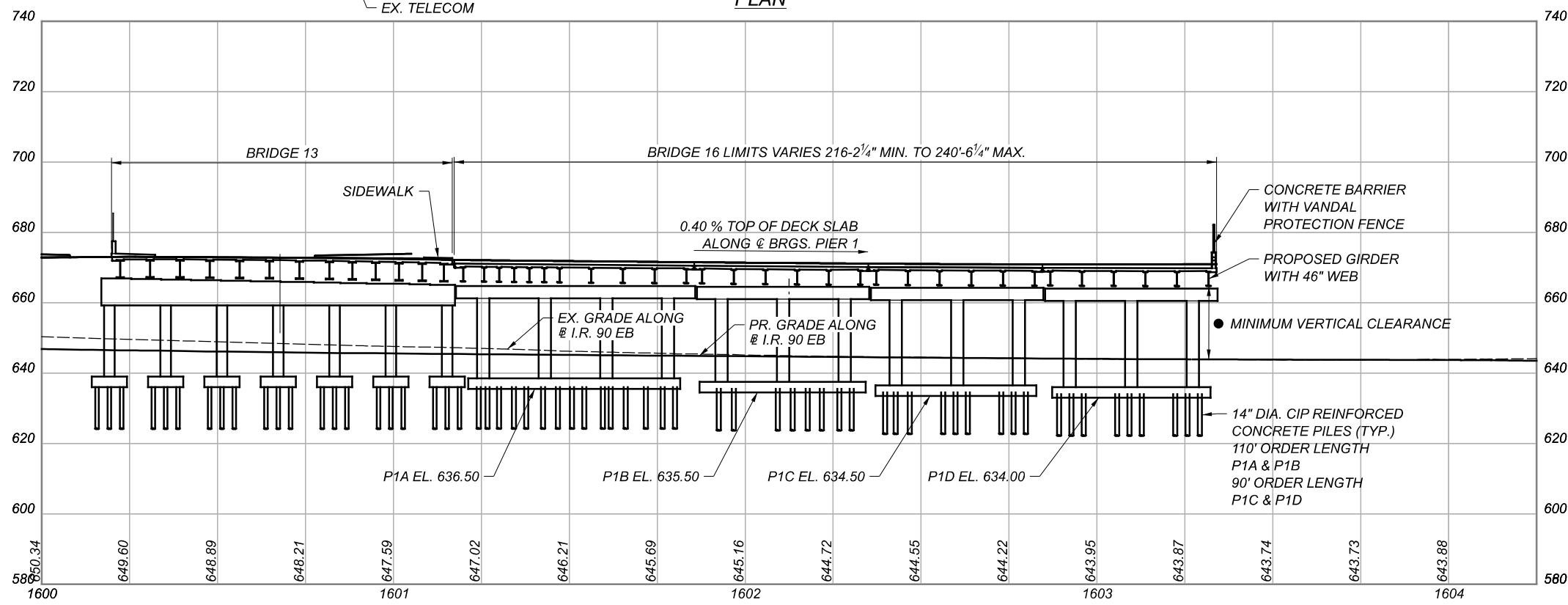


PLAN



PROFILE ALONG @ CONST. BRIDGE 16

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

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- CONST. BRIDGE 16 IS PERPENDICULAR TO @ I.R. 90 WB. SEE GENERAL PLAN FOR LAYOUT.
- EXISTING CEDAR AVE. BRIDGE TO BE REMOVED TO EXTENTS DETAILED IN PLANS.
- EXISTING RETAINING WALLS BETWEEN EXISTING E22ND ST. AND EXISTING CEDAR AVE. BRIDGES TO BE REMOVED TO EXTENTS DETAILED IN PLANS.
- PILES FOR EXISTING RETAINING WALLS TO BE REMOVED AS NECESSARY TO ALLOW CONSTRUCTION OF PROPOSED STRUCTURE DEEP FOUNDATION ELEMENTS. 96 PILES ESTIMATED FOR REMOVAL.
- A BRACED TEMPORARY SHORING SYSTEM IS REQUIRED FOR REMOVAL OF THE EXISTING RETAINING WALL ALONG I.R. 90 EB.

DESIGN TRAFFIC:

2015 ADT = 8,300	2015 ADTT = TBD
2035 ADT = 8,700	2035 ADTT = TBD
DIRECTIONAL DISTRIBUTION = 75%	

LEGEND

- HISTORIC BORING LOCATION
- INSTRUMENTED BORING LOCATION
- PROJECT BORING LOCATION
- MINIMUM VERTICAL CLEARANCE
- MINIMUM HORIZONTAL CLEARANCE

HORIZONTAL CLEARANCE

LOCATION	ABUTMENT	PIER
REQUIRED CLEAR ZONE	30'-0"	30'-0"
PROVIDED MIN. INTERIM	13'-10" *	10'-4" **
PROVIDED MIN. FINAL	13'-10" *	12'-5" **

* BARRIER PROTECTION PROVIDED

VERTICAL CLEARANCE

LOCATION	INTERIM I.R. 90 EB	I.R. 90 EB
REQUIRED MIN.	16'-0"	16'-0"
PROVIDED MIN.	20'-6"	22'-0"

PROPOSED STRUCTURE

TYPE: SIMPLE SPAN STEEL PLATE GIRDER WITH COMPOSITE REINFORCED CONCRETE DECK SUPPORTED ON TANGENT DRILLED SHAFT ABUTMENT AND REINFORCED CONCRETE PIER.

SPANS: 95'-9" C/C BEARING

ROADWAY: VARIES

LOADING: HL93 AND 60 PSF FUTURE WEARING SURFACE
1" CONCRETE INFILL AND 75 PSF SIDEWALK LOAD

SKEW: NONE

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: LENGTH VARIES (AS-1-15)

ALIGNMENT: TANGENT

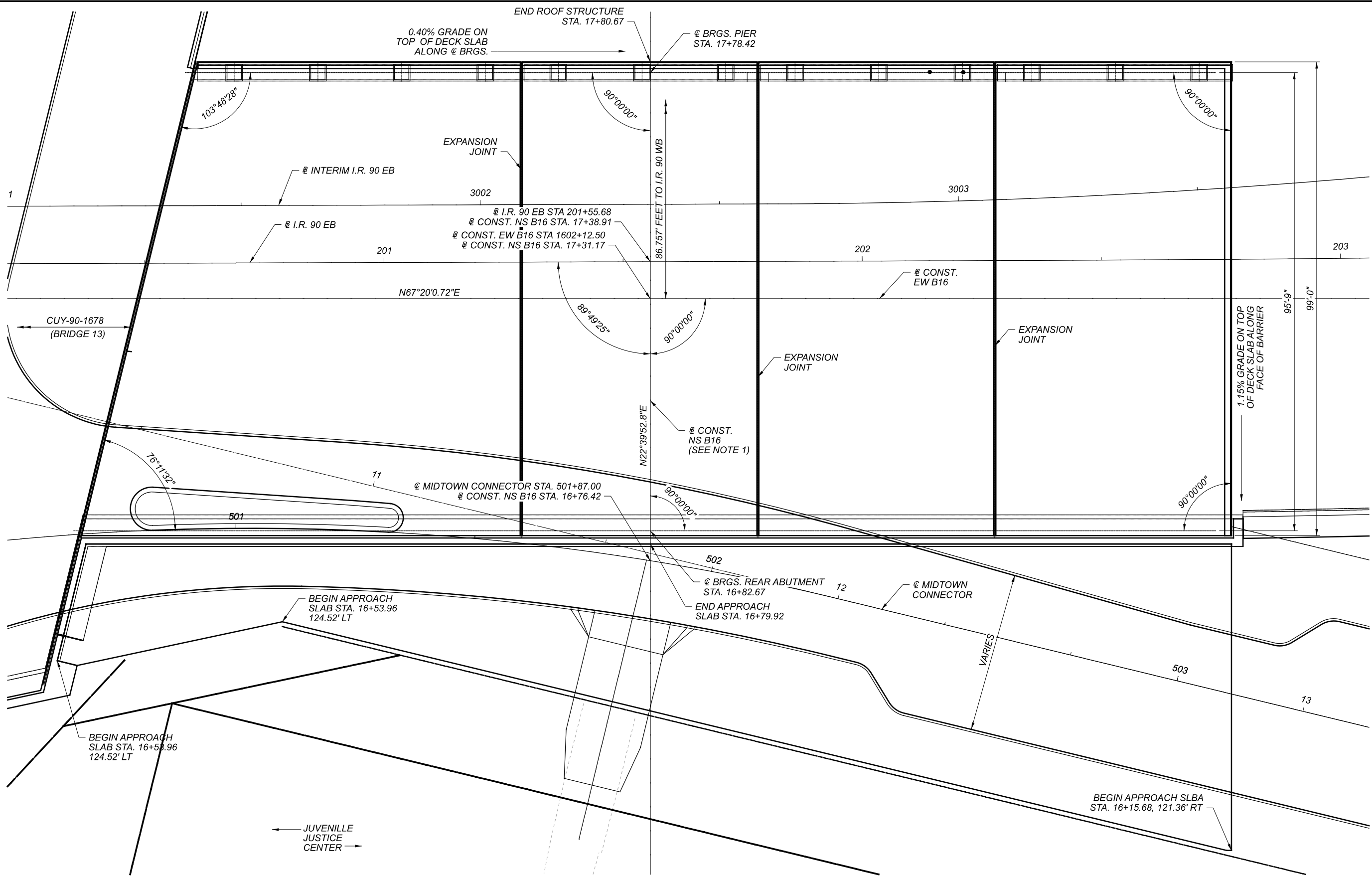
CROWN: VARIES

DECK AREA: 22,087 SF

COORDINATES: LATITUDE N 41° 29' 53.99"
LONGITUDE W 81° 40' 22.23"

SITE PLAN
CUY-90-1680 (BRIDGE 16)
CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER/CHECKER	PAT MKB
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	TOTAL
1	63
SHEET	TOTAL
1892	2338



GENERAL PLAN

NOTES

1. @ CONST. NS B16 IS PERPENDICULAR TO @ I.R. 90 WB.
2. @ BRGS. PIER AND @ BRGS. REAR ABUTMENT ARE PARALLEL TO @ I.R. 90 WB.
3. SEE MIDTOWN CONNECTOR DETAILS FOR ADDITIONAL INFORMATION.
4. GEOMETRIC INFORMATION ON THIS SHEET SHALL GOVERN THE LAYOUT AND CONSTRUCTION OF THIS STRUCTURE. SHOULD GEOMETRIC LAYOUT OF ANY ELEMENTS REQUIRE CLARIFICATION, OBTAIN DIRECTION FROM THE ENGINEER PRIOR TO CONSTRUCTING AFFECTED ELEMENTS.

GENERAL PLAN
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CDC
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	TOTAL
2	63
SHEET	TOTAL
1893	2338

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

- AS-1-15 DATED (REVISED) 7/17/2015
- AS-2-15 DATED (REVISED) 1/18/2019
- BR-2-15 DATED (REVISED) 1/21/2022
- GSD-1-19 DATED (REVISED) 1/15/2021
- VPF-1-90 DATED (REVISED) 7/20/2018

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

- 800 DATED 1/21/2022
- 869 DATED 10/17/2014

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.

SPECIAL DESIGN SPECIFICATIONS

THIS BRIDGE REQUIRED THE USE OF A TWO DIMENSIONAL MODEL USING THE GRILLAGE DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAMS USED FOR STRUCTURAL ANALYSIS WERE MDX AND MIDAS. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD AND THE LIVE LOAD DISTRIBUTION FACTORS USED WERE:

- PANEL A SUPERSTRUCTURE
- PANEL B SUPERSTRUCTURE
- PANEL C SUPERSTRUCTURE
- PANEL D SUPERSTRUCTURE

DEAD LOAD DISTRIBUTION: WITHIN MDX, THE TRIBUTARY WEIGHTS OF THE DECK, INFILL SLAB, AND PARAPETS WERE APPLIED AS LINE LOADS TO EACH OF THE GIRDERS. WITHIN MIDAS CIVIL, SELFWEIGHT WAS APPLIED TO THE STRUCTURAL STEEL MEMBERS. THE WEIGHT OF THE DECK WAS APPLIED AS A LINE LOAD TO EACH GIRDER. THE WEIGHT OF THE PARAPETS AND BENCHES/PERIMETER PLANTERS WERE APPLIED AS LINE LOADS AROUND THE PERIMETER OF THE BRIDGE IN THEIR ACTUAL LOCATIONS. THE WEIGHT OF THE INFILL AND SIDEWALK WAS APPLIED AS A PRESSURE LOAD ON THE DECK. IT WAS ASSUMED THREE 29 KIP OVAL PLANTERS COULD BE PLACED ON A SINGLE DECK PANEL AT ONE TIME. THESE WERE APPLIED AS DISTRIBUTED LOADS WITHIN A LANE ADJACENT TO DESIGN LIVE LOAD LANES TO FLOAT FOR THEIR MAXIMUM EFFECT. UP TO THREE LANES OF TRANSVERSE HL-93 TRAFFIC WAS ALSO EVALUATED ON THE STRUCTURE USING MIDAS CIVIL. THE LANES WERE ORIENTED PERPENDICULAR TO GIRDERS 7 THRU 29 AND FLOATED LONGITUDINALLY ACROSS THE STRUCTURE TO MAXIMIZE VARIOUS LOAD EFFECTS. THE 29 KIP PLANTERS WERE PLACED ADJACENT TO THESE LANES, BUT NOT COINCIDENT WITH A LOADED LANE, TO MAXIMIZE POSSIBLE EFFECTS.

LIVE LOAD DISTRIBUTION FACTORS:

- EXTERIOR MEMBERS - 0.730 FOR WHEEL (OR AXLE) LOAD & 0.730 FOR LANE LOAD MOMENTS.
- 0.730 FOR WHEEL (OR AXLE) LOAD & 0.730 FOR LANE LOAD SHEARS
- INTERIOR MEMBERS - 0.884 FOR WHEEL (OR AXLE) LOAD & 0.884 FOR LANE LOAD MOMENTS.
- 0.717 FOR WHEEL (OR AXLE) LOAD & 0.717 FOR LANE LOAD SHEARS

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

DESIGN LOADING INCLUDES:
 VEHICULAR LIVE LOAD: HL-93
 SIDEWALK PEDESTRIAN LIVE LOAD: 0.090 KIPS/SQ.FT
 FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT UP TO THREE 29 KIP PLANTERS WITHIN A SINGLE DECK PANEL UP TO FOUR 29 KIP PLANTERS ON THE ENTIRE STRUCTURE

DESIGN DATA

CONCRETE CLASS QC2:
 COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1:
 COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE CLASS QC5, WITH 3/8 IN MAX AGGREGATE SIZE:
 COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

REINFORCING STEEL MINIMUM YIELD STRENGTH 60 KSI

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

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

REMOVE ABUTMENTS TO ELEV. 638.6±. REMOVE PIERS TO ELEV. 639.2±.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

THE ULTIMATE BEARING VALUE IS 268 KIPS PER PILE FOR THE PIER 1A, 1B, 1C AND 1D PILES.

PIER 1A AND 1B PILES:
 14" DIAMETER PILES 110 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEM

PIER 1C AND 1D PILES:
 14" DIAMETER PILES 90 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEM

ITEM SPECIAL - STRUCTURE MISC.: VIBRATION MONITORING

MONITOR GROUND VIBRATIONS CAUSED BY PILE DRIVING TO MINIMIZE THE POTENTIAL DAMAGE TO EXISTING STRUCTURES.

RETAIN AN EXPERIENCED VIBRATION SPECIALIST TO ESTABLISH THE ACCEPTABLE VIBRATION LIMITS AND TO PERFORM THE VIBRATION MONITORING. USE A VIBRATION SPECIALIST THAT IS AN EXPERT IN THE INTERPRETATION OF VIBRATION DATA, AND WHO MEETS ONE OF THE FOLLOWING CRITERIA: 1) IS A REGISTERED ENGINEER WITH AT LEAST TWO YEARS OF PROVEN EXPERIENCE IN MONITORING VIBRATIONS ON SIMILAR CONSTRUCTION PROJECTS, OR 2) HAS AT LEAST FIVE YEARS OF PROVEN EXPERIENCE IN MONITORING VIBRATIONS ON SIMILAR CONSTRUCTION PROJECTS. DO NOT USE A VIBRATION SPECIALIST THAT IS AN EMPLOYEE OF THE CONTRACTOR.

SUBMIT A RESUME OF THE CREDENTIALS OF THE PROPOSED VIBRATION SPECIALIST AT, OR BEFORE, THE PRECONSTRUCTION MEETING. INCLUDE IN THE RESUME A LIST OF CONSTRUCTION PROJECTS ON WHICH THE VIBRATION SPECIALIST WAS RESPONSIBLY IN CHARGE OF MONITORING THE VIBRATIONS. LIST A DESCRIPTION OF THE PROJECTS, WITH DETAILS OF THE VIBRATION INTERPRETATIONS MADE ON THE PROJECT. LIST THE NAMES AND TELEPHONE NUMBERS OF PROJECT OWNERS WITH SUFFICIENT KNOWLEDGE OF THE PROJECTS TO VERIFY THE SUBMITTED INFORMATION. OBTAIN THE ENGINEER'S ACCEPTANCE OF THE VIBRATION SPECIALIST BEFORE BEGINNING ANY PILE DRIVING WORK. ALLOW 30 DAYS FOR THE REVIEW OF THIS DOCUMENTATION.

USE SEISMOGRAPHS CAPABLE OF CONTINUOUSLY RECORDING THE PEAK PARTICLE VELOCITY FOR THREE MUTUALLY PERPENDICULAR COMPONENTS OF VIBRATION, AND OF PROVIDING A PERMANENT RECORD OF THE ENTIRE VIBRATION EVENT. USE A SUFFICIENT NUMBER OF SEISMOGRAPHS TO PROVIDE REDUNDANCY IN CASE ONE DEVICE SHOULD FAIL. SUBMIT A PLAN OF THE PROPOSED SEISMOGRAPH LOCATIONS TO THE ENGINEER FOR REVIEW.

THE VIBRATION SPECIALIST SHALL PERFORM THE FOLLOWING:

1. MEASURE THE AMBIENT GROUND VIBRATIONS NEAR EXISTING STRUCTURES BEFORE PILE DRIVING BEGINS.
2. ESTABLISH VIBRATION LIMITS TO MINIMIZE POTENTIAL DAMAGE TO EXISTING STRUCTURES AND EXPLAIN WHY THEY ARE BEING USED TO THE ENGINEER BEFORE DRIVING PILES NEAR EXISTING STRUCTURES.
3. MONITOR GROUND VIBRATIONS DURING PILE DRIVING.
4. IMMEDIATELY INFORM THE CONTRACTOR AND ENGINEER IF THE VIBRATION LIMITS ARE REACHED OR EXCEEDED.
5. FURNISH THE DATA RECORDED AND INCLUDE THE FOLLOWING:
 - A. IDENTIFICATION OF SEISMOGRAPH.
 - B. DISTANCE AND DIRECTION OF SEISMOGRAPH FROM PILE DRIVING.
 - C. START TIME AND DURATION OF PILE DRIVING.
 - D. LIST OF PILES DRIVEN DURING EACH MONITORING INTERVAL.

IMMEDIATELY SUSPEND ALL PILE DRIVING IF THE VIBRATION LIMITS ARE REACHED OR EXCEEDED. EVALUATE ALTERNATIVE CONSTRUCTION PROCEDURES, SUCH AS PREBORED HOLES, TO REDUCE THE VIBRATIONS.

SUBMIT THREE COPIES OF THE FINAL REPORT WHICH CONTAINS ALL MEASUREMENTS, INTERPRETATIONS, AND RECOMMENDATIONS TO THE ENGINEER.

THE DEPARTMENT WILL PAY FOR THIS ITEM AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURE MISC.: VIBRATION MONITORING. THE DEPARTMENT WILL PAY THE FINAL TWENTY PERCENT AFTER THE ENGINEER RECEIVES THE FINAL REPORT.

THE DEPARTMENT WILL PAY ACCORDING TO C&MS 109.05 FOR ALTERNATIVE CONSTRUCTION PROCEDURES THAT THE ENGINEER DETERMINES ARE NECESSARY TO REDUCE VIBRATIONS.

THIS PAY ITEM IS SPECIFICALLY INTENDED FOR THE PROTECTION OF THE JUVENILE JUSTICE CENTER BUILDING, 2209 CENTRAL AVENUE, CLEVELAND, OH 44115

ITEM SPECIAL - STRUCTURE MISC.: PRECONSTRUCTION CONDITION SURVEY

BEFORE PILE DRIVING BEGINS, CONDUCT A CONDITION SURVEY OF ALL EXISTING BUILDINGS, STRUCTURES, AND UTILITIES WITHIN 200-FT OF THE PILE DRIVING WORK. THE PURPOSE OF THE SURVEY IS TO DOCUMENT THE CONDITION OF THE BUILDINGS, STRUCTURES, OR UTILITIES PRIOR TO PILE DRIVING, SO THAT CLAIMS OF DAMAGE CAUSED BY THE PILE DRIVING CAN BE VERIFIED.

RETAIN AN EXPERIENCED VIBRATION SPECIALIST TO PERFORM OR SUPERVISE THE CONDITION SURVEY. USE A VIBRATION SPECIALIST THAT MEETS THE QUALIFICATION REQUIREMENTS FOR VIBRATION MONITORING.

RECORD THE CONDITION OF EXISTING STRUCTURES AND BUILDING MATERIALS, USING WRITTEN TEXT, PHOTOGRAPHS, AND VIDEO RECORDINGS. INSPECT INTERIOR WALLS, CEILINGS, AND FLOORS THAT ARE ACCESSIBLE. INSPECT THE EXTERIOR OF THE BUILDING THAT IS VISIBLE FROM GROUND LEVEL. ALSO RECORD THE LOCATION, SIZE, AND TYPE OF ALL CRACKS AND OTHER STRUCTURAL DEFICIENCIES.

IF OWNERS, OR OCCUPANTS, FAIL TO ALLOW ACCESS TO THE PROPERTY FOR THE PRECONSTRUCTION CONDITION SURVEY, SEND A CERTIFIED LETTER TO THE OWNER OR OCCUPANT. DOCUMENT THE NOTIFICATION EFFORT AND THE CERTIFIED LETTER IN THE REPORT.

SUBMIT THREE COPIES OF THE REPORT TO THE ENGINEER THAT SUMMARIZES THE PRECONSTRUCTION CONDITION OF THE BUILDINGS, STRUCTURES, AND UTILITIES, AND THAT IDENTIFIES AREAS OF CONCERN.

THE DEPARTMENT WILL PAY FOR THIS ITEM AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURE MISC.: PRECONSTRUCTION CONDITION SURVEY.

THIS PAY ITEM IS SPECIFICALLY INTENDED FOR THE PROTECTION OF THE JUVENILE JUSTICE CENTER BUILDING, 2209 CENTRAL AVENUE, CLEVELAND, OH 44115

SFN	1807841
DESIGN AGENCY	
Michael Baker	INTERNATIONAL
DESIGNER	CHECKER
PAT	XW
REVIEWER	
LPC	07-27-22
PROJECT ID	82382
SUBSET	TOTAL
3	63
SHEET	TOTAL
1894	2338

FRICITION DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 417 KIPS AT THE ABUTMENT THE LOAD IS RESISTED BY FRICTIONAL SIDE RESISTANCE ALONG THE LENGTH OF THE DRILLED SHAFT AND BY TIP RESISTANCE. AT THE ABUTMENTS, THE FACTORED SIDE RESISTANCE IS 418 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 90 FEET OF THE DRILLED SHAFT, AND THE FACTORED TIP RESISTANCE IS 34 KIPS. AT THE PIERS, THE FACTORED SIDE RESISTANCE IS

LATERALLY LOADED DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD AND BENDING MOMENT TO BE SUPPORTED BY EACH DRILLED SHAFT ARE 418 KIPS, AND 113 KIP-Feet, RESPECTIVELY. THESE LOADS PRODUCE A MAXIMUM FACTORED BENDING MOMENT OF 6177 KIP-Feet, AND A MAXIMUM FACTORED SHEAR OF 299 KIPS, WITHIN THE DRILLED SHAFT.

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

GENERAL:

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

ANTICIPATED DRILLED SHAFT DEFLECTIONS:

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

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

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

REAR ABUTMENT	6 INCHES
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ANTICIPATED DRILLED SHAFT DEFLECTIONS (CONT.):

TO MITIGATE THE EFFECTS OF ANTICIPATED PERMANENT LOAD DEFLECTIONS THE INSTALLED LOCATION OF THE SHAFTS MUST BE ADJUSTED BY OFFSETTING THE CENTERLINE OF SHAFT LOCATION DURING INSTALLATION. THE REQUIRED OFFSET IS DETAILED IN THE FOUNDATION PLANS FOR EACH STRUCTURAL ELEMENT.

ANTICIPATED TRANSIENT LOAD DEFLECTIONS ARE ACCOMODATED BY ADDITIONAL MOVEMENT CAPACITY IN THE ABUTMENT EXPANSION JOINTS AND BEARINGS.

DESIGN ASSUMPTIONS:

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

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

DREDGE LINE ELEVATIONS:

REAR ABUTMENT ELEV. 638.25
 BOTTOM OF LEVELING PAD FOR CAST-IN-PLACE FACING

DRILLED SHAFT LOCATION SURVEY:

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

THE SURVEYOR SHALL ESTABLISH THE LOCATION OF THE CENTER OF EACH DRILLED SHAFT FOR INSTALLATION AND VERIFY PLUMBNESS OF THE DRILLING RIG PRIOR TO COMMENCING DRILLING OPERATIONS. THE SURVEYOR SHALL LOCATE AND ALIGN THE DRILLING TEMPLATES USED TO ENSURE PROPER SHAFT LOCATION AND ALIGNMENT.

THE CONTRACTOR SHALL SURVEY AND DOCUMENT THE AS-INSTALLED LOCATION AND PLUMBNESS (HORIZONTAL AND VERTICAL ALIGNMENT) OF EACH SHAFT IMMEDIATELY FOLLOWING COMPLETION OF THE SHAFT INSTALLATION. THE CONTRACTOR AND SURVEYOR SHALL COMPARE AS-BUILT LOCATION TO PLAN LOCATION SO THAT THE NEED FOR REMIDIAL ACTION CAN BE ASSESSED BY THE ENGINEER. WORK ON ADDITIONAL SHAFTS IN THE INSTALLATION SHALL NOT PROCEED UNTIL THE ENGINEER HAS COMPLETED THIS ASSESSMENT.

THE CONTRACTOR SHALL PERFORM AN INITIAL SHAFT BASELINE SURVEY OF THE AS-INSTALLED LOCATION OF THE SHAFTS IMMEDIATELY FOLLOWING COMPLETION OF ALL SHAFT INSTALLATIONS. THE INITIAL SHAFT BASELINE SURVEY WILL ESTABLISH THE SHAFT LOCATION BASELINE. THE SHAFT LOCATION BASELINE WILL BE ESTABLISHED FOR ALL SHAFTS IDENTIFIED IN THE SUGGESTED SEQUENCE OF OPERATIONS.

DRILLED SHAFT LOCATION SURVEY (CONT.):

THE CONTRACTOR SHALL PERFORM A SECOND SHAFT BASELINE SURVEY AFTER INSTALLATION AND EXCAVATION TO DREDGE LINE ELEVATION TO CONFIRM THAT ANTICIPATED PERMANENT LOAD DEFLECTION HAS OCCURED. A MINIMUM PERIOD OF 30 DAYS MUST ELAPSE BETWEEN THE INITIAL AND FINAL SHAFT BASELINE SURVEY.

THE CONTRACTOR SHALL PROVIDE THE RESULTS OF THE INDIVIDUAL SHAFT LOCATION SURVEY; AND INITIAL AND SECOND SHAFT BASELINE SURVEYS IN REPORT FORM TO THE ENGINEER WITHIN TWO (2) WORKING DAYS OF COMPLETION. EACH SURVEY REPORT SHALL INCLUDE THE FOLLOWING INFORMATION PROVIDED IN ELECTRONIC FORMAT:

1. X, Y COORDINATES OF EACH SHAFT IN ODOT STATE PLANE COORDINATE SYSTEM TABULATED IN EXCEL SPREADSHEET
2. ALIGNMENT OF SHAFT LOCATION BASELINE ESTABLISHED BETWEEN SHAFTS XX AND YY
3. A NARRATIVE COMPARISON OF THE SURVEYED BASELINE TO THE PLAN BASELINE
4. LISTING OF ALL SHAFT LOCATION DEVIATIONS FROM BASELINE

THE SECOND SHAFT BASELINE SURVEY SHALL ALSO INCLUDE:

5. A NARRATIVE COMPARISON OF THE SECOND SURVEYED SHAFT BASELINE TO THE INITIAL SHAFT BASELINE
6. THE CONTRACTOR SHALL IDENTIFY THE POTENTIAL NEED FOR MITIGATION MEASURES TO MAINTAIN THE PLAN CENTERLINE OF BEARING LOCATION

THE ENGINEER WILL REVIEW THE RESULTS OF EACH SURVEY REPORT TO DETERMINE WHAT MITIGATION MEASURES, IF ANY, ARE REQUIRED TO MAINTAIN THE REQUIRED CENTERLINE OF BEARING LOCATIONS.

THE ENGINEER WILL PROVIDE APPROVAL OF THE SURVEYS AND REQUIRED MITIGATION MEASURES WITHIN THREE (3) WORKING DAYS OF RECEIPT OF THE SURVEYS. SURVEYS SHALL BE PERFORMED BY A SURVEYOR LICENSED IN THE STATE OF OHIO. CONTRACTOR'S SURVEY SUBMITTAL SHALL CONFORM TO THE SUBMITTAL REQUIREMENTS OF C&MS 105.02

CONSTRUCTION TOLERANCES:

DRILLED SHAFTS SHALL BE INSTALLED TO THE TOLERANCES SPECIFIED IN ODOT C&MS SECTION 524.14 EXCEPT AS MODIFIED BELOW. ADDITIONAL CONSTRUCTION TOLERANCE REQUIREMENTS ARE AS FOLLOWS:

POSITION EACH DRILLED SHAFT WITHIN 1" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF SHAFT.

VERTICAL TOLERANCE SHALL CONFORM TO ODOT C&MS SECTION 524.14.

THE USE OF A DRILLING TEMPLATE IS REQUIRED TO ESTABLISH AND MAINTAIN DRILLED SHAFT LOCATIONS. THE CONTRACTOR'S ON-SITE SURVEYOR SHALL BE RESPONSIBLE FOR VERIFYING AND MAINTAINING ADHERENCE TO THE REQUISITE CONSTRUCTION TOLERANCES.

MITIGATION MEASURES:

IN THE EVENT THAT THE SECOND SHAFT BASELINE SURVEY INDICATES THAT THE SHAFTS HAVE NOT DEFLECTED THE ANTICIPATED AMOUNTS, THE ENGINEER WILL PROVIDE RECOMMENDED MITIGATION MEASURES TO MAINTAIN THE PLAN CENTERLINE OF BEARING LOCATION AND LOCATION. IT IS ANTICIPATED THAT THE MITIGATION MEASURES MAY CONSIST OF ADJUSTING THE PLAN DIMENSIONS OF THE ABUTMENT SEAT AND BACKWALL LOCATIONS. THE CONTRACTOR WILL CONSTRUCT THE ABUTMENT SEAT AND BACKWALL IN THE LOCATION AND WITH THE DIMENSIONS NECESSARY TO MAINTAIN THE PLAN CENTERLINE OF BEARING LOCATION AND ALIGNMENT.

ADDITIONAL CONCRETE AND REINFORCING STEEL REQUIRED BY MITIGATION WILL BE PAID FOR VIA CHANGE ORDER AT THE CONTRACT UNIT PRICE BID FOR THESE ITEMS. ADDITIONAL COMPENSATION WILL NOT BE MADE FOR THESE MITIGATION MEASURES IF THE SHAFTS WERE NOT INSTALLED WITHIN THE REQUIRED CONSTRUCTION TOLERANCES.

CONTRACTOR'S INSTALLATION PLAN:

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

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

CONSTRUCTION CONSTRAINTS:

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

MATERIALS:

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

A SELF-CONSOLIDATING CONCRETE MIX SHALL BE INCORPORATED

THE MAXIMUM COARSE AGGREGATE SIZE SHALL BE: 1"

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

SFN	
1807841	
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
PAT	XW
REVIEWER	
LPC 07-27-22	
PROJECT ID	
82382	
SUBSET	TOTAL
4	63
SHEET	TOTAL
1895	2338

MEASUREMENT AND PAYMENT:

MEASUREMENT FOR DRILLED SHAFTS INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS WILL BE MADE IN ACCORDANCE WITH THE PROVISIONS OF ODOT C&MS SECTION 524.16.

PAYMENT FOR DRILLED SHAFTS INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS WILL BE MADE IN ACCORDANCE WITH PROVISIONS OF ODOT C&MS SECTION 524.17.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
524	FOOT	DRILLED SHAFTS, 42" DIAMETER, AS PER PLAN
524	FOOT	DRILLED SHAFTS, 48" DIAMETER, AS PER PLAN

ITEM 524 DRILLED SHAFTS, 48" DIAMETER, THROUGH OBSTRUCTIONS, AS PER PLAN

GENERAL:

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

CONSTRUCTION CONSTRAINTS:

THE CONTRACTOR IS ADVISED THAT THE PROPOSED DRILLED SHAFT INSTALLATIONS MAY REQUIRE ADVANCING SHAFTS THROUGH OBSTRUCTIONS SUCH AS EXISTING FOUNDATIONS AND PILES. EXISTING FOUNDATION AND PILE LOCATIONS ARE DEPICTED IN ACCORDANCE WITH AVAILABLE EXISTING PLAN INFORMATION.

THE PROPOSED DRILLED SHAFT ARRANGEMENT WAS DEVELOPED WITH THE INTENT TO ELIMINATE OR MINIMIZE CONFLICTS BETWEEN THE PROPOSED DRILLED SHAFTS AND IDENTIFIED OBSTRUCTIONS. COMPLETE ELIMINATION OF ALL CONFLICTS BETWEEN THE PROPOSED DRILLED SHAFTS AND OBSTRUCTIONS WAS NOT POSSIBLE.

THE CONTRACTOR IS ADVISED THAT THEY MUST ADAPT THEIR PROPOSED MEANS AND METHODS FOR INSTALLING DRILLED SHAFTS IN CONFLICT WITH OBSTRUCTIONS. SUCH MEANS AND METHODS MAY INCLUDE, BUT ARE NOT LIMITED TO, SPECIALIZED CUTTING HEADS, DOWN DRIVE HAMMERS, ETC.

DRILLED SHAFTS IN CONFLICT WITH EXISTING PILES ARE AS FOLLOWS:

DS-1 THROUGH DS-39

THE CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING PILES FOLLOWING REMOVAL OF EXISTING PILE CAP. NO DRILLED SHAFTS SHALL BE INSTALLED UNTIL NUMBER AND LOCATION OF CONFLICTS WITH THE PROPOSED DRILLED SHAFTS IS VERIFIED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL VERIFIED CONFLICTS AND IDENTIFY ANY ADDITIONAL CONFLICTS. THE CONTRACTOR SHALL PROVIDE A MARKED-UP PLAN SHEET DEPICTING ALL FIELD IDENTIFIED CONFLICTS.

BASIS FOR CLAIMS:

THE CONTRACTOR IS ADVISED THAT IDENTIFICATION OF ADDITIONAL PILES IN CONFLICT WITH PROPOSED DRILLED SHAFTS WILL NOT BE CONSIDERED AS BASIS FOR DELAY OR CHANGED CONDITION CLAIMS.

CONTRACTOR'S INSTALLATION PLAN:

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

1. CONTRACTOR'S PROPOSED METHODS TO ADVANCE DRILLED SHAFTS THROUGH OBSTRUCTIONS (CONFLICTING PILES, EXISTING FOUNDATIONS, ETC.)

MEASUREMENT AND PAYMENT:

MEASUREMENT FOR DRILLED SHAFTS INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS WILL BE MADE ON A PER EACH BASIS.

PAYMENT FOR DRILLED SHAFTS INSTALLED IN ACCORDANCE WITH THESE SPECIFICATIONS WILL BE CONSIDERED COMPLETE COMPENSATION FOR ADDITIONAL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO ADVANCE DRILLED SHAFTS THROUGH OBSTRUCTIONS BEYOND THAT REQUIRED FOR NORMAL INSTALLATIONS.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
524	EACH	DRILLED SHAFTS, 48" DIAMETER, THROUGH OBSTRUCTIONS, AS PER PLAN

MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC FOR THE STRUCTURE WORK SHALL BE COORDINATED WITH THE OVERALL PROJECT. REFER TO MAINTENANCE OF TRAFFIC NOTES AND DETAILS ELSEWHERE IN PLANS.

UTILITY LINES

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

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS, SECTIONS 102.05, 105.02, AND 513.04*. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN.

ITEM 511 - CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN

LOCATE THE LOWER CONTACT POINT OF THE OVERHANG FALSEWORK AT LEAST ** INCHES (+/-) 2 INCHES ABOVE THE TOP OF THE GIRDER'S BOTTOM FLANGE. THE BRACKET CONTACT POINT LOCATION REQUIREMENTS OF C&MS 508 DO NOT APPLY.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 5 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

VANDAL PROTECTION FENCING

INSTALL FENCING FOR EACH CONSTRUCTION PHASE PRIOR TO OPENING THAT PHASE TO VEHICULAR AND/OR PEDESTRIAN TRAFFIC.

**ITEM 625, LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN
 ITEM 632, SIGNAL SUPPORT, MISC.: SIGNAL POLE ANCHORAGE
 ITEM 632, SIGNAL SUPPORT, MISC.: PEDESTRIAN POLE ANCHORAGE**

WHEN A LIGHT POLE, SIGNAL POLE, OR PEDESTRIAN POLE IS MOUNTED ON A STRUCTURE, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE STRUCTURE IS ALSO PART OF THIS WORK.

PAYMENT SHALL BE AT THE UNIT PRICE FOR THE ITEM INCLUDING PLATE(S), ANCHOR ASSEMBLY, LABOR, EQUIPMENT, CONNECTIONS, INSPECTIONS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

SFN	1807841
DESIGN AGENCY	
Michael Baker	INTERNATIONAL
DESIGNER	CHECKER
PAT	XW
REVIEWER	
LPC	07-27-22
PROJECT ID	82382
SUBSET	TOTAL
5	63
SHEET	TOTAL
1896	2338

**ITEM 625, LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN
ITEM 632, SIGNAL SUPPORT, MISC.: SIGNAL POLE ANCHORAGE
ITEM 632, SIGNAL SUPPORT, MISC.: PEDESTRIAN POLE ANCHORAGE**

WHEN A LIGHT POLE, SIGNAL POLE, OR PEDESTRIAN POLE IS MOUNTED ON A STRUCTURE, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE STRUCTURE IS ALSO PART OF THIS WORK.

PAYMENT SHALL BE AT THE UNIT PRICE FOR THE ITEM INCLUDING PLATE(S), ANCHOR ASSEMBLY, LABOR, EQUIPMENT, CONNECTIONS, INSPECTIONS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT

PART 1: DESCRIPTION

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO CONSTRUCT A DEMONSTRATION DRILLED SHAFT FOR TESTING AND EVALUATION TO VERIFY THE PROPOSED CONSTRUCTION METHODS FOR THE PRODUCTION DRILLED SHAFTS.

COMPLETE THE INSTALLATION OF THE DEMONSTRATION DRILLED SHAFT WITHIN (1) DAYS OF CONTRACT AWARD DATE. THE DEPARTMENT WILL CONSIDER THE DEMONSTRATION DRILLED SHAFT INSTALLATION COMPLETE AFTER RECEIVING WRITTEN ACCEPTANCE FROM THE ENGINEER.

PART 2: MATERIALS

THE DEMONSTRATION DRILLED SHAFT SHALL USE THE SAME CONCRETE MIX DESIGN AND STEEL REINFORCEMENT AS THE PRODUCTION DRILLED SHAFTS.

PART 3: EXECUTION

SUBMIT A DRILLED SHAFT INSTALLATION PLAN TO THE ENGINEER FOR ACCEPTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF C&MS 524.03. CONSTRUCT AT LEAST ONE DEMONSTRATION DRILLED SHAFT IN THE AREA SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE ACCEPTED WRITTEN INSTALLATION. UPON CONSTRUCTION OF THE DEMONSTRATION DRILLED SHAFT, AND RECEIPT OF TESTING AND EVALUATION RESULTS CONFIRMING THE DEMONSTRATION DRILLED SHAFT HAS BEEN INSTALLED IN ACCORDANCE WITH CONTRACT DOCUMENTS, THE ENGINEER WILL ISSUE A LETTER ACCEPTING THE INSTALLATION PLAN FOR THE CONSTRUCTION OF THE SUBSEQUENT PRODUCTION DRILLED SHAFTS.

IF MODIFICATION(S) TO THE INSTALLATION PLAN ARE MADE, WHETHER DUE TO THE TESTING AND EVALUATION RESULTS OR FOR OTHER REASON, THE DEPARTMENT WILL REQUIRE CONSTRUCTION OF AN ADDITIONAL DEMONSTRATION SHAFT CONSTRUCTED IN ACCORDANCE WITH THE MODIFIED INSTALLATION PLAN, AT NO ADDITIONAL COST. THE DIAMETER, LENGTH, REINFORCING, INSTALLATION METHODS, AND OTHER MISCELLANEOUS DETAILS OF THE DEMONSTRATION SHAFT SHALL BE THE SAME AS THE PRODUCTION DRILLED SHAFTS.

ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT, CONTINUED

SUBMIT THE LOCATION OF THE DEMONSTRATION SHAFT TO THE ENGINEER FOR ACCEPTANCE. LOCATE THE DEMONSTRATION DRILLED SHAFT SUCH THAT NO INTERFERENCE OCCURS WITH THE FOUNDATIONS OF EXISTING OR PROPOSED STRUCTURES, THE PROPOSED MAINTENANCE OF TRAFFIC, OR EXISTING OR PROPOSED UTILITIES.

LOCATE THE DEMONSTRATION DRILLED SHAFT SO THAT TESTING DOES NOT DAMAGE THE JUVENILE JUSTICE CENTER BUILDING.

TEST THE DEMONSTRATION DRILLED SHAFT BY THERMAL INTEGRITY PROFILING (TIP) ACCORDING TO ASTM D7949, METHOD BE, BY CROSSHOLE SONIC LOGGING (CSL) ACCORDING TO ASTM D6760; AND BY HIGH-STRAIN DYNAMIC TESTING ACCORDING TO ASTM D4945.

PART 4: MEASUREMENT AND PAYMENT
THE DEPARTMENT WILL MEASURE DEMONSTRATION DRILLED SHAFT BY THE NUMBER OF FEET, MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE REQUIRED BOTTOM ELEVATION OF THE SHAFT TO THE PROPOSED TOP PLAN ELEVATION.

IN ADDITION TO THE PROVISIONS OF C&MS 524.17, THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF DEMONSTRATION DRILLED SHAFT AFTER INSTALLATION OF THE DEMONSTRATION SHAFT AND AFTER BEING PROVIDED WITH WRITTEN TESTING AND EVALUATION RESULTS ACCEPTABLE TO THE ENGINEER.

THE CONTRACT PRICE IS FULL COMPENSATION FOR FURNISHING AND INSTALLING DRILLED SHAFTS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS, INCLUDING MOBILIZATION, SITE ACCESS, AND FINAL REMOVAL OF THE SHAFT TO 36 INCHES BELOW FINAL GRADE.

THE DEPARTMENT WILL PAY FOR TESTING AND EVALUATION OF THE ACCEPTED DEMONSTRATION SHAFT SEPARATELY.

THE DEPARTMENT WILL NOT PAY FOR TESTING AND EVALUATION FOR ADDITIONAL DEMONSTRATION DRILLED SHAFTS.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT.

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON THE DEMONSTRATION DRILLED SHAFT AT THE REAR ABUTMENT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER THE PROJECT SPECIAL PROVISIONS.

ITEM 524 - DRILLED SHAFTS, MISC.: CSL TESTING, 48" DIA. SHAFT

PERFORM INTEGRITY TESTING ON THE DEMONSTRATION DRILLED SHAFTS AT THE REAR ABUTMENT BY CROSSHOLE SONIC LOGGING (CSL). PERFORM CSL TESTING PER ASTM D6760, "STANDARD TEST METHOD FOR INTEGRITY TESTING OF CONCRETE DEEP FOUNDATIONS BY ULTRASONIC CROSS-HOLE TESTING." AND PER THE PROJECT SPECIAL PROVISIONS.

ITEM 524 - DRILLED SHAFTS, MISC.: HIGH-STRAIN DYNAMIC TESTING OF DRILLED SHAFTS

PERFORM FIELD VERIFICATION OF NOMINAL AXIAL RESISTANCE TESTING ON THE DEMONSTRATION DRILLED SHAFT AT THE REAR ABUTMENT BY HIGH-STRAIN DYNAMIC TESTING. PERFORM HIGH-STRAIN DYNAMIC TESTING PER ASTM D4945, "STANDARD TEST METHOD FOR HIGH-STRAIN DYNAMIC TESTING OF DEEP FOUNDATIONS" AND PER THE PROJECT SPECIAL PROVISIONS.

ABBREVIATIONS

- BOT. = BOTTOM
- BRGS. = BEARINGS
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- CONST. = CONSTRUCTION
- DIA. = DIAMETER
- E.F. = EACH FACE
- ELEV. = ELEVATION
- EX. = EXISTING
- F.A. = FORWARD ABUTMENT
- F.F. = FAR FACE
- HORIZ. = HORIZONTAL
- I.R. = INTERSTATE ROUTE
- LT = LEFT
- MAX. = MAXIMUM
- MIN. = MINIMUM
- N.F. = NEAR FACE
- PR. = PROPOSED
- R.A. = REAR ABUTMENT
- RT = RIGHT
- SPA. = SPACED / SPACING / SPACES
- S.R. = STATE ROUTE
- TYP. = TYPICAL
- VERT. = VERTICAL
- W.W. = WING WALL

SECTION / DETAIL / VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)



(SECTION A CUT FROM SHEET 9)

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
PAT	XW
REVIEWER	
LPC 07-27-22	
PROJECT ID	
82382	
SUBSET	TOTAL
6	63
SHEET	
TOTAL	
1897	2338

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
202	11203	1	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					
503	11100	1	LS	COFFERDAM AND EXCAVATION BRACING					
503	21100	754	CY	UNCLASSIFIED EXCAVATION					
505	11100	1	LS	PILE DRIVING EQUIPMENT MOBILIZATION					
507	00600	7,300	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN					
507	00650	6,900	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED					
509	10000	348,900	LB	EPOXY COATED REINFORCING STEEL					
511	34446	989	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK					
511	34450	51	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)					
511	42012	238	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS					
511	44112	360	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING					
511	46512	210	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING					
511	53010	300	CY	CLASS QC1 CONCRETE, MISC.: CONCRETE FACING					
513	10280	1,084,710	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4					
513	20000	7,677	EACH	WELDED STUD SHEAR CONNECTORS					
513	20000	3,150	EACH	WELDED STUD SHEAR CONNECTORS (FOR CONCRETE FACING)					
514	00060	47,700	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, SYSTEM OZEU					
514	00066	47,700	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT					
516	11210	640	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL					
516	13600	0	0	1" PREFORMED EXPANSION JOINT FILLER					
516	44101	29	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN					
516	44101	29	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN					
518	20000	0	SY	PREFABRICATED GEOCOMPOSITE DRAIN					
518	21201	0	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN					
518	40000	0	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	0	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
523	20000	1	EACH	DYNAMIC LOAD TESTING					
524	94801	2,205	FT	DRILLED SHAFTS, 42" DIAMETER, AS PER PLAN					
524	94901	4,788	FT	DRILLED SHAFTS, 48" DIAMETER, AS PER PLAN, WITH 5/8" PERMANENT STEEL CASING					
524	95100	40	EACH	DRILLED SHAFTS, MISC.: 48" DIAMETER, THROUGH OBSTRUCTIONS					
524	95100	1	EACH	DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT					
524	95100	1	EACH	DRILLED SHAFTS, MISC.: CSL TESTING, 48" DIA. SHAFT					
524	95100	1	EACH	DRILLED SHAFTS, MISC.: HIGH-STRAIN DYNAMIC TESTING OF DRILLED SHAFTS					
524	95100	1	EACH	DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (T.I.P.) TEST					
526	30010	1,100	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")					
530	00200	1	LS	SPECIAL - STRUCTURES: PRECONSTRUCTION CONDITION SURVEY					
530	14000	1	LS	SPECIAL - STRUCTURAL SURVEY AND MONITORING OF VIBRATION					
607	39911	320	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN					
608	15001	16,990	SF	8" CONCRETE WALK, AS PER PLAN					
625	10615	1	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN					
625	98000	1	EACH	LIGHTING, MISC.: PEDESTRIAN POLE ANCHORAGE					
625	98000	1	EACH	LIGHTING, MISC.: SIGNAL POLE ANCHORAGE					

ESTIMATED QUANTITIES
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
XW	MBC
REVIEWER	
LPC	07-27-22
PROJECT ID	0
SUBSET	TOTAL
7	63
SHEET	TOTAL
1898	2338

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 7/27/2022 TIME: 6:00:26 PM USER: David.Fell
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SHEET RESERVED FOR FUTURE USE

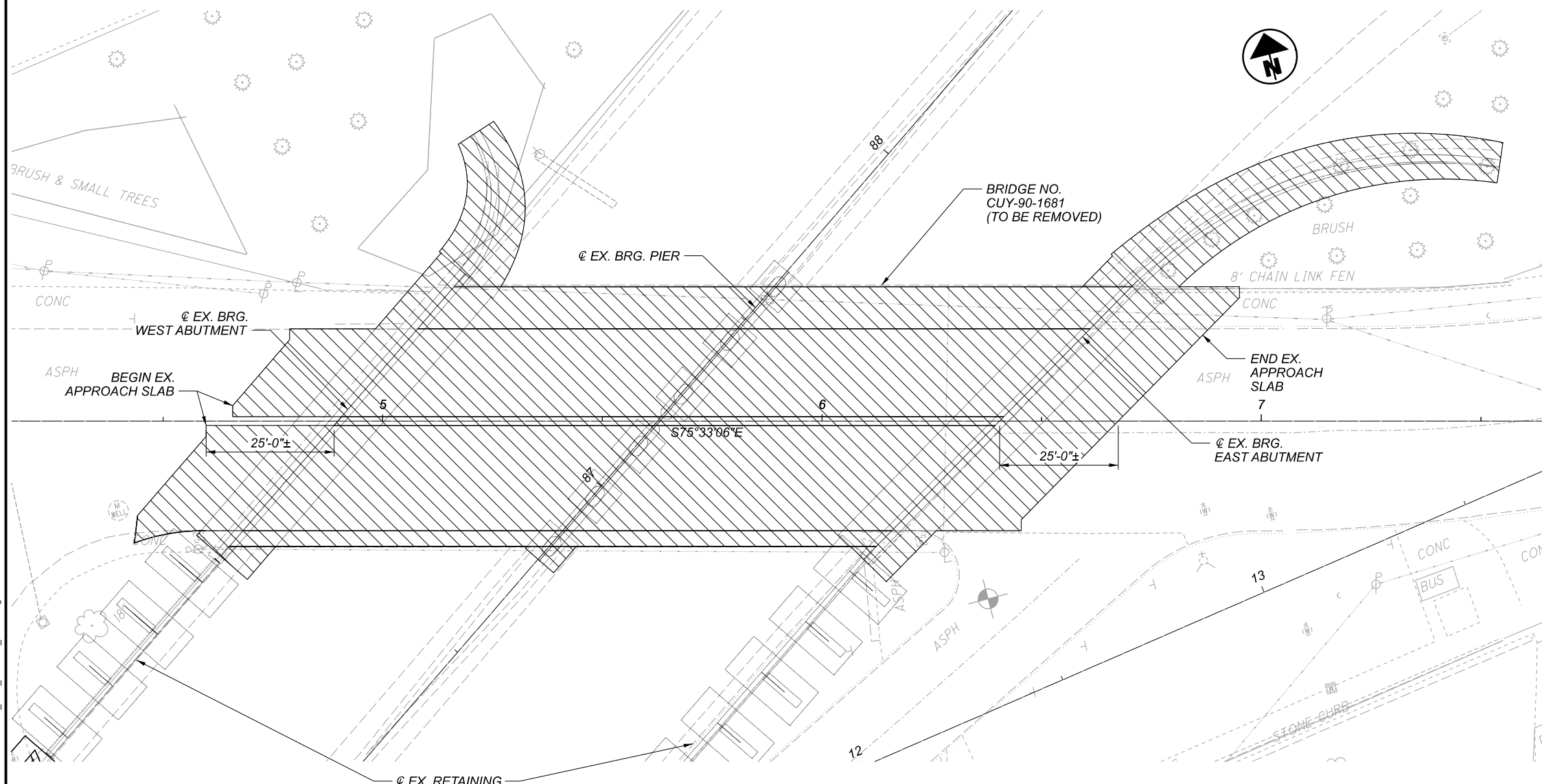
SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
—	—
REVIEWER	
—	
PROJECT ID	82382
SUBSET	TOTAL
8	63
SHEET	TOTAL
1899	2338

TEMPORARY SHORING DETAILS (1 OF 2)
CUY-90-1680 (BRIDGE 16)
CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SHEET RESERVED FOR FUTURE USE

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
—	—
REVIEWER	
—	
PROJECT ID	82382
SUBSET	TOTAL
9	63
SHEET	TOTAL
1900	2338

TEMPORARY SHORING DETAILS (2 OF 2)
CUY-90-1680 (BRIDGE 16)
CR-23 (CEDAR AVE.) OVER I.R. 90 EB



REMOVAL PLAN

STRUCTURE GENERAL NOTES:

MAINTENANCE OF TRAFFIC:
 SEE THE ROADWAY PLANS FOR MAINTENANCE OF TRAFFIC REQUIREMENTS.

