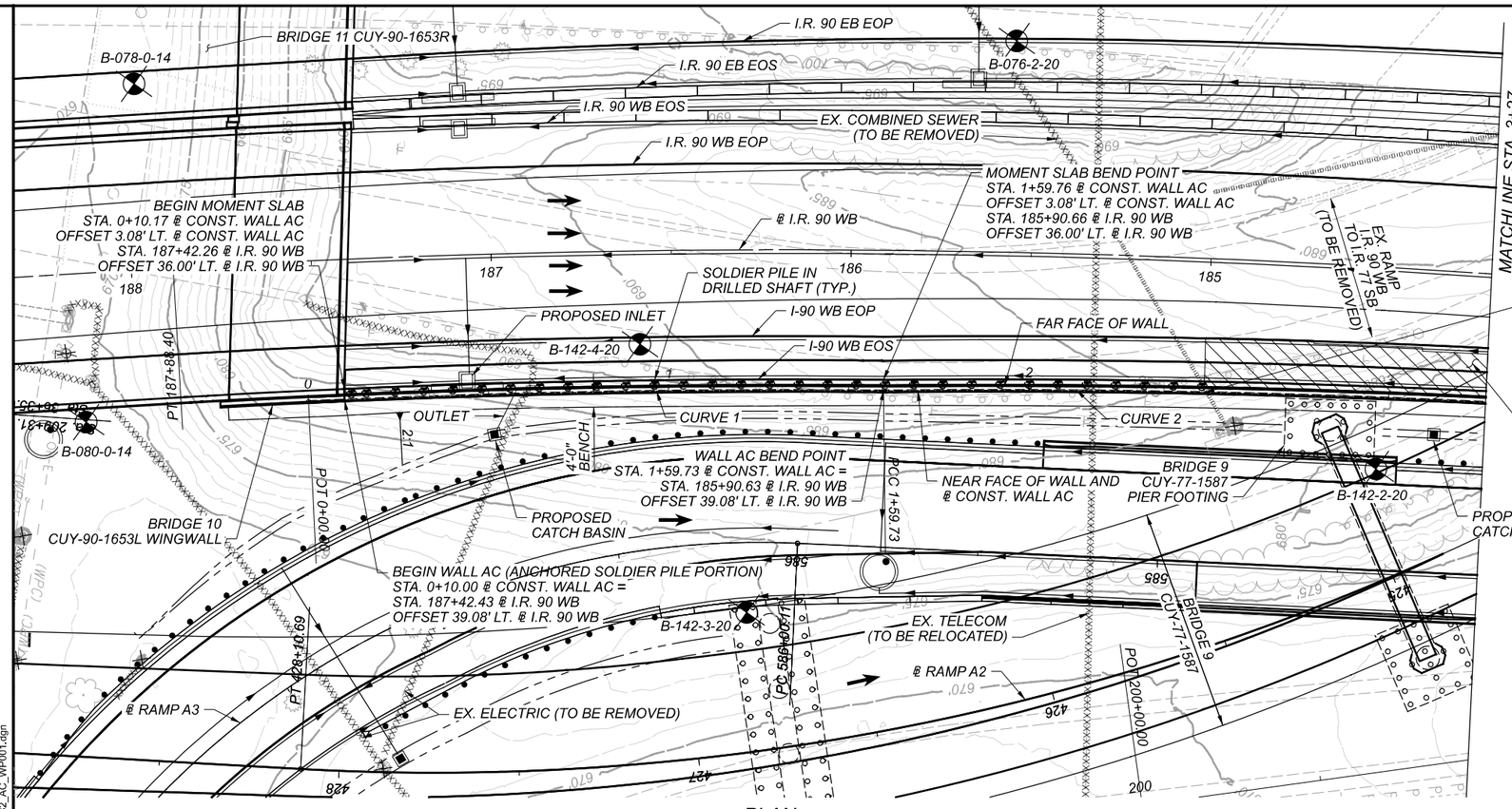

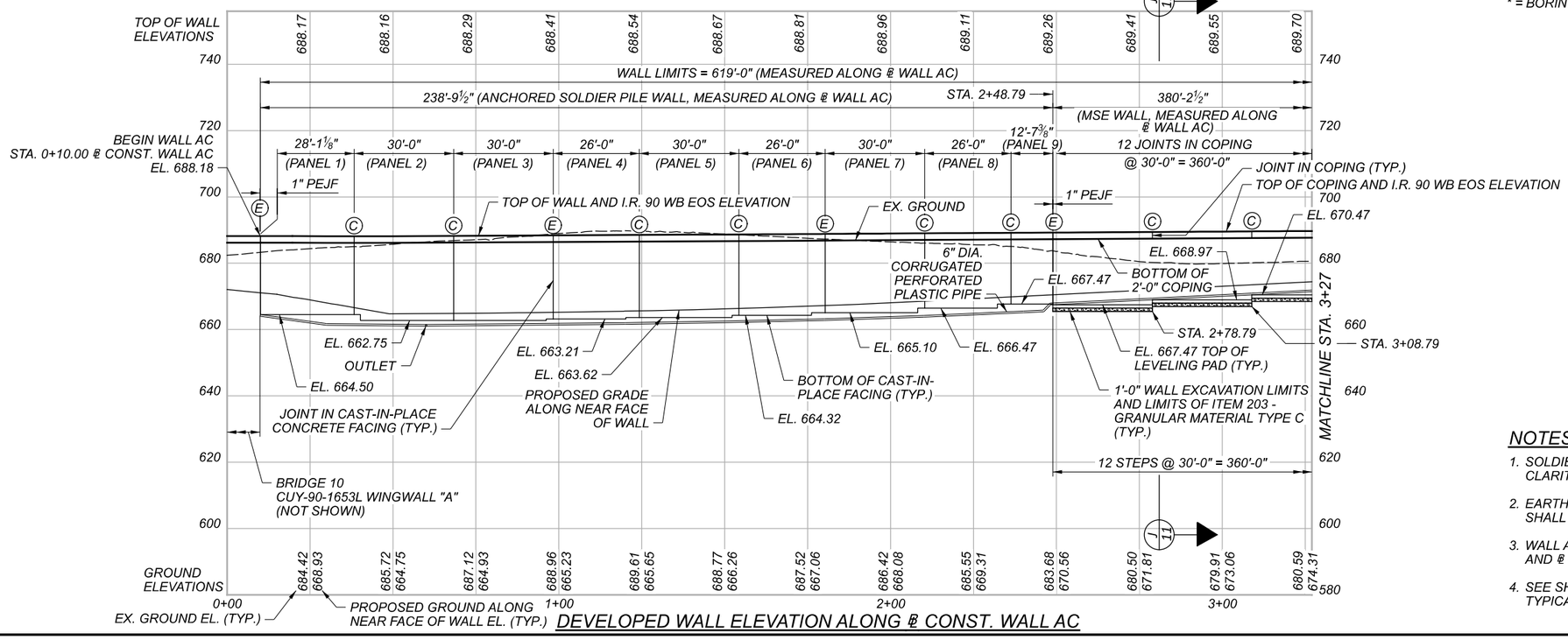

BENCHMARK DATA

BM #67 STA. 177+04.24, ELEV. 674.82, OFFSET 493.88' RT., ℄ I.R. 90 WB, CUT CROSS ON EAST LEG JUNCTION 422 SIGN
BM #61 STA. 183+21.08, ELEV. 674.03, OFFSET 454.85' LT., ℄ I.R. 90 WB, RAILROAD SPIKE IN POWER PILE NO. 3-7-65
BM #59 STA. 189+46.10, ELEV. 660.15, OFFSET 342.36' RT., ℄ I.R. 90 WB, MAG NAIL BETWEEN E 14TH ST. AND COM. COLLEGE AVE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLANS.

℄ CONST. WALL AC CURVE 1 DATA

P.I. = STA. 0+79.89
Δ = 03°14'20" RT.
Dc = 02°01'40"
R = 2,825.71'
T = 79.89'
L = 159.73'
E = 1.13'

℄ CONST. WALL AC CURVE 2 DATA

P.I. = STA. 4+07.45
Δ = 10°00'04" RT.
Dc = 02°01'25"
R = 2,831.06'
T = 247.72'
L = 494.17'
E = 10.82'

BORING LOCATION*

BORING	STATION	OFFSET	TOP OF ROCK EL.
B-078-0-14	187+96.19	51.71' RT.	-
B-080-0-14	188+15.04	41.29' LT.	-
B-142-4-20	186+59.04	25.94' LT.	-
B-142-3-20	186+29.42	100.72' LT.	-
B-076-2-20	185+55.31	58.70' RT.	-
B-142-2-20	184+50.94	56.09' LT.	-

* = BORING STATION AND OFFSETS ARE FROM ℄ I.R. 90 WB

LEGEND:

= BORING LOCATION

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

Ⓒ = CONTRACTION JOINT

Ⓔ = EXPANSION JOINT

= PLAN BOUNDARY AT PROPOSED SURFACE OF ITEMS INCLUDED FOR PAYMENT WITH THE MSE RETAINING WALL

= LIMITS OF ITEM 203 - GRANULAR MATERIAL, TYPE C

NOTES:

1. SOLDIER PILES AND ANCHORS NOT SHOWN IN THE ELEVATION FOR CLARITY.
2. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
3. WALL AND MOMENT SLAB ALIGNMENT IS DEFINED ALONG NEAR FACE AND ℄ CONST. WALL AC.
4. SEE SHEET 11/16 FOR PAYMENT BOUNDARY LIMITS AND MSE WALL TYPICAL SECTION.

WALL PLAN AND PROFILE (1 OF 2) WALL AC ALONG NORTH SIDE OF I-90 WB

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
CAS	BCS

REVIEWER DWL 06/22/22

PROJECT ID 82382

SUBSET	TOTAL
1	16

SHEET	TOTAL
971	2339

CUY-90-16.28 (CCG3A)

MODEL: 82382_AC_WP001 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:25:38 AM USER: Kathy Johnson
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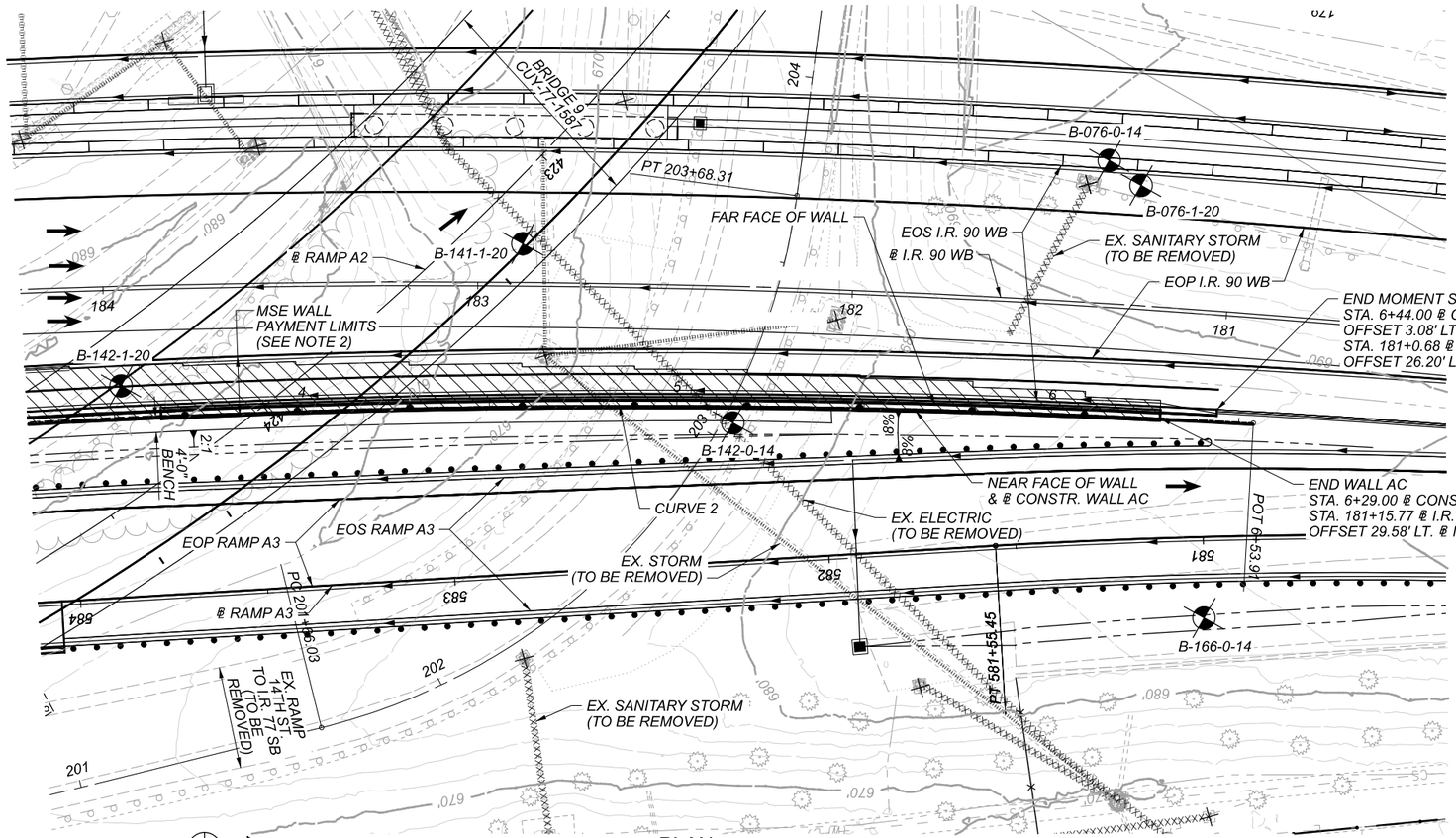
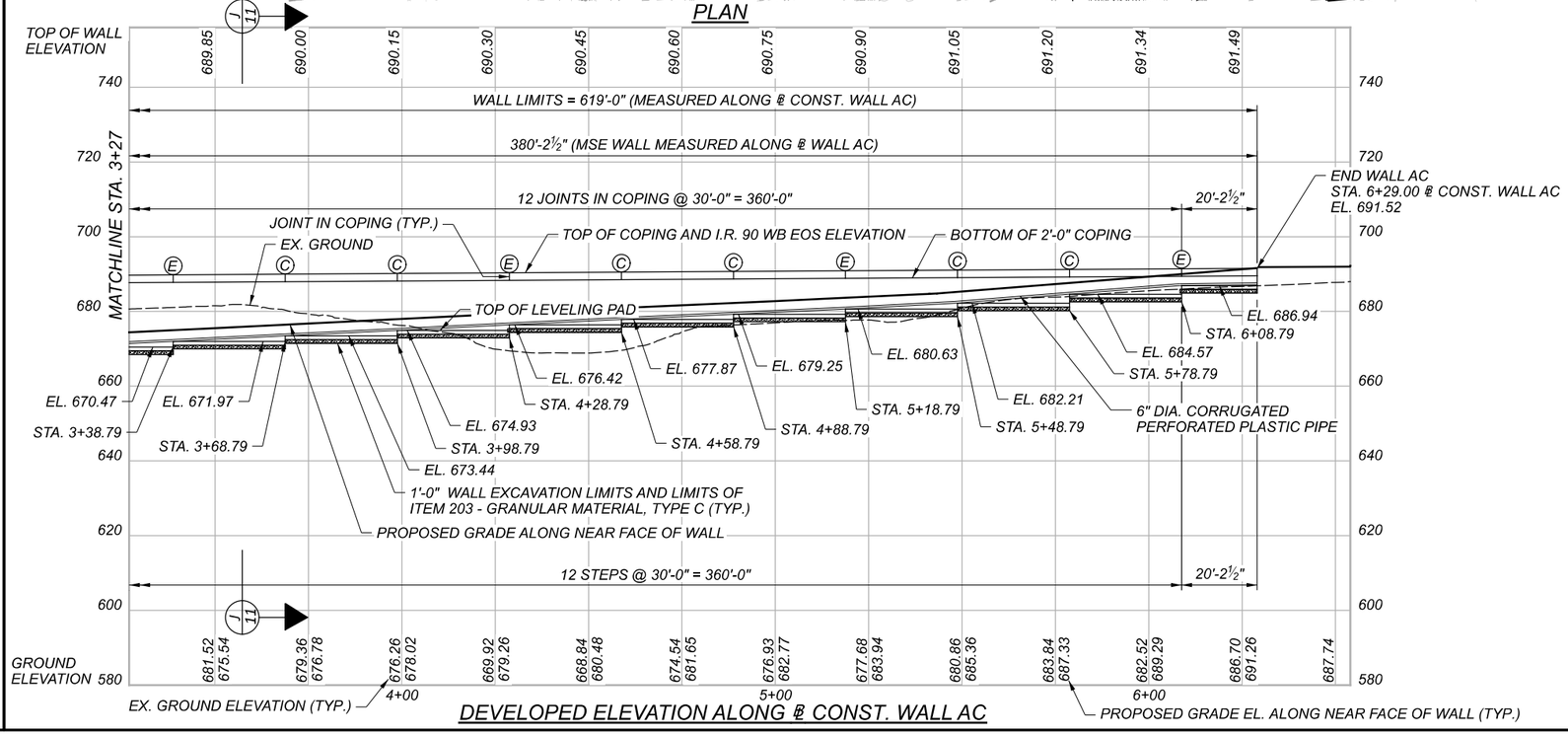


PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AC

BORING LOCATION*

BORING	STATION	OFFSET	TOP OF ROCK EL.
B-142-1-20	183+95.95	26.60' LT.	-
B-141-1-20	182+88.08	10.30' RT.	-
B-142-0-14	182+31.86	35.93' LT.	-
B-076-0-14	181+33.83	38.11' RT.	-
B-076-1-20	181+25.01	32.00' RT.	-
B-166-0-14	180+99.96	81.93' LT.	-

* = BORING STATION AND OFFSETS ARE FROM ℄ I.R. 90 WB

℄ CONST. WALL AC

CURVE 2 DATA

P.I. = STA. 4+07.45
Δ = 10°00'04" RT.
Dc = 02°01'25"
R = 2,831.06'
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LEGEND:

= BORING LOCATION

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

Ⓒ = CONTRACTION JOINT

Ⓔ = EXPANSION JOINT

= PLAN BOUNDARY AT PROPOSED SURFACE OF ITEMS INCLUDED FOR PAYMENT WITH THE MSE RETAINING WALL

= LIMITS OF ITEM 203 - GRANULAR MATERIAL, TYPE C

NOTES:

1. SEE SHEET 1 /16 FOR NOTES AND BENCHMARK INFORMATION.
2. SEE SHEET 11/16 FOR PAYMENT BOUNDARY LIMITS AND MSE WALL TYPICAL SECTION.

WALL PLAN AND PROFILE (2 OF 2)
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
CAS	BCS

REVIEWER DWL 06/22/22

PROJECT ID 82382

SUBSET	TOTAL
2	16

SHEET	TOTAL
972	2339

CUY-90-16.28 (CCG3A)

MODEL: 82382_AC_WP003 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:26:08 AM USER: Kathy.Johnson
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PROPOSED WORK
THE PROPOSED WORK CONSIST OF CONSTRUCTING RETAINING WALLS AND MOMENT SLABS WITH BARRIERS 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 SUPPLEMENTAL SPECIFICATIONS:
800 DATED 5-22-22
840 DATED 4-15-22
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, 2019 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA:
CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4 KSI (CAST IN PLACE WALL FACING AND COPING)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 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

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 CM&S 503, EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

THE SOLDIER PILE WALL SHALL BE CONSTRUCTED IN A TOP-DOWN MANNER. EXCAVATION OF 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 ¼ INCH TO ½ 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 CUBIC YARD CONTACT PRICE FOR ITEM 503 UNCLASSIFIED FOUNDATION 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 A709 GRADE 50. DO NOT FIELD WELD OF 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.

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., HP14X73.

ITEM 511 - CLASS QC1 CONCRETE WITH QC\QA, RETAINING\WINGWALL NOT INCLUDING FOOTING, AS PER PLAN
THIS ITEMS CONSIST 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.

STEEL STUDS SHALL BE WELDED ACCORDING TO CM&S 513.22 AND AS SHOWN ON THE PLANS TO THE FRONT FLANGES ON 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.

FORM LINERS (ARCHITECTURAL TREATMENT WITH AESTHETIC PATTERNS) SHALL BE PROVIDED AS SHOWN ON THE LANDSCAPING PLANS.

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 ½ INCH PREFORMED EXPANSION JOINT FILLER, DOWELS AT JOINTS, BOND BREAKER AT DOWELS AT EXPANSION JOINTS, NON-BITUMINOUS JOINT SEALER AT THE JOINTS, WELDED STUD CONNECTORS AND FORM LINERS.

ITEM 511 - CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET
ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE MOMENT SLABS WITH PAPAPETS ALONG THE RETAINING WALLS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET. 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 CM&S 455 AND 511.04 SHALL BE INCLUDED.

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 APPLIES TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OF 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 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 BARRIER, 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 BARRIER . THE FINISH COAT COLOR SHALL BE AS REQUIRED BY THE LANDSCAPING PLANS. SEE LANDSCAPING PLANS FOR COLOR INFORMATION. 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 - 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.

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 516 - JOINT SEALER, AS PER PLAN
HOT APPLIED JOINT SEALER SHALL BE PLACED ABOVE THE 1 INCH PERFORMED EXPANSION JOINT FILLER THAT IS PLACED BETWEEN THE MOMENT SLAB AND THE ROADWAY ASPHALT. JOINT SEALER SHALL MEET THE REQUIREMENTS OF CM&S 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 A 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 TO PGD TO THE LAGGING. USE NAILS AND WASHERS AT LEAST 1 INCH DIAMETER IN SIZE TO SECURE THE PGD ALONG THE EDGES OF THE PGD AND 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 IN 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 WITCH 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. WHERE A WALL HAS WEEP HOLES FOR DRAINAGE, ENSURE WATER CAN DRAIN FROM THE PGD TO THE WEEPHOLE. IF NECESSARY, CUT A HOLE IN THE CORE TO ALLOW DRAINAGE OR USE A WEEPHOLE FITTING FROM THE PGD MANUFACTURER. DO NOT CUT GEOTEXTILE.

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.

ITEM 524 - DRILLED SHAFTS, 30" 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 SHAFTS. 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 PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC1 CONCRETE ACCORDING TO C&MS 511 TO FILL THE HOLE TO THE TOP OF THE DRILLED SHAFT (ELEVATION "C"). THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDING THE DEPTH OF WATER IN THE SHAFT IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. PORING THE CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND THE ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO 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. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

ITEM SPECIAL - RETAINING WALL, TIMBER LAGGING
THIS ITEM CONSISTS OF FURNISHING AND INSTALLING UNTREATED HARDWOOD LAGGING TO SERVE AS TEMPORARY LAGGING FOR THE SOLDIER PILE WALL. THE LAGGING SHALL CONSIST OF HARDWOOD TIMBER WITH 3 INCH BY 8 INCH DIMENSIONS AND SHALL BE OF A GRADE AND TYPE WITH AN ALLOWABLE EXTREME FIBER STRESS IN BENDING OF A MINIMUM OF 1 KSI. THE TIMBER MATERIAL SHALL BE DOUGLAS FIR-LARCH DENSE NO. 1, SELECT STRUCTURAL OR DENSE SELECT STRUCTURAL. THE WOOD SHALL BE SEASONED, SOUND, AND FREE FROM DECAY AND INSECT ATTACK, WITH NO LOOSE AND/OR CLUSTER KNOTS. THE ENDS OF THE TIMBER SHALL BE SAWED SQUARE WITH THE AXIS OF THE TIMBER. THE TIMBER MEMBERS SHALL ALSO CONFORM TO 711.26 OF THE ODOT SPECIFICATIONS. PROVIDE CERTIFICATION THAT THE TIMBER CONFORMS TO THE GRADE, SPECIES AND OTHER SPECIFIED REQUIREMENTS.

LAGGING SHALL BE PLACED IN A TOP-DOWN MANNER AS EXCAVATION PROCEEDS DOWNWARD. AT NO TIME SHOULD MORE THAN 3 FOOT OF UNSUPPORTED EXCAVATION BE PERMITTED. REDUCE THE UNSUPPORTED HEIGHT AS NECESSARY TO PREVENT CAVING AND SLOUGHING OF THE SOILS BETWEEN THE SOLDIER PILES. PROVIDE 1#4 INCH TO1#2 INCH WOOD SPACERS TO PROVIDE HORIZONTAL JOINT SPACING BETWEEN THE LAGGING BOARDS TO PERMIT DRAINAGE.

HARDWOOD SHIMMING SHALL BE USED AS NEEDED TO MAINTAIN THE POSITIONING OF THE TIMBER MEMBERS AGAINST THE INTERIOR FLANGE FACE OF THE SOLDIER PILE DURING CONSTRUCTION OF THE RETAINING WALL SYSTEM. NO SHIM SHALL EXTEND BEYOND THE FLANGE OF THE H-PILE MORE THAN 1#4 INCH AND NO SHIM SHALL EXTEND BEYOND THE TOP FACE OF THE TOP LAGGING.

THE DEPARTMENT WILL MEASURE THE TEMPORARY HARDWOOD LAGGING BY THE NUMBER OF SQUARE FEET. PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS (INCLUDING HARDWOOD SHIMMING AND WOOD SPACERS) NECESSARY TO FURNISH AND INSTALL THE TEMPORARY HARDWOOD LAGGING.

ITEM 840 - MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN
CONSTRUCTION AND PAYMENT FOR MECHANICALLY STABILIZED EARTH (MSE) WALLS SHALL BE IN ACCORDANCE WITH SUPLEMENTAL SPECIFICATION 840 EXCEPT AS MODIFIED BELOW.

FOUNDATION BEARING RESISTANCE: THE WALL AC REINFORCED SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF XX KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF XXX KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS XXX KIPS PER SQUARE FOOT.

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

SFN
N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
CAS	JAA

REVIEWER
DWL 06/22/22

PROJECT ID
82382

SUBSET	TOTAL
3	16

SHEET	TOTAL
973	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:26:30 AM USER: Kathy.Johnson
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ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
ANCHORED SOLDIER PILE WITH LAGGING WALL				
503	21301		LS	UNCLASSIFIED EXCAVATION, AS PER PLAN
507	00400		FT	STEEL PILES, MISC.: SOLDIER PILES HP14X73
509	10000		LB	EPOXY COATED REINFORCING STEEL
511	46011		CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN
512	10001		SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)
512	10101		SY	SEALING OF CONCRETE SURFACES (EPOXY URETHANE), AS PER PLAN
512	33001		SY	TYPE 2 WATERPROOFING, AS PER PLAN
513	20000		EACH	WELDED STUD SHEAR CONNECTORS
516	13600		SF	1" PERFORMEND EXPANSION JOINT FILLER
518	20000		SY	PREFABRICATED GEOCOMPOSITE DRAIN
518	21200		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC
518	40000		FT	6" PERFORATED CORRUGATED PLASTIC PIPE
524	94603		FT	DRILLED SHAFTS, 30" DIAMETER ABOVE BEDROCK, AS PER PLAN
SPECIAL	530E51020		SF	RETAINING WALL, TIMBER LAGGING
866	00100		EACH	GROUND ANCHOR, 100 KIP MAX TEST LOAD
866	00100		EACH	GROUND ANCHOR, 92 KIP MAX TEST LOAD
866	00100		EACH	GROUND ANCHOR, 82 KIP MAX TEST LOAD
866	00100		EACH	GROUND ANCHOR, 63 KIP MAX TEST LOAD
866	00100		EACH	GROUND ANCHOR, 60 KIP MAX TEST LOAD
866	00300		LS	INVESTIGATIVE ANCHOR PULLOUT TESTS
866	00400		EACH	PERFORMANCE TEST
866	00500		EACH	EXTENDED CREEP TEST
MSE WALL				
203	20000		CY	EMBANKMENT
512	10001		SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)
512	10101		SY	SEALING OF CONCRETE SURFACES (EPOXY URETHANE), AS PER PLAN
516	13600		SF	1" PERFORMEND EXPANSION JOINT FILLER
601	11000		SY	RIPRAP, TYPE D
840	20001		SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN
840	21000		CY	WALL EXCAVATION
840	22000		SY	FOUNDATION PREPARATION
840	23000		CY	SELECT GRANULAR BACKFILL
840	25010		FT	6" DRAINAGE PIPE, PERFORATED
840	25020		FT	6" DRAINAGE PIPE, NON-PERFORATED
840	26000		FT	CONCRETE COPING
840	26050		SF	AESTHETIC SURFACE TREATMENT
840	27000		DAY	ON SITE ASSISTANCE
MOMENT SLAB				
509	10000		LB	EPOXY COATED REINFORCING STEEL
509	30020		FT	NO. 4 GFRP PREFORMED BARS
511	53012		CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET
512	10101		SY	SEALING OF CONCRETE SURFACES (EPOXY URETHANE), AS PER PLAN
516	31001		FT	JOINT SEALER, AS PER PLAN

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. - CONTRUCTION 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 AC
ALONG NORTH SIDE OF I-90 WB

SFN
N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
CAS	JAA

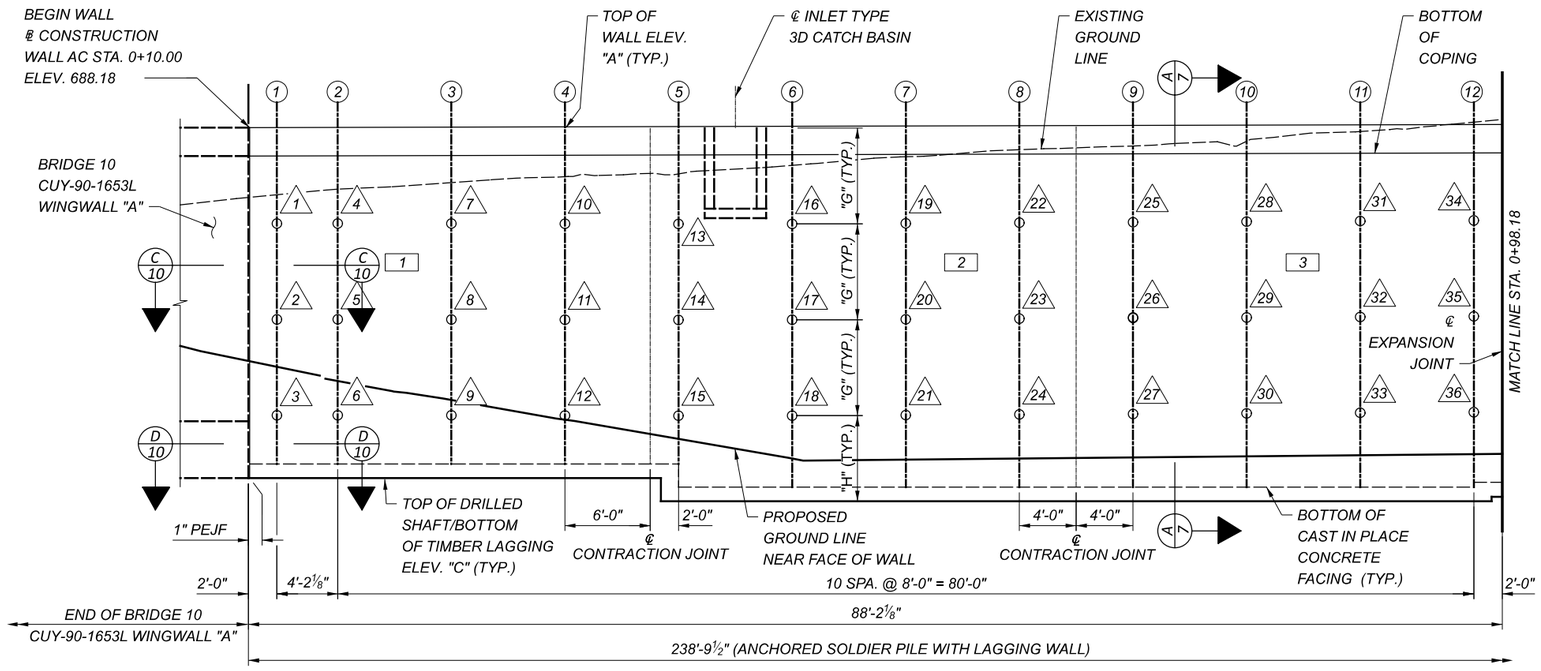
REVIEWER
DWL 06/22/22

PROJECT ID
82382

SUBSET	TOTAL
4	16

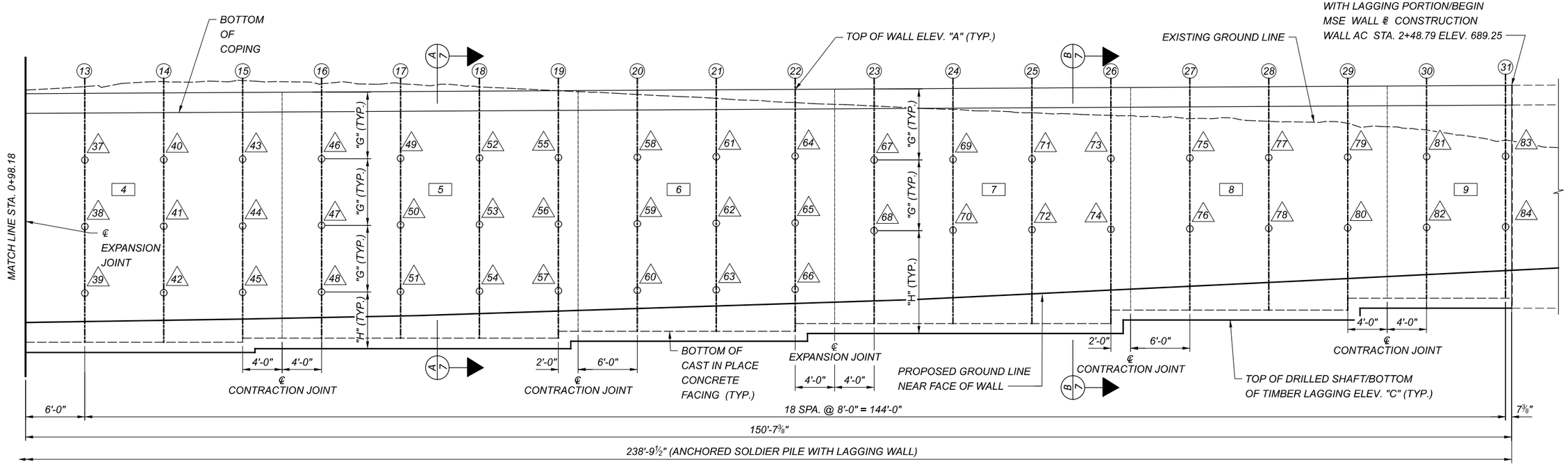
SHEET	TOTAL
974	2339

CUY-90-16.28 (CCG3A)



WALL ELEVATION

(FROM SOLDIER PILE NO. 1 THRU NO. 12)



WALL ELEVATION

(FROM SOLDIER PILE NO. 13 THRU NO. 31)

NOTES:

1. ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG THE BASELINE CONSTRUCTION WALL AC.
2. DRILLED SHAFTS NOT SHOWN.

LEGEND:

- [#] = WALL PANEL NUMBER
- (#) = DRILLED SHAFT /SOLDIER PILE NUMBER
- ○ = ANCHOR
- △# = ANCHOR NUMBER

SOLDIER PILE AND ANCHOR WALL ELEVATION WALL AC ALONG NORTH SIDE OF I-90 WB

CUY-90-16.28 (CCG3A)

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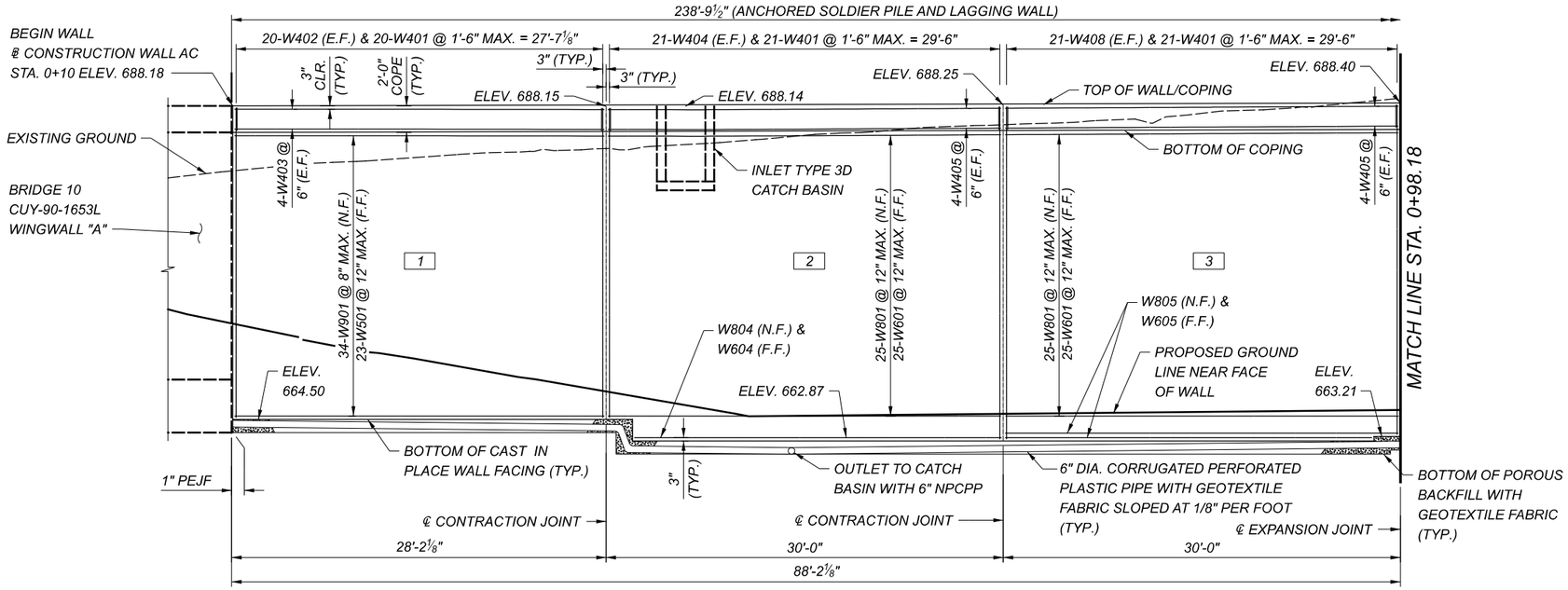
SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET PAINESVILLE, OH 44077
DESIGNER	CAS
CHECKER	ODW
REVIEWER	DWL 06/22/22
PROJECT ID	82382
SUBSET	5
TOTAL	16
SHEET	975
TOTAL	2339



NEAR FACE WALL ELEVATION

NOTES:

ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG THE BASELINE CONSTRUCTION WALL AC.

SEE SHEET 8 OF 16 FOR CONTRACTION AND EXPANSION JOINT DETAILS FOR WALL AND COPING.

DO NOT EXTEND REINFORCEMENT THROUGH THE CONTRACTION AND EXPANSION JOINTS.

ALL LAPS IN THE VERTICAL #4 REINFORCING STEEL SHALL BE A MINIMUM 2'-0" IN LENGTH.

LEGEND:

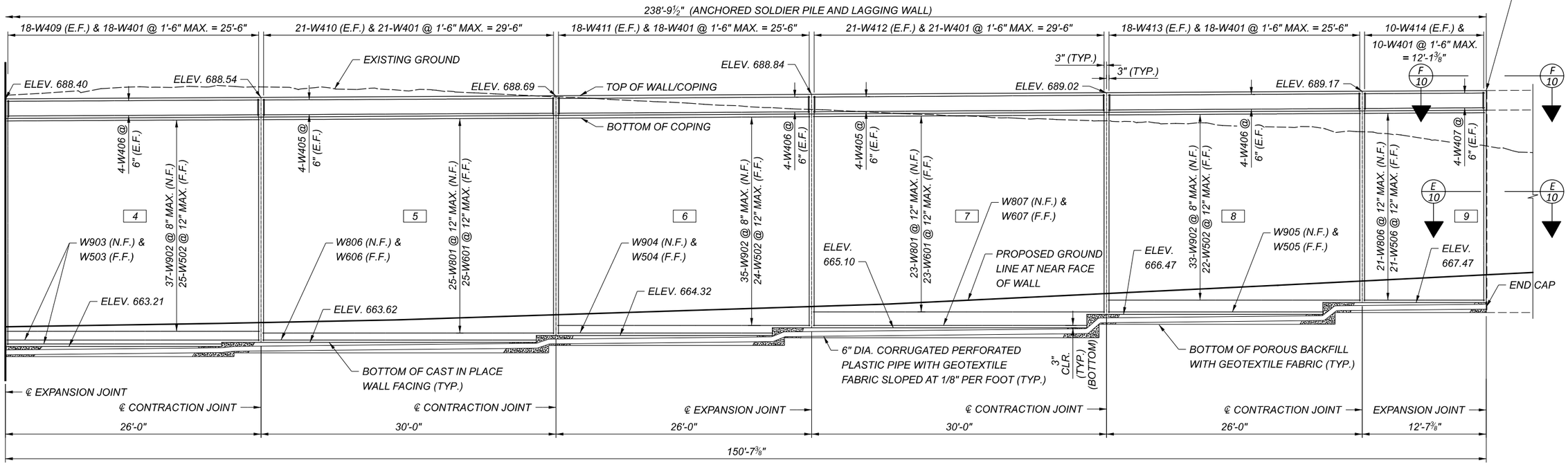
[#] = WALL PANEL NUMBER

E.F. = EACH FACE

F.F. = FAR FACE

N.F. = NEAR FACE

END C.I.P. SOLDIER PILE WALL / BEGIN MSE WALL
℄ CONSTRUCTION WALL AC STA. 2+48.79 ELEV. 689.25



NEAR FACE WALL ELEVATION

C.I.P. SOLDIER PILE WALL REINFORCING DETAILS
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	MRC
CHECKER	JAA
REVIEWER	DWL 06/22/22
PROJECT ID	82382
SUBSET	6
TOTAL	16
SHEET	976
TOTAL	2339

CUY-90-16.28 (CCG3A)

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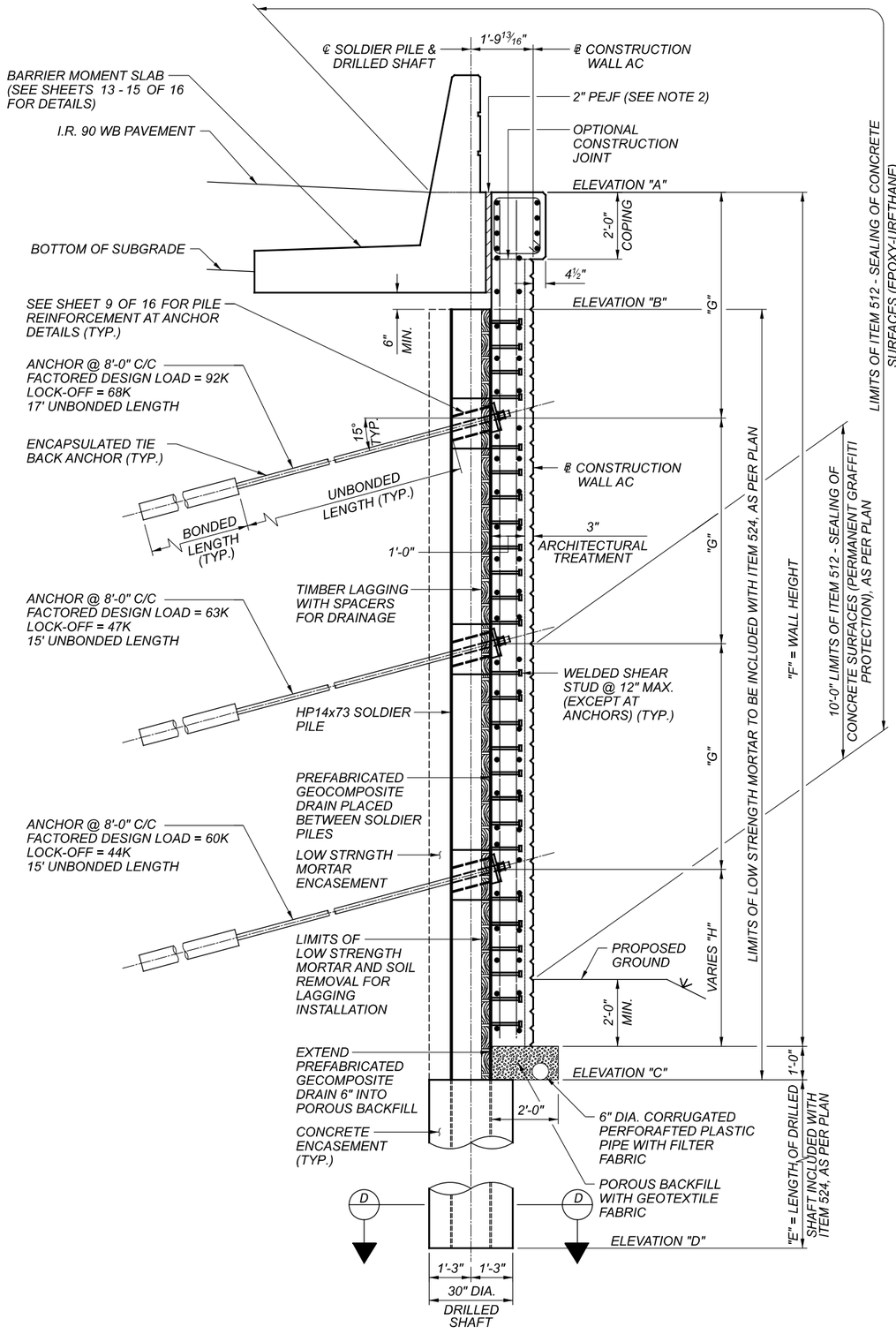
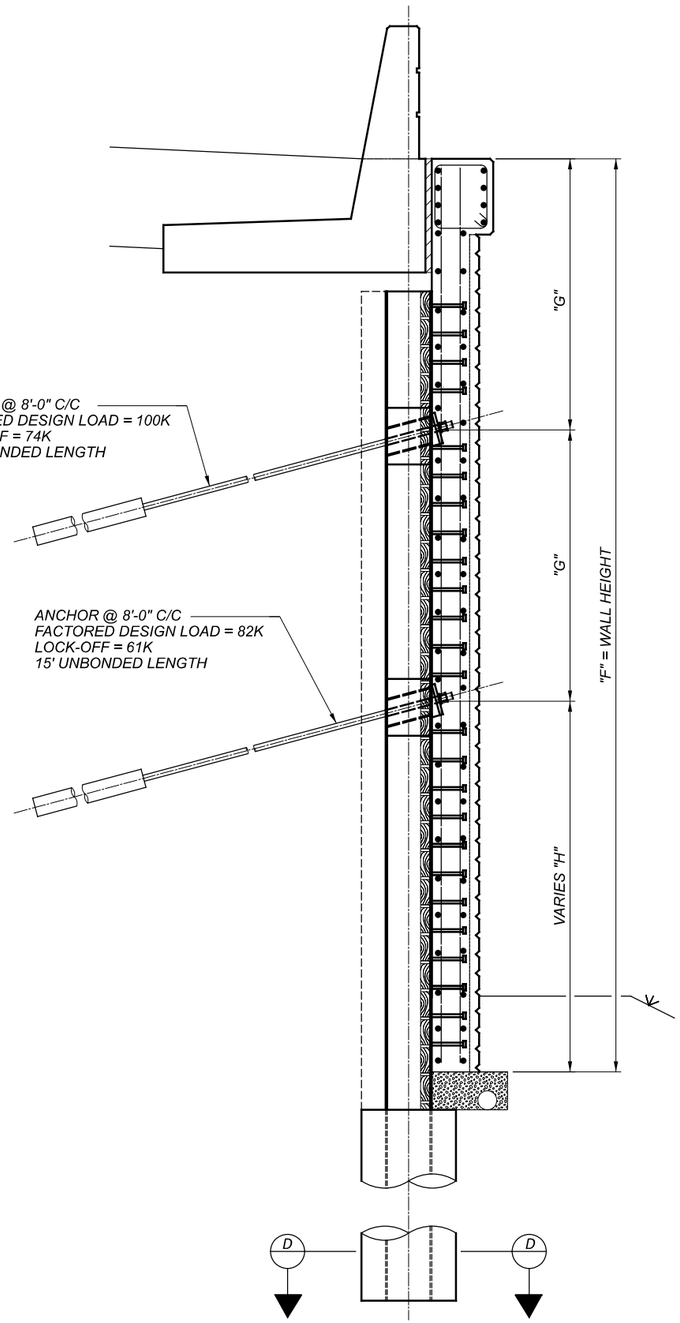


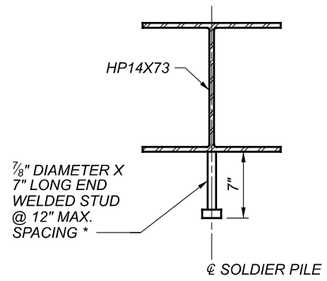
SECTION A-A - PANELS 1-6

(3 ANCHORS)

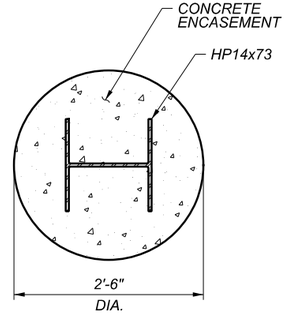


SECTION B-B - PANELS 7-9

(2 ANCHORS)
(SEE SECTION A-A FOR CALLOUTS AND INFORMATION NOT SHOWN)



STUD DETAIL



SECTION D-D

NOTES:

1. SEE LANDSCAPING PLANS FOR ARCHITECTURAL TREATMENT (AESTHETIC PATTERNS) ON FACE OF CAST IN PLACE WALL
2. 2" PEJF IS INCLUDED WITH CLASS QC2 CONCRETE, MISC.: MOMENT SLAB FOR PAYMENT.
3. SEE SHEET 5 OF 16 FOR LOCATIONS OF SECTIONS A-A AND B-B.

SECTIONS AND DETAILS ANCHORED SOLDIER PILE WITH LAGGING WALL - 1
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	CAS
CHECKER	JAA
REVIEWER	DWL 06/22/22
PROJECT ID	82382
SUBSET	7
TOTAL	16
SHEET	977
TOTAL	2339

CUY-90-16.28 (CCG3A)
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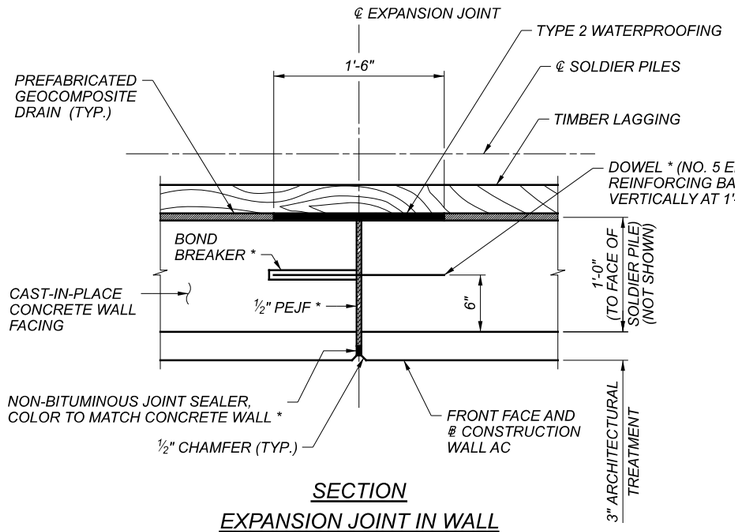
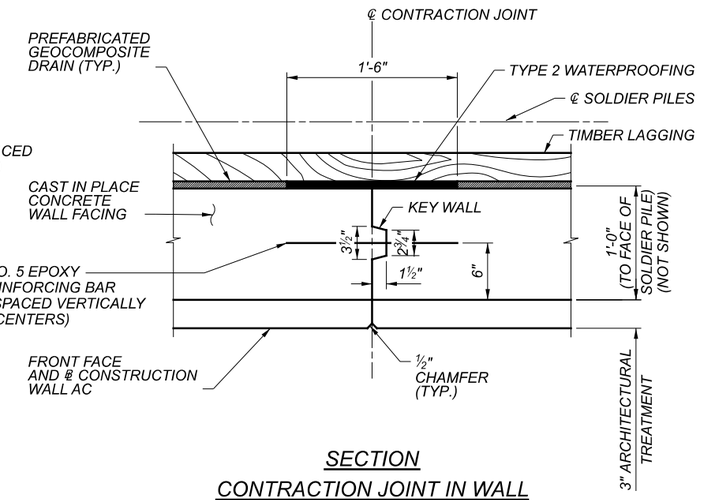
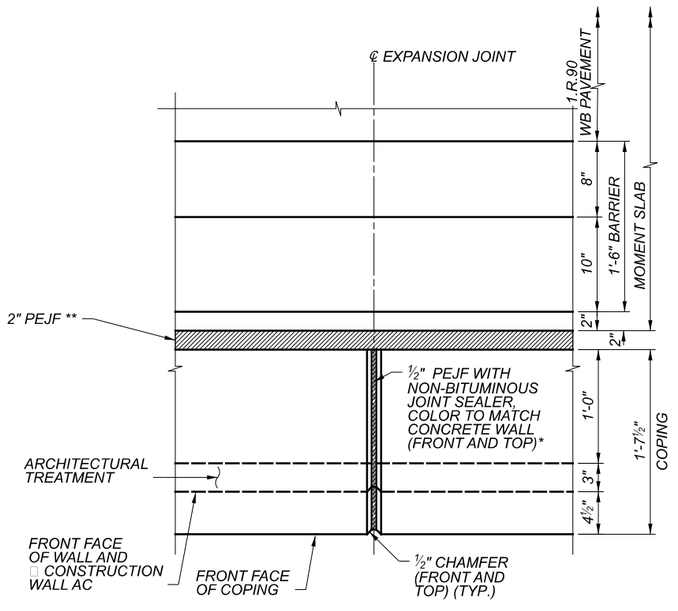


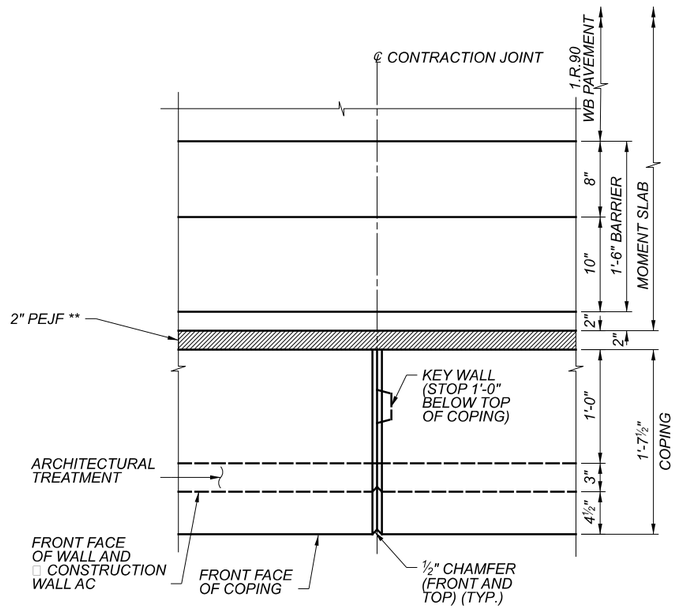
SECTION
EXPANSION JOINT IN WALL



SECTION
CONTRACTION JOINT IN WALL



PLAN - COPING
EXPANSION JOINT



PLAN - COPING
CONTRACTION JOINT

LEGEND:

* = INCLUDE WITH ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN FOR PAYMENT.

** = INCLUDE WITH ITEM 511 - CLASS QC2 CONCRTE, MISC.: MOMENT SLAB FOR PAYMENT.

SECTIONS AND DETAILS ANCHORED SOLDIER PILE WITH LAGGING WALL - 2
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
CAS	JAA

REVIEWER
DWL 06/22/22

PROJECT ID
82382

SUBSET	TOTAL
8	16

SHEET	TOTAL
978	2339

CUY-90-16.28 (CCG3A)

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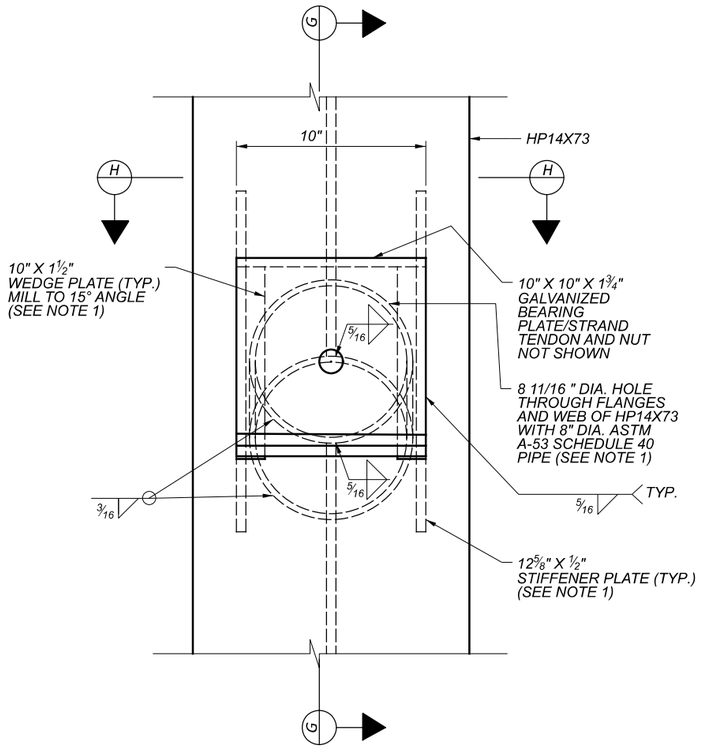
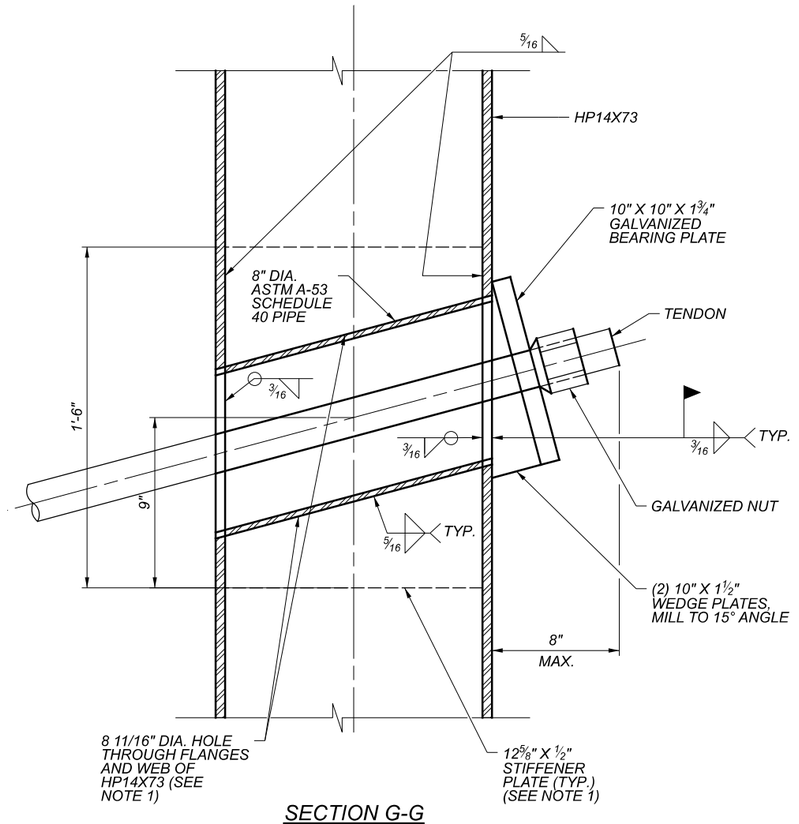
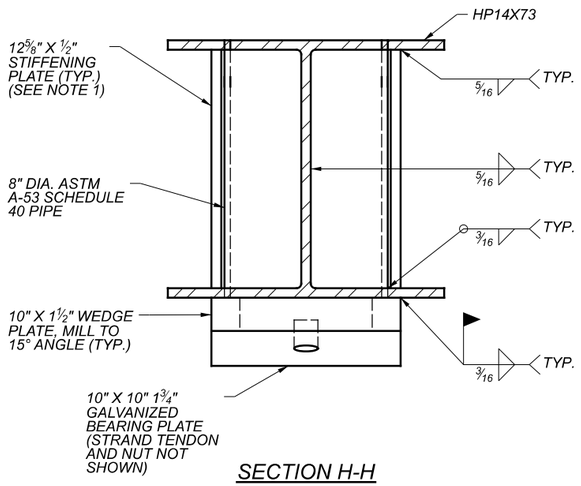


ELEVATION - HP14X73 PILE REINFORCEMENT AT ANCHOR



SECTION G-G



SECTION H-H

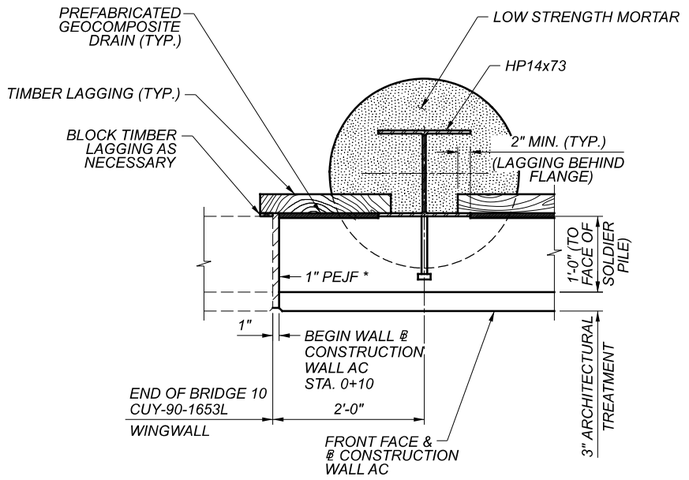
NOTES:

1. SOLDIER PILES SHALL BE PRE-FABRICATED WITH THE ANCHOR DETAIL SHOWN BEFORE INSTALLATION INTO THE DRILLED CONCRETE SHAFT. BEARING PLATES, WEDGE PLATES, STIFFENERS, STEEL TRUMPET PIPE, GALVANIZING, AND ANY ADDITIONAL ANCHOR MODIFICATIONS TO THE SOLDIER PILES ARE INCLUDED WITH THE APPROPRIATE ITEM 866 - GROUND ANCHOR, AS PER PLAN FOR PAYMENT.

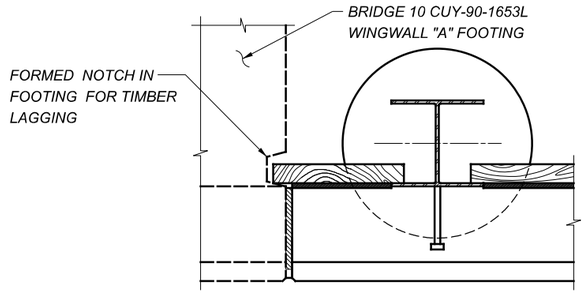
SECTIONS AND DETAILS ANCHORED SOLDIER PILE WITH LAGGING WALL - 3
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	CAS
CHECKER	JAA
REVIEWER	DWL 06/22/22
PROJECT ID	82382
SUBSET	9
TOTAL	16
SHEET	979
TOTAL	2339

CUY-90-16.28 (CCG3A)

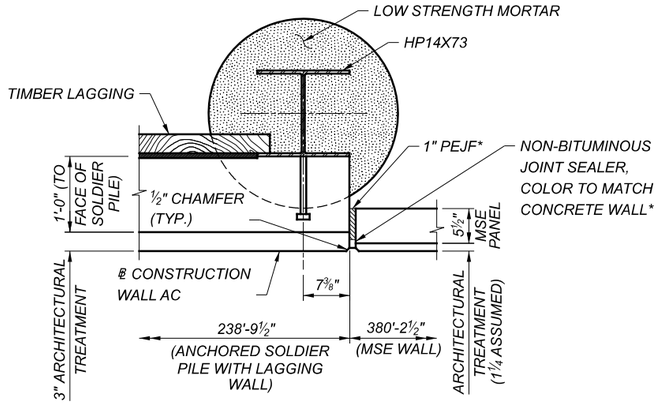


SECTION C-C

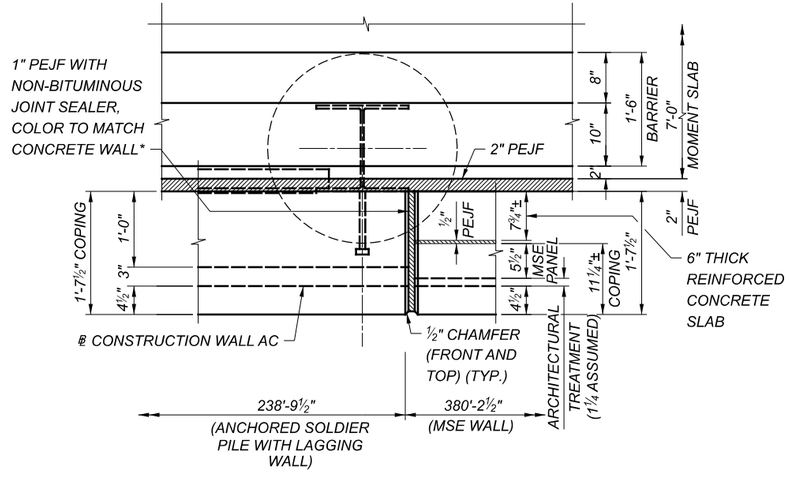


SECTION D-D

(SEE SECTION C-C FOR CALLOUTS AND INFORMATION NOT SHOWN)



SECTION E-E



VIEW F-F

NOTES:

1. SEE SHEET 5 OF 16 FOR LOCATIONS OF SECTIONS C-C AND D-D.
2. SEE SHEET 6 OF 16 FOR LOCATIONS OF SECTIONS E-E AND F-F.

SECTIONS AND DETAILS ANCHORED SOLDIER PILE / MSE WALL
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN N/A

DESIGN AGENCY

BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
CAS	JAA

REVIEWER: DWL 06/22/22

PROJECT ID: 82382

SUBSET	TOTAL
10	16

SHEET	TOTAL
980	2339

CUY-90-16.28 (CCG3A)

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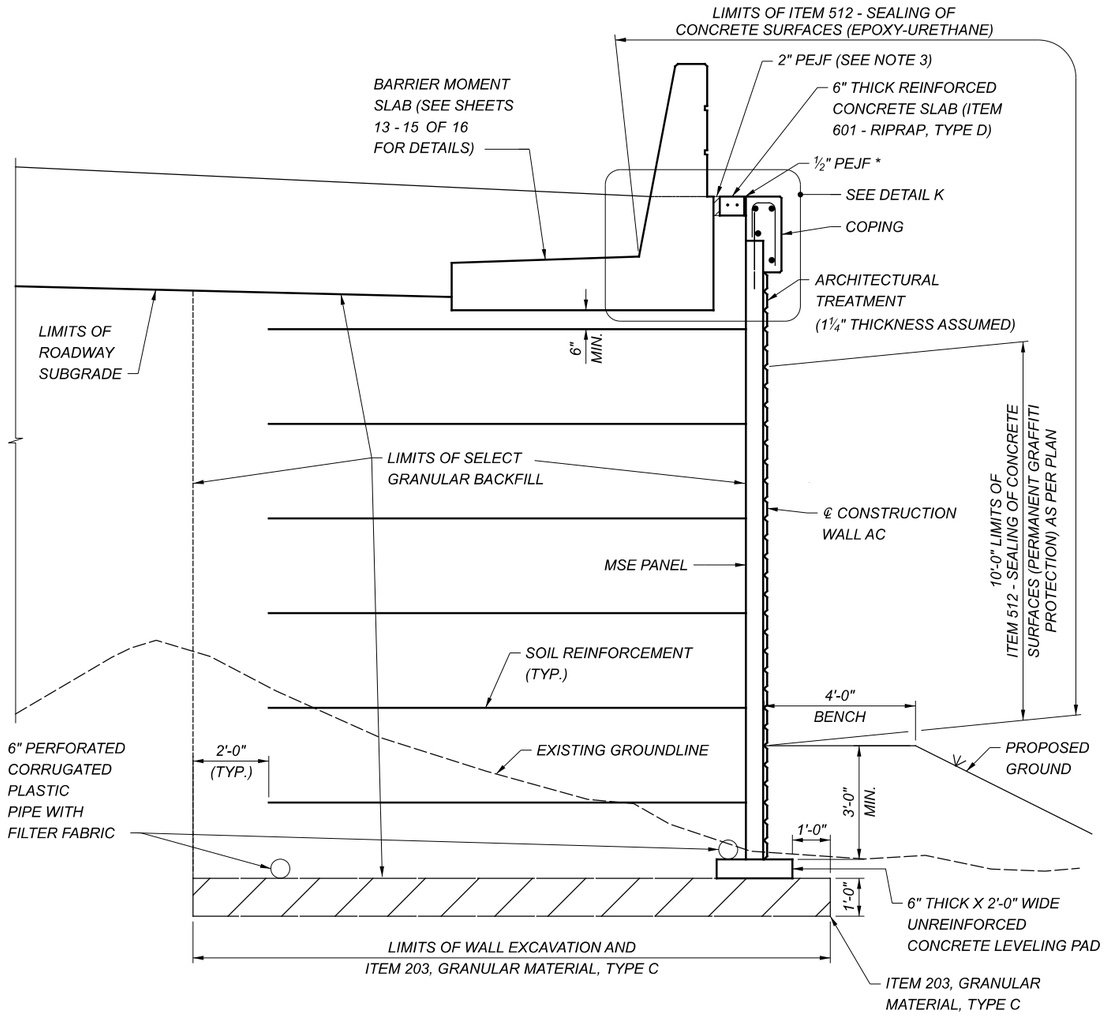
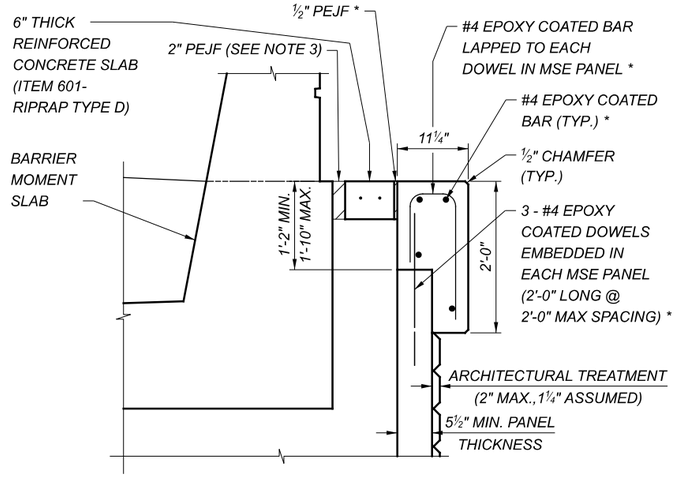
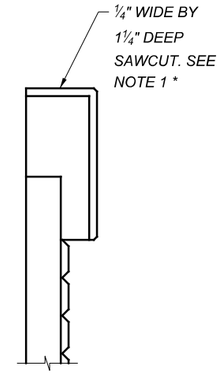


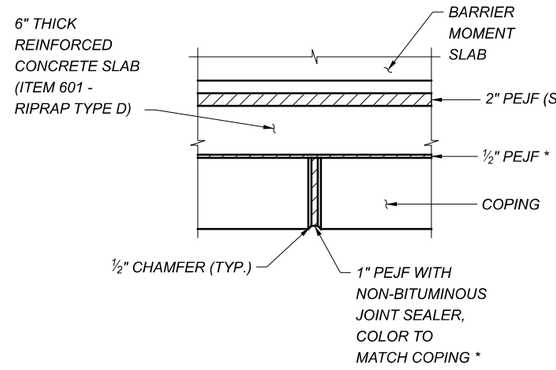
SECTION J-J



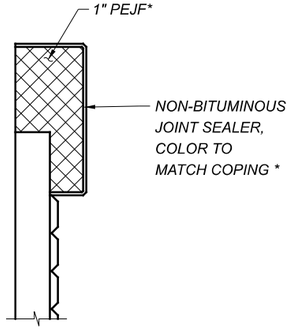
DETAIL K



SECTION
COPING EXPANSION JOINT



PLAN
COPING EXPANSION JOINT



SECTION
COPING EXPANSION JOINT

LEGEND:

* = INCLUDE WITH ITEM 840 - CONCRETE COPING, FOR PAYMENT

NOTES:

1. CONTRACTION JOINT: SAWCUT 1¼" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

   USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON FACES OF THE MSE COPING. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼".

   SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM ½" OF THE OUTSIDE FACES OF THE COPING UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE. COLOR TO MATCH CONCRETE COPING.

2. SEE LANDSCAPING PLANS FOR ARCHITECTURAL TREATMENT (AESTHETIC PATTERNS) ON FACE OF MSE PANELS.

3. 2" PEJF IS INCLUDED WITH CLASS QC2 CONCRETE, MISC.: MOMENT SLAB FOR PAYMENT.

SECTIONS AND DETAILS - MSE WALL WALL AC ALONG NORTH SIDE OF I-90 WB

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
CAS	JAA

REVIEWER DWL 06/22/22

PROJECT ID 82382

SUBSET	TOTAL
11	16

SHEET	TOTAL
981	2339

CUY-90-16.28 (CCG3A)

LOCATION AND ELEVATION DATA TABLE															
PANEL	SOLDIER PILE NUMBER	SOLDIER PILE STATION BASELINE WALL AC	SOLDIER PILE OFFSET BASELINE WALL AC (FEET)	SOLDIER PILE STATION I.R. 90 WB	SOLDIER PILE OFFSET I.R. WB (FEET)	TOP OF WALL/ COPING ELEVATION "A"	TOP OF SOLDIER PILE ELEVATION "B"	TOP OF DRILLED SHAFT ELEVATION "C"	PILE TIP ELEVATION "D"	LENGTH OF DRILLED SHAFT "E" (FEET)	WALL HEIGHT "F" (FEET)	ANCHOR SPACING "G" (FEET)	ANCHOR SPACING "H" (FEET)	SOLDIER PILE SHAPE	SOLDIER PILE LENGTH (FEET)
1	1	0+12.00	1.82	187+40.41	37.27	688.18	685.18	663.50	619.00	44.50	23.68	6.75	3.43	HP14X73	66.18
	2	0+16.18	1.82	187+36.17	37.27	688.18	685.18	663.50	619.00	44.50	23.68	6.75	3.43	HP14X73	66.18
	3	0+24.18	1.82	187+28.06	37.27	688.17	685.17	663.50	619.00	44.50	23.67	6.75	3.42	HP14X73	66.17
	4	0+32.18	1.82	187+19.95	37.27	688.16	685.16	663.50	619.00	44.50	23.66	6.75	3.41	HP14X73	66.16
2	5	0+40.18	1.82	187+11.84	37.27	688.15	685.15	661.87	619.00	42.87	25.28	6.75	5.03	HP14X73	66.15
	6	0+48.18	1.82	187+03.72	37.27	688.15	685.15	661.87	619.00	42.87	25.28	6.75	5.03	HP14X73	66.15
	7	0+56.18	1.82	186+95.61	37.27	688.20	685.20	661.87	619.00	42.87	25.33	6.75	5.08	HP14X73	66.20
	8	0+64.18	1.82	186+87.50	37.27	688.23	685.23	661.87	619.00	42.87	25.36	6.75	5.11	HP14X73	66.23
3	9	0+72.18	1.82	186+79.39	37.27	688.28	685.28	661.87	619.00	42.87	25.41	6.75	5.16	HP14X73	66.28
	10	0+80.18	1.82	186+71.28	37.27	688.32	685.32	661.87	619.00	42.87	25.45	6.75	5.20	HP14X73	66.32
	11	0+88.18	1.82	186+63.17	37.27	688.36	685.36	661.87	619.00	42.87	25.49	6.75	5.24	HP14X73	66.36
	12	0+96.18	1.82	186+55.06	37.27	688.40	685.40	661.87	619.00	42.87	25.53	6.75	5.28	HP14X73	66.40
4	13	1+04.18	1.82	186+46.95	37.27	688.44	685.44	662.21	619.00	43.21	25.23	6.75	4.98	HP14X73	66.44
	14	1+12.18	1.82	186+38.84	37.27	688.48	685.48	662.21	619.00	43.21	25.27	6.75	5.02	HP14X73	66.48
	15	1+20.18	1.82	186+30.73	37.27	688.52	685.52	662.21	619.00	43.21	25.31	6.75	5.06	HP14X73	66.52
5	16	1+28.18	1.82	186+22.62	37.27	688.56	685.56	662.62	619.00	43.62	24.94	6.75	4.69	HP14X73	66.56
	17	1+36.18	1.82	186+14.51	37.27	688.60	685.60	662.62	619.00	43.62	24.98	6.75	4.73	HP14X73	66.60
	18	1+44.18	1.82	186+06.40	37.27	688.64	685.64	662.62	619.00	43.62	25.02	6.75	4.77	HP14X73	66.64
	19	1+52.18	1.82	185+98.29	37.27	688.68	685.68	662.62	619.00	43.62	25.06	6.75	4.81	HP14X73	66.68
6	20	1+60.18	1.82	185+90.21	37.26	688.72	685.72	663.32	619.00	44.32	24.40	6.75	4.15	HP14X73	66.72
	21	1+68.18	1.82	185+82.10	37.10	688.78	685.78	663.32	619.00	44.32	24.46	6.75	4.21	HP14X73	66.78
	22	1+76.18	1.82	185+74.00	36.93	688.82	685.82	663.32	619.00	44.32	24.50	6.75	4.25	HP14X73	66.82
7	23	1+84.18	1.82	185+65.89	36.77	688.86	685.86	664.10	619.00	45.10	23.76	7.17	9.42	HP14X73	66.86
	24	1+92.18	1.82	185+57.78	36.61	688.91	685.91	664.10	619.00	45.10	23.81	7.17	9.47	HP14X73	66.91
	25	2+00.18	1.82	185+49.67	36.45	688.96	685.96	664.10	619.00	45.10	23.86	7.17	9.52	HP14X73	66.96
	26	2+08.18	1.82	185+41.57	36.29	689.01	686.01	664.10	619.00	45.10	23.91	7.17	9.57	HP14X73	67.01
8	27	2+16.18	1.82	185+33.46	36.13	689.06	686.06	665.47	619.00	46.47	22.59	7.17	8.25	HP14X73	67.06
	28	2+24.18	1.82	185+25.36	35.96	689.10	686.10	665.47	619.00	46.47	22.63	7.17	8.29	HP14X73	67.10
	29	2+32.18	1.82	185+17.25	35.80	689.15	686.15	665.47	619.00	46.47	22.68	7.17	8.34	HP14X73	67.15
9	30	2+40.18	1.82	185+09.15	35.64	689.20	686.20	666.67	619.00	47.67	21.53	7.17	7.19	HP14X73	67.20
	31	2+48.18	1.82	185+01.04	35.48	689.25	686.25	666.67	619.00	47.67	21.58	7.17	7.24	HP14X73	67.25

NOTES:

1. SEE SHEET 5 AND 15 OF 16 FOR ADDITIONAL INFORMATION.

SOLDIER PILE - LOCATION AND DATA TABLE
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN N/A

DESIGN AGENCY

BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
CAS	JAA

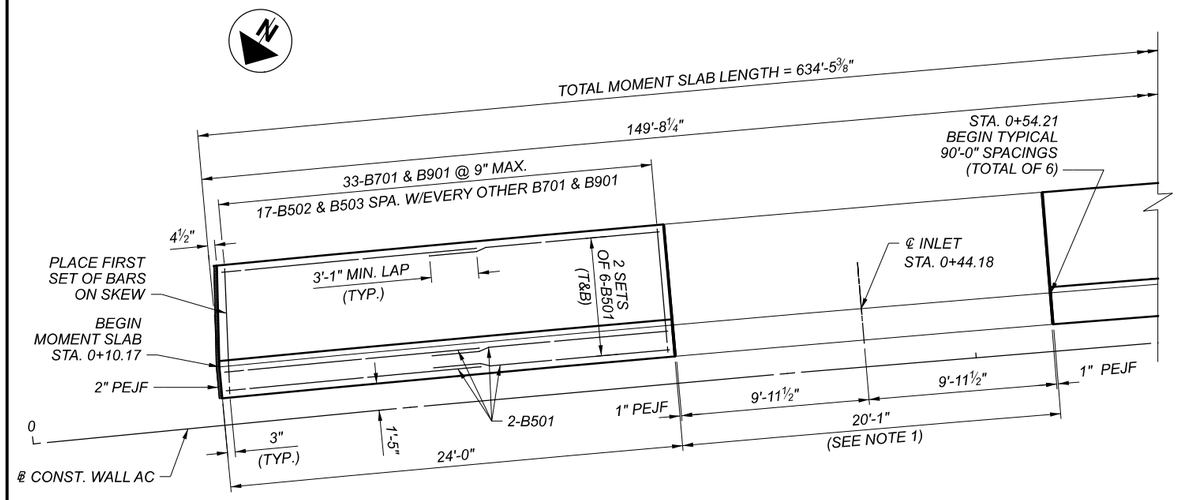
REVIEWER DWL 06/22/22

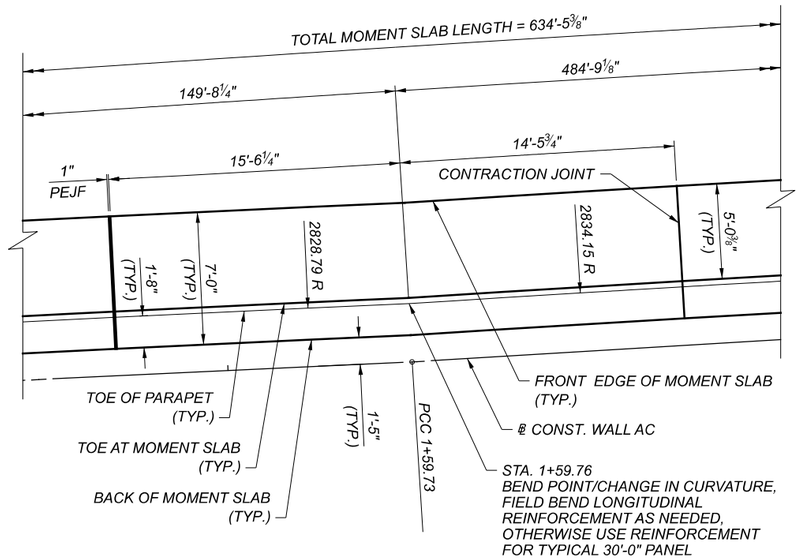
PROJECT ID 82382

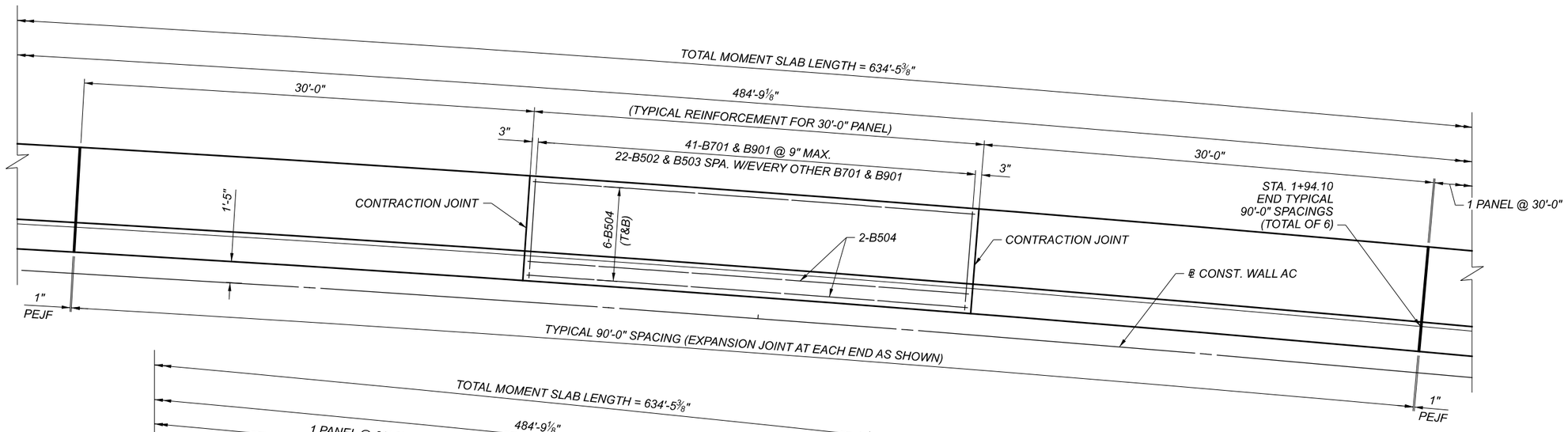
SUBSET	TOTAL
12	16

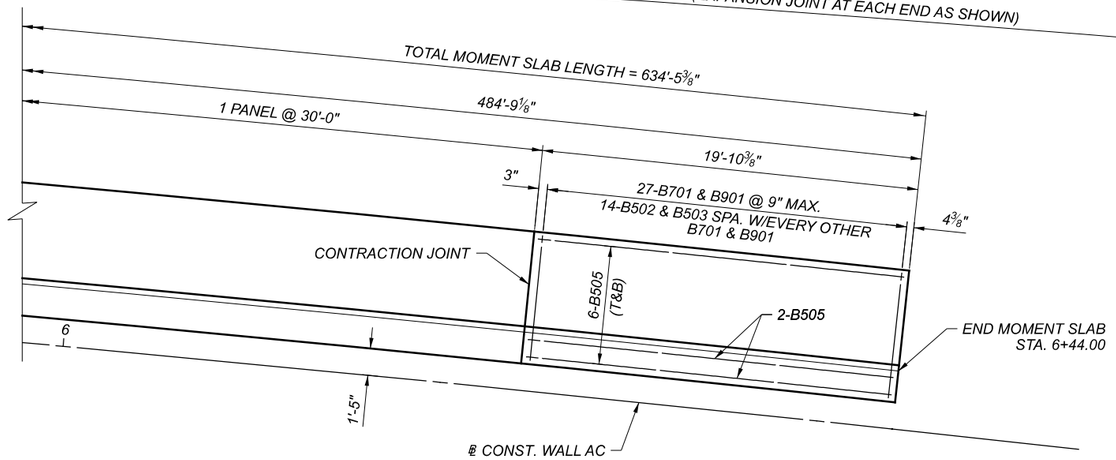
SHEET	TOTAL
982	2339

CUY-90-16.28 (CCG3A)









MOMENT SLAB PLAN

(ALL LONGITUDINAL DIMENSIONS ARE GIVEN ALONG TOE OF PARAPET)
(PARAPET REINFORCEMENT NOT SHOWN, SEE NOTE 3)

NOTES:

1. FOR CATCH BASIN DETAILS, MOMENT SLAB AND PARAPET DETAILS WITHIN THESE LIMITS, AND FOR PAYMENT INFORMATION, SEE SHEETS 964 AND 965 OF 2339 .
2. FIELD BEND LONGITUDINAL BARS AS NEEDED TO FOLLOW THE CURVATURE OF THE MOMENT SLAB. PLACE TRANSVERSE BARS RADIALLY UNLESS NOTED OTHERWISE.
3. FOR PARAPET REINFORCING DETAILS ABOVE MOMENT SLAB, SEE SHEET 14 OF 16.
4. SEE SHEET 14 OF 16 FOR ADDITIONAL INFORMATION ON TRANSVERSE BAR SPACINGS IN MOMENT SLAB.
5. SEE SHEET 15 OF 16 FOR A TYPICAL SECTION THROUGH THE MOMENT SLAB.

MOMENT SLAB AND PARAPET PLAN
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN N/A

DESIGN AGENCY

BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
ODW	JAA

REVIEWER
DWL 06/22/22

PROJECT ID
82382

SUBSET	TOTAL
13	16

SHEET	TOTAL
983	2339

CUY-90-16.28 (CCG3A)

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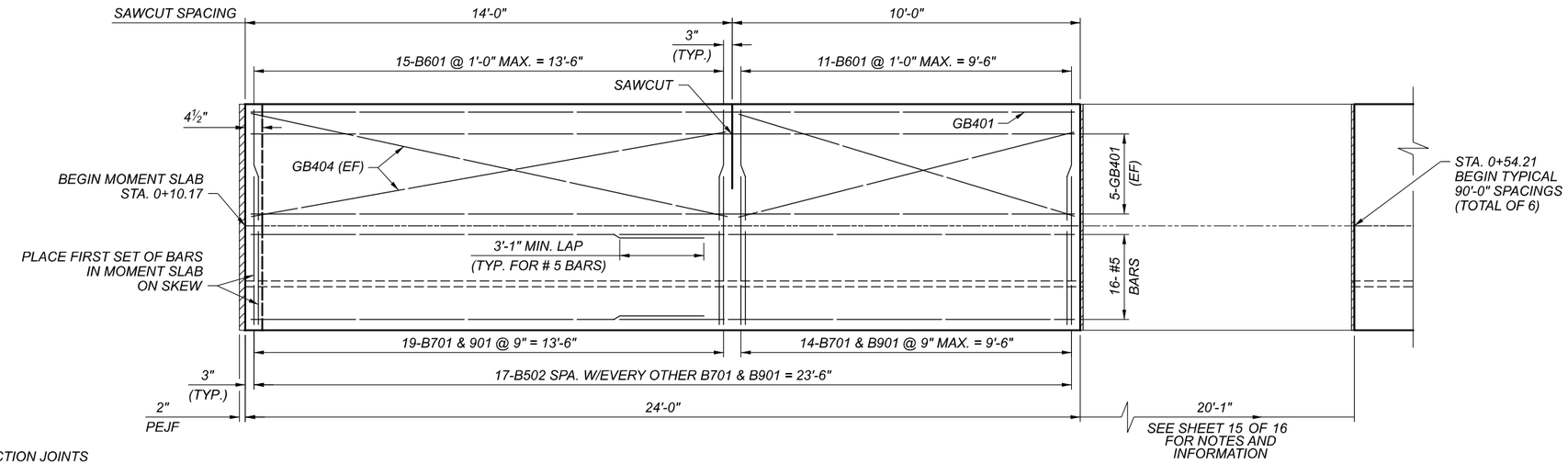
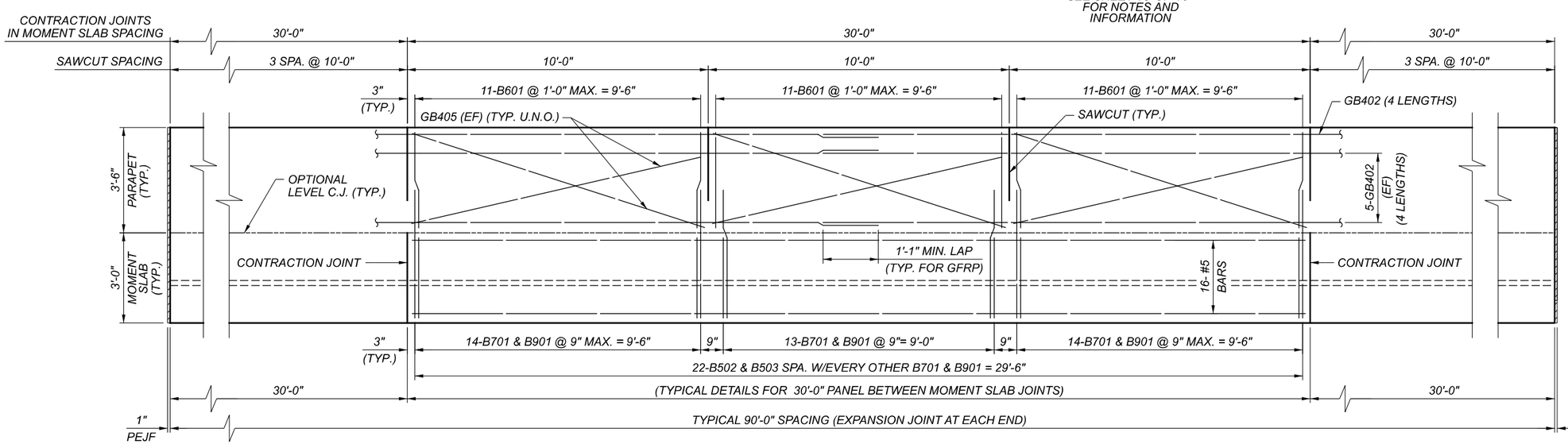
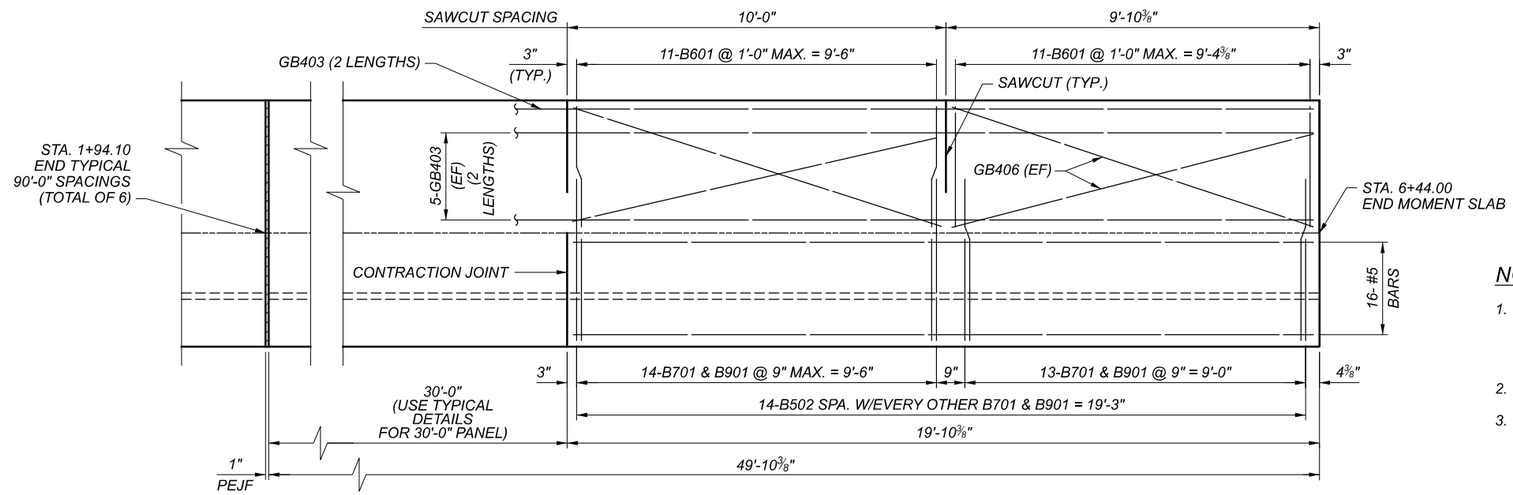






MOMENT SLAB AND PARAPET ELEVATION

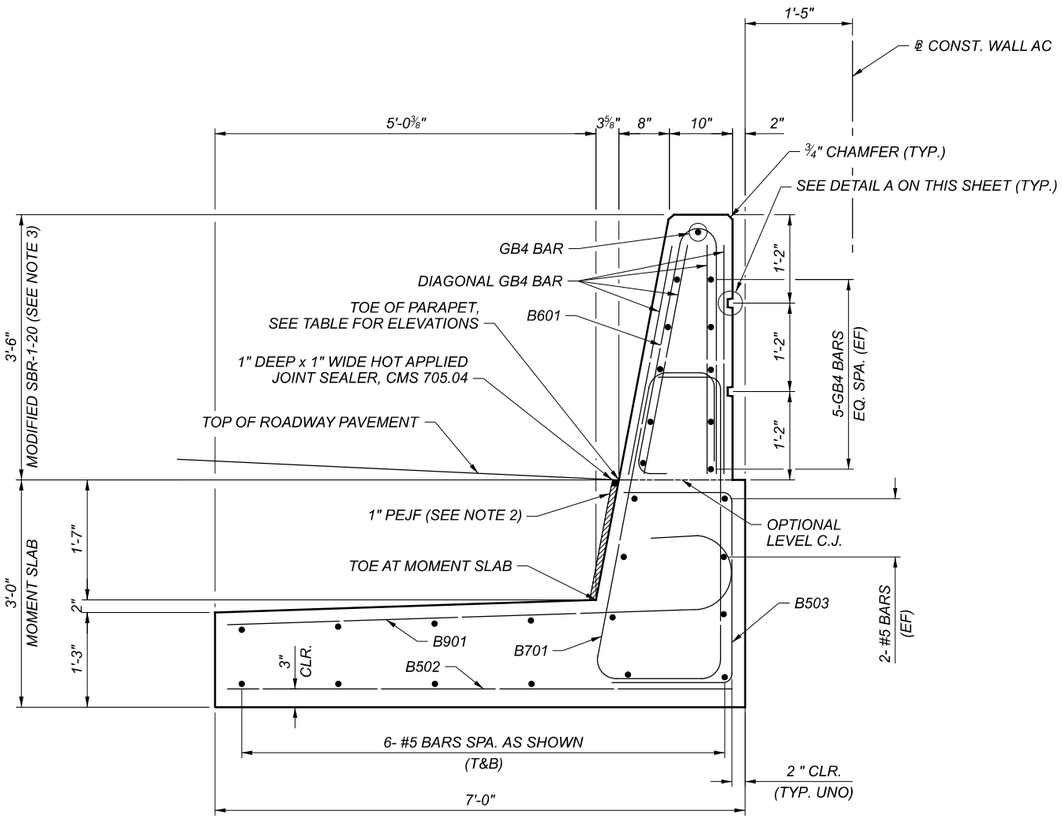
NOTES:

1. FIELD BEND LONGITUDINAL BARS AS NEEDED TO FOLLOW THE CURVATURE OF THE MOMENT SLAB AND PARAPET. PLACE TRANSVERSE BARS RADIALLY UNLESS NOTED OTHERWISE.
2. SEE SHEET 15 OF 16 FOR A TYPICAL SECTION.
3. ALL LONGITUDINAL DIMENSIONS ARE GIVEN ALONG THE TOE OF PARAPET. STATIONS ARE GIVEN ALONG THE TOE OF PARAPET ALONG ℄ CONSTRUCTION WALL AC.

MOMENT SLAB AND PARAPET ELEVATION
WALL AC
ALONG NORTH SIDE OF I-90 WB

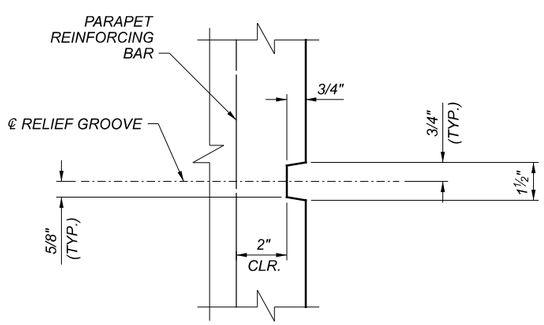
SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET PAINESVILLE, OHIO 44077
DESIGNER	ODW
CHECKER	JAA
REVIEWER	DWL 06/22/22
PROJECT ID	82382
SUBSET	14
TOTAL	16
SHEET	984
TOTAL	2339

CUY-90-16.28 (CCG3A)



MOMENT SLAB SECTION

STATION ALONG ℄ CONST. WALL AC	OFFSET FROM ℄ CONST. WALL AC	ELEVATION AT TOE OF PARAPET	LOCATION
0+10.17	3.08' LT	688.18	BEGIN MOMENT SLAB
0+34.19	3.08' LT	688.16	℄ EXPANSION JOINT
0+54.17	3.08' LT	688.18	℄ EXPANSION JOINT
0+84.18	3.08' LT	688.33	CONTRACTION JOINT
1+14.15	3.08' LT	688.49	CONTRACTION JOINT
1+44.15	3.08' LT	688.64	℄ EXPANSION JOINT
1+74.22	3.08' LT	688.80	CONTRACTION JOINT
2+04.20	3.08' LT	688.98	CONTRACTION JOINT
2+34.20	3.08' LT	689.16	℄ EXPANSION JOINT
2+64.21	3.08' LT	689.34	CONTRACTION JOINT
2+94.18	3.08' LT	689.52	CONTRACTION JOINT
3+24.19	3.08' LT	689.70	℄ EXPANSION JOINT
3+54.20	3.08' LT	689.88	CONTRACTION JOINT
3+84.17	3.08' LT	690.06	CONTRACTION JOINT
4+14.18	3.08' LT	690.24	℄ EXPANSION JOINT
4+44.18	3.08' LT	690.42	CONTRACTION JOINT
4+74.15	3.08' LT	690.60	CONTRACTION JOINT
5+04.16	3.08' LT	690.77	℄ EXPANSION JOINT
5+34.17	3.08' LT	690.97	CONTRACTION JOINT
5+64.14	3.08' LT	691.14	CONTRACTION JOINT
5+94.15	3.08' LT	691.31	℄ EXPANSION JOINT
6+24.15	3.08' LT	694.49	CONTRACTION JOINT
6+44.00	3.08' LT	691.61	END MOMENT SLAB



DETAIL A

NOTES:

1. FOR LIMITS OF SEALING CONCRETE SURFACES AND OTHER DETAILS NOT SHOWN, SEE SHEETS 7 AND 11 OF 16 .
2. 1" PREFORMED EXPANSION JOINT FILLER SHALL EXTEND UP BETWEEN CAST-IN-PLACE MOMENT SLAB AND THE ASPHALT PAVEMENT TO THE ELEVATION OF 1" BELOW THE FINAL SURFACE OF THE PAVEMENT.
3. PARAPET ABOVE LEVEL CONSTRUCTION JOINT SHALL BE PER STD. DWG. SBR-1-20, EXCEPT AS MODIFIED IN THESE PLANS. REFER TO THE STANDARD DRAWING FOR SAWCUT DETAILS, ADDITIONAL NOTES AND INFORMATION NOT SHOWN.

MOMENT SLAB AND PARAPET SECTION WALL AC ALONG NORTH SIDE OF I-90 WB

SFN N/A

DESIGN AGENCY

BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
ODW	JAA

REVIEWER DWL 06/22/22

PROJECT ID 82382

SUBSET	TOTAL
15	16

SHEET	TOTAL
985	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:27:47 AM USER: Kathy.Johnson
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REINFORCING STEEL LIST - MOMENT SLAB

	MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
	B501	32	14'-2"	473	STR						
	B502	449	6'-8"	3122	STR						
	B503	449	5'-0"	2342	18	2'-7"	1'-4"	1'-4"			
	B504	304	29'-8"	9406	STR						
	B505	16	19'-6"	325	STR						
	B601	675	6'-11"	7012	2	3'-3"	3'-3"	0'-6"	0'-5¼"	0'-2"	
	B701	839	11'-7"	19864	41A	0'-9"	4'-2"	1'-2"	0'-7"	0'-5¼"	
	B901	839	7'-11"	22583	19	6'-8"					
*	GB401	11	23'-8"		STR						
*	GB402	264	23'-6"		STR						
*	GB403	22	25'-11"		STR						
*	GB404	4	14'-0"		STR						
*	GB405	236	10'-0"		STR						
*	GB406	4	9'-10"		STR						
*		TOTAL	9490								
			TOTAL	65127							

REINFORCING STEEL LIST - WALL

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM C	DIM D	DIM E/RAD.	INCR.
W401	150	7'-1"	710	16	1'-7½"	1'-8"				
W402	40	24'-11"	666	STR						
W403	8	27'-10"	149	STR						
W404	42	25'-0"	701	STR						
W405	32	29'-8"	634	STR						
W406	24	25'-8"	411	STR						
W407	8	12'-3"	65	STR						
W408	42	24'-10"	697	STR						
W409	38	24'-11"	632	STR						
W410	42	25'-1"	704	STR						
W411	38	24'-1"	611	STR						
W412	42	23'-6"	659	STR						
W413	38	22'-4"	567	STR						
W414	20	21'-2"	283	STR						
W501	23	27'-10"	668	STR						
W502	71	25'-8"	1901	STR						
W503	1	21'-8"	23	STR						
W504	1	21'-8"	23	STR						
W505	1	21'-9"	23	STR						
W506	21	12'-3"	268	STR						
W601	73	29'-8"	3253	STR						
W602	25	29'-8"	1114	STR						
W604	1	27'-8"	42	STR						
W605	1	27'-8"	42	STR						
W606	1	27'-8"	42	STR						
W607	1	27'-8"	42	STR						
W801	73	29'-8"	5782	STR						
W802	25	29'-8"	1980	STR						
W802	25	29'-8"	1980	STR						
W804	1	27'-8"	74	STR						
W805	1	27'-8"	74	STR						
W806	1	27'-8"	74	STR						
W807	1	27'-8"	74	STR						
W901	34	27'-10"	3218	STR						
W902	105	25'-8"	9163	STR						
W903	1	21'-8"	74	STR						
W904	1	21'-8"	74	STR						
W905	1	21'-9"	74	STR						
W906	21	12'-3"	875	STR						
		TOTAL	38446							

NOTES:

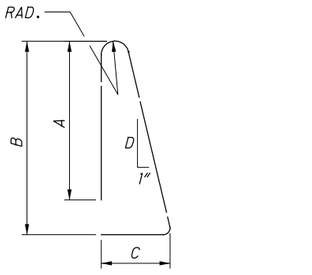
1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH TWO OR THREE LETTERS OR NUMBERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

   EXAMPLE: SA1001
   SA = SUPERSTRUCTURE BAR
   10 = #10 BAR
   01 = BAR SEQUENCE NUMBER 1
3. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
4. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
5. RAD INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
6. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
7. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
8. GFRP BAR WEIGHTS ARE NOT INCLUDED IN THE TOTAL WEIGHT. PAYMENT FOR GFRP BARS IS INCLUDED WITH ITEM 509 - NO. 4 GFRP DEFORMED BARS. TOTAL GFRP BAR LENGTH ROUNDED UP TO THE NEAREST FOOT IS GIVEN AT THE BOTTOM OF THE BAR LIST.

