SY	TYPE 2 WATERPROOFING				32	
02/IMS/10	512	33010	1,727	SY	TYPE 3 WATERPROOFING				1,727	
02/IMS/10	513	10280	1,924,400	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			1,924,400		
02/IMS/10	513	20000	8,656	EACH	WELDED STUD SHEAR CONNECTORS			8,656		
02/IMS/10	514	00060	80,709	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			80,709		
02/IMS/10	514	00067	80,709	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			80,709		5
02/IMS/10	516	11210	251	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL				251	
02/IMS/10	516	13600	736	SF	1" PREFORMED EXPANSION JOINT FILLER	384	352			
02/IMS/10	516	44101	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-8" W X 0'-10" L X 2.65" T)				14	56-57
02/IMS/10	516	44301	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-8" W X 1'-5" L X 4.09" T)				14	56-57
02/IMS/10	516	44401	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (2'-5" W X 2'-2" L X 5.69" T)				14	56-57



ITEM 503 PAY LIMIT DIAGRAM

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPER/SIZE: 34x22 (in.) DATE: 10/17/2025 TIME: 9:50:57 AM USER: John.Carey
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ESTIMATED QUANTITIES (1 OF 2)
 CUY-90-1678 (BRIDGE 13)
 CR-710 (E. 22ND ST.) OVER I.R. 90

SFN	1807839
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	ZES
REVIEWER	KAG
PROJECT ID	82382
SUBSET	7
TOTAL	99
SHEET	2188
TOTAL	2696

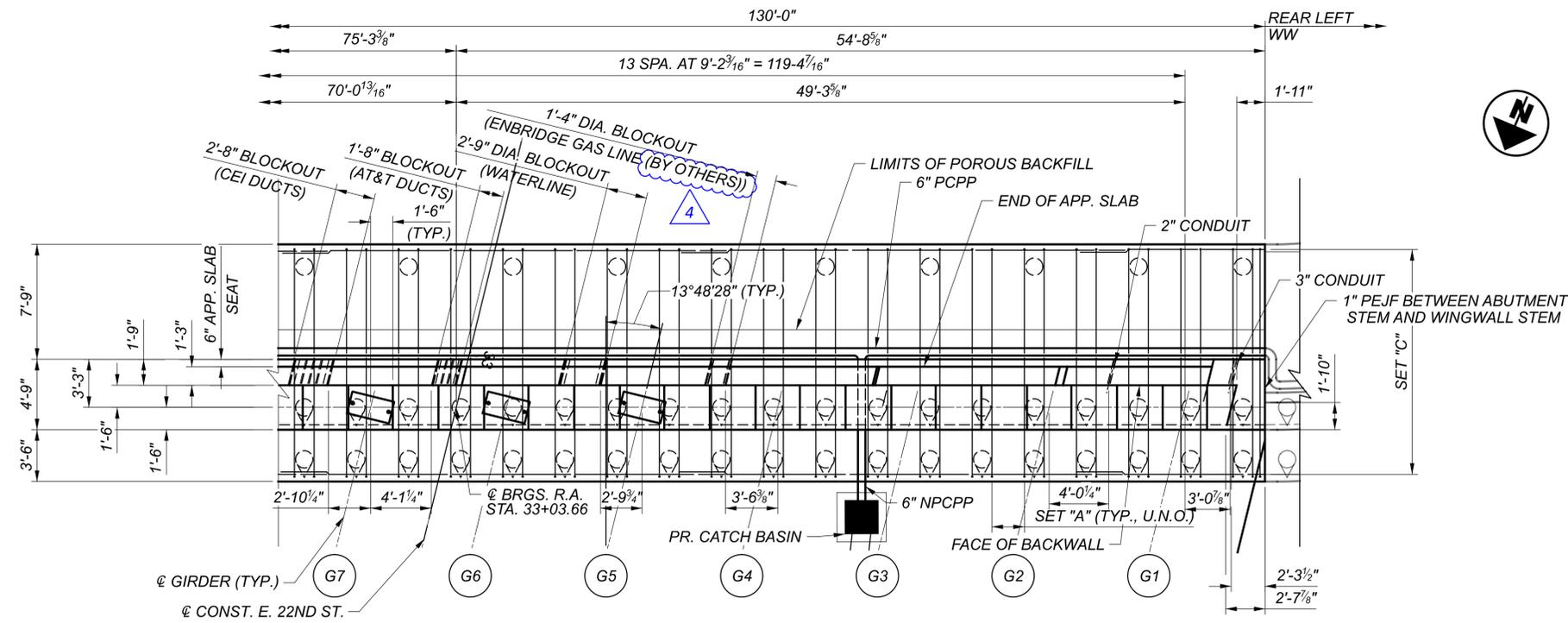
ESTIMATED QUANTITIES

CALCULATED BY: ZES DATE: 03/20/24
 CHECKED BY: DAF DATE: 04/12/24

PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	SHEET REF.
02/IMS/10	518	12200	8	EACH	SCUPPERS, INCLUDING SUPPORTS				8	
02/IMS/10	518	21200	1,035	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	1,035				
02/IMS/10	518	40000	697	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	697				
02/IMS/10	518	40011	33	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	33				85
02/IMS/10	518	43301	304	FT	6" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN	66	130	108		85 & 88
02/IMS/10	518	62100	53	FT	STRUCTURE DRAINAGE, MISC.: 4" NON-PERFORATED PVC PIPE, INCLUDING SPECIALS			53		85
02/IMS/10	518	62100	406	FT	STRUCTURE DRAINAGE, MISC.: 4" PERFORATED PVC PIPE			406		85
02/IMS/10	518	62100	390	FT	STRUCTURE DRAINAGE, MISC.: 6" NON-PERFORATED PVC DRAIN PIPE, INCLUDING SPECIALS			390		85
02/IMS/10	523	20001	4	EACH	DYNAMIC LOAD TESTING, AS PER PLAN				4	3
02/IMS/10	523	20501	4	EACH	RESTRIKE, AS PER PLAN				4	3
02/IMS/10	526	30001	394	SY	REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN				394	5
02/IMS/10	526	30010	394	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")				394	
02/IMS/10	526	90010	244	FT	TYPE A INSTALLATION				244	
02/IMS/10	SPECIAL	530E00200	LS		STRUCTURES: PRECONSTRUCTION CONDITION SURVEY				LS	3
02/IMS/10	SPECIAL	530E00400	280	EACH	STRUCTURES: BOLLARD ANCHORAGE				280	86
02/IMS/10	SPECIAL	530E14000	LS		STRUCTURAL SURVEY AND MONITORING OF VIBRATION				LS	3
02/IMS/10	601	21000	1,092	SY	CONCRETE SLOPE PROTECTION				1,092	
02/IMS/10	607	39911	319	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN				319	5
02/IMS/10	625	10615	28	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN				28	5
02/IMS/10	625	25920	2,144	FT	CONDUIT, MISC.: AT&T 4" CONDUIT INSTALLATION				2,144	5
02/IMS/10	625	25920	3,216	FT	CONDUIT, MISC.: CEI 4" CONDUIT INSTALLATION				3,216	5
02/IMS/10	625	25920	2,412	FT	CONDUIT, MISC.: CPP 4" CONDUIT INSTALLATION				2,412	5
02/IMS/10	625	98000	24	EACH	LIGHTING, MISC.: PEDESTRIAN POLE ANCHORAGE			24		5
02/IMS/10	SPECIAL	690E50600	70	EACH	BOLLARD				70	1826
02/IMS/10	SPECIAL	690E98000	29	EACH	ROLLER SUPPORTS (GAS LINE)			29		5
02/IMS/10	SPECIAL	690E98000	29	EACH	UTILITY SUPPORTS (AT&T DUCTS)			29		5
02/IMS/10	SPECIAL	690E98000	29	EACH	UTILITY SUPPORTS (CEI DUCTS)			29		5
02/IMS/10	SPECIAL	690E98000	29	EACH	UTILITY SUPPORTS (CPP DUCTS)			29		5
02/IMS/10	SPECIAL	690E98000	27	EACH	UTILITY SUPPORTS (WATER LINE)			27		5

ESTIMATED QUANTITIES (2 OF 2)
 CUY-90-1678 (BRIDGE 13)
 CR-710 (E. 22ND ST.) OVER I.R. 90

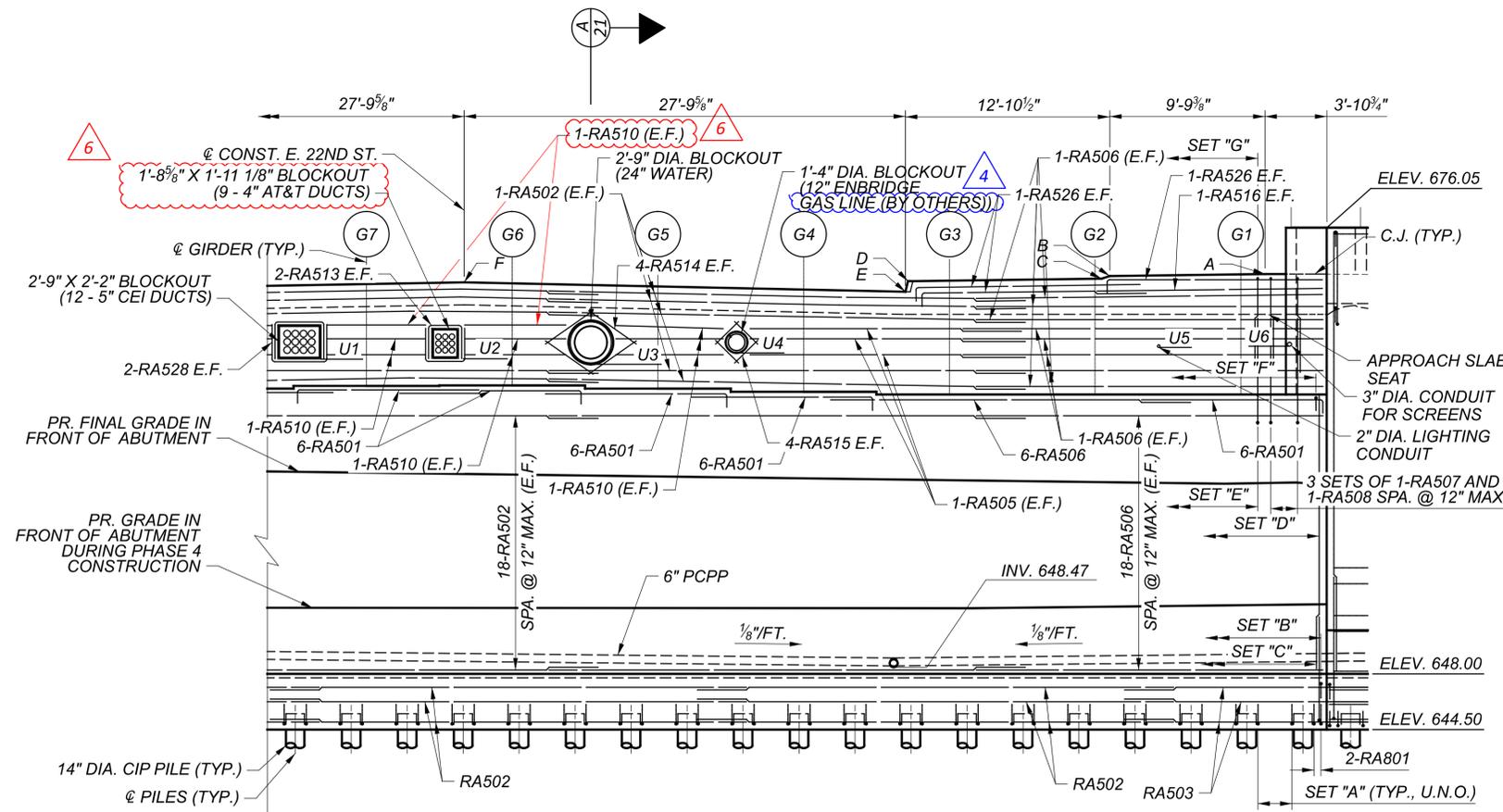
SFN	1807839
DESIGN AGENCY	
Michael Baker	INTERNATIONAL
DESIGNER	CHECKER
ZES	KAG
REVIEWER	
CDC	05/10/24
PROJECT ID	82382
SUBSET	TOTAL
8	99
SHEET	TOTAL
2189	2696



REAR ABUTMENT PLAN
 ONLY BOTTOM OF FOOTING REINFORCEMENT SHOWN FOR CLARITY

REAR ABUTMENT	
POINT	ELEVATION
A	673.12
B	673.01
C	672.85
D	672.70
E	672.03
F	672.62
G1 (AT BEAM SEAT)	665.57
G2 (AT BEAM SEAT)	665.57
G3 (AT BEAM SEAT)	665.57
G4 (AT BEAM SEAT)	665.74
G5 (AT BEAM SEAT)	665.94
G6 (AT BEAM SEAT)	666.14
G7 (AT BEAM SEAT)	666.11

UTILITIES	
POINT	ELEVATION
U1	667.79
U2	667.81
U3	667.47
U4	668.18
U5	668.52
U6	668.60



REAR ABUTMENT ELEVATION

REINFORCING LEGEND

SET "A" = 4-RA801 SPA. @ 12" MAX. (BOT., TYP. BETWEEN PILES U.N.O.), 36 SETS TOTAL

SET "B" = 131-RA601 SPA. @ 12" MAX. (TOP)

SET "C" = 131-RA504 SPA. @ 12" MAX. (N.F.)
 261-RA701 SPA. @ 6" MAX. (F.F.)

SET "D" = 131-RA505 SPA. @ 12" MAX. (N.F.)
 261-RA702 SPA. @ 6" MAX. (F.F.)
 (LAP SET "C" BARS)

SET "E" = 126-RA508 SPA. @ 12" MAX.

SET "F" = 131-RA507 SPA. @ 12" MAX.

SET "G" = 126-RA509 (LAP SET "E" BARS)

MIN. LAP LENGTHS:

- #5 - 3'-1"
- #6 - 3'-7"
- #7 - 4'-8"
- #8 - 5'-4"

LEGEND

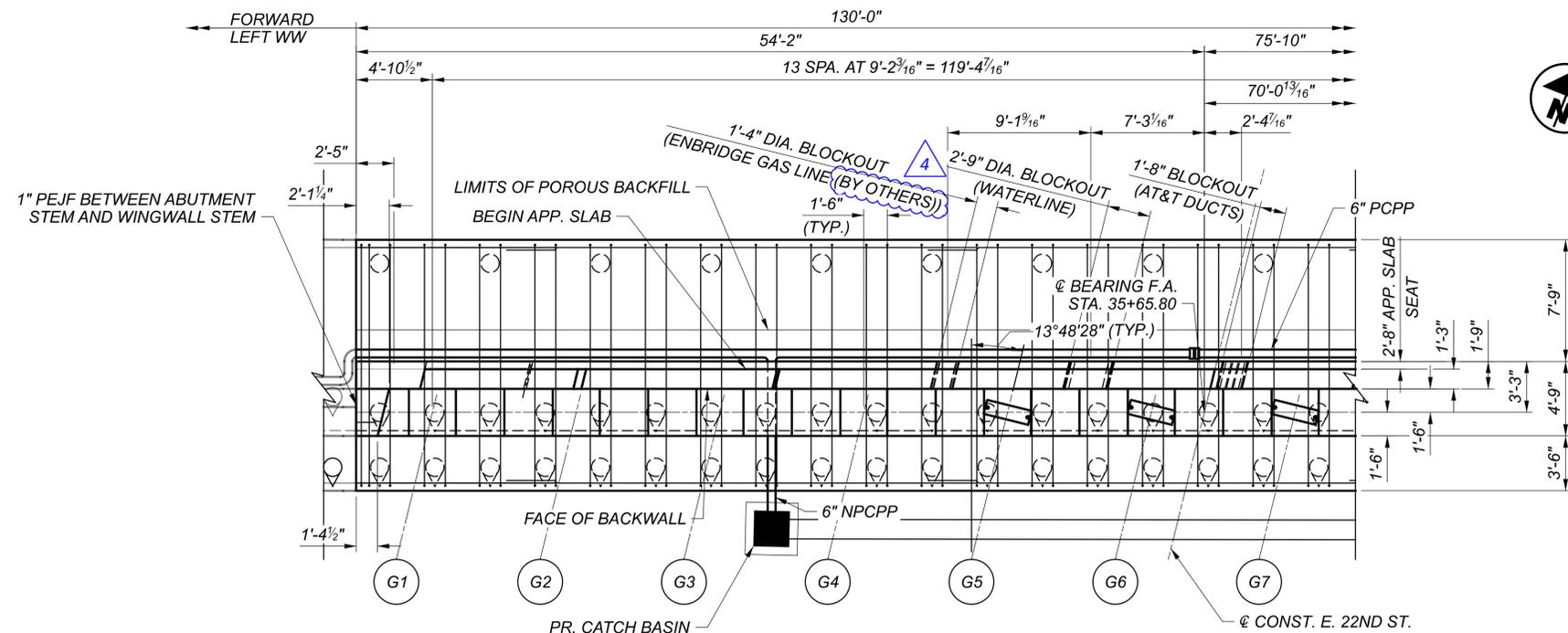
NPCPP - NON-PERFORATED CORRUGATED POLYETHYLENE PIPE (C&MS 707.33, TYPE S)

