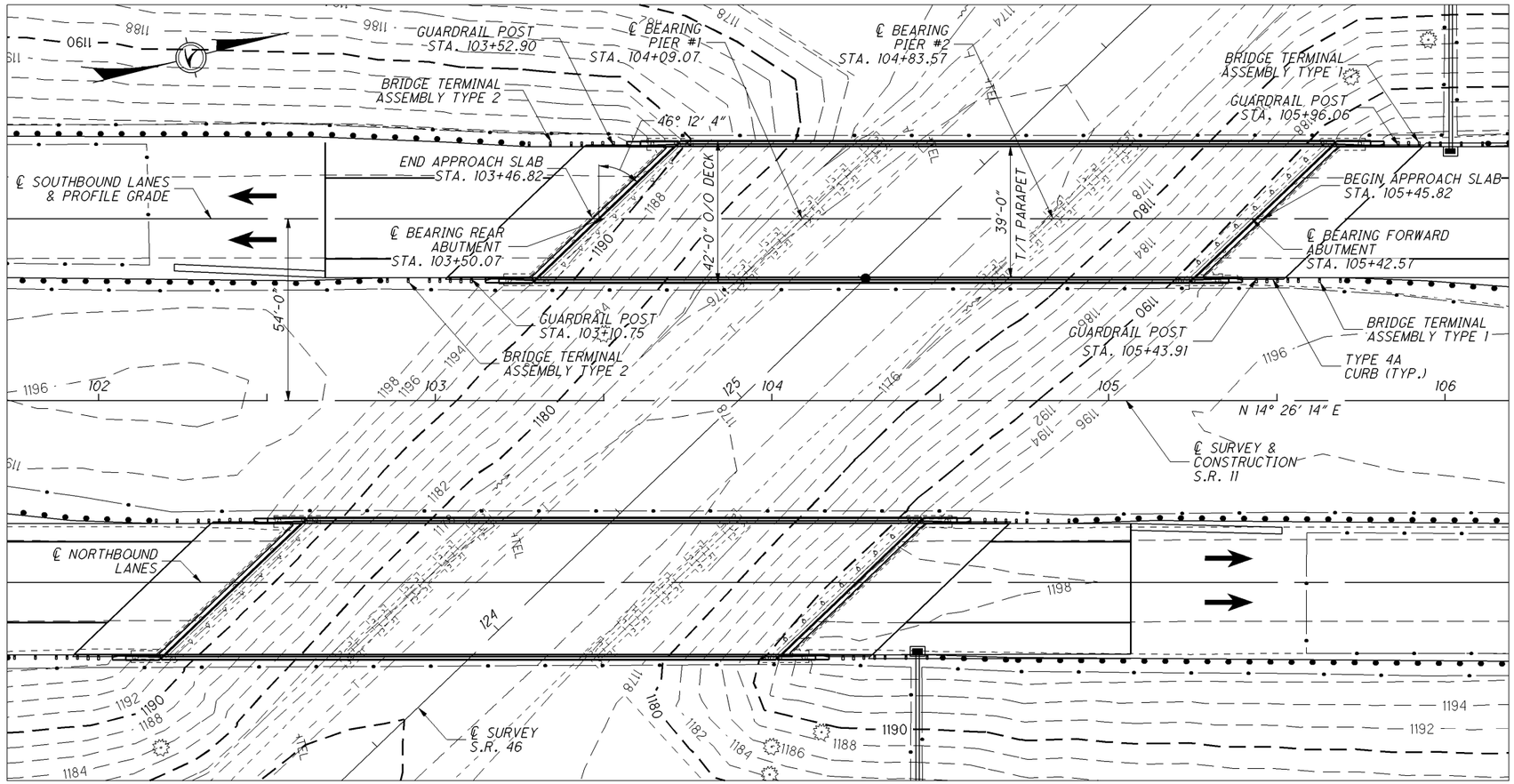
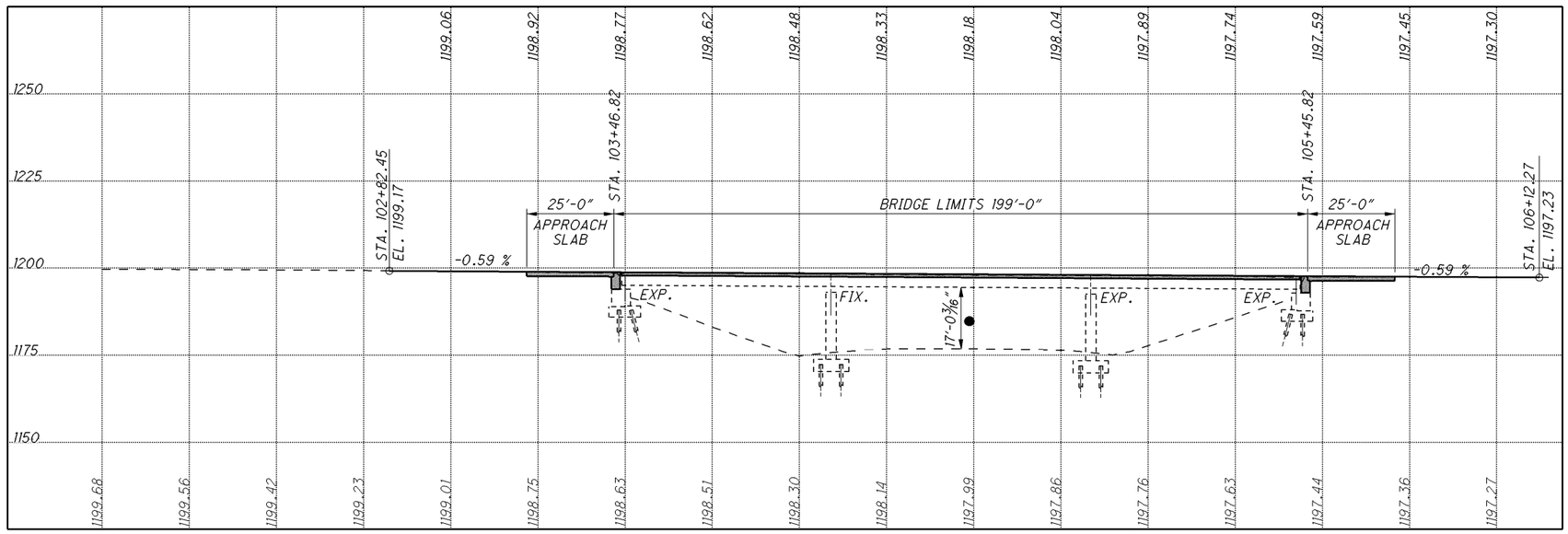