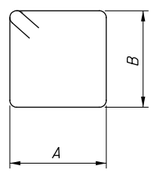
LEGEND:

* = GFRP BAR (SEE NOTE 8)

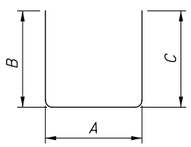
S.O. = SERIES OF



TYPE 2



TYPE 16



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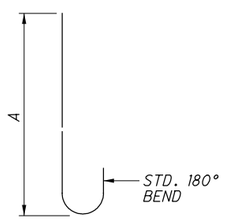
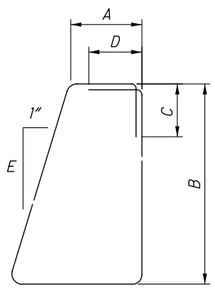


TYPE 19



TYPE 41A

REINFORCING STEEL LIST
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
ODW	JAA

REVIEWER DWL 6/22/22

PROJECT ID 82382

SUBSET	TOTAL
16	16

SHEET	TOTAL
986	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:27:53 AM USER: Kathy.Johnson
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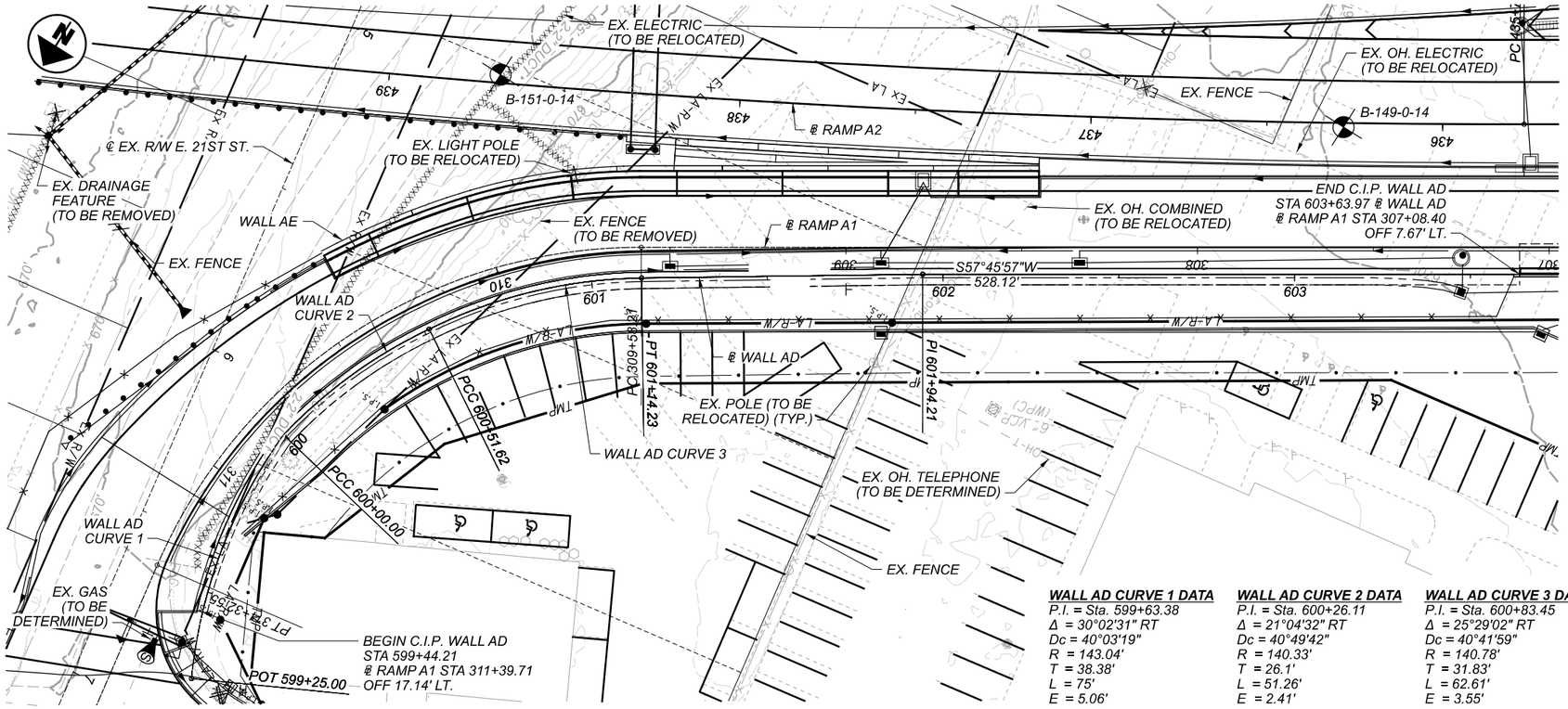
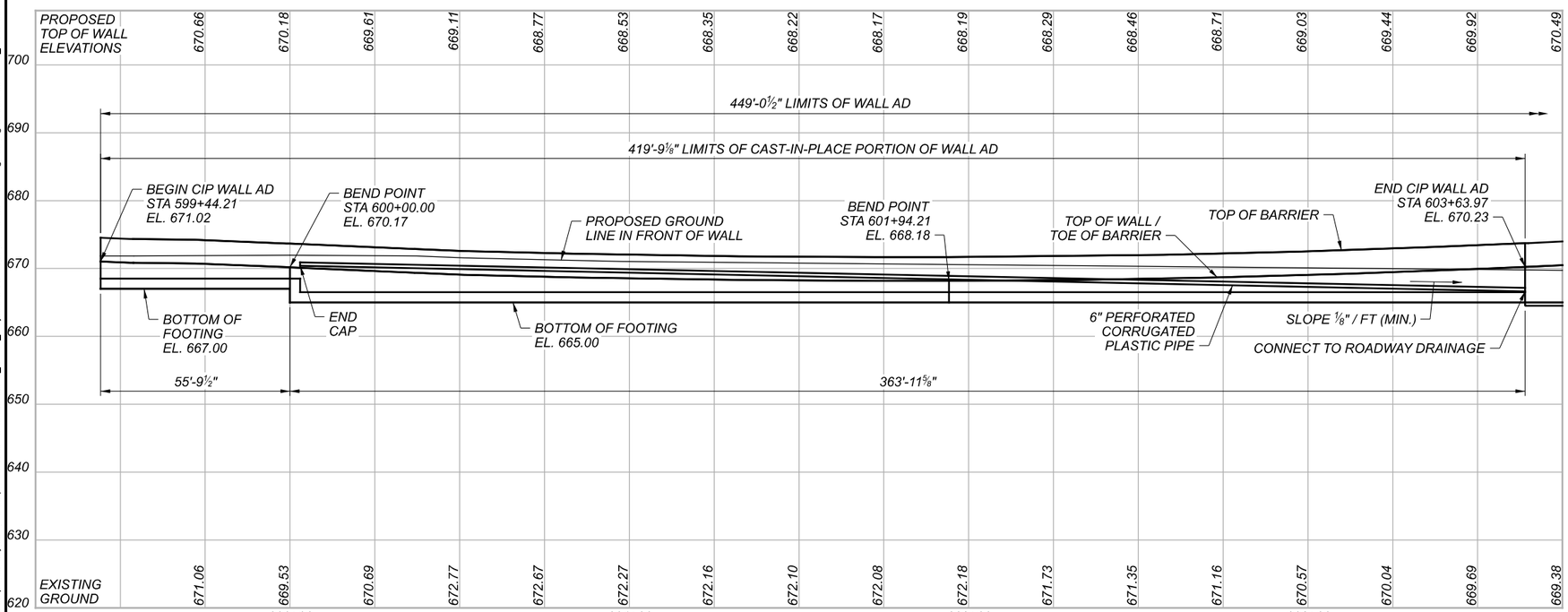


PLAN

WALL AD CURVE 1 DATA
P.I. = Sta. 599+63.38
Δ = 30°02'31" RT
Dc = 40°03'19"
R = 143.04'
T = 38.38'
L = 75'
E = 5.06'

WALL AD CURVE 2 DATA
P.I. = Sta. 600+26.11
Δ = 21°04'32" RT
Dc = 40°49'42"
R = 140.33'
T = 26.1'
L = 51.26'
E = 2.41'

WALL AD CURVE 3 DATA
P.I. = Sta. 600+83.45
Δ = 25°29'02" RT
Dc = 40°41'59"
R = 140.78'
T = 31.83'
L = 62.61'
E = 3.55'



PROFILE

BENCHMARK DATA

BM-54 STA. 310+59.00, ELEV. 672.54, OFFSET 463.02' RT., ℄ RAMP A1, CUT CROSS IN NORTH BONNET BOLT OF FIRE HYDRANT

BM-59 STA. 301+65.97, ELEV. 660.15, OFFSET 488.87' RT., ℄ RAMP A1, MAG NAIL AT NOSE OF DRAINAGE CHANNEL

BM-62 STA. 303+26.43, ELEV. 672.11, OFFSET 354.64' LT., ℄ RAMP A1, RAILROAD SPIKE IN EAST FACE OF POWER/LIGHT POLE

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. VERTICAL SCALE OF PROFILE VIEW IS EXAGGERATED FOR CLARITY.

LEGEND

- HISTORIC BORING LOCATION
- PROJECT BORING LOCATION

BORING DATA

BORING	STATION	OFFSET
B-151-0-14	600+86.81	62.25' LT
B-149-0-14	603+13.91	41.85' LT
B-148-0-14	604+64.20	51.82' LT
B-147-0-14	606+02.14	50.80' LT
B-146-0-14	606+99.37	60.36' LT
C-121-0-14	607+97.94	62.42' LT
B-145-0-14*	301+99.88	9.70' LT
B-144-0-14*	301+73.64	82.19' RT

* LOCATIONS MEASURED OFF ℄ RAMP A1

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

WALL PLAN AND PROFILE (1 OF 2) WALL AD ALONG RAMP A1

SFN N/A
DESIGN AGENCY HDR
DESIGNER — CHECKER —
REVIEWER — —
PROJECT ID 82382
SUBSET 1 TOTAL 15
SHEET 987 TOTAL 2339

CUY-90-16.28 (CCG3A)

MODEL: WALL AD [Sheet] PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:02:49 AM USER: Malia.Gallagher
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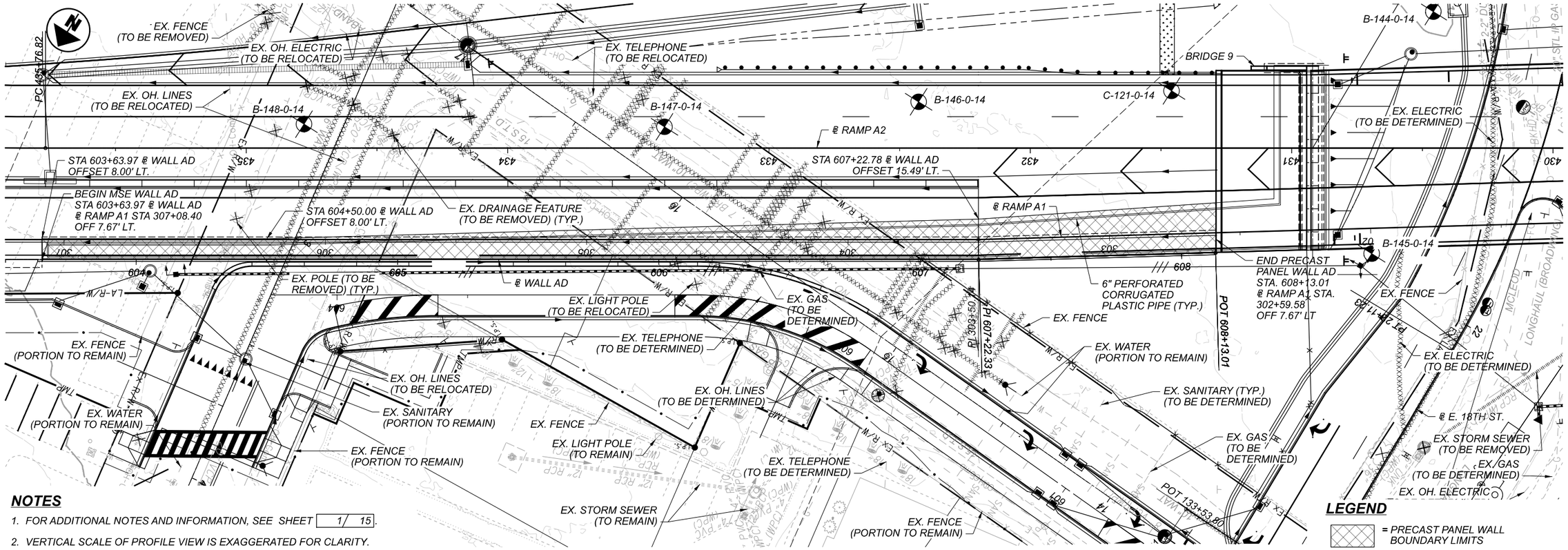
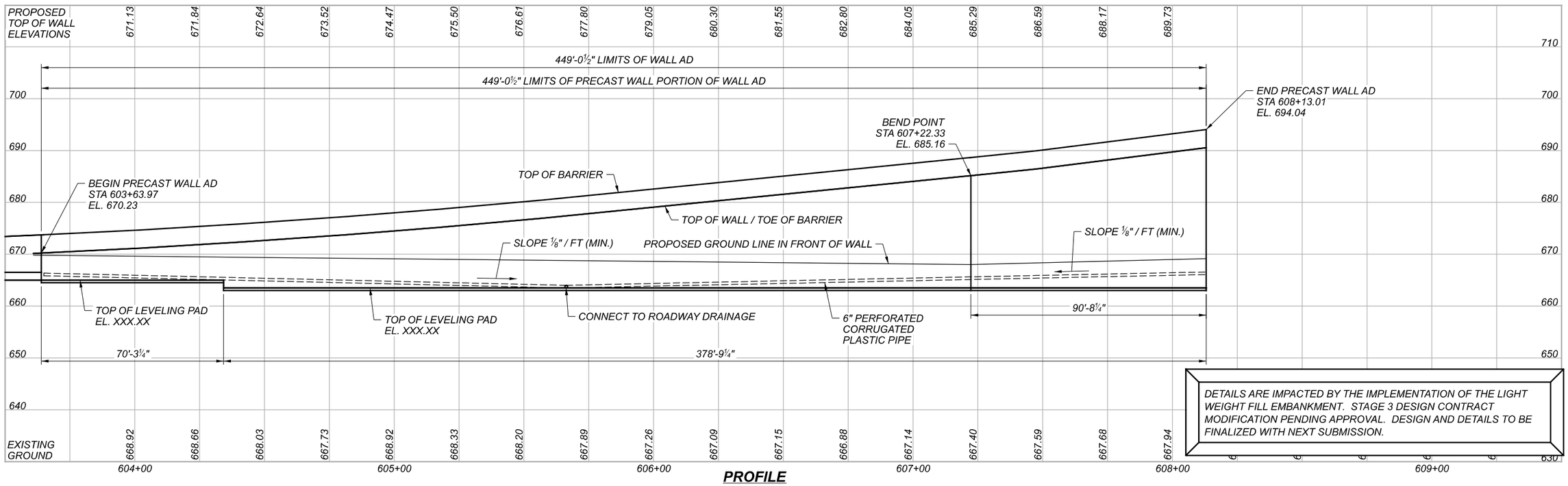


NOTES

1. FOR ADDITIONAL NOTES AND INFORMATION, SEE SHEET 1/ 15.
2. VERTICAL SCALE OF PROFILE VIEW IS EXAGGERATED FOR CLARITY.

PLAN



DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

PROFILE

WALL PLAN AND PROFILE (2 OF 2)
WALL AD
ALONG RAMP A1

CUY-90-16.28 (CCG3A)

MODEL: Wall AD [Sheet] PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:03:10 AM USER: Mata.Gallagher
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SFN	N/A
DESIGN AGENCY	HDR
DESIGNER	—
CHECKER	—
REVIEWER	—
PROJECT ID	82382
SUBSET	2
TOTAL	15
SHEET	988
TOTAL	2339

GENERAL NOTES - PRECAST PANEL AND CAST-IN-PLACE PORTIONS OF WALL AD

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

SBR-1-20	REVISED	07-17-20
SICD-1-21	REVISED	01-15-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

840	DATED	04-16-21
863	DATED	07-16-21
878	DATED	04-16-21

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

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CAST-IN-PLACE COPING, LEVELING PAD, AND FOOTING AND STEM OF WALL)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

GFRP - C&MS 705.28 (MODULUS = 8,700 KSI)

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.

WALL DESIGN CRITERIA:

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

FACTORED BEARING RESISTANCE			
WALL LETTER	WALL LIMITS		(PSF)
	FROM STA.	TO STA.	
AD	599+44.21	600+00.00	5,100
AD	600+00.00	603+63.97	5,500
AD	603+63.97	609+27.24	11,200

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

ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE MOMENT SLABS AND PARAPETS ALONG THE MSE 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 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 QC2 CONCRETE, MISC.: PARAPET ON RETAINING WALL:

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

ITEM 840 CONCRETE COPING, AS PER PLAN:

PROVIDE EPOXY COATED REINFORCING AND CLASS QC1 CONCRETE AS SHOWN IN THE PLANS. CONCRETE AND REINFORCING STEEL IN THE COPING, ADDITIONAL CONCRETE AND REINFORCING STEEL AT ROADWAY FEATURES, PEJF BETWEEN COPING AND BARRIER, AND EXPANSION JOINTS SHALL BE INCLUDED IN THE UNIT BID PRICE PER FOOT FOR THIS ITEM.

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

WALL GENERAL NOTES
WALL AD
ALONG RAMP A1

SFN N/A

DESIGN AGENCY

DESIGNER CMR | CHECKER —

REVIEWER — —

PROJECT ID 82382

SUBSET 3 | TOTAL 15

SHEET 989 | TOTAL 2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:03:43 AM USER: Maib.Gallagher
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ESTIMATED QUANTITIES

CALCULATED BY: DATE: XX/XX/202X
CHECKED BY: DATE: XX/XX/202X

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	SHEET REF.
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING					
503	21100		CY	UNCLASSIFIED EXCAVATION					
509	10000		LB	EPOXY COATED REINFORCING STEEL					
511	46212		CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL INCLUDING FOOTING					
511	53012		CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET					
511	53012		CY	CLASS QC2 CONCRETE, MISC.: PARAPET ON RETAINING WALL					
512	10100		SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
512	33000		SY	TYPE 2 WATERPROOFING					
516	13600		SF	1" PREFORMED EXPANSION JOINT FILLER					
518	21200		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC					
518	40000		FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010		FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
601	21001		SY	CONCRETE SLOPE PROTECTION, AS PER PLAN					

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

ESTIMATED QUANTITIES
WALL AD
ALONG RAMP A1

SFN
N/A

DESIGN AGENCY
HDR

DESIGNER	CHECKER
CMR	---

REVIEWER
--- ---

PROJECT ID
82382

SUBSET	TOTAL
4	15

SHEET	TOTAL
990	2339

CUY-90-16.28 (CCG3A)

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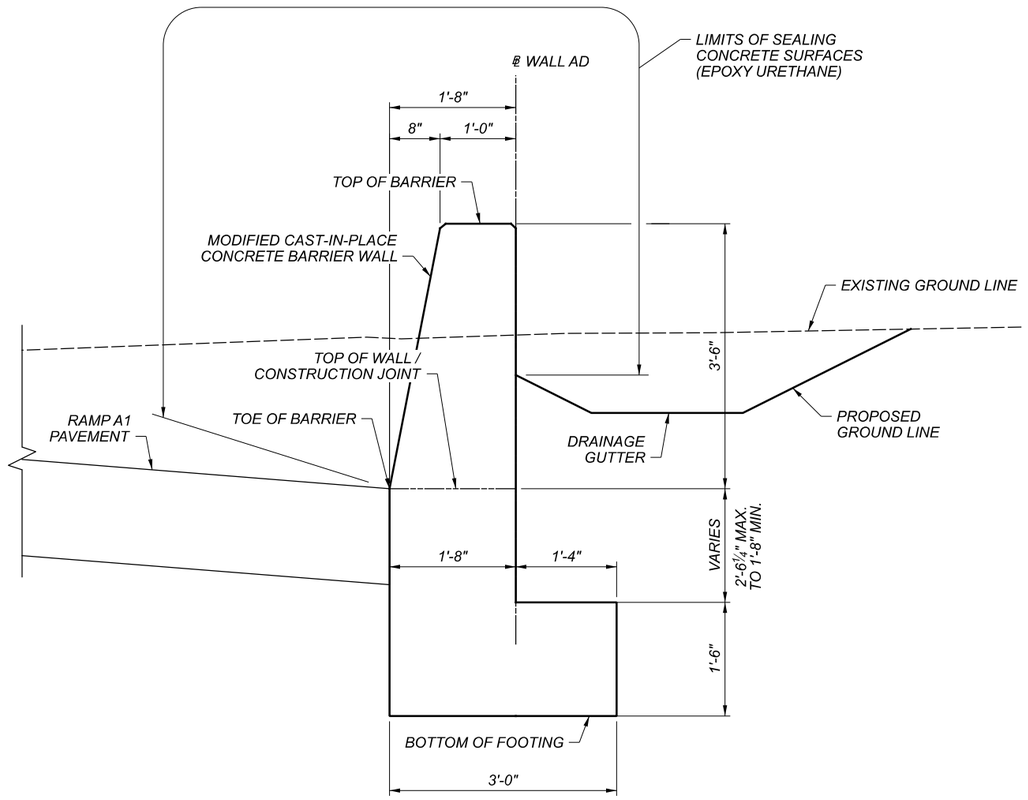
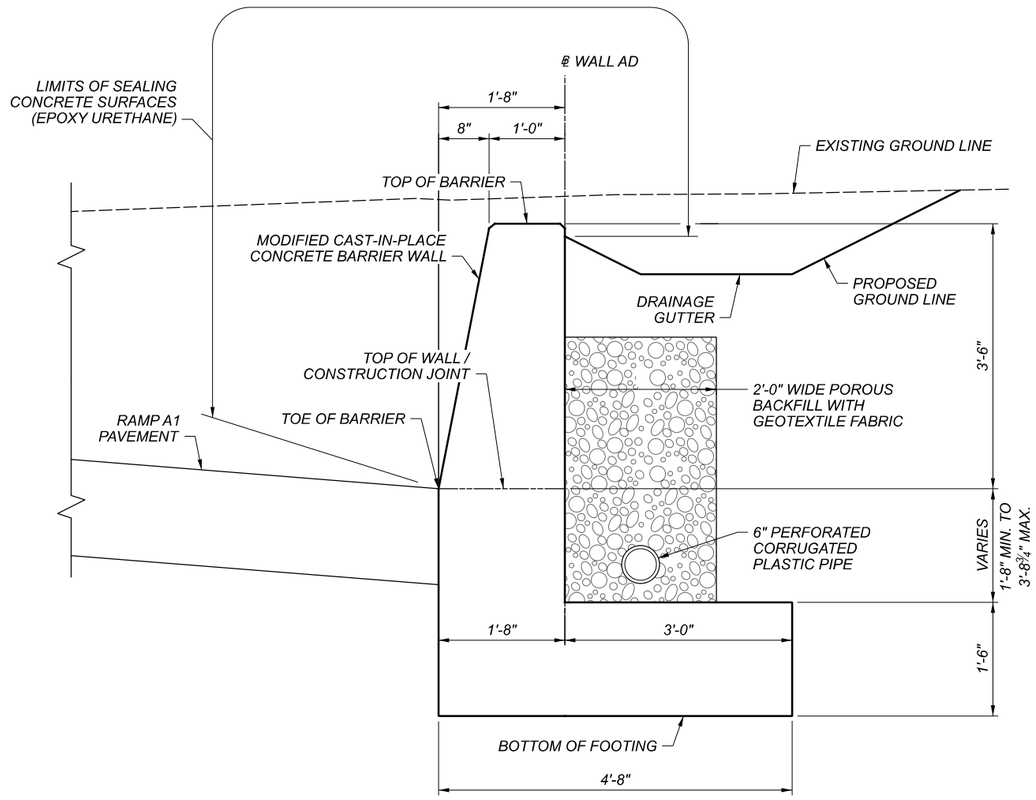


TYPICAL CAST-IN-PLACE WALL SECTION (SECTION 1)

(WALL AD STA. 599+44.23 TO WALL AD STA. 600+00.00)
(REINFORCEMENT NOT SHOWN FOR CLARITY)



TYPICAL CAST-IN-PLACE WALL SECTION (SECTION 2)

(WALL AD STA. 600+00.00 TO WALL AD STA. 603+63.97)
(REINFORCEMENT NOT SHOWN FOR CLARITY)

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

TYPICAL CAST-IN-PLACE WALL SECTIONS WALL AD ALONG RAMP A1

SFN	N/A
DESIGN AGENCY	HDR
DESIGNER	CMR
CHECKER	—
REVIEWER	— 06/—/22
PROJECT ID	82382
SUBSET	5
TOTAL	15
SHEET	991
TOTAL	2339

CUY-90-16.28 (CCG3A)

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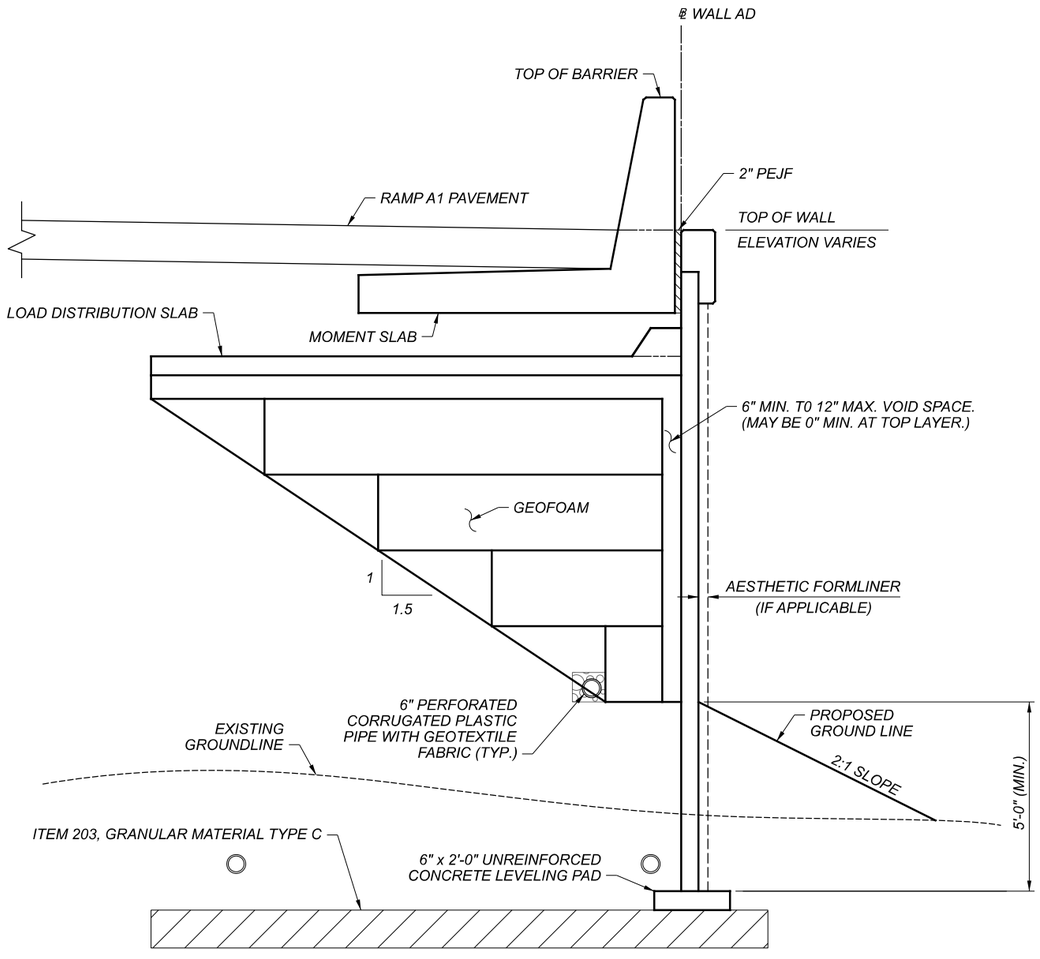
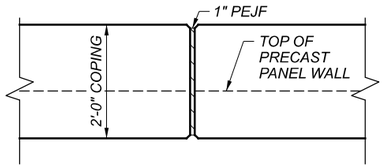


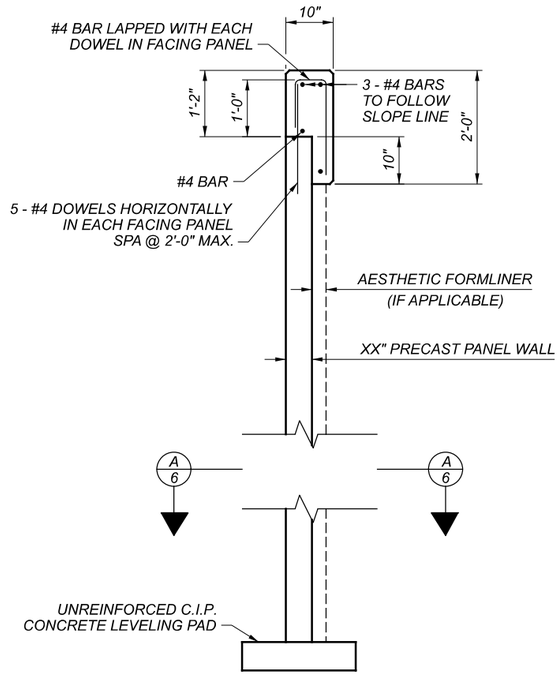
PRECAST PANEL WALL TYPICAL SECTION

(WALL AD STA. 603+63.97 TO WALL AD STA. 608+13.01)
(SECTION ALONG ROADWAY PAVEMENT LIMITS SHOWN)



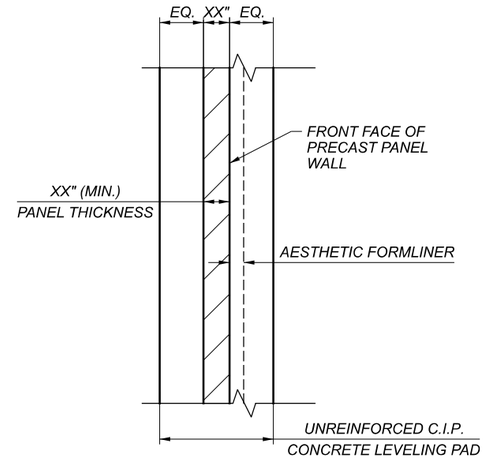
COPING EXPANSION JOINT - ELEVATION

(MAX. JOINT SPACING IS 20'-0")



PRECAST PANEL WALL AND COPING DETAIL

(ALL REINFORCING STEEL TO BE EPOXY COATED)



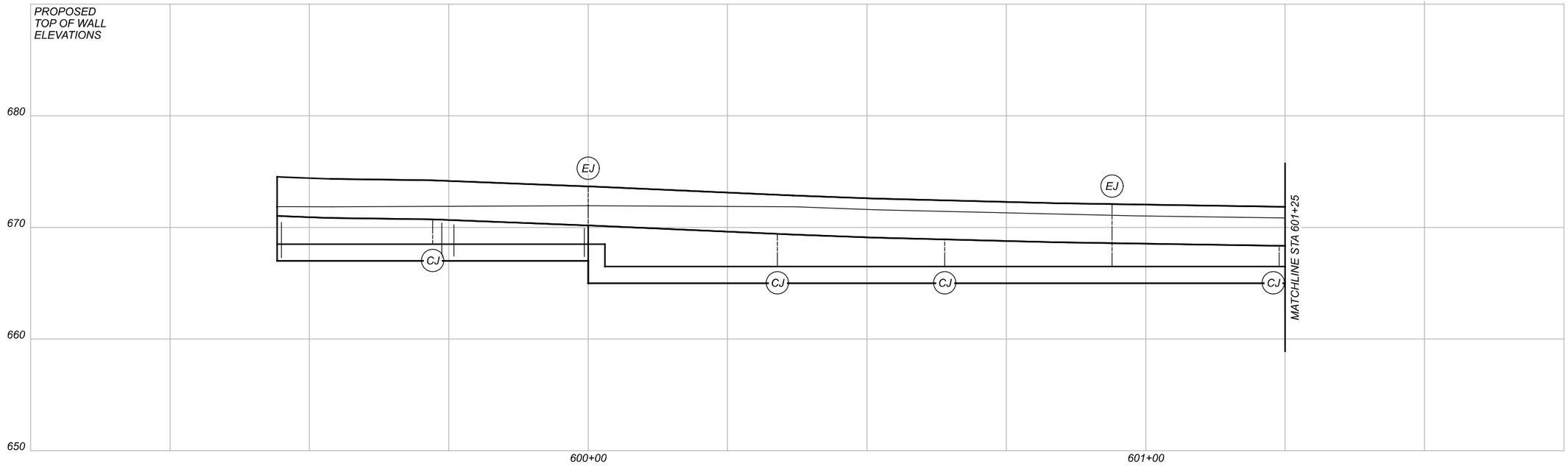
SECTION A-A

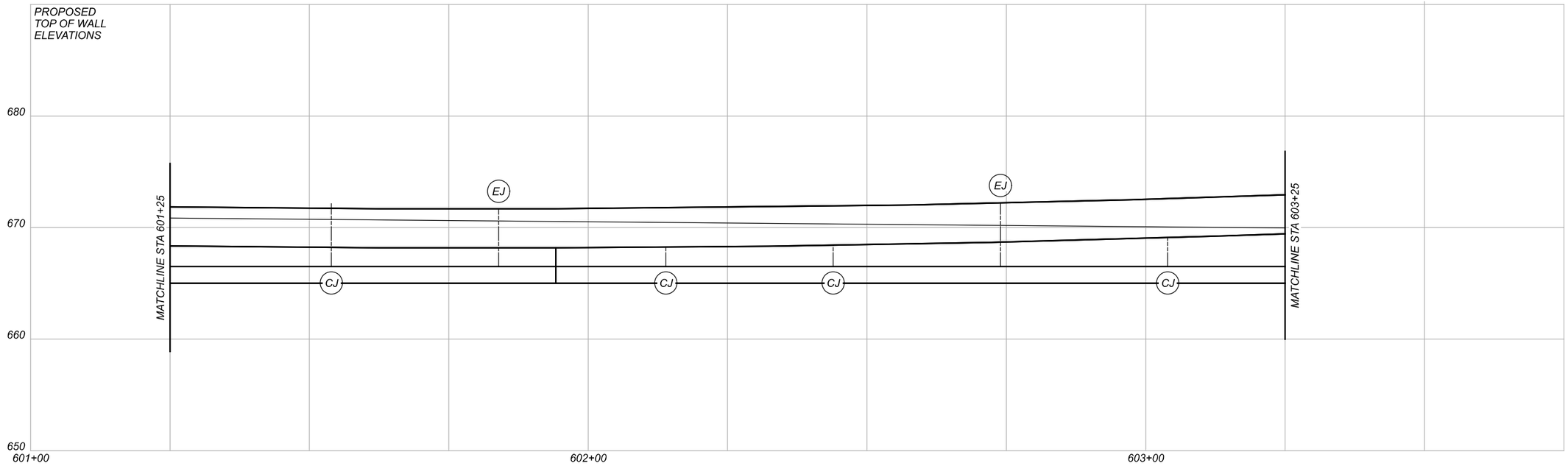
DETAILS FOR PRECAST PANEL PORTION OF WALL AD ARE LIMITED IN THIS SUBMISSION. DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

PRECAST PANEL WALL SECTIONS
WALL AD
ALONG RAMP A1

SFN	N/A
DESIGN AGENCY	HDR
DESIGNER	CMR
CHECKER	—
REVIEWER	— 06/—/22
PROJECT ID	82382
SUBSET	6
TOTAL	15
SHEET	992
TOTAL	2339

CUY-90-16.28 (CCG3A)





LEGEND:

(CJ) CONTRACTION JOINT (STEM)

(EJ) EXPANSION JOINT (STEM + PARAPET)

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

WALL ELEVATION (1 OF 3)
WALL AD
ALONG RAMP A1

CUY-90-16.28 (CCG3A)

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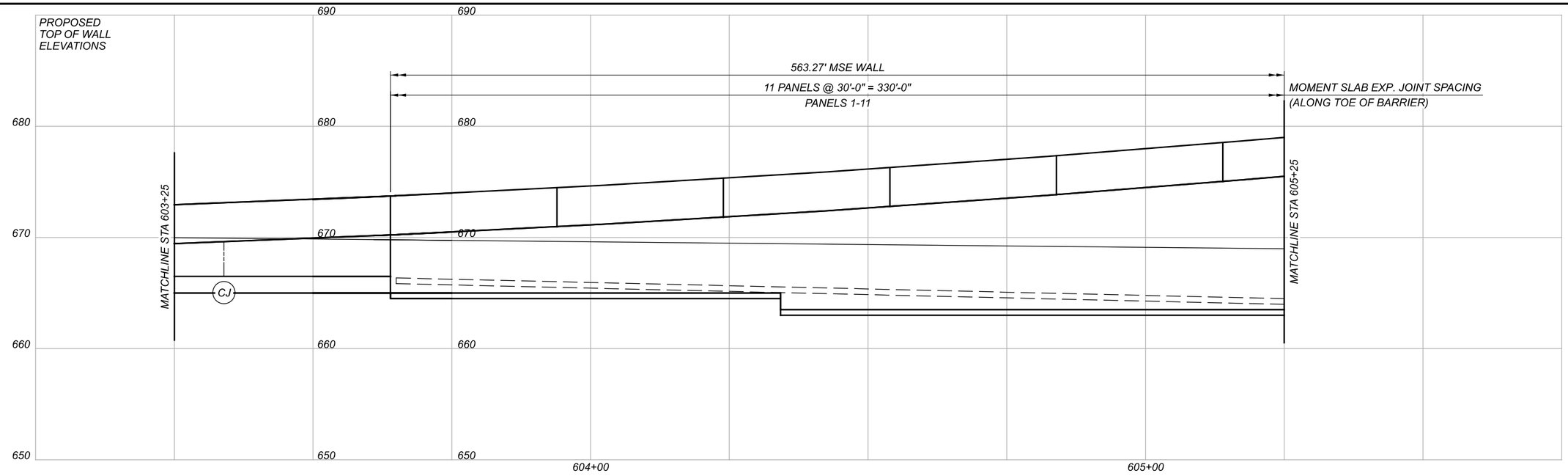
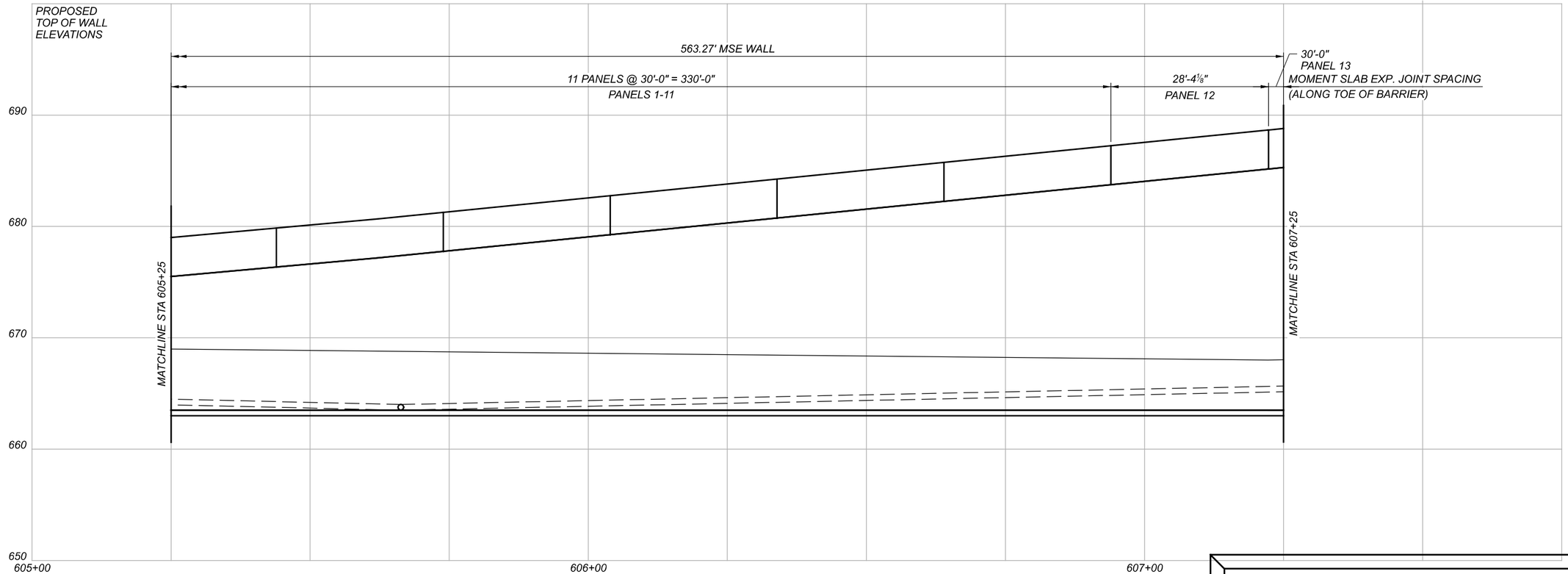
SFN	N/A
DESIGN AGENCY	HDR
DESIGNER	CMR
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	7
TOTAL	15
SHEET	993
TOTAL	2339





LEGEND:

(CJ) CONTRACTION JOINT (STEM)

(EJ) EXPANSION JOINT (STEM + PARAPET)

DETAILS FOR TILT-UP PANEL PORTION OF WALL AD ARE LIMITED IN THIS SUBMISSION. DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

WALL ELEVATION (2 OF 3)
WALL AD
ALONG RAMP A1

SFN N/A

DESIGN AGENCY HDR

DESIGNER	CHECKER
CMR	—

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
8	15

SHEET	TOTAL
994	2339

CUY-90-16.28 (CCG3A)

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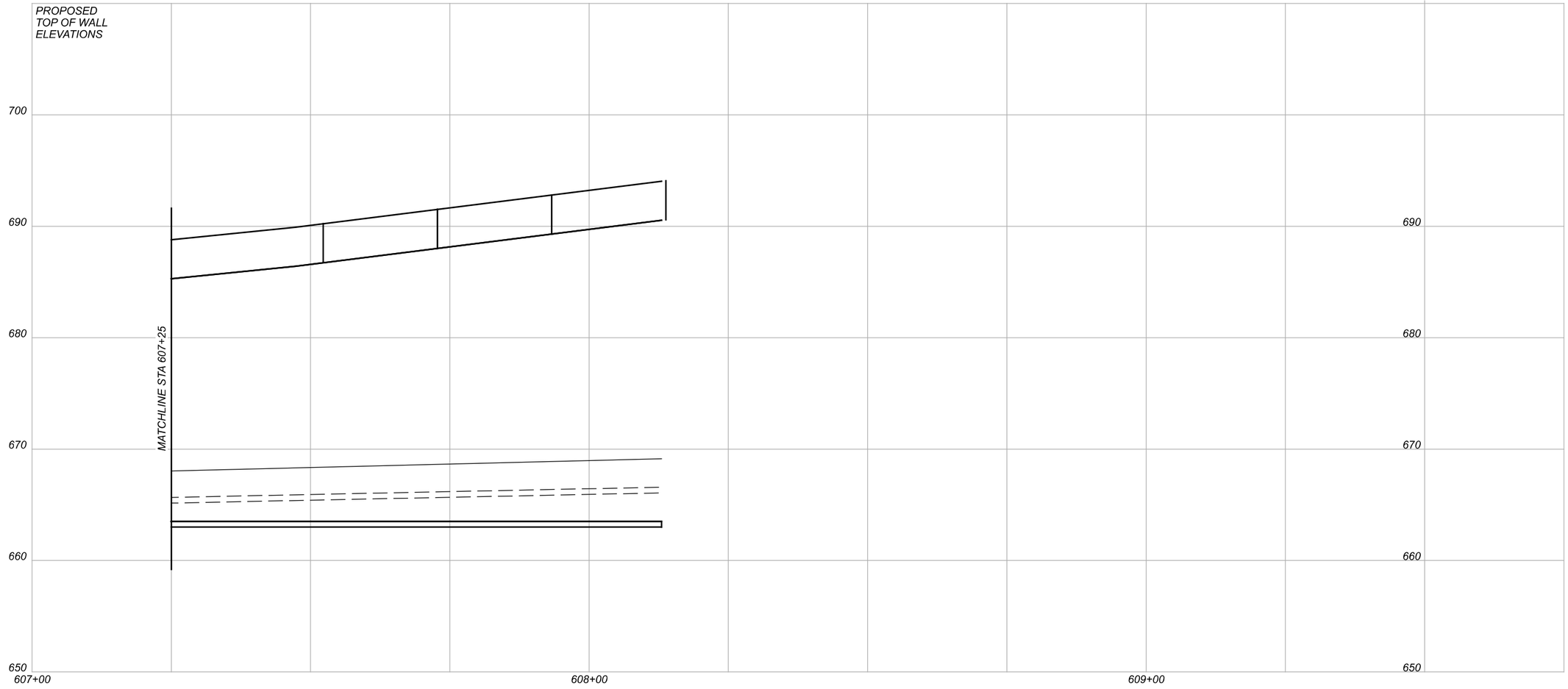
PROPOSED
TOP OF WALL
ELEVATIONS



DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

WALL ELEVATION (3 OF 3)
WALL AD
ALONG RAMP A1

SFN
N/A

DESIGN AGENCY

DESIGNER	CHECKER
CMR	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
9	15

SHEET	TOTAL
995	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:04:23 AM USER: Maia.Gallagher
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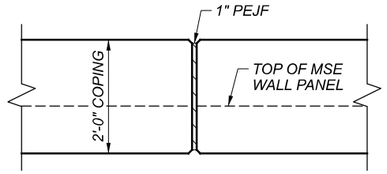
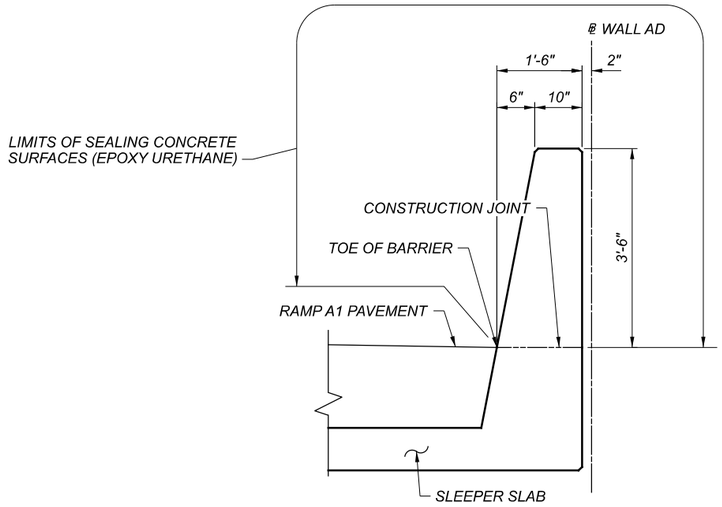


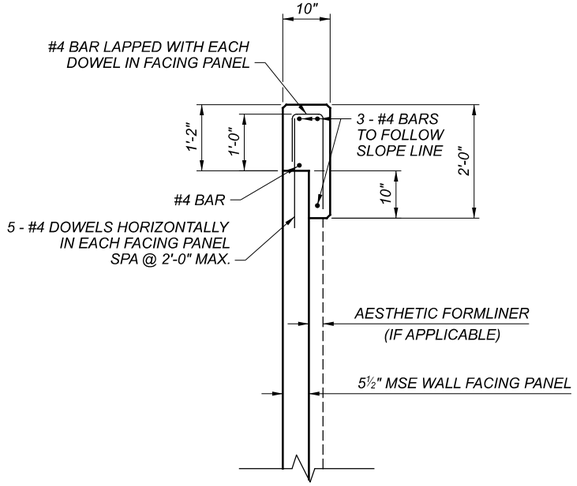
COPING EXPANSION JOINT - ELEVATION

(MAX. JOINT SPACING IS 20'-0")



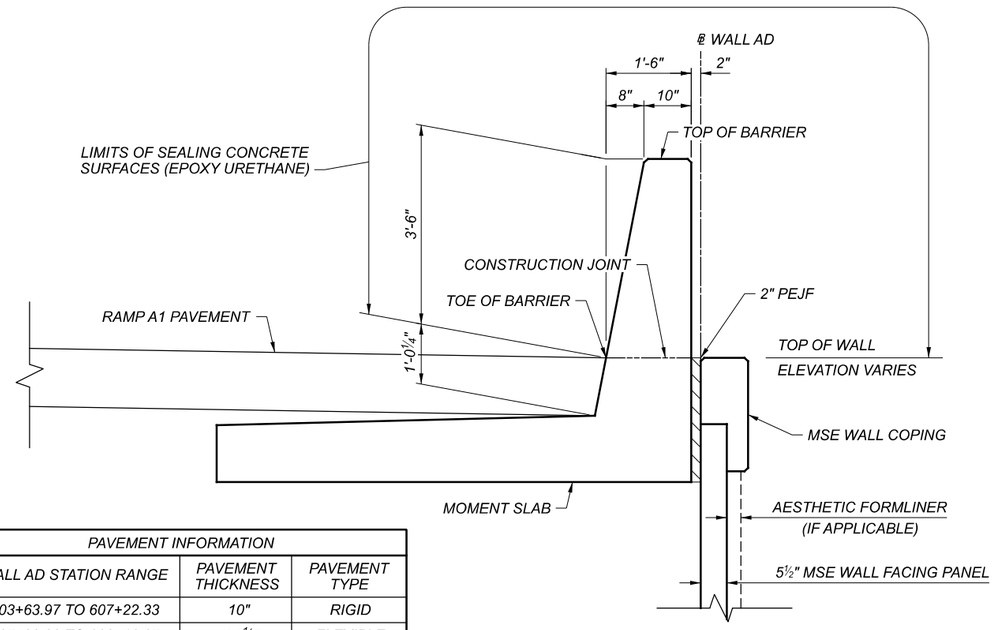
BARRIER ON SLEEPER SLAB TYPICAL SECTION

(MSE WALL NOT SHOWN)



MSE WALL COPING DETAIL

(ALL REINFORCING STEEL TO BE EPOXY COATED)



PAVEMENT INFORMATION		
WALL AD STATION RANGE	PAVEMENT THICKNESS	PAVEMENT TYPE
603+63.97 TO 607+22.33	10"	RIGID
607+22.33 TO 608+16.67	1'-0¼"	FLEXIBLE

BARRIER AND MOMENT SLAB TYPICAL SECTION

BARRIER AND MOMENT SLAB DETAILS
WALL AD
ALONG RAMP A1

SFN
N/A

DESIGN AGENCY

DESIGNER JML | CHECKER BTA

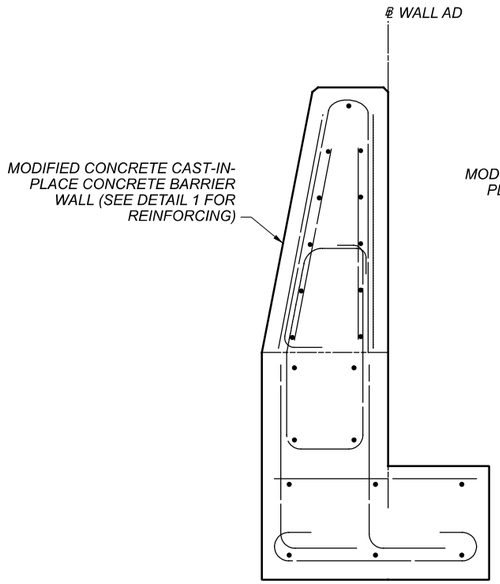
REVIEWER
JMS 09-28-21

PROJECT ID
82382

SUBSET 10 | TOTAL 15

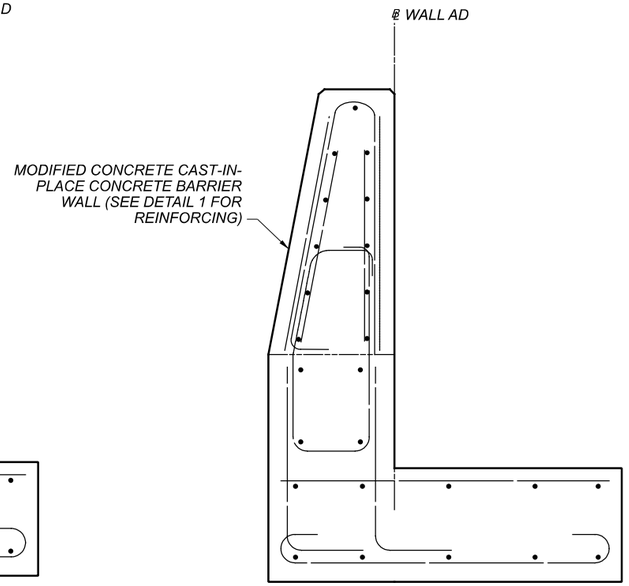
SHEET 996 | TOTAL 2339

CUY-90-16.28



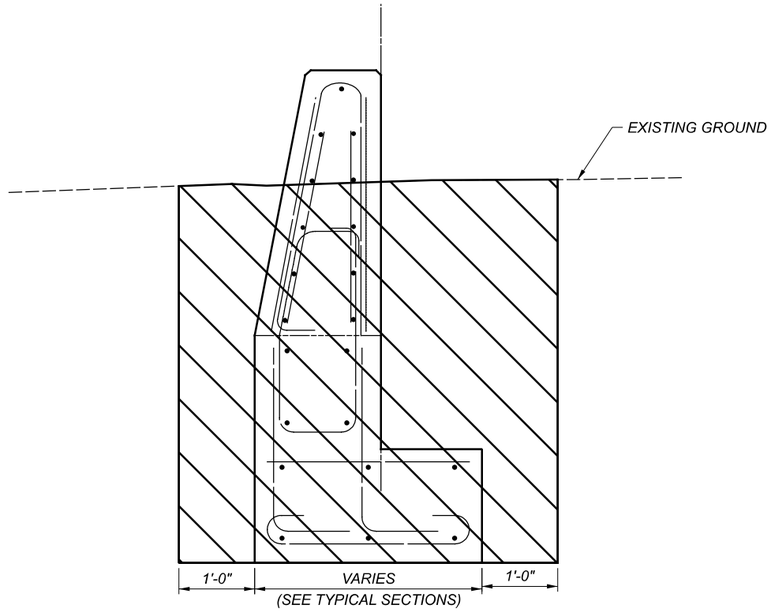
SECTION 1 REINFORCEMENT

(WALL AD STA. 599+44.23 TO WALL AD STA. 600+00.00)



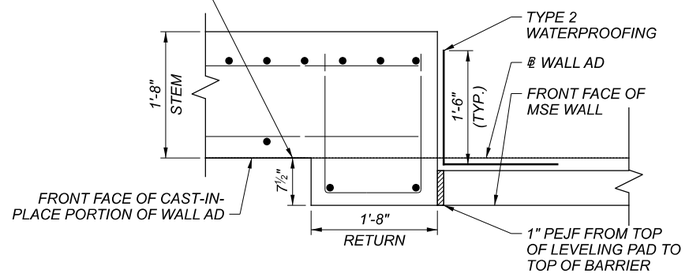
SECTION 2 REINFORCEMENT

(WALL AD STA. 600+00.00 TO WALL AD STA. 603+63.97)

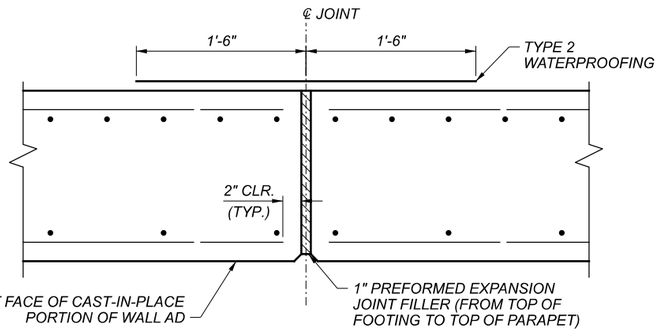


TYPICAL WALL EXCAVATION LIMITS

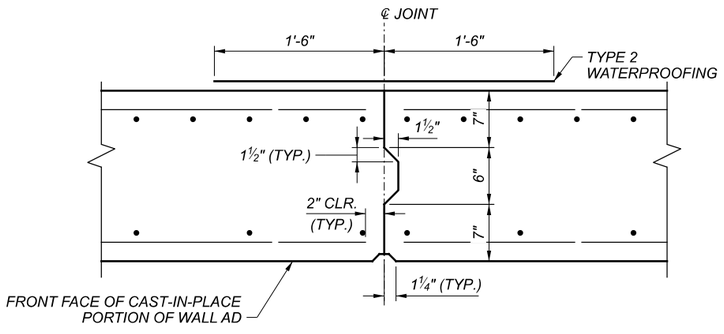
NOTE: THIS CHANGES AND GETS LARGER IF WE HAVE FORMLINER ON FACE OF MSE WALL



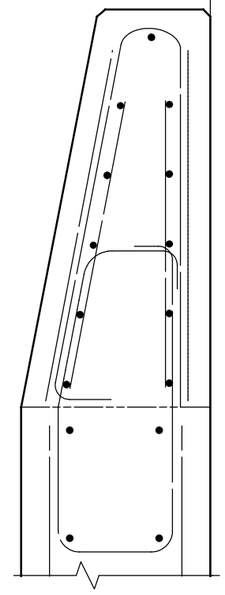
WALL STEM RETURN DETAIL



EXPANSION JOINT DETAIL



CONTRACTION JOINT DETAIL



DETAIL 1 - BARRIER REINFORCEMENT

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

MISCELLANEOUS MSE WALL DETAILS
WALL AD
ALONG RAMP A1

SFN N/A

DESIGN AGENCY HDR

DESIGNER	CHECKER
CMR	—

REVIEWER —

PROJECT ID 82382

SUBSET	TOTAL
11	15

SHEET	TOTAL
997	2339

CUY-90-16.28 (CCG3A)

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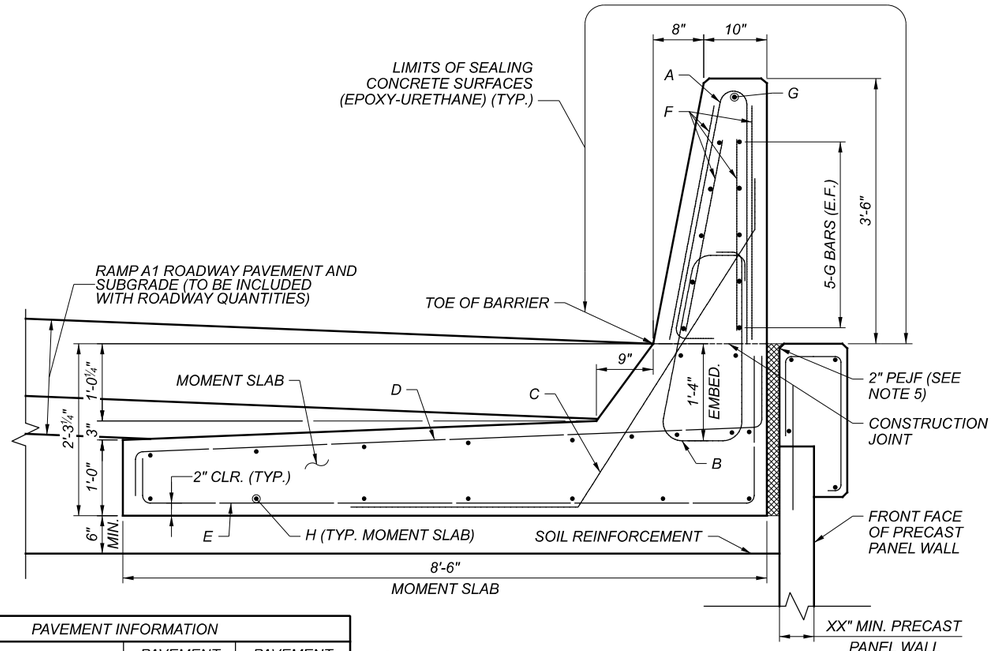
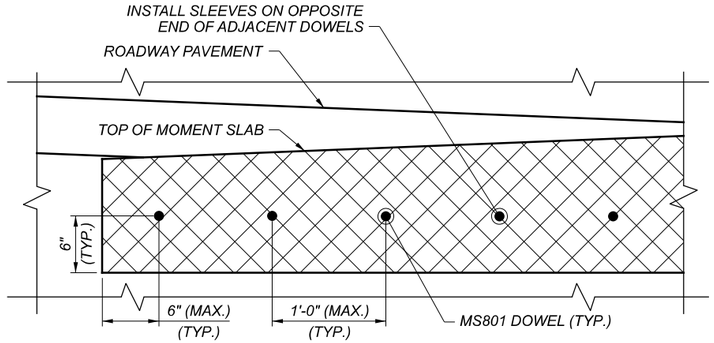
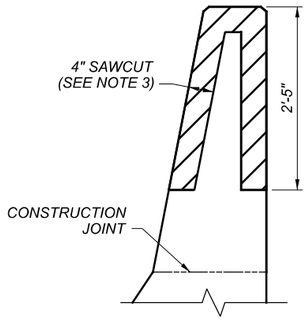


SECTION A-A

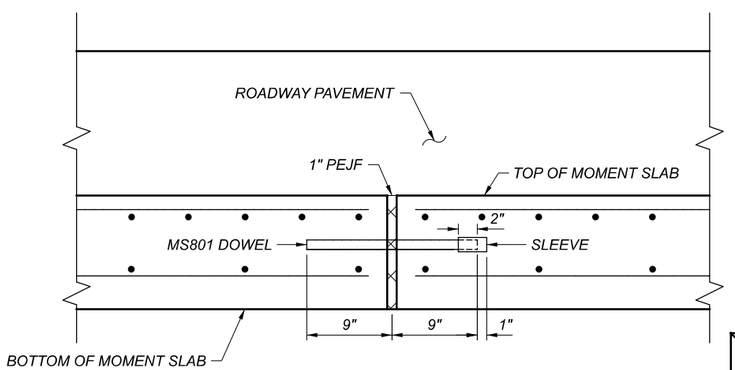
PAVEMENT INFORMATION		
WALL AD STATION RANGE	PAVEMENT THICKNESS	PAVEMENT TYPE
603+63.97 TO 607+22.33	10"	RIGID
607+22.33 TO 608+16.67	1'-0¼"	FLEXIBLE



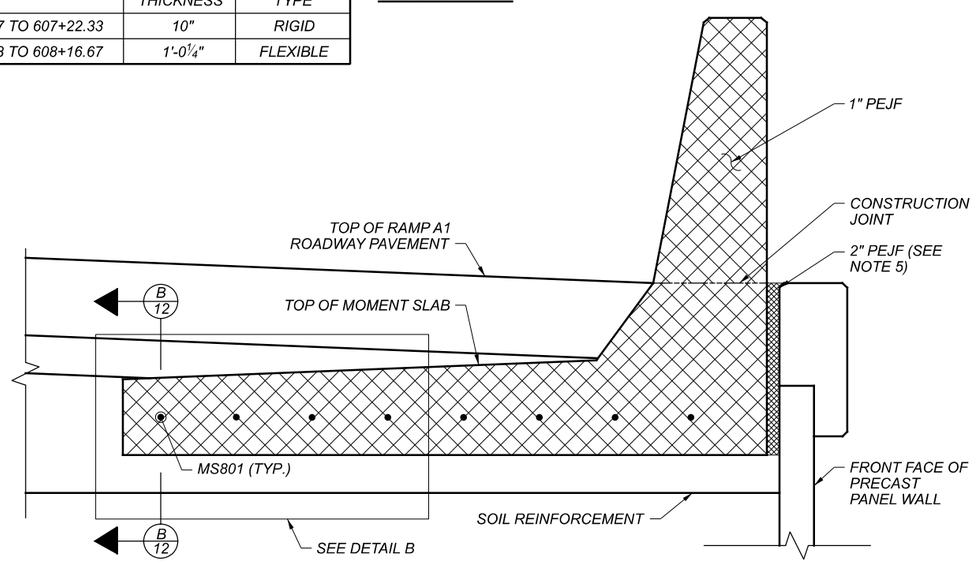
DETAIL B



DETAIL A
(SECTION THROUGH SAWCUT)



SECTION B-B



TYPICAL MOMENT SLAB SECTION AT EXPANSION JOINT

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

NOTES:

1. FOR PANEL REINFORCING STEEL TABLES, SEE SHEET &WDATOTAL .
2. FOR LOCATION OF EXPANSION JOINTS, SEE WALL ELEVATIONS.
3. FOR ADDITIONAL 4" SAWCUT AND GFRP REINFORCEMENT DETAILS, SEE ODOT STANDARD DRAWING SBR-1-13.
4. THE NUMBER OF BARS (NO.) LISTED IN THE TABLE ON SHEET &WDATOTAL , IS FOR THE ENTIRE PANEL.
5. 1", 2", AND 3" PEJF SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET. USE ADDITIONAL PEJF BETWEEN THE MOMENT SLAB AND MSE WALL PANELS AS NEEDED ADJACENT TO THE PROPOSED BRIDGE APPROACH SLABS AND/OR MOMENT SLABS IN ORDER FOR PROPER ALIGNMENT OF THE PARAPET.

BARRIER AND MOMENT SLAB DETAILS (1 OF 2)
WALL AD
ALONG RAMP A1

SFN N/A

DESIGN AGENCY

DESIGNER CMR | CHECKER —

REVIEWER — —

PROJECT ID 82382

SUBSET 12 | TOTAL 15

SHEET 998 | TOTAL 2339

CUY-90-16.28 (CCG3A)

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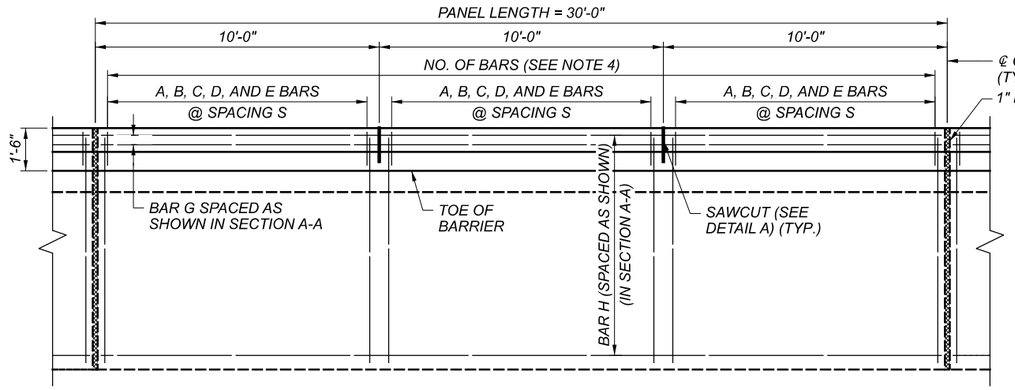
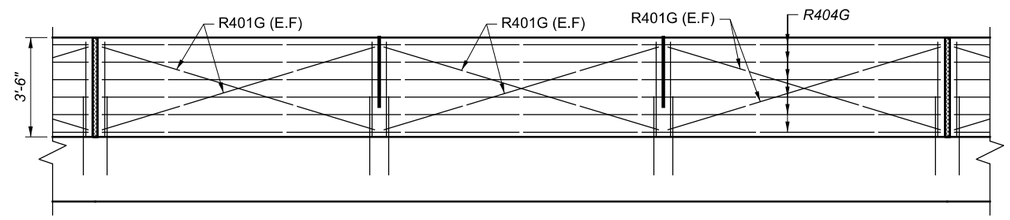
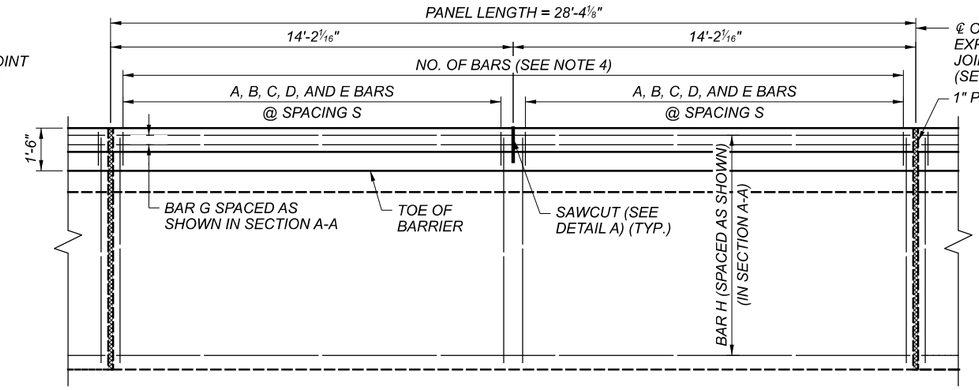


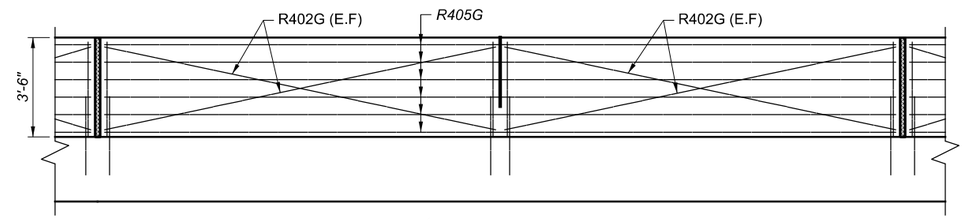
30'-0" PANEL PLAN



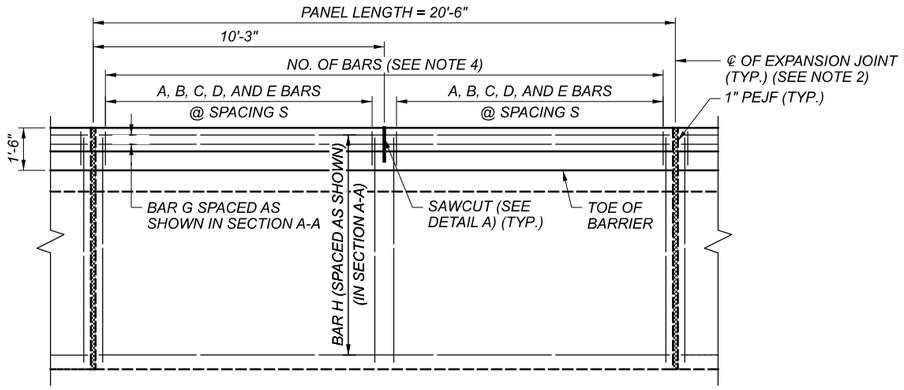
30'-0" PANEL ELEVATION



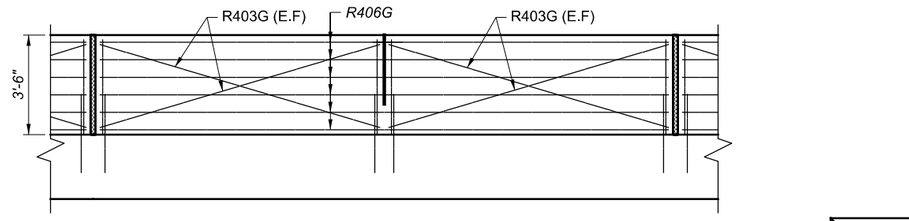
28'-4⅛" PANEL PLAN



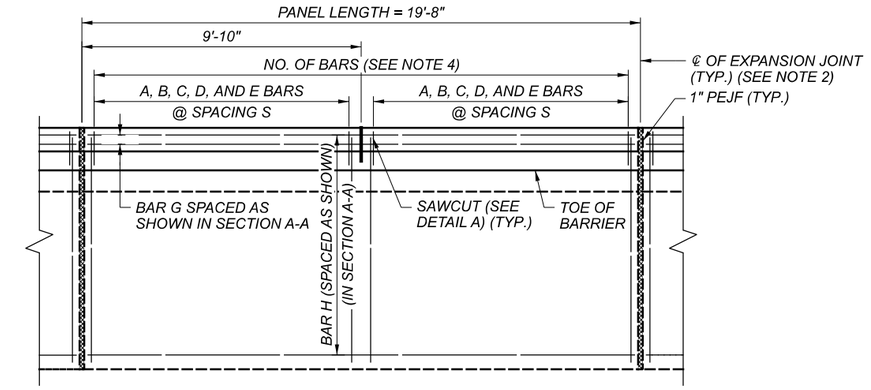
28'-4⅛" PANEL ELEVATION



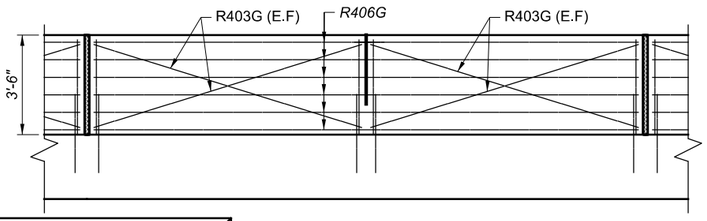
20'-6" PANEL PLAN



20'-6" PANEL ELEVATION



19'-8" PANEL PLAN



19'-8" PANEL ELEVATION

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

NOTES:

1. FOR PANEL REINFORCING STEEL TABLES, SEE SHEET 14 / 15.

BARRIER AND MOMENT SLAB DETAILS (2 OF 2) WALL AD ALONG RAMP A1

SFN N/A

DESIGN AGENCY HDR

DESIGNER	CHECKER
CMR	—

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
13	15

SHEET	TOTAL
999	2339

CUY-90-16.28 (CCG3A)

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WALL AD																					
PANEL NUMBER	PANEL LENGTH	A BARS			B BARS			C BARS			D BARS			E BARS			F BARS		G BARS		H BARS	
		NO.	MARK	SPACING "S"	NO.	MARK	SPACING "S"	NO.	MARK	SPACING "S"	NO.	MARK	SPACING "S"	NO.	MARK	SPACING "S"	NO.	MARK	NO.	MARK	NO.	MARK
1 - 11	30'-0"	33	B601	1'-0" MAX.	33	B602	1'-0" MAX.	63	B603	0'-6" MAX.	63	B604	0'-6" MAX.	33	B605	1'-0" MAX.	12	B401	11	B404	18	B501
12	28'-4 1/8"	30	B601	1'-0" MAX.	30	B602	1'-0" MAX.	60	B603	0'-6" MAX.	60	B604	0'-6" MAX.	30	B605	1'-0" MAX.	8	B402	11	B405	18	B502
13	30'-0"	33	B601	1'-0" MAX.	33	B602	1'-0" MAX.	63	B603	0'-6" MAX.	63	B604	0'-6" MAX.	33	B605	1'-0" MAX.	12	B401	11	B404	18	B501
14-15	20'-6"	22	B601	1'-0" MAX.	22	B602	1'-0" MAX.	42	B603	0'-6" MAX.	42	B604	0'-6" MAX.	22	B605	1'-0" MAX.	8	B403	11	B406	18	B503
16	19'-8 3/8"	22	B601	1'-0" MAX.	22	B602	1'-0" MAX.	42	B603	0'-6" MAX.	42	B604	0'-6" MAX.	22	B605	1'-0" MAX.	8	B403	11	B406	18	B503

MOMENT SLAB AND BARRIER PANEL REINFORCEMENT TABLES

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

NOTES:

1. FOR BAR LOCATIONS AND MOMENT SLAB DETAILS, SEE SHEETS 12 / 15 AND 13 / 15 .
2. FOR PANEL NUMBERS AND LOCATIONS, SEE SHEETS 8 / 15 AND 9 / 15 .
3. THE NUMBER OF BARS (NO.) LISTED IN THE TABLE IS PER PANEL.

BARRIER AND MOMENT SLAB REINFORCEMENT TABLES
WALL AD
ALONG RAMP A1

SFN N/A

DESIGN AGENCY

DESIGNER CMR | CHECKER —

REVIEWER — —

PROJECT ID 82382

SUBSET 14 | TOTAL 15

SHEET 1000 | TOTAL 2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:04:57 AM USER: Maia.Gallagher
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MARK	NUMBER	LENGTH	MATERIAL	WEIGHT	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
WALL AD - CAST-IN-PLACE PORTION												
SUB-TOTAL						ITEM 509E10000, EPOXY COATED REINFORCING STEEL						

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT OR LENGTH	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
WALL AD - MOMENT SLAB AND BARRIER												
SUB-TOTAL						ITEM 509E10000, EPOXY COATED REINFORCING STEEL						
SUB-TOTAL						ITEM 509E30020, NO. 4 GFRP DEFORMED BARS						

BAR BENDING DIAGRAMS

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 3/15.
2. THE LETTER PREFIX INDICATES BAR LOCATION. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE TWO DIGITS WHEN FOUR DIGITS ARE USED INDICATES BAR SIZE NUMBER. ALL REINFORCING IS ASSUMED EPOXY COATED UNLESS OTHERWISE INDICATED BY A LETTER SUFFIX. IF A LETTER SUFFIX IS PROVIDED, IT INDICATES BAR OR BAR COATING TYPE. EXAMPLE: W401G

   W: THE LOCATION OF THE BARS IN THE STRUCTURE (WALL)
   4: BAR SIZE DIMENSION NO. 4
   01: SEQUENCE NUMBER
   G: GFRP

   THE FOLLOWING IS A LIST OF BAR LOCATION PREFIXES:
   R: RAILING
   W: WALL

   THE FOLLOWING IS A LIST OF BAR MATERIAL SUFFIXES:
   G: GFRP
3. BAR DIMENSIONS ARE SHOWN OUT-TO-OUT UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BAR BEND AT THE END OF THE BAR. STRAIGHT BARS ARE INDICATED BY "STR."
4. BAR MATERIAL:

   "STL" = GRADE 60 STEEL
   "GFRP" = GLASS FIBER REINFORCED POLYMER

REINFORCING SCHEDULE
WALL AD
ALONG RAMP A1

SFN N/A

DESIGN AGENCY

DESIGNER CMR | CHECKER —

REVIEWER — —

PROJECT ID 82382

SUBSET 15 | TOTAL 15

SHEET 1001 | TOTAL 2339

CUY-90-16.28 (CCG3A)
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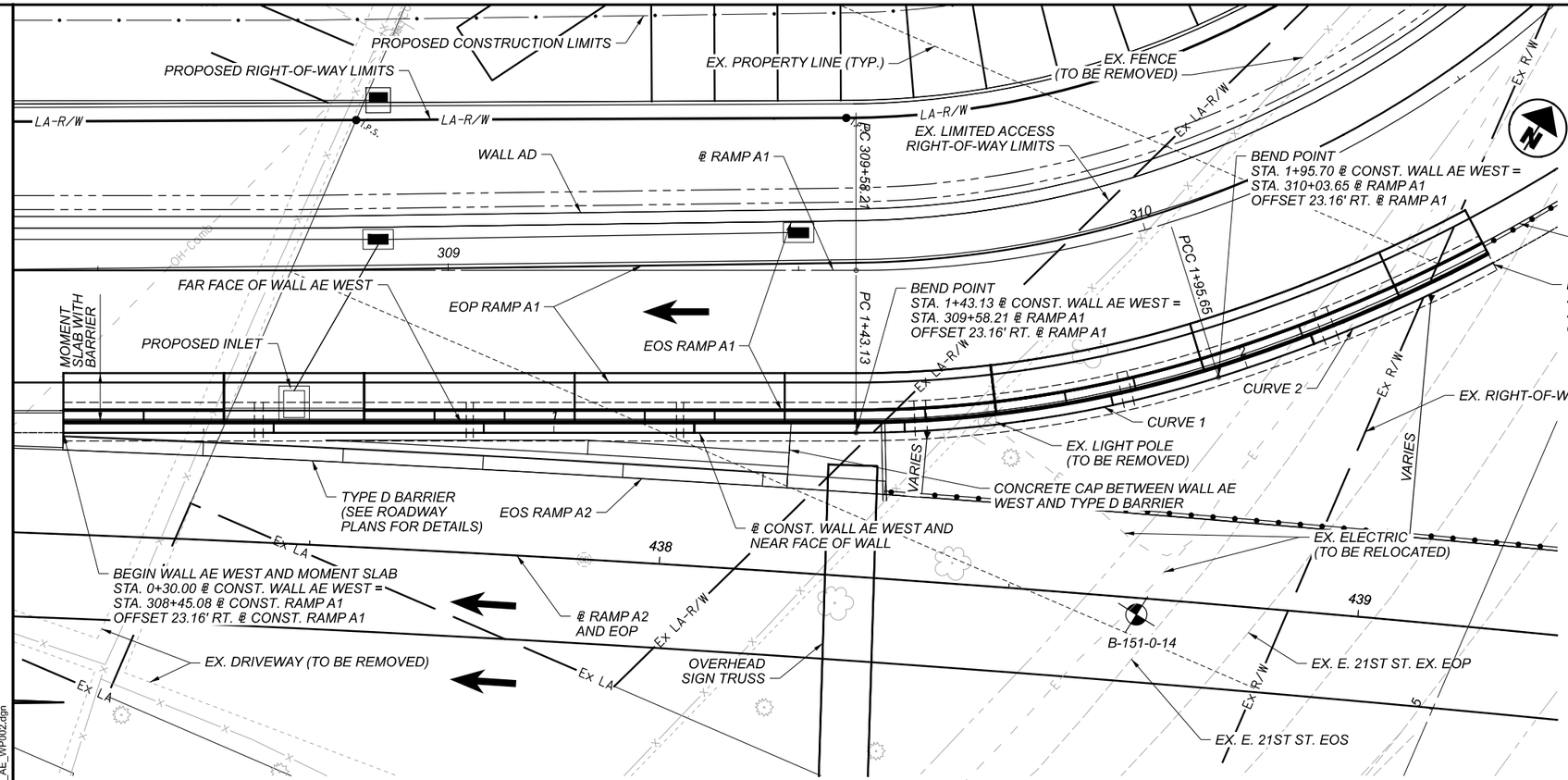


PLAN

BENCHMARK DATA

BM #59 STA. 301+65.97 ELEV. 660.15, OFFSET 488.87' RT.,
℄ RAMP A1, MAG NAIL BETWEEN E 14TH ST. AND COM. COLLEGE AVE.
BM #62 STA. 303+26.43, ELEV. 672.11, OFFSET 354.64' LT.
℄ RAMP A1, RAILROAD SPIKE POWER POLE NO. 121784

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLANS.

℄ CONST. WALL AE WEST CURVE 1 DATA

P.I. = Sta. 1+69.59
Δ = 17°22'47" LT
Dc = 33°05'18"
R = 173.16'
T = 26.47'
L = 52.52'
E = 2.01'

℄ CONST. WALL AE WEST CURVE 2 DATA

P.I. = Sta. 2+42.91
Δ = 23°00'44" LT
Dc = 24°40'46"
R = 232.16'
T = 47.26'
L = 93.24'
E = 4.76'

LEGEND:

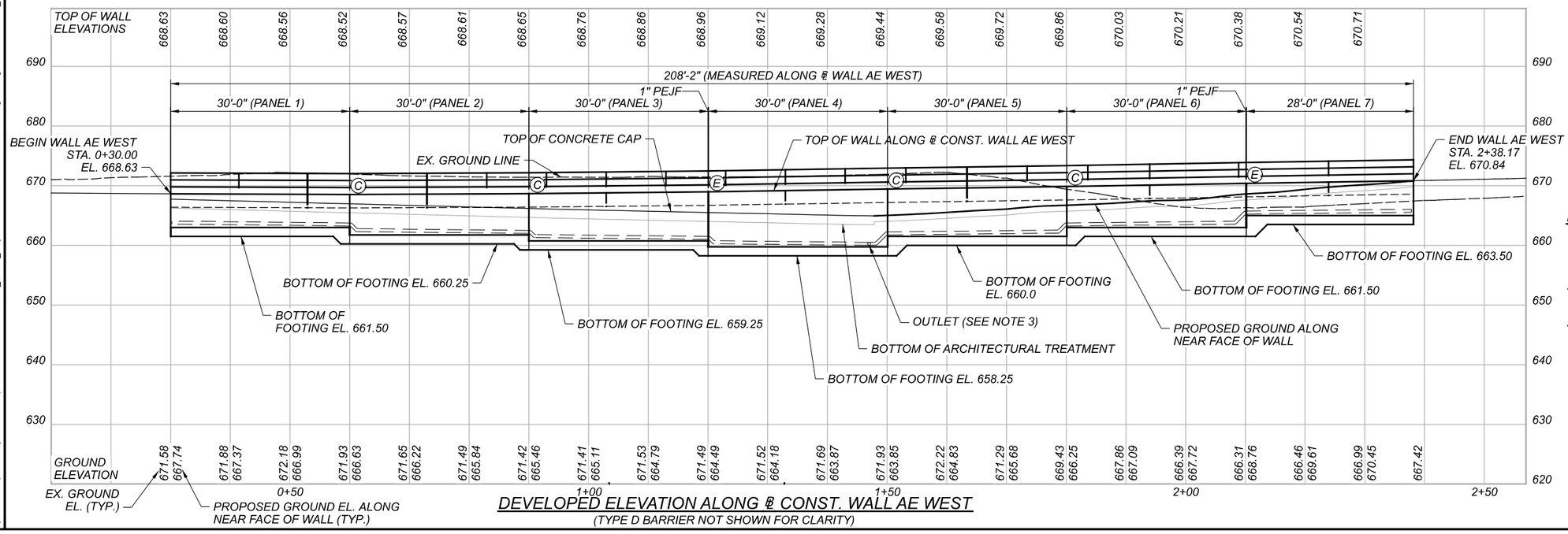
= BORING LOCATION

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER
Ⓒ = CONTRACTION JOINT
Ⓔ = EXPANSION JOINT

BORING LOCATION*

BORING	STATION	OFFSET	TOP OF ROCK EL.
B-151-0-14	1+77.46	29.93' RT.	-

* = BORING STATIONS AND OFFSETS ARE FROM ℄ CONST. WALL AE WEST



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AE WEST
(TYPE D BARRIER NOT SHOWN FOR CLARITY)

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. WALL ALIGNMENT DEFINED ALONG THE NEAR FACE OF WALL.
3. SEE SHEET 5 OF 22 FOR DETAILS.

WALL PLAN AND PROFILE WALL AE (WEST) ALONG SOUTH SIDE OF RAMP A1

SFN N/A

DESIGN AGENCY

BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
BCS	MAB

REVIEWER DWL 06/16/22

PROJECT ID 82382

SUBSET	TOTAL
1	22

SHEET	TOTAL
1002	2339

CUY-90-16.28 (CCG3A)

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:
SBR-1-20 REVISED 07-17-20
VPF-1-90 REVISED 07-20-18

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
NONE

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 ABBREVIATONS 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 11.4 KSF.

ITEM SPECIAL - FORM LINER:

FOR AESTHETIC FORMLINER DETAILS SEE THE LANDSCAPING PLANS.

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, CLASS QC2 CONCRETE, MISC.: MOMENT SLAB

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.

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

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE CONCRETE PARAPET AND RETAINING WALL AS SHOWN ON THE PLANS. THE COST OF SEALING THE ADDITIONAL SURFACE AREA OF THE AESTHETIC TREATMENT WILL BE CONSIDERED INCIDENTAL TO THIS ITEM. THE COLOR OF THE SEALANT TO BE USED IS SPECIFIED IN THE AESTHETIC PORTION OF THE PLANS.

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.

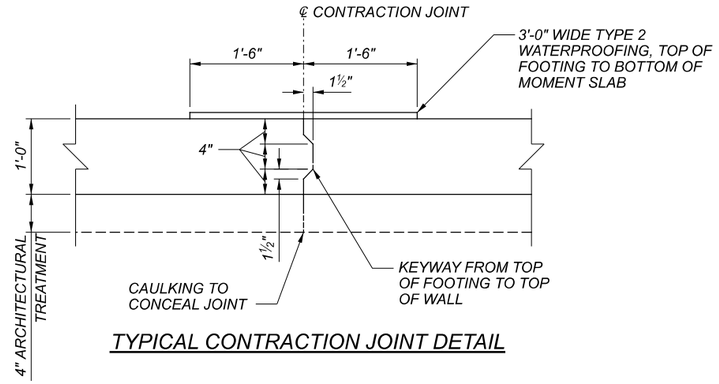
ITEM 516 - JOINT SEALER, AS PER PLAN:

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.

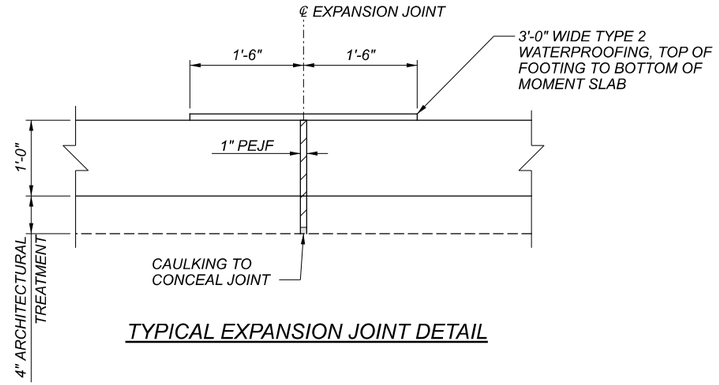
ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN:

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.

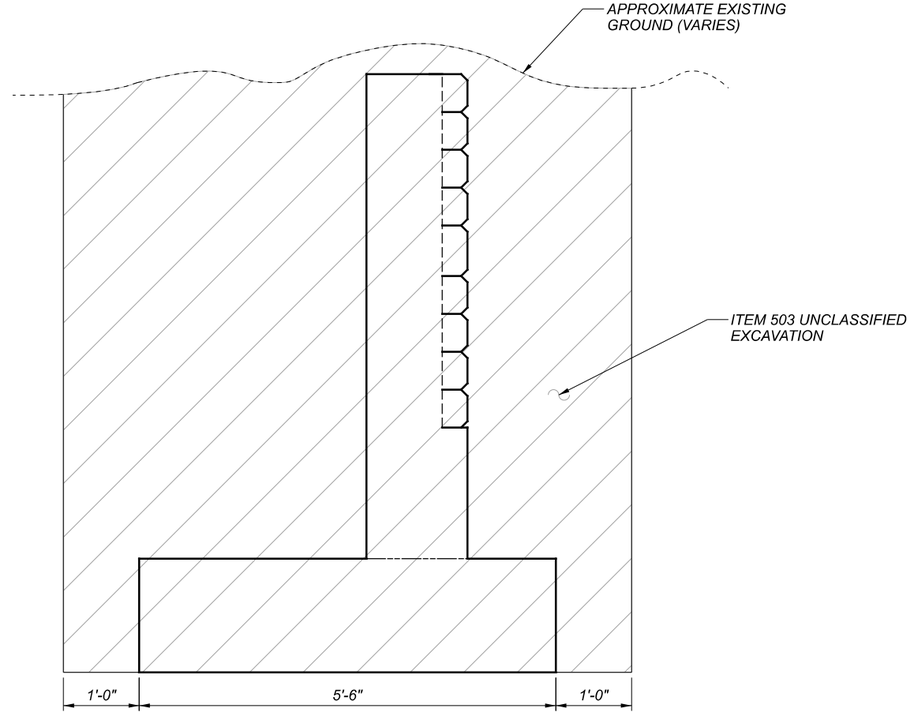
THIS ITEM SHALL INCLUDE, BUT IS NOT LIMITED TO THE PEJF AND JOINT SEAL NECESSARY TO FORM AND PLACE THE RETAINING WALL EXPANSION JOINTS. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL OTHER NECESSARY MATERIAL, LABOR, AND EQUIPMENT AND SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 516 - 1"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



TYPICAL CONTRACTION JOINT DETAIL



TYPICAL EXPANSION JOINT DETAIL



TYPICAL UNCLASSIFIED EXCAVATION SECTION

WALL GENERAL NOTES
WALL AE (WEST)
ALONG SOUTH SIDE OF RAMP A1

SFN
N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JFM	JMK

REVIEWER
DWL 06/16/22

PROJECT ID
82382

SUBSET	TOTAL
2	22

SHEET	TOTAL
1003	2339

CUY-90-16.28 (CCG3A)

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ESTIMATED QUANTITIES					
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REFERENCE
503	11100		LS	COFFERDAMS AND EXCAVATION BRACING	
503	21101		CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	
509	10000		LB	EPOXY COATED REINFORCING STEEL	
509	30020		FT	NO. 4 GFRP DEFORMED BARS	
511	34450		CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
511	46010		CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
511	46512		CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
511	53012		CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB	2 OF 22
512	10001		SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION	2 OF 22
512	10101		SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	2 OF 22
512	33000		SY	TYPE 2 WATERPROOFING	
516	31001		FT	JOINT SEALER, AS PER PLAN	2 OF 22
516	13601		SF	1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	2 OF 22
516	13900		SF	2" PREFORMED EXPANSION JOINT FILLER	
518	21200		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
518	40000		FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
518	40010		FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
SPECIAL	530E13000		SF	FORM LINER	

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. - CONTRUCTION 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 (WEST) ALONG SOUTH SIDE OF RAMP A1

SFN
N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JFM	XXX

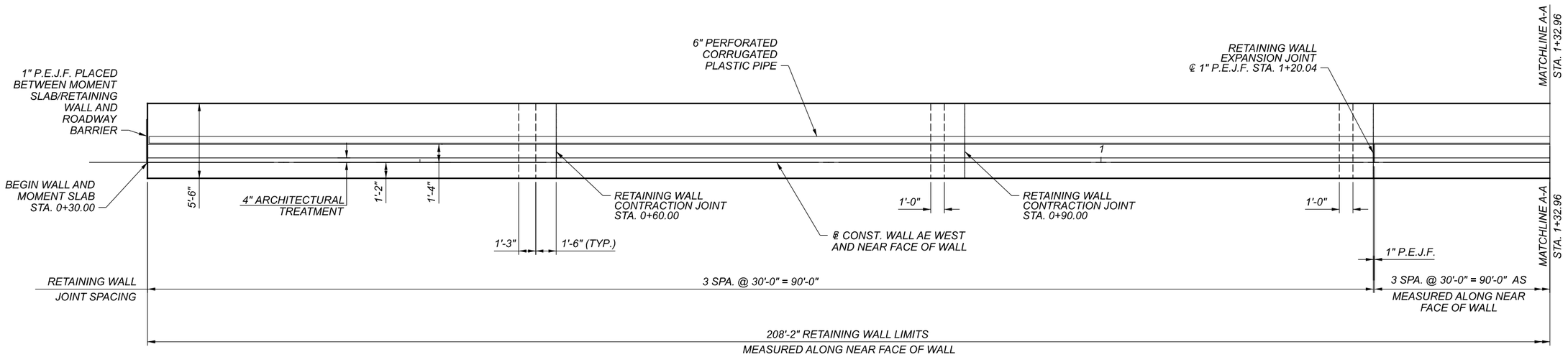
REVIEWER
DWL 06/16/22

PROJECT ID
82382

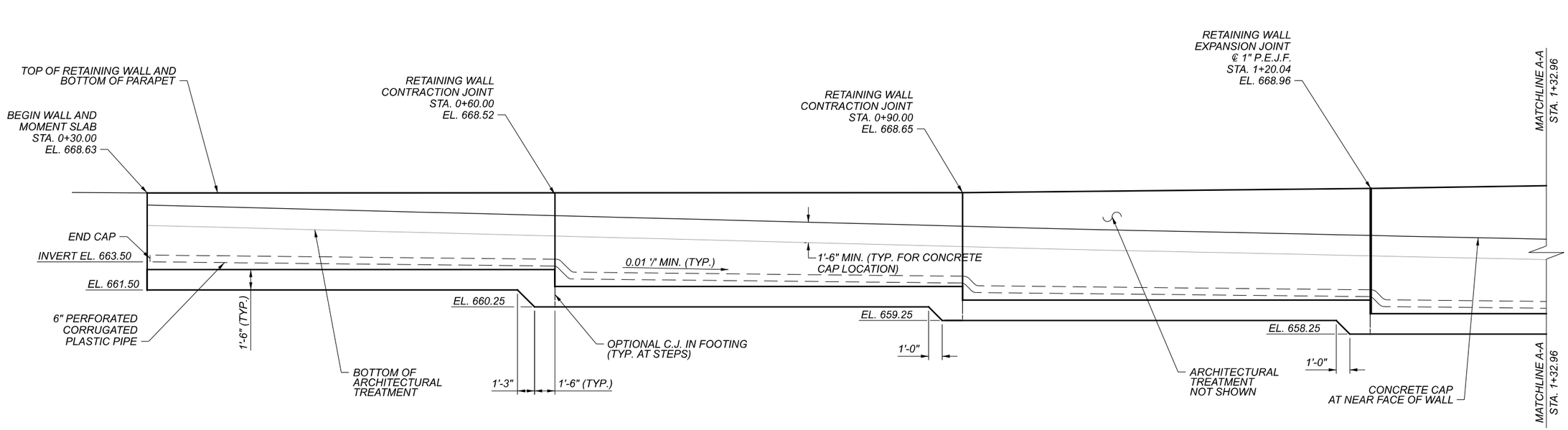
SUBSET	TOTAL
3	22

SHEET	TOTAL
1004	2339

CUY-90-16.28 (CCG3A)



PLAN



PROFILE

NOTES:

1. FOR CATCH BASIN DETAILS INCLUDING DETAILS OF THE MOMENT SLAB AND BARRIER, SEE SHEET 964 AND 965. 20'-1" DIMENSION IS MEASURED OUT TO OUT OF THE PREFORMED EXPANSION JOINT FILLER. ALL COSTS FOR THE MOMENT SLAB, CONCRETE BARRIER, 1" P.E.J.F. AND INLET IN THIS DETAIL ARE TO BE INCLUDED WITH PAYMENT ON THAT SHEET.
2. FOR MATCHLINE A-A, SEE SHEET 5 OF 22.

WALL PLAN AND ELEVAITON - 1 (AE WEST) WALL AE (WEST) ALONG SOUTH SIDE OF RAMP A1

CUY-90-16.28 (CCG3A)

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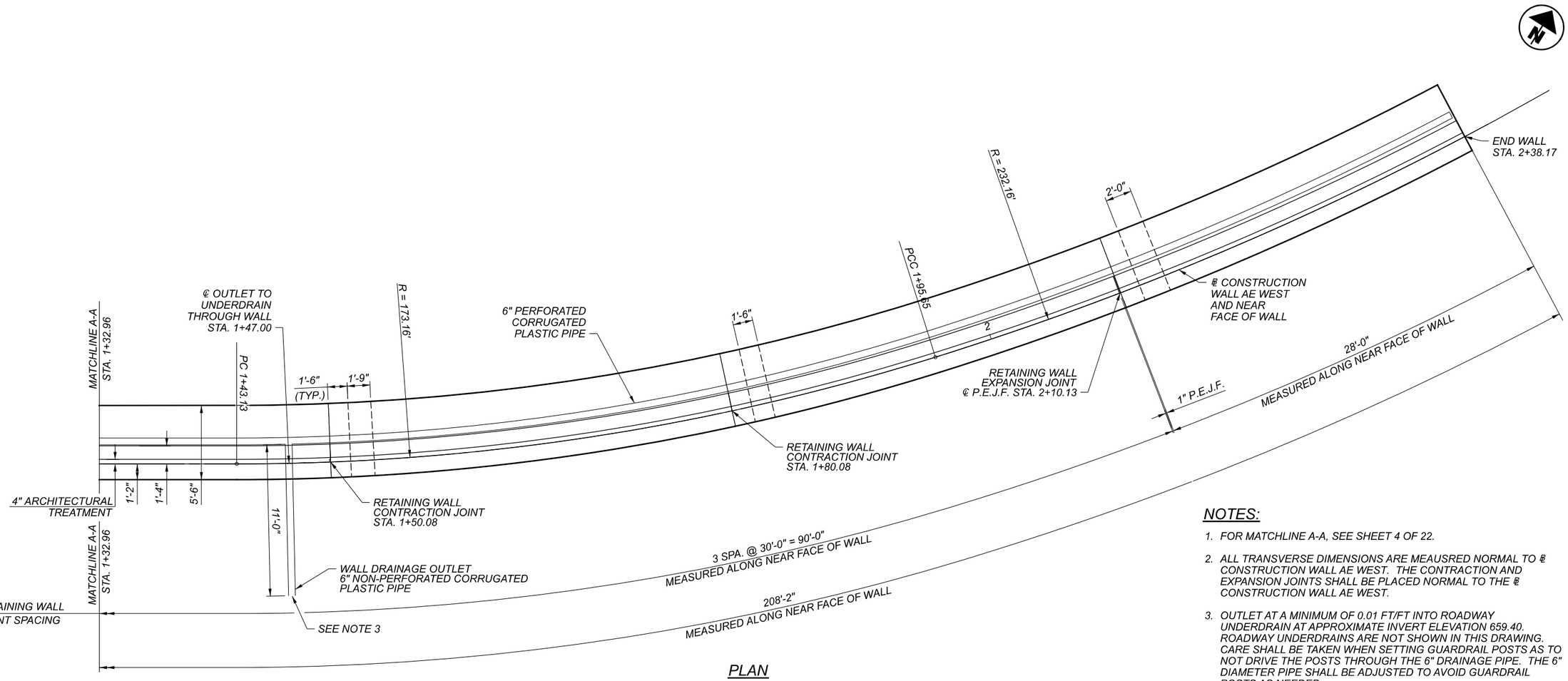
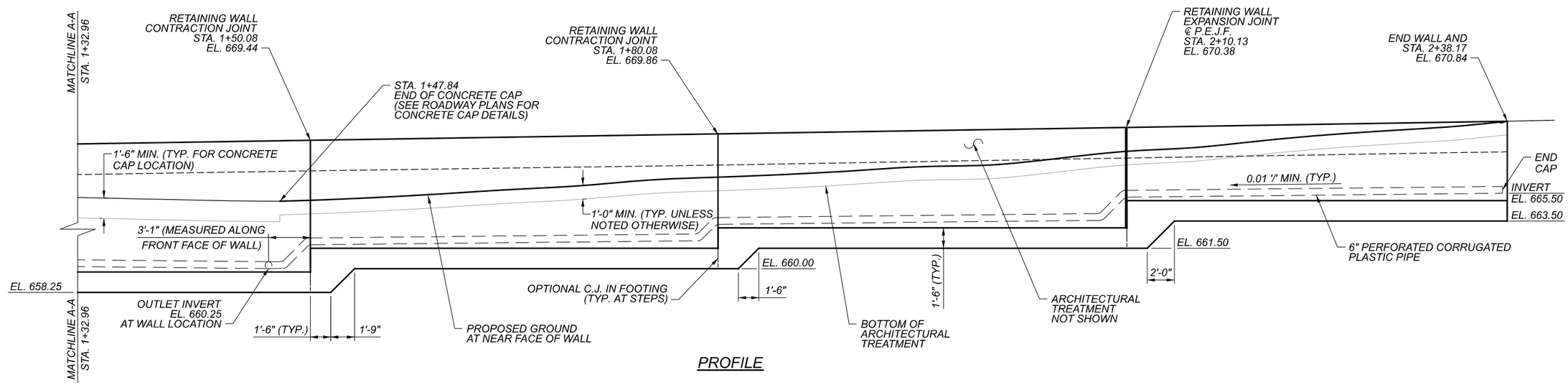
SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET PAINESVILLE, OHIO 44077
DESIGNER	JFM
CHECKER	JMK
REVIEWER	DWL 06/16/22
PROJECT ID	82382
SUBSET	4
TOTAL	22
SHEET	1005
TOTAL	2339



PLAN



PROFILE

NOTES:

1. FOR MATCHLINE A-A, SEE SHEET 4 OF 22.
2. ALL TRANSVERSE DIMENSIONS ARE MEAUSRED NORMAL TO ℄ CONSTRUCTION WALL AE WEST. THE CONTRACTION AND EXPANSION JOINTS SHALL BE PLACED NORMAL TO THE ℄ CONSTRUCTION WALL AE WEST.
3. OUTLET AT A MINIMUM OF 0.01 FT/FT INTO ROADWAY UNDERDRAIN AT APPROXIMATE INVERT ELEVATION 659.40. ROADWAY UNDERDRAINS ARE NOT SHOWN IN THIS DRAWING. CARE SHALL BE TAKEN WHEN SETTING GUARDRAIL POSTS AS TO NOT DRIVE THE POSTS THROUGH THE 6" DRAINAGE PIPE. THE 6" DIAMETER PIPE SHALL BE ADJUSTED TO AVOID GUARDRAIL POSTS AS NEEDED.