EXISTING STRUCTURE VERIFICATION:
 DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FIELD MEASUREMENTS. THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTION 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURES. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING STRUCTURE PLANS:
 CONSTRUCTION PLANS FOR EXISTING STRUCTURES ARE ON FILE AT THE DEPARTMENT OF TRANSPORTATION DISTRICT 12 OFFICE, 5500 E. 98TH ST., GARFIELD HEIGHTS, OHIO AND ARE AVAILABLE FOR REFERENCE.

SEQUENCE OF CONSTRUCTION:
 SEE MOT NOTES IN ROADWAY PLANS.

PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:
 THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. LIMITS OF REMOVAL SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ITEMS TO BE REMOVED INCLUDE THE SUBSTRUCTURE FOUNDATION PILES THAT INTERFERE WITH NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. SUBMIT WORKING DRAWINGS AND CALCULATIONS IN ACCORDANCE WITH CMS 501.55.

ALL CONCRETE, REINFORCING STEEL, ASPHALT, ETC. REMOVED FROM THE STRUCTURE AND NOT REUSED SHALL, UNLESS OTHERWISE SPECIFIED, BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM/HER FROM THE SITE. THE MATERIALS SHALL NOT BE PERMITTED TO REMAIN ON SITE, WITHIN THE RIGHT-OF-WAY OR ELSEWHERE UNLESS SPECIFIED BY THE ENGINEER.

THE USE OF EXPLOSIVES AND HEADACHE BALLS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED.

A LUMP SUM QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

EXISTING STRUCTURE

TYPE: CONTINUOUS BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE	
SPANS: 73.37± AND VARIABLE (74.18' TO 80.57') C/C BEARINGS ALONG @ CONSTRUCTION	
ROADWAY: 46'-0"±, F/F OF CURBS WITH 8'-0" WALK ON NORTH AND 2'-0" SAFETY CURB ON SOUTH	
LOADING: CF 2000 (51)	
SKEW: 40°51'00" & 44°30'00"	
WEARING SURFACE: MONOLITHIC CONCRETE	
APPROACH SLABS: AS-1-54 (25'± LONG)	
ALIGNMENT: TANGENT	
CROWN: 0.0156±	
STRUCTURE FILE NUMBER: 1807XXX	
DATE BUILT: 1958	
DISPOSITION: TO BE REMOVED	

REMOVAL DETAILS (1 OF 2)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

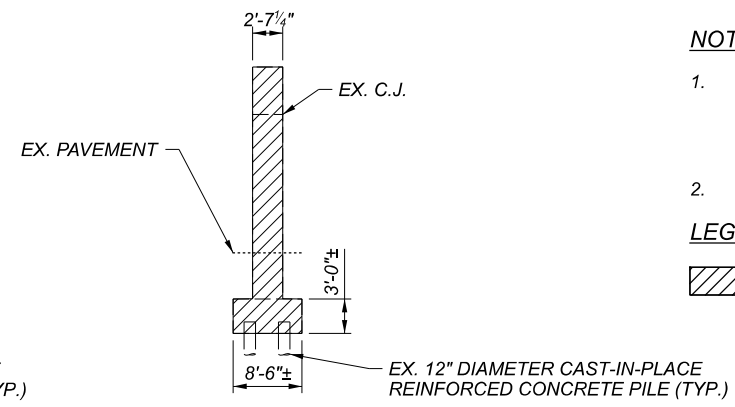
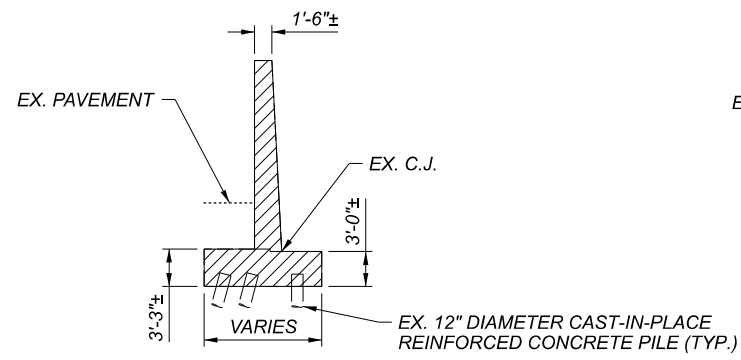
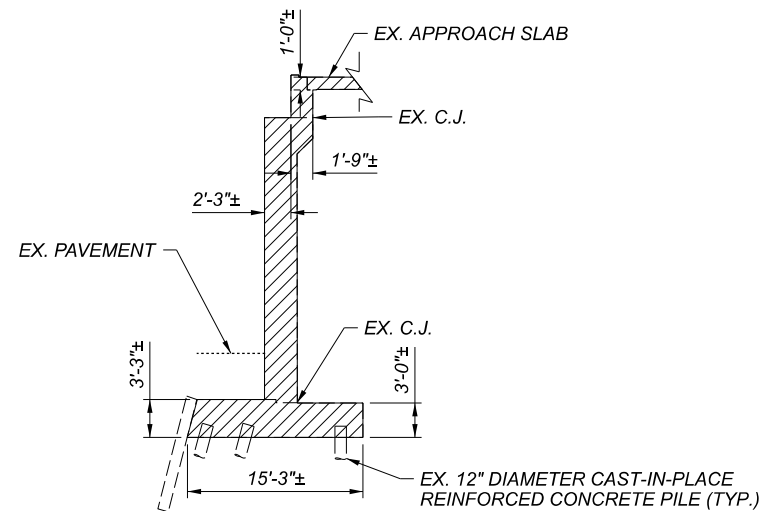
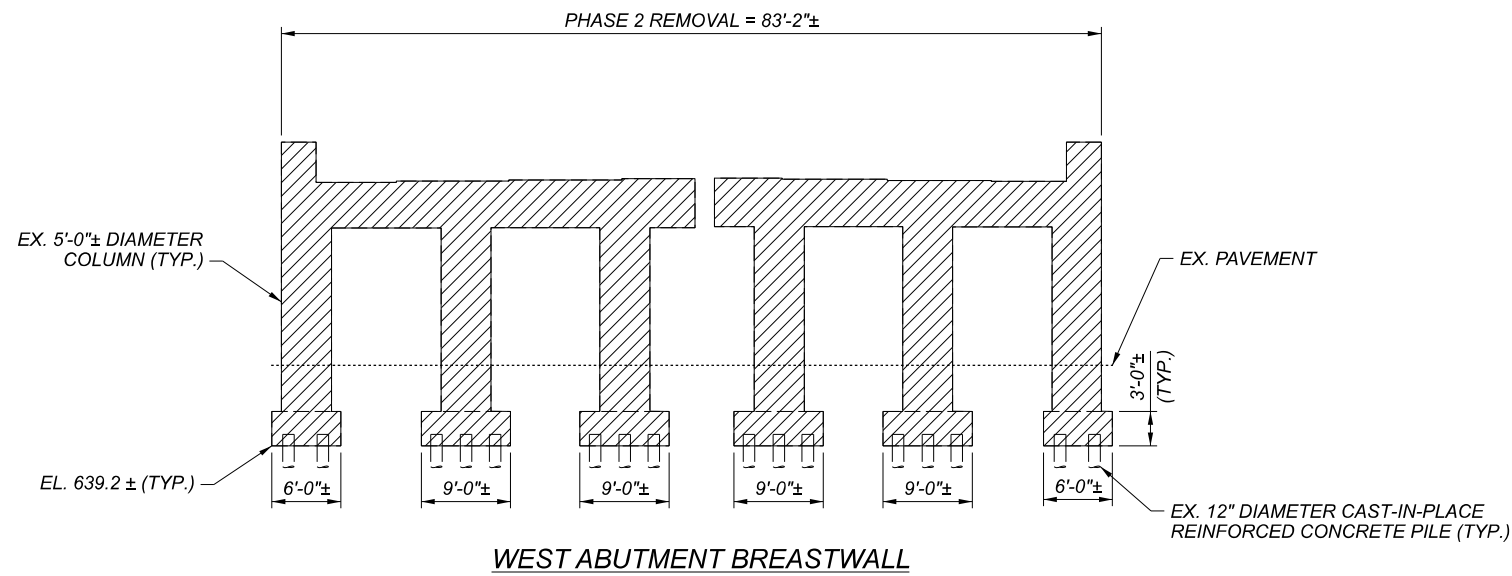
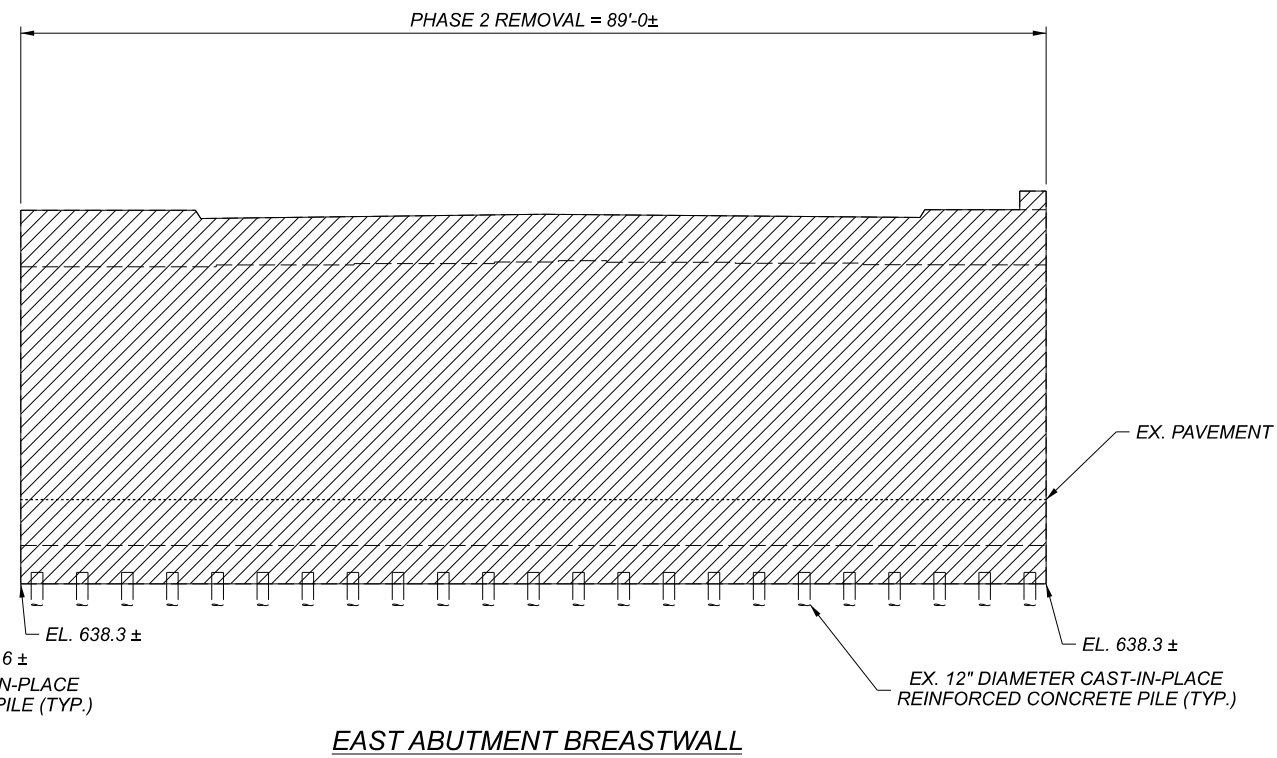
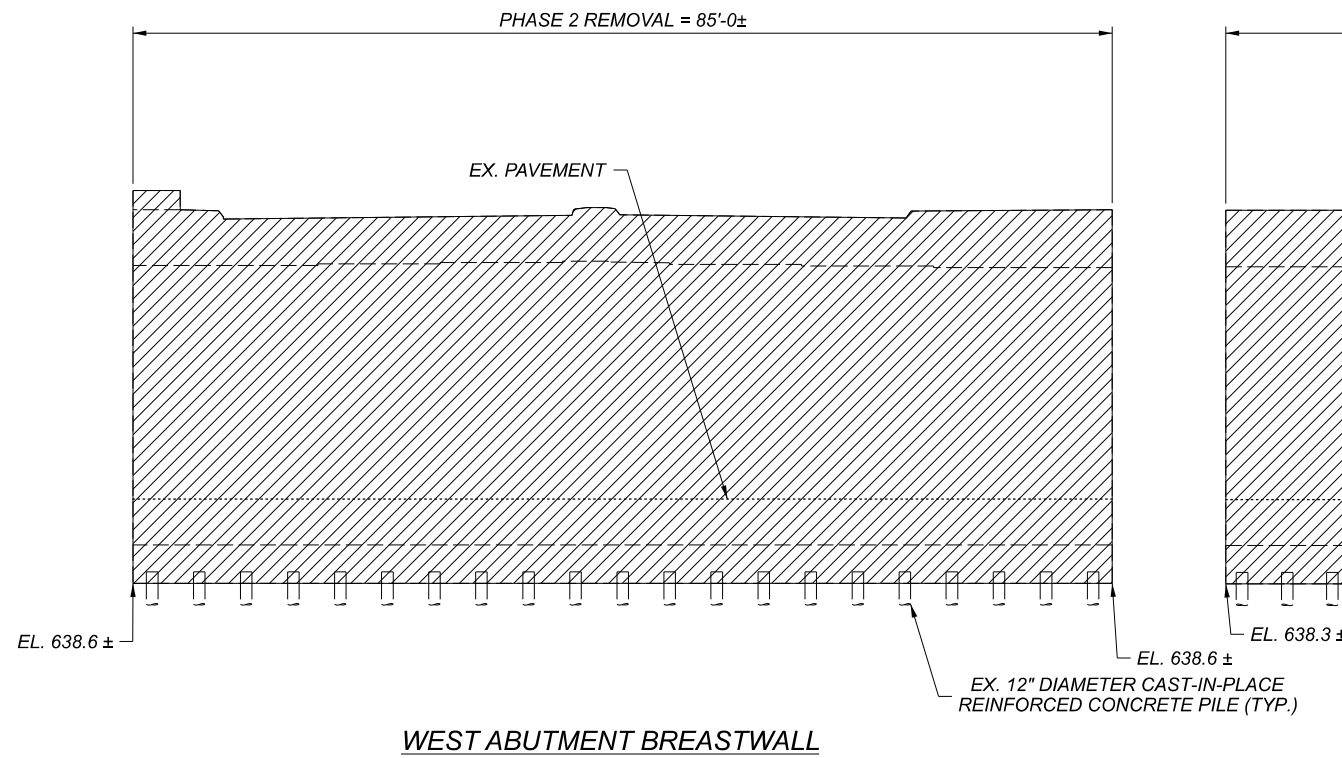
LEGEND:

= REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN AS PER PLAN

NOTES:

- SEE SHEET 11/63 FOR ABUTMENT AND PIER REMOVAL DETAILS.
- EXISTING CEDAR AVENUE BRIDGE TO BE REMOVED IN MOT PHASE 2.

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
CEM	MDM
REVIEWER	
LPC	07-27-22
PROJECT ID	82383
SUBSET	TOTAL
10	63
SHEET	TOTAL
1901	2338



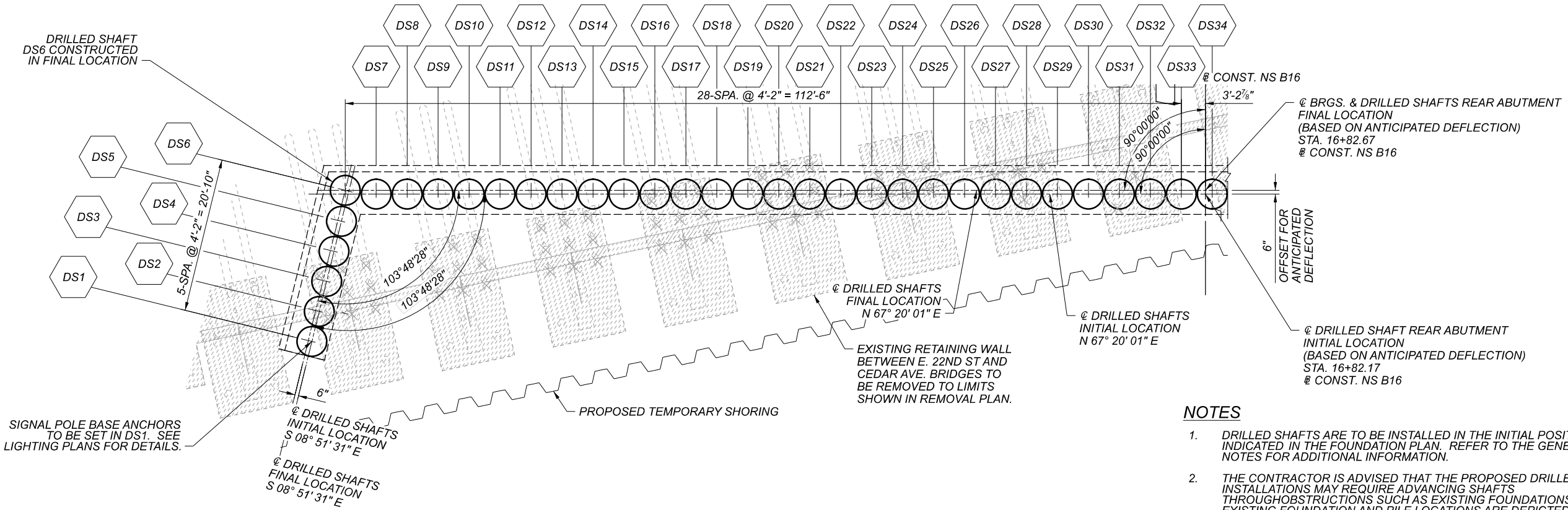
NOTES:

- REFER TO EXISTING PLANS FOR ADDITIONAL DETAILS AND DIMENSIONS. SEE GENERAL NOTES.
- REFER TO SHEET 10 / 63 FOR ADDITIONAL NOTES.

LEGEND:

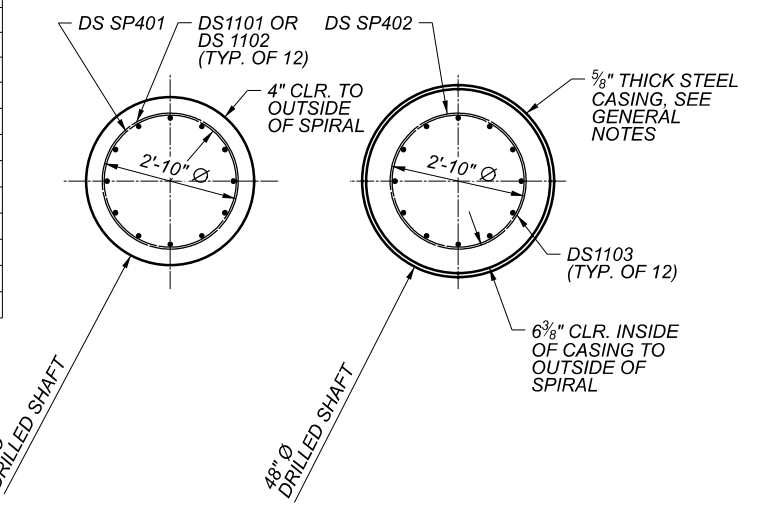
= REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN AS PER PLAN

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
CEM	MDM
REVIEWER	
LPC	07-27-22
PROJECT ID	82382
SUBSET	TOTAL
11	63
SHEET	TOTAL
1902	2338



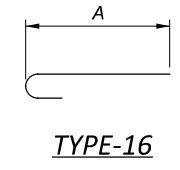
- ### NOTES
- DRILLED SHAFTS ARE TO BE INSTALLED IN THE INITIAL POSITION INDICATED IN THE FOUNDATION PLAN. REFER TO THE GENERAL NOTES FOR ADDITIONAL INFORMATION.
 - THE CONTRACTOR IS ADVISED THAT THE PROPOSED DRILLED SHAFT INSTALLATIONS MAY REQUIRE ADVANCING SHAFTS THROUGH OBSTRUCTIONS SUCH AS EXISTING FOUNDATIONS AND PILES. EXISTING FOUNDATION AND PILE LOCATIONS ARE DEPICTED IN ACCORDANCE WITH AVAILABLE EXISTING PLAN INFORMATION.
 - DRILLED SHAFTS IN CONFLICT WITH EXISTING PILES ARE AS FOLLOWS:
 DS-1 THROUGH DS-6
 DS-7 THROUGH DS-39
 - PAYMENT FOR DRILLED SHAFTS INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SHALL BE MADE UNDER ITEM 524-DRILLED SHAFTS, 42" DIAMETER, AS PER PLAN AND ITEM 524-DRILLED SHAFTS, 48" DIAMETER, AS PER PLAN. REFER TO GENERAL NOTES.
 - PAYMENT FOR DRILLED SHAFTS ADVANCED THROUGH OBSTRUCTIONS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SHALL BE MADE UNDER ITEM 524-DRILLED SHAFTS, 48" DIAMETER THROUGH OBSTRUCTIONS, AS PER PLAN. REFER TO GENERAL NOTES.
 - DRILLED SHAFTS DS-1 THROUGH DS-3 TO BE INSTALLED IN MOT PHASE 2. DRILLED SHAFTS DS-4 THROUGH DS-41 TO BE INSTALLED IN MOT PHASE 10. DRILLED SHAFTS DS-42 THROUGH DS-63 TO BE INSTALLED IN MOT PHASE 2.
 - SEE SHEET 13 / 63 FOR DRILLED SHAFT ELEVATION VIEW.

- ### LEGEND
- ✕ INDICATES EXISTING PILE IN CONFLICT WITH PROPOSED DRILLED SHAFT. SEE NOTES.
 - DS1 INDICATES PROPOSED DRILLED SHAFT NUMBER.

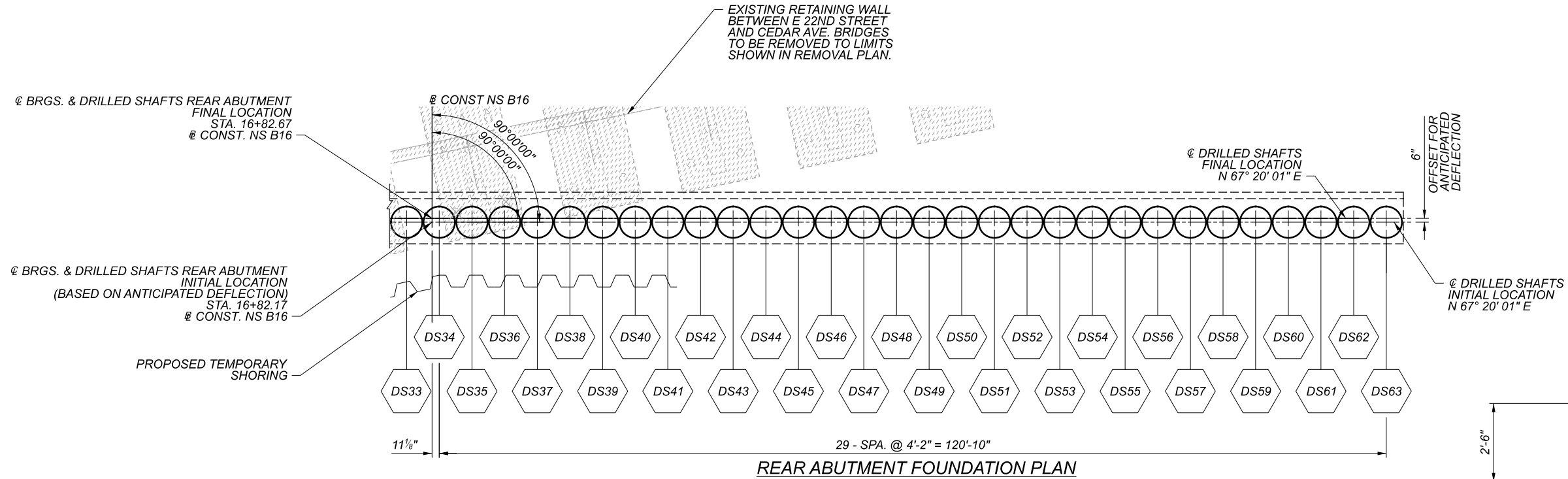


DESIGNATION	INITIAL NORTHING	INITIAL EASTING	DIAMETER (IN.)	TOP ELEV.	TIP ELEV.	TOTAL LENGTH (FT.)	D.S. BAR MARK	NO. OF D.S. LONG. BARS	SPIRAL MARK	CASING LENGTH (FT.)	CASING THICKNESS (IN.)	DEFLECTED NORTHING	DEFLECTED EASTING
DS01			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS02			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS03			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS04			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS05			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS06			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS07			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS08			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS09			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS10			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS11			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS12			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS13			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS14			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS15			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS16			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS17			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS18			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS19			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS20			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS21			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS22			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS23			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS24			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS25			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS26			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS27			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS28			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS29			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS30			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS31			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS32			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS33			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS34			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		

BAR MARK	LENGTH	TYPE
DS1101		STR.
DS1102		STR.
DS1103		16



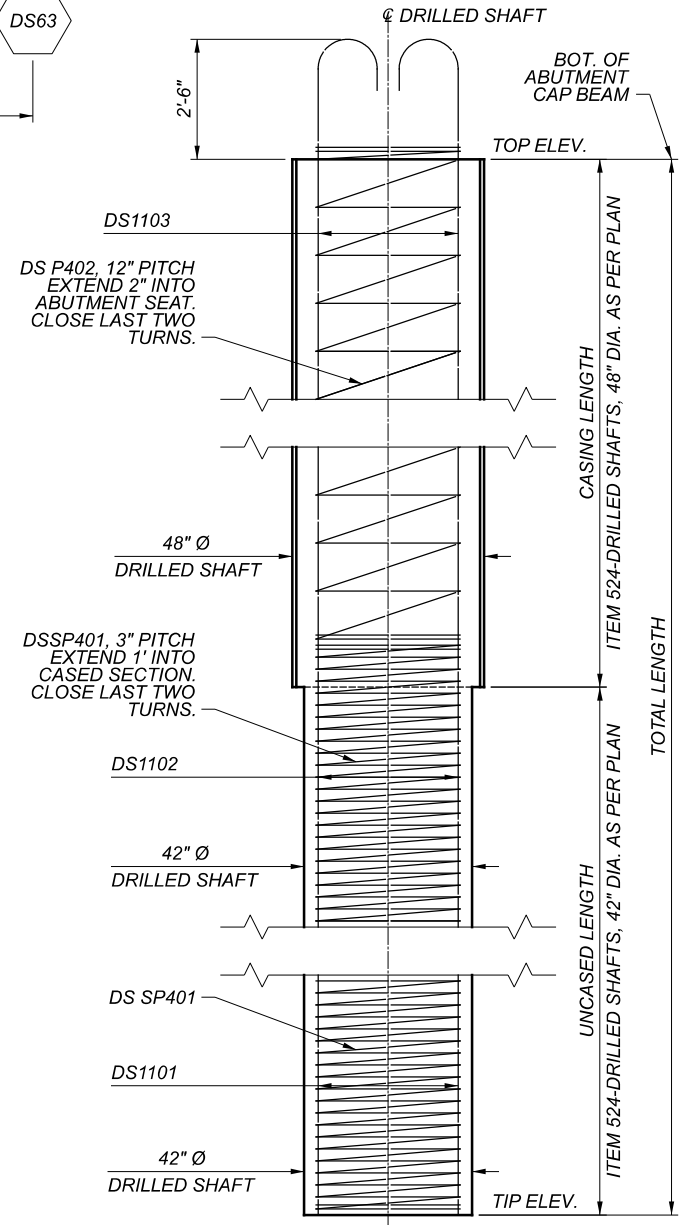
SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	LPC GZ
REVIEWER	CDC 07-25-22
PROJECT ID	82382
SUBSET	12 63
SHEET	1903 2338



REAR ABUTMENT FOUNDATION PLAN

DRILLED SHAFT SCHEDULE (2 OF 2)

DESIGNATION	INITIAL NORTHING	INITIAL EASTING	DIAMETER (IN.)	TOP ELEV.	TIP ELEV.	TOTAL LENGTH (FT.)	D.S. BAR MARK	NO. OF D.S. LONG. BARS	SPIRAL MARK	CASING LENGTH (FT.)	CASING THICKNESS (IN.)	DEFLECTED NORTHING	DEFLECTED EASTING
DS35			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS36			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS37			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS38			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS39			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS40			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS41			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS42			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS43			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS44			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS45			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS46			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS47			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS48			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS49			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS50			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS51			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS52			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS53			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS54			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS55			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS56			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS57			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS58			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS59			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS60			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS61			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		
DS62			48	661.00	548.00	113.0	DS1101, DS1102 & DS1103	3-S.O. 12	DSSP401 OR DSSP402	80.0	0.625"		



DRILLED SHAFT ELEVATION

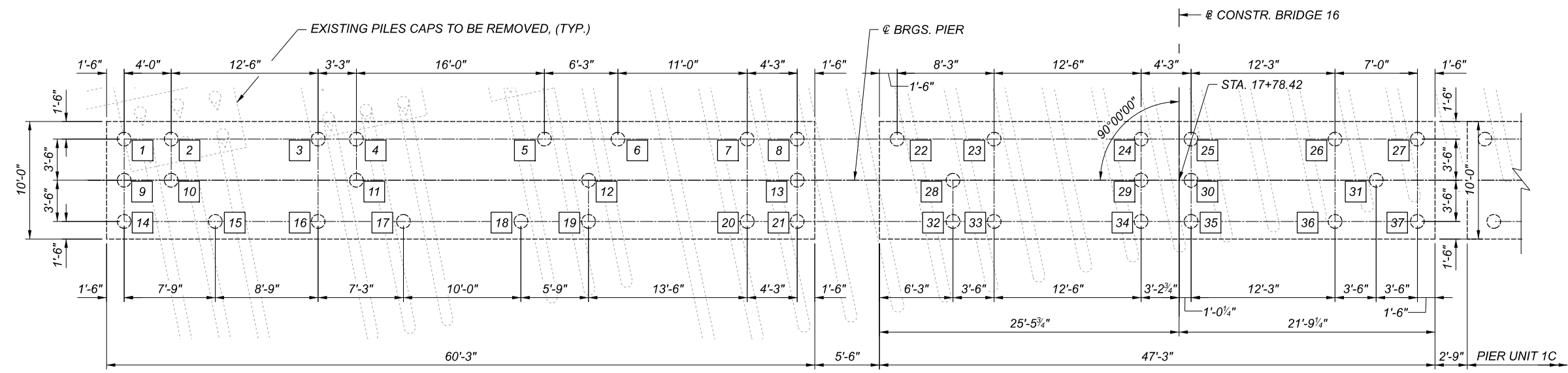
LEGEND

- ⊗ INDICATES EXISTING PILE IN CONFLICT WITH PROPOSED DRILLED SHAFT. SEE NOTES.
- DSXX INDICATES PROPOSED DRILLED SHAFT NUMBER.

NOTES

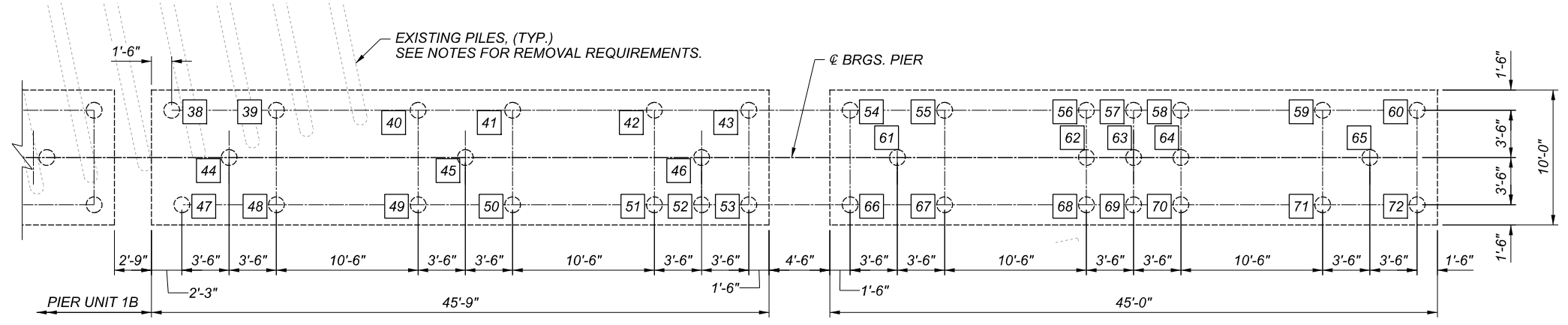
1. SEE SHEET 12 / 63 FOR DRILLED SHAFT SECTION VIEWS.
2. SEE SHEET 12 / 63 FOR ADDITIONAL NOTES.

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	LPC GZ
REVIEWER	CDC 07-25-22
PROJECT ID	82382
SUBSET	13 63
SHEET	1904 2338



PIER 1A PLAN

PIER 1B PLAN



PIER 1C PLAN

PIER 1D PLAN

PILE SCHEDULE			
SUBSTRUCTURE UNIT	PILE DIAMETER	ORDER LENGTH	CUTOFF ELEVATION
PIER 1A PILES 1 THRU 21	14"	110.00	638.00
PIER 1B PILES 22-37	14"	110.00	637.00
PIER 1C PILES 38-53	14"	90.00	636.00
PIER 1D PILES 54-72	14"	90.00	635.50

NOTES

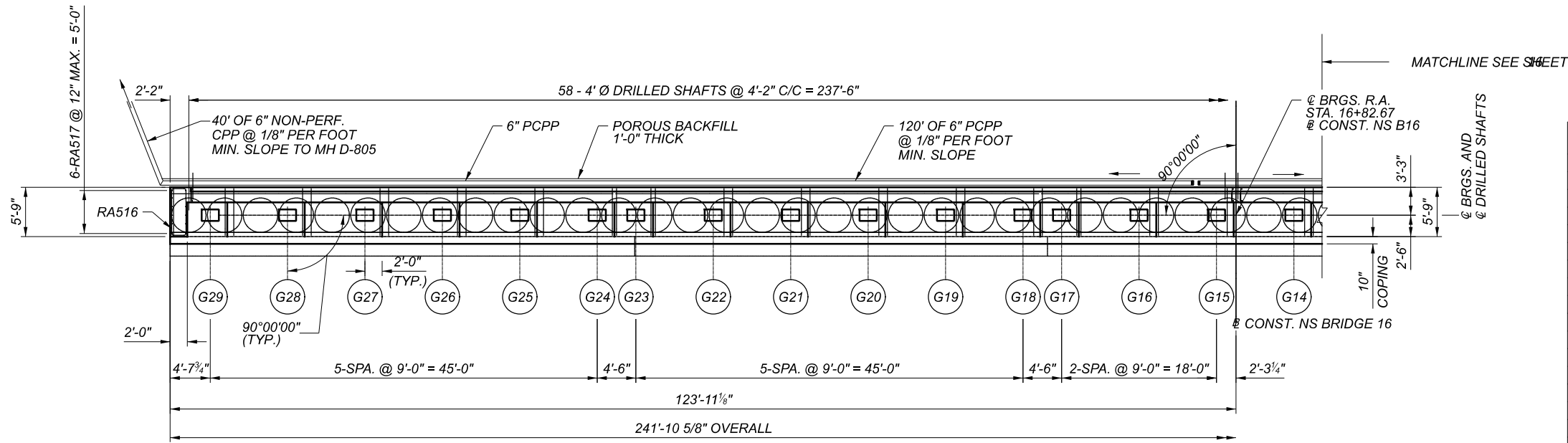
- SEE GENERAL PLAN SHEET 2 FOR COMPLETE LAYOUT.
- SEE PIER PLAN AND ELEVATION SHEETS 19 THRU 22 FOR ADDITIONAL INFORMATION.
- THE PROPOSED PILE ARRANGEMENT WAS DEVELOPED WITH THE INTENTION TO ELIMINATE CONFLICTS BETWEEN THE PROPOSED AND EXISTING PILES.
- EXISTING PILE LOCATIONS ARE DEPICTED IN ACCORDANCE WITH AVAILABLE EXISTING PLAN INFORMATION. CONTRACTOR TO VERIFY LOCATION OF EXISTING PILES FOLLOWING REMOVAL OF EXISTING PILE CAP. NO PILES SHALL BE DRIVEN UNTIL CLEARANCE BETWEEN EXISTING AND PROPOSED PILES IS VERIFIED. THE CONTRACTOR SHALL NOTIFY THE STATE/ENGINEER OF ANY CONFLICTS AND PROVIDE FIELD SKETCHES OF THE CONFLICT SO THE PROPOSED PILE ARRANGEMENT AND PILE CAP REINFORCING MAY BE ADJUSTED AS NECESSARY TO MITIGATE CONFLICTS.
- REMOVE EXISTING PILES UNDER PROPOSED PILE CAP LIMITS TO DREDGE LINE ELEVATION FOR PROPOSED PILE CAP.
- REMOVE EXISTING PILES OUTSIDE OF PROPOSED PILE CAP LIMITS TO 1' BELOW PROPOSED SUBGRADE ELEVATION.

LEGEND

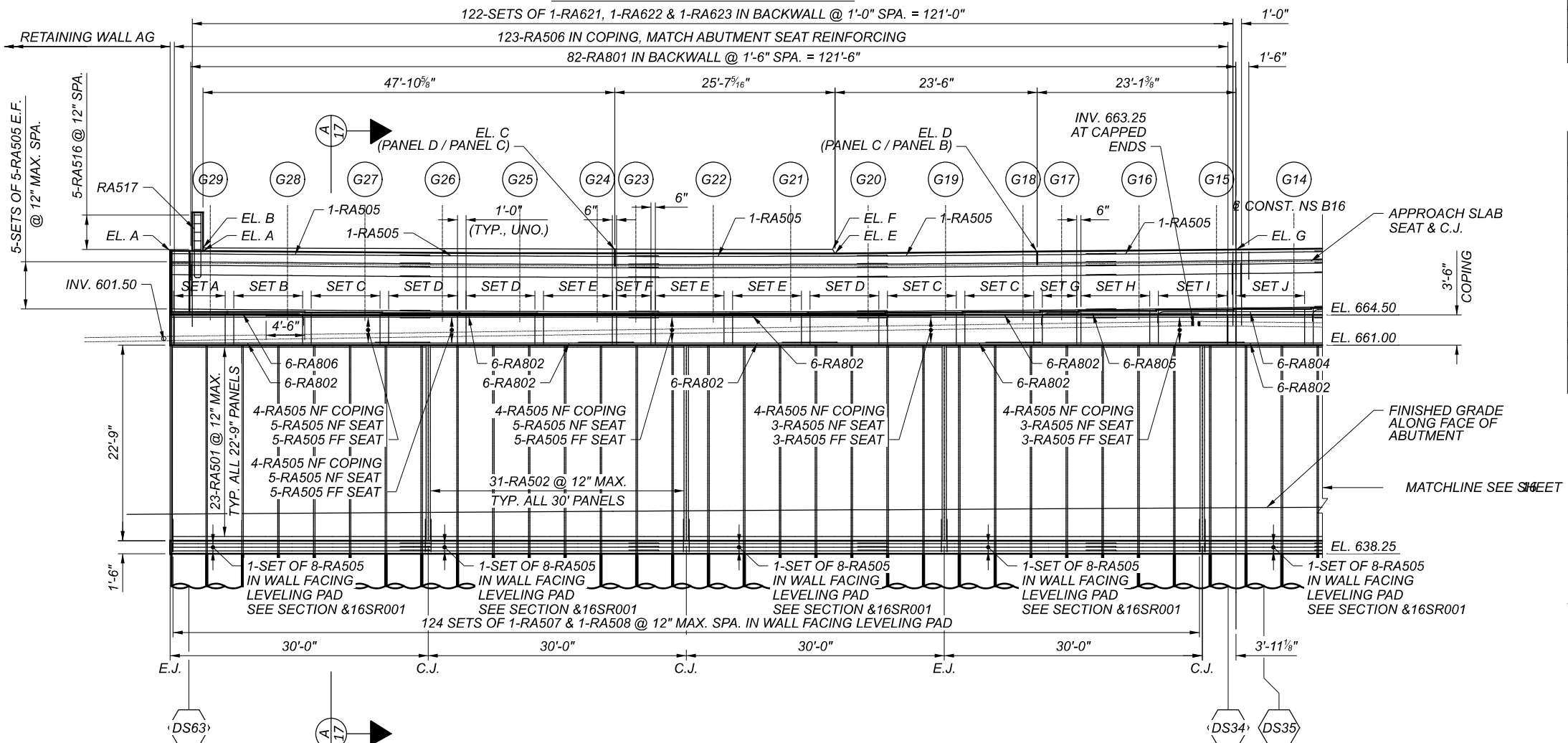
INDICATES PROPOSED PILE NUMBER

PIER FOUNDATION PLAN
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	ABP/TJN
REVIEWER	JRS 06-04-22
PROJECT ID	82382
SUBSET	14
TOTAL	63
SHEET	1905
TOTAL	2338



REAR ABUTMENT PARTIAL PLAN



REAR ABUTMENT PARTIAL ELEVATION

ABUTMENT BACKWALL ELEVATIONS (FT.)	
LOCATION	ELEVATION
A	670.40
B	670.83
C	670.62
D	670.34
E	670.17
F	670.66
G	670.59
G29	665.07
G28	670.33
G27	670.26
G26	670.20
G25	670.16
G24	670.13
G23	670.12
G22	670.13
G21	670.14
G20	670.18
G19	670.24
G18	670.31
G17	670.36
G16	670.46
G15	670.56

ABUTMENT BEAM SEAT ELEVATIONS (FT.)	
LOCATION	ELEVATION
G29	665.07
G28	665.03
G27	664.96
G26	664.90
G25	664.86
G24	664.83
G23	664.82
G22	664.83
G21	664.84
G20	664.88
G19	664.94
G18	665.01
G17	665.06
G16	665.16
G15	665.26

ABUTMENT SEAT REINFORCING	
SET	BAR
A	7-RA601
B	9-RA601
C	9-RA602
D	9-RA603
E	9-RA604
F	5-RA604
G	5-RA601
H	9-RA605
I	9-RA606
J	9-RA607

ALL BARS IN SETS SPA. @ 1'-0" C/C

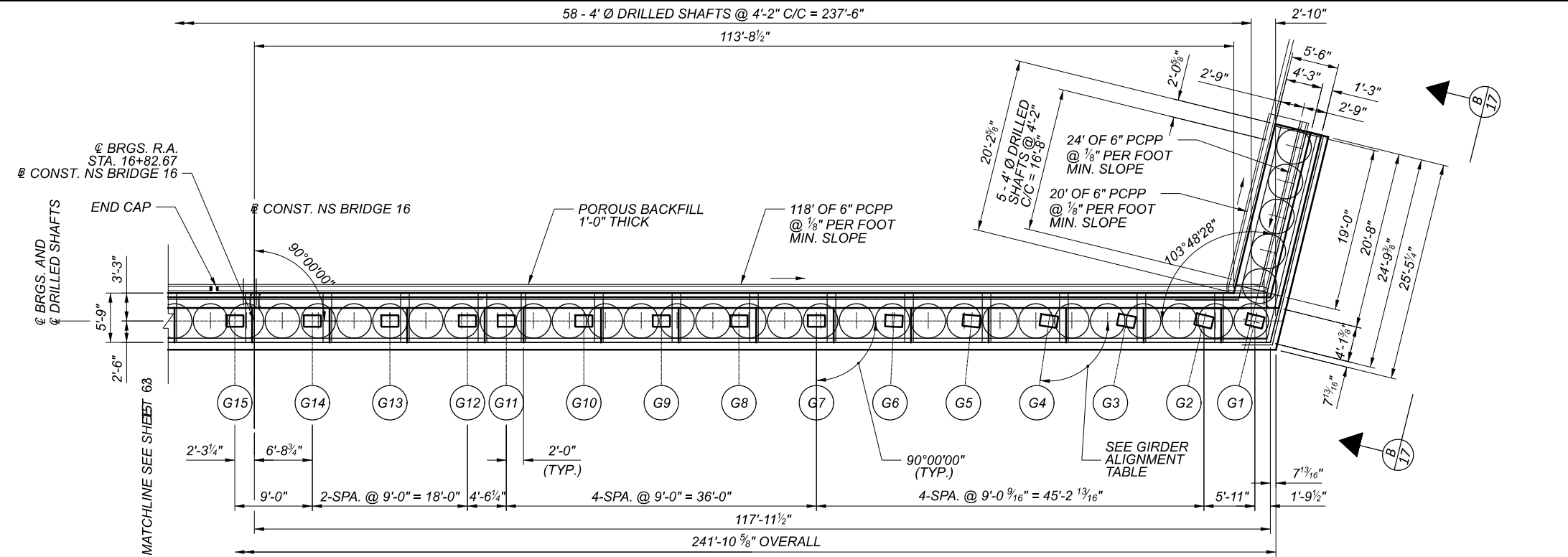
REQUIRED MINIMUM LAP LENGTHS	
#	LENGTH
#5 TOP	3'-5"
#6	3'-0"
#8 TOP	7'-3"
#8 BOT.	6'-4"

NOTES

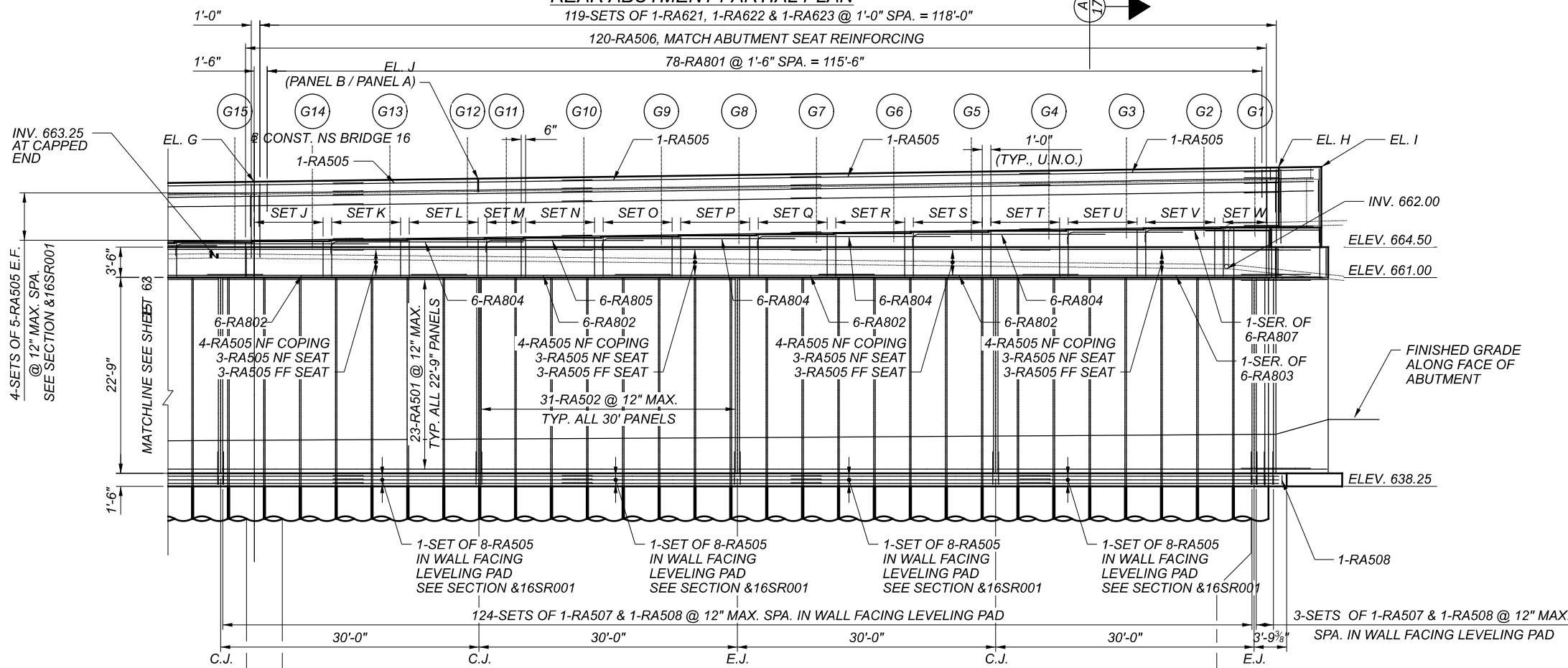
- BRIDGE SEAT REINFORCING, SETTING ANCHORS**
 ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE SETTING OF BEARING ANCHORS.
- SEE FOUNDATION PLAN FOR DRILLED SHAFT LAYOUT AND REINFORCING.

