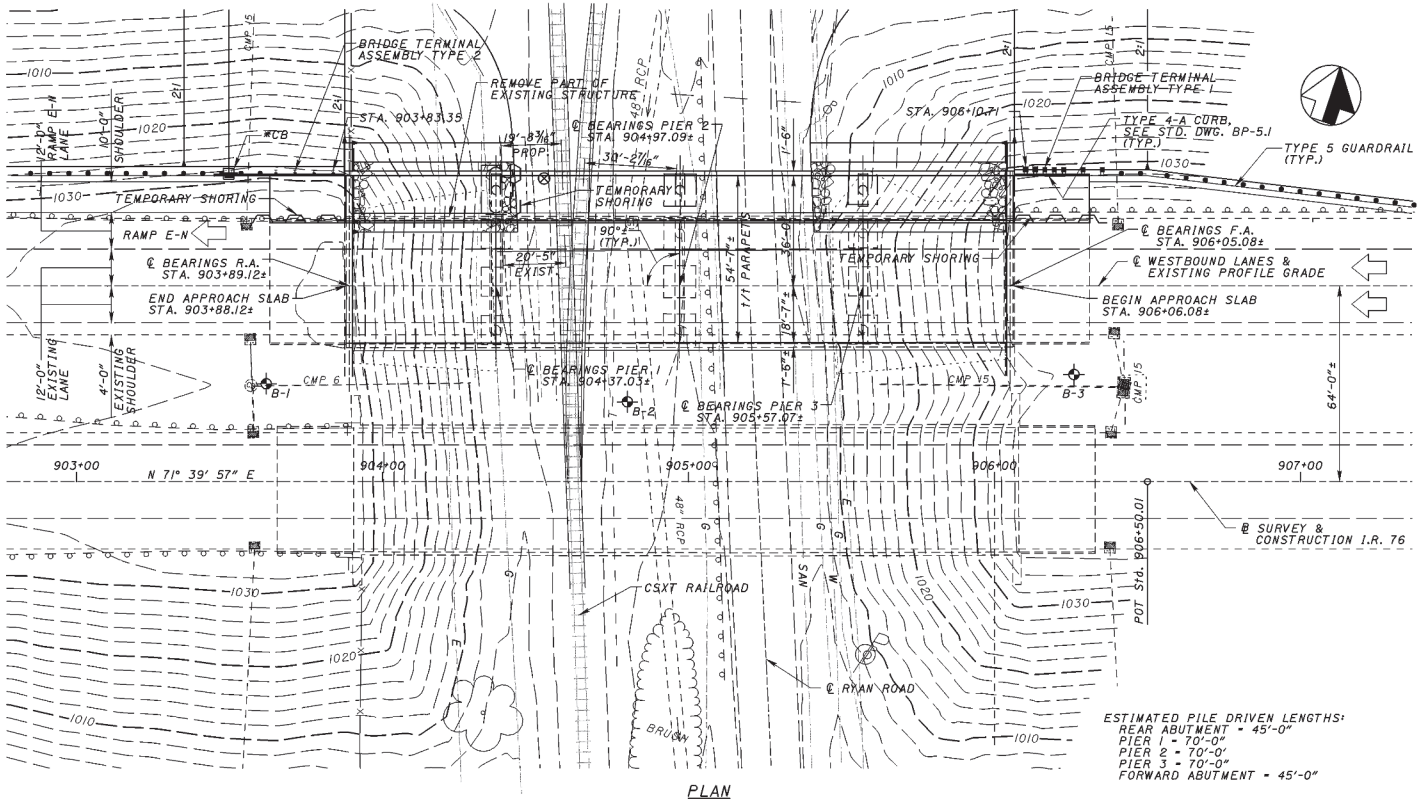
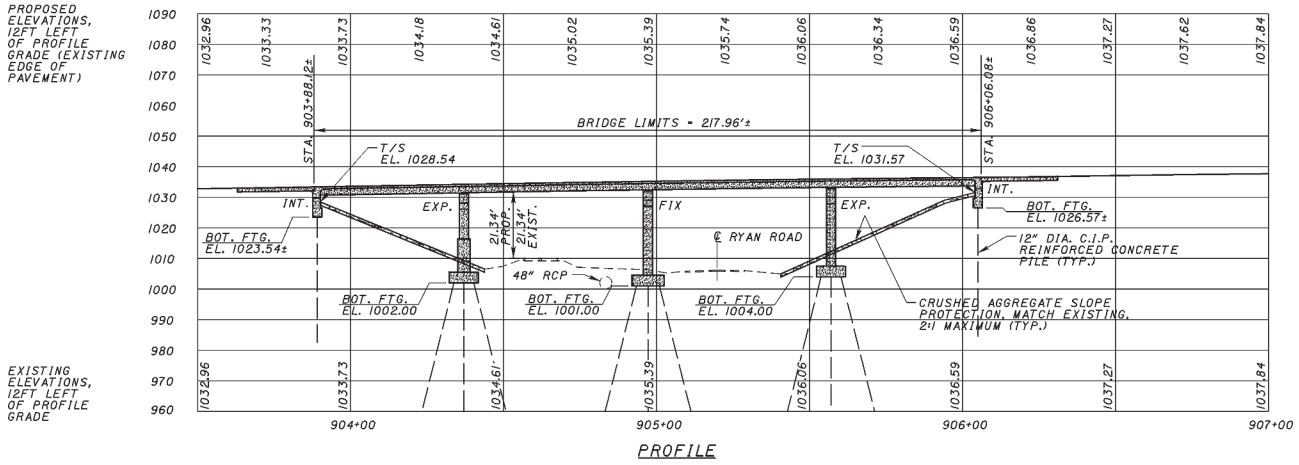


PLAN



PROFILE

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

LEGEND:

BOT. = BOTTOM
C.I.P. = CAST-IN-PLACE
DIA. = DIAMETER
EXP. = EXPANSION
F.A. = FORWARD ABUTMENT
FTG. = FOOTING
INT. = INTEGRAL
R.A. = REAR ABUTMENT
RCP = REINFORCED CONCRETE PIPE
T/S = TOP OF SLOPE
t/t = TOE-TO-TOE
⊗ = MINIMUM VERTICAL CLEARANCE LOCATION
✣ = FOUNDATION INVESTIGATION BORING LOCATION
* = SEE ROADWAY PLANS FOR DETAILS AND PAYMENT

EXISTING SOIL BORING INFORMATION

BORING #	STATION	OFFSET	ELEVATION	APPROX. TOP OF ROCK
B-1	903+62.00	32.0' (LT)	1032.00	NONE
B-2	904+80.00	30.0' (LT)	1006.00	NONE
B-3	906+26.00	35.0' (LT)	1031.80	NONE

BENCHMARK INFORMATION

BM #0268: STA. 454+72.36, 26.29'R, O.C. SET I.P.'S, 499,644.71 N, 2,139,708.69 E, ELEV. 1010.33

BM #3053: STA. 457+82.04, 0.026'L, ℄ MONUMENT, 499,866.78 N, 2,139,904.13 E, ELEV. 1041.02

EXISTING STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL BEAM BRIDGE WITH REINFORCED CONCRETE DECK, CAP AND COLUMN PIERS & INTEGRAL ABUTMENTS
SPANS: 48'-0"±, 60'-0"±, 60'-0"±, 48'-0"± c/c BEARINGS
ROADWAY: 40'-0"± t/t PARAPETS
SKEW: NONE
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
DESIGN LOADING: HS20-44 (CASE I) AND THE ALTERNATE MILITARY LOADING
APPROACH SLABS: AS-1-81 (25'-0"± LONG)
CROWN: 0.0156±
STRUCTURE FILE NO.: 5204429
DATE BUILT: 1993

PROPOSED STRUCTURE

PROPOSED WORK: WIDENING IN KIND OF EXISTING 4-SPAN CONTINUOUS A572 STEEL BEAM BRIDGE WITH REINFORCED CONCRETE DECK, T-TYPE PIERS & INTEGRAL ABUTMENT
SPANS: 47'-11"±, 60'-0⅝"±, 59'-11¾"±, 48'-0"± c/c BEARINGS
ROADWAY: 54'-7"± t/t PARAPETS
SKEW: NONE
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
DESIGN LOADING: HS20-44 (CASE I) AND THE ALTERNATE MILITARY LOADING
FWS LOADING: 60 PSF
APPROACH SLABS: AS-1-81 (25'-0" LONG)
CROWN: 0.0156
ADT (2006): 16090 ADTT (2006): 5632
ADT (2026): 21280 ADTT (2026): 7448
RAILROAD TRAIN ACTIVITY: 6 TO 10 TRAINS PER DAY
LATITUDE: N 41°01'54"
LONGITUDE: W 81°52'40"

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DATE 6-10-04
REVIEWED DWL
STRUCTURE FILE NUMBER 5204429
DRAWN TTK/MPH
REVISED 8/8/06
DESIGNED TTK
CHECKED WTL/JAA

MEDINA COUNTY
STA. 903+88.12
STA. 906+06.08

SITE PLAN
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

1 / 22

1028
1120

P:/PR30489/CADD/MED-76-0158L/REVISED 8-04-06/MED76SPL.DGN

PROPOSAL NOTES

PAINTING OF STRUCTURAL STEEL

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81 DATED 10-25-94 / REVISED 7-19-02

BR-1 DATED 5-29-79 / REVISED 7-19-02

GSD-1-96 DATED 2-12-97 / REVISED 9-19-02

ICD-1-82 DATED 3-20-95 / REVISED 7-19-02

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

894 DATED 4-15-05

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 , AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

DESIGN LOADING: HS20, CASE I AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

DESIGN DATA

HIGH PERFORMANCE - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL (EXISTING OR NEW)- ASTM A615, A616 OR A617, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI. SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

STRUCTURAL STEEL - ASTM A572 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL, 2½" CONCRETE COVER, CLASS HP CONCRETE

MONOLITHIC WEARING SURFACE

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

MAINTENANCE OF TRAFFIC

FOR MAINTENANCE OF TRAFFIC DETAILS, SEE THE ROADWAY PLANS.

EXISTING STRUCTURE VERIFICATION

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 CMS 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 WHICH HAVE BEEN VERIFIED IN THE FIELD.

PROPOSED WORK:

1. REMOVE PORTIONS OF EXISTING CONCRETE DECK, APPROACH SLABS, RAILINGS, AND PARAPET.

2. CONSTRUCT A WIDENED DECK ON NEW BEAMS AND PIERS TO PROVIDE A 54'-7"± WIDE ROADWAY.

3. WIDEN THE EXISTING INTEGRAL ABUTMENTS, AND EXPAND THE EXISTING ABUTMENT DRAINAGE SYSTEM.

4. PROTECT AND MAINTAIN INTERSTATE 76, RYAN ROAD, AND CSXT RAILROAD TRAFFIC DURING ALL PHASES OF CONSTRUCTION.

5. INSTALL SHEAR CONNECTORS ALONG NEW STEEL BEAMS.

6. SEAL THE NEW CONCRETE PARAPET AND ALL NEW SUBSTRUCTURE UNITS WITH EPOXY-URETHANE.

7. CONSTRUCT WIDENED APPROACH SLABS.

8. EXTEND CRUSHED AGGREGATE SLOPE PROTECTION.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 70 TONS PER 12" DIAMETER CAST-IN-PLACE PILE FOR THE 4 ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 70 TONS PER 12" DIAMETER CAST-IN-PLACE PILE FOR THE 29 PIER PILES.

SPLICES SHALL BE FURNISHED BY THE CONTRACTOR, AT NO EXTRA COST TO THE STATE, FOR PILE LENGTHS IN EXCESS OF 25'.

ABUTMENT PILES:
4 PILES 50 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER PILES:
29 PILES 75 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

BATTERED PILES

BATTERED PILES: THE BLOW COUNT FOR BATTERED PILES SHALL BE THE BLOW COUNT DETERMINED FOR VERTICAL PILES OF THE SAME ULTIMATE BEARING VALUE DIVIDED BY AN EFFICIENCY FACTOR (D). COMPUTE THE EFFICIENCY FACTOR (D) AS FOLLOWS:

$$D = \frac{1-UG}{\sqrt{(1+G^2)}}$$

U = COEFFICIENT OF FRICTION, WHICH IS ESTIMATED AT 0.05 FOR DOUBLE-ACTING AIR OPERATED OR DIESEL HAMMERS; 0.1 FOR SINGLE-ACTING AIR OPERATED OR DIESEL HAMMERS; AND 0.2 FOR DROP HAMMERS.

G = RATE OF BATTER (1/4)

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND PIER PILES, FOR PIERS 1 AND 3, UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

CONSTRUCTION CLEARANCE

CONSTRUCTION CLEARANCE: MAINTAIN A CONSTRUCTION CLEARANCE OF 10 FEET HORIZONTALLY FROM THE CENTER OF TRACKS AND 21 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL.

UTILITY LINES

UTILITY LINES: THE UTILITY(IES) SHALL BORE 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 WILL BE HELD TO A MINIMUM.

EXISTING STRUCTURE PLANS

THE ORIGINAL DESIGN AND UPGRADING PLANS MAY BE EXAMINED BY PROSPECTIVE BIDDERS AT THE DEPARTMENT OF TRANSPORTATION, DISTRICT 3 OFFICE, 906 NORTH CLARK, ASHLAND, OH. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DRAWINGS.

MECHANICAL CONNECTORS FOR REINFORCING STEEL:

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED WHERE REQUIRED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE FURNISHED WITH THE CONNECTOR SHALL BE AS SHOWN ON THE PLAN.

CONNECTORS AND DOWEL BARS SHALL BE EPOXY COATED. COATING FOR BOTH THE CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY, MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEETS THE SPECIFICATIONS.

CONNECTOR AND DOWEL BAR EXTENSIONS SHALL CONFORM WITH ITEM 509.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESCRIPTION: THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPERATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY 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. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. THE METHOD OF REMOVAL AND 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. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER BRIDGE MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER NO HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL CRACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DIRECTOR AT LEAST 20 DAYS BEFORE CONSTRUCTION BEGINS.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

P:/PR30489/CADD/MED-71-0158L/DETAIL DESIGN/ME0769NL.DGN

BURGESS & NIPLE
3985 Red Bank Road Cincinnati, Ohio 45227

DESIGNED	DRAWN	REVIEWED	DATE
MPH	ASK	DWL	6-10-04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAA		5204429	

STRUCTURE NOTES 1 OF 3
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

2 / 22

1029
1120

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503 EXCEPT THAT THE BACKFILL MATERIAL SHALL BE MATERIAL CONFORMING TO CMS 703.17 (CMS 304 MATERIAL) AND MEET THE COMPACTION REQUIREMENTS OF CMS 304.05. IN ADDITION, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.

REPLACEMENT OF EXISTING REINFORCING STEEL

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 516 INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1-1/4" X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094 +/- 0.01
BREAKING STRENGTH, GRAB, LBS, MINIMUM (LONG. X TRANS.)	D751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212 DEGREES F, 180 DEGREES BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, 40 DEGREES F, BEND AROUND 1/4" MANDREL	D2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN:

TEMPORARY SHEETING SHALL BE USED WHERE NECESSARY TO ACCOMPLISH THE PROPOSED CONSTRUCTION IN STAGES. THE DESIGN OF THE TEMPORARY SHEETING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER, AND CONFORM WITH 501.04. FOR APPROVAL, FIVE COPIES OF THE DRAWINGS SHALL BE SUBMITTED TO THE DIRECTOR. CONSTRUCTION OF THE SHEETING SHALL NOT BEGIN UNTIL AFTER WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE DIRECTOR. PORTIONS OF THE TEMPORARY SHEETING COMPOSED OF STEEL OR CONCRETE MAY BE LEFT IN PLACE AT THE DISCRETION OF THE ENGINEER. PORTIONS COMPOSED OF OTHER MATERIALS SHALL BE REMOVED PRIOR TO COMPLETION OF THE WORK. SHORING WILL BE REQUIRED AROUND THE PIERS ADJACENT TO THE CSX RAILROAD TRACKS AND NEAR THE ABUTMENTS. SEE "COOPERATION WITH RAILROADS" NOTE ON SHEET 4 / 22 FOR ADDITIONAL REQUIREMENTS.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN

THE CONTRACTOR SHALL VERIFY THE EXISTING CROSSFRAME AND BEARING LOCATIONS IN THE FIELD PRIOR TO FABRICATION OF THE BEAMS. COST FOR THIS FIELD WORK SHALL BE INCLUDED UNDER THIS ITEM FOR PAYMENT.