WALL PLAN AND ELEVATION - 2 (AE WEST)
WALL AE (WEST)
ALONG SOUTH SIDE OF RAMP A1

CUY-90-16.28 (CCG3A)

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JFM	JMK

REVIEWER DWL 06/16/22

PROJECT ID 82382

SUBSET	TOTAL
5	22

SHEET	TOTAL
1006	2339

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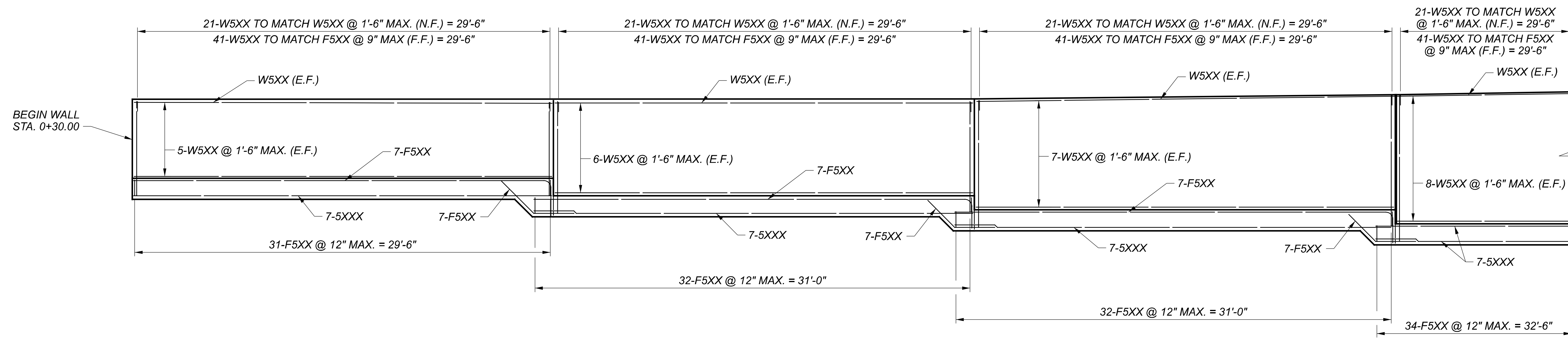
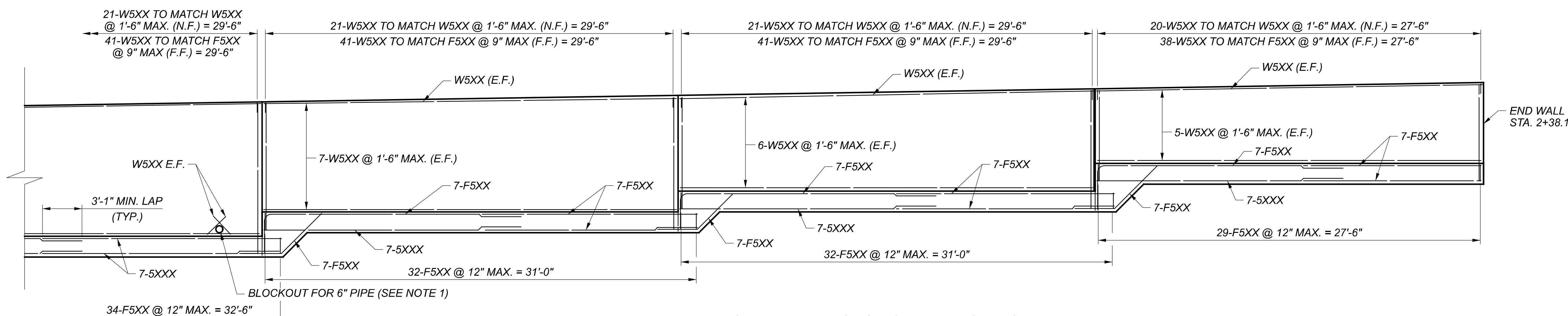


RETAINING WALL REINFORCING ELEVATION 1 OF 2



RETAINING WALL REINFORCING ELEVATION 2 OF 2

NOTES:

1. FOR ADDITIONAL DETAILS OF THE WALL LAYOUT AND DIMENSIONS , SEE SHEETS 4 AND 5 OF 22.
2. FOR SECTION AT THE WALL, SEE SHEET 9 OF 22.
3. DO NOT EXTEND THE REINFORCING STEEL THROUGH THE CONTRACTION AND EXPANSION JOINTS. 3" CLEARANCE SHALL BE PROVIDED BETWEEN THE CONTRACTION/EXPANSION JOINT AND THE REINFORCING STEEL.
4. REINFORCING BARS ARE TO BE PLACED RADIALLY TO ℄ CONSTRUCTION WALL AE WEST.
5. FIELD BEND THE LONGITUDINAL BARS AS NEEDED TO FOLLOW THE CURVATURE.

LEGEND:

E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE

RETAINING WALL REINFORCING DETAILS
WALL AE (WEST)
ALONG SOUTH SIDE OF RAMP A1

CUY-90-16.28 (CCG3A)

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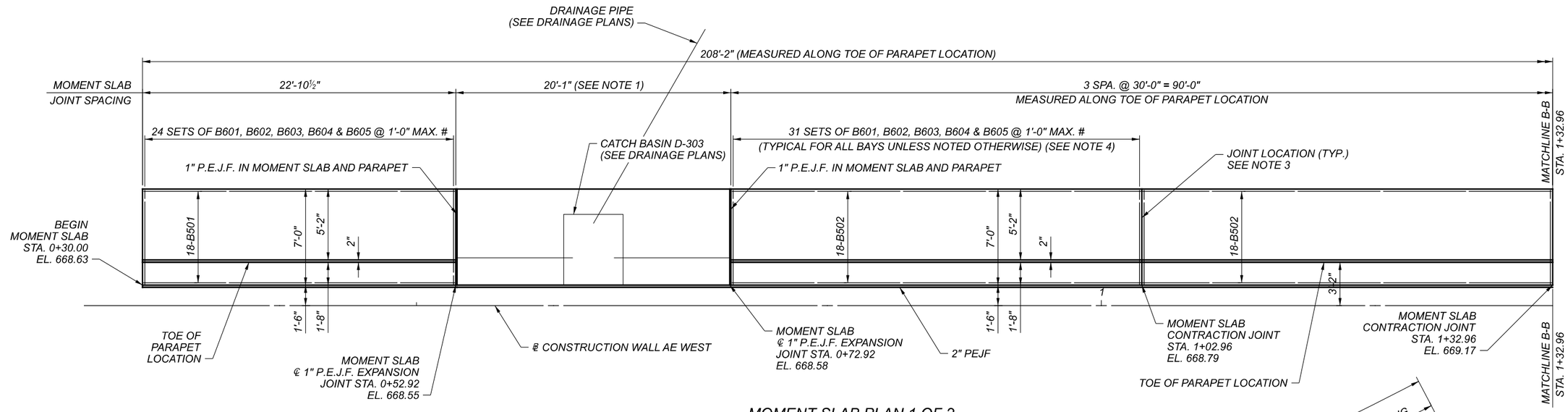
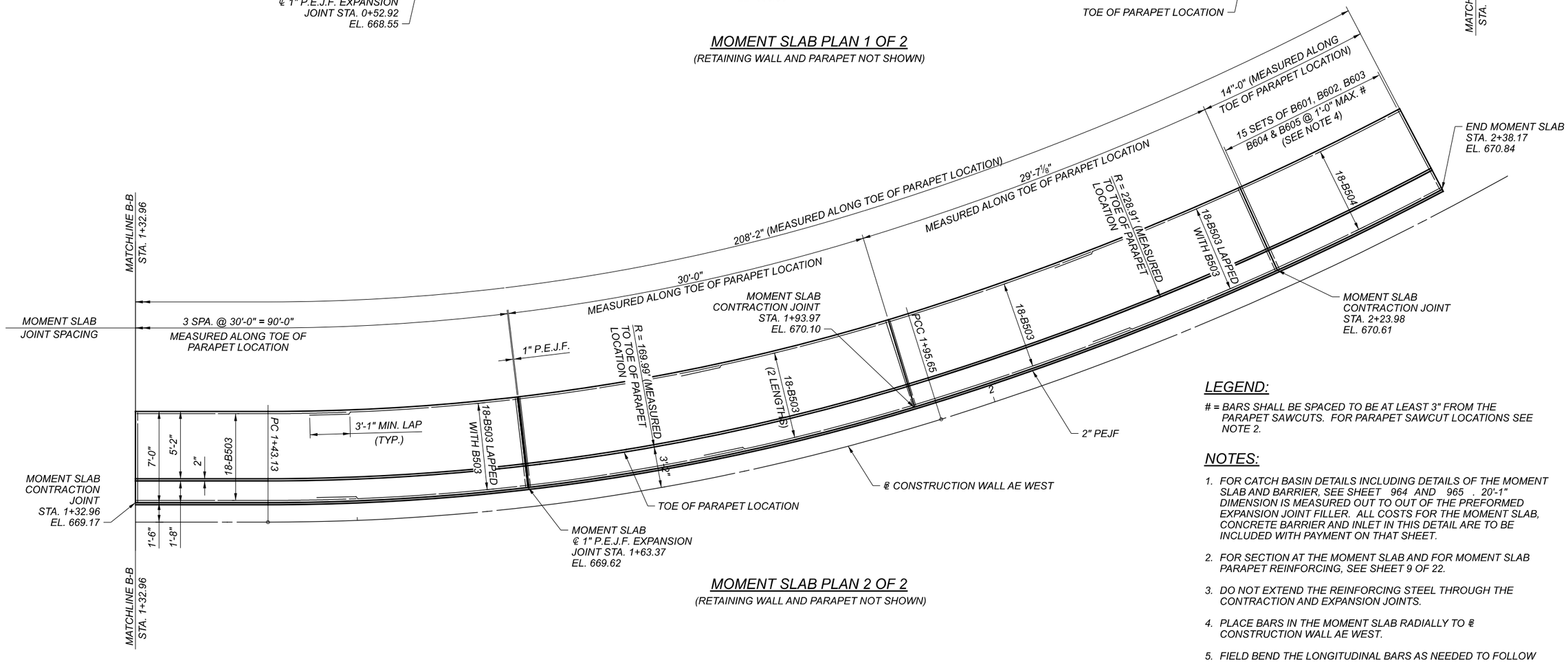
SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE 100 WEST ERIE STREET PAINESVILLE, OHIO 44077
DESIGNER JFM	CHECKER JMK
REVIEWER	DWL 06/16/22
PROJECT ID	82382
SUBSET 6	TOTAL 22
SHEET 1007	TOTAL 2339



MOMENT SLAB PLAN 1 OF 2

(RETAINING WALL AND PARAPET NOT SHOWN)



MOMENT SLAB PLAN 2 OF 2

(RETAINING WALL AND PARAPET NOT SHOWN)

LEGEND:

= BARS SHALL BE SPACED TO BE AT LEAST 3" FROM THE PARAPET SAWCUTS. FOR PARAPET SAWCUT LOCATIONS SEE NOTE 2.

NOTES:

1. FOR CATCH BASIN DETAILS INCLUDING DETAILS OF THE MOMENT SLAB AND BARRIER, SEE SHEET 964 AND 965 . 20'-1" DIMENSION IS MEASURED OUT TO OUT OF THE PREFORMED EXPANSION JOINT FILLER. ALL COSTS FOR THE MOMENT SLAB, CONCRETE BARRIER AND INLET IN THIS DETAIL ARE TO BE INCLUDED WITH PAYMENT ON THAT SHEET.
2. FOR SECTION AT THE MOMENT SLAB AND FOR MOMENT SLAB PARAPET REINFORCING, SEE SHEET 9 OF 22.
3. DO NOT EXTEND THE REINFORCING STEEL THROUGH THE CONTRACTION AND EXPANSION JOINTS.
4. PLACE BARS IN THE MOMENT SLAB RADIALLY TO ℄ CONSTRUCTION WALL AE WEST.
5. FIELD BEND THE LONGITUDINAL BARS AS NEEDED TO FOLLOW THE MOMENT SLAB CURVATURE.
6. ELEVATIONS PROVIDED IN THE PLAN VIEW ARE GIVEN AT THE TOP OF THE MOMENT SLAB AT THE PARAPET CONSTRUCTION JOINT.

MOMENT SLAB PLAN
WALL AE (WEST)
ALONG SOUTH SIDE OF RAMP A1

SFN
N/A

DESIGN AGENCY

BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JFM	JMK

REVIEWER
DWL 06/16/22

PROJECT ID
82382

SUBSET	TOTAL
7	22

SHEET	TOTAL
1008	2339

CUY-90-16.28 (CCG3A)

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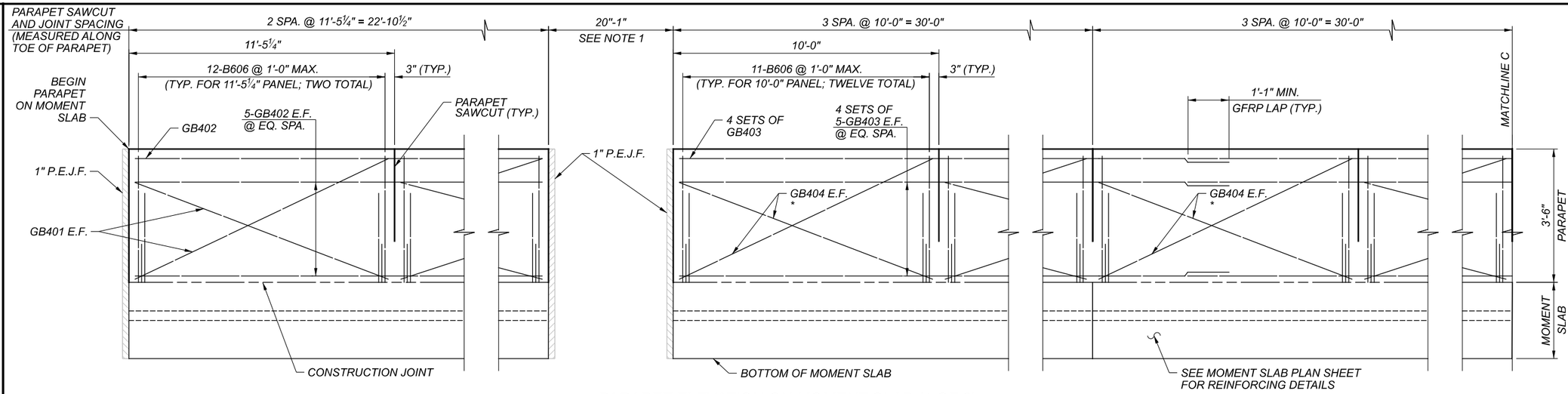
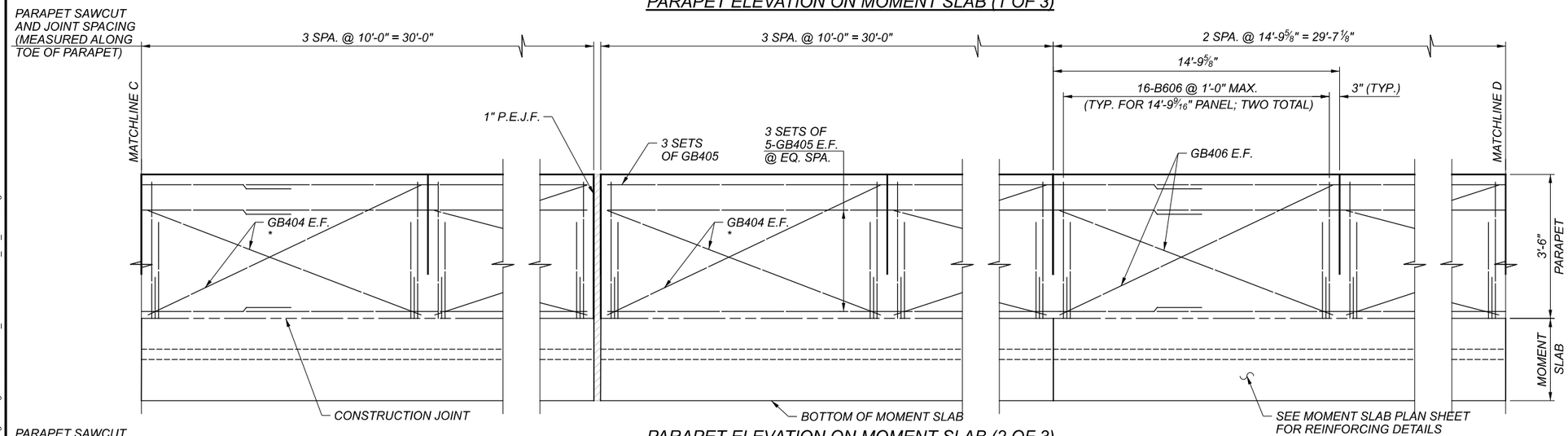
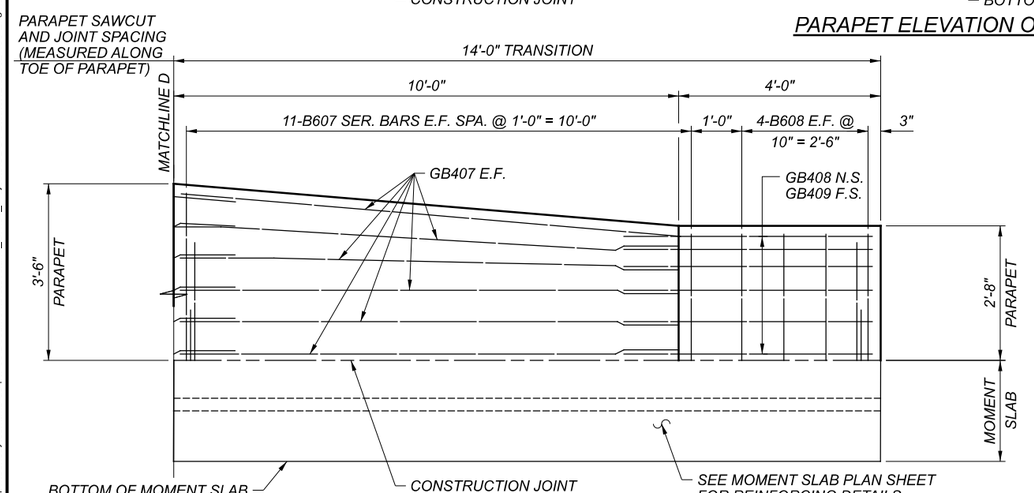


PARAPET ELEVATION ON MOMENT SLAB (1 OF 3)



PARAPET ELEVATION ON MOMENT SLAB (2 OF 3)



PARAPET ELEVATION ON MOMENT SLAB (3 OF 3)

NOTES:

1. FOR CATCH BASIN DETAILS INCLUDING DETAILS OF THE MOMENT SLAB AND BARRIER, SEE SHEET 964 AND 965 . 20'-1" DIMENSION IS MEASURED OUT TO OUT OF THE PREFORMED EXPANSION JOINT FILLER. ALL COSTS FOR THE MOMENT SLAB, CONCRETE BARRIER AND INLET IN THIS DETAIL ARE TO BE INCLUDED WITH PAYMENT ON THAT SHEET.
2. THE ELEVATION VIEWS ARE NOT TO SCALE.
3. FOR SECTION OF THE PARAPET ON THE MOMENT SLAB, SEE SHEET 9 OF 22.
4. FOR ADDITIONAL DETAILS OF THE MOMENT SLAB LAYOUT AND DIMENSIONS, SEE SHEET 7 OF 22.
5. FIELD CURVE THE LONGITUDINAL REINFORCING AS NEEDED TO FOLLOW THE PARAPET AND MOMENT SLAB CURVATURE.
6. THE AESTHETIC RELIEF GROOVES ON THE PARAPET ARE NOT SHOWN, SEE SHEET 9 OF 22 FOR DETAILS.
7. FOR ADDITIONAL PARAPET DETAILS INCLUDING DETAILS OF THE 14'-0" PARAPET TRANSITION, SEE ODOT STANDARD DRAWING SBR-1-20.
8. REINFORCEMENT DESIGNATED WITH A "GB" PREFIX ARE GFRP BARS.

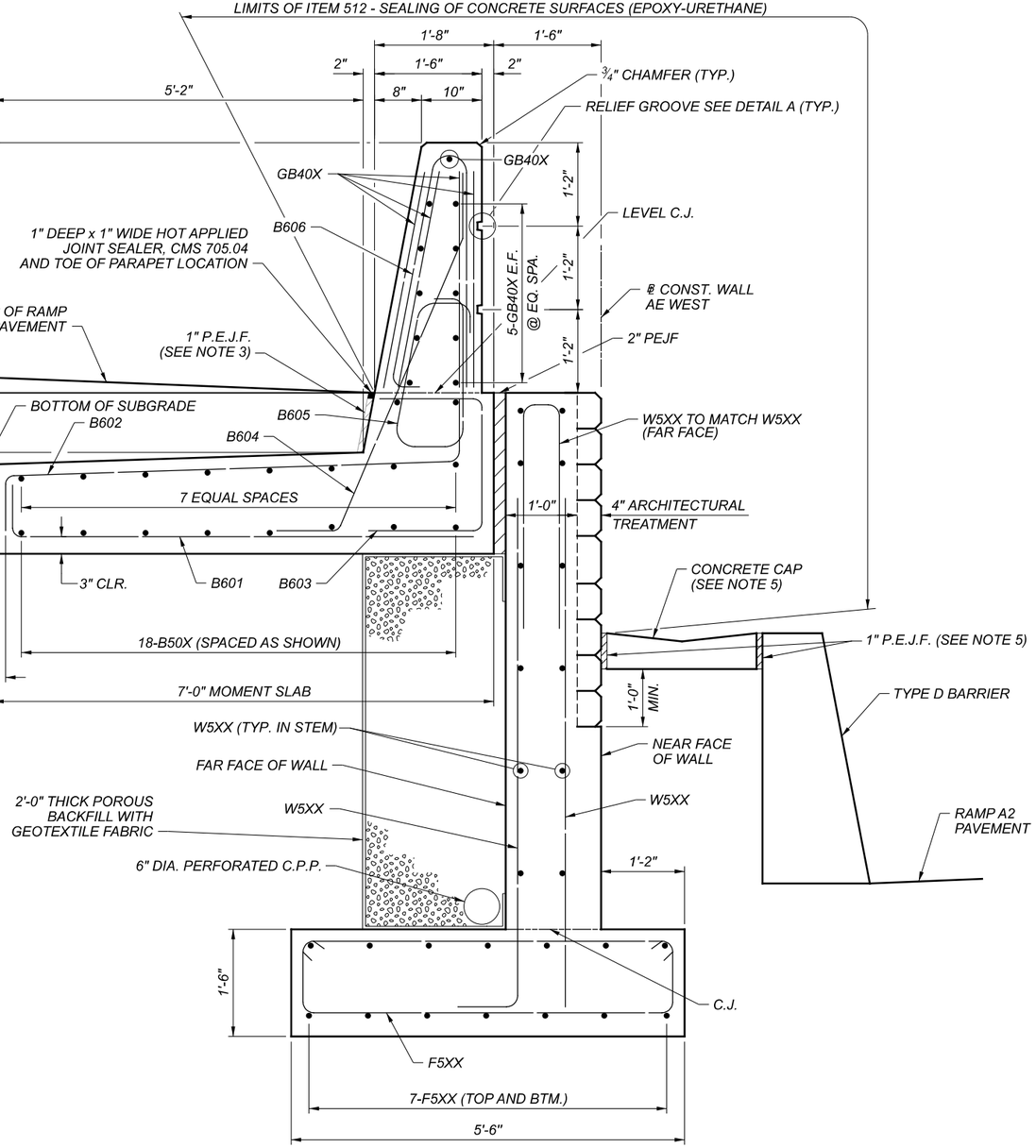
LEGEND:

* - TYPICAL FOR 10'-0" PANELS

MOMENT SLAB PARAPET DETAILS
WALL AE (WEST)
ALONG SOUTH SIDE OF RAMP A1

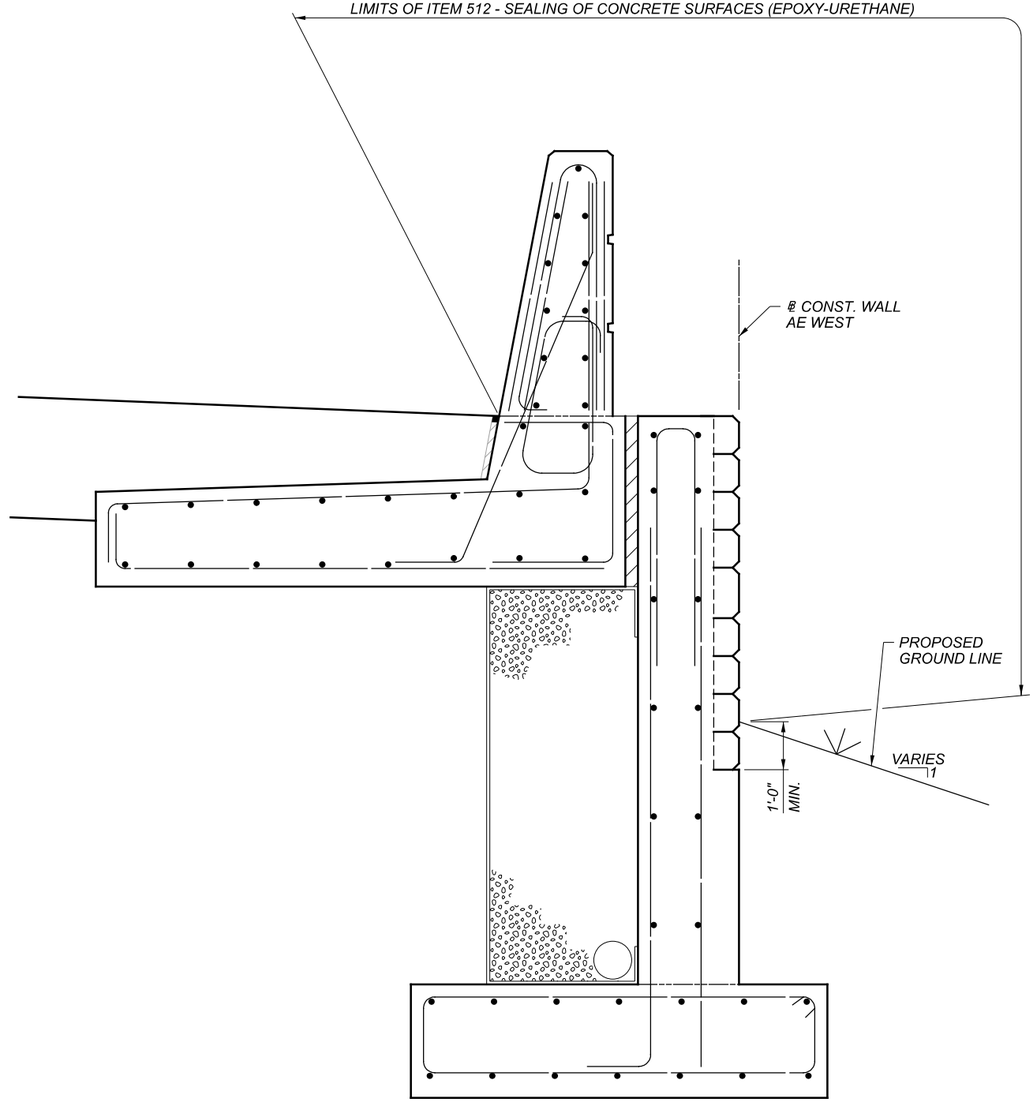
SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	JFM
CHECKER	JMK
REVIEWER	DWL 06/16/22
PROJECT ID	82382
SUBSET	8
TOTAL	22
SHEET	1009
TOTAL	2339

CUY-90-16.28 (CCG3A)



TYPICAL SECTION WITH TYPE D BARRIER

(STA. 0+30.00 TO STA. 1+47.84)



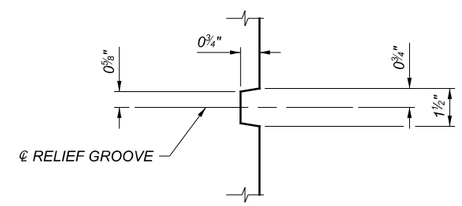
TYPICAL SECTION WITHOUT TYPE D BARRIER

(STA. 1+47.84 TO STA. 2+38.17)

(FOR DETAILS NOT SHOWN SEE TYPICAL SECTION WITH TYPE D BARRIER)

NOTES:

1. FOR ADDITIONAL DETAILS OF THE WALL LAYOUT AND DIMENSIONS , SEE SHEETS 4 AND 5 OF 22.
2. FOR RETAINING WALL REINFORCING DETAILS, SEE SHEET 6 OF 22.
3. 1" PREFORMED EXPANSION JOINT FILLER SHALL EXTEND UP BETWEEN CAST-IN-PLACE MOMENT SLAB AND THE ASPAHLT PAVEMENT TO THE ELEVATION OF 1" BELOW THE FINAL SURFACE OF THE PAVEMENT.
4. FOR ADDITIONAL PARAPET DETAILS, SEE ODOT STANDARD DRAWING SBR-1-20.
5. SEE THE ROADWAY PLANS FOR CONCRETE CAP AND P.E.J.F. DETAILS AND PAYMENT INFORMATION.



DETAIL A

CAST-IN-PLACE WALL SECTIONS WALL AE (WEST) ALONG SOUTH SIDE OF RAMP A1

SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	JFM
CHECKER	JMK
REVIEWER	DWL 06/16/22
PROJECT ID	82382
SUBSET	9
TOTAL	22
SHEET	1010
TOTAL	2339

CUY-90-16.28 (CCG3A)

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
USE	•	•	•	•	•	•	•	•	•	•
THIS										
COLUMN										
TO										
MATCH										
TEXT										
&										
"SNAP"										
TO										
POINT										
ELEMENT										
AT TOP										
OF										
COLUMN										
TO										
PLACE										
NEW										
TEXT										

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH TWO OR THREE LETTERS OR NUMBERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

   EXAMPLE: SA1001
   SA = SUPERSTRUCTURE BAR
   10 = #10 BAR
   01 = BAR SEQUENCE NUMBER 1
3. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
4. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
5. RAD INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
6. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
7. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
8. SPIRAL REINFORCING BARS: THE "LENGTH" SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE LENGTH ALONG THE AXIS OF THE SPIRAL. PROVIDE ONE AND ONE-HALF CLOSED-COIL TURNS AT THE ENDS OF EACH SPIRAL UNIT.

LEGEND:

* = REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT, EXCEPT AT PIER COLUMNS, WHERE BAR LENGTH IS MEASURED TO THE CENTER OF THE MECHANICAL CONNECTOR. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

S.O. = SERIES OF

REINFORCING STEEL LIST
WALL AE (WEST)
ALONG SOUTH SIDE OF RAMP A1

SFN
N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JFM	JMK

REVIEWER
DWL 06/16/22

PROJECT ID
82382

SUBSET	TOTAL
10	22

SHEET	TOTAL
1011	2339

CUY-90-16.28 (CCG3A)

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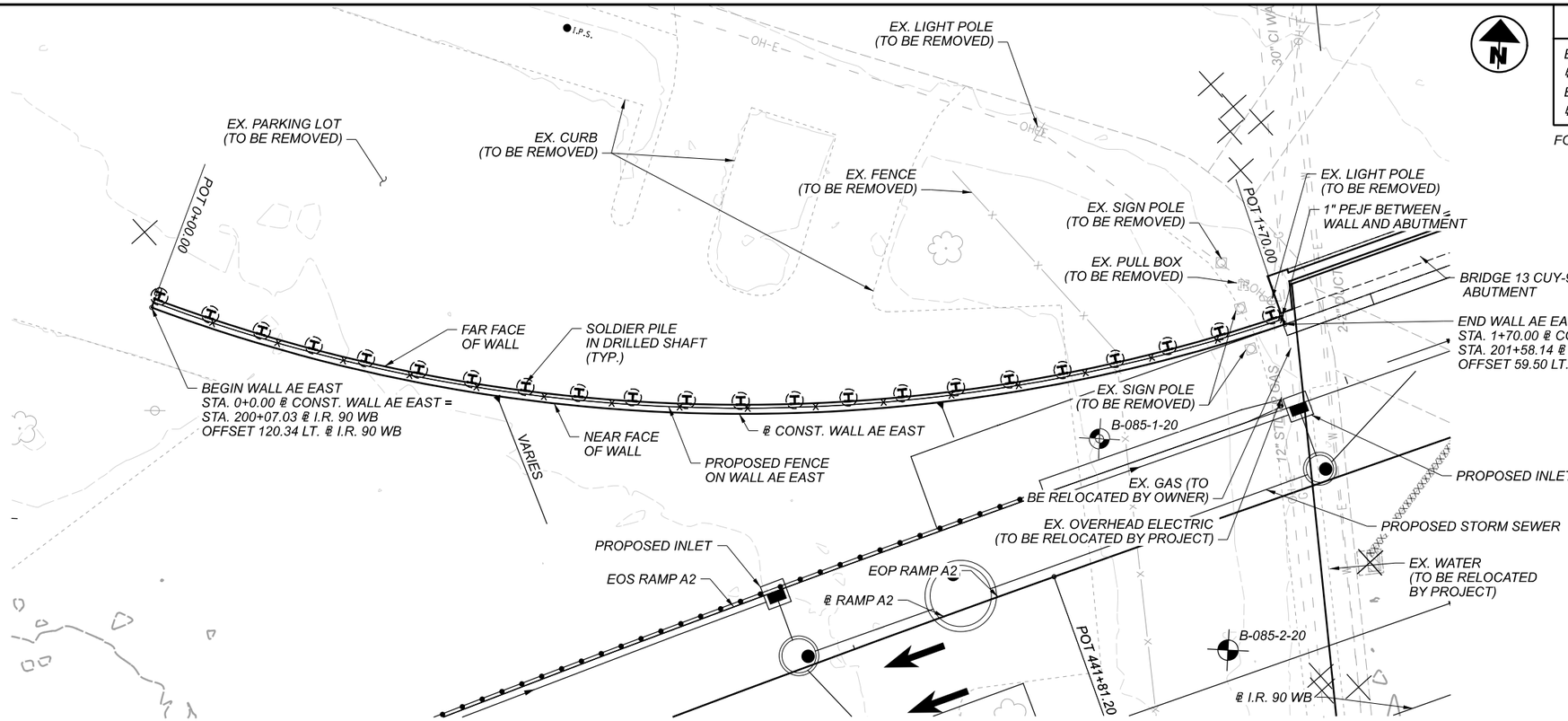


PLAN

BENCHMARK DATA

BM #54 STA. 201+85.03, ELEV. 672.54, OFFSET 199.82' RT., ℄ I.R. 90 WB, CUT CROSS ON FIRE HYDRANT
BM #73 STA. 198+78.07, ELEV. 674.06, OFFSET 308.67' LT., ℄ I.R. 90 WB, CUT CROSS ON TRAFFIC SIGNAL POLE

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLANS.

℄ CONST. WALL AE EAST CURVE DATA

P.I. STA. = 0+88.47
Δ = 39°07'54" LT.
Dc = 23°01'07"
R = 248.91'
T = 88.47'
L = 170.00'
E = 15.25'

LEGEND:

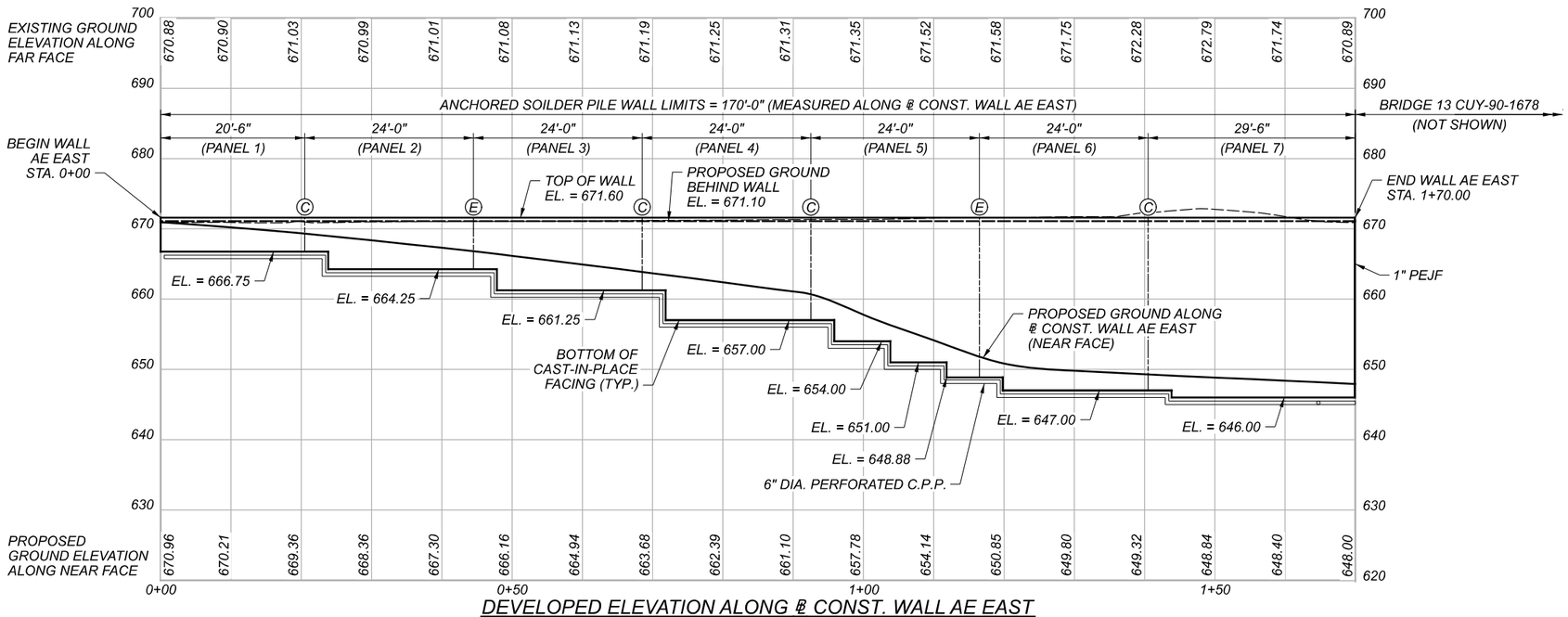
= HISTORIC BORING LOCATION

= BORING LOCATION

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER
Ⓒ = CONTRACTION JOINT
Ⓔ = EXPANSION JOINT

BORING LOCATION

BORING	STATION	OFFSET	TOP OF ROCK EL.
B-085-1-20	1+39.81	9.08' RT.	-
B-085-2-20	1+50.17	43.61' RT.	-



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AE EAST

NOTES:

1. SOLDIER PILES AND ANCHORS NOT SHOWN IN PROFILE FOR CLARITY.
2. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
3. WALL ALIGNMENT IS DEFINED ALONG THE NEAR FACE OF WALL.
4. AFTER CONSTRUCTION OF WALL AE EAST, EXCAVATIONS IN FRONT OF WALL MAY NOT BE LOWER THAN EL. 636.00.
5. REGRADE PROPOSED GROUND BEHIND WALL AT A SLOPE OF 4H:1V MAX. AS NEEDED. PAYMENT FOR GRADING SHALL BE INCLUDED WITH ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN.

WALL PLAN AND PROFILE
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JFM	BCS

REVIEWER DWL 06/17/22

PROJECT ID 82382

SUBSET	TOTAL
11	22

SHEET	TOTAL
1012	2339

CUY-90-16.28 (CCG3A)

MODEL: 82382_AE_WP004 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:34:01 AM USER: Kathy.Johnson
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STRUCTURE GENERAL NOTES:

REFER TO THE FOLLOWING STANDARD DRAWINGS:

VPF-1-90 REVISED 07-20-2018

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800 DATED 05-02-22
866 DATED 04-21-2017

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, 2019 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA:

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

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

MAINTENANCE OF TRAFFIC:

SEE THE ROADWAY PLANS FOR MAINTENANCE OF TRAFFIC REQUIREMENTS.

CONCRETE COVER FOR REINFORCING STEEL:

MINIMUM CONCRETE COVER FOR ALL REINFORCING BARS SHALL BE TWO INCHES (2") UNLESS SHOWN OTHERWISE IN THE PLANS.

ADDITIONAL SOILS INFORMATION:

IN ADDITION TO THE SOIL BORING INFORMATION GIVEN IN THE PLANS, THE STRUCTURE FOUNDATION EXPLORATION REPORT NO. _____ PREPARED BY NATIONAL ENGINEERING AND ARCHITECTURAL SERVICES (NEAS), INC. DATED __/__/2022 HAS BEEN INCLUDED FOR REFERENCE.

SEQUENCE OF CONSTRUCTION:

SEE MOT NOTES IN ROADWAY PLANS.

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 CM&S 503, EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

THE SOLDIER PILE WALL SHALL BE CONSTRUCTED IN A TOP-DOWN MANNER. EXCAVATION OF 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 ¼ INCH TO ½ 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 CUBIC YARD CONTACT PRICE FOR ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN.

ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES HP12x74
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 A709 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.

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.

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

THIS ITEMS CONSIST 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.

STEEL STUDS SHALL BE WELDED ACCORDING TO CM&S 513.22 AND AS SHOWN ON THE PLANS TO THE FRONT FLANGES ON 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.

FORM LINERS (ARCHITECTURAL TREATMENT WITH AESTHETIC PATTERNS) SHALL BE PROVIDED AS SHOWN ON THE LANDSCAPE PLANS.

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 ½ INCH PREFORMED EXPANSION JOINT FILLER, DOWELS AT JOINTS, BOND BREAKER AT DOWELS AT EXPANSION JOINTS, NON-BITUMINOUS JOINT SEALER AT THE JOINTS, WELDED STUD CONNECTORS AND FORM LINERS.

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

THE ADDITIONAL 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, 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.

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.

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 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 TANGENT SHAFTS, INCLUDING THE CANTILEVER PORTION AT THE END OF THE WALL. PLACE THE SIDE FACED WITH 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 THE EDGES OF THE PGD AND 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 INSTRUSION. 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 IT 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. WHERE A WALL HAS WEEPHOLES FOR DRAINAGE, ENSURE WATER CAN DRAIN FROM THE PGD TO THE WEEPHOLE. IF NECESSARY, CUT A HOLE IN THE CORE TO ALLOW DRAINAGE OR USE A WEEPHOLE FITTING FROM THE PGD MANUFACTURER. DO NOT CUT GEOTEXTILE.

ITEM 524 - DRILLED SHAFTS, 30" 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 SHAFTS. 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 PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

WALL GENERAL NOTES SHEET 1 OF 2
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
BCS	JAA

REVIEWER
DWL 06/17/22

PROJECT ID
82382

SUBSET	TOTAL
12	22

SHEET	TOTAL
1013	2339

CUY-90-16.28 (CCG3A)

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STRUCTURE GENERAL NOTES (CONTINUED):

ITEM 524 - DRILLED SHAFTS, 30" DIAMETER ABOVE BEDROCK, AS PER PLAN (CONTINUED):
USE CLASS QC1 CONCRETE ACCORDING TO C&MS 511 TO FILL THE HOLE TO THE TOP OF THE DRILLED SHAFT (ELEVATION "A"). THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDING THE DEPTH OF WATER IN THE SHAFT IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. PORING THE CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND THE ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO 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. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

ITEM 607 - VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN:
INSTALL VANDAL PROTECTION FENCE ACCORDING TO BRIDGE STANDARD 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 SPECIAL - RETAINING WALL, TIMBER LAGGING:
THIS ITEM CONSISTS OF FURNISHING AND INSTALLING UNTREATED HARDWOOD LAGGING TO SERVE AS TEMPORARY LAGGING FOR THE SOLDIER PILE WALL. THE LAGGING SHALL CONSIST OF HARDWOOD TIMBER WITH 3 INCH BY 8 INCH DIMENSIONS AND SHALL BE OF A GRADE AND TYPE WITH AN ALLOWABLE EXTREME FIBER STRESS IN BENDING OF A MINIMUM OF 1 KSI. THE TIMBER MATERIAL SHALL BE DOUGLAS FIR-LARCH DENSE NO. 1, SELECT STRUCTURAL OR DENSE SELECT STRUCTURAL. THE WOOD SHALL BE SEASONED, SOUND, AND FREE FROM DECAY AND INSECT ATTACK, WITH NO LOOSE AND/OR CLUSTER KNOTS. THE ENDS OF THE TIMBER SHALL BE SAWED SQUARE WITH THE AXIS OF THE TIMBER. THE TIMBER MEMBERS SHALL ALSO CONFORM TO 711.26 OF THE ODOT SPECIFICATIONS. PROVIDE CERTIFICATION THAT THE TIMBER CONFORMS TO THE GRADE, SPECIES AND OTHER SPECIFIED REQUIREMENTS.

LAGGING SHALL BE PLACED IN A TOP-DOWN MANNER AS EXCAVATION PROCEEDS DOWNWARD. AT NO TIME SHOULD MORE THAN 3 FOOT OF UNSUPPORTED EXCAVATION BE PERMITTED. REDUCE THE UNSUPPORTED HEIGHT AS NECESSARY TO PREVENT CAVING AND SLOUGHING OF THE SOILS BETWEEN THE SOLDIER PILES. PROVIDE ¼ INCH TO1#2 INCH WOOD SPACERS TO PROVIDE HORIZONTAL JOINT SPACING BETWEEN THE LAGGING BOARDS TO PERMIT DRAINAGE.

HARDWOOD SHIMMING SHALL BE USED AS NEEDED TO MAINTAIN THE POSITIONING OF THE TIMBER MEMBERS AGAINST THE INTERIOR FLANGE FACE OF THE SOLDIER PILE DURING CONSTRUCTION OF THE RETAINING WALL SYSTEM. NO SHIM SHALL EXTEND BEYOND THE FLANGE OF THE H-PILE MORE THAN ¼ INCH AND NO SHIM SHALL EXTEND BEYOND THE TOP FACE OF THE TOP LAGGING.

THE DEPARTMENT WILL MEASURE THE TEMPORARY HARDWOOD LAGGING BY THE NUMBER OF SQUARE FEET. PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS (INCLUDING HARDWOOD SHIMMING AND WOOD SPACERS) NECESSARY TO FURNISH AND INSTALL THE TEMPORARY HARDWOOD LAGGING.

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. - CONTRUCTION 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

WALL GENERAL NOTES SHEET 2 OF 2
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN
N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
BCS	JAA

REVIEWER
DWL 06/17/22

PROJECT ID
82382

SUBSET	TOTAL
13	22

SHEET	TOTAL
1014	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:35:01 AM USER: Kathy.Johnson
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ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REFERENCE
503	21301		LS	UNCLASSIFIED EXCAVATION, AS PER PLAN	
507	00400		FT	STEEL PILES, MISC.: HP 12X74	
507	00400		FT	STEEL PILES, MISC.: HP 14X73	
509	10000		LB	EPOXY COATED REINFORCING STEEL	
511	46011		CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN CAST-IN-PLACE CONCRETE FACING WITH QC/QA	
512	10001		SY	SEALING OF CONCRETE SURFACES, AS PER PLAN PERMANENT GRAFFITI PROTECTION	12 OF 22
512	10101		SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	12 OF 22
512	33001		SY	TYPE 2 WATERPROOFING, AS PER PLAN	12 OF 22
516	13200		SY	½" PREFORMED EXPANSION JOINT FILLER	
516	13600		SF	1" PREFORMED EXPANSION JOINT FILLER	
518	20000		SY	PREFABRICATED GEOCOMPOSITE DRAIN	
518	21200		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
518	40000		FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
518	40012		FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE	
524	94603		FT	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN	
607	39911		FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 30 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 45 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 55 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 60 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 70 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 75 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 80 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 90 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 100 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 105 KIP FACTORED DESIGN LOAD	18 OF 22
866	00101		EACH	GROUND ANCHOR, AS PER PLAN 110 KIP FACTORED DESIGN LOAD	18 OF 22
866	00300		LS	INVESTIGATIVE ANCHOR PULLOUT TESTS	
866	00400		EACH	PERFORMANCE TEST	
866	00500		EACH	EXTENDED CREEP TEST	
SPECIAL	53051020		SF	RETAINING WALL, TIMBER LAGGING	13 OF 22

ESTIMATED QUANTITIES
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN
N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JMK	SCA

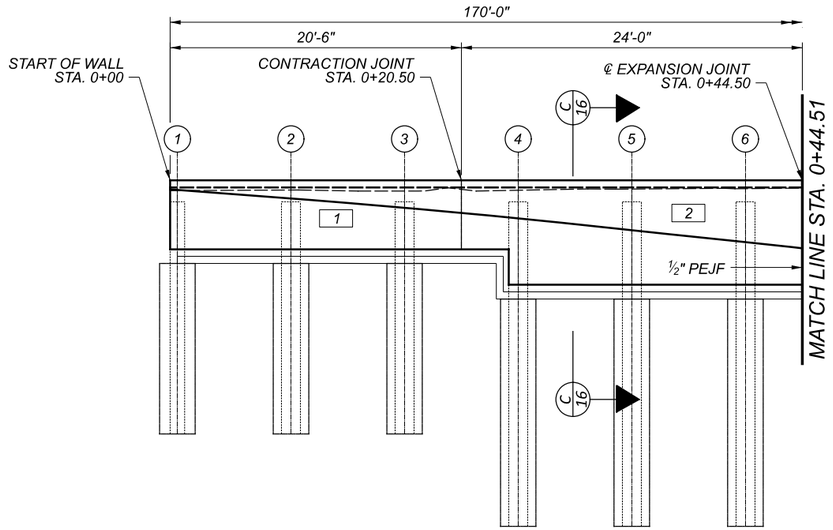
REVIEWER
DWL 06/17/22

PROJECT ID
82382

SUBSET	TOTAL
14	22

SHEET	TOTAL
1015	2339

CUY-90-16.28 (CCG3A)



DEVELOPED WALL ELEVATION

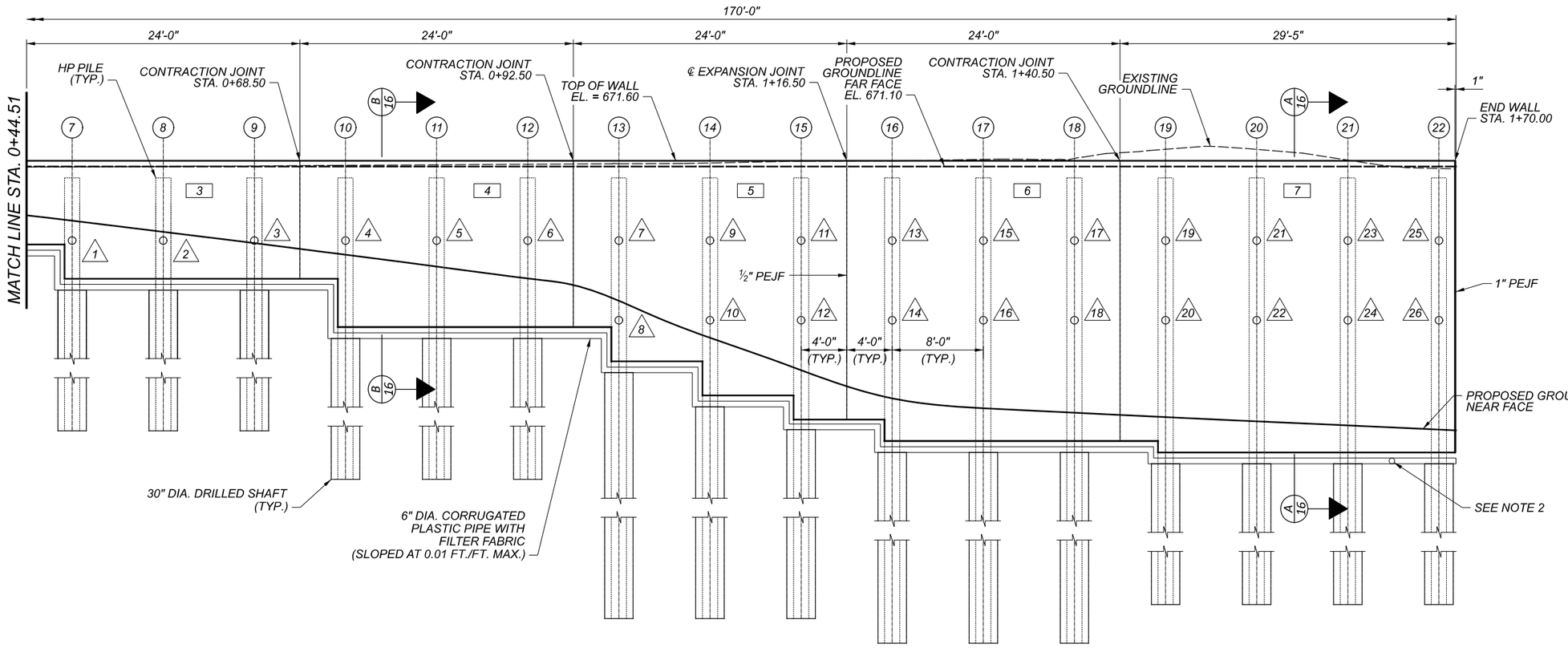
(FROM SOLDIER PILE NO. 1 THRU NO. 6)

NOTES:

1. ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG THE BASELINE CONSTRUCTION WALL AE EAST.
2. OUTLET BY THE WAY OF NON-PERFORATED CORRUGATED PLASTIC PIPE INTO CATCH BASIN CB-3A. PIPE TO BE SLOPED AT 0.01 FT/FT MAX.
3. VANDAL PROTECTION FENCE IS NOT SHOWN.

LEGEND:

- [#] = WALL PANEL NUMBER
- (#) = DRILLED SHAFT /SOLDIER PILE NUMBER
- ○ = ANCHOR
- △# = ANCHOR NUMBER



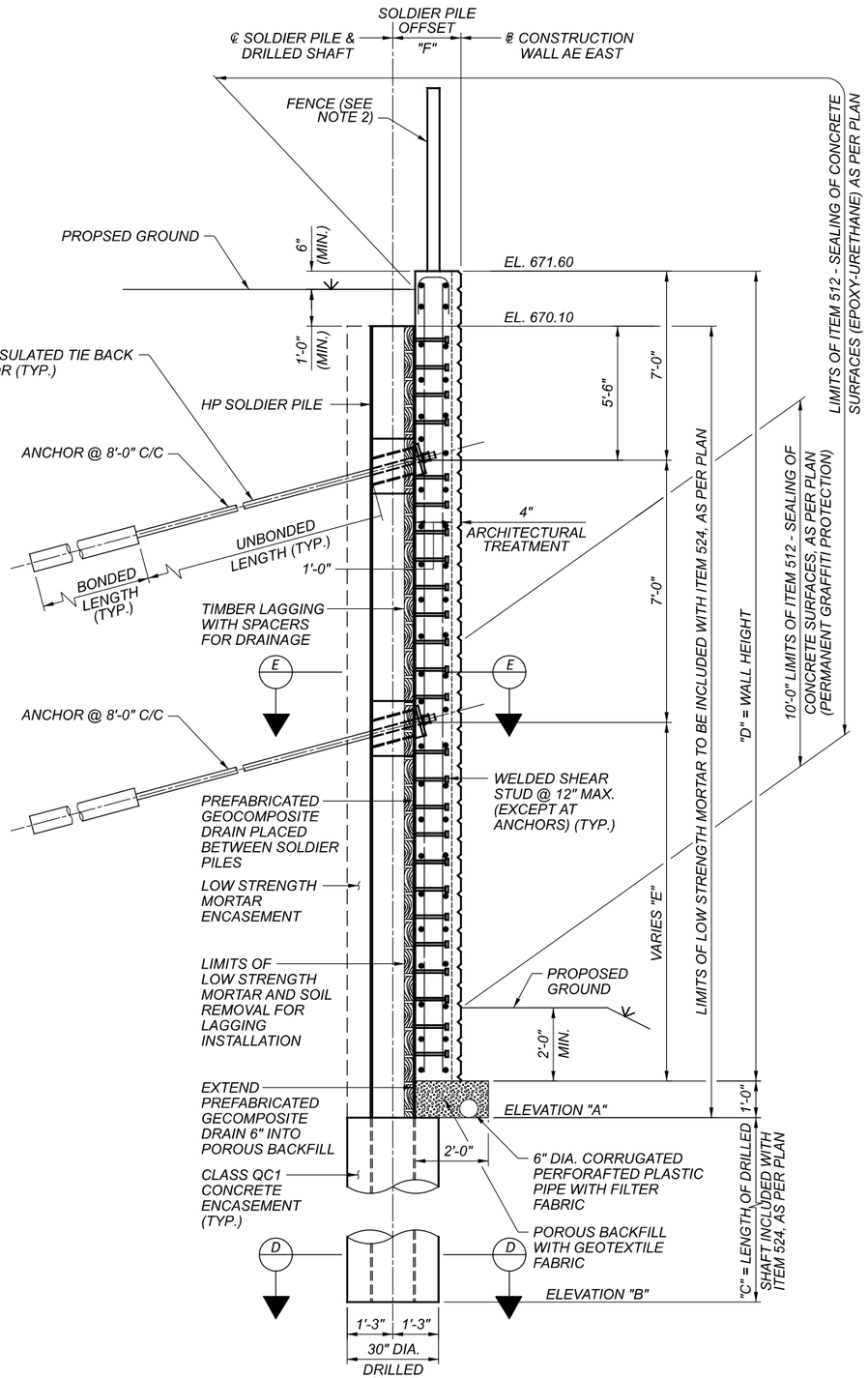
DEVELOPED WALL ELEVATION

(FROM SOLDIER PILE NO. 7 THRU NO. 22)

ANCHORED SOLDIER PILE WITH LAGGING WALL ELEVATION
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

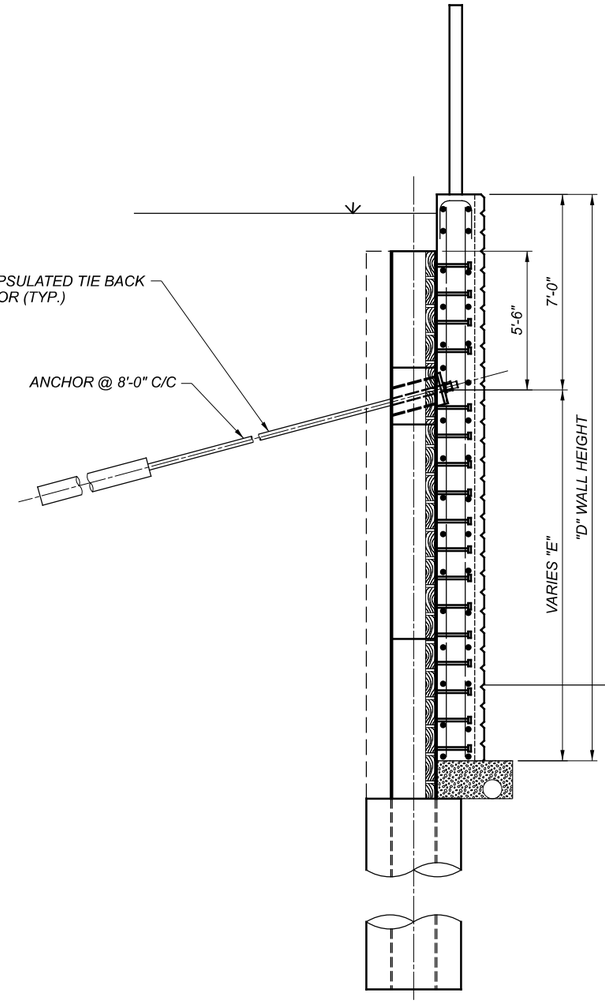
SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	JMK
CHECKER	JFM
REVIEWER	DWL 6/17/22
PROJECT ID	82382
SUBSET	15
TOTAL	22
SHEET	1016
TOTAL	2339

CUY-90-16.28 (CCG3A)



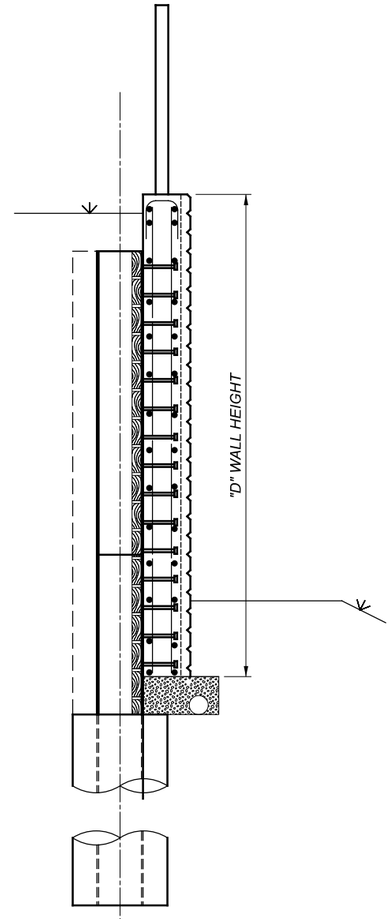
SECTION A-A - PANELS 5-7

(2 ANCHORS)



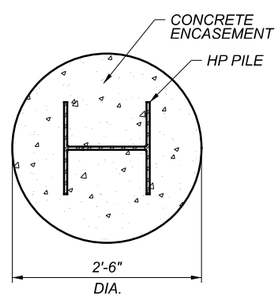
SECTION B-B - PANELS 3-4

(1 ANCHOR)
(SEE SECTION A-A FOR CALLOUTS AND INFORMATION NOT SHOWN)

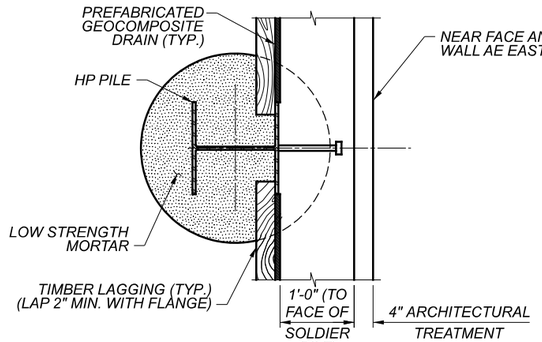


SECTION C-C - PANELS 1

(NO ANCHORS)
(SEE SECTION A-A FOR CALLOUTS AND INFORMATION NOT SHOWN)



SECTION D-D



SECTION E-E

NOTES:

1. TERMINATE PREFABRICATED GEOCOMPOSITE DRAIN AT LEAST 6" INTO POROUS BACKFILL.
2. FENCE SHALL BE BLACK 8'-0" STRAIGHT VINYL-COATED CHAIN LINK. SEE NOTE ON SHEET 13/22 AND DETAILS ON SHEET 21/22 .

ANCHORED SOLDIER PILE WITH LAGGING WALL TYPICAL SECTION ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST. WALL AE (EAST)

SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	JMK
CHECKER	JFM
REVIEWER	DWL 6/17/22
PROJECT ID	82382
SUBSET	16
TOTAL	22
SHEET	1017
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:35:22 AM USER: Kathy.Johnson
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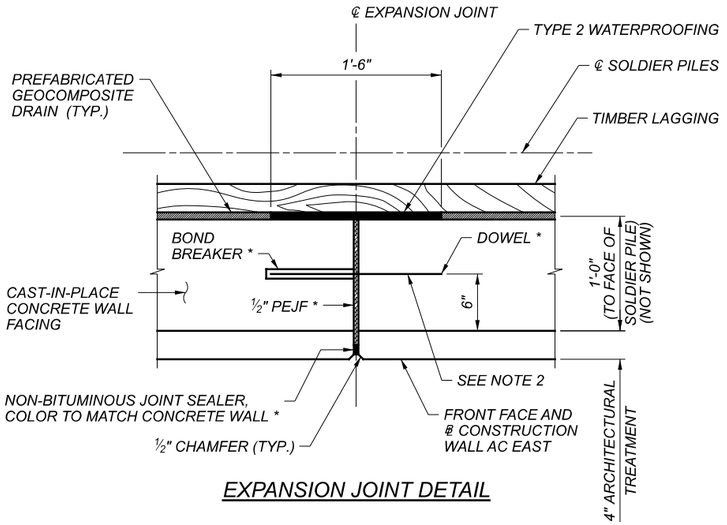
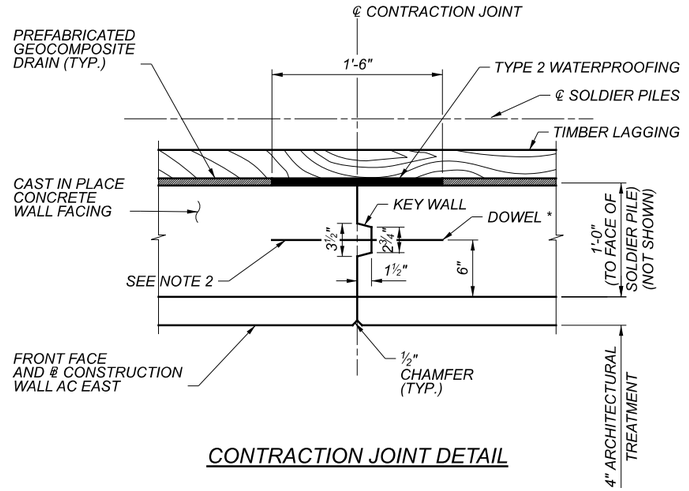
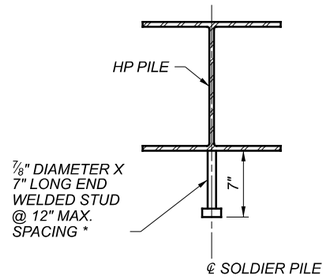


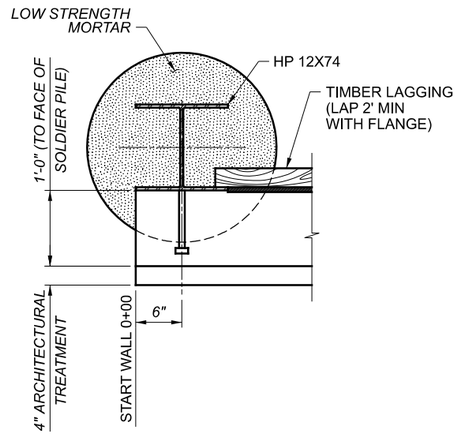
EXPANSION JOINT DETAIL



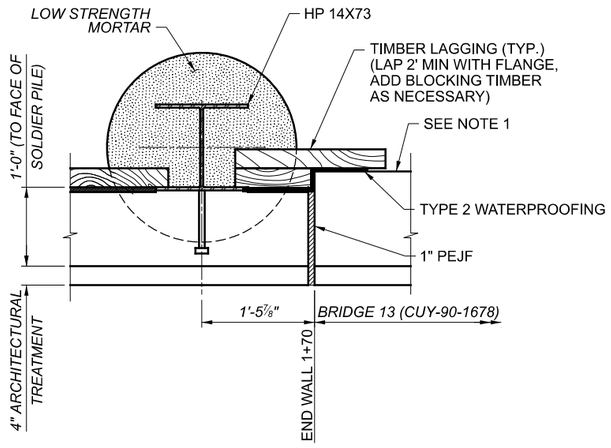
CONTRACTION JOINT DETAIL



STUD DETAIL



START WALL DETAIL



END WALL DETAIL

LEGEND:

** = INCLUDE WITH ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN FOR PAYMENT.*

NOTES:

1. *THIS FACE VARIES AS WILL SIT FLUSH WITH THE BACK FACE OF CAST-IN-PLACE WALL BELOW ELEVATION 660.50. ADD BLOCKING TIMBER AS NEEDED TO SPAN TRANSITION BETWEEN THE WALL AND BRIDGE ABUTMENT.*
2. *DOWELS SHALL BE NO. 5 EPOXY COATED REINFORING AND 18" IN LENGTH CENTERED ABOUT THE JOINT. DOWELS SHALL BE PLACED VERTICALLY EVERY 12"*

ANCHORED SOLDIER PILE WITH LAGGING WALL DETAILS-1
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	JMK
CHECKER	JFM
REVIEWER	DWL 6/17/22
PROJECT ID	82382
SUBSET	17
TOTAL	22
SHEET	1018
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:38:28 AM USER: Kathy.Johnson
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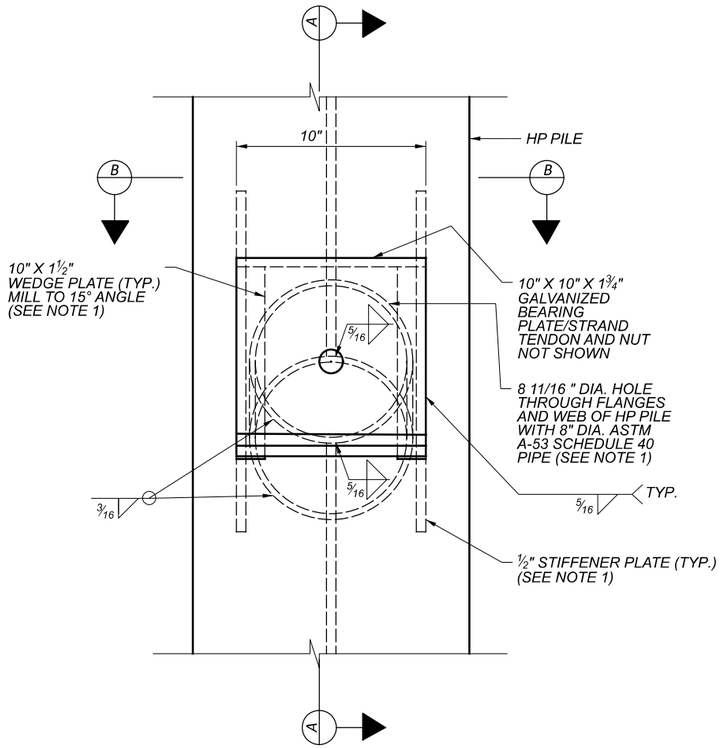
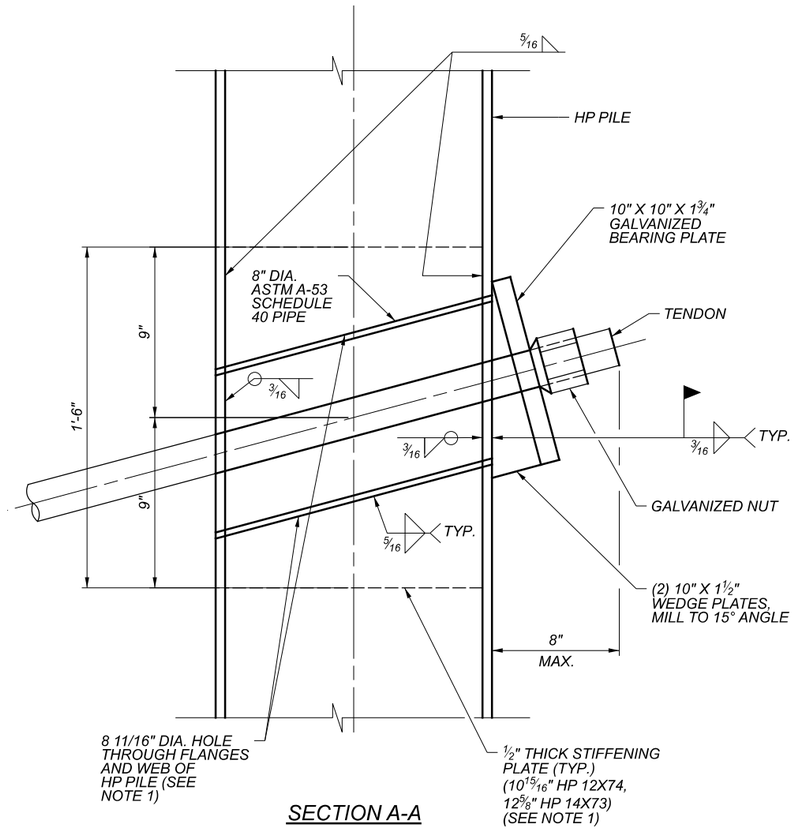
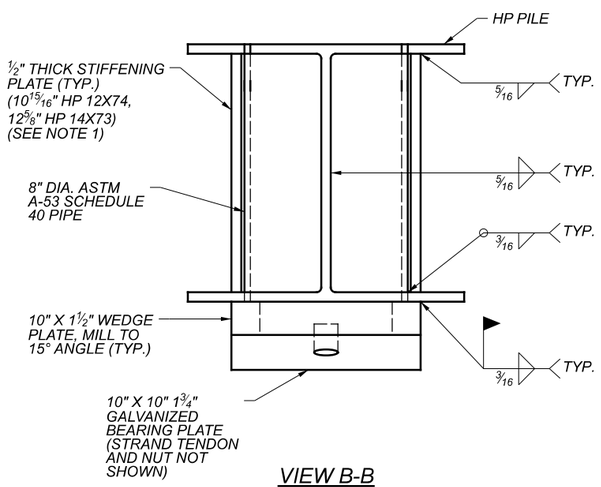


ANCHOR DETAIL



SECTION A-A



VIEW B-B

NOTES:

1. SOLDIER PILES SHALL BE PRE-FABRICATED WITH THE ANCHOR DETAIL SHOWN BEFORE INSTALLATION INTO THE DRILLED CONCRETE SHAFT. BEARING PLATES, WEDGE PLATES, STIFFENERS, STEEL TRUMPET PIPE, GALVANIZING, AND ANY ADDITIONAL ANCHOR MODIFICATIONS TO THE SOLDIER PILES ARE INCLUDED WITH THE APPROPRIATE ITEM 866 - GROUND ANCHOR, AS PER PLAN FOR PAYMENT.

ANCHORED SOLDIER PILE WITH LAGGING WALL DETAILS - 2
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	JMK
CHECKER	JFM
REVIEWER	DWL 6/17/22
PROJECT ID	82382
SUBSET	18
TOTAL	22
SHEET	1019
TOTAL	2339

CUY-90-16.28 (CCG3A)
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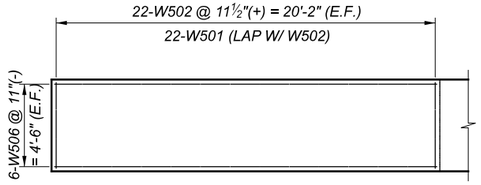
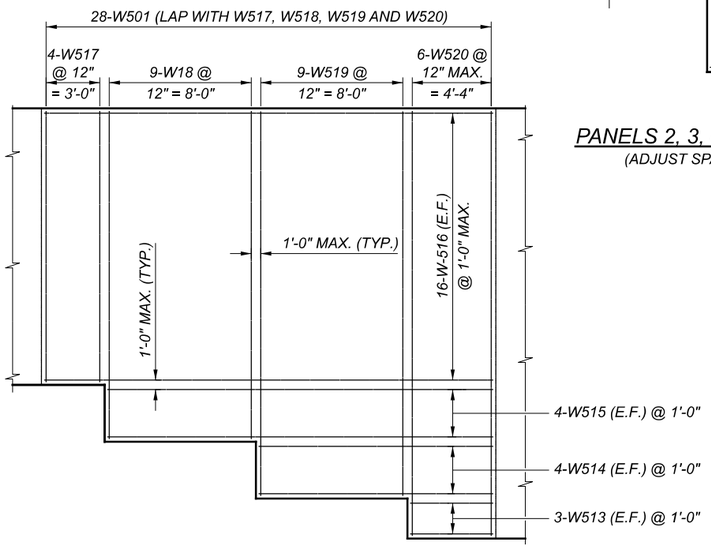


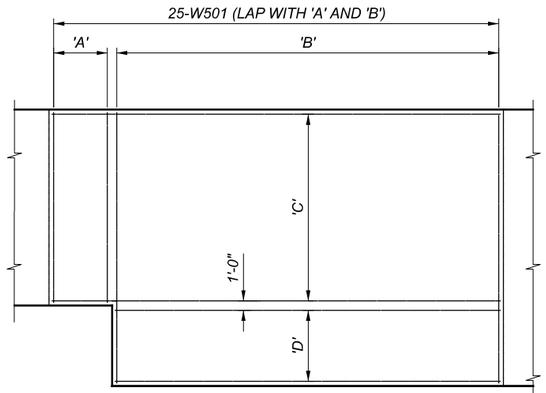
PANEL 1 REINFORCING LAYOUT ELEVATION

(ADJUST SPACING AROUND STUDS AS NECESSARY)



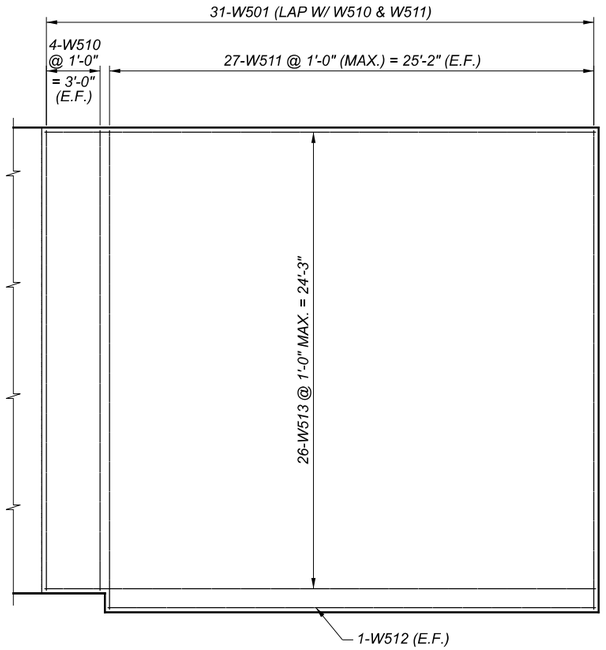
PANEL 5 REINFORCING LAYOUT ELEVATION

(ADJUST SPACING AROUND ANCHORS AND STUDS)



PANELS 2, 3, 4, AND 6 REINFORCING LAYOUT ELEVATION

(ADJUST SPACING AROUND ANCHORS AND STUDS AS NECESSARY)



PANEL 7 REINFORCING LAYOUT ELEVATION

(ADJUST SPACING AROUND ANCHORS AND STUDS AS NECESSARY)

PANEL 2	A	4-W502 @ 1'-0" = 3'-0" (E.F.)
	B	22-W503 @ 1'-0" MAX. = 20'-4" (E.F.)
	C	6-W509 @ 1'-0" MAX. = 4'-6" (E.F.)
	D	3-W506 @ 1'-0" MAX. = 2'-6" (E.F.)
PANEL 3	A	4-W503 @ 1'-0" = 3'-0" (E.F.)
	B	22-W504 @ 1'-0" MAX. = 20'-4" (E.F.)
	C	8-W509 @ 1'-0" = 7'-0" (E.F.)
	D	4-W506 @ 1'-0" = 3'-0" (E.F.)
PANEL 4	A	4-W504 @ 1'-0" = 3'-0" (E.F.)
	B	22-W505 @ 1'-0" MAX. = 20'-4" (E.F.)
	C	11-W509 @ 1'-0" = 10'-0" (E.F.)
	D	5-W506 @ 1'-0" = 4'-0" (E.F.)
PANEL 6	A	4-W508 @ 1'-0" = 3'-0" (E.F.)
	B	22-W510 @ 1'-0" MAX. = 20'-4" (E.F.)
	C	24-W509 @ 1'-0" MAX. = 22'-2" (E.F.)
	D	2-W507 @ 1'-0" = 1'-0" (E.F.)

LEGEND:

E.F. = EACH FACE

NOTES:

1) HORIZONTAL DIMENSIONS ARE GIVEN ALONG ℄ CONST. WALL AE EAST.

ANCHORED SOLDIER PILE WITH LAGGING REINFORCING LAYOUT ELEVATION
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JMK	JFM

REVIEWER DWL 6/17/22

PROJECT ID 82382

SUBSET	TOTAL
19	22

SHEET	TOTAL
1020	2339

CUY-90-16.28 (CCG3A)

LOCATION AND ELEVATION DATA TABLE												
PANEL	SOLDIER PILE NUMBER	BASELINE AE (EAST) SOLDIER PILE STATION	BASELINE I.R. 90 WB SOLDIER PILE STATION *	BASELINE I.R. 90 WB SOLDIER PILE OFFSET *	TOP OF DRILLED SHAFT ELEVATION "A"	PILE TIP ELEVATION "B"	LENGTH OF DRILLED SHAFT "C" (FT)	WALL HEIGHT "D" (FT)	ANCHOR SPACING "E" (FT)	SOLDIER PILE OFFSET "F" (IN)	SOLDIER PILE SHAPE	SOLDIER PILE LENGTH (FT)
1	1	0+00.51	200+07.39	125.73	665.75	647.75	18	4.85	N/A	22.05	HP12X74	22.35
1	2	0+08.51	200+13.13	114.71	665.75	647.75	18	4.85	N/A	22.05	HP12X74	22.35
1	3	0+16.51	200+19.05	109.63	665.75	647.75	18	4.85	N/A	22.05	HP12X74	22.35
2	4	0+24.51	200+25.14	104.76	663.25	640.25	23	7.35	N/A	22.05	HP12X74	29.85
2	5	0+32.51	200+31.41	100.12	663.25	640.25	23	7.35	N/A	22.05	HP12X74	29.85
2	6	0+40.51	200+37.83	95.71	663.25	640.25	23	7.35	N/A	22.05	HP12X74	29.85
3	7	0+48.51	200+44.41	91.53	660.25	637.25	23	10.35	3.35	22.05	HP12X74	32.85
3	8	0+56.51	200+51.14	87.59	660.25	637.25	23	10.35	3.35	22.05	HP12X74	32.85
3	9	0+64.51	200+58.00	83.89	660.25	637.25	23	10.35	3.35	22.05	HP12X74	32.85
4	10	0+72.51	200+64.99	80.45	656.00	620.00	36	14.60	7.60	22.05	HP12X74	50.10
4	11	0+80.51	200+72.11	77.26	656.00	620.00	36	14.60	7.60	22.05	HP12X74	50.10
4	12	0+88.51	200+79.34	74.32	656.00	620.00	36	14.60	7.60	22.05	HP12X74	50.10
5	13	0+96.51	200+86.67	71.65	653.00	613.00	40	17.60	3.60	22.80	HP14X73	57.10
5	14	1+04.51	200+94.09	69.25	650.00	610.00	40	20.60	6.60	22.80	HP14X73	60.10
5	15	1+12.51	201+01.60	67.11	647.88	607.88	40	22.72	8.72	22.80	HP14X73	62.22
6	16	1+20.51	201+09.18	65.25	646.00	606.00	40	24.60	10.60	22.80	HP14X73	64.10
6	17	1+28.51	201+16.91	63.65	646.00	606.00	40	24.60	10.60	22.80	HP14X73	64.10
6	18	1+36.51	201+24.80	62.32	646.00	606.00	40	24.60	10.60	22.80	HP14X73	64.10
7	19	1+44.51	201+32.72	61.24	645.00	615.00	30	25.60	11.60	22.80	HP14X73	55.10
7	20	1+52.51	201+40.68	60.41	645.00	615.00	30	25.60	11.60	22.80	HP14X73	55.10
7	21	1+60.51	201+48.66	59.84	645.00	615.00	30	25.60	11.60	22.80	HP14X73	55.10
7	22	1+68.51	201+56.65	59.53	645.00	615.00	30	25.60	11.60	22.80	HP14X73	55.10

ANCHOR TABLE					
ANCHOR	PANEL	PILE	REQUIRED MINIMUM TIEBACK UNBONDED LENGTH (FT)	TIEBACK ANCHOR FACTORED DESIGN LOAD (FDL) (KIPS)	LOCK-OFF LOAD (KIPS)
1	3	7	20	60	45
2	3	8	20	60	45
3	3	9	20	60	45
4	4	10	15	80	60
5	4	11	15	80	60
6	4	12	15	80	60
7	5	13	15	80	60
8	5	13	10	30	23
9	5	14	15	90	67
10	5	14	10	45	34
11	5	15	15	100	75
12	5	15	15	55	41
13	6	16	15	105	78
14	6	16	15	70	52
15	6	17	15	105	78
16	6	17	15	70	52
17	6	18	15	105	78
18	6	18	15	70	52
19	7	19	20	110	82
20	7	19	15	75	56
21	7	20	20	110	82
22	7	20	15	75	56
23	7	21	20	110	82
24	7	21	15	75	56
25	7	22	20	110	82
26	7	22	15	80	60

LEGEND:

* = *STATION AND OFFSET GIVEN WHERE ℄ PILE INTERSECTS BASELINE AE EAST*

ANCHORED SOLDIER PILE WITH LAGGING WALL DATA TABLES
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN N/A

DESIGN AGENCY

BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JMK	JFM

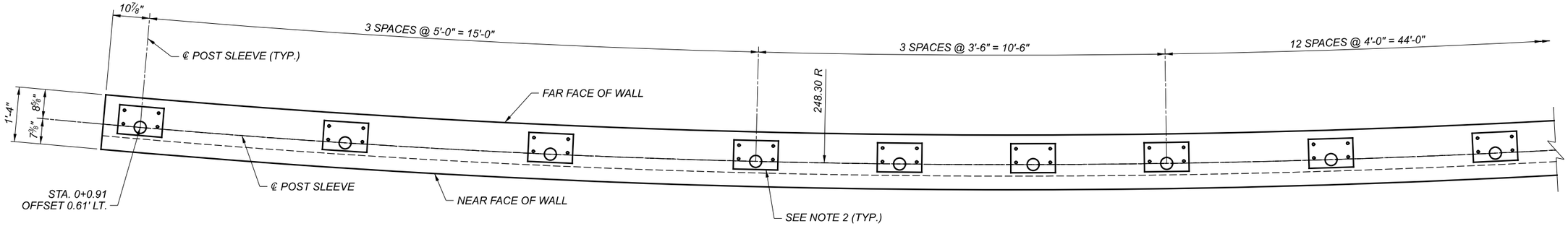
REVIEWER DWL 6/17/22

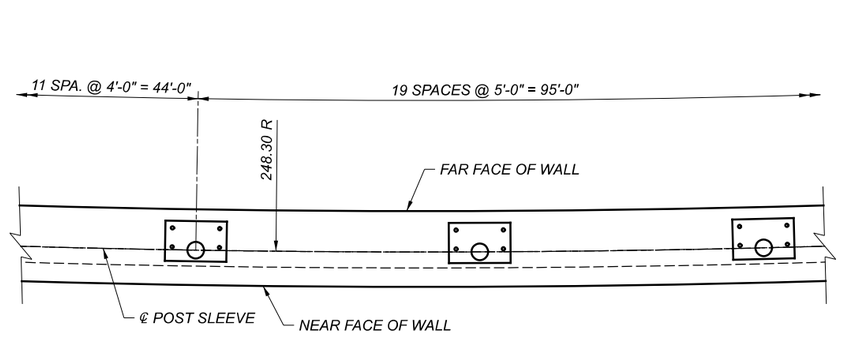
PROJECT ID 82382

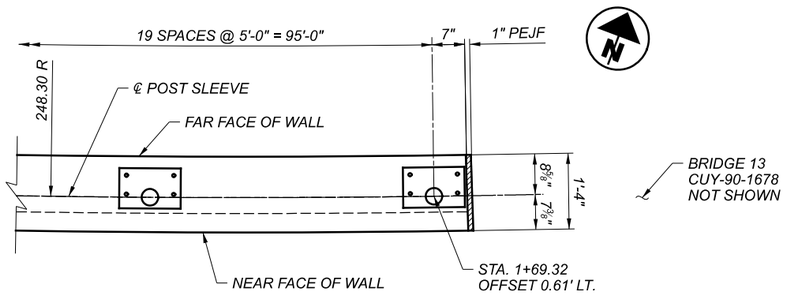
SUBSET	TOTAL
20	22

SHEET	TOTAL
1021	2339

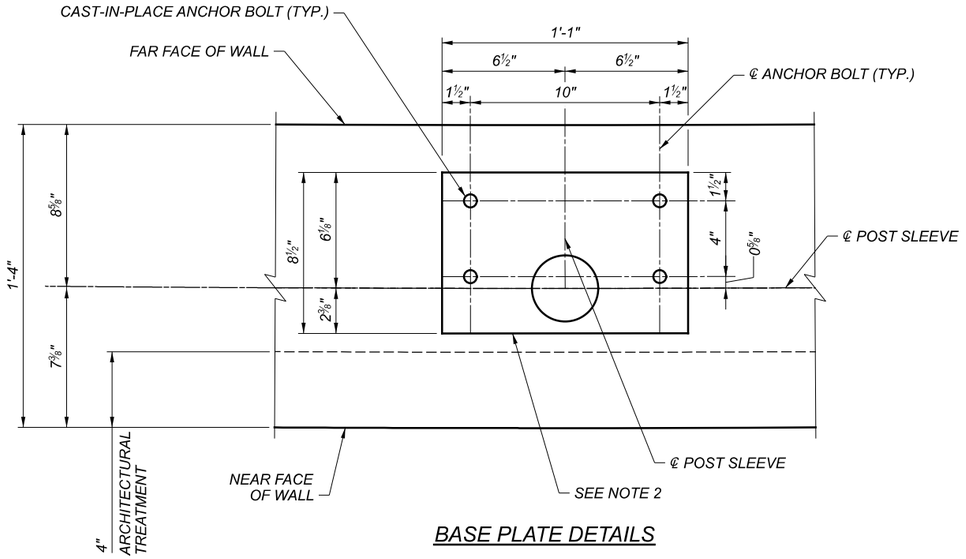
CUY-90-16.28 (CCG3A)







VANDAL PROTECTION FENCE BASE PLATE LAYOUT



BASE PLATE DETAILS

NOTES:

1. ALL STATIONS AND OFFSETS ARE GIVEN RELATIVE TO THE ℄ CONST. WALL AE EAST.
2. ALL BASE PLATES SHALL BE TYPE BP-1 BASE PLATES AS SHOWN ON STANDARD BRIDGE DRAWING VPF-1-90.
3. FENCING SHALL BE 8'-0" STRAIGHT FENCING. FOR ADDITIONAL DETAILS SEE STANDARD BRIDGE DRAWING VPF-1-90 AND NOTE ON SHEET 13 OF 22.
4. POST SPACING IS MEASURED ALONG THE ℄ POST SLEEVE
5. EXPANSION SLEEVES IN RAILS SHALL BE PROVIDED BETWEEN POSTS THAT SPAN THE WALL EXPANSION JOINTS. EXPANSION JOINTS OCCUR AT STATION 0+44.50 AND STATION 1+16.50. ALL OTHER EXPANSION SLEEVES SHALL BE PLACED PER STANDARD BRIDGE DRAWING VPF-1-90.

VANDAL PROTECTION FENCE DETAILS
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
BCS	JFM

REVIEWER: DWL 06/18/22

PROJECT ID: 82382

SUBSET	TOTAL
21	22

SHEET	TOTAL
1022	2339

CUY-90-16.28 (CCG3A)

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E/RAD.	INCR.
USE	•	•	•	•	•	•	•	•	•	•
THIS										
COLUMN										
TO										
MATCH										
TEXT										
&										
"SNAP"										
TO										
POINT										
ELEMENT										
AT TOP										
OF										
COLUMN										
TO										
PLACE										
NEW										
TEXT										

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH TWO OR THREE LETTERS OR NUMBERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

   EXAMPLE: SA1001
   SA = SUPERSTRUCTURE BAR
   10 = #10 BAR
   01 = BAR SEQUENCE NUMBER 1
3. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
4. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
5. RAD INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
6. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
7. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
8. SPIRAL REINFORCING BARS: THE "LENGTH" SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE LENGTH ALONG THE AXIS OF THE SPIRAL. PROVIDE ONE AND ONE-HALF CLOSED-COIL TURNS AT THE ENDS OF EACH SPIRAL UNIT.

LEGEND:

* = REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT, EXCEPT AT PIER COLUMNS, WHERE BAR LENGTH IS MEASURED TO THE CENTER OF THE MECHANICAL CONNECTOR. EXTRA BAR LENGTH AND/OR BAR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

S.O. = SERIES OF

REINFORCING STEEL LIST
WALL AE (EAST)
ALONG NORTH SIDE OF I.R. 90 NEAR RAMP A2 AND E. 22ND ST.

SFN
N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
JMK	JFM

REVIEWER
DWL 06/17/22

PROJECT ID
82382

SUBSET	TOTAL
22	22

SHEET	TOTAL
1023	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:35:59 AM USER: Kathy.Johnson
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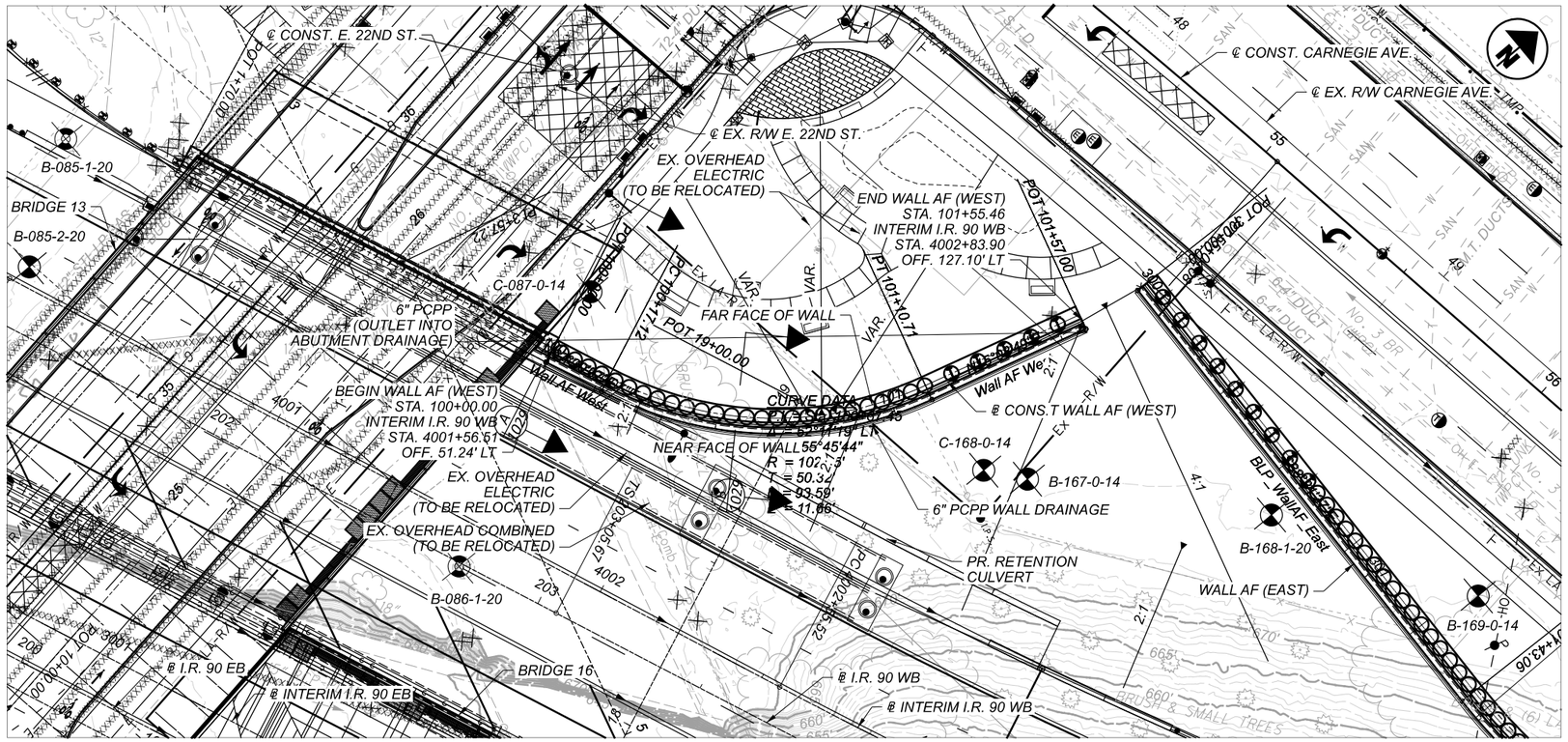
BENCHMARK DATA

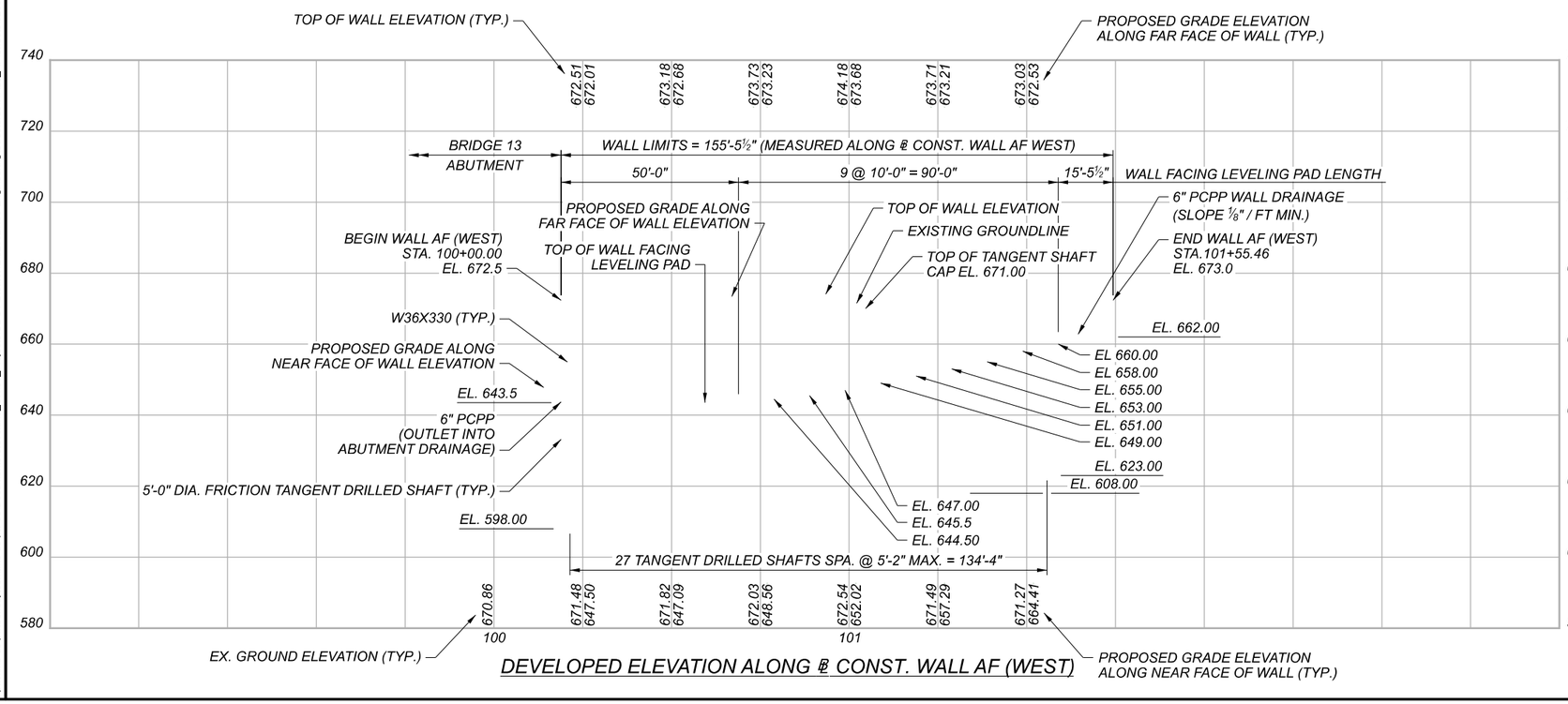
BM #54 STA. 33+01.73	ELEV. 672.54	OFFSET	46.13 RT.	CUT CROSS
BM #62 STA. 35+23.59	ELEV. 672.11	OFFSET	1165.82 LT.	RR SPIKE
BM #72 STA. 23+49.63	ELEV. 674.06	OFFSET	52.19 LT.	CUT CROSS
BM #73 STA. 37+10.17	ELEV. 671.90	OFFSET	403.44' LT.	CUT CROSS

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

<u>CURVE DATA</u>
P.I. = Sta. 100+67.06
Δ = 52°11'19" LT
Dc = 55°45'44"
R = 102.72'
T = 50.32'
L = 93.59'
E = 11.66'



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AF (WEST)

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR WALL CROSS SECTIONS, SEE SHEET / .
3. STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.

LEGEND

- HISTORIC BORING LOCATIONS
- PROJECT BORING LOCATIONS
- INSTRUMENTED BORING LOCATION

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL PLAN AND PROFILE (1 OF 2)
WALL AF
ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.