PLAN



PROFILE ALONG PROFILE GRADE LINE

BENCHMARK DATA

FOR BENCHMARK AND OTHER PERTINENT INFORMATION, SEE ROAD SHEETS

NOTES

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

DESIGN TRAFFIC:
2012 ADT = 14970 2012 ADTT = 2395
2032 ADT = 16785 2032 ADTT = 2685
DIRECTIONAL DISTRIBUTION = 0.53

LEGEND

● 17'-0 3/16" ACTUAL MINIMUM VERTICAL CLEARANCE
14'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
FIX. = FIXED
EXP. = EXPANSION

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 59'-0", 74'-6", 59'-0" C/C BEARINGS
ROADWAY: 38'-0" F/F SAFETY CURB
LOADING: CF 2000 (1957)
SKEW: 46° 12' 4" LF
WEARING SURFACE: 3" MICROSILICA MODIFIED CONCRETE OVERLAY
APPROACH SLABS: 25'-0" LONG (AS-1-67)
ALIGNMENT: STRAIGHT
CROWN: 3/16 IN./FT.
STRUCTURAL FILE NUMBER: 5000270
DATE BUILT: 7/1/1972
DISPOSITION: DECK AND PART OF SUBSTRUCTURE TO BE REPLACED

PROPOSED STRUCTURE

PROPOSED WORK:
1. REMOVE DECK, ABUTMENT BACKWALLS, PARAPETS, APPROACH SLABS, EXPANSION JOINTS, SCUPPERS, END CROSS FRAMES AND PORTIONS OF THE WING WALLS
2. RECONSTRUCT DECK, ABUTMENT BACKWALLS, WINGWALLS, PARAPETS; REPLACE THE EXPANSION JOINTS AND THE END CROSS-FRAMES
3. PAINT BEAMS, BEARINGS AND ALL OTHER EXISTING AND NEW STEEL
4. SEAL CONCRETE SURFACES

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 59'-0", 74'-6", 59'-0" C/C BEARINGS
ROADWAY: 39'-0" TOE/TOE PARAPET
LOADING: HS20-44 CASE II AND ALTERNATE MILITARY
SKEW: 46° 12' 4" LF
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: STRAIGHT
CROWN: 0.016 FT/FT
COORDINATES: LATITUDE 40° 55' 44" N
LONGITUDE 80° 43' 14" W

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW	CJW	5000270	

MAHONING COUNTY
STA. 103+46.82
STA. 105+45.82

SITE PLAN
BRIDGE NO.: MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

1 / 19

99
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

A-1-69	DATED (REVISED)	7-19-02
AS-1-81	DATED (REVISED)	7-19-02
EXJ-4-87	DATED (REVISED)	7-19-02
GSD-1-96	DATED (REVISED)	7-19-02
SBR-1-99	DATED (REVISED)	7-19-02
PCB-91	DATED (REVISED)	7-19-02
RB-1-55	DATED (REVISED)	2-02-59

DESIGN SPECIFICATIONS

THE SUPERSTRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH ED. 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

THE SUPERSTRUCTURE IS DESIGNED FOR:
HS20-44, CASE II AND THE ALTERNATE MILITARY LOADING.