ITEM 864 - SEALING OF CONCRETE SURFACES

THE COLOR OF THE URETHANE TOP COAT SHALL BE FEDERAL COLOR STANDARD NO. 17778.

ITEM 894 HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN:

GENERAL REQUIREMENTS:
THE PROVISIONS OF ITEM 894 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). ALL OTHER STRUCTURE CONCRETE SHALL BE THIS MIX OR MIX 2 CONCRETE.

THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	#8 COARSE AGGRE. (LB)	#57 COARSE AGGRE. (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO-SILICA (LB)	WATER TO CEMENTITIOUS RATIO ± .02	AIR CONTENT ± 2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127. THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE FOR MATERIALS OF THE FOLLOWING BULK SPECIFIED GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

PARAPET CONSTRUCTION (FORMED AND POURED):

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PREFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

PARAPET CONSTRUCTION (SLIP FORMED):

THE CONTRACTOR IS ALLOWED THE OPTION OF SLIP FORMING BRIDGE PARAPETS , BUT ONLY AFTER THE SUCCESSFUL COMPLETION OF A TEST SECTION TWENTY FEET LONG. A MINIMUM OF 3 DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER. APPROVAL TO SLIP FORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIP FORMING RESULT IS OBTAINED.

IN ADDITION TO THE REQUIREMENTS OF THE LAST PARAGRAPH OF 511.11 THE ENGINEER WILL INSPECT THE SLIP FORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIP FORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

ALL ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF SLIP FORMED CONCRETE PARAPETS SHALL BE 1 INCH WITH A MAXIMUM SLUMP OF 1½ INCHES.

THE WATER CEMENT RATIO FOR SLIP FORMED PARAPETS SHALL NOT BE LESS THAN THE WATER CEMENT RATIO USED FOR THE DECK CONCRETE. REDUCE SLUMP BY LIMITING THE USE OF SUPERPLASTICIZERS.

CRACK CONTROL JOINTS:

FOR BOTH SLIP FORMED AND FORMED AND POURED PARAPETS, THE CONTRACTOR SHALL CONSTRUCT 1½" DEEP AND ¼" WIDE CRACK CONTROL JOINTS SPACED AT A MINIMUM OF 6 FT AND A MAXIMUM OF 8 FT ON CENTER. THE CRACK CONTROL JOINTS SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE CONCRETE DECK. THE CONTRACTOR MAY EITHER FORM THE CRACK CONTROL JOINTS IN WITH FORM LINERS, OR, WITHIN 24 HOURS OF PLACEMENT, SAW CUT THE CRACK CONTROL JOINTS IN WITH THE USE OF AN EDGE GUIDE, FENCE, OR JIG WHICH IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE ENTIRE LENGTH OF EACH CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1½" WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E52000	LUMP SUM	CLASS HP CONCRETE, TEST SLAB
894E10001	CUBIC YARD	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN

BURGESS & NIPLE
3085 Reed Road
Columbus, Ohio 43220

DESIGNED MPH
DRAWN ASK
REVIEWED DWL
DATE 6-10-04
CHECKED JAA
REVISED
STRUCTURE I.D.& NUMBER 5204429

STRUCTURE NOTES 2 OF 3
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

3 / 22

1030
1120

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COOPERATION WITH RAILROADS - CSX TRANSPORTATION, INC.

THE CONTRACTOR SHALL COOPERATE AT ALL TIMES WITH THE LOCAL OFFICIALS OF THE RAILROAD COMPANY. HE SHALL USE ALL REASONABLE CARE AND DILIGENCE IN THE WORK IN ORDER TO AVOID ACCIDENTS, DAMAGE OR UNNECESSARY DELAY TO, OR INTERFERENCE WITH, THE TRAINS AND OTHER PROPERTY OF THE RAILROAD. THE CONTRACTOR SHALL NOTIFY THE LOCAL OFFICIALS OF THE RAILROAD, PRIOR TO STARTING, OF WORK THAT MAY AFFECT RAILROAD PROPERTY AND FACILITIES AND SHALL PAY THE RAILROAD COMPANY THE COST OF FLAGMEN FURNISHED BY THE RAILROAD COMPANY AND MADE NECESSARY BECAUSE OF ANY OF THE CONTRACTOR'S OPERATIONS OVER AND ADJACENT TO THE TRACKS.

NO SCAFFOLD, PLANKS OR OTHER EQUIPMENT SHALL BE SUSPENDED OR ERECTED ABOVE OR WITHIN 14 FEET OF A RAIL OVER WHICH TRAINS ARE OPERATING WITHOUT PRIOR WRITTEN APPROVAL OF THE CHIEF ENGINEER OF THE RAILROAD COMPANY, OR HIS AUTHORIZED REPRESENTATIVE.

FAILURE TO NOTIFY THE RAILROAD COMPANY AS NOTED ABOVE SHALL BE CAUSE FOR STOPPING WORK UNTIL ALL PROVISIONS FOR PROTECTING RAILROAD PROPERTY HAVE BEEN PROVIDED.

THE ACCESS ROADWAY MUST REMAIN UNOBSTRUCTED DURING CONSTRUCTION SO MAINTENANCE PERSONNEL MAY HAVE ACCESS ALONG THE RIGHT-OF-WAY. NO MATERIAL OR EQUIPMENT MAY BE STORED ON CSXT RIGHT-OF-WAY.

A CSXT FLAGMAN WILL BE REQUIRED WHEN WORK IS PERFORMED ON, AROUND OR ABOUT THE CSXT RIGHT OF WAY THAT MAY INTERFERE WITH TRAIN OPERATION. FLAGMEN WILL BE PRESENT TO PROTECT THE RAILROAD AND ITS PROPERTY. CSXT OR ITS DESIGNATED REPRESENTATIVE WILL DETERMINE WHEN FLAGGING PROTECTION IS REQUIRED. THE REQUEST FOR FLAGGING IS TO BE MADE TO THE CSXT ROADMASTER, MR. DAN KINNER, 330-948-2225, 30 DAYS IN ADVANCE.

A MINIMUM OF FIVE DAYS NOTICE BEFORE COMMENCEMENT OF WORK IS NECESSARY TO SCHEDULE A FLAGMAN. THE CONTRACTOR MUST ALSO CONTACT THE CSXT ROADMASTER WELL IN ADVANCE OF ORDERING A FLAGGER FOR THE FIRST TIME TO PROVIDE INFORMATION TO THE RAILROAD FOR BILLING PURPOSES. FLAGGERS WILL NOT BE DISPATCHED WITHOUT INITIATION AND APPROVAL OF A BILLING ACCOUNT. REIMBURSEMENT IS REQUIRED FOR A FULL 8-HOUR DAY FOR ANY FLAGMAN FURNISHED. IN THE EVENT THAT A FLAGMAN IS REQUIRED FOR MORE THAN AN 8-HOUR DAY, REIMBURSEMENT WILL BE AT ONE AND ONE-HALF TIMES THE HOURLY RATE IN EXCESS OF 8 HOURS, MONDAY THROUGH FRIDAY. ACTUAL COSTS FOR TRAVEL, MEALS, LODGING AND TRANSPORTATION WILL BE BILLED AT ACTUAL COSTS.

WHEN WORKING ON CSXT RIGHT OF WAY OR WITHIN THE SAFETY ZONE SURROUNDING THE LOCATION, THE CONTRACTOR'S EMPLOYEES WILL PARTICIPATE IN A JOB BRIEFING THAT WILL BE CONDUCTED BY THE CSXT FLAGMAN. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR'S SUPERVISORY PERSONNEL TO CARRY THROUGH FOR THE ENTIRE WORKDAY ALL OF THE ITEMS DISCUSSED DURING THE SAFETY BRIEFING.

SHORING PROTECTION SHALL BE PROVIDED WHEN EXCAVATION ENCROACHES ON A 1½ HORIZONTAL TO 1 VERTICAL THEORETICAL SLOPE LINE STARTING 1'-6" BELOW TOP OF RAIL AND AT 12'-0" MINIMUM FROM CENTERLINE OF THE TRACK. IT IS ANTICIPATED THAT SHORING WILL BE REQUIRED ADJACENT TO PIER 1 AND A SUGGESTED SCHEME IS PROVIDED ON SHEET 13 / 22 FOR BIDDING PURPOSES.

AT THE OPTION OF THE CONTRACTOR AN ALTERNATE METHOD OF SHORING MEETING THE FOLLOWING REQUIREMENTS CAN BE PROVIDED.

A. SHORING SHALL BE DESIGNED TO RESIST A VERTICAL LIVE LOAD SURCHARGE OF 1800 LBS. PER SQUARE FOOT, IN ADDITION TO ACTIVE EARTH PRESSURE. THE SURCHARGE SHALL BE ASSUMED TO ACT ON A CONTINUOUS STRIP, 8'-6" WIDE. LATERAL PRESSURES DUE TO SURCHARGE SHALL BE COMPUTED USING THE STRIP LOAD FORMULA SHOWN IN AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 8, PART 20.

B. ALLOWABLE STRESSES IN MATERIALS SHALL BE IN ACCORDANCE WITH AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTERS 7, 8, AND 15.

C. A CONSTRUCTION PROCEDURE FOR TEMPORARY SHORING SHALL BE SHOWN ON THE DRAWING.

D. SAFETY RAILING SHALL BE INSTALLED WHEN TEMPORARY SHORING IS WITHIN 12 FEET OF TRACK.

E. A MINIMUM DISTANCE OF 10 FEET FROM CENTERLINE OF THE TRACK TO FACE OF NEAREST POINT OF SHORING SHALL BE MAINTAINED.

THE CONTRACTOR SHALL SUBMIT THE FOLLOWING DRAWINGS AND CALCULATIONS FOR RAILROAD REVIEW AND APPROVAL.

1. THREE (3) SETS OF DETAILED DRAWINGS OF THE SHORING SYSTEMS SHOWING SIZES OF ALL STRUCTURAL MEMBERS, DETAILS OF CONNECTIONS, AND DISTANCES FROM CENTERLINE OF TRACK TO FACE OF SHORING. DRAWINGS SHALL SHOW A SECTION SHOWING HEIGHT OF SHORING AND TRACK ELEVATION IN RELATION TO BOTTOM OF EXCAVATION.

2. ONE SET OF CALCULATIONS OF THE SHORING DESIGN.

THE DRAWINGS AND CALCULATIONS SHALL BE PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN OHIO AND SHALL BEAR HIS SEAL AND SIGNATURE. SHORING PLANS SHALL BE APPROVED BY THE DIRECTOR OF STRUCTURAL ENGINEERING. THE CONTRACTOR MUST PROVIDE A SURVEY CREW TO MONITOR ELEVATION AND ALIGNMENT OF THE RAILROAD TRACK DURING THE INSTALLATION OF TEMPORARY SHEETING AND PILES. COSTS OF SHORING AND MONITORING SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 503 - COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN.

DEMOLITION PROCEDURE: THE CONTRACTOR SHALL SUBMIT A DEMOLITION PROCEDURE. FULL FALSEWORK SHALL BE INSTALLED BETWEEN THE BEAMS AND GIRDERS, 20 FEET EITHER SIDE OF THE CENTERLINE OF TRACK, TO PROTECT THE RAILROAD. THE RAILROAD TRACKS SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION OF EXISTING STRUCTURE AND PLACEMENT OF DECK SLABS. DURING DEMOLITION OF THE DECK, A PROTECTION SHIELD SHALL BE ERECTED OVER THE TRACK TO CATCH FALLING DEBRIS. THE PROTECTION SHIELD SHALL BE SUPPORTED FROM GIRDERS OR BEAMS AND SHALL NOT BE LOWER THAN ALLOWED TEMPORARY CLEARANCE. THE DECK SHALL BE REMOVED BY CUTTING IT IN SECTIONS AND LIFTING OUT. LARGE PIECES OF DECK SHALL NOT BE ALLOWED TO FALL ON PROTECTION SHIELD. BLASTING WILL NOT BE PERMITTED TO DEMOLISH A STRUCTURE OVER OR WITHIN RAILROAD RIGHT-OF-WAY. THE PROCEDURE SHALL INDICATE THE CAPACITY OF CRANES USING A SAFETY FACTOR OF 1.5 OF ACTUAL WEIGHT OF PICK, LOCATION OF CRANES WITH RESPECT TO THE TRACK AND ESTIMATED LIFTING LOADS. DEMOLITION PROCEDURE SHALL BE PREPARED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED TO CSXT DISTRICT ENGINEER OR HIS REPRESENTATIVE FOR APPROVAL. COST OF PROTECTIVE FALSEWORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ERECTION PROCEDURE: THE CONTRACTOR SHALL SUBMIT A DETAILED PROCEDURE FOR ERECTING THE SPANS OVER RAILROAD TRACK. THE PROCEDURE SHALL INDICATE THE CAPACITY OF CRANES USING A SAFETY FACTOR OF 1.5 OF ACTUAL WEIGHT OF PICK, LOCATION OF CRANES WITH RESPECT TO THE TRACK AND ESTIMATED LIFTING LOADS. THE ERECTION PROCEDURE SHALL BE PREPARED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED TO CSXT DISTRICT ENGINEER OR HIS REPRESENTATIVE FOR APPROVAL.

ALL SUBMITTALS FOR SHORING, DEMOLITION OF EXISTING STRUCTURE AND ERECTION PROCEDURES ARE TO BE PREPARED, SIGNED AND SEALED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER AND ARE TO BE SUBMITTED TO MR. D. J. FETTE, REGIONAL DIRECTOR OF RIGHT-OF-WAY CONSTRUCTION, OR HIS REPRESENTATIVE, CSX TRANSPORTATION, 1717 DIXIE HIGHWAY, SUITE 400, FORT WRIGHT, KY 41011, 859-344-8137. A MINIMUM OF SIX (6) COPIES WILL BE SUBMITTED FOR REVIEW AND APPROVAL. THE CONTRACTOR IS TO BE AWARE THAT REVIEW TIME, WITHOUT REVISIONS, MAY TAKE UP TO 30 DAYS TO COMPLETE.

ALL OTHER METHODS AND PROCEDURES FOR PERFORMING WORK ON PROPERTY OF CSX TRANSPORTATION, INC., MUST BE APPROVED BY MR. HAL GIBSON, PUBLIC IMPROVEMENTS ADMINISTRATOR, CSX TRANSPORTATION, INC., RAIL TRANSPORT GROUP - ENGINEERING DEPARTMENT, 4901 BELFORT ROAD, SUITE 130, JACKSONVILLE, FLORIDA 32256, TELEPHONE: 904-245-1048.

RAILROAD PROTECTIVE LIABILITY INSURANCE:

THE CONTRACTOR SHALL FURNISH EVIDENCE TO THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) THAT, WITH RESPECT TO THE OPERATIONS HE OR ANY OF HIS SUB-CONTRACTORS PERFORM, HE HAS PROVIDED FOR AND ON BEHALF OF CSX TRANSPORTATION, INC., C/O MR. WALTER TYLER, MANAGER - INSURANCE, 500 WATER STREET, 11TH FLOOR JACKSONVILLE, FLORIDA 32202, TELEPHONE: 904-366-5090, A SINGLE RAILROAD PROTECTIVE LIABILITY POLICY OF INSURANCE, NAMING CSX TRANSPORTATION, AND HAVING LIMITS OF $5,000,000 COMBINED SINGLE LIMIT PER OCCURRENCE FOR BODILY INJURY LIABILITY AND PROPERTY DAMAGE LIABILITY WITH AN AGGREGATE LIMIT OF $10,000,000 OVER THE LIFE OF THE POLICY AS SET FORTH IN FEDERAL-AID POLICY GUIDE, CHAPTER 1, SUBCHAPTER G, PART 646, SUBPART A (23 CFR 646A).