CUY-90-16.28 (CCG3A)

MODEL: Wall AF West - Wall AF Plan-5 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:36:45 AM USER: Kathy.Johnson
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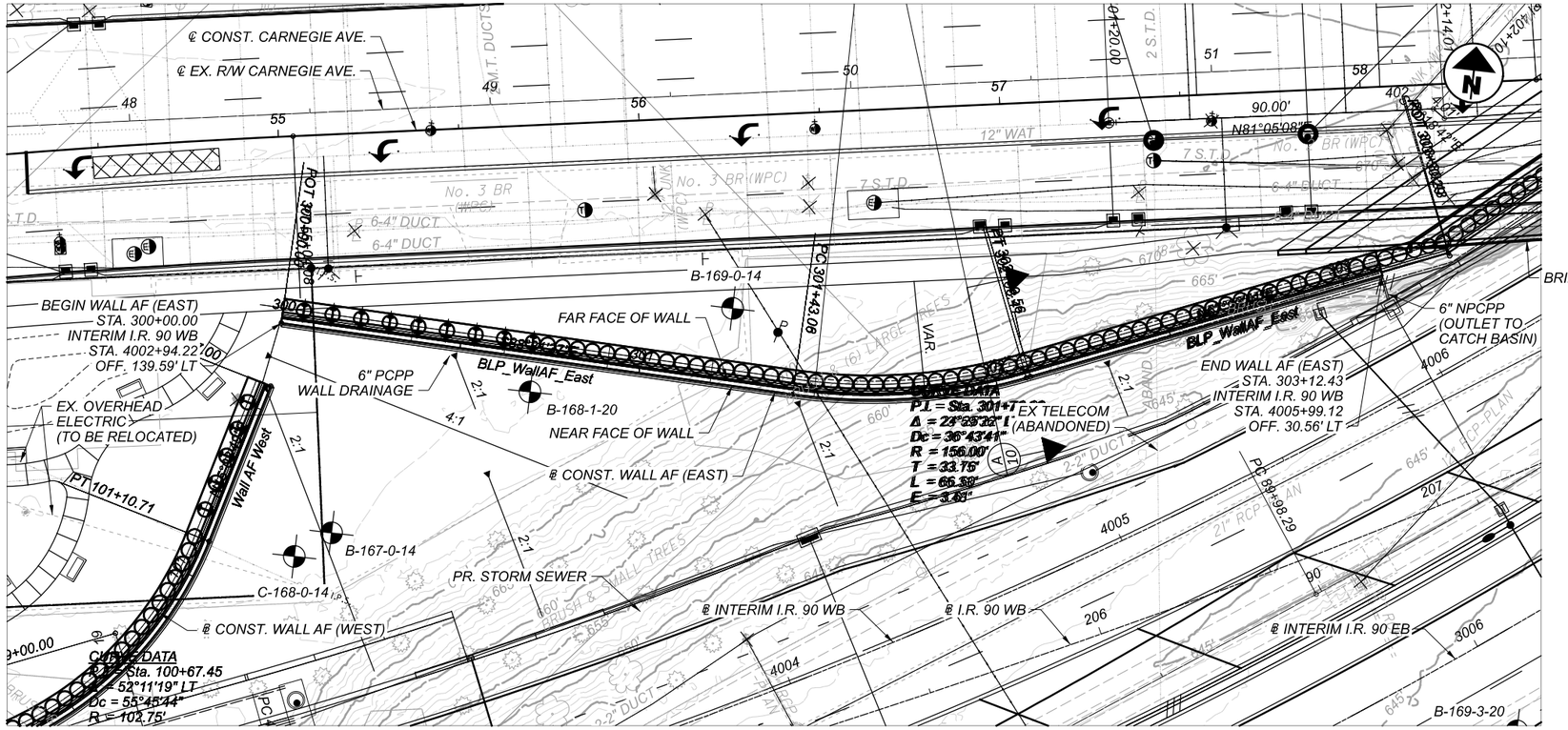
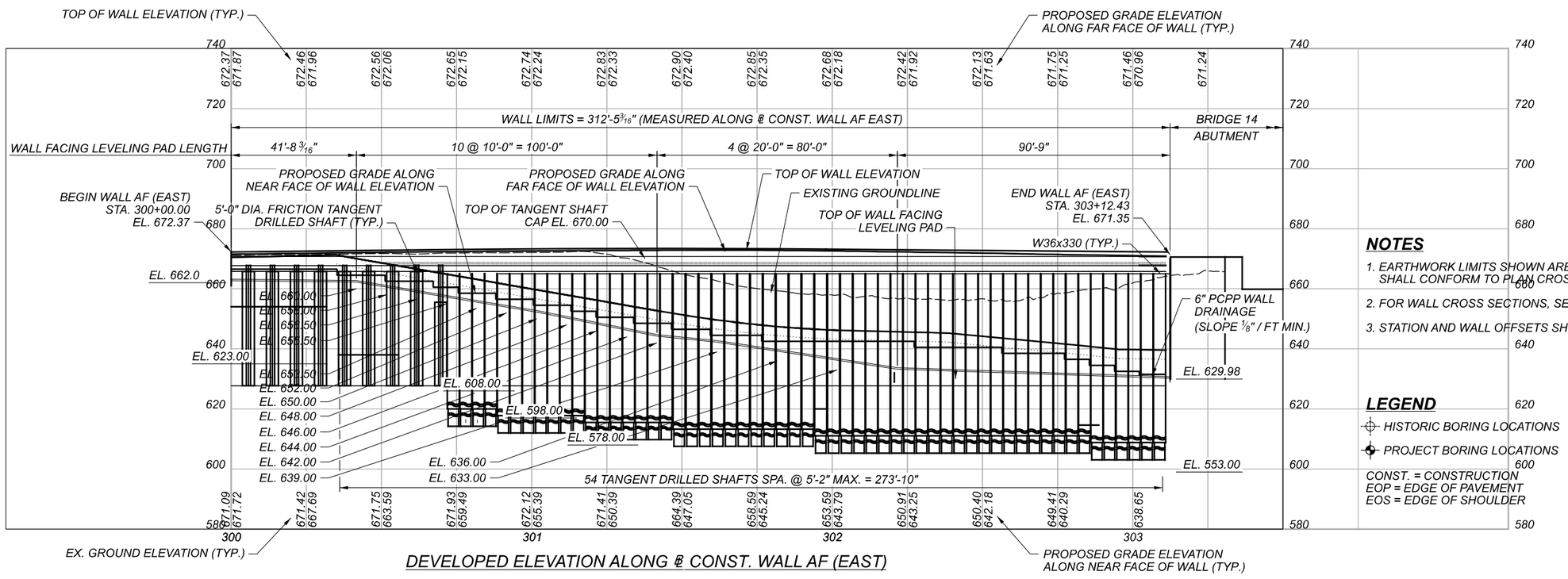
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CHECKER
—	—
REVIEWER	—
PROJECT ID	82382
SUBSET	TOTAL
1	14
SHEET	TOTAL
1024	2339



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AF (EAST)

BENCHMARK DATA

BM #62 STA.	41+38.42,	ELEV.	672.11,	OFFSET 75.42 LT.,	RR SPIKE
BM #64 STA.	58+35.86,	ELEV.	671.25,	OFFSET 47.90 LT.,	RR SPIKE
BM #65 STA.	66+35.73,	ELEV.	668.92,	OFFSET 38.62 RT.,	RR SPIKE
BM #73 STA.	49+25.90,	ELEV.	671.90,	OFFSET 31.86 LT.,	CUT CROSS

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

CURVE DATA
P.I. = Sta. 301+76.23
Δ = 23°59'36" LT
Dc = 36°43'41"
R = 156.00'
T = 33.15'
L = 65.33'
E = 3.48'

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR WALL CROSS SECTIONS, SEE SHEET / .
3. STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.

LEGEND

- HISTORIC BORING LOCATIONS
- PROJECT BORING LOCATIONS

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL PLAN AND PROFILE (2 OF 2)
WALL AF
ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.

CUY-90-16.28 (CCG3A)

MODEL: Wall AF East - Wall AF Plan 2-1 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:37:11 AM USER: Kathy.Johnson
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SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
CHECKER	—
REVIEWER	—
PROJECT ID	82382
SUBSET	2
TOTAL	14
SHEET	1025
TOTAL	2339

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.

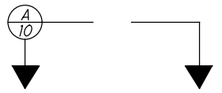
POSTS, PLATES, TIE WIRES, CAULK AND ADDITIONAL VISIBLE HARDWARE SHALL BE COLOR BLACK (FEDERAL STD. 595C #17038). FENCE FABRIC SHALL BE BLACK VINYL-COATED, CHAIN LINK STYLE. MOUNT FENCING TO TOP OF RETAINING WALL WITH CAST-IN-PLACE ANCHORS.

APPLICABLE ODOT CM&S SPECIFICATIONS

THE FOLLOWING WORK ITEMS SHALL BE CONSTRUCTED PER THE CM&S ITEMS LISTED BELOW.

ITEM NO.	ITEM DESCRIPTION
507	STEEL PILES, MISC.: SOLDIER PILES, W--x---
509	EPOXY COATED REINFORCING STEEL
511	CONCRETE, CLASS QC 1 WITH QC/QA
512	TYPE 2 WATERPROOFING, AS PER PLAN
512	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)
512	SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION
513	WELDED STUD SHEAR CONNECTORS
518	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS
518	STRUCTURE DRAINAGE, MISC.: PREFABRICATED GEOCOMPOSITE DRAIN
518	POROUS BACKFILL WITH FILTER FABRIC
524	DRILLED SHAFT, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN
607	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

SECTION/DETAIL/VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)

SCALE: ¼" = 1 FT
(SCALE WILL NOT PLOT)

(SECTION A CUT FROM SHEET 10)

PLAN ABBREVIATIONS:

ABUT. = ABUTMENT
APPR. = APPROACH
B = BOTTOM
℄ = BASELINE
B.F. = BACK FACE
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. = FRONT 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
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

FOR INFORMATION ONLY - NOT FOR REVIEW

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
SSW	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
4	14

SHEET	TOTAL
1026	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet (2 of 2) PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:37:33 AM USER: Kathy.Johnson
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FOR INFORMATION ONLY - NOT FOR REVIEW

SHEET 1027 / TOTAL 2339	SUBSET 4 / TOTAL 14	PROJECT ID 82382	REVIEWER —	DESIGNER SSW / CHECKER —	Michael Baker INTERNATIONAL	SFN DESIGN AGENCY N/A	WALL GENERAL NOTES (2 OF 2) WALL AF ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	SUBSTR	SUPERSTR	AS PER PLAN
509	10000	125,085	LB	EPOXY COATED REINFORCING STEEL			
511	45602	347	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA			
511	53010	541	CY	CLASS QC1 CONCRETE, MISC.: CONCRETE FACING			
513	20000	4,188	EACH	WELDED STUD SHEAR CONNECTORS			
518	40000	473	FT	6" PERFORATED CORRUGATED PLASTIC PIPE			
518	40010	5	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS			
524	94803	4,685	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK, AS PER PLAN			
524	94903	5,712	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN			
607	39910	469	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC			
840	26050	10,943	SF	AESTHETIC SURFACE TREATMENT			

FOR INFORMATION ONLY - NOT FOR REVIEW

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

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 3:55:55 PM USER: Shane.Weiss
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SFN
N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

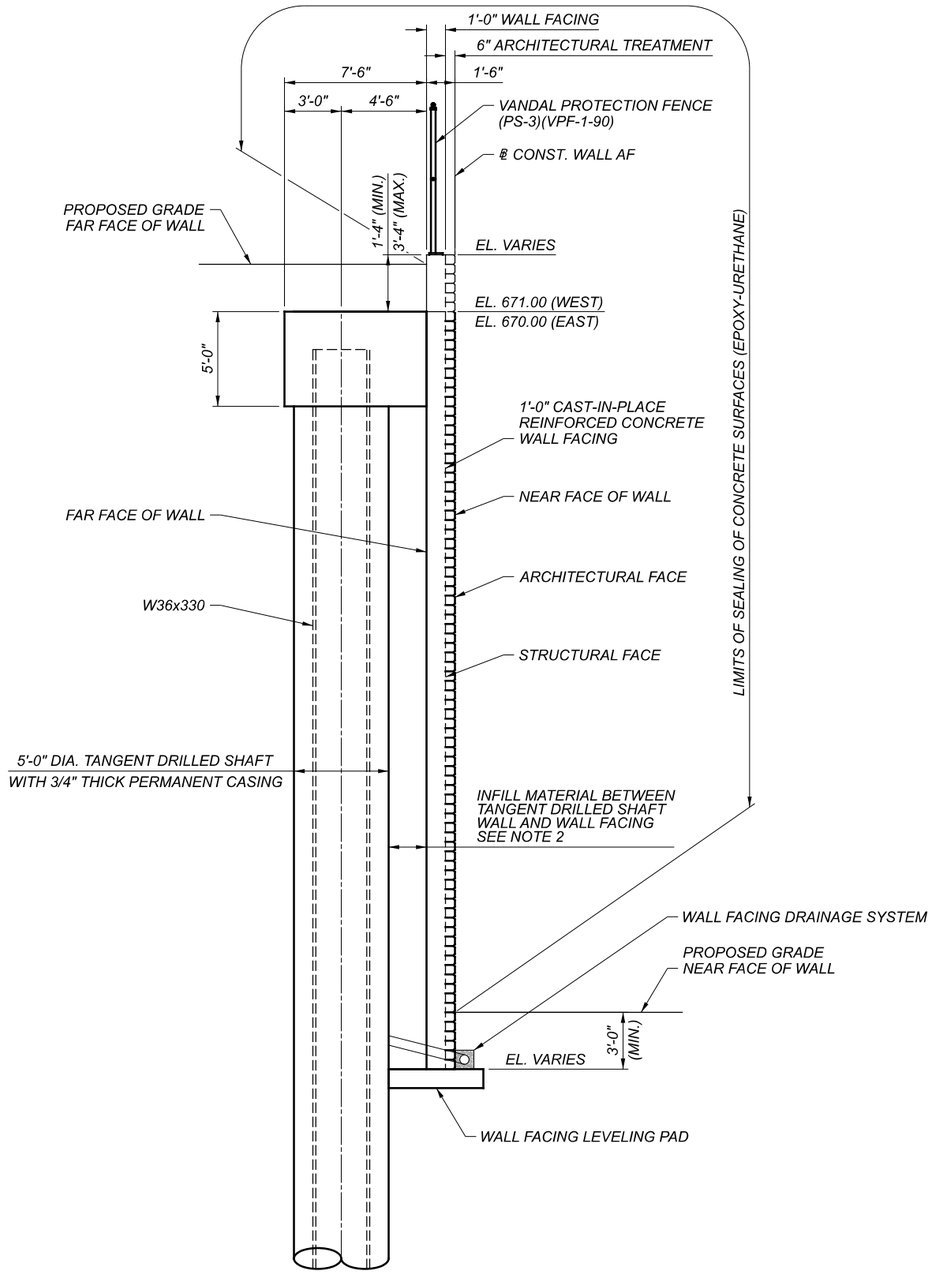
DESIGNER	CHECKER
SSW	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
5	14

SHEET	TOTAL
1028	2339



FRICTION TANGENT DRILLED SHAFT WALL TYP. SECTION

NOTES

1. WIDTH AND LOCATION OF SHAFT CAP SUBJECT TO CHANGE PENDING FINAL DESIGN OF TANGENT DRILLED SHAFT WALL.
2. INFILL MATERIAL WIDTH BETWEEN TANGENT DRILED SHAFTS AND WALL FACING SUBJECT TO CHANGE PENDING FINAL DESIGN OF TANGENT DRILLED SHAFT WALL.
3. WALL FACING MAY BE EITHER CIP OR PRECAST PENDING FINAL DESIGN EVALUATION.

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL TYPICAL SECTION (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	SSW
CHECKER	MKB
REVIEWER	— —
PROJECT ID	82382
SUBSET	6
TOTAL	14
SHEET	1029
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:37:55 AM USER: Kathy.Johnson
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MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:38:46 AM USER: Kathy.Johnson
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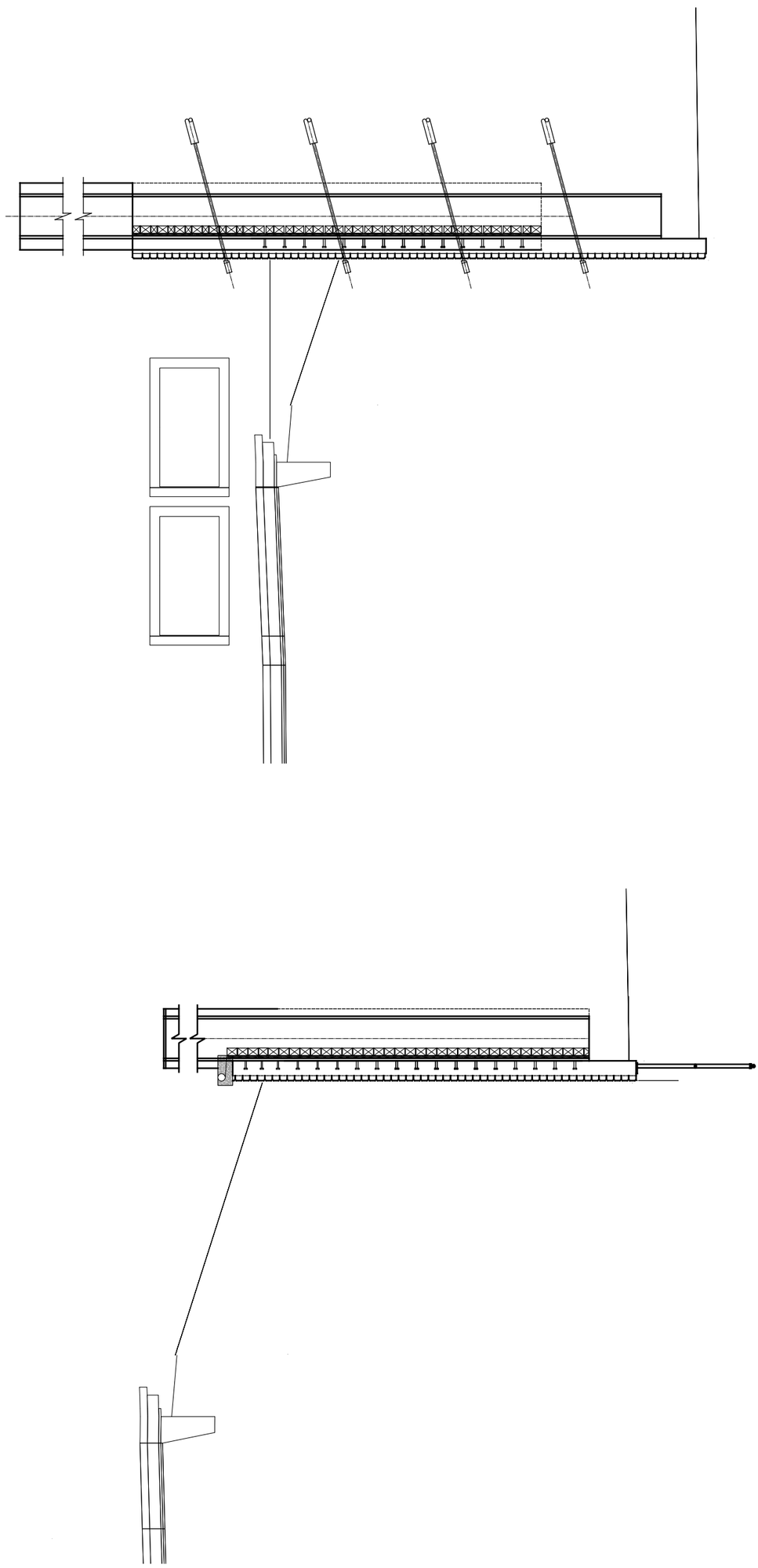
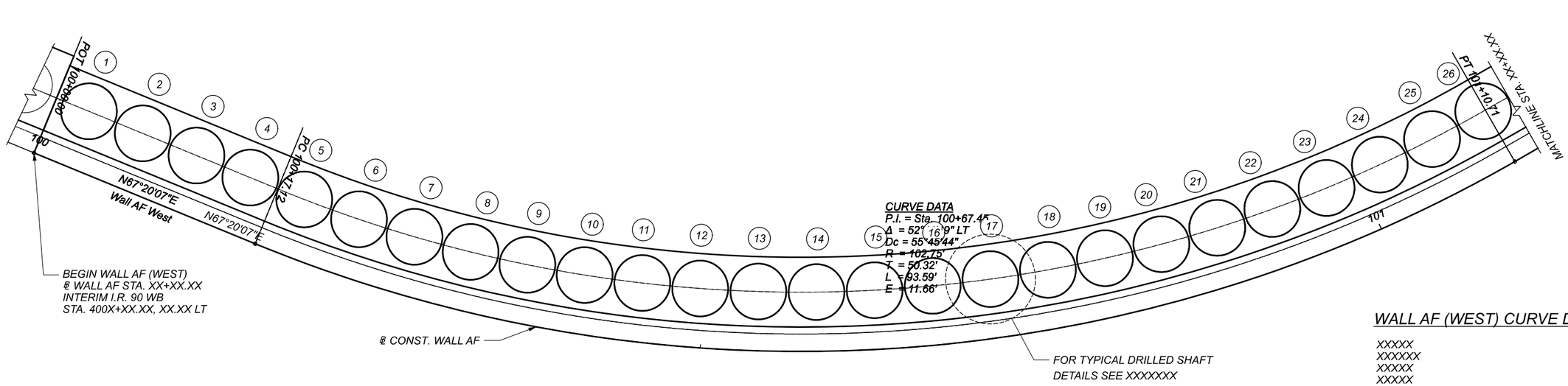


FOR INFORMATION ONLY - NOT FOR REVIEW

SHEET 1030	SUBSET 7	PROJECT ID 82382	REVIEWER —	DESIGNER SSW	CHECKER —	SFN N/A	WALL TYPICAL SECTION (2 OF 2) WALL AF ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.
TOTAL 2339	TOTAL 14					DESIGN AGENCY	

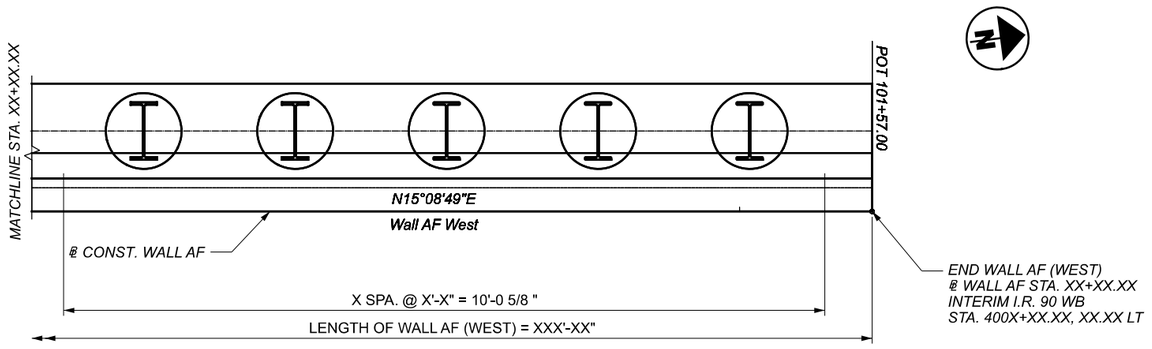


WALL AF (WEST) CURVE DATA:

XXXXX
XXXXXX
XXXXX
XXXXX

FOUNDATION PLAN - WALL AF (WEST)

(ALL DIMENSIONS ALONG FRONT FACE OF WALL)



FOUNDATION PLAN - WALL AF (WEST)

(ALL DIMENSIONS ALONG FRONT FACE OF WALL)

LEGEND:

(#) - DRILLED SHAFT NUMBER

NOTES:

1. FOR DRILLED SHAFT INFORMATION, SEE SHEET X/X

FOR INFORMATION ONLY - NOT FOR REVIEW

FOUNDATION PLAN (1 OF 2)
WALL AF
ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.

SFN	—NA—
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	—NA—
REVIEWER	— —
PROJECT ID	82382
SUBSET	8
TOTAL	14
SHEET	1031
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:39:25 AM USER: Kathy.Johnson
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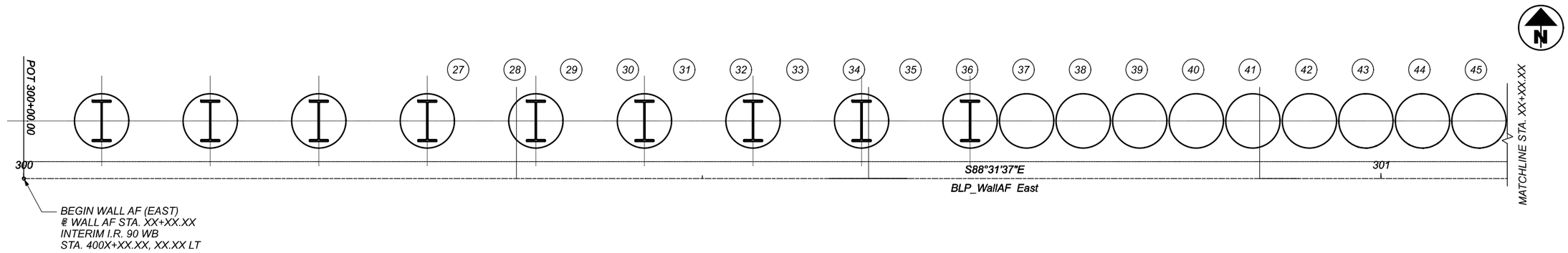
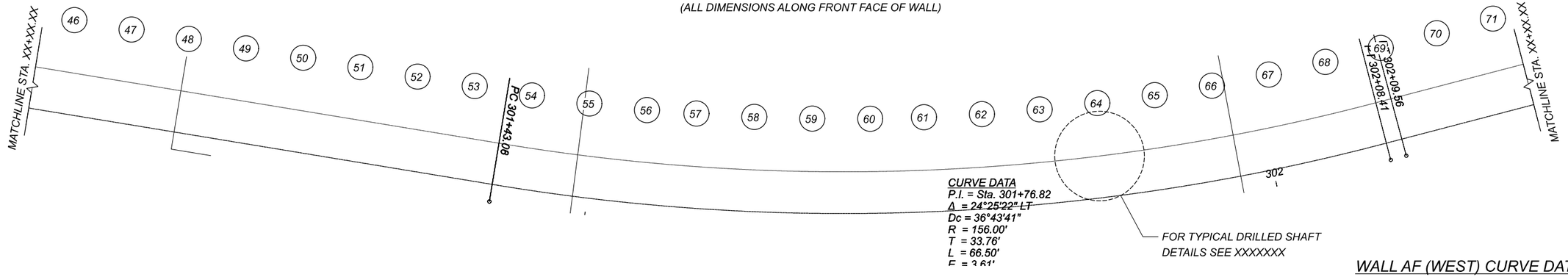


FOUNDATION PLAN - WALL AF (EAST)

(ALL DIMENSIONS ALONG FRONT FACE OF WALL)



CURVE DATA
P.I. = Sta. 301+76.82
Δ = 24°25'22" LT
Dc = 36°43'41"
R = 156.00'
T = 33.76'
L = 66.50'
E = 3.61'

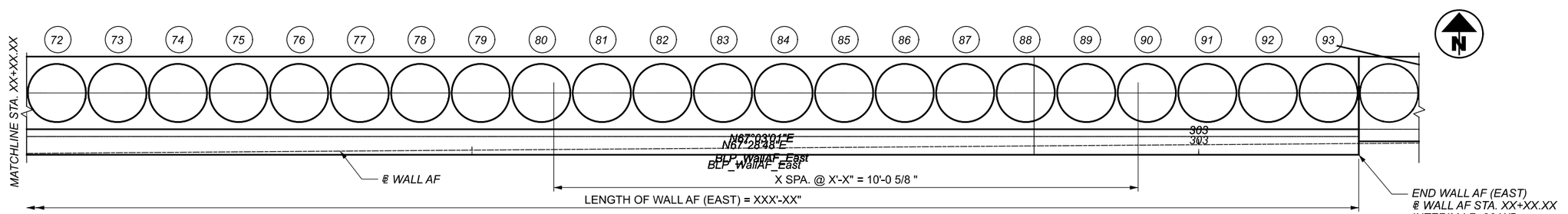
FOR TYPICAL DRILLED SHAFT
DETAILS SEE XXXXXXX

FOUNDATION PLAN - WALL AF (EAST)

(ALL DIMENSIONS ALONG FRONT FACE OF WALL)

WALL AF (WEST) CURVE DATA:

P.I. = Sta. 301+76.23
Δ = 23°59'36" LT
Dc = 36°43'41"
R = 156.00'
T = 33.15'
L = 65.33'
E = 3.48'



FOUNDATION PLAN - WALL AF (EAST)

(ALL DIMENSIONS ALONG FRONT FACE OF WALL)

LEGEND:

(#) - DRILLED SHAFT NUMBER

NOTES:

1. FOR DRILLED SHAFT INFORMATION, SEE SHEET X/X

FOR INFORMATION ONLY - NOT FOR REVIEW

FOUNDATION PLAN (2 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
SSW	—

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
9	14

SHEET	TOTAL
1032	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:39:45 AM USER: Kathy.Johnson
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WALL AH DRILLED SHAFT SCHEDULE									
DESIGNATION	STATION BASELINE WALL AF	CENTERLINE OFFSET FROM BASELINE WALL AF (FT.)	DIAMETER (IN.)	SHEAR STUDS (YES/NO)	BOTTOM OF DRILLED SHAFT EL. "A"	TOP OF SHAFT CONCRETE EL. "B"	CONCRETE SHAFT LENGTH (FT.)	BOTTOM OF WALL EL. "C"	TOP OF WALL EL. "D"
AFE01	300+32.23	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE02	300+36.40	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE03	300+40.56	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE04	300+44.73	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE05	300+48.90	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE06	300+53.06	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE07	300+57.23	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE08	300+61.40	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE09	300+65.56	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE10	300+69.73	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE11	300+73.90	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE12	300+78.06	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE13	300+82.23	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE14	300+86.40	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE15	300+90.56	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE16	300+94.73	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE17	300+98.90	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE18	301+03.06	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE19	301+07.23	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE20	301+11.40	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE21	301+15.56	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE22	301+19.73	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE23	301+23.90	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE24	301+28.06	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE25	301+32.23	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE26	301+36.40	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE27	301+40.56	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE28	301+44.78	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE29	301+49.06	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE30	301+53.34	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE31	301+57.63	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE32	301+61.91	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE33	301+66.19	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE34	301+70.47	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE35	301+74.76	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE36	301+79.04	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE37	301+83.32	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE38	301+87.60	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE39	301+91.89	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE40	301+96.17	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE41	302+00.45	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE42	302+04.73	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE43	302+08.94	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE44	302+13.10	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE45	302+17.27	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE46	302+21.44	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE47	302+25.60	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE48	302+29.77	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE49	302+33.94	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE50	302+38.10	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE51	302+42.27	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE52	302+46.44	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE53	302+50.60	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE54	302+54.77	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE55	302+58.94	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE56	302+63.10	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE57	302+67.27	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE58	302+71.44	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE59	302+75.60	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE60	302+79.77	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE61	302+83.94	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE62	302+88.10	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE63	302+92.27	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE64	302+96.44	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE65	303+00.60	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE66	303+04.77	0	0	0	0.0	0.0	0.0	0.0	0.0
AFE67	303+08.94	0	0	0	0.0	0.0	0.0	0.0	0.0

WALL AH DRILLED SHAFT SCHEDULE									
DESIGNATION	STATION BASELINE WALL AH	CENTERLINE OFFSET FROM BASELINE WALL AH	DIAMETER (IN.)	SHEAR STUDS (YES/NO)	BOTTOM OF DRILLED SHAFT EL. "A"	TOP OF SHAFT CONCRETE EL. "B"	CONCRETE SHAFT LENGTH (FT.)	BOTTOM OF WALL EL. "C"	TOP OF WALL EL. "D"
AF	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH02	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH03	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH04	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH05	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH06	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH07	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH08	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH09	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH10	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH11	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH12	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH13	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH14	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH15	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH16	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH17	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH18	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH19	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH20	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH21	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH22	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0

FOR INFORMATION ONLY - NOT FOR REVIEW

DRILLED SHAFT TABLE
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 SSW | CHECKER —

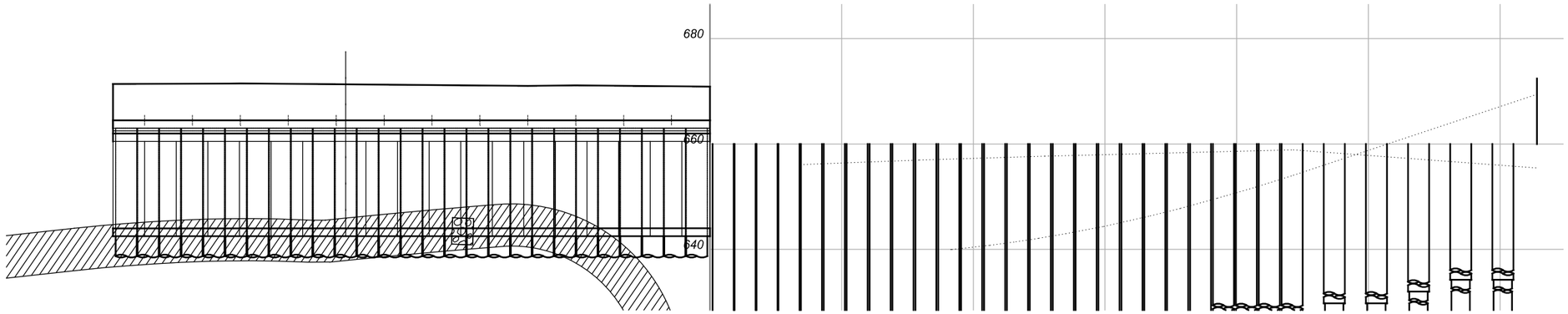
REVIEWER — —

PROJECT ID 82382

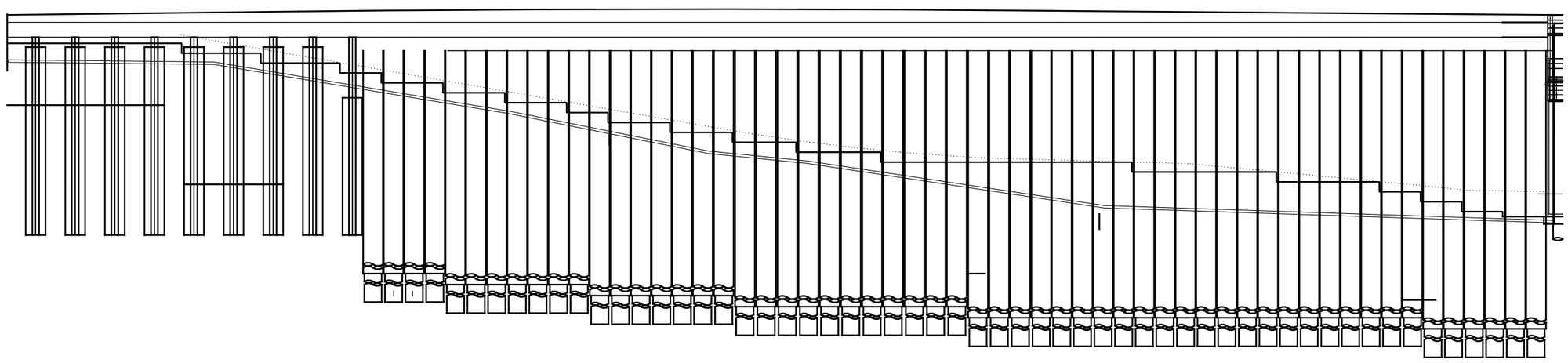
SUBSET 10 | TOTAL 14

SHEET 1033 | TOTAL 2339

CUY-90-16.28 (CCG3A)



WEST WALL ELEVATION



EAST WALL ELEVATION

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL ELEVATION
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	SSW
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	11
TOTAL	14
SHEET	1034
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:40:25 AM USER: Kathy-Johnson
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FOR INFORMATION ONLY - NOT FOR REVIEW

SHEET 1035 / TOTAL 2339	SUBSET 12 / TOTAL 14	PROJECT ID 82382	REVIEWER —	DESIGNER SSW / CHECKER —	Michael Baker INTERNATIONAL	SFN N/A DESIGN AGENCY	WALL DETAILS WALL AF ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:40:42 AM USER: Kathy.Johnson
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FOR INFORMATION ONLY - NOT FOR REVIEW

SHEET 1036 / TOTAL 2339	SUBSET 13 / TOTAL 14	PROJECT ID 82382	REVIEWER —	DESIGNER SSW	CHECKER —	Michael Baker INTERNATIONAL	SFN N/A DESIGN AGENCY

PARAPET AND FENCE DETAILS
WALL AF
ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:40:47 AM USER: Kathy.Johnson
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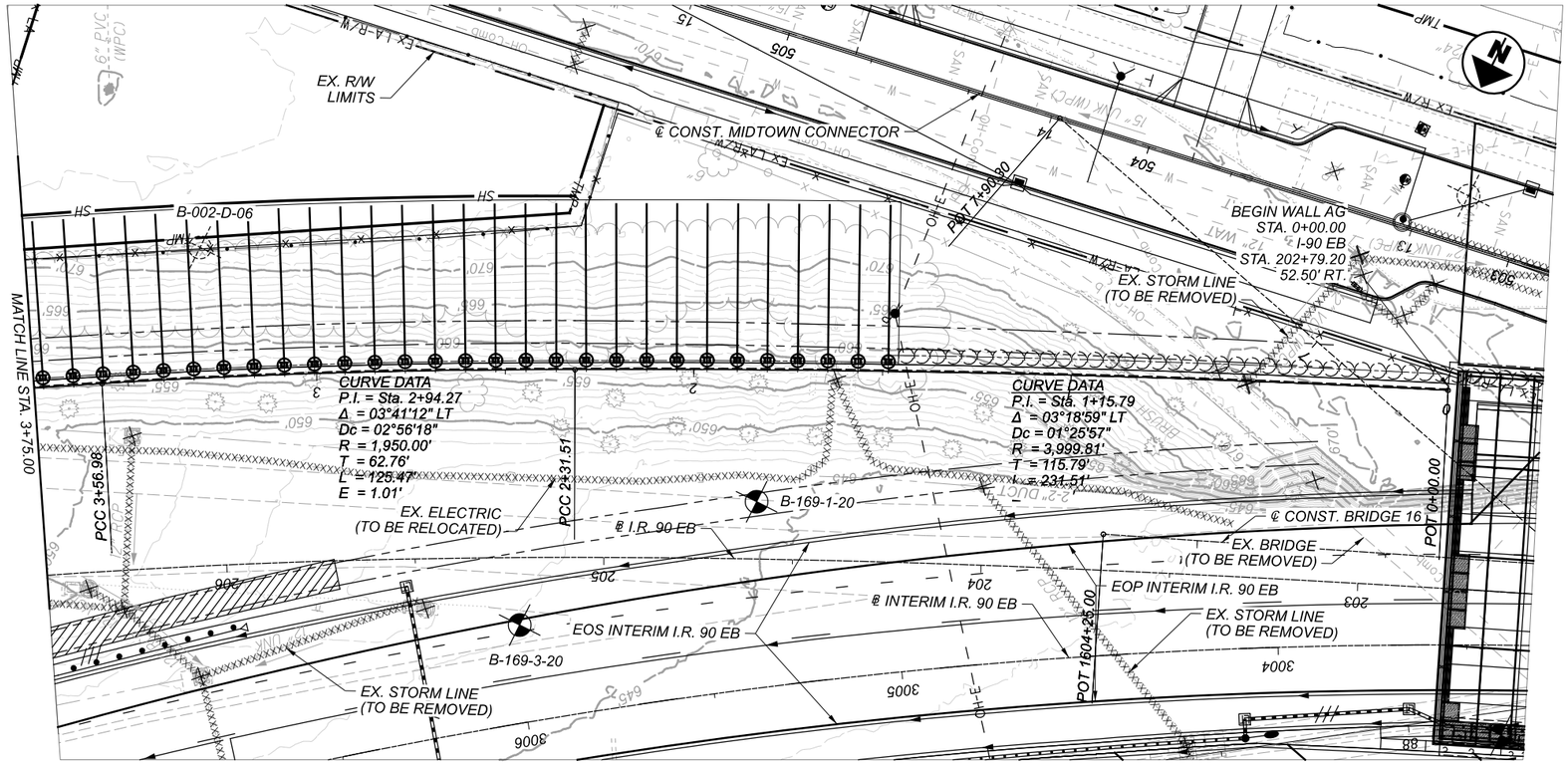
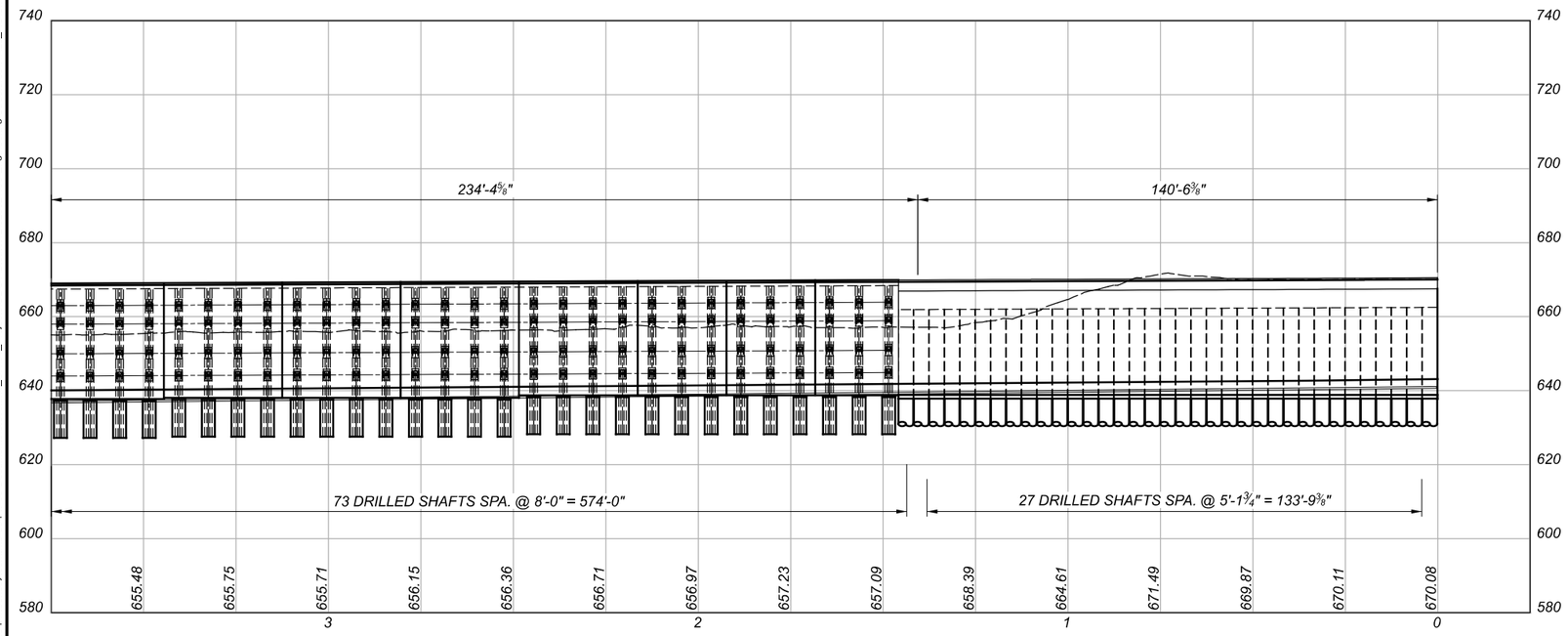
FOR INFORMATION ONLY - NOT FOR REVIEW

SHEET 1037 / TOTAL 2339	SUBSET 14 / TOTAL 14	PROJECT ID 82382	REVIEWER —	DESIGNER SSW / CHECKER —	Michael Baker INTERNATIONAL	SFN N/A DESIGN AGENCY	REINFORCING SCHEDULE WALL AF ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AG

BENCHMARK DATA

BM #54 STA. 33+01.73	ELEV. 672.54	OFFSET	46.13 RT.	CUT CROSS
BM #62 STA. 35+23.59	ELEV. 672.11	OFFSET	1165.82 LT.	RR SPIKE
BM #72 STA. 23+49.63	ELEV. 674.06	OFFSET	52.19 LT.	CUT CROSS
BM #73 STA. 37+10.17	ELEV. 671.90	OFFSET	403.44' LT.	CUT CROSS

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR WALL CROSS SECTIONS, SEE SHEET / .
3. STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.

LEGEND

- HISTORIC BORING LOCATIONS
- PROJECT BORING LOCATIONS

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL PLAN AND PROFILE (1 OF 2)
WALL AG
ALONG SOUTH SIDE OF I.R. 90

CUY-90-16.28 (CCG3A)

MODEL: BLP_Wall AG - Wall AG Plan PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 11:12:41 AM USER: Kathy.Johnson
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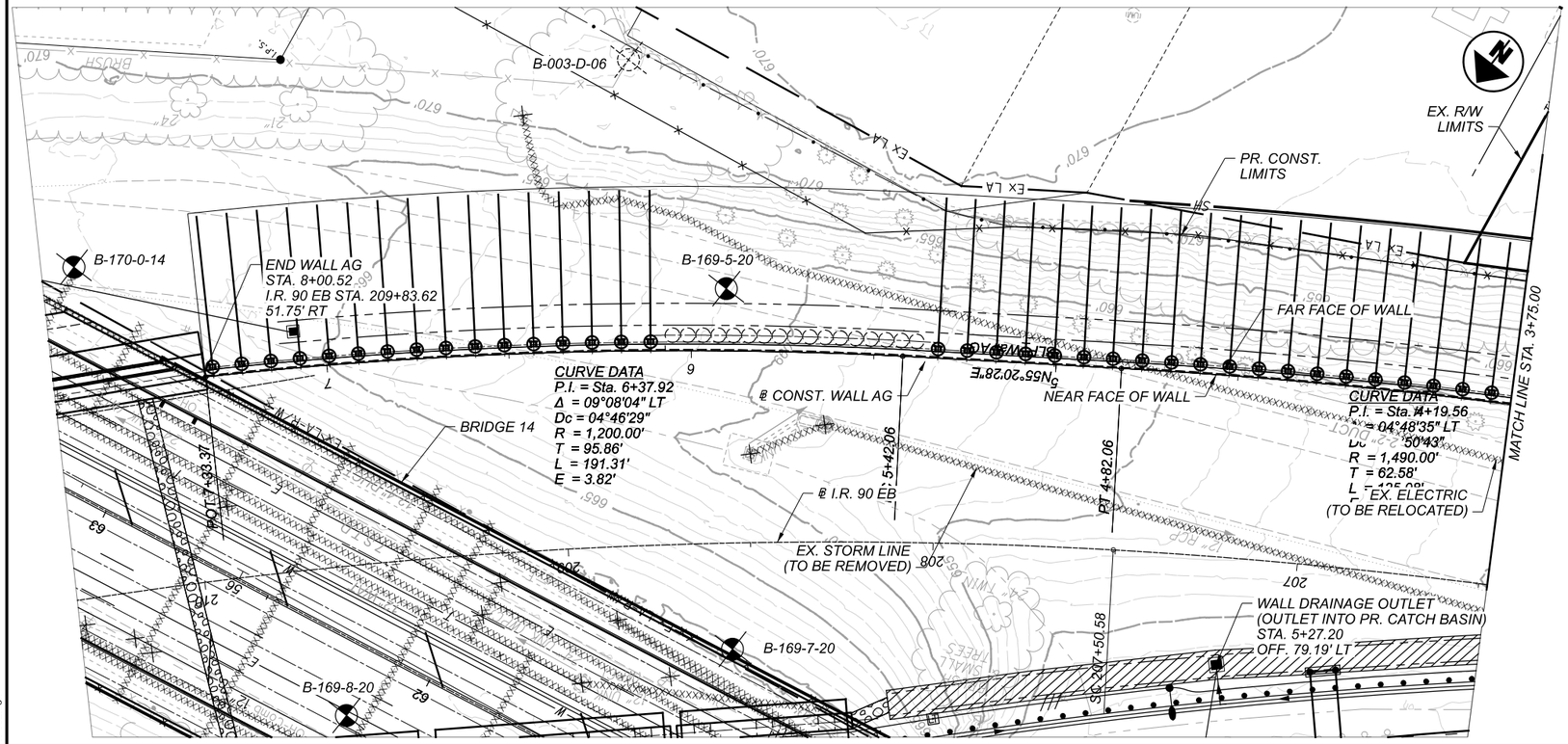
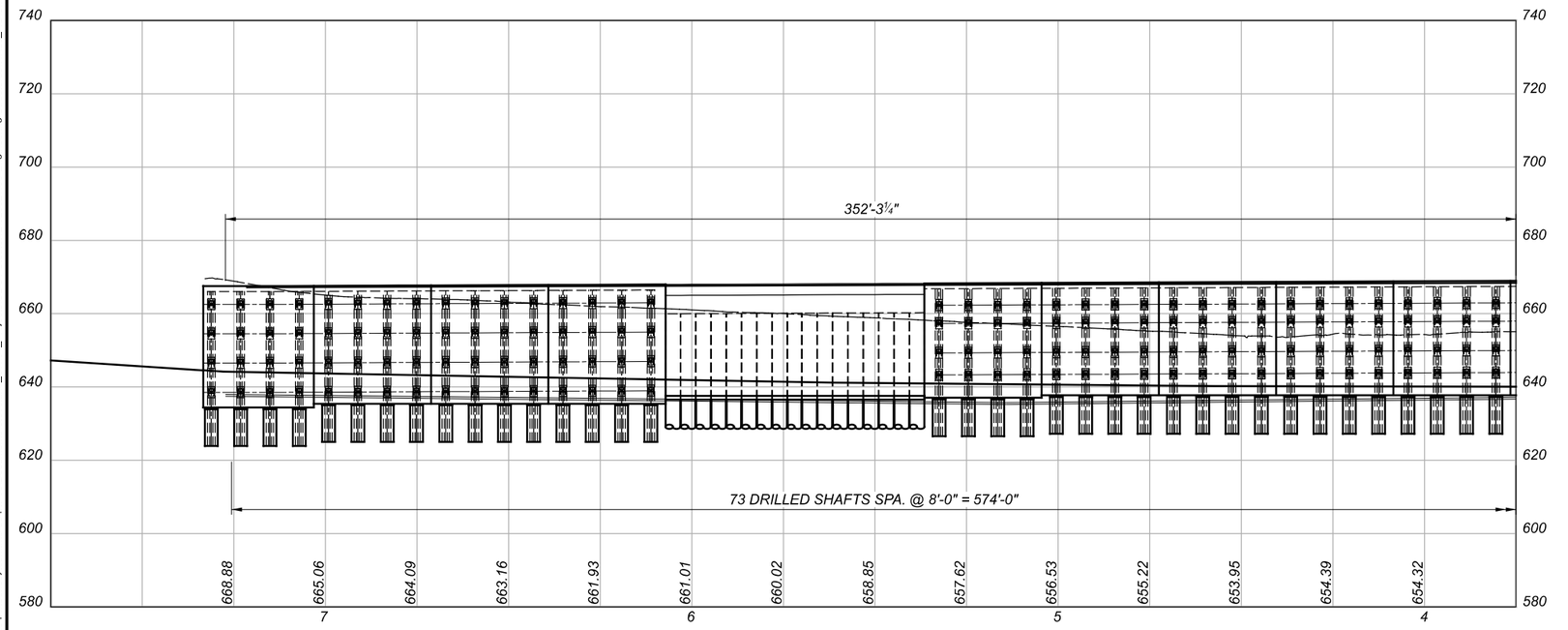
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CHECKER
—	—
REVIEWER	
—	—
PROJECT ID	82382
SUBSET	TOTAL
1	13
SHEET	TOTAL
1038	2339



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AG

BENCHMARK DATA

BM #54 STA. 33+01.73	ELEV. 672.54	OFFSET	46.13 RT.	CUT CROSS
BM #62 STA. 35+23.59	ELEV. 672.11	OFFSET	1165.82 LT.	RR SPIKE
BM #72 STA. 23+49.63	ELEV. 674.06	OFFSET	52.19 LT.	CUT CROSS
BM #73 STA. 37+10.17	ELEV. 671.90	OFFSET	403.44' LT.	CUT CROSS

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR WALL CROSS SECTIONS, SEE SHEET / .
3. STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.

LEGEND

- HISTORIC BORING LOCATIONS
- PROJECT BORING LOCATIONS

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL PLAN AND PROFILE (2 OF 2)
WALL AG
ALONG SOUTH SIDE OF I.R. 90

CUY-90-16.28 (CCG3A)

MODEL: BLP_Wall AG - Wall AG Plan-1 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 11:13:04 AM USER: Kathy.Johnson
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SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	2
TOTAL	13
SHEET	1039
TOTAL	2339

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

VPF-1-90	REVISED	7/20/2018
DM-1.1	REVISED	7/17/2020

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	DATED	7/16/2021

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 07-16-21).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE FACING AND DRILLED SHAFTS)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI

SOIL UNIT WEIGHT, γ = 120 pcf
ANGLE OF INTERNAL FRICTION, ϕ = 30°

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

SEAL SURFACES OF THE CAST-IN-PLACE CONCRETE WALL FACING, PILE CAP, AND PARAPET AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL _____.

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 524 - DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR TANGENT SHAFT WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH A PERMANENT STEEL CASING, AN EMBEDDED W SHAPE STEEL MEMBER, AND A REINFORCING STEEL CAGE. THE EMBEDDED SHAPE EXTENDS ABOVE THE TOP OF THE TANGENT SHAFT AND INTO THE SHAFT CAP. 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. INSTALL THE PERMANENT CASING. PLACE W SHAPE AND REINFORCING CAGE WITHIN THE HOLE SO IT IS VERTICAL. PLACE THE W SHAPE 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 W SHAPE AND REINFORCING CAGE SO THAT THEY DO NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC1 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 W SHAPE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE W SHAPE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES.

MASS CONCRETE

MASS CONCRETE IS DEFINED AS ANY CONCRETE ELEMENT FOR WHICH A MINIMUM DIMENSION MEASURED IN ANY DIRECTION IS 5 FEET OR GREATER. FOR THIS WALL, THE TANGENT SHAFT CAP IS CONSIDERED MASS CONCRETE. PROVIDE THE FOLLOWING FOR MASS CONCRETE ELEMENTS TO MITIGATE THE HEAT OF HYDRATION AND ATTENDANT VOLUME CHANGES TO MINIMIZE THE POTENTIAL FOR CRACKING:

A. ANALYSIS OF THE ANTICIPATED THERMAL DEVELOPMENTS IN THE MASS CONCRETE FOR ALL EXPECTED PROJECT TEMPERATURE RANGES USING THE PROPOSED MIX DESIGN, CASTING PROCEDURES, AND MATERIALS.

B. DESCRIPTION OF THE MEASURES AND PROCEDURES INTENDED FOR USE IN MAINTAINING A MAXIMUM TEMPERATURE OF LESS THAN 160°F AND MAINTAINING A TEMPERATURE DIFFERENTIAL OF 35°F OR LESS BETWEEN THE INTERIOR AND EXTERIOR PORTIONS OF THE DESIGNATED MASS CONCRETE ELEMENTS DURING CURING. THE 35°F TEMPERATURE DIFFERENTIAL DOES NOT APPLY TO DRILLED SHAFT FOUNDATIONS BELOW GRADE. SUBMIT BOTH THE MASS CONCRETE MIX DESIGN AND THE PROPOSED PLAN TO MONITOR AND CONTROL THE TEMPERATURE AND TEMPERATURE TO THE ENGINEER FOR ACCEPTANCE PRIOR TO CONCRETE PLACEMENT. PROVIDE TEMPERATURE MONITORING DEVICES ACCEPTED BY THE ENGINEER TO RECORD TEMPERATURE BETWEEN THE INTERIOR AND EXTERIOR PORTIONS OF THE ELEMENT AT POINTS ACCEPTABLE TO THE ENGINEER. READ THE MONITORING DEVICES AND RECORD READINGS AT THE INTERVALS NOT EXCEEDING 6 HOURS, AS ACCEPTED BY THE ENGINEER, BEGINNING WHEN CASTING IS COMPLETE AND CONTINUE UNTIL THE MAXIMUM TEMPERATURE DIFFERENTIAL IS REACHED AND BEGINS DROPPING. IF MONITORING INDICATES THE 35°F TEMPERATURE DIFFERENTIAL HAS BEEN EXCEEDED, TAKE IMMEDIATE ACTION TO RETARD FURTHER GROWTH IN THE TEMPERATURE DIFFERENTIAL AND MAKE NECESSARY REVISIONS TO THE ACCEPTED PLAN TO MAINTAIN THE 35°F OR LESS TEMPERATURE DIFFERENTIAL ON ANY REMAINING PLACEMENTS. OBTAIN ENGINEER APPROVAL OF ALL REVISIONS TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION.

ITEM 518 - STRUCTURE DRAINAGE, MISC.: 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 TANGENT SHAFTS, INCLUDING THE CANTILEVER PORTION AT THE END OF THE WALL. PLACE THE SIDE FACED WITH 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 THE EDGES OF THE PGD AND 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 INSTRUSION. 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 IT 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. WHERE A WALL HAS WEEPHOLES FOR DRAINAGE, ENSURE WATER CAN DRAIN FROM THE PGD TO THE WEEPHOLE. IF NECESSARY, CUT A HOLE IN THE CORE TO ALLOW DRAINAGE OR USE A WEEPHOLE FITTING FROM THE PGD MANUFACTURER. DO NOT CUT GEOTEXTILE.

WALL GENERAL NOTES (1 OF 2)
WALL AG
ALONG SOUTH SIDE OF I.R. 90

SFN N/A
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER SSW | CHECKER —
REVIEWER — —
PROJECT ID 82382
SUBSET 3 | TOTAL 13
SHEET 1040 | TOTAL 2339

CUY-90-16.28 (CCG3A)
MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 11:13:25 AM USER: Kathy.Johnson
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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.

APPLICABLE ODOT CM&S SPECIFICATIONS

THE FOLLOWING WORK ITEMS SHALL BE CONSTRUCTED PER THE CM&S ITEMS LISTED BELOW.

ITEM NO.	ITEM DESCRIPTION
507	STEEL PILES, MISC.: SOLDIER PILES, W--x---
509	EPOXY COATED REINFORCING STEEL
511	CONCRETE, CLASS QC 1 WITH QC/QA
512	TYPE 2 WATERPROOFING, AS PER PLAN
512	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)
512	SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION
513	WELDED STUD SHEAR CONNECTORS
518	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS
518	STRUCTURE DRAINAGE, MISC.: PREFABRICATED GEOCOMPOSITE DRAIN
518	POROUS BACKFILL WITH FILTER FABRIC
524	DRILLED SHAFT, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN
607	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

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
B.F. = BACK FACE
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. = FRONT 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
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

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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	---

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
4	13

SHEET	TOTAL
1041	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet (2 of 2) PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 11:13:27 AM USER: Kathy.Johnson
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ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
507	00400	6552	FT	STEEL PILES, MISC.: W16x50, FURNISHED					
509	10000	207916	LB	EPOXY COATED REINFORCING STEEL					
511	45602	161	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA					
511	53010	1362	CY	CLASS QC1 CONCRETE, MISC.: CONCRETE FACING					
513	20000	6292	EACH	WELDED STUD SHEAR CONNECTORS					
518	40000	734	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	82	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
524	94802	2600	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK					
524	94903	5044	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN					
607	39910	734	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC					
610	50010	15713	SF	SPECIAL - RETAINING WALL, MISC.: TEMPORARY TIMBER LAGGING					
840	26050	23222	SF	AESTHETIC SURFACE TREATMENT					
866	00101	260	EACH	GROUND ANCHOR, AS PER PLAN					

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ESTIMATED QUANTITIES
WALL AG
ALONG SOUTH SIDE OF I.R. 90

CUY-90-16.28 (CCG3A)

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SFN
—NA—

DESIGN AGENCY
Michael Baker INTERNATIONAL

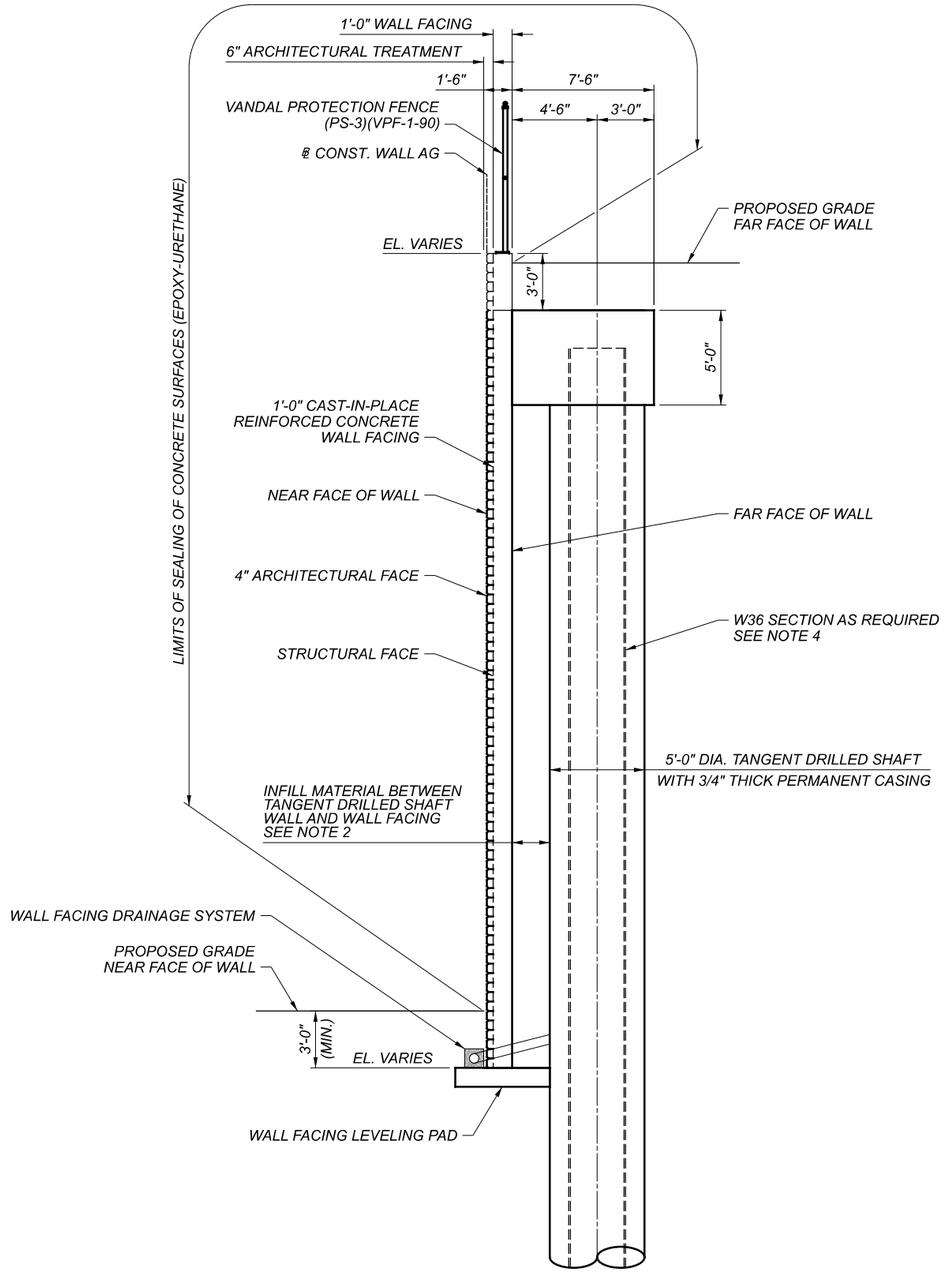
DESIGNER	CHECKER
SSW	—NA—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
5	13

SHEET	TOTAL
1042	2339



FRICTION TANGENT DRILLED SHAFT WALL TYP. SECTION

NOTES

1. WIDTH AND LOCATION OF SHAFT CAP SUBJECT TO CHANGE PENDING FINAL DESIGN OF TANGENT DRILLED SHAFT WALL.
2. INFILL MATERIAL WIDTH BETWEEN TANGENT DRILED SHAFTS AND WALL FACING SUBJECT TO CHANGE PENDING FINAL DESIGN OF TANGENT DRILLED SHAFT WALL.
3. WALL FACING MAY BE EITHER CIP OR PRECAST PENDING FINAL DESIGN EVALUATION.
4. NEED FOR WIDE FLANGE TO BE DETERMINED IN STAGE 2 DESIGN.

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WALL TYPICAL SECTION
WALL AG
ALONG SOUTH SIDE OF I.R. 90

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	MKB
REVIEWER	— —
PROJECT ID	82382
SUBSET	6
TOTAL	13
SHEET	1043
TOTAL	2339

CUY-90-16.28 (CCG3A)

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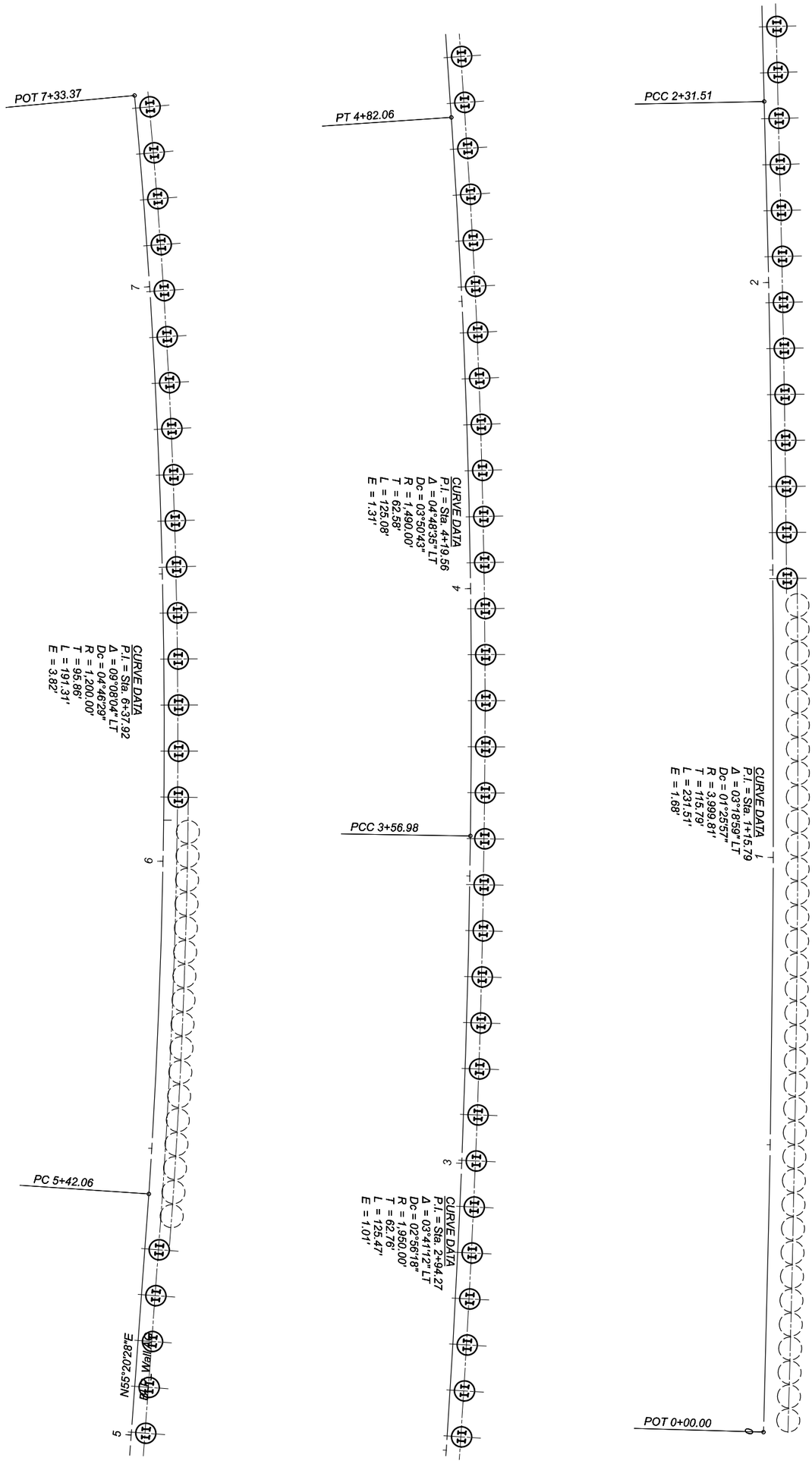

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SHEET 1044	TOTAL 2339	SUBSET 7	TOTAL 13
PROJECT ID 82382			
REVIEWER —	—		
DESIGNER SSW	CHECKER —NA—		
Michael Baker INTERNATIONAL			
SEN —NA—	DESIGN AGENCY		

FOUNDATION PLAN (1 OF 2)
WALL AG
ALONG SOUTH SIDE OF I.R. 90

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DRILLED SHAFT TABLE
WALL AG
ALONG SOUTH SIDE OF I.R. 90

SFN	—NA—
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	—NA—
REVIEWER	—
PROJECT ID	82382
SUBSET	8
TOTAL	13
SHEET	1045
TOTAL	2339

MODEL: Elevation Sheet 1 of 2 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 11:14:48 AM USER: Kathy.Johnson
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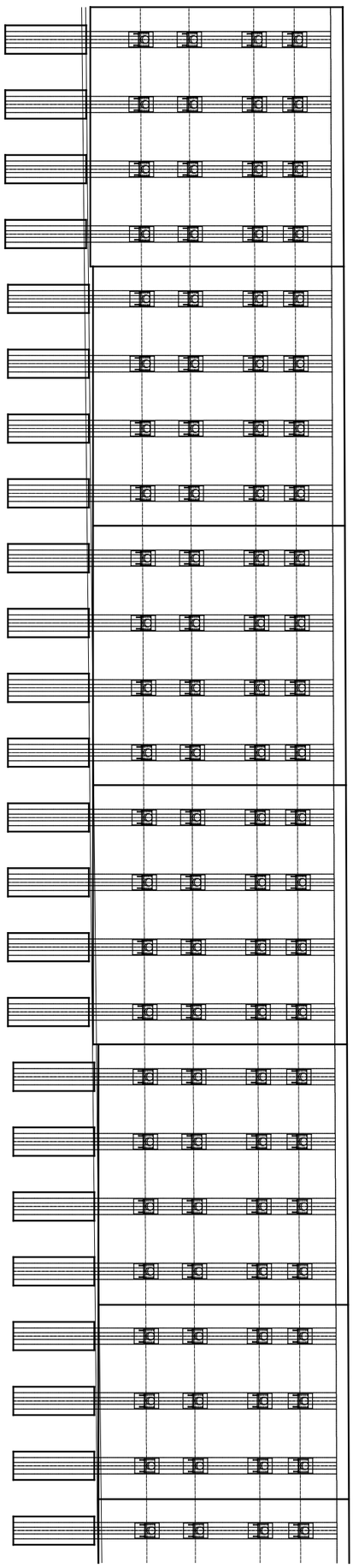

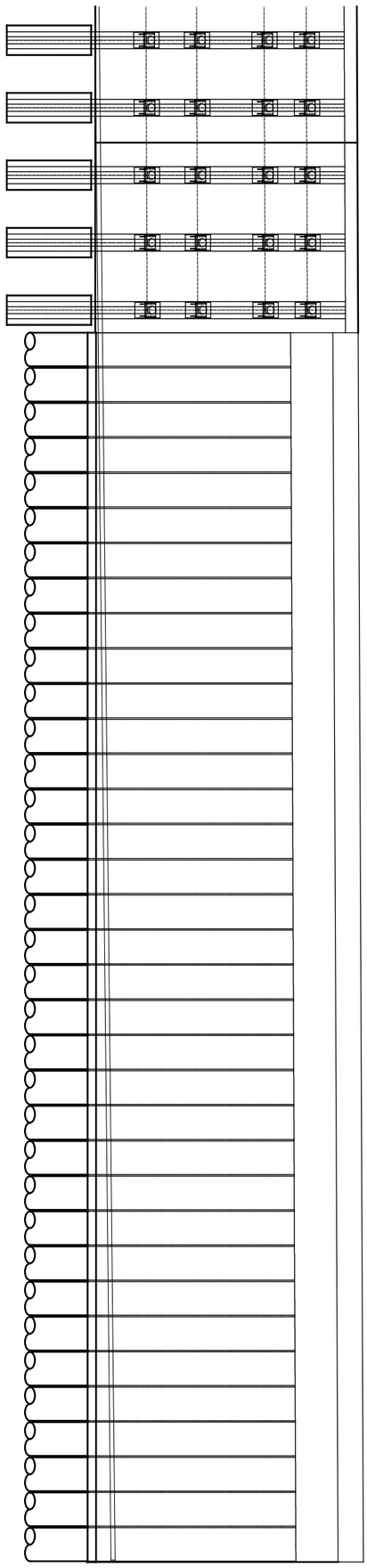

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SHEET 1046	TOTAL 2339	SUBSET 9	TOTAL 13	PROJECT ID 82382	REVIEWER —	DESIGNER SSW / CHECKER —	Michael Baker INTERNATIONAL	SFN N/A DESIGN AGENCY

WALL ELEVATION
WALL AG
ALONG SOUTH SIDE OF I.R. 90

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SHEET 1047	SUBSET 10	PROJECT ID 82382	REVIEWER —	DESIGNER SSW	CHECKER —	Michael Baker INTERNATIONAL	SFN N/A
TOTAL 2339	TOTAL 13						DESIGN AGENCY

WALL DETAILS (1 OF 2)
WALL AG
ALONG SOUTH SIDE OF I.R. 90

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SHEET 1048 / TOTAL 2339	SUBSET 11 / TOTAL 13	PROJECT ID 82382	REVIEWER —	DESIGNER SSW	CHECKER —	Michael Baker INTERNATIONAL	SFN N/A DESIGN AGENCY

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

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SHEET 1049 / TOTAL 2339	SUBSET 12 / TOTAL 13	PROJECT ID 82382	REVIEWER —	DESIGNER SSW	CHECKER —	Michael Baker INTERNATIONAL	SFN N/A DESIGN AGENCY

PARAPET AND FENCE DETAILS
WALL AG
ALONG SOUTH SIDE OF I.R. 90

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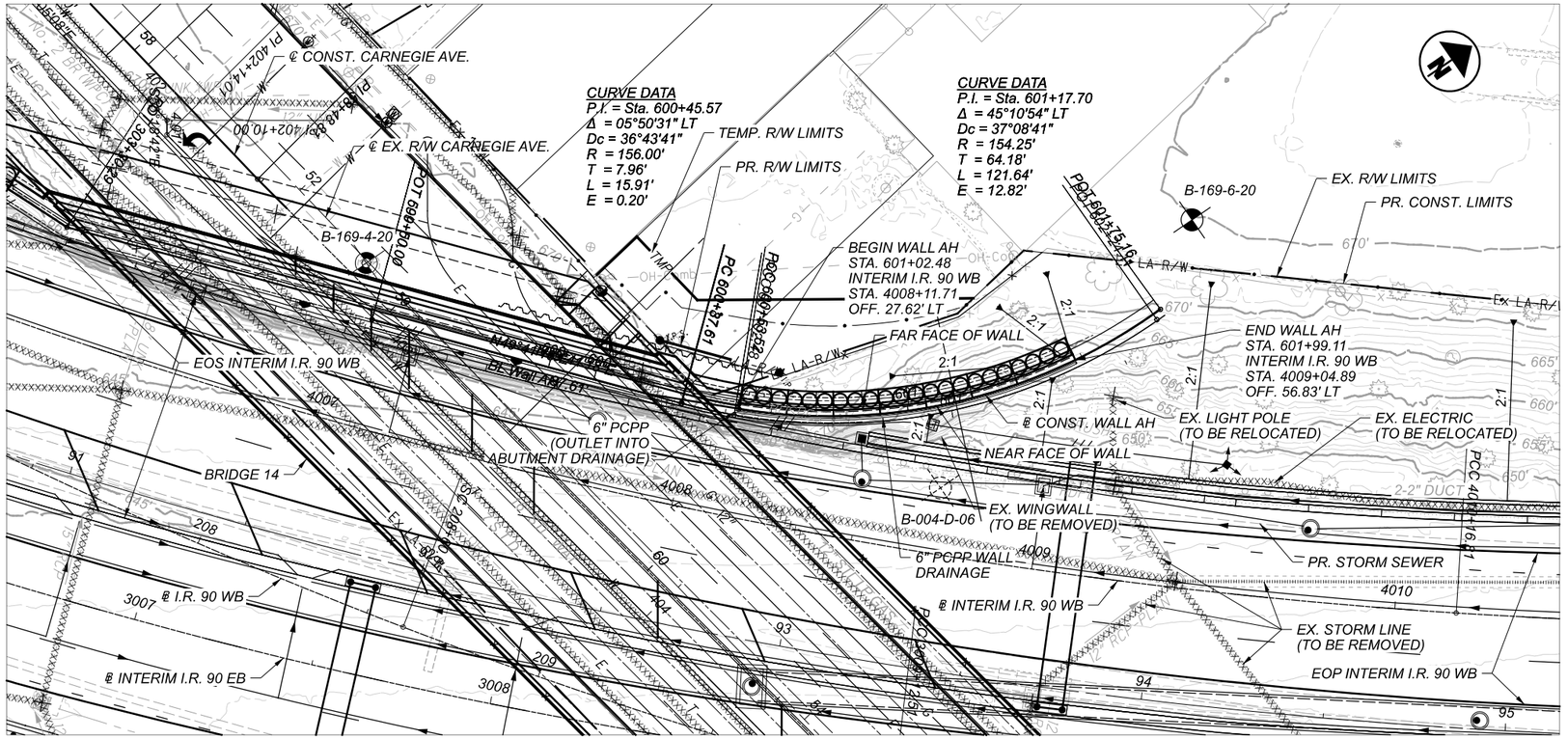
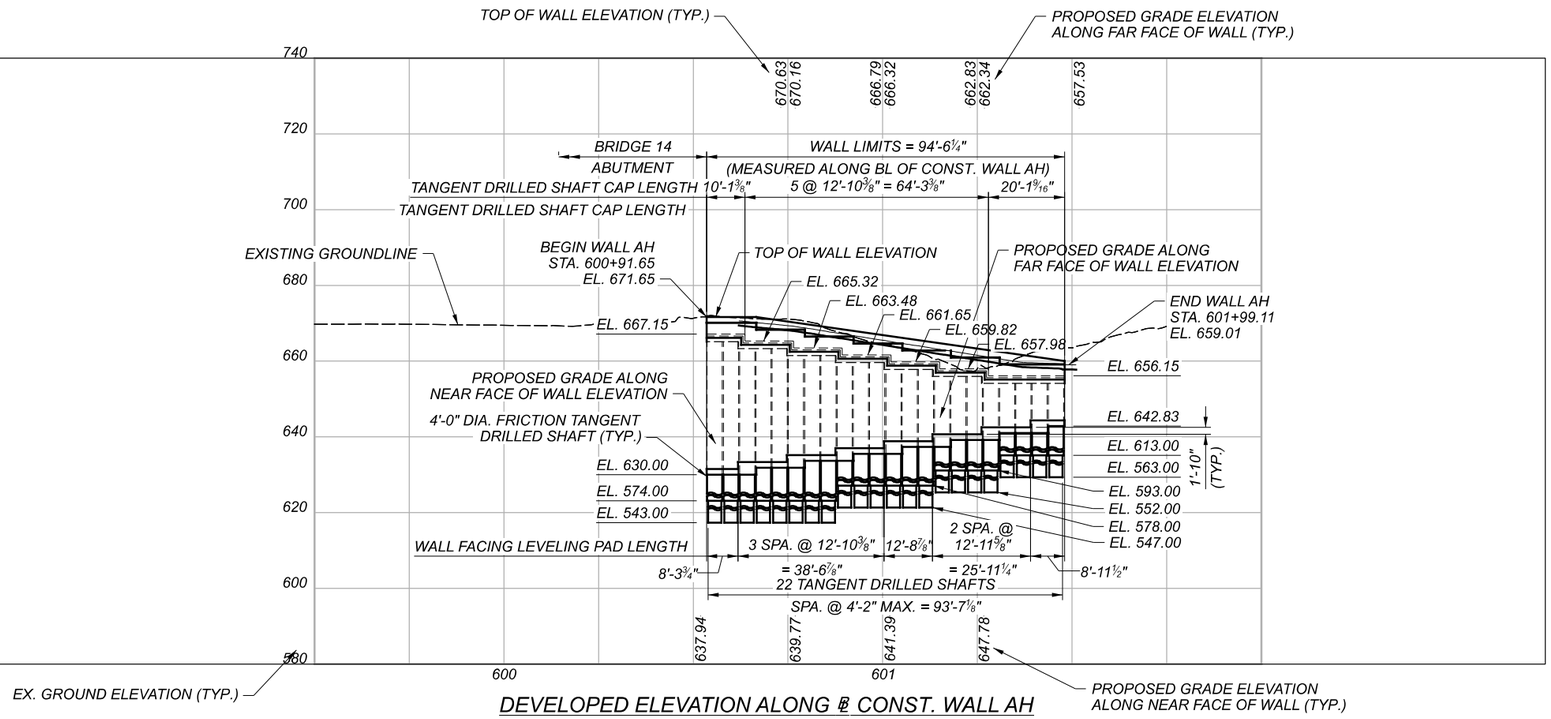
SHEET 1050 / TOTAL 2339	SUBSET 13 / TOTAL 13	PROJECT ID 82382	REVIEWER —	DESIGNER SSW / CHECKER —NA—	Michael Baker INTERNATIONAL	SFN —NA— / DESIGN AGENCY	REINFORCING SCHEDULE WALL AG ALONG SOUTH SIDE OF I.R. 90



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AH

BENCHMARK DATA

BM #62 STA.	41+38.42,	ELEV.	672.11,	OFFSET	75.42 LT.,	RR SPIKE
BM #64 STA.	58+35.86,	ELEV.	671.25,	OFFSET	47.90 LT.,	RR SPIKE
BM #65 STA.	66+35.73,	ELEV.	668.92,	OFFSET	38.62 RT.,	RR SPIKE
BM #73 STA.	49+25.90,	ELEV.	671.90,	OFFSET	31.86 LT.,	CUT CROSS

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

CURVE DATA
P.I. = Sta. 601+17.70
Δ = 45°10'54" LT
Dc = 37°08'41"
R = 154.25'
T = 64.18'
L = 121.64'
E = 12.82'

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR WALL CROSS SECTIONS, SEE SHEET / .
3. STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.

LEGEND

- HISTORIC BORING LOCATIONS
- PROJECT BORING LOCATIONS
- INSTRUMENTED BORING LOCATION

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL PLAN AND PROFILE
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	1
TOTAL	11
SHEET	1051
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: BL Wall AH - Wall AH Plan PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:49:24 AM USER: Kathy.Johnson
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\01_Projects\ODOT\District12\82382400-Engineering\Structures\WALL_AH\Sheets\82382_AH_WP001.dgn

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

VPF-1-90	REVISED	7/20/2018
DM-1.1	REVISED	7/17/2020

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	DATED	7/16/2021

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 07-16-21).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE FACING AND DRILLED SHAFTS)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI

SOIL UNIT WEIGHT, γ = 120 pcf
ANGLE OF INTERNAL FRICTION, ϕ = 30°

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

SEAL SURFACES OF THE CAST-IN-PLACE CONCRETE WALL FACING, PILE CAP, AND PARAPET AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL _____.

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 524 - DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR TANGENT SHAFT WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH A PERMANENT STEEL CASING, AN EMBEDDED W SHAPE STEEL MEMBER, AND A REINFORCING STEEL CAGE. THE EMBEDDED SHAPE EXTENDS ABOVE THE TOP OF THE TANGENT SHAFT AND INTO THE SHAFT CAP. 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. INSTALL THE PERMANENT CASING. PLACE W SHAPE AND REINFORCING CAGE WITHIN THE HOLE SO IT IS VERTICAL. PLACE THE W SHAPE 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 W SHAPE AND REINFORCING CAGE SO THAT THEY DO NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC1 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 W SHAPE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE W SHAPE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES.

MASS CONCRETE

MASS CONCRETE IS DEFINED AS ANY CONCRETE ELEMENT FOR WHICH A MINIMUM DIMENSION MEASURED IN ANY DIRECTION IS 5 FEET OR GREATER. FOR THIS WALL, THE TANGENT SHAFT CAP IS CONSIDERED MASS CONCRETE. PROVIDE THE FOLLOWING FOR MASS CONCRETE ELEMENTS TO MITIGATE THE HEAT OF HYDRATION AND ATTENDANT VOLUME CHANGES TO MINIMIZE THE POTENTIAL FOR CRACKING:

A. ANALYSIS OF THE ANTICIPATED THERMAL DEVELOPMENTS IN THE MASS CONCRETE FOR ALL EXPECTED PROJECT TEMPERATURE RANGES USING THE PROPOSED MIX DESIGN, CASTING PROCEDURES, AND MATERIALS.

B. DESCRIPTION OF THE MEASURES AND PROCEDURES INTENDED FOR USE IN MAINTAINING A MAXIMUM TEMPERATURE OF LESS THAN 160°F AND MAINTAINING A TEMPERATURE DIFFERENTIAL OF 35°F OR LESS BETWEEN THE INTERIOR AND EXTERIOR PORTIONS OF THE DESIGNATED MASS CONCRETE ELEMENTS DURING CURING. THE 35°F TEMPERATURE DIFFERENTIAL DOES NOT APPLY TO DRILLED SHAFT FOUNDATIONS BELOW GRADE. SUBMIT BOTH THE MASS CONCRETE MIX DESIGN AND THE PROPOSED PLAN TO MONITOR AND CONTROL THE TEMPERATURE AND TEMPERATURE TO THE ENGINEER FOR ACCEPTANCE PRIOR TO CONCRETE PLACEMENT. PROVIDE TEMPERATURE MONITORING DEVICES ACCEPTED BY THE ENGINEER TO RECORD TEMPERATURE BETWEEN THE INTERIOR AND EXTERIOR PORTIONS OF THE ELEMENT AT POINTS ACCEPTABLE TO THE ENGINEER. READ THE MONITORING DEVICES AND RECORD READINGS AT THE INTERVALS NOT EXCEEDING 6 HOURS, AS ACCEPTED BY THE ENGINEER, BEGINNING WHEN CASTING IS COMPLETE AND CONTINUE UNTIL THE MAXIMUM TEMPERATURE DIFFERENTIAL IS REACHED AND BEGINS DROPPING. IF MONITORING INDICATES THE 35°F TEMPERATURE DIFFERENTIAL HAS BEEN EXCEEDED, TAKE IMMEDIATE ACTION TO RETARD FURTHER GROWTH IN THE TEMPERATURE DIFFERENTIAL AND MAKE NECESSARY REVISIONS TO THE ACCEPTED PLAN TO MAINTAIN THE 35°F OR LESS TEMPERATURE DIFFERENTIAL ON ANY REMAINING PLACEMENTS. OBTAIN ENGINEER APPROVAL OF ALL REVISIONS TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION.

ITEM 518 - STRUCTURE DRAINAGE, MISC.: 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 TANGENT SHAFTS, INCLUDING THE CANTILEVER PORTION AT THE END OF THE WALL. PLACE THE SIDE FACED WITH 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 THE EDGES OF THE PGD AND 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 INSTRUSION. 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 IT 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. WHERE A WALL HAS WEEPHOLES FOR DRAINAGE, ENSURE WATER CAN DRAIN FROM THE PGD TO THE WEEPHOLE. IF NECESSARY, CUT A HOLE IN THE CORE TO ALLOW DRAINAGE OR USE A WEEPHOLE FITTING FROM THE PGD MANUFACTURER. DO NOT CUT GEOTEXTILE.

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 SSW | CHECKER —
REVIEWER — —
PROJECT ID 82382
SUBSET 2 | TOTAL 11
SHEET 1052 | TOTAL 2339

CUY-90-16.28 (CCG3A)
MODEL: Sheet (1 of 2) PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:49:45 AM USER: Kathy.Johnson
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FOR INFORMATION ONLY - NOT FOR REVIEW

SHEET 1053 / TOTAL 2339	SUBSET 3 / TOTAL 11	PROJECT ID 82382	REVIEWER —	DESIGNER SSW	CHECKER —	Michael Baker INTERNATIONAL	SFN N/A DESIGN AGENCY

GENERAL NOTES (2 OF 2)
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
509	10000	29,940	LB	EPOXY COATED REINFORCING STEEL					
511	45602	79	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA					
511	53010	134	CY	CLASS QC1 CONCRETE, MISC.: CONCRETE FACING					
513	20000	924	EACH	WELDED STUD SHEAR CONNECTORS					
518	40000	106	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
524	94803	1,062	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK, AS PER PLAN					
524	94903	1,480	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK, AS PER PLAN					
607	39910	95	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC					
840	26050	2,711	SF	AESTHETIC SURFACE TREATMENT					

FOR INFORMATION ONLY - NOT FOR REVIEW

ESTIMATED QUANTITIES
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

SFN
—NA—

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—NA—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
4	11

SHEET	TOTAL
1054	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 4:09:17 PM USER: Shane.Weiss
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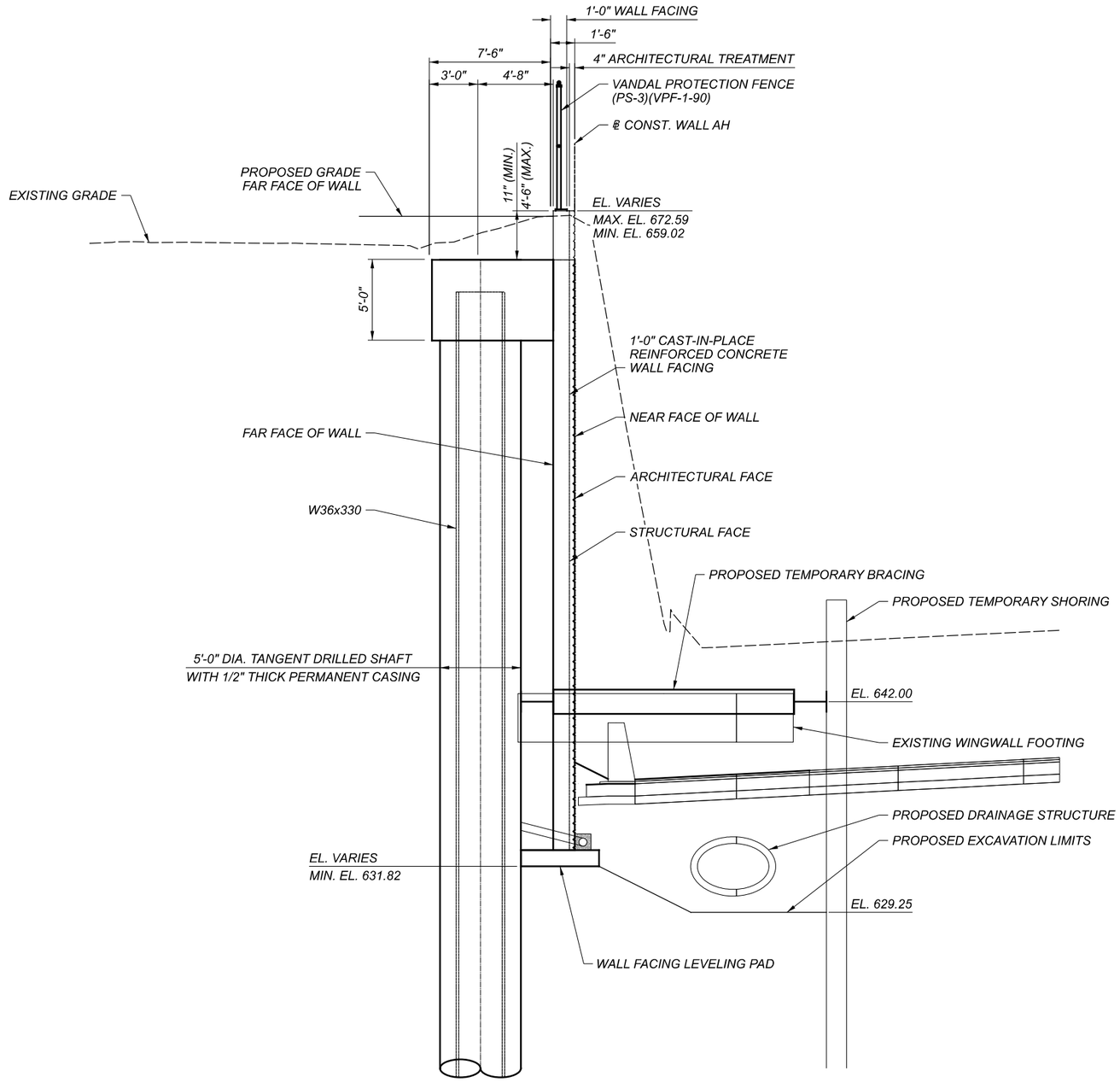

FRICTION TANGENT DRILLED SHAFT WALL TYP. SECTION

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL TYPICAL SECTION
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	
REVIEWER	— —
PROJECT ID	82382
SUBSET	5
TOTAL	11
SHEET	1055
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet 2 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:50:46 AM USER: Kathy_Johnson
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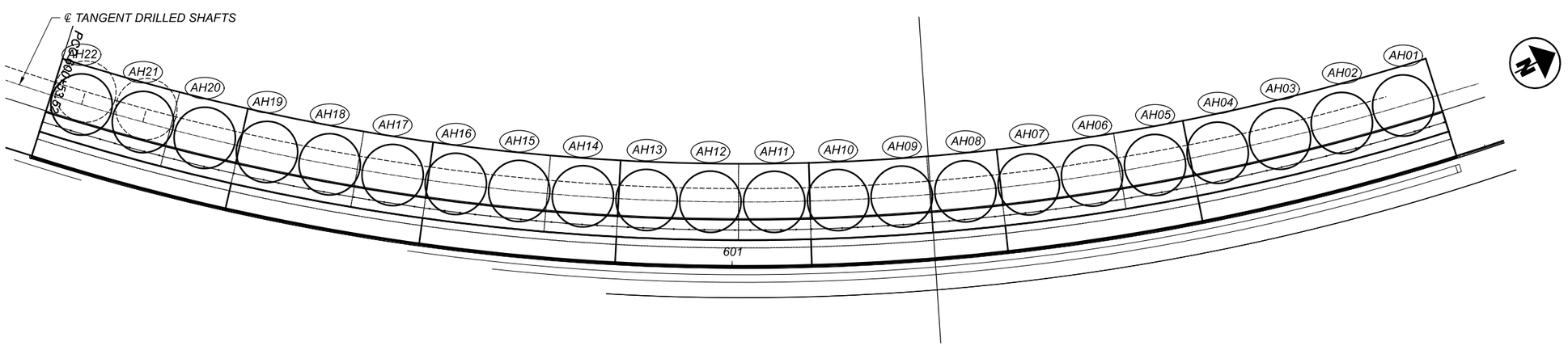

WALL AH DRILLED SHAFT SCHEDULE									
DESIGNATION	STATION BASELINE WALL AH	CENTERLINE OFFSET FROM BASELINE WALL AH (FT.)	DIAMETER (IN.)	SHEAR STUDS (YES/NO)	BOTTOM OF DRILLED SHAFT EL. "A"	TOP OF SHAFT CONCRETE EL. "B"	CONCRETE SHAFT LENGTH (FT.)	BOTTOM OF WALL EL. "C"	TOP OF WALL EL. "D"
AH01	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH02	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH03	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH04	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH05	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH06	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH07	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH08	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH09	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH10	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH11	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH12	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH13	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH14	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH15	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH16	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH17	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH18	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH19	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH20	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH21	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0
AH22	00+00.00	0	0	0	0.0	0.0	0.0	0.0	0.0

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FOUNDATION PLAN
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

SFN —NA—

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—NA—

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
6	11

SHEET	TOTAL
1056	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:57:51 AM USER: Kathy.Johnson
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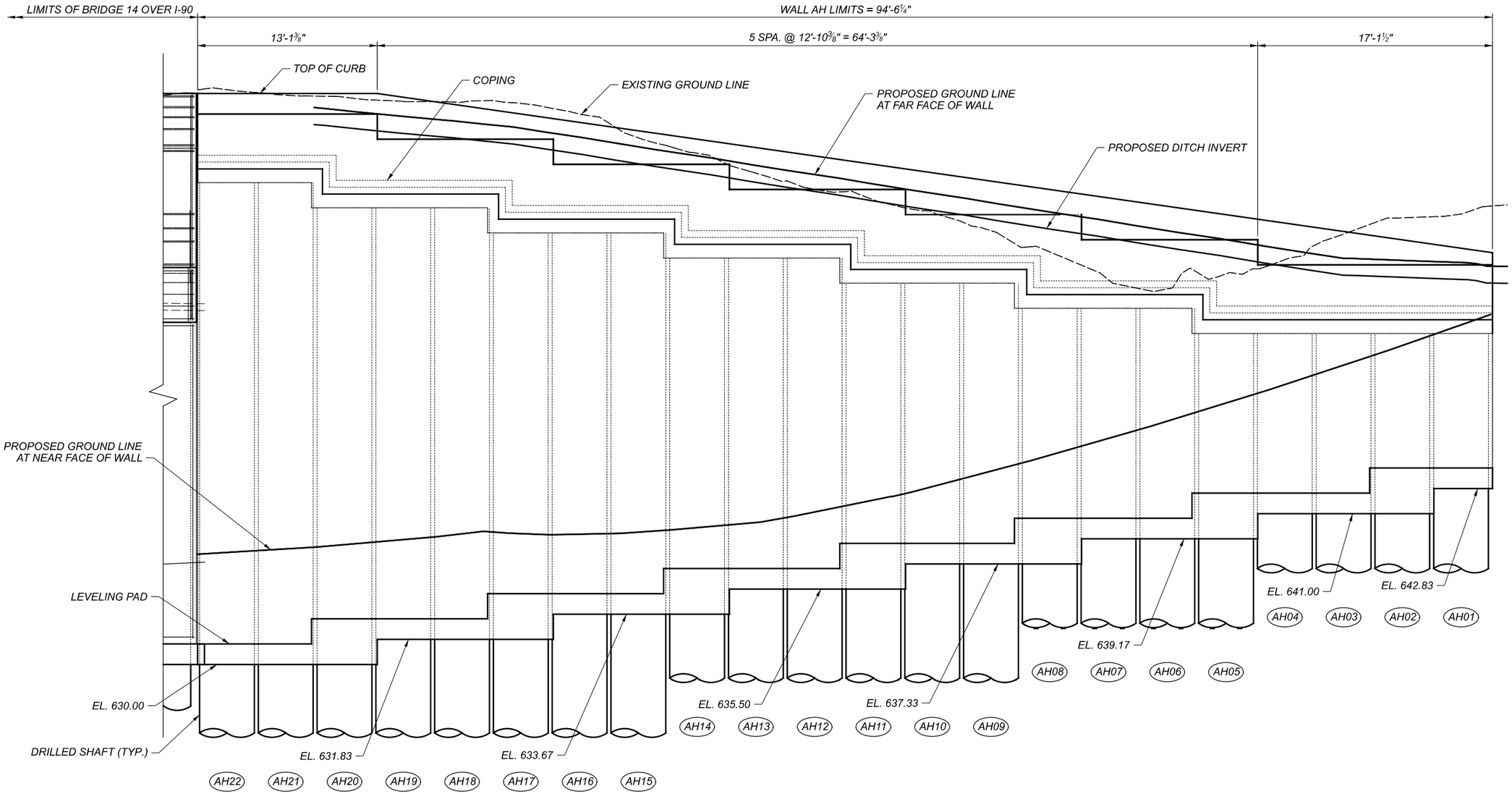
SHEET 1057	TOTAL 2339	SUBSET 7	TOTAL 11	PROJECT ID 82382	REVIEWER —	DESIGNER SSW	CHECKER —

Michael Baker INTERNATIONAL

SFN N/A
DESIGN AGENCY

DRILLED SHAFT TABLE
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.



LEGEND:

(#) - DENOTES SOLDIER PILE NUMBER

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WALL ELEVATION
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

SFN	—NA—
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	—NA—
REVIEWER	— —
PROJECT ID	82382
SUBSET	8
TOTAL	11
SHEET	1058
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:52:40 AM USER: Kathy.Johnson
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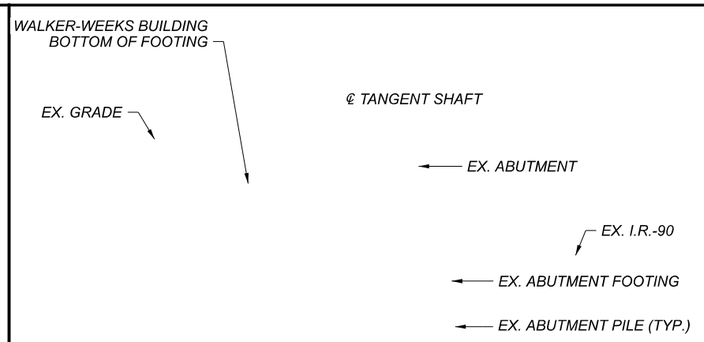
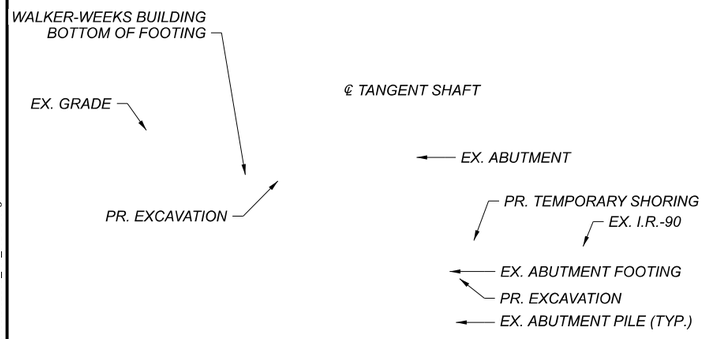


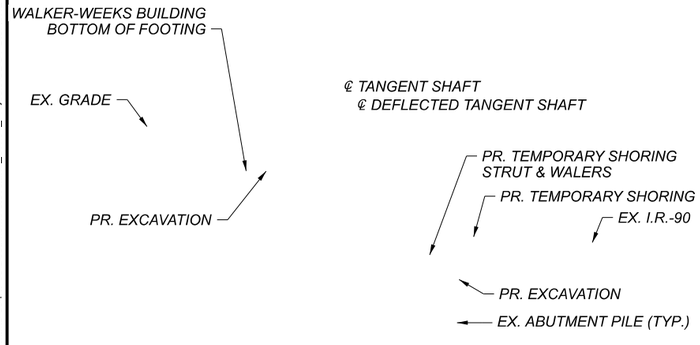
STEP 1

CLOSE CARNEGIE AVE., REMOVE EXISTING APPROACH SLAB, AND EXCAVATE TO BOTTOM OF TANGENT SHAFT CAP



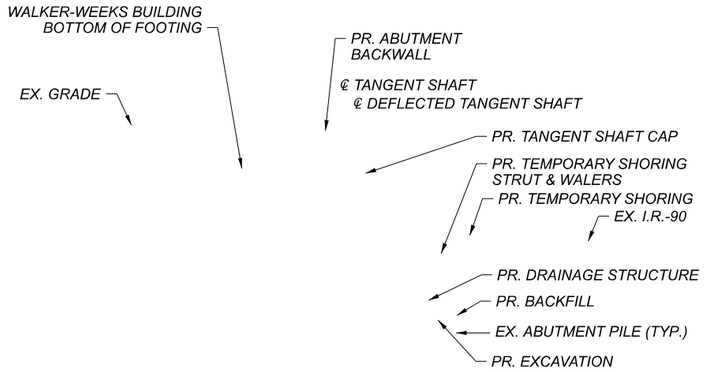
STEP 2

PERFORM I.R.-90 MOT OPERATIONS, DRIVE TEMPORARY SHORING, AND REMOVE EXISTING ABUTMENT TO BOTTOM OF FOOTING ELEVATION



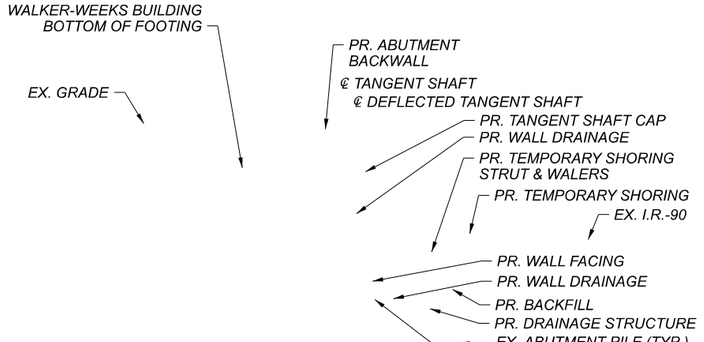
STEP 3

REMOVE PORTIONS OF EXISTING PILES AND PLACE TEMPORARY SHORING & TANGENT SHAFT WALERS & STRUTS



STEP 4

EXCAVATE TO PROPOSED DRAINAGE BEDDING ELEVATION, REMOVE ADDITIONAL PORTIONS OF EXISTING PILES, AND PLACE PROPOSED DRAINAGE BEDDING & DRAINAGE STRUCTURES

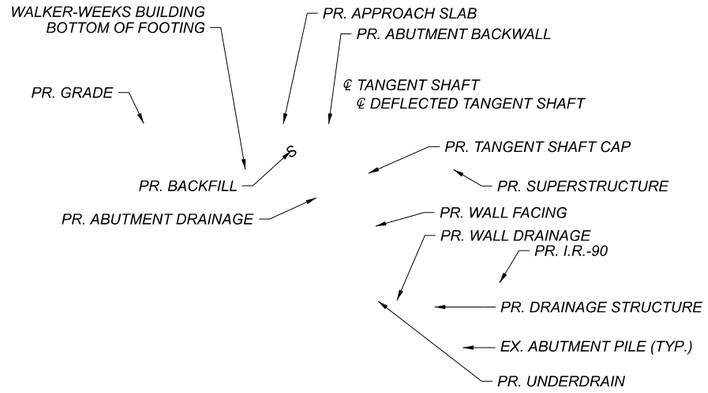


STEP 5

BACKFILL & COMPACT TO BOTTOM OF PROPOSED WALL FACING LEVELING PAD ELEVATION. CONSTRUCT LEVELING PAD, PROPOSDED WALL DRAINAGE, PORTION OF WALL FACING UP TO STRUT, AND ROADWAY UNDERDRAIN.