REAR ABUTMENT PLAN & ELEVATION (1 OF 2)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
DESIGNER/CHECKER	LPC GZ
REVIEWER	CDC 07-25-22
PROJECT ID	82382
SUBSET	15
TOTAL	63
SHEET	1906
TOTAL	2338



REAR ABUTMENT PARTIAL PLAN



REAR ABUTMENT PARTIAL ELEVATION

ABUTMENT BACKWALL ELEVATIONS (FT.)	
LOCATION	ELEVATION
G	670.59
H	672.30
I	TBD
J	670.94
G15	670.56
G14	670.67
G13	670.79
G12	670.90
G11	670.97
G10	671.09
G9	671.22
G8	671.35
G7	671.48
G6	671.61
G5	671.75
G4	671.88
G3	672.02
G2	672.16
G1	672.25

ABUTMENT BEAM SEAT ELEVATIONS (FT.)	
LOCATION	ELEVATION
G15	665.26
G14	665.37
G13	665.49
G12	665.60
G11	665.67
G10	665.79
G9	665.92
G8	666.05
G7	666.18
G6	666.31
G5	666.45
G4	666.58
G3	666.72
G2	666.86
G1	666.95

ABUTMENT SEAT REINFORCING	
SET	BAR
K	9-RA608
L	9-RA609
M	7-RA610
N	9-RA611
O	9-RA612
P	9-RA613
Q	9-RA614
R	9-RA615
S	9-RA616
T	9-RA617
U	9-RA618
V	9-RA619
W	6-RA620

ALL BARS IN SETS SPA. @ 1'-0" C/C

REQUIRED MINIMUM LAP LENGTHS	
#5 TOP	3'-5"
#6	3'-0"
#8 TOP	7'-3"
#8 BOT.	6'-4"

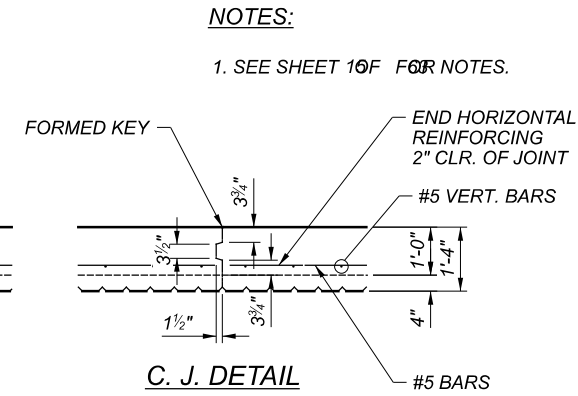
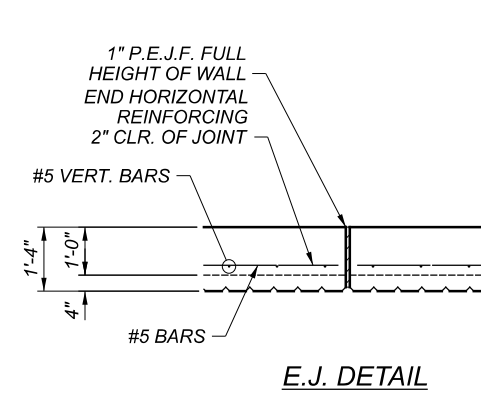
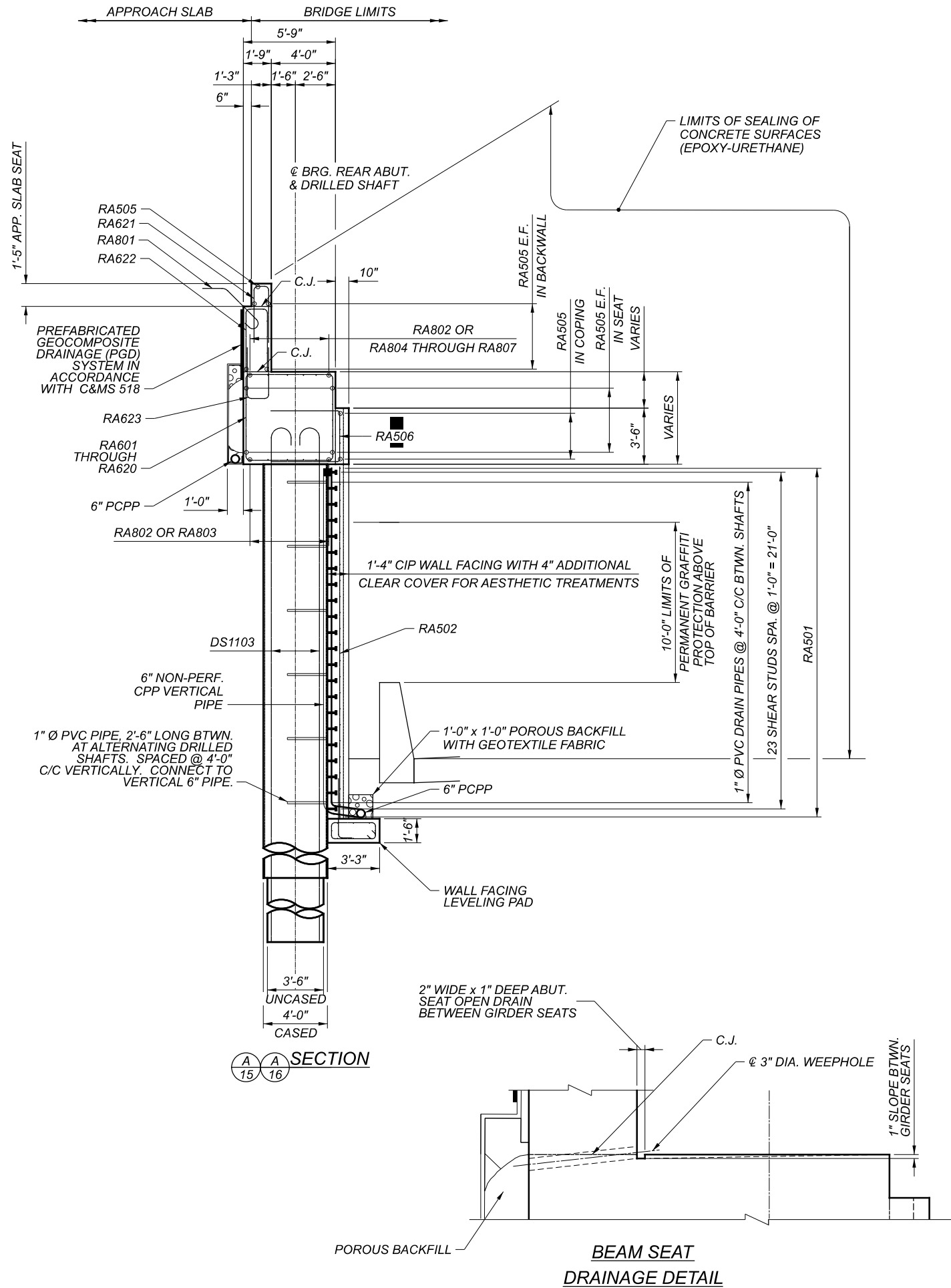
GIRDER ALIGNMENT ANGLES	
LOCATION	ANGLE
G6	87° 11' 32"
G5	84° 23' 22"
G4	81° 36' 49"
G3	78° 52' 36"
G2	76° 11' 32"
G1	76° 11' 32"

NOTES

- SEE SHEET 10F FOR ADDITIONAL NOTES.
- SEE FOUNDATION PLAN FOR DRILLED SHAFT LAYOUT.

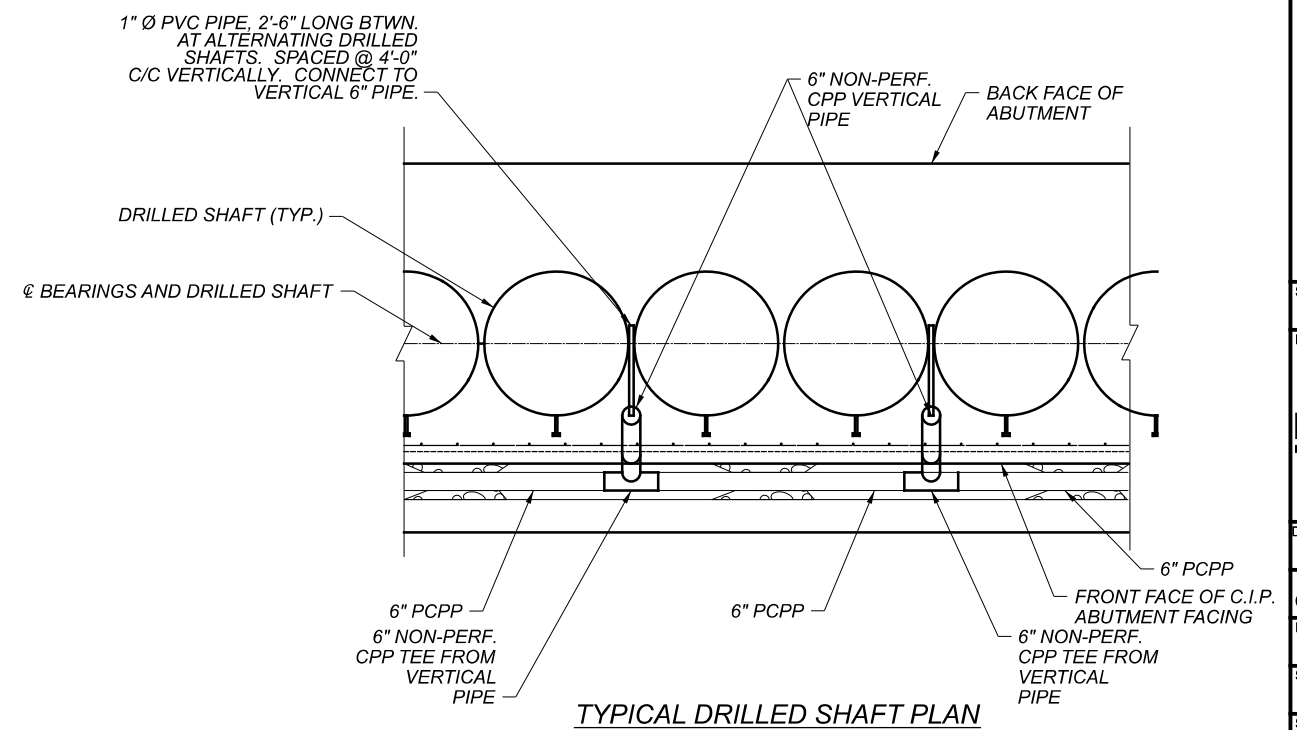
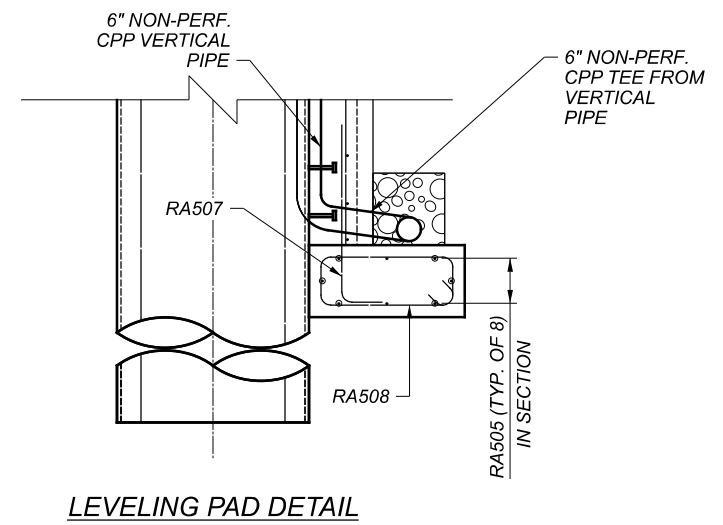
REAR ABUTMENT PLAN & ELEVATION (2 OF 2)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
DESIGNER/CHECKER	LPC / GZ
REVIEWER	
PROJECT ID	82382
SUBSET	16
TOTAL	63
SHEET	1907
TOTAL	2338



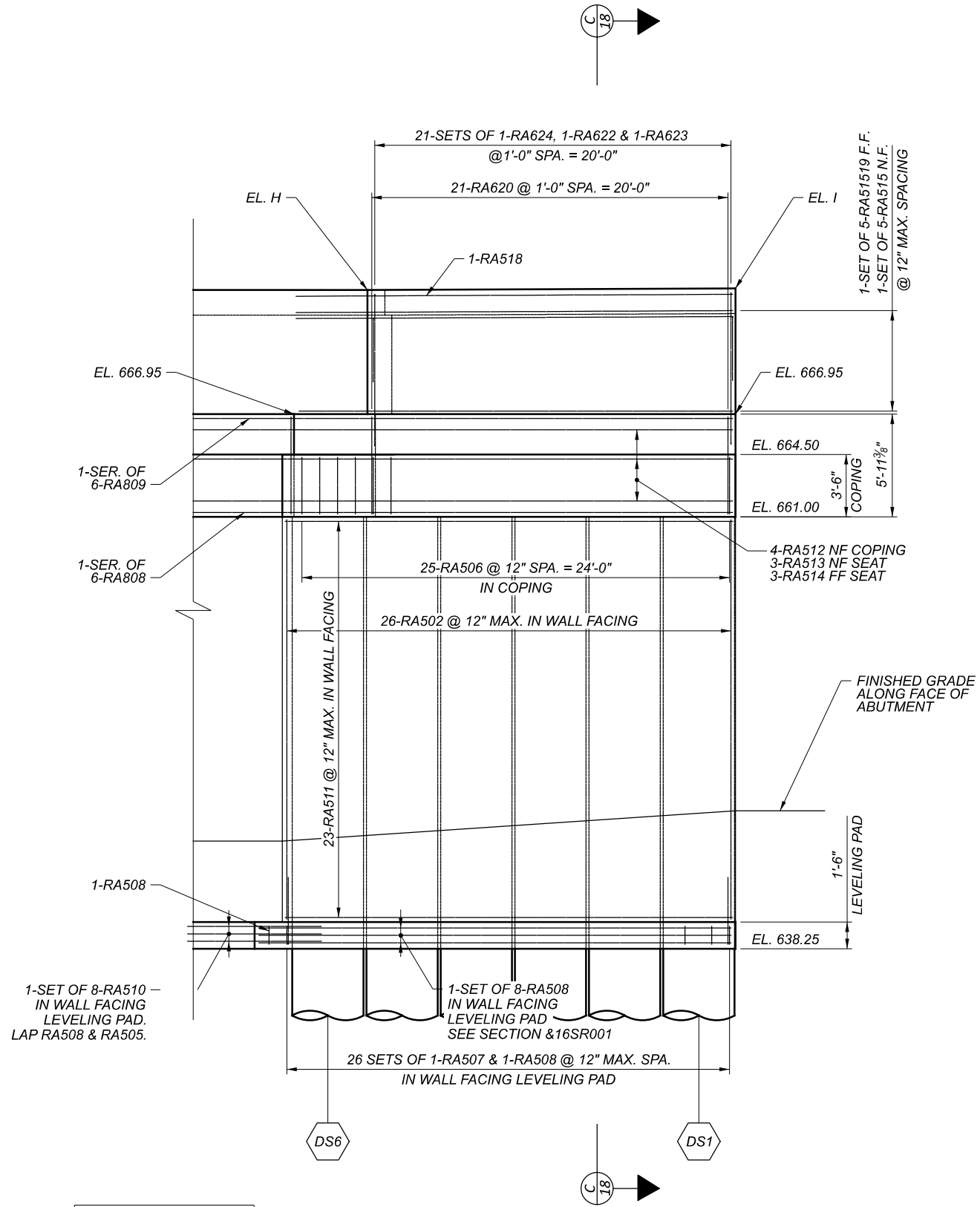
NOTES:

1. SEE SHEET 10F FOR NOTES.



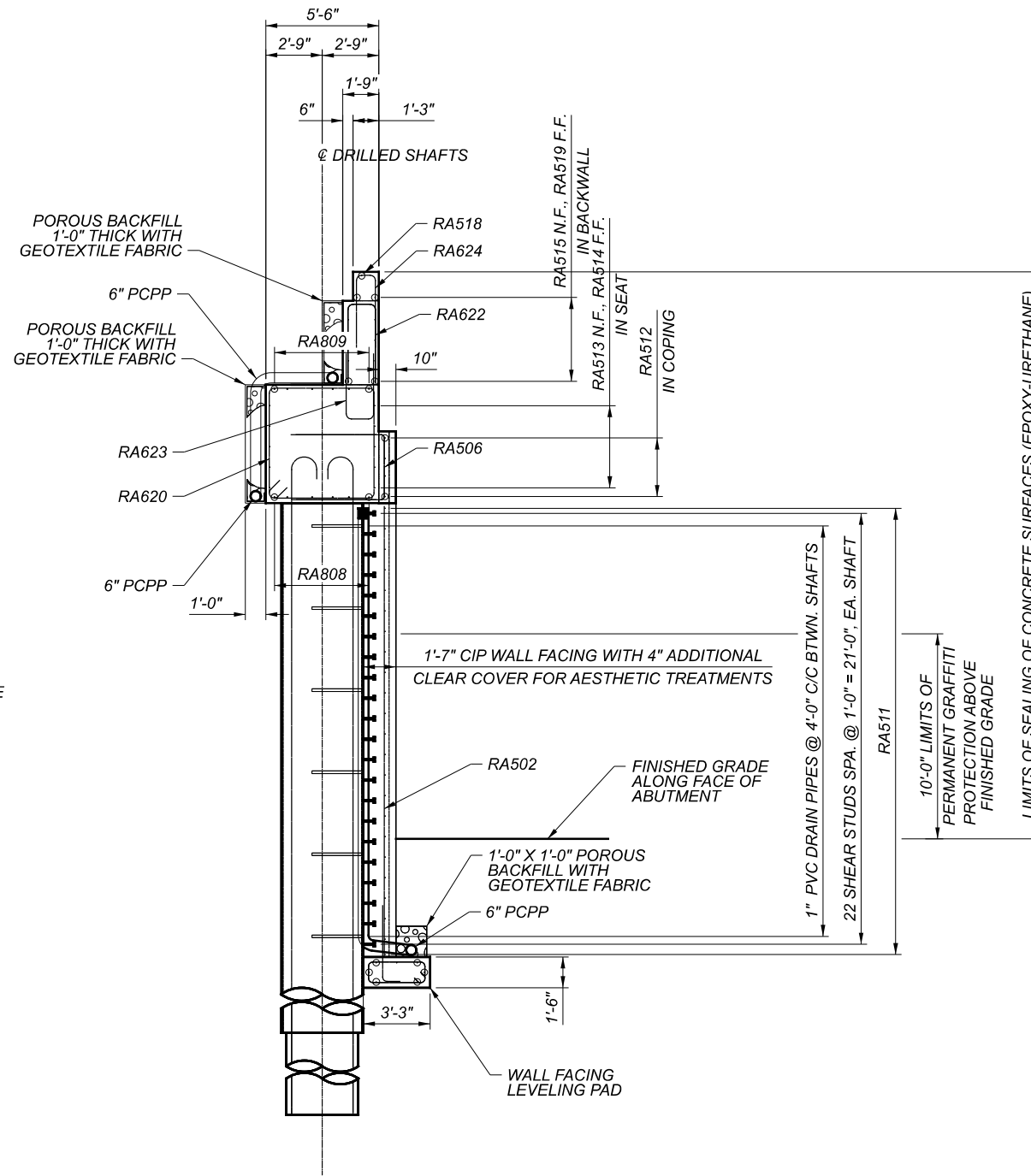
REAR ABUTMENT DETAILS (1 OF 2)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	LPC GZ
REVIEWER	CDC 07-25-22
PROJECT ID	82382
SUBSET	17 63
SHEET	1908 2338



ABUTMENT BACKWALL ELEVATIONS (FT.)	
LOCATION	ELEVATION
H	672.30
I	TBD

B WINGWALL ELEVATION

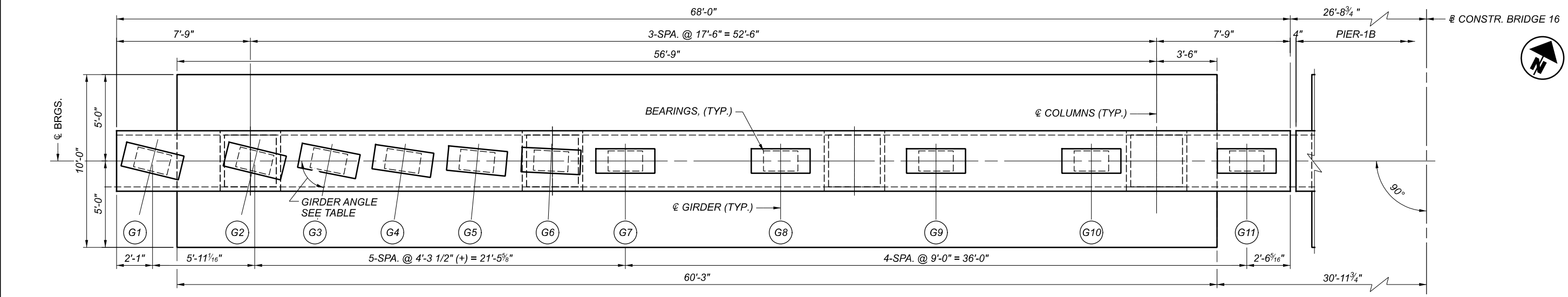


C WINGWALL SECTION

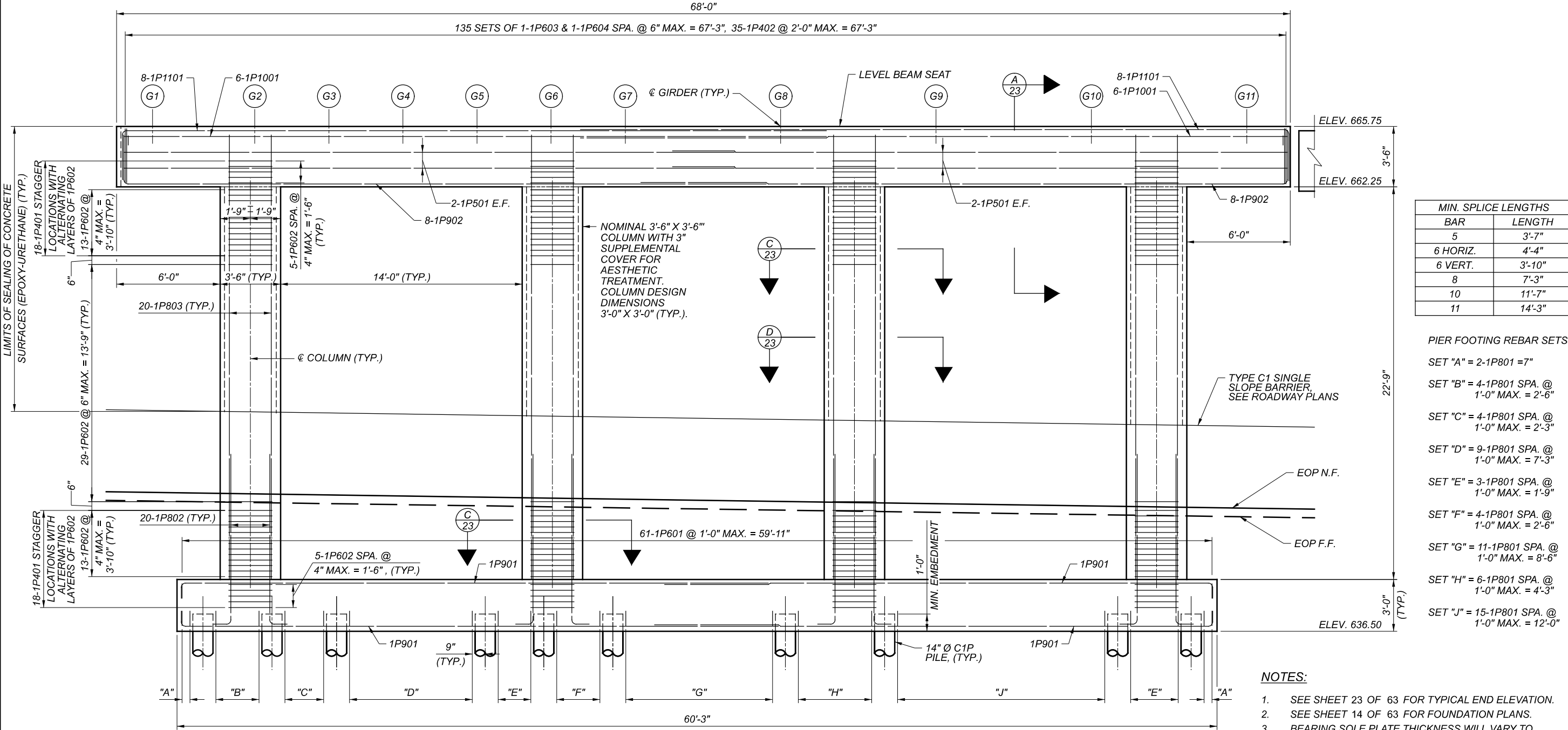
REQUIRED MINIMUM LAP LENGTHS	
#5 TOP	3'-5"
#6	3'-0"
#8 TOP	7'-3"
#8 BOT.	6'-4"

NOTES

- SEE SHEET 10F FOR ADDITIONAL NOTES.
- SEE FOUNDATION PLAN FOR DRILLED SHAFT LAYOUT AND REINFORCING.



PIER 1A PLAN



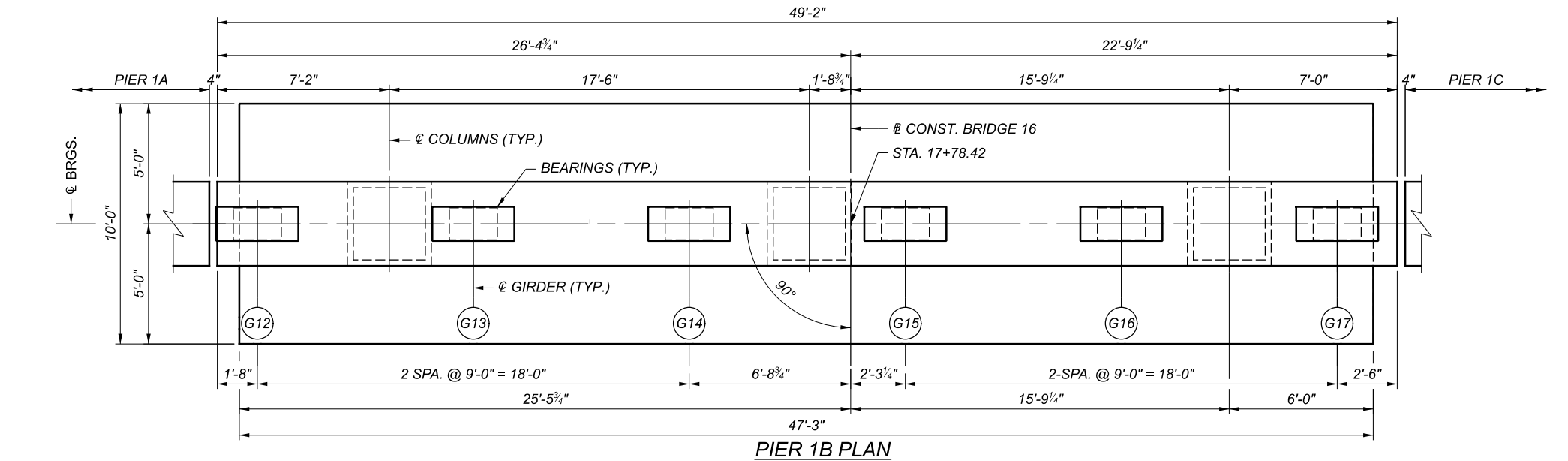
PIER 1A ELEVATION
LOOKING UPSTATION

MIN. SPLICE LENGTHS	
BAR	LENGTH
5	3'-7"
6 HORIZ.	4'-4"
6 VERT.	3'-10"
8	7'-3"
10	11'-7"
11	14'-3"

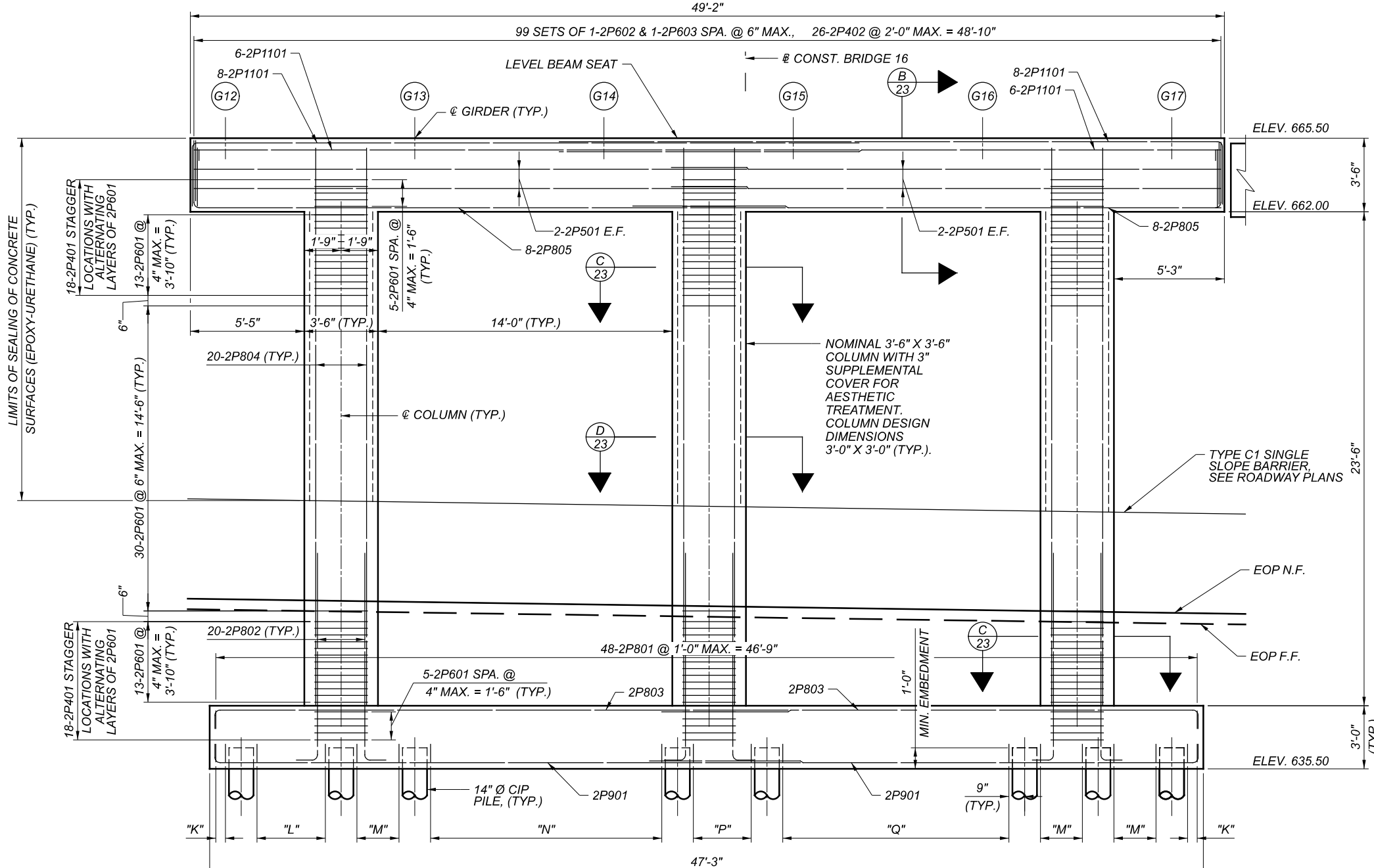
- PIER FOOTING REBAR SETS:
- SET "A" = 2-1P801 = 7"
 - SET "B" = 4-1P801 SPA. @ 1'-0" MAX. = 2'-6"
 - SET "C" = 4-1P801 SPA. @ 1'-0" MAX. = 2'-3"
 - SET "D" = 9-1P801 SPA. @ 1'-0" MAX. = 7'-3"
 - SET "E" = 3-1P801 SPA. @ 1'-0" MAX. = 1'-9"
 - SET "F" = 4-1P801 SPA. @ 1'-0" MAX. = 2'-6"
 - SET "G" = 11-1P801 SPA. @ 1'-0" MAX. = 8'-6"
 - SET "H" = 6-1P801 SPA. @ 1'-0" MAX. = 4'-3"
 - SET "J" = 15-1P801 SPA. @ 1'-0" MAX. = 12'-0"

- NOTES:
1. SEE SHEET 23 OF 63 FOR TYPICAL END ELEVATION.
 2. SEE SHEET 14 OF 63 FOR FOUNDATION PLANS.
 3. BEARING SOLE PLATE THICKNESS WILL VARY TO MEET BEAM SEAT ELEVATION.

SFN	1807841
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER/CHECKER	ABP TJN
REVIEWER	JRS 06-04-22
PROJECT ID	82382
SUBSET	19 TOTAL 63
SHEET	1910 TOTAL 2338



PIER 1B PLAN



PIER 1B ELEVATION
LOOKING UPSTATION

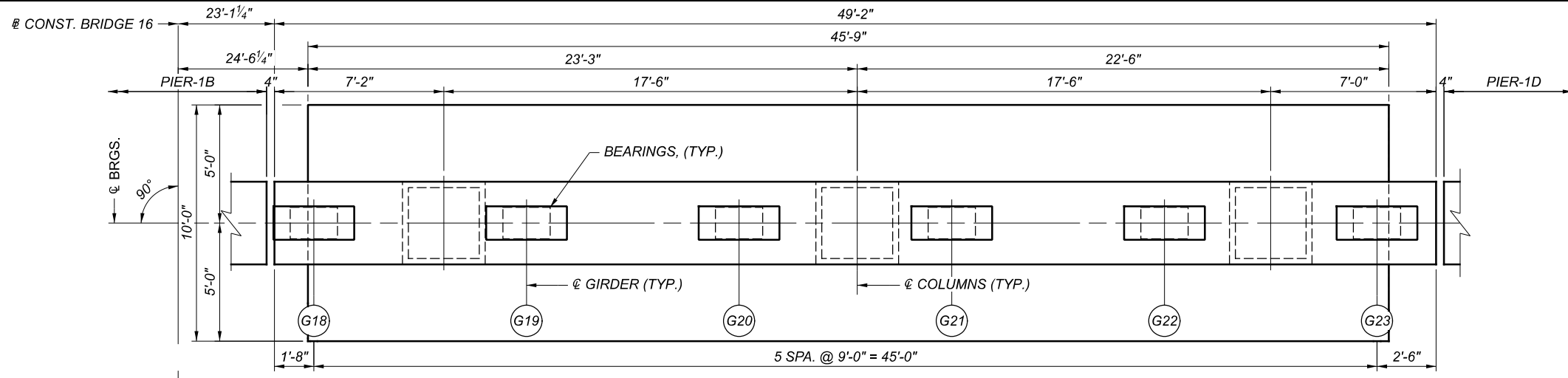
MIN. SPLICE LENGTHS	
BAR	LENGTH
5	3'-7"
6 HORIZ.	4'-4"
6 VERT.	3'-10"
8	7'-3"
10	11'-7"
11	14'-3"

- PIER FOOTING REBAR SETS:
- SET "K" = 2-2P801 = 7"
 - SET "L" = 5-2P801 SPA. @ 1'-0" MAX. = 3'-3"
 - SET "M" = 4-2P801 SPA. @ 1'-0" MAX. = 2'-0"
 - SET "N" = 13-2P801 SPA. @ 1'-0" MAX. = 11'-0"
 - SET "P" = 4-2P801 SPA. @ 1'-0" MAX. = 2'-9"
 - SET "Q" = 12-2P801 SPA. @ 1'-0" MAX. = 10'-9"

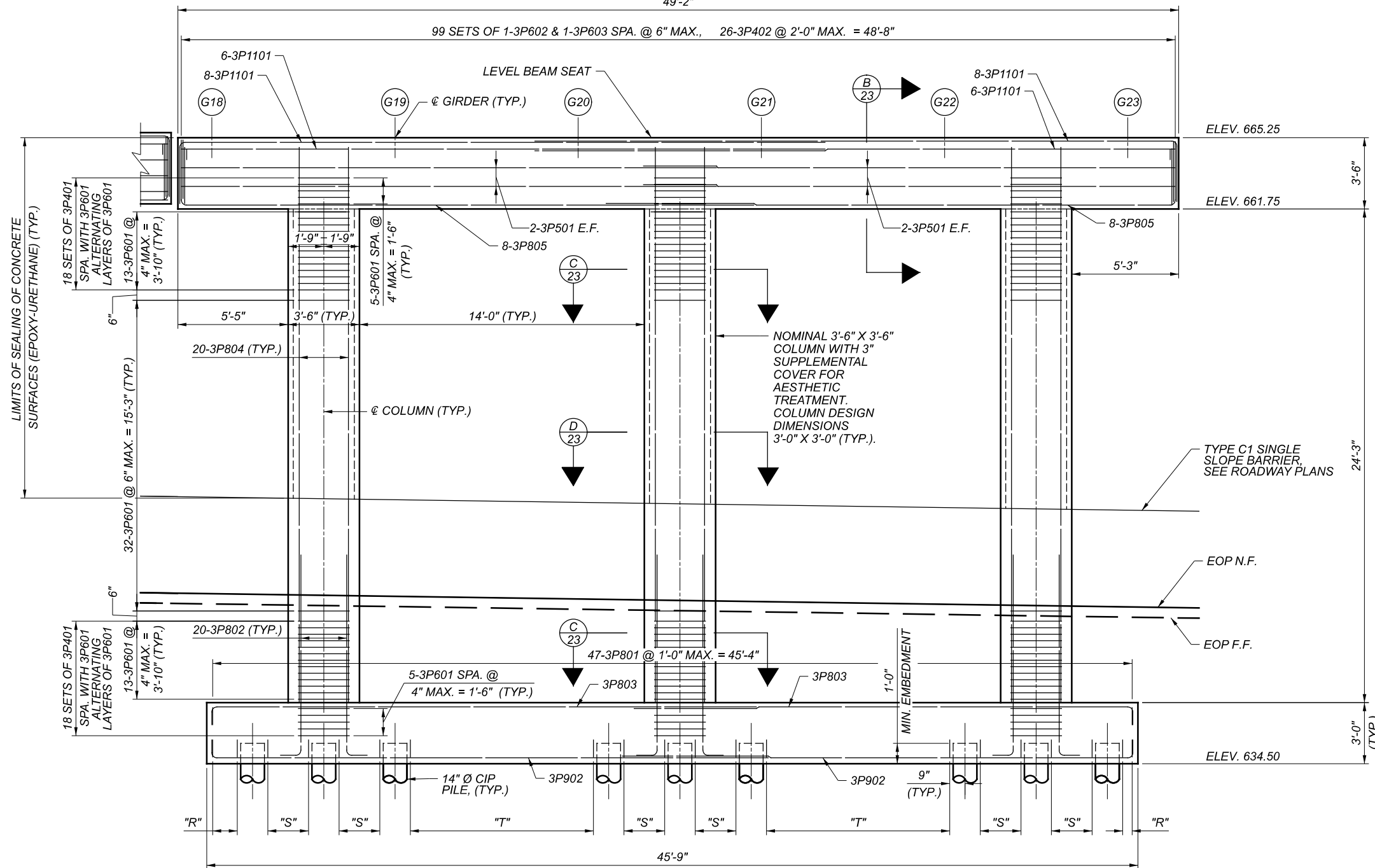
- NOTES:
1. SEE SHEET 23 OF 63 FOR TYPICAL END ELEVATION.
 2. SEE SHEET 14 OF 63 FOR FOUNDATION PLANS.
 3. BEARING SOLE PLATE THICKNESS WILL VARY TO MEET BEAM SEAT ELEVATION.

PIER PLAN & ELEVATION (2 OF 4)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	ABP TJN
REVIEWER	JRS 06-04-22
PROJECT ID	82382
SUBSET	20
TOTAL	63
SHEET	1911
TOTAL	2338



PIER 1C PLAN



PIER 1C ELEVATION
LOOKING UPSTATION

MIN. SPLICE LENGTHS	
BAR	LENGTH
5	3'-7"
6 HORIZ.	4'-4"
6 VERT.	3'-10"
8	7'-3"
10	11'-7"
11	14'-3"

PIER FOOTING REBAR SETS:

SET "R" = 3-3P801 = 7"

SET "S" = 4-3P801 SPA. @ 1'-0" MAX. = 2'-0"

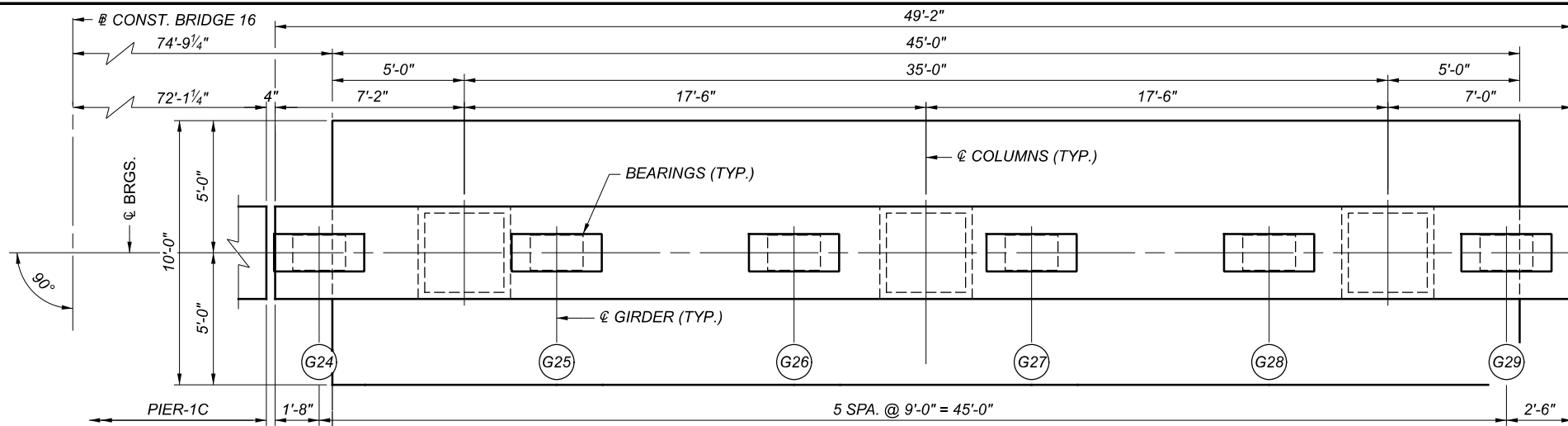
SET "T" = 11-3P801 SPA. @ 1'-0" MAX. = 9'-0"

- NOTES:
- SEE SHEET 23 OF 63 FOR TYPICAL END ELEVATION.
 - SEE SHEET 14 OF 63 FOR FOUNDATION PLANS.
 - BEARING SOLE PLATE THICKNESS WILL VARY TO MEET BEAM SEAT ELEVATION.

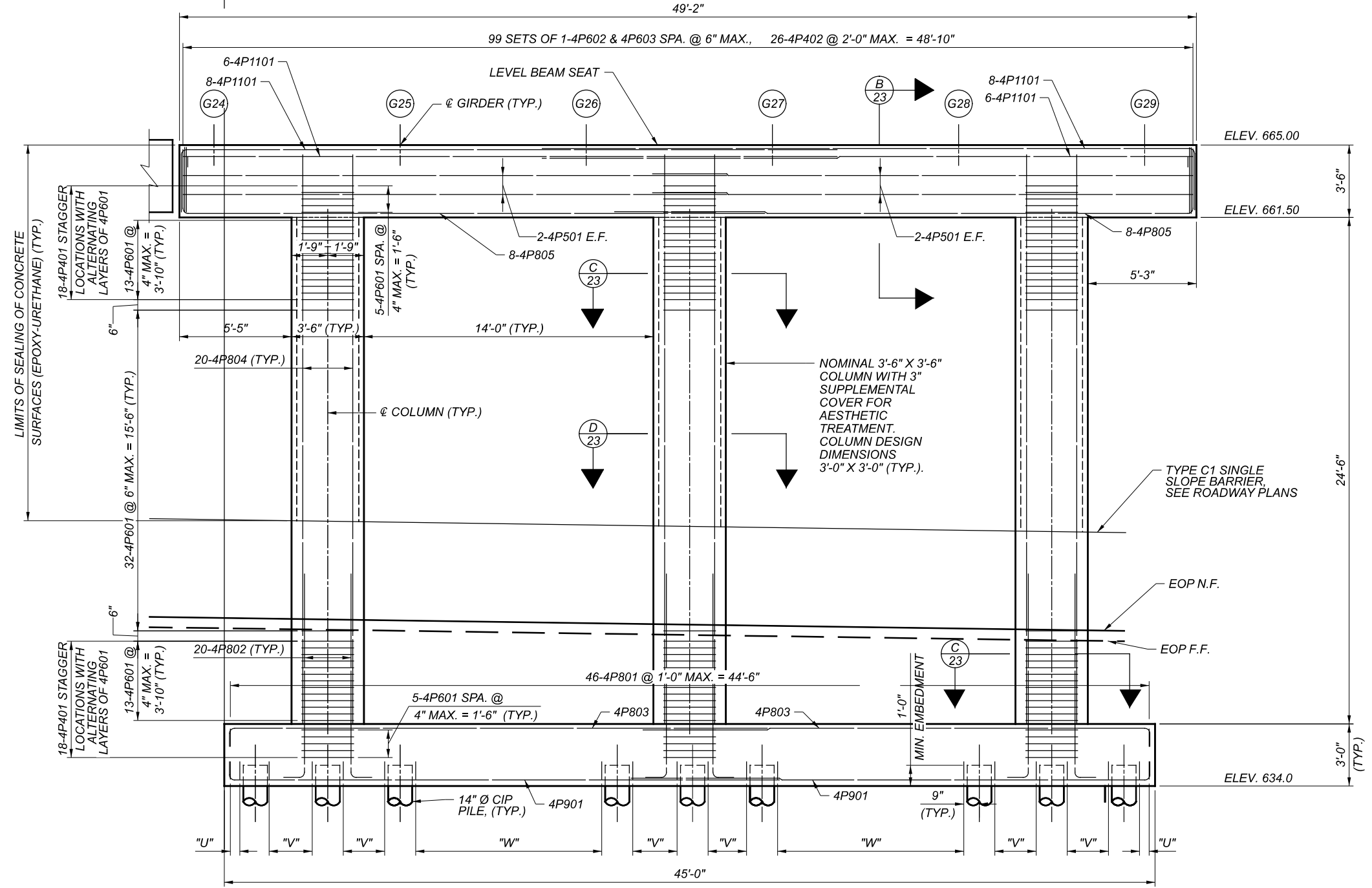


PIER PLAN & ELEVATION (3 OF 4)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
REVIEWER	JRS
DATE	06-04-22
PROJECT ID	82382
SUBSET	21
TOTAL	63
SHEET	1912
TOTAL	2338



PIER 1D PLAN



PIER 1D ELEVATION
LOOKING UPSTATION



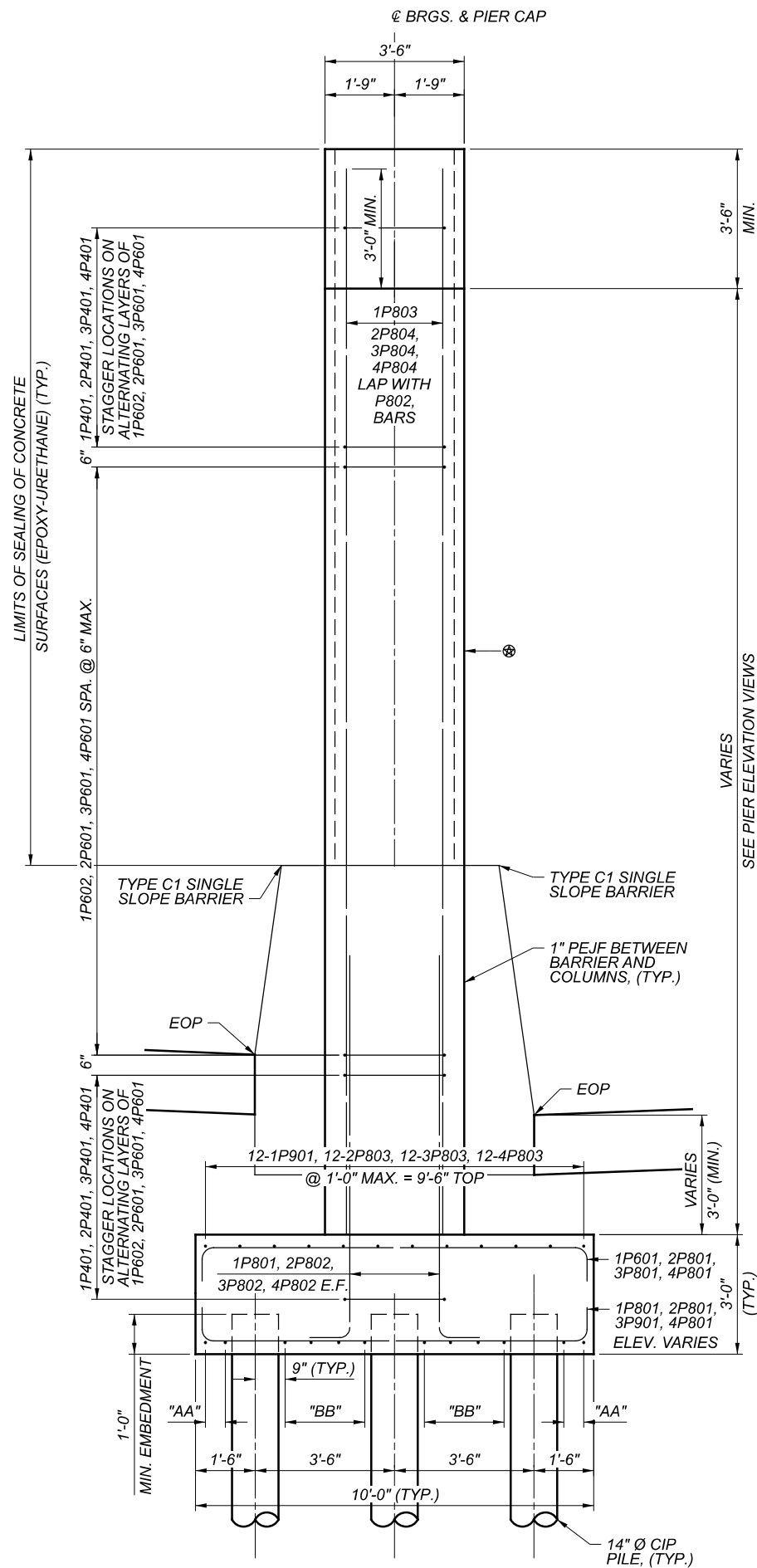
MIN. SPLICE LENGTHS	
BAR	LENGTH
5	3'-7"
6 HORIZ.	4'-4"
6 VERT.	3'-10"
8	7'-3"
10	11'-7"
11	14'-3"

PIER FOOTING REBAR SETS:
 SET "U" = 2-4P801 = 7"
 SET "V" = 4-4P801 SPA. @ 1'-0" MAX. = 2'-0"
 SET "W" = 11-4P801 SPA. @ 1'-0" MAX. = 9'-0"

- NOTES:
- SEE SHEET 23 OF 63 FOR TYPICAL END ELEVATION.
 - SEE SHEET 14 OF 63 FOR FOUNDATION PLANS.
 - BEARING SOLE PLATE THICKNESS WILL VARY TO MEET BEAM SEAT ELEVATION.