THE INSURANCE HEREIN BEFORE SPECIFIED SHALL BE WITH AN ACCEPTABLE INSURANCE COMPANY AUTHORIZED TO DO BUSINESS IN THE STATE OF OHIO, AND SHALL BE TAKEN OUT BEFORE EXECUTION OF THE CONTRACT BY ODOT AND KEPT IN EFFECT UNTIL ALL WORK REQUIRED TO BE PERFORMED UNDER THE TERMS OF THE CONTRACT IS SATISFACTORILY COMPLETED AS EVIDENCED BY THE FORMAL ACCEPTANCE BY ODOT. SUCH POLICY SHALL INCLUDE A THIRTY (30) DAYS CANCELING NOTICE.

"EVIDENCE" AS ABOVE SET FORTH SHALL CONSIST OF FURNISHING THE ENGINEER THREE (3) CERTIFIED COPIES OF THE POLICY.

PAYMENT SHALL BE MADE AT THE LUMP SUM CONTRACT PRICE BID FOR ITEM SPECIAL-PREMIUM ON RAILROAD'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE.

RAILROAD TRAIN ACTIVITY:

THE CONTRACTOR IS HEREBY ALERTED THAT TRAIN TRAFFIC THROUGH THE PROJECT SITE IS APPROXIMATELY 6 TO 10 TRAINS PER DAY. BIDDING ESTIMATES AND CONSTRUCTION ACTIVITIES SHOULD BE ADJUSTED ACCORDINGLY.

ITEM 511 CLASS C CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN
ITEM 511 CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN
ITEM 511 CLASS C CONCRETE FOOTING, AS PER PLAN

COARSE AGGREGATE SHALL BE LIMITED TO NO. 8 LIMESTONE.

DRIP GROOVES

DO NOT PROVIDE DRIP GROOVES IN THE BOTTOM OF CONCRETE DECKS.

SURVEY DISC ON STRUCTURE

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST ONE (1) WEEK IN ADVANCE OF POURING THE CONCRETE FOR THE COMPLETION OF THE ABUTMENTS. THE ENGINEER WILL PROVIDE THE CONTRACTOR ONE (1) SURVEY DISC FOR EACH STRUCTURE (OBTAINED FROM THE DISTRICT SURVEYOR) WHICH THE CONTRACTOR SHALL PLACE IN THE SURFACE OF THE FRESH CONCRETE. THE LOCATION OF THE DISC SHALL BE ON THE ABUTMENT, AND ON A FLAT, HORIZONTAL SURFACE BEYOND THE EDGE OF THE DECK AND GUARDRAIL OR PARAPET. THE BENCHMARK SHALL BE ACCESSIBLE TO A SURVEYOR'S ROD WITHOUT ANY OBSTRUCTIONS. COST OF THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE CONCRETE BID ITEM.

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BURGESS & NIPLE
5085 Reed Road, Columbus, Ohio 43220

DESIGNED MFH | DRAWN ASK | REVIEWED DWL | DATE 6-10-04
CHECKED JAA | REVISED | STRUCTURE FILE NUMBER 5204429

STRUCTURE NOTES 3 OF 3
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

4 / 22

1031
1120

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	FUNDING** IM	FUNDING** NHS	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT	PIERS	GEN'L	AS PER PLAN REFERENCE SHEET
202	11201	LUMP	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				LUMP	2/22
503	11101	LUMP	LUMP	LUMP		COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN				LUMP	3/22
503	21101	120	30	150	CU. YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN		41	109		3/22
505	11100	LUMP	LUMP	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00500	1768	442	2210	FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		180	2030		
507	00550	1900	475	2375	FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		200	2175		
509	10000	33601	8400	42001	POUND	EPOXY COATED REINFORCING STEEL	29801	2588	9441		
510	10000	16	4	20	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	20				
511	41001	42	10	52	CU. YD.	CLASS C CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN			52		4/22
511	43501	28	7	35	CU. YD.	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN		35			4/22
511	46501	30	7	37	CU. YD.	CLASS C CONCRETE, FOOTING, AS PER PLAN			37		4/22
511	52000	LUMP	LUMP	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP	
512	10100	194	49	243	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	214	29			
513	10261	64,437	16,109	80,546	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN *	80546				3/22
513	20000	1430	358	1788	EACH	WELDED STUD SHEAR CONNECTORS	1788				
514	00800	64,437	16,109	80,546	POUND	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	80546				
514	00850	64,437	16,109	80,546	POUND	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	80546				
514	10000	3	1	4	EACH	FINAL INSPECTION REPAIR	4				
516	13200	23	6	29	SQ. FT.	½" PREFORMED EXPANSION JOINT FILLER		29			
516	13600	36	9	45	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER		45			
516	14015	23	6	29	FT.	INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN		29			3/22
516	44200	3	1	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (13" x 16" x 3.398" WITH 14" x 17" x 1 5/8" MAX. LOAD PLATE)			4		
516	44200	1	1	2	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (13" x 16" x 3.398" WITH 14" x 22" x 1 5/8" MAX. LOAD PLATE)			2		
516	46900	3	1	4	EACH	BEARING DEVICE, MISC.: INTEGRAL ABUTMENT BEARING ASSEMBLY		4			
518	21200	14	3	17	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC		17			
518	40000	37	9	46	FT.	6" PERFORATED CORRUGATED PLASTIC PIPE		46			
518	40010	10	3	13	FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		13			
523	20000	1	1	2	EACH	DYNAMIC LOAD TESTING				2	
526	25000	70	18	88	SQ. YD.	REINFORCED CONCRETE APPROACH SLAB (T=15")				88	
601	20000	264	66	330	SQ. YD.	CRUSHED AGGREGATE SLOPE PROTECTION				330	
894	10001	98	24	122	CU. YD.	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN	122				3/22

* - SEE PROPOSAL NOTE

** - ALL QUANTITIES ARE SPLIT 80% IM & 20% NHS

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BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED GWM
DRAWN JAA
CHECKED ASK
REVISED
REVIEWED DWL
DATE 06-14-04
STRUCTURE FILE NUMBER 5204429

ESTIMATED QUANTITIES
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

1032
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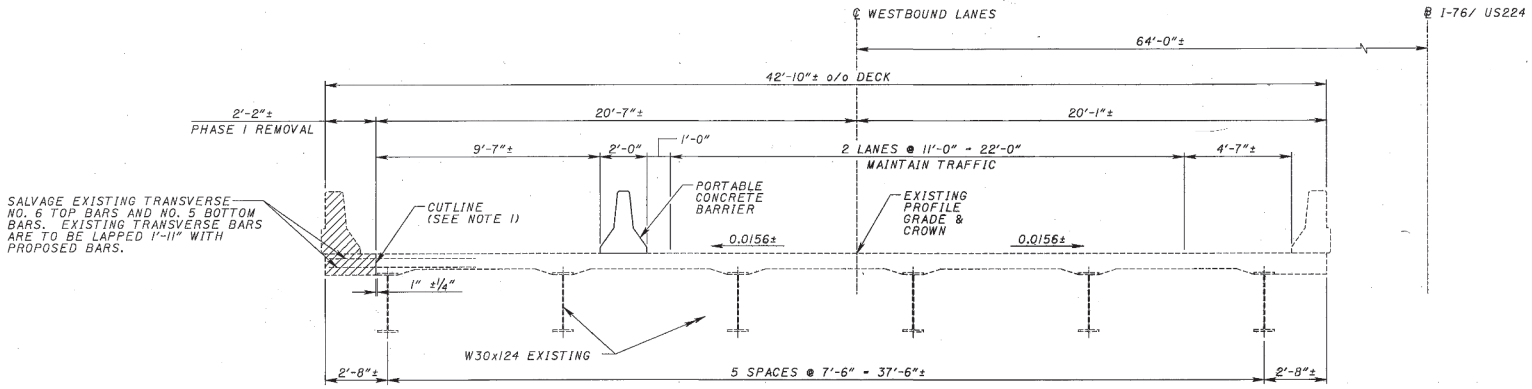
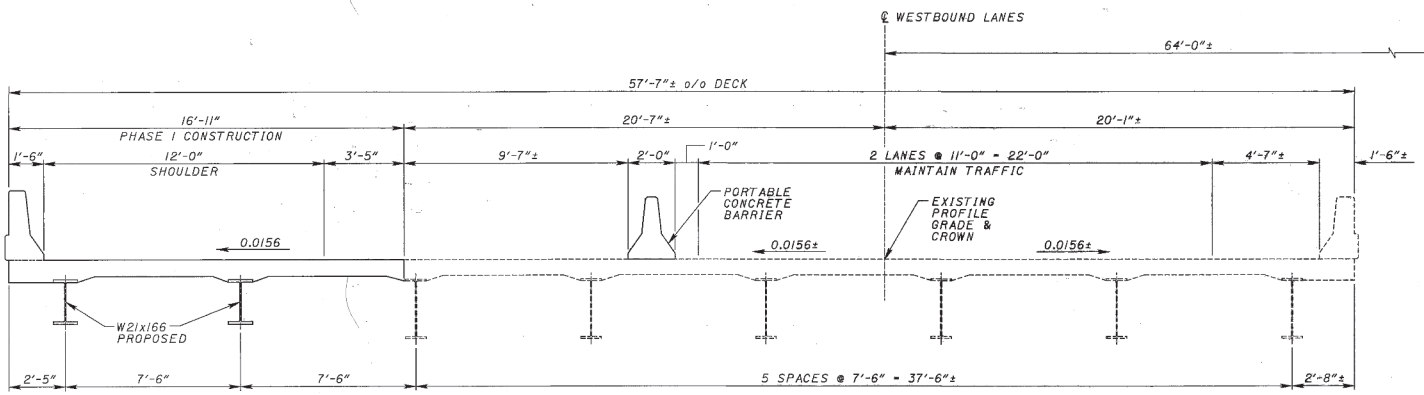


PHASE I REMOVAL



PHASE I CONSTRUCTION

NOTES:

1. THE EXPOSED EXISTING VERTICAL CONCRETE SURFACE THAT IS TO COVERED WITH NEW CONCRETE SHALL BE ROUGH AND IRREGULAR WITH AN AMPLITUDE OF 1/4" OR MORE.

LEGEND:

o/o - OUT-TO-OUT

▨ - REMOVALS

PHASE CONSTRUCTION DETAILS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

6 / 22

1033
1120

DESIGNED WTL
DRAWN TTK
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BURGESS & NIPPLE
5085 Reed Road
Columbus, Ohio 43220

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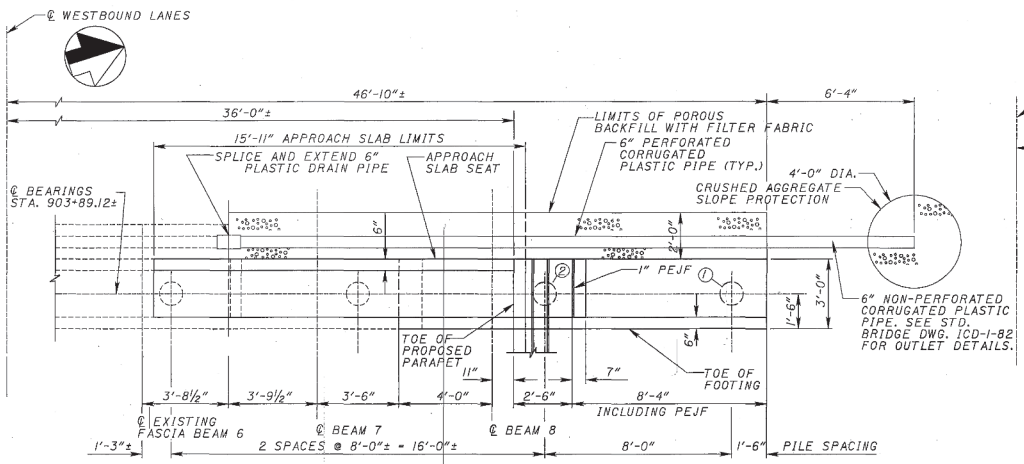
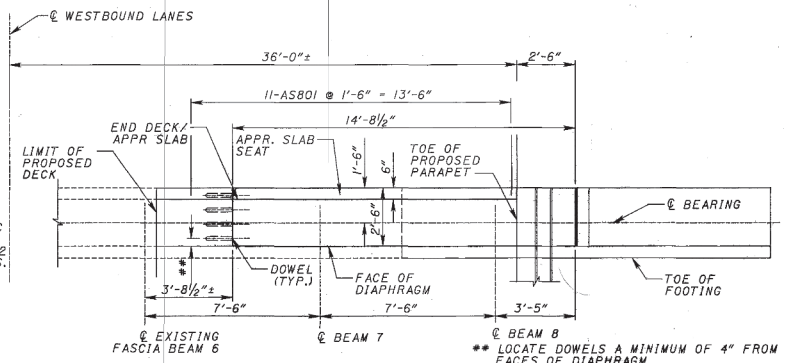
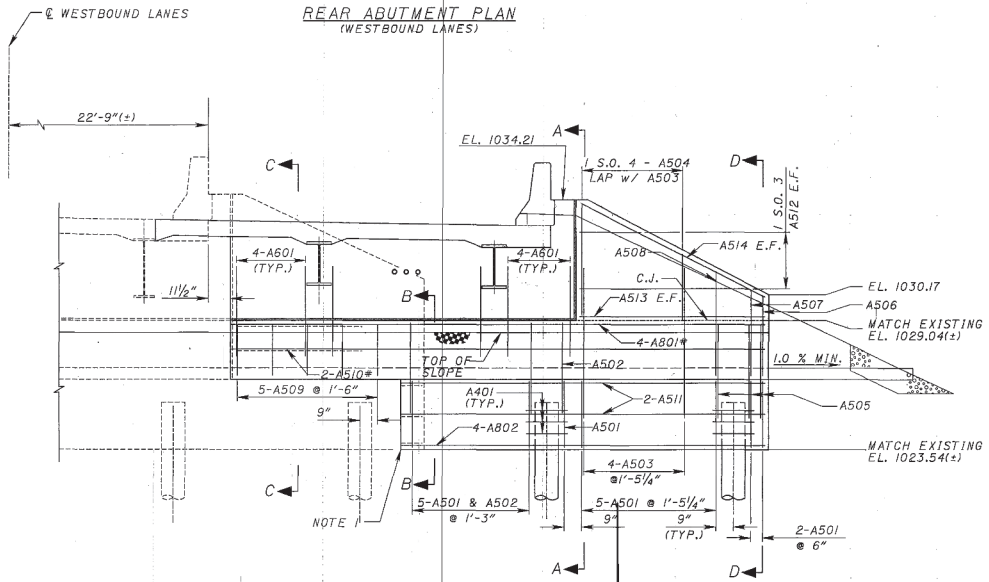


REAR ABUTMENT PLAN
(WESTBOUND LANES)

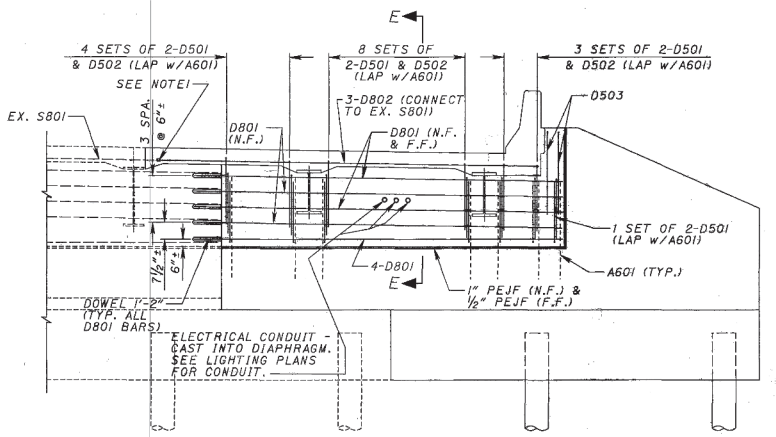


** LOCATE DOWELS A MINIMUM OF 4" FROM FACES OF DIAPHRAGM.

REAR DIAPHRAGM PLAN
(WESTBOUND LANES)



REAR ABUTMENT ELEVATION
(WESTBOUND LANES)



REAR DIAPHRAGM ELEVATION
(WESTBOUND LANES)

NOTES:

1. UTILIZE MECHANICAL CONNECTORS TO CONNECT EXISTING PROTRUDING REINFORCING STEEL TO NEW REINFORCING STEEL. THE CONTRACTOR MAY DOWEL THE NO. 8 BARS 1'-2" AND THE NO. 5 BARS 8 INCHES INTO THE EDGE OF THE EXISTING CONCRETE WITH EPOXY MORTAR AT NO ADDITIONAL COST TO THE STATE IN LIEU OF MECHANICAL CONNECTIONS.
2. ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE: PLACE THE CONCRETE ENCASING THE STRUCTURAL STEEL MEMBERS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.
3. LAP REINFORCING STEEL THE FOLLOWING MINIMUM LENGTHS:
   NO. 8 BARS - 5'-8"
   NO. 5 BARS - 2'-1"
4. FOR DETAILS NOT SHOWN SEE STANDARD BRIDGE DRAWING ICD-1-82
5. SEE SHEETS 9 / 22 FOR SECTIONS A-A, B-B, C-C, D-D & E-E.