STEP 6

BACKFILL & COMPACT TO BOTTOM OF PROPOSED ROADWAY SUBGRADE ELEVATION.



STEP 7

REMOVE TEMPORARY SHORING STRUT & TEMPORARY SHORING. INSTALL REMAINING FACING AND INSTALL SUPERSTRUCTURE. INSTALL ABUTMENT DRAINAGE, BACKFILL BEHIND ABUTMENT, AND INSTALL APPROACH SLABS. INSTALL I.R.-90 SUBGRADE, ROADWAY & BARRIER.

NOTES:

1. STAGED CONSTRUCTION DETAILS SHOWN HERE-IN ARE A SUGGESTED SEQUENCE BASED ON THE ANALYSIS AND DESIGN APPROACH OF THE TANGENT SHAFT ABUTMENT. ADDITIONAL STEPS MAY BE NECESSARY TO COMPLETE THE WORK.
2. DEFLECTED SHAFTS SHOWN ARE EXAGGERATED FOR CLARITY.
3. SEE ROADWAY AND DRAINAGE PLANS FOR ADDITIONAL DETAILS.

LEGEND:

= PORTIONS OF EXISTING STRUCTURE REMOVED

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL STAGED CONSTRUCTION DETAILS
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

SFN	18N/A7898
DESIGN AGENCY	
DESIGNER	CHECKER
REVIEWER	
PROJECT ID	82382
SUBSET	TOTAL 9 / 11
SHEET	TOTAL 1059 / 2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:53:04 AM USER: Kathy-Johnson
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FOR INFORMATION ONLY - NOT FOR REVIEW

SHEET 1060	SUBSET 10	PROJECT ID 82382	REVIEWER —	DESIGNER SSW	CHECKER —	Michael Baker INTERNATIONAL	SFN N/A
TOTAL 2339	TOTAL 11						DESIGN AGENCY

PARAPET AND FENCE DETAILS
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 10:53:20 AM USER: Kathy.Johnson
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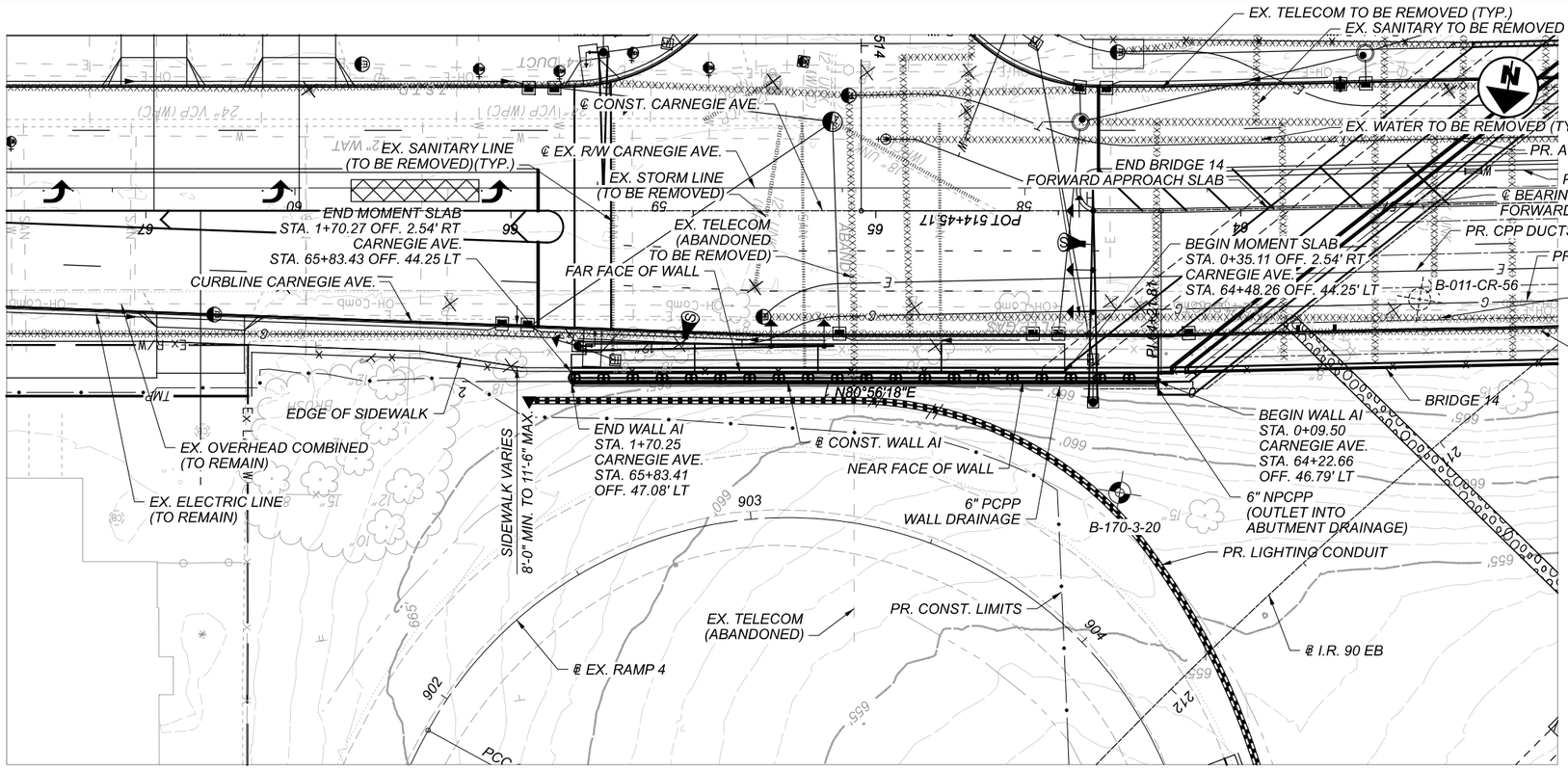
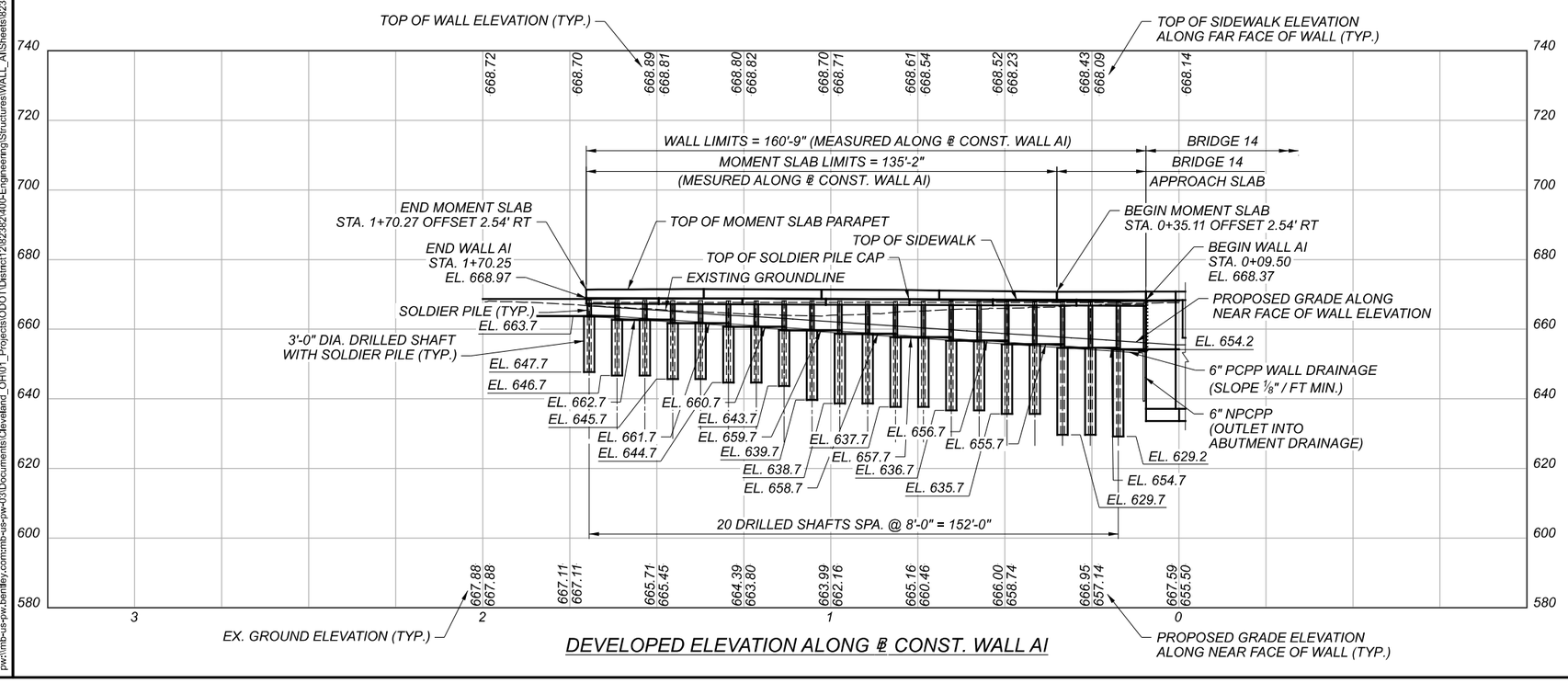
FOR INFORMATION ONLY - NOT FOR REVIEW

SHEET 1061 / TOTAL 2339	SUBSET 11 / TOTAL 11	PROJECT ID 82382	REVIEWER —	DESIGNER SSW / CHECKER —	Michael Baker INTERNATIONAL	SFN DESIGN AGENCY N/A	REINFORCING SCHEDULE WALL AH ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AI

BENCHMARK DATA

BM #62 STA.	41+38.42,	ELEV.	672.11,	OFFSET	75.42 LT.,	RR SPIKE
BM #64 STA.	58+35.86,	ELEV.	671.25,	OFFSET	47.90 LT.,	RR SPIKE
BM #65 STA.	66+35.73,	ELEV.	668.92,	OFFSET	38.62 RT.,	RR SPIKE
BM #73 STA.	49+25.90,	ELEV.	671.90,	OFFSET	31.86 LT.,	CUT CROSS

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR WALL CROSS SECTIONS, SEE SHEET / .
3. STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.

LEGEND

- HISTORIC BORING LOCATIONS
- PROJECT BORING LOCATIONS
- INSTRUMENTED BORING LOCATION

CONST. = CONSTRUCTION

WALL PLAN AND PROFILE WALL AI ALONG NORTH SIDE OF CARNEGIE AVE.

CUY-90-16.28 (CCG3A)

MODEL: CLP_1 - Wall AI Plan PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:48:45 AM USER: Kathy.Johnson
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SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	1
TOTAL	12
SHEET	1062
TOTAL	2339

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

VPF-1-90	REVISED	7/20/2018
BR-2-15	REVISED	1/21/2022

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	DATED	1/21/2022

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 01-21-22).

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 4.0 KSI (DRILLED SHAFTS)
REINFORCING STEEL / WELDED WIRE REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
STEEL SOLDIER PILES - 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 A709, 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 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.

ITEM 610 - RETAINING WALL, MISC.: 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 ¼-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 _____.

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.

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

1. DEFECTS THAT INDICATE IMPERFECT MOLDING.
2. DEFECTS THAT INDICATE HONEYCOMBED OR OPEN TEXTURE CONCRETE.
3. DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, OR DAMAGE TO THE AESTHETIC SURFACE TREATMENTS.
4. CONCRETE CHIPS OR SPALLS THAT ARE LARGER THAN 4 INCHES WIDE OR 2 INCHES DEEP. REPAIR ALL CHIPS AND SPALLS THAT ARE SMALLER.
5. STAINED FORM FACES, DUE TO FORM OIL, CURING OR OTHER CONTAMINANTS.
6. SIGNS OF AGGREGATE SEGREGATION.
7. 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.
8. PANELS THAT DO NOT MEET THE SPECIFIED DIMENSIONAL TOLERANCES.
9. UNUSABLE LIFTING INSERTS.
10. EXPOSED REINFORCING STEEL.
11. 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 610 - RETAINING WALL, MISC.: PRECAST CONCRETE 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	—

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
2	12

SHEET	TOTAL
1063	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet (1 of 2) PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:49:05 AM USER: Kathy.Johnson
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ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SEAL SURFACES OF THE CAST-IN-PLACE CONCRETE WALL FACING, PILASTERS, PARAPET, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE LIGHT TAN (FEDERAL STD. 595C #27769).

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

ADD NOTES

ITEM 513 - STRUCTURAL STEEL, MISC.: RETENTION ANGLE

ADD NOTES

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

ADD NOTES

PLAN ABBREVIATIONS:

ABUT. = ABUTMENT
APPR. = APPROACH
B = BOTTOM
℄ = BASELINE
B.F. = BACK FACE
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. = FRONT 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
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

SECTION/DETAIL/VIEW CALLOUTS

(SEE SECTION A ON SHEET 10)

(SECTION A CUT FROM SHEET 9)

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

SFN
---NA---

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
MKB	---NA---

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
3	12

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1064	2339

CUY-90-16.28

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ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
507	00400	454	FT	STEEL PILES, MISC.: W24x162, FURNISHED					
507	00400	96	FT	STEEL PILES, MISC.: W24x229, FURNISHED					
509	10000	30900	LB	EPOXY COATED REINFORCING STEEL					
511	53012	70	CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET WITH QC/QA					
512	10100	144	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
512	10001	144	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)					
513	90000	525	LB	STRUCTURAL STEEL, MISC.: RETENTION ANGLE					
516	13600	268	SF	1" PREFORMED EXPANSION JOINT FILLER					
516	42000	150	EACH	ELASTOMERIC BEARING PAD, MISC.: 6"x10"x3/8" THICK					
518	40000	160	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	14	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
524	94703	383	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN					
607	39911	160	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN					
610	50010	1590	SF	RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING					

ESTIMATED QUANTITIES
WALL AI
ALONG NORTH SIDE OF CARNEGIE AVE.

SFN
—NA—

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
MKB	—NA—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
4	12

SHEET	TOTAL
1065	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 4:15:10 PM USER: Shane.Weliss
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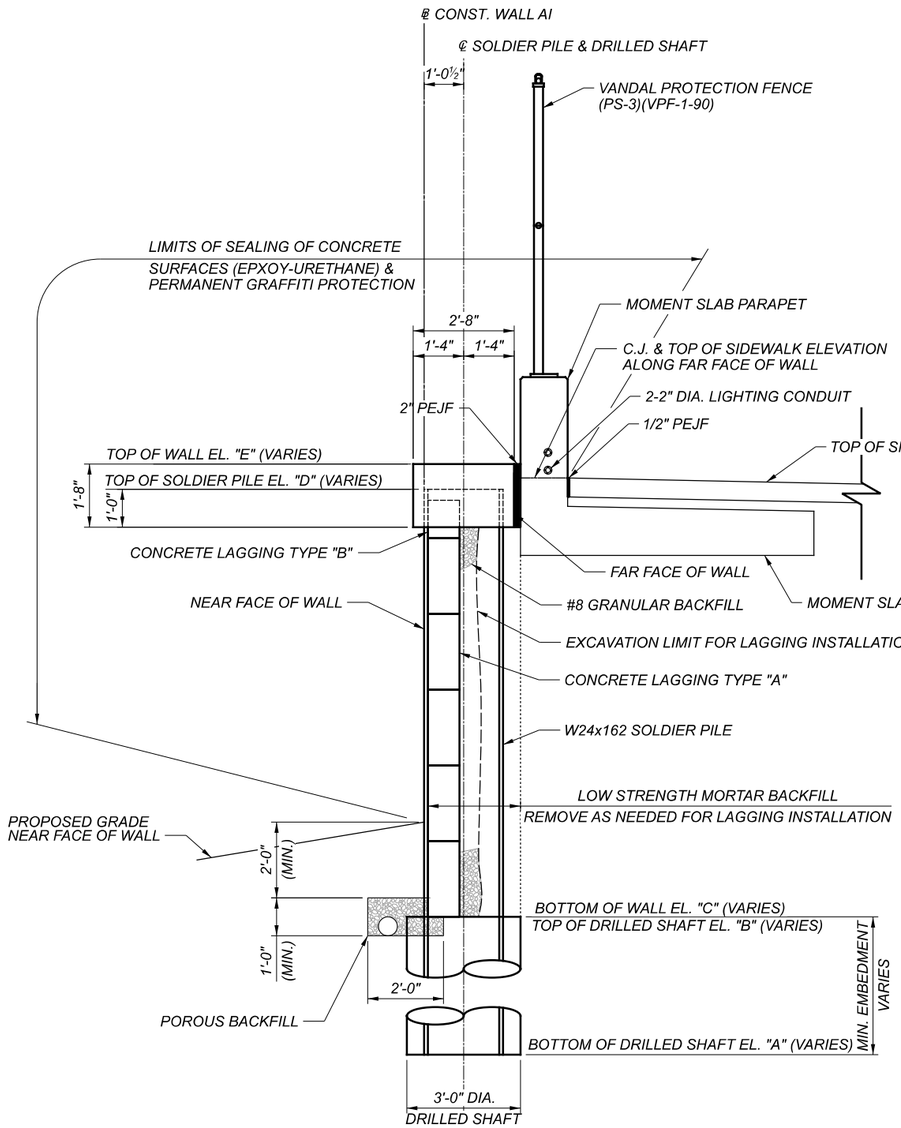
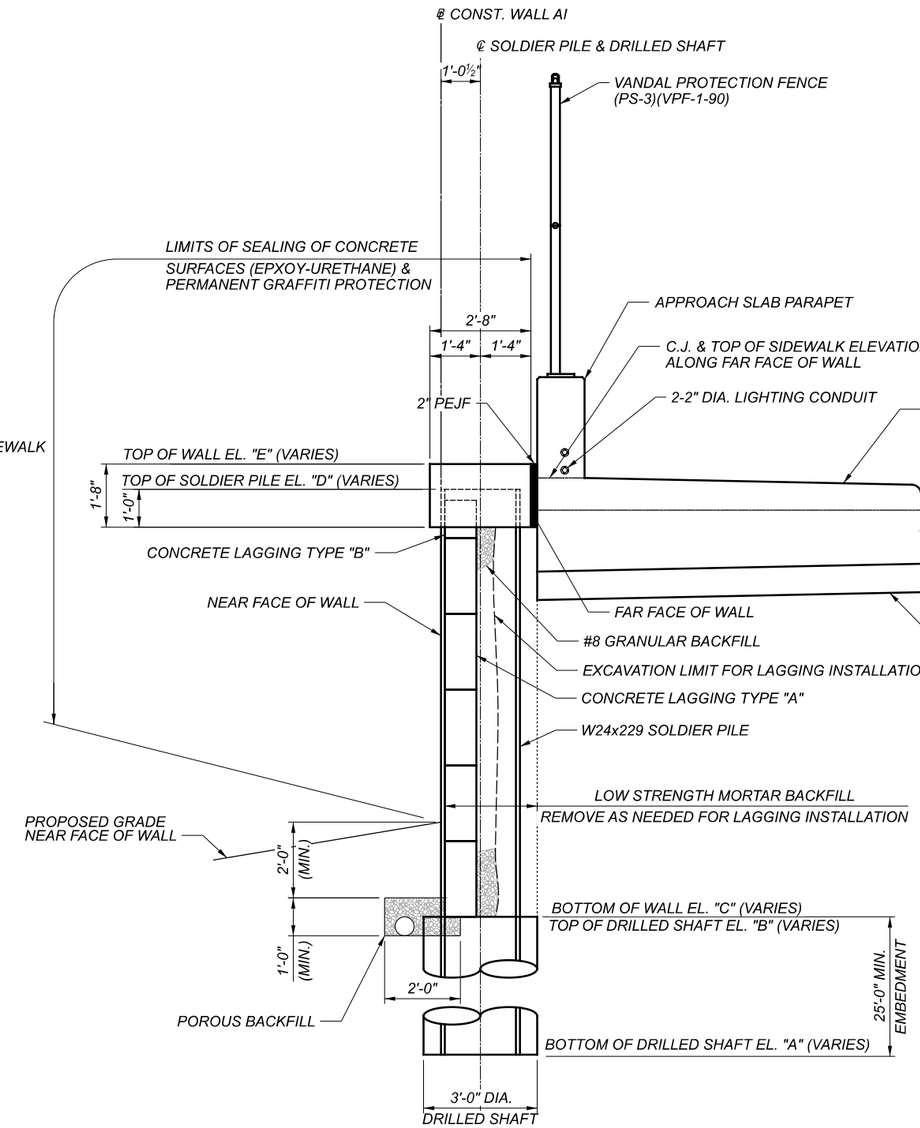


SOLDIER PILE AND LAGGING WALL AI TYP. SECTION

(ALONG MOMENT SLAB)



SOLDIER PILE AND LAGGING WALL AI TYP. SECTION

(ALONG BRIDGE 14 APPROACH SLAB)

NOTES:

1. SEE BRIDGE 14 APPROACH SLAB DETAILS FOR ADDITIONAL INFORMATION.

WALL TYPICAL SECTIONS
WALL AI
ALONG NORTH SIDE OF CARNEGIE AVE.

CUY-90-16.28 (CCG3A)

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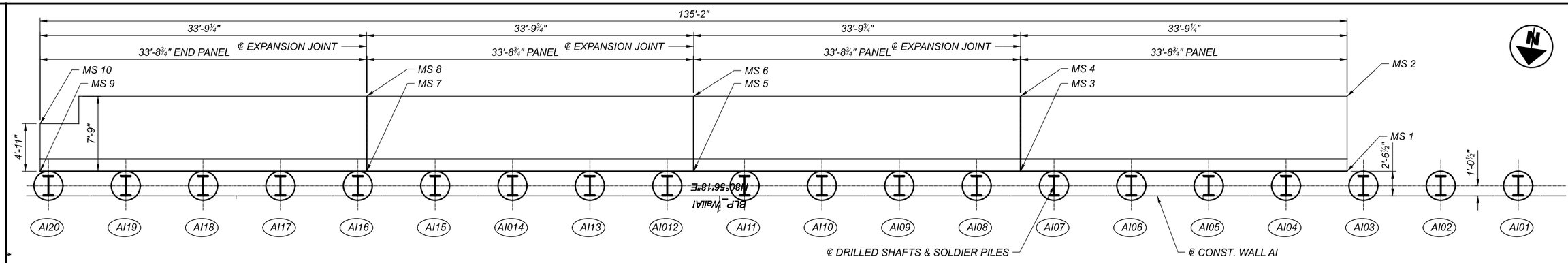
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	–
REVIEWER	— —
PROJECT ID	82382
SUBSET	5
TOTAL	12
SHEET	1066
TOTAL	2339



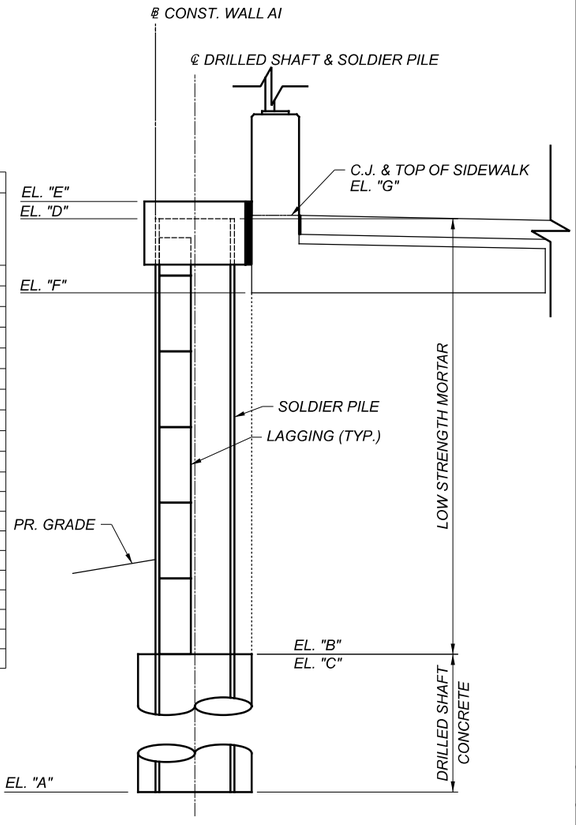
FOUNDATION PLAN

WALL AI DRILLED SHAFT & SOLDIER PILE SCHEDULE

DESIGNATION	STATION BASELINE WALL AI	CENTERLINE OFFSET FROM BASELINE WALL AI (FT.)	DIAMETER (IN.)	SHEAR STUDS (YES/NO)	BOTTOM OF DRILLED SHAFT EL. "A"	TOP OF SHAFT CONCRETE EL. "B"	CONCRETE SHAFT LENGTH (FT.)	BOTTOM OF WALL EL. "C"	TOP OF SOLDIER PILE E. "D"	TOP OF WALL EL. "E"	ESTIMATED LENGTH OF SOLDIER PILE (FT.)	HEIGHT OF LAGGING (FT.)	SOLDIER PILE SIZE
AI01	00+17.42	1.042 RT	36	NO	629.2	654.2	25.0	654.2	667.7	668.4	38.5	13.0	W24x229
AI02	00+25.42	1.042 RT	36	NO	629.7	654.7	25.0	654.7	667.8	668.4	38.1	13.0	W24x229
AI03	00+33.42	1.042 RT	36	NO	629.7	654.7	25.0	654.7	667.8	668.5	38.1	13.0	W24x229
AI04	00+41.42	1.042 RT	36	NO	635.7	655.7	20.0	655.7	667.8	668.5	32.1	12.0	W24x162
AI05	00+49.42	1.042 RT	36	NO	635.7	655.7	20.0	655.7	667.8	668.5	32.1	12.0	W24x162
AI06	00+57.42	1.042 RT	36	NO	636.7	656.7	20.0	656.7	667.9	668.6	31.2	11.0	W24x162
AI07	00+65.42	1.042 RT	36	NO	636.7	656.7	20.0	656.7	667.9	668.6	31.2	11.0	W24x162
AI08	00+73.42	1.042 RT	36	NO	637.7	657.7	20.0	657.7	667.9	668.6	30.2	10.0	W24x162
AI09	00+81.42	1.042 RT	36	NO	637.7	657.7	20.0	657.7	668.0	668.6	30.3	10.0	W24x162
AI10	00+89.42	1.042 RT	36	NO	638.7	658.7	20.0	658.7	668.0	668.7	29.3	9.0	W24x162
AI11	00+97.42	1.042 RT	36	NO	638.7	658.7	20.0	658.7	668.0	668.7	29.3	9.0	W24x162
AI12	01+05.42	1.042 RT	36	NO	639.7	659.7	20.0	659.7	668.0	668.7	28.3	8.0	W24x162
AI13	01+13.42	1.042 RT	36	NO	643.7	659.7	16.0	659.7	668.1	668.8	24.4	8.0	W24x162
AI14	01+21.42	1.042 RT	36	NO	644.7	660.7	16.0	660.7	668.1	668.8	23.4	7.0	W24x162
AI15	01+29.42	1.042 RT	36	NO	644.7	660.7	16.0	660.7	668.1	668.8	23.4	7.0	W24x162
AI16	01+37.42	1.042 RT	36	NO	645.7	661.7	16.0	661.7	668.2	668.8	22.5	6.0	W24x162
AI17	01+45.42	1.042 RT	36	NO	645.7	661.7	16.0	661.7	668.2	668.9	22.5	6.0	W24x162
AI18	01+53.42	1.042 RT	36	NO	646.7	662.7	16.0	662.7	668.2	668.9	21.5	5.0	W24x162
AI19	01+61.42	1.042 RT	36	NO	646.7	662.7	16.0	662.7	668.3	668.9	21.6	5.0	W24x162
AI20	01+69.42	1.042 RT	36	NO	647.7	663.7	16.0	663.7	668.3	669.0	20.6	4.0	W24x162

WALL AI MOMENT SLAB ELEVATIONS

DESIGNATION	STATION BASELINE WALL AI	OFFSET FROM BASELINE WALL AI (FT.)	BOTTOM OF MOMENT SLAB EL. "F"	TOP OF SIDEWALK EL. "G"
MS 1	00+35.11	2.542 RT	666.0	668.09
MS 2	00+35.11	10.292 RT	666.0	
MS 3	00+68.88	2.542 RT	666.4	668.46
MS 4	00+68.88	10.292 RT	666.4	
MS 5	01+02.69	2.542 RT	666.7	668.72
MS 6	01+02.69	10.292 RT	666.7	
MS 7	01+36.50	2.542 RT	666.8	668.87
MS 8	01+36.50	10.292 RT	666.8	
MS 9	01+70.27	2.542 RT	666.7	668.71
MS 10	01+70.27	7.458 RT	666.7	



DRILLED SHAFT & SOLDIER PILE SCHEMATIC

LEGEND:

(#) - DENOTES SOLDIER PILE NUMBER

FOUNDATION PLAN
WALL AI
ALONG NORTH SIDE OF CARNEGIE AVE.

SFN —NA—

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
MKB	—NA—

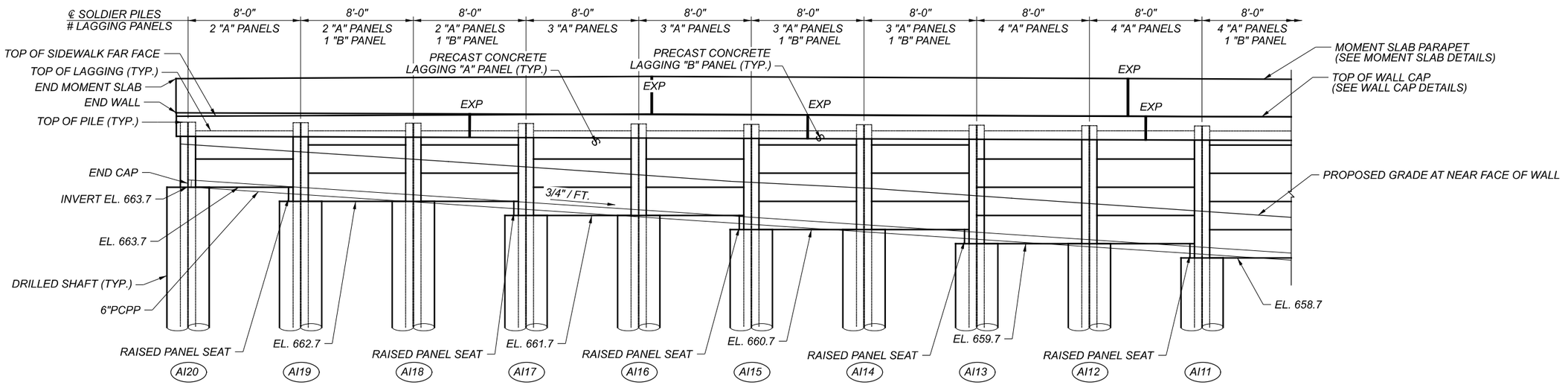
REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
6	12

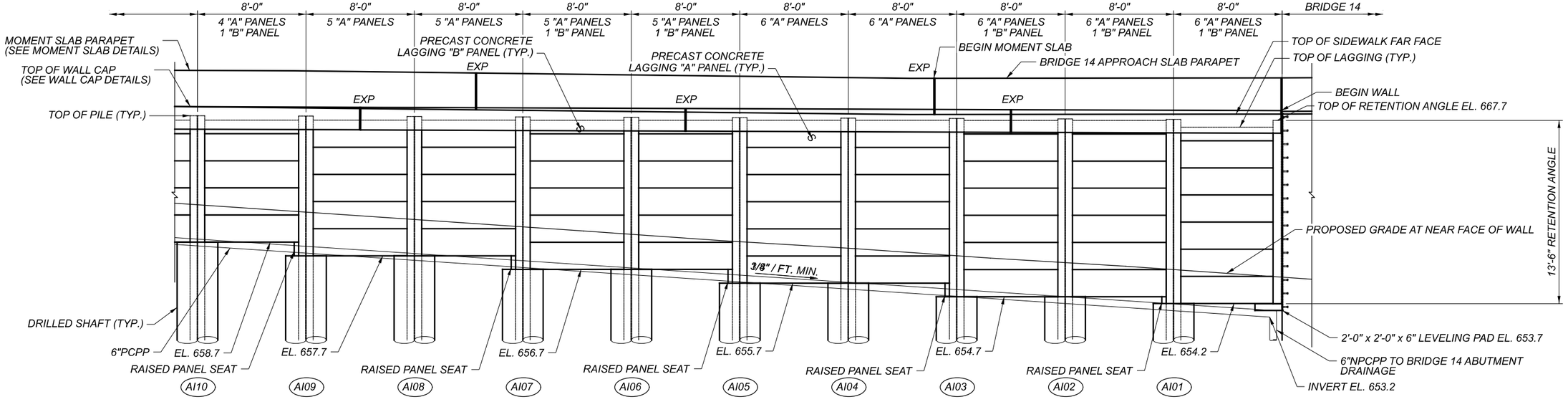
SHEET	TOTAL
1067	2339

CUY-90-16.28 (CCG3A)



ELEVATION

(DIMENSIONS GIVEN ALONG ℄ CONST. WALL AI)



ELEVATION

(DIMENSIONS GIVEN ALONG ℄ CONST. WALL AI)

LEGEND:

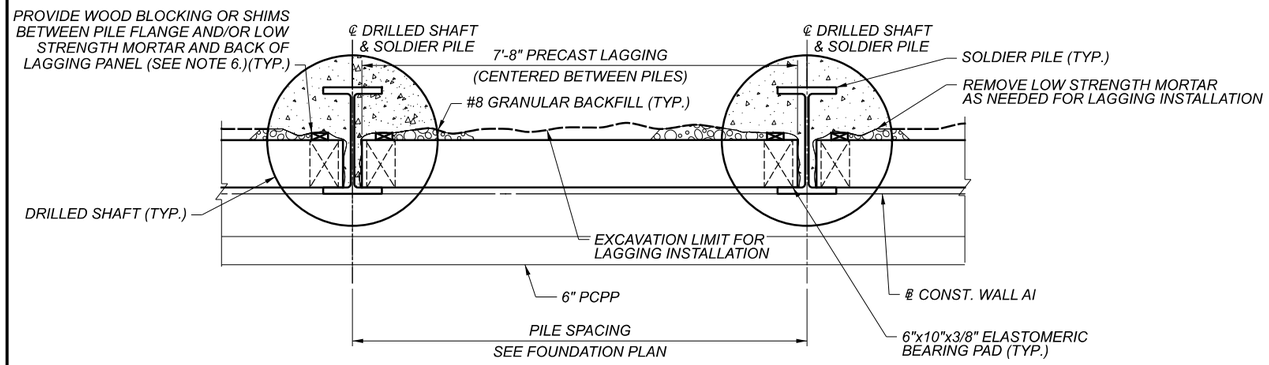
(#) - DENOTES SOLDIER PILE NUMBER

EXP - EXPANSION JOINT

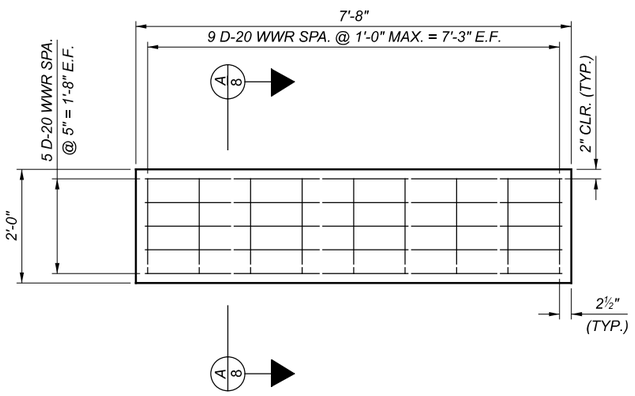
WALL ELEVATION
WALL AI
ALONG NORTH SIDE OF CARNEGIE AVE.

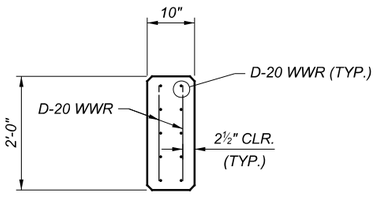
SFN	—NA—
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	—NA—
REVIEWER	— —
PROJECT ID	82382
SUBSET	7
TOTAL	12
SHEET	1068
TOTAL	2339

CUY-90-16.28 (CCG3A)



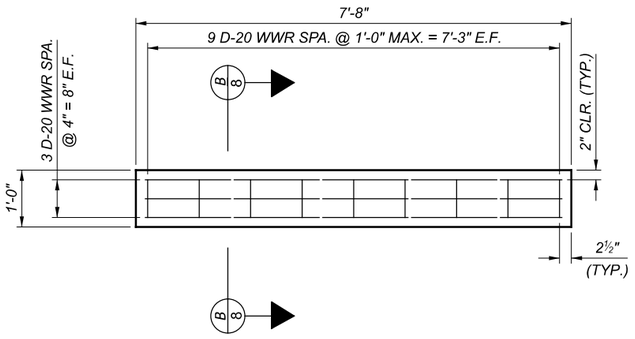
TYPICAL PLAN

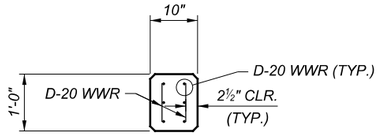




TYPE "A" PRECAST LAGGING ELEVATION

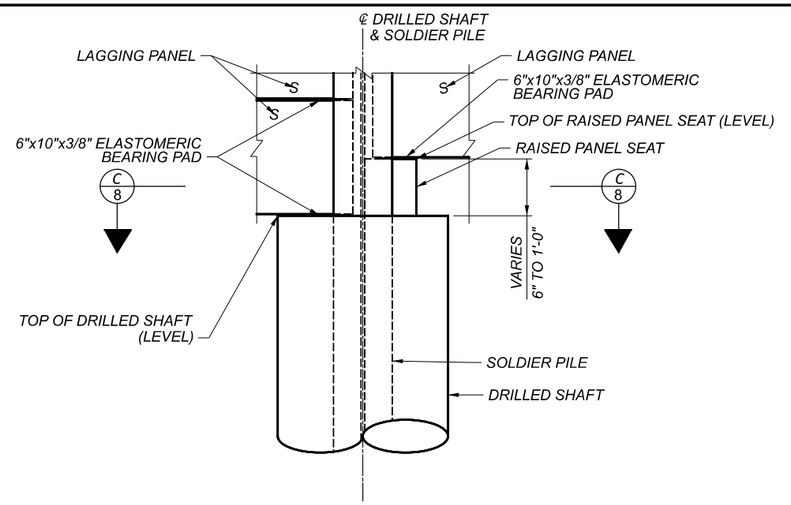
A 8 SECTION





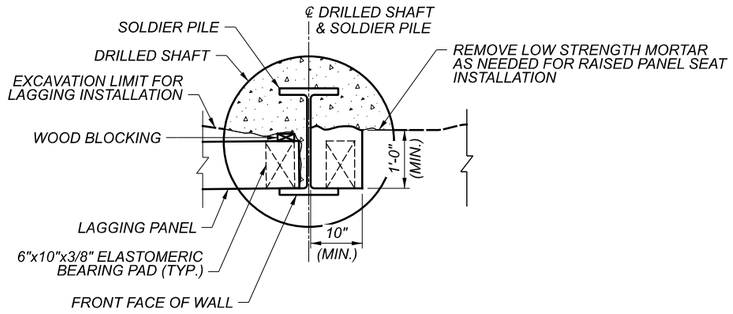
TYPE "B" PRECAST LAGGING ELEVATION

B 8 SECTION



RAISED PANEL SEAT DETAIL

LOW STRENGTH MORTAR NOT SHOWN FOR CLARITY



C 8 SECTION

NOTES:

1. ELASTOMERIC BEARING PADS SHALL BE PROVIDED AT ALL BOTTOM PANELS BETWEEN THE PANEL AND TOP OF CONCRETE DRILLED SHAFT AND/OR RAISED PANEL SEAT. THEY SHALL ALSO BE PROVIDED AT EACH END OF EACH PANEL BETWEEN PANELS.
2. ELASTOMERIC BEARING PADS SHALL BE NEOPRENE ELASTOMERIC PADS HAVING DUROMETER HARDNESS OF 55 ± 5, HIGH DENSITY POLYETHYLENE PADS WITH A MINIMUM DENSITY OF 59 LB/FT3 {0.946 G/CM3} OR EQUIVALENT. SUPPLY CERTIFIED TEST DATA TO THE ENGINEER UPON DELIVERY OF THE MATERIAL TO THE PROJECT. BEARING PADS WILL BE PAID FOR UNDER ITEM 516 ELASTOMERIC BEARING PAD, MISC.: 6"x10"x 3/8" THICK.
3. REINFORCEMENT IN PRECAST LAGGING PANELS SHALL INCLUDED WITH ITEM 610 - RETAINING WALL MISC.: PRECAST CONCRETE LAGGING FOR PAYMENT.
4. PROVIDE 1" x 1" CHAMFER AT EXPOSED TOP AND BOTTOM OF LAGGING PANELS.
5. CENTER LAGGING PANELS BETWEEN PILE WEBS.
6. CONTRACTOR HAS THE OPTION TO REMOVE LOW STRENGTH MORTAR AS NEEDED FOR LAGGING INSTALLATION. USE WOOD BLOCKING AND/OR SHIMS TO ENSURE LAGGING PANEL REMAINS FLUSH AGAINST BACK OF SOLDIER PILE FLANGE AT THE FRONT FACE OF WALL.

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

SFN	—NA—
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	—NA—
REVIEWER	— —
PROJECT ID	82382
SUBSET	8
TOTAL	12
SHEET	1069
TOTAL	2339

CUY-90-16.28 (CCG3A)
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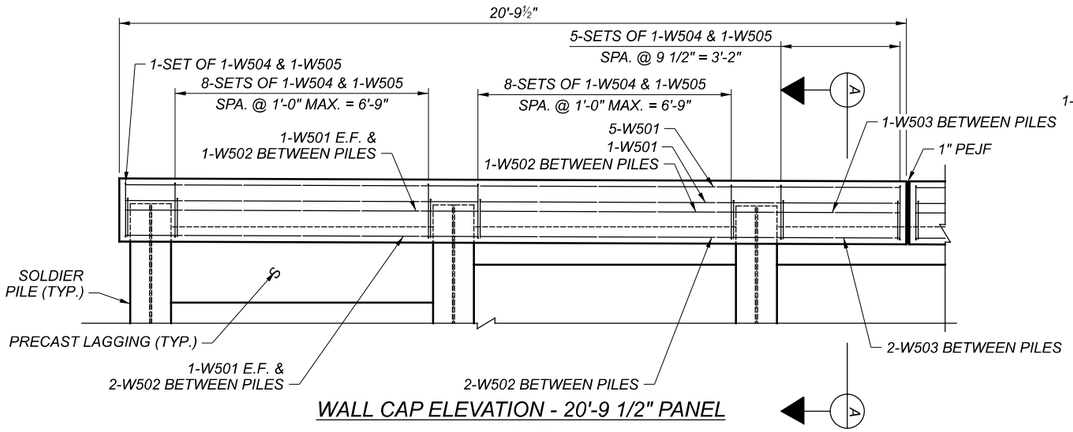
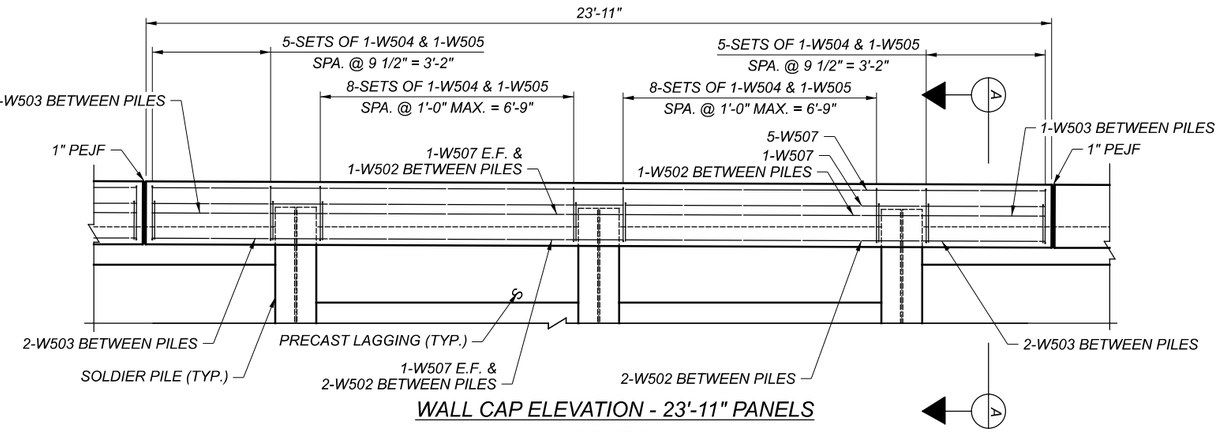


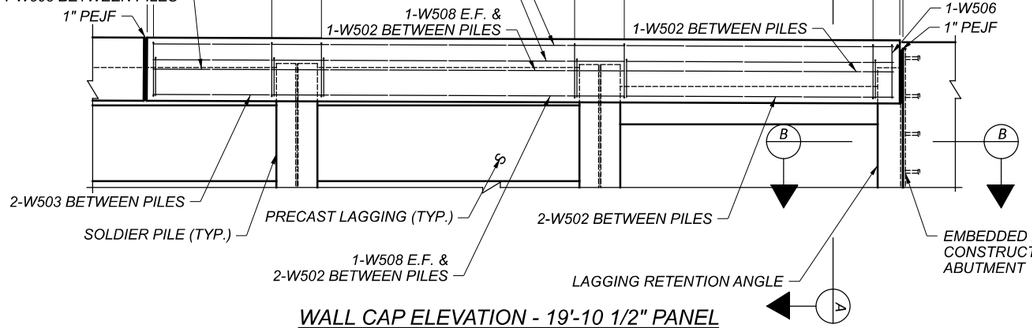
WALL CAP ELEVATION - 20'-9 1/2" PANEL

(1 PANEL)



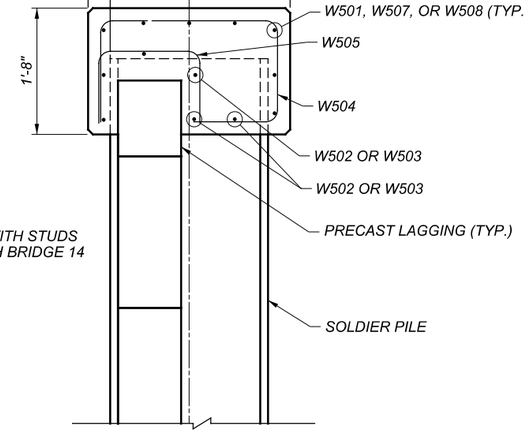
WALL CAP ELEVATION - 23'-11" PANELS

(5 PANELS)

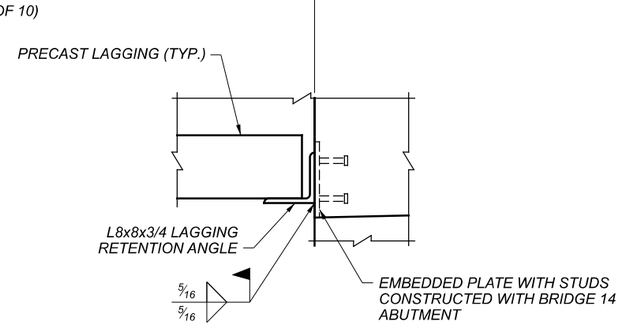


WALL CAP ELEVATION - 19'-10 1/2" PANEL

(1 PANEL)



A SECTION
WALL CAP



B SECTION
LAGGING RETAINER AT ABUTMENT

WALL DETAILS (2 OF 2)
WALL AI
ALONG NORTH SIDE OF CARNEGIE AVE.

CUY-90-16.28 (CCG3A)

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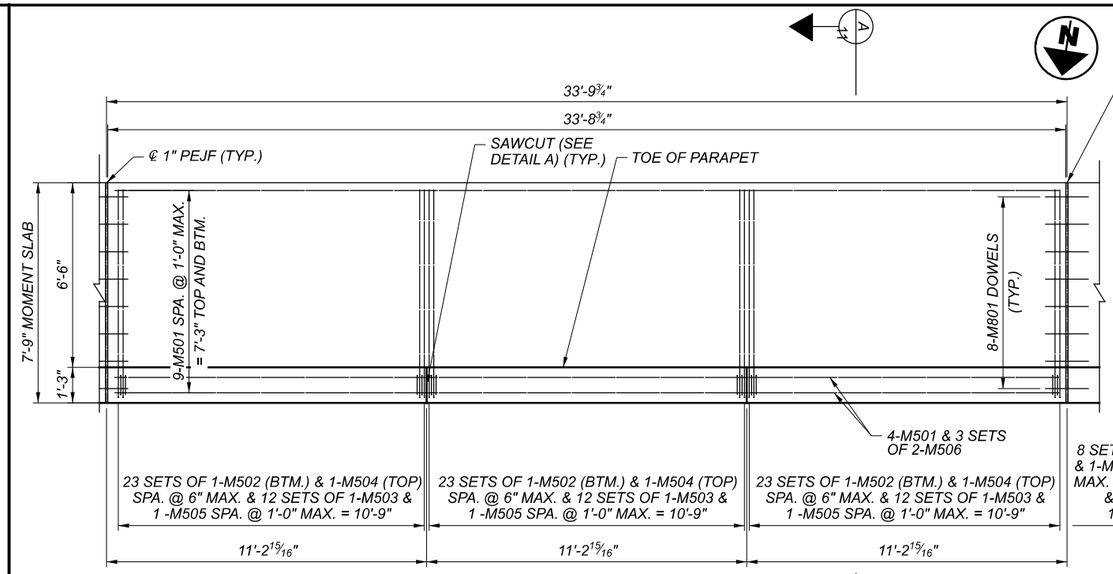
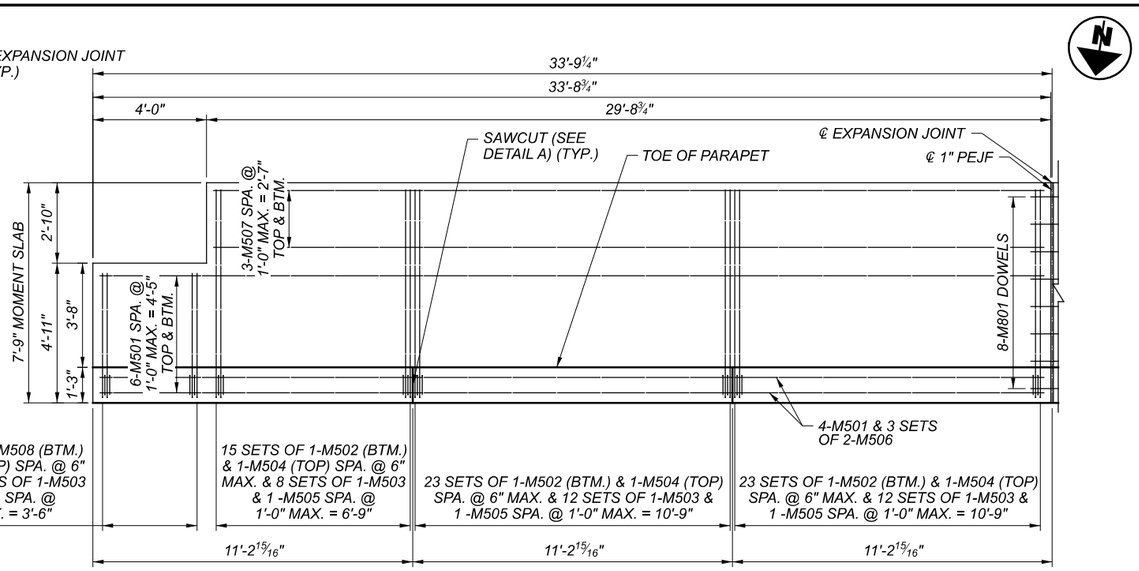
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	9
TOTAL	12
SHEET	1070
TOTAL	2339



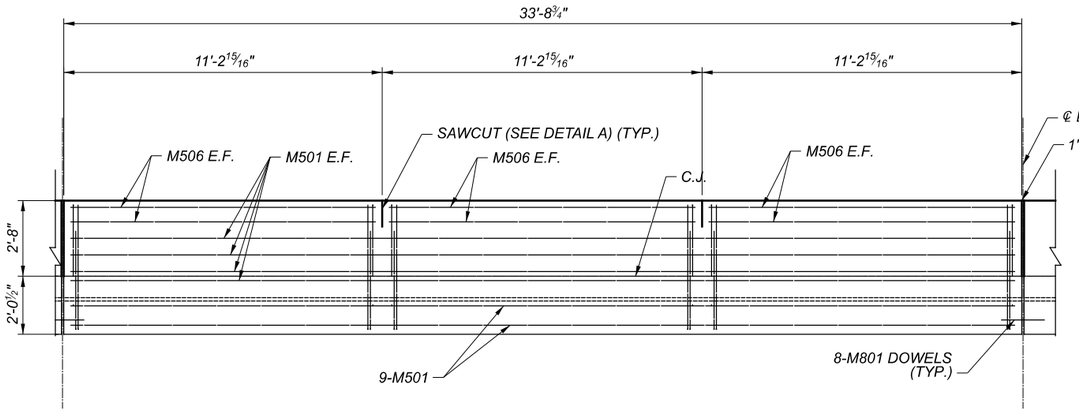
MOMENT SLAB PLAN - 33'-8 3/4" PANELS

(3 PANELS)



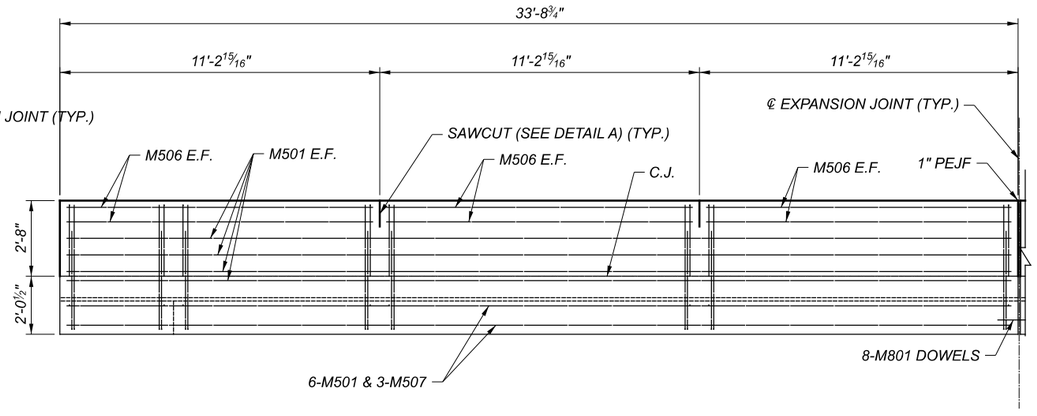
MOMENT SLAB PLAN - 33'-8 3/4" END PANEL

(1 PANEL)



MOMENT SLAB ELEVATION - 33'-8 3/4" PANELS

(3 PANELS)



MOMENT SLAB ELEVATION - 33'-8 3/4" END PANEL

(1 PANEL)

NOTES:

1. *SEE DETAIL A ON SHEET 11/12 FOR ADDTIONAL SAWCUT INFORMATION.*
2. *SEE ODOT STANDARD DRAWING BR-2-15 FOR ADDITIONAL DETAILS.*
3. *VANDAL PROTECTION FENCE NOT SHOWN. SEE ODOT STANDARD DRAWING VPF-1-90 FOR DETAILS*

MOMENT SLAB PLAN AND ELEVATION
WALL A1
ALONG NORTH SIDE OF CARNEGIE AVE.

CUY-90-16.28 (CCG3A)

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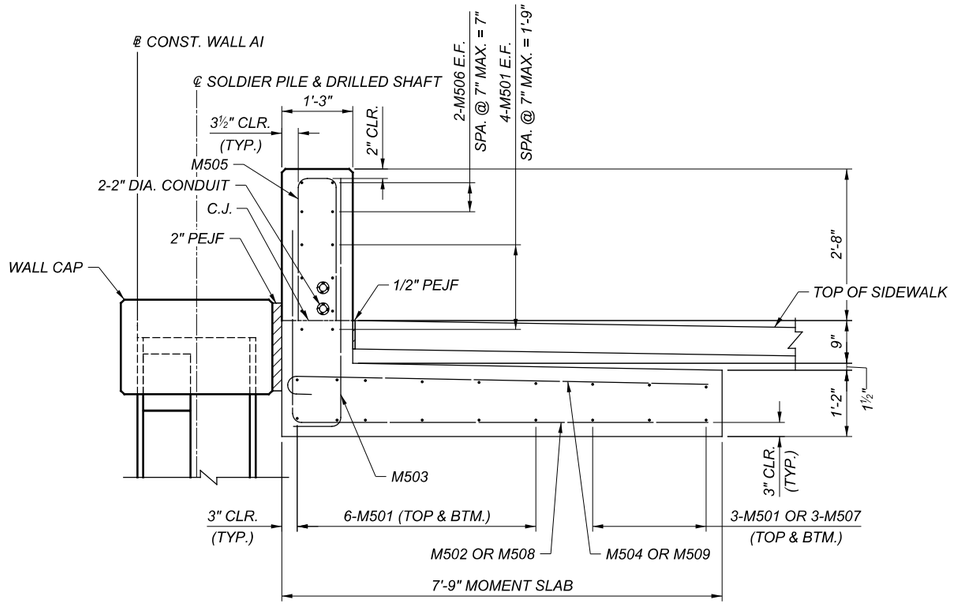
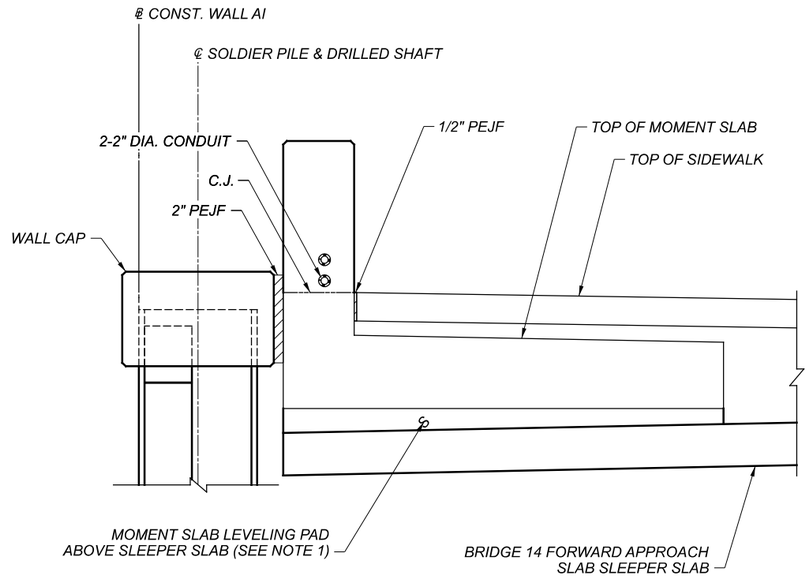
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	BAH
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	10
TOTAL	12
SHEET	1071
TOTAL	2339

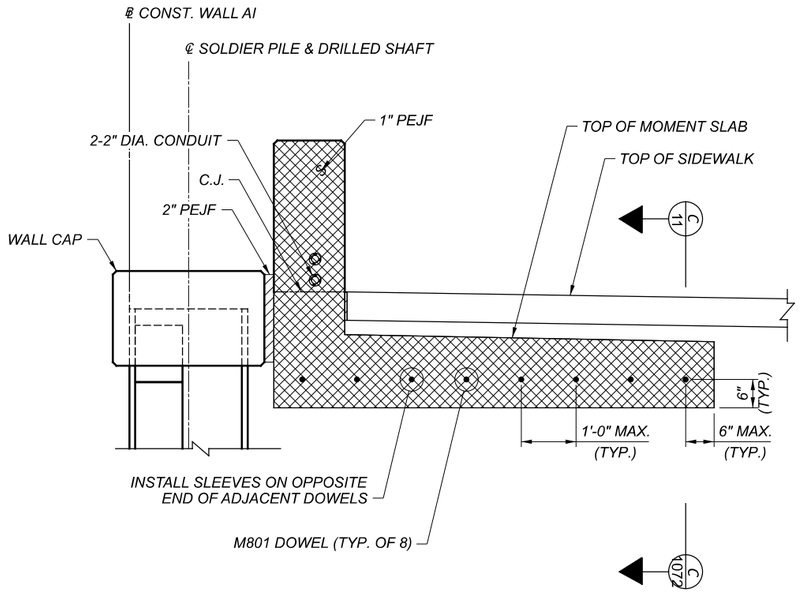


A 10 SECTION

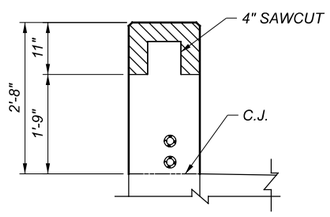


SECTION AT BRIDGE 14 APPROACH SLAB SLEEPER SLAB

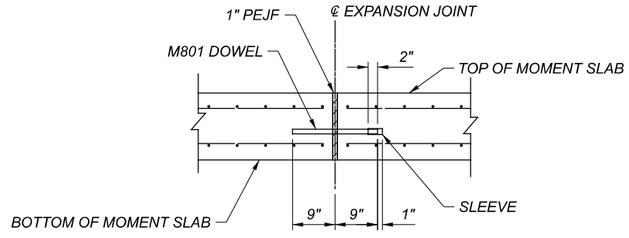
(REINFORCEMENT NOT SHOWN)



TYPICAL MOMENT SLAB SECTION AT EXPANSION JOINT



A 10 DETAIL (SECTION THROUGH SAWCUT)



C 11 SECTION NOTE

NOTES:

1. INCLUDE MOMENT SLAB LEVELING PAD WITH ITEM 511 FOR PAYMENT.
2. SEE SOLDIER PILE AND LAGGING WALL TYPICAL SECTIONS FOR SEALING LIMITS.
3. SEE ODOT STANDARD DRAWING BR-2-15 FOR ADDITIONAL DETAILS.
4. VANDAL PROTECTION FENCE NOT SHOWN. SEE ODOT STANDARD DRAWING VPF-1-90 FOR DETAILS.

MOMENT SLAB DETAILS
WALL AI
ALONG NORTH SIDE OF CARNEGIE AVE.

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	11
TOTAL	12
SHEET	1072
TOTAL	2339

CUY-90-16.28 (CCG3A)

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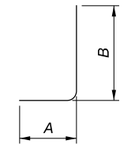
WALL AI MOMENT SLAB											
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						SER INC.
					A	B	C	D	E	R	
		TOTAL:		LBS.							



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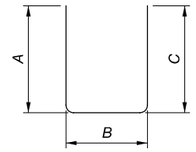

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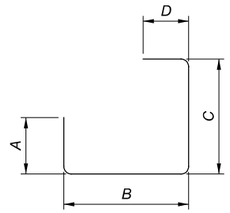

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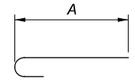

TYPE-16

NOTES:

1. ALL LISTED BAR DIMENSIONS ARE MEASURED OUT TO OUT UNLESS OTHERWISE NOTED.
2. STANDARD BEND SHALL BE ASSUMED WHEN NO BAR LEG DIMENSION IS LISTED.
3. BAR SIZE AND LOCATION ARE INDICATED BY THE BAR MARK. THE LETTER INDICATES BAR LOCATION, THE FIRST NUMBER OF A THREE DIGIT NUMBER, OR THE FIRST TWO DIGITS OF A FOUR DIGIT NUMBER INDICATES BAR SIZE. THE REMAINING TWO DIGITS INDICATE BAR MARK.
4. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

REINFORCING SCHEDULE
WALL AI
ALONG NORTH SIDE OF CARNEGIE AVE.

SFN
—NA—

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
MKB	—NA—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
12	12

SHEET	TOTAL
1073	2339

CUY-90-16.28 (CCG3A)

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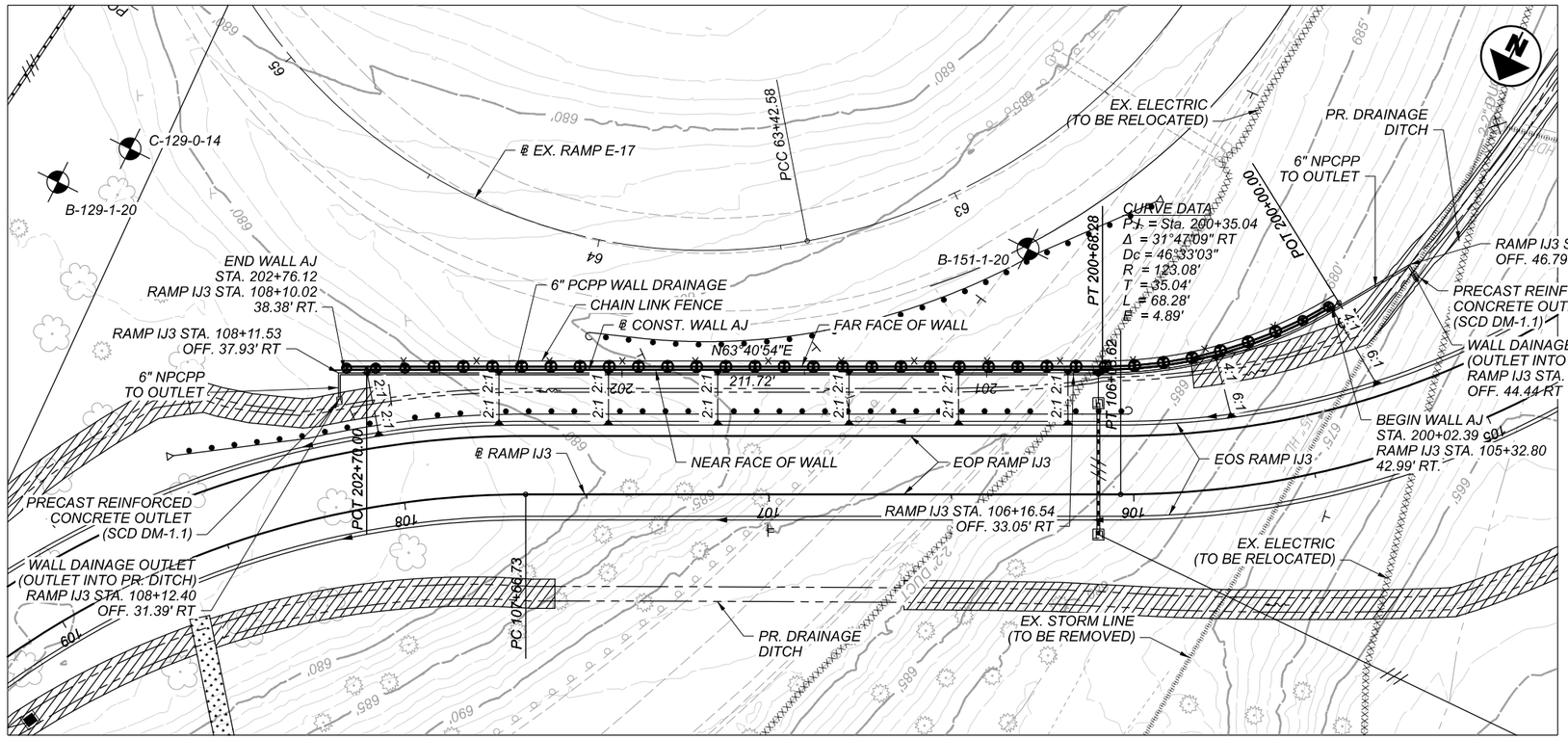
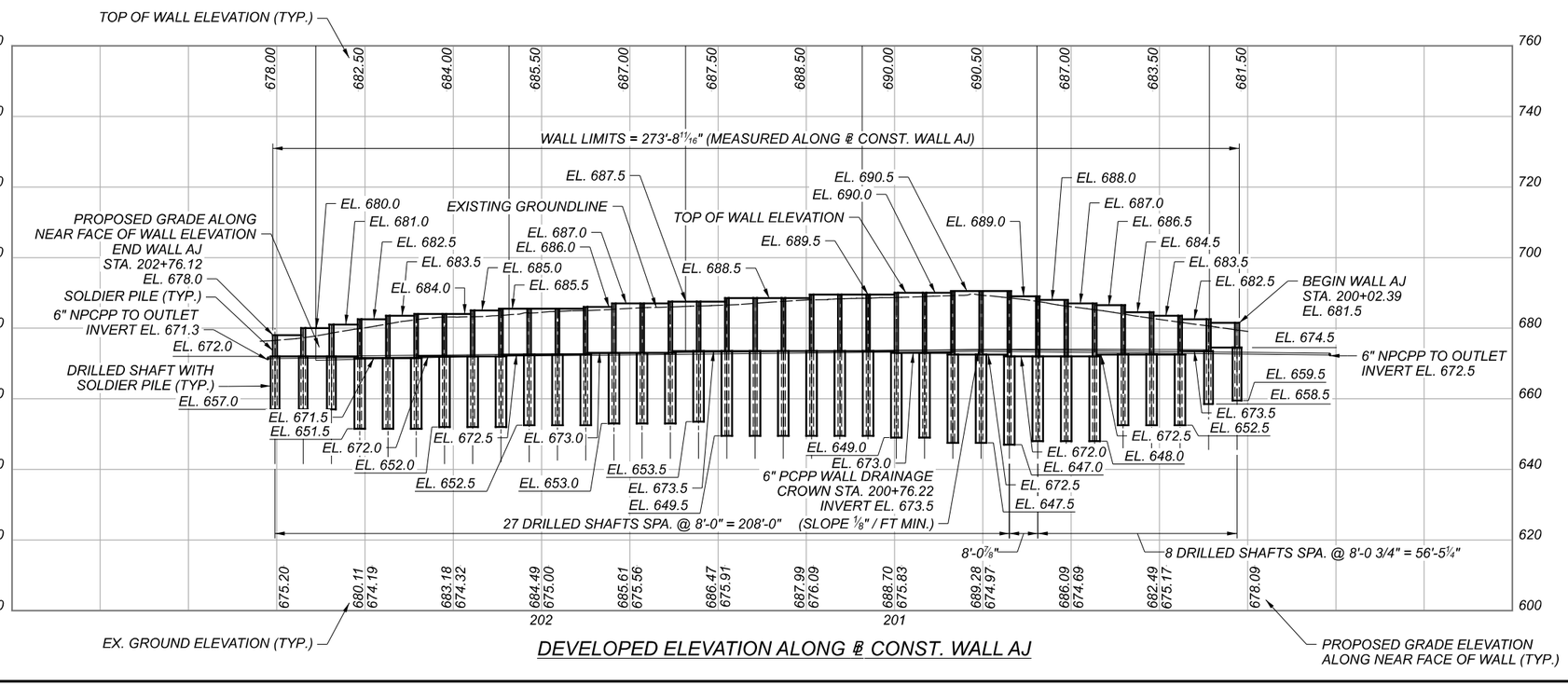


PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL AJ

BENCHMARK DATA

BM #59 STA. 110+66.50, ELEV. 660.15, OFFSET 184.89' RT., MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL IN GRASS MEDIAN BETWEEN EAST 14TH STREET AND COMMUNITY COLLEGE AVE.

BM #68 STA. 96+41.58 ELEV. 678.92, OFFSET 309.86' LT., CUT CROSS ON NORTHEAST BOLT OF TRAFFIC SIGNAL POLE AT SOUTHWEST CORNER OF E. 14TH AND ORANGE AVENUE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*
2. *FOR WALL CROSS SECTIONS, SEE SHEET / .*
3. *STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.*

LEGEND

- *HISTORIC BORING LOCATIONS*
- *PROJECT BORING LOCATIONS*

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE
WALL AJ
ALONG SOUTH SIDE OF RAMP IJ3

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	1
TOTAL	8
SHEET	1074
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: BL_Wall AJ - Wall AJ Plan PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:51:01 AM USER: Kathy.Johnson
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

F-1.1	REVISED	7/19/2013
DM-1.1	REVISED	7/17/2020

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	DATED	1/21/2022

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 01-21-22).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE FACING AND 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.: HP14x73, FURNISHED
ITEM 507 - STEEL PILES, MISC.: W24x104, 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.: HP14x73, FURNISHED, ITEM 507, STEEL PILES, MISC.: W24x104, FURNISHED, AND ITEM 507, STEEL PILES, MISC.: W24x192, FURNISHED.

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.

ITEM 610 - RETAINING WALL, MISC.: 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 ¼-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 _____.

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.

INSPECT ALL PRECAST CONCRETE LAGGING PANELS AND REJECT PANELS HAVING ANY OF THE FOLLOWING:
1. DEFECTS THAT INDICATE IMPERFECT MOLDING.
2. DEFECTS THAT INDICATE HONEYCOMBED OR OPEN TEXTURE CONCRETE.
3. DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, OR DAMAGE TO THE AESTHETIC SURFACE TREATMENTS.
4. CONCRETE CHIPS OR SPALLS THAT ARE LARGER THAN 4 INCHES WIDE OR 2 INCHES DEEP. REPAIR ALL CHIPS AND SPALLS THAT ARE SMALLER.
5. STAINED FORM FACES, DUE TO FORM OIL, CURING OR OTHER CONTAMINANTS.
6. SIGNS OF AGGREGATE SEGREGATION.
7. 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.
8. PANELS THAT DO NOT MEET THE SPECIFIED DIMENSIONAL TOLERANCES.
9. UNUSABLE LIFTING INSERTS.
10. EXPOSED REINFORCING STEEL.
11. 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 610 - RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING.

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

SFN N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER	CHECKER
MKB	—

REVIEWER — —

PROJECT ID	
82382	

SUBSET	TOTAL
2	8

SHEET	TOTAL
1075	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet (1 of 2) PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:51:19 AM USER: Kathy.Johnson
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ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SEAL SURFACES OF THE CAST-IN-PLACE CONCRETE WALL FACING, PILASTERS, PARAPET, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE LIGHT TAN (FEDERAL STD. 595C #27769).

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

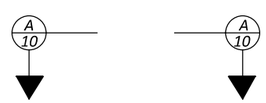
PROVIDE LEVEL CAST-IN-PLACE SEATS FOR LEVEL INSTALLATION OF THE BOTTOM ROW OF LAGGING. SEATS SHALL BE PLACED AS SHOWN IN THE PLANS ON SOUND CONCRETE FROM THE SOLDIER PILE DRILLED SHAFT.

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

PLAN ABBREVIATIONS:

ABUT. = ABUTMENT
APPR. = APPROACH
B = BOTTOM
℄ = BASELINE
B.F. = BACK FACE
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. = FRONT 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
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

SECTION/DETAIL/VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)

(SECTION A CUT FROM SHEET 9)

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

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	3
TOTAL	8
SHEET	1076
TOTAL	2339

CUY-90-16.28

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
507	00400	114	FT	STEEL PILES, MISC.: HP14x73, FURNISHED					
507	00400	527	FT	STEEL PILES, MISC.: W24x104, FURNISHED					
507	00400	439	FT	STEEL PILES, MISC.: W24x192, FURNISHED					
507	00400	130	FT	STEEL PILES, MISC.: W24x229, FURNISHED					
511	81300	11	EACH	CONCRETE. MISC.: CLASS QC1 CONCRETE FOR RAISED PANEL SEAT					
512	10100	3,957	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
512	10001	3,957	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)					
516	42000	386	EACH	ELASTOMERIC BEARING PAD, MISC.: 6"x10"x3/8" THICK					
518	40000	270	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	100	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
524	94603	75	FT	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN					
524	94703	659	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN					
607	20000	270	FT	FENCE, TYPE CL					
610	50010	2,975	SF	RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING					
611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET					

ESTIMATED QUANTITIES
WALL AJ
ALONG SOUTH SIDE OF RAMP IJ3

SFN
N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
MKB	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
4	8

SHEET	TOTAL
1077	2339

CUY-90-16.28

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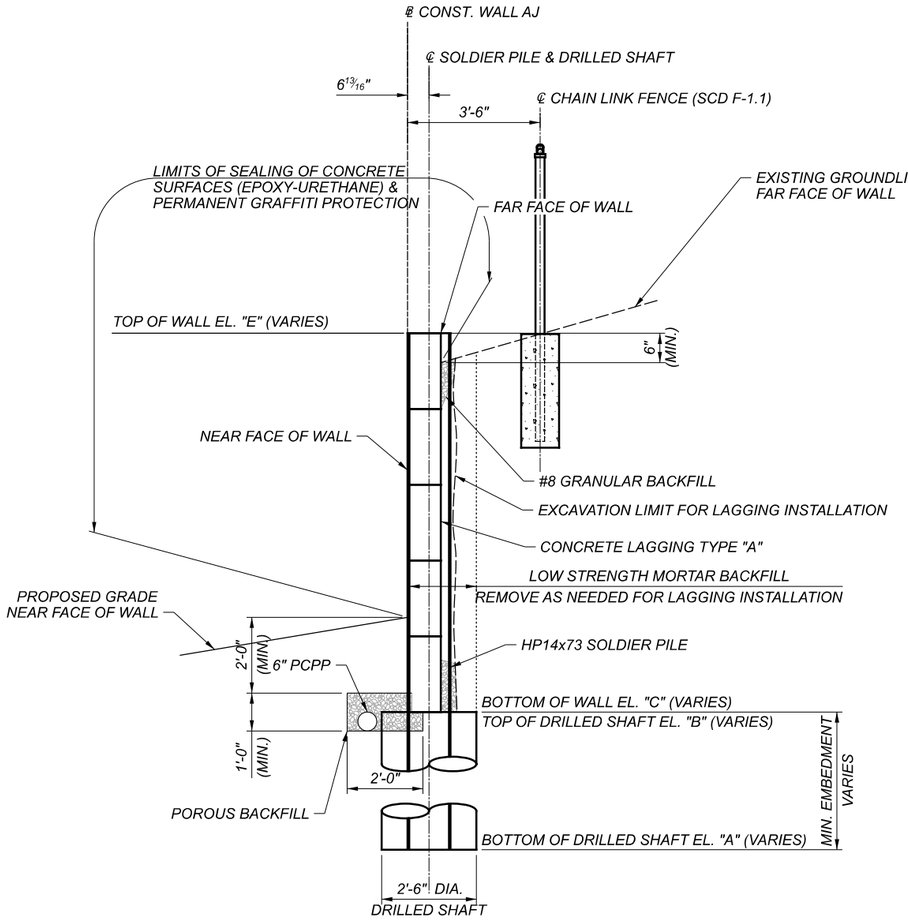
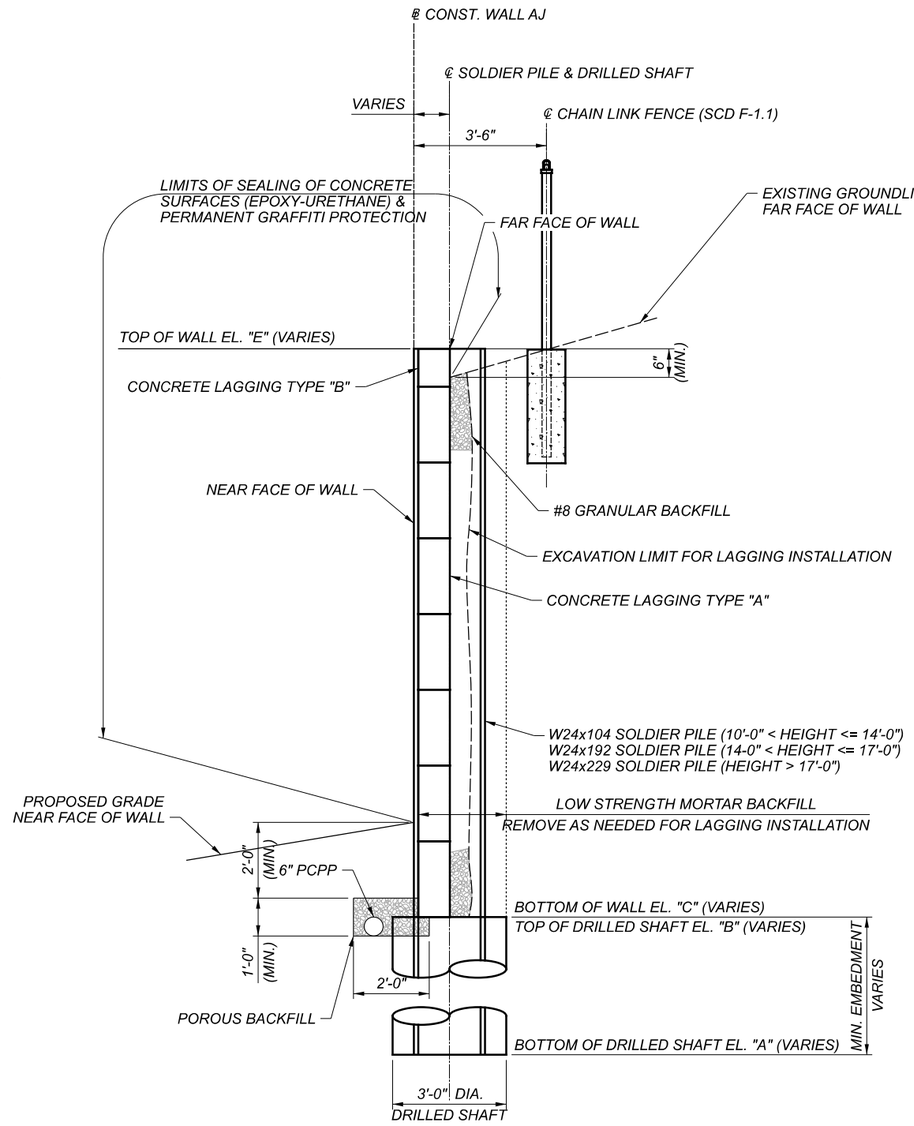


SOLDIER PILE AND LAGGING WALL TYP. SECTION 1

WALL HEIGHT LESS THAN OR EQUAL TO 10'-0"



SOLDIER PILE AND LAGGING WALL TYP. SECTION 2

WALL HEIGHT GREATER THAN 10'-0"

WALL TYPICAL SECTIONS
WALL AJ
ALONG SOUTH SIDE OF RAMP IJ3

CUY-90-16.28 (CCG3A)

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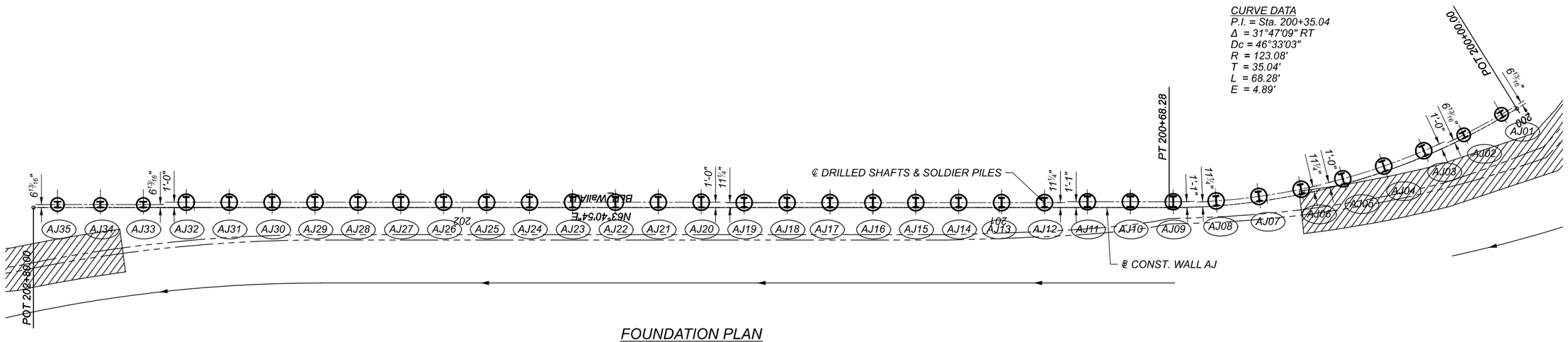
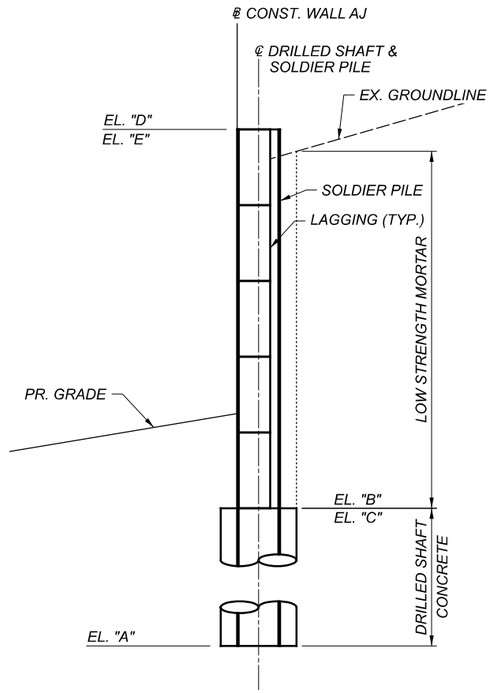
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	
REVIEWER	— —
PROJECT ID	82382
SUBSET	5
TOTAL	8
SHEET	1078
TOTAL	2339



FOUNDATION PLAN

WALL AJ DRILLED SHAFT & SOLDIER PILE SCHEDULE													
DESIGNATION	STATION BASELINE WALL AJ	CENTERLINE OFFSET FROM BASELINE WALL AJ (FT.)	DIAMETER (IN.)	SHEAR STUDS (YES/NO)	BOTTOM OF DRILLED SHAFT EL. "A"	TOP OF SHAFT CONCRETE EL. "B"	CONCRETE SHAFT LENGTH (FT.)	BOTTOM OF WALL EL. "C"	TOP OF SOLDIER PILE E. "D"	TOP OF WALL EL. "E"	ESTIMATED LENGTH OF SOLDIER PILE (FT.)	HEIGHT OF LAGGING (FT.)	SOLDIER PILE SIZE
AJ01	200+03.00	0.567 RT	30	NO	659.5	674.5	15.0	674.5	681.5	681.5	22.0	7.0	HP14x73
AJ02	200+11.06	0.567 RT	30	NO	658.5	673.5	15.0	673.5	682.5	682.5	24.0	9.0	HP14x73
AJ03	200+19.13	1.002 RT	36	NO	652.5	672.5	20.0	672.5	683.5	683.5	31.0	11.0	W24x104
AJ04	200+27.19	1.002 RT	36	NO	652.5	672.5	20.0	672.5	684.5	684.5	32.0	12.0	W24x104
AJ05	200+35.25	1.002 RT	36	NO	652.5	672.5	20.0	672.5	686.5	686.5	34.0	14.0	W24x104
AJ06	200+43.32	0.937 RT	36	NO	648.0	672.0	24.0	672.0	687.0	687.0	39.0	15.0	W24x192
AJ07	200+51.38	0.937 RT	36	NO	648.0	672.0	24.0	672.0	688.0	688.0	40.0	16.0	W24x192
AJ08	200+59.44	0.937 RT	36	NO	648.0	672.0	24.0	672.0	689.0	689.0	41.0	17.0	W24x192
AJ09	200+67.51	1.084 RT	36	NO	647.0	672.0	25.0	672.0	690.5	690.5	43.5	18.0	W24x229
AJ10	200+75.51	1.084 RT	36	NO	647.5	672.5	25.0	672.5	690.5	690.5	43.0	18.0	W24x229
AJ11	200+83.51	1.084 RT	36	NO	647.5	672.5	25.0	672.5	690.5	690.5	43.0	18.0	W24x229
AJ12	200+91.51	0.937 RT	36	NO	649.0	673.0	24.0	673.0	690.0	690.0	41.0	17.0	W24x192
AJ13	200+99.51	0.937 RT	36	NO	649.0	673.0	24.0	673.0	690.0	690.0	41.0	17.0	W24x192
AJ14	201+07.51	0.937 RT	36	NO	649.5	673.5	24.0	673.5	689.5	689.5	40.0	16.0	W24x192
AJ15	201+15.51	0.937 RT	36	NO	649.5	673.5	24.0	673.5	689.5	689.5	40.0	16.0	W24x192
AJ16	201+23.51	0.937 RT	36	NO	649.5	673.5	24.0	673.5	689.5	689.5	40.0	16.0	W24x192
AJ17	201+31.51	0.937 RT	36	NO	649.5	673.5	24.0	673.5	688.5	688.5	39.0	15.0	W24x192
AJ18	201+39.51	0.937 RT	36	NO	649.5	673.5	24.0	673.5	688.5	688.5	39.0	15.0	W24x192
AJ19	201+47.51	0.937 RT	36	NO	649.5	673.5	24.0	673.5	688.5	688.5	39.0	15.0	W24x192
AJ20	201+55.51	1.002 RT	36	NO	653.5	673.5	20.0	673.5	687.5	687.5	34.0	14.0	W24x104
AJ21	201+63.51	1.002 RT	36	NO	653.0	673.0	20.0	673.0	687.5	687.5	34.5	14.5	W24x104
AJ22	201+71.51	1.002 RT	36	NO	653.0	673.0	20.0	673.0	687.0	687.0	34.0	14.0	W24x104
AJ23	201+79.51	1.002 RT	36	NO	653.0	673.0	20.0	673.0	687.0	687.0	34.0	14.0	W24x104
AJ24	201+87.51	1.002 RT	36	NO	652.5	672.5	20.0	672.5	686.0	686.0	33.5	13.0	W24x104
AJ25	201+95.51	1.002 RT	36	NO	652.5	672.5	20.0	672.5	685.5	685.5	33.0	13.0	W24x104
AJ26	202+03.51	1.002 RT	36	NO	652.5	672.5	20.0	672.5	685.5	685.5	33.0	13.0	W24x104
AJ27	202+11.51	1.002 RT	36	NO	652.0	672.0	20.0	672.0	685.5	685.5	33.5	13.0	W24x104
AJ28	202+19.51	1.002 RT	36	NO	652.0	672.0	20.0	672.0	685.0	685.0	33.0	13.0	W24x104
AJ29	202+27.51	1.002 RT	36	NO	652.0	672.0	20.0	672.0	684.0	684.0	32.0	12.0	W24x104
AJ30	202+35.51	1.002 RT	36	NO	651.5	671.5	20.0	671.5	684.0	684.0	32.5	12.0	W24x104
AJ31	202+43.51	1.002 RT	36	NO	651.5	671.5	20.0	671.5	683.5	683.5	32.0	12.0	W24x104
AJ32	202+51.51	1.002 RT	36	NO	651.5	671.5	20.0	671.5	682.5	682.5	31.0	11.0	W24x104
AJ33	202+59.51	0.567 RT	30	NO	657.0	672.0	15.0	672.0	681.0	681.0	24.0	9.0	HP14x73
AJ34	202+67.51	0.567 RT	30	NO	657.0	672.0	15.0	672.0	680.0	680.0	23.0	8.0	HP14x73
AJ35	202+68.51	0.567 RT	30	NO	657.0	672.0	15.0	672.0	678.0	678.0	21.0	6.0	HP14x73



DRILLED SHAFT & SOLDIER PILE SCHEMATIC

LEGEND:

(#) - DENOTES SOLDIER PILE NUMBER

FOUNDATION PLAN
WALL AJ
ALONG SOUTH SIDE OF RAMP IJ3

SFN N/A

DESIGN AGENCY Michael Baker INTERNATIONAL

DESIGNER MKB | CHECKER —

REVIEWER — —

PROJECT ID 82382

SUBSET 6 | TOTAL 8

SHEET 1079 | TOTAL 2339

CUY-90-16.28 (CCG3A)

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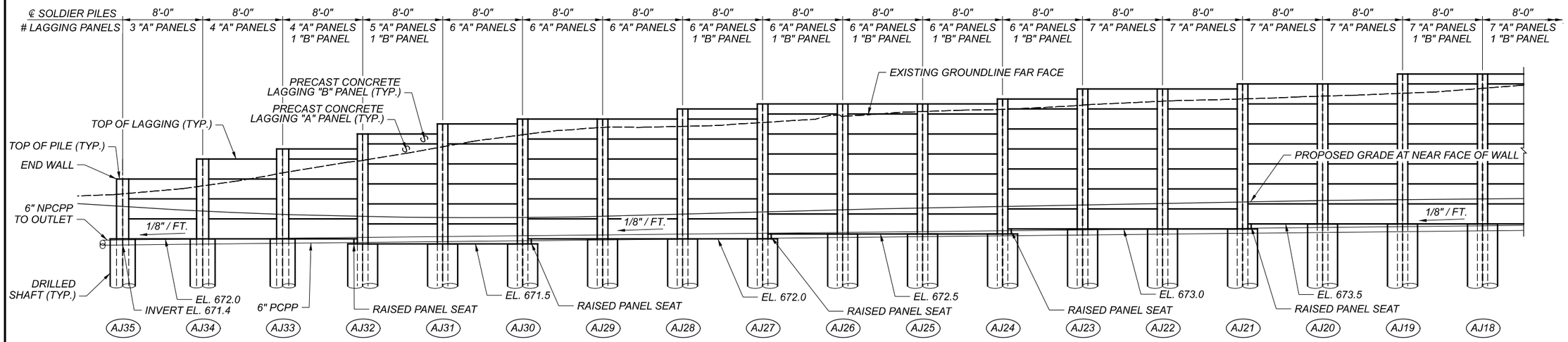
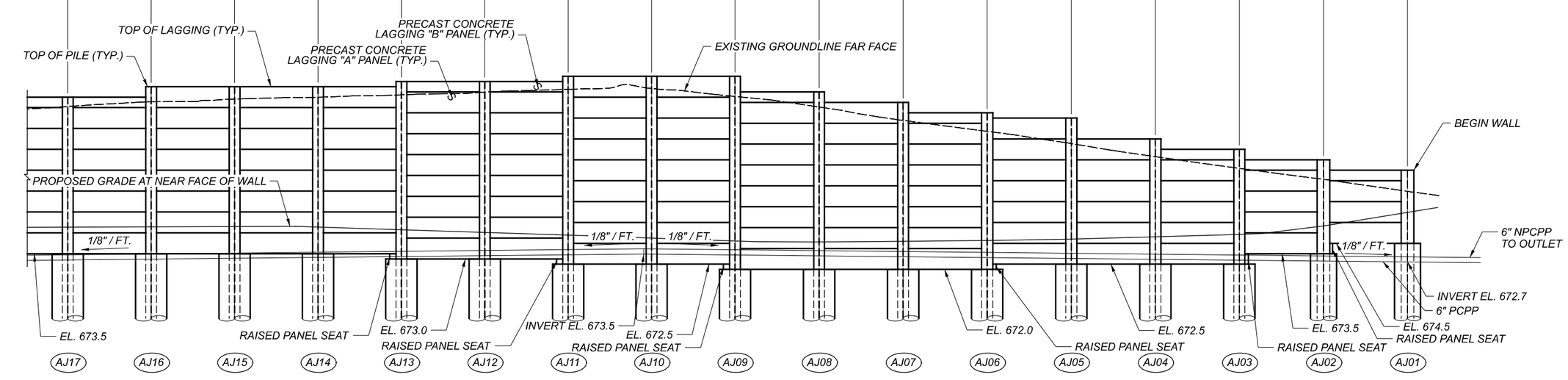


ELEVATION

(DIMENSIONS GIVEN ALONG ℄ CONST. WALL AJ)



ELEVATION

(DIMENSIONS GIVEN ALONG ℄ CONST. WALL AJ)

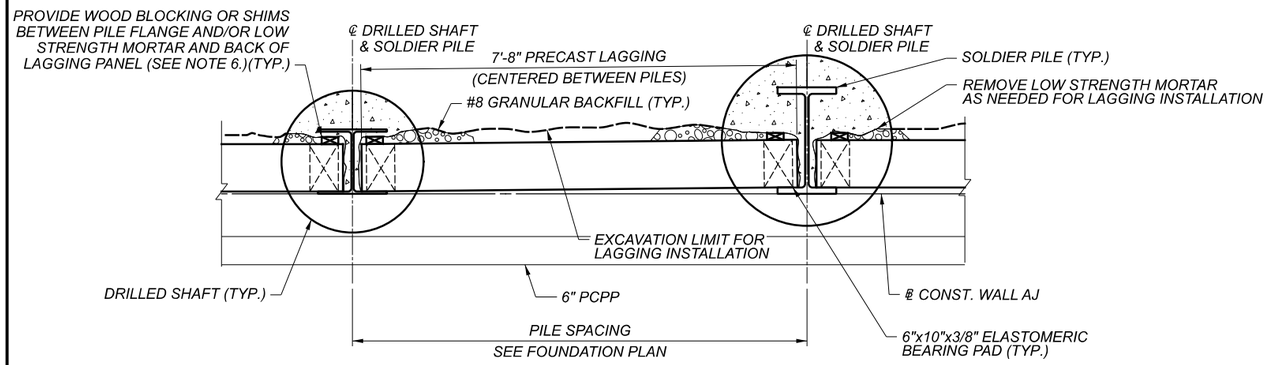
LEGEND:

(#) - DENOTES SOLDIER PILE NUMBER

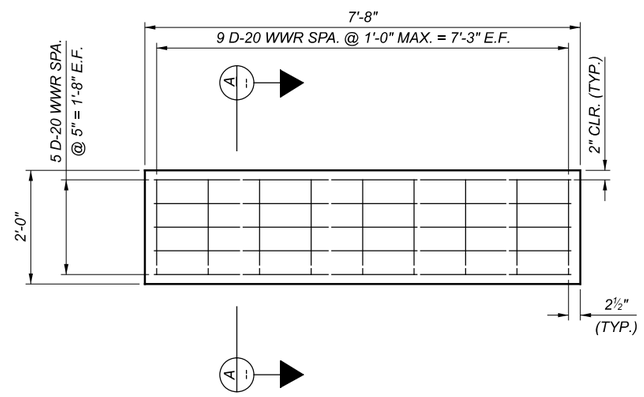
WALL ELEVATION
WALL AJ
ALONG SOUTH SIDE OF RAMP IJ3

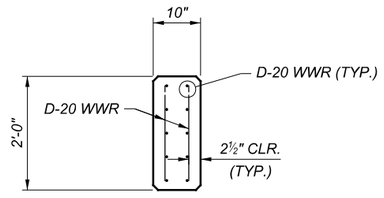
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	7
TOTAL	8
SHEET	1080
TOTAL	2339

CUY-90-16.28 (CCG3A)

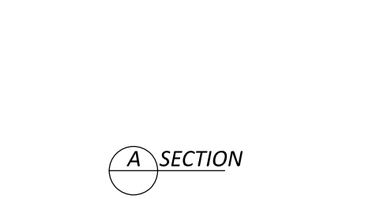


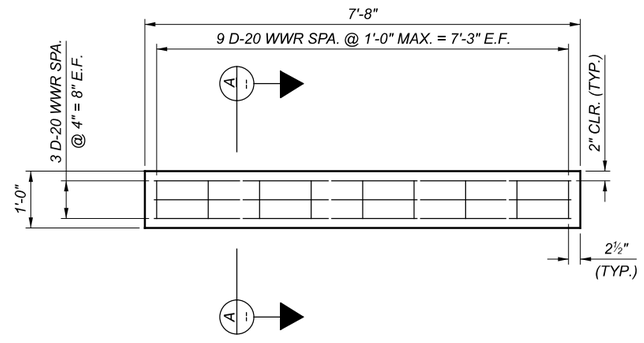
TYPICAL PLAN

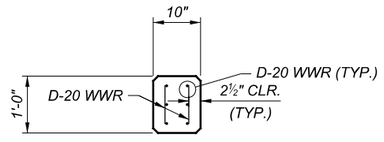




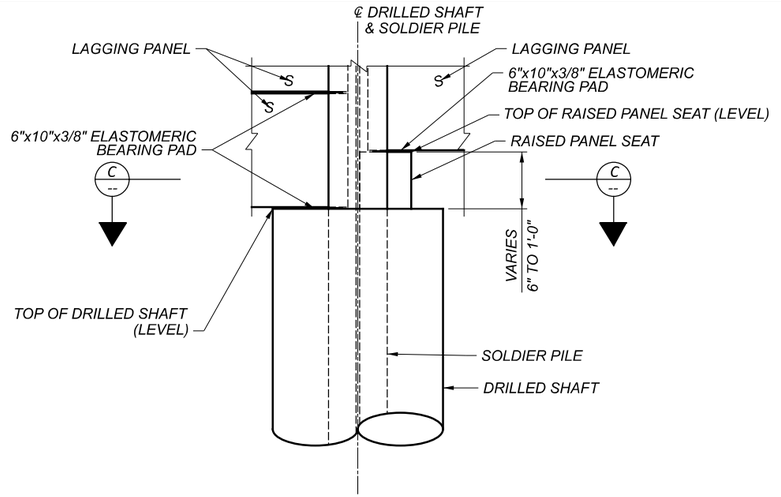
TYPE "A" PRECAST LAGGING ELEVATION





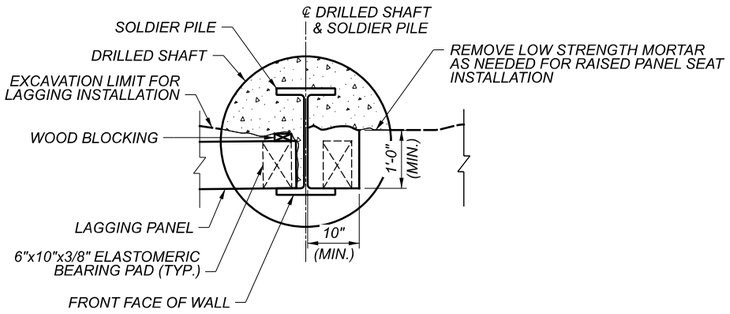


TYPE "B" PRECAST LAGGING ELEVATION



RAISED PANEL SEAT DETAIL

LOW STRENGTH MORTAR NOT SHOWN FOR CLARITY



C SECTION

NOTES:

1. ELASTOMERIC BEARING PADS SHALL BE PROVIDED AT ALL BOTTOM PANELS BETWEEN THE PANEL AND TOP OF CONCRETE DRILLED SHAFT AND/OR RAISED PANEL SEAT. THEY SHALL ALSO BE PROVIDED AT EACH END OF EACH PANEL BETWEEN PANELS.
2. ELASTOMERIC BEARING PADS SHALL BE NEOPRENE ELASTOMERIC PADS HAVING DUROMETER HARDNESS OF 55 ± 5, HIGH DENSITY POLYETHYLENE PADS WITH A MINIMUM DENSITY OF 59 LB/FT3 {0.946 G/CM3} OR EQUIVALENT. SUPPLY CERTIFIED TEST DATA TO THE ENGINEER UPON DELIVERY OF THE MATERIAL TO THE PROJECT. BEARING PADS WILL BE PAID FOR UNDER ITEM 516 ELASTOMERIC BEARING PAD, MISC.: 6"x10"x 3/8" THICK.
3. REINFORCEMENT IN PRECAST LAGGING PANELS SHALL INCLUDED WITH ITEM 610 - RETAINING WALL MISC.: PRECAST CONCRETE LAGGING FOR PAYMENT.
4. PROVIDE 1" x 1" CHAMFER AT EXPOSED TOP AND BOTTOM OF LAGGING PANELS.
5. CENTER LAGGING PANELS BETWEEN PILE WEBS.
6. CONTRACTOR HAS THE OPTION TO REMOVE LOW STRENGTH MORTAR AS NEEDED FOR LAGGING INSTALLATION. USE WOOD BLOCKING AND/OR SHIMS TO ENSURE LAGGING PANEL REMAINS FLUSH AGAINST BACK OF SOLDIER PILE FLANGE AT THE FRONT FACE OF WALL.