PCPP - PERFORATED CORRUGATED POLYETHYLENE PIPE (C&MS 707.33, TYPE SP)

NOTES

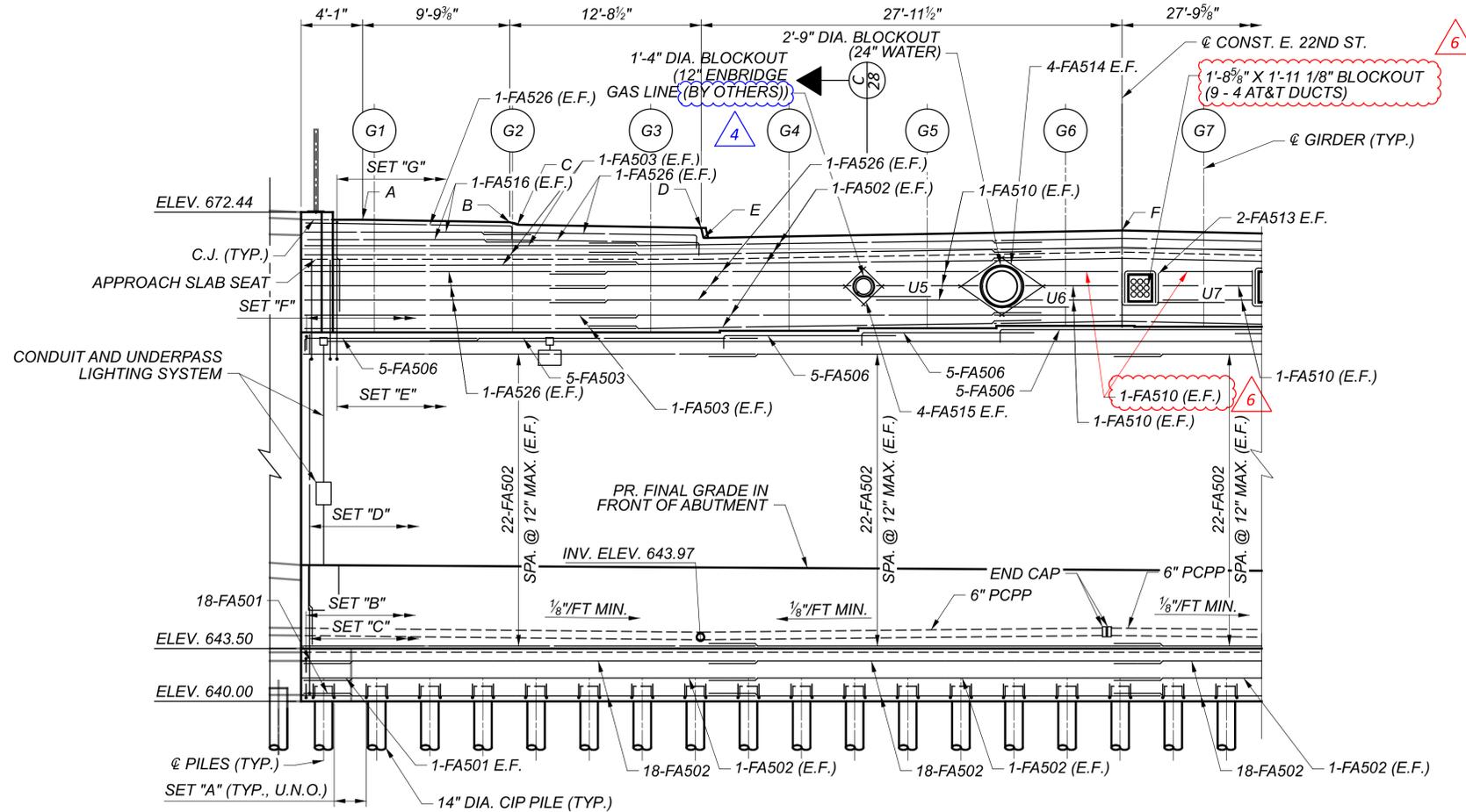
1. FOR ADDITIONAL DETAILS, SEE SHEET 20 & 21 / 99
2. SEE FOUNDATION PLAN FOR PILE LAYOUT.
3. SLOPE 6" NPCPP AND PCPP 1/8" / FT. MIN.
4. CHEEK WALL REINFORCING NOT SHOWN FOR CLARITY. SEE SHEET 21/99 FOR CHEEK WALL REINFORCING DETAILS.
5. IN THE FINAL CONDITION, THE NON-PERFORATED DRAINAGE PIPE SHALL BE OUTLET INTO THE CATCH BASIN. THE PIPE INVERT AT THE CATCH BASIN IS PROVIDED ON THIS SHEET. THE CONTRACTOR SHALL ENSURE THE DRAINAGE PIPE CAN OUTLET PROPERLY IF THE CATCH BASIN IS NOT CONSTRUCTED IN THE SAME PHASE AT THE ABUTMENT. REFER TO DRAINAGE SHEETS FOR CATCH BASIN DETAILS.

SFN	1807839
DESIGN AGENCY	
Michael Baker	
INTERNATIONAL	
DESIGNER/CHECKER	LPC / GZ
REVIEWER	CDC 05/10/24
PROJECT ID	82382
SUBSET	19 / 99
SHEET	2200 / 2696



FORWARD ABUTMENT PLAN

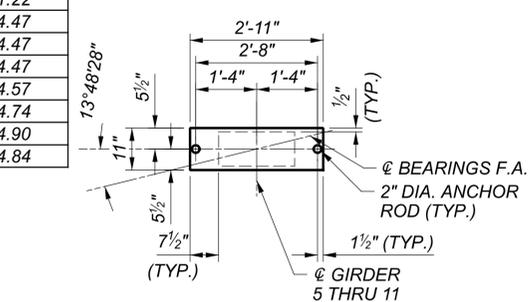
ONLY BOTTOM OF FOOTING REINFORCEMENT SHOWN FOR CLARITY



FORWARD ABUTMENT ELEVATION

FORWARD ABUTMENT	
POINT	ELEVATION
A	671.94
B	671.77
C	671.61
D	671.40
E	670.73
F	671.22
G1 (AT BEAM SEAT)	664.47
G2 (AT BEAM SEAT)	664.47
G3 (AT BEAM SEAT)	664.47
G4 (AT BEAM SEAT)	664.57
G5 (AT BEAM SEAT)	664.74
G6 (AT BEAM SEAT)	664.90
G7 (AT BEAM SEAT)	664.84

UTILITIES	
POINT	ELEVATION
U5	666.84
U6	666.14
U7	666.44



GUIDED BEARING LOAD PLATE DETAIL

REINFORCING LEGEND

- SET "A" = 4-FA801 SPA. @ 12" MAX. (BOT., TYP. BETWEEN PILES U.N.O.), 36 SETS TOTAL
- SET "B" = 260-FA601 SPA. @ 6" MAX. (TOP)
- SET "C" = 131-FA504 SPA. @ 12" MAX. (N.F.)
261-FA701 SPA. @ 6" MAX. (F.F.)
- SET "D" = 131-FA505 SPA. @ 12" MAX. (N.F.)
261-FA702 SPA. @ 6" MAX. (F.F.)
(LAP SET "D" BARS)
- SET "E" = 126-FA508 SPA. @ 12" MAX.
- SET "F" = 131-FA507 SPA. @ 12" MAX.
- SET "G" = 126-FA509 (LAP SET "E" BARS)

MIN. LAP LENGTHS:

- #5 - 3'-1"
- #6 - 3'-7"
- #7 - 4'-8"
- #8 - 5'-4"

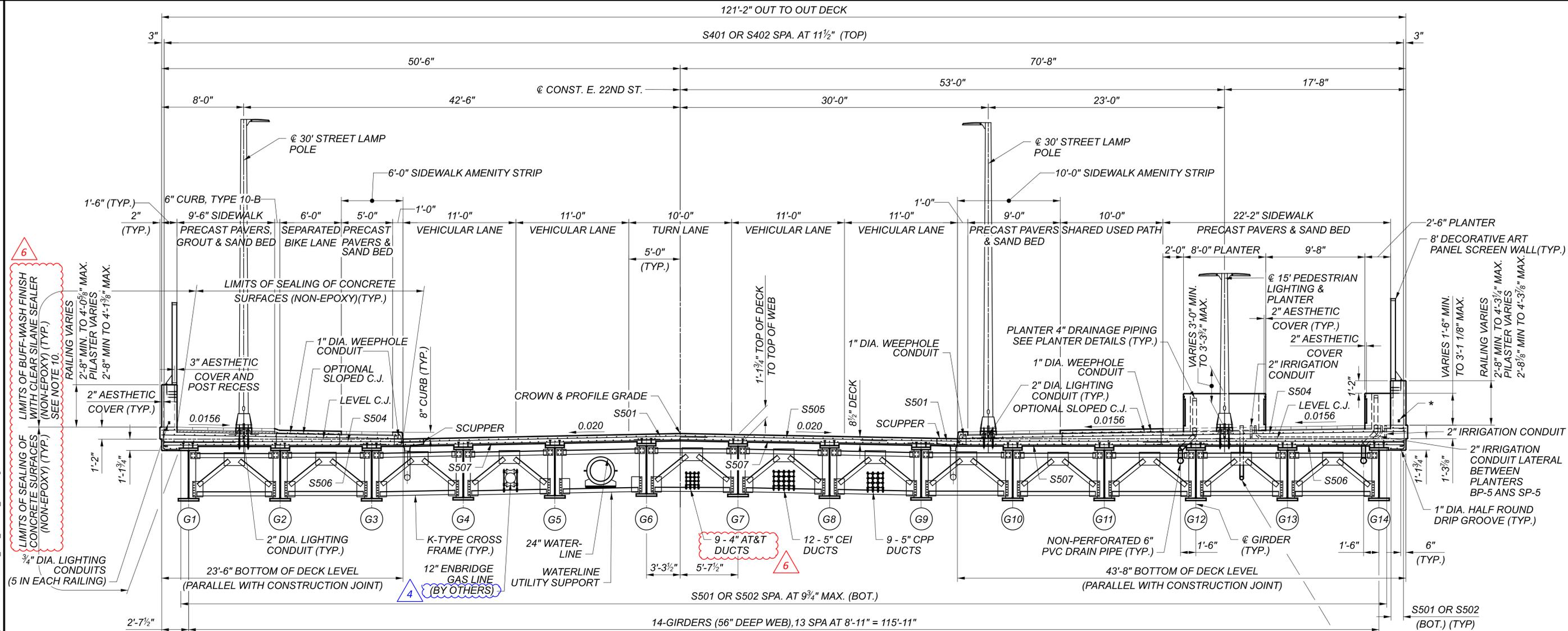
LEGEND

NPCPP - NON-PERFORATED CORRUGATED POLYETHYLENE PIPE (C&MS 707.33, TYPE S)
 PCPP - PERFORATED CORRUGATED POLYETHYLENE PIPE (C&MS 707.33, TYPE SP)

NOTES

- FOR ADDITIONAL DETAILS, SEE SHEET 26 & 27 /99
- SEE FOUNDATION PLAN FOR PILE LAYOUT.
- SLOPE 6" NPCPP AND PCPP 1/8" / FT. MIN.
- CHEEK WALL REINFORCING NOT SHOWN FOR CLARITY. SEE SHEET 28/99 FOR CHEEK WALL REINFORCING DETAILS.
- ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE SETTING OF BEARING ANCHORS.
- FOR UNDERPASS LIGHTING DETAILS, SEE SHEET 1747 / 2696 .

SFN	1807839
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	LPC / GZ
REVIEWER	CDC 05/10/24
PROJECT ID	82382
SUBSET	25 / 99
SHEET	2206 / 2696



6
 LIMITS OF SEALING OF CONCRETE SURFACES (NON-EPOXY) (TYP.)
 RAILING VARIES
 2'-8" MIN. TO 4'-0 5/8" MAX.
 PILASTER VARIES
 2'-8" MIN TO 4'-1 3/8" MAX.
 SEE NOTE 10.

5
 3/4" DIA. LIGHTING CONDUITS
 (5 IN EACH RAILING)

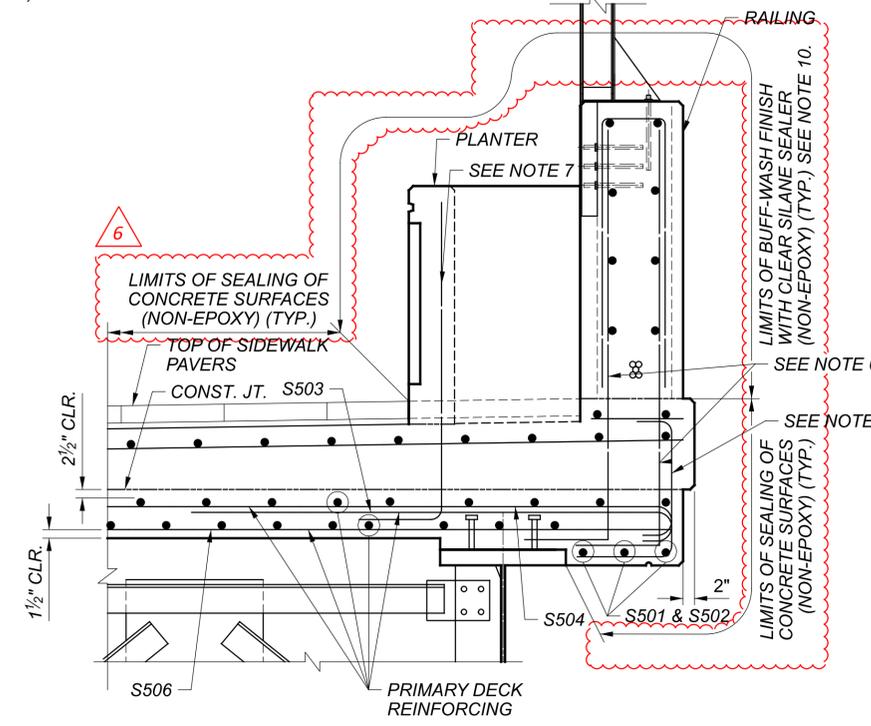
4
 12" ENBRIDGE GAS LINE (BY OTHERS)

3
 2" DIA. LIGHTING CONDUIT (TYP.)

2
 2" DIA. LIGHTING CONDUIT (TYP.)

1
 2" DIA. LIGHTING CONDUIT (TYP.)

0
 2" DIA. LIGHTING CONDUIT (TYP.)