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

THE SUBSTRUCTURE WAS NOT ANALYZED.

DESIGN DATA

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60 KSI.

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

EXISTING BRIDGE PLANS

MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO OR AT THE ODOT DISTRICT 4 OFFICE IN AKRON, OHIO.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL WITH 2 ½" CONCRETE COVER.

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

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). 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. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

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. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

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 STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PER- FORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

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.

CUT LINE CONSTRUCTION JOINT PREPARATION

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 THE 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 PACK 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

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.

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.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER STRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING THE EXISTING STRUCTURES TO PERMIT RESETTING OF THE ABUTMENT BEARINGS.

ALL JACKING AND BEARING RESETTING SHALL BE PERFORMED PRIOR TO THE PLACEMENT OF THE NEW DECK.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

IF, DURING THE JACKING OPERATIONS, DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATIS- FACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. THE DEPARTMENT WILL NOT PAY FOR THE COST OF REQUIRED REPAIRS.

THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

ITEM 516 - BEARING DEVICE, ROCKER, AS PER PLAN

THIS ITEM SHALL ENCOMPASS ALL LABOR AND MATERIALS NECESSARY TO REPLACE AN EXISTING ROCKER BEARING. THIS WORK SHALL INCLUDE: THE DISSEMBLY OF THE EXISTING BEARING; REMOVAL AND GRINDING OF EXISTING WELDS; FURNISHING AND INSTALLATION OF THE NEW BEARING; ALIGNMENT OF THE NEW BEARING PRIOR TO WELDING SUCH THAT THE ROCKER WILL BE VERTICAL AT 60 DEGREES F.; PROVIDING ADEQUATE SHIMMING SUCH THAT NO BEAMS AND/OR BEARING DEVICES ARE FLOATING, AND; PAINTING.

BEARINGS TO BE REPLACED ARE: FORWARD ABUTMENT, BEAMS 1 AND 5.

THE NEW BEARINGS SHALL CONSIST OF ROCKER R-100 AS PER STD DRAWING RB-1-55, REV. 2-2-59.

ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MAERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR THE ITEM.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN: PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGHPRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX DESIGN 4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, AS PER PLAN.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11 | CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000270

GENERAL NOTES
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/ 5.08
PID No. 82940

DECK PLACEMENT DESIGN ASSUMPTIONS:

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 1.28 KIPS FOR A TOTAL MACHINE LOAD OF 10.24 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

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

CONCRETE PARAPETS

CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1-1/4" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAWCUTS AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ½ INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN: IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT

ITEM 511 - CLASS HP CONCRETE, AS PER PLAN

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
ALL SUPERSTRUCTURE, BRIDGE DECK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)
MIX 4, 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	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

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

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, CU YD
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN, CU YD

ITEM 513 - STRUCTURAL STEEL MEMBERS. LEVEL UF, AS PER PLAN

THIS ITEM INCLUDES THE INSTALLATION OF THE PROPOSED STRUCTURAL MEMBERS SUPPLIED BY THE FABRICATOR. THE FABRICATOR WILL DELIVER THE END CROSS FRAMES TO THE PROJECT SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK ITEMS REQUIRED TO INSTALL THE END CROSS FRAMES INCLUDING UNLOADING THE END CROSS FRAMES, THE PURCHASE AND INSTALLATION OF MISCELLANEOUS STEEL ITEMS REQUIRED UNDER THIS ITEM.

THE FABRICATOR IS TO SHOP APPLY A PRIME COAT OF PAINT TO THE END CROSS FRAMES IN ACCORDANCE WITH CMS 708.01. THE CONTRACTOR WILL PROVIDE THE FABRICATOR WITH A MINIMUM OF A 7 DAY NOTICE TO ALLOW THE FABRICATOR TO ARRANGE FOR DELIVERY.

STORAGE OF THE END CROSS FRAMES WILL NOT BE PERMITTED AT ANY LOCATION OTHER THAN THE FABRICATOR'S FACILITY.

ITEM 530 - STRUCTURE MISC.: SALT REMEDIATION FOR STRUCTURAL STEEL PAINTING.

IN ADDITION TO THE REQUIREMENTS OF C&MS 514.13 SURFACE PREPERATION, TEST EXISTING STEEL SURFACES FOR CHLORIDE CONTAMINANTS, SOLUBLE FERROUS ION LEVELS, AND SULFATE CONTAMINANTS PRIOR TO COATING APPLICATION.

USE RELIABLE, REPRODUCIBLE TEST METHODS. THESE TESTS SHALL USE EXTRACT SOLUTIONS THAT ARE ACIDIC, FACTORY PRE-MEASURED, PRE-PACKAGED AND OF UNIFORM CONCENTRATION. THE SOLUTIONS SHALL BE MERCURY FREE. THE EXTRACTION TEST CONTAINER SHALL CREATE A SEALED, ENCAPSULATED ENVIRONMENT DURING SALT ION EXTRACTION FROM HORIZONTAL, VERTICAL, CURVED, SMOOTH, PITTED AND ROUGH STEEL SURFACES. ALL SALT ION CONCENTRATION SHALL BE DIRECTLY MEASURED IN MICROGRAMS PER SQUARE CENTIMETER OR GRAINS PER SQUARE INCH.