WALL DETAILS
WALL AJ
ALONG SOUTH SIDE OF RAMP IJ3

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	MKB
CHECKER	---
REVIEWER	---
PROJECT ID	82382
SUBSET	8
TOTAL	8
SHEET	1081
TOTAL	2339

CUY-90-16.28 (CCG3A)

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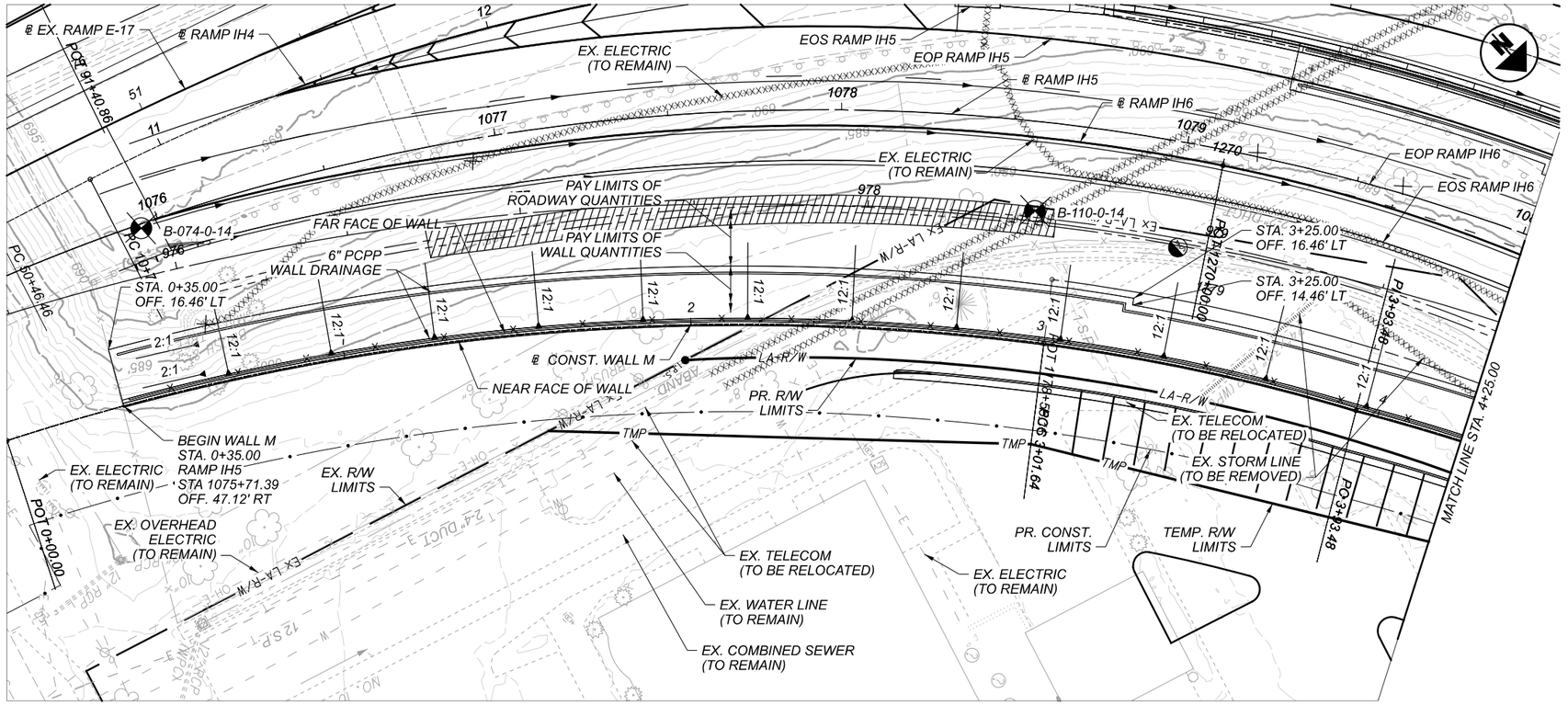
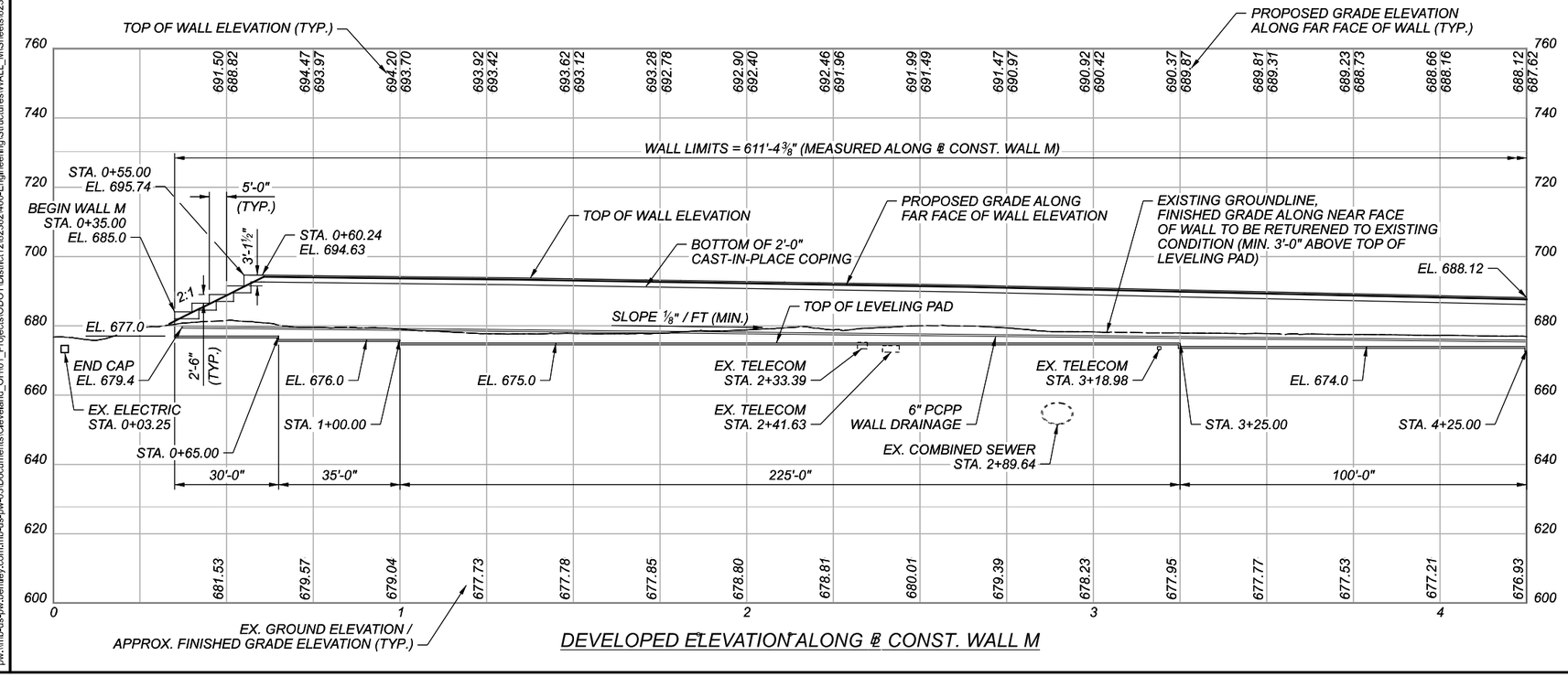


PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL M

BENCHMARK DATA

BM #40 STA. 1074+07.49, ELEV. 681.08, OFFSET 290.61' LT., TOP OF "A" IN "AUTO" ON TOP OF FIRE STAND PIPE AT 2200 ORANGE AVE.

BM #59 STA. 989+08.56, ELEV. 660.15, OFFSET 1.35' RT., MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL IN GRASS MEDIAN BETWEEN EAST 14TH STREET AND COMMUNITY COLLEGE AVE.

BM #71 STA. 1074+33.85 ELEV. 678.72, OFFSET 342.48' RT., CUT CROSS ON NORTHEAST FLANGE BOLT OF FIRE HYDRANT AT 2241 WOODLAND AVENUE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

WALL M

CURVE DATA
P.I. = Sta. 1+53.33
Δ = 25°21'13" RT
Dc = 08°24'19"
R = 681.66'
T = 153.33'
L = 301.64'
E = 17.03'

CURVE DATA
P.I. = Sta. 3+47.66
Δ = 09°29'26" RT
Dc = 10°20'04"
R = 554.42'
T = 46.02'
L = 91.84'
E = 1.91'

CURVE DATA
P.I. = Sta. 4+17.75
Δ = 05°00'33" RT
Dc = 10°19'42"
R = 554.75'
T = 24.26'
L = 48.5'
E = .53'

RAMP H5

CURVE DATA
P.I. = Sta. 980+46.97
Δ = 76°25'13" LT
Dc = 08°00'00"
R = 716.20'
T = 563.80'
L = 955.25'
E = 195.29'

RAMP IH5

CURVE DATA
P.I. = Sta. 1080+20.78
Δ = 81°16'06" LT
Dc = 09°37'46"
R = 595.00'
T = 510.59'
L = 843.95'
E = 189.05'

RAMP H6

CURVE DATA
P.I. = Sta. 1182+78.00
Δ = 72°51'20" LT
Dc = 10°00'00"
R = 572.96'
T = 422.85'
L = 728.56'
E = 139.14'

RAMP IH6

CURVE DATA
P.I. = Sta. 1272+05.44
Δ = 46°23'19" LT
Dc = 11°57'00"
R = 479.46'
T = 205.44'
L = 388.19'
E = 42.16'

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*
2. *FOR MSE WALL CROSS SECTIONS, SEE SHEET 8 / 9 .*
3. *STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.*
4. *SLIP JOINTS IN MSE WALL SHALL BE SPACED AT 20'-0" MAXIMUM. FOR SLIP JOINT DETAILS, SEE SHEET 9 / 9 .*
5. *STEPS AT THE START OF THE WALL ARE A TEMPORARY CONDITION FOR INTERIM CONSTRUCTION. WALL IS TO BE FULL HEIGHT IN FINAL CONDITION.*

LEGEND

- *HISTORIC BORING LOCATIONS*
- *PROJECT BORING LOCATIONS*

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE (1 OF 2)
WALL M
ALONG EAST SIDE OF RAMP I5 AND RAMP IH6

CUY-90-16.28 (CCG3A)

MODEL: Wall M Plan PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:53:23 AM USER: Kathy.Johnson
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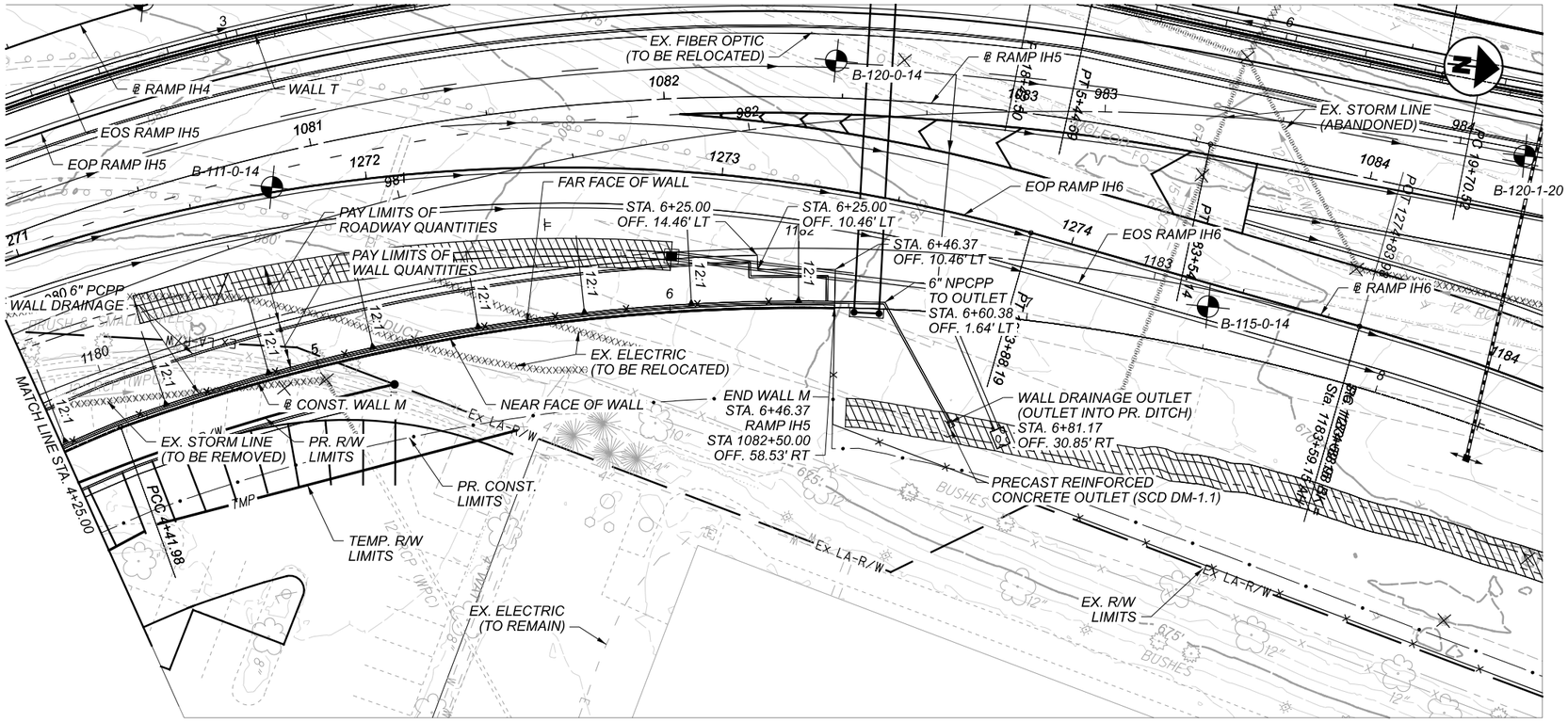
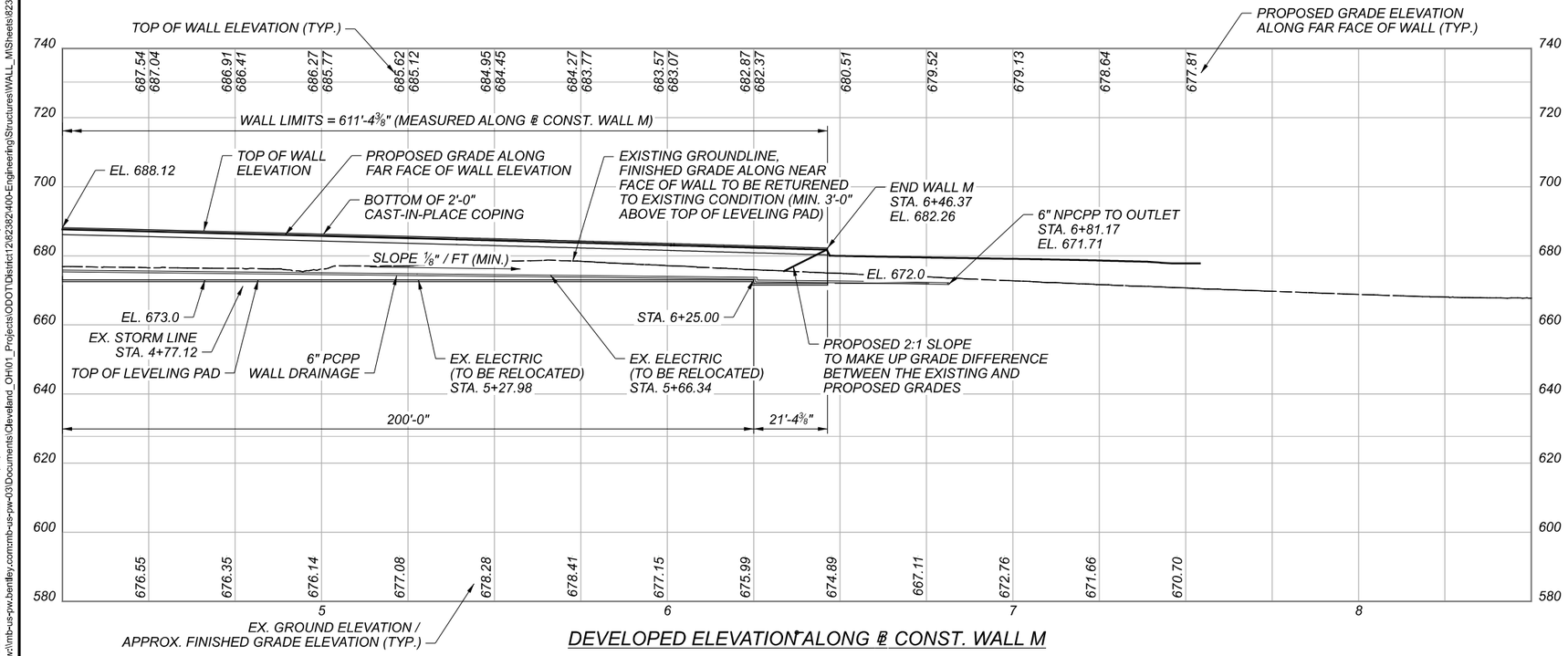
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CHECKER
REVIEWER	
PROJECT ID	82382
SUBSET	TOTAL
1	9
SHEET	TOTAL
1082	2339



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL M

BENCHMARK DATA

BM #40 STA. 1074+07.49, ELEV. 681.08, OFFSET 290.61' LT., TOP OF "A" IN "AUTO" ON TOP OF FIRE STAND PIPE AT 2200 ORANGE AVE.

BM #59 STA. 989+08.56, ELEV. 660.15, OFFSET 1.35' RT., MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL IN GRASS MEDIAN BETWEEN EAST 14TH STREET AND COMMUNITY COLLEGE AVE.

BM #71 STA. 1074+33.85 ELEV. 678.72, OFFSET 342.48' RT., CUT CROSS ON NORTHEAST FLANGE BOLT OF FIRE HYDRANT AT 2241 WOODLAND AVENUE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

WALL M

CURVE DATA
P.I. = Sta. 4+17.75
Δ = 05°00'33" RT
Dc = 10°19'42"
R = 554.75'
T = 24.26'
L = 48.5'
E = .53'

CURVE DATA
P.I. = Sta. 6+22.29
Δ = 35°54'35" RT
Dc = 10°17'50"
R = 556.42'
T = 180.31'
L = 348.73'
E = 28.48'

RAMP H5

CURVE DATA
P.I. = Sta. 980+46.97
Δ = 76°25'13" LT
Dc = 08°00'00"
R = 716.20'
T = 563.80'
L = 955.25'
E = 195.29'

RAMP IH5

CURVE DATA
P.I. = Sta. 1080+20.78
Δ = 81°16'06" LT
Dc = 09°37'46"
R = 595.00'
T = 510.59'
L = 843.95'
E = 189.05'

RAMP H6

CURVE DATA
P.I. = Sta. 1182+78.00
Δ = 72°51'20" LT
Dc = 10°00'00"
R = 572.96'
T = 422.85'
L = 728.56'
E = 139.14'

RAMP IH6

CURVE DATA
P.I. = Sta. 1272+05.44
Δ = 46°23'19" LT
Dc = 11°57'00"
R = 479.46'
T = 205.44'
L = 388.19'
E = 42.16'

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*
2. *FOR MSE WALL CROSS SECTIONS, SEE SHEET 8 / 9 .*
3. *STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.*
4. *SLIP JOINTS IN MSE WALL SHALL BE SPACED AT 20'-0" MAXIMUM. FOR SLIP JOINT DETAILS, SEE SHEET 9 / 9 ..*

LEGEND

- *HISTORIC BORING LOCATIONS*
- *PROJECT BORING LOCATIONS*

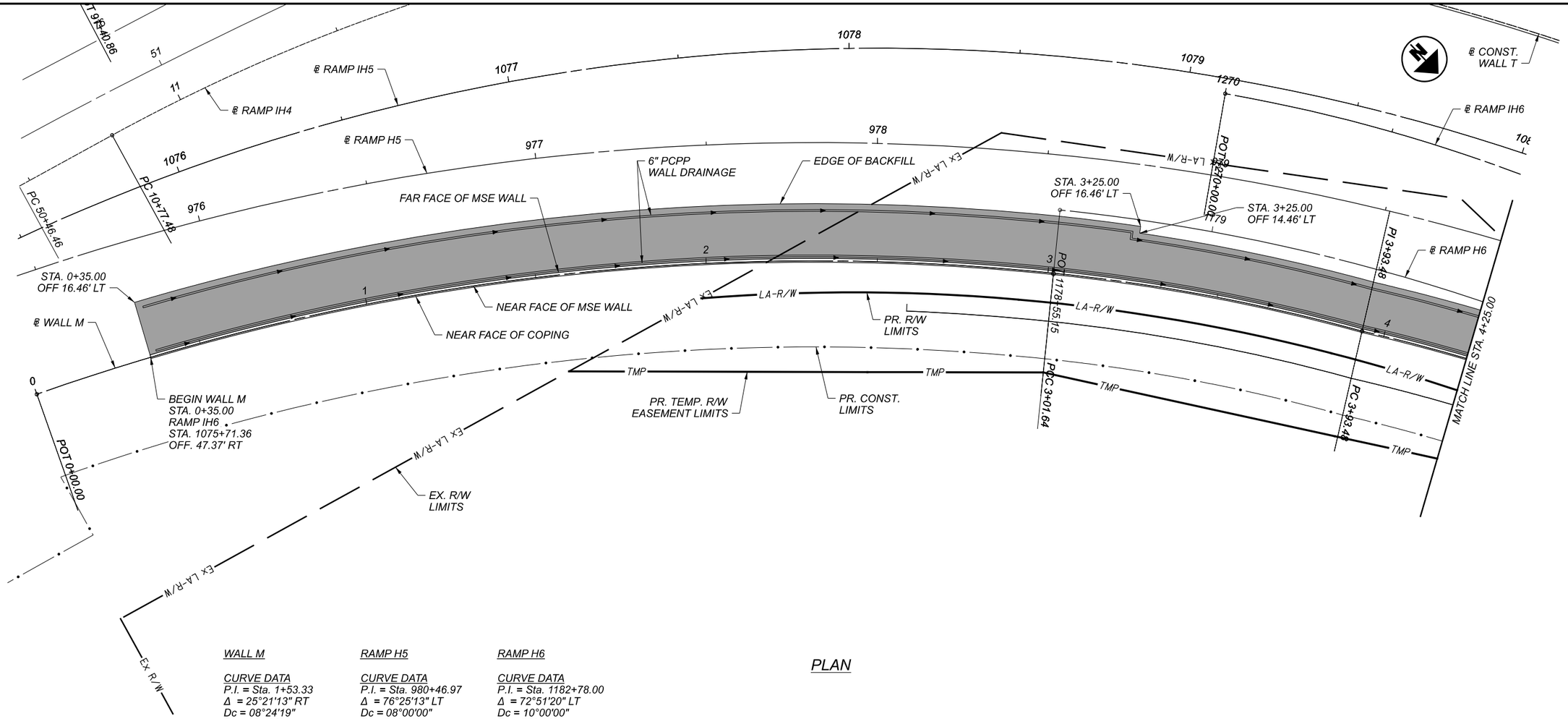
CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE (2 OF 2) WALL M ALONG EAST SIDE OF RAMP I5 AND RAMP IH6

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	2
TOTAL	9
SHEET	1083
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Wall M Plan=1 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:53:44 AM USER: Kathy.Johnson
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\01_Projects\ODOT\Distrct12\82382400-Engineering\Structures\WALL_M\Sheets\82382_M_WP002.dgn



PLAN

WALL M

CURVE DATA
P.I. = Sta. 1+53.33
Δ = 25°21'13" RT
Dc = 08°24'19"
R = 681.66'
T = 153.33'
L = 301.64'
E = 17.03'

CURVE DATA
P.I. = Sta. 3+47.66
Δ = 09°29'26" RT
Dc = 10°20'04"
R = 554.42'
T = 46.02'
L = 91.84'
E = 1.91'

CURVE DATA
P.I. = Sta. 4+17.75
Δ = 05°00'33" RT
Dc = 10°19'42"
R = 554.75'
T = 24.26'
L = 48.5'
E = .53'

RAMP H5

CURVE DATA
P.I. = Sta. 980+46.97
Δ = 76°25'13" LT
Dc = 08°00'00"
R = 716.20'
T = 563.80'
L = 955.25'
E = 195.29'

RAMP IH5

CURVE DATA
P.I. = Sta. 1080+20.78
Δ = 81°16'06" LT
Dc = 09°37'46"
R = 595.00'
T = 510.59'
L = 843.95'
E = 189.05'

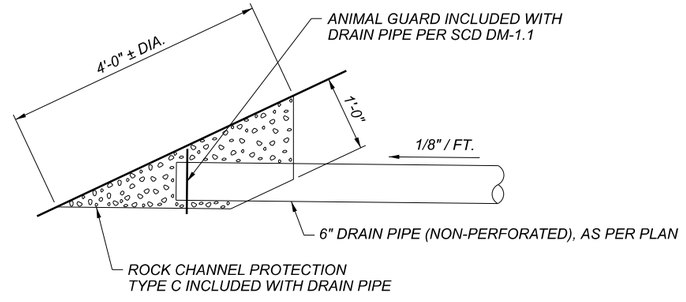
RAMP H6

CURVE DATA
P.I. = Sta. 1182+78.00
Δ = 72°51'20" LT
Dc = 10°00'00"
R = 572.96'
T = 422.85'
L = 728.56'
E = 139.14'

RAMP IH6

CURVE DATA
P.I. = Sta. 1272+05.44
Δ = 46°23'19" LT
Dc = 11°57'00"
R = 479.46'
T = 205.44'
L = 388.19'
E = 42.16'

WALL BASELINE GEOMETRY			
	℄ WALL M STA.	℄ RAMP IH6	OFFSET
BEGIN WALL M	0+35.00	1075+71.36	47.37' RT
END WALL M	6+46.37	1082+50.00	58.78' RT



TERMINATION OF 6" DRAIN PIPE DETAIL, AS PER PLAN

NOTES

1. FOR MSE WALL CROSS SECTIONS, SEE SHEET P.X / P.XX.

LEGEND

LIMITS OF SELECT GRANULAR BACKFILL

SCHEMATIC PLAN (1 OF 2)
WALL M
ALONG EAST SIDE OF INTERIM RAMP H5 AND INTERIM RAMP H6

CUY-90-16.28

MODEL: Unfiled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:54:05 AM USER: Kathy.Johnson
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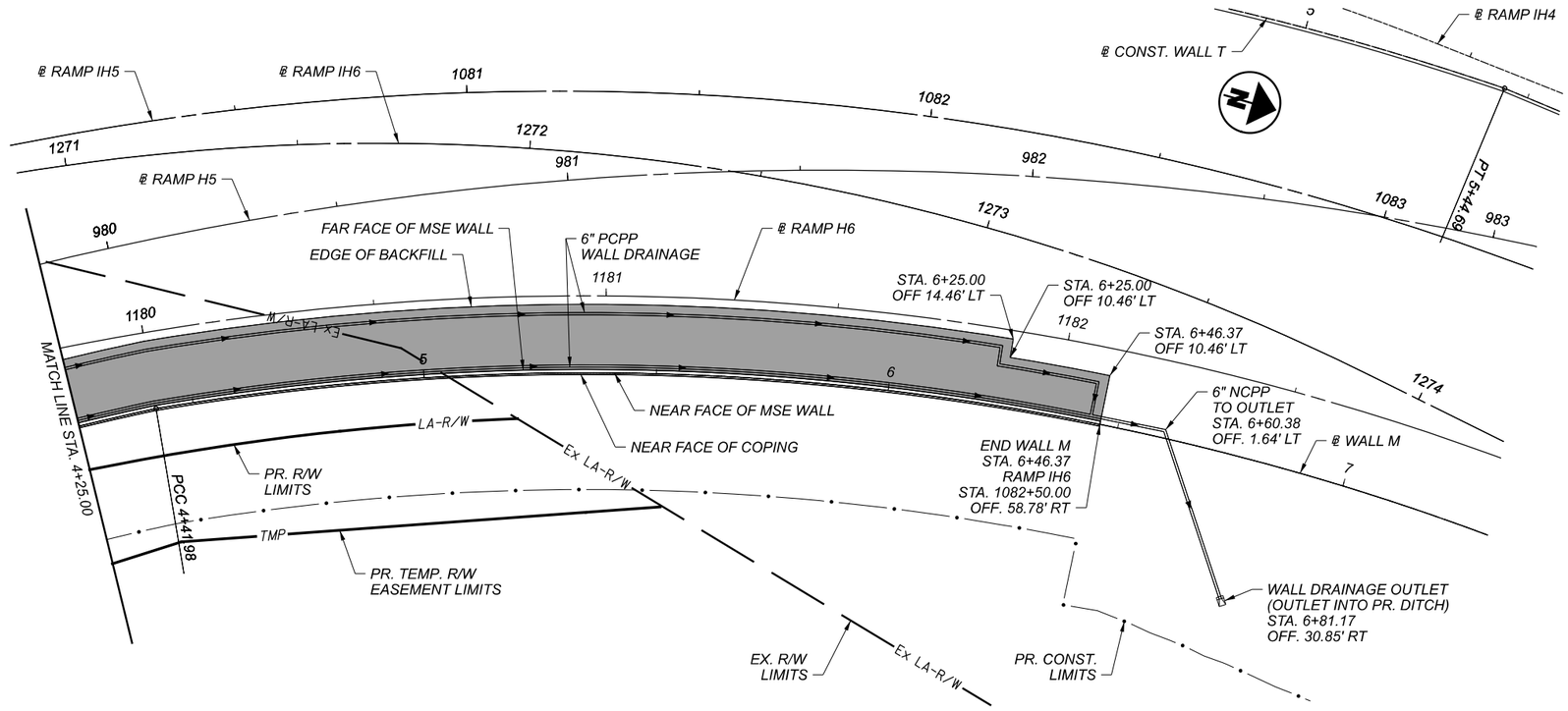
SFN —NA—
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER SSW | CHECKER —NA—
REVIEWER — | —
PROJECT ID 82382
SUBSET 3 | TOTAL 9
SHEET 1084 | TOTAL 2339



PLAN

WALL M

CURVE DATA
P.I. = Sta. 4+17.75
Δ = 05°00'33" RT
Dc = 10°19'42"
R = 554.75'
T = 24.26'
L = 48.5'
E = .53'

CURVE DATA
P.I. = Sta. 6+22.29
Δ = 35°54'35" RT
Dc = 10°17'50"
R = 556.42'
T = 180.31'
L = 348.73'
E = 28.48'

RAMP H5

CURVE DATA
P.I. = Sta. 980+46.97
Δ = 76°25'13" LT
Dc = 08°00'00"
R = 716.20'
T = 563.80'
L = 955.25'
E = 195.29'

RAMP IH5

CURVE DATA
P.I. = Sta. 1080+20.78
Δ = 81°16'06" LT
Dc = 09°37'46"
R = 595.00'
T = 510.59'
L = 843.95'
E = 189.05'

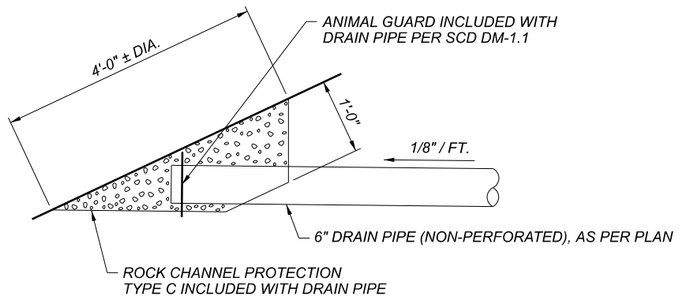
RAMP H6

CURVE DATA
P.I. = Sta. 1182+78.00
Δ = 72°51'20" LT
Dc = 10°00'00"
R = 572.96'
T = 422.85'
L = 728.56'
E = 139.14'

RAMP IH6

CURVE DATA
P.I. = Sta. 1272+05.44
Δ = 46°23'19" LT
Dc = 11°57'00"
R = 479.46'
T = 205.44'
L = 388.19'
E = 42.16'

WALL BASELINE GEOMETRY			
	℄ WALL M STA.	℄ RAMP IH6	OFFSET
BEGIN WALL M	0+35.00	1075+71.36	47.37' RT
END WALL M	6+46.37	1082+50.00	58.78' RT



TERMINATION OF 6" DRAIN PIPE DETAIL, AS PER PLAN

NOTES

1. FOR MSE WALL CROSS SECTIONS, SEE SHEET P.X / P.XX.

LEGEND

LIMITS OF SELECT GRANULAR BACKFILL

SCHEMATIC PLAN (2 OF 2)
WALL M
ALONG EAST SIDE OF RAMP I5 AND RAMP IH6

SFN —NA—
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER SSW | CHECKER —NA—
REVIEWER — —
PROJECT ID 82382
SUBSET 4 | TOTAL 9
SHEET 1085 | TOTAL 2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:54:29 AM USER: Kathy.Johnson
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:
F-1.1 REVISED 7/19/2013
DM-1.1 REVISED 7/17/2020

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):
800 DATED 7/16/21
840 DATED 4/16/21

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 07-16-21).

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

RETAINED SOIL UNIT WEIGHT, γ = 120 pcf
ANGLE OF INTERNAL FRICTION, ϕ = 30°

MSE WALL DESIGN PARAMETERS

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

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

SEAL SURFACES OF THE WALL PANELS AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE _____ _____.

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.

ITEM 607 - FENCE, TYPE CLT:

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.

ITEM 840 - 6" DRAIN PIPE (NON-PERFORATED), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF SUPPLEMENT SPEC 840, THIS ITEM SHALL CONSIST OF SUPPLYING AND PLACING A PRECAST REINFORCED CONCRETE OUTLET ACCORDING TO STD. CONSTRUCTION DRAWING DM-1.1.

CONSTRUCTION SEQUENCE

1. EXCAVATE TO THE ELEVATION OF THE MSE WALL LEVELING PAD.
2. PLACE CONCRETE LEVELING PAD.
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
B.F. = BACK FACE
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. = FRONT 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
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 M
ALONG EAST SIDE OF RAMP I5 AND RAMP IH6

SFN
N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
—	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
5	9

SHEET	TOTAL
1086	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:54:47 AM USER: Kathy.Johnson
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GENERAL NOTES (2 OF 2)
WALL M
ALONG EAST SIDE OF INTERIM RAMP H5 AND INTERIM RAMP H6

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
203	35120	393	CY	GRANULAR MATERIAL, TYPE C					
512	10100	878	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
518	40000	1,264	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	53	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
607	23000	613	FT	FENCE, TYPE CLT					
840	20000	8,522	SF	MECHANICALLY STABILIZED EARTH WALL					
840	21000	2,275	CY	WALL EXCAVATION					
840	22000	1,179	SY	FOUNDATION PREPARATION					
840	23000	5,139	CY	SELECT GRANULAR BACKFILL					
840	23050	726	CY	NATURAL SOIL					
840	26000	635	FT	CONCRETE COPING					
840	26050	8,521	FT	AESTHETIC SURFACE TREATMENT					
840	27000	1	DAY	ON-SITE ASSISTANCE					
840	28000	1	LUMP	SGB INSPECTION AND COMPACTION TESTING					

ESTIMATED QUANTITIES
WALL M
ALONG EAST SIDE OF RAMP I5 AND RAMP IH6

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 4:33:18 PM USER: Shane.Weiss
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SFN
—NA—

DESIGN AGENCY
Michael Baker INTERNATIONAL

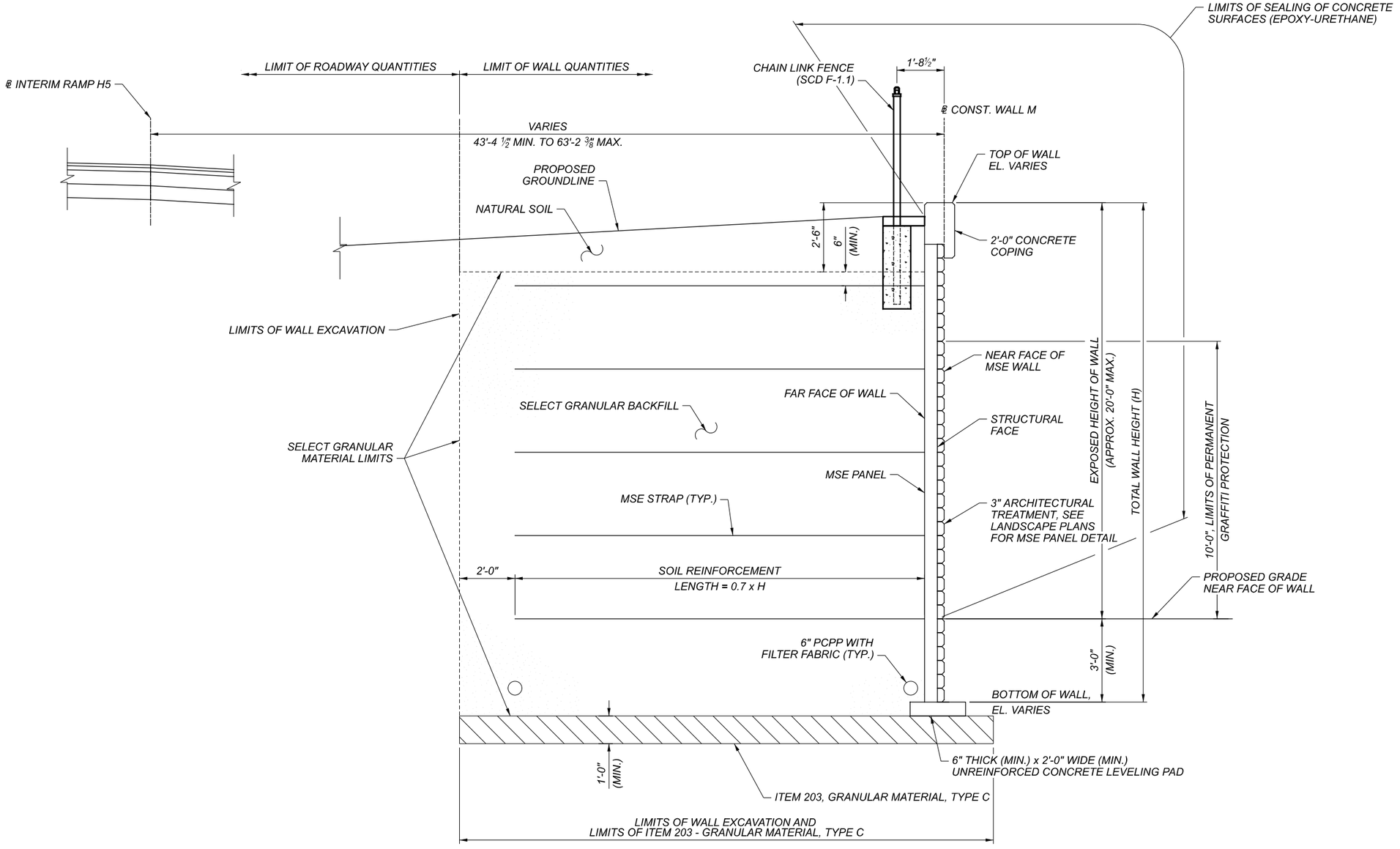
DESIGNER	CHECKER
SSW	—NA—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
7	9

SHEET	TOTAL
1088	2339



MSE WALL TYP. SECTION

WALL TYPICAL SECTION
WALL M
ALONG EAST SIDE OF RAMP I5 AND RAMP IH6

SFN N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	MKB

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
8	9

SHEET	TOTAL
1089	2339

CUY-90-16.28 (CCG3A)

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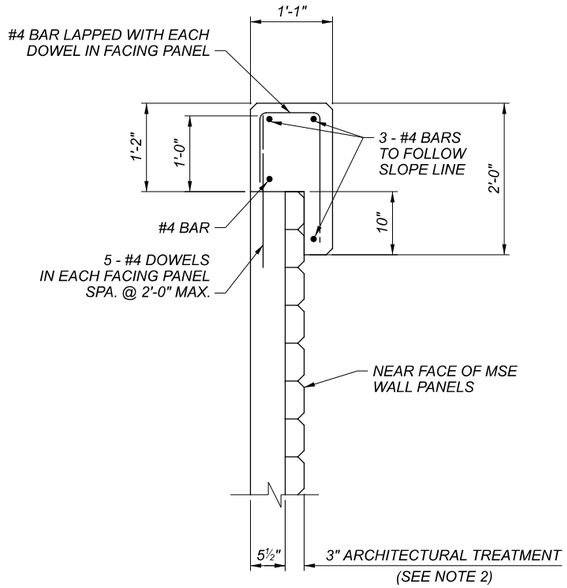
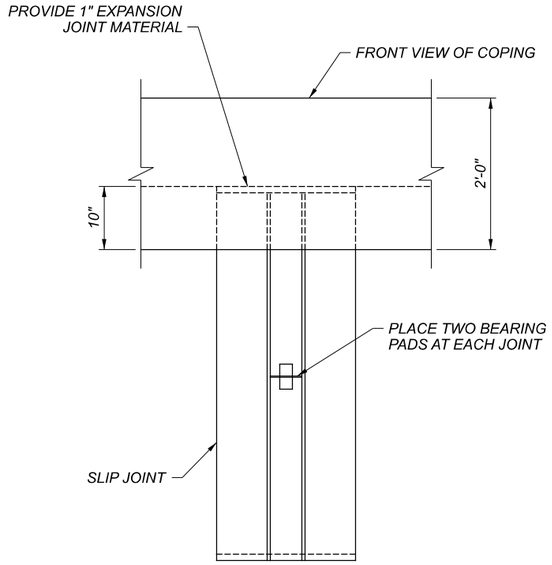
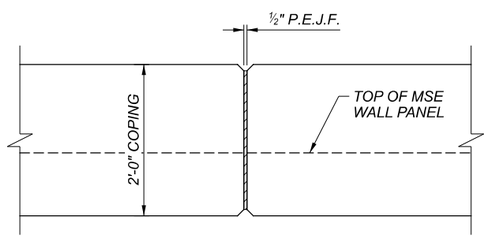


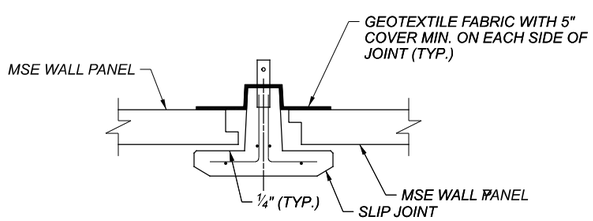
MSE WALL COPING DETAIL
(ALL REINFORCING STEEL TO BE EPOXY COATED)



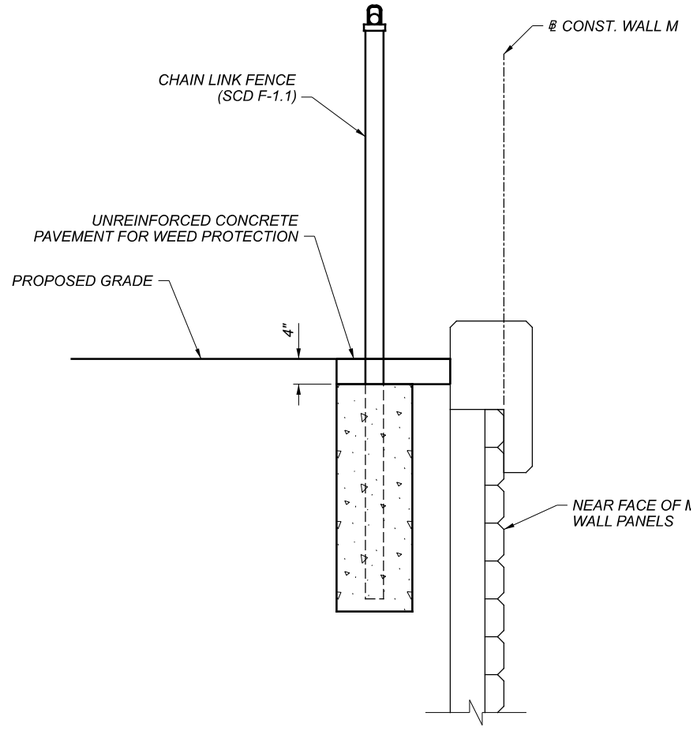
TYPICAL FRONT WALL VIEW OF JOINT ELEVATION
(AT MSE WALL)



COPING EXPANSION JOINT - ELEVATION
(MAX JOINT SPACING IS 20'-0")



SLIP JOINT ELEMENT DETAIL
(AT MSE WALL)



CHAIN LINK FENCE DETAIL
(SEE PLAN AND PROFILE SHEET FOR LOCATIONS)

NOTES:

1. MSE WALL PANELS ARE TO BE 5'-0"x5'-0", ARRANGED IN VERTICAL RUNNING BOND.
2. SEE LANDSCAPE DETAILS FOR MSE PANEL AESTHETIC TREATMENT DETAILS.
3. DETAILS FOR ALL VERTICAL AND LONGITUDINAL REINFORCING STEEL IN THE COPING SHALL BE INCLUDED IN THE PROPRIETARY WALL MANUFACTURER'S SHOP DRAWINGS.
4. P.E.J.F. SHALL EXTEND THE FULL HEIGHT OF THE MSE WALL/WINGWALL JOINT.
5. LOCATIONS OF THE MSE WALL SOIL REINFORCEMENT MUST BE KNOWN TO AVOID CONFLICTS WITH FENCE POST FOUNDATIONS. FENCE POSTS ARE TO BE PLACED SUCH THAT THEY MISS MSE WALL SOIL REINFORCEMENT LOCATIONS.

WALL DETAILS
WALL M
ALONG EAST SIDE OF RAMP I5 AND RAMP IH6

CUY-90-16.28 (CCG3A)

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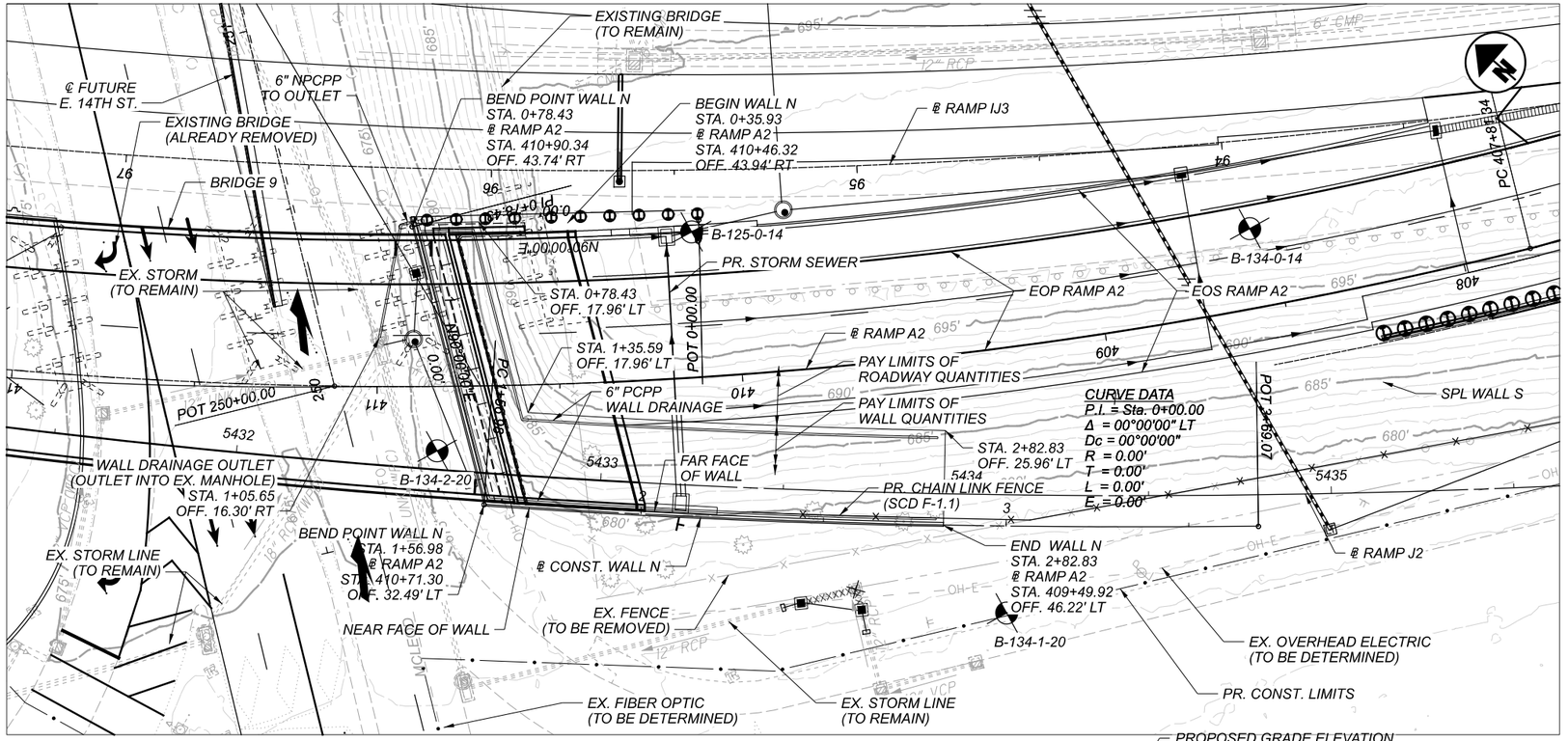
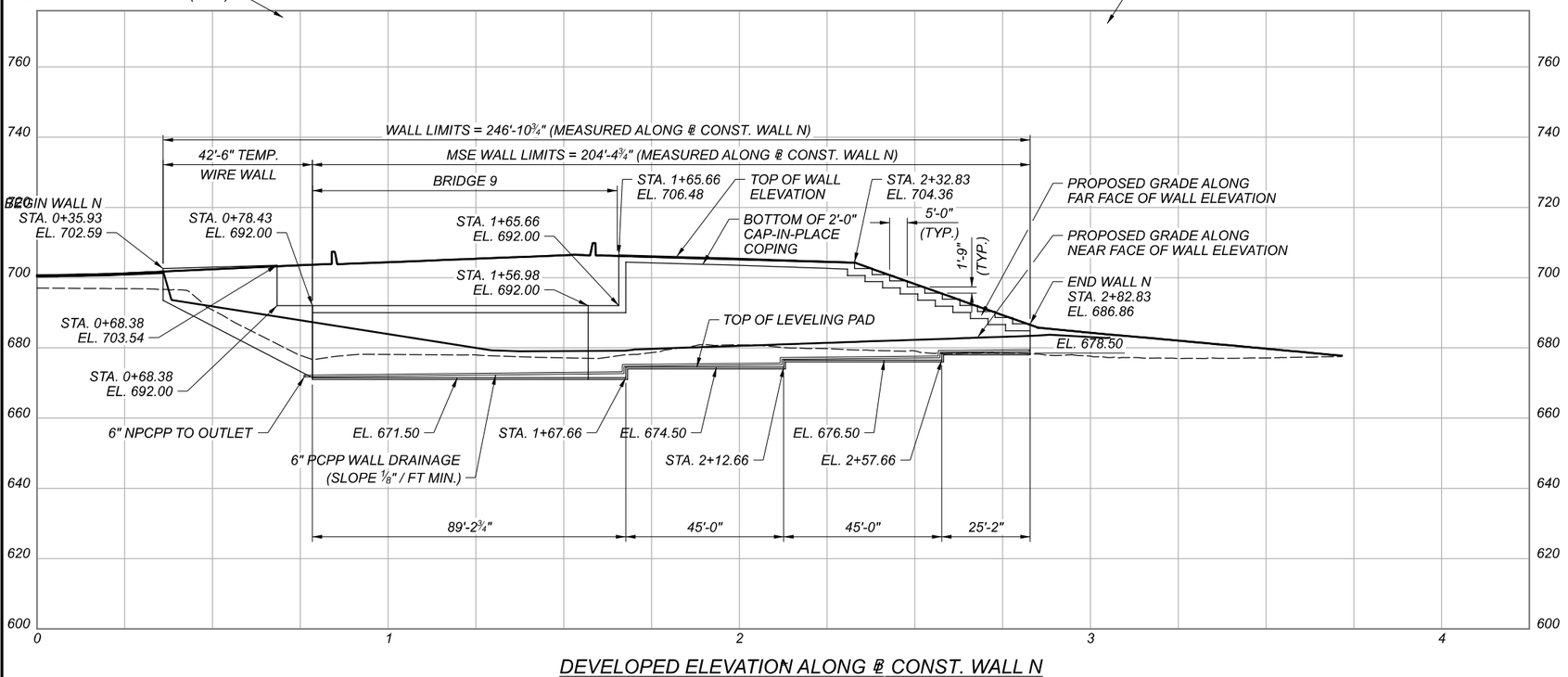
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	MKB
REVIEWER	— —
PROJECT ID	82382
SUBSET	9
TOTAL	9
SHEET	1090
TOTAL	2339



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL N

BENCHMARK DATA

BM-59 STA. 430+49.74, ELEV. 660.15', OFFSET 458.93' RT., ℄ RAMP A2, MAG NAIL AT NOSE OF DRAINAGE CHANNEL

BM-61 STA. 425+47.56, ELEV. 674.03', OFFSET 381.20' LT., ℄ RAMP A2, RAILROAD SPIKE IN NORTH FACE OF POWER/LIGHT POLE

BM-62 STA. 431+86.05, ELEV. 672.11', OFFSET 388.05' LT., ℄ RAMP A2, RAILROAD SPIKE IN EAST FACE OF POWER/LIGHT POLE

BM-66 STA. 421+92.16, ELEV. 671.90', OFFSET 844.15' LT., ℄ RAMP A2, CUT CROSS ON N-E BOLT OF CANTILEVER OVERHEAD SIGN

BM-67 STA. 418+24.32, ELEV. 674.82', OFFSET 454.15' LT., ℄ RAMP A2, CUT CROSS ON N-E BOLT OF EAST LEG OF JCT 422 SIGN

BM-68 STA. 411+16.80, ELEV. 678.92', OFFSET 249.57' LT., ℄ RAMP A2, CUT CROSS ON N-E BOLT OF TRAFFIC SIGNAL POLE

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR WALL CROSS SECTIONS, SEE SHEET / .
3. STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.
4. STEPS AT THE END OF THE WALL ARE A TEMPORARY CONDITION FOR INTERIM CONSTRUCTION. WALL IS TO BE FULL HEIGHT IN FINAL CONDITION.

LEGEND

- HISTORIC BORING LOCATIONS
- PROJECT BORING LOCATIONS

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

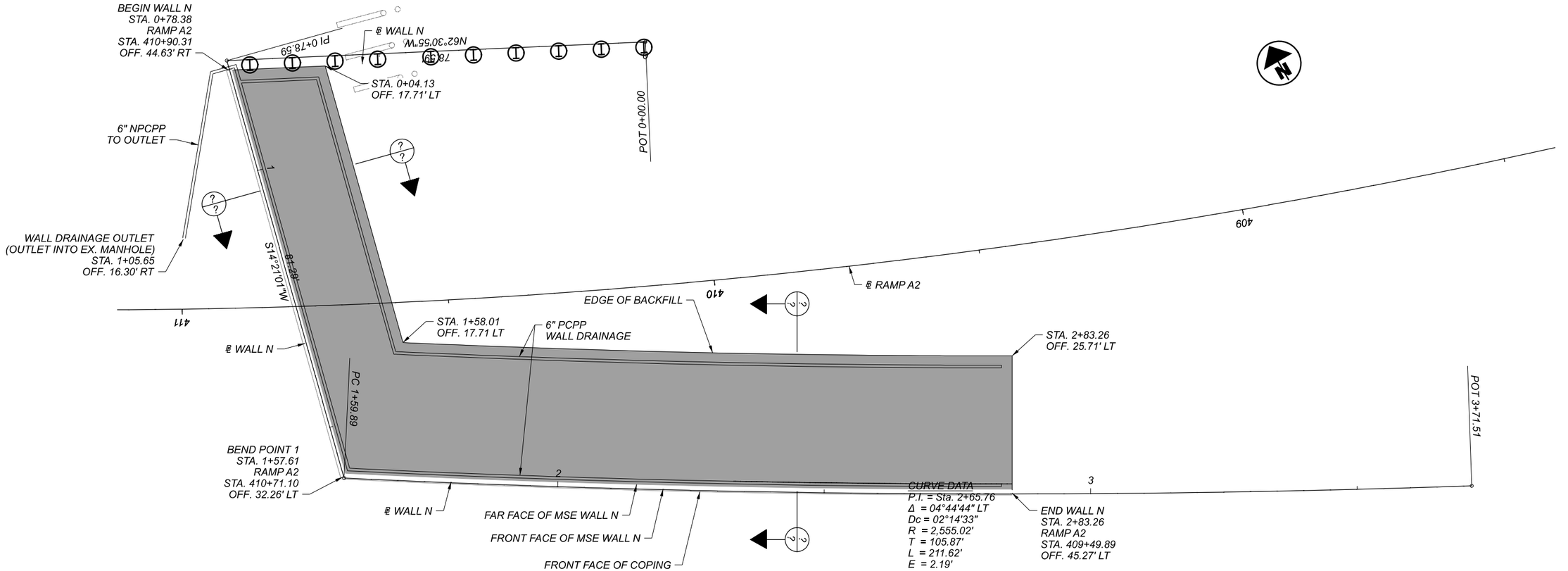
FOR INFORMATION ONLY - NOT FOR REVIEW

WALL PLAN AND PROFILE
WALL N
UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

CUY-90-16.28 (CCG3A)

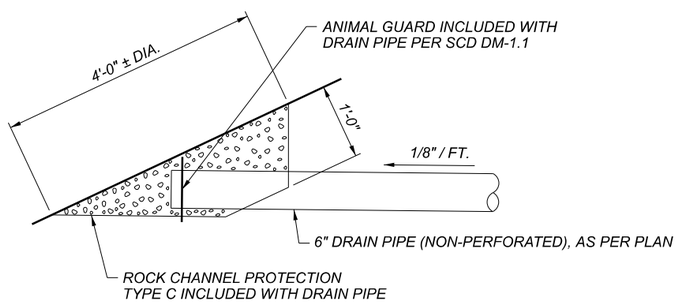
MODEL: WALL N - Wall N Plan-3 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:55:56 AM USER: Kathy.Johnson
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\01_Projects\ODOT\District12\82382400-EngineeringStructures\WALL_N\Sheets\82382_N_WP001.dgn

SFN	—NA—
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
CHECKER	—NA—
REVIEWER	— —
PROJECT ID	82382
SUBSET	1
TOTAL	10
SHEET	1091
TOTAL	2339



PLAN

WALL BASELINE GEOMETRY			
	℄ WALL N STA.	℄ RAMP A2	OFFSET
BEGIN WALL N	0+78.38	410+90.31	44.63' RT
BEND POINT 1 WALL N	1+57.61	410+71.10	32.26' LT
END WALL N	2+83.26	409+49.89	45.27' LT



TERMINATION OF 6" DRAIN PIPE DETAIL, AS PER PLAN

NOTES

1. FOR MSE WALL CROSS SECTIONS, SEE SHEET P.X / P.XX.

LEGEND

LIMITS OF SELECT GRANULAR BACKFILL

FOR INFORMATION ONLY - NOT FOR REVIEW

SCHEMATIC PLAN
WALL N
UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN N/A
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER — CHECKER —
REVIEWER — —
PROJECT ID 82382
SUBSET 2 TOTAL 10
SHEET 1092 TOTAL 2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:56:19 AM USER: Kathy.Johnson
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:
F-1.1 REVISED 7/19/2013
DM-1.1 REVISED 7/17/2020

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):
800 DATED 7/16/21
840 DATED 4/16/21

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 07-16-21).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE COPING, LEVELING PAD, AND PRECAST LAGGING)
CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.0 KSI (DRILLED SHAFTS)
REINFORCING STEEL / WELDED WIRE REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI
RETAINED SOIL UNIT WEIGHT, γ = 120 pcf
ANGLE OF INTERNAL FRICTION, ϕ = 30°

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.

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

SEAL SURFACES OF THE WALL PANELS AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE _____ _____.

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 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 607 - FENCE, TYPE CLT:

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.

ITEM 840 - 6" DRAIN PIPE (NON-PERFORATED), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF SUPPLEMENT SPEC 840, THIS ITEM SHALL CONSIST OF SUPPLYING AND PLACING A PRECAST REINFORCED CONCRETE OUTLET ACCORDING TO STD. CONSTRUCTION DRAWING DM-1.1.

CONSTRUCTION SEQUENCE

1. EXCAVATE TO THE ELEVATION OF THE MSE WALL LEVELING PAD.
2. DRIVE ABUTMENT PILES.
3. PLACE CONCRETE LEVELING PAD.
4. INSTALL MSE WALL UP TO BOTTOM OF FOOTING.
5. CONSTRUCT ABUTMENT FOOTING AFTER WAITING PERIOD (SEE BRIDGE 9 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
B.F. = BACK FACE
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. = FRONT 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
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

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL GENERAL NOTES
WALL N
UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
—	—

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
3	10

SHEET	TOTAL
1093	2339

CUY-90-16.28 (CCG3A)

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SHEET 1094 / TOTAL 2339	SUBSET 4 / TOTAL 10	PROJECT ID 82382	REVIEWER —	DESIGNER SSW / CHECKER —	Michael Baker INTERNATIONAL	SFN N/A DESIGN AGENCY	GENERAL NOTES (2 OF 2) WALL N UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
203	35120	176	CY	GRANULAR MATERIAL, TYPE C					
507	00400	580	FT	STEEL PILES, MISC.: W36x262, FURNISHED					
512	10100	436	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
518	40000	502	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	40	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
524	94902	360	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK					
607	23000	62	FT	FENCE, TYPE CLT					
610	50010	762	SF	SPECIAL - RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING					
840	20000	4686	SF	MECHANICALLY STABILIZED EARTH WALL					
840	21000	1812	CY	WALL EXCAVATION					
840	22000	4748	SY	FOUNDATION PREPARATION					
840	23000	2341	CY	SELECT GRANULAR BACKFILL					
840	23050	399	CY	NATURAL SOIL					
840	26000	239	FT	CONCRETE COPING					
840	26050	4686	FT	AESTHETIC SURFACE TREATMENT					
840	27000	1	DAY	ON-SITE ASSISTANCE					
840	28000	1	LUMP	SGB INSPECTION AND COMPACTION TESTING					

FOR INFORMATION ONLY - NOT FOR REVIEW

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	CHECKER
SSW	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
5	10

SHEET	TOTAL
1095	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 4:38:47 PM USER: Shane.Weiss
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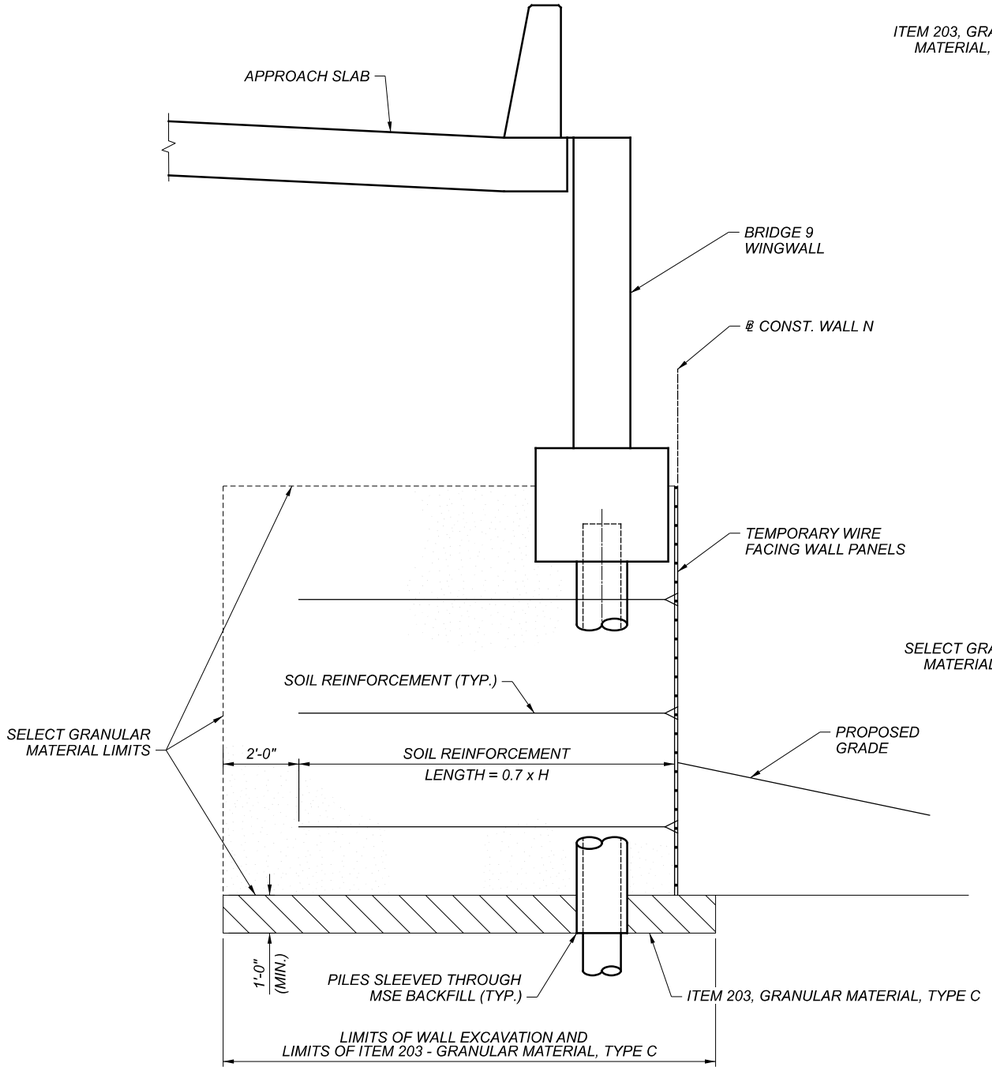
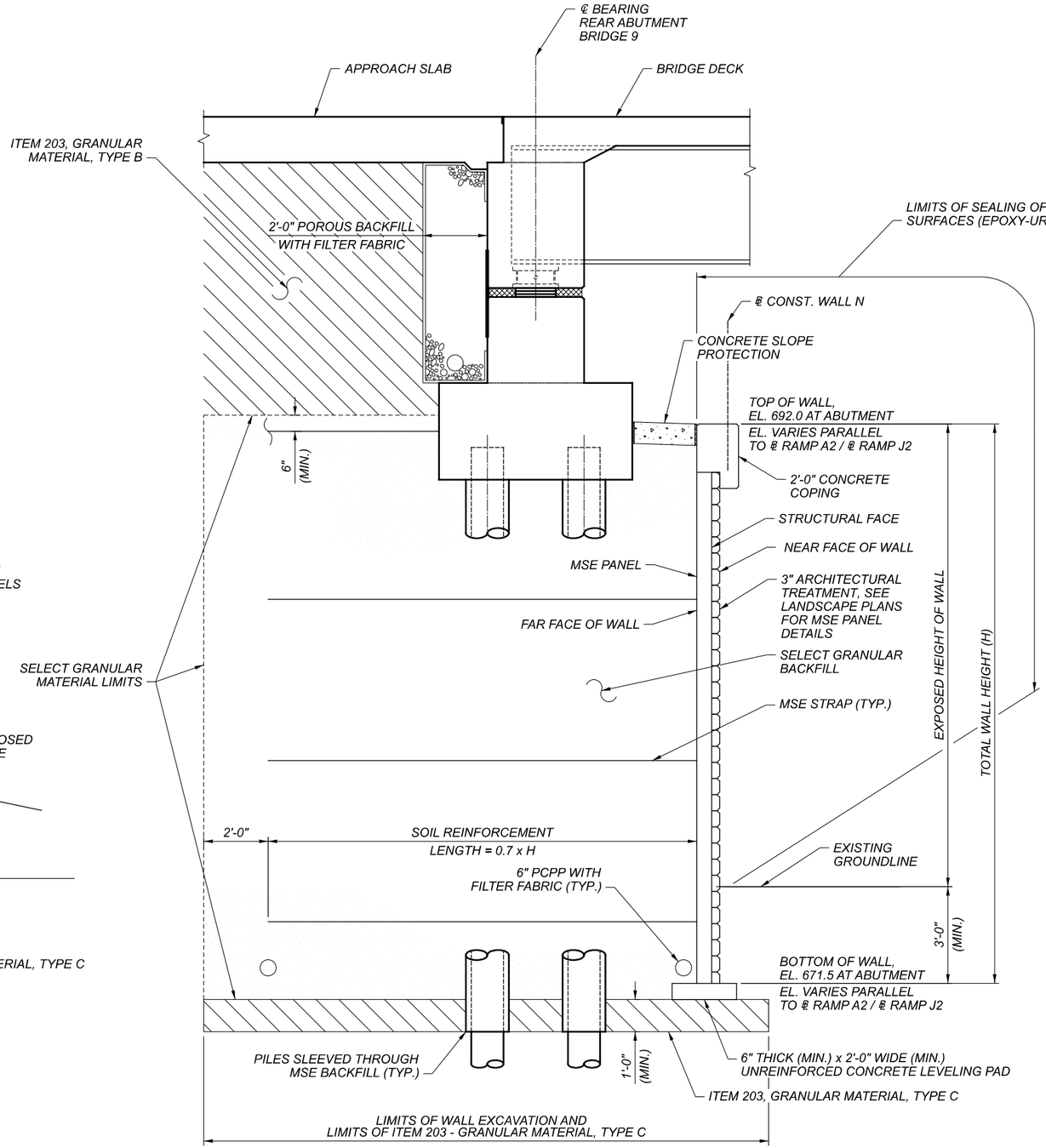


TEMP. WIRE WALL WALL TYP. SECTION



MSE WALL TYP. SECTION

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL TYPICAL SECTION (1 OF 2)
WALL N
UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:56:47 AM USER: Kathy.Johnson
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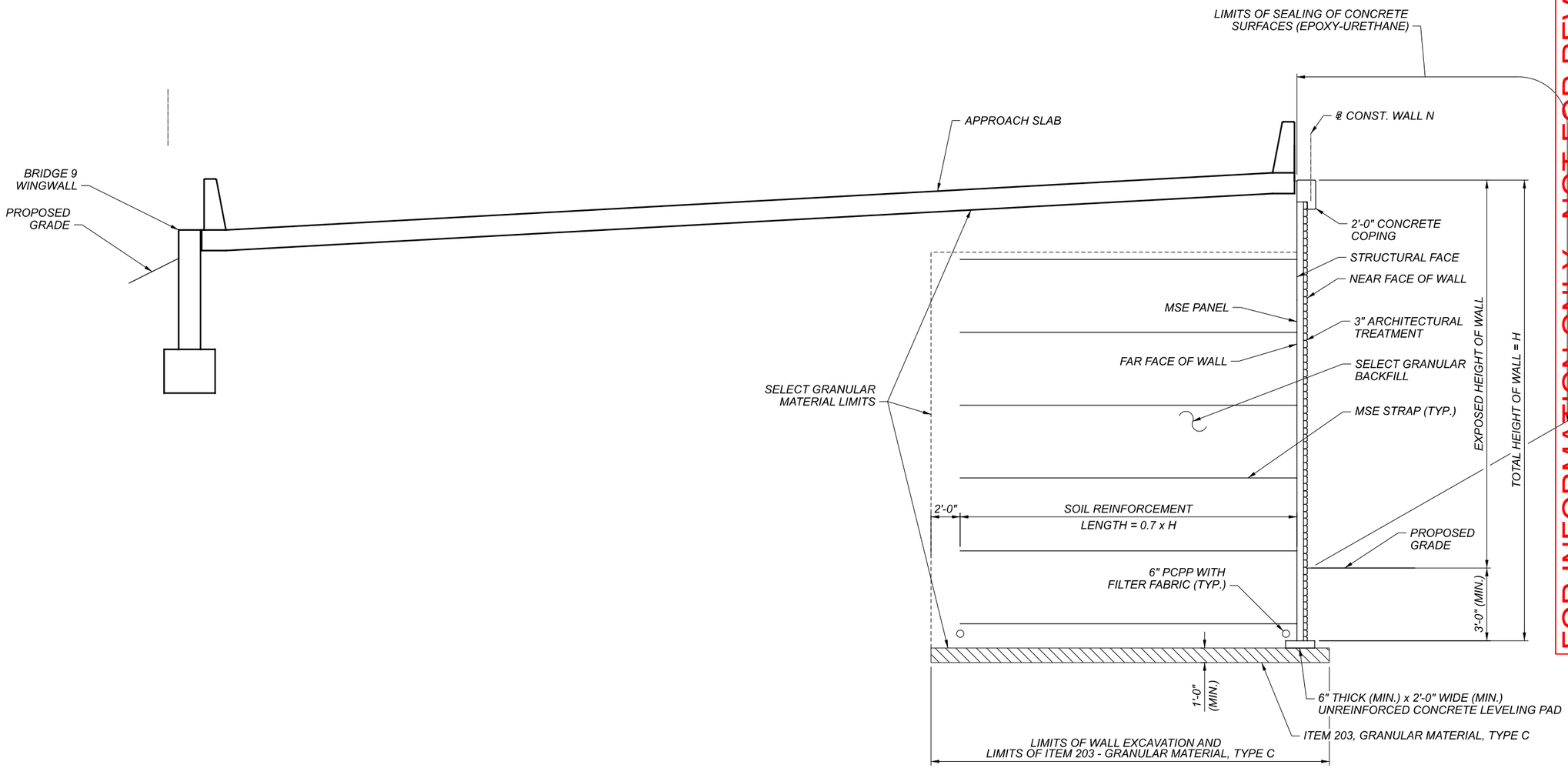
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	MKB
REVIEWER	— —
PROJECT ID	82382
SUBSET	6
TOTAL	10
SHEET	1096
TOTAL	2339



MSE WALL TYP. SECTION

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL TYPICAL SECTION (2 OF 2)
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	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	7
TOTAL	10
SHEET	1097
TOTAL	2339

CUY-90-16.28 (CCG3A)

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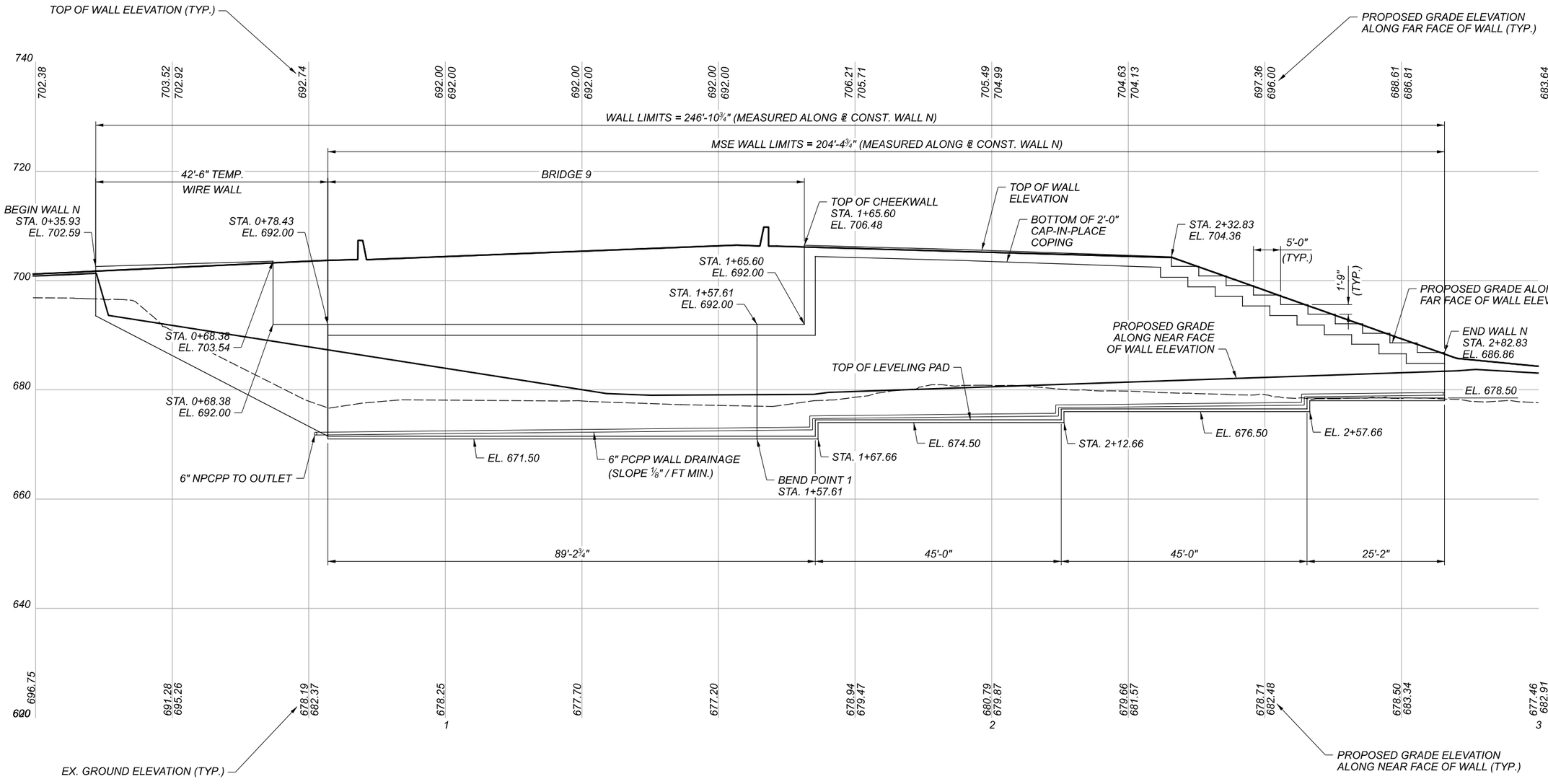

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL ELEVATION
WALL N
UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:57:31 AM USER: Kathy.Johnson
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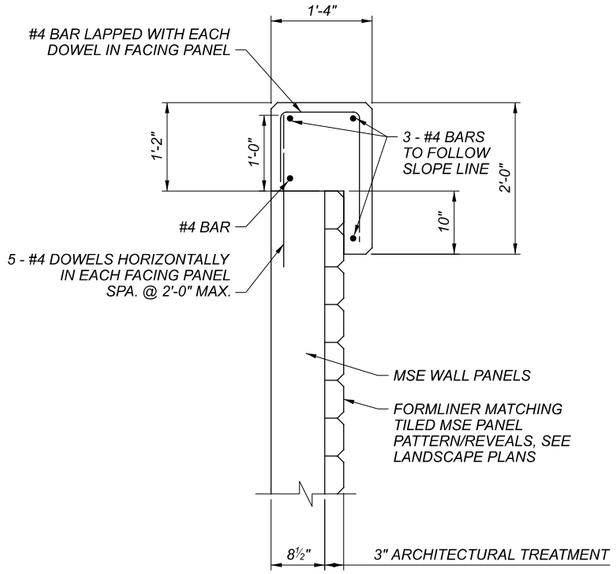
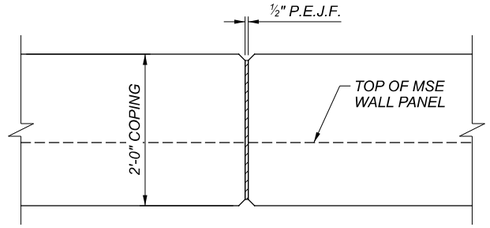
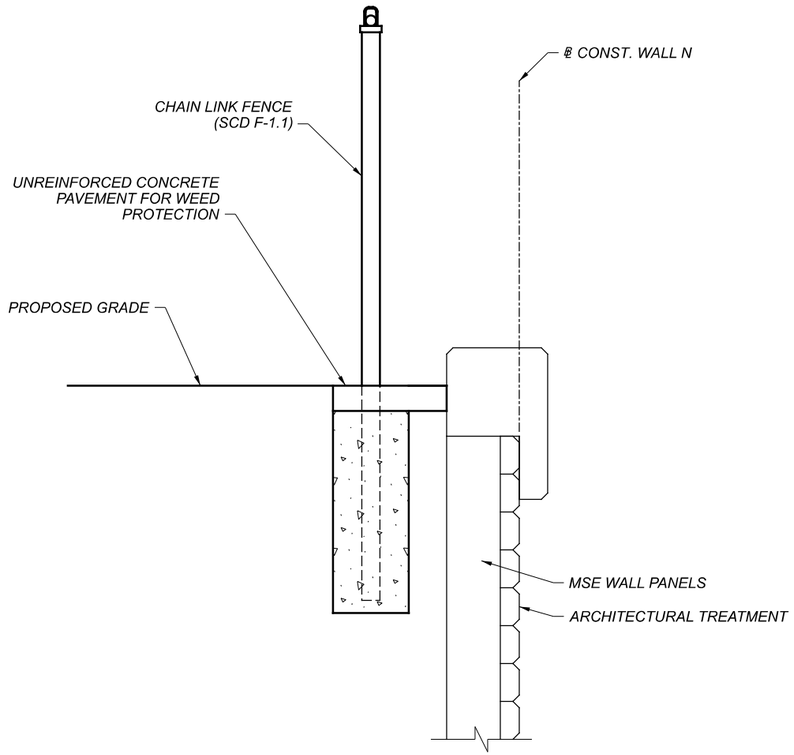
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	8
TOTAL	10
SHEET	1098
TOTAL	2339



MSE WALL COPING DETAIL
(ALL REINFORCING STEEL TO BE EPOXY COATED)



COPING EXPANSION JOINT - ELEVATION
(MAX JOINT SPACING IS 20'-0")



CHAIN LINK FENCE DETAIL
(SEE PLAN AND PROFILE SHEET FOR LOCATIONS)

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL DETAILS (1 OF 2)
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	— —
PROJECT ID	82382
SUBSET	9
TOTAL	10
SHEET	1099
TOTAL	2339

CUY-90-16.28 (CCG3A)

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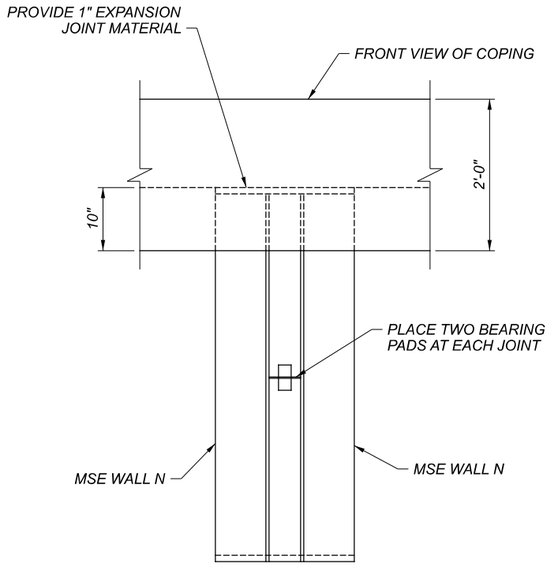
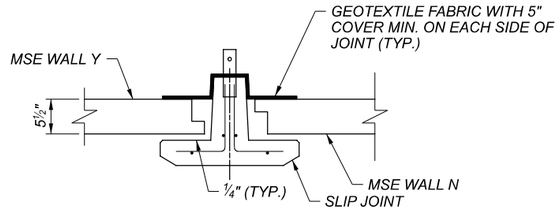


TYPICAL FRONT WALL VIEW OF JOINT ELEVATION
(AT MSE WALL)



SLIP JOINT ELEMENT DETAIL
(AT MSE WALL)

FOR INFORMATION ONLY - NOT FOR REVIEW

WALL DETAILS (2 OF 2)
WALL N
UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER
— —

PROJECT ID 82382

SUBSET	TOTAL
10	10

SHEET	TOTAL
1100	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:57:57 AM USER: Kathy.Johnson
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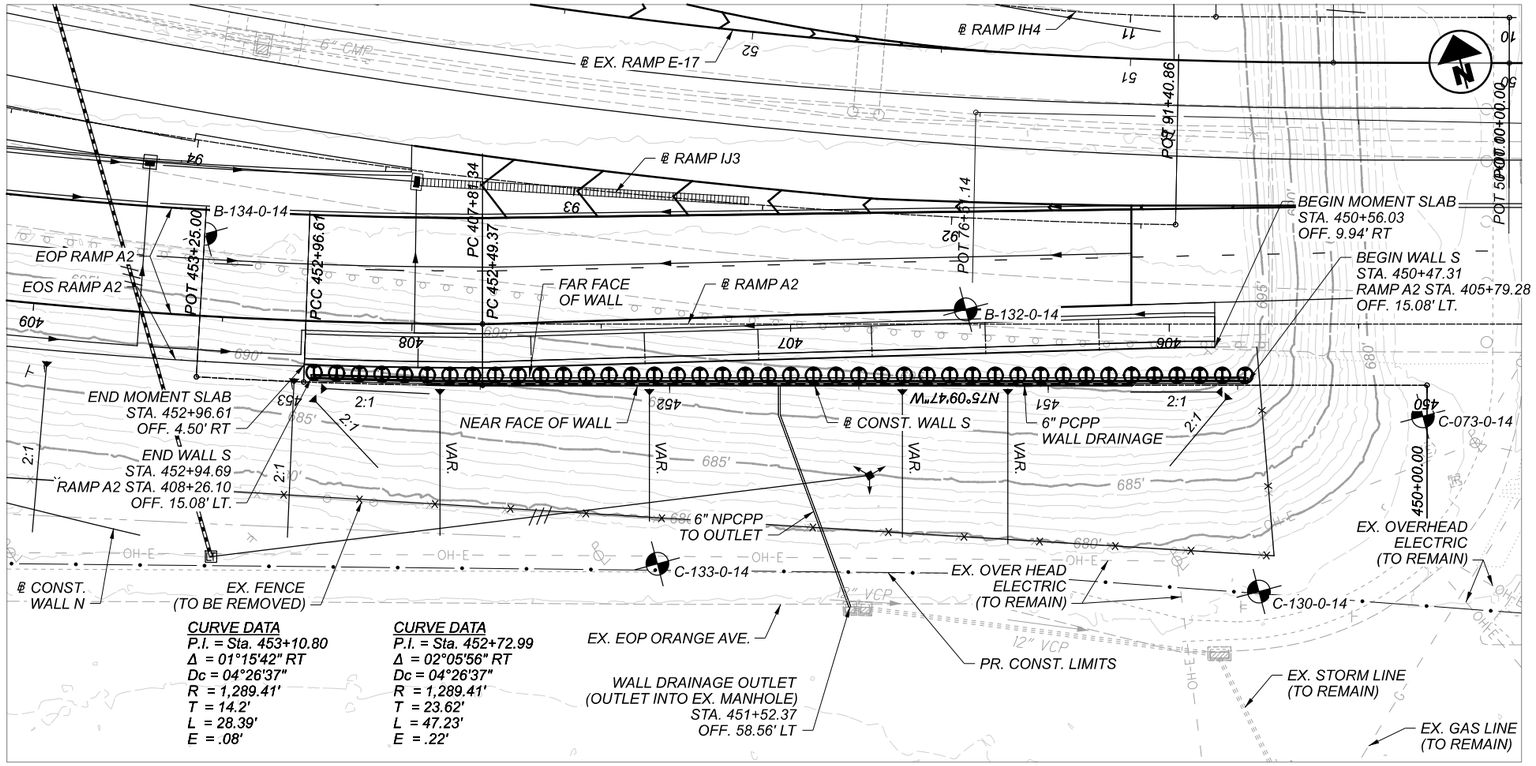
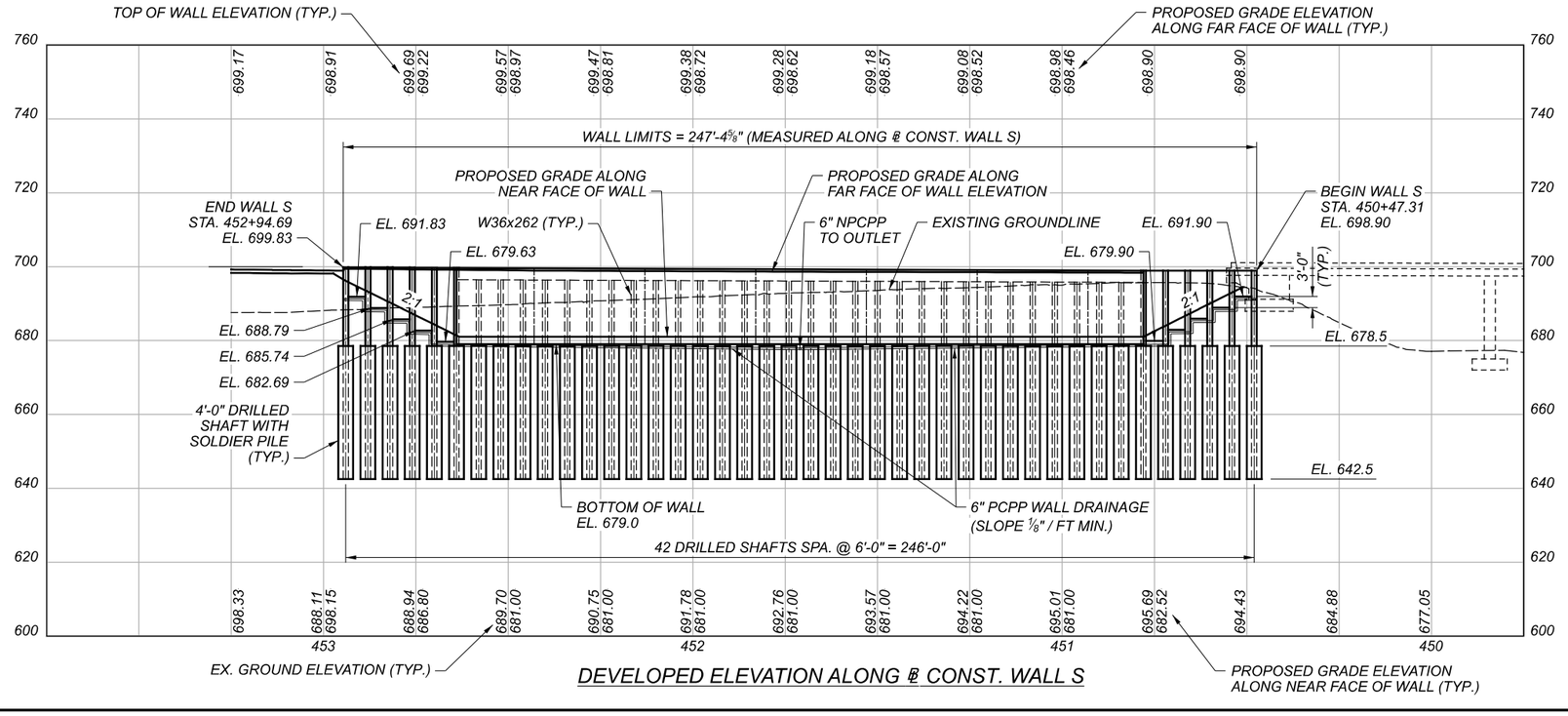


PLAN



EX. GROUND ELEVATION (TYP.)

PROPOSED GRADE ELEVATION
ALONG NEAR FACE OF WALL (TYP.)

DEVELOPED ELEVATION ALONG ℄ CONST. WALL S

BENCHMARK DATA

BM-59 STA. 430+49.74, ELEV. 660.15 , OFFSET 458.93' RT.,
℄ RAMP A2, MAG NAIL AT NOSE OF DRAINAGE CHANNEL

BM-61 STA. 425+47.56, ELEV. 674.03 , OFFSET 381.20' LT.,
℄ RAMP A2, RAILROAD SPIKE IN NORTH FACE OF POWER/LIGHT POLE

BM-62 STA. 431+86.05, ELEV. 672.11 , OFFSET 388.05' LT.,
℄ RAMP A2, RAILROAD SPIKE IN EAST FACE OF POWER/LIGHT POLE

BM-66 STA. 421+92.16, ELEV. 671.90 , OFFSET 844.15' LT.,
℄ RAMP A2, CUT CROSS ON N-E BOLT OF CANTILEVER OVERHEAD SIGN

BM-67 STA. 418+24.32, ELEV. 674.82 , OFFSET 454.15' LT.,
℄ RAMP A2, CUT CROSS ON N-E BOLT OF EAST LEG OF JCT 422 SIGN

BM-68 STA. 411+16.80, ELEV. 678.92 , OFFSET 249.57' LT.,
℄ RAMP A2, CUT CROSS ON N-E BOLT OF TRAFFIC SIGNAL POLE

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*
2. *FOR WALL CROSS SECTIONS, SEE SHEET / .*
3. *STATION AND WALL OFFSETS SHOWN AT NEAR FACE OF WALL.*
4. *PRECAST LAGGING PANELS AT THE START AND END OF WALL ARE A TEMPORARY CONDITION FOR INTERIM CONSTRUCTION. WALL IS TO BE FULL FULL HEIGHT IN FINAL CONDITION.*

LEGEND

- *HISTORIC BORING LOCATIONS*
- *PROJECT BORING LOCATIONS*

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	YC
REVIEWER	— —
PROJECT ID	82382
SUBSET	1
TOTAL	12
SHEET	1101
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: BLP_Wall S - Wall S Plan PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:58:36 AM USER: Kathy.Johnson
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\01_Projects\ODOT\District12\82382\400-Engineering\Structures\WALL_S\Sheets\82382_S_WP001.dgn

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

VPF-1-90	REVISED	7/20/2018
DM-1.1	REVISED	7/17/2020

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	DATED	7/16/2021

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 01-21-22).

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 4.0 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 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.: 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)

SEAL SURFACES OF THE CAST-IN-PLACE CONCRETE WALL FACING, PILASTERS, PARAPET, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE _____.

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

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 610 - SPECIAL - RETAINING WALL, MISC.: 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 ¼-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 _____.

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.

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

1. DEFECTS THAT INDICATE IMPERFECT MOLDING.
2. DEFECTS THAT INDICATE HONEYCOMBED OR OPEN TEXTURE CONCRETE.
3. DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, OR DAMAGE TO THE AESTHETIC SURFACE TREATMENTS.
4. CONCRETE CHIPS OR SPALLS THAT ARE LARGER THAN 4 INCHES WIDE OR 2 INCHES DEEP. REPAIR ALL CHIPS AND SPALLS THAT ARE SMALLER.
5. STAINED FORM FACES, DUE TO FORM OIL, CURING OR OTHER CONTAMINANTS.
6. SIGNS OF AGGREGATE SEGREGATION.
7. 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.
8. PANELS THAT DO NOT MEET THE SPECIFIED DIMENSIONAL TOLERANCES.
9. UNUSABLE LIFTING INSERTS.
10. EXPOSED REINFORCING STEEL.
11. 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 610 - SPECIAL - RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING.

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 — —

PROJECT ID 82382

SUBSET	TOTAL
2	12

SHEET	TOTAL
1102	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet (1 of 2) PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:58:56 AM USER: Kathy.Johnson
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\01_Projects\ODOT\District12\82382\400-Engineering\Structures\WALL_S\Sheets\82382_S_WN001.dgn

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 518 - STRUCTURE DRAINAGE, MISC.: 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 REQUIRED.

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 SOLDIER PILES, INCLUDING THE CANTILEVER PORTION AT THE END OF THE WALL. PLACE THE SIDE FACED WITH 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 THE EDGES OF THE PGD AND 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 INSTRUSION. 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 IT 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. WHERE A WALL HAS WEEPHOLES FOR DRAINAGE, ENSURE WATER CAN DRAIN FROM THE PGD TO THE WEEPHOLE. IF NECESSARY, CUT A HOLE IN THE CORE TO ALLOW DRAINAGE OR USE A WEEPHOLE FITTING FROM THE PGD MANUFACTURER. DO NOT CUT GEOTEXTILE.

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

ITEM SPECIAL - RETAINING WALL, MISC.: TIMBER LAGGING

THIS WORK CONSISTS OF FURNISHING AND PLACING TIMBER LAGGING BETWEEN THE SOLDIER PILES WHERE REQUIRED BELOW THE EXISTING GROUND SURFACE. FURNISH TIMBER LAGGING CONSISTING OF CONSTRUCTION GRADE, UNTREATED HARDWOOD WITH A MINIMUM THICKNESS OF 4 INCHES. TO PERMIT DRAINAGE, PROVIDE 1/4 TO 1/2-INCH SPACES BETWEEN LAGGING BOARDS USING 3/8-INCH THICK SPACER BLOCKS OR OTHER MEANS ACCEPTABLE TO THE ENGINEER.