OVERHANG REINFORCING DETAIL

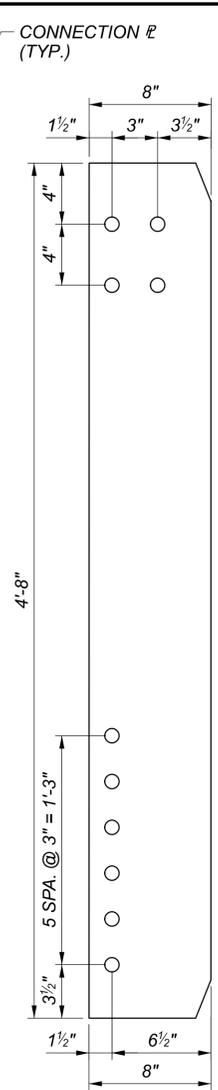
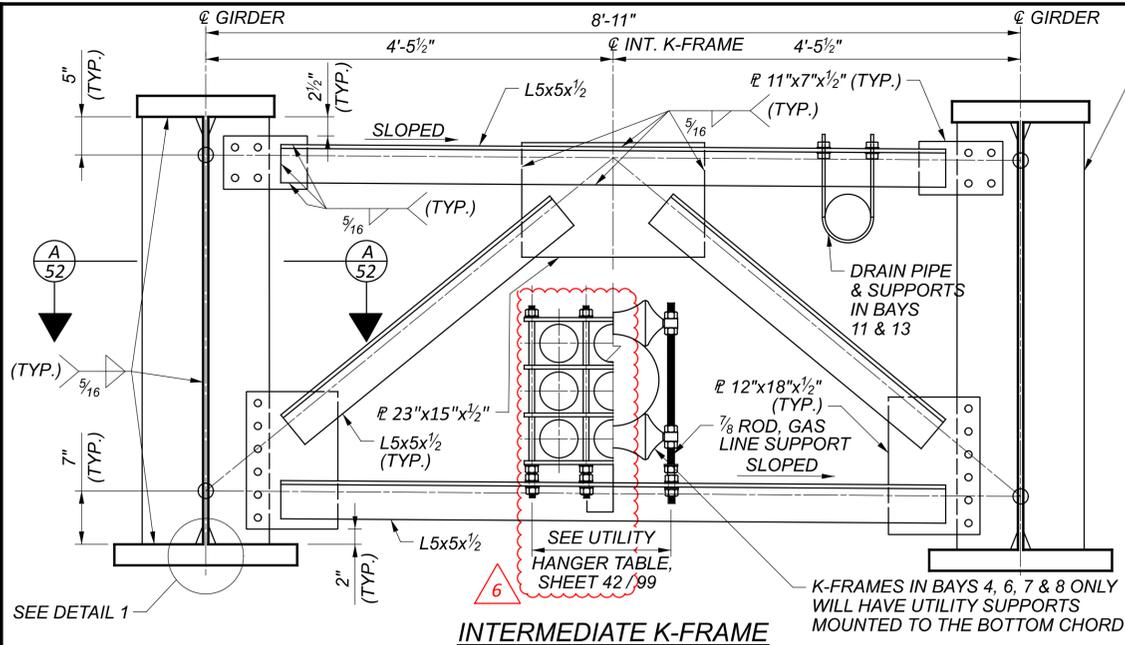
TRANSVERSE SECTION
 (PILASTERS AND BOLLARDS NOT SHOWN)

NOTES:

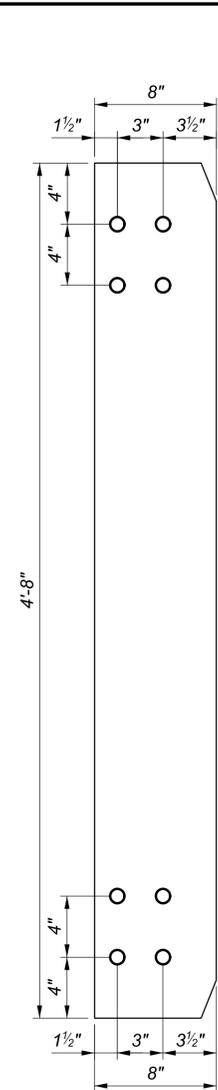
- FOR ANCHORAGE OF LIGHT POLES, COORDINATE WITH MANUFACTURER FOR ANCHOR BOLT MATERIAL SPECIFICATIONS, STRENGTH, DIAMETER, LENGTH AND SPACING.
- PAYMENT FOR LIGHT POLE ANCHORAGE, INCLUDING ALL LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LIGHT POLE ANCHORAGE ASSEMBLY AS SHOWN ON THE PLANS, SHALL BE PAID FOR UNDER ITEM 625 - LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN. FOR PAYMENTS ASSOCIATED WITH LIGHT POLE, SEE LIGHTING PLANS.
- 2" DIA. LIGHTING CONDUITS ARE INCLUDED WITH LIGHTING ITEMS FOR PAYMENT.
- FOR LIGHT POLE DETAILS, REFER TO LIGHTING PLANS.
- FOR SIDEWALK REBAR CAST WITH THE DECK. SEE SHEETS 66 - 70 /99.
- FOR RAILING REBAR CAST WITH THE DECK. SEE SHEETS 71 - 80 /99.
- FOR PLANTER REBAR CAST WITH THE DECK, SEE SHEETS 83 - 84 /99.
- DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 5 1/4" AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEELPLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.
 THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEELPLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.
- PROVIDE GROUNDING PER STANDARD DRAWING HL-50.21. THE FOLLOWING BRIDGE COMPONENTS SHALL BE CONNECTED TO THE GROUNDING SYSTEM: STRUCTURAL STEEL, SCREEN WALL POSTS, LIGHT POLES, AND ALUMINUM PLANTERS.
- BUFF-WASH FINISH WITH CLEAR SILANE SEALER TO BE APPLIED TO ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES FOR RAILINGS, PILASTERS, AND PLANTERS. SEE AESTHETIC ENHANCEMENT PLANS FOR DETAILS OF SURFACE FINISH.

TRANSVERSE SECTION
 CUY-90-1678 (BRIDGE 13)
 CR-710 (E. 22ND ST.) OVER I.R. 90

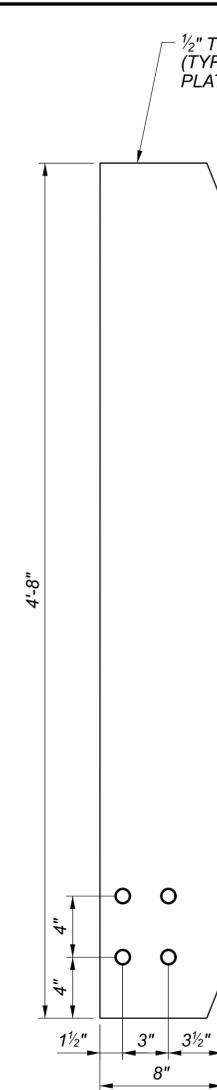
SFN	1807839
DESIGN AGENCY	
DESIGNER	ZES
CHECKER	ETB
REVIEWER	
DATE	05/10/24
PROJECT ID	82382
SUBSET	41
TOTAL	99
SHEET	2222
TOTAL	2696



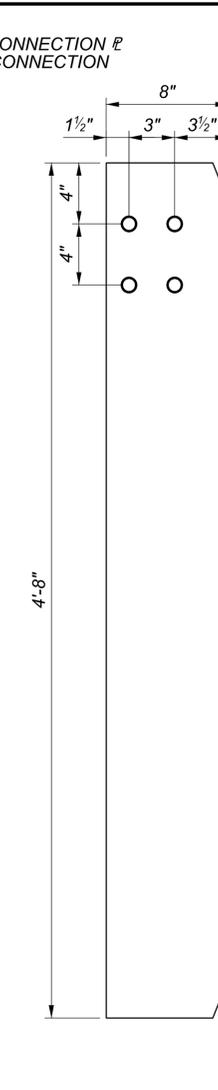
INTERMEDIATE K-FRAME CONNECTION PLATE



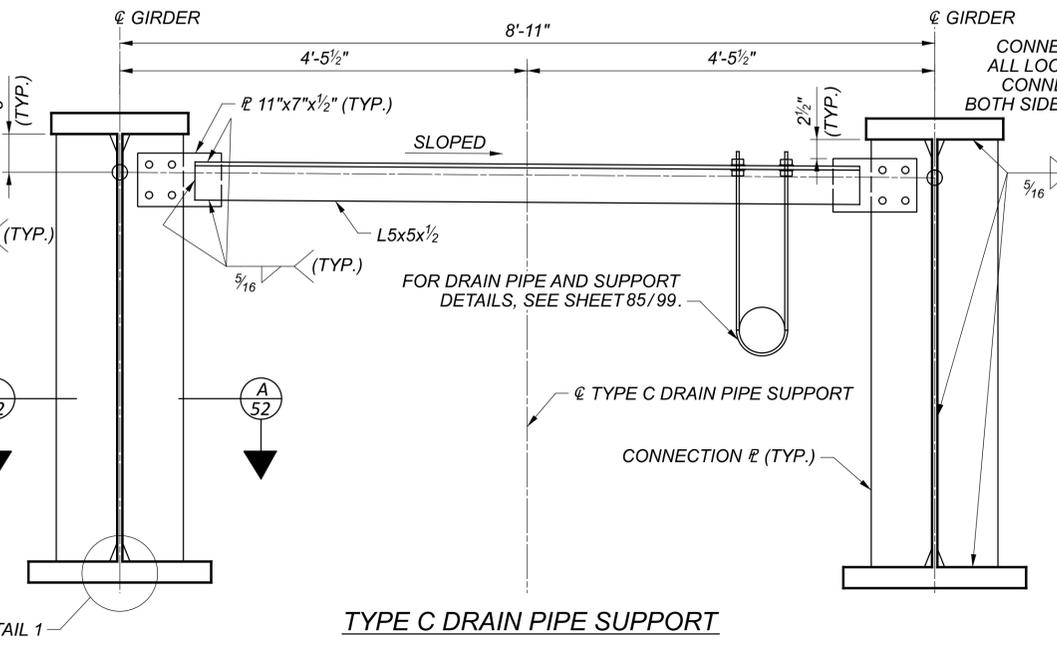
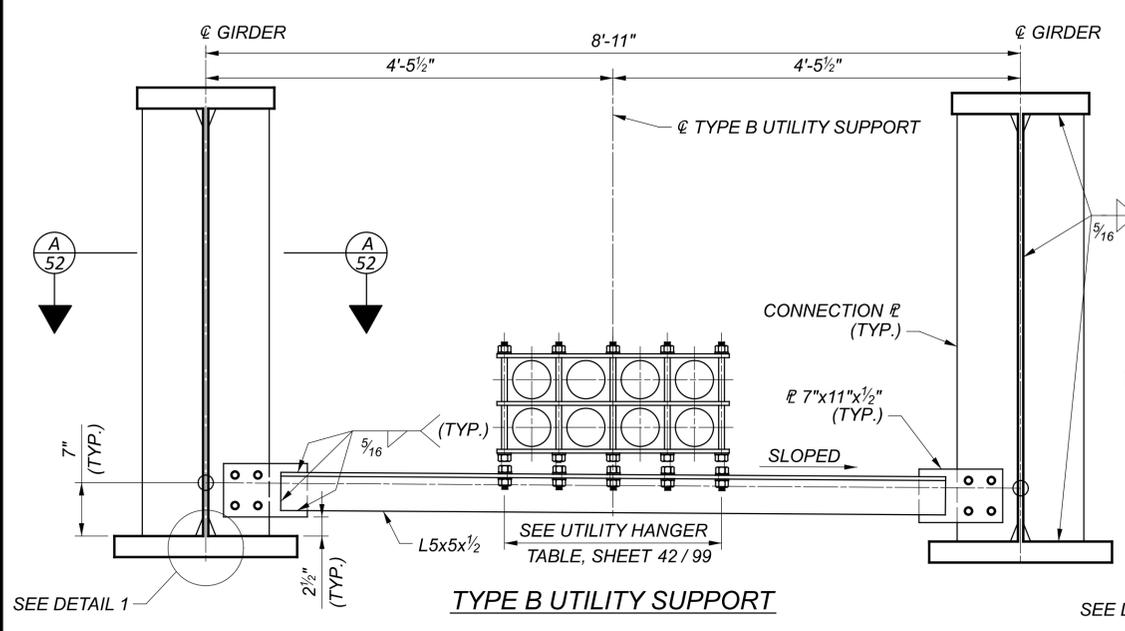
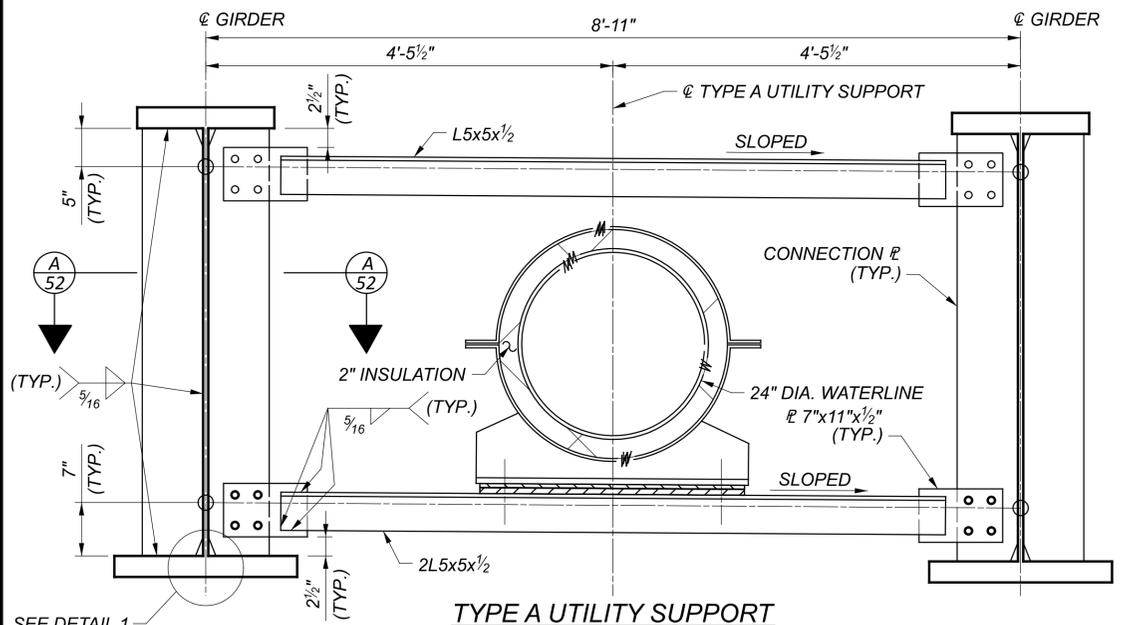
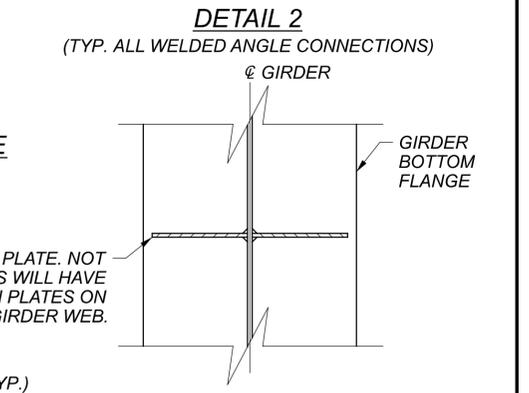
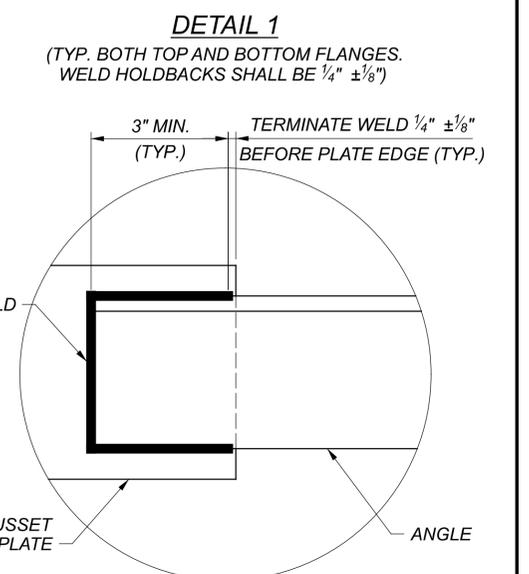
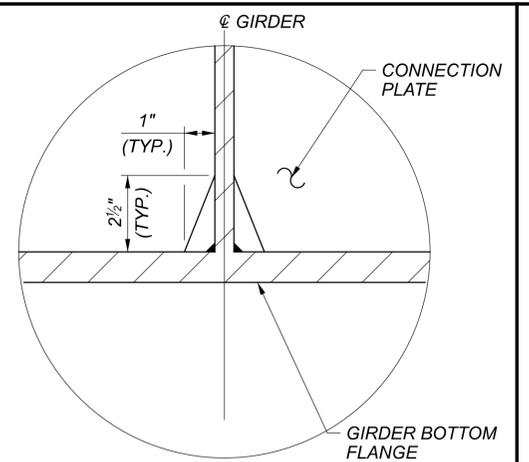
TYPE A UTILITY SUPPORT CONNECTION PLATE