LEGEND

APPR. - APPROACH
EX. - EXISTING
F.F. - FAR FACE
N.F. - NEAR FACE
PEJF - PREFORMED EXPANSION JOINT FILLER
TYP. - TYPICAL
E.F. - EACH FACE
* - LAP WITH SALVAGED HORIZONTAL REINFORCING STEEL
⊛ - VERTICAL 12" C.I.P. PILE NUMBER

BURGESS & NIPLE
5085 Reed Road Columbus, Ohio 43220

DESIGNED WPS/MPH
DRAWN MPS/MPH
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REAR ABUTMENT & DIAPHRAGM PLANS & ELEVATIONS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

7 / 22

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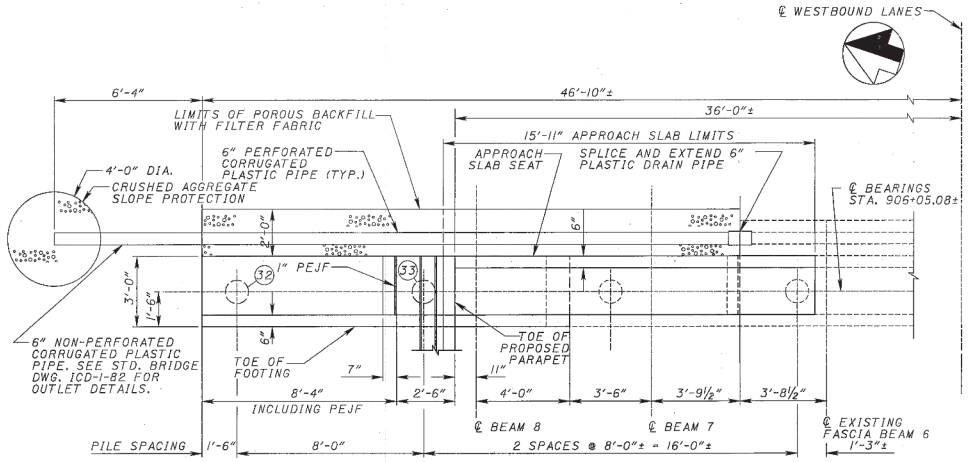
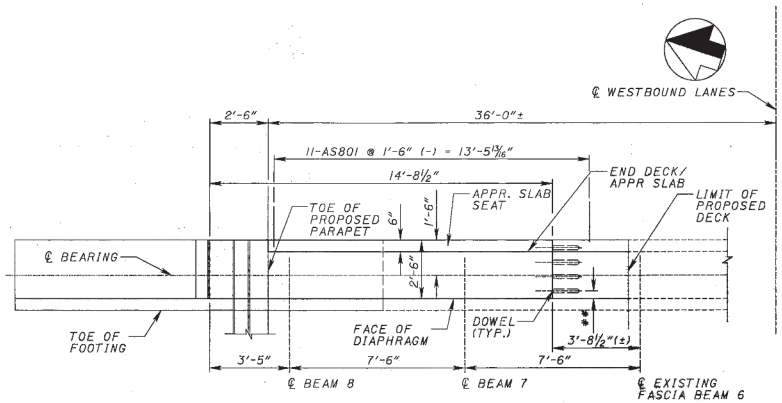
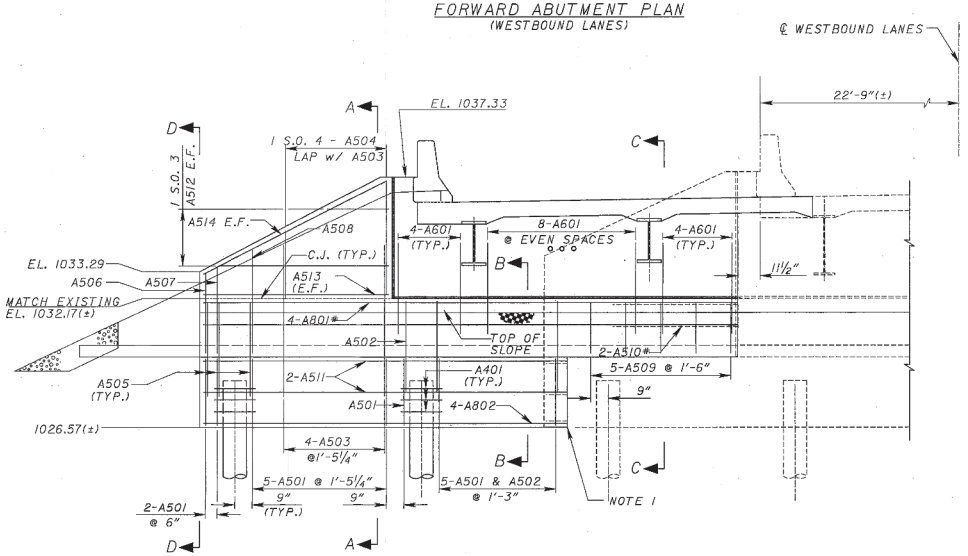


FORWARD ABUTMENT PLAN
(WESTBOUND LANES)

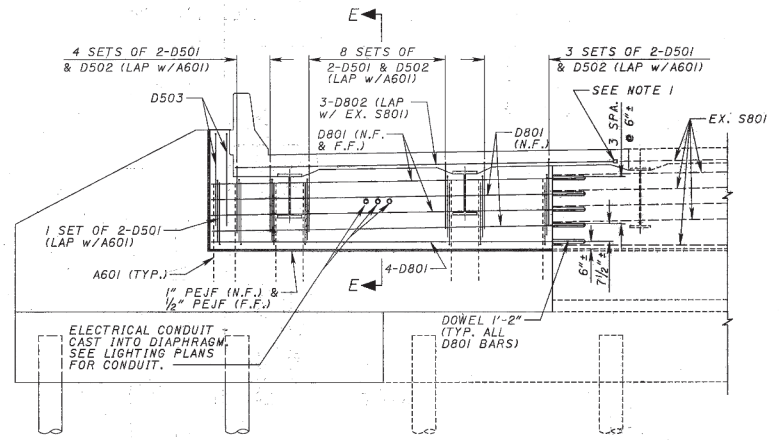


** LOCATE DOWELS A MINIMUM OF 4" FROM FACES OF DIAPHRAGM.

FORWARD DIAPHRAGM PLAN
(WESTBOUND LANES)



FORWARD ABUTMENT ELEVATION
(WESTBOUND LANES)



FORWARD DIAPHRAGM ELEVATION
(WESTBOUND LANES)

NOTES:

1. UTILIZE MECHANICAL CONNECTORS TO CONNECT EXISTING PROTRUDING REINFORCING STEEL TO NEW REINFORCING STEEL. THE CONTRACTOR MAY DOWEL THE NO. 8 BARS 1'-2" AND THE NO. 5 BARS 8 INCHES INTO THE EDGE OF THE EXISTING CONCRETE WITH EPOXY MORTAR AT NO ADDITIONAL COST TO THE STATE IN LIEU OF MECHANICAL CONNECTIONS.
2. ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE; PLACE THE CONCRETE ENCASING THE STRUCTURAL STEEL MEMBERS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.
3. LAP REINFORCING STEEL THE FOLLOWING MINIMUM LENGTHS:
   NO. 8 BARS = 5'-8"
   NO. 5 BARS = 2'-1"
4. FOR DETAILS NOT SHOWN SEE STANDARD BRIDGE DRAWING ICD-1-82
5. SEE SHEETS 9 / 22 FOR SECTIONS A-A, B-B, C-C, D-D & E-E.

LEGEND

APPR. - APPROACH
EX. - EXISTING
F.F. - FAR FACE
N.F. - NEAR FACE
PEJF - PREFORMED EXPANSION JOINT FILLER
TYP. - TYPICAL
E.F. - EACH FACE
* - LAP WITH SALVAGED HORIZONTAL REINFORCING STEEL
(#) - VERTICAL 12" C.I.P. PILE NUMBER

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WPS/MPH	WPS/MPH	DWL	6-14-04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAA		5204429	

FORWARD ABUTMENT & DIAPHRAGM PLANS & ELEVATIONS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

8 / 22

1035
1120

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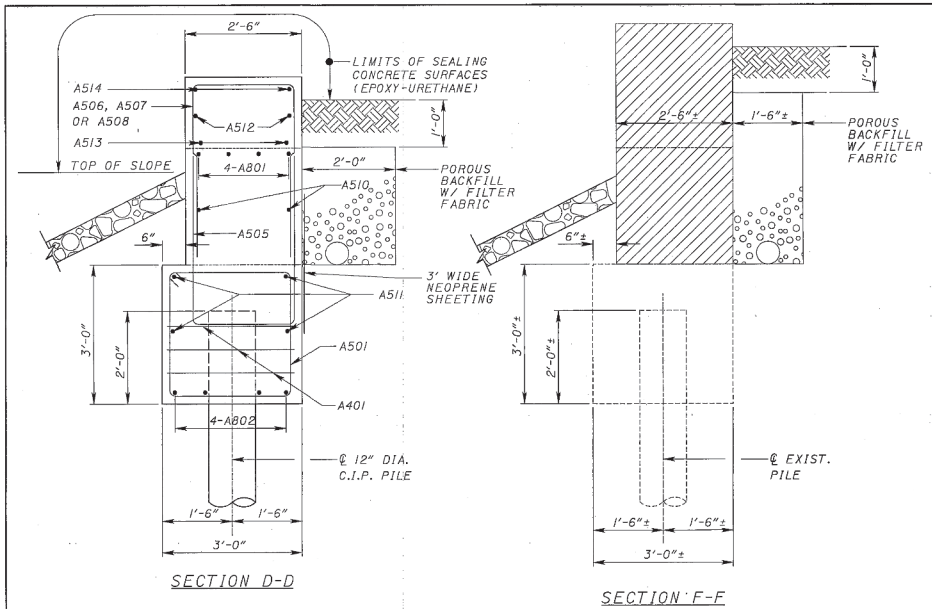
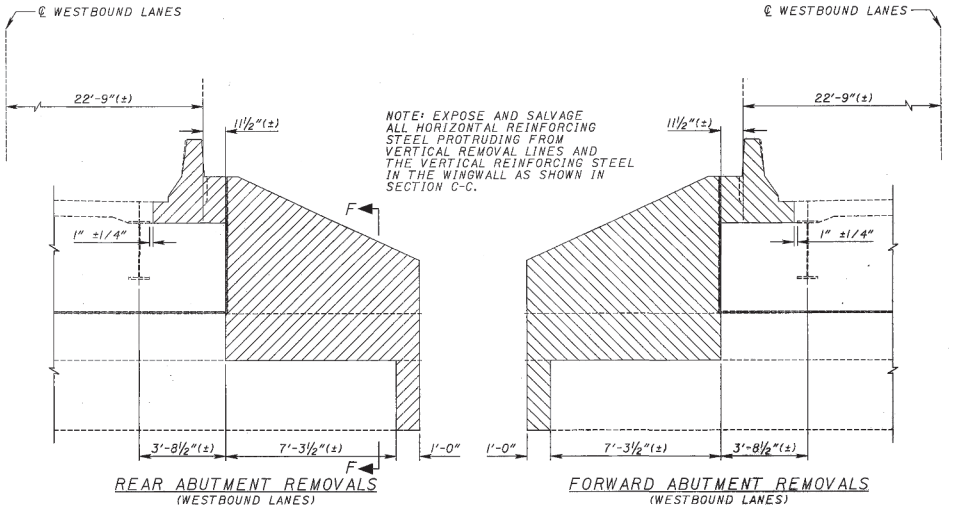


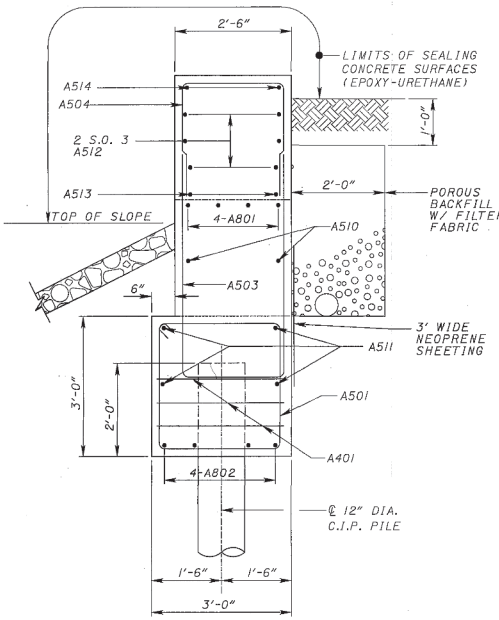
SECTION D-D

SECTION F-F

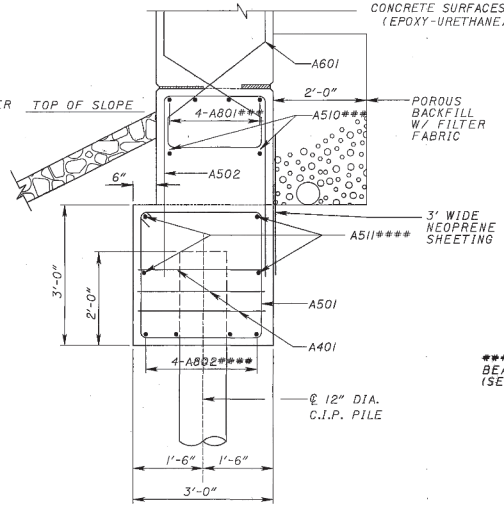


REAR ABUTMENT REMOVALS
(WESTBOUND LANES)

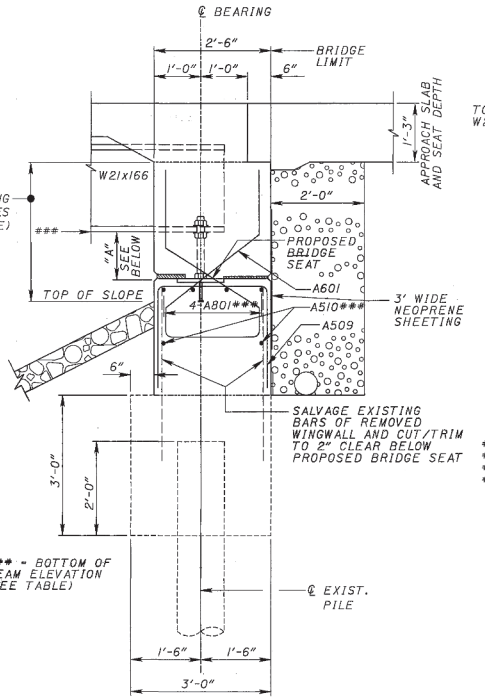
FORWARD ABUTMENT REMOVALS
(WESTBOUND LANES)