PLAN ABBREVIATIONS:

ABUT. = ABUTMENT
APPR. = APPROACH
B = BOTTOM
℄ = BASELINE
B.F. = BACK FACE
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. = FRONT 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
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

SECTION/DETAIL/VIEW CALLOUTS

(SEE SECTION A ON SHEET 10)

(SECTION A CUT FROM SHEET 9)

WALL GENERAL NOTES (2 OF 2)
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN N/A
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER SSW | CHECKER YC
REVIEWER — | —
PROJECT ID 82382
SUBSET 3 | TOTAL 12
SHEET 1103 | TOTAL 2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet (2 of 2) PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:58:57 AM USER: Kathy.Johnson
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ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
507	00400	2,389	FT	STEEL PILES, MISC.: W36x262, FURNISHED					
509	10000	41,220	LB	EPOXY COATED REINFORCING STEEL					
511	46012	152	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING					
511	53010	138	CY	CLASS QC1 CONCRETE, MISC.: MOMENT SLAB AND PARAPET WITH QC/QA					
512	10001	207	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)					
512	10100	411	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
512	33000	41	SY	TYPE 2 WATERPROOFING					
513	20000	1,240	EACH	WELDED STUD SHEAR CONNECTORS					
516	42000	120	EACH	ELASTOMERIC BEARING PAD, MISC.: 6"x9"x3/8" THICK					
518	21200	168	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC					
518	40000	273	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	62	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
518	62600	3,273	SF	STRUCTURE DRAINAGE, MISC.: PREFABRICATED GEOCOMPOSITE DRAIN					
524	94802	1,512	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK					
530	51020	3,273	SF	SPECIAL - RETAINING WALL, TIMBER LAGGING					
610	50010	810	SF	SPECIAL - RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING					
613	41200	313	CY	LOW STRENGTH MORTAR BACKFILL					
840	26050	3,769	SF	AESTHETIC SURFACE TREATMENT					

ESTIMATED QUANTITIES
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN
N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
4	12

SHEET	TOTAL
1104	2339

CUY-90-16.28 (CCG3A)

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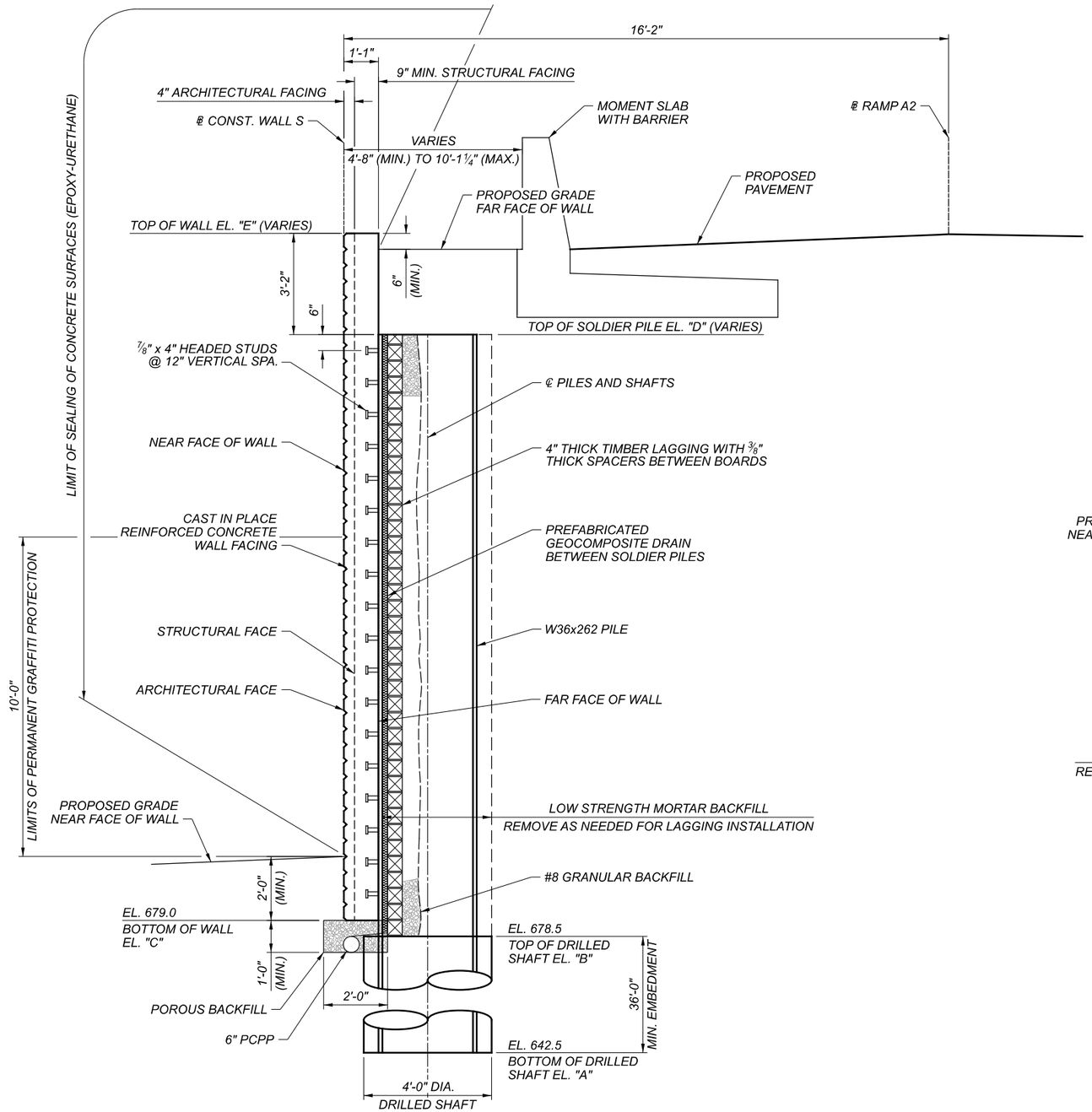
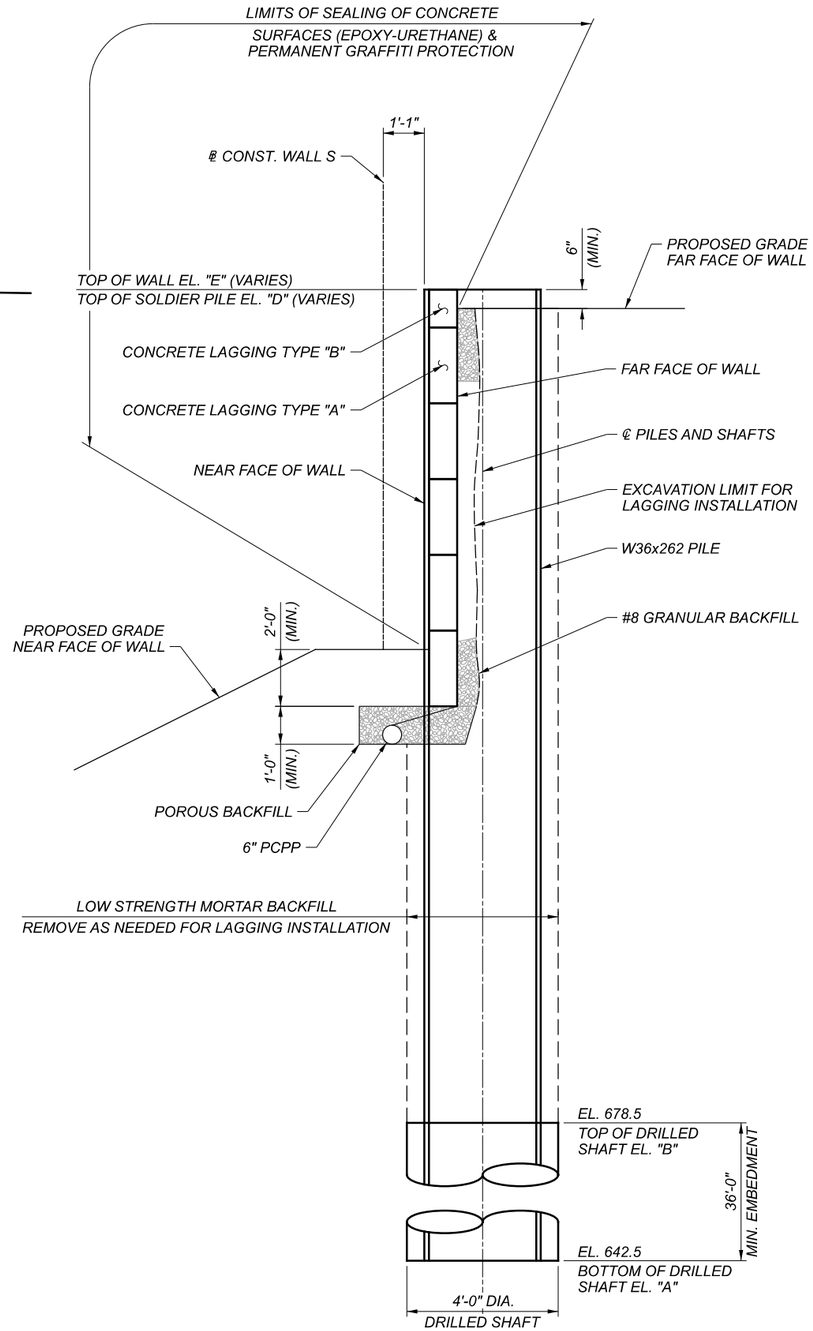


SOLDIER PILE AND LAGGING WALL TYP. SECTION 1

(CAST IN PLACE REINFORCED CONCRETE FACING)
(REINFORCING STEEL NOT SHOWN FOR CLARITY)



SOLDIER PILE AND LAGGING WALL TYP. SECTION 2

(PRECAST CONCRETE LAGGING PANELS)

WALL TYPICAL SECTION
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	YC

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
5	12

SHEET	TOTAL
1105	2339

CUY-90-16.28 (CCG3A)

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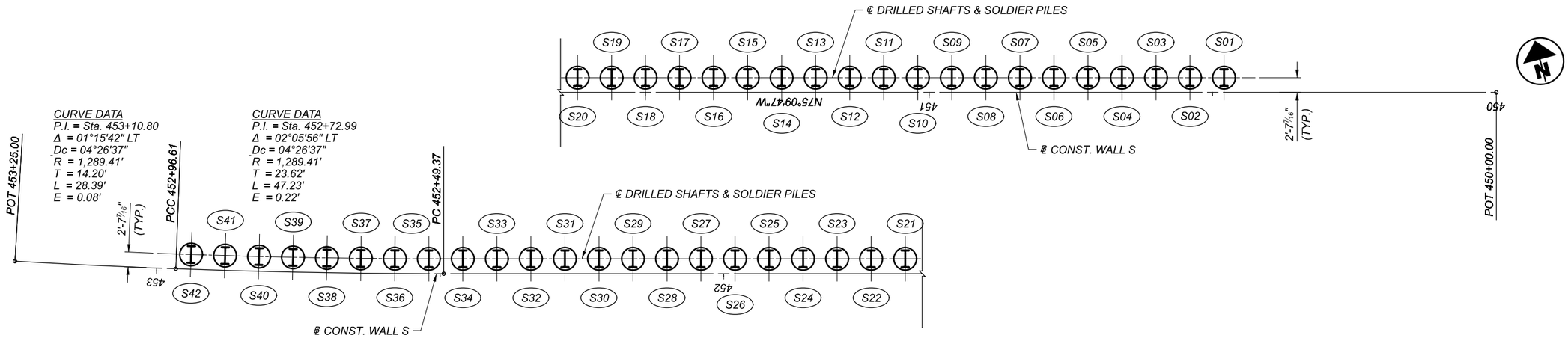
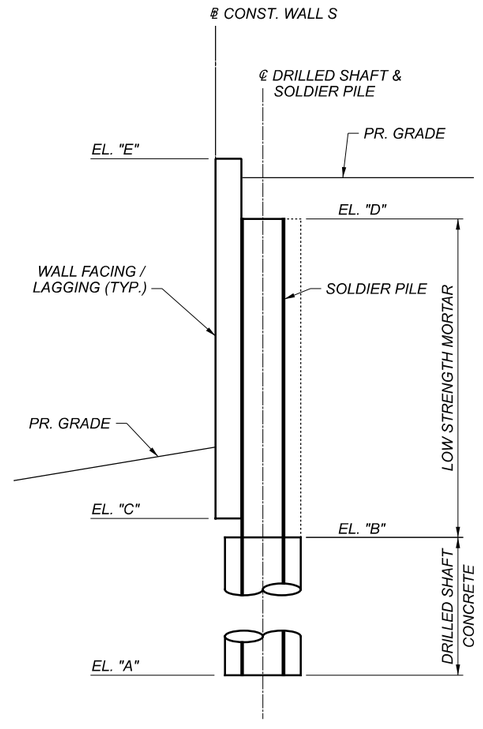


FOUNDATION PLAN

WALL S DRILLED SHAFT & SOLDIER PILE SCHEDULE

DESIGNATION	STATION BASELINE WALL S	CENTERLINE OFFSET FROM BASELINE WALL S (FT.)	DIAMETER (IN.)	SHEAR STUDS (YES/NO)	BOTTOM OF DRILLED SHAFT EL. "A"	TOP OF SHAFT CONCRETE EL. "B"	CONCRETE SHAFT LENGTH (FT.)	BOTTOM OF WALL EL. "C"	TOP OF SOLDIER PILE E. "D"	TOP OF WALL EL. "E"	ESTIMATED LENGTH OF SOLDIER PILE (FT.)	HEIGHT OF LAGGING / FACING (FT.)	SOLDIER PILE SIZE
S01	450+48.00	2.62 RT	48	NO	642.5	678.5	36.0	691.9	698.9	698.9	56.4	7.0	W36x262
S02	450+54.00	2.62 RT	48	NO	642.5	678.5	36.0	688.9	698.9	698.9	56.4	10.0	W36x262
S03	450+60.00	2.62 RT	48	NO	642.5	678.5	36.0	685.9	698.9	698.9	56.4	13.0	W36x262
S04	450+66.00	2.62 RT	48	NO	642.5	678.5	36.0	682.9	698.9	698.9	56.4	16.0	W36x262
S05	450+72.00	2.62 RT	48	NO	642.5	678.5	36.0	679.9	698.9	698.9	56.4	19.0	W36x262
S06	450+78.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	698.9	698.9	56.4	19.9	W36x262
S07	450+84.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	695.8	698.9	53.3	19.9	W36x262
S08	450+90.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	695.8	698.9	53.3	19.9	W36x262
S09	450+96.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	695.8	699.0	53.3	20.0	W36x262
S10	451+02.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	695.8	699.0	53.3	20.0	W36x262
S11	451+08.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	695.9	699.0	53.4	20.0	W36x262
S12	451+14.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	695.9	699.0	53.4	20.0	W36x262
S13	451+20.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	695.9	699.1	53.4	20.1	W36x262
S14	451+26.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	695.9	699.1	53.4	20.1	W36x262
S15	451+32.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	695.9	699.1	53.4	20.1	W36x262
S16	451+38.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.0	699.1	53.5	20.1	W36x262
S17	451+44.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.0	699.2	53.5	20.2	W36x262
S18	451+50.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.0	699.2	53.5	20.2	W36x262
S19	451+56.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.0	699.2	53.5	20.2	W36x262
S20	451+62.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.1	699.2	53.6	20.2	W36x262
S21	451+68.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.1	699.3	53.6	20.3	W36x262
S22	451+74.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.1	699.3	53.6	20.3	W36x262
S23	451+80.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.1	699.3	53.6	20.3	W36x262
S24	451+86.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.2	699.3	53.7	20.3	W36x262
S25	451+92.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.2	699.4	53.7	20.4	W36x262
S26	451+98.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.2	699.4	53.7	20.4	W36x262
S27	452+04.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.2	699.4	53.7	20.4	W36x262
S28	452+10.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.3	699.4	53.8	20.4	W36x262
S29	452+16.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.3	699.4	53.8	20.4	W36x262
S30	452+22.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.3	699.5	53.8	20.5	W36x262
S31	452+28.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.3	699.5	53.8	20.5	W36x262
S32	452+34.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.3	699.5	53.8	20.5	W36x262
S33	452+40.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.4	699.5	53.9	20.5	W36x262
S34	452+46.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.4	699.6	53.9	20.6	W36x262
S35	452+52.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.4	699.6	53.9	20.6	W36x262
S36	452+58.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	696.4	699.6	53.9	20.6	W36x262
S37	452+64.00	2.62 RT	48	YES	642.5	678.5	36.0	679.0	699.6	699.6	57.1	20.6	W36x262
S38	452+70.00	2.62 RT	48	NO	642.5	678.5	36.0	679.6	699.7	699.7	57.2	20.1	W36x262
S39	452+76.00	2.62 RT	48	NO	642.5	678.5	36.0	682.7	699.7	699.7	57.2	17.1	W36x262
S40	452+82.00	2.62 RT	48	NO	642.5	678.5	36.0	685.7	699.8	699.8	57.3	14.1	W36x262
S41	452+88.00	2.62 RT	48	NO	642.5	678.5	36.0	688.8	699.8	699.8	57.3	11.0	W36x262
S42	452+94.00	2.62 RT	48	NO	642.5	678.5	36.0	691.8	699.8	699.8	57.3	8.0	W36x262



DRILLED SHAFT & SOLDIER PILE SCHEMATIC

LEGEND:

(#) - DENOTES SOLDIER PILE NUMBER

FOUNDATION PLAN
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER —

PROJECT ID 82382

SUBSET	TOTAL
6	12

SHEET	TOTAL
1106	2339

CUY-90-16.28 (CCG3A)

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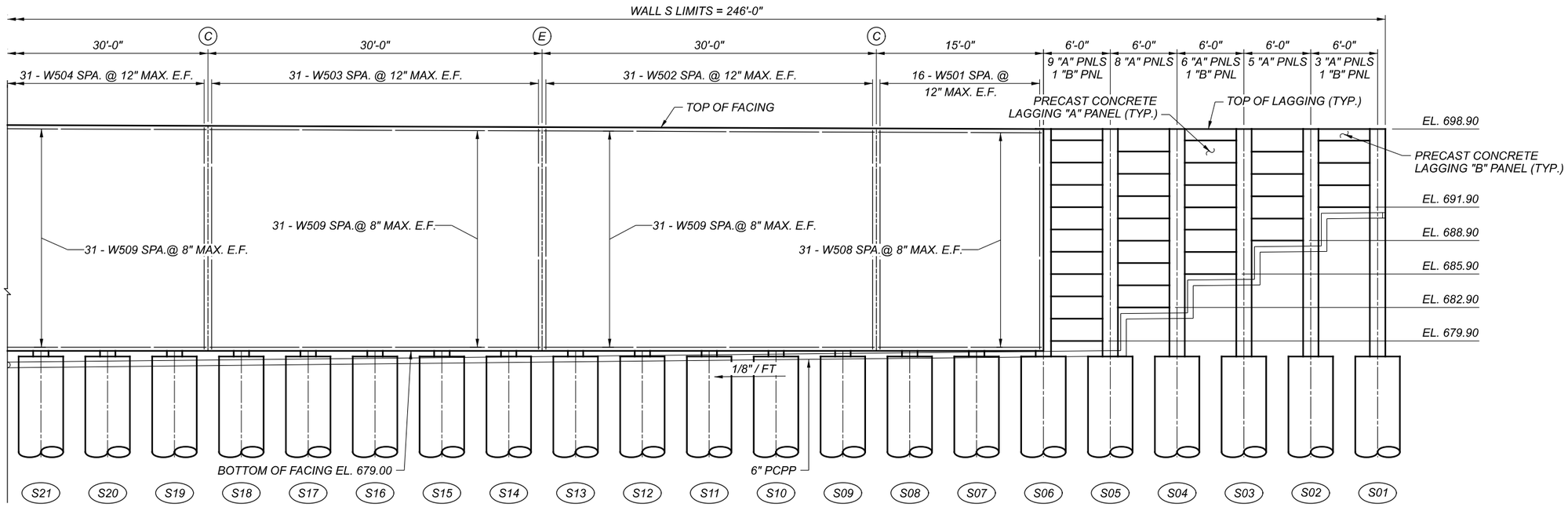
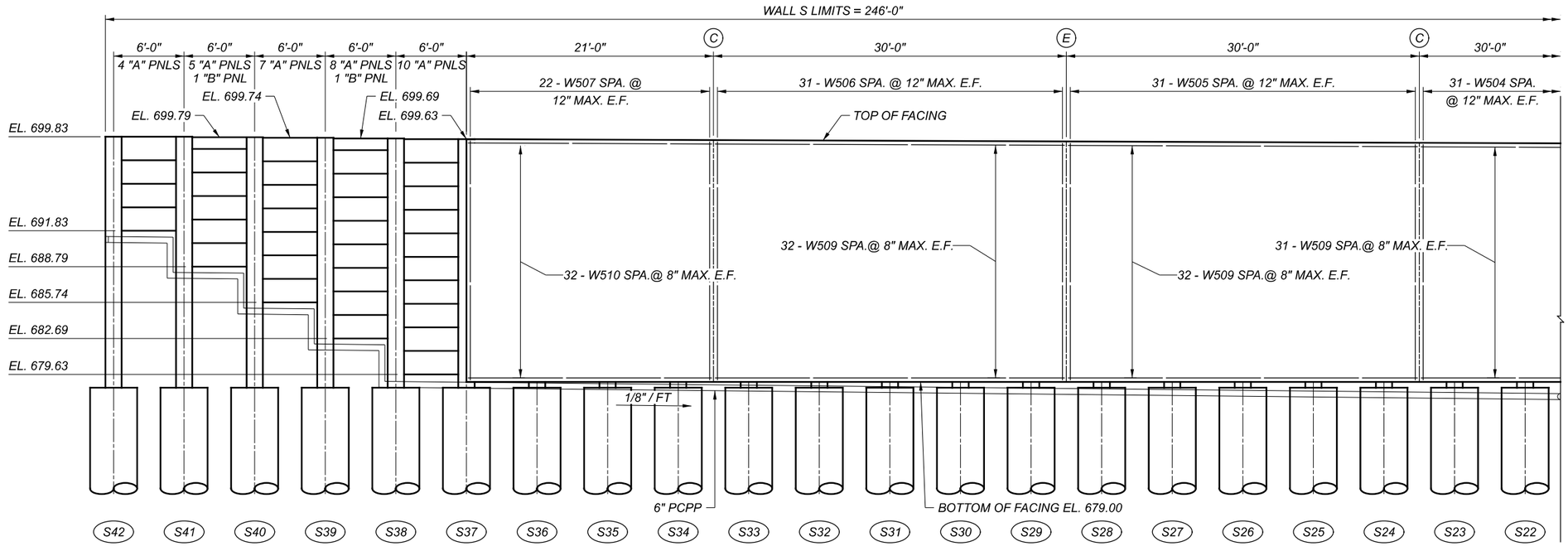


ELEVATION

(DIMENSIONS GIVEN ALONG ℄ CONST. WALL S)



ELEVATION

(DIMENSIONS GIVEN ALONG ℄ CONST. WALL S)

LEGEND:

(#) - DENOTES SOLDIER PILE NUMBER

WALL ELEVATION WALL S ALONG SOUTH SIDE OF I.R. 77

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:00:02 AM USER: Kathy.Johnson
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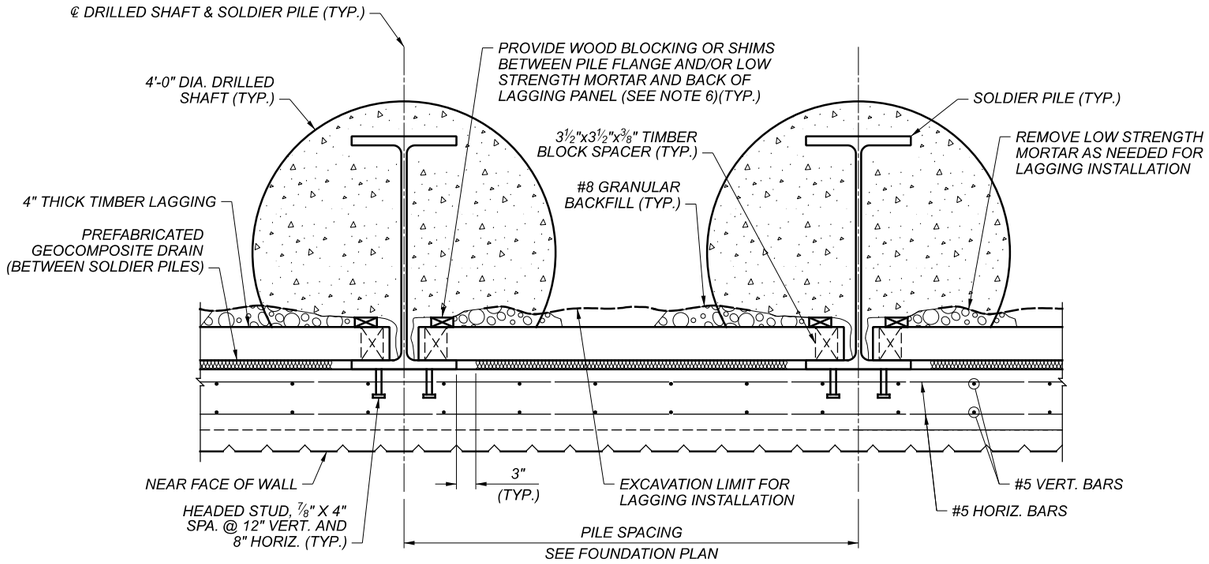
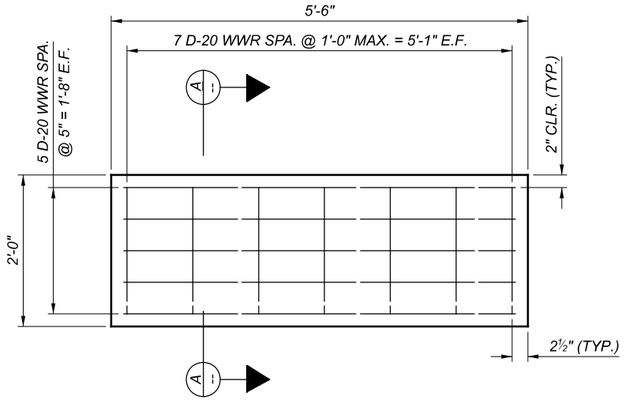
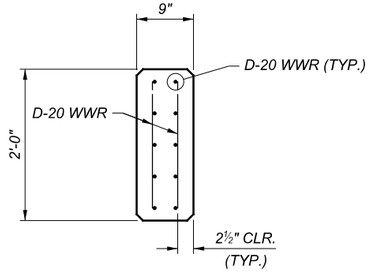
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	7
TOTAL	12
SHEET	1107
TOTAL	2339



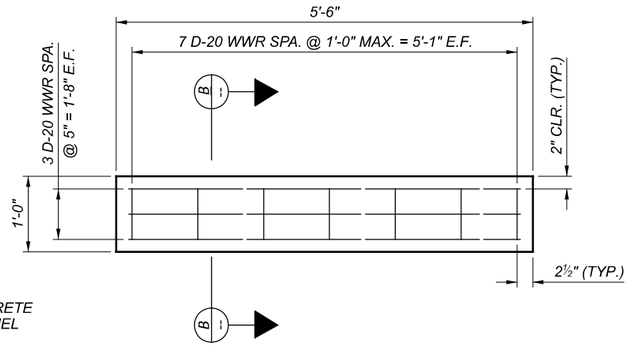
TYPICAL PLAN



TYPE "A" PRECAST LAGGING ELEVATION



A SECTION



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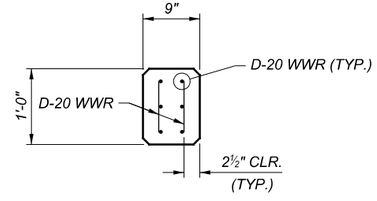
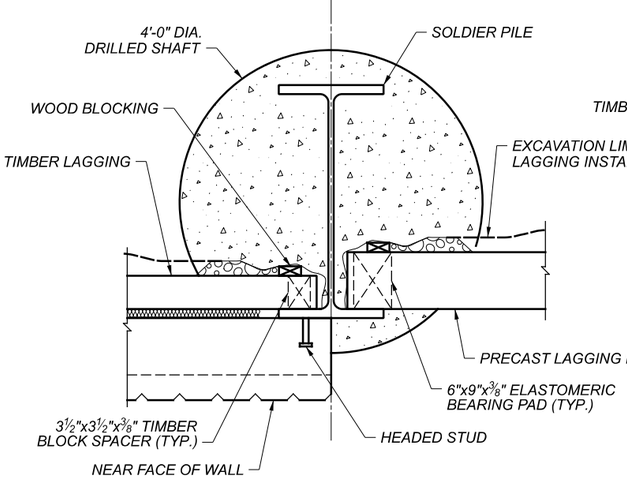
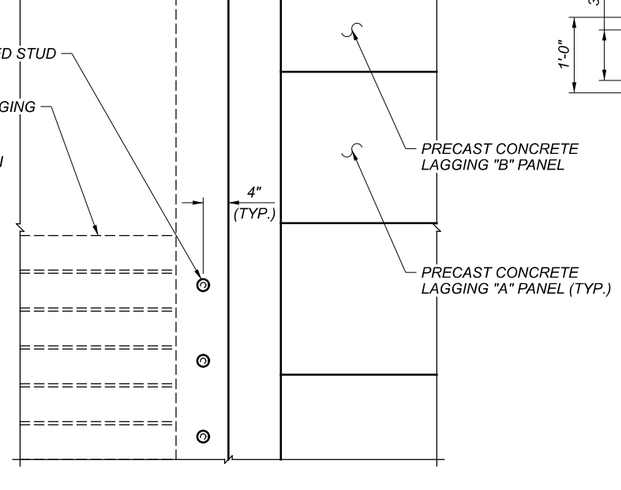


B SECTION



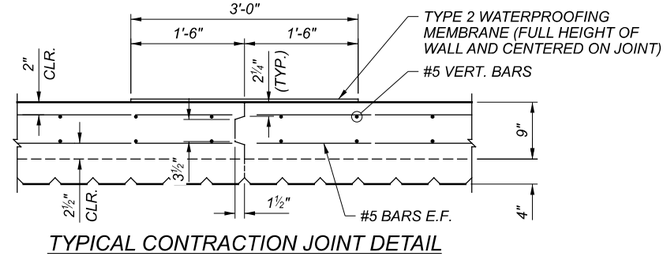
WALL TRANSITION PLAN DETAIL

(CAST-IN-PLACE CONCRETE FACING TO PRECAST CONCRETE LAGGING PANELS)

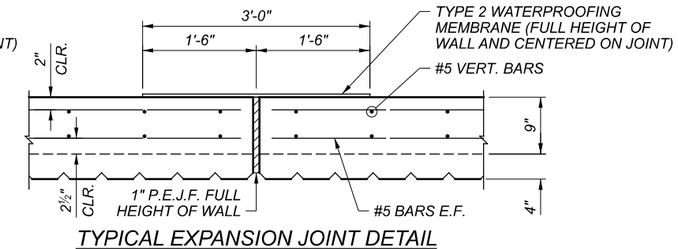


WALL TRANSITION ELEVATION DETAIL

(CAST-IN-PLACE CONCRETE FACING TO PRECAST CONCRETE LAGGING PANELS)



TYPICAL CONTRACTION JOINT DETAIL



TYPICAL EXPANSION JOINT DETAIL

NOTES:

1. *ELASTOMERIC BEARING PADS SHALL BE PROVIDED AT ALL BOTTOM PANELS BETWEEN THE PANEL AND TOP OF CONCRETE DRILLED SHAFT AND/OR RAISED PANEL SEAT. THEY SHALL ALSO BE PROVIDED AT EACH END OF EACH PANEL BETWEEN PANELS.*
2. *ELASTOMERIC BEARING PADS SHALL BE NEOPRENE ELASTOMERIC PADS HAVING DUROMETER HARDNESS OF 55 ± 5, HIGH DENSITY POLYETHYLENE PADS WITH A MINIMUM DENSITY OF 59 LB/FT3 {0.946 G/CM3} OR EQUIVALENT. SUPPLY CERTIFIED TEST DATA TO THE ENGINEER UPON DELIVERY OF THE MATERIAL TO THE PROJECT. BEARING PADS WILL BE PAID FOR UNDER ITEM 516 ELASTOMERIC BEARING PAD, MISC.: 6"x10"x 3/8" THICK.*
3. *REINFORCEMENT IN PRECAST LAGGING PANELS SHALL BE INCLUDED WITH ITEM 610 - RETAINING WALL MISC.: PRECAST CONCRETE LAGGING FOR PAYMENT.*
4. *PROVIDE 1" x 1" CHAMFER AT EXPOSED TOP AND BOTTOM OF LAGGING PANELS.*
5. *CENTER LAGGING PANELS BETWEEN PILE WEBS.*
6. *CONTRACTOR HAS THE OPTION TO REMOVE LOW STRENGTH MORTAR AS NEEDED FOR LAGGING INSTALLATION. USE WOOD BLOCKING AND/OR SHIMS TO ENSURE LAGGING PANEL REMAINS FLUSH AGAINST BACK OF SOLDIER PILE FLANGE AT THE FRONT FACE OF WALL.*

WALL DETAILS
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
8	12

SHEET	TOTAL
1108	2339

CUY-90-16.28 (CCG3A)

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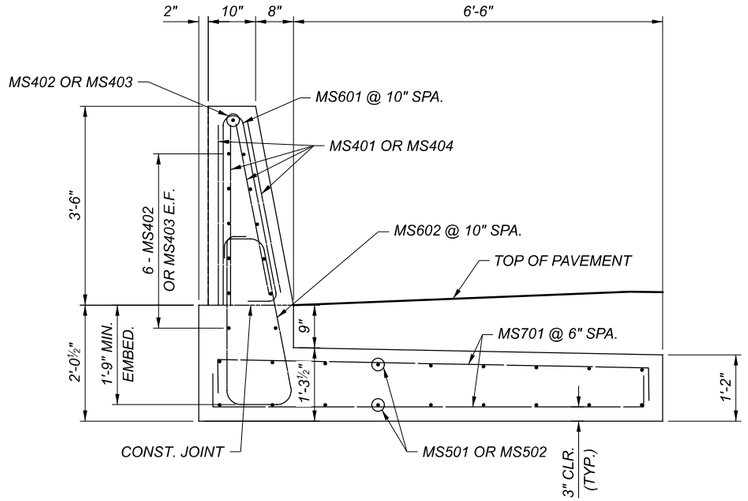
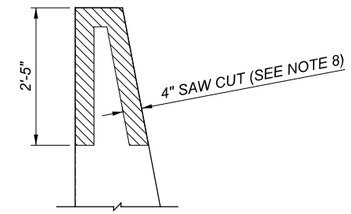
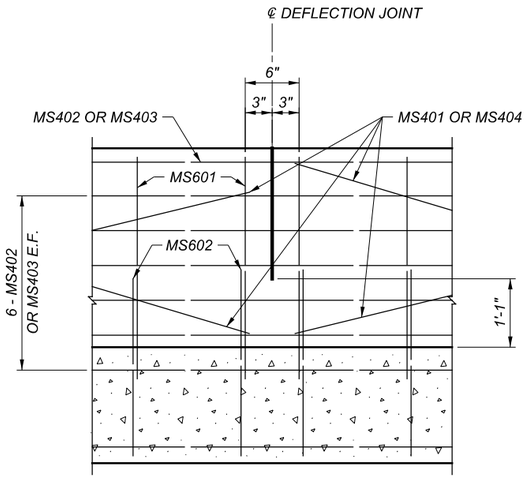


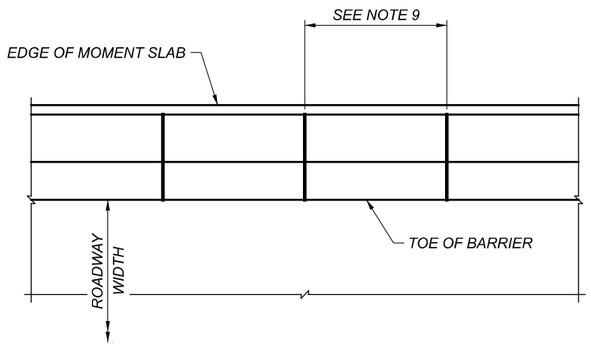
TYPICAL SECTION



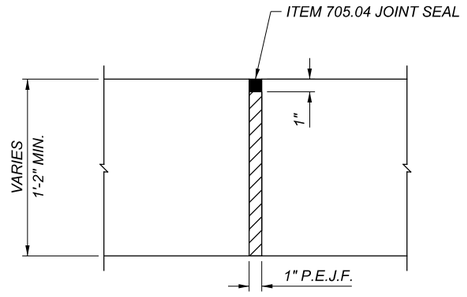
DETAIL A
(SECTION THROUGH SAWCUT)



DEFLECTOIN JOINT ELEVATION DETAIL



DEFLECTION JOINT PLAN VIEW DETAIL
(NOT TO SCALE)



EXPANSION JOINT DETAIL

NOTES:

1. CONTROL JOINTS SHALL BE PLACED AT A MAXIMUM OF 15 FEET. SPACE VERTICAL REINFORCING STEEL TO CLEAR CONTROL JOINTS BY A MINIMUM OF 2 INCHES. CONTROL JOINTS SHALL BE AS PER ODOT STANDARD DRAWING SBR-1-20 EXCEPT THAT THEY SHALL EXTEND ACROSS THE MOMENT SLAB.
2. EXPANSION JOINTS SHALL BE PLACED EVERY 30 FEET UNLESS NOTED OTHERWISE. 1" PEJF SHALL BE PLACED BETWEEN MOMENT SLABS AT EACH EXPANSION JOINT. REINFORCING STEEL SHALL NOT EXTEND THROUGH THE EXPANSION JOINT.
3. THE MINIMUM LENGTH OF THE MOMENT SLAB IS 30 FEET UNLESS NOTED OTHERWISE.
4. USE GLASS FIBER REINFORCED POLYMER (GFRP) FOR ALL HORIZONTAL AND STIFFENING BARS.
5. TIE STIFFENING BARS LOCATED INSIDE THE VERTICAL REINFORCEMENT AT EACH HORIZONTAL BAR. TIE STIFFENING BARS LOCATED OUTSIDE OF THE VERTICAL REINFORCEMENT AT EACH VERTICAL BAR.
6. PLACE STIFFENING BARS IN ALL SAWCUT PANELS 10'-0" AND GREATER. DO NOT ADD STIFFENING BARS TO 14'-0" TRANSITIONS. DO NOT SLIPFORM UNSTIFFENED SAWCUT PANELS. DO NOT OMIT STIFFENING BARS FOR CONVENTIONALLY FORMED CONSTRUCTION.
7. PAYMENT FOR GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT SHALL BE INCLUDED WITH CONTRACT PRICE FOR ITEM 509.
8. LIMITS OF SAWCUT ARE SHOWN IN DETAIL A. THE 4" SAWCUT DEPTH SHOWN IN DETAIL IS THE MINIMUM REQUIRED. HOWEVER, THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT.
9. DEFLECTION JOINT SPACING SHALL BE 10'-0" UNLESS NOTED OTHERWISE.

MOMENT SLAB DETAILS (SHEET 1 OF 3)
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	YC

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
9	12

SHEET	TOTAL
1109	2339

CUY-90-16.28 (CCG3A)

MODEL: Moment Slab Sheet 1 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:00:31 AM USER: Kathy.Johnson
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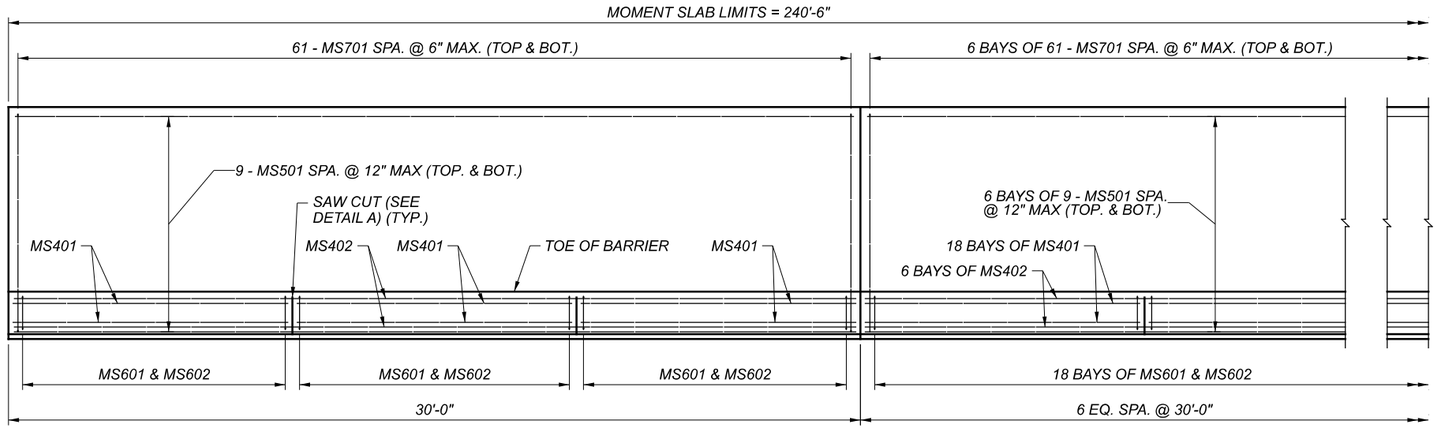
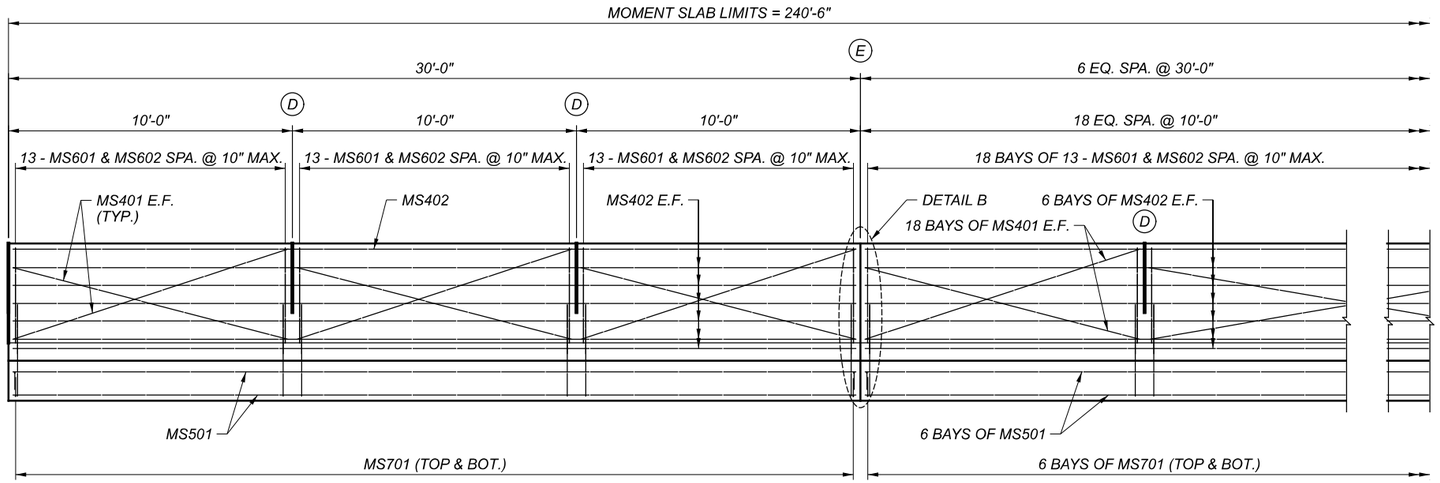


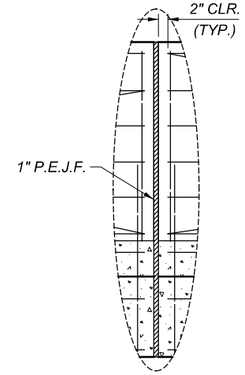
MOMENT SLAB PLAN

(TYPICAL 30'-0" SEGMENTS SHOWN, DIMENSIONS GIVEN ALONG REAR FACE OF BARRIER)



MOMENT SLAB ELEVATION

(TYPICAL 30'-0" SEGMENTS SHOWN, DIMENSIONS GIVEN ALONG REAR FACE OF BARRIER)



DETAIL B

(TYPICAL AT EXPANSION JOINTS)

NOTES:

1. PROVIDE REINFORCING STEEL CONFORMING TO ASTM A706 OR AASHTO M31 GRADE 60.
2. PROVIDE MINIMUM 2" CONCRETE COVER, UNLESS SHOWN OTHERWISE. IF REQUIRED, INCREASE COVER THICKNESS FOR ARCHITECTURAL FEATURES OR FINISHES.
3. CONTROL JOINTS SHALL BE PLACED AT A MAXIMUM OF 15 FEET. SPACE VERTICAL REINFORCING STEEL TO CLEAR CONTROL JOINTS BY A MINIMUM OF 2 INCHES. CONTROL JOINTS SHALL BE AS PER ODOT STANDARD DRAWING SBR-1-20 EXCEPT THAT THEY SHALL EXTEND ACROSS THE MOMENT SLAB.
4. EXPANSION JOINTS SHALL BE PLACED EVERY 30 FEET UNLESS NOTED OTHERWISE. 1" PEJF SHALL BE PLACED BETWEEN MOMENT SLABS AT EACH EXPANSION JOINT. REINFORCING STEEL SHALL NOT EXTEND THROUGH THE EXPANSION JOINT.
5. THE MINIMUM LENGTH OF THE MOMENT SLAB IS 30 FEET UNLESS NOTED OTHERWISE.
6. USE GLASS FIBER REINFORCED POLYMER (GFRP) FOR ALL HORIZONTAL AND STIFFENING BARS.
7. TIE STIFFENING BARS LOCATED INSIDE THE VERTICAL REINFORCEMENT AT EACH HORIZONTAL BAR. TIE STIFFENING BARS LOCATED OUTSIDE OF THE VERTICAL REINFORCEMENT AT EACH VERTICAL BAR.
8. PLACE STIFFENING BARS IN ALL SAWCUT PANELS 10'-0" AND GREATER. DO NOT ADD STIFFENING BARS TO 14'-0" TRANSITIONS. DO NOT SLIPFORM UNSTIFFENED SAWCUT PANELS. DO NOT OMIT STIFFENING BARS FOR CONVENTIONALLY FORMED CONSTRUCTION.
9. PAYMENT FOR GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT SHALL BE INCLUDED WITH CONTRACT PRICE FOR ITEM 509.
10. LIMITS OF SAWCUT ARE SHOWN IN DETAIL A. THE 4" SAWCUT DEPTH SHOWN IN DETAIL IS THE MINIMUM REQUIRED. HOWEVER, THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT.
11. DEFLECTION JOINT SPACING SHALL BE 10'-0" UNLESS NOTED OTHERWISE

LEGEND

(E) DESIGNATES EXPANSION JOINT

(D) DESIGNATES DEFLETION JOINT

MOMENT SLAB DETAILS (SHEET 2 OF 3)
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	YC
REVIEWER	— —
PROJECT ID	82382
SUBSET	10
TOTAL	12
SHEET	1110
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Moment Slab Sheet 2 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:00:32 AM USER: Kathy.Johnson
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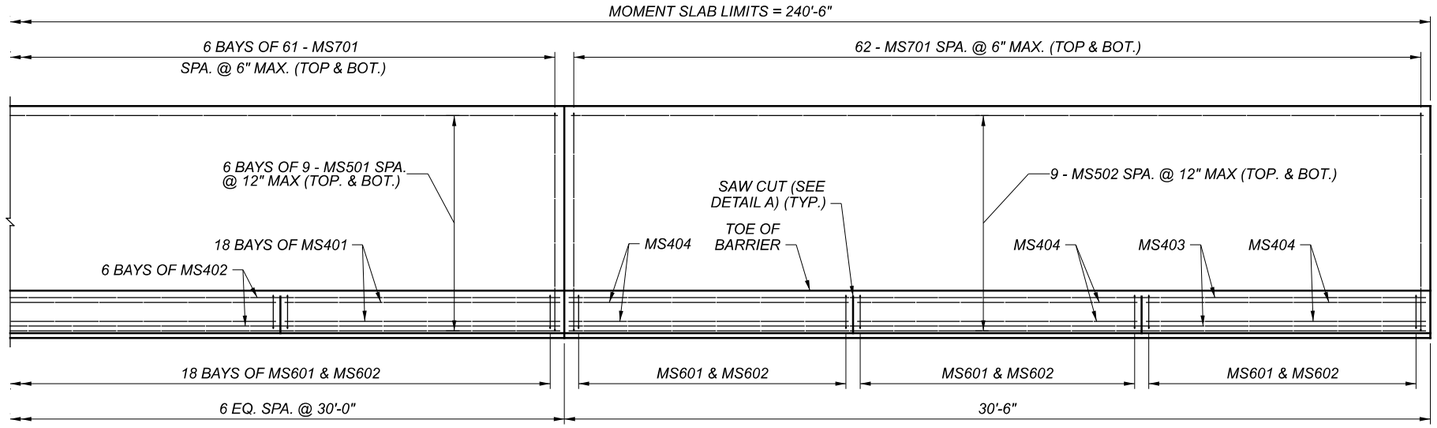
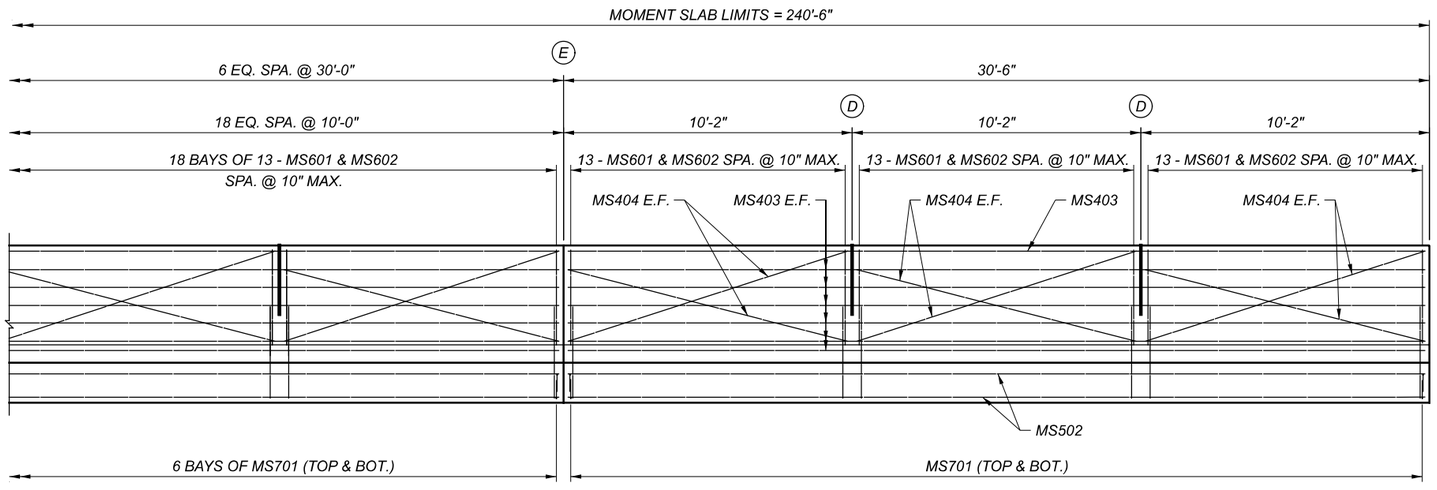


MOMENT SLAB PLAN

(DIMENSIONS GIVEN ALONG REAR FACE OF BARRIER)



MOMENT SLAB ELEVATION

(DIMENSIONS GIVEN ALONG REAR FACE OF BARRIER)

LEGEND

(E) *DESIGNATES EXPANSION JOINT*

(D) *DESIGNATES DEFLETION JOINT*

MOMENT SLAB DETAILS (SHEET 3 OF 3)
WALL S
ALONG SOUTH SIDE OF I.R. 77

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	YC
REVIEWER	— —
PROJECT ID	82382
SUBSET	11
TOTAL	12
SHEET	1111
TOTAL	2339

CUY-90-16.28 (CCG3A)

MODEL: Moment Slab Sheet 3 PAPERSIZE: 17x11 (In.) DATE: 6/24/2022 TIME: 9:00:33 AM USER: Kathy.Johnson
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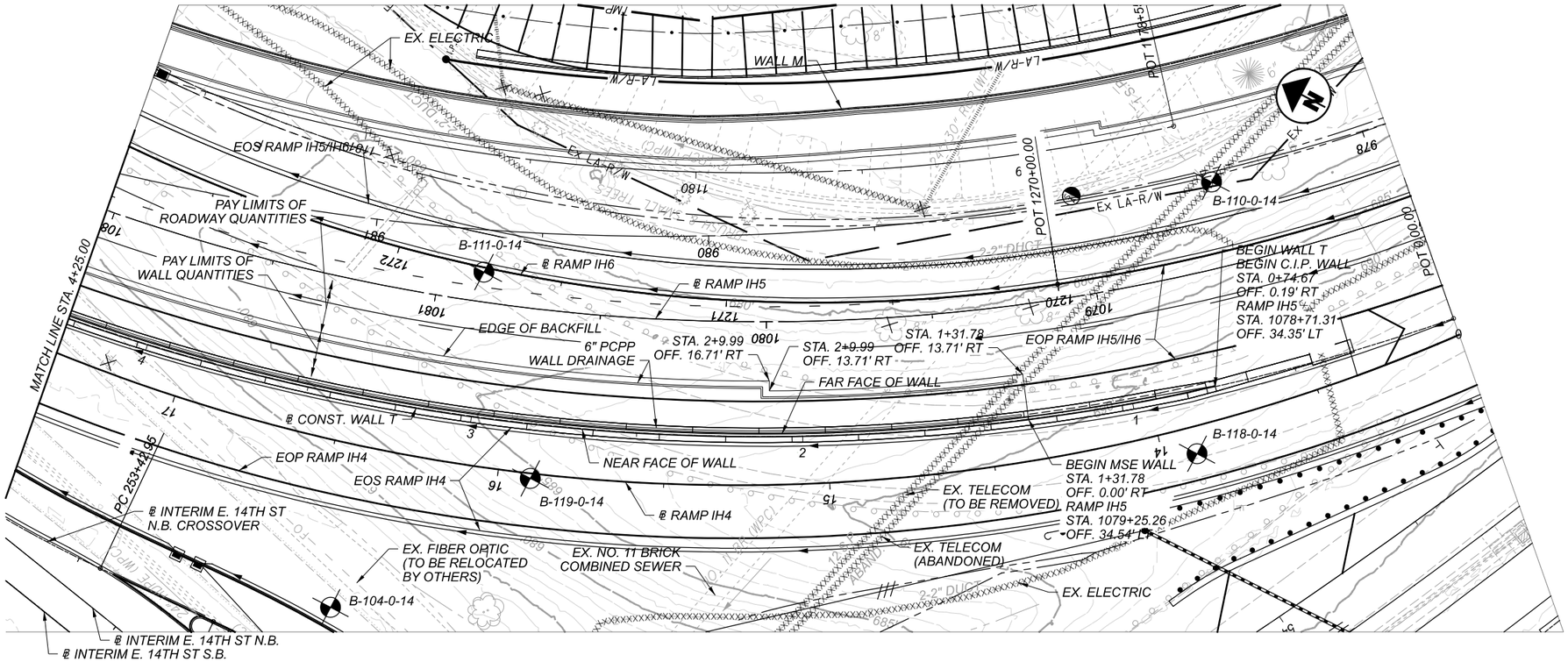
REINFORCING SCHEDULE
WALL S
ALONG SOUTH SIDE OF I.R. 77

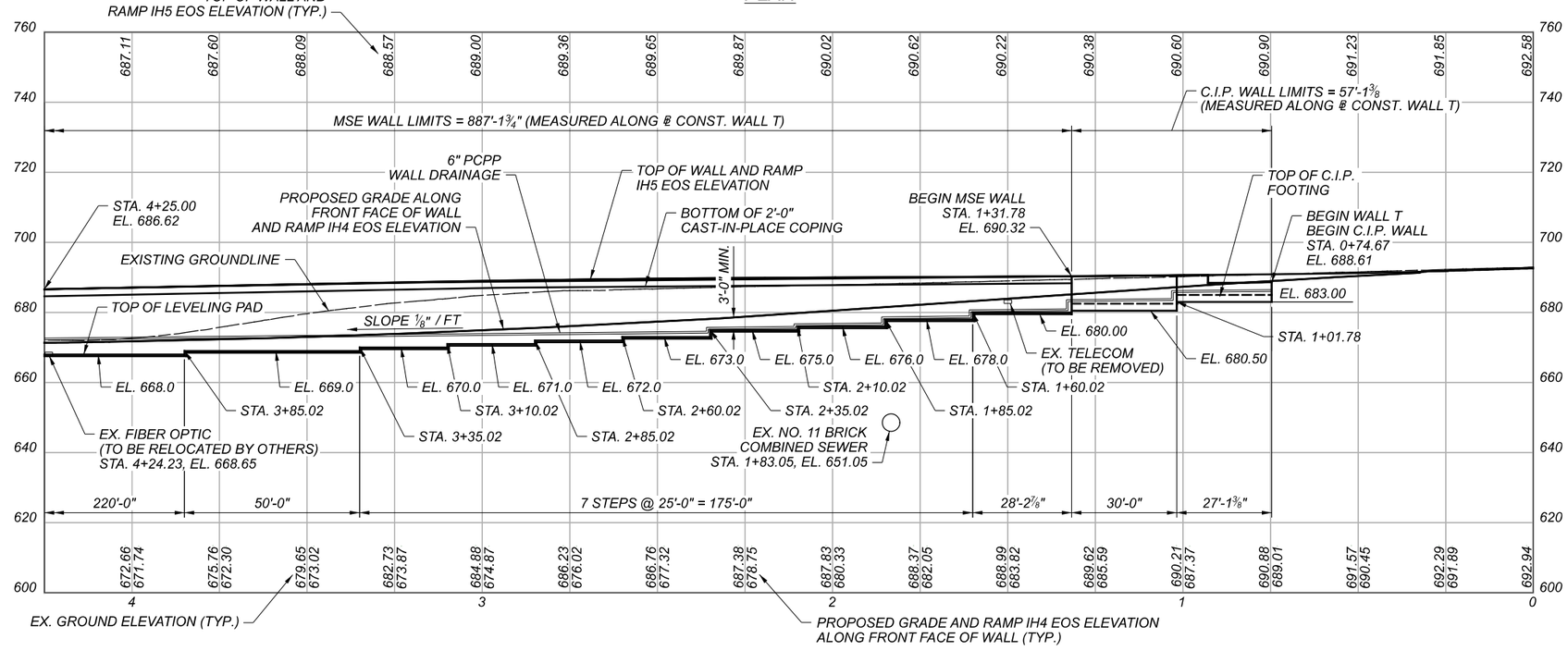
SFN
N/A
DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER SSW | CHECKER —
REVIEWER —
PROJECT ID 82382
SUBSET 12 | TOTAL 12
SHEET 1112 | TOTAL 2339



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL T

BENCHMARK DATA

BM #40 STA. 1074+07.49, ELEV. 681.08, OFFSET 290.61' LT., TOP OF "A" IN "AUTO" ON TOP OF FIRE STAND PIPE AT 2200 ORANGE AVE.

BM #59 STA. 989+08.56, ELEV. 660.15, OFFSET 1.35' RT., MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL IN GRASS MEDIAN BETWEEN EAST 14TH STREET AND COMMUNITY COLLEGE AVE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

RAMP IH5

CURVE DATA
P.I. = Sta. 1080+20.78
Δ = 81°16'06" LT
Dc = 09°37'46"
R = 595.00'
T = 510.59'
L = 843.95'
E = 189.05'

WALL T

CURVE DATA
P.I. = Sta. 2+90.71
Δ = 49°34'23" LT
Dc = 09°06'04"
R = 629.54'
T = 290.71'
L = 544.69'
E = 63.88'

RAMP IH4
CURVE DATA
P.I. = Sta. 15+38.01
Δ = 80°19'38" LT
Dc = 10°30'00"
R = 545.67'
T = 460.54'
L = 765.02'
E = 168.37'

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*
2. *FOR MSE WALL CROSS SECTIONS, SEE SHEET 10 / 15 .*
3. *STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.*
4. *SLIP JOINTS IN MSE WALL SHALL BE SPACED AT 20'-0" MAXIMUM. FOR SLIP JOINT DETAILS, SEE SHEET 11 / 15 .*
5. *FOR C.I.P. WALL DETAILS, SEE SHEET 12 / 15 .*

LEGEND

- *HISTORIC BORING LOCATIONS*
- *PROJECT BORING LOCATIONS*

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE (1 OF 3)
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
—	—
REVIEWER	
—	—
PROJECT ID	82382
SUBSET	TOTAL
1	15
SHEET	TOTAL
1113	2339

CUY-90-16.28 (CCG3A)

MODEL: CLP_Wall T - Plan 1 [Sheet] PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:01:20 AM USER: Kathy.Johnson
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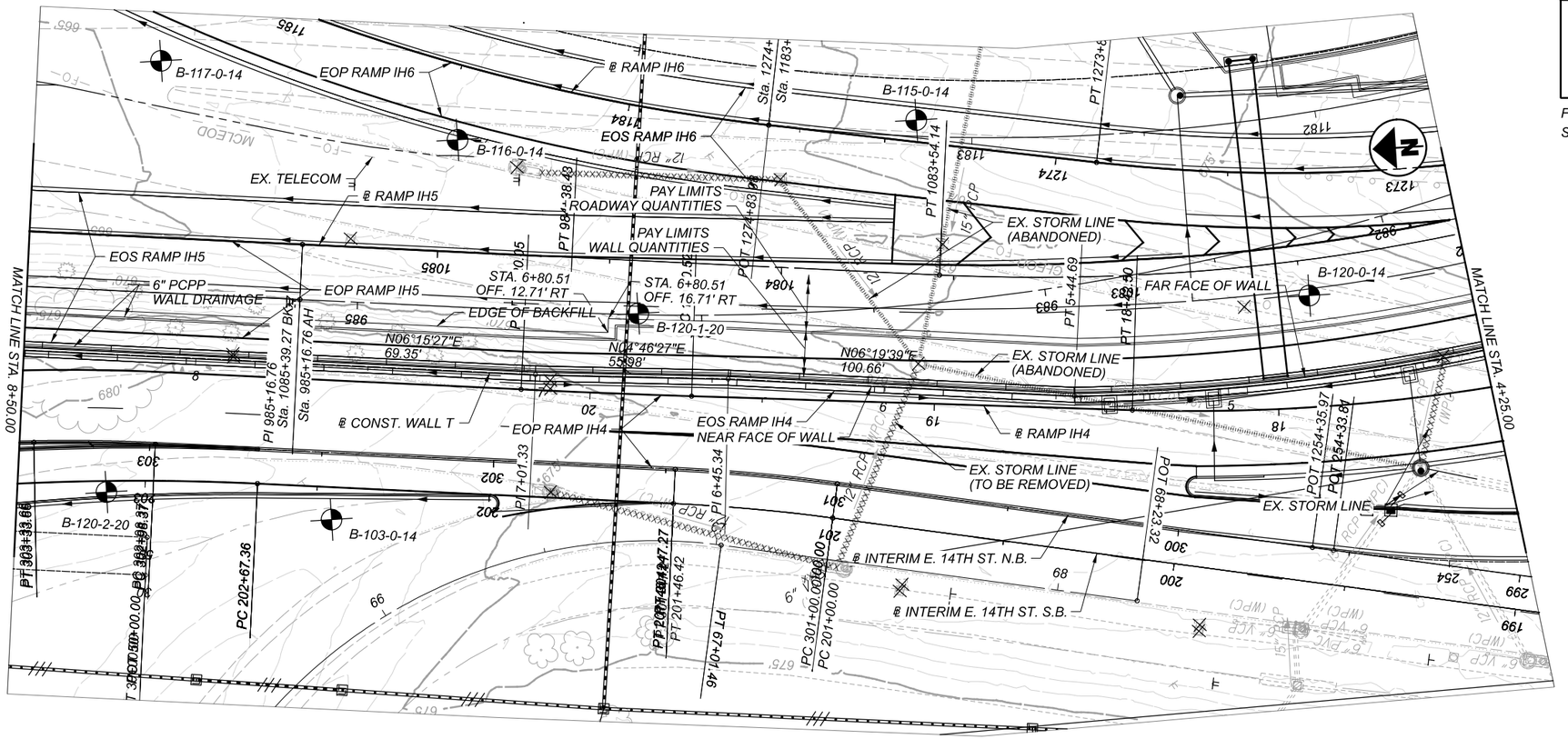
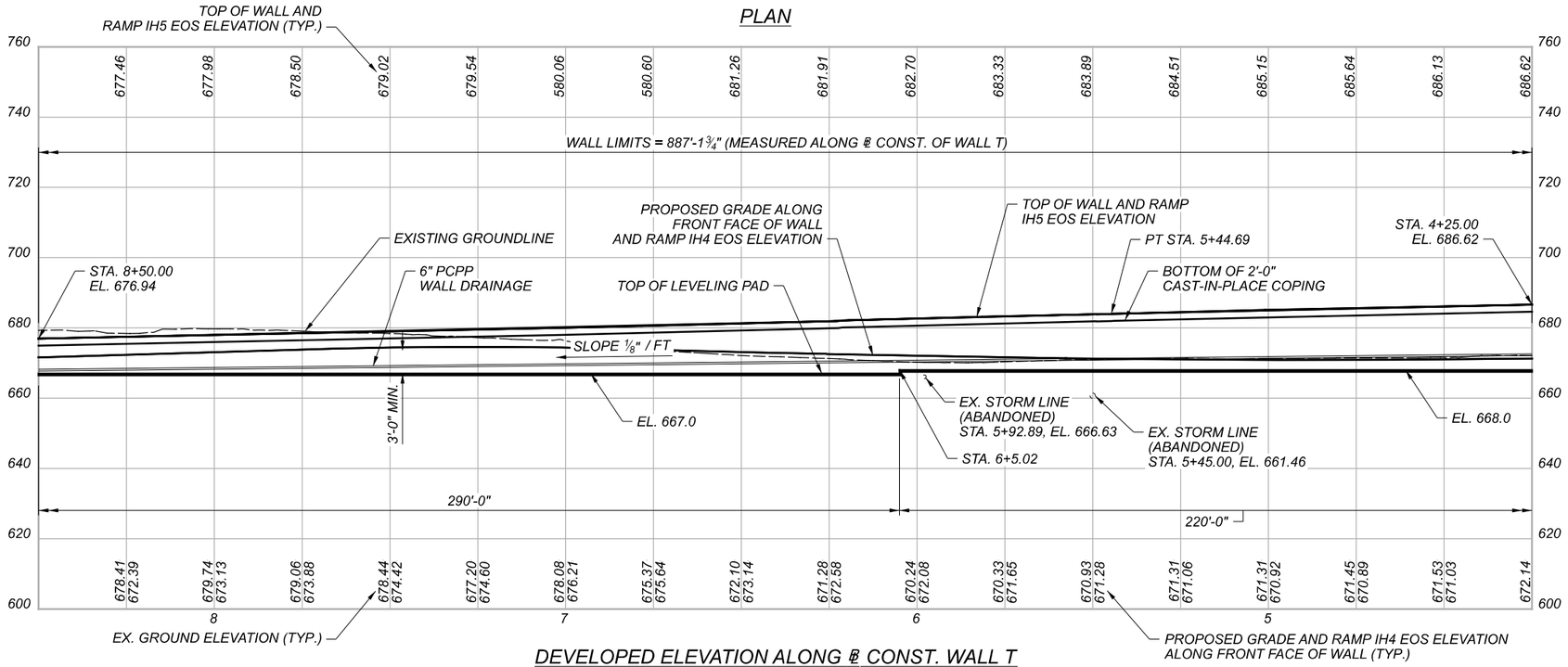


PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL T

BENCHMARK DATA

BM #40 STA. 1074+07.49, ELEV. 681.08, OFFSET 290.61' LT., TOP OF "A" IN "AUTO" ON TOP OF FIRE STAND PIPE AT 2200 ORANGE AVE.

BM #59 STA. 989+08.56, ELEV. 660.15, OFFSET 1.35' RT., MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL IN GRASS MEDIAN BETWEEN EAST 14TH STREET AND COMMUNITY COLLEGE AVE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

RAMP IH5

CURVE DATA
P.I. = Sta. 1080+20.78
Δ = 81°16'06" LT
Dc = 09°37'46"
R = 595.00'
T = 510.59'
L = 843.95'
E = 189.05'

WALL T

CURVE DATA
P.I. = Sta. 2+90.71
Δ = 49°34'23" LT
Dc = 09°06'04"
R = 629.54'
T = 290.71'
L = 544.69'
E = 63.88'

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*
2. *FOR MSE WALL CROSS SECTIONS, SEE SHEET 10 / 15 .*
3. *STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.*
4. *SLIP JOINTS IN MSE WALL SHALL BE SPACED AT 20'-0" MAXIMUM. FOR SLIP JOINT DETAILS, SEE SHEET 11 / 15 .*

LEGEND

HISTORIC BORING LOCATIONS

PROJECT BORING LOCATIONS

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE (2 OF 3)
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
CHECKER	—
REVIEWER	— —
PROJECT ID	82382
SUBSET	2
TOTAL	15
SHEET	1114
TOTAL	2339

CUY-90-16.28 (CCG3A)

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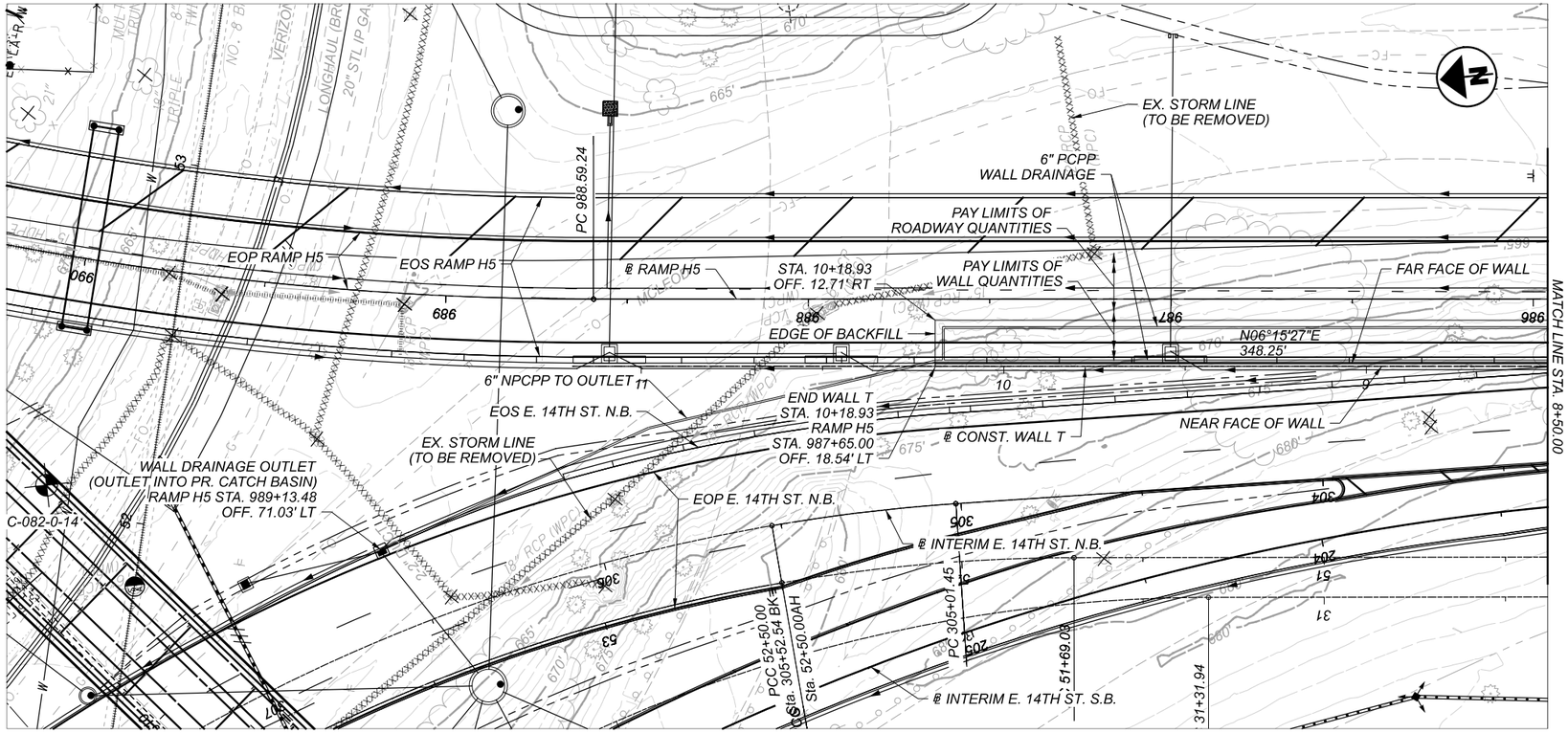
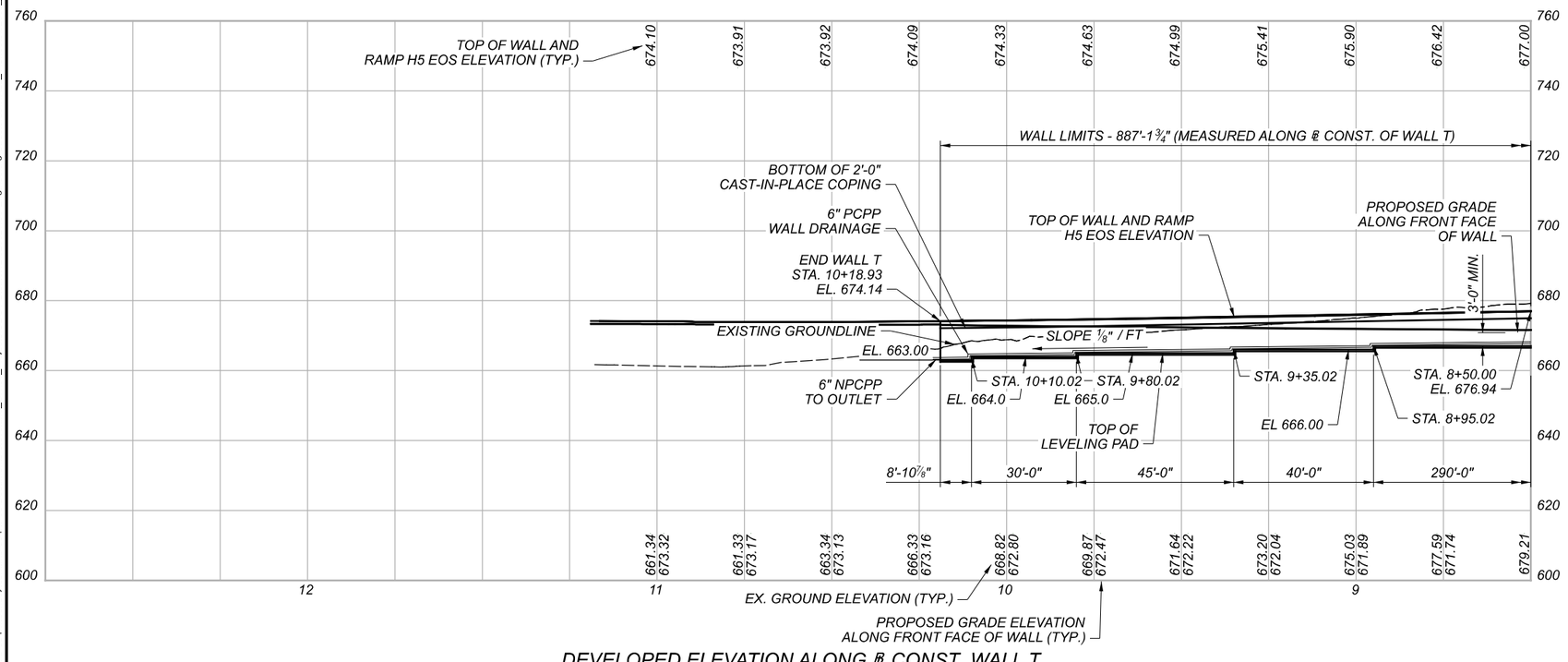


PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL T

BENCHMARK DATA

BM #40 STA. 1074+07.49, ELEV. 681.08, OFFSET 290.61' LT.,
TOP OF "A" IN "AUTO" ON TOP OF FIRE STAND PIPE AT 2200 ORANGE AVE.

BM #59 STA. 989+08.56, ELEV. 660.15, OFFSET 1.35' RT.,
MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL IN GRASS MEDIAN BETWEEN EAST 14TH STREET AND COMMUNITY COLLEGE AVE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*
2. *FOR MSE WALL CROSS SECTIONS, SEE SHEET 10 / 15 .*
3. *STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.*
4. *SLIP JOINTS IN MSE WALL SHALL BE SPACED AT 20'-0" MAXIMUM. FOR SLIP JOINT DETAILS, SEE SHEET 11 / 15 .*

LEGEND

- *HISTORIC BORING LOCATIONS*
- *PROJECT BORING LOCATIONS*

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE (3 OF 3)
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CHECKER
—	—
REVIEWER	
—	—
PROJECT ID	82382
SUBSET	TOTAL
3	15
SHEET	TOTAL
1115	2339

CUY-90-16.28 (CCG3A)

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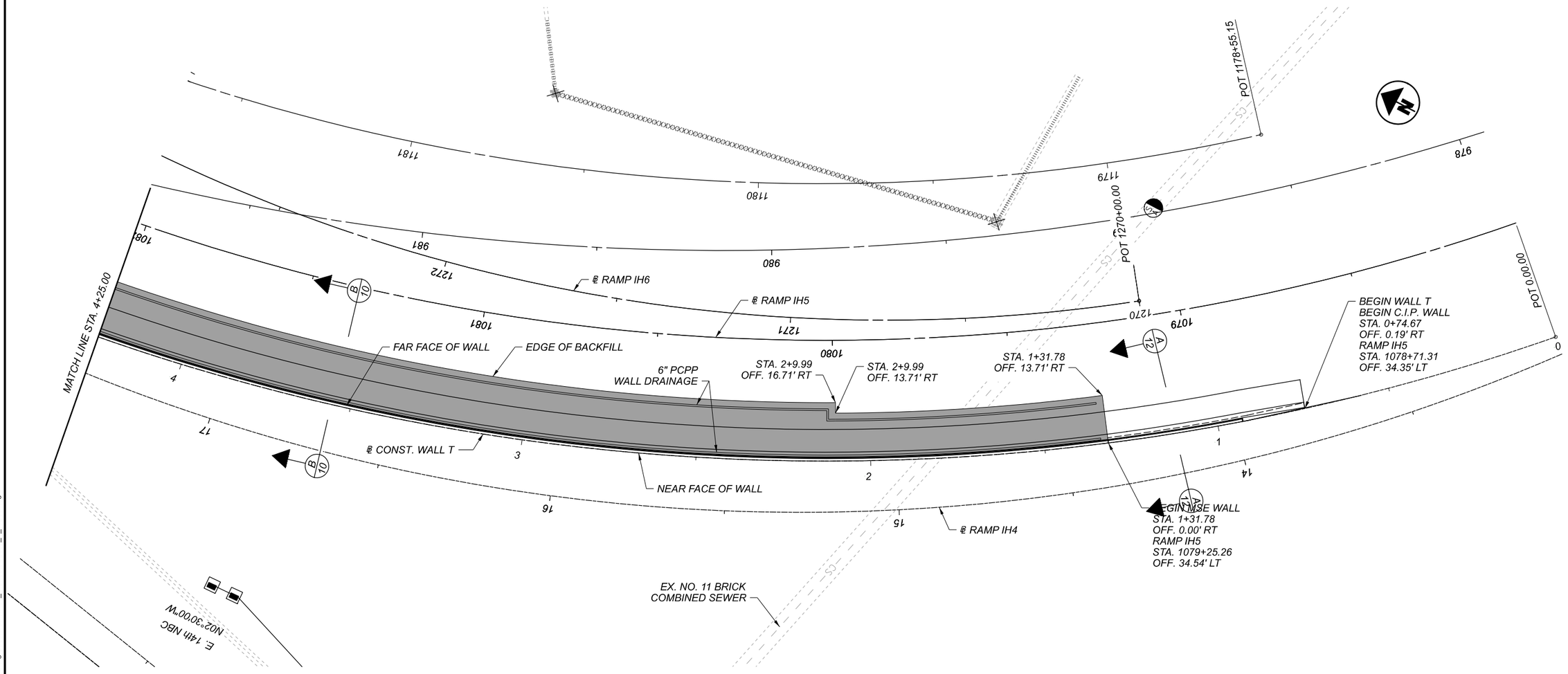

PLAN

RAMP IH5

CURVE DATA
P.I. = Sta. 1080+20.78
Δ = 81°16'06" LT
Dc = 09°37'46"
R = 595.00'
T = 510.59'
L = 843.95'
E = 189.05'

WALL T

CURVE DATA
P.I. = Sta. 2+90.71
Δ = 49°34'23" LT
Dc = 09°06'04"
R = 629.54'
T = 290.71'
L = 544.69'
E = 63.88'

RAMP IH4

CURVE DATA
P.I. = Sta. 15+38.01
Δ = 80°19'38" LT
Dc = 10°30'00"
R = 545.67'
T = 460.54'
L = 765.02'
E = 168.37'

WALL BASELINE GEOMETRY

	℄ WALL T STA.	℄ RAMP IH5	OFFSET
BEGIN WALL T (BEGIN C.I.P. WALL)	0+74.67	1078+71.31	34.35' LT
BEGIN MSE WALL (END C.I.P. WALL)	1+31.78	1079+25.26	34.54' LT
END WALL T	10+18.93	987+65.00	18.54' LT

NOTES

1. FOR MSE WALL CROSS SECTIONS, SEE SHEET 10 / 15 .
2. FOR C.I.P. WALL DETAILS SEE SHEET 12 / 15 .

LEGEND

LIMITS OF SELECT GRANULAR BACKFILL

HORIZONTAL SCALE IN FEET
0 7.5 15 30

SCHEMATIC PLAN (1 OF 3)
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN N/A
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER SSW | CHECKER LPC
REVIEWER — | —
PROJECT ID 82382
SUBSET 4 | TOTAL 15
SHEET 1116 | TOTAL 2339

CUY-90-16.28 (CCG3A)

MODEL: CLP_Wall T - Schematic 1 [Sheet] PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:01:52 AM USER: Kathy.Johnson
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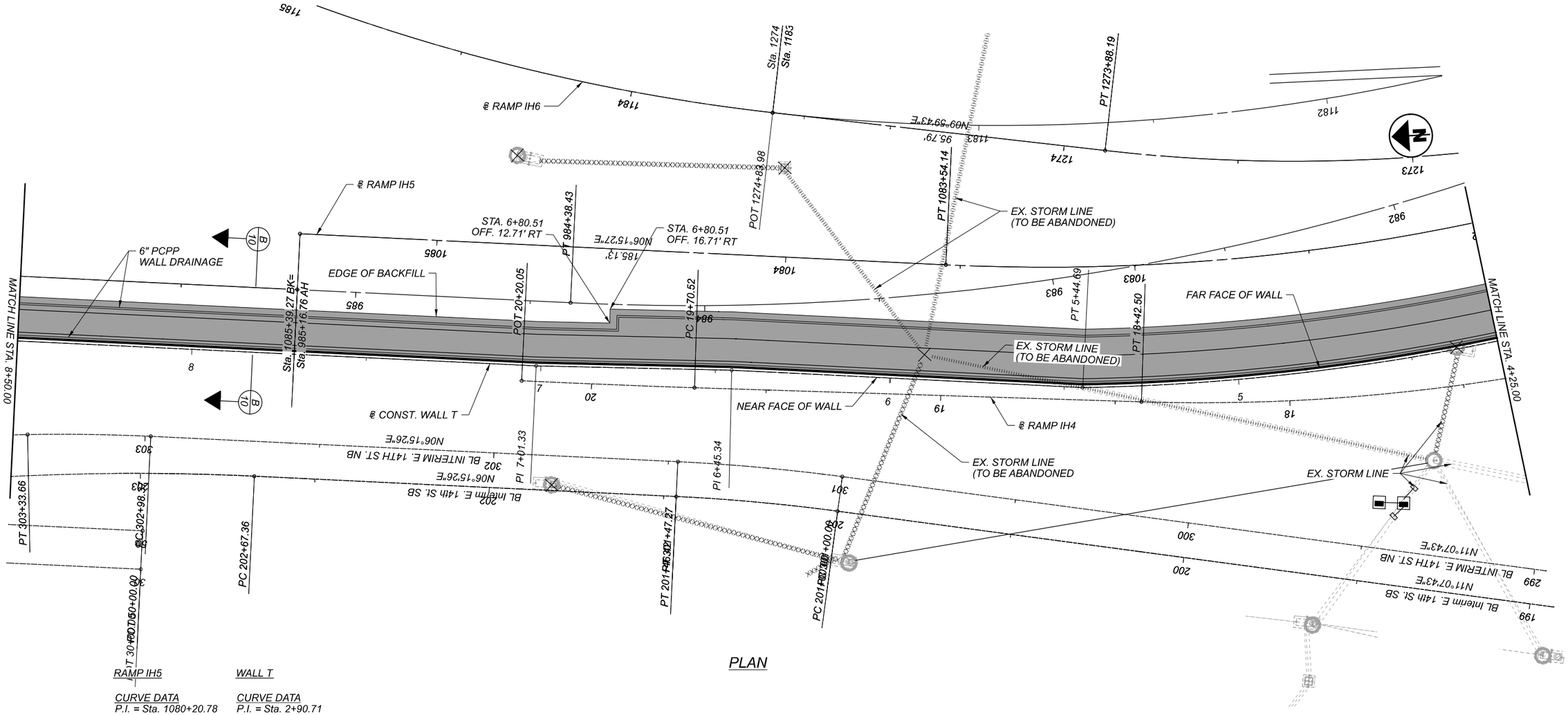

PLAN

RAMP IH5

CURVE DATA
P.I. = Sta. 1080+20.78
Δ = 81°16'06" LT
Dc = 09°37'46"
R = 595.00'
T = 510.59'
L = 843.95'
E = 189.05'

WALL T

CURVE DATA
P.I. = Sta. 2+90.71
Δ = 49°34'23" LT
Dc = 09°06'04"
R = 629.54'
T = 290.71'
L = 544.69'
E = 63.88'

WALL BASELINE GEOMETRY

	℄ WALL T STA.	℄ RAMP IH5	OFFSET
BEGIN WALL T (BEGIN C.I.P. WALL)	0+74.67	1078+71.31	34.35' LT
BEGIN MSE WALL (END C.I.P. WALL)	1+31.78	1079+25.26	34.54' LT
END WALL T	10+18.93	987+65.00	18.54' LT

NOTES

1. FOR MSE WALL CROSS SECTIONS, SEE SHEET 10 / 15 .

LEGEND

LIMITS OF SELECT GRANULAR BACKFILL

HORIZONTAL SCALE IN FEET
0 7.5 15 30

SCHEMATIC PLAN (1 OF 3)
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

CUY-90-16.28 (CCG3A)

MODEL: CLP_Wall T - Schematic 2 [Sheet] PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:01:57 AM USER: Kathy.Johnson
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SFN N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

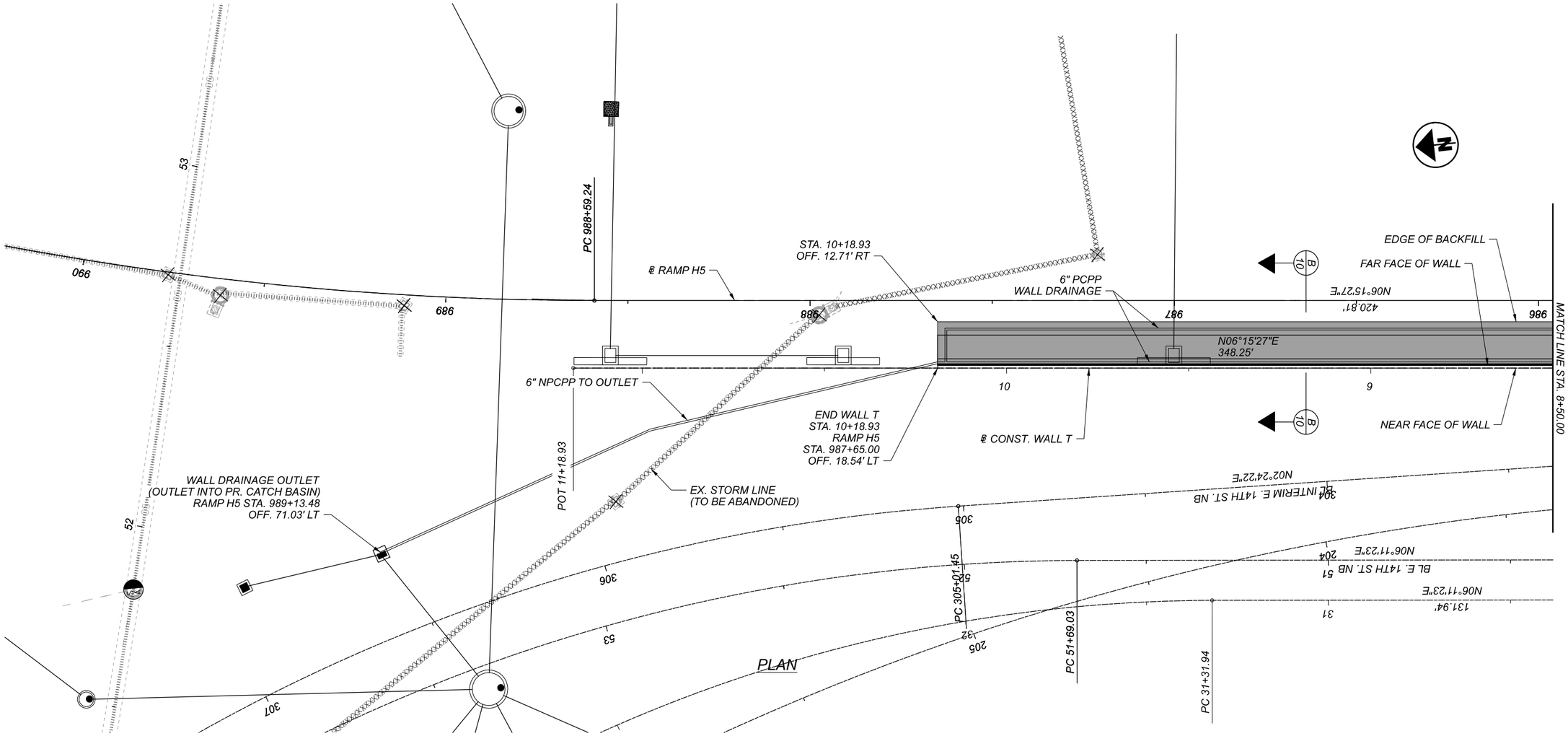
DESIGNER	CHECKER
SSW	LPC

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
5	15

SHEET	TOTAL
1117	2339



WALL BASELINE GEOMETRY			
	℄ WALL T STA.	℄ RAMP IH5	OFFSET
BEGIN WALL T (BEGIN C.I.P. WALL)	0+74.67	1078+71.31	34.35' LT
BEGIN MSE WALL (END C.I.P. WALL)	1+31.78	1079+25.26	34.54' LT
END WALL T	10+18.93	987+65.00	18.54' LT

NOTES

1. FOR MSE WALL CROSS SECTIONS, SEE SHEET 10 / 15 .

LEGEND

LIMITS OF SELECT GRANULAR BACKFILL

HORIZONTAL SCALE IN FEET
0 7.5 15 30

SCHEMATIC PLAN (1 OF 3)
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	LPC

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
6	15

SHEET	TOTAL
1118	2339

CUY-90-16.28 (CCG3A)

MODEL: CLP_Wall T - Schematic 3 (Sheet) PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:02:00 AM USER: Kathy.Johnson
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:
DM-1.1 REVISED 7/17/2020

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):
800 DATED 10/15/2021
840 DATED 04/16/2021

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 07-16-21).

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

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MSE WALL DESIGN PARAMETERS

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

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

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

SEAL SURFACES OF THE WALL PANELS AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE _____ _____.

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.

ITEM 840 - 6" DRAIN PIPE (NON-PERFORATED), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF SUPPLEMENT SPEC 840, THIS ITEM SHALL CONSIST OF SUPPLYING AND PLACING A PRECAST REINFORCED CONCRETE OUTLET ACCORDING TO STD. CONSTRUCTION DRAWING DM-1.1.

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
B.F. = BACK FACE
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. = FRONT 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
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
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
7	15

SHEET	TOTAL
1119	2339

CUY-90-16.28 (CCG3A)
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WALL GENERAL NOTES (2 OF 2)
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
203	35120	487	CY	GRANULAR MATERIAL, TYPE C					
509	10000	95,427	LB	EPOXY COATED REINFORCING STEEL					
511	46210	59	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING					
511	53010	542	CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB					
512	10000	1,902	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
512	10001	894	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION					
516	13900	194	SF	2" PREFORMED EXPANSION JOINT FILLER					
518	40000	1,870	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	163	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
840	20000	12,384	SF	MECHANICALLY STABILIZED EARTH WALL					
840	21000	4,112	CY	WALL EXCAVATION					
840	22000	1,390	SY	FOUNDATION PREPARATION					
840	23000	5,857	CY	SELECT GRANULAR BACKFILL					
840	26000	888	FT	CONCRETE COPING					
840	26050	12,384	SF	AESTHETIC SURFACE TREATMENT					
840	27000	1	DAY	ON-SITE ASSISTANCE					
840	28000	1	LUMP	SGB INSPECTION AND COMPACTION TESTING					

ESTIMATED QUANITIES
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN
N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
9	15

SHEET	TOTAL
1121	2339

CUY-90-16.28 (CCG3A)

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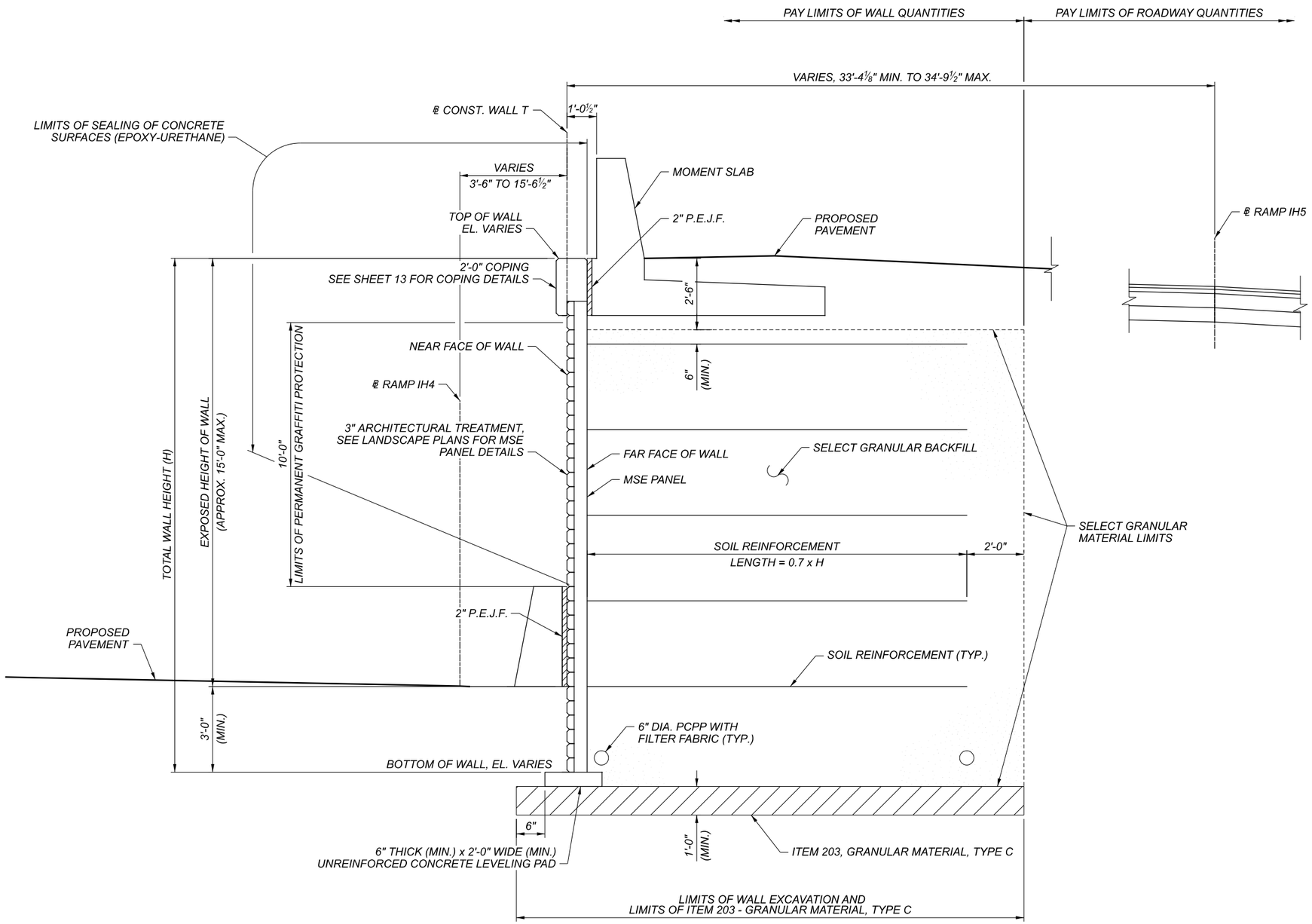

A/9 MSE WALL TYP. SECTION
VALID FOR EXPOSED WALL HEIGHTS H < 20'-0"

NOTES:

1. THICKNESS OF MSE WALL PANELS IS ASSUMED AT 5 ½". ACTUAL THICKNESS DEPENDS ON THE APPROVED WALL SYSTEM.
2. SOIL REINFORCEMENT LENGTH TO BE DETERMINED BY WALL SUPPLIER ON 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.
3. ELEVATION OF 6" DIAMETER PERFORATED FABRIC WRAPPED PLASTIC PIPE WILL VARY TO PROVIDE INVERT ELEVATION AT OUTLET. MINIMUM SLOPE OF THE PIPE SHALL BE ⅛" PER FOOT.

MSE WALL TYPICAL SECTION
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	LPC

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
10	15

SHEET	TOTAL
1122	2339

CUY-90-16.28 (CCG3A)

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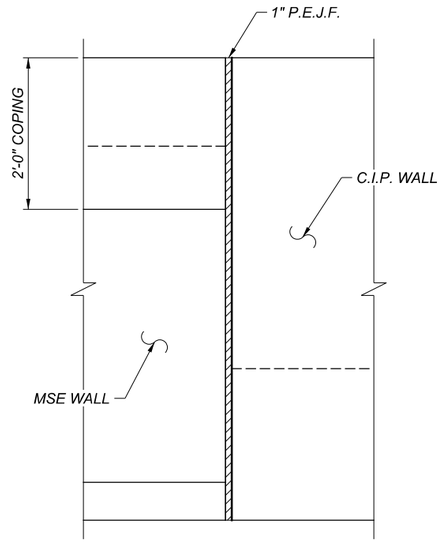
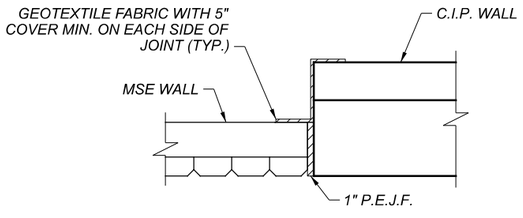
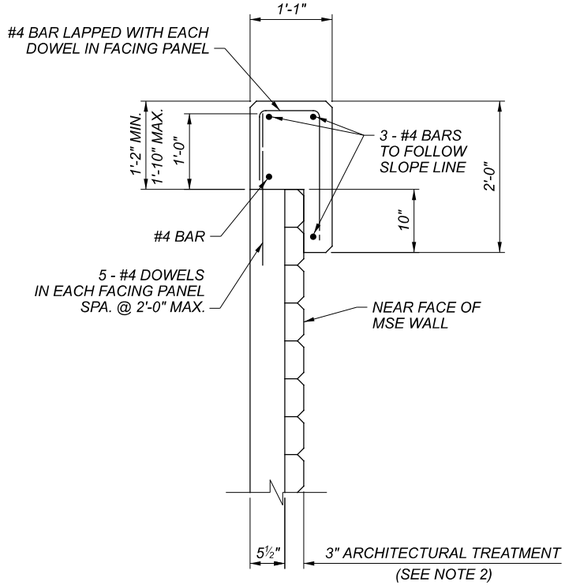


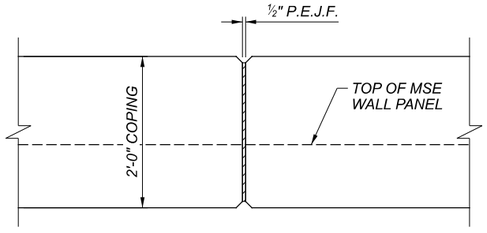
TYPICAL FRONT WALL VIEW OF JOINT ELEVATION
(AT C.I.P. WALL)



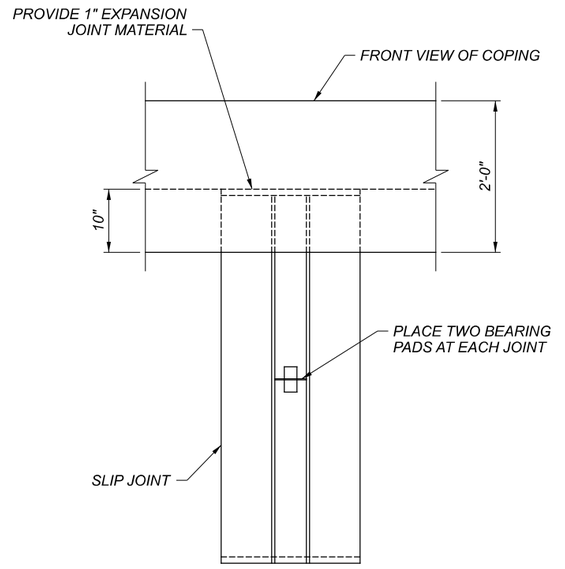
SLIP JOINT ELEMENT DETAIL
(AT C.I.P. WALL)



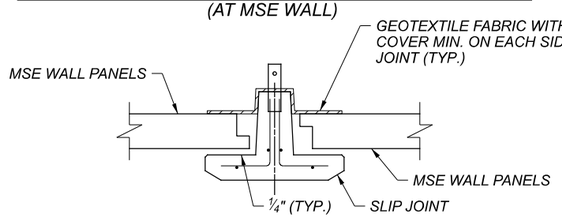
MSE WALL COPING DETAIL
(ALL REINFORCING STEEL TO BE EPOXY COATED)



COPING EXPANSION JOINT - ELEVATION
(MAX JOINT SPACING IS 20'-0")



TYPICAL FRONT WALL VIEW OF JOINT ELEVATION
(AT MSE WALL)



SLIP JOINT ELEMENT DETAIL
(AT MSE WALL)

NOTES:

1. MSE WALL PANELS ARE TO BE 5'-0"x5'-0", ARRANGED IN VERTICAL RUNNING BOND.
2. SEE LANDSCAPE DETAILS FOR MSE PANEL AESTHETIC TREATMENT DETAILS.
3. DETAILS FOR ALL VERTICAL AND LONGITUDINAL REINFORCING STEEL IN THE COPING SHALL BE INCLUDED IN THE PROPRIETARY WALL MANUFACTURER'S SHOP DRAWINGS.
4. P.E.J.F. SHALL EXTEND THE FULL HEIGHT OF THE MSE WALL JOINT.
5. LOCATIONS OF THE MSE WALL SOIL REINFORCEMENT MUST BE KNOWN TO AVOID CONFLICTS WITH FENCE POST FOUNDATIONS. FENCE POSTS ARE TO BE PLACED SUCH THAT THEY MISS MSE WALL SOIL REINFORCEMENT LOCATIONS.