PERFORM THREE TESTS FOR THE FIRST 1000 SQUARE FEET AND ONE TEST FOR EACH ADDITIONAL 2000 SQUARE FEET OR PART THEREOF. THE ENGINEER WILL SELECT TEST LOCATIONS AT AREAS OF COATING FAILURE AND AREAS OF CORROSION PITTING. RE-BLAST TESTED AND CLEANED AREAS AND RE-TEST UNTIL ALL REQUIRED TESTS SHOW RESULTS LESS THAN 7 MICROGRAMS PER SQUARE CENTIMETER (0.0007 GRAINS PER SQUARE INCH) OF CHLORIDE CONTAMINANTS, LESS THAN 10 MICROGRAMS PER SQUARE CENTIMETER (0.001 GRAINS PER SQUARE INCH) OF SOLUBLE FERROUS ION LEVELS, OR LESS THAN 17 MICROGRAMS PER SQUARE CENTIMETER (0.0017 GRAINS PER SQUARE INCH) OF SULFATE CONTAMINANTS. METHODS OF REMOVAL OF SOLUBLE SALT CONTAMINATION MAY INCLUDE ABRASIVE BLAST CLEANING, HIGH PRESSURE WATER RINSING, STEAM CLEANING, AND CLEANING USING A SOLUTION OF WATER WASHING AND SOLUBLE SALTS REMOVER. THE SOLUBLE SALTS REMOVER SHALL BE BIODEGRADABLE, NONTOXIC, NONCORROSIVE, AND AFTER APPLICATION, SHALL NOT INTERFERE WITH PRIMER ADHESION.

CONTAIN, COLLECT, CHARACTERIZE AND LEGALLY DISPOSE OF ALL WASTE WATER AND SLUDGE GENERATED DURING THE WORK. DO NOT MIX WASTE WATER WITH STORM WATER. DO NOT DISCHARGE ANY WASTE WATER WITHOUT THE APPROPRIATE REGULATORY PERMITS. MANAGE WASTE WATER AND SLUDGE IN ACCORDANCE WITH ORC CHAPTER 6111 AND ALL OTHER LAWS, REGULATIONS, PERMITS AND LOCAL ORDINANCES RELATING TO THIS WASTE. WASTE WATER MANAGEMENT IS INCIDENTAL TO THE WORK UNLESS OTHERWISE SPECIFIED IN THE CONTRACT.

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE TESTING, REMOVAL, CONTAINMENT, COLLECTION, CHARACTERIZATION AND DISPOSAL OF THE SOLUBLE SALT CONTAMINATION FROM THE STRUCTURAL STEEL ON A LUMP BASIS FOR ITEM 530E00200 SPECIAL - STRUCTURE MISC.: SALT REMEDIATION FOR STRUCTURAL STEEL PAINTING.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/1
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

GENERAL NOTES
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/ 5.08
PID No. 82940

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ESTIMATED QUANTITIES (01/BRO/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/19
202	22900	134	SQ YD	APPROACH SLAB REMOVED				134	
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	
503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
509	10001	82927	POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN	6335		76592		3/19
510	10000	272	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	272				
511	45700	52	CU YD	CLASS C CONCRETE, ABUTMENT	52				
511	50001	251	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			251		3/19
511	50101	70	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			70		3/19 15/19 16/19
511	52000	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP	
512	10100	611	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	138	5	468		
512	74000	57	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	57				
513	10001	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN (END CROSS FRAMES)			LUMP		3/19
513	20000	3375	EACH	WELDED STUD SHEAR CONNECTORS (6" HEIGHT)			3375		
514	00050	12000	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			12000		
514	00056	12000	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			12000		
514	00060	12000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			12000		
514	00066	12000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			12000		
514	00504	17	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			17		
514	10000	11	EACH	FINAL INSPECTION REPAIR			11		
516	11211	120	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			120		17/19 18/19
516	46201	2	EACH	BEARING DEVICE, ROCKER, AS PER PLAN			2		2/19
516	46700	8	EACH	RESET BEARING			8		
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	2/19
518	12201	4	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			4		13/19
518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC	LUMP				
519	11101	52	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	13	39			2/19
526	25001	220	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				220	2/19
SPECIAL	53000200	LUMP		STRUCTURE, MISC.: SALT REMEDIATION FOR STRUCTURAL STEEL PAINTING			400		

NOTES

THE FINISH COAT COLOR FOR ALL PAINTED STRUCTURAL STEEL SHALL BE GREEN IN ACCORDANCE WITH CMS 708.02 GREEN FS-595B, 14277.