SECTION A-A

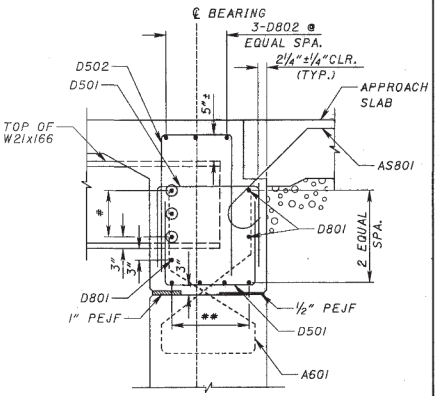


SECTION B-B



SECTION C-C

- BOTTOM OF BEAM ELEVATION (SEE TABLE)



SECTION E-E

\# 3-D801 @ 6" SPA. THROUGH 3-2" DIA. HOLES IN WEB
\## 4-D801 @ EQUAL SPA.
\### LAP WITH SALVAGED REINFORCING HORIZONTAL STEEL
\#### SEE NOTE 1 ON SHEET 7/22

LEGEND

C.J. = CONSTRUCTION JOINT
CLR. = CLEARANCE
DIA. = DIAMETER
SPA. = SPACES
TYP. = TYPICAL

ABUTMENT	DIMENSION "A" (FT.)	
	BEAM 8	BEAM 7
R.A.	1.40(±)	1.52(±)
F.A.	1.36(±)	1.48(±)

ABUTMENT	BOTTOM OF BEAM ELEVATION (FT.)	
	BEAM 8	BEAM 7
R.A.	1030.44	1030.56
F.A.	1033.53	1033.65

ABUTMENT REMOVALS AND SECTIONS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

9 / 22

1036
1120

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DRAWN MPS/MPH
CHECKED JAA
REVIEWED DWL
DATE 6-11-04
STRUCTURE FILE NUMBER 5204429
REVISED

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Columbus, OHIO 43220

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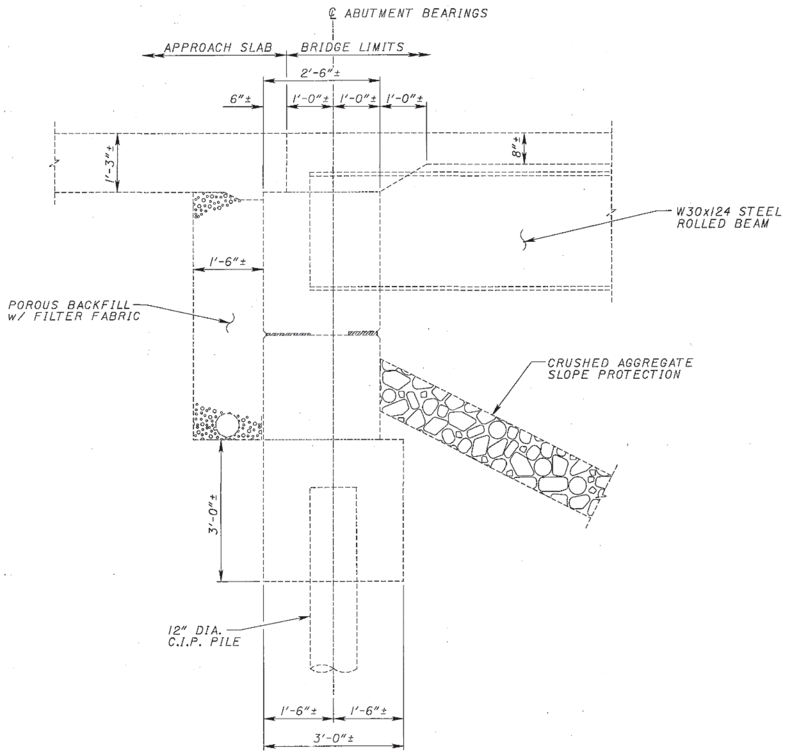
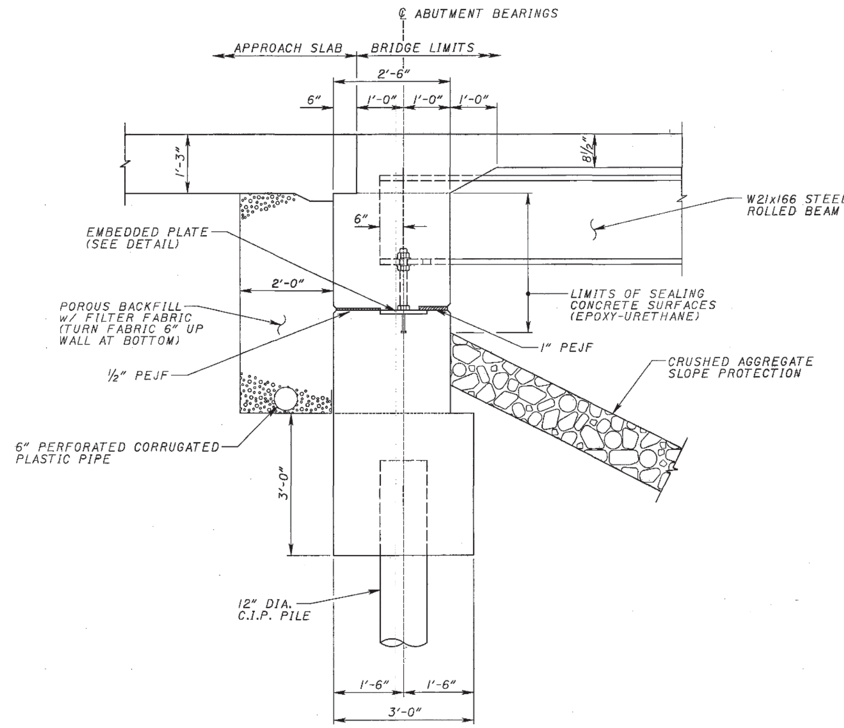
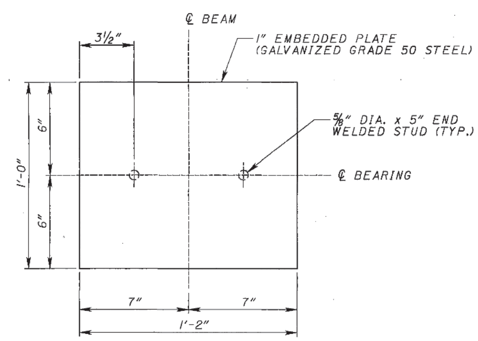


TYPICAL SECTION THRU EXISTING ABUTMENT



TYPICAL SECTION THRU PROPOSED ABUTMENT WIDENING



PLAN VIEW - EMBEDDED STEEL PLATE

(TOP OF PLATE SHALL BE FLUSH WITH ABUTMENT SEAT)
(INCLUDE WITH ITEM 516- BEARING DEVICE, MISC.: INTEGRAL ABUTMENT BEARING ASSEMBLY)

NOTE:

1. SEE STD. DWG. ICD-1-82 FOR PROPOSED ABUTMENT WIDENING DETAILS NOT SHOWN.
2. POROUS BACKFILL WITH FILTER FABRIC , 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

LEGEND:

C.I.P. = CAST-IN-PLACE
PEJF = PREFORMED EXPANSION JOINT FILLER
DIA. = DIAMETER
TYP. = TYPICAL

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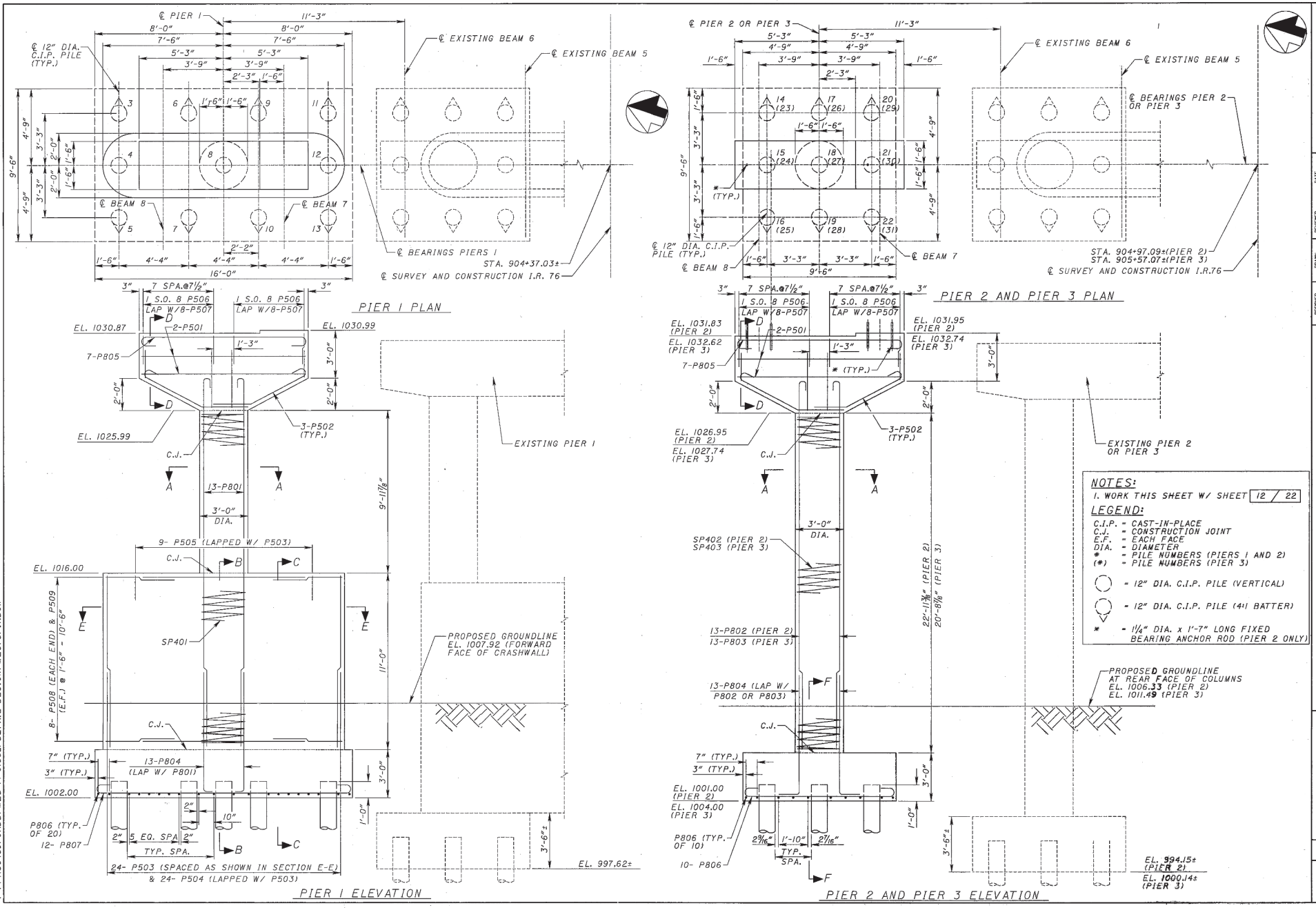
ABUTMENT AND DIAPHRAGM DETAILS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657



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DATE 6-10-04
STRUCTURE FILE NUMBER 5204429
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PIER DETAILS 1 OF 2
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

11 / 22

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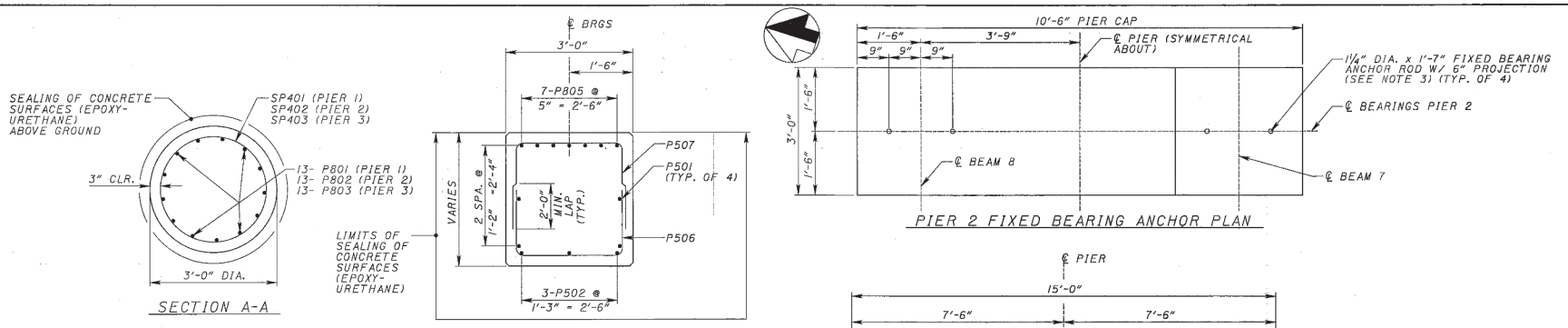

LEGEND:

BRGS = BEARINGS
C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER

NOTES:

1. WORK THIS SHEET WITH 11 / 22.
2. MIN. LAP LENGTHS (UNLESS NOTED OTHERWISE:
   #5's = 2'-6"
   #8's = 6'-4"
3. FIXED BEARING ANCHOR RODS SHALL BE GALVANIZED ACCORDING TO 711.02. AT THE OPTION OF THE CONTRACTOR, RODS MAY EITHER BE INSTALLED PER CMS 510, OR CAST-IN-PLACE WITH PIER. ADJUST LOCATION OF CENTER P805 BAR TO AVOID INTERFERENCE.

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PIER DETAILS 2 OF 2
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

12 / 22

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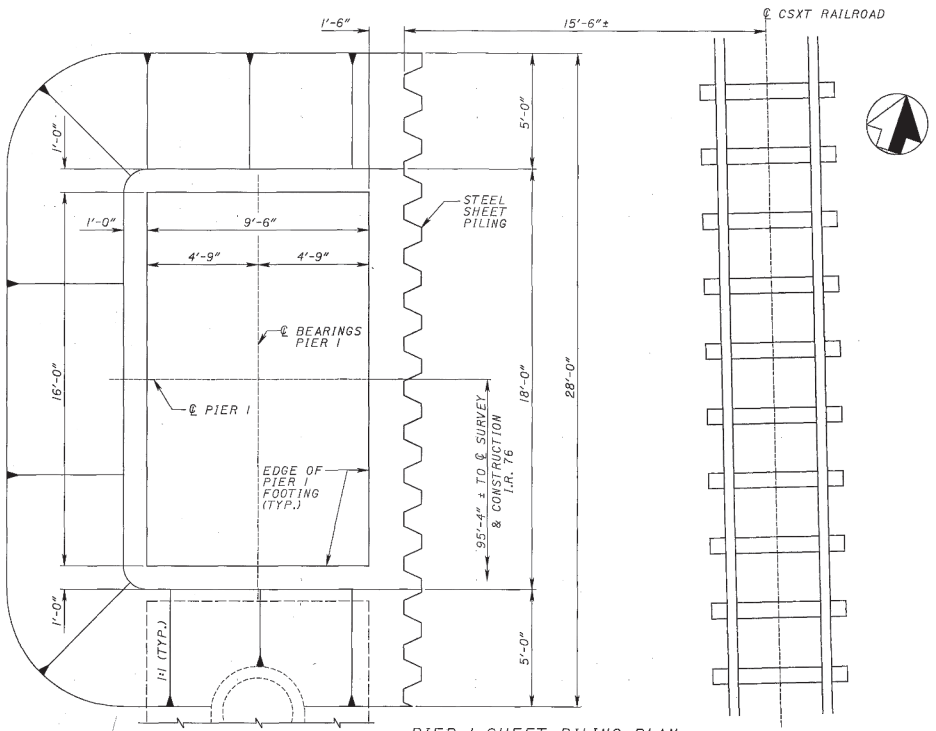
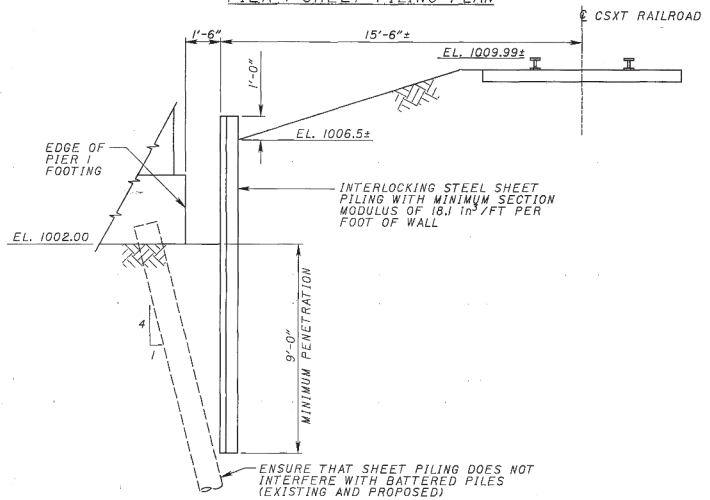