PIER PLAN & ELEVATION (4 OF 4)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	ABP / TJN
REVIEWER	JRS
PROJECT ID	82382
SUBSET	22
TOTAL	63
SHEET	1913
TOTAL	2338

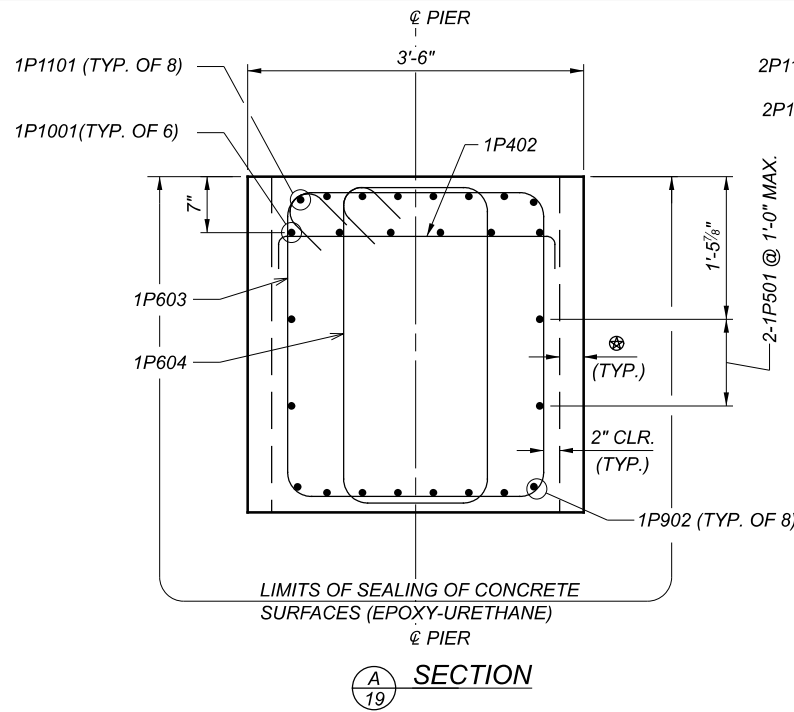


PIER END ELEVATION

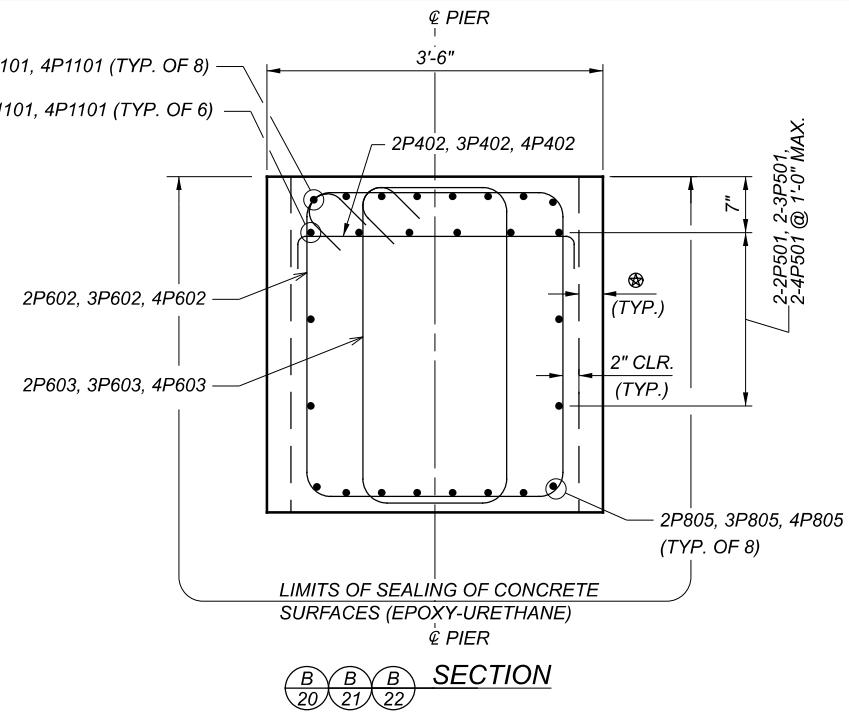
PIER FOOTING REBAR SETS:

SET "AA" = 2-1P901 OR 2-2P901 OR 2-3P902 OR 2-4P901 = 7"

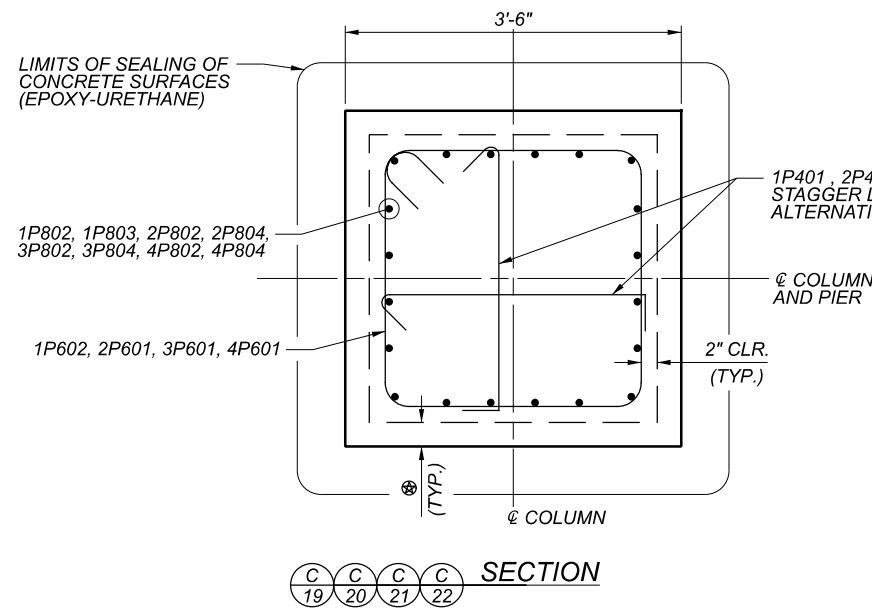
SET "BB" = 4-1P901 OR 4-2P901 OR 5-3P902 OR 5-4P901 SPA. @ 1'-0" MAX. = 2'-0"



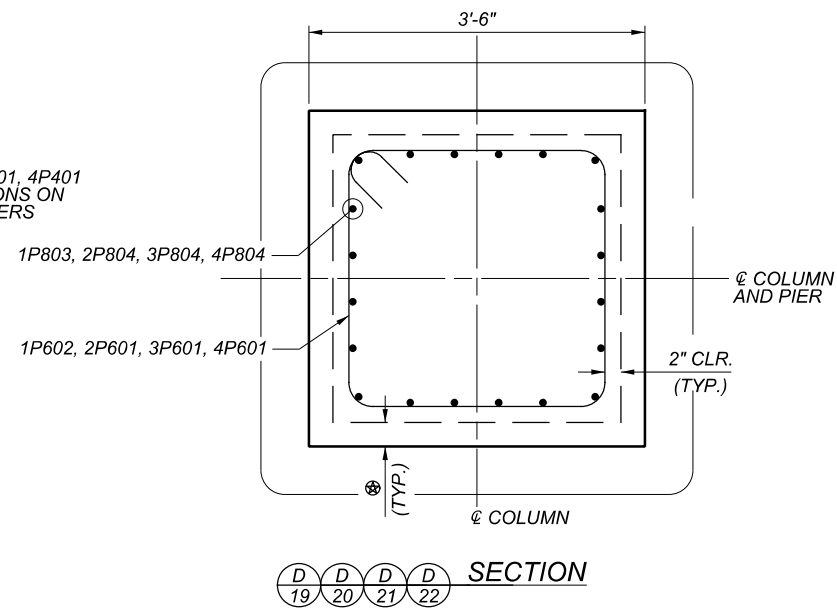
SECTION A-19



SECTION B-20, B-21, B-22



SECTION C-19, C-20, C-21, C-22



SECTION D-19, D-20, D-21, D-22

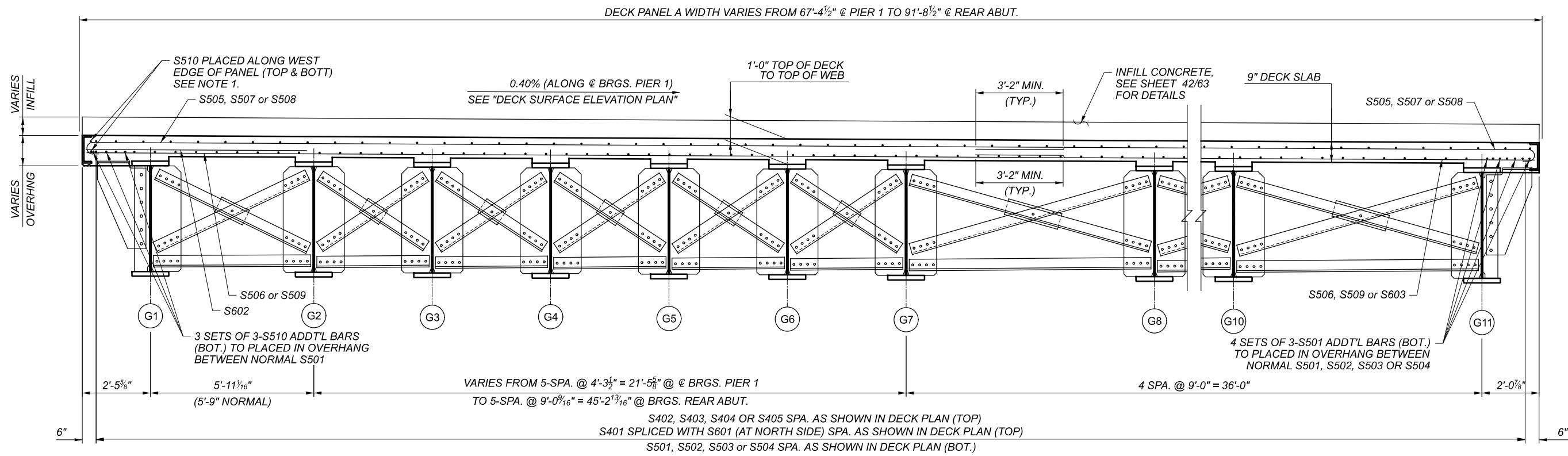
LEGEND

⊗ NOMINAL 3'-6" X 3'-6" COLUMN WITH 3" SUPPLEMENTAL COVER FOR AESTHETIC TREATMENT. COLUMN DESIGN DIMENSIONS 3'-0" X 3'-0" (TYP.).

NOTES:

1. SEE SHEET 22 FOR ADDITIONAL NOTES.

SFN	1807841
DESIGN AGENCY	
Michael Baker	INTERNATIONAL
DESIGNER/CHECKER	ABP / TJN
REVIEWER	JRS
PROJECT ID	82382
SUBSET	TOTAL
23	63
SHEET	TOTAL
1914	2338

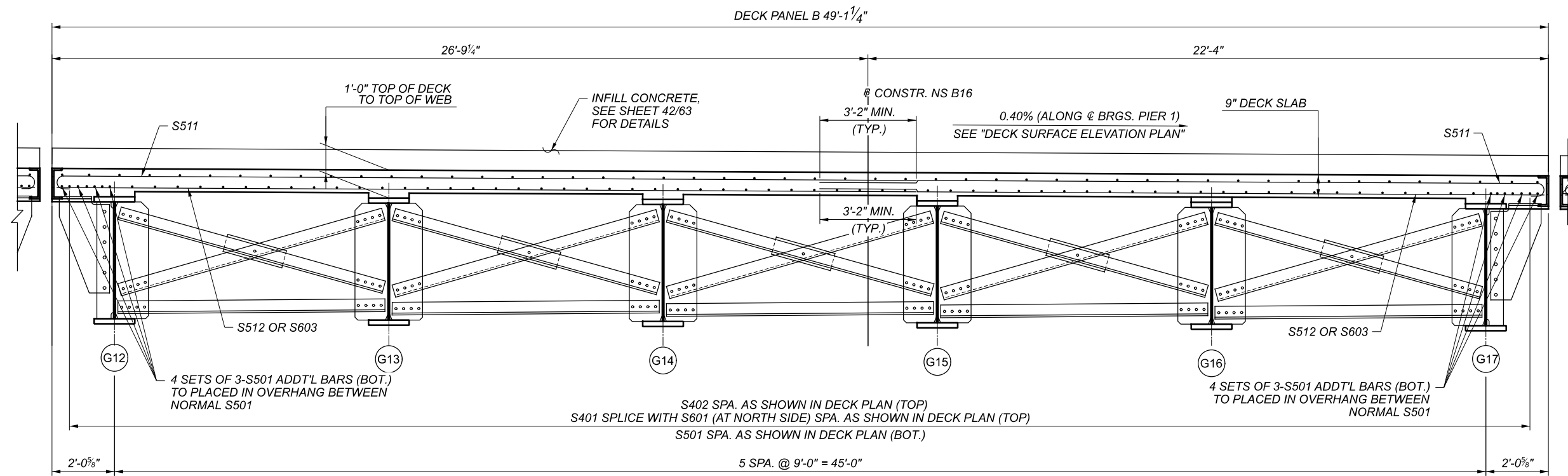


SECTION A-A
DECK PANEL A (TRANSVERSE)

NOTES:

- FOR DECK PLANS, SEE SHEETS 38/63 - 40/63.
- FOR RAILING DETAILS, SEE SHEETS 51/63 - 52/63.
- FOR FENCE DETAILS, SEE SHEET 57/63 - 58/63.
- FOR FRAMING PLANS, SEE SHEET 58/63.
- REINFORCING MAY BE FIELD-BENT OR SHOP-BENT TO CONFORM TO DECK CROSS SLOPES. PAYMENT SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL.
- FOR GIRDER CAMBER DEFLECTION TABLES, SEE SHEET 31/63.
- FOR SIDEWALK DETAILS, SEE SHEETS 43/63 - 44/63.
- ADJUST DECK REINFORCING TO CLEAR DECK SCUPPERS AND SHEAR STUDS. MAINTAIN A MINIMUM OF 2" CLEAR TO DECK OBSTRUCTIONS.
- HAUNCH THICKNESSES ARE MEASURED AT THE GIRDER CENTERLINES, FROM THE DECK SOFFIT TO TOP OF GIRDER WEB (THICKNESS INCLUDES THE VARIABLE TOP FLANGE THICKNESSES).
- FOR ADDITIONAL DECK PLACEMENT NOTES, SEE GENERAL NOTES AND DECK PLANS.
- INTERMEDIATE CROSSFRAME MEMBERS VARY BY GIRDER BAY. SEE CROSSFRAME AND UTILITY SUPPORT DETAILS ON SHEETS 33/63 - 34/63.

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	PAT XW
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	24
TOTAL	63
SHEET	1915
TOTAL	2338



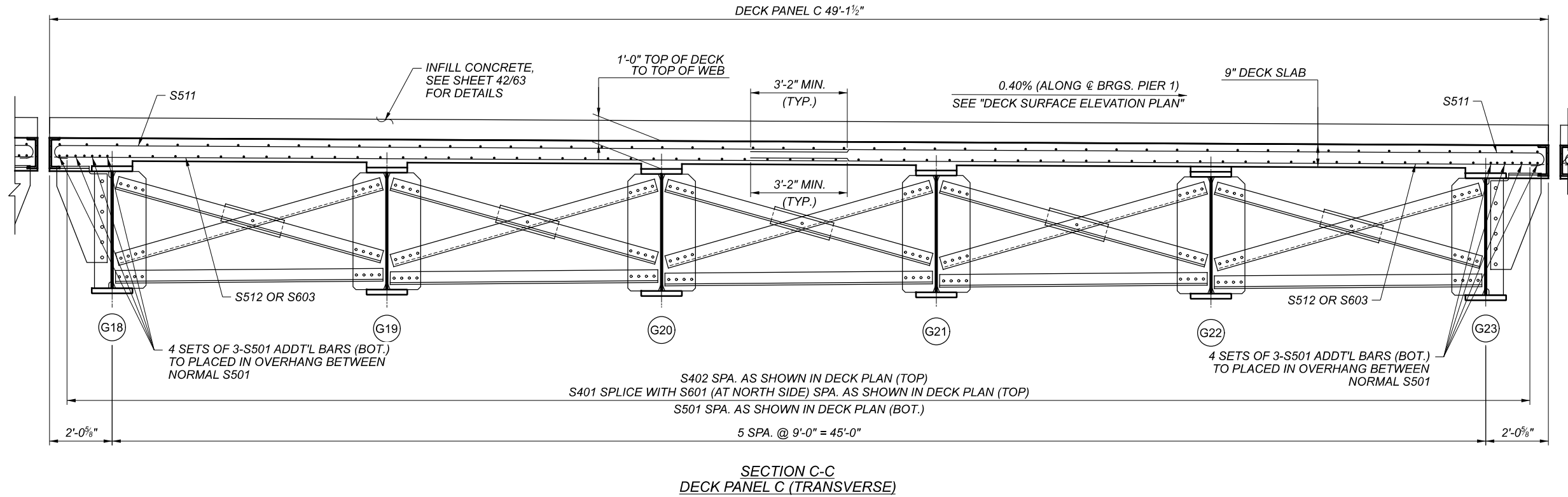
SECTION B-B
 DECK PANEL B (TRANSVERSE)

NOTES:

1. FOR DECK PLANS, SEE SHEETS 38/63 - 40/63.
2. FOR RAILING DETAILS, SEE SHEETS 51/63 - 52/63.
3. FOR FENCE DETAILS, SEE SHEET 57/63 - 58/63.
4. FOR FRAMING PLANS, SEE SHEET 58/63.
5. REINFORCING MAY BE FIELD-BENT OR SHOP-BENT TO CONFORM TO DECK CROSS SLOPES. PAYMENT SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL.
6. FOR GIRDER CAMBER DEFLECTION TABLES, SEE SHEET 31/63.
7. FOR SIDEWALK DETAILS, SEE SHEETS 43/63 - 44/63.
8. ADJUST DECK REINFORCING TO CLEAR DECK SCUPPERS AND SHEAR STUDS. MAINTAIN A MINIMUM OF 2" CLEAR TO DECK OBSTRUCTIONS.
9. HAUNCH THICKNESSES ARE MEASURED AT THE GIRDER CENTERLINES, FROM THE DECK SOFFIT TO TOP OF GIRDER WEB (THICKNESS INCLUDES THE VARIABLE TOP FLANGE THICKNESSES).
10. FOR ADDITIONAL DECK PLACEMENT NOTES, SEE GENERAL NOTES AND DECK PLANS.
11. INTERMEDIATE CROSSFRAME MEMBERS VARY BY GIRDER BAY. SEE CROSSFRAME AND UTILITY SUPPORT DETAILS ON SHEETS 33/63 - 34/63.

TRANSVERSE SECTION (2 OF 4)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
PAT	XW
REVIEWER	
LPC	07-27-22
PROJECT ID	82382
SUBSET	TOTAL
25	63
SHEET	TOTAL
1916	2338



NOTES:

1. FOR DECK PLANS, SEE SHEETS 38/63 - 40/63.
2. FOR RAILING DETAILS, SEE SHEETS 51/63 - 52/63.
3. FOR FENCE DETAILS, SEE SHEET 57/63 - 58/63.
4. FOR FRAMING PLANS, SEE SHEET 58/63.
5. REINFORCING MAY BE FIELD-BENT OR SHOP-BENT TO CONFORM TO DECK CROSS SLOPES. PAYMENT SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL.
6. FOR GIRDER CAMBER DEFLECTION TABLES, SEE SHEET 31/63.
7. FOR SIDEWALK DETAILS, SEE SHEETS 43/63 - 44/63.
8. ADJUST DECK REINFORCING TO CLEAR DECK SCUPPERS AND SHEAR STUDS. MAINTAIN A MINIMUM OF 2" CLEAR TO DECK OBSTRUCTIONS.
9. HAUNCH THICKNESSES ARE MEASURED AT THE GIRDER CENTERLINES, FROM THE DECK SOFFIT TO TOP OF GIRDER WEB (THICKNESS INCLUDES THE VARIABLE TOP FLANGE THICKNESSES).
10. FOR ADDITIONAL DECK PLACEMENT NOTES, SEE GENERAL NOTES AND DECK PLANS.
11. INTERMEDIATE CROSSFRAME MEMBERS VARY BY GIRDER BAY. SEE CROSSFRAME AND UTILITY SUPPORT DETAILS ON SHEETS 33/63 - 34/63.

TRANSVERSE SECTION (3 OF 4)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN
 1807841

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

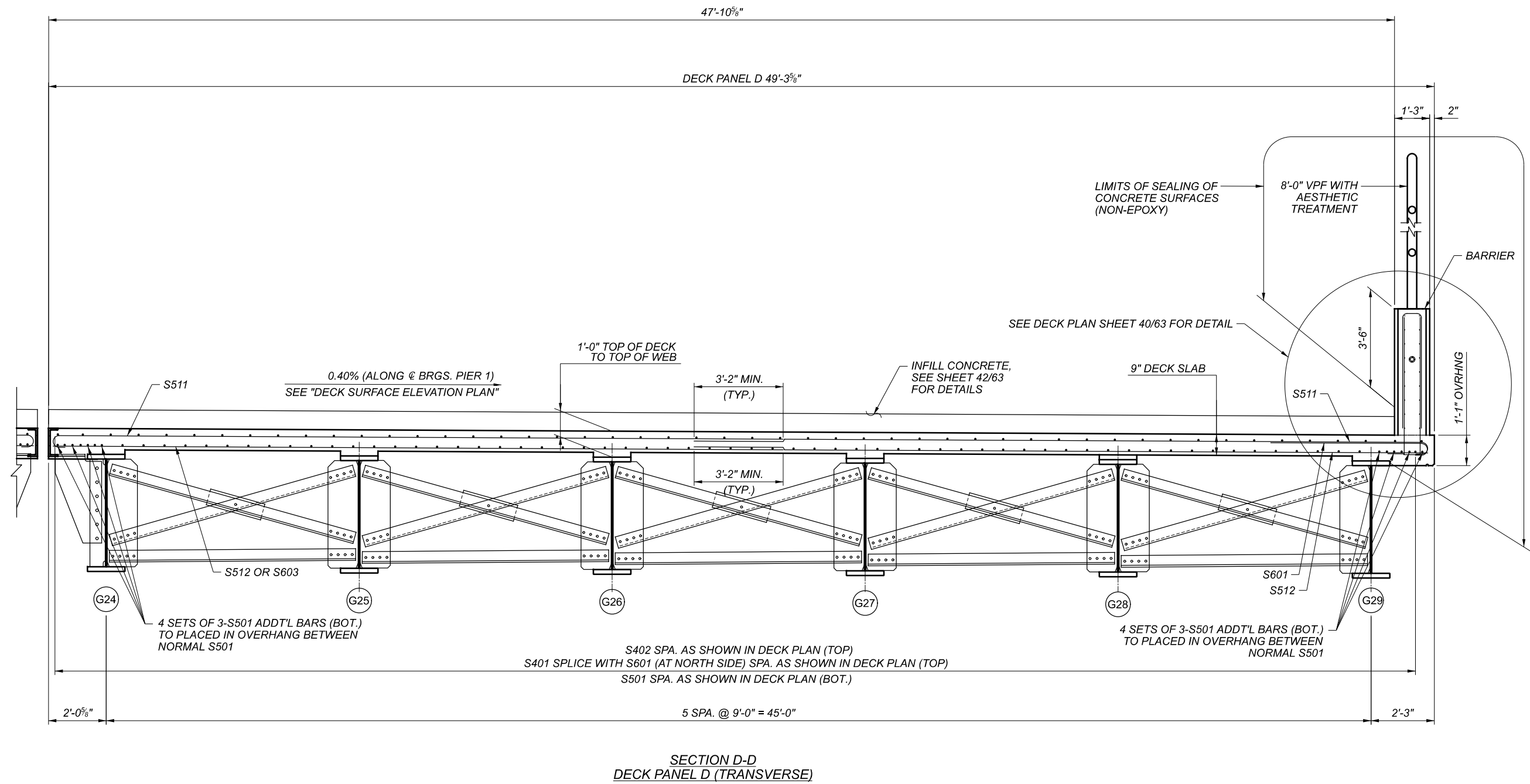
DESIGNER CHECKER
 PAT XW

REVIEWER
 LPC 07-27-22

PROJECT ID
 82382

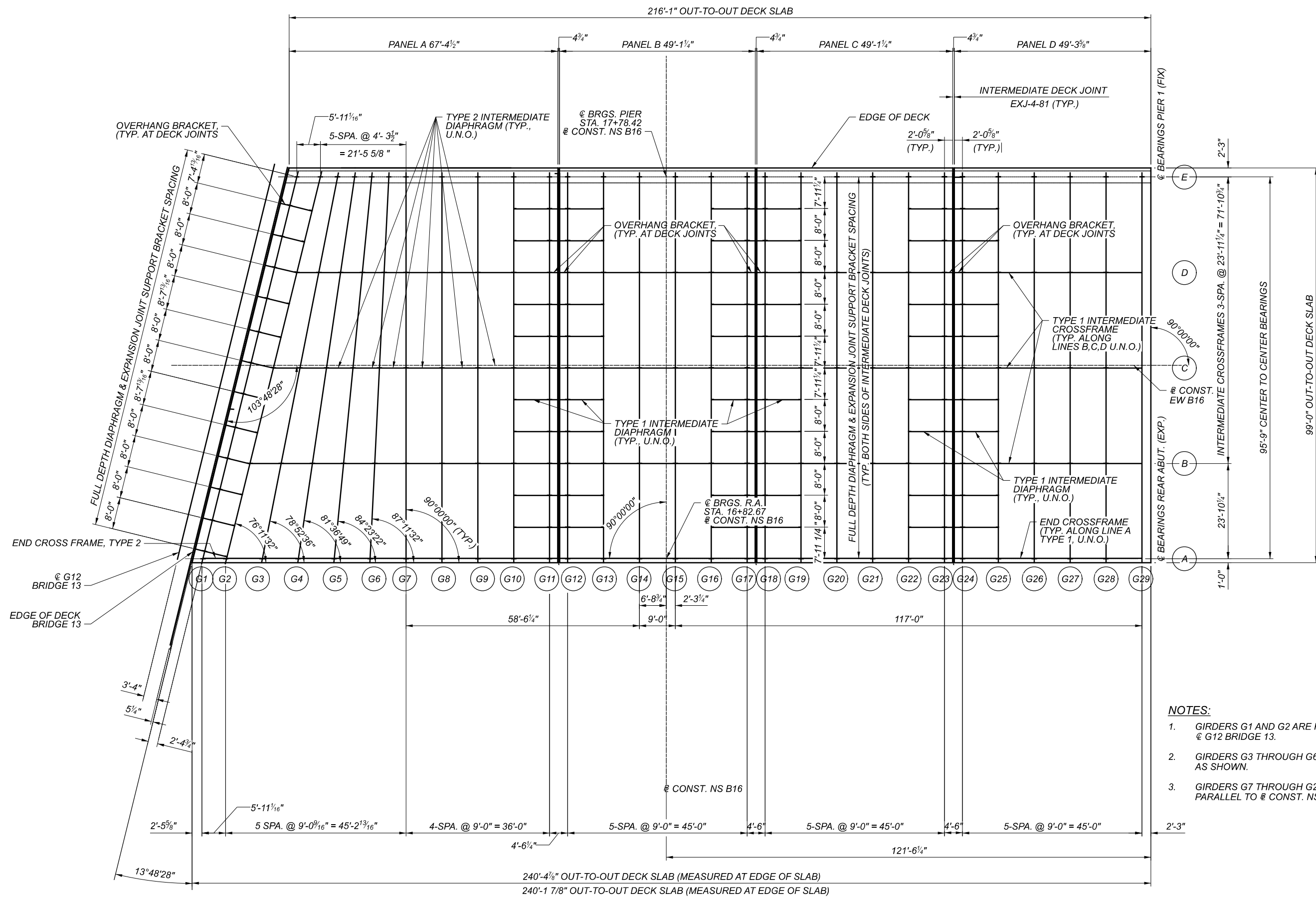
SUBSET TOTAL
 26 63

SHEET TOTAL
 1917 2338



NOTES:

- FOR DECK PLANS, SEE SHEETS 38/63 - 40/63.
- FOR RAILING DETAILS, SEE SHEETS 51/63 - 52/63.
- FOR FENCE DETAILS, SEE SHEET 57/63 - 58/63.
- FOR FRAMING PLANS, SEE SHEET 58/63.
- REINFORCING MAY BE FIELD-BENT OR SHOP-BENT TO CONFORM TO DECK CROSS SLOPES. PAYMENT SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL.
- FOR GIRDER CAMBER DEFLECTION TABLES, SEE SHEET 31/63.
- FOR SIDEWALK DETAILS, SEE SHEETS 43/63 - 44/63.
- ADJUST DECK REINFORCING TO CLEAR DECK SCUPPERS AND SHEAR STUDS. MAINTAIN A MINIMUM OF 2" CLEAR TO DECK OBSTRUCTIONS.
- HAUNCH THICKNESSES ARE MEASURED AT THE GIRDER CENTERLINES, FROM THE DECK SOFFIT TO TOP OF GIRDER WEB (THICKNESS INCLUDES THE VARIABLE TOP FLANGE THICKNESSES).
- FOR ADDITIONAL DECK PLACEMENT NOTES, SEE GENERAL NOTES AND DECK PLANS.
- INTERMEDIATE CROSSFRAME MEMBERS VARY BY GIRDER BAY. SEE CROSSFRAME AND UTILITY SUPPORT DETAILS ON SHEETS 33/63 - 34/63.

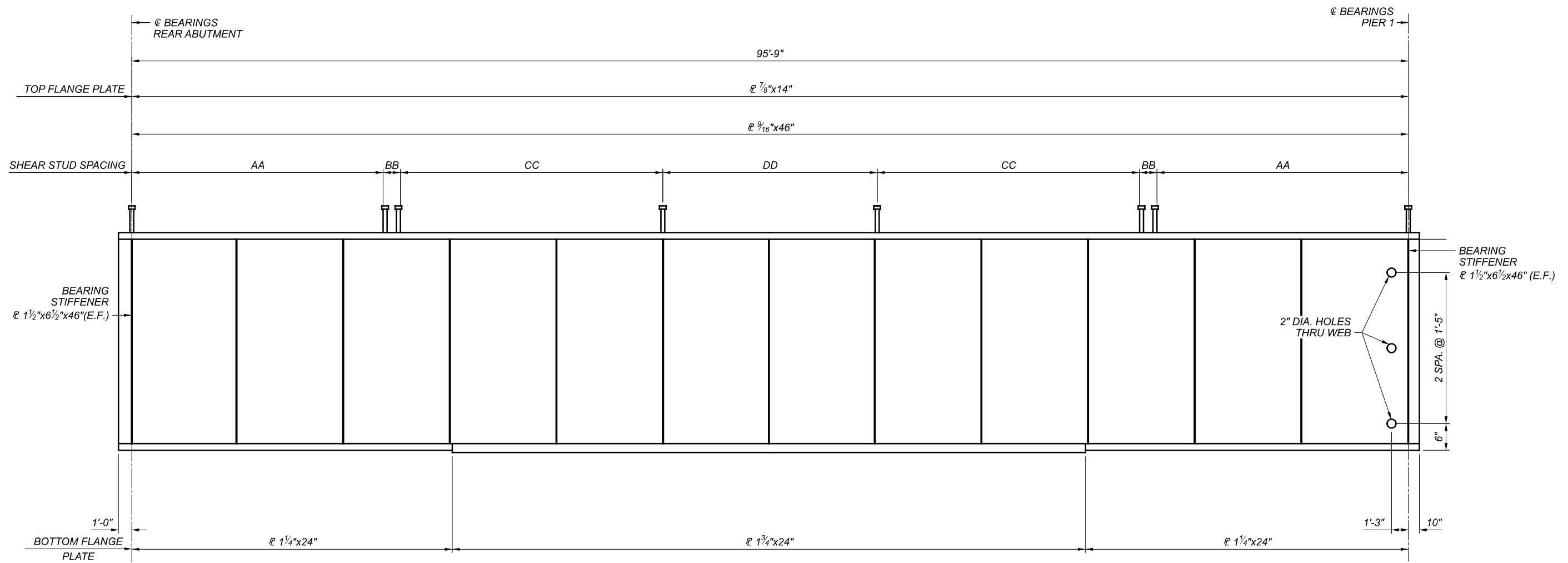


NOTES:

- GIRDERS G1 AND G2 ARE PARALLEL TO @ G12 BRIDGE 13.
- GIRDERS G3 THROUGH G6 ARE SPLAYED AS SHOWN.
- GIRDERS G7 THROUGH G29 ARE PARALLEL TO @ CONST. NS B16.

FRAMING PLAN
CUY-90-1680 (BRIDGE 16)
CR-23 (CEDAR AVE.) OVER I.R. 90 EB

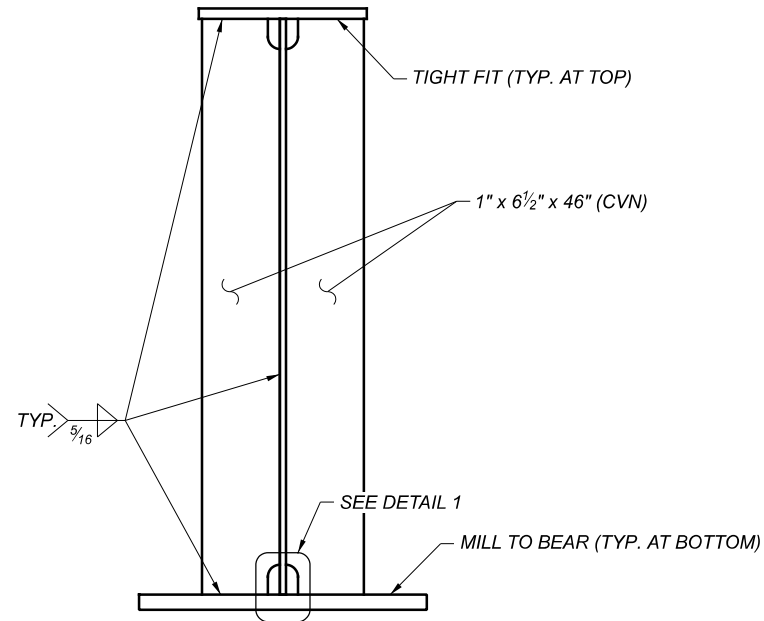
SFN	1807841
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	PAT
CHECKER	XW
REVIEWER	LPC
PROJECT ID	82382
SUBSET	28
TOTAL	63
SHEET	1919
TOTAL	2338



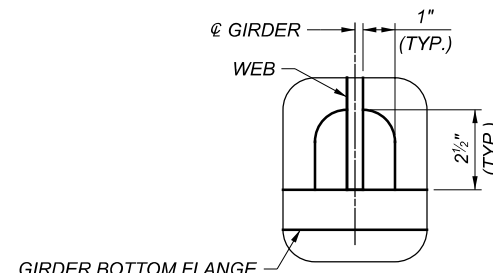
GIRDER DATA TABLE								
GIRDER	SPAN	A	B	C	AA	BB	CC	DD
G1	98'-7 1/4"	26'-6 5/8"	45'-6"	26'-6 5/8"	24 SPA @ 10 1/2"	1 SPA @ 11 1/8"	16 SPA @ 1'-11 1/2"	15 SPA @ 1'-3"
G2	98'-7 1/4"	26'-6 5/8"	45'-6"	26'-6 5/8"	24 SPA @ 10 1/2"	1 SPA @ 11 1/8"	16 SPA @ 1'-11 1/2"	15 SPA @ 1'-3"
G3	97'-7"	26'-0 1/2"	45'-6"	26'-0 1/2"	24 SPA @ 10 1/2"	1 SPA @ 5"	16 SPA @ 1'-11 1/2"	15 SPA @ 1'-3"
G4	96'-9 3/8"	25'-7 11/16"	45'-6"	25'-7 11/16"	24 SPA @ 10 1/2"	1 SPA @ 7 11/16"	16 SPA @ 1'-11 1/2"	14 SPA @ 1'-3"
G5	96'-2 1/2"	25'-4 1/4"	45'-6"	25'-4 1/4"	24 SPA @ 10 1/2"	1 SPA @ 11 3/4"	16 SPA @ 1'-11 1/2"	13 SPA @ 1'-3"
G6	95'-10 3/8"	25'-2 3/16"	45'-6"	25'-2 3/16"	24 SPA @ 10 1/2"	1 SPA @ 9 11/16"	16 SPA @ 1'-11 1/2"	13 SPA @ 1'-3"
G7 - G29	95'-9"	25'-1 1/2"	45'-6"	25'-1 1/2"	24 SPA @ 10 1/2"	1 SPA @ 9"	16 SPA @ 1'-11 1/2"	13 SPA @ 1'-3"

NOTES:

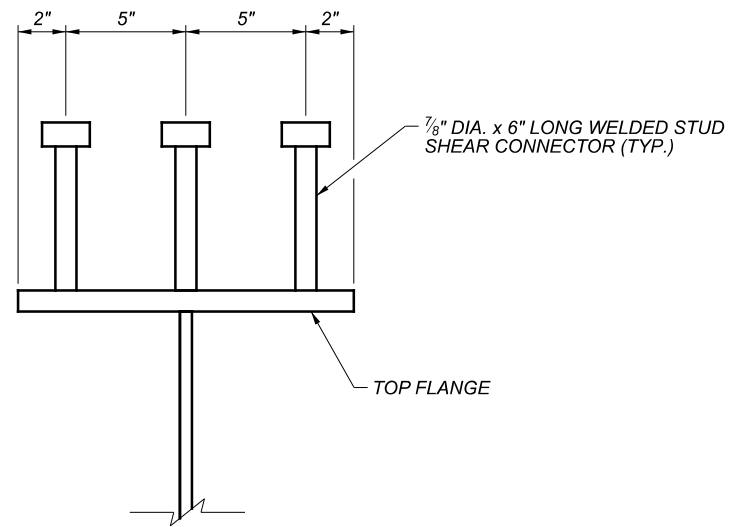
1. WORK THIS SHEET WITH SHEET 30/63.
2. ALL GIRDER MATERIAL SHALL CONFORM TO ASTM A709 GRADE 50, UNLESS NOTED OTHERWISE.
3. CROSSFRAME CONNECTION PLATES NOT SHOWN FOR CLARITY. SEE FRAMING PLAN FOR CROSSFRAME LOCATIONS.
4. GIRDER INSPECTION HARDWARE NOT SHOWN FOR CLARITY.
5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
6. FOR FRAMING PLAN, SEE SHEET 28/63.
7. FOR DEFLECTION AND CAMBER TABLES, SEE SHEET 31/63.
8. FOR STIFFENER DETAILS, SEE SHEET 30/63.
9. DO NOT WELD ATTACHMENTS TO GIRDER FLANGES MARKED "TENSION". FILLET WELDS ON COMPRESSION FLANGES SHALL BE AT LEAST 1 INCH FROM THE EDGE OF THE FLANGE, BE NO MORE THAN 2 INCHES LONG AND BE A MINIMUM OF 1/4 INCH FOR FLANGES UP TO 3/4 INCH THICK AND A MINIMUM OF 5/16 INCH FOR FLANGES GREATER THAN 3/4 INCH THICK.



BEARING STIFFENER DETAIL



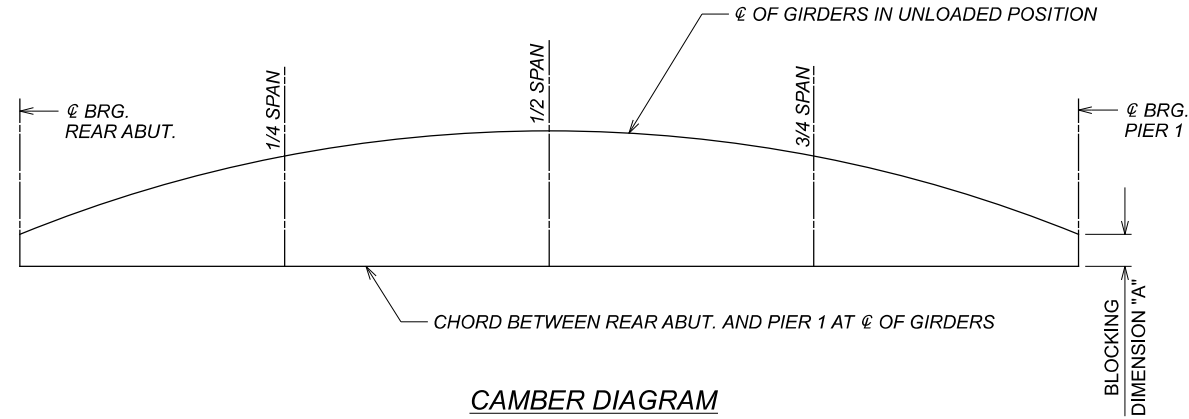
DETAIL 1



SHEAR CONNECTOR DETAIL

NOTES:

1. FOR GIRDER ELEVATIONS, SEE SHEETS 29/63.
2. FOR CROSSFRAME AND UTILITY SUPPORT DETAILS, SEE SHEETS 33/63 - 35/63.
3. STIFFENER MATERIAL SHALL CONFORM TO ASTM A709 GRADE 50.
4. BAR AND PLATE MATERIAL FOR INSPECTION HARDWARE SHALL CONFORM TO ASTM A709 GRADE 50.
5. WIRE ROPE FOR INSPECTION SAFETY CABLES SHALL BE IMPROVED PLOW STEEL (IPS), 6 X 19 CONSTRUCTION, INDEPENDENT WIRE ROPE CORE (IWRC) WIRE ROPE, GALVANIZED. PROVIDE WIRE ROPE HARDWARE, INCLUDING TERMINATIONS, SPLICES, WIRE ROPE SLEEVES, WIRE ROPE CLIPS, ETC., CAPABLE OF DEVELOPING THE BREAKING LOAD OF THE INSPECTION SAFETY CABLE.
6. PROVIDE WIRE ROPE SUPPORTS AT A MAXIMUM OF 6'-3\" CENTERS ALONG EACH GIRDER.



CAMBER DIAGRAM

DEFLECTION & CAMBER TABLE - G1					
DEFLECTION COMPONENT	CL BRG. R.A.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BRG. PIER 1
STEEL DEAD LOAD ONLY	0	5/8	7/8	11/16	0
SLAB AND HAUNCH DEAD LOAD	0	1 7/16	2	1 1/2	0
COMPOSITE LOAD: PERIMETER PARAPET AND FENCE	0	0	0	0	0
COMPOSITE LOAD: SIDEWALKS, MEDIAN, INFILL AND PAVERS	0	15/16	1 3/8	1 1/16	0
GEOMETRIC CORRECTION	0	0	0	0	0
TOTAL CAMBER	0	3	4 1/4	3 3/16	0

DEFLECTION & CAMBER TABLE - G2, G8, G9, G28					
DEFLECTION COMPONENT	CL BRG. R.A.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BRG. PIER 1
STEEL DEAD LOAD ONLY	0	9/16	3/4	9/16	0
SLAB AND HAUNCH DEAD LOAD	0	1 5/8	2 1/4	1 5/8	0
COMPOSITE LOAD: PERIMETER PARAPET AND FENCE	0	1/16	1/8	1/16	0
COMPOSITE LOAD: SIDEWALKS, MEDIAN, INFILL AND PAVERS	0	3/4	1 1/16	13/16	0
GEOMETRIC CORRECTION	0	0	0	0	0
TOTAL CAMBER	0	3	4 3/16	3	0

DEFLECTION & CAMBER TABLE - G3, G4, G5, G6, G7, G10, G11, G13, G14, G15, G16, G19, G20, G21, G22, G26					
DEFLECTION COMPONENT	CL BRG. R.A.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BRG. PIER 1
STEEL DEAD LOAD ONLY	0	9/16	3/4	9/16	0
SLAB AND HAUNCH DEAD LOAD	0	1 5/8	2 1/4	1 5/8	0
COMPOSITE LOAD: PERIMETER PARAPET AND FENCE	0	0	0	0	0
COMPOSITE LOAD: SIDEWALKS, MEDIAN, INFILL AND PAVERS	0	11/16	15/16	11/16	0
GEOMETRIC CORRECTION	0	0	0	0	0
TOTAL CAMBER	0	2 7/8	4	2 7/8	0

DEFLECTION & CAMBER TABLE - G12, G17, G18, G23, G25					
DEFLECTION COMPONENT	CL BRG. R.A.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BRG. PIER 1
STEEL DEAD LOAD ONLY	0	9/16	13/16	9/16	0
SLAB AND HAUNCH DEAD LOAD	0	1 11/16	2 5/16	1 11/16	0
COMPOSITE LOAD: PERIMETER PARAPET AND FENCE	0	0	0	0	0
COMPOSITE LOAD: SIDEWALKS, MEDIAN, INFILL AND PAVERS	0	9/16	13/16	9/16	0
GEOMETRIC CORRECTION	0	0	0	0	0
TOTAL CAMBER	0	2 13/16	3 7/8	2 13/16	0

DEFLECTION & CAMBER TABLE - G24					
DEFLECTION COMPONENT	CL BRG. R.A.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BRG. PIER 1
STEEL DEAD LOAD ONLY	0	5/8	13/16	9/16	0
SLAB AND HAUNCH DEAD LOAD	0	1 5/8	2 1/4	1 5/8	0
COMPOSITE LOAD: PERIMETER PARAPET AND FENCE	0	- 1/8	- 1/8	- 1/16	0
COMPOSITE LOAD: SIDEWALKS, MEDIAN, INFILL AND PAVERS	0	9/16	13/16	9/16	0
GEOMETRIC CORRECTION	0	0	0	0	0
TOTAL CAMBER	0	2 11/16	3 3/4	2 11/16	0

DEFLECTION & CAMBER TABLE - G29					
DEFLECTION COMPONENT	CL BRG. R.A.	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL BRG. PIER 1
STEEL DEAD LOAD ONLY	0	1/2	11/16	1/2	0
SLAB AND HAUNCH DEAD LOAD	0	1 5/8	2 5/16	1 5/8	0
COMPOSITE LOAD: PERIMETER PARAPET AND FENCE	0	1/2	11/16	1/2	0
COMPOSITE LOAD: SIDEWALKS, MEDIAN, INFILL AND PAVERS	0	1/2	11/16	1/2	0
GEOMETRIC CORRECTION	0	0	0	0	0
TOTAL CAMBER	0	3 3/16	4 3/8	3 3/16	0

BLOCKING DIMENSIONS															
GIRDER	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15
DIMENSION "A"	1/16	1/8	1/4	3/8	1/2	5/8	3/4	13/16	15/16	1	11/8	11/8	11/4	15/16	13/8

BLOCKING DIMENSIONS														
GIRDER	G16	G17	G18	G19	G20	G21	G22	G23	G24	G25	G26	G27	G28	G29
DIMENSION "A"	17/16	11/2	19/16	19/16	15/8	15/8	19/16	19/16	11/2	17/16	13/8	15/16	13/16	11/8

NOTES:

- BLOCKING DIMENSION "A" IS MEASURED FROM THE BOTTOM OF BOTTOM FLANGE AT EACH SUPPORT.
- POSITIVE VALUES INDICATE DOWNWARD DEFLECTION AND UPWARD CAMBER.
- REMAINING COMPOSITE DL INCLUDES DEAD LOAD DUE TO SIDEWALKS, MEDIAN, CURBS, INFILL & SAND SET PAVERS.

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
PAT	XW
REVIEWER	
PROJECT ID	LPC 07-27-22
SUBSET	82382
TOTAL	
SHEET	31
TOTAL	63
SHEET	1922
TOTAL	2338

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 7/27/2022 TIME: 6:06:31 PM USER: David.Fell
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SHEET NOT USED

DEFLECTION AND CAMBER TABLE (2 OF 2)
CUY-90-1680 (BRIDGE 16)
CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN
1807841

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER CHECKER

REVIEWER

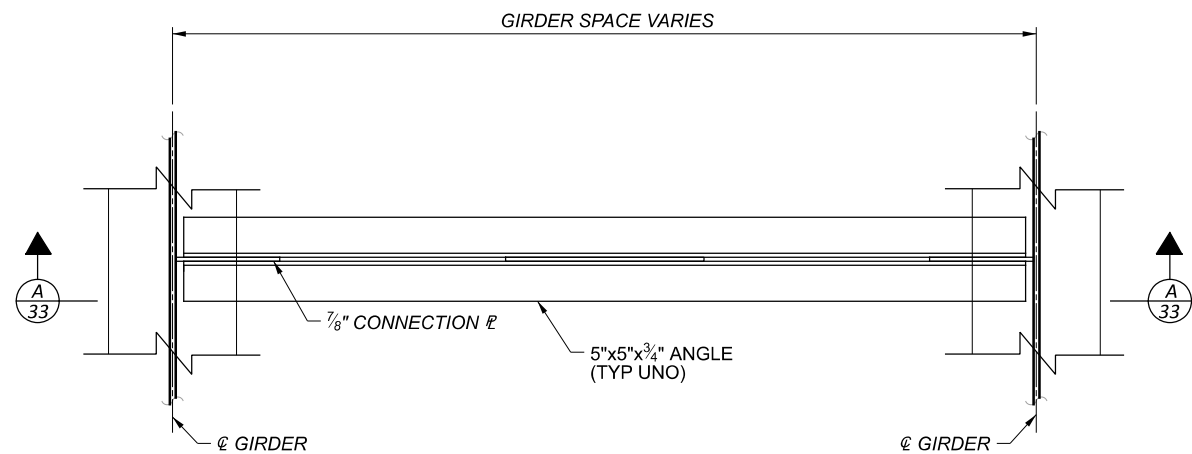
PROJECT ID

82382

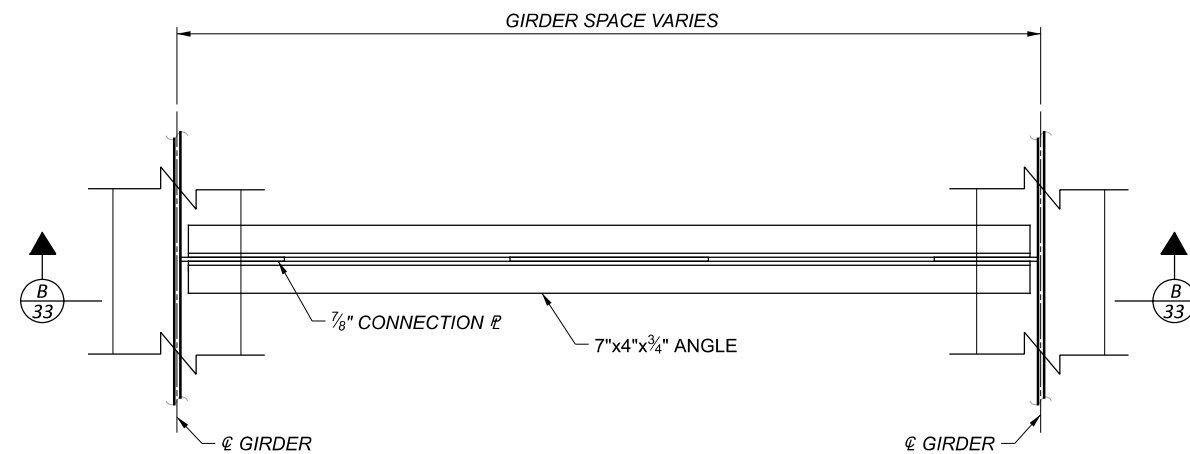
SUBSET	TOTAL
32	63

SHEET	TOTAL
1923	2338

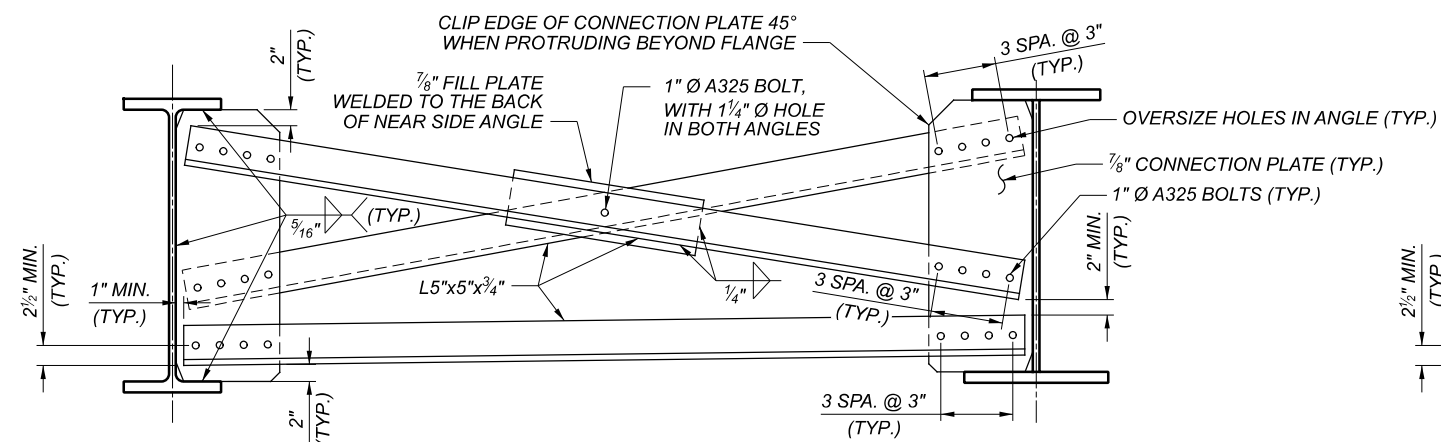
SHEET	TOTAL
1923	2338



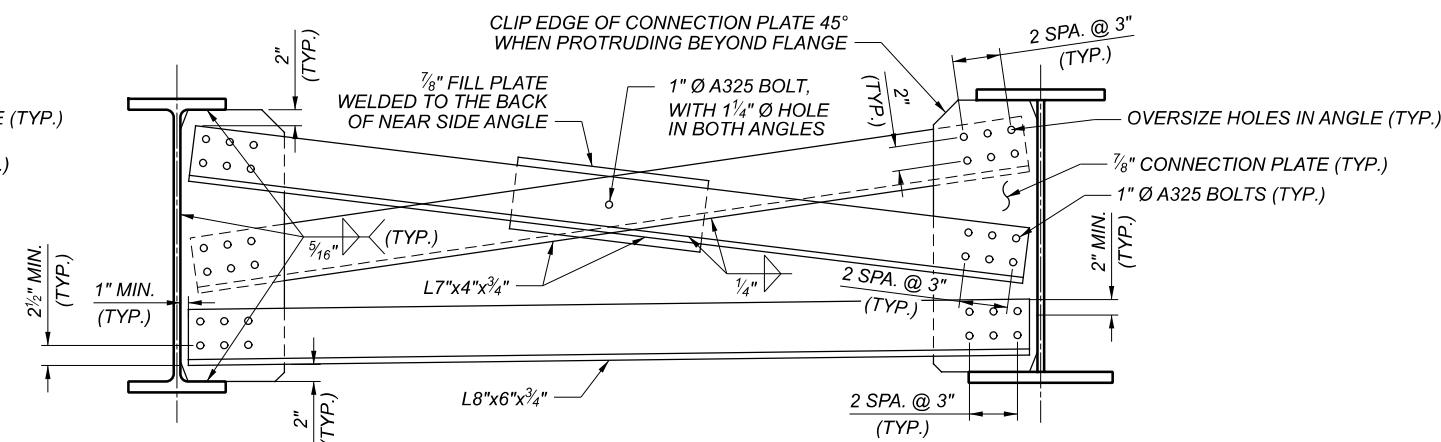
TYPE 1 INTERMEDIATE CROSSFRAME



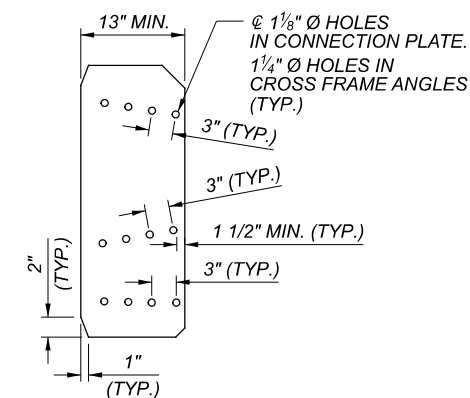
TYPE 2 INTERMEDIATE CROSSFRAME



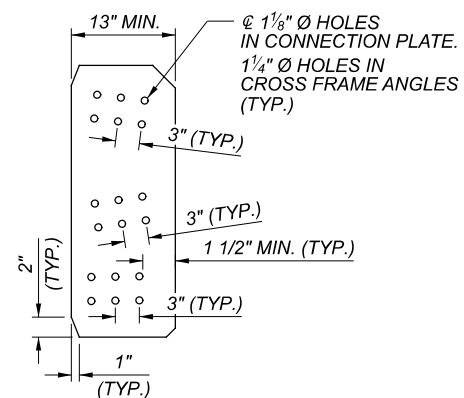
SECTION A-A



SECTION B-B



TYPE 1 CROSSFRAME CONNECTION PLATE



TYPE 2 CROSSFRAME CONNECTION PLATE

INTERMEDIATE CROSSFRAME NOTES

GENERAL:

THE FABRICATOR SHALL CHECK LONGITUDINAL CROSSFRAME SPACING SO THAT INTERFERENCE WITH BOLTED SPLICES, ANCHOR BOLTS, COMPLETE PENETRATION WEB OR FLANGE WELDED SPLICES AND BEARING STIFFENERS IS AVOIDED. SPACING SHALL BE ADJUSTED TO PROVIDE AT LEAST SIX (6) INCHES OF LONGITUDINAL CLEARANCE.