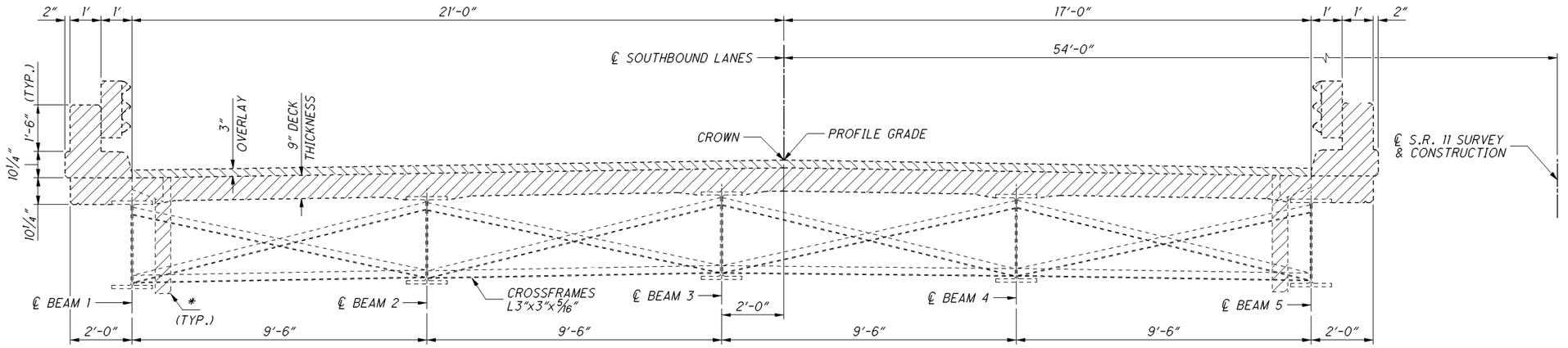
DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED TAA DATE 11/1/11
STRUCTURE FILE NUMBER 5000270

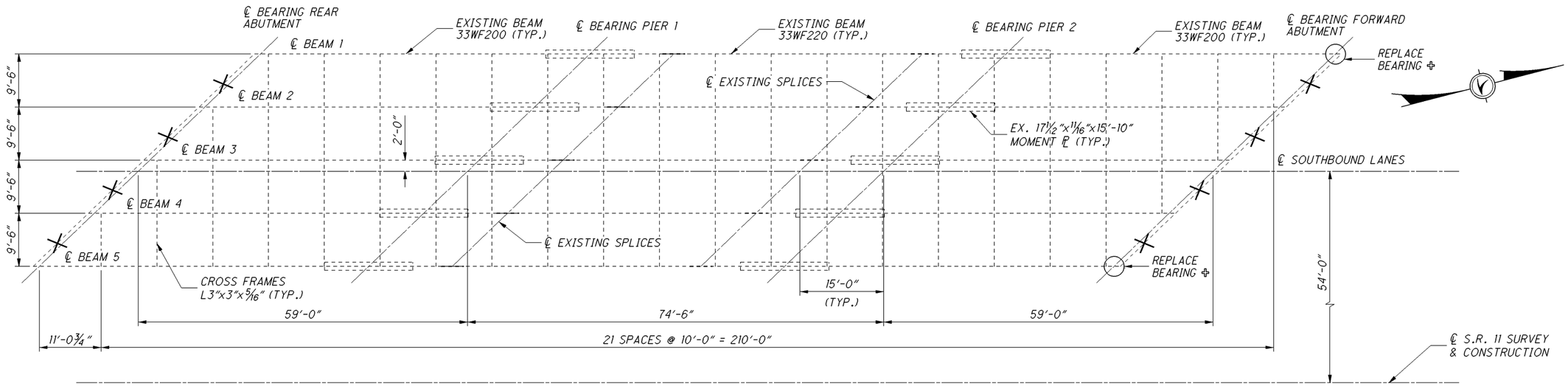
DRAWN AP REVISED
DESIGNED AP CHECKED CJW

ESTIMATED QUANTITIES
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940



EXISTING TRANSVERSE CROSS SECTION



FRAMING PLAN

NOTES & LEGEND

* - SCUPPER ANCHORING BARS WELDED TO BEAM SHALL BE REMOVED AND GROUND FLUSH AT WEB DURING REMOVAL. GRINDING SHALL BE DONE IN A HORIZONTAL DIRECTION. PAYMENT INCLUDED WITH ITEM 202-PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

▨ - INDICATES CONCRETE AREAS, RAILING, AND SCUPPERS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

▨ - INDICATES MICROSILICA OVERLAY AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

FIELD VERIFY ALL EXISTING DIMENSIONS.