TYPE B UTILITY SUPPORT CONNECTION PLATE

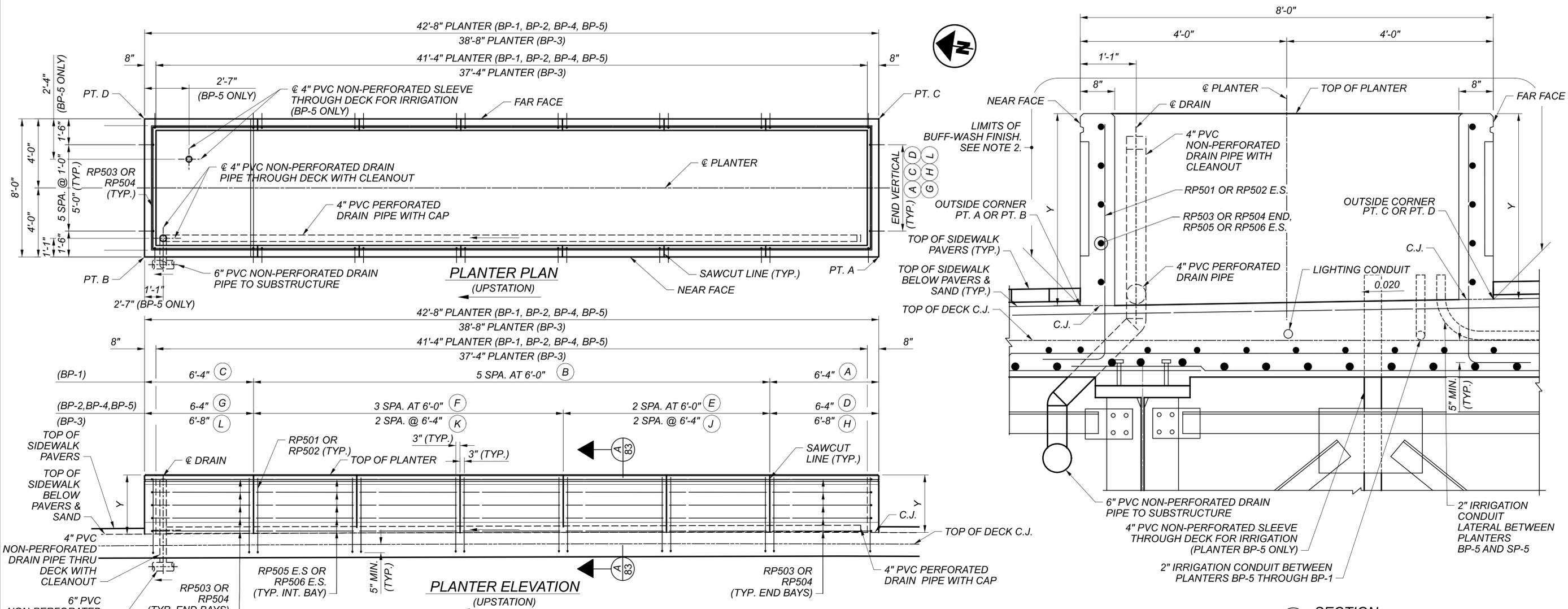


TYPE C DRAIN PIPE SUPPORT CONNECTION PLATE



- NOTES:**
1. ALL STEEL IS ASTM 709 GRADE 50, UNLESS NOTED OTHERWISE.
 2. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER, ASTM F3125 GRADE A325, TYPE 1, GALVANIZED. ALL BOLTS SHALL BE SIZED TO EXCLUDE THREADS FROM SHEAR PLANES.
 3. ALL BOLT HOLES SHALL BE 1/8" DIAMETER.
 4. PREPARE FAYING SURFACES FOR ALL BOLTED CONNECTIONS TO PROVIDE CLASS B SURFACES.
 5. MINIMUM EDGE DISTANCE FOR BOLTS SHALL BE 1 1/2".
 6. CONTRACTOR TO COORDINATE UTILITY SUPPORT INSTALLATION DETAILS WITH UTILITY OWNERS. PAYMENT FOR FIELD DRILLING BOLT HOLES AND INSTALLATION OF UTILITY SUPPORTS IS INCLUDED WITH ITEM 690.

SFN	1807839
DESIGN AGENCY	
DESIGNER/CHECKER	JBT/BWC
REVIEWER	CDC
PROJECT ID	82382
SUBSET	52
TOTAL	99
SHEET	2233
TOTAL	2696



- | | | | |
|---|---|---|---|
| TYPICAL END BAY | TYPICAL INTERIOR BAY | TYPICAL INTERIOR BAY | TYPICAL END BAY |
| <p>(C) 5-RP503, 6-RP501 SPA. @ 1'-0" = 5'-0" END, & 7-RP501 SPA. @ 1'-0" MAX. E.S. = 5'-7"</p> <p>(G) 5-RP503, 6-RP502 SPA. @ 1'-0" = 5'-0" END, & 7-RP502 SPA. @ 1'-0" MAX. E.S. = 5'-7"</p> <p>(L) 5-RP504, 6-RP502 SPA. @ 1'-0" = 5'-0" END, & 7-RP502 SPA. @ 1'-0" MAX. E.S. = 5'-11"</p> | <p>(B) 5-RP505 E.S. & 7-RP501 SPA. @ 1'-0" MAX. E.S. = 5'-6"</p> <p>(F) 5-RP505 E.S. & 7-RP502 SPA. @ 1'-0" MAX. E.S. = 5'-6"</p> <p>(K) 5-RP506 E.S. & 7-RP502 SPA. @ 1'-0" MAX. E.S. = 5'-10"</p> | <p>(B) 5-RP505 E.S. & 7-RP501 SPA. @ 1'-0" MAX. E.S. = 5'-6"</p> <p>(E) 5-RP505 E.S. & 7-RP501 SPA. @ 1'-0" MAX. E.S. = 5'-6"</p> <p>(J) 5-RP506 E.S. & 7-RP501 SPA. @ 1'-0" MAX. E.S. = 5'-10"</p> | <p>(A) 5-RP503, 6-RP501 SPA. @ 1'-0" = 5'-0" END, & 7-RP501 SPA. @ 1'-0" MAX. E.S. = 5'-7"</p> <p>(D) 5-RP503, 6-RP501 SPA. @ 1'-0" = 5'-0" END, & 7-RP501 SPA. @ 1'-0" MAX. E.S. = 5'-7"</p> <p>(H) 5-RP504, 6-RP501 SPA. @ 1'-0" = 5'-0" END, & 7-RP501 SPA. @ 1'-0" MAX. E.S. = 5'-11"</p> |

PLANTER	LOCATION PT.	LOCATION PT. STATION / OFFSET	TOP OF SIDEWALK BELOW PAVERS & SAND EL.	TOP OF SIDEWALK PAVERS EL.	TOP OF PLANTER EL.	DIMENSION "Y" (FT.)	DRAIN THROUGH DECK LOCATION STATION / OFFSET
BP-1	PT. A	STA. 33+28.65 OFF. 49.00' RT	672.89	673.22	676.28	3.39	STA. 33+70.24 OFF. 50.08' RT
	PT. B	STA. 33+71.32 OFF. 49.00' RT	672.80	673.13		3.48	
	PT. C	STA. 33+28.65 OFF. 57.00' RT	673.01	673.34		3.27	
	PT. D	STA. 33+71.32 OFF. 57.00' RT	672.92	673.25		3.36	
BP-2	PT. A	STA. 33+80.57 OFF. 49.00' RT	672.73	673.06	676.12	3.39	STA. 34+22.15 OFF. 50.08' RT
	PT. B	STA. 34+23.24 OFF. 49.00' RT	672.42	672.75		3.70	
	PT. C	STA. 33+80.57 OFF. 57.00' RT	672.86	673.19		3.26	
	PT. D	STA. 34+23.24 OFF. 57.00' RT	672.54	672.87		3.58	
BP-3	PT. A	STA. 34+32.49 OFF. 49.00' RT	672.35	672.68	675.74	3.39	STA. 34+70.07 OFF. 50.08' RT
	PT. B	STA. 34+71.15 OFF. 49.00' RT	672.07	672.40		3.67	
	PT. C	STA. 34+32.49 OFF. 57.00' RT	672.47	672.80		3.27	
	PT. D	STA. 34+71.15 OFF. 57.00' RT	672.19	672.52		3.55	
BP-4	PT. A	STA. 34+80.40 OFF. 49.00' RT	672.00	672.33	675.39	3.39	STA. 35+21.99 OFF. 50.08' RT
	PT. B	STA. 35+23.07 OFF. 49.00' RT	671.69	672.02		3.70	
	PT. C	STA. 34+80.40 OFF. 57.00' RT	672.12	672.45		3.27	
	PT. D	STA. 35+23.07 OFF. 57.00' RT	671.81	672.14		3.58	
BP-5	PT. A	STA. 35+32.32 OFF. 49.00' RT	671.62	671.95	675.01	3.39	STA. 35+72.40 OFF. 50.08' RT
	PT. B	STA. 35+74.99 OFF. 49.00' RT	671.31	671.64		3.70	
	PT. C	STA. 35+32.32 OFF. 57.00' RT	671.74	672.07		3.27	
	PT. D	STA. 35+74.99 OFF. 57.00' RT	671.43	671.76		3.58	

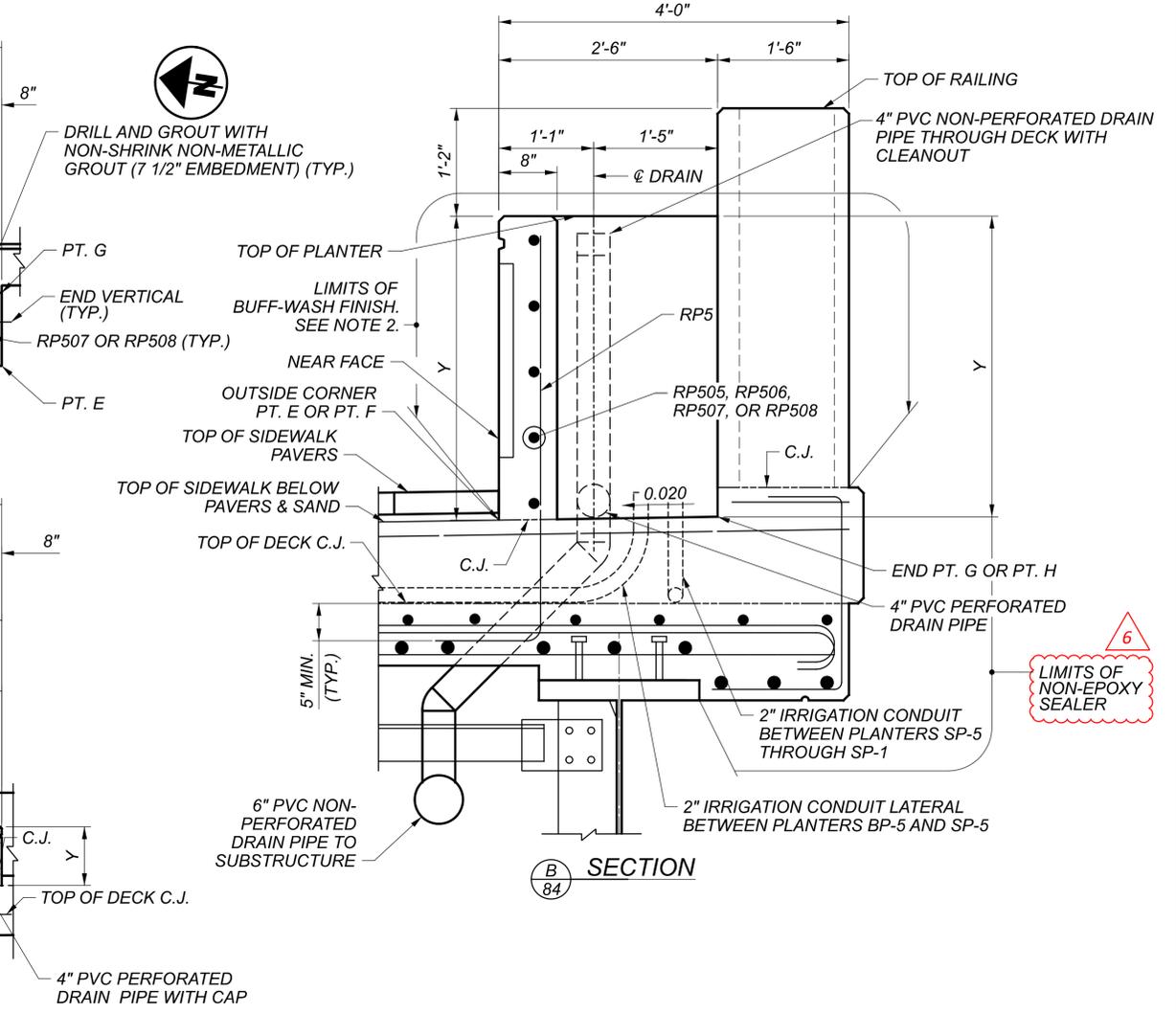
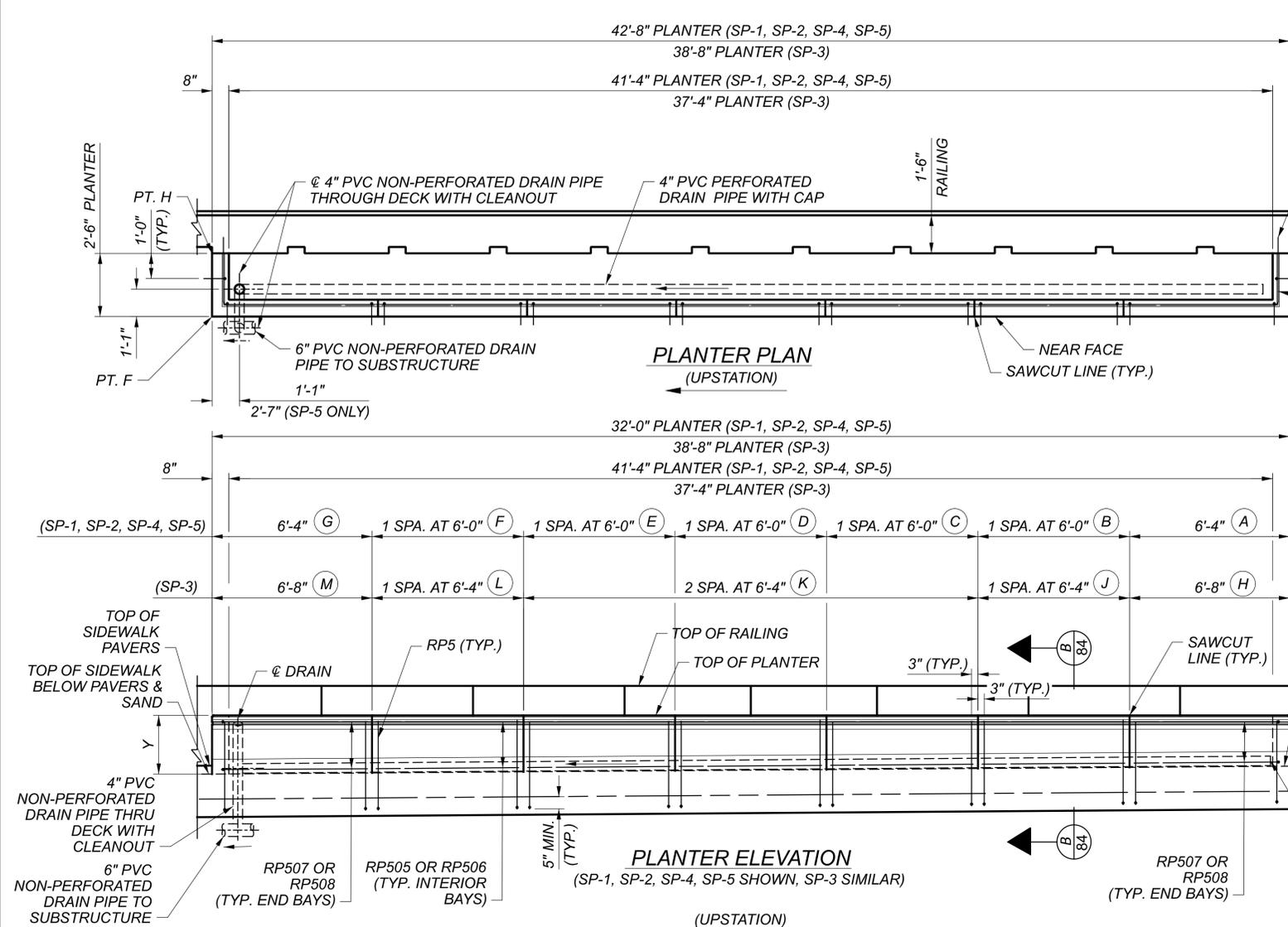
4" SLEEVE FOR IRRIGATION THROUGH DECK STA. 35+72.40, OFFSET 54.67' RT

- NOTES:
- PROVIDE 2" CONCRETE COVER ON REINFORCEMENT BARS UNLESS NOTED OTHERWISE.
 - BUFF-WASH FINISH WITH CLEAR SILANE SEALER TO BE APPLIED TO ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES FOR RAILINGS, PLASTERS AND PLANTERS. SEE AESTHETIC ENHANCEMENT PLANS FOR DETAILS OF SURFACE FINISH. DO NOT APPLY SEALER TO INTERIOR SURFACES OF PLANTERS.
 - FOR ADDITIONAL PLANTER DETAILS, SEE LANDSCAPE PLANS AND AESTHETIC DETAILS.