THE THICKNESS OF THE 7/8" TYPE 1 CONNECTION PLATES SHALL BE INCREASED TO 1" AT NO ADDITIONAL COST IF THE FABRICATOR DETERMINES THE WIDTH OF THE TYPE 1 CONNECTION PLATE EXCEEDS 14" TO ACCOMMODATE THE GEOMETRY OF THE CONNECTION.

WHERE A PLATE OR SHAPE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.

INSTALL STIFFENERS ACCORDING TO CMS 513.13.

MATERIAL:

ALL INTERMEDIATE CROSSFRAME MATERIAL SHALL BE A709 GRADE 50.

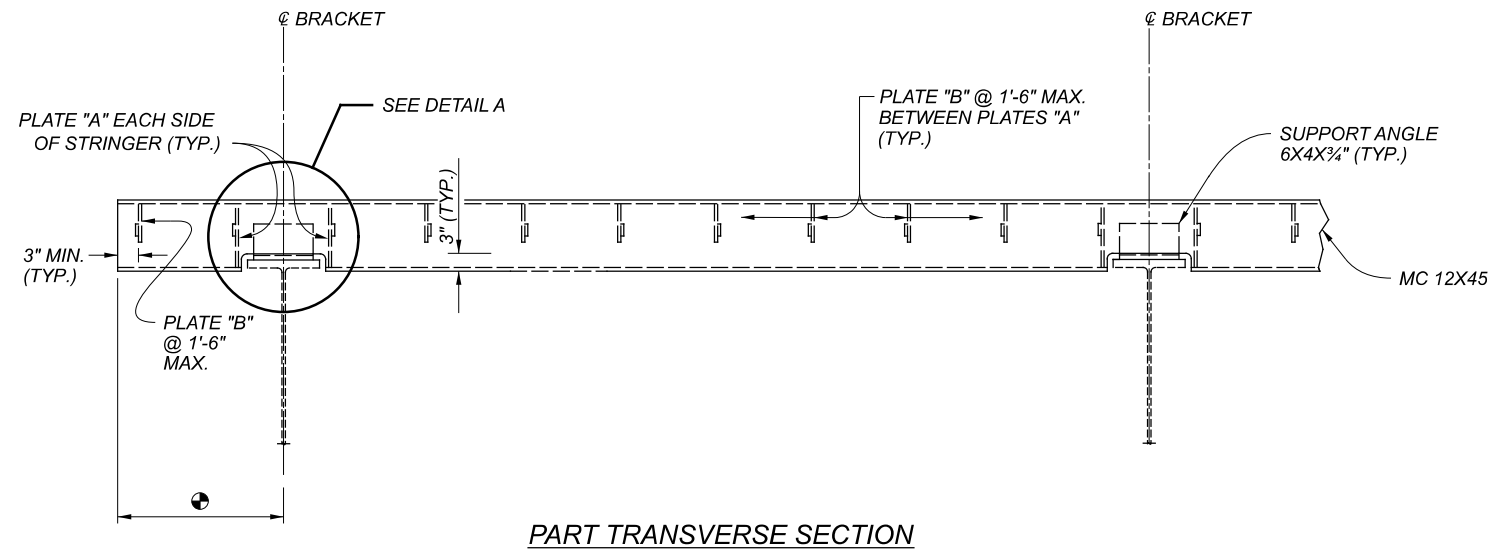
FASTENERS:

ALL BOLTS SHALL BE 1" Ø ASTM F3125, GRADE A325, WITH THREADS EXCLUDED FROM THE SHEAR PLANE.

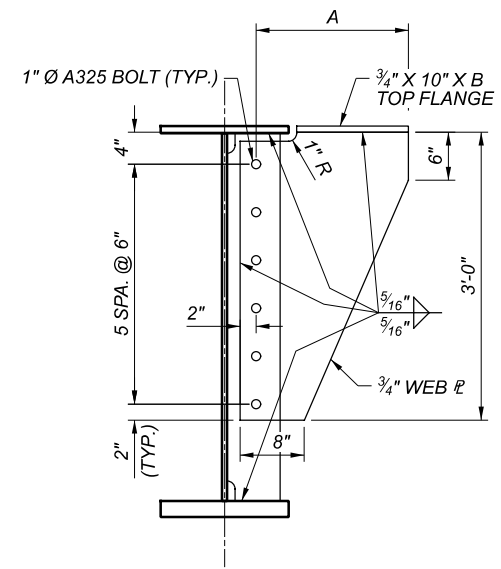
TYPE 1 BOLTS SHALL BE USED. EACH ANCHOR ASSEMBLY SHALL INCLUDE A BOLT, NUT AND TWO (2) WASHERS, TIGHTENED ACCORDING TO CMS 513 PRIOR TO DECK PLACEMENT.

MINIMUM EDGE DISTANCES FOR BOLTS SHALL BE 1 1/2".

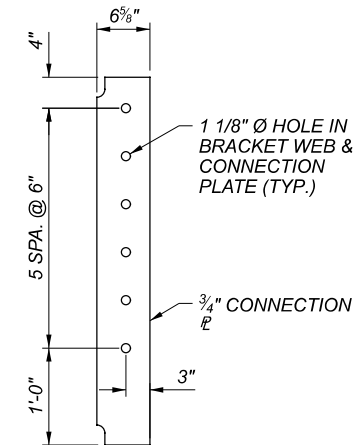
ALL FAYING SURFACES FOR BOLTED CONNECTIONS SHALL BE CLASS B.



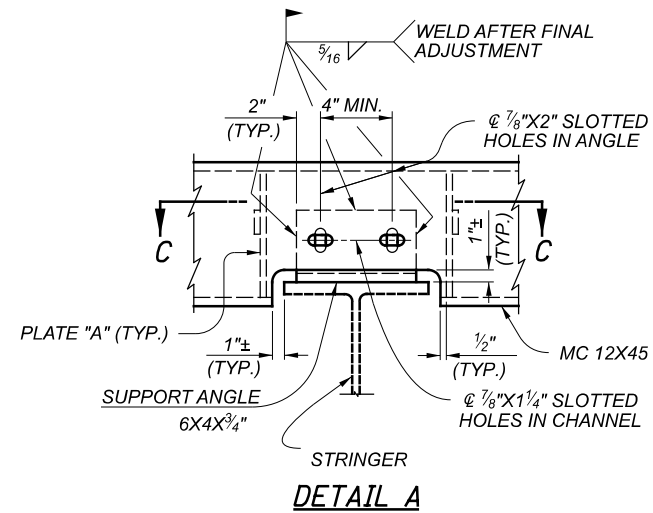
PART TRANSVERSE SECTION



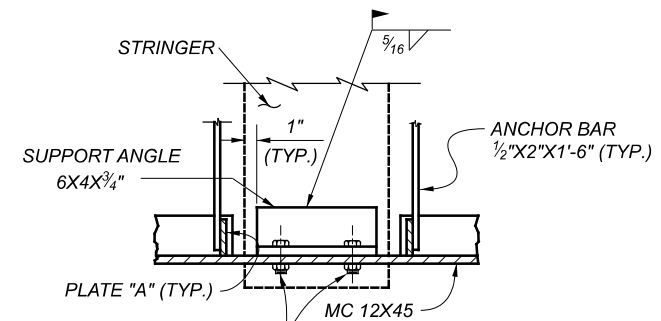
OVERHANG BRACKET DETAIL



CONNECTION PLATE DETAIL



DETAIL A



SECTION C-C

3/4" Ø ASTM A325 TYPE 1 HEX HEAD BOLTS WITH HEX NUT

BENT PLATE AND OVERHANG BRACKET NOTES

GENERAL:

THE FABRICATOR SHALL CHECK LONGITUDINAL CROSSFRAME SPACING SO THAT INTERFERENCE WITH BOLTED SPLICES, ANCHOR BOLTS, COMPLETE PENETRATION WEB OR FLANGE WELDED SPLICES AND BEARING STIFFENERS IS AVOIDED. SPACING SHALL BE ADJUSTED TO PROVIDE AT LEAST SIX (6) INCHES OF LONGITUDINAL CLEARANCE.

WHERE A PLATE OR SHAPE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.

INSTALL STIFFENERS ACCORDING TO CMS 513.13.

MATERIAL:

ALL INTERMEDIATE CROSSFRAME AND BRACKET MATERIAL SHALL BE A709 GRADE 50.

FASTENERS:

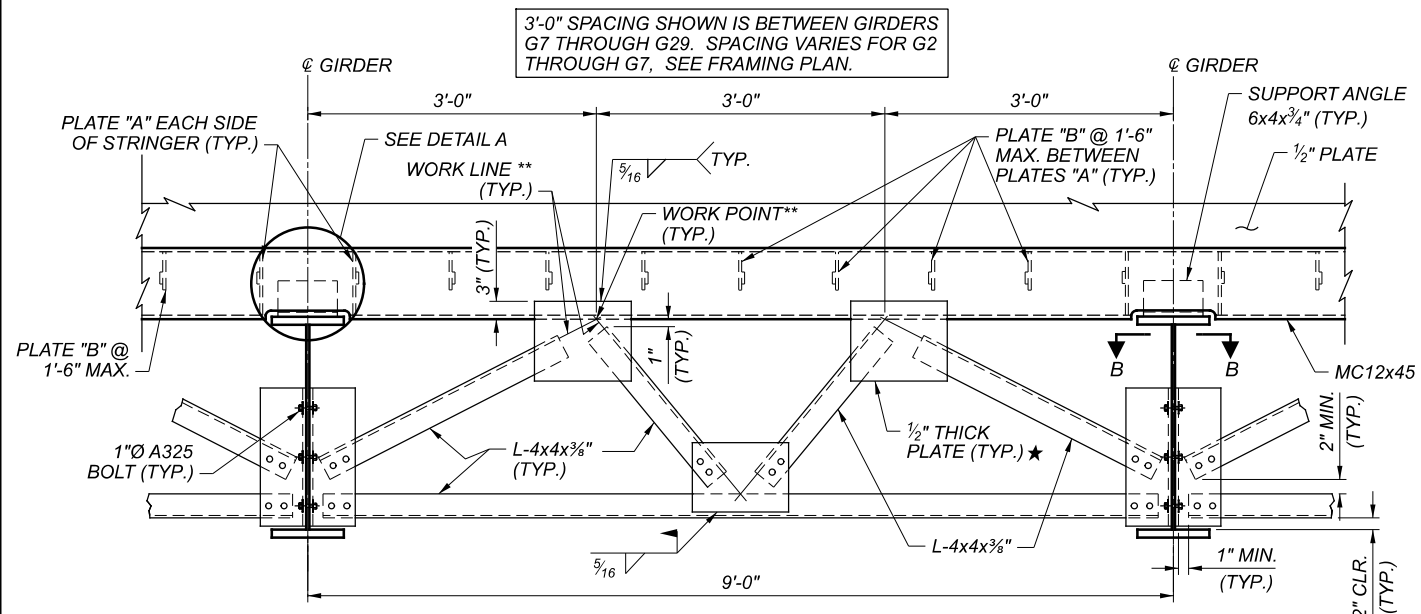
ALL BOLTS SHALL BE 1" Ø ASTM F3125, GRADE A325, WITH THREADS EXCLUDED FROM THE SHEAR PLANE.

TYPE 1 BOLTS SHALL BE USED. EACH ANCHOR ASSEMBLY SHALL INCLUDE A BOLT, NUT AND TWO (2) WASHERS, TIGHTENED ACCORDING TO CMS 513 PRIOR TO DECK PLACEMENT.

MINIMUM EDGE DISTANCES FOR BOLTS SHALL BE 1 1/2".

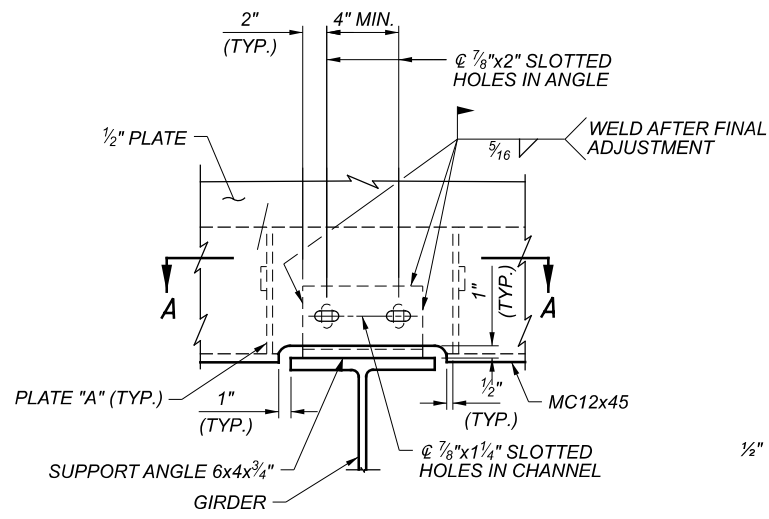
ALL FAYING SURFACES FOR BOLTED CONNECTIONS SHALL BE CLASS B.

BRACKET DIMENSIONS		
GIRDER	A	B
G1	2'-1"	1'-8 3/4"
G11	1'-8"	1'-3 3/4"
G12, G17, G18, G23, G24	1'-8"	1'-3 3/4"

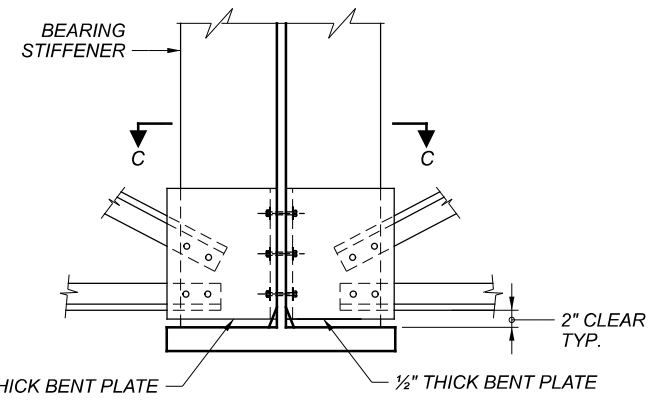


END CROSS FRAME TYPE 1

★ - INCLUDED WITH EXPANSION JOINT FOR COATING & PAYMENT.

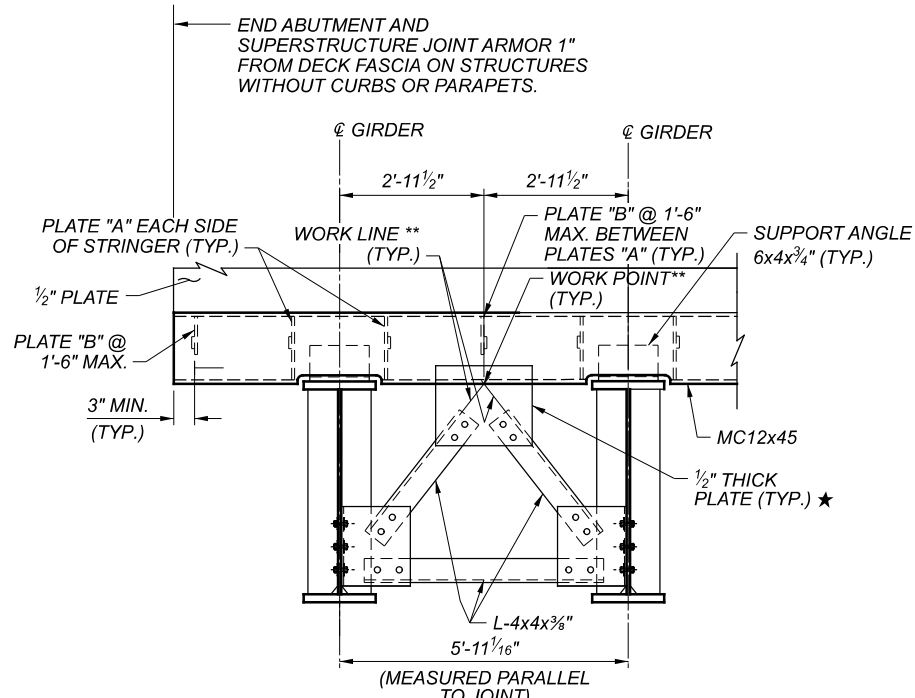


DETAIL "A"

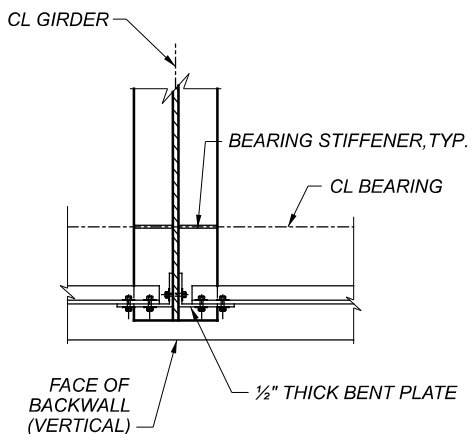


BEAM/GIRDER END

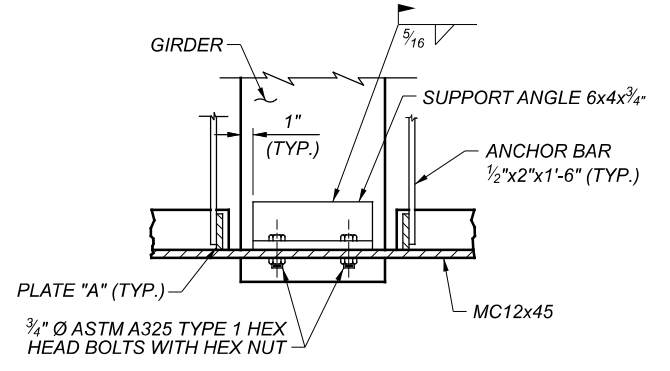
END CROSSFRAME TYPE 1 FOR SKEWED BRIDGES WHERE BEARING STIFFENERS INTERFERE WITH END CROSSFRAMES.



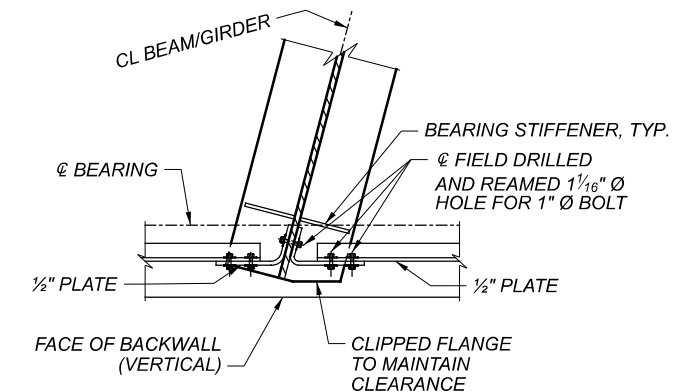
END CROSS FRAME TYPE 2



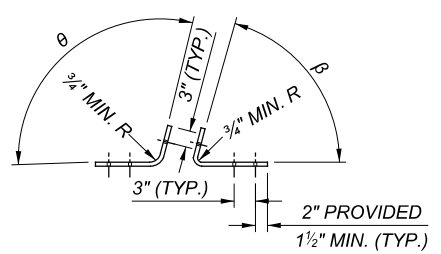
SECTION B-B



SECTION A-A



SECTION C-C



BENT PLATE DETAIL PLAN

END CROSSFRAME NOTES:

GENERAL:

WHERE A PLATE OR SHAPE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.

INSTALL STIFFENERS ACCORDING TO CMS 513.13.

FASTENERS:

ALL BOLTS SHALL BE 1"Ø ASTM F3125, GRADE A325, WITH THREADS EXCLUDED FROM THE SHEAR PLANE, UNLESS NOTED OTHERWISE.

TYPE 1 BOLTS SHALL BE USED. EACH ANCHOR ASSEMBLY SHALL INCLUDE A BOLT, NUT AND TWO (2) WASHERS, TIGHTENED ACCORDING TO CMS 513 PRIOR TO DECK PLACEMENT.

MINIMUM PITCH BETWEEN BOLTS FOR ALL END CROSSFRAME CONNECTIONS SHALL BE 3" UNLESS NOTED OTHERWISE.

MINIMUM EDGE DISTANCES FOR BOLTS SHALL BE 1 1/2".

ALL FAYING SURFACES FOR BOLTED CONNECTIONS SHALL BE CLASS B.

MATERIAL:

ALL END CROSSFRAME MATERIAL SHALL BE A709 GRADE 50.

BEAM/GIRDER ENDS:

THE BEAM/GIRDER ENDS SHALL BE FABRICATED TO BE VERTICAL AFTER ERECTION. A THREE (3) INCH MINIMUM CLEARANCE AT 60°F SHALL BE MAINTAINED BETWEEN THE VERTICAL ENDS OF THE BEAMS/GIRDERS AND THE VERTICAL FACE OF THE BACKWALL UNLESS THE CONTRACT CRITERIA/PLANS SHOW OTHERWISE.

WORK POINTS:

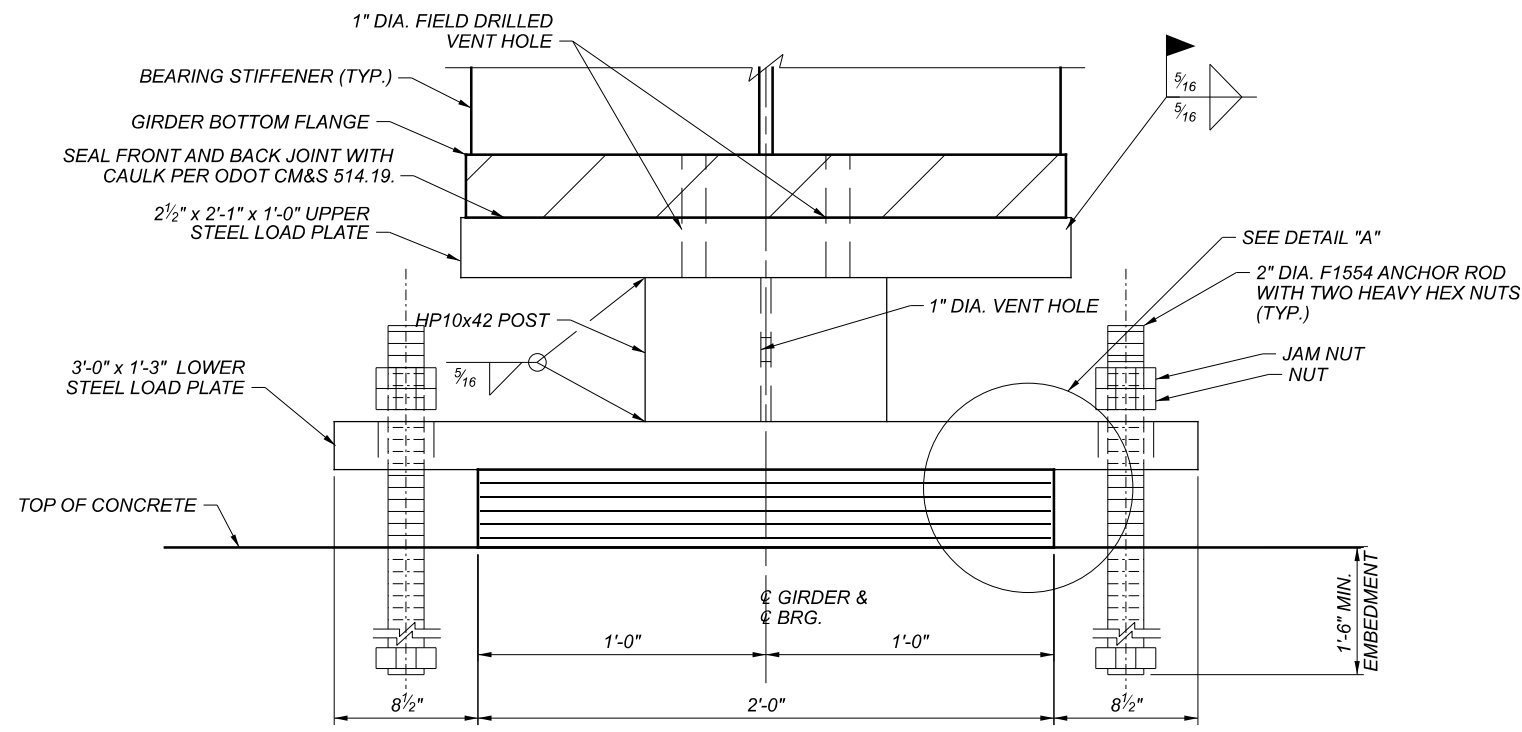
WORK POINTS SHALL BE COORDINATED BETWEEN EXPANSION JOINT AND STRUCTURAL STEEL SUPPLIERS TO ASSURE FIT UP AT ALL DESIGN LOCATIONS.

STIFFENER NOTES:

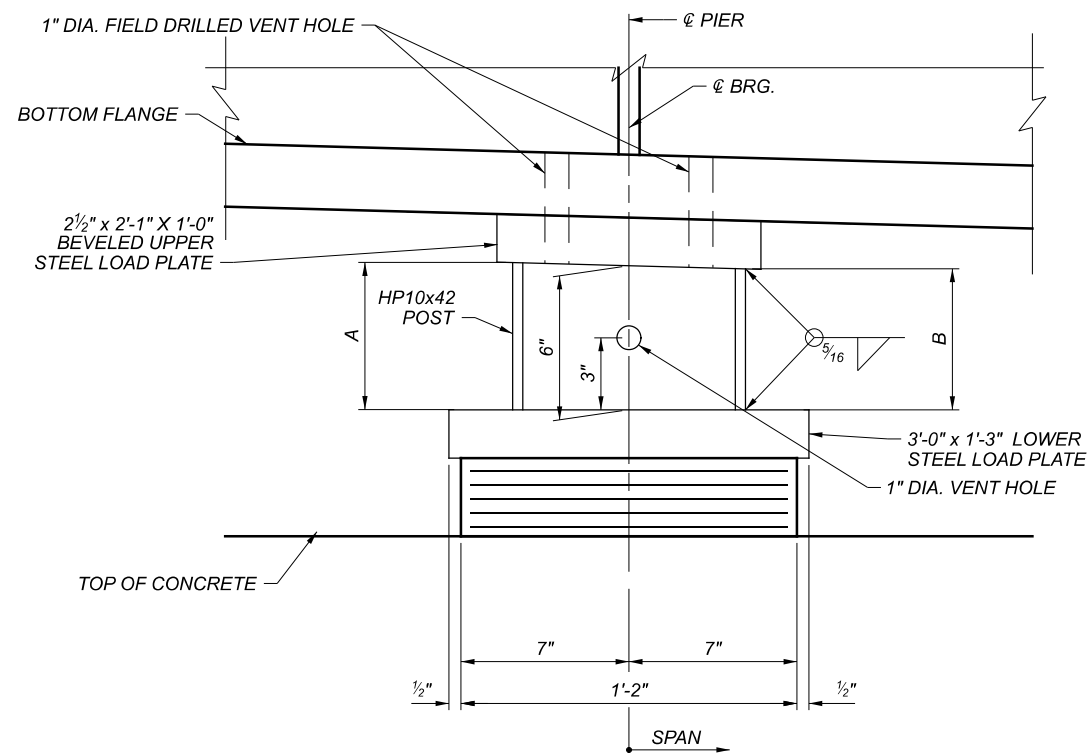
NOTES FOR STIFFENER DETAILS: INSTALL STIFFENERS ACCORDING TO 513. UNLESS THE CONTRACT DOCUMENTS REQUIRE LARGER WELDS, PROVIDE A 1/4" WELD WHEN THE THICKER PLATE IS 3/4" OR LESS AND A 5/16" WELD WHEN THE THICKER PLATE IS GREATER THAN 3/4".

SFN	1807841
DESIGN AGENCY	
DESIGNER/CHECKER	PAT XW
REVIEWER	
PROJECT ID	82382
SUBSET	35
TOTAL	63
SHEET	1926
TOTAL	2338

Michael Baker INTERNATIONAL

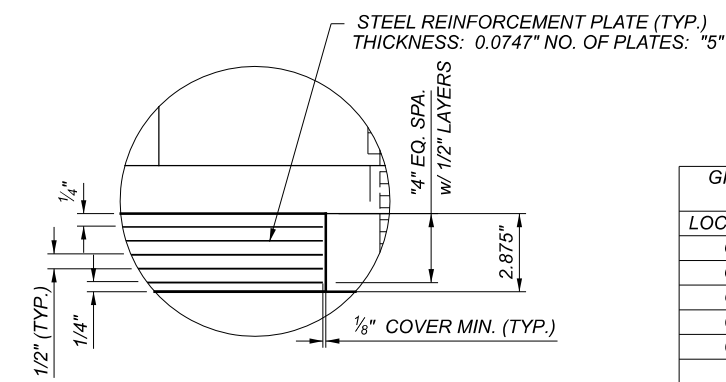


PIER BEARING ELEVATION



PIER BEARING SIDE ELEVATION

		HP10X42 POST HEIGHTS														
GIRDER		G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15
A		1'-0 1/2"	1'-0 3/16"	1'-0"	11 13/16"	11 5/8"	11 3/8"	11 3/16"	10 3/4"	10 5/16"	10"	9 9/16"	1'-0 3/8"	11 15/16"	11 1/2"	11 1/16"
B		1'-0 1/2"	1'-0 3/16"	1'-0"	11 13/16"	11 5/8"	11 3/8"	11 3/16"	10 3/4"	10 5/16"	9 3/4"	9 5/16"	1'-0 1/8"	11 11/16"	11 1/4"	10 13/16"
GIRDER		G16	G17	G18	G19	G20	G21	G22	G23	G24	G25	G26	G27	G28	G29	
A		10 5/8"	10 3/16"	1'-1 1/16"	1'-0 5/8"	1'-0 3/16"	11 3/4"	11 5/16"	10 7/8"	1'-1 5/8"	1'-1 3/16"	1'-0 3/4"	1'-0 5/16"	11 7/8"	11 7/16"	
B		10 3/8"	9 15/16"	1'-0 11/16"	1'-0 1/4"	11 13/16"	11 3/8"	10 15/16"	10 1/2"	1'-1 3/8"	1'-0 15/16"	1'-0 1/2"	1'-0 1/16"	11 5/8"	11 3/16"	



DETAIL "A"

GIRDER ALIGNMENT ANGLES	
LOCATION	ANGLE
G6	87° 11' 32"
G5	84° 23' 22"
G4	81° 36' 49"
G3	78° 52' 36"
G2	76° 11' 32"
G1	76° 11' 32"

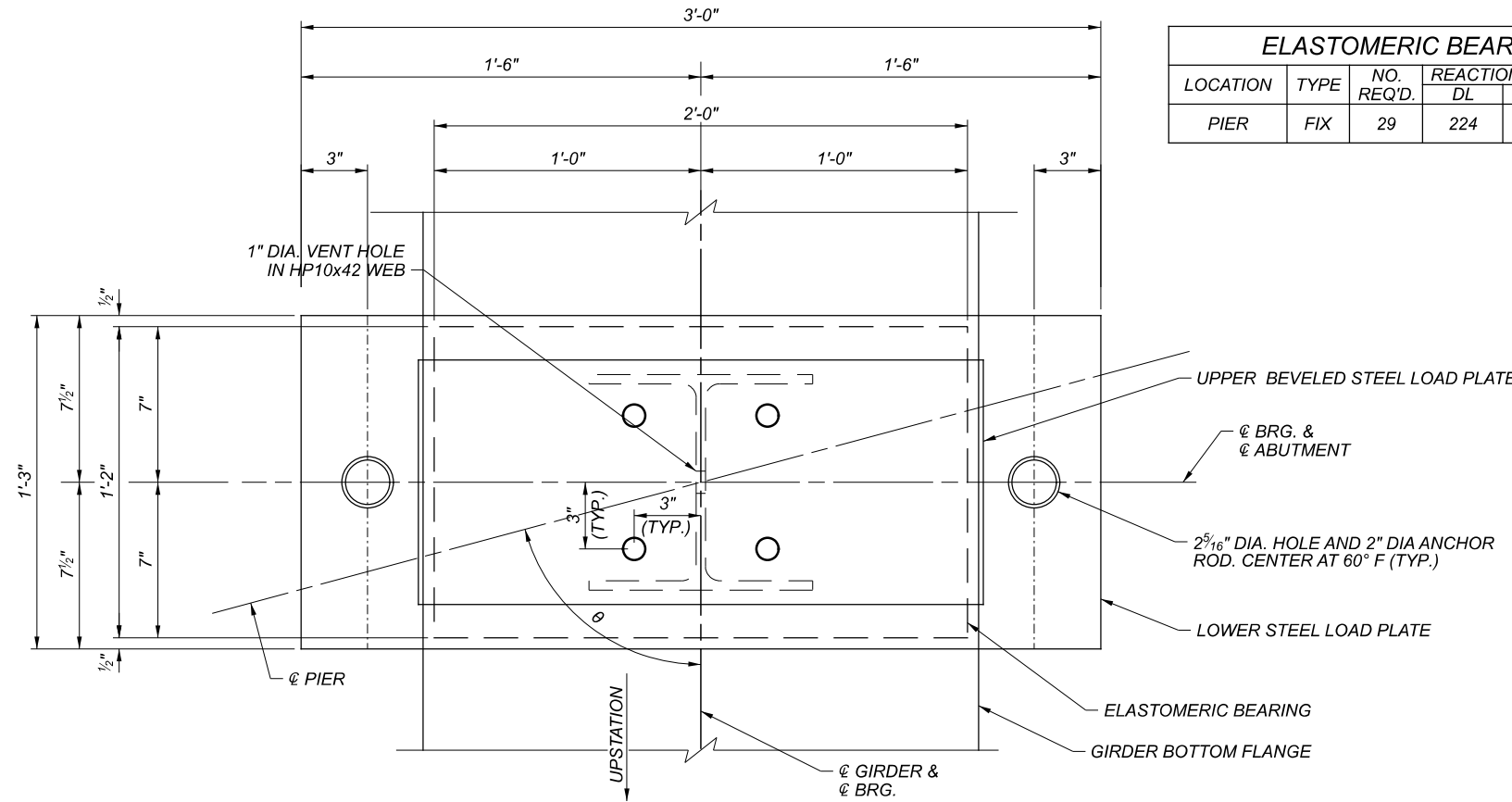
ELASTOMERIC BEARING DATA					
LOCATION	TYPE	NO. REQ'D.	REACTION (KIPS)		DESIGN LOAD (KIPS)
			DL	LL**	
PIER	FIX	29	224	126	350

LEGEND:

** = LIVE LOAD WITHOUT IMPACT

NOTES:

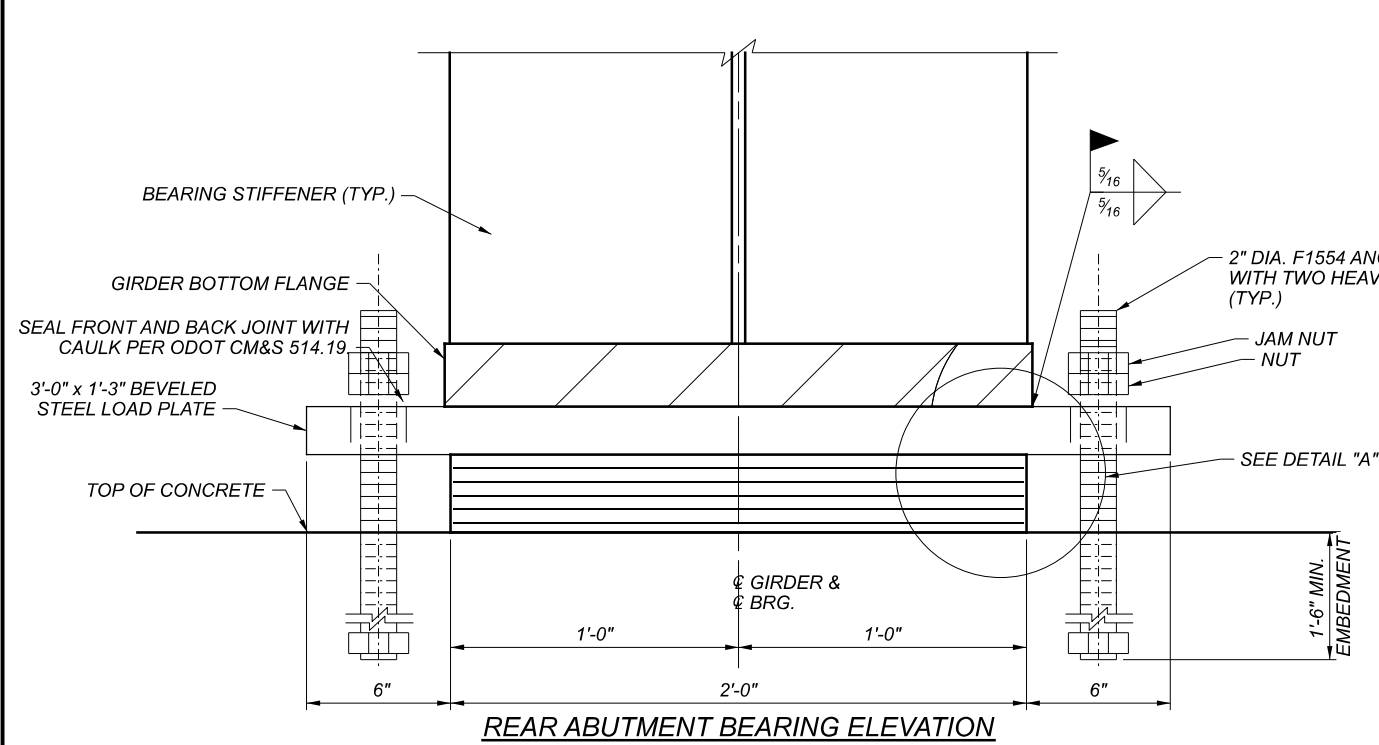
- PRIOR TO SHIPPING EACH BEARING ASSEMBLY SHALL BE SHOP MARKED WITH THE FOLLOWING INFORMATION: TOP, SPAN DIRECTION, LOCATION, AND GIRDER NUMBER. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
- STEEL LOAD PLATES, HP POSTS SHALL BE ASTM A709 GRADE 50 STEEL. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. CONTROL WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
- ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
- INSTALL LOWER ANCHOR NUT IN CONTACT WITH LOWER LOAD PLATE AND THEN BACK OFF 1/2 TURN, THEN INSTALL JAM NUT SNUG TIGHT TO PREVENT LOWER NUTS FROM LOOSENING.
- FURNISH AND INSTALL ELASTOMERIC BEARINGS PER ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE.
- ANCHOR RODS SHALL BE ASTM F1554, GRADE 105. NUTS SHALL CONFORM TO ASTM A563 FOR APPROPRIATE GRADE AND SIZE OF ANCHOR ROD. WASHERS SHALL CONFORM TO ASTM F436.
- BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS, INCLUDING LOAD PLATES, AND MISC. HARDWARE. PAYMENT WILL BE AT THE UNIT PRICE FOR ITEM 516 - EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
- SEE FRAMING PLAN FOR ANGLE θ BETWEEN ∅ GIRDER AND ∅ PIER.



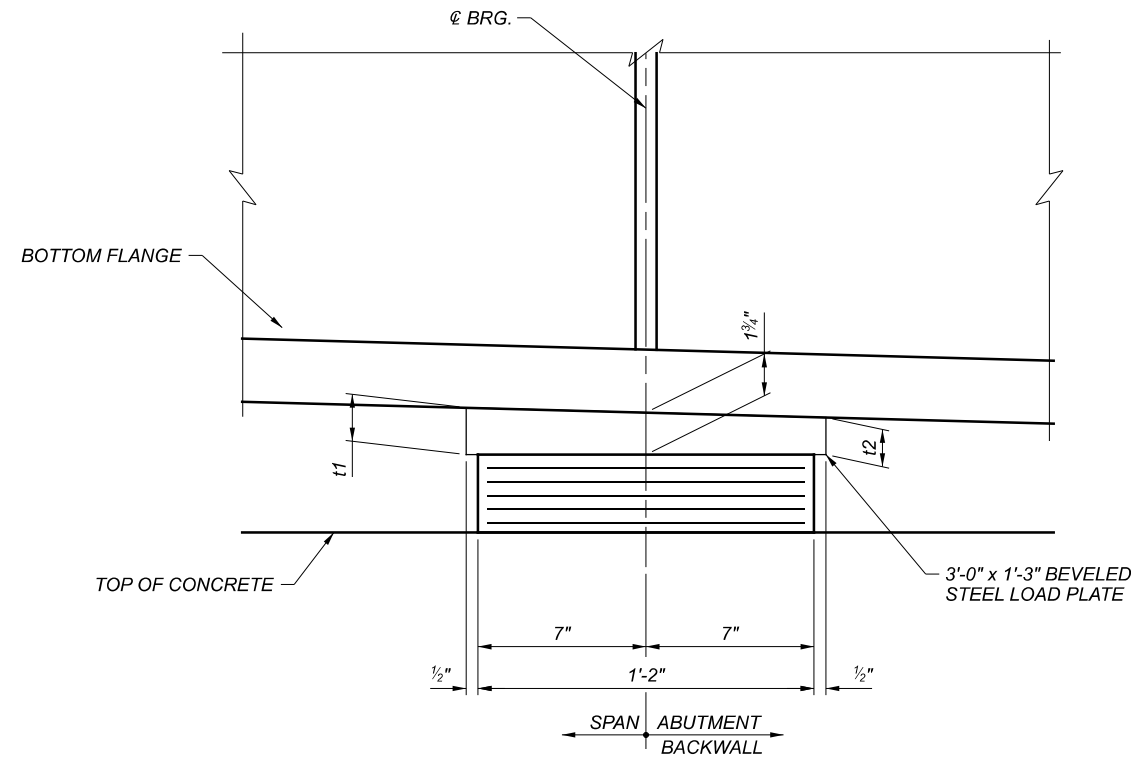
PIER BEARING PLAN

(BEARING STIFFENER AND GIRDER WEB NOT SHOWN FOR CLARITY)

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	PAT XW
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	36
TOTAL	63
SHEET	1927
TOTAL	2338

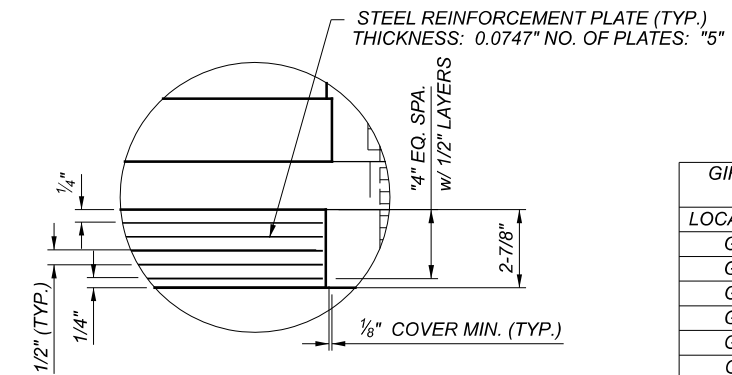


REAR ABUTMENT BEARING ELEVATION



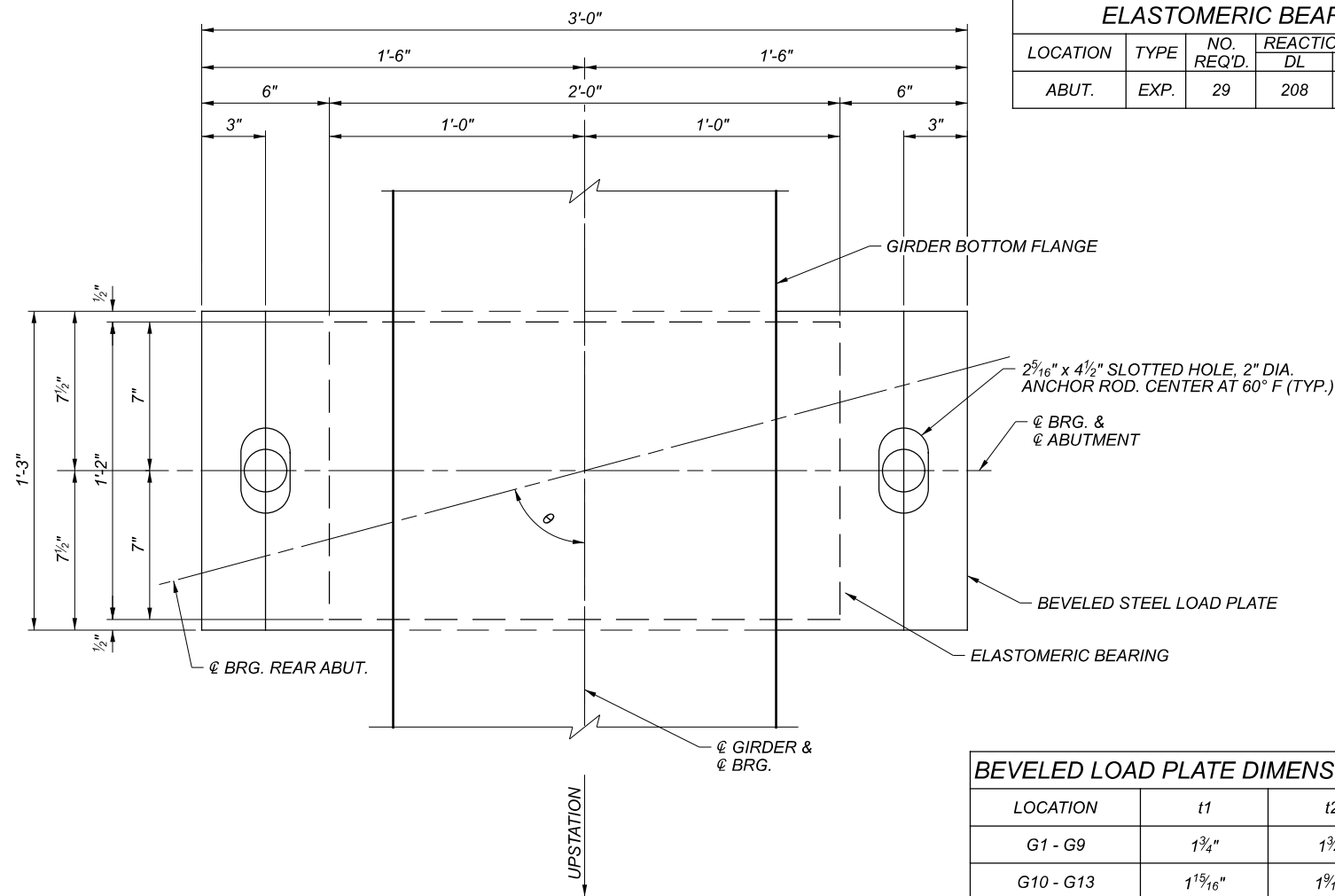
REAR ABUTMENT BEARING SIDE ELEVATION

ELASTOMERIC BEARING DATA					
LOCATION	TYPE	NO. REQ'D.	REACTION (KIPS)		DESIGN LOAD (KIPS)
			DL	LL**	
ABUT.	EXP.	29	208	126	334



DETAIL "A"

GIRDER ALIGNMENT ANGLES	
LOCATION	ANGLE
G6	87° 11' 32"
G5	84° 23' 22"
G4	81° 36' 49"
G3	78° 52' 36"
G2	76° 11' 32"
G1	76° 11' 32"



REAR ABUTMENT BEARING PLAN
 (BEARING STIFFENER AND GIRDER WEB NOT SHOWN FOR CLARITY)

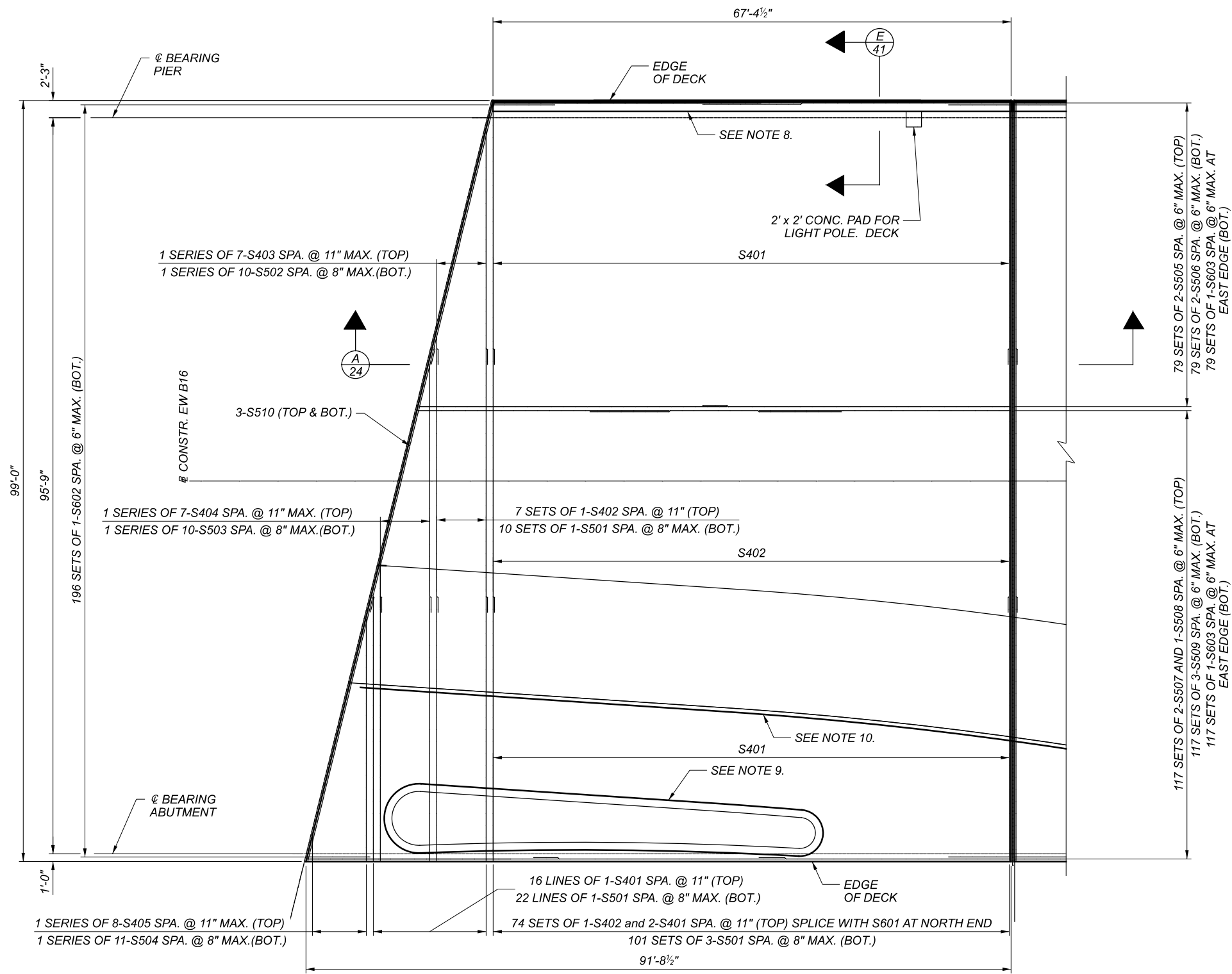
BEVELED LOAD PLATE DIMENSIONS		
LOCATION	t1	t2
G1 - G9	1 3/4"	1 3/4"
G10 - G13	1 5/16"	1 9/16"
G14 - G27	2"	1 1/2"
G28 - G29	1 5/16"	1 9/16"

LEGEND:

** = LIVE LOAD WITHOUT IMPACT

NOTES:

- SEE SHEET 36/63 FOR NOTES AND ADDITIONAL DETAILS.
- SEE FRAMING PLAN FOR ANGLE θ BETWEEN ϕ GIRDER AND ϕ REAR ABUTMENT.