X - CROSSFRAME TO BE REMOVED. WELDS SHALL BE REMOVED AND GROUND FLUSH AT THE WEB DURING REMOVAL. GRINDING SHALL BE DONE IN A HORIZONTAL DIRECTION. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

⌖ - FORWARD BEARINGS, BEAMS 1 AND 5, SHALL BE REPLACED. SEE SHEET 2/19 FOR ADDITIONAL INFORMATION.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

SUPERSTRUCTURE REMOVAL DETAIL
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

5 / 19

103
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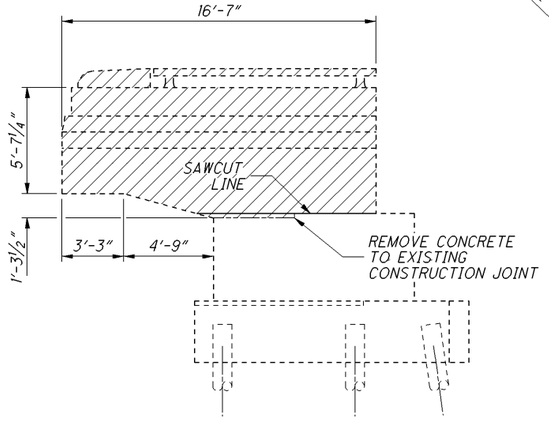
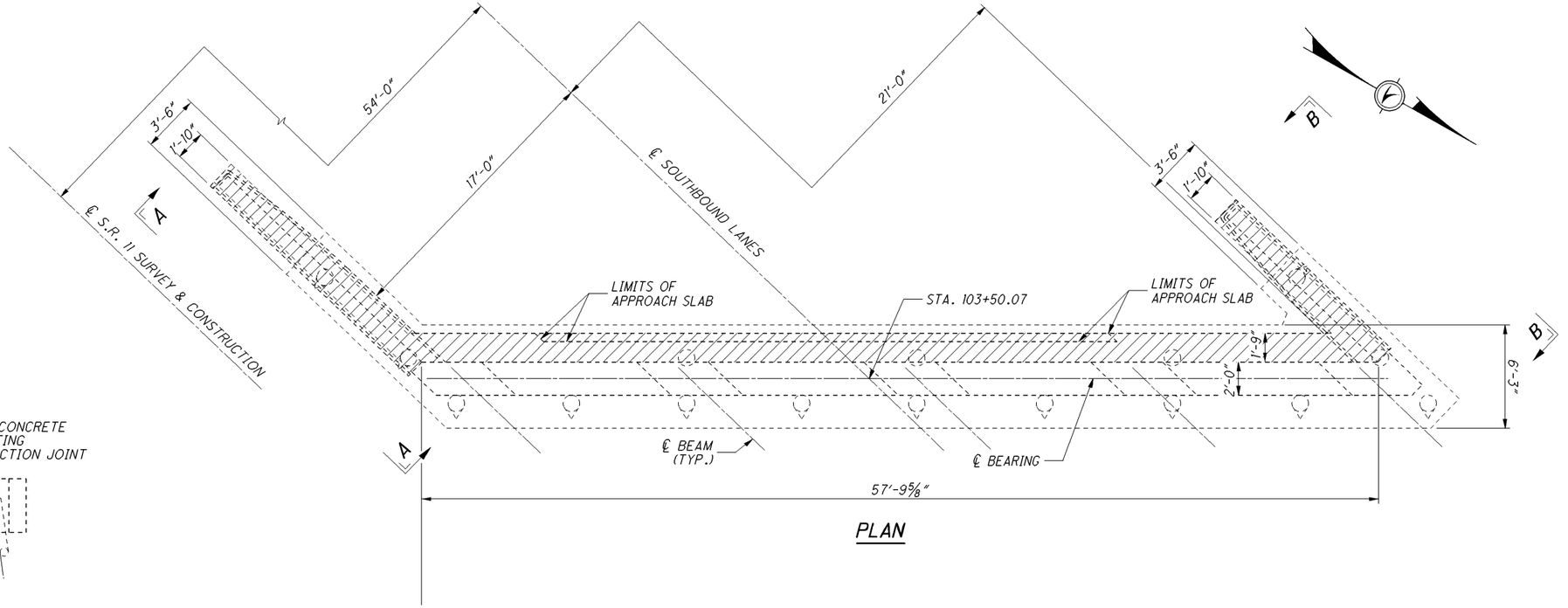
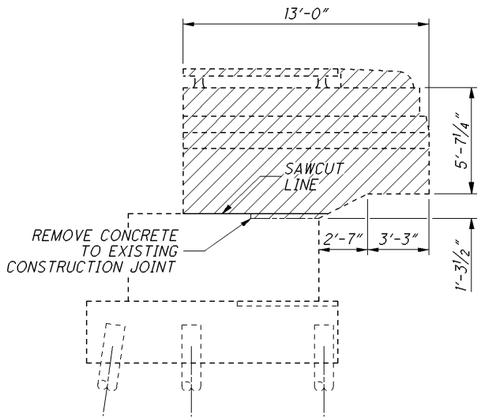