PIER 1 SHEET PILING PLAN



PIER 1 SHEET PILING ELEVATION

NOTES:

1. ALL WORK, LABOR, AND MATERIALS REQUIRED TO CONSTRUCT THE PIER 1 SHORING SHALL BE PAID FOR UNDER ITEM 503, COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN.
2. SEE COOPERATION WITH RAILROADS NOTE ON SHEET 4 / 22

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DRAWN AAA
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PIER 1 SHORING DETAILS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

13 / 22

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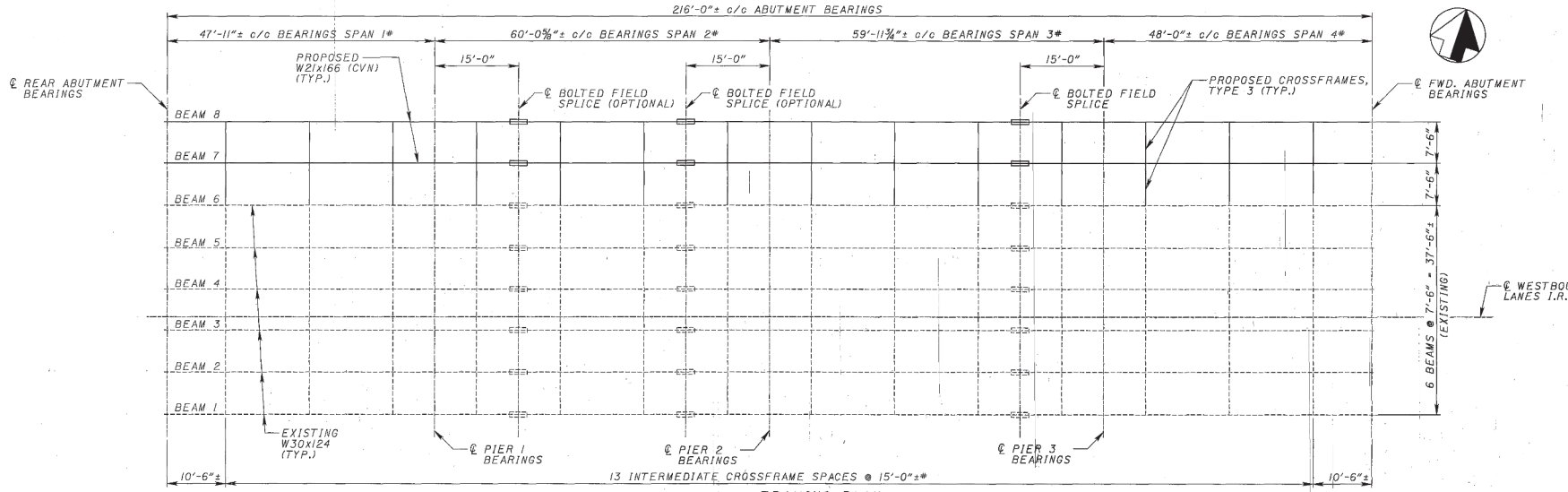
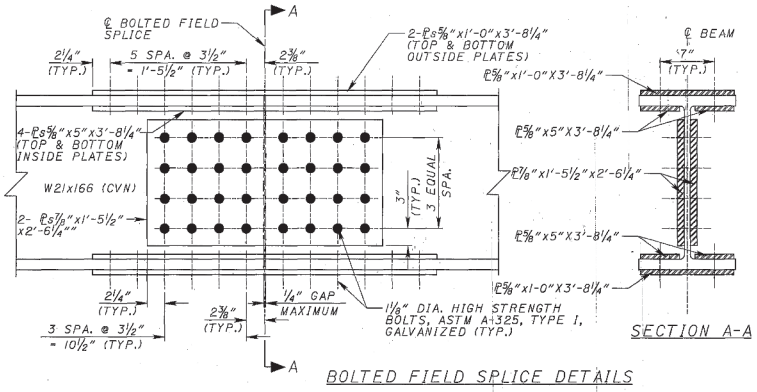
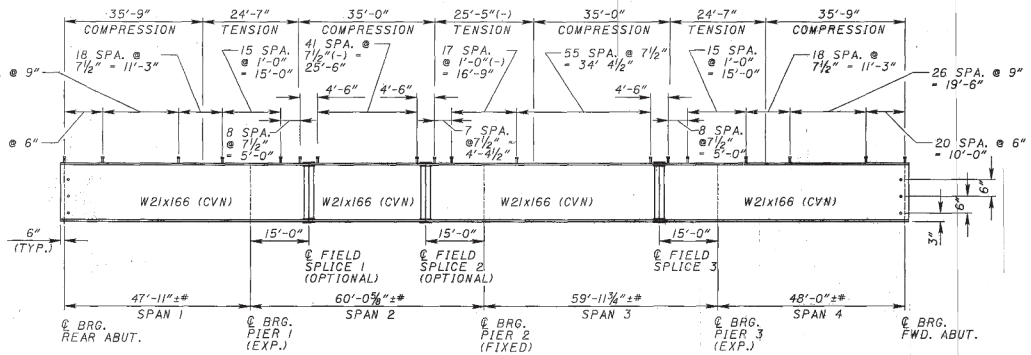


FRAMING PLAN
(WESTBOUND)

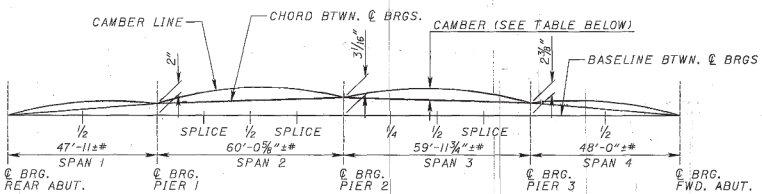


BOLTED FIELD SPLICE DETAILS

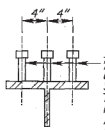
SECTION A-A



BEAM ELEVATION



BLOCKING AND CAMBER



⅞" DIA.x 6" AUTOMATICALLY END WELDED STUDS. FOR SPACING SEE BEAM ELEV. THE CONTRACTOR MAY, AT HIS OPTION, WELD THE STUDS AFTER PLACEMENT OF THE BOTTOM LATERAL REINFORCING STEEL

SHEAR STUD CONNECTOR

DEFLECTION AND CAMBER (INCHES)

	DESCRIPTION	(SPAN 1)	PIER	(SPAN 2)			PIER	(SPAN 3)			PIER	(SPAN 4)
		½	NO. 1	SPLICE	½	SPLICE	NO. 2	¼	½	SPLICE	NO. 3	½
PROPOSED BEAMS	DEFLECTION DUE TO STEEL WEIGHT	1/16	0	1/16	1/16	1/16	0	1/16	1/16	1/16	0	1/16
	DEFLECTION DUE TO SLAB WEIGHT	3/8	0	1/4	7/16	1/4	0	1/4	7/16	1/4	0	3/8
	ADJUSTMENT FOR VERTICAL CURVE	-1/8	0	1/16	3/16	1/16	0	1/8	1/8	1/8	0	1/16
	REQUIRED SHOP CAMBER	5/16	0	3/8	11/16	1/2	0	11/16	5/8	11/16	0	1/2

LEGEND:

ABUT. = ABUTMENT
BRG. = BEARING
BTWN. = BETWEEN
DIA. = DIAMETER
EXP. = EXPANSION
FWD. = FORWARD
SPA. = SPACES
TYP. = TYPICAL

NOTES:

WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE AT LEAST 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.

FOR CROSSFRAME CONNECTION DETAILS, SEE SHEET 16 / 22.

SEE STD. DWG. GSD-1-96 FOR CROSSFRAME DETAILS NOT SHOWN.

ALL SHAPES AND PLATES ARE DESIGNATED (CVN, AND SHALL MEET THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.

NEW CROSSFRAMES SHALL BE IN LINE WITH EXISTING CROSSFRAMES.

DO NOT TENSION CROSSFRAME BOLTS UNTIL THE CONCRETE HAS BEEN PLACED.

* CONTRACTOR SHALL VERIFY LOCATIONS IN FIELD PRIOR TO FABRICATION. SEE NOTE ON SHEET 3 / 22.

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FRAMING PLAN AND DETAILS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

14 / 22

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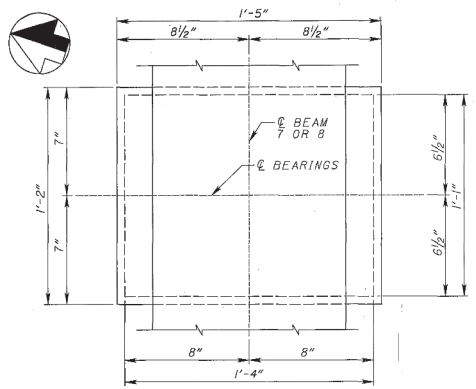
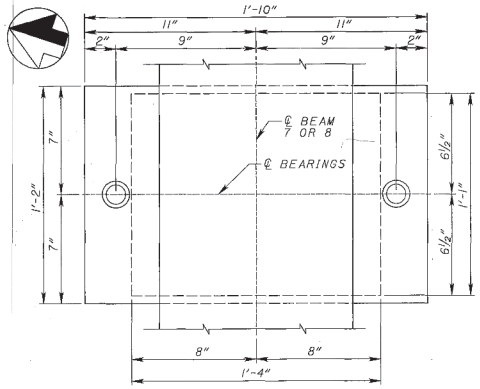
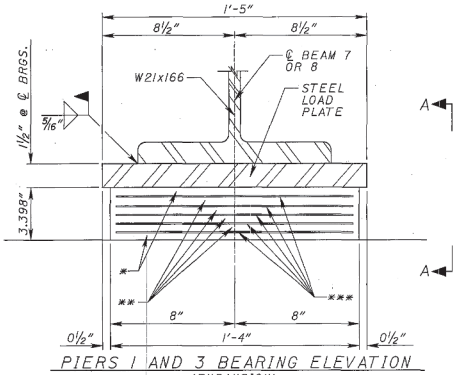


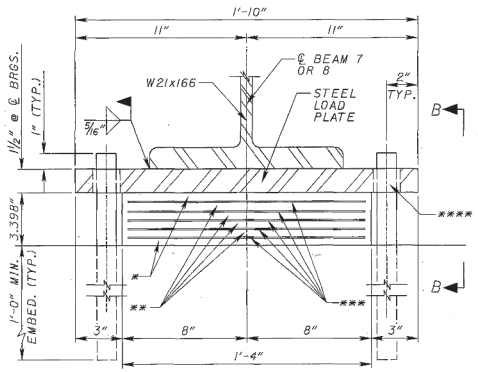
PIERS 1 AND 3 BEARING PLAN



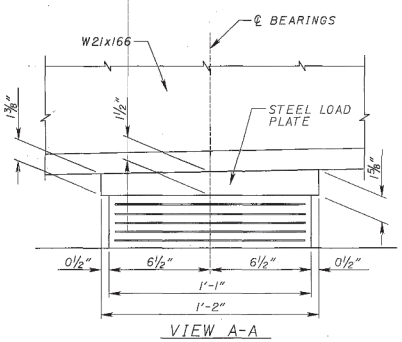
PIER 2 BEARING PLAN



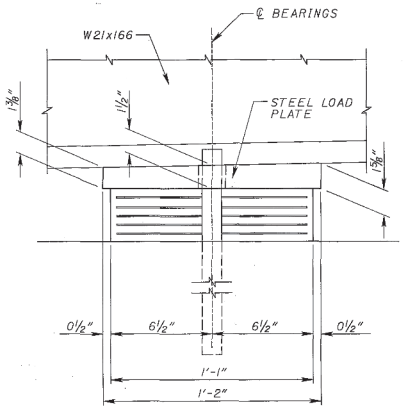
PIERS 1 AND 3 BEARING ELEVATION
(EXPANSION)
(LOOKING UPSTATION)



PIER 2 BEARING ELEVATION
(FIXED)
(LOOKING UPSTATION)



VIEW A-A



VIEW B-B

NOTES:

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION 1, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

2. BEARING REPOSITIONING: IF THE BEAMS ARE ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ±10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ±10°F.

3. WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

4. LOAD PLATES: SHOP MARK THE LOAD PLATES WITH THE FOLLOWING INFORMATION: TOP, UPSTATION DIRECTION AND PIER NUMBER. THE STEEL LOAD PLATE IS ASTM A572 STRUCTURAL STEEL. VULCANIZE THE STEEL LOAD PLATE TO THE ELASTOMER DURING THE MOLDING PROCESS. LOAD PLATES SHALL HAVE THE SAME PROTECTIVE COATING AS THE MAIN STRUCTURAL STEEL.

5. DESIGN LOADING: BEARINGS ARE DESIGNED FOR THE FOLLOWING LOADS (KIPS):

	PIERS
DEAD LOAD	93
LIVE LOAD W/O IMPACT	64
TOTAL DESIGN LOAD	157

6. BASIS OF PAYMENT: THE UNIT BID PRICE INCLUDES ALL MATERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS INCLUDING STEEL LOAD PLATES, ANCHOR RODS, AND PROTECTIVE COATING. PAYMENT WILL BE INCLUDED WITH THE APPROPRIATE 516 ITEM.

LEGEND:

BRGS. - BEARINGS
DIA. - DIAMETER
EMBED. - EMBEDMENT
MIN. - MINIMUM
TYP. - TYPICAL

* - 2 EXTERNAL ELASTOMER LAYERS (0.392" THICK EACH)

** - 4 INTERNAL ELASTOMER LAYERS (0.560" THICK EACH)

*** - 5 INTERNAL STEEL LAMINATES (0.075" THICK EACH)

**** - ℄ 1¾" DIA. HOLE IN STEEL LOAD PLATE FOR 1½" DIA. x 1'-7" LONG ANCHOR ROD, GALVANIZED ACCORDING TO 711.02. INSTALL ANCHOR ROD PER 510. INCLUDE DOWEL HOLES AND ANCHOR RODS WITH ITEM 516 FOR PAYMENT. AT THE OPTION OF THE CONTRACTOR, BEARING ANCHOR RODS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST-IN-PLACE.