PLANTER DETAILS (1 OF 3)
 CUY-90-1678 (BRIDGE 13)
 CR-710 (E. 22ND ST.) OVER I.R. 90

SFN	1807839
DESIGN AGENCY	
Michael Baker	INTERNATIONAL
DESIGNER/CHECKER	SWB / MKB
REVIEWER	CDC
PROJECT ID	82382
SUBSET	83
TOTAL	99
SHEET	2264
TOTAL	2696

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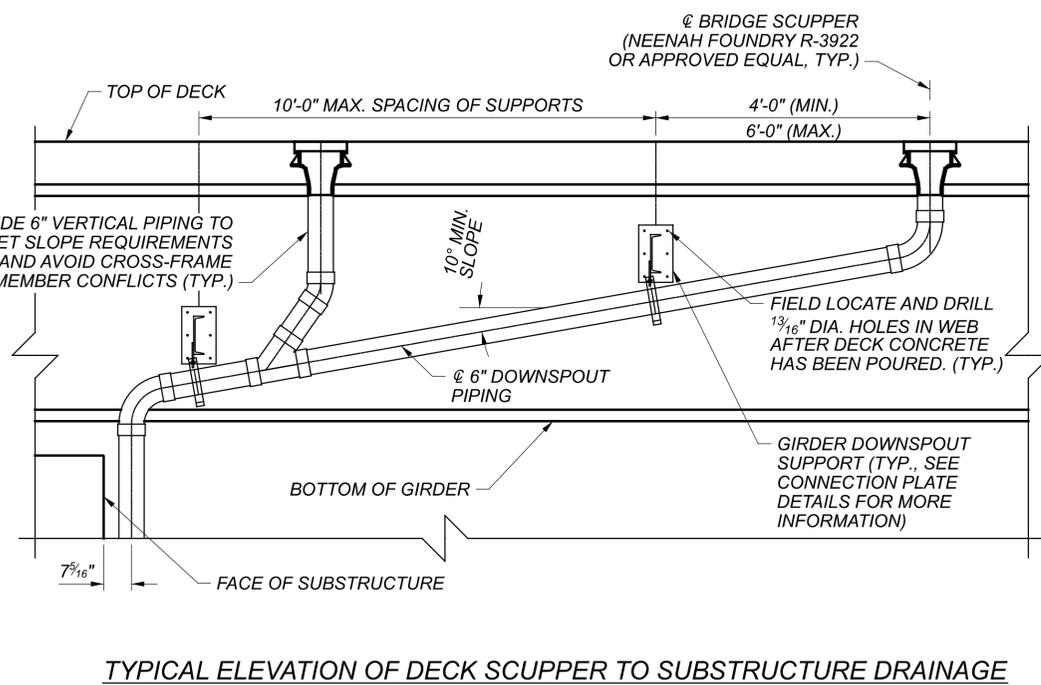
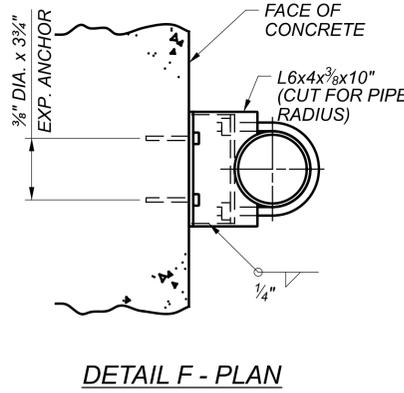
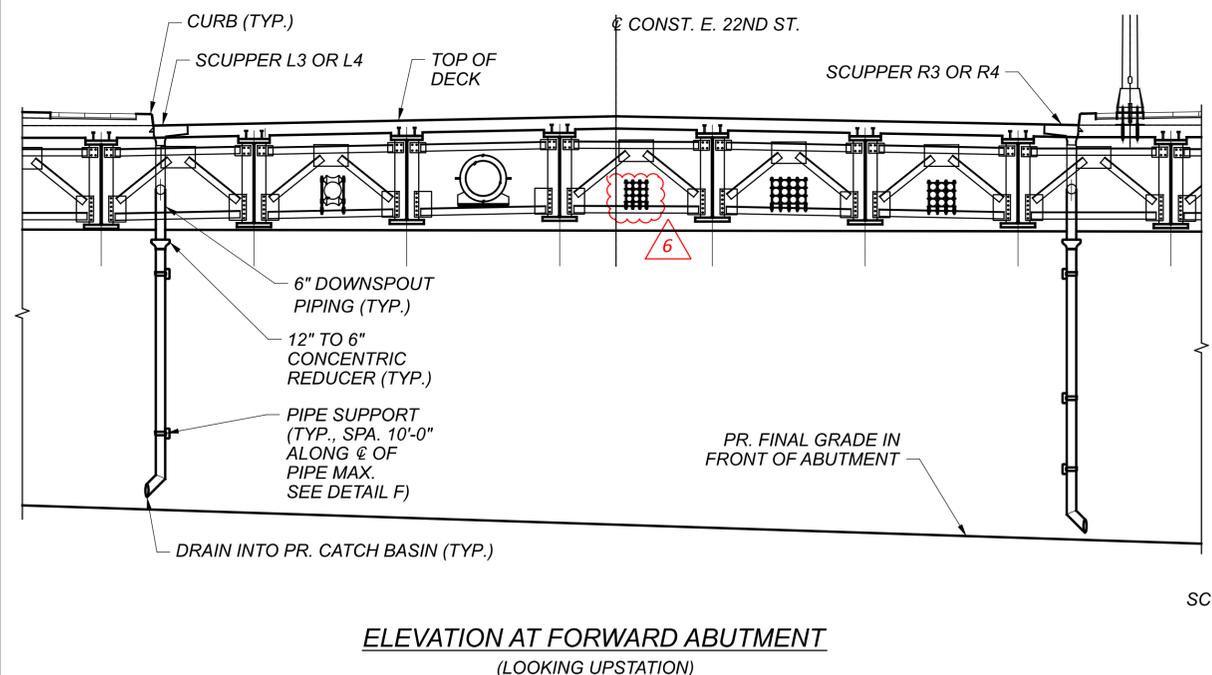
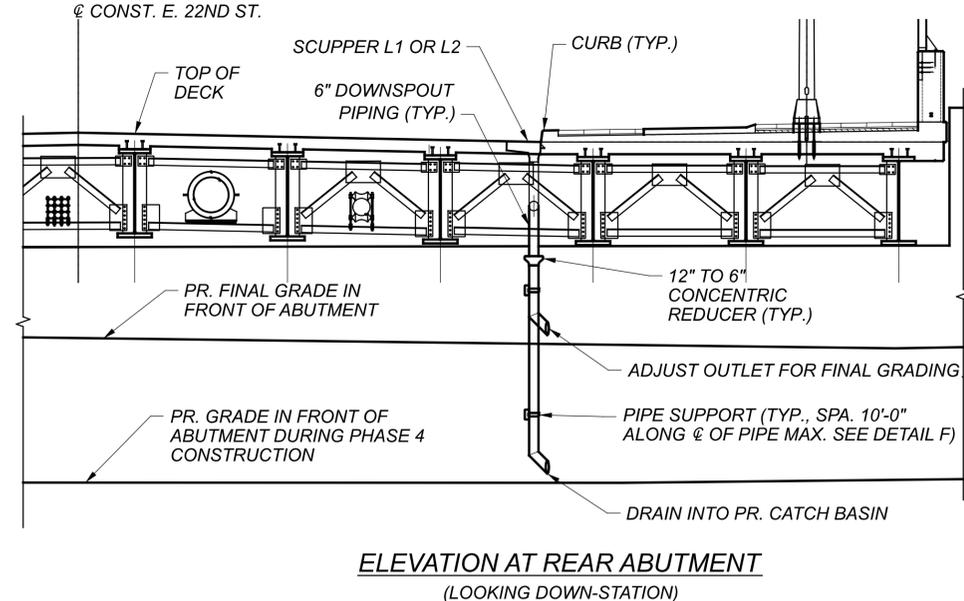
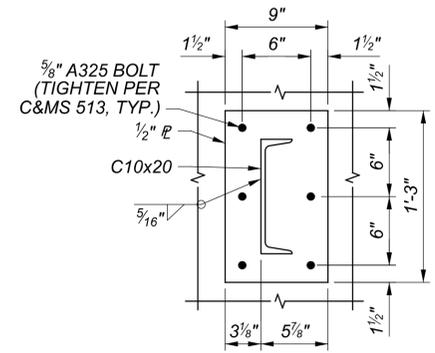
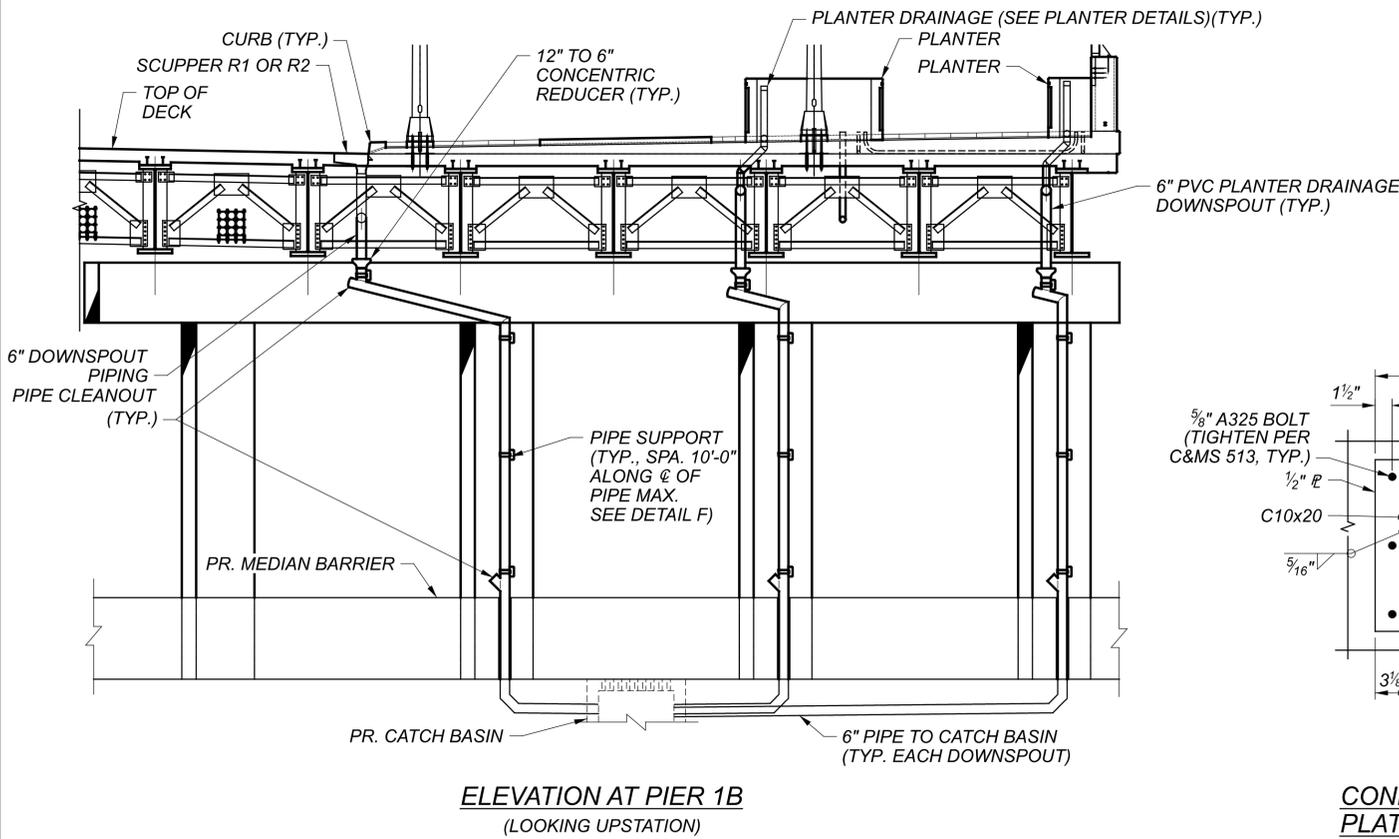
PLANTER	LOCATION PT.	LOCATION PT. STATION / OFFSET	TOP OF SIDEWALK BELOW PAVERS & SAND EL.	TOP OF SIDEWALK PAVERS EL.	TOP OF PLANTER EL.	DIMENSION "Y" (FT.)	DRAIN THROUGH DECK LOCATION STATION / OFFSET
SP-1	PT. E	STA. 33+28.65 OFF. 66.68' RT	673.17	673.50	675.03	1.87	STA. 33+70.24 OFF. 67.75' RT
	PT. F	STA. 33+71.32 OFF. 66.68' RT	673.07	673.40		1.97	
	PT. G	STA. 33+28.65 OFF. 69.17' RT	673.20	673.53		1.84	
	PT. H	STA. 33+71.32 OFF. 69.17' RT	673.11	673.44		1.93	
SP-2	PT. E	STA. 33+80.57 OFF. 66.68' RT	673.01	673.34	675.03	2.03	STA. 34+22.15 OFF. 67.75' RT
	PT. F	STA. 34+23.24 OFF. 66.68' RT	672.69	673.02		2.35	
	PT. G	STA. 33+80.57 OFF. 69.17' RT	673.05	673.38		1.99	
	PT. H	STA. 34+23.24 OFF. 69.17' RT	672.73	673.06		2.31	
SP-3	PT. E	STA. 34+32.49 OFF. 66.68' RT	672.63	672.96	675.03	2.41	STA. 34+70.07 OFF. 67.75' RT
	PT. F	STA. 34+71.15 OFF. 66.68' RT	672.34	672.67		2.70	
	PT. G	STA. 34+32.49 OFF. 69.17' RT	672.66	672.99		2.38	
	PT. H	STA. 34+71.15 OFF. 69.17' RT	672.38	672.71		2.66	
SP-4	PT. E	STA. 34+80.40 OFF. 66.68' RT	672.27	672.60	675.03	2.77	STA. 35+21.99 OFF. 67.75' RT
	PT. F	STA. 35+23.07 OFF. 66.68' RT	671.96	672.29		3.08	
	PT. G	STA. 34+80.40 OFF. 69.17' RT	672.31	672.64		2.73	
	PT. H	STA. 35+23.07 OFF. 69.17' RT	672.00	672.33		3.04	
SP-5	PT. E	STA. 35+32.32 OFF. 66.68' RT	671.89	672.22	675.03	3.15	STA. 35+72.40 OFF. 67.75' RT
	PT. F	STA. 35+74.99 OFF. 66.68' RT	671.58	671.91		3.46	
	PT. G	STA. 35+32.32 OFF. 69.17' RT	671.93	672.26		3.11	
	PT. H	STA. 35+74.99 OFF. 69.17' RT	671.62	671.95		3.42	

NOTES:

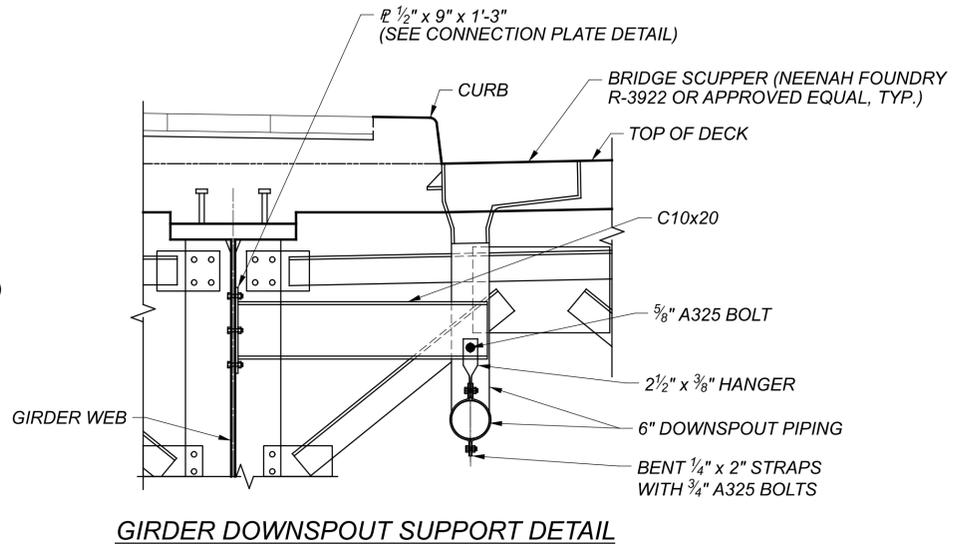
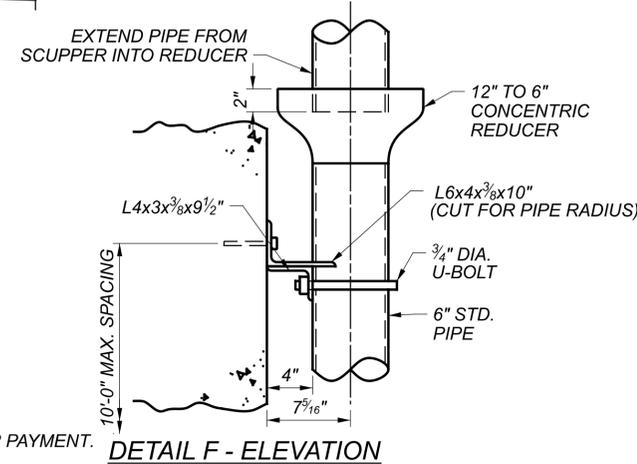
- PROVIDE 2" CONCRETE COVER ON REINFORCEMENT BARS UNLESS NOTED OTHERWISE.
- BUFF-WASH FINISH WITH CLEAR SILANE SEALER TO BE APPLIED TO ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES FOR RAILINGS, PILASTERS AND PLANTERS. SEE AESTHETIC ENHANCEMENT PLANS FOR DETAILS OF SURFACE FINISH.