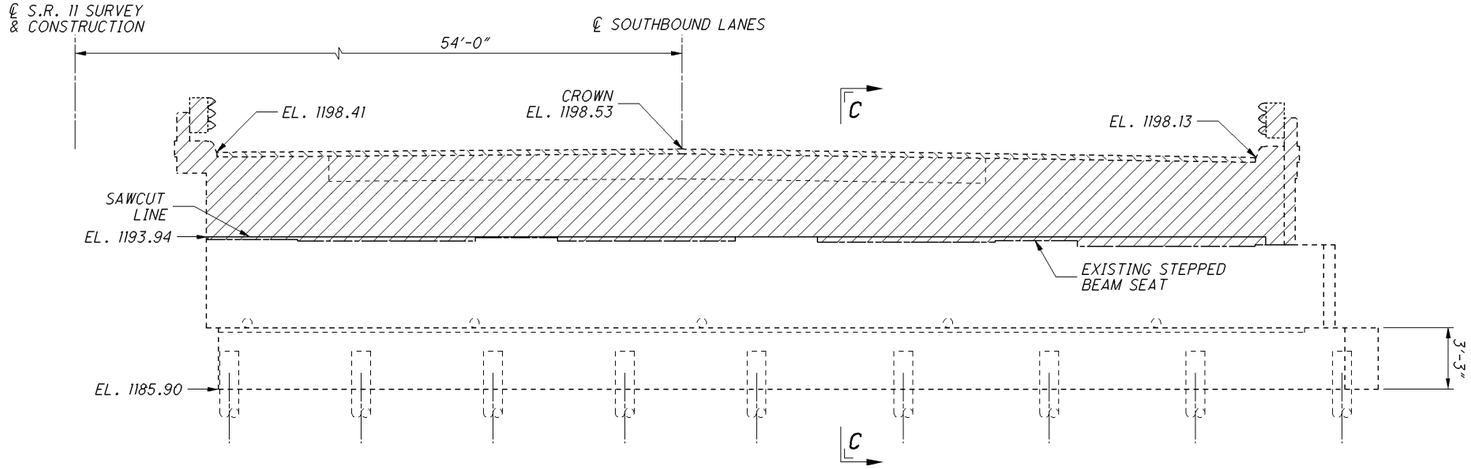
VIEW A-A



PLAN



VIEW B-B



ELEVATION

LEGEND

INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE TO BE REMOVED OVER 20' SPAN, AS PER PLAN.

- INDICATES MICROSILICA OVERLAY AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES

FIELD VERIFY ALL EXISTING DIMENSIONS

CUT ALL EXISTING REINFORCING STEEL AT THE SAWCUT LINE. WHERE REMOVAL IS INDICATED BELOW THE SAWCUT LINE, EXISTING VERTICAL REINFORCEMENT SHALL BE PRESERVED.

SEE SHEET 7/19 FOR SECTION C-C.

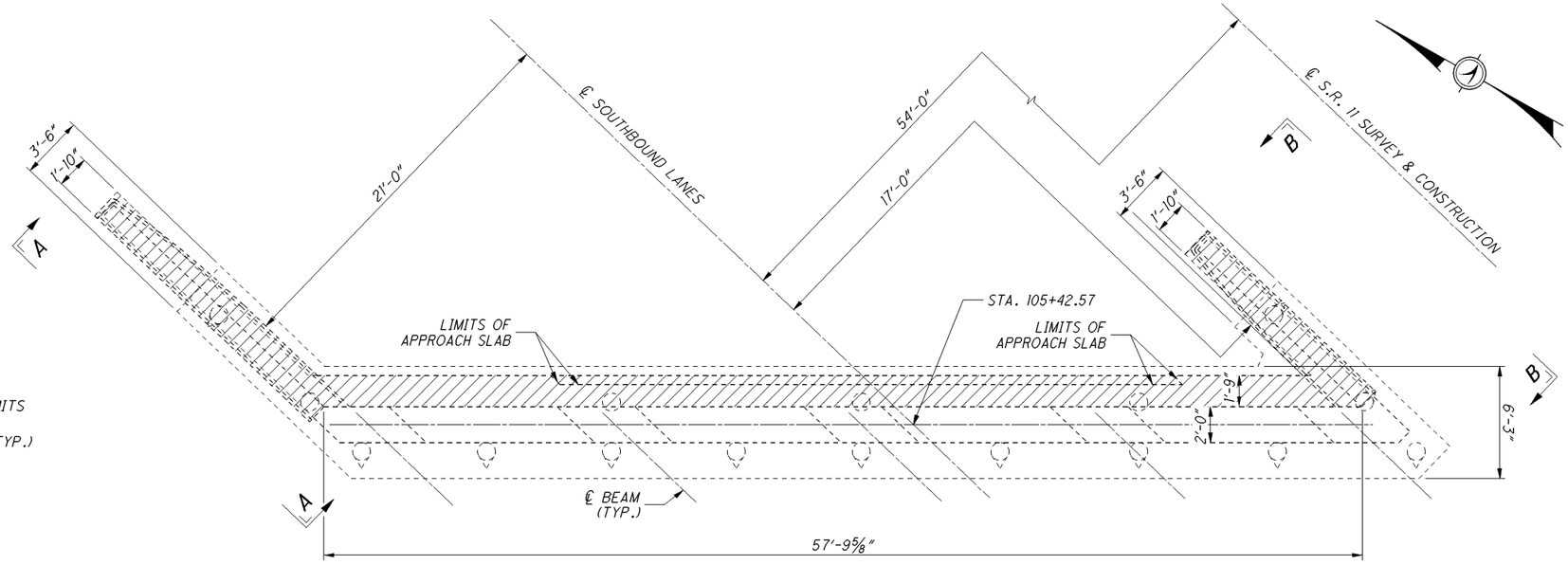
DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