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CHECKED JAA

BEARING DETAILS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

15 / 22

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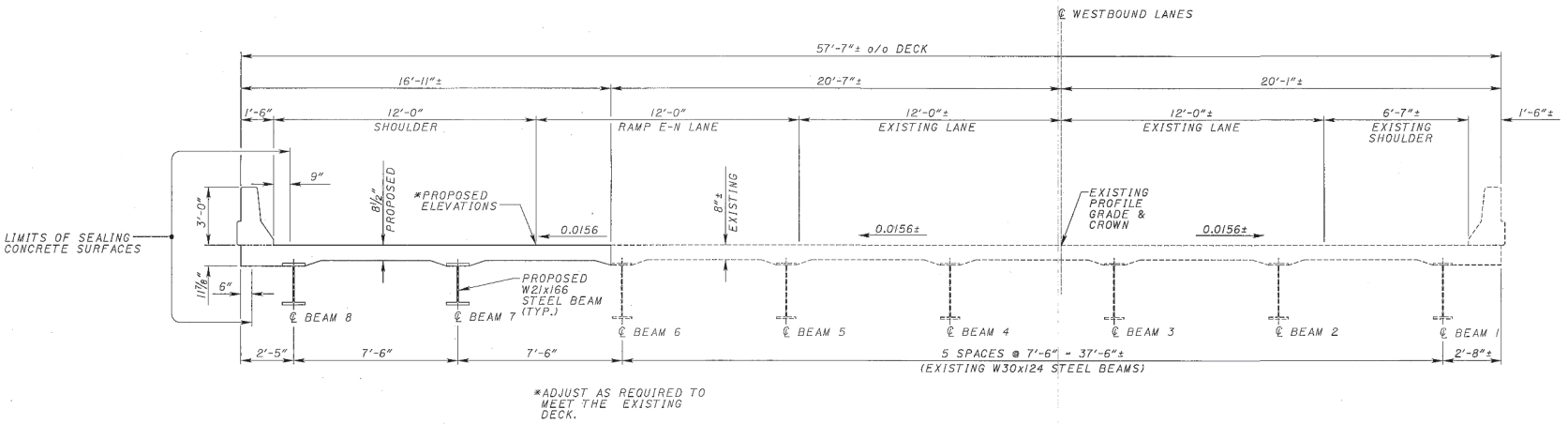
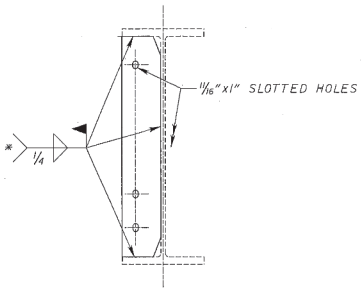
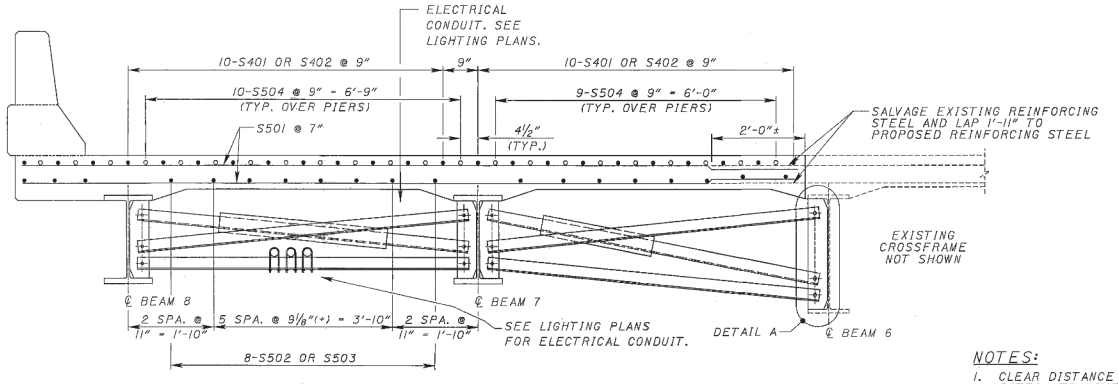


TYPICAL SECTION



DETAIL A

* INCLUDE WELDS IN ITEM 513 FOR PAYMENT



TRANSVERSE SECTION DETAILS

NOTES:

1. CLEAR DISTANCE FOR PROPOSED BOTTOM TRANSVERSE REINFORCING STEEL IS 2".
2. FOR CROSSFRAME AND STIFFENER DETAILS NOT SHOWN, SEE STANDARD DRAWINGS GSD-1-96.
3. FOR PARAPET DETAILS SEE SHEET 18 / 22 .

LEGEND:

o/o = OUT-TO-OUT
SPA. = SPACES
TYP. = TYPICAL

TRANSVERSE SECTION
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75557

16 / 22

1043
1120

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED TTK/MPH
DRAWN HCRC/MPH
CHECKED WTL/JAA
REVISED
REVIEWED DWL
DATE 6-10-04
STRUCTURE FILE NUMBER 5204429

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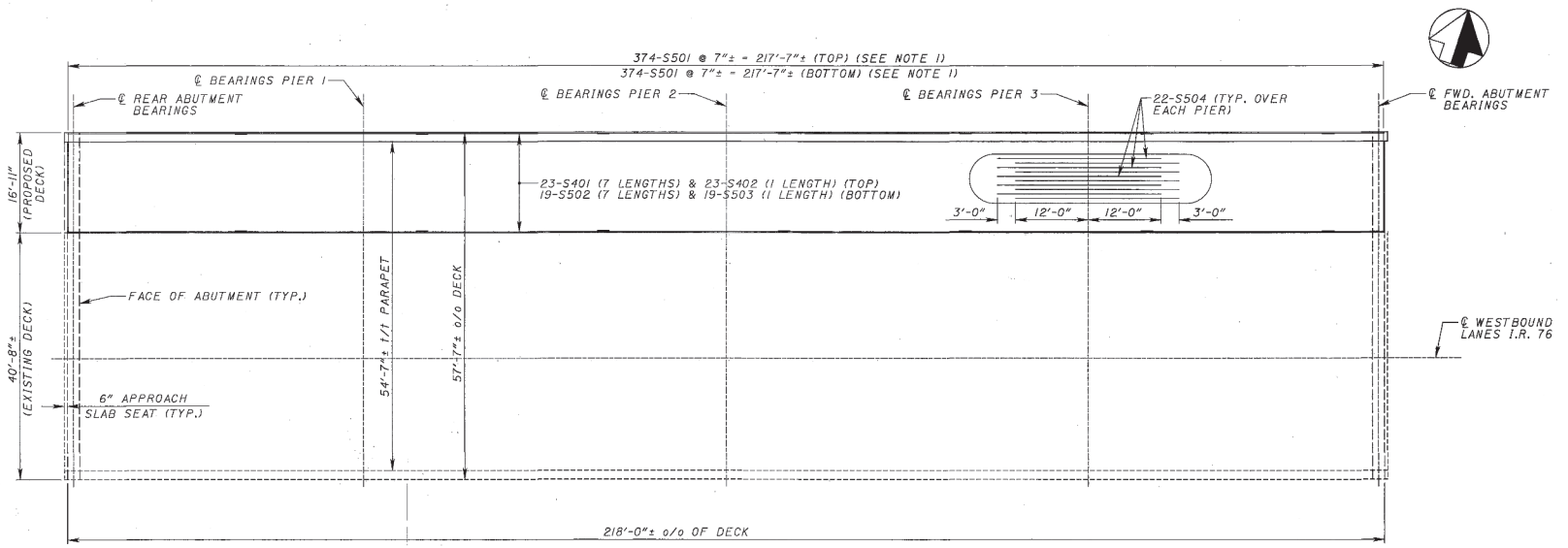

DECK PLAN
(WESTBOUND)

LAP LENGTHS

LAP REINFORCING STEEL THE FOLLOWING MINIMUM LENGTHS:
S401 & S402 - 2'-0"
S502 & S503 - 2'-7"

NOTES

1. LAP S501 BARS WITH EXISTING BARS. MINIMUM LAP LENGTH - 1'-11".

LEGEND

FWD. - FORWARD
o/o - OUT TO OUT
TYP. - TYPICAL
t/t - TOE TO TOE

BURGESS & NIPLE
5085 Reed Road Columbus, Ohio 43220

DESIGNED TTK/MPH
DRAWN CRC/MPH
CHECKED JAA
REVISED
REVIEWED DWL
DATE 6-10-04
STRUCTURE FILE NUMBER 5204429

DECK PLAN
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

17 / 22

1044
1120

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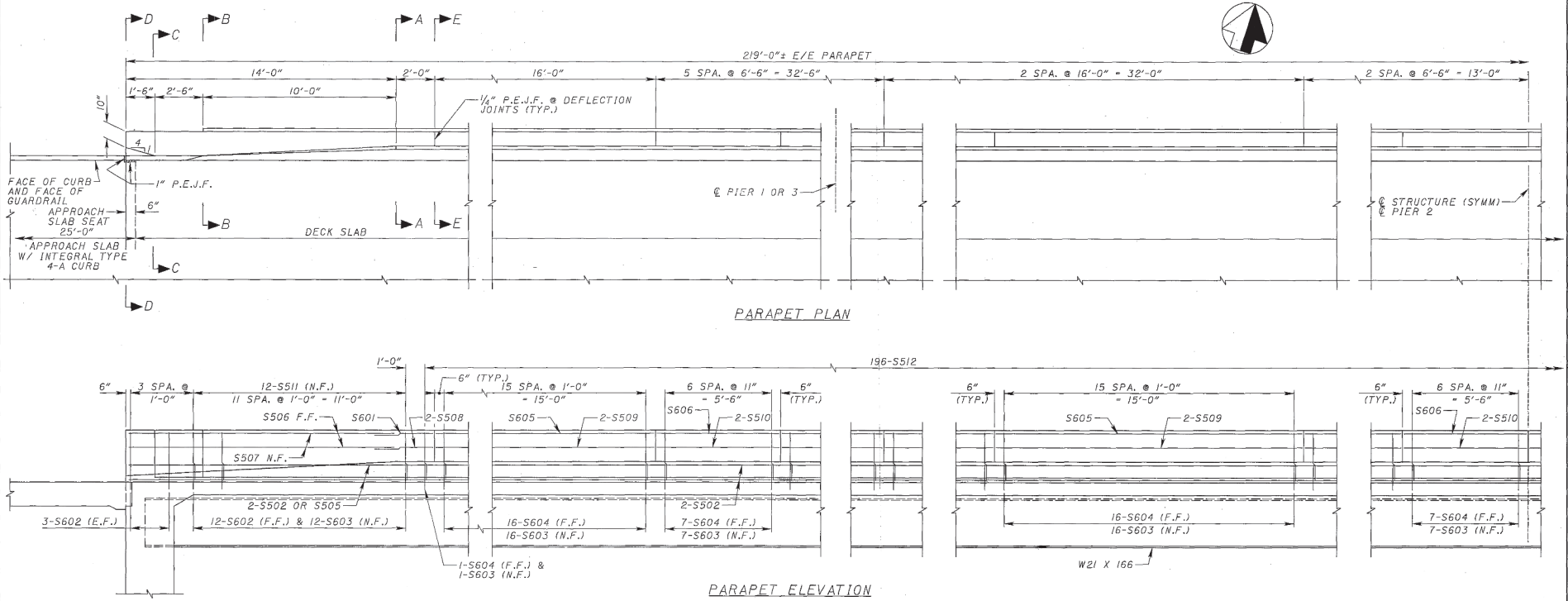
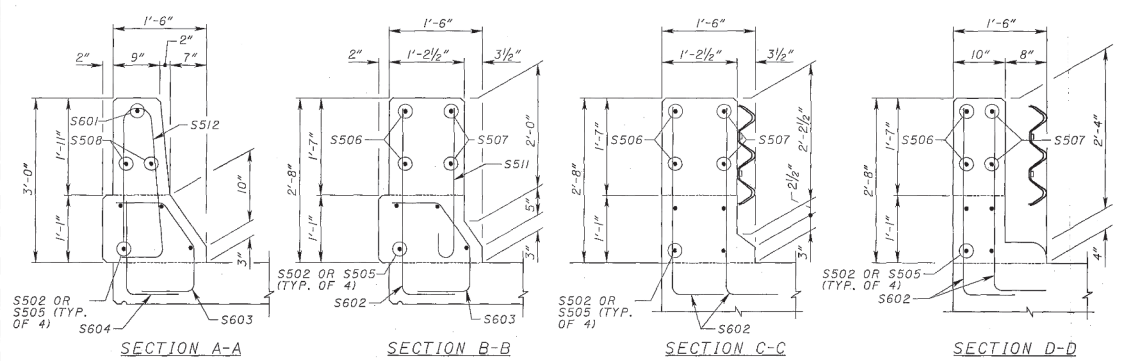


PARAPET PLAN

PARAPET ELEVATION



SECTION A-A SECTION B-B SECTION C-C SECTION D-D

LEGEND:

E/E = END TO END
E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
SPA. = SPACES
TYP. = TYPICAL

NOTES:

SEE STD. DWG. BR-1 FOR ADDITIONAL NOTES AND DETAILS

PARAPET DETAILS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75557

18 / 22

1045
1120

DESIGNED TTK/MPH
DRAWN MPH
CHECKED JAA
REVISED
REVIEWED DWL
DATE 6-14-04
STRUCTURE FILE NUMBER 5204429

BURGESS & NIPLE
5085 River Road
Columbus, Ohio 43220

P:/PR30489/CADD/MED-71-0158L/DETAIL DESIGN/MED76S04.DGN

DECK SCREED ELEVATION TABLE

ELEVATION LINE	SPAN 1								SPAN 2					
	℄ BRGS. R.A.		¼ SPAN		½ SPAN		¾ SPAN		℄ BRGS. PIER 1		¼ SPAN (FIELD SPLICE 1)		½ SPAN	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
LEFT DECK EDGE	903+89.12	1033.15	904+01.10	1033.39	904+13.08	1033.60	904+25.06	1033.80	904+37.04	1034.00	904+52.05	1034.27	904+67.06	1034.53
LEFT TOE OF PARAPET	903+89.12	1033.18	904+01.10	1033.41	904+13.08	1033.62	904+25.06	1033.82	904+37.04	1034.03	904+52.05	1034.30	904+67.06	1034.55
BEAM 8	903+89.12	1033.19	904+01.10	1033.42	904+13.08	1033.63	904+25.06	1033.84	904+37.04	1034.04	904+52.05	1034.31	904+67.06	1034.57
BEAM 7	903+89.12	1033.31	904+01.10	1033.54	904+13.08	1033.75	904+25.06	1033.96	904+37.04	1034.16	904+52.05	1034.43	904+67.06	1034.68

DECK SCREED ELEVATION TABLE

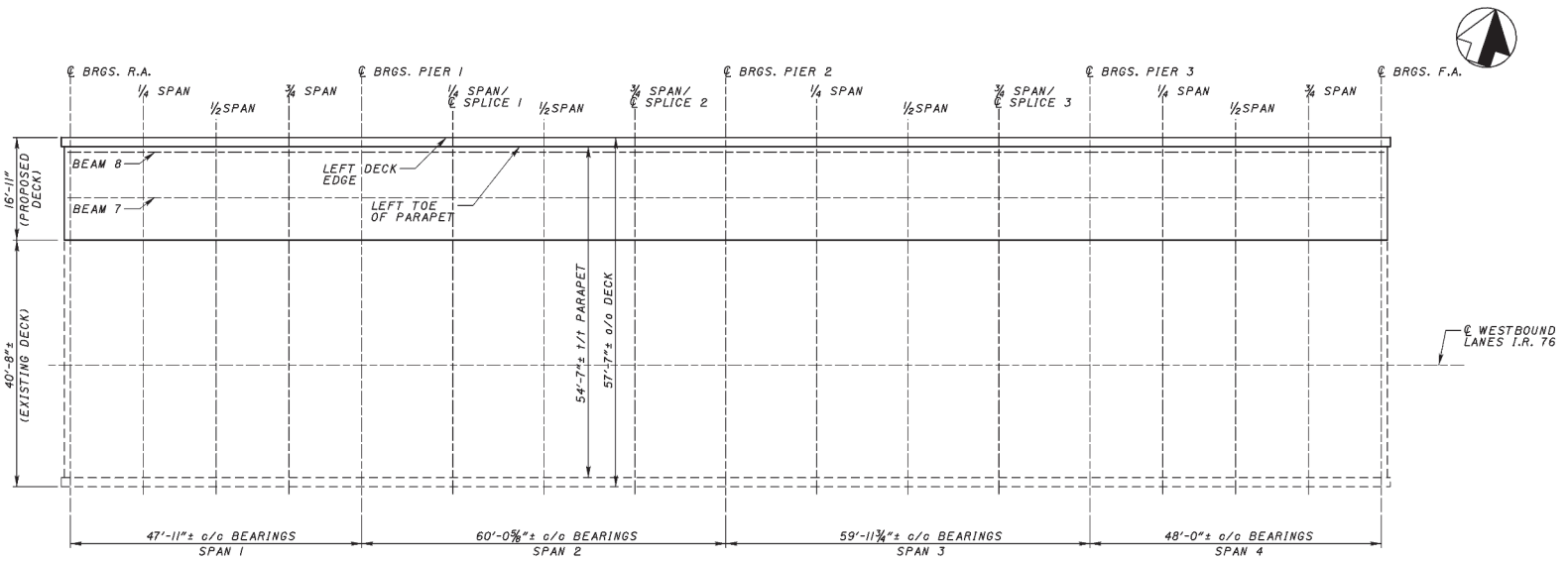
ELEVATION LINE	SPAN 3											
	¾ SPAN (FIELD SPLICE 2)		℄ BRGS. PIER 2		¼ SPAN		½ SPAN		¾ SPAN (FIELD SPLICE 3)		℄ BRGS. PIER 3	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
LEFT DECK EDGE	904+82.08	1034.75	904+97.09	1034.95	905+12.08	1035.18	905+27.08	1035.40	905+42.07	1035.59	905+57.07	1035.75
LEFT TOE OF PARAPET	904+82.08	1034.78	904+97.09	1034.97	905+12.08	1035.21	905+27.08	1035.42	905+42.07	1035.61	905+57.07	1035.78
BEAM 8	904+82.08	1034.79	904+97.09	1034.99	905+12.08	1035.22	905+27.08	1035.44	905+42.07	1035.62	905+57.07	1035.79
BEAM 7	904+82.08	1034.91	904+97.09	1035.11	905+12.08	1035.34	905+27.08	1035.56	905+42.07	1035.74	905+57.07	1035.91

DECK SCREED ELEVATION TABLE

ELEVATION LINE	SPAN 4							
	¼ SPAN		½SPAN		¾SPAN		℄ BRGS. F.A.	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
LEFT DECK EDGE	905+69.07	1035.91	905+81.07	1036.03	905+93.07	1036.14	906+05.07	1036.24
LEFT TOE OF PARAPET	905+69.07	1035.93	905+81.07	1036.05	905+93.07	1036.17	906+05.07	1036.27
BEAM 8	905+69.07	1035.95	905+81.07	1036.07	905+93.07	1036.18	906+05.07	1036.28
BEAM 7	905+69.07	1036.06	905+81.07	1036.19	905+93.07	1036.30	906+05.07	1036.40

NOTES: 1. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED DEAD LOAD DEFLECTIONS.