PLANTER DETAILS (2 OF 3)
 CUY-90-1678 (BRIDGE 13)
 CR-710 (E. 22ND ST.) OVER I.R. 90

SFN	1807839
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SWB
CHECKER	MKB
REVIEWER	CDC 05/10/24
PROJECT ID	82382
SUBSET	84
TOTAL	99
SHEET	2265
TOTAL	2696

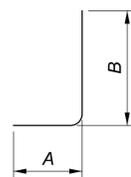


- NOTES:**
1. PROVIDE STRUCTURAL STEEL FOR DOWNSPOUT SUPPORTS CONFORMING TO ASTM A709 GRADE 36. GALVANIZE ALL MATERIAL AFTER FABRICATION ACCORDING TO ASTM A123. GALVANIZE HARDWARE PER A153.
 2. PROVIDE 6" DIAMETER DOWNSPOUT STEEL PIPE CONFORMING TO ASTM A53 WITH MECHANICAL FITTINGS RECOMMENDED BY THE SCUPPER AND DOWNSPOUT MANUFACTURER.
 3. PROVIDE FASTENERS CONFORMING TO ASTM F3125 GRADE A325 TYPE 1 GALVANIZED OF THE DIAMETERS NOTED.
 4. PROVIDE GIRDER- AND CONCRETE-MOUNTED DOWNSPOUT SUPPORT BRACKETS AT 10'-0" MAXIMUM CENTERS. INSTALL CONCRETE-MOUNTED DOWNSPOUT SUPPORTS USING 3/8" x 3 3/4" EXPANSION ANCHORS.
 5. TERMINATE DOWNSPOUT RUNS APPROXIMATELY 1'-0" ABOVE FINISHED GRADE USING A 45° ELBOW UNLESS NOTED OTHERWISE.
 6. INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO FURNISH AND INSTALL THE SCUPPER DOWNSPOUTS AS DETAILED AND NOTED IN NOTES 1 THROUGH 5 IN ITEM 518 "6" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN" FOR PAYMENT.
 7. SEE SHEET 58/99 FOR SCUPPER STATIONING AND OFFSETS

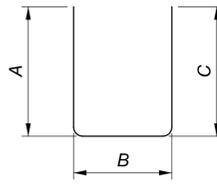


SFN	1807839
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
REVIEWER	MKB JCC
PROJECT ID	CDC 05/10/24
SUBSET	82382
SHEET	88
TOTAL	99
TOTAL	2269
TOTAL	2696

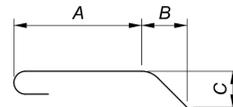
MARK	MAT'RL TYPE	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS					SER INC.
		REAR	FWD.	TOTAL				A	B	C	D	E	
REAR ABUTMENT (EPOXY COATED STEEL REINFORCING ECSR)													
RA501	ECSR	124		124	12'-3"	1584	1	0'-10"	11'-6"				
RA502	ECSR	440		440	30'-0"	13768	STR.						
RA503	ECSR	38		38	13'-7"	538	STR.						
RA504	ECSR	131		131	8'-6"	1161	1	0'-10"	7'-9"				
RA505	ECSR	131		131	17'-0"	2323	STR.						
RA506	ECSR	56		56	22'-0"	1285	STR.						
RA507	ECSR	131		131	5'-6"	751	2	0'-10"	4'-1"	0'-10"			
RA508	ECSR	131		131	12'-6"	1708	2	5'-8"	1'-5"	5'-8"			
RA509	ECSR	131		131	8'-4"	1139	2	3'-10"	0'-11"	3'-10"			
RA510	ECSR	41		41	6'-3"	267	STR.						
RA511 NOT USED													
RA512	ECSR	4		4	7'-3"	30	2	2'-6"	2'-6"	2'-6"			
RA513	ECSR	4		4	6'-4"	26	2	2'-3"	2'-0 5/8"	2'-3"			
RA514	ECSR	8		8	3'-5"	29	STR.						
RA515	ECSR	8		8	2'-0"	17	STR.						
RA516	ECSR	8		8	14'-0"	117	STR.						
RA517	ECSR	6		6	27'-9"	174	STR.						
RA518	ECSR	8		8	7'-7"	63	STR.						
RA519	ECSR	20		20	6'-9"	141	2	2'-13/8"	4'-1"	0'-10"			
RA520	ECSR	20		20	7'-6"	157	38	4'-1"	0'-8 3/4"	0'-10"	2'-13/8"		
RA521	ECSR	9		9	9'-10"	92	1	2'-4"	7'-7"				
RA522	ECSR	1	SER. OF	1	1'-4"							3"	
		4		4	2'-1"								
RA523	ECSR	3		3	4'-5"	14	STR.						
		1		1	1'-6"								
RA524	ECSR	1	SER. OF	1	1'-6"							3"	
		3		3	2'-0"								
RA525	ECSR	6		6	4'-3"	27	1	0'-10"	3'-6"				
RA526	ECSR	6		6	14'-1"	88	1	13'-4 1/8"	0'-10"				
RA527	ECSR	4		4	21'-8"	90	1	20'-11 1/8"	0'-10"				
RA528	ECSR	4		4	5'-10"	24	2	1'-10"	2'-5"	1'-10"			
RA529	ECSR	3		3	5'-11"	19	2	2'-7 1/8"	1'-0"	2'-7 1/8"			
RA601	ECSR	131		131	17'-4"	3411	2	1'-0"	15'-8"	1'-0"			
RA701	ECSR	261		261	10'-4"	5513	1	1'-2"	9'-4"				
RA702	ECSR	261		261	17'-0"	9069	STR.						
RA801	ECSR	148		148	17'-11"	7080	2	1'-4"	15'-8"	1'-4"			
RA802	ECSR	82		82	5'-2"	1131	18	2'-10 7/8"	1'-0"	1'-0"			
REAR ABUTMENT ECSR SUBTOTAL						51848	LBS						



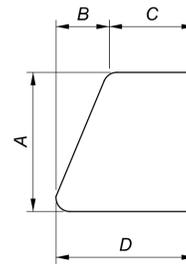
TYPE-1



TYPE-2



TYPE-18



TYPE-38

MARK	MAT'RL TYPE	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS					SER INC.
		REAR	FWD.	TOTAL				A	B	C	D	E	
FORWARD ABUTMENT (EPOXY COATED STEEL REINFORCING ECSR)													
FA501	ECSR		76	76	6'-8"	528	STR.						
FA502	ECSR		285	285	30'-0"	8918	STR.						
FA503	ECSR		92	92	22'-0"	2111	STR.						
FA504	ECSR		131	131	8'-6"	1161	1	0'-10"	7'-9"				
FA505	ECSR		131	131	20'-6"	2801	STR.						
FA506	ECSR		40	40	12'-3"	511	1	0'-10"	11'-6"				
FA507	ECSR		131	131	5'-6"	751	2	0'-10"	4'-1"	0'-10"			
FA508	ECSR		131	131	14'-6"	1981	2	6'-8"	1'-5"	6'-8"			
FA509	ECSR		131	131	7'-8"	1048	2	3'-6"	0'-11"	3'-6"			
FA510	ECSR		41	41	6'-4"	271	STR.						
FA511 NOT USED													
FA512	ECSR		4	4	7'-3"	30	2	2'-6"	2'-6"	2'-6"			
FA513	ECSR		4	4	6'-4"	26	2	2'-3"	2'-0 5/8"	2'-3"			
FA514	ECSR		8	8	3'-5"	29	STR.						
FA515	ECSR		8	8	2'-0"	17	STR.						
FA516	ECSR		8	8	13'-7"	113	STR.						
FA517	ECSR		6	6	27'-9"	174	STR.						
FA518	ECSR		16	16	7'-3"	121	STR.						
FA519	ECSR		20	20	6'-7"	137	2	1'-11 1/8"	4'-1"	0'-10"			
FA520	ECSR		20	20	7'-6"	156	38	4'-1"	0'-10 5/8"	0'-10"	1'-11 1/8"		
FA521	ECSR		18	18	9'-6"	178	1	2'-4"	7'-3"				
FA522	ECSR		1	1	1'-4"							3"	
			4	4	2'-1"								
FA523	ECSR		6	6	3'-5"	21	STR.						
			1	1	1'-2"								
FA524	ECSR		1	1	1'-2"							2 5/16"	
			4	4	1'-9"								
FA525	ECSR		12	12	20'-0"	250	STR.						
FA526	ECSR		6	6	14'-1"	88	1	13'-4 1/8"	0'-10"				
FA527	ECSR		4	4	21'-5"	89	1	20'-8 7/8"	0'-10"				
FA528	ECSR		4	4	5'-10"	24	2	1'-10"	2'-5"	1'-10"			
FA601	ECSR		260	260	17'-4"	6769	2	1'-0"	15'-8"	1'-0"			
FA701	ECSR		261	261	10'-4"	5513	1	1'-2"	9'-4"				
FA702	ECSR		261	261	17'-0"	9069	STR.						
FA801	ECSR		148	148	17'-11"	7080	2	1'-4"	15'-8"	1'-4"			
FA802	ECSR		82	82	5'-2"	1131	18	2'-10 7/8"	1'-0"	1'-0"			
FORWARD ABUTMENT ECSR SUBTOTAL						51109	LBS						

NOTES:

- SERIES BARS - EACH BAR VARIES BY TABULATED AMOUNT.
- ALL DIMENSIONS ARE OUT TO OUT.
- TYPE "STR" INDICATES STRAIGHT BAR.
- THE BAR SIZE NUMBER IS SPECIFIED IN THE "MARK" COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER.
- ALL BARS SHALL BE EPOXY COATED UNLESS NOTED OTHERWISE.
- SUBTOTALS AND TOTAL WEIGHTS ARE FOR INFORMATIONAL PURPOSES ONLY. IF THE REINFORCING LIST PROVIDED IN THE PLANS IS USED, IT SHALL BE VERIFIED BY THE CONTRACTOR. ANY REVISIONS IN THE REINFORCING STEEL LIST AS SHOWN IN THE PLANS WILL NOT BE REASON FOR ADJUSTMENT IN THE BID PRICE FOR STRUCTURAL CONCRETE.
- USE STANDARD HOOKS FOR ENDS OF BARS NOT SPECIFICALLY DIMENSIONED IN DETAILS.

REINFORCING SCHEDULE (1 OF 5)
 CUY-90-1678 (BRIDGE 13)
 CR-710 (E. 22ND ST.) OVER I.R. 90

SFN	1807839
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	DAF
CHECKER	ETB
REVIEWER	
PROJECT ID	82382
SUBSET	95
TOTAL	99
SHEET	2276
TOTAL	2696

CONSTRUCTION CONSTRAINTS:

THE CONTRACTOR IS ADVISED THAT THE PROPOSED DRILLED SHAFT INSTALLATIONS MAY REQUIRE ADVANCING SHAFTS THROUGH OBSTRUCTIONS SUCH AS EXISTING FOUNDATIONS AND PILES. EXISTING FOUNDATION AND PILE LOCATIONS ARE DEPICTED IN ACCORDANCE WITH AVAILABLE EXISTING PLAN INFORMATION.

THE PROPOSED DRILLED SHAFT ARRANGEMENT WAS DEVELOPED WITH THE INTENT TO ELIMINATE OR MINIMIZE CONFLICTS BETWEEN THE PROPOSED DRILLED SHAFTS AND IDENTIFIED OBSTRUCTIONS. COMPLETE ELIMINATION OF ALL CONFLICTS BETWEEN THE PROPOSED DRILLED SHAFTS AND OBSTRUCTIONS WAS NOT POSSIBLE.

THE CONTRACTOR IS ADVISED THAT THEY MUST ADAPT THEIR PROPOSED MEANS AND METHODS FOR INSTALLING DRILLED SHAFTS IN CONFLICT WITH OBSTRUCTIONS. SUCH MEANS AND METHODS MAY INCLUDE, BUT ARE NOT LIMITED TO, SPECIALIZED CUTTING HEADS, DOWN DRIVE HAMMERS, ETC.

DRILLED SHAFTS IN CONFLICT WITH EXISTING PILES ARE AS FOLLOWS:

NONE IDENTIFIED
 A CONTINGENCY VALUE OF 2 EACH IS INCLUDED

THE CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING PILES FOLLOWING REMOVAL OF EXISTING PILE CAP. NO DRILLED SHAFTS SHALL BE INSTALLED UNTIL NUMBER AND LOCATION OF CONFLICTS WITH THE PROPOSED DRILLED SHAFTS IS VERIFIED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL VERIFIED CONFLICTS AND IDENTIFY ANY ADDITIONAL CONFLICTS. THE CONTRACTOR SHALL PROVIDE A MARKED-UP PLAN SHEET DEPICTING ALL CONFLICTS.

BASIS FOR CLAIMS:

THE CONTRACTOR IS ADVISED THAT IDENTIFICATION OF ADDITIONAL PILES IN CONFLICT WITH PROPOSED DRILLED SHAFTS WILL NOT BE CONSIDERED AS BASIS FOR DELAY OR CHANGED CONDITION CLAIMS.

CONTRACTOR'S INSTALLATION PLAN:

THE CONTRACTOR SHALL PROVIDE AN INSTALLATION PLAN AS REQUIRED BY ODOT C&MS SECTION 524.03. THE INSTALLATION PLAN SHALL ALSO INCLUDE:

- CONTRACTOR'S PROPOSED METHODS TO ADVANCE DRILLED SHAFTS THROUGH OBSTRUCTIONS (CONFLICTING PILES, EXISTING FOUNDATIONS, ETC.)

MEASUREMENT AND PAYMENT:

MEASUREMENT FOR DRILLED SHAFTS INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS WILL BE MADE ON A PER EACH BASIS.

PAYMENT FOR DRILLED SHAFTS INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS WILL BE CONSIDERED COMPLETE COMPENSATION FOR ADDITIONAL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO ADVANCE DRILLED SHAFTS THROUGH OBSTRUCTIONS BEYOND THAT REQUIRED FOR NORMAL INSTALLATIONS.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
524	EACH	DRILLED SHAFTS, 48" DIAMETER, THROUGH OBSTRUCTIONS, AS PER PLAN

MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC FOR THE STRUCTURE WORK SHALL BE COORDINATED WITH THE OVERALL PROJECT. REFER TO MAINTENANCE OF TRAFFIC NOTES AND DETAILS ELSEWHERE IN PLANS.

UTILITY LINES

THE UTILITIES SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER PARTY WILL BE HELD TO A MINIMUM.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS, SECTIONS 102.05, 105.02, AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

STRUCTURE GROUNDING

STRUCTURE TO BE GROUNDED AS PER LIGHTING GENERAL NOTES SHEET 1684. QUANTITY CARRIED TO LIGHTING SUBSUMMARY.

ITEM 511 - CLASS QC2 CONCRETE, DECK, AS PER PLAN

LOCATE THE LOWER CONTACT POINT OF THE OVERHANG FALSEWORK A MAXIMUM OF 18 INCHES ± 2 INCHES ABOVE THE TOP OF THE GIRDER'S BOTTOM FLANGE. THE BRACING CONTACT POINT REQUIREMENTS OF C&MS 508 DO NOT APPLY.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

TEMPORARY EXCAVATIONS SHALL MAINTAIN A MINIMUM OF A 2.5:1 SLOPE. REFER TO THE GEOTECHNICAL REPORTS FOR ADDITIONAL DETAILS.