DECK PANEL "A"

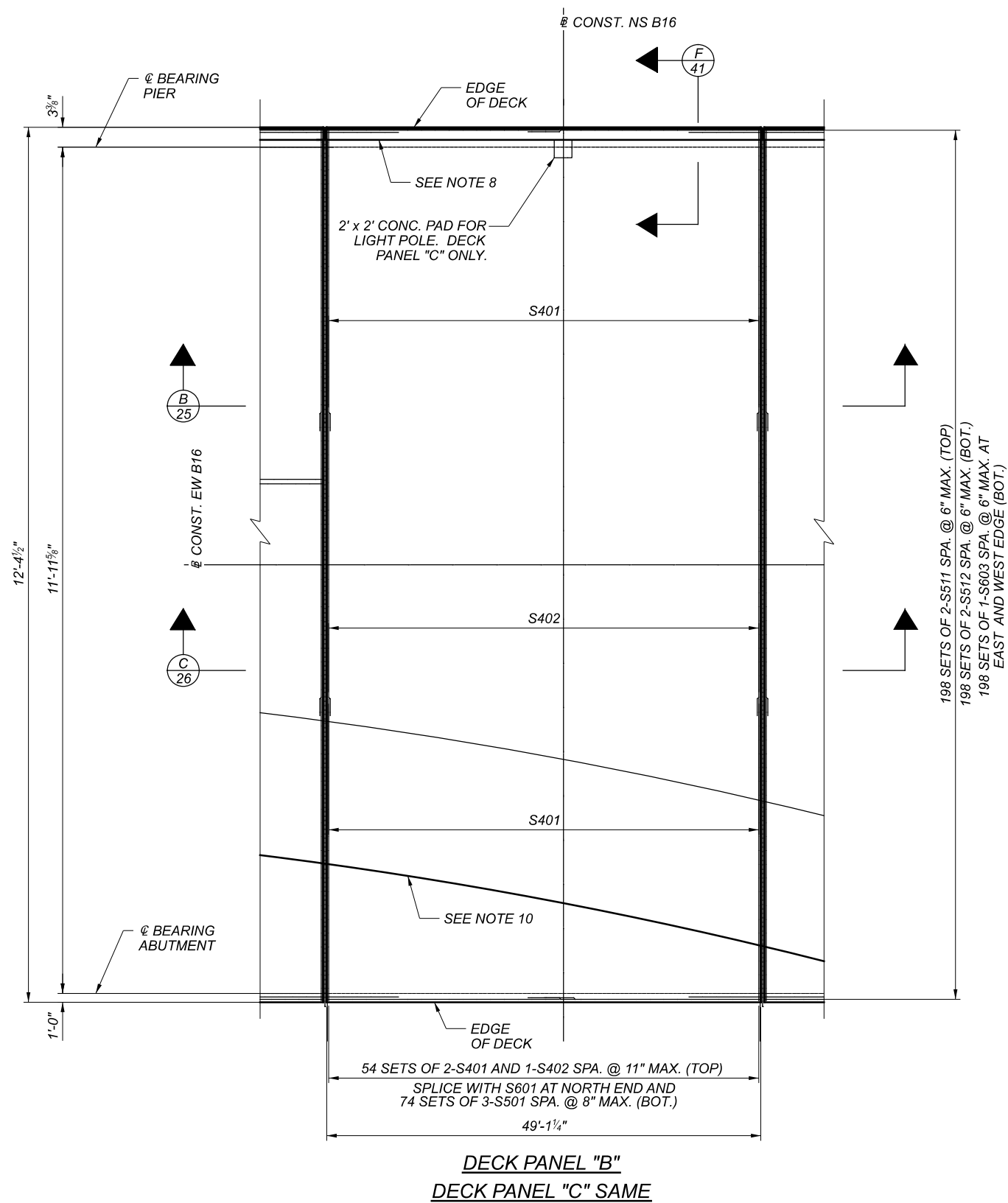
REQUIRED MINIMUM LAP LENGTHS	
#4	1'-11"
#5	3'-2"
#6	3'-5"

NOTES:

- FOR FRAMING PLAN AND BEAM ELEVATION, SEE SHEETS 28/63 - 29/63.
- FOR SCREED, TOP OF HAUNCH, AND FINAL DECK ELEVATIONS, SEE SHEETS 46/63 - 49/63.
- FOR TRANSVERSE SECTIONS, SEE SHEETS 24/63 - 27/63.
- FOR RAILING PLAN AND ELEVATION, SEE SHEETS 51/63 - 52/63.
- FOR REINFORCING STEEL LIST, SEE SHEETS 61/63 - 63/63.
- DRIP GROOVES SHALL TERMINATE 2'-0" FROM THE FACE OF THE ABUTMENT END DIAPHRAGMS.
- FOR END DIAPHRAGM DETAIL, SEE SHEET 41/63.
- FOR DOWELS INTO PARAPET, SEE SHEETS 51/63 - 52/63.
- FOR DOWELS INTO CURB AND MEDIAN, SEE SHEET 42/63.
- FOR DOWELS INTO SIDEWALK, SEE SHEET 43/63.
- FOR ANCHORAGE FOR DECK MOUNTED LIGHT POLES, SEE SHEET 50/63.



SFN	1807841
DESIGN AGENCY	
DESIGNER	PAT
CHECKER	XW
REVIEWER	LPC
PROJECT ID	82382
SUBSET	38
TOTAL	63
SHEET	1929
TOTAL	2338



DECK PANEL "B"
DECK PANEL "C" SAME

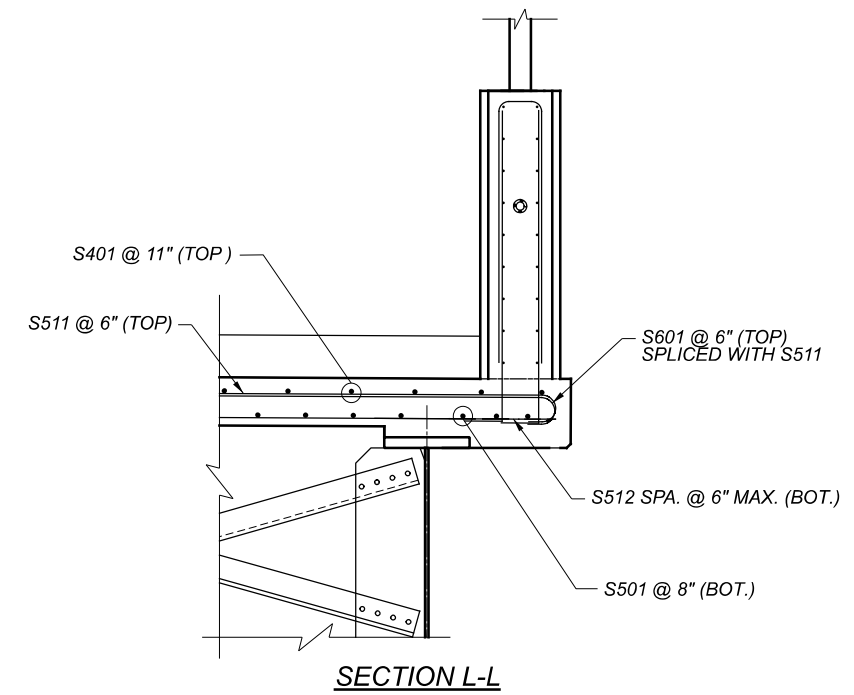
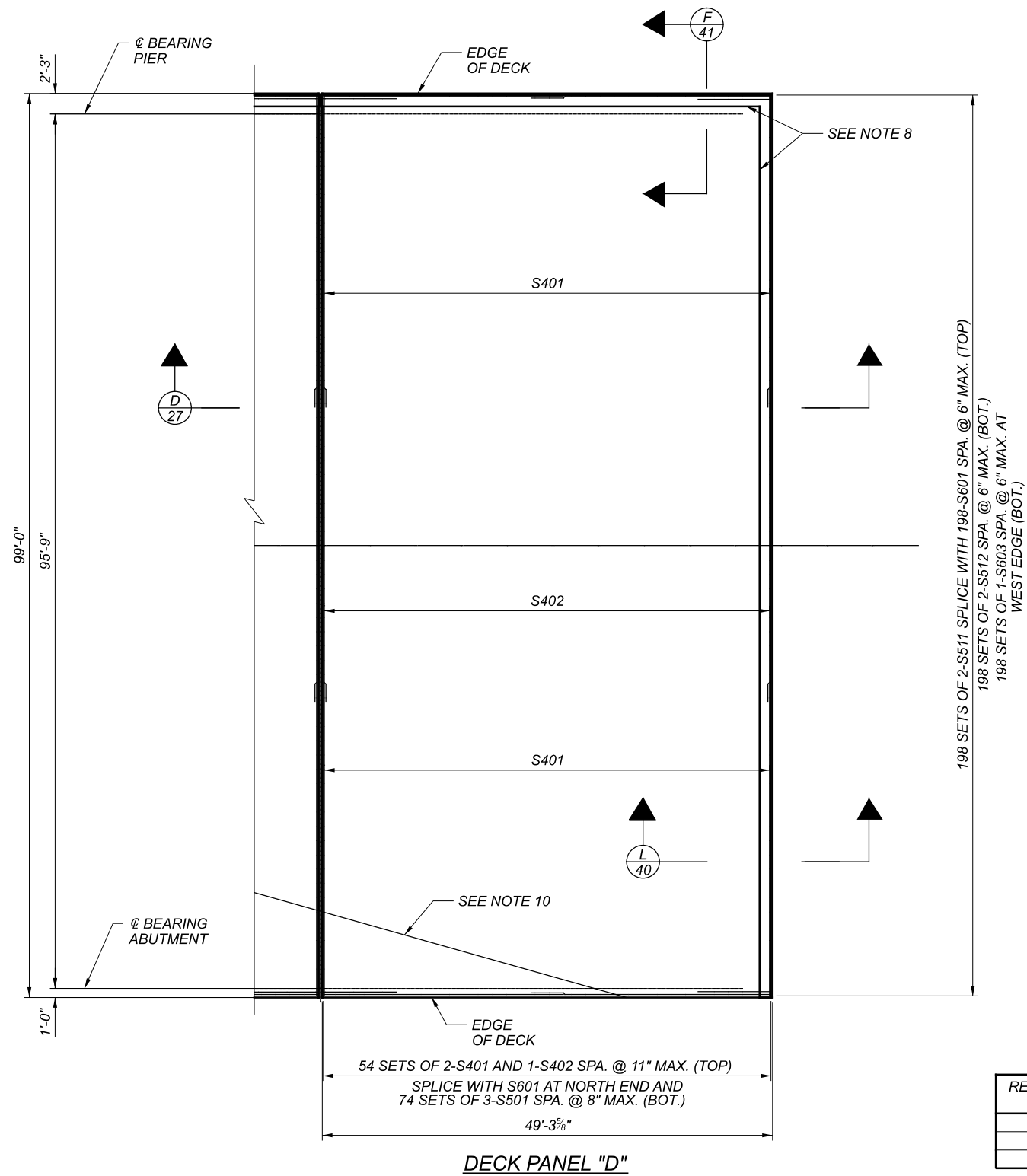
REQUIRED MINIMUM LAP LENGTHS	
#4	1'-11"
#5	3'-2"
#6	3'-5"

NOTES:

1. FOR FRAMING PLAN AND BEAM ELEVATION, SEE SHEETS 28/63 - 29/63.
2. FOR SCREED, TOP OF HAUNCH, AND FINAL DECK ELEVATIONS, SEE SHEETS 46/63 - 49/63.
3. FOR TRANSVERSE SECTIONS, SEE SHEETS 24/63 - 27/63.
4. FOR RAILING PLAN AND ELEVATION, SEE SHEETS 51/63 - 52/63.
5. FOR REINFORCING STEEL LIST, SEE SHEETS 61/63 - 63/63.
6. DRIP GROOVES SHALL TERMINATE 2'-0" FROM THE FACE OF THE ABUTMENT END DIAPHRAGMS.
7. FOR END DIAPHRAGM DETAIL, SEE SHEET 41/63.
8. FOR DOWELS INTO PARAPET, SEE SHEETS 51/63 - 52/63.
9. FOR DOWELS INTO CURB AND MEDIAN, SEE SHEET 42/63.
10. FOR DOWELS INTO SIDEWALK, SEE SHEET 43/63.
11. FOR ANCHORAGE FOR DECK MOUNTED LIGHT POLES, SEE SHEET 50/63.



SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	PAT XW
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	39
TOTAL	63
SHEET	1930
TOTAL	2338

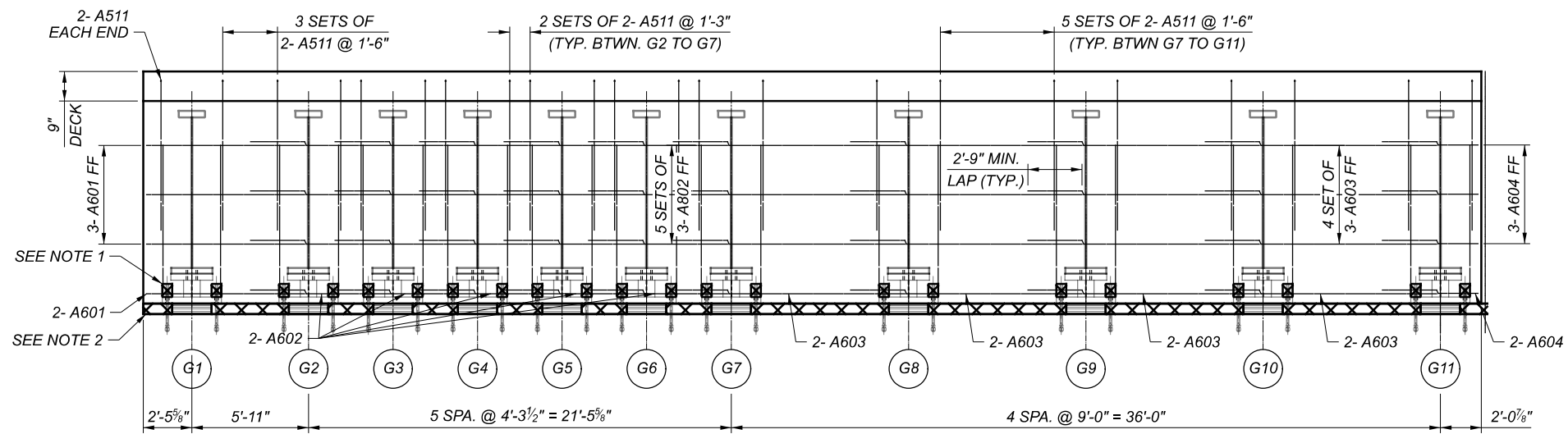


NOTES:

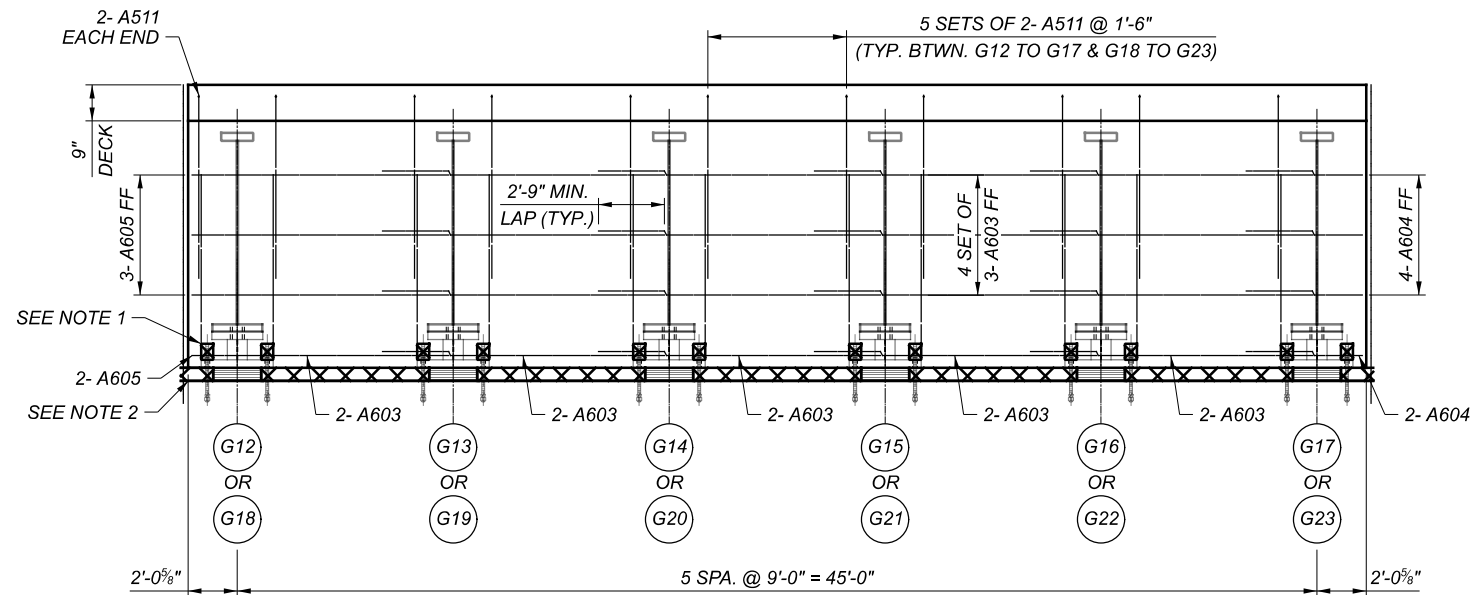
1. FOR FRAMING PLAN AND BEAM ELEVATION, SEE SHEETS 28/63 - 29/63.
2. FOR SCREED, TOP OF HAUNCH, AND FINAL DECK ELEVATIONS, SEE SHEETS 46/63 - 49/63.
3. FOR TRANSVERSE SECTIONS, SEE SHEETS 24/63 - 27/63.
4. FOR RAILING PLAN AND ELEVATION, SEE SHEETS 51/63 - 52/63.
5. FOR REINFORCING STEEL LIST, SEE SHEETS 61/63 - 63/63.
6. DRIP GROOVES SHALL TERMINATE 2'-0" FROM THE FACE OF THE ABUTMENT END DIAPHRAGMS.
7. FOR END DIAPHRAGM DETAIL, SEE SHEET 41/63.
8. FOR DOWELS INTO PARAPET, SEE SHEETS 51/63 - 52/63.
9. FOR DOWELS INTO CURB AND MEDIAN, SEE SHEET 42/63.
10. FOR DOWELS INTO SIDEWALK, SEE SHEET 43/63.
11. FOR ANCHORAGE FOR DECK MOUNTED LIGHT POLES, SEE SHEET 50/63.



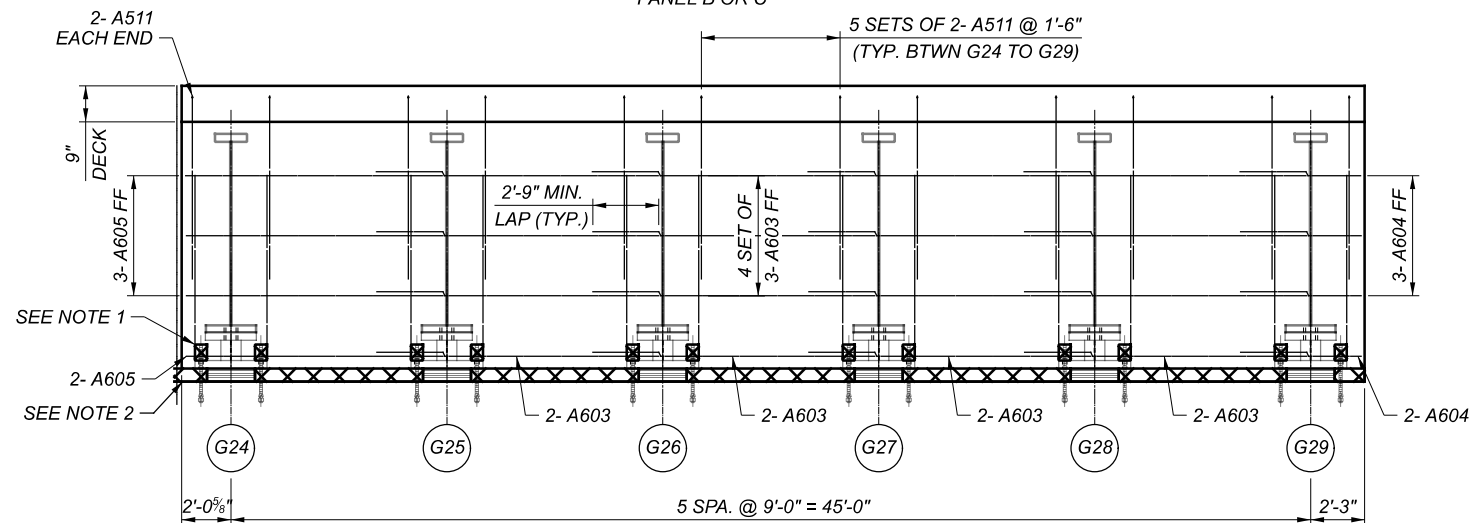
SFN	1807841	
DESIGN AGENCY	Michael Baker INTERNATIONAL	
DESIGNER	PAT	XW
CHECKER	LPC	
PROJECT ID	82382	
SUBSET	40	63
SHEET	1931	2338



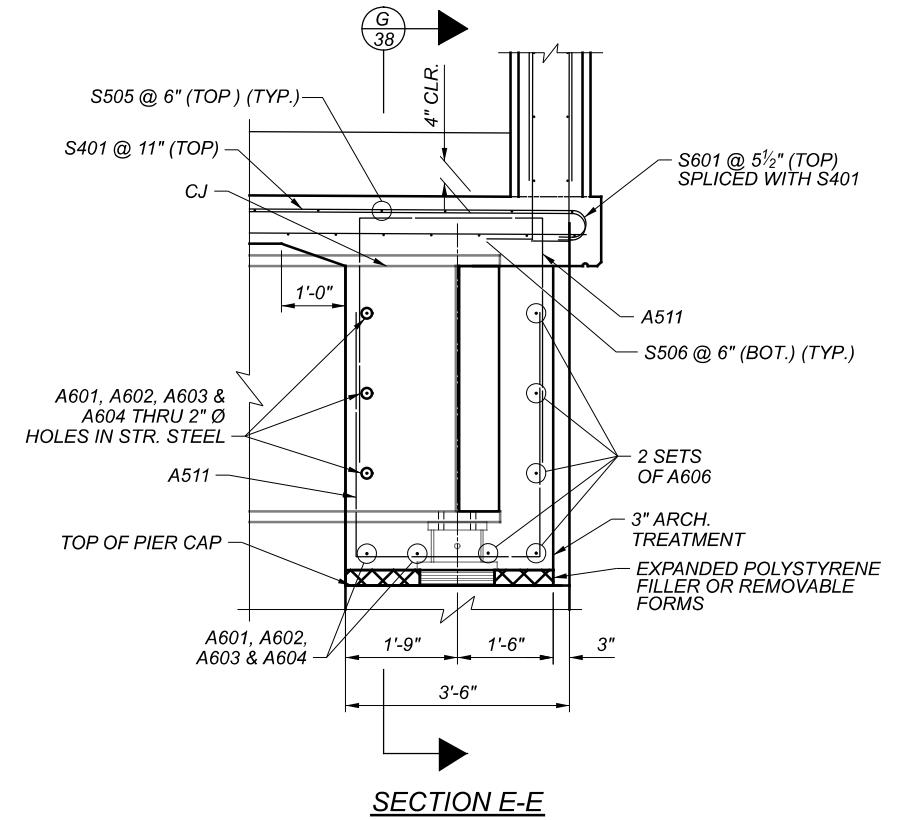
SECTION G-G
PANEL A



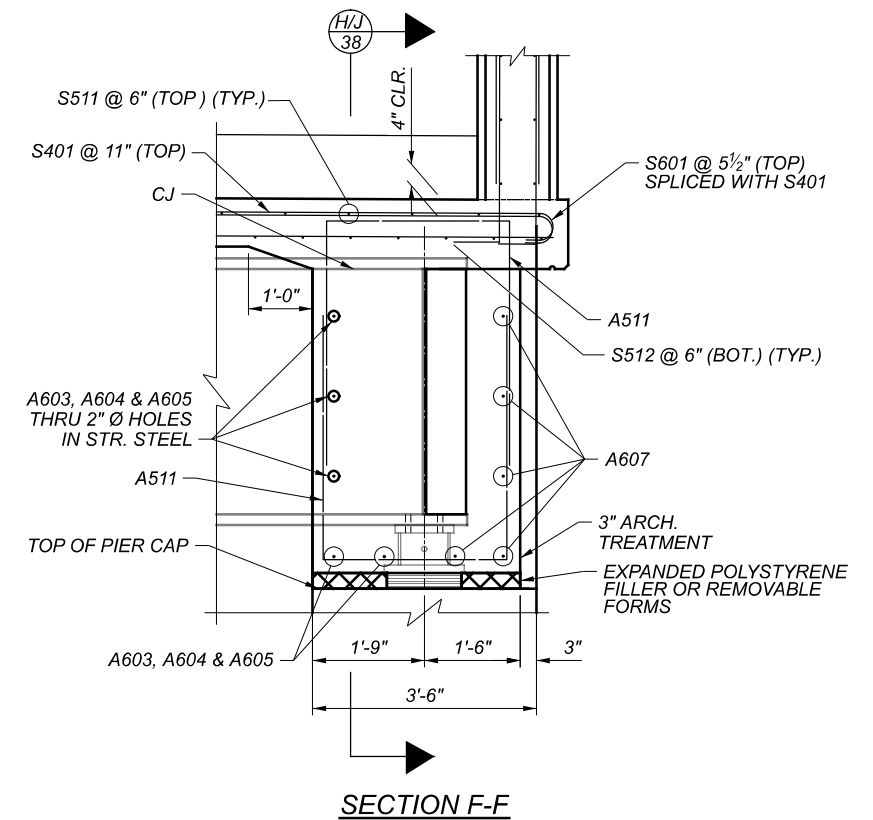
SECTION H-H
PANEL B OR C



SECTION J-J
PANEL D



SECTION E-E

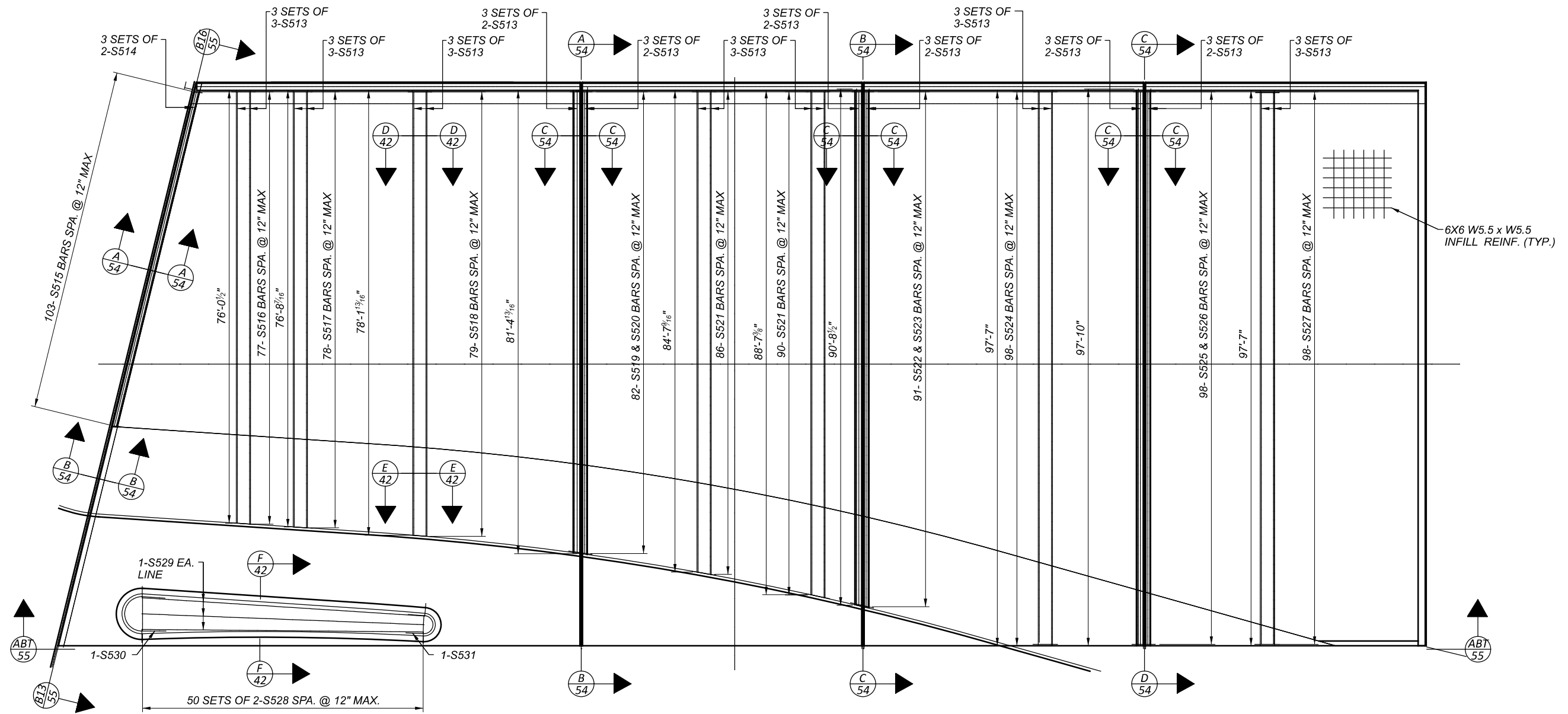


SECTION F-F

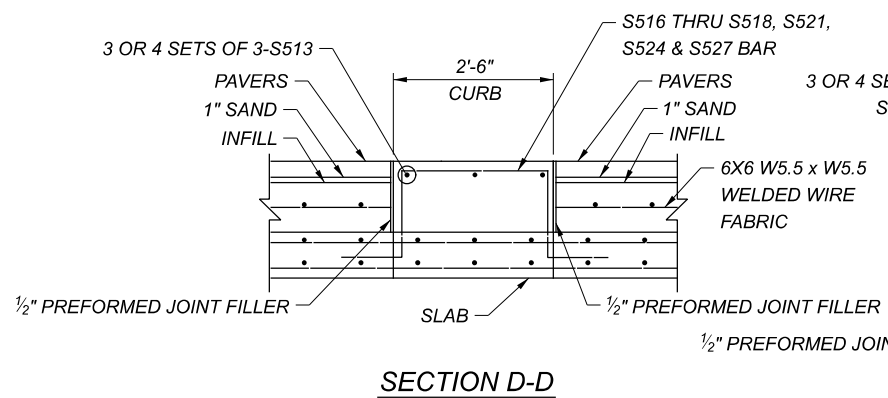
NOTES:

1. PLACE 2" EXPANDED POLYSTYRENE FILLER AROUND SIDES AND TOP OF ANCHOR RODS AT BEARINGS. SECURE IN PLACE WITH ADHESIVE PRIOR TO CONCRETE POUR.
2. EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS.

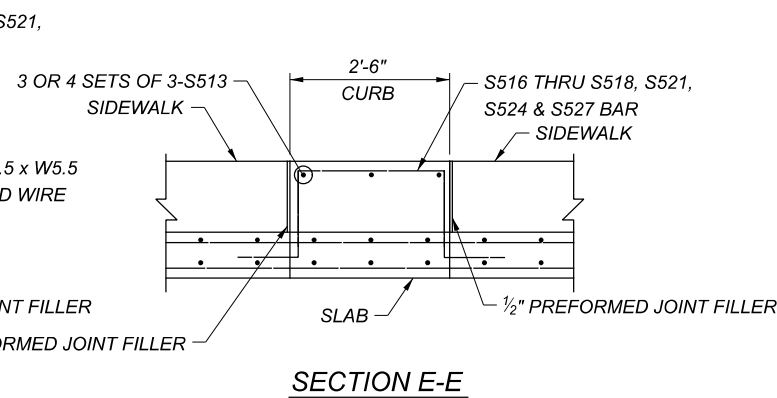
SFN	1807841
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER/CHECKER	PAT XW
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	TOTAL
41	63
SHEET	TOTAL
1932	2338



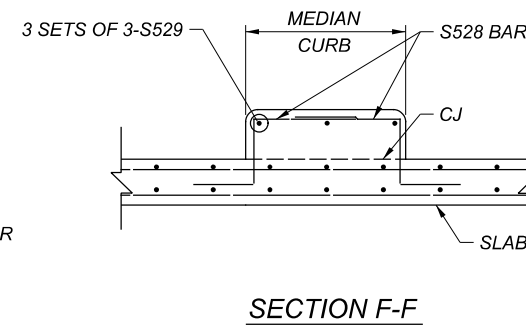
DECK INFILL PLAN



SECTION D-D



SECTION E-E



SECTION F-F

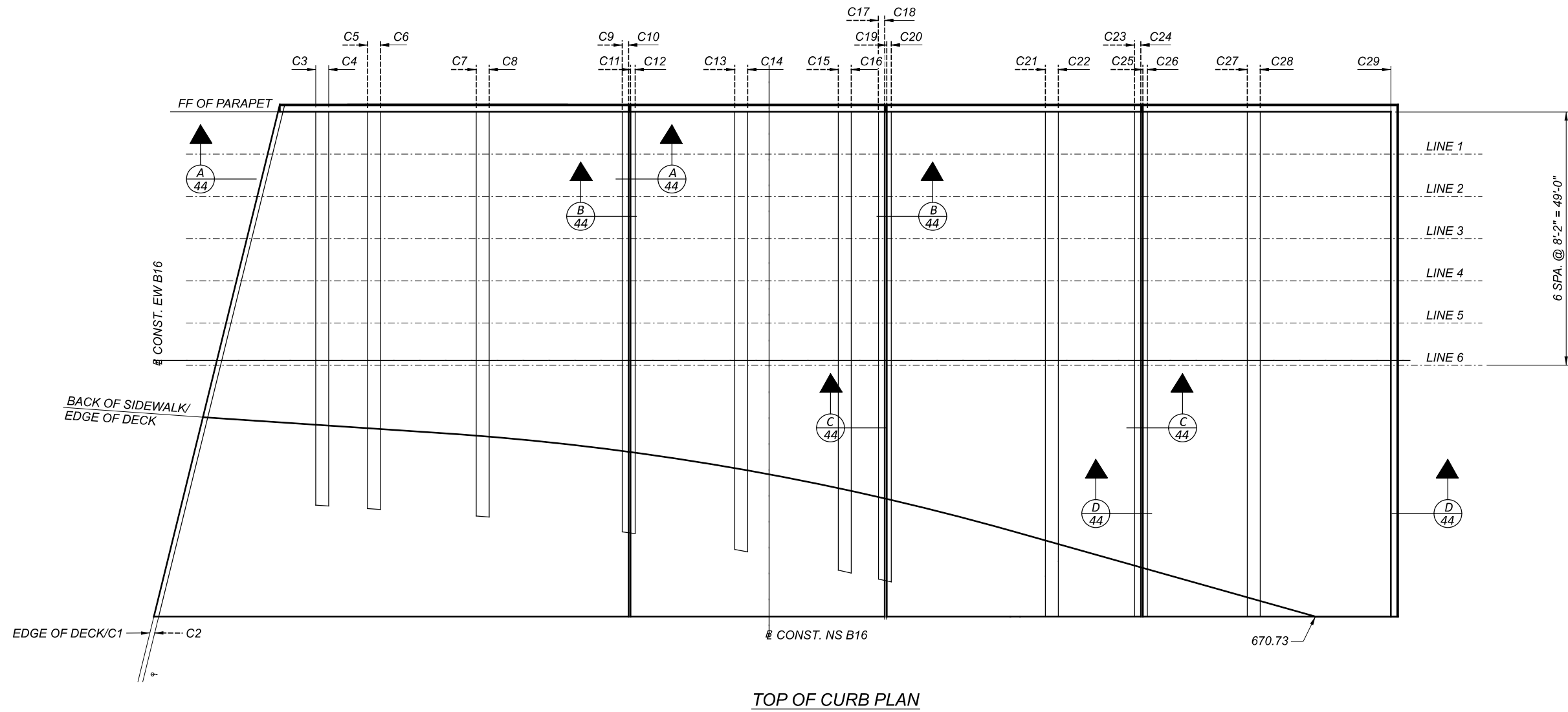
REQUIRED MINIMUM LAP LENGTHS	
5	2'-11"

NOTES:

- FOR SECTION A-A, B-B, C-C, SEE SHEET 54/63.
- FOR SECTION A-B, B-C, C-D, SEE SHEET 54/63.
- FOR SECTION B13-B16, ABT-ABT, SEE SHEET 55/63.
- FOR SECTION D-D, E-E, F-F, SEE SHEET 42/63.
- FOR DECK REINFORCING, SEE SHEETS 38/63 THRU 40/63.
- FOR SIDEWALK AND CURB REINFORCING, SEE SHEET 43/63.
- S515 THRU S528 DOWELS TO BE PLACED WITH DECK.
- THE CONCRETE INFILL TO BE POURED BETWEEN THE SIDEWALKS, CURB AND PARAPETS IS TO BE PAID FOR UNDER ITEM 608, 8" CONCRETE WALK. THE AVERAGE THICKNESS FOR THE ENTIRE AREA OF INFILL ON STRUCTURE IS ESTIMATED TO BE 4.6". THE INFILL SHALL BE REINFORCED WITH WELDED WIRE FABRIC AS CALLED OUT IN THE PLANS. PAYMENT FOR THE WELDED WIRE FABRIC SHALL BE INCLUDED WITH THE ITEM 608.



SFN	1807841
DESIGN AGENCY	
DESIGNER/CHECKER	PAT XW
REVIEWER	
PROJECT ID	82382
SUBSET	42
TOTAL	63
SHEET	1933
TOTAL	2338



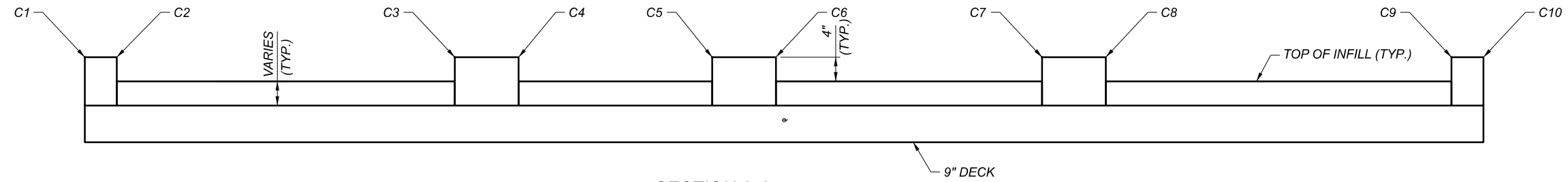
TOP OF CURB PLAN

NOTES:

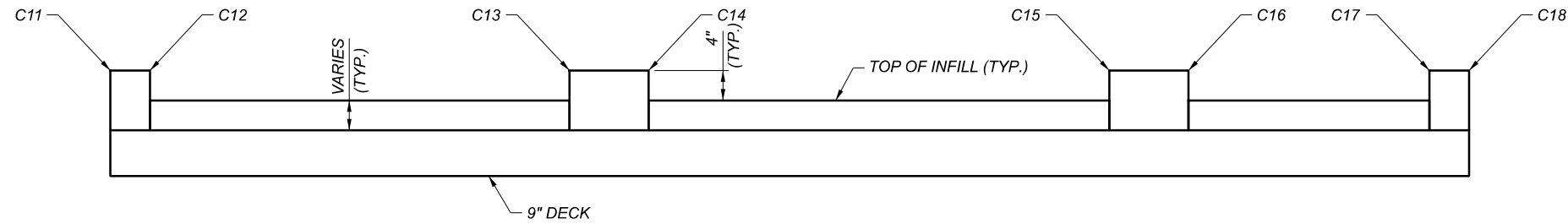
1. FOR SECTION A-A, B-B, C-C AND D-D, SEE SHEET 44/63.
2. FOR TABULATED ELEVATIONS ALONG BACK OF SIDEWALK/EDGE OF DECK AND THE FRONT FACE OF PARAPET, SEE SHEET 45/63.
3. ADDITIONAL SPOT ELEVATIONS ARE CALLED OUT FOR CLARITY.
4. ELEVATIONS VARY LINEARLY BETWEEN THE BACK OF SIDEWALK AND LINE 6 PARALLEL TO @ CONST. NS B16.

TOP OF CURB & INFILL TABLE (1 OF 3)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

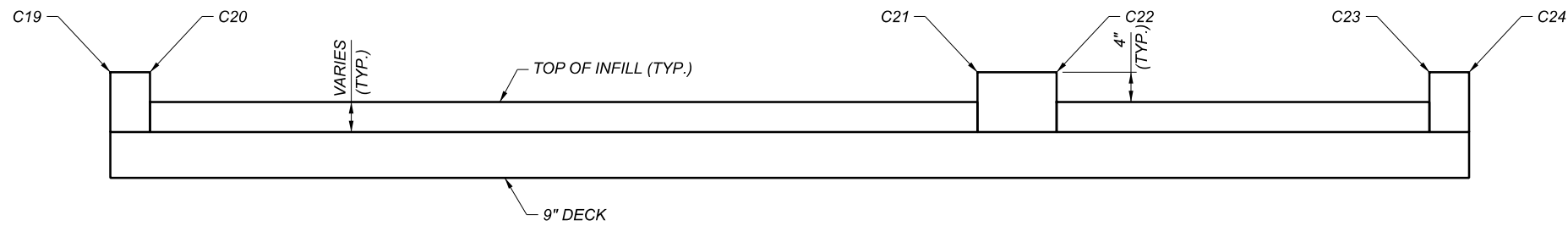
SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
DESIGNER CHECKER	
REVIEWER	
PROJECT ID	82382
SUBSET	43
TOTAL	63
SHEET	1934
TOTAL	2338



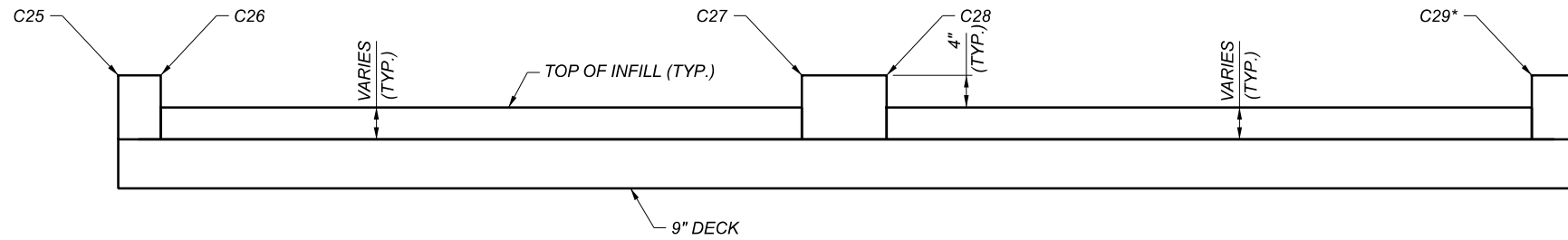
SECTION A-A
 PANEL "A"
 ("PAVERS NOT SHOWN FOR CLARITY")



SECTION B-B
 PANEL "B"
 ("PAVERS NOT SHOWN FOR CLARITY")



SECTION C-C
 PANEL "C"
 ("PAVERS NOT SHOWN FOR CLARITY")



SECTION D-D
 PANEL "D"
 ("PAVERS NOT SHOWN FOR CLARITY")
 *THE ELEVATION AT THIS LOCATION IS THE FINISHED TOP OF PAVERS, 4" ABOVE THE TOP OF THE CONCRETE INFILL ALONG THE INSIDE FACE OF PARAPET.

NOTES:

1. FOR LOCATIONS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET 43/63.
2. FOR TOP OF CURB ELEVATION TABLE, SEE SHEET 45/63.
3. FOR DECK REINFORCING, SEE SHEETS 38/63 THRU 40/63.
4. FOR SIDEWALK AND CURB REINFORCING, SEE SHEET 42/63 AND 49/63.

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
DESIGNER	PAT
CHECKER	XW
REVIEWER	
PROJECT ID	LPC 07-27-22
SUBSET	82382
TOTAL	
SHEET	44
TOTAL	63
SHEET	1935
TOTAL	2338

FINAL TOP OF CURB & INFILL ELEVATIONS - PANEL A										
LINE	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FF OF PARAPET	673.66	673.02	672.99	672.99	672.96	672.95	672.87	672.87	672.77	672.76
LINE 1	673.74	673.70	673.60	673.56	673.44	673.40	673.11	673.08	672.67	672.65
LINE 2	673.81	673.72	673.61	673.57	673.44	673.39	673.07	673.02	672.57	672.55
LINE 3	673.86	673.73	673.61	673.56	673.42	673.37	673.01	672.96	672.46	672.44
LINE 4	673.90	673.72	673.59	673.54	673.38	673.33	672.95	672.89	672.36	672.33
LINE 5	673.92	673.68	673.55	673.49	673.33	673.27	672.87	672.82	672.25	672.23
LINE 6	673.90	673.61	673.47	673.42	673.25	673.19	672.78	672.72	672.15	672.12
BACK OF SIDEWALK / EDGE OF DECK	673.59	673.55	672.95	672.89	672.73	672.67	672.29	672.26	671.92	671.90

FINAL TOP OF CURB & INFILL ELEVATIONS - PANEL B								
LINE	C11	C12	C13	C14	C15	C16	C17	C18
FF OF PARAPET	672.76	672.75	672.68	672.67	672.60	672.58	672.56	672.56
LINE 1	672.65	672.65	672.55	672.54	672.46	672.44	672.42	672.41
LINE 2	672.54	672.54	672.43	672.41	672.32	672.30	672.28	672.27
LINE 3	672.44	672.43	672.30	672.29	672.18	672.16	672.13	672.13
LINE 4	672.33	672.32	672.18	672.16	672.04	672.02	671.99	671.98
LINE 5	672.22	672.22	672.06	672.04	671.90	671.88	671.85	671.84
LINE 6	672.12	672.11	671.93	671.91	671.76	671.74	671.70	671.69
BACK OF SIDEWALK / EDGE OF DECK	671.90	671.89	671.63	671.60	671.36	671.33	671.26	671.24

FINAL TOP OF CURB & INFILL ELEVATIONS - PANEL C						
LINE	C19	C20	C21	C22	C23	C24
FF OF PARAPET	672.56	672.55	672.44	672.43	672.37	672.37
LINE 1	672.41	672.41	672.29	672.28	672.23	672.22
LINE 2	672.27	672.27	672.13	672.13	672.08	672.07
LINE 3	672.13	672.12	671.98	671.97	671.93	671.92
LINE 4	671.98	671.98	671.83	671.82	671.78	671.78
LINE 5	671.84	671.83	671.68	671.67	671.63	671.63
LINE 6	671.69	671.69	671.52	671.52	671.48	671.48
BACK OF SIDEWALK / EDGE OF DECK	671.24	671.23	670.89	670.87	670.78	670.77

FINAL TOP OF CURB & INFILL ELEVATIONS - PANEL D					
LINE	C25	C26	C27	C28	C29
FF OF PARAPET	672.36	672.36	672.28	672.27	672.17
LINE 1	672.22	672.21	672.15	672.14	672.06
LINE 2	672.07	672.07	672.01	672.00	671.95
LINE 3	671.92	671.92	671.87	671.87	671.84
LINE 4	671.77	671.77	671.74	671.74	671.72
LINE 5	671.63	671.62	671.60	671.60	671.61
LINE 6	671.48	671.48	671.47	671.47	671.50
BACK OF SIDEWALK / EDGE OF DECK	670.77	670.77	670.72	670.72	670.84

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
DESIGNER	PAT
CHECKER	XW
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	45
TOTAL	63
SHEET	1936
TOTAL	2338

DECK SCREED ELEVATION TABLE - PANEL A													
ELEVATION LINE	PANEL A LT EOD	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	PANEL A RT EOD
CL BEARINGS PIER	672.36	672.34	672.32	672.30	672.29	672.27	672.25	672.23	672.20	672.16	672.13	672.09	672.08
3/4 SPAN	672.98	673.05	672.89	672.78	672.71	672.66	672.61	672.57	672.52	672.45	672.39	672.39	672.38
1/2 SPAN	673.22	673.20	673.12	672.92	672.82	672.73	672.65	672.59	672.52	672.43	672.35	672.35	672.34
1/4 SPAN	672.94	673.01	672.83	672.65	672.52	672.41	672.29	672.20	672.10	671.99	671.88	671.85	671.82
CL BEARINGS ABUTMENT	672.29	672.27	672.18	672.04	671.90	671.77	671.63	671.50	671.37	671.24	671.11	670.99	670.96

DECK SCREED ELEVATION TABLE - PANEL B								
ELEVATION LINE	PANEL B LT EOD	G12	G13	G14	G15	G16	G17	PANEL B RT EOD
CL BEARINGS PIER	672.08	672.07	672.04	672.00	671.96	671.93	671.89	671.88
3/4 SPAN	672.37	672.36	672.25	672.20	672.14	672.09	672.09	672.07
1/2 SPAN	672.33	672.31	672.15	672.08	672.00	671.93	671.94	671.93
1/4 SPAN	671.82	671.79	671.64	671.54	671.45	671.36	671.34	671.32
CL BEARINGS ABUTMENT	670.95	670.92	670.81	670.69	670.58	670.48	670.38	670.36

DECK SCREED ELEVATION TABLE - PANEL C								
ELEVATION LINE	PANEL C LT EOD	G18	G19	G20	G21	G22	G23	PANEL C RT EOD
CL BEARINGS PIER	671.87	671.87	671.84	671.80	671.77	671.73	671.69	671.69
3/4 SPAN	672.07	672.06	671.97	671.92	671.89	671.85	671.88	671.88
1/2 SPAN	671.93	671.91	671.78	671.73	671.69	671.66	671.73	671.73
1/4 SPAN	671.31	671.30	671.18	671.12	671.08	671.06	671.11	671.11
CL BEARINGS ABUTMENT	670.35	670.33	670.26	670.20	670.16	670.15	670.14	670.14

DECK SCREED ELEVATION TABLE - PANEL D								
ELEVATION LINE	PANEL D LT EOD	G24	G25	G26	G27	G28	G29	PANEL D RT EOD
CL BEARINGS PIER	671.68	671.68	671.64	671.60	671.57	671.53	671.50	671.49
3/4 SPAN	671.88	671.87	671.80	671.78	671.77	671.74	671.80	671.80
1/2 SPAN	671.73	671.72	671.64	671.64	671.66	671.64	671.66	671.67
1/4 SPAN	671.11	671.11	671.07	671.09	671.13	671.14	671.18	671.19
CL BEARINGS ABUTMENT	670.15	670.15	670.18	670.22	670.28	670.35	670.40	670.42

NOTES:

- SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

DECK SCREED ELEVATION TABLE
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

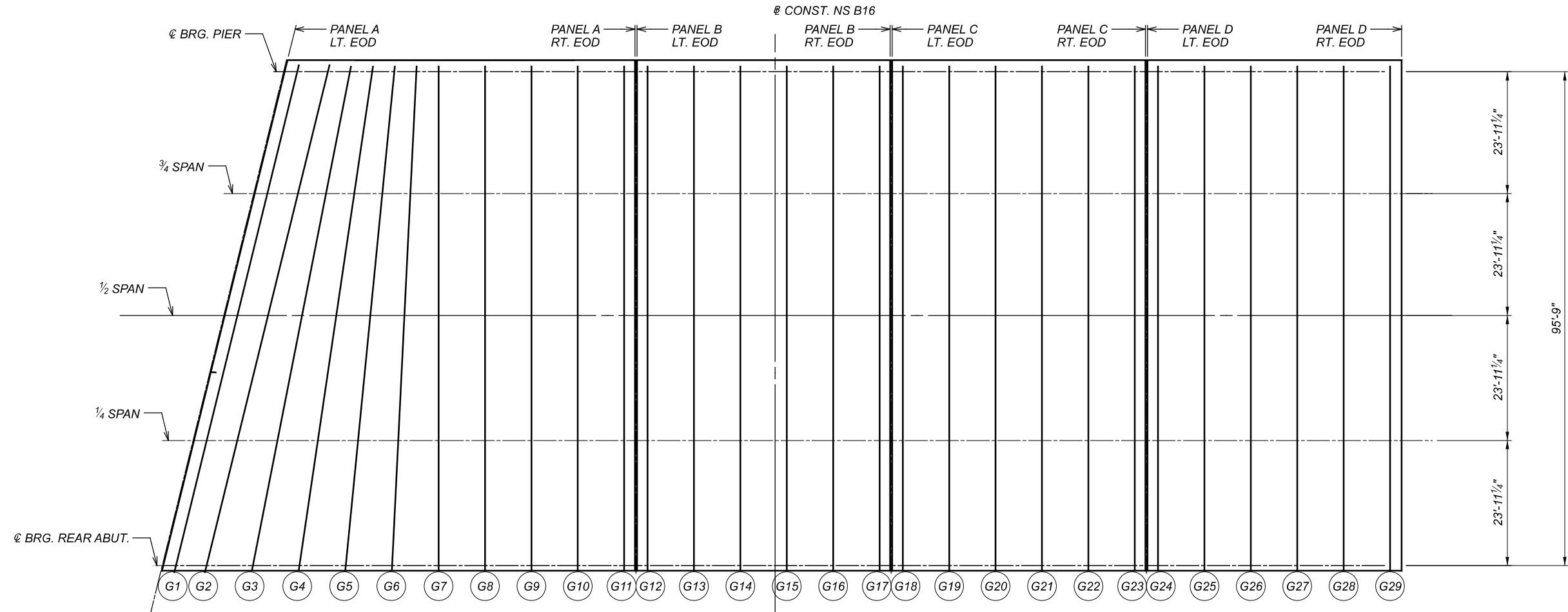
SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
DESIGNER	PAT
CHECKER	XW
REVIEWER	LPC
DATE	07-27-22
PROJECT ID	82382
SUBSET	46
TOTAL	63
SHEET	1937
TOTAL	2338

FINAL TOP OF DECK ELEVATION TABLE - PANEL A													
ELEVATION LINE	PANEL A LT EOD	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	PANEL A RT EOD
CL BEARINGS PIER	672.36	672.34	672.32	672.30	672.29	672.27	672.25	672.23	672.20	672.16	672.13	672.09	672.08
3/4 SPAN	672.34	672.33	672.30	672.21	672.17	672.13	672.09	672.05	671.99	671.93	671.87	671.81	671.80
1/2 SPAN	672.33	672.31	672.27	672.12	672.06	671.99	671.92	671.86	671.78	671.69	671.61	671.53	671.51
1/4 SPAN	672.31	672.29	672.23	672.08	671.98	671.88	671.78	671.68	671.58	671.47	671.36	671.26	671.23
CL BEARINGS ABUTMENT	672.29	672.27	672.18	672.04	671.90	671.77	671.63	671.50	671.37	671.24	671.11	670.99	670.96

FINAL TOP OF DECK ELEVATION TABLE - PANEL B								
ELEVATION LINE	PANEL B LT EOD	G12	G13	G14	G15	G16	G17	PANEL B RT EOD
CL BEARINGS PIER	672.08	672.07	672.04	672.00	671.96	671.93	671.89	671.88
3/4 SPAN	671.79	671.78	671.72	671.67	671.61	671.56	671.51	671.49
1/2 SPAN	671.51	671.49	671.41	671.34	671.26	671.19	671.12	671.11
1/4 SPAN	671.23	671.21	671.11	671.02	670.92	670.84	670.75	670.73
CL BEARINGS ABUTMENT	670.95	670.92	670.81	670.69	670.58	670.48	670.38	670.36

FINAL TOP OF DECK ELEVATION TABLE - PANEL C								
ELEVATION LINE	PANEL C LT EOD	G18	G19	G20	G21	G22	G23	PANEL C RT EOD
CL BEARINGS PIER	671.87	671.87	671.84	671.80	671.77	671.73	671.69	671.69
3/4 SPAN	671.49	671.48	671.44	671.40	671.36	671.33	671.30	671.30
1/2 SPAN	671.10	671.09	671.04	670.99	670.95	670.92	670.91	670.91
1/4 SPAN	670.73	670.71	670.65	670.60	670.56	670.54	670.53	670.53
CL BEARINGS ABUTMENT	670.35	670.33	670.26	670.20	670.16	670.15	670.14	670.14

FINAL TOP OF DECK ELEVATION TABLE - PANEL D								
ELEVATION LINE	PANEL D LT EOD	G24	G25	G26	G27	G28	G29	FACE OF PARAPET /
CL BEARINGS PIER	671.68	671.68	671.64	671.60	671.57	671.53	671.50	671.49
3/4 SPAN	671.29	671.29	671.27	671.25	671.24	671.23	671.22	671.22
1/2 SPAN	670.90	670.90	670.90	670.90	670.92	670.93	670.95	670.96
1/4 SPAN	670.53	670.53	670.54	670.56	670.60	670.64	670.68	670.69
CL BEARINGS ABUTMENT	670.15	670.15	670.18	670.22	670.28	670.35	670.40	670.42



NOTES:
 1. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE TOP OF DECK AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.