2. SCREED ELEVATIONS HAVE BEEN DETERMINED BASED ON INTERPOLATION OF THE ELEVATIONS SHOWN ON THE SITE PLAN AT 12 FEET LEFT OF PROFILE GRADE.



SCREED ELEVATION PLAN

LEGEND

BRGS. - BEARINGS
c/c - CENTER TO CENTER
F.A. - FORWARD ABUTMENT
o/o - OUT TO OUT
R.A. - REAR ABUTMENT
t/t - TOE TO TOE

P:/PR30489/CADD/MED-71-0158L/REV- 8-08-06/ME076SD5.DGN

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED MPS
DRAWN MPS/MPH
CHECKED JAA
REVISED 8/8/06
REVIEWED DWL
DATE 6-10-04
STRUCTURE FILE NUMBER 5204429

SCREED PLAN AND TABLE
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

19 / 22

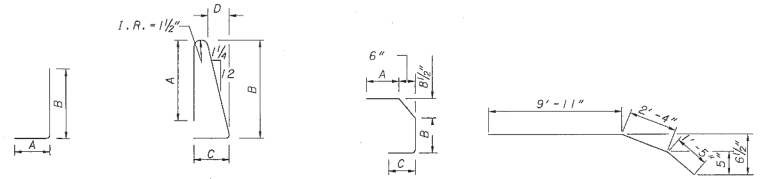
1046
1120

SUPERSTRUCTURE

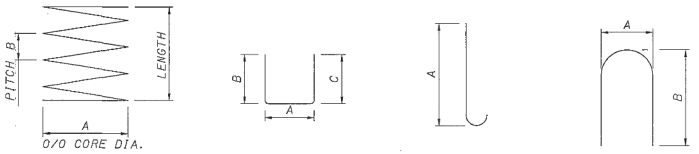
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
AS801	11	4'-11"	144	28	2'-7"	1'-5"					
D501	64	7'-1"	472	18	2'-2"	2'-7"	2'-7"				
D502	30	8'-7"	268	18	1'-8"	3'-7"	3'-7"				
D503	4	10'-3"	42	18	2'-2"	4'-2"	4'-2"				
D801	20	15'-8"	836	STR							
D802	6	16'-8"	267	STR							
S401	161	30'-0"	3226	STR							
S402	23	21'-9"	334	STR							
S501	748	16'-8"	13002	STR							
S502	161	30'-0"	5037	STR							
S503	19	25'-10"	511	STR							
S504	66	27'-0"	1858	STR							
S505	4	26'-11"	112	STR							
S506	4	13'-8"	57	STR							
S507	4	13'-8"	57	118							
S508	4	3'-0"	12	STR							
S509	12	15'-8"	196	STR							
S510	28	6'-2"	180	STR							
S511	24	3'-0"	75	19	2'-5"						
S512	196	6'-0"	1227	2	2'-6"	2'-9"	0'-8"				
S601	2	3'-0"	9	STR							
S602	36	3'-9"	207	1	0'-11"	3'-0½"					
S603	220	3'-0"	991	6A	0'-9"	0'-9"	0'-10½"				
S604	196	2'-3"	686	1	0'-11"	1'-6½"					
S605	6	15'-8"	141	STR							
S606	14	6'-2"	129	STR							
		TOTAL	30076								

PIERS

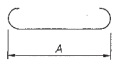
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
P501	12	10'-0"	125	STR							
P502	18	7'-4"	137	28B	4'-0"	2'-9"					
P503	24	10'-9"	269	STR							
P504	24	6'-10"	171	1	1'-6"	5'-6"					
P505	9	6'-3"	58	18	3'-6"	1'-6"	1'-6"				
	6	4'-8"				2'-5½"					
P506	S.O.	TO	281	18	2'-6"	TO					0'-3¼"
	8	6'-7"				4'-4"					
P507	48	6'-3"	312	18	2'-6"	2'-0"	2'-0"				
P508	16	13'-0"	216	21	3'-6"	5'-6"					
P509	16	11'-0"	183	STR.							
P801	13	23'-4"	809	19	22'-5"						
P802	13	25'-4"	879	19	24'-5"						
P803	13	23'-0"	798	19	22'-1"						
P804	39	10'-7"	1102	1	1'-6"	9'-3"					
P805	21	11'-10"	663	22	10'-0"						
P806	60	10'-10"	1735	22	9'-0"						
P807	12	17'-4"	555	22	15'-6"						
SP401	1	20'-10"	373	15	2'-6"	0'-4½"					
SP402	1	22'-9"	406	15	2'-6"	0'-4½"					
SP403	1	20'-7"	369	15	2'-6"	0'-4½"					
		TOTAL	9441								



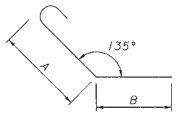
TYPE 1 TYPE 2 TYPE 6A TYPE 11B



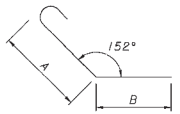
TYPE 15 TYPE 18 TYPE 19 TYPE 21



TYPE 22



TYPE 28



TYPE 28B

SPIRALS:

AN ADDITIONAL 1½ COILS SHALL BE INCLUDED AT EACH END OF SPIRAL REINFORCEMENT.

NOTES:

BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH ONE OR TWO LETTERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

EXAMPLE: S801
S - SUPERSTRUCTURE BAR
8 - #8 BAR
01 - BAR SEQUENCE NUMBER 1

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

STR IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.

R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

INC INDICATES THE LENGTH INCREMENT FOR SERIES BARS.

ALL REINFORCING STEEL TO BE EPOXY COATED.

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED WPH/MAK
DRAWN MPH
CHECKED JAA/CAS
REVIEWED
REVISED
DATE
STRUCTURE FILE NUMBER 5204429

REINFORCING STEEL SCHEDULE 1 OF 2
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

20 / 22

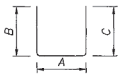
1047
1120

P:/PR30489/CADD/MED-71-0158L/DETAIL DESIGN/ME076RL1.DGN

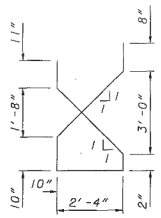
ABUTMENTS

MARK	NUMBER			LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL				A	B	C	D	E	R	INC.
A401	6	6	12	9'-1"	72	16	2'-6 3/4"	1'-9"					
A501	13	13	26	11'-0"	298	16	2'-8"	2'-7"					
A502	6	6	12	10'-1"	126	18	2'-2"	4'-1 1/4"	4'-1 1/4"				
A503	4	4	8	14'-9"	123	18	2'-2"	6'-5"	6'-5"				
	1	1	2	7'-7"				2'-10"	2'-10"				
A504	S.O.	S.O.	S.O.	TO	82	18	2'-2"	TO	TO				1'-6"
	4	4	4	12'-1"				5'-1"	5'-1"				
A505	3	3	6	9'-11"	62	18	2'-2"	4'-0"	4'-0"				
A506	1	1	2	8'-8"	18	18	2'-2"	3'-4 3/4"	3'-4 3/4"				
A507	1	1	2	9'-3"	19	18	2'-2"	3'-8"	3'-8"				
A508	1	1	2	10'-9"	22	18	2'-2"	4'-5 3/8"	4'-5 3/8"				
A509	5	5	10	6'-3"	65	18	2'-2"	2'-2"	2'-2"				
A510	2	2	4	22'-9"	95	STR							
A511	4	4	8	15'-6"	129	STR							
	2	2	4	2'-7"									
A512	S.O.	S.O.	S.O.	TO	62	STR							2'-3 7/8"
	3	3	3	7'-3"									
A513	2	2	4	7'-11"	33	STR							
A514	2	2	4	8'-9"	36	STR							
A601	16	16	32	11'-0"	528	31A							
A801	4	4	8	22'-9"	487	STR							
A802	4	4	8	15'-6"	331	STR							
				TOTAL	2588								

TYPE 16



TYPE 18



TYPE 31A

NOTES:

BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH ONE OR TWO LETTERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

EXAMPLE: A801
A = ABUTMENT BAR
8 = #8 BAR
01 = BAR SEQUENCE NUMBER 1

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

STR IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.

R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

INC INDICATES THE LENGTH INCREMENT FOR SERIES BARS.

ALL REINFORCING STEEL TO BE EPOXY COATED.

REINFORCING STEEL SCHEDULE 2 OF 2
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

21 / 22

1048
1120

BURGESS & NIPLE
5085 Reed Road
Columbus, Ohio 43220

DESIGNED MPS
DRAWN MPS
CHECKED JAA
REVIEWED
DATE
REVISED
STRUCTURE FILE NUMBER 5204429

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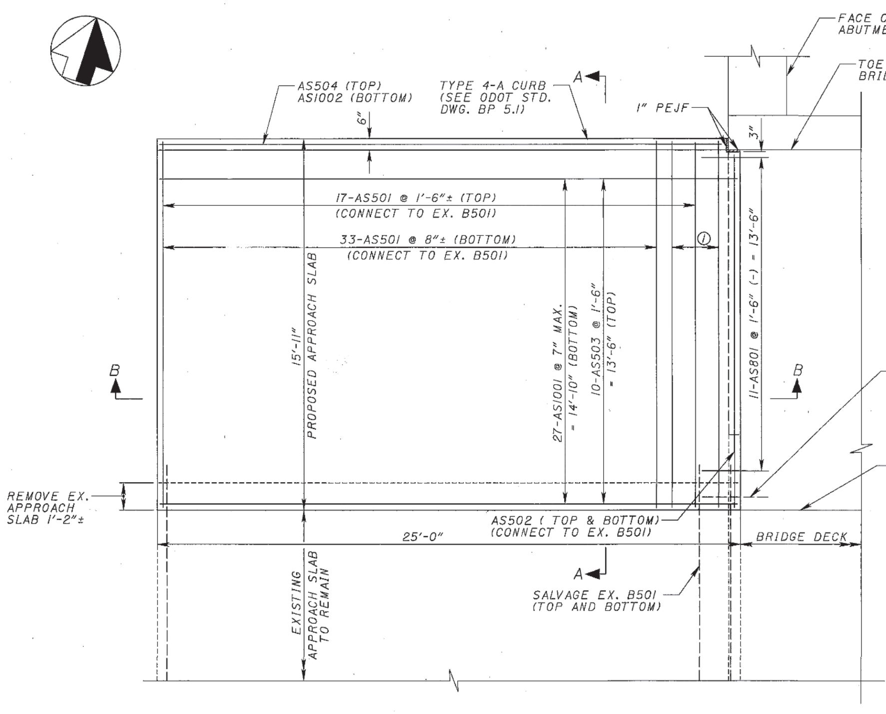
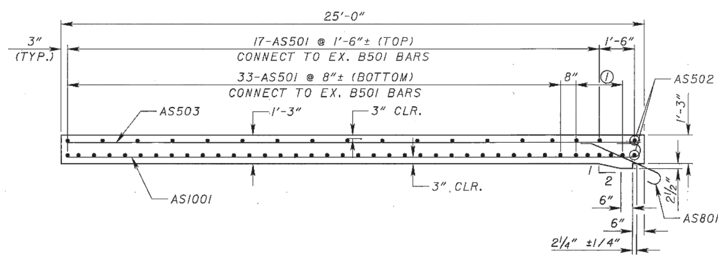


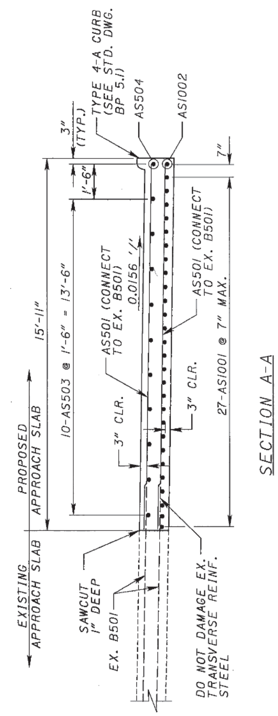
PLAN

REAR APPROACH SLAB SHOWN
FORWARD APPROACH SLAB SIMILAR



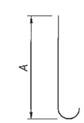
SECTION B-B

① 5-AS501 @ 6"± (BOTTOM). CONNECT TO EX. B501 BARS.



SECTION A-A

REINFORCING SCHEDULE												
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS							
					A	B	C	D	E	R	INC
AS501	110	15'-9"	1806	STR							
AS502	4	15'-2"	63	STR							
AS503	20	24'-6"	511	STR							
AS504	2	24'-0"	50	STR							
AS1001	54	25'-11"	6022	19	24'-6"						
AS1002	2	25'-5"	218	19	24'-0"						
		TOTAL	8670								



TYPE 19

NOTES

1. FOR INFORMATION NOT SHOWN REFER TO STD. BRIDGE DWG. AS-1-81 AND STD. CONSTRUCTION DWG. BP-5.1.
2. UTILIZE MECHANICAL CONNECTORS TO CONNECT EXISTING PROTRUDING REINFORCING STEEL TO NEW REINFORCING STEEL.
3. FOR AS801 BARS SEE SUPERSTRUCTURE REINFORCING SCHEDULE ON SHEET 20 / 22.

LEGEND

CLR. - CLEARANCE
EX. - EXISTING
MAX. - MAXIMUM
TYP. - TYPICAL

BURGESS & NIPLE

DESIGNED MPH | DRAWN MPH | REVIEWED DWL | DATE 6-11-04
CHECKED JAA | REVISED | STRUCTURE FILE NUMBER 5204429

APPROACH SLAB DETAILS
BRIDGE NO. MED-76-0158 L
OVER CSXT RAILROAD & RYAN ROAD

MED-71-6.06
PID 75657

P:/PR30489/CADD/MED-71-0158L/DETAIL DESIGN/ME076MD1.DGN