WALL DETAILS
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

CUY-90-16.28 (CCG3A)

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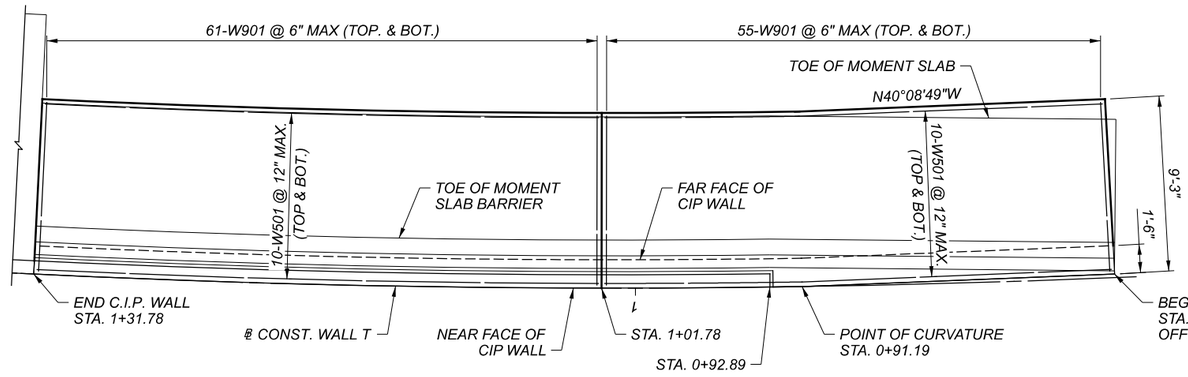
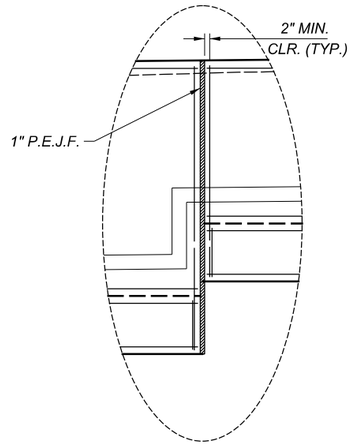
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	LPC
REVIEWER	— —
PROJECT ID	82382
SUBSET	11
TOTAL	15
SHEET	1123
TOTAL	2339

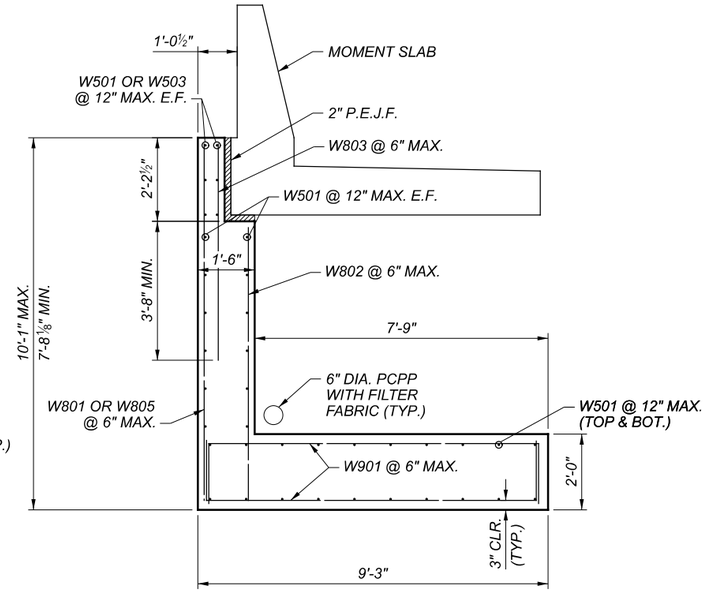


C.I.P. WALL PLAN



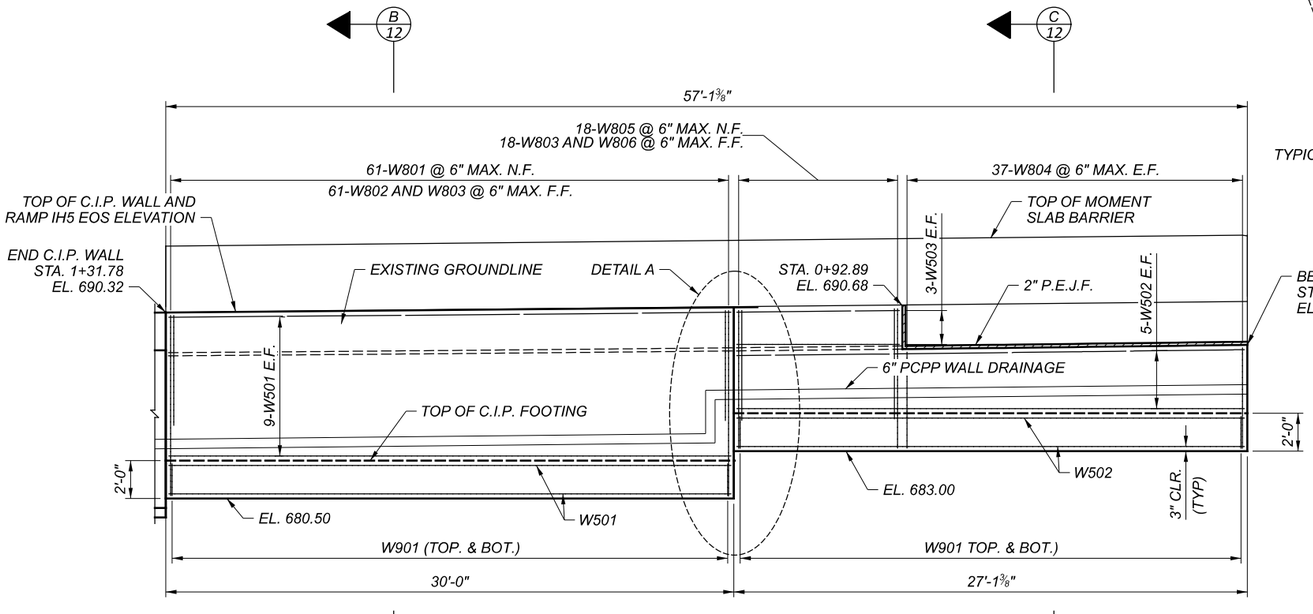
DETAIL A

TYPICAL @ EXPANSION JOINTS

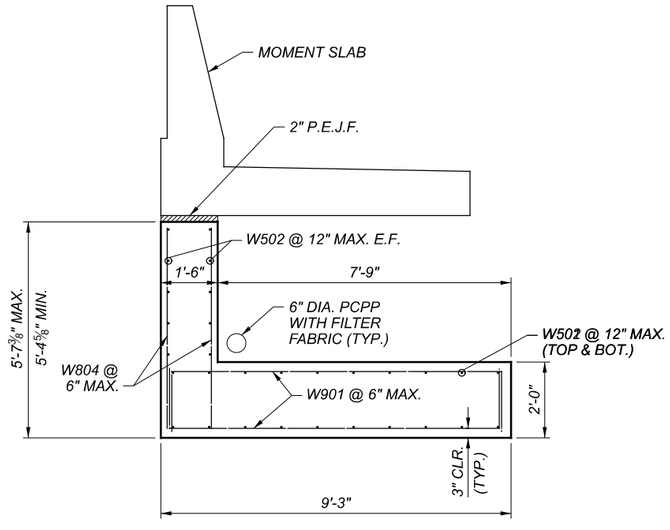


B/12 SECTION

12/CIP WALL TYP. SECTION



C.I.P. WALL ELEVATION



C/12 SECTION

12/CIP WALL TYP. SECTION

C.I.P. WALL DETAILS
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	LPC

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
12	15

SHEET	TOTAL
1124	2339

CUY-90-16.28 (CCG3A)

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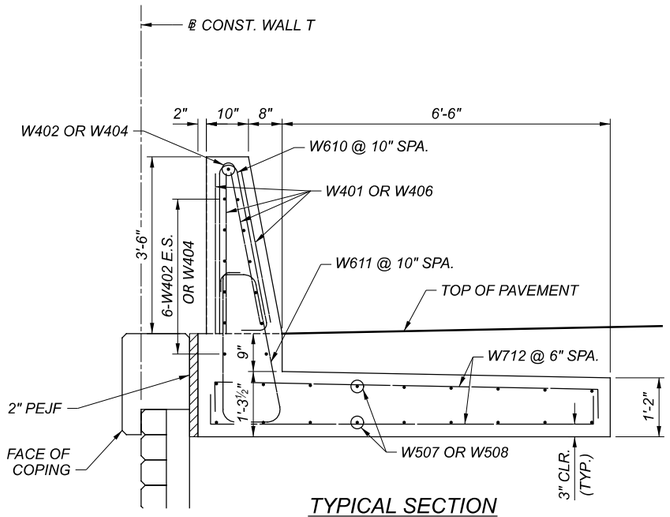
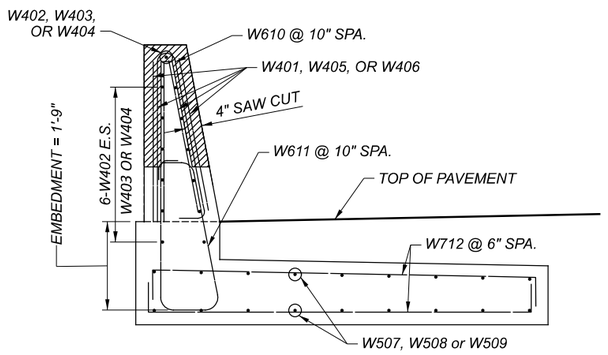
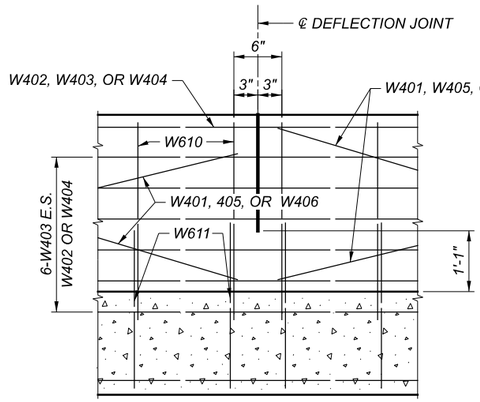


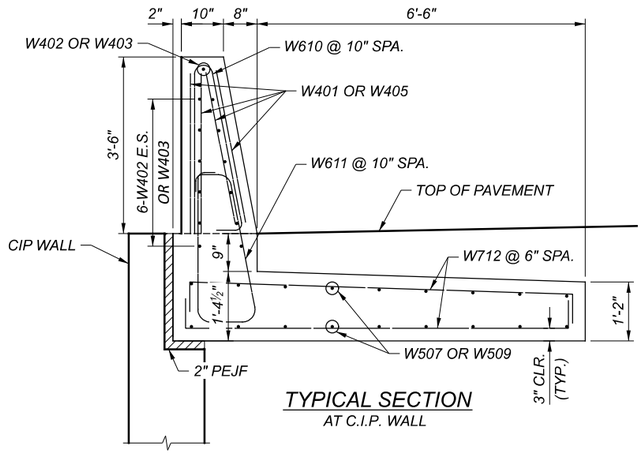
TYPICAL SECTION
AT MSE WALL



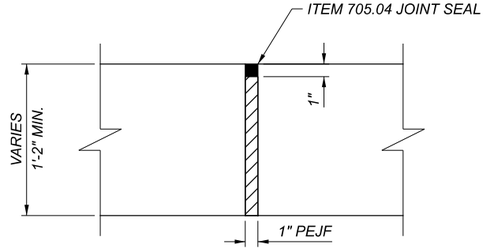
B / 15 SECTION
DEFLECTION CONTROL JOINT DETAIL



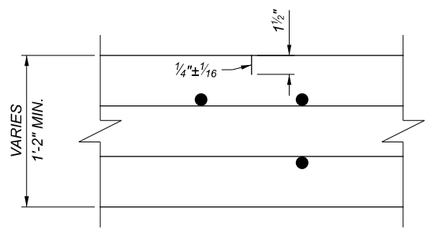
A / 15 SECTION
ELEVATION VIEW AT DEFLECTION JOINT



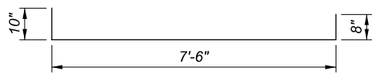
TYPICAL SECTION
AT C.I.P. WALL



TYPICAL SECTION
AT EXPANSION JOINTS

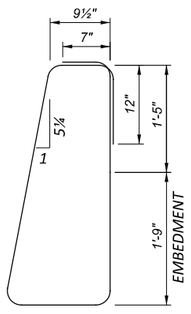


A / 15 SECTION
TYPICAL @ ALL DEFLECTION
CONTROL JOINTS

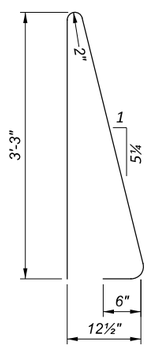


W712

PLAN VIEW
DEFLECTION JOINT DETAIL
(NOT TO SCALE)



W611



W610

REINFORCING FOR 42" SBR-1 MOUNTED ON MOMENT SLAB			
MARK	NO.	LENGTH	TYPE
W401	244	15'-0"	STR
W402	390	29-8"	STR
W403	13	26'-9⅜"	STR
W404	13	16'-9¾"	STR
W405	4	12'-1⅜"	STR
W406	4	12'-1¾"	STR
W507	540	29'-8"	STR
W508	18	16'-9¾"	STR
W509	18	26'-9⅜"	STR
W610	1195	7'-0"	BENT
W611	1195	9'-4¼"	BENT
W712	3742	9'-0"	BENT

NOTES:

1. CONTROL JOINTS SHALL BE PLACED AT A MAXIMUM OF 15 FEET. SPACE VERTICAL REINFORCING STEEL TO CLEAR CONTROL JOINTS BY A MINIMUM OF 2 INCHES. CONTROL JOINTS SHALL BE AS PER ODOT STANDARD DRAWING SBR-1-20 EXCEPT THAT THEY SHALL EXTEND ACROSS THE MOMENT SLAB.
2. EXPANSION JOINTS SHALL BE PLACED EVERY 30 FEET UNLESS NOTED OTHERWISE. 2" PEJF SHALL BE PLACED BETWEEN MOMENT SLABS AT EACH EXPANSION JOINT. REINFORCING STEEL SHALL NOT EXTEND THROUGH THE EXPANSION JOINT.
3. THE MINIMUM LENGTH OF THE MOMENT SLAB IS 30 FEET UNLESS NOTED OTHERWISE.
4. USE GLASS FIBER REINFORCED POLYMER (GFRP) FOR ALL HORIZONTAL AND STIFFENINGBARS.
5. TIE STIFFENING BARS LOCATED INSIDE THE VERTICAL REINFORCEMENT AT EACHORIZONTAL BAR. TIE STIFFENING BARS LOCATED OUTSIDE OF THE VERTICAL REINFORCEMENT AT EACH VERTICAL BAR.
6. PLACE STIFFENING BARS IN ALL SAWCUT PANESL 10'-0" AND GREATER. DO NOT ADD STIFFENING BARS TO 14'-0" TRANSITIONS. DO NOT SLIPFORM UNSTIFFENED SAWCUT PANELS. DO NOT OMIT STIFFENING BARS FOR CONVENTIONALLY FORMED CONSTRUCTION.
7. W402 BAR MAY BE PROVIDED EPOCY COATED STEEL REINFORCEMENT IF A GFRP FABRICATED SHAPE IS NOT AVAILABLE
8. PAYMENT FOR FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT SHALL BE INCLUDED WITH CONTRACT PRICE FOR ITEM 509
9. LIMITS OF SAWCUT ARE SHOWN IN CRACK CONTROL DETAIL. THE 4" SAWCUT DEPTH SHOWN IN DETAIL IS THE MINIMUM REQUIRED. HOWEVER, THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT.
10. DEFLECTION JOINT SPACING SHALL BE 15'-0" UNLESS NOTED OTHERWISE

PARAPET AND MOMENT SLAB DETAILS (1 OF 2))
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

CUY-90-16.28 (CCG3A)

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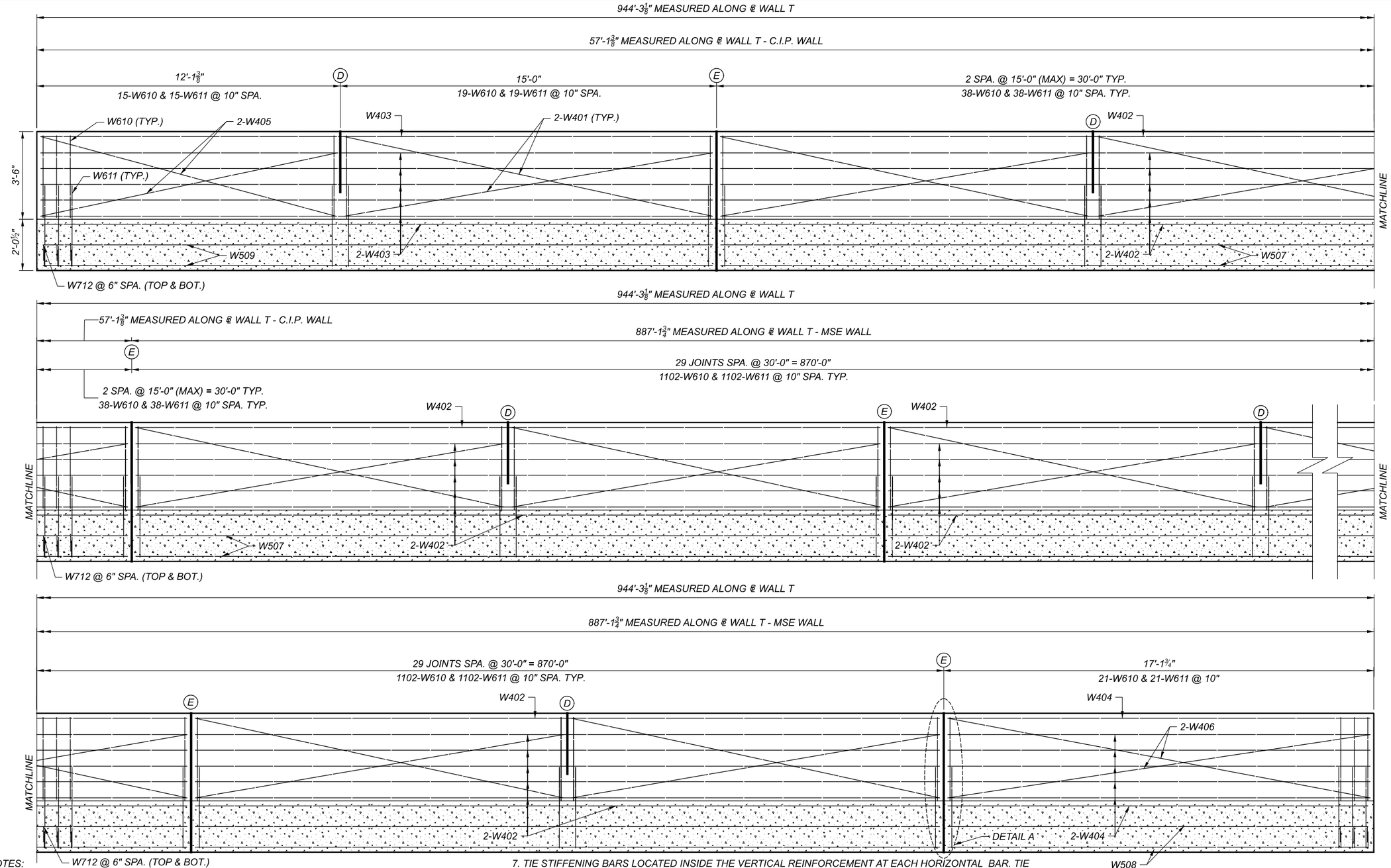
SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	LPC
REVIEWER	— —
PROJECT ID	82382
SUBSET	13
TOTAL	15
SHEET	1125
TOTAL	2339



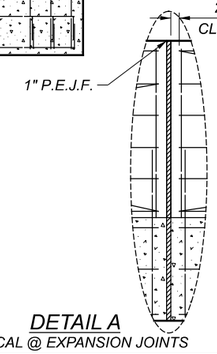
NOTES:

1. PROVIDE REINFORCING STEEL CONFORMING TO ASTM A706 OR AASHTO M31 GRADE 60.
2. PROVIDE MINIMUM 2" CONCRETE COVER, UNLESS SHOWN OTHERWISE. IF REQUIRED, INCREASE COVER THICKNESS FOR ARCHITECTURAL FEATURES OR FINISHES.
3. CONTROL JOINTS SHALL BE PLACED AT A MAXIMUM OF 15 FEET. SPACE VERTICAL REINFORCING STEEL TO CLEAR CONTROL JOINTS BY A MINIMUM OF 2 INCHES. CONTROL JOINTS SHALL BE AS PER ODOT STANDARD DRAWING SBR-1-20 EXCEPT THAT THEY SHALL EXTEND ACROSS THE MOMENT SLAB.
4. EXPANSION JOINTS SHALL BE PLACED EVERY 30 FEET UNLESS NOTED OTHERWISE. 2" PEJF SHALL BE PLACED BETWEEN MOMENT SLABS AT EACH EXPANSION JOINT. REINFORCING STEEL SHALL NOT EXTEND THROUGH THE EXPANSION JOINT.
5. THE MINIMUM LENGTH OF THE MOMENT SLAB IS 30 FEET UNLESS NOTED OTHERWISE.
6. USE GLASS FIBER REINFORCED POLYMER (GFRP) FOR ALL HORIZONTAL AND STIFFENING BARS.
7. TIE STIFFENING BARS LOCATED INSIDE THE VERTICAL REINFORCEMENT AT EACH HORIZONTAL BAR. TIE STIFFENING BARS LOCATED OUTSIDE OF THE VERTICAL REINFORCEMENT AT EACH VERTICAL BAR.
8. PLACE STIFFENING BARS IN ALL SAWCUT PANESL 10'-0" AND GREATER. DO NOT ADD STIFFENING BARS TO 14'-0" TRANSITIONS. DO NOT SLIPFORM UNSTIFFENED SAWCUT PANELS. DO NOT OMIT STIFFENING BARS FOR CONVENTIONALLY FORMED CONSTRUCTION.
9. W402, W403, AND W404 BAR MAY BE PROVIDED EPOXY COATED STEEL REINFORCEMENT IF A GFRP FABRICATED SHAPE IS NOT AVAILABLE
10. PAYMENT FOR FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT SHALL BE INCLUDED WITH CONTRACT PRICE FOR ITEM 509
11. LIMITS OF SAWCUT ARE SHOWN IN CRACK CONTROL DETAIL. THE 4" SAWCUT DEPTH SHOWN IN DETAIL IS THE MINIMUM REQUIRED. HOWEVER, THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT.
12. DEFLECTION JOINT SPACING SHALL BE 15'-0" UNLESS NOTED OTHERWISE

LEGEND

(E) DESIGNATES EXPANSION JOINT

(D) DESIGNATES DEFLETION JOINT



DETAIL A
TYPICAL @ EXPANSION JOINTS

PARAPET AND MOMENT SLAB DETAILS (2 OF 2)
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	LPC
REVIEWER	— —
PROJECT ID	82382
SUBSET	14
TOTAL	15
SHEET	1126
TOTAL	2339

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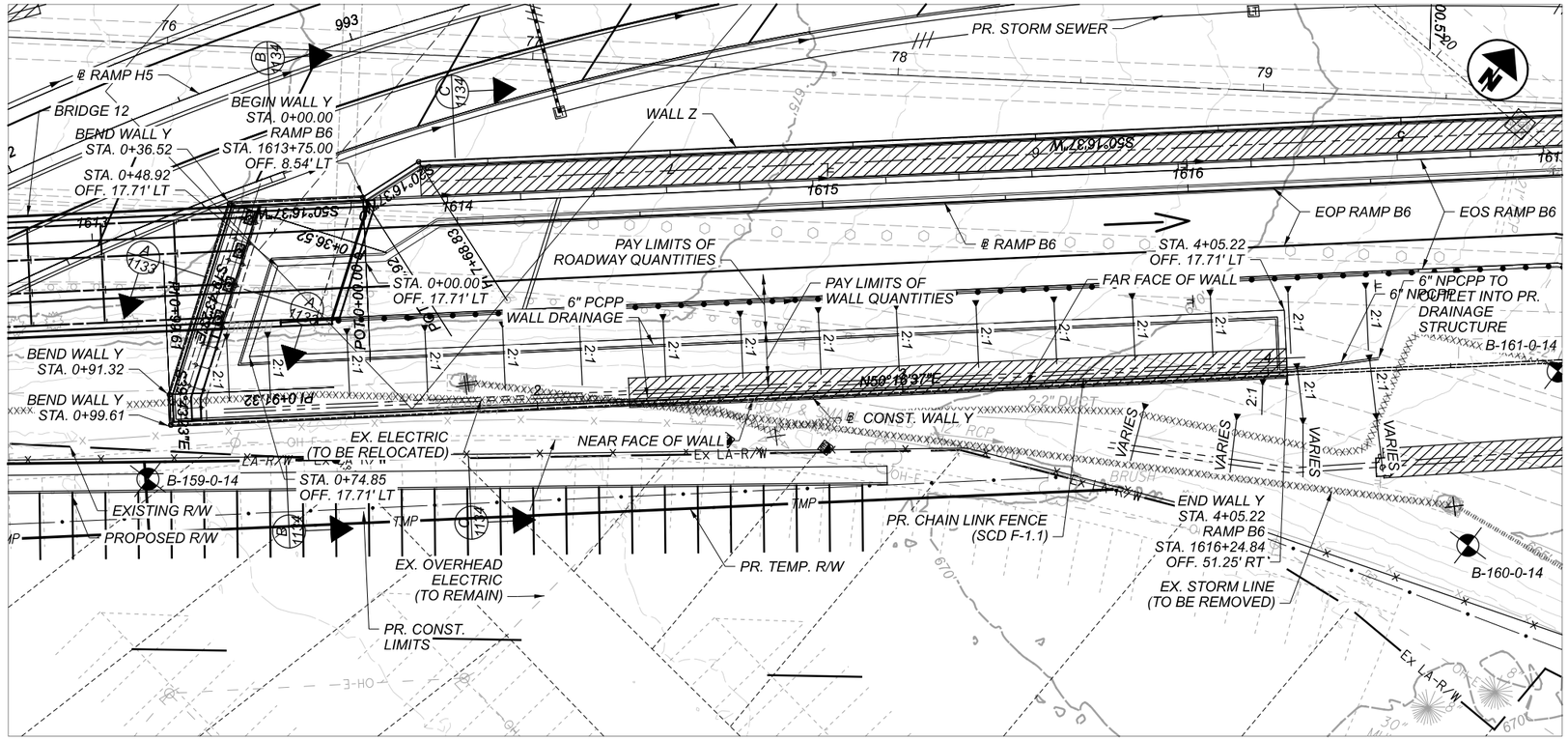
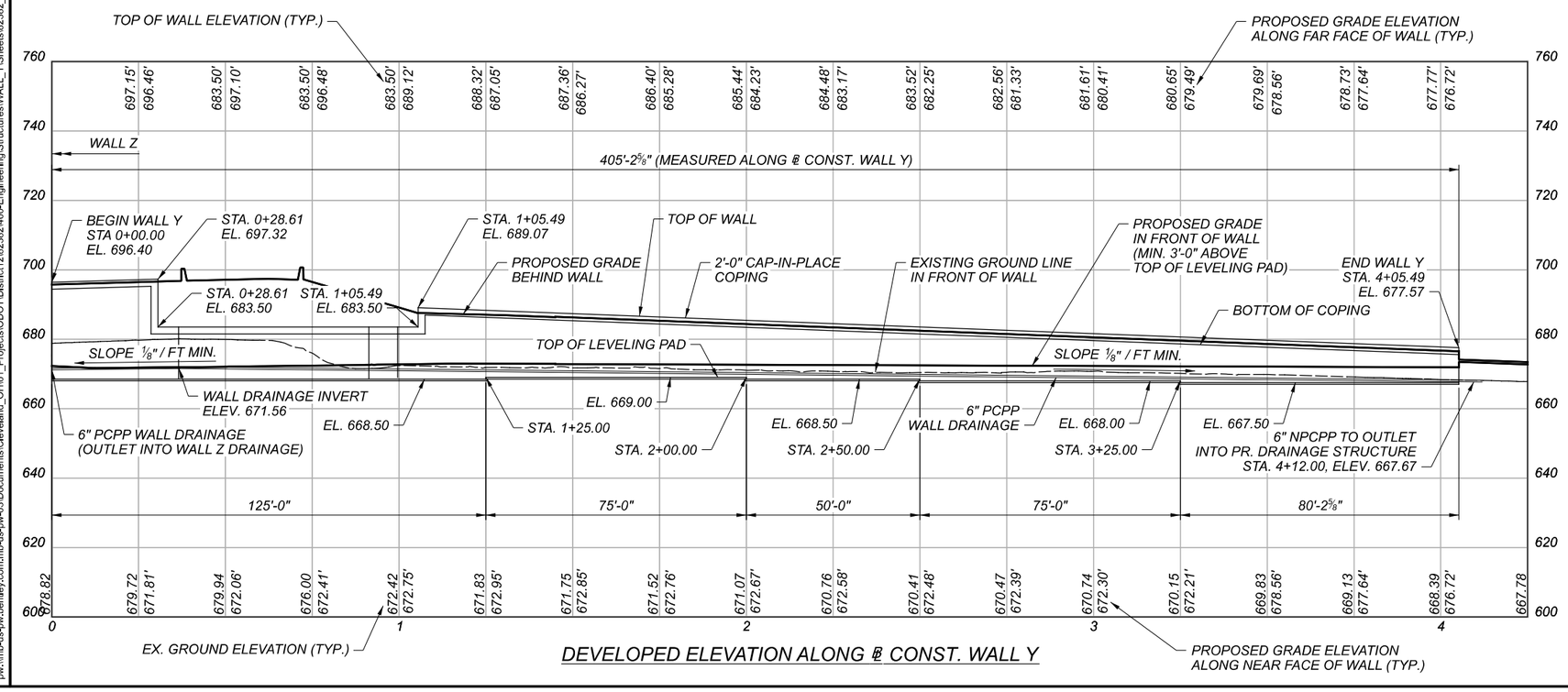
REINFORCING SCHEDULE
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	SSW
CHECKER	—
REVIEWER	—
PROJECT ID	82382
SUBSET	15
TOTAL	15
SHEET	1127
TOTAL	2339



PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL Y

BENCHMARK DATA

BM-59 STA. 1610+31.80, ELEV. 660.15, OFFSET 132.17 RT. MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL, BTWN E. 14TH ST. AND COMMUNITY COLLEGE AVE.

BM-62 STA. 1612+77.43, ELEV. 672.11, OFFSET 690.58 LT. RAILROAD SPIKE IN EAST FACE OF POWER POLE NO. 121784 AT NORTHWEST CORNER OF E. 18TH ST. AND CARNEGIE AVE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR MSE WALL CROSS SECTIONS, SEE SHEET 6 / 8 .
3. STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.
4. SLIP JOINTS IN MSE WALL SHALL BE SPACED AT 20'-0" MAXIMUM. FOR SLIP JOINT DETAILS, SEE SHEET 8 / 8 ..

LEGEND

- HISTORIC BORING LOCATIONS
- PROJECT BORING LOCATIONS

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE
WALL Y
BRIDGE 12 AND ALONG SOUTH SIDE OF RAMP B6 UNDER BRIDGE

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CHECKER
REVIEWER	
PROJECT ID	82382
SUBSET	TOTAL
1	8
SHEET	TOTAL
1128	2339

CUY-90-16.28 (CCG3A)

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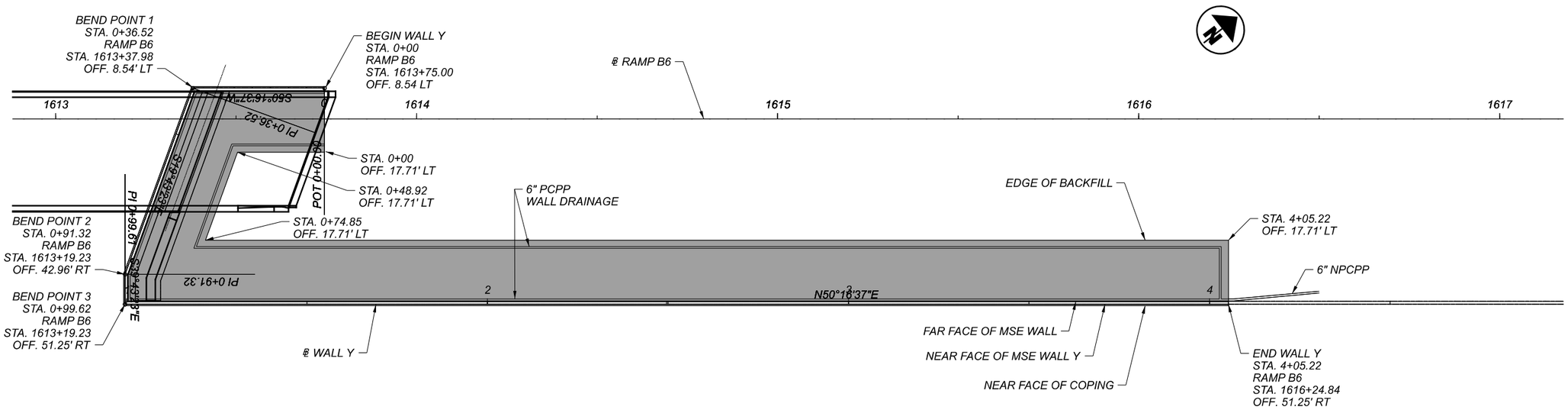
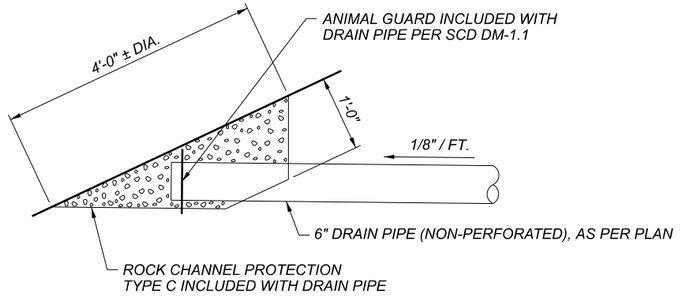


PLAN

WALL BASELINE GEOMETRY			
	℄ WALL Y STA.	℄ RAMP B6	OFFSET
BEGIN WALL Y	0+00.00	1613+75.00	8.54' LT
BEND POINT 1 WALL Y	0+36.52	1613+37.98	8.54' LT
BEND POINT 2 WALL Y	0+91.32	1613+19.23	42.96' RT
BEND POINT 3 WALL Y	0+99.62	1613+19.23	51.25' RT
END WALL Y	4+05.22	1616+24.84	51.25' RT



TERMINATION OF 6" DRAIN PIPE DETAIL, AS PER PLAN

NOTES

1. FOR MSE WALL CROSS SECTIONS, SEE SHEETS 6 AND 7 OF 8

LEGEND

LIMITS OF SELECT GRANULAR BACKFILL

SCHEMATIC PLAN
WALL Y
UNDER BRIDGE 12 AND ALONG SOUTH SIDE OF RAMP B6

SFN N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER —

PROJECT ID 82382

SUBSET	TOTAL
2	8

SHEET	TOTAL
1129	2339

CUY-90-16.28 (CCG3A)

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:
F-1.1 REVISED 7/19/2013
DM-1.1 REVISED 7/17/2020

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):
800 DATED 7/16/21
840 DATED 4/16/21

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 07-16-21).

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

RETAINED SOIL UNIT WEIGHT, γ = 120 pcf
ANGLE OF INTERNAL FRICTION, ϕ = 30°

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.

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

SEAL SURFACES OF THE WALL PANELS AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE _____.

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 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.

ITEM 607 - FENCE, TYPE CLT:

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.

ITEM 840 - 6" DRAIN PIPE (NON-PERFORATED), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF SUPPLEMENT SPEC 840, THIS ITEM SHALL CONSIST OF SUPPLYING AND PLACING A PRECAST REINFORCED CONCRETE OUTLET ACCORDING TO STD. CONSTRUCTION DRAWING DM-1.1.

CONSTRUCTION SEQUENCE

1. EXCAVATE TO THE ELEVATION OF THE MSE WALL LEVELING PAD.
2. DRIVE ABUTMENT PILES.
3. PLACE CONCRETE LEVELING PAD.
4. INSTALL MSE WALL UP TO BOTTOM OF FOOTING.
5. 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
B.F. = BACK FACE
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. = FRONT 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
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
Michael Baker INTERNATIONAL
DESIGNER SSW | CHECKER —
REVIEWER — —
PROJECT ID 82382
SUBSET 3 | TOTAL 8
SHEET 1130 | TOTAL 2339

CUY-90-16.28 (CCG3A)

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SFN N/A
DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER SSW | CHECKER —
REVIEWER —

PROJECT ID 82382

SUBSET 4 | TOTAL 8

SHEET 1131 | TOTAL 2339

GENERAL NOTES (2 OF 2)
WALL Y
UNDER BRIDGE 12 AND ALONG SOUTH SIDE OF RAMP B6

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
203	35120	279	CY	GRANULAR MATERIAL, TYPE C					
512	10100	583	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
518	40000	771	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	30	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
607	23000	349	FT	FENCE, TYPE CLT					
840	20000	6,681	SF	MECHANICALLY STABILIZED EARTH WALL					
840	21000	1,528	CY	WALL EXCAVATION					
840	22000	837	SY	FOUNDATION PREPARATION					
840	23000	3,839	CY	SELECT GRANULAR BACKFILL					
840	23050	655	CY	NATURAL SOIL					
840	26000	427	FT	CONCRETE COPING					
840	26050	6,681	SF	AESTHETIC SURFACE TREATMENT					
840	27000	1	DAY	ON-SITE ASSISTANCE					
840	28000	1	LUMP	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
SSW	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
5	8

SHEET	TOTAL
1132	2339

CUY-90-16.28 (CCG3A)

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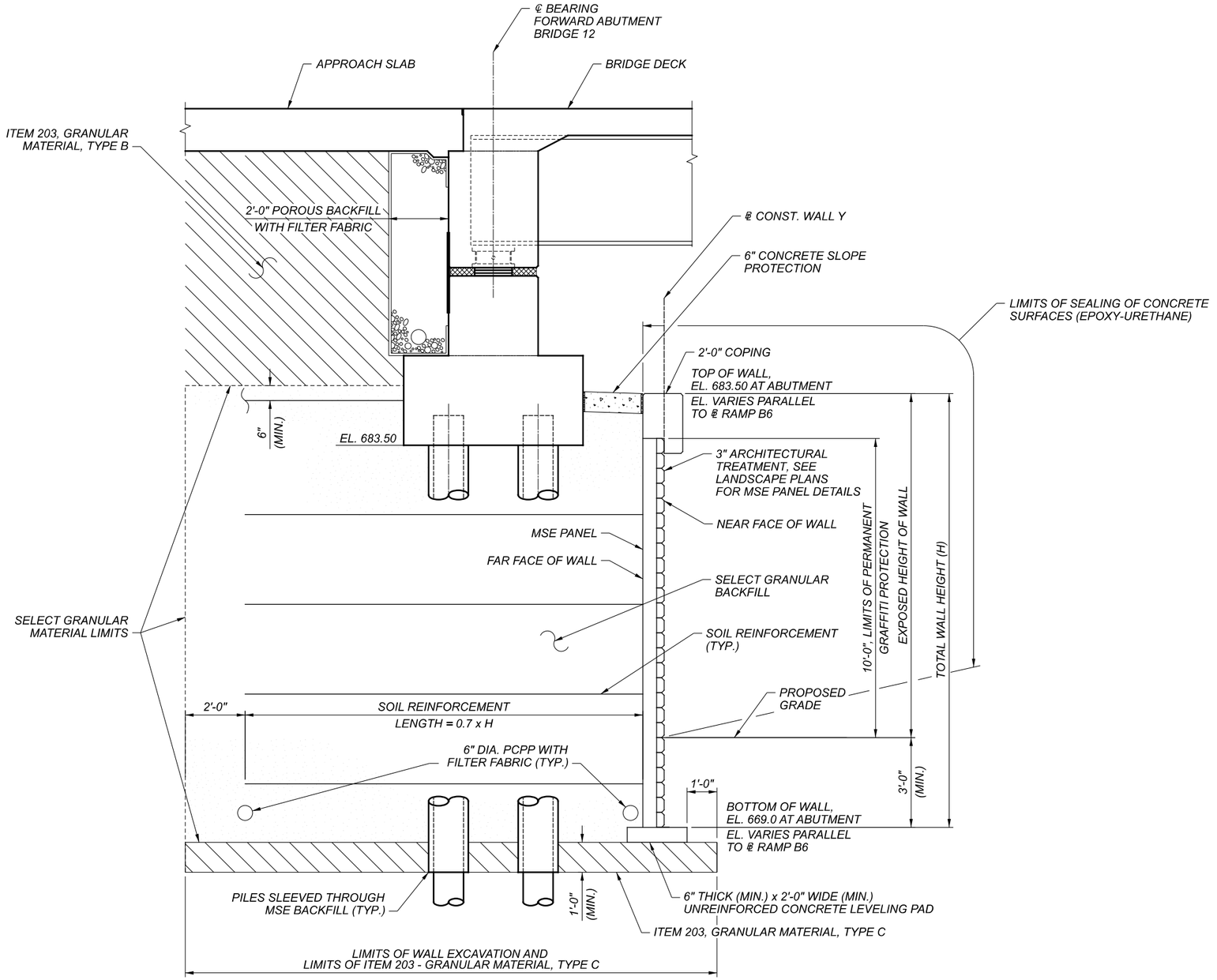

MSE WALL TYPICAL SECTION

CUY-90-16.28 (CCG3A)

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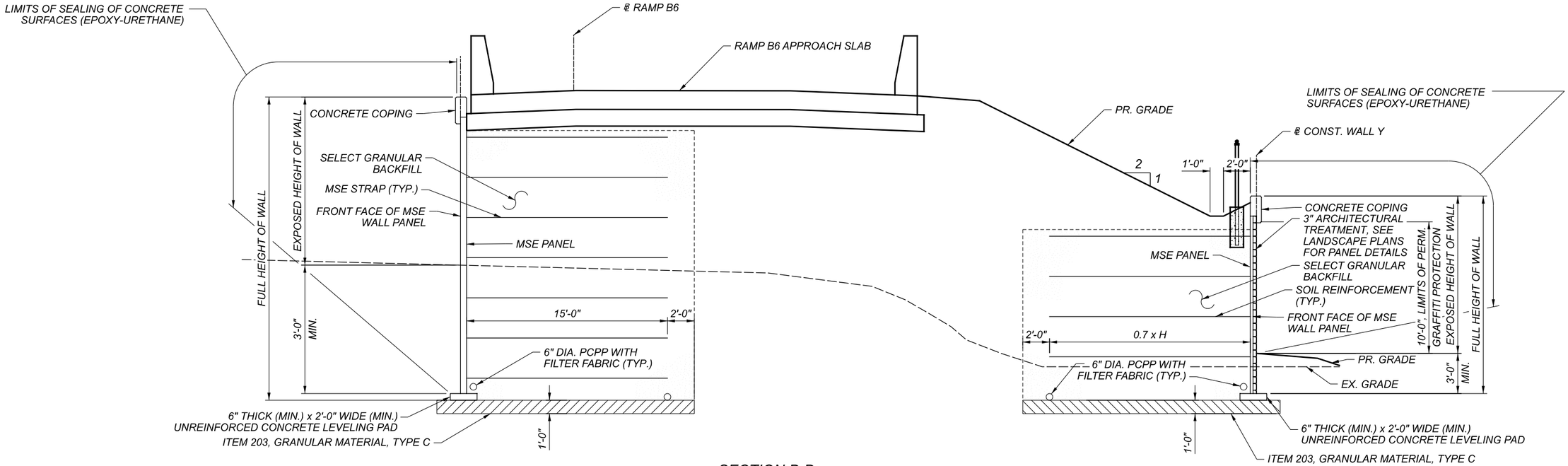
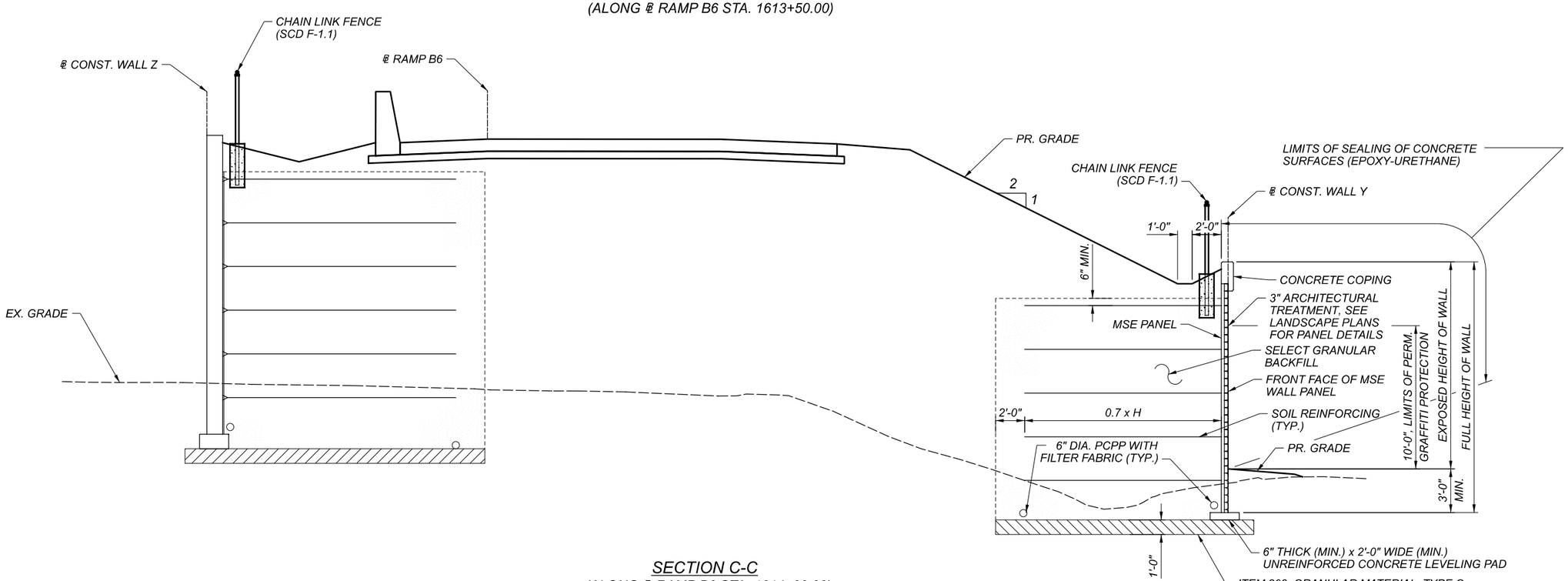
WALL TYPICAL SECTION
WALL Y
UNDER BRIDGE 12 AND ALONG SOUTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	MKB
REVIEWER	— —
PROJECT ID	82382
SUBSET	6
TOTAL	8
SHEET	1133
TOTAL	2339



SECTION B-B
(ALONG ℄ RAMP B6 STA. 1613+50.00)



SECTION C-C
(ALONG ℄ RAMP B6 STA. 1614+00.00)

WALL TYPICAL SECTION
WALL Y AND WALL Z
UNDER BRIDGE 12 AND ALONG SOUTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	MKB
REVIEWER	— —
PROJECT ID	82382
SUBSET	7
TOTAL	8
SHEET	1134
TOTAL	2339

CUY-90-16.28 (CCG3A)

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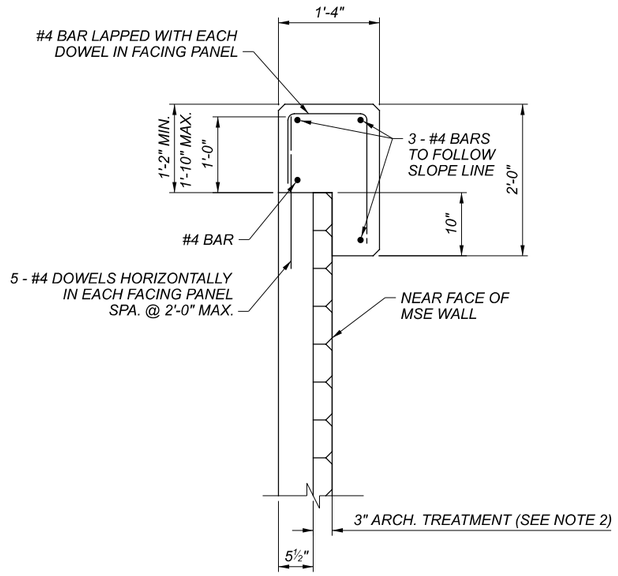
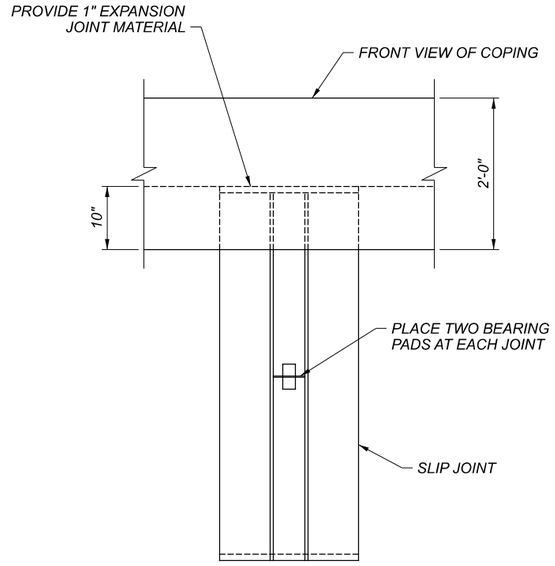
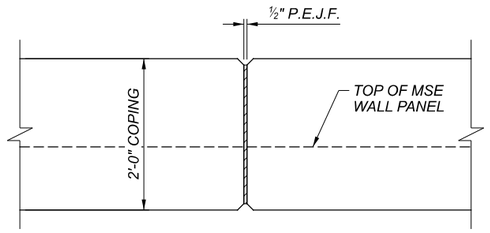


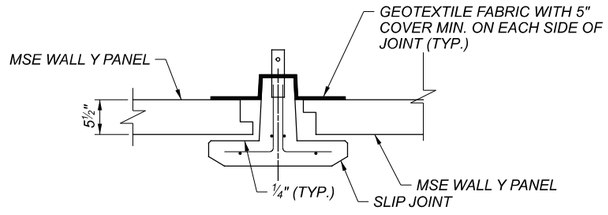
MSE WALL COPING DETAIL
(ALL REINFORCING STEEL TO BE EPOXY COATED)



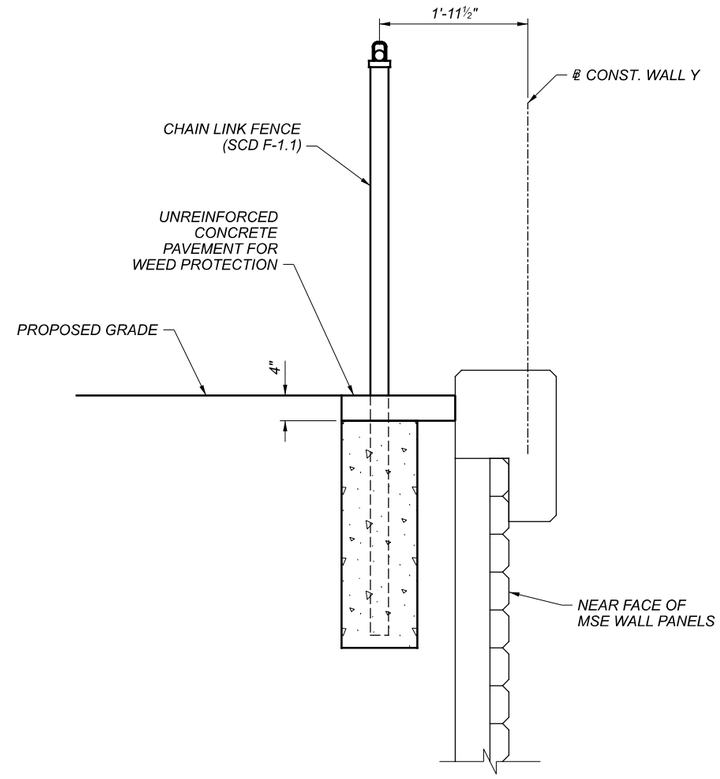
TYPICAL FRONT WALL VIEW OF JOINT ELEVATION
(AT MSE WALL)



COPING EXPANSION JOINT - ELEVATION
(MAX JOINT SPACING IS 20'-0")



SLIP JOINT ELEMENT DETAIL
(AT MSE WALL)



CHAIN LINK FENCE DETAIL
(SEE PLAN AND PROFILE SHEET FOR LOCATIONS)

NOTES:

1. MSE WALL PANELS ARE TO BE 5'-0" x 5'-0", ARRANGED IN VERTICAL RUNNING BOND.
2. SEE LANDSCAPE DETAILS FOR MSE PANEL AESTHETIC TREATMENT DETAILS.
3. DETAILS FOR ALL VERTICAL AND LONGITUDINAL REINFORCING STEEL IN THE COPING SHALL BE INCLUDED IN THE PROPRIETAR WALL MANUFACTURER'S SHOP DRAWINGS.
4. PEJF SHALL EXTEND THE FULL HEIGHT OF THE MSE WALL/WINGWALL JOINT.
5. LOCATIONS OF THE MSE WALL SOIL REINFORCEMENT MUST BE KNOWN TO AVOID CONFLICTS WITH FENCE POST FOUNDATIONS. FENCE POSTS ARE TO BE PLACED SUCH THAT THEY MISS MSE WALL SOIL REINFORCEMENT LOCATIONS.

WALL DETAILS
WALL Y
UNDER BRIDGE 12 AND ALONG SOUTH SIDE OF RAMP B6

SFN N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER	
—	—

PROJECT ID 82382

SUBSET	TOTAL
8	8

SHEET	TOTAL
1135	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:05:10 AM USER: Kathy.Johnson
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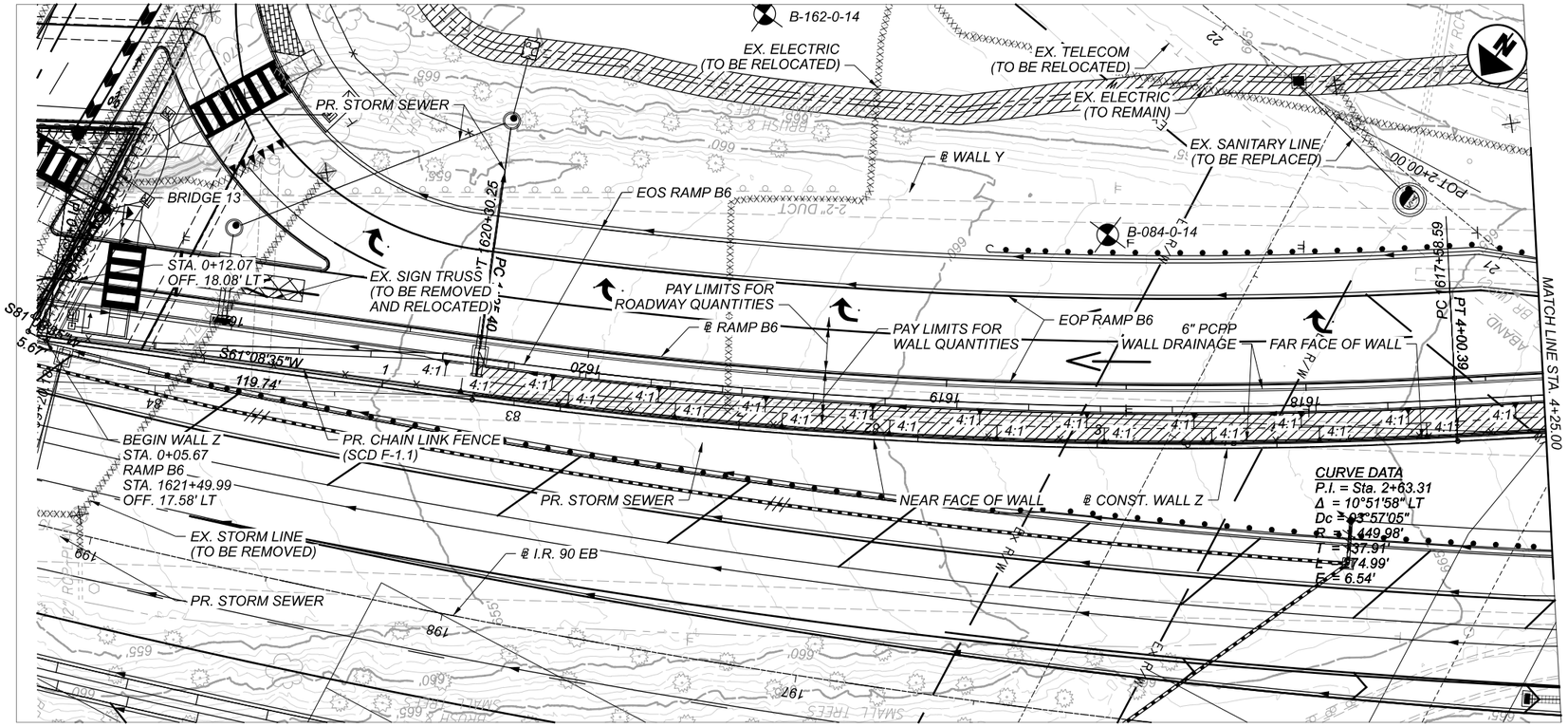
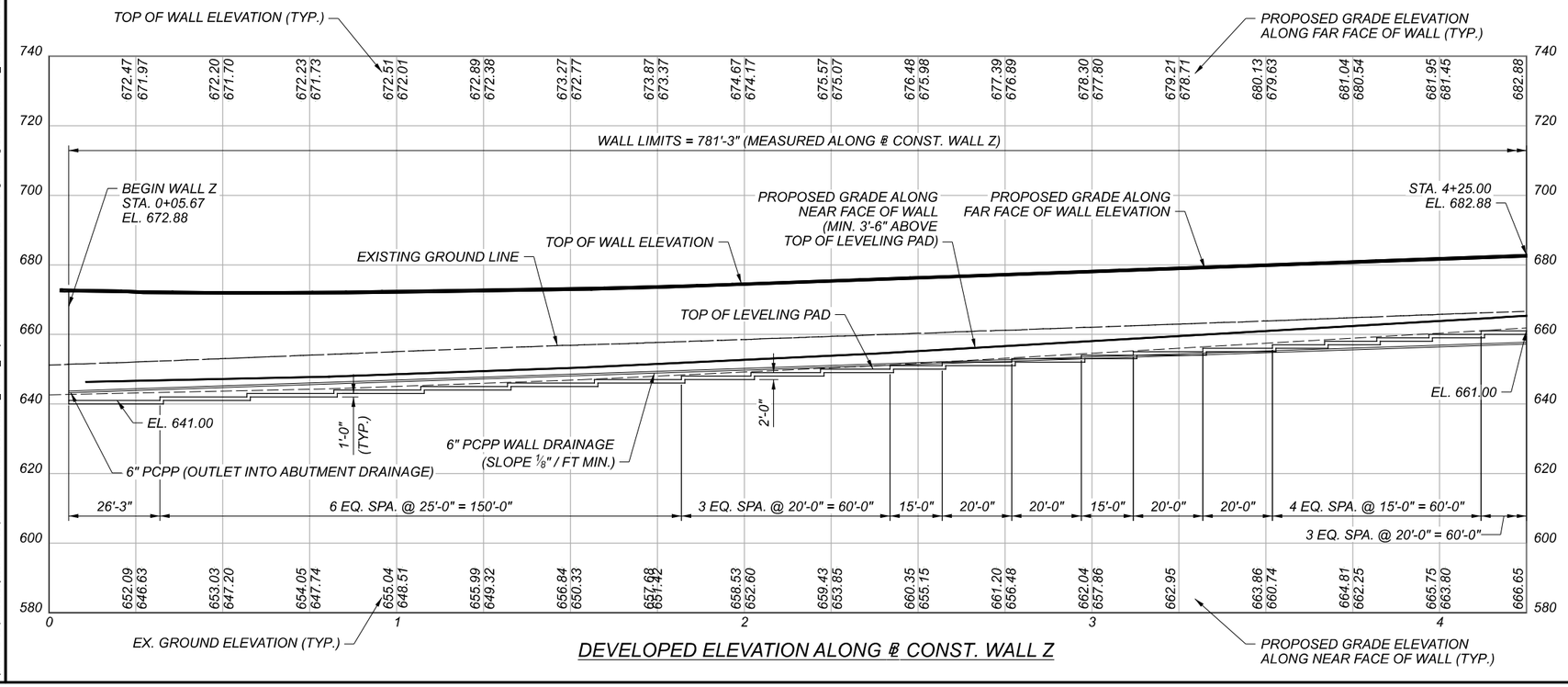


PLAN



DEVELOPED ELEVATION ALONG ℄ CONST. WALL Z

BENCHMARK DATA

BM-59 STA. 1610+31.80, ELEV. 660.15, OFFSET 132.17 RT. MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL, BTWN E. 14TH ST. AND COMMUNITY COLLEGE AVE.

BM-62 STA. 1612+77.43, ELEV. 672.11, OFFSET 690.58 LT. RAILROAD SPIKE IN EAST FACE OF POWER POLE NO. 121784 AT NORTHWEST CORNER OF E. 18TH ST. AND CARNEGIE AVE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

NOTES

1. *EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.*
2. *FOR WALL CROSS SECTIONS, SEE SHEET / .*
3. *STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.*

LEGEND

- *HISTORIC BORING LOCATIONS*
- *PROJECT BORING LOCATIONS*

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE (1 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER — CHECKER —

REVIEWER — —

PROJECT ID 82382

SUBSET 1 TOTAL 14

SHEET 1136 TOTAL 2339

CUY-90-16.28 (CCG3A)

MODEL: BL Wall Z - Wall Z Plan-2 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:05:52 AM USER: Kathy.Johnson
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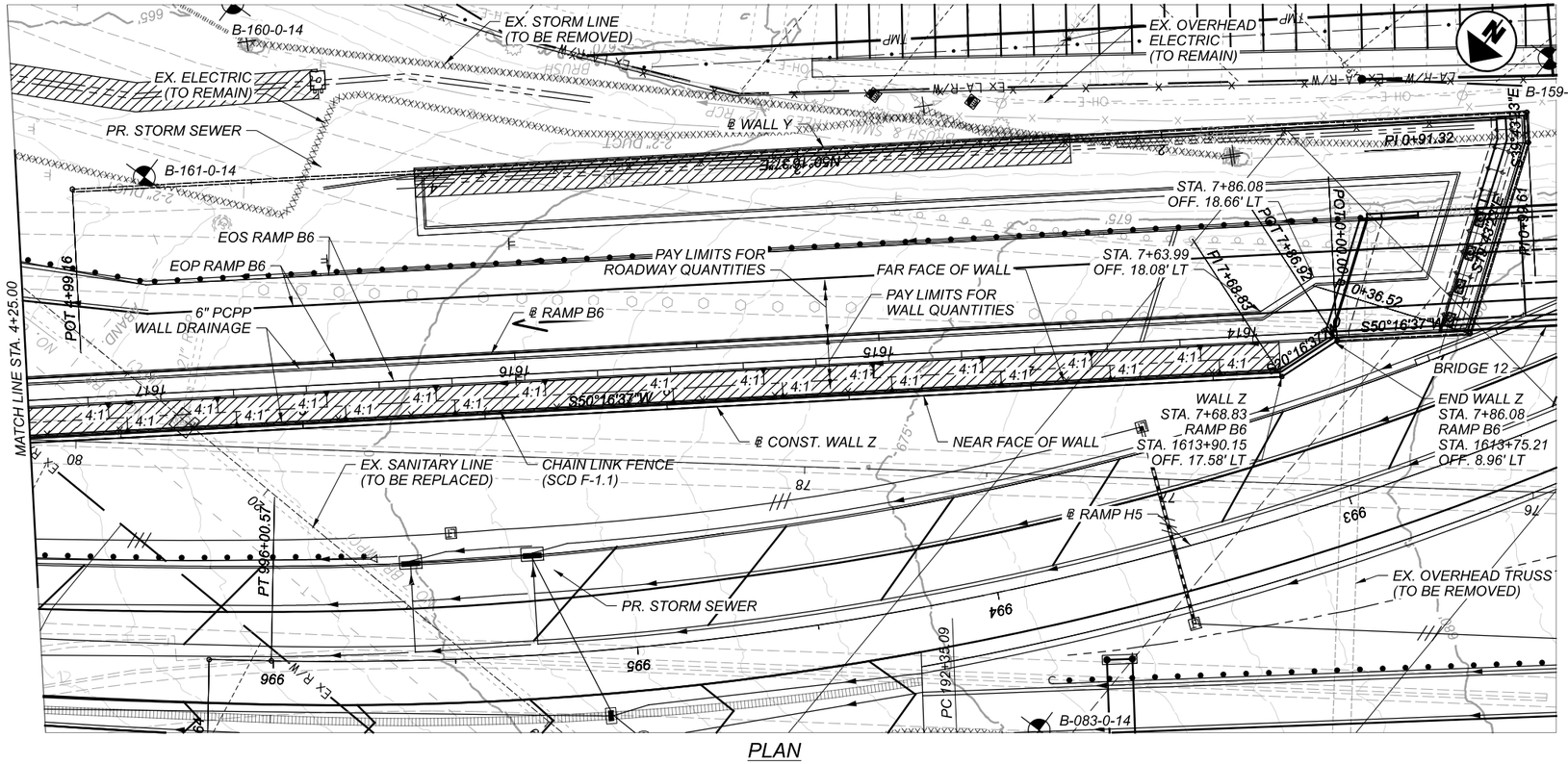
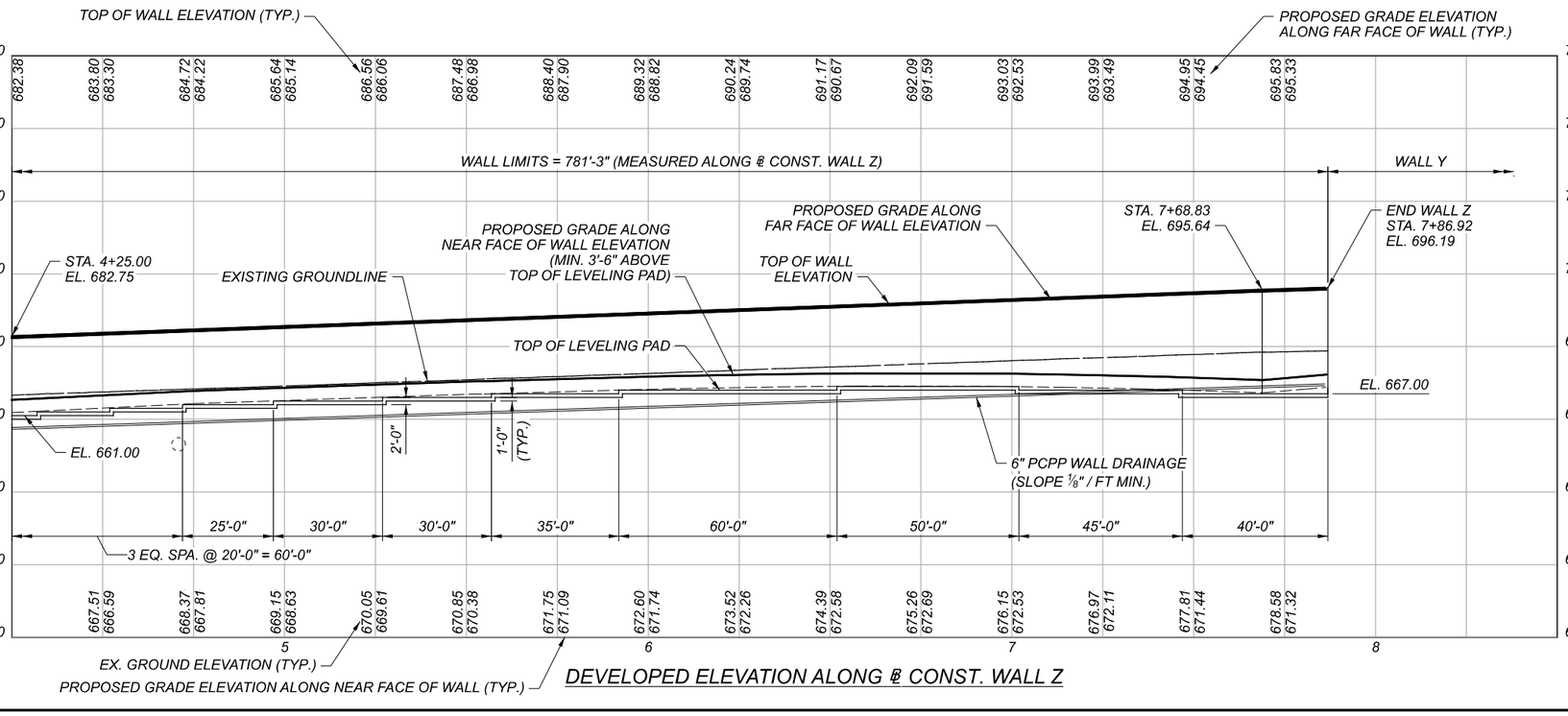


PLAN



DEVELOPED ELEVATION ALONG @ CONST. WALL Z

BENCHMARK DATA

BM-59 STA. 1610+31.80, ELEV. 660.15, OFFSET 132.17 RT. MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL, BTWN E. 14TH ST. AND COMMUNITY COLLEGE AVE.

BM-62 STA. 1612+77.43, ELEV. 672.11, OFFSET 690.58 LT. RAILROAD SPIKE IN EAST FACE OF POWER POLE NO. 121784 AT NORTHWEST CORNER OF E. 18TH ST. AND CARNEGIE AVE.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR WALL CROSS SECTIONS, SEE SHEET / .
3. STATION AND WALL OFFSETS SHOWN AT FRONT FACE OF WALL.

LEGEND

- HISTORIC BORING LOCATIONS
- PROJECT BORING LOCATIONS

CONST. = CONSTRUCTION
EOP = EDGE OF PAVEMENT
EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE (2 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

CUY-90-16.28 (CCG3A)

MODEL: BL Wall Z - Wall Z Plan-1-1 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 8:06:17 AM USER: Kathy.Johnson
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SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	CHECKER
REVIEWER	
PROJECT ID	82382
SUBSET	TOTAL 14
SHEET	TOTAL 2339
	1137

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DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

SCHEMATIC PLAN (1 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN	—NA—
DESIGN AGENCY	
	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	—NA—
REVIEWER	—
PROJECT ID	82382
SUBSET	3
TOTAL	14
SHEET	1138
TOTAL	2339

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:06:43 AM USER: Kathy.Johnson
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DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

SCHEMATIC PLAN (2 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN			
N/A			
DESIGN AGENCY			
Michael Baker INTERNATIONAL			
DESIGNER	CHECKER		
SSW	—		
REVIEWER			
—			
PROJECT ID			
82382			
SUBSET	TOTAL		
4	14		
SHEET	TOTAL		
1139	2339		

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:06:50 AM USER: Kathy.Johnson
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DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

GENERAL NOTES (1 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	-
REVIEWER	-
PROJECT ID	82382
SUBSET	5
TOTAL	15
SHEET	1140
TOTAL	2339

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:06:57 AM USER: Kathy.Johnson
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DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

GENERAL NOTES (2 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	SSW
CHECKER	—
REVIEWER	—
PROJECT ID	82382
SUBSET	6
TOTAL	14
SHEET	1141
TOTAL	2339

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
203	35120	578	CY	GRANULAR MATERIAL, TYPE C					
518	40000	1,613	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
607	23000	747	FT	FENCE, TYPE CLT					
840	20001	21,939	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN					
840	21000	7,205	CY	WALL EXCAVATION					
840	23000	12,499	CY	SELECT GRANULAR BACKFILL					
840	26050	21,939	SF	AESTHETIC SURFACE TREATMENT					

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

ESTIMATED QUANTITIES
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN
N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
7	14

SHEET	TOTAL
1142	2339

CUY-90-16.28 (CCG3A)

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 5:28:09 PM USER: Shane.Weiss
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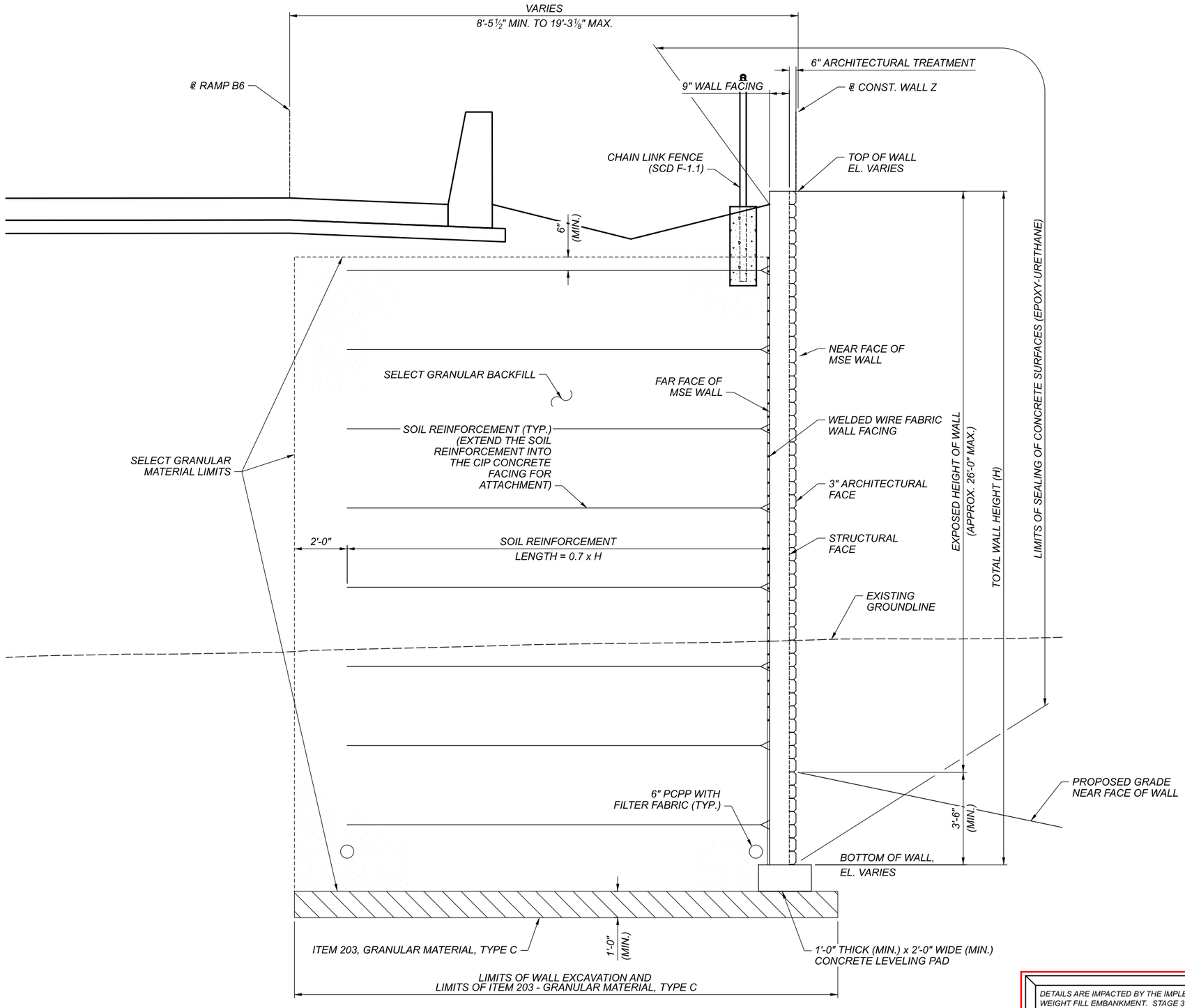

MSE WALL TYP. SECTION

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

WALL TYPICAL SECTION
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN N/A

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	MKB

REVIEWER — —

PROJECT ID 82382

SUBSET	TOTAL
8	14

SHEET	TOTAL
1143	2339

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:07:13 AM USER: Kathy.Johnson
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DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

WALL ELEVATION (2 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	SSW
CHECKER	—
REVIEWER	—
PROJECT ID	82382
SUBSET	9
TOTAL	14
SHEET	1144
TOTAL	2339

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:07:29 AM USER: Kathy.Johnson
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DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

WALL ELEVATION (2 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	
	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	—
REVIEWER	—
PROJECT ID	82382
SUBSET	10
TOTAL	14
SHEET	1145
TOTAL	2339

CUY-90-16.28 (CCG3A)

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WALL DETAILS
WALL Z
ALONG NORTH SIDE OF RAMP B6

DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

SFN
N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	—

REVIEWER
— —

PROJECT ID
82382

SUBSET	TOTAL
11	14

SHEET	TOTAL
1146	2339

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:07:42 AM USER: Kathy.Johnson
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DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

TILT UP WALL DETAILS (1 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	SSW
CHECKER	—
REVIEWER	—
PROJECT ID	82382
SUBSET	12
TOTAL	14
SHEET	1147
TOTAL	2339

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:07:48 AM USER: Kathy.Johnson
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DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

TILT UP WALL DETAILS (2 OF 2)
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	SSW
CHECKER	—
REVIEWER	—
PROJECT ID	82382
SUBSET	13
TOTAL	14
SHEET	1148
TOTAL	2339

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:07:55 AM USER: Kathy.Johnson
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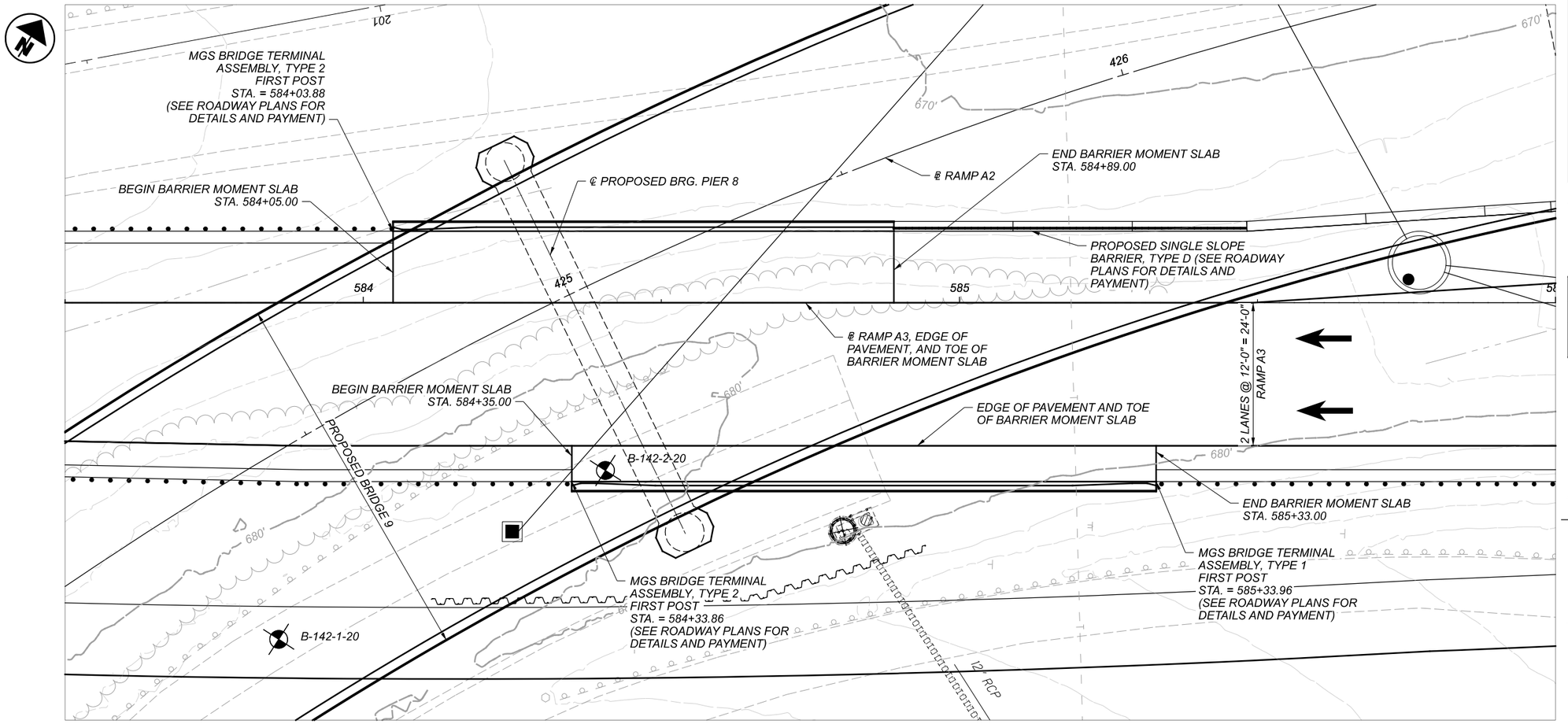
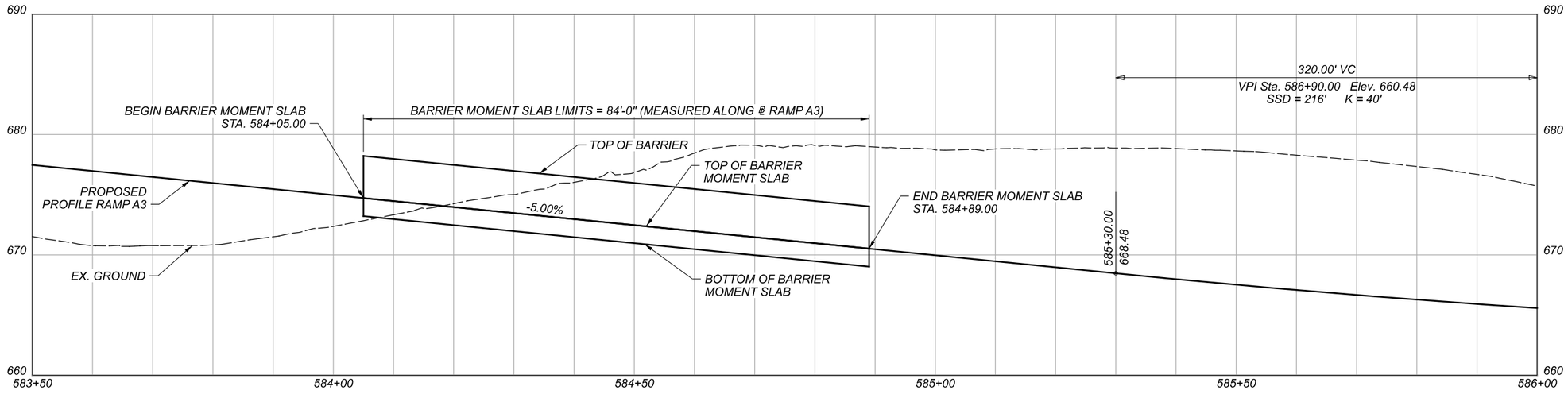
DETAILS ARE IMPACTED BY THE IMPLEMENTATION OF THE LIGHT WEIGHT FILL EMBANKMENT. STAGE 3 DESIGN CONTRACT MODIFICATION PENDING APPROVAL. DESIGN AND DETAILS TO BE FINALIZED WITH NEXT SUBMISSION.

REINFORCING SCHEDULE
WALL Z
ALONG NORTH SIDE OF RAMP B6

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	SSW
CHECKER	—
REVIEWER	—
PROJECT ID	82382
SUBSET	14
TOTAL	14
SHEET	1149
TOTAL	2339



PLAN



ELEVATION ALONG ℄ RAMP A3 (NORTH BARRIER MOMENT SLAB SHOWN, SOUTH SIMILAR)

BENCHMARK DATA

BM #59 STA. 587+24.05,
ELEV. 660.15,
OFFSET 493.45' RT.
MAG NAIL SET AT NOSE OF CONCRETE DRAINAGE CHANNEL IN GRASS MEDIAN BETWEEN EAST 14TH STREET AND COMMUNITY COLLEGE AVE.

BM #61 STA. 583+36.12,
ELEV. 674.03,
OFFSET 374.35' LT.
RAILROAD SPIKE IN NORTH FACE OF POWER/LIGHT POLE NO. 3-7-65 AT 1240 CARNEGIE AVE.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEET 3/2339

BORING LOCATION *,**

BORING	STATION	OFFSET
B-142-1-20	583+85.83	56.46' RT.
B-142-2-20	584+40.63	28.13' RT.

* = BORING STATION AND OFFSETS ARE FROM ℄ RAMP A3

** = ROCK WAS NOT ENCOUNTERED IN BORINGS

LEGEND:

PROJECT BORING LOCATION

NOTES:

1. SEE SHEET 6/6 FOR BARRIER MOMENT SLAB ELEVATIONS.

BARRIER MOMENT SLAB PLAN AND PROFILE
RAMP A3
ADJACENT TO BRIDGE 9 PIER 8

SFN N/A

DESIGN AGENCY

BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
KMA	JAA

REVIEWER DWL 06/21/22

PROJECT ID 82382

SUBSET	TOTAL
1	6

SHEET	TOTAL
1150	2339

CUY-90-16.28 (CCG3A)

MODEL: BL RAMP A3 - Plan 1 PAPERSIZE: 17x11 (in.) DATE: 6/24/2022 TIME: 9:09:11 AM USER: Kathy Johnson
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STRUCTURE GENERAL NOTES:

REFER TO THE FOLLOWING STANDARD DRAWINGS:

SBR-1-20 REVISED 07-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800 DATED 01-21-22

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, 2019 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA:

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

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

MAINTENANCE OF TRAFFIC:

SEE THE ROADWAY PLANS FOR MAINTENANCE OF TRAFFIC REQUIREMENTS.

SEQUENCE OF CONSTRUCTION:

CONSTRUCT THE NORTH AND SOUTH BARRIER MOMENT SLABS DURING MOT PHASE 4 OR 5.

SEE MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL PHASES AND INFORMATION.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

PAYMENT FOR FIBER REINFORCED POLYMER (GFRP) SITIFFENING REINFORCEMENT SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER POUND FOR ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

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

ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED BY ASTM C127.

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.: CONCRETE MOMENT SLAB AND BARRIER.

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

SEAL SURFACES OF THE CAST-IN-PLACE CONCRETE BARRIERS AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE ALPACA 7022 PER SHERWIN WILLIAMS 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.

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REF. SHEET
509	10001		LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	
511	53012		CY	CLASS QC2 CONCRETE MISC.: CONCRETE MOMENT SLAB AND BARRIER	
512	10001		SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION	
512	10100		SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	

BARRIER MOMENT SLAB GENERAL NOTES AND ESTIMATED QUANTITIES
RAMP A3
ADJACENT TO BRIDGE 9 PIER 8

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
KMA	JAA

REVIEWER DWL 06/22/22

PROJECT ID 82382

SUBSET	TOTAL
2	6

SHEET	TOTAL
1151	2339

CUY-90-16.28 (CCG3A)

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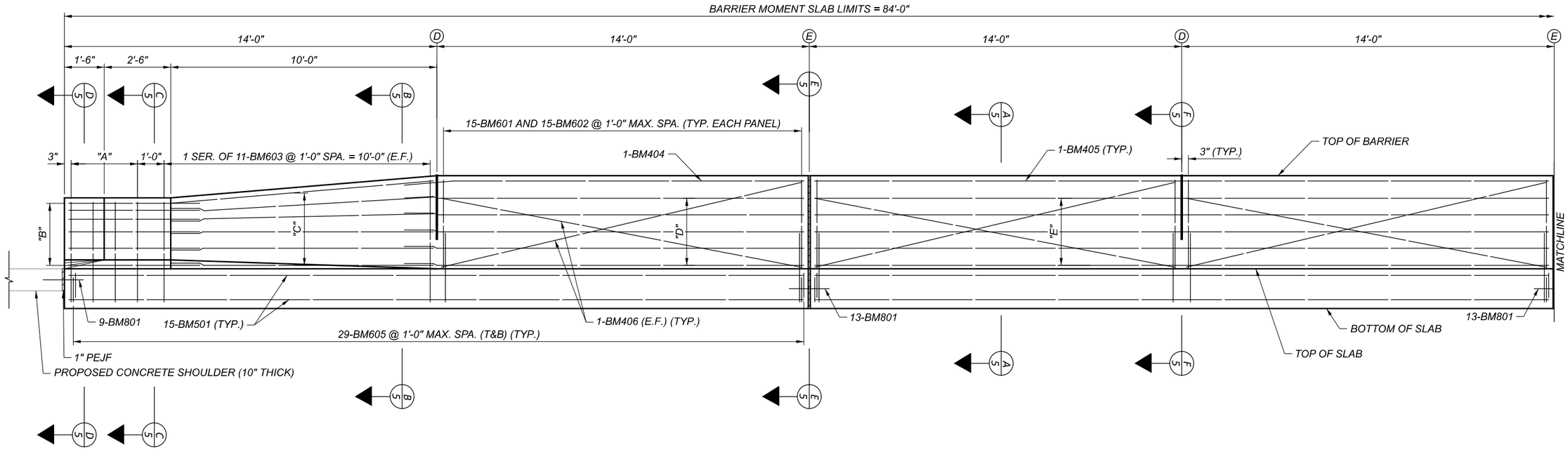
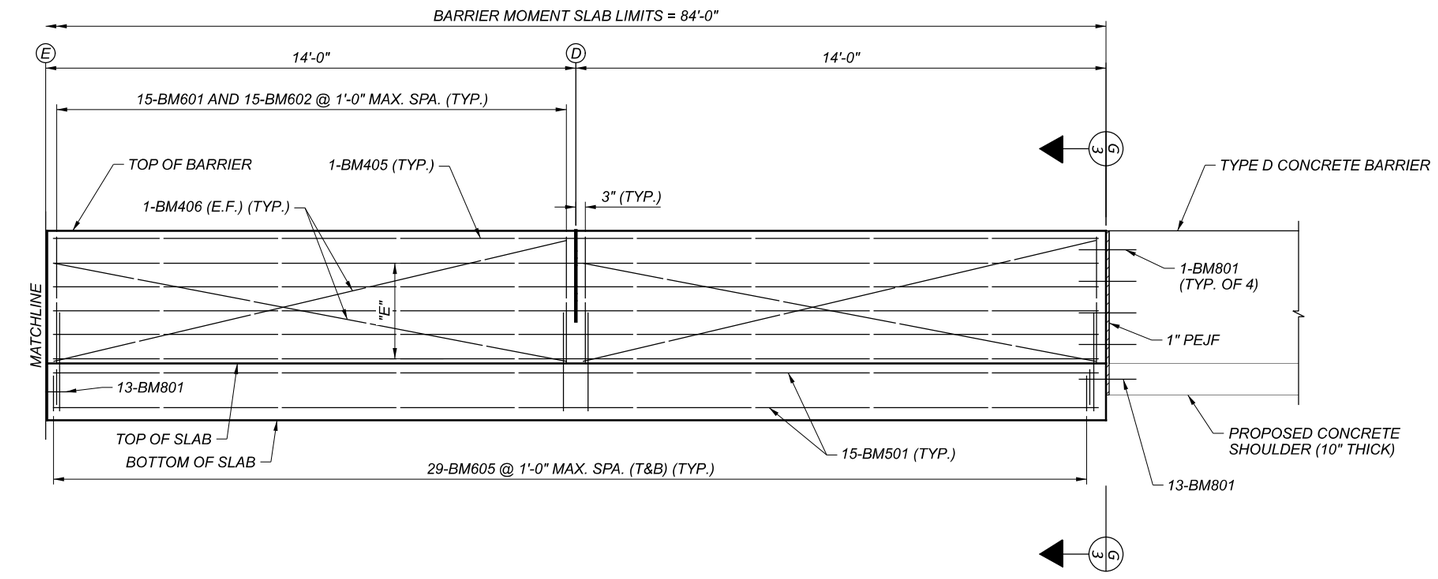
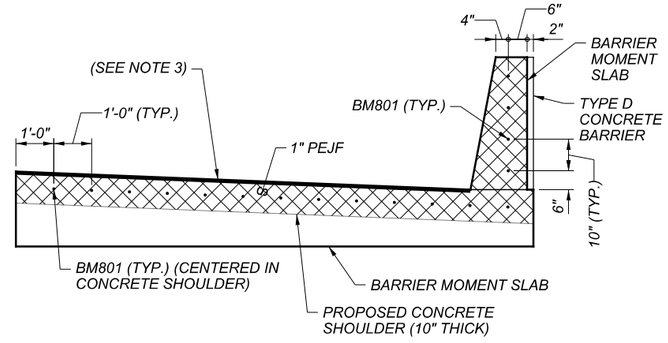
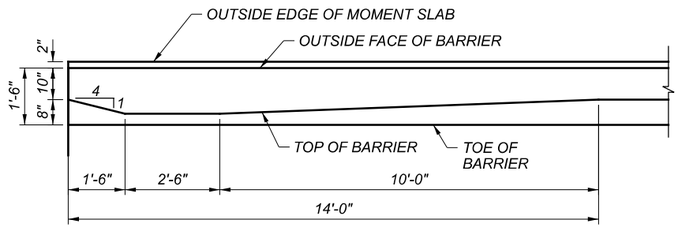


NORTH BARRIER MOMENT SLAB ELEVATION (INSIDE FACE)





SECTION G-G



WEST BARRIER END DETAIL

NOTES:

1. SEE ODOT STANDARD BRIDGE DRAWING SBR-1-20 FOR ADDITIONAL DETAILS.
2. MINIMUM LAP LENGTHS:
   #4 GFRP BARS = 1'-1"
3. TREAT JOINT WITH 1"x1" SEALER PER ODOT CMS 705.04 CENTERED ON JOINT.

LEGEND:

(E) DESIGNATES EXPANSION JOINT

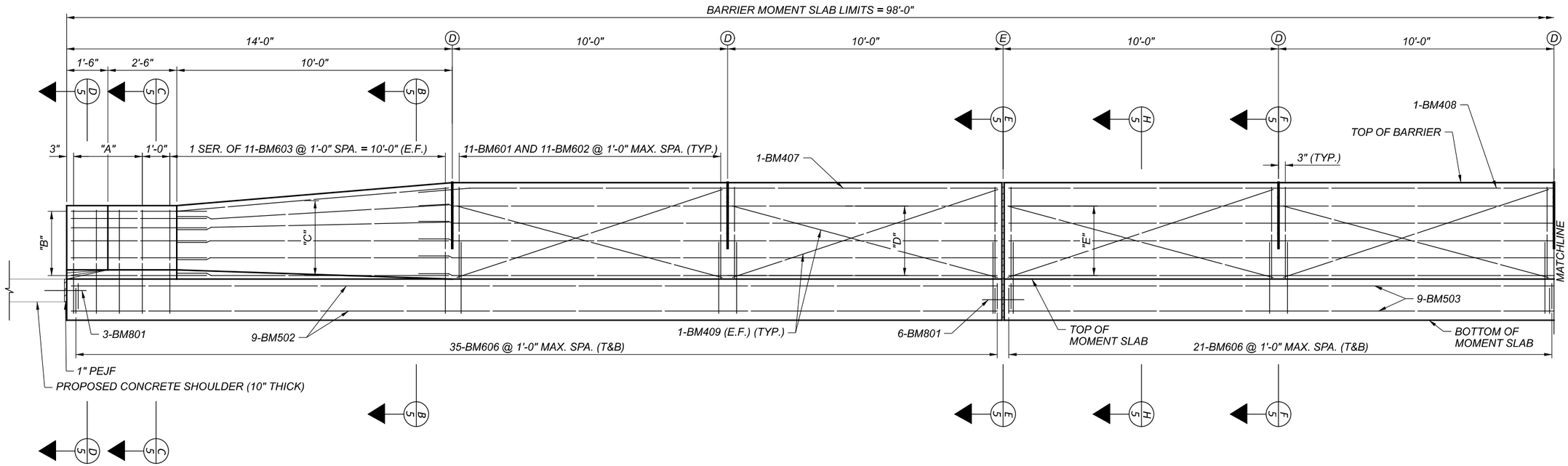
(D) DESIGNATES DEFLECTION JOINT

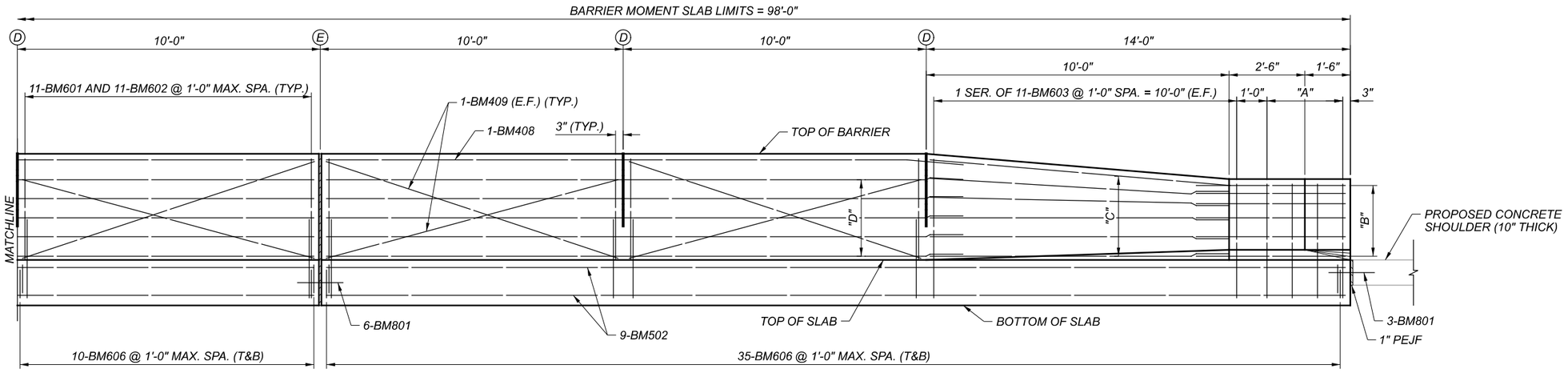
"A" = 4 SETS OF 1-BM604 @ 10" MAX. SPA. (E.F.)
"B" = 6 SETS OF 1-BM402 (N.F.) & 1-BM403 (F.F.)
"C" = 6 SETS OF 1-BM401 (E.F.)
"D" = 5 SETS OF 1-BM404 (E.F.)
"E" = 5 SETS OF 1-BM405 (E.F.) (TYP. EACH PANEL)

NORTH BARRIER MOMENT SLAB DETAILS
RAMP A3
ADJACENT TO BRIDGE 9 PIER 8

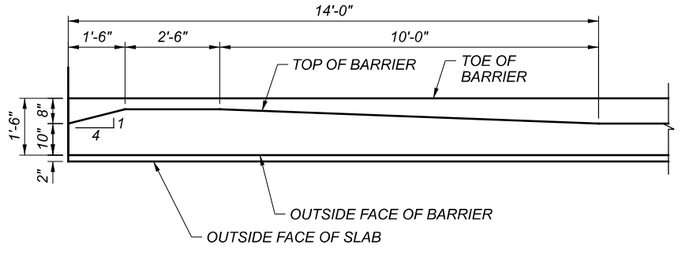
SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	KMA
CHECKER	JAA
REVIEWER	DWL 06/22/22
PROJECT ID	82382
SUBSET	3
TOTAL	6
SHEET	1152
TOTAL	2339

CUY-90-16.28 (CCG3A)





SOUTH BARRIER MOMENT SLAB ELEVATION (INSIDE FACE)



WEST BARRIER END DETAIL

(EAST END OPPOSITE HAND)

NOTES:

1. SEE ODOT STANDARD BRIDGE DRAWING SBR-1-20 FOR ADDITIONAL DETAILS.
2. MINIMUM LAP LENGTHS:
   #4 GFRP BARS = 1'-1"

LEGEND:

(E) DESIGNATES EXPANSION JOINT

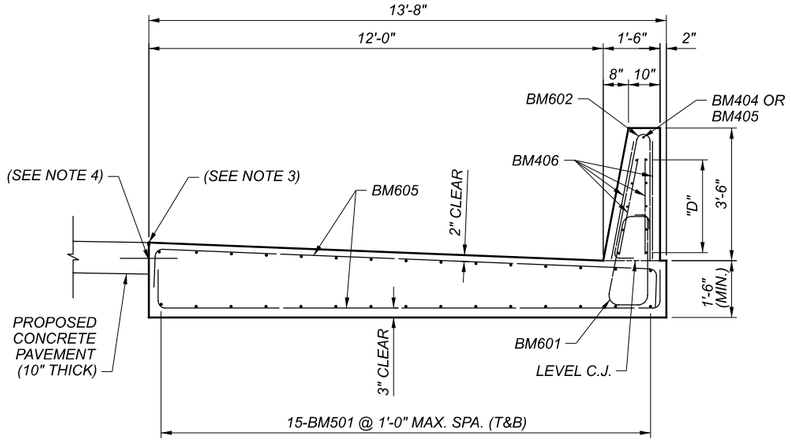
(D) DESIGNATES DEFLECTION JOINT

"A" = 4 SETS OF 1-BM604 @ 10" MAX. SPA. (E.F.)
"B" = 6 SETS OF 1-BM402 (N.F.) & 1-BM403 (F.F.)
"C" = 6 SETS OF 1-BM401 (E.F.)
"D" = 5 SETS OF 1-BM407 (E.F.)
"E" = 5 SETS OF 1-BM408 (E.F.)

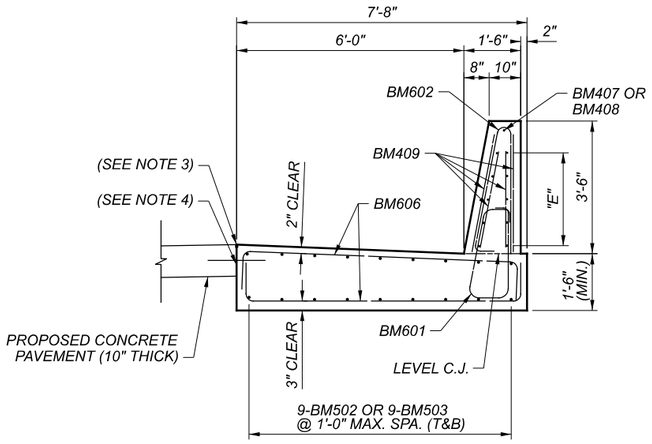
SOUTH BARRIER MOMENT SLAB DETAILS
RAMP A3
ADJACENT TO BRIDGE 9 PIER 8

SFN	N/A
DESIGN AGENCY	BURGESS & NIPLE, 100 WEST ERIE STREET, PAINESVILLE, OHIO 44077
DESIGNER	KMA
CHECKER	JAA
REVIEWER	DWL 06/22/22
PROJECT ID	82382
SUBSET	4
TOTAL	6
SHEET	1153
TOTAL	2339

CUY-90-16.28 (CCG3A)



SECTION A-A



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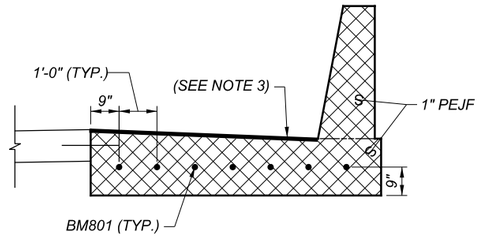
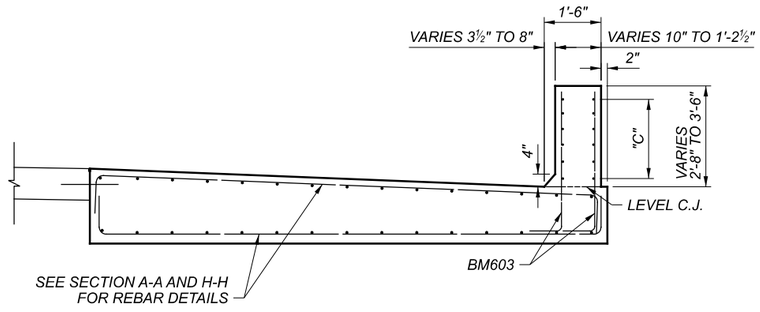
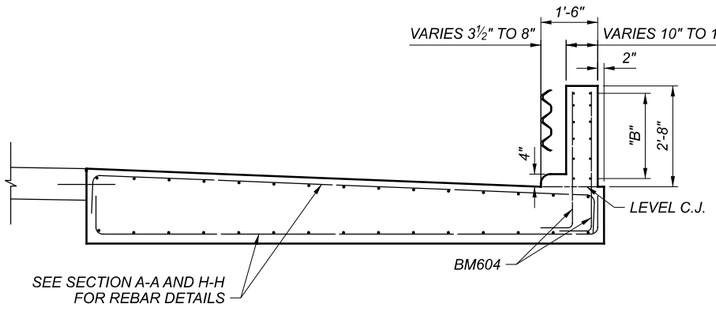


SECTION E-E



SECTION B-B



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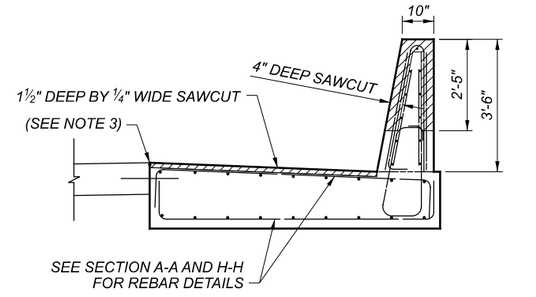

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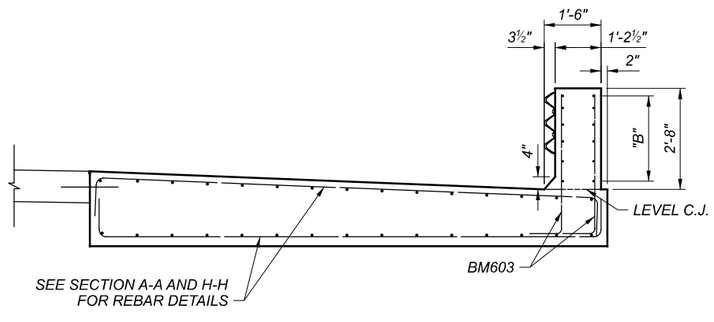
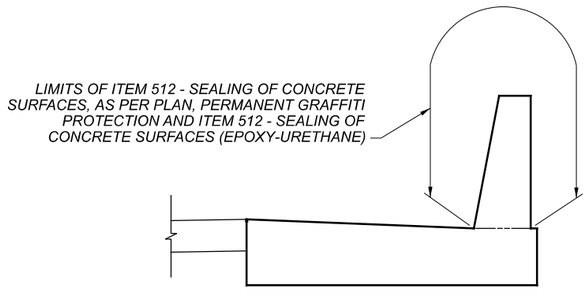


SECTION C-C



TYPICAL SEALING DETAIL

LEGEND:

"A" = (NOT USED)
"B" = 6-BM402 (INSIDE FACE) & 6-BM403 (OUTSIDE FACE) @ EQ. SPA.
"C" = 6-BM401 @ EQ. SPA. (E.F.)
"D" = 5-BM404 OR 5-BM405 @ EQ. SPA. (E.F.)
"E" = 5-BM407 OR BM408 @ EQ. SPA. (E.F.)

NOTES:

1. SEE ODOT STANDARD BRIDGE DRAWING SBR-1-20 FOR ADDITIONAL DETAILS.
2. SEE SHEETS 3/6 AND 4/6 FOR LOCATION OF SECTION CUTS.
3. TREAT JOINT WITH 1"x1" SEALER PER ODOT CMS 705.04 CENTERED ON JOINT.
4. LONGITUDINAL JOINT PER ODOT STANDARD DRAWING BP-2.1.

TYPICAL BARRIER MOMENT SLAB DETAILS - 1
RAMP A3
ADJACENT TO BRIDGE 9 PIER 8

SFN N/A
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
KMA	JAA

REVIEWER DWL 06/22/22
PROJECT ID 82382
SUBSET 5 | TOTAL 6
SHEET 1154 | TOTAL 2339

CUY-90-16.28 (CCG3A)

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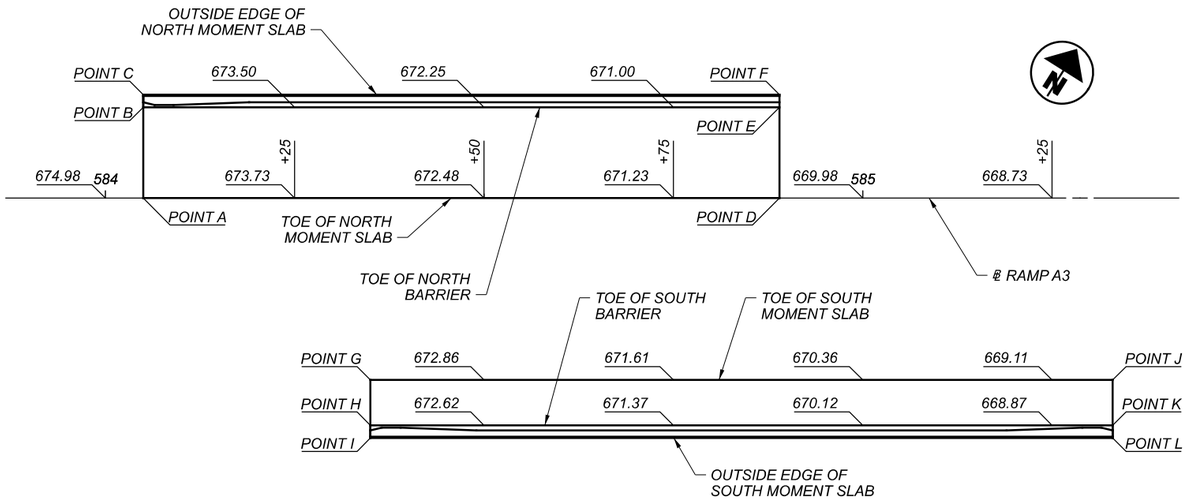


CRITICAL BARRIER MOMENT SLAB POINTS PLAN

NORTH BARRIER MOMENT SLAB ELEVATIONS				
LOCATION POINT	STATION	OFFSET	TOP OF SLAB EL.	BOTTOM OF SLAB EL.
A	584+05.00	0' LT	674.73	672.75
B	584+05.00	12' LT	674.25	672.75
C	584+05.00	13.67' LT	674.25	672.75
D	584+89.00	0' LT	670.53	668.55
E	584+89.00	12' LT	670.05	668.55
F	584+89.00	13.67' LT	670.05	668.55

SOUTH BARRIER MOMENT SLAB ELEVATIONS				
LOCATION POINT	STATION	OFFSET	TOP OF SLAB EL.	BOTTOM OF SLAB EL.
G	584+35.00	24' RT	673.61	671.874
H	584+35.00	30' RT	673.37	671.874
I	584+35.00	31.67' RT	673.37	671.874
J	585+33.00	24' RT	668.71	666.974
K	585+33.00	30' RT	668.47	666.974
L	585+33.00	31.67' RT	668.47	666.974

NORTH BARRIER MOMENT SLAB REINFORCING SCHEDULE										
MARK	NO.	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
					A	B	C	D	E	INCR.
BM401										
BM402										
BM403										
BM404										
BM405										
BM406										
BM501										
BM601										
BM602										
BM603										
BM604										
BM605										
BM801										
	TOTAL	WEIGHT	0							

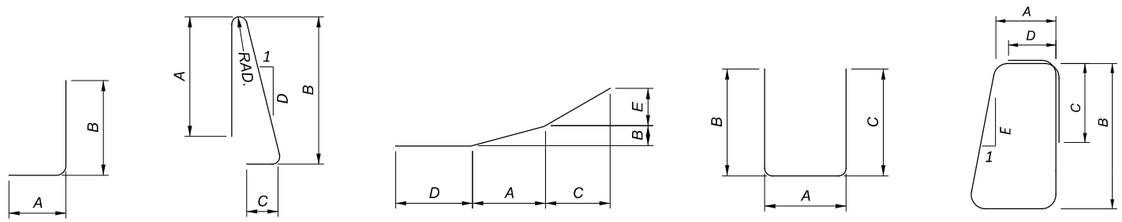
SOUTH BARRIER MOMENT SLAB REINFORCING SCHEDULE										
MARK	NO.	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
					A	B	C	D	E	INCR.
BM401										
BM402										
BM403										
BM407										
BM408										
BM409										
BM502										
BM503										
BM601										
BM602										
BM603										
BM604										
BM606										
BM801										
	TOTAL	WEIGHT	0							

* INDICATES GFRP BARS
** INDICATES SLEEVED DOWEL BARS

NOTES:

1. BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH ONE OR TWO LETTERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS ARE THE BAR SIZE. THE FINAL TWO DIGITS ARE THE SEQUENCE NUMBERS.

   EXAMPLE: A501
   A = ABUTMENT
   5 = #5 BAR
   01 = SEQUENCE NUMBER
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS NOTED OTHERWISE.
3. ALL STEEL REINFORCING IS TO BE EPOXY COATED.
4. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.
5. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
6. RAD. INDICATES THE INSIDE RADIUS UNLESS OTHERWISE NOTED.
7. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
8. SER. INDICATES A SERIES OF BARS.



TYPICAL BARRIER MOMENT SLAB DETAILS - 2
RAMP A3
ADJACENT TO BRIDGE 9 PIER 8

SFN N/A

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET
PAINESVILLE, OHIO 44077

DESIGNER	CHECKER
KMA	JAA

REVIEWER DWL 06/22/22

PROJECT ID 82382

SUBSET	TOTAL
6	6

SHEET	TOTAL
1155	2339

CUY-90-16.28 (CCG3A)