FINAL DECK SURFACE ELEVATION TABLE
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
DESIGNER	PAT
CHECKER	XW
REVIEWER	
PROJECT ID	82382
SUBSET	47
TOTAL	63
SHEET	1938
TOTAL	2338

TOP OF HAUNCH - PANEL A											
ELEVATION LINE	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11
CL BEARINGS PIER	671.59	671.57	671.55	671.54	671.52	671.50	671.48	671.45	671.41	671.38	671.34
3/4 SPAN	672.30	672.14	672.03	671.96	671.91	671.86	671.82	671.77	671.70	671.64	671.64
1/2 SPAN	672.45	672.37	672.17	672.07	671.98	671.90	671.84	671.77	671.68	671.60	671.60
1/4 SPAN	672.26	672.08	671.90	671.77	671.66	671.54	671.45	671.35	671.24	671.13	671.10
CL BEARINGS ABUTMENT	671.52	671.43	671.29	671.15	671.02	670.88	670.75	670.62	670.49	670.36	670.24

TOP OF HAUNCH - PANEL B						
ELEVATION LINE	G12	G13	G14	G15	G16	G17
CL BEARINGS PIER	671.33	671.32	671.29	671.25	671.21	671.18
3/4 SPAN	671.62	671.61	671.50	671.45	671.39	671.34
1/2 SPAN	671.58	671.56	671.40	671.33	671.25	671.18
1/4 SPAN	671.07	671.04	670.89	670.79	670.70	670.61
CL BEARINGS ABUTMENT	670.20	670.17	670.06	669.94	669.83	669.73

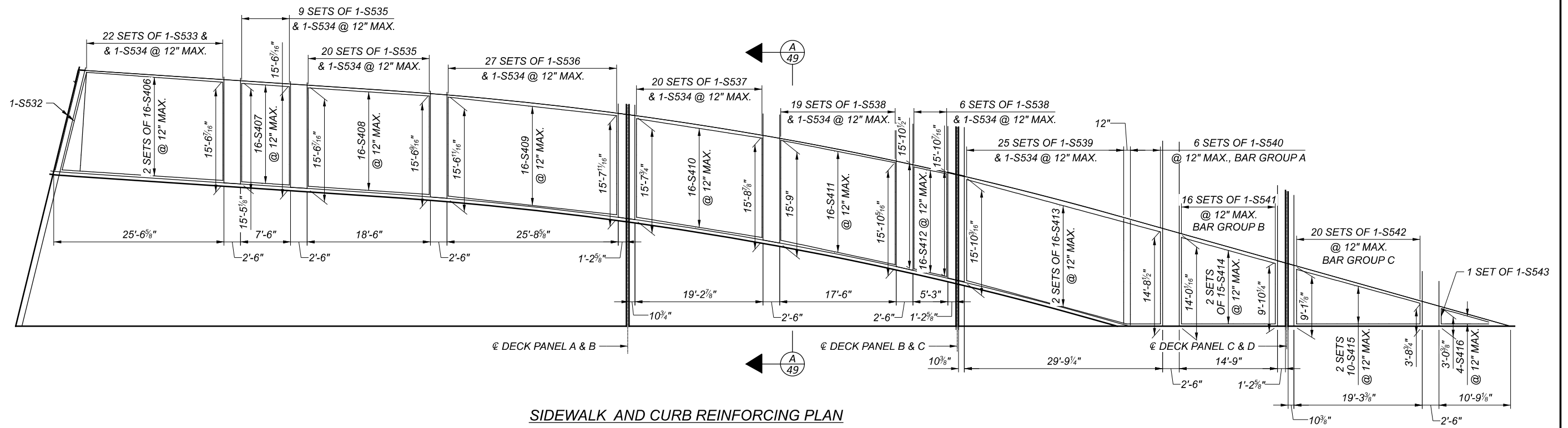
TOP OF HAUNCH - PANEL C						
ELEVATION LINE	G18	G19	G20	G21	G22	G23
CL BEARINGS PIER	671.12	671.12	671.09	671.05	671.02	670.98
3/4 SPAN	671.32	671.31	671.22	671.17	671.14	671.10
1/2 SPAN	671.18	671.16	671.03	670.98	670.94	670.91
1/4 SPAN	670.56	670.55	670.43	670.37	670.33	670.31
CL BEARINGS ABUTMENT	669.60	669.58	669.51	669.45	669.41	669.40

TOP OF HAUNCH - PANEL D						
ELEVATION LINE	G24	G25	G26	G27	G28	G29
CL BEARINGS PIER	670.93	670.93	670.89	670.85	670.82	670.78
3/4 SPAN	671.13	671.12	671.05	671.03	671.02	670.99
1/2 SPAN	670.98	670.97	670.89	670.89	670.91	670.89
1/4 SPAN	670.36	670.36	670.32	670.34	670.38	670.39
CL BEARINGS ABUTMENT	669.40	669.40	669.43	669.47	669.53	669.60

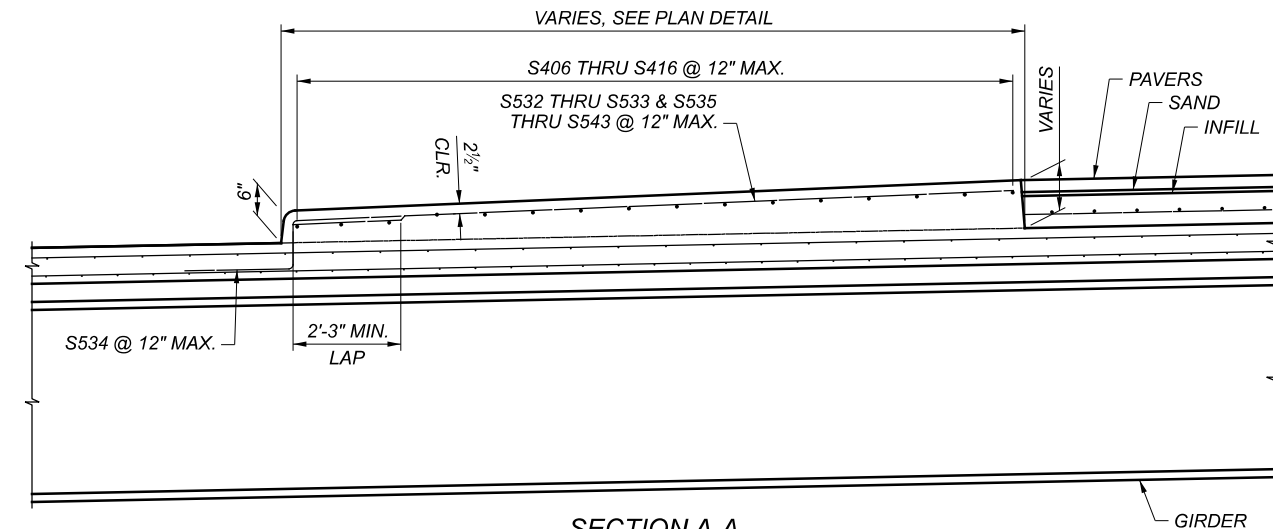
NOTES:

- TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

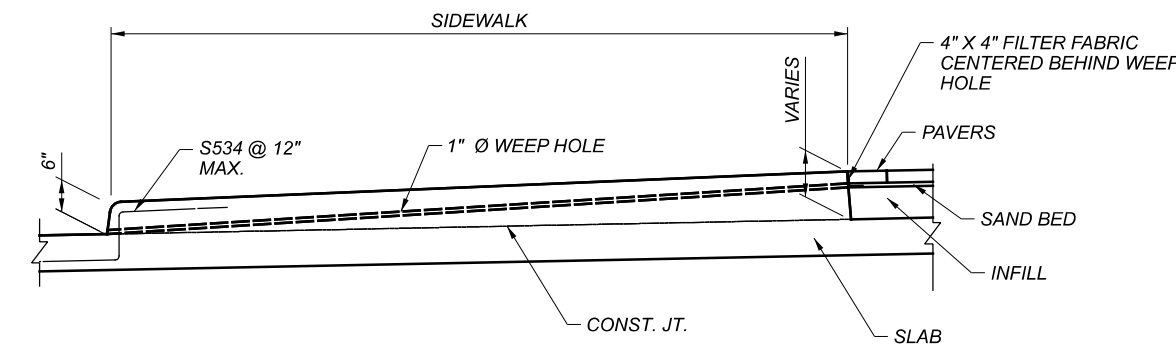
SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
PAT	XW
REVIEWER	
LPC	07-27-22
PROJECT ID	82382
SUBSET	TOTAL
48	63
SHEET	TOTAL
1939	2338



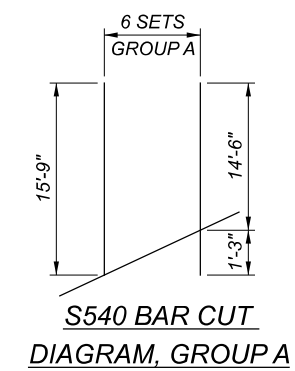
SIDEWALK AND CURB REINFORCING PLAN



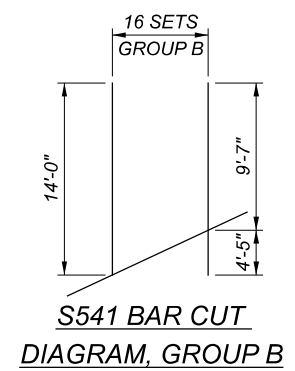
SECTION A-A



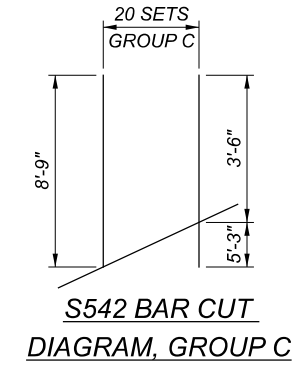
WEEP HOLE DETAIL



S540 BAR CUT DIAGRAM, GROUP A



S541 BAR CUT DIAGRAM, GROUP B



S542 BAR CUT DIAGRAM, GROUP C

REQUIRED MINIMUM LAP LENGTHS	
#4	2'-0"

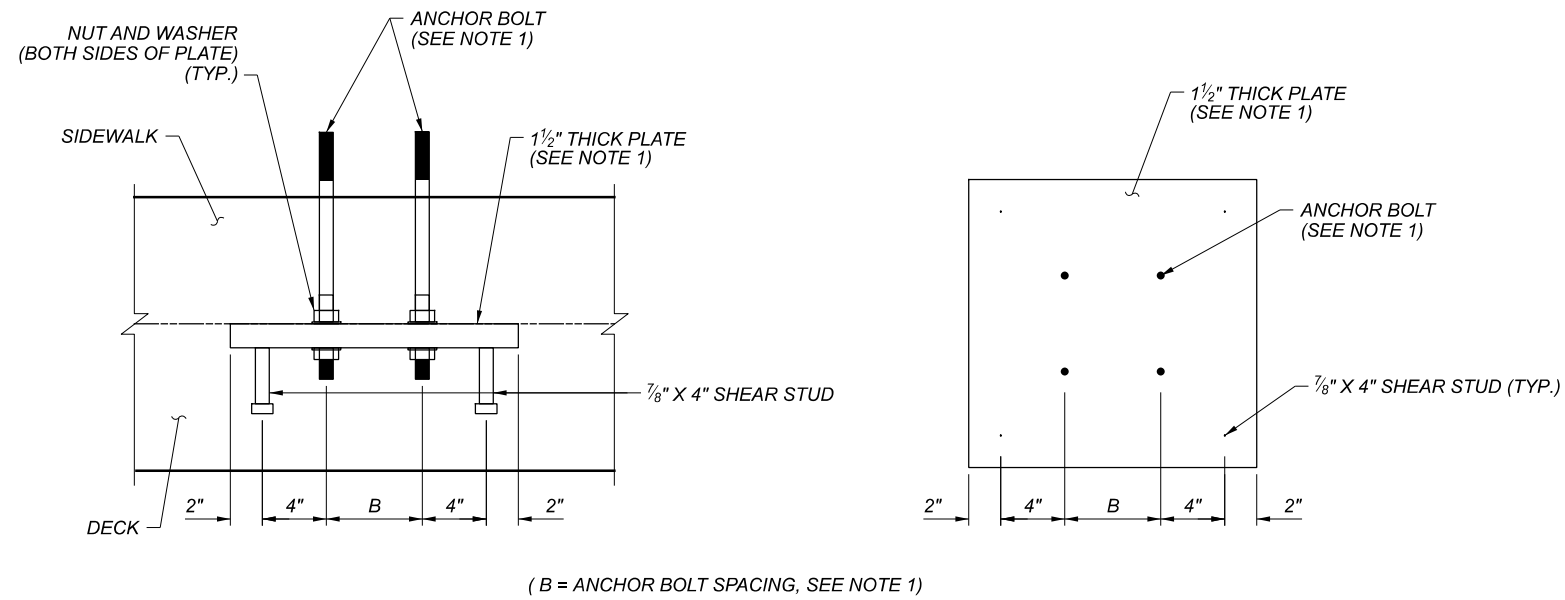
- NOTES:**
1. FOR DECK REINFORCING, SEE SHEETS 38/63 THRU 40/63.
 2. FOR SIDEWALK AND CURB REINFORCING, SEE SHEET 43/63.
 3. S534 DOWELS TO BE PLACED WITH DECK.

CUY-90-16.28 (CCG3A)

MODEL: sidewalk plan and details 1 PAPER(SIZE: 17x11 (in.) DATE: 7/27/2022 TIME: 6:09:28 PM USER: Davit, Fall pwc:\mb-us-pw-bentley.com\mb-us-pw-03\Documents\Cleveland_OH\01_P\Projects\ODOT\District\1282382400-Engineering\Structures\SFN_1807841_SDN004.dgn

SIDEWALK PLAN & DETAILS (1 OF 2)
CUY-90-1680 (BRIDGE 16)
CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
PAT	XW
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	49
TOTAL	63
SHEET	1940
TOTAL	2338



BRIDGE MOUNTED LIGHT POLE ANCHORAGE DETAIL

9-S

CK REINFORCING

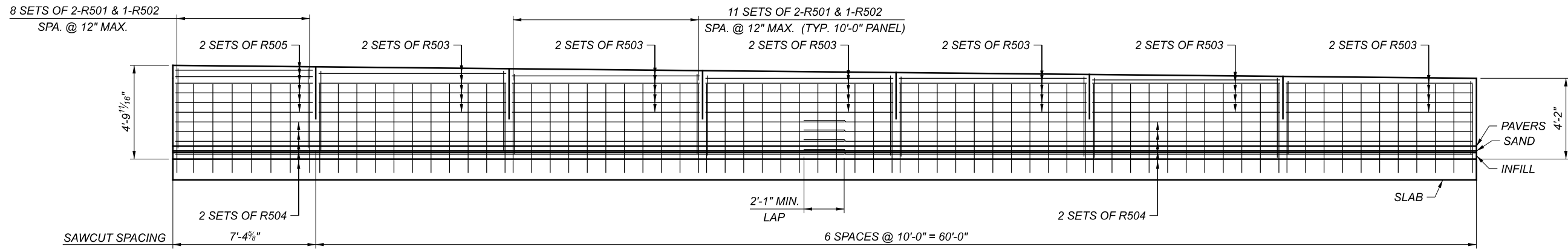
NOTES:

1. FOR ANCHORAGE OF LIGHT POLES, COORDINATE WITH MANUFACTURER FOR ANCHOR BOLT MATERIAL SPECIFICATIONS, STRENGTH, DIAMETER, LENGTH AND SPACING.
2. PAYMENT FOR LIGHT POLE ANCHORAGE, INCLUDING ALL LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LIGHT POLE ANCHORAGE ASSEMBLY AS SHOWN ON THE PLANS, SHALL BE PAID FOR UNDER ITEM 625 - LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN. FOR PAYMENTS ASSOCIATED WITH LIGHT POLE, SEE LIGHTING PLANS.
3. 2" DIA. LIGHTING CONDUITS ARE INCLUDED WITH LIGHTING ITEMS FOR PAYMENT.
4. FOR LIGHT POLE DETAILS, REFER TO LIGHTING PLANS.

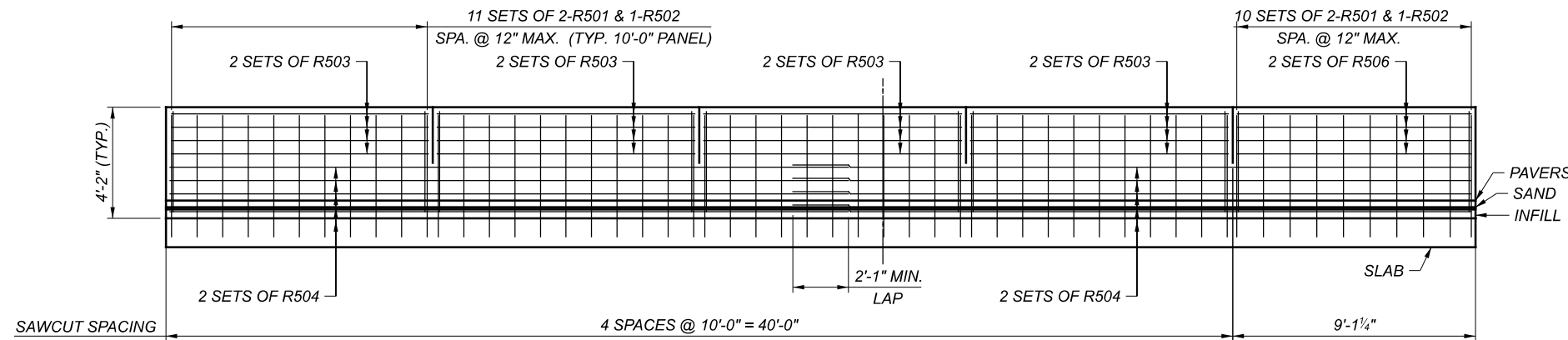
MECHANICAL CONNECTORS

SIDEWALK PLAN & DETAILS (2 OF 2)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

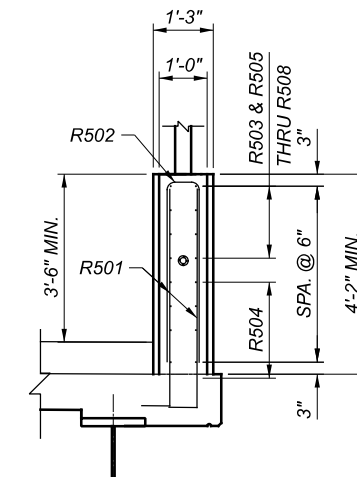
SFN	1807841
DESIGN AGENCY	
Michael Baker	INTERNATIONAL
DESIGNER	CHECKER
PAT	XW
REVIEWER	
LPC	07-27-22
PROJECT ID	
	82382
SUBSET	TOTAL
50	63
SHEET	TOTAL
1941	2338



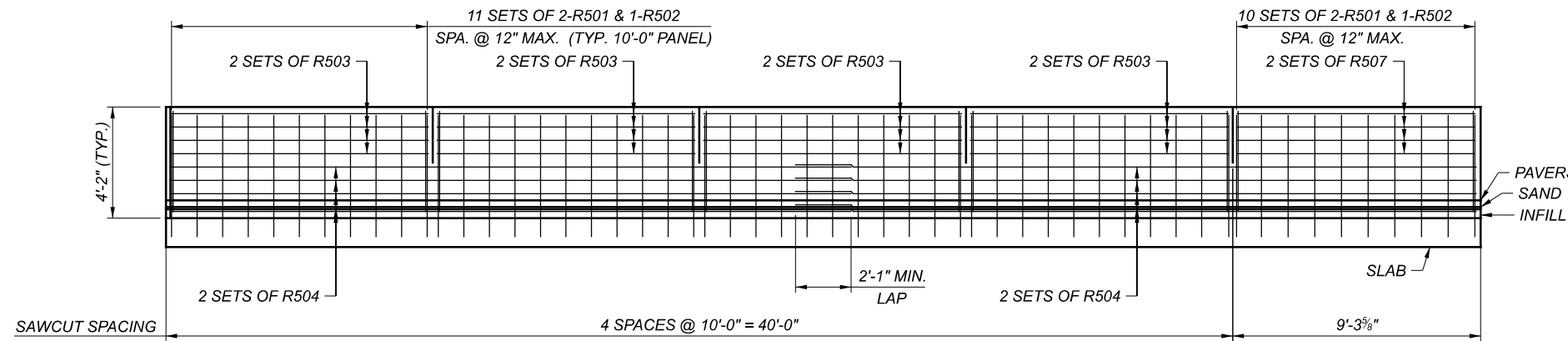
TYPICAL PARAPET ELEVATION - PANEL "A"
 VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY



TYPICAL PARAPET ELEVATION - PANEL "B" & "C"
 VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY



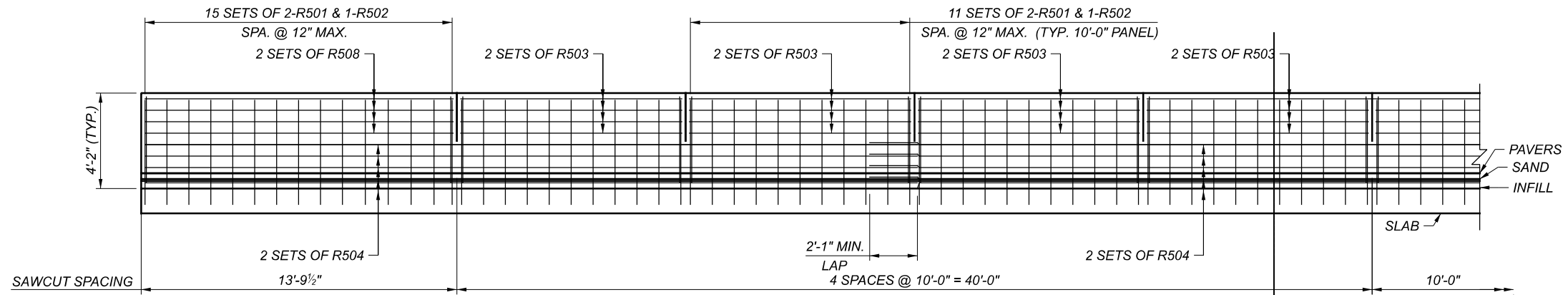
TYPICAL PARAPET SECTION
 PANELS "B", "C" & "D" (NORTH)
 PANEL "A" HEIGHTS VARY (SEE ELEVATION VIEW)



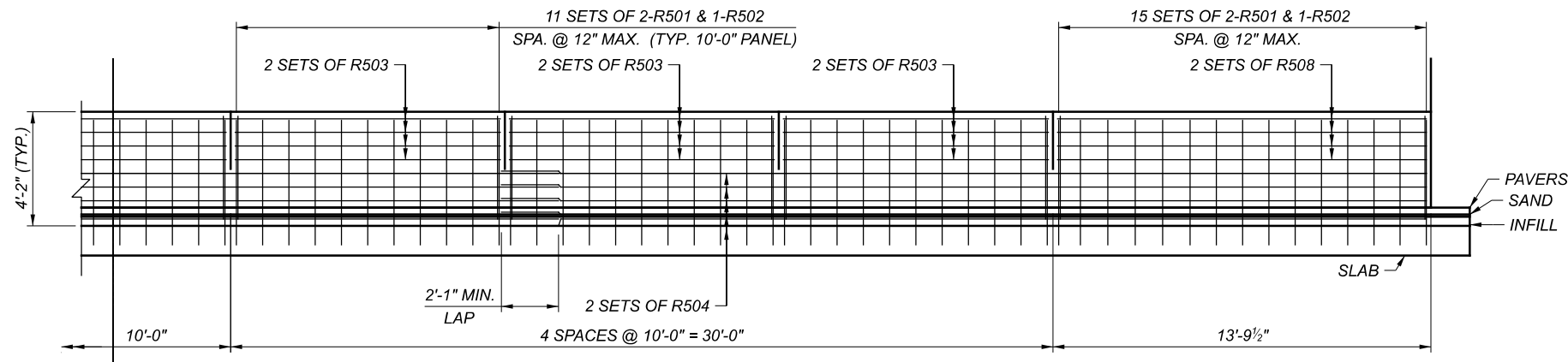
TYPICAL PARAPET ELEVATION - PANEL "D" (NORTH)
 VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY

NOTES:

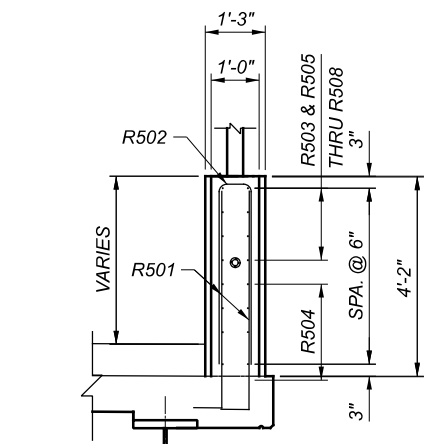
1. FOR ADDITIONAL RAILING SAWCUT DETAILS, SEE ODOT STANDARD.
2. FOR PARAPET REINFORCING DETAILS, SEE THIS SHEET.
3. FOR ADDITIONAL PARAPET REINFORCING DETAILS, SEE SHEET 52/63.



TYPICAL PARAPET ELEVATION - PANEL "D" (EAST)
 VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY



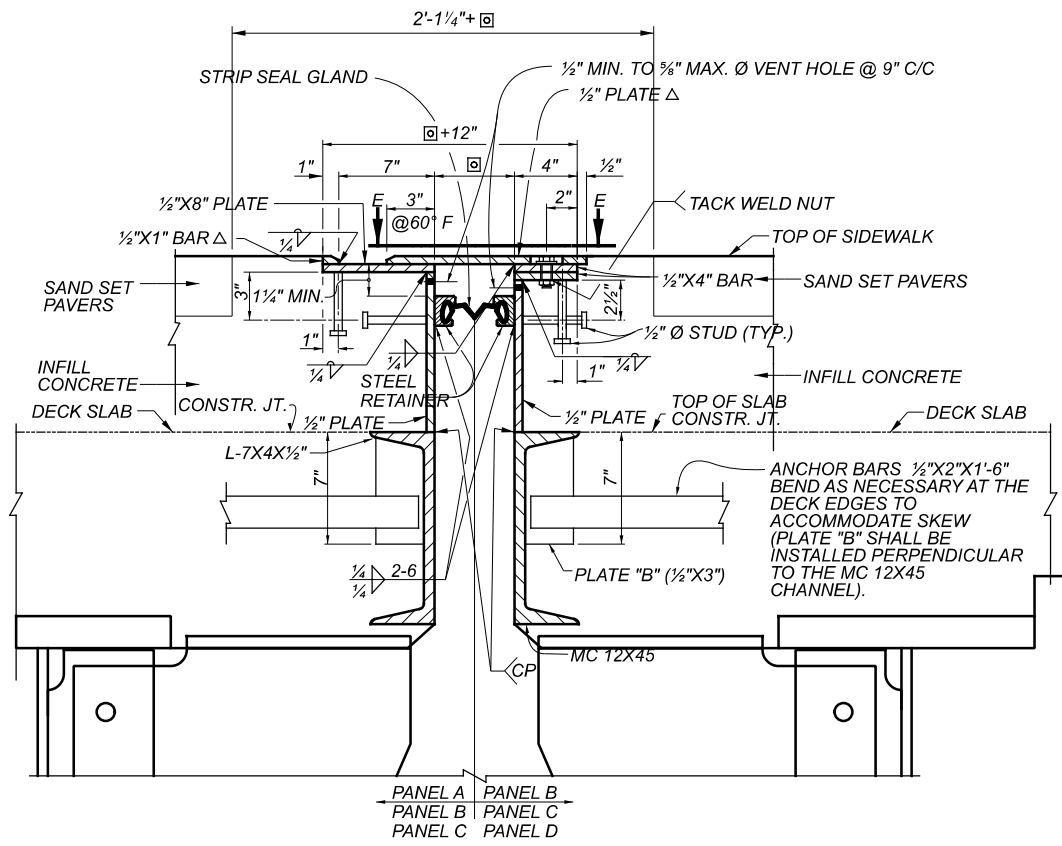
TYPICAL PARAPET ELEVATION - PANEL "D" (EAST)
 VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY



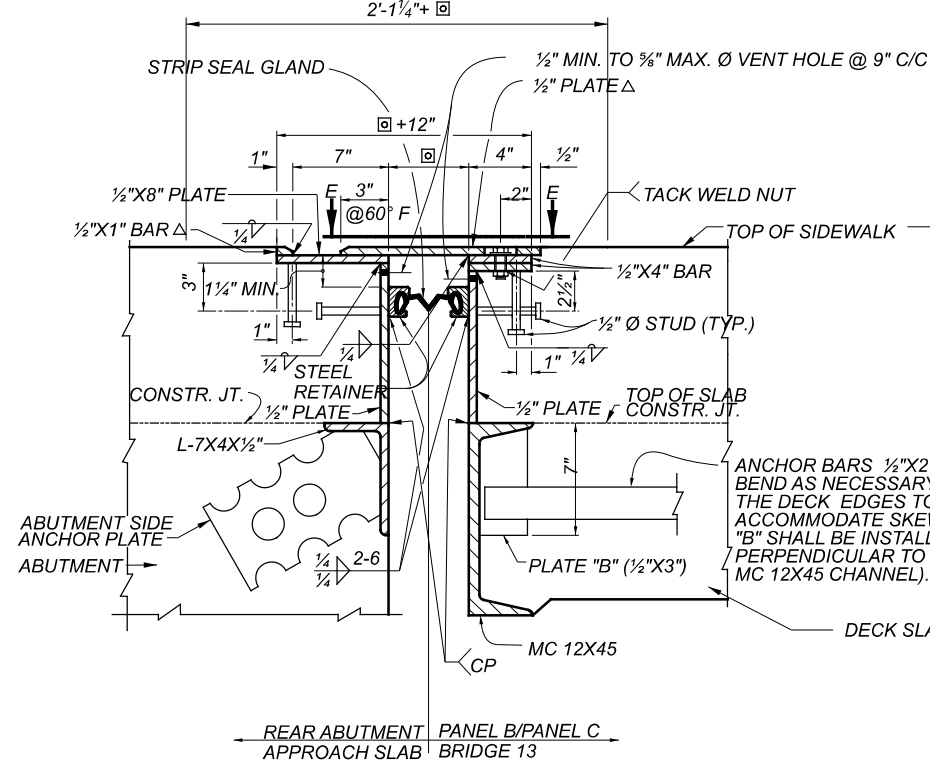
TYPICAL PARAPET SECTION
 PANEL "D" (EAST)

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
DESIGNER	PAT
CHECKER	XW
REVIEWER	LPC
DATE	07-27-22
PROJECT ID	82382
SUBSET	52
TOTAL	63
SHEET	1943
TOTAL	2338

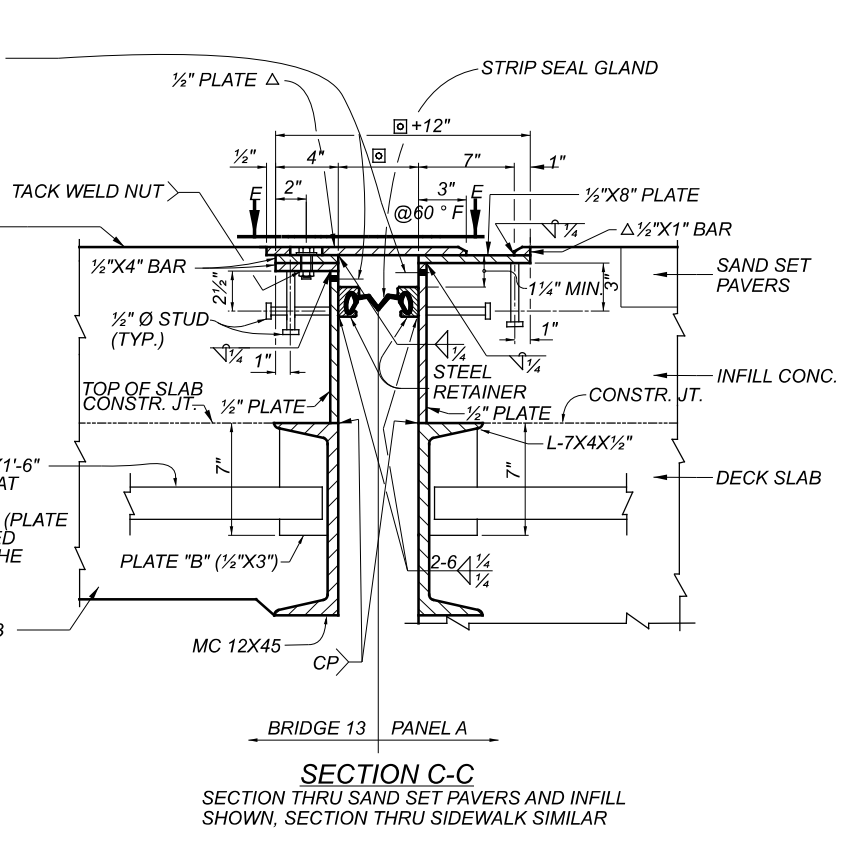
MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 7/27/2022 TIME: 6:05:54 PM USER: David.Fell
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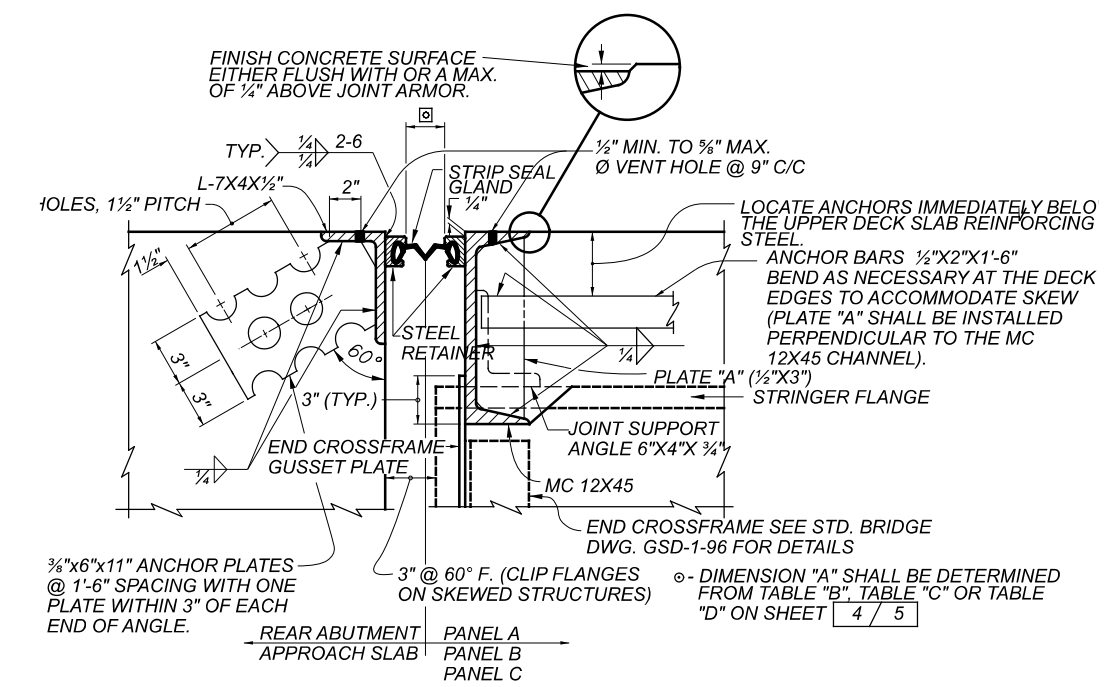
SECTION A-A
 SECTION THRU SAND SET PAVERS AND INFILL SHOWN, SECTION THRU SIDEWALK SIMILAR



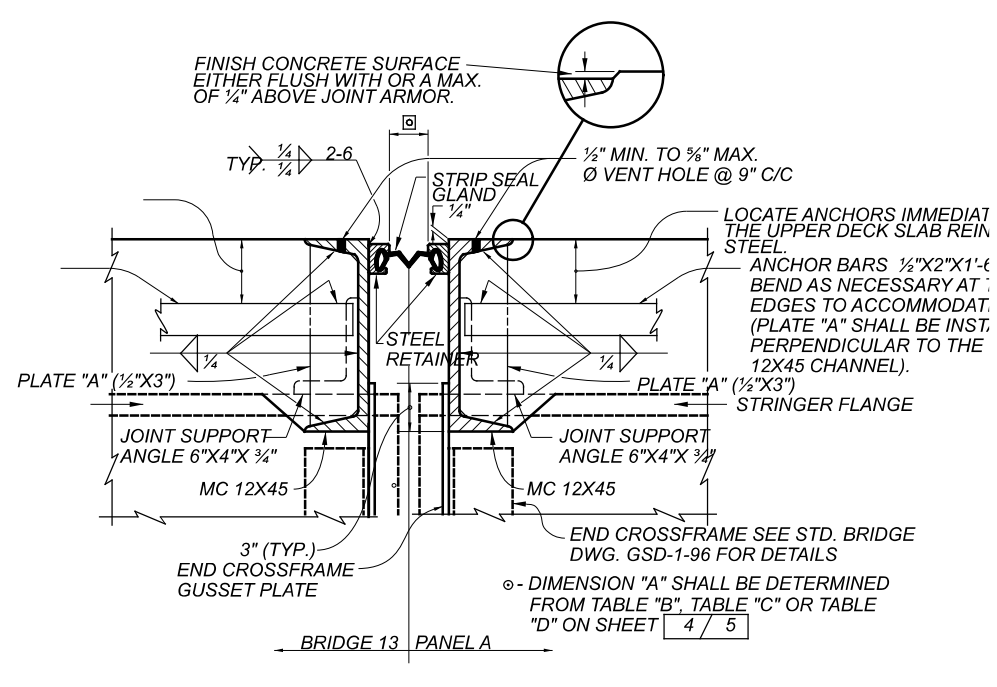
SECTION B-B
 SECTION THRU SAND SET PAVERS AND INFILL SHOWN, SECTION THRU SIDEWALK SIMILAR



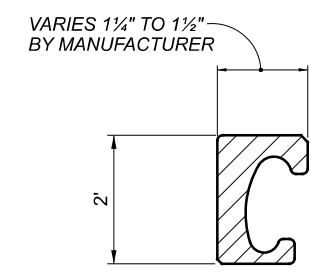
SECTION C-C
 SECTION THRU SAND SET PAVERS AND INFILL SHOWN, SECTION THRU SIDEWALK SIMILAR



SECTION D-D
 SECTION THRU SAND SET PAVERS AND INFILL SHOWN, SECTION THRU SIDEWALK SIMILAR



SECTION E-E
 SECTION THRU SAND SET PAVERS AND INFILL SHOWN, SECTION THRU SIDEWALK SIMILAR



RETAINER DETAIL

LEGEND

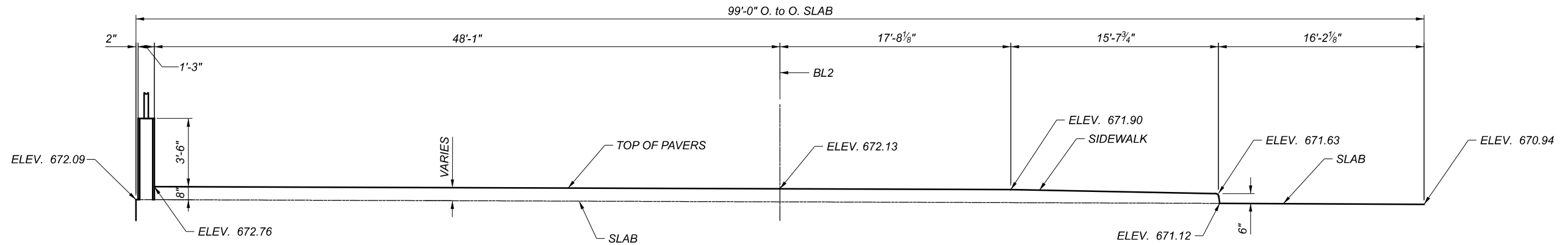
- △ - PROVIDE A 1/2" HORIZONTAL X 1/4" VERTICAL BEVEL AT THE EXPOSED EDGE OF THE 1/2" COVER PLATE AND 1/2" X 1" BAR.
- ⊠ - THIS DIMENSION IS THE SUM OF (2 X 1 1/4" STEEL RETAINER + WIDTH DIM. "A").

NOTES:

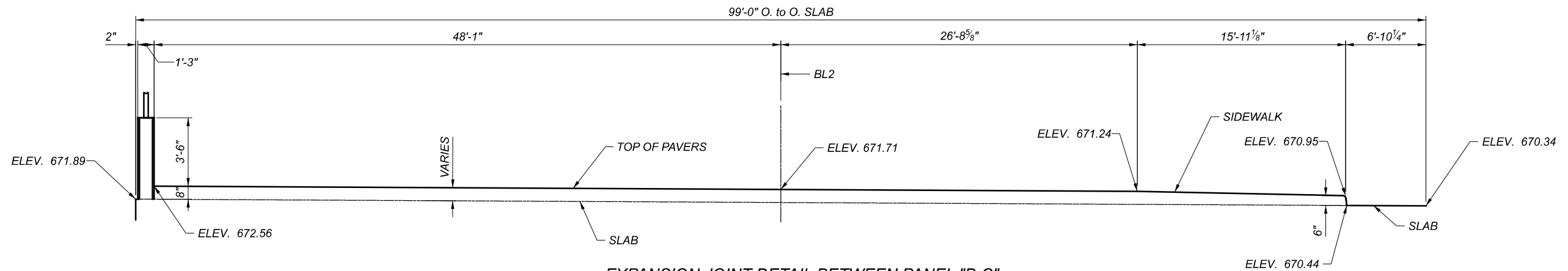
1. SEE EXPANSION JOINT DETAILS (4 OF 4) FOR GENERAL NOTES.
2. SEE EXPANSION JOINT DETAILS (3 OF 4) FOR JOINT LOCATIONS PLAN.
3. COORDINATE ADJUSTMENTS TO DECK DIMENSION IF JOINT MANUFACTURER USES A DIFFERENT SIZE RETAINER.
4. SEE EXPANSION JOINT DETAILS (3 OF 4) FOR JOINT OPENING TABLE.

EXPANSION JOINT DETAILS (1 OF 4)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

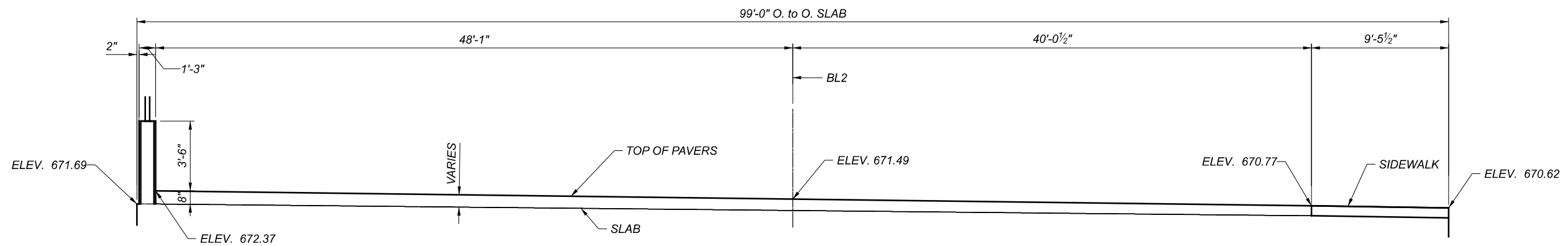
SFN	1807841
DESIGN AGENCY	
DESIGNER/CHECKER	PAT XW
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	53
TOTAL	63
SHEET	1944
TOTAL	2338



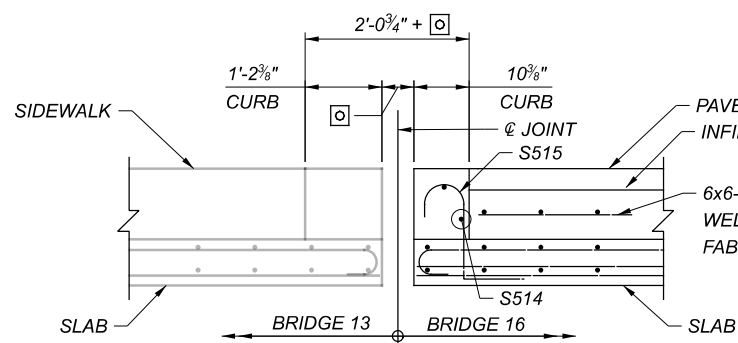
EXPANSION JOINT DETAIL BETWEEN PANEL "A-B"



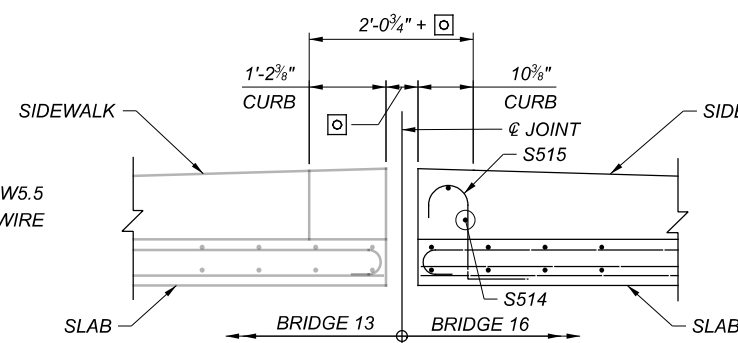
EXPANSION JOINT DETAIL BETWEEN PANEL "B-C"



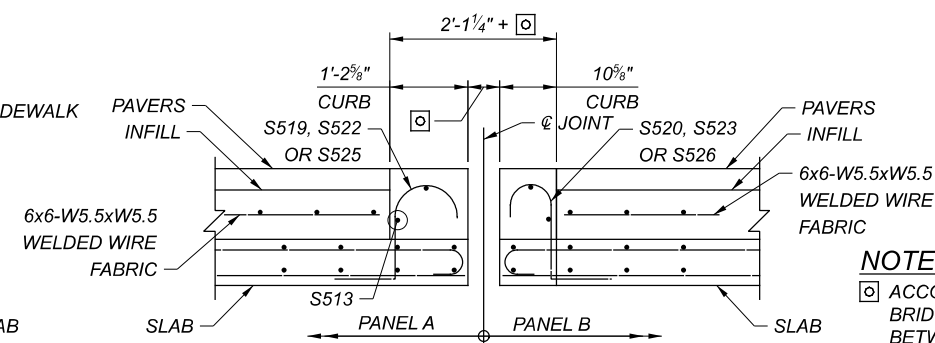
EXPANSION JOINT DETAIL BETWEEN PANEL "C-D"



SECTION A-A



SECTION B-B

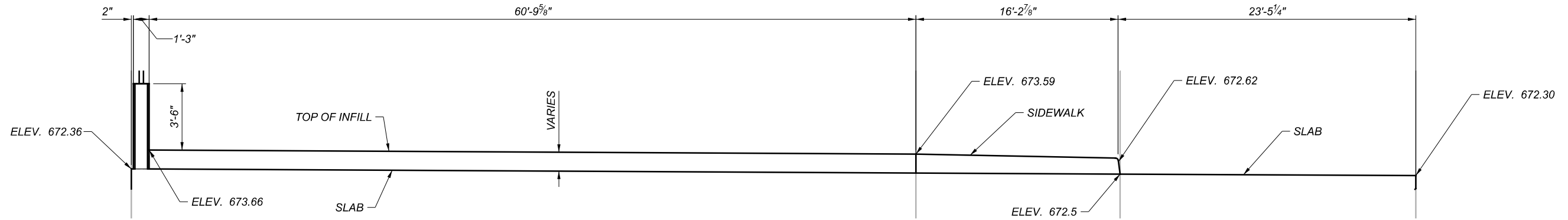


SECTION C-C

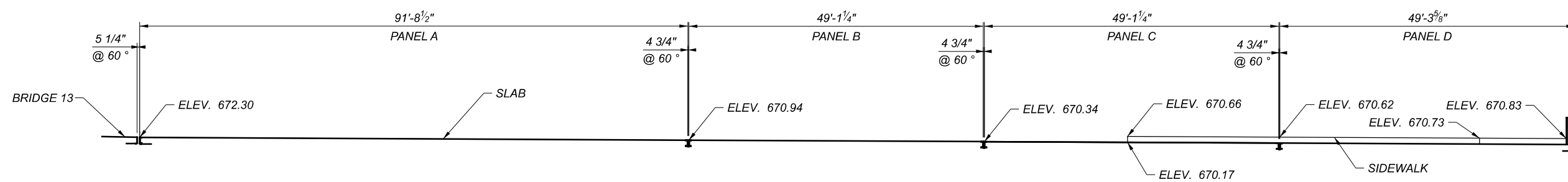
NOTES:
 □ ACCOUNTS FOR 2 3/4" OPENING AT 60° F BETWEEN BRIDGE 13 AND 16 AND 2 1/4" JOINT OPENING AT 60° F BETWEEN PANELS A/B, B/C AND C/D PLUS (2)- 1 1/4" STEEL RETAINERS. COORDINATE ADJUSTMENTS TO DECK DIMENSIONS IF JOINT MANUFACTURER USES A DIFFERENT SIZE RETAINER AND AS NEEDED FOR AMBIENT TEMPERATURE AT TIME OF DECK POUR.