GROUND WATER LEVELS FLUCTUATE SEASONALLY AS A FUNCTION OF THE PRECIPITATION AND OTHER HYDROLOGICAL FACTORS. THEREFORE, THERE MAY BE CONSIDERABLE CHANGE IN THE WATER TABLE OR THE OCCURRENCE OF WATER WHERE NOT PREVIOUSLY ENCOUNTERED. THE CONTRACTOR SHALL DEWATER ALL EXCAVATIONS AS NECESSARY TO PERFORM THE PROPOSED WORK.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.84 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE FINISHING MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG BRACKETS OF 18 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 66¼ INCHES.

CONCRETE SHALL BE PLACED PARALLEL ON A SKEW AS INDICATED IN THE PROPOSED DECK PLACEMENT SEQUENCE ON SHEET 63 / 90 AND SHALL BE PLACED AND FINISHED FULL-WIDTH. DO NOT PERMIT A DIFFERENCE OF MORE THAN TEN (10) FEET LONGITUDINALLY IN PLACEMENT OF CONCRETE FROM ONE SIDE OF THE BRIDGE TO THE OTHER AT ANY TIME. FINISHING OF THE CONCRETE SHALL BE PERPENDICULAR TO THE CARNEGIE AVENUE CONSTRUCTION CENTERLINE.

ALLOW 48 HOURS OF PROPER CURING TO ELAPSE FROM THE COMPLETION OF ONE DECK PLACEMENT BEFORE BEGINNING THE NEXT PLACEMENT.

PLACE CONCRETE IN THE SEQUENCE AND DIRECTIONS INDICATED ON THE PROPOSED DECK PLACEMENT SEQUENCE ON SHEET 63 / 90.

GIRDER ERECTION AND FIT-UP:

GIRDERS, CROSSFRAMES, DIAPHRAGMS AND CONNECTION PLATES SHALL BE DETAILED FOR THE "STEEL DEAD LOAD FIT" (SDLF) OR "ERECTED FIT" CONDITION. GIRDER WEBS SHALL BE PLUMB AFTER ERECTION OF STRUCTURAL STEEL IS COMPLETE. HLMR BEARINGS SHALL BE DESIGNED TO ACCOMMODATE GIRDER ROLL AND LAYOVER DURING THE ERECTION PROCESS AND PLACEMENT OF COMPOSITE DEAD LOADS. -

FINISH COLORS:

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

PAINT COLORS SHALL BE AS FOLLOWS:

BLACK FOX (SW 7020) - FASCIA GIRDERS (OUTER FACE AND BOTTOM FLANGE ONLY)

ALABASTER (SW 7008) - INSIDE GIRDERS, BRACING MEMBERS AND INSIDE FACE OF FASCIA GIRDERS

ITEM - 512 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

CONCRETE SEALER COLORS SHALL BE AS FOLLOWS:

ALABASTER (SW 7008) - SUBSTRUCTURE - PIERS, ABUTMENTS AND ABUTMENT WALLS

6 ALPACA (SW 7022) - ABUTMENT, WINGWALL, AND PARAPETS ACCENTS

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM SPECIAL - PERMANENT SHORING PRECAST CONCRETE LAGGING

THIS WORK CONSISTS OF FURNISHING AND PLACING PRECAST REINFORCED CONCRETE PANELS BETWEEN THE SOLDIER PILES TO FUNCTION AS LAGGING FOR THE RETAINING WALL. PROVIDE PRECAST CONCRETE LAGGING FROM A PRECAST CONCRETE MANUFACTURER CERTIFIED ACCORDING TO SUPPLEMENT 1073. PROVIDE CLASS QC1 CONCRETE ACCORDING TO C&MS

499. PROVIDE EPOXY COATED REINFORCING STEEL ACCORDING TO C&MS 709.00. IN LIEU OF EPOXY COATING, A CORROSION INHIBITING CONCRETE ADMIXTURE MAY BE USED AT THE SPECIFIED DOASAGE RATE. A QUALIFIED PRODUCT LIST OF CORROSION INHIBITING ADMIXTURES IS ON FILE AT THE LABORATORY. MANUFACTURERS SHOULD RECOGNIZE THAT THE CORROSION INHABITOR MAY AFFECT THE STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC OF THEIR CONCRETE MIXES. THE MANUFACTURER'S CHOICE TO USE ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING ALL DESIGN REQUIREMENTS. DO NOT ALLOW THE DIMENSIONS OF THE LAGGING OR LOCATION OF THE REINFORCEMENT STEEL TO VARY BY MORE THAN 1/4-INCH. CAST THREADED INSERTS INTO THE TOP OF EACH PANEL FOR LIFTING AND PLACEMENT.

FINISH THE FACES OF THE PRECAST CONCRETE LAGGING PANELS TO A UNIFORM SURFACE, FREE OF OPEN POCKETS OF AGGREGATE.

PERMANENTLY MARK EACH PRECAST CONCRETE LAGGING PANEL TO INDICATE WHICH FACE WILL BE PLACED AGAINST THE SOIL. PLACE THE PANEL ON THE FRONT COVER PLATES OF THE SOLDIER PILES AND BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST ONE INCH MORE THAN THE CONCRETE COVER OVER THE REINFORCING STEEL AT BOTH ENDS OF THE LAGGING.

HANDLE, STORE, AND SHIP THE PRECAST CONCRETE LAGGING PANELS TO AVOID CHIPPING CRACKING AND FRACTURING THE PANELS. SUPPORT THE PANELS ON FIRM BLOCKING WHILE STORING AND SHIPPING. DO NOT SHIP PANELS UNTIL CONCRETE HAS ATTAINED THE REQUIRED COMPRESSIVE STRENGTH. SUBMIT SHIPMENT DOCUMENTATION TO THE ENGINEER AS THE PANELS ARE DELIVERED TO THE PROJECT, INCLUDING THE PRECASTER'S RECORD OF INSPECTION, THE MEASUREMENT AND TOLERANCES, STRENGTH, AND DIMENSIONS OF EACH PANEL, ALONG WITH THE TE-24 SHIPPING DOCUMENT.

INSPECT ALL PRECAST CONCRETE PANELS AND REJECT PANELS HAVING ANY OF THE FOLLOWING:

- DEFECTS THAT INDICATE IMPERFECT MOLDING.
- DEFECTS THAT INDICATE HONEYCOMB OR OPEN TEXTURE CONCRETE.
- DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, OR DAMAGE TO THE AESTHETIC SURFACE TREATMENT.
- CONCRETE CHIPS OR SPALLS THAT ARE LARGER THAN 4 INCHES WIDE OR 2 INCHES DEEP. REPAIR ALL CHIPS AND SPALLS THAT ARE SMALLER.
- STAINED FORM FACES, DUE TO FORM OIL, CURING OR OTHER CONTAMINANTS.
- SIGNS OF AGGREGATE SEGREGATION.
- CRACKS WIDER THAN 0.01 INCH OR PENETRATING MORE THAN 1 INCH OR LONGER THAN 20 PERCENT OF THE LENGTH OF THE FACE CONTAINING THE CRACK.
- PANELS THAT DO NOT MEET THE SPECIFIED DIMENSIONAL TOLERANCES.
- UNUSABLE LIFTING INSERTS.
- EXPOSED REINFORCING STEEL.
- INSUFFICIENT CONCRETE COMPRESSIVE STRENGTH.

EITHER REPLACE DAMAGED PRECAST CONCRETE LAGGING PANELS OR DOCUMENT AND PROPOSE TO THE ENGINEER A REPAIR METHOD FOR THE DAMAGED PANEL. PROVIDE ACCEPTABLE REPLACEMENT PANELS FOR ANY THAT ARE REJECTED.

WHEN INSTALLING THE PRECAST CONCRETE LAGGING PANELS, PLACE HARDWOOD WEDGES NEAR THE TOP AND BOTTOM ON EACH SIDE TO HOLD THE LAGGING PANELS ON THE FRONT COVER PLATES OF THE STEEL PILES.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIAL REQUIRED TO FABRICATE, TRANSPORT, AND INSTALL THE PRECAST REINFORCED CONCRETE PANELS SHALL BE MADE AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR ITEM 530-SPECIAL-PERMANENT SHORING, PRECAST CONCRETE LAGGING.

SFN	1807898
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
ZES	MKB
REVIEWER	
KAG 12/26/23	
PROJECT ID	
82382	
SUBSET	TOTAL
6	90
SHEET	TOTAL
2286	2696

4 **12" GAS LINE INSTALLATION** **5**

ENBRIDGE GAS OHIO WILL FURNISH AND INSTALL GAS PIPELINE ON BRIDGE AND WILL INSTALL LINK SEALS, SPACERS AND BOOT SEAL WHEN INSTALLING THE PIPELINE.

ITEM 625 - CONDUIT, MISC.: AT&T 4" CONDUIT INSTALLATION **5**

THIS ITEM INCLUDES PAYMENT FOR INSTALLATION OF THE AT&T CONDUIT ON THE STRUCTURE, AS SHOWN IN THE PLANS. MATERIALS WILL BE SUPPLIED TO THE GENERAL CONTRACTOR FOR INSTALLATION. AT&T WILL PROVIDE CONDUIT RACKS, FIBERGLASS CONDUITS TO ENDS OF APPROACH SLAB, FITTINGS AND EXPANSION JOINTS. CONTRACTOR TO INSTALL ALL MATERIALS ON BRIDGE. AT&T WILL INSTALL CONDUITS OUTSIDE OF APPROACH SLABS TO MANHOLES. AT&T WILL COMPLETE THE CABLE WORK.

ITEM 625 - CONDUIT, MISC.: CEI 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES INSTALLATION OF THE CONDUIT ON THE STRUCTURE. CEI WILL PROVIDE ALL MATERIALS. CEI PULLS ALL CABLES. CEI CONTRACTOR WILL COMPLETE WORK UP TO THE OUTSIDE EDGE OF THE APPROACH SLABS (ALL CONDUIT OFF THE BRIDGE). CONTRACTOR WILL INSTALL THE CONDUIT BETWEEN THE OUTSIDE EDGES OF APPROACH SLABS (ALL CONDUIT UNDER APPROACH SLABS, ON THE BRIDGE AND THROUGH THE ABUTMENTS).

ITEM 625 - CONDUIT, MISC.: CPP 4" CONDUIT INSTALLATION **6**

THIS ITEM INCLUDES FURNISHING AND INSTALLING THE CPP CONDUIT ON THE STRUCTURE, AS SHOWN IN THE PLANS, AND PULLING THE WIRE. CPP WILL MAKE THE FINAL CONNECTION. CONTRACTOR TO PERFORM INTERMEDIATE (DEAD) SPLICING WITH CPP INSPECTION. CPP WILL COMPLETE CUT OVER SPLICING. CPP WILL REQUIRE NOTIFICATION OF SCHEDULE FOR THE PULLING OF CONDUIT. CPP TO INSPECT ALL WORK BEFORE FINAL CONNECTIONS ARE MADE IN MANHOLES.

5 **ITEM 690 - ROLLER SUPPORTS (GAS LINE)**

THIS ITEM INCLUDES FURNISHING AND INSTALLING STEEL ANGLE SUPPORT, ROLLERS AND HANGER ASSEMBLIES OF ALL GAS LINE SUPPORTS ON THE BRIDGE, AS SHOWN IN THE PLANS.

ITEM 690 - UTILITY SUPPORTS (AT&T DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL AT&T DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. AT&T WILL PROVIDE CONDUIT RACKS, FIBERGLASS CONDUITS TO ENDS OF APPROACH SLAB, FITTINGS AND EXPANSION JOINTS. CONTRACTOR TO INSTALL ALL MATERIALS ON BRIDGE.

ITEM 690 - UTILITY SUPPORTS (CEI DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL CEI DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. MATERIAL PROVIDED BY CEI FOR THIS WORK INCLUDES UTILITY HANGERS, CONDUIT RACKS, EXPANSION JOINTS AND SLEEVES. STEEL ANGLE SUPPORTS PROVIDED BY CONTRACTOR. CONTRACTOR TO INSTALL HANGERS AND CONDUIT RACKS. CONTRACTOR TO WORK WITH CEI TO GUARANTEE THAT THERE IS A PROPER ARRANGEMENT FOR THE DELIVERY OF MATERIALS.

ITEM 690 - UTILITY SUPPORTS (CPP DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL CPP DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS.

ITEM 690 - UTILITY SUPPORTS (WATER LINE)

THIS ITEM INCLUDES INSTALLATION OF ALL WATER LINE SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND ELEMENTS SHOWN IN THE PLANS FOR THE WATER LINE.

ITEM 511 - CLASS QC1 CONCRETE, MISC.: CONCRETE FACING

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT, ABUTMENT

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT, PIER

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT, RAILING

FORMLINER FIELD PATTERN ON SHEET 1867

ABBREVIATIONS

- BOT. = BOTTOM
- BRGS. = BEARINGS
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- CONST. = CONSTRUCTION
- DIA. = DIAMETER
- E.F. = EACH FACE
- ELEV. = ELEVATION
- EX. = EXISTING
- F.A. = FORWARD ABUTMENT
- F.F. = FAR FACE
- HORIZ. = HORIZONTAL
- I.R. = INTERSTATE ROUTE
- L.T. = LEFT **5**
- MAX. = MAXIMUM
- MIN. = MINIMUM
- N.F. = NEAR FACE
- PR. = PROPOSED
- R.A. = REAR ABUTMENT
- RT = RIGHT
- SER. = SERIES
- S.O. = SERIES OF
- SPA. = SPACED / SPACING / SPACES
- S.R. = STATE ROUTE
- TYP. = TYPICAL
- VERT. = VERTICAL
- W.P. = WORK POINT
- W.W. = WING WALL

SECTION / DETAIL / VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)



(SECTION A CUT FROM SHEET 9)