SEE EXPANSION JOINT DETAILS (3 OF 4) FOR JOINT OPENING TABLE.

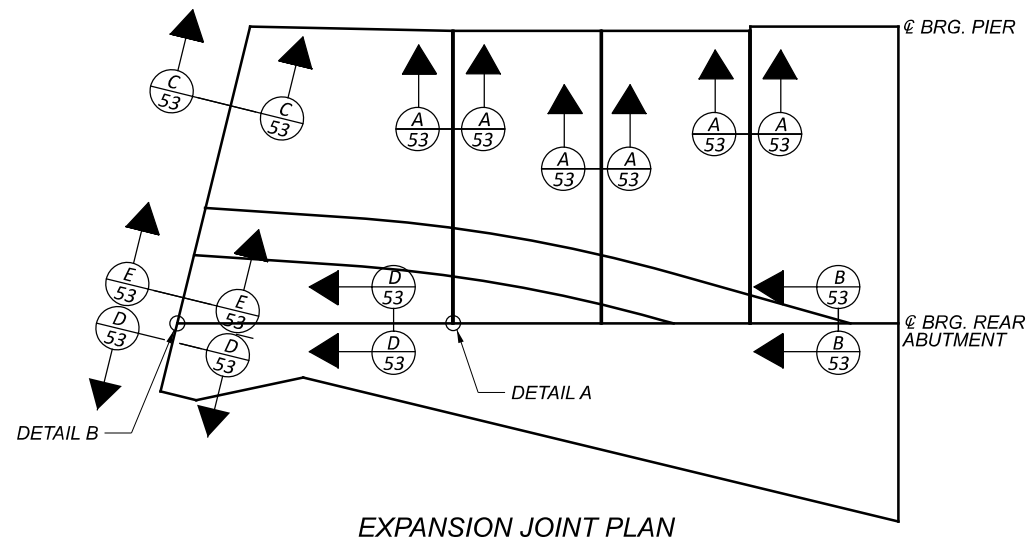
SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	PAT XW
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	54
TOTAL	63
SHEET	1945
TOTAL	2338



EXPANSION JOINT DETAIL BETWEEN "BRIDGE 13 & BRIDGE 16"



EXPANSION JOINT DETAIL @ ABUTMENT



EXPANSION JOINT PLAN

TEMPERATURE	SECTION A-A		SECTION B-B		SECTION C-C		SECTION D-D		SECTION E-E		
	4" STRIP SEAL		4" STRIP SEAL		5" STRIP SEAL		4" STRIP SEAL		5" STRIP SEAL		
	LEFT SIDE	RIGHT SIDE	LEFT SIDE	RIGHT SIDE	LEFT SIDE	RIGHT SIDE	LEFT SIDE	RIGHT SIDE	LEFT SIDE	RIGHT SIDE	
	PANEL A	PANEL B	PANEL A	PANEL B	R.A APP. SLAB	PANEL B / C	BRIDGE 13	PANEL A	R.A APP. SLAB	PANEL A / B / C	BRIDGE 13
30	2 1/16		2		2 9/16		2		2 9/16		
40	2 1/8		2 1/8		2 5/8		2 1/8		2 5/8		
50	2 3/16		2 3/16		2 11/16		2 3/16		2 11/16		
60	2 1/4		2 1/4		2 3/4		2 1/4		2 3/4		
70	2 5/16		2 5/16		2 13/16		2 5/16		2 13/16		
80	2 3/8		2 3/8		2 7/8		2 3/8		2 7/8		
90	2 7/16		2 1/2		2 15/16		2 1/2		2 15/16		

NOTES:

- SEE EXPANSION JOINT DETAILS (4 OF 4) FOR GENERAL NOTES AND DETAILS A AND B.
- SEE EXPANSION JOINT DETAILS (1 OF 4) FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E

GENERAL NOTES:

STRIP SEAL: FURNISH EXTRUDED POLYCHLOROPRENE MATERIAL CONFORMING TO ASTM D2628. DUE TO THE CONFIGURATION OF THE SEAL, THE RECOVERY TEST IS NOT APPLICABLE. THE PHYSICAL PROPERTIES OF THE STRIP SEAL SHALL CONFORM TO TABLE "E".

THE MANUFACTURER OR AN ACCREDITED LABORATORY SHALL TEST EACH LOT AS SPECIFIED AND SUBMIT TWO COPIES OF CERTIFIED TEST DATA SHOWING COMPLIANCE TO THE ODOT OFFICE OF MATERIALS MANAGEMENT. THE SEAL AND RETAINER ARE AN INTEGRAL SYSTEM DESIGNED AND SUPPLIED BY THE SAME MANUFACTURER. SEE "CONSTRUCTION PROCEDURE" FOR INSTALLATION.

TABLE E (PHYSICAL PROPERTIES OF SEAL ELEMENT)		
PROPERTY	REQUIREMENT	ASTM METHOD
TENSILE STRENGTH, MIN. PSI	2000	D412
ELONGATION @ BREAK, MIN. (PERCENT)	250	D412
HARDNESS, TYPE A DUROMETER, POINTS	60± 5	MODIFIED D2240
OVEN AGING, 70 HR @ 212 ° F TENSILE STRENGTH, LOSS, MAX. ELONGATION, LOSS, MAX. HARDNESS, TYPE A DUROMETER, POINTS CHANGE	20 PERCENT 20 PERCENT 0 TO +10	D573 MODIFIED D2240
OIL SWELL, ASTM OIL 3 70 HR @ 212 ° F, WEIGHT CHANGE MAX	45 PERCENT	D471
OZONE RESISTANCE 20 PERCENT STRAIN, 300 PPHM IN AIR, 70 HR @ 104 ° F (WIPE WITH TOLUENE TO REMOVE SURFACE CONTAMINATION)	NO CRACKS	D1149
LOW TEMPERATURE STIFFENING 7 DAYS @ 14 ° F HARDNESS, TYPE A DUROMETER, POINTS CHANGE COMPRESSION SET, 70 HR @ 212 ° F MAX.	0 TO +15 40 PERCENT	D2240 MODIFIED D2240 D395 METHOD B

LUBRICANT-ADHESIVE: FURNISH A ONE PART MOISTURE CURING POLYURETHANE COMPOUND MEETING THE REQUIREMENTS OF ASTM D4070 AND AS SPECIFIED BY THE SEAL MANUFACTURER. SEE "CONSTRUCTION PROCEDURE" FOR APPLICATION.

JOINTS IN STRIP SEALS: FURNISH SEALS IN ONE CONTINUOUS PIECE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

SEAL RETAINERS: FURNISH SOLID SHAPE STEEL RETAINERS, AS DIMENSIONED ON SHEET 2 OF 5 "RETAINER DETAIL", THAT ARE EXTRUDED, HOT ROLLED OR MACHINED. RETAINERS MANUFACTURED FROM BENT PLATE OR BUILT UP PIECES ARE NOT ACCEPTABLE. THE MANUFACTURER SHALL SPECIFY THE INTERNAL DIMENSIONS OF THE RETAINER TO ACHIEVE A POSITIVE SEAL AND ANCHORAGE.

AT JOINT UPTURNS, ESPECIALLY ON SKEWED BRIDGE DECKS, THE USE OF SPLIT RETAINERS MAY BE NECESSARY TO ENSURE PROPER SEAL GLAND INSTALLATION. WHERE THE SPLIT RETAINERS ARE REQUIRED, THE MANUFACTURER SHALL OBTAIN THE ENGINEER'S APPROVAL FOR THE DESIGN.

BEFORE THE GLAND IS INSTALLED, CORRECT ANY DEFECTS IN THE STEEL RETAINER OR THE ACTUAL EXPANSION JOINT THAT COULD CAUSE DAMAGE TO THE GLAND.

JOINTS IN RETAINERS: WELDS SHALL BE WATER TIGHT, PARTIAL PENETRATION WELDS AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. GRIND FLUSH ALL WELDS IN CONTACT WITH

THE SEAL AND JOINT ARMOR. DO NOT USE SHORT PIECES OF RETAINERS LESS THAN 6'-0" LONG, UNLESS REQUIRED AT CURBS OR SIDEWALKS. DO NOT PROVIDE ADDITIONAL SPLICES IN RETAINERS AT CURB OR SIDEWALK SECTIONS OTHER THAN THOSE DETAILED IN THE STANDARD BRIDGE DRAWINGS.

ARMOR STEEL: ALL CHANNEL SHAPES, ANGLE SHAPES AND ALL CROSS FRAME CONNECTION GUSSET PLATES, SHALL BE ASTM 709, GRADE 50 OR 50W. ALL OTHER STEEL PARTS INCLUDING RETAINERS, SHALL BE ASTM A709, GRADE 36, 50 OR 50W.

JOINTS IN ARMOR STEEL: SHOP OR FIELD JOINTS IN THE ARMOR SHALL BE COMPLETE PENETRATION WELDS GROUND FLUSH WHERE IN CONTACT WITH THE RETAINER.

ARMOR COATING: COAT ALL STEEL PARTS OF THE JOINT ASSEMBLY ACCORDING TO 516.

DO NOT FIELD PAINT METALIZED SURFACES EXCEPT AS NOTED. CLEAN AND PAINT THE AREAS ON THE ½" GUSSET PLATES DAMAGED DURING CROSSFRAME INSTALLATION IN CONFORMANCE WITH THE STRUCTURE'S PAINT SYSTEM. PROTECT THE METALIZED COATING WHEN BLASTING OR COATING ADJACENT STEEL MEMBERS. OVERSPRAY NEED NOT BE REMOVED.

TEMPORARY SUPPORTS: THE FABRICATOR SHALL DESIGN AND INSTALL TEMPORARY SUPPORTS TO RESIST SHIPPING, ERECTION AND CONSTRUCTION FORCES WITHOUT DAMAGE TO THE STEEL ARMOR OR COATING. THESE SUPPORTS SHALL BE ADJUSTABLE IN THE FIELD TO ACCOUNT FOR VARIABLE TEMPERATURE SETTINGS. INSTALL THE SUPPORTS AFTER THE FABRICATION AND COATING IS COMPLETE.

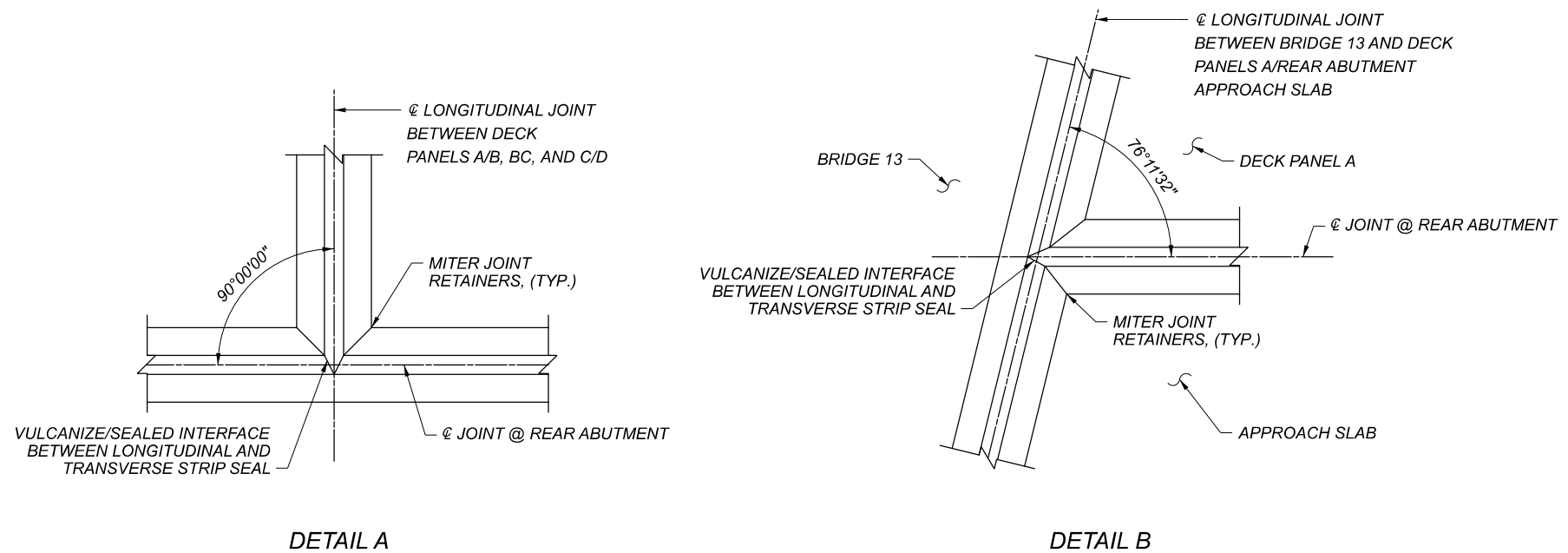
CONSTRUCTION PROCEDURE:

ARMOR INSTALLATION:

1. PLACE JOINT ASSEMBLY SO THE CHANNEL AND ANGLE REMAIN PARALLEL TO EACH OTHER AND PERPENDICULAR TO THE ROADWAY GRADIENT.
2. PLACE ABUTMENT BACKWALL CONCRETE AFTER THE SUPERSTRUCTURE CONCRETE IS PLACED IN THE SPAN ADJACENT TO THE ABUTMENT.
3. SET ABUTMENT EXPANSION JOINT WIDTH TO DIMENSION "A" NO MORE THAN FOUR HOURS PRIOR TO THE DAY'S PEAK AMBIENT TEMPERATURE. SEE PROJECT PLANS FOR DIMENSION "A".
4. PLACE THE BACKWALL CONCRETE DURING STABLE OR RISING AMBIENT TEMPERATURES. CONCLUDE PLACEMENT AT OR IMMEDIATELY BEFORE THE DAY'S PEAK AMBIENT TEMPERATURE.
5. HAND PLACE AND VIBRATE CONCRETE UNDER JOINT ARMOR TO ACHIEVE COMPLETE CONSOLIDATION.
6. LOOSEN ANY TEMPORARY JOINT ARMOR SUPPORTS AFTER INITIAL SET OF THE CONCRETE, PREFERABLY NOT LATER THAN TWO HOURS AFTER CONCLUSION OF THE CONCRETE PLACEMENT.

SEAL INSTALLATION:

1. EXAMINE THE RETAINER FOR SOILAGE OR DEFECTS THAT CAN DAMAGE THE SEAL PRIOR TO SEAL INSTALLATION. REPAIR DEFECTS.
2. NOT MORE THAN 24 HOURS PRIOR TO SEAL INSTALLATION, BLAST THE RETAINER INTERIOR PER SSPC SP6 "COMMERCIAL BLAST CLEANING", WITHOUT DAMAGING ADJACENT COATINGS. REMOVE ALL BLASTING MEDIA FROM THE RETAINER.
3. CLEAN ALL SURFACES OF THE SEAL WITH METHYL ETHYL KETONE (MEK), TOLUENE (T) OR OTHER MANUFACTURER SPECIFIED SOLVENT USING CLEAN DISPOSABLE CLOTHS. MAINTAIN THE SURFACE CLEANLINESS UNTIL INSTALLATION.
4. IMMEDIATELY BEFORE APPLYING THE LUBRICANT-ADHESIVE, BONDING SURFACES MUST BE CLEAN, DRY AND WARMER THAN 45³³/₆₄F. BONDING SURFACES MUST BE MAINTAINED IN THIS CONDITION UNTIL THE SEAL IS INSTALLED. LIBERALLY APPLY THE LUBRICANT-ADHESIVE TO BOTH THE RETAINER AND THE SEAL USING THE MANUFACTURER'S SPECIFIED METHODS FOR COMPLETE AND UNIFORM COVERAGE.
5. INSTALL THE SEAL WITH EQUIPMENT AND PROCEDURE SPECIFIED BY THE MANUFACTURER. ELONGATION OF THE SEAL OR STRUCTURAL DAMAGE TO THE SEAL CAUSED BY INSTALLATION METHODS WILL BE CAUSE FOR REJECTION.
6. REMOVE EXCESS LUBRICANT-ADHESIVE AFTER INSTALLATION.

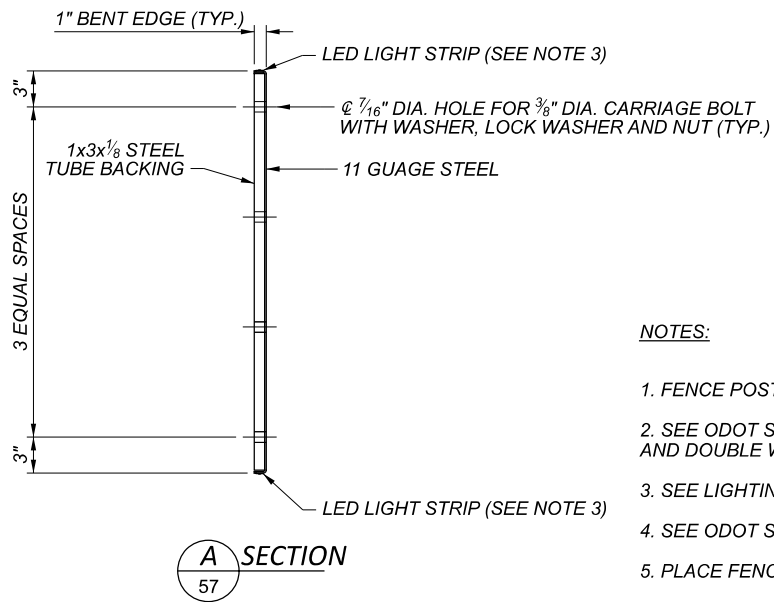
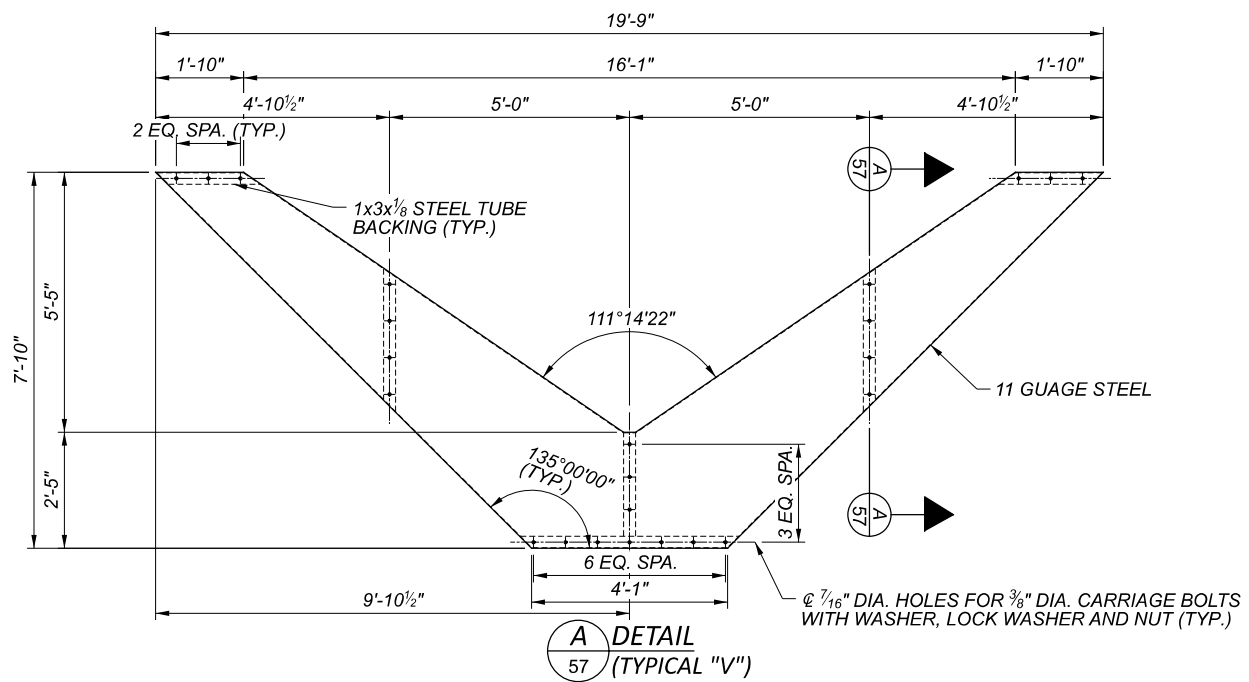
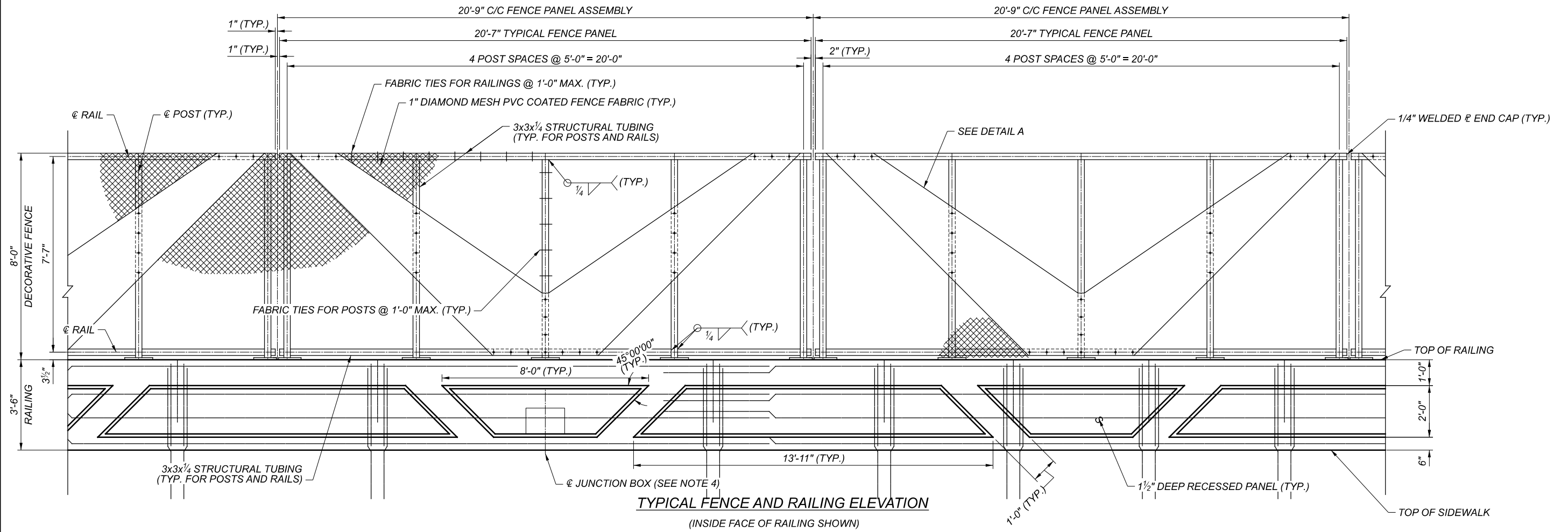


CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPER: 17x11 (in.) DATE: 7/27/2022 TIME: 6:10:24 PM USER: David.Fell
pwc:\mb-us-pw\benley.com\mb-us-pw-03\Documents\Cleveland_OH101_P\Projects\ODOT\Bridges\1282382400-Engineering\Structures\SFN_1807841_S5006C.dgn

EXPANSION JOINT DETAILS (4 OF 4)
CUY-90-1680 (BRIDGE 16)
CR-23 (CEDAR AVE.) OVER I.R. 90 EB

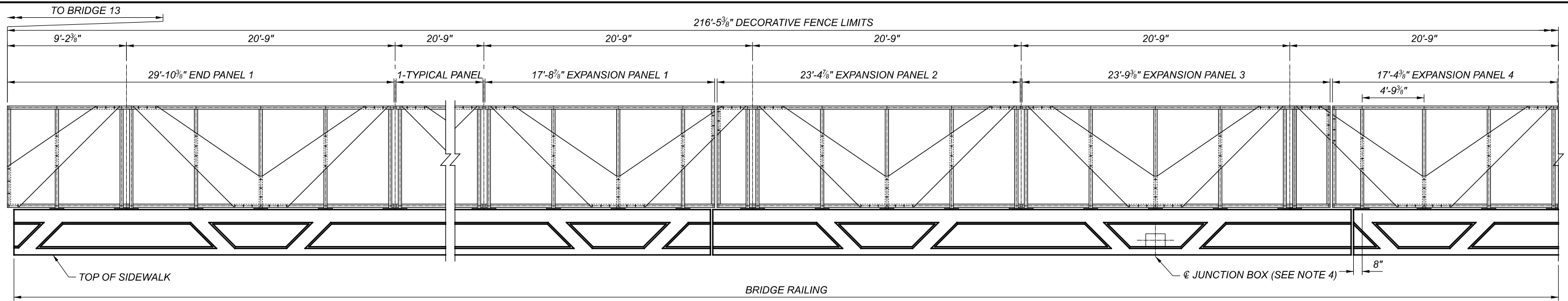
SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	PAT XW
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	56
TOTAL	63
SHEET	1947
TOTAL	2338



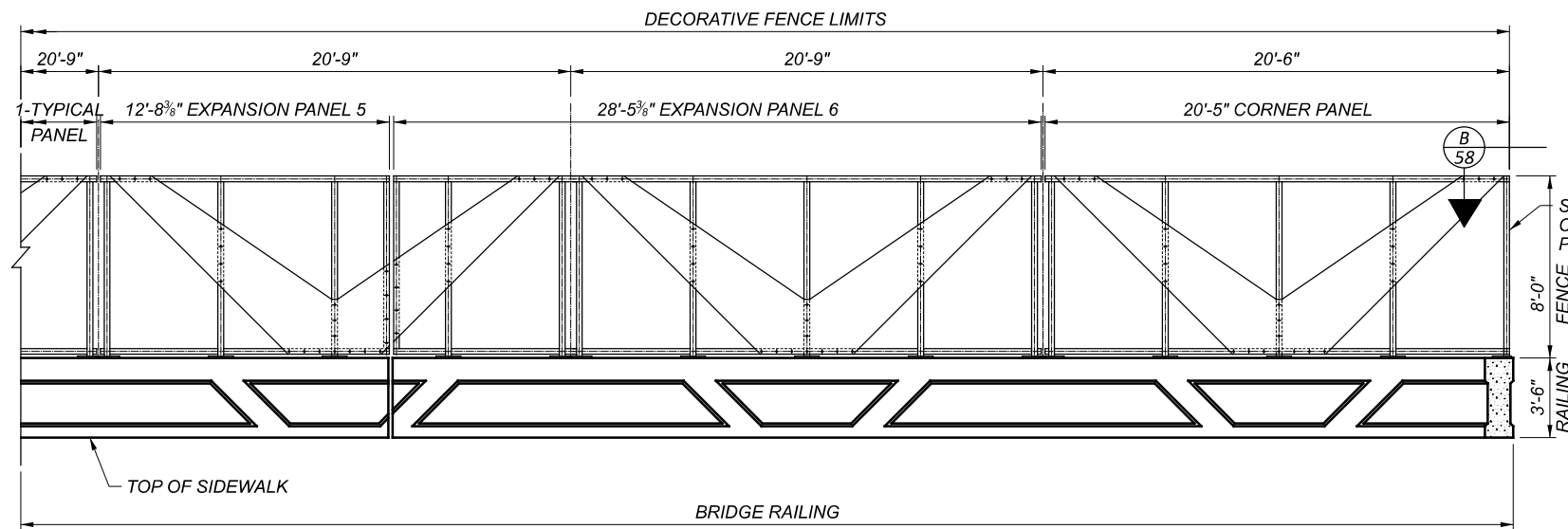
NOTES:

1. FENCE POSTS SHALL BE PLUMB.
2. SEE ODOT STANDARD CONSTRUCTION DRAWING VPF-1-90 FOR FENCE FABRIC, FABRIC TIES, AND DOUBLE WRAP FABRIC TIES.
3. SEE LIGHTING PLANS FOR LED STRIP LIGHT SPECIFICATIONS AND ADDITIONAL INFORMATION.
4. SEE ODOT STANDARD CONSTRUCTION DRAWING HL-20.14 FOR JUNCTION BOX DETAILS.
5. PLACE FENCE FABRIC BETWEEN POST AND RAIL ASSEMBLIES AND DECORATIVE "V"s ON SIDEWALK SIDE.
6. SEE ADDITIONAL FENCE DETAIL SHEETS FOR BASEPLATE AND NON-TYPICAL FENCE PANEL DETAILS.

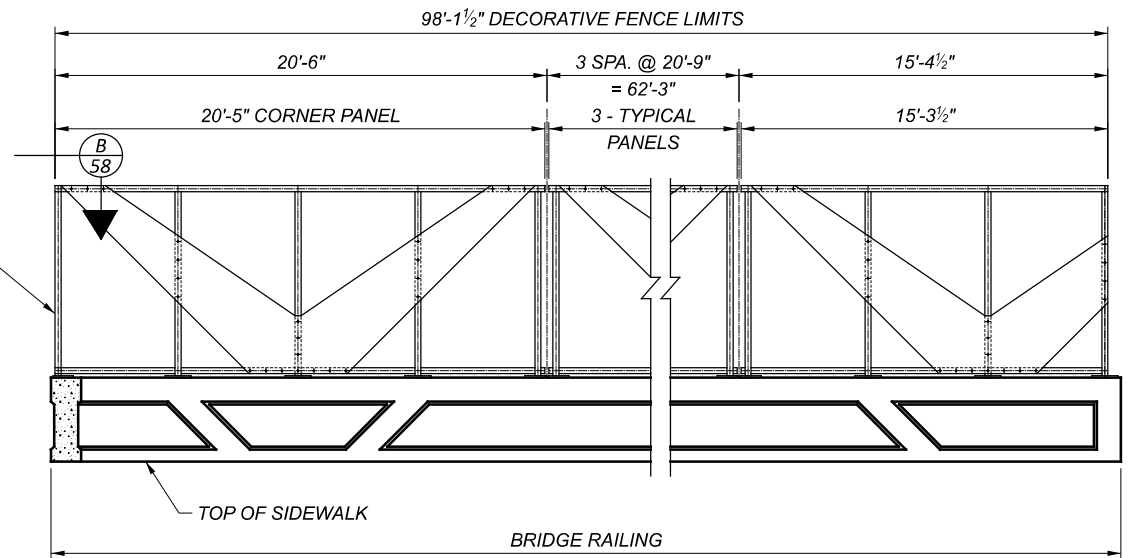
SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
REVIEWER	
PROJECT ID	82382
SUBSET	57
TOTAL	63
SHEET	1948
TOTAL	2338



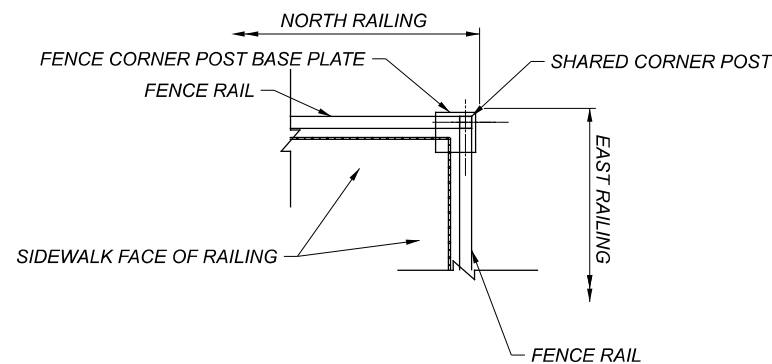
BRIDGE 16 NORTH RAILING ELEVATION
 (SIDEWALK FACE LOOKING NORTH)



BRIDGE 16 NORTH RAILING ELEVATION (CONTINUED)
 (SIDEWALK FACE LOOKING NORTH)



BRIDGE 16 EAST RAILING ELEVATION
 (SIDEWALK FACE LOOKING EAST)

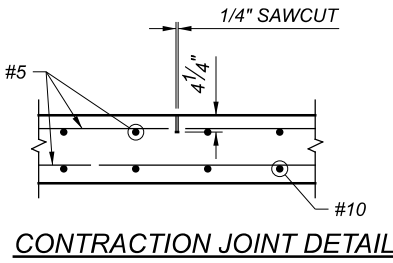
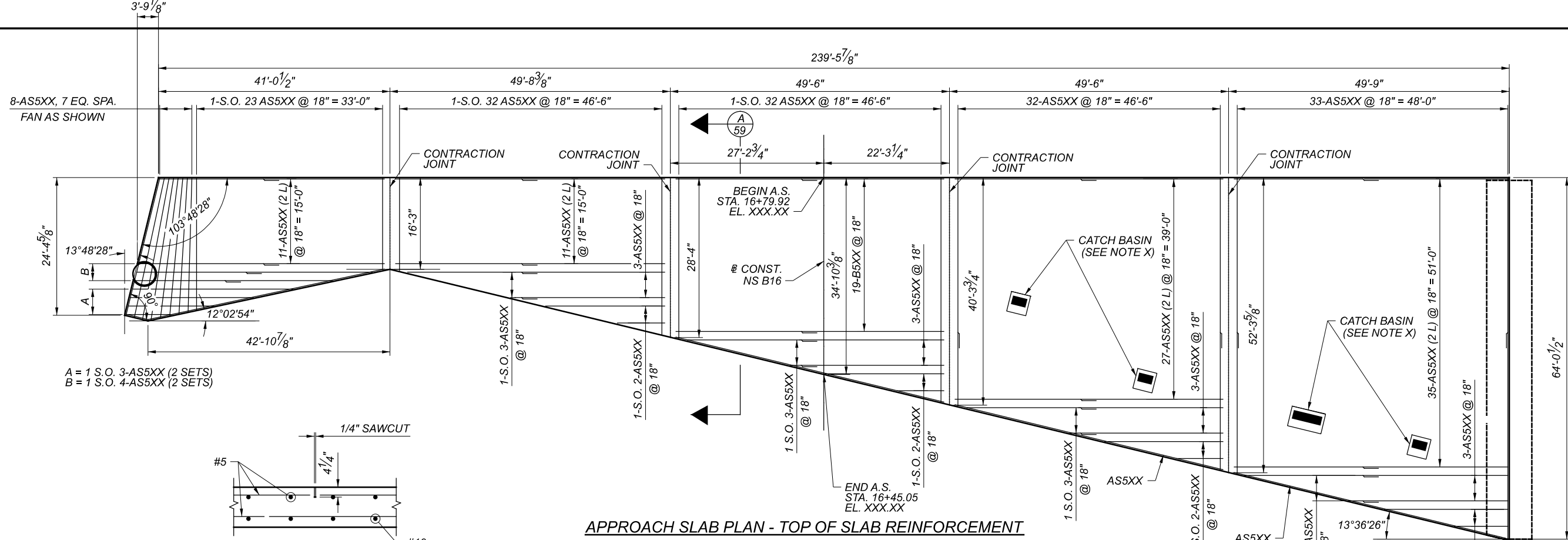


B VIEW
 58 CORNER POST

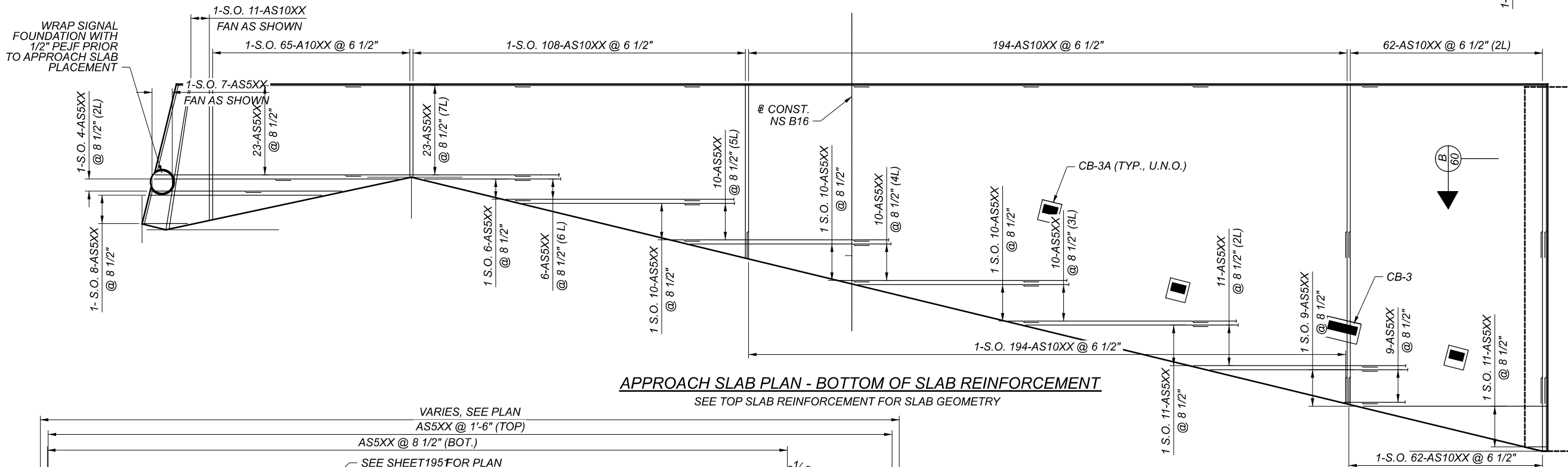
NOTES:

1. FENCE POSTS SHALL BE PLUMB.
2. SEE ODOT STANDARD CONSTRUCTION DRAWING VPF-1-90 FOR FENCE FABRIC, FABRIC TIES, AND DOUBLE WRAP FABRIC TIES.
3. SEE LIGHTING PLANS FOR LED STRIP LIGHT SPECIFICATIONS AND ADDITIONAL INFORMATION.
4. SEE ODOT STANDARD CONSTRUCTION DRAWING HL-20.14 FOR JUNCTION BOX DETAILS.
5. PLACE FENCE FABRIC BETWEEN POST AND RAIL ASSEMBLIES AND DECORATIVE "V"s ON SIDEWALK SIDE.
6. SEE ADDITIONAL FENCE DETAIL SHEETS FOR BASEPLATE AND TYPICAL FENCE PANEL DETAILS.
7. NOT ALL LIGHTING JUNCTION BOXES SHOWN. SEE TYPICAL FENCE PANEL DETAILS.

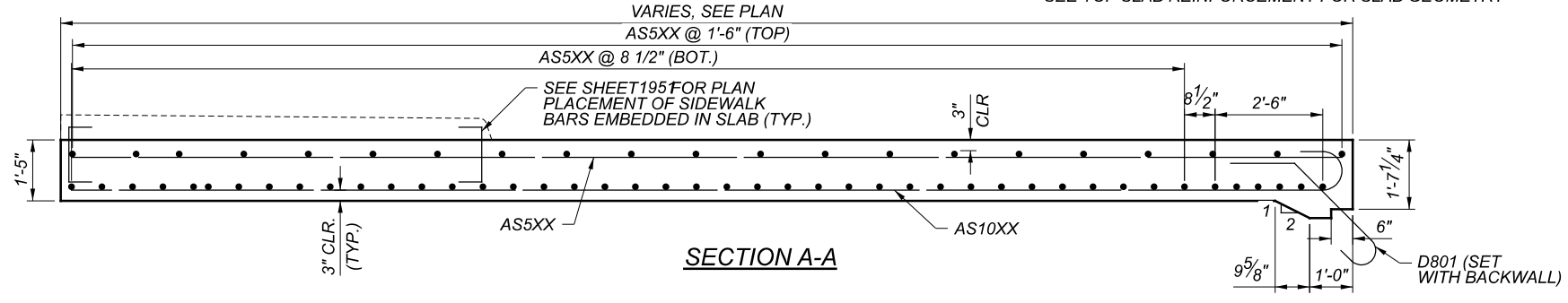
SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
REVIEWER	
PROJECT ID	82382
SUBSET	58
TOTAL	63
SHEET	1949
TOTAL	2338



APPROACH SLAB PLAN - TOP OF SLAB REINFORCEMENT



APPROACH SLAB PLAN - BOTTOM OF SLAB REINFORCEMENT
 SEE TOP SLAB REINFORCEMENT FOR SLAB GEOMETRY



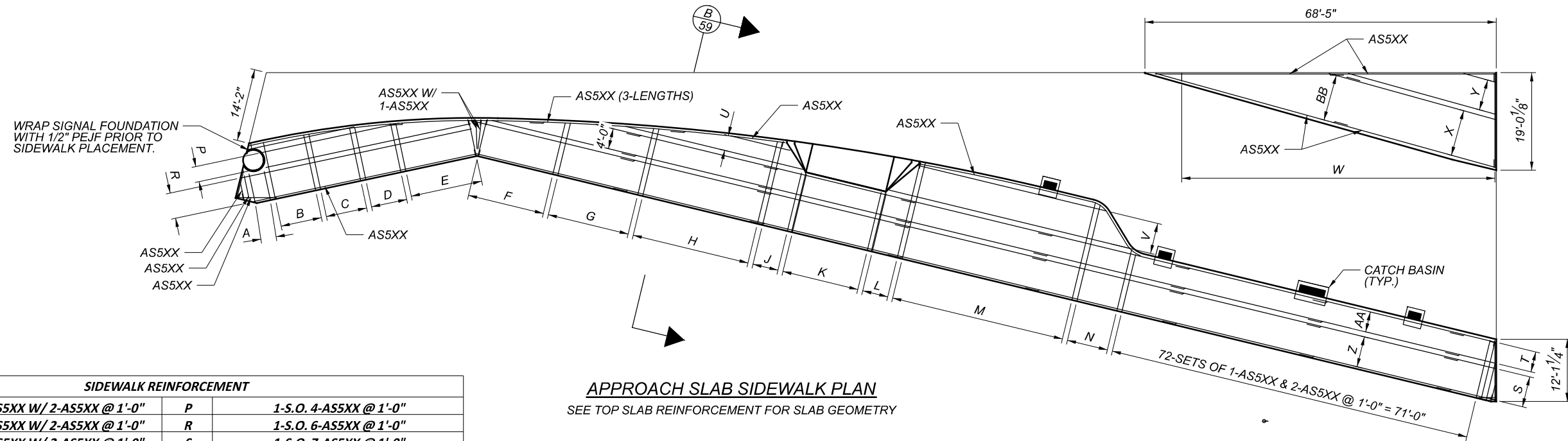
SECTION A-A

- NOTES:**
- SEE BRIDGE STANDARD DRAWINGS AS-1-15 AND AS-2-15 FOR STANDARD REINFORCING AND INFORMATION NOT SHOWN.
 - FIELD CUT REINFORCEMENT AS NECESSARY AROUND PROPOSED CATCH BASINS AND SIGNAL POLE. FIELD APPLY EPOXY COATINGS TO CUT ENDS WITH PRODUCT FROM ODOT QUALIFIED PRODUCTS LIST.
 - LAP LENGTHS: #5 = 2'-6", #10 = 4'-7"



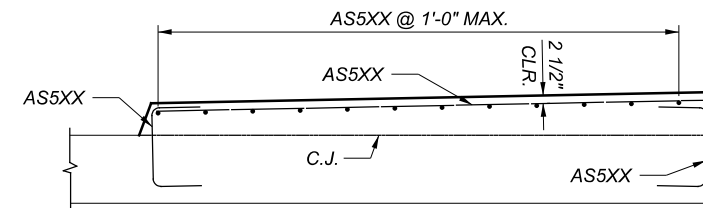
APPROACH SLAB PLAN (1 OF 2)
 CUY-90-1680 (BRIDGE 16)
 CR-23 (CEDAR AVE.) OVER I.R. 90 EB

SFN	1807841
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER/CHECKER	CDC / MKB
REVIEWER	LPC 07-27-22
PROJECT ID	82382
SUBSET	59
TOTAL	63
SHEET	1950
TOTAL	2338

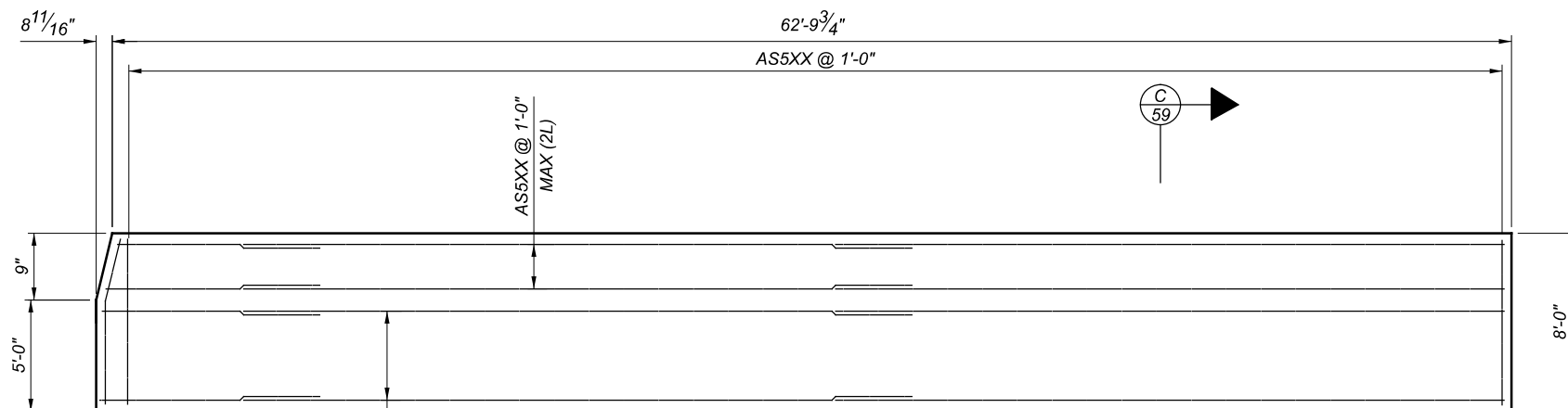


SIDEWALK REINFORCEMENT			
A	1-S.O. 4-AS5XX W/ 2-AS5XX @ 1'-0"	P	1-S.O. 4-AS5XX @ 1'-0"
B	1-S.O. 9-AS5XX W/ 2-AS5XX @ 1'-0"	R	1-S.O. 6-AS5XX @ 1'-0"
C	1-S.O. 9-AS5XX W/ 2-AS5XX @ 1'-0"	S	1-S.O. 7-AS5XX @ 1'-0"
D	1-S.O. 8-AS5XX W/ 2-AS5XX @ 1'-0"	T	1-S.O. 5-AS5XX @ 1'-0"
E	1-S.O. 15-AS5XX W/ 2-AS5XX @ 1'-0"	U	1-S.O. 4-AS5XX @ 1'-0"
F	1-S.O. 16-AS5XX W/ 2-AS5XX @ 1'-0"	V	1-S.O. 7-AS5XX @ 1'-0"
G	1-S.O. 17-AS5XX W/ 2-AS5XX @ 1'-0"	W	1-S.O. 62-AS5XX W/ 2-AS5XX @ 1'-0"
H	1-S.O. 24-AS5XX W/ 2-AS5XX @ 1'-0"	X	10-AS5XX @ 1'-0"
J	1-S.O. 6-AS5XX W/ 1-AS5XX @ 1'-0"	Y	1-S.O. 7-AS5XX @ 1'-0"
K	1-S.O. 16-AS5XX W/ 1-AS5XX @ 1'-0"	Z	7-AS5XX @ 1'-0" (7 LENGTHS)
L	1-S.O. 6-AS5XX W/ 1-AS5XX @ 1'-0"	AA	5-AS5XX @ 1'-0" (7 LENGTHS)
M	35 SETS OF 1-AS5XX W/ 2-AS5XX @ 1'-0"	BB	1-S.O. 10-AS5XX @ 1'-0"
N	1-S.O. 9-AS5XX W/ 2-AS5XX @ 1'-0"		

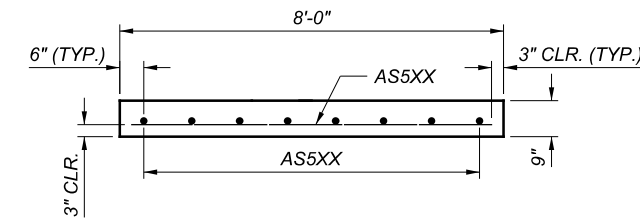
APPROACH SLAB SIDEWALK PLAN
 SEE TOP SLAB REINFORCEMENT FOR SLAB GEOMETRY



SECTION B-B



SLEEPER SLAB PLAN



SECTION C-C

NOTES:

- SEE BRIDGE STANDARD DRAWINGS AS-1-15 AND AS-2-15 FOR STANDARD REINFORCING AND INFORMATION NOT SHOWN.
- LAP LENGTHS: #5 = 2'-6"
- GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE SIDEWALKS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING NOT TO EXCEED 10 FEET.

SFN	1807841
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
REVIEWER	
PROJECT ID	82382
SUBSET	60
TOTAL	63
SHEET	1951
TOTAL	2338

MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	REAR ABUTMENT DIMENSIONS						SER INC.
					A	B	C	D	E	R	
RA501	184	29'-8"	5693	STR.							
RA502	248	22'-5"	5798	STR.							
RA503	23	28'-4"	680	19	24'-10"	0'-10"	3'-4 3/4"				
RA504	SER. OF 5	TO		19	3'-5"						
RA506	1	7'-7"	8	2	2'-4"	3'-2"	2'-4"				
RA507	1	4'-6"	5	1	0'-10"	3'-9"					
RA508	1	8'-1"	8	3	1'-0"	2'-9"					
RA509	8	26'-6"	221	STR.							
RA510	8	8'-0"	67	19	4'-0"	0'-11 1/2"	3'-10 5/8"				
RA512	4	8'-0"	33	19	4'-0"	0'-11 1/2"	3'-10 5/8"				
RA513	4	8'-0"	33	19	4'-0"	0'-11 1/2"	3'-10 5/8"				
RA514	4	8'-0"	33	19	4'-0"	0'-11 1/2"	3'-10 5/8"				
RA515	5	25'-1"	131	19	20'-6"	0'-11 1/2"	3'-10 5/8"				
RA516	2	25'-1"	52	3	5'-5"	0'-8"	5'-5"				
RA517	7	25'-1"	183	2	7'-1"	0'-6 3/4"	7'-1"				
RA518	1	25'-1"	26	19	20'-6"	0'-11 1/2"	3'-10 5/8"				
RA519	5	25'-1"	131	19	20'-6"	0'-11 1/2"	3'-10 5/8"				
RA601	1	18'-7"	28	3	5'-5"	3'-7 1/2"					
RA602	1	18'-4"	28	3	5'-5"	3'-6"					
RA603	1	18'-2"	27	3	5'-5"	3'-5"					
RA604	1	18'-0"	27	3	5'-5"	3'-4"					
RA605	1	18'-9"	28	3	5'-5"	3'-8 1/2"					
RA606	1	18'-11"	28	3	5'-5"	3'-9 1/2"					
RA607	1	19'-2"	29	3	5'-5"	3'-11"					
RA608	1	19'-5"	29	3	5'-5"	4'-0 1/2"					
RA609	1	19'-8"	30	3	5'-5"	4'-2"					
RA610	1	19'-10"	30	3	5'-5"	4'-3"					
RA611	1	20'-1"	30	3	5'-5"	4'-4 1/2"					
RA612	1	20'-4"	31	3	5'-5"	4'-6"					
RA613	1	20'-7"	31	3	5'-5"	4'-7 1/2"					
RA614	1	20'-10"	31	3	5'-5"	4'-9"					
RA615	1	21'-1"	32	3	5'-5"	4'-10 1/2"					
RA616	1	21'-4"	32	3	5'-5"	5'-0"					
RA617	1	21'-7"	32	3	5'-5"	5'-1 1/2"					
RA618	1	21'-10"	33	3	5'-5"	5'-3"					
RA619	1	22'-1"	33	3	5'-5"	5'-4 1/2"					
RA620	26	22'-4"	872	3	5'-5"	5'-6"					
RA621	240	6'-11"	2493	2	3'-2"	0'-11"	3'-2"				
RA622	240	8'-3"	2974	2	3'-7"	1'-5"	3'-7"				
RA623	240	11'-7"	4176	2	5'-3"	1'-5"	5'-3"				
RA624	21	7'-5"	234	2	3'-2"	1'-5"	3'-2"				
RA801	1	5'-1"	14	18	2'-10"	1'-0"	1'-0"				
RA802	72	30'-0"	5767	STR.							
RA803	SER. OF 6	30'-0"		STR.							
RA804	30			1	1'-4"	22'-3"					
RA805	12			1	1'-4"	18'-3"					
RA806	6			1	1'-4"	13'-3"					
RA807	SER. OF 6			1	1'-4"						
RA808	SER. OF 6			19							
RA809	SER. OF 1			19							
		SUBTOTAL	24508	LBS							