SFN
 1807898

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

DESIGNER CHECKER
 ZES MKB

REVIEWER
 KAG 12/26/23

PROJECT ID
 82382

SUBSET TOTAL
 9 90

SHEET TOTAL
 2289 2696

ESTIMATED QUANTITIES

CALCULATED BY: ZES DATE: 03/20/24
 CHECKED BY: DAF DATE: 05/15/24

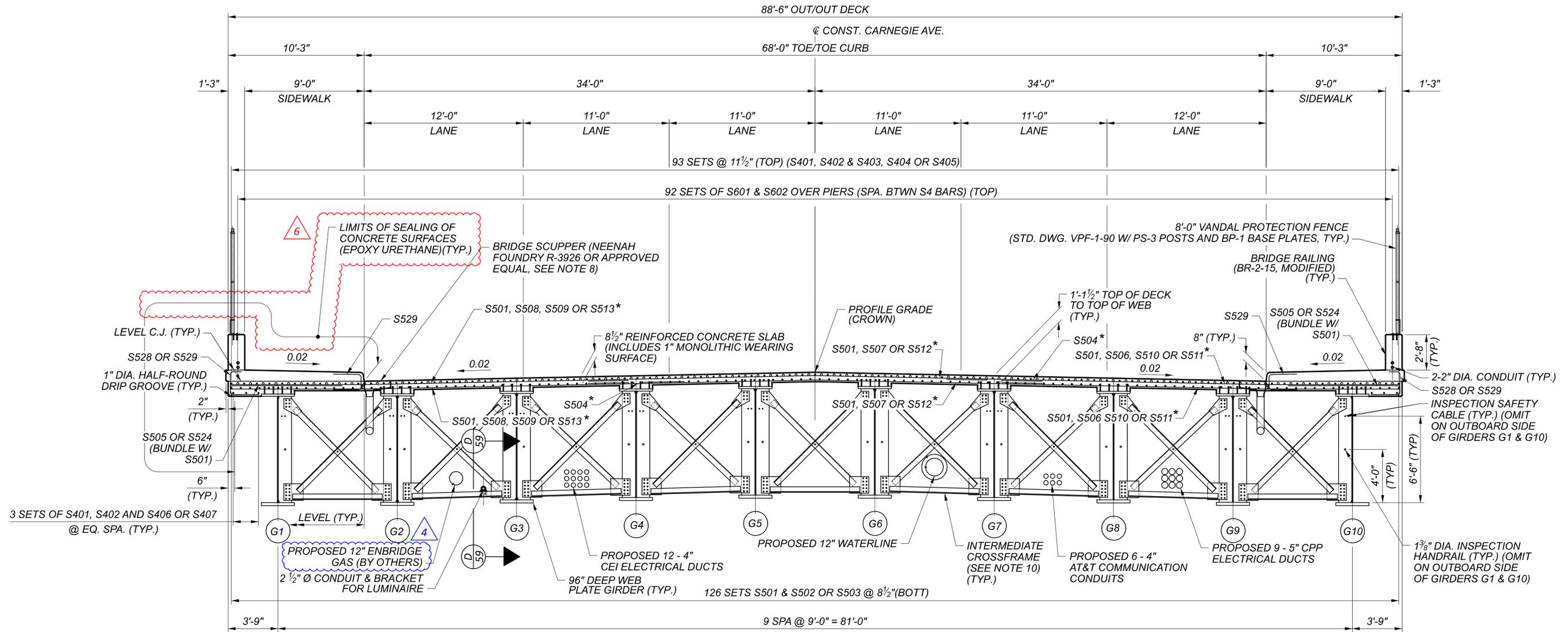
PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	SHEET REF.
2	02/IMS/10	202	11003	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	15-18
	02/IMS/10	503	11100	LS	COFFERDAMS AND EXCAVATION BRACING				LS	
	02/IMS/10	503	21101	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	7,516	3,326			6
	02/IMS/10	505	11100	LS	PILE DRIVING EQUIPMENT MOBILIZATION				LS	
	02/IMS/10	506	11101	LS	STATIC LOAD TEST, AS PER PLAN				LS	8
	02/IMS/10	507	00400	2 490	STEEL PILES, MISC.: SOLIDER PILES HP16x101	2 490			490	7
	02/IMS/10	507	00700	19,355	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	19,355				
	02/IMS/10	507	00750	20,530	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	20,530				
	02/IMS/10	509	10000	742,913	EPOXY COATED STEEL REINFORCEMENT				742,913	
	02/IMS/10	510	10000	800	EACH DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT				800	
	02/IMS/10	511	34447	1,320	CY CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			1,320		8
	02/IMS/10	511	34451	137	CY CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			137		8
	02/IMS/10	511	42012	4 307	CY CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS	4 307	307			
	02/IMS/10	511	44112	806	CY CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	806				
	02/IMS/10	511	45602	794	CY CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA				794	
	02/IMS/10	511	46512	738	CY CLASS QC1 CONCRETE WITH QC/QA, FOOTING	336	290		112	
	02/IMS/10	511	51513	242	CY CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN			242		8
	02/IMS/10	511	53010	243	CY CLASS QC1 CONCRETE, MISC.: CONCRETE FACING	243				9
	02/IMS/10	511	71200	13,986	SF CONCRETE, MISC.: ARCHITECTURAL TREATMENT, ABUTMENT	13,986				9
	02/IMS/10	511	71200	5,945	SF CONCRETE, MISC.: ARCHITECTURAL TREATMENT, PIER		5,945			9
	02/IMS/10	511	71200	2,851	SF CONCRETE, MISC.: ARCHITECTURAL TREATMENT, RAILING			2,851		9
6	02/IMS/10	512	10001	688	SY SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)				688	7
	02/IMS/10	512	10101	4,705	SY SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN				4,705	6
	02/IMS/10	513	10201	5 13,000	LB STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN (SOLDIER PILE STRUT AND WALER)			5 13,000		7
	02/IMS/10	513	10280	3,777,400	LB STRUCTURAL STEEL MEMBERS, LEVEL 4			3,777,400		
	02/IMS/10	513	20000	8,872	EACH WELDED STUD SHEAR CONNECTORS			8,872		
	02/IMS/10	514	00060	157,200	SF FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			157,200		
	02/IMS/10	514	00067	157,200	SF FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			157,200		6
	02/IMS/10	516	11210	145	FT STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			145		
	02/IMS/10	SPECIAL	516E12400	173	FT MODULAR EXPANSION JOINT			173		79
	02/IMS/10	516	42000	130	EACH ELASTOMERIC BEARING PAD, MISC.: 6" x 9" x 3/8" THICK				130	33
	02/IMS/10	518	12200	8	EACH SCUPPERS, INCLUDING SUPPORTS				8	

CUY-90-16.28 (CCG3A)

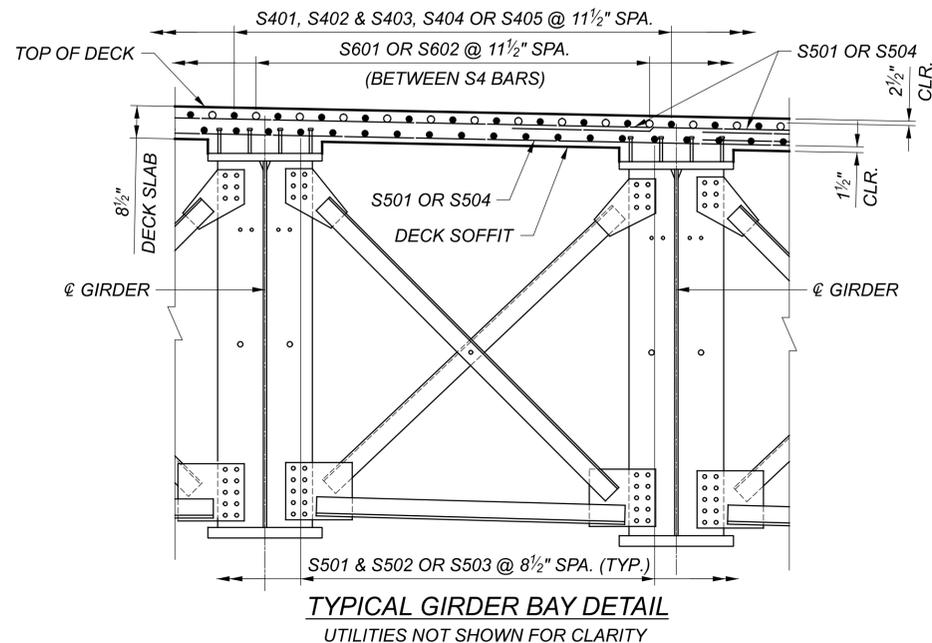
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ESTIMATED QUANTITIES (1 OF 2)
 CUY-90-1696 (BRIDGE 14)
 CR-722 (CARNEGIE AVE.) OVER I.R. 90

SFN	1807898
DESIGN AGENCY	
Michael Baker	INTERNATIONAL
DESIGNER	CHECKER
DBW	MKB
REVIEWER	
KAG	12/26/23
PROJECT ID	82382
SUBSET	TOTAL
11	90
SHEET	TOTAL
2291	2696



TRANSVERSE SECTION
 (SIDEWALK AND RAILING REINFORCING NOT SHOWN FOR CLARITY)



MINIMUM LAP LENGTHS:

- NO. 4 BARS = 1'-11"
- NO. 5 BARS = 3'-0"
- NO. 6 BARS = 3'-7"

LEGEND:

* ALTERNATE LOCATIONS OF S5XX IN TOP & BOTTOM MATS

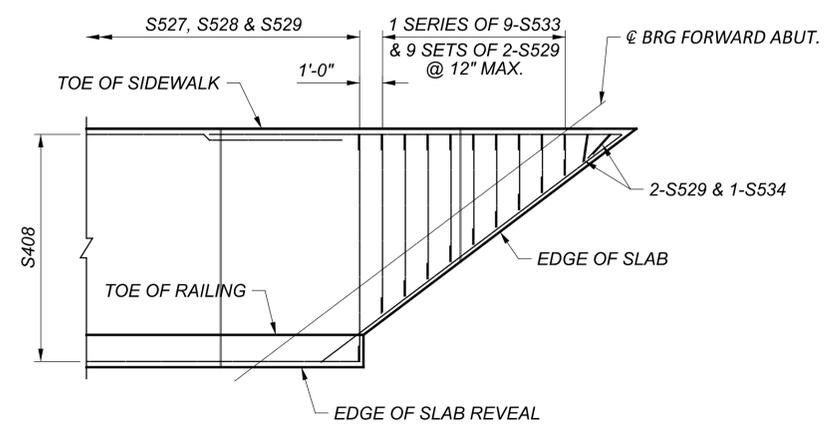
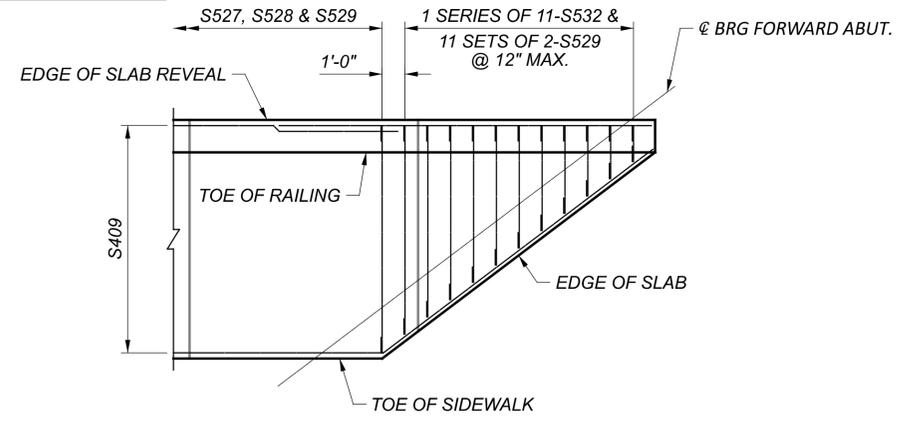
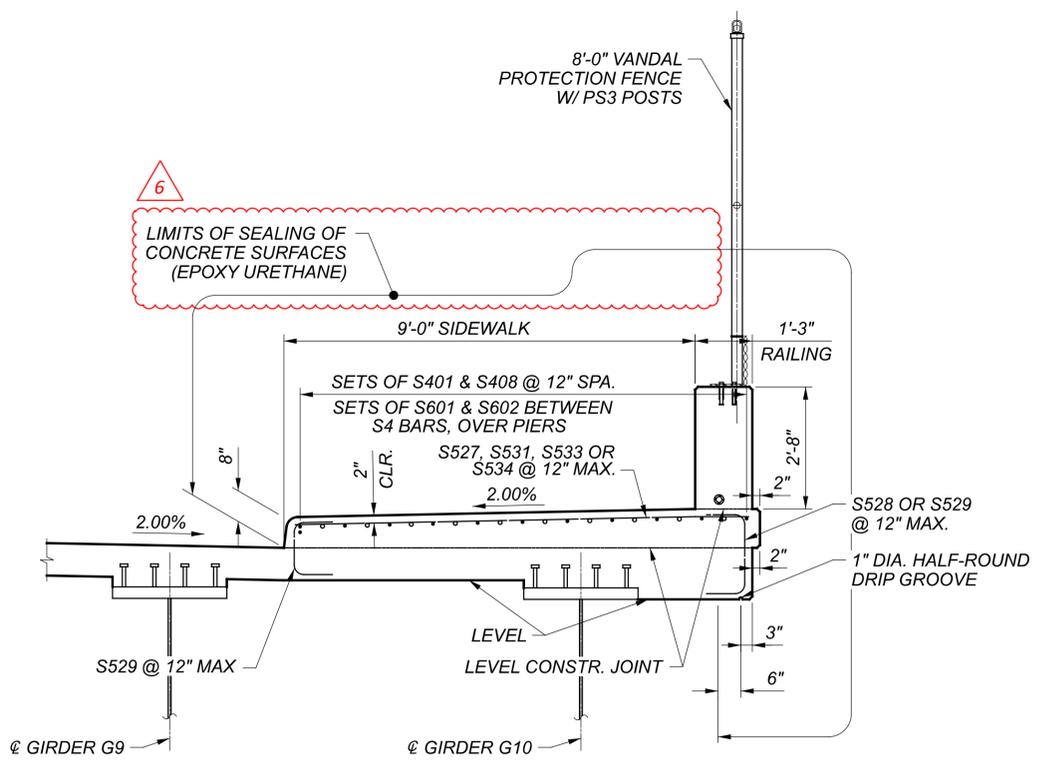
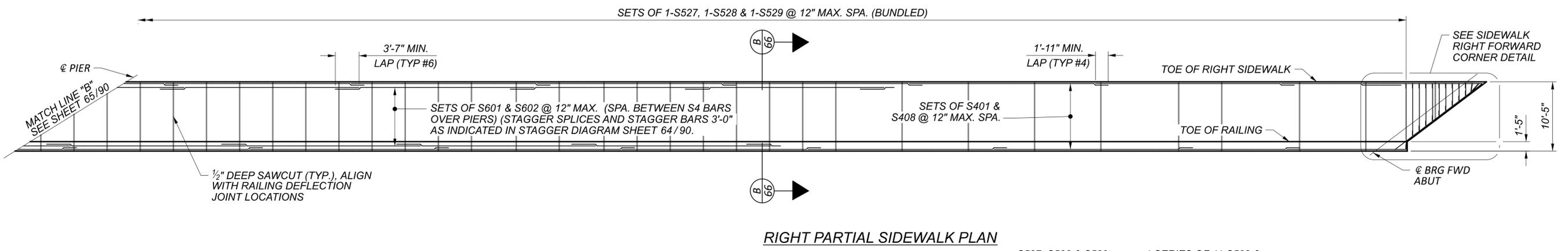
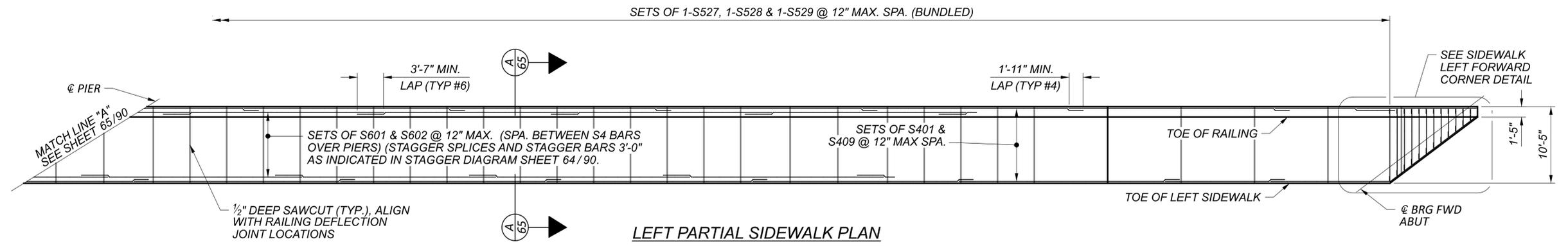
NOTES:

1. FOR DECK PLANS, SEE SHEETS 63 & 64 / 90.
2. FOR RAILING DETAILS, SEE SHEETS 73 - 76 / 90.
3. FOR FRAMING PLANS, SEE SHEETS 47 & 48 / 90.
4. REINFORCING MAY BE FIELD-BENT OR SHOP-BENT TO CONFORM TO DECK CROSS SLOPES. PAYMENT SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL.
5. FOR GIRDER CAMBER DEFLECTION TABLES, SEE SHEETS 53-56 / 90.
6. FOR SIDEWALK DETAILS, SEE SHEETS 65 & 66 / 90.
7. FOR SCUPPER AND DOWNSPOUTING DETAILS, SEE SHEET 82 / 90.
8. ADJUST DECK REINFORCING TO CLEAR DECK SCUPPERS AND SHEAR STUDS. MAINTAIN A MINIMUM OF 2" CLEAR TO DECK OBSTRUCTIONS.
9. FOR ADDITIONAL DECK PLACEMENT NOTES, SEE GENERAL NOTES AND DECK PLANS.
10. INTERMEDIATE CROSSFRAME MEMBERS VARY BY GIRDER BAY. SEE CROSSFRAME AND UTILITY SUPPORT DETAILS ON SHEETS 57 - 60 / 90.
11. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 5 INCHES AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.
12. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.
13. PROVIDE GROUNDING PER STANDARD DRAWING HL-50.21. THE FOLLOWING BRIDGE COMPONENTS SHALL BE CONNECTED TO THE GROUNDING SYSTEM: STRUCTURAL STEEL AND LIGHT POLES.

SFN	1807898
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
REVIEWER	
PROJECT ID	82382
SUBSET	46
TOTAL	90
SHEET	2326
TOTAL	2696

CUY-90-16.28 (CCG3A)

MODEL: sidewalk plan and details 2 PAPER SIZE: 34x22 (in.) DATE: 10/15/2025 TIME: 12:12:41 PM USER: Maia.Gallagher
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SIDEWALK PLAN & DETAILS (2 OF 2)
 CUY-90-1696 (BRIDGE 14)
 CR-722 (CARNEGIE AVE.) OVER I.R. 90

SFN	1807898
DESIGN AGENCY	
DESIGNER	ABC
CHECKER	MEM
REVIEWER	LPC
DATE	06/23/22
PROJECT ID	82382
SUBSET	TOTAL
66	90
SHEET	TOTAL
2346	2696

Michael Baker INTERNATIONAL