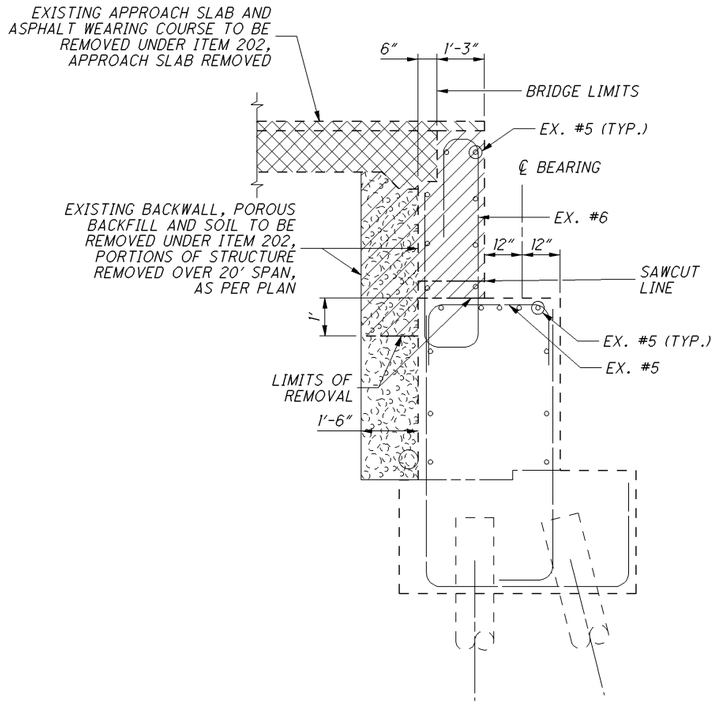
REAR ABUTMENT REMOVAL DETAIL

BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

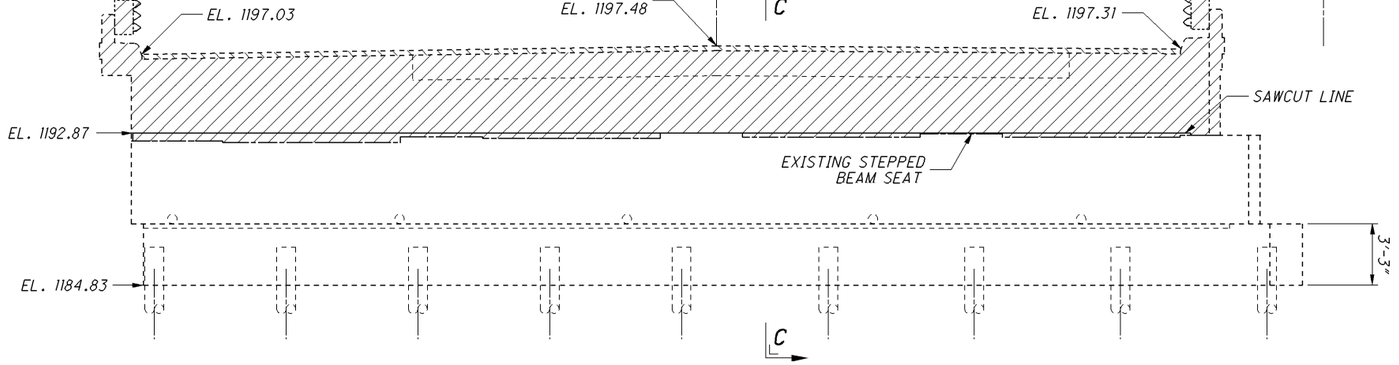
MAH-11-1.94/5.08
PID No. 82940



PLAN



SECTION C-C



ELEVATION

LEGEND

INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE TO BE REMOVED OVER 20' SPAN, AS PER PLAN.

INDICATES MICROSILICA OVERLAY AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - APPROACH SLAB REMOVED.

NOTES

SEE SHEET 6/19 FOR VIEWS A-A AND B-B

FIELD VERIFY ALL EXISTING DIMENSIONS

CUT ALL EXISTING REINFORCING STEEL AT THE SAWCUT LINE.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000270

FORWARD ABUTMENT REMOVAL DETAIL

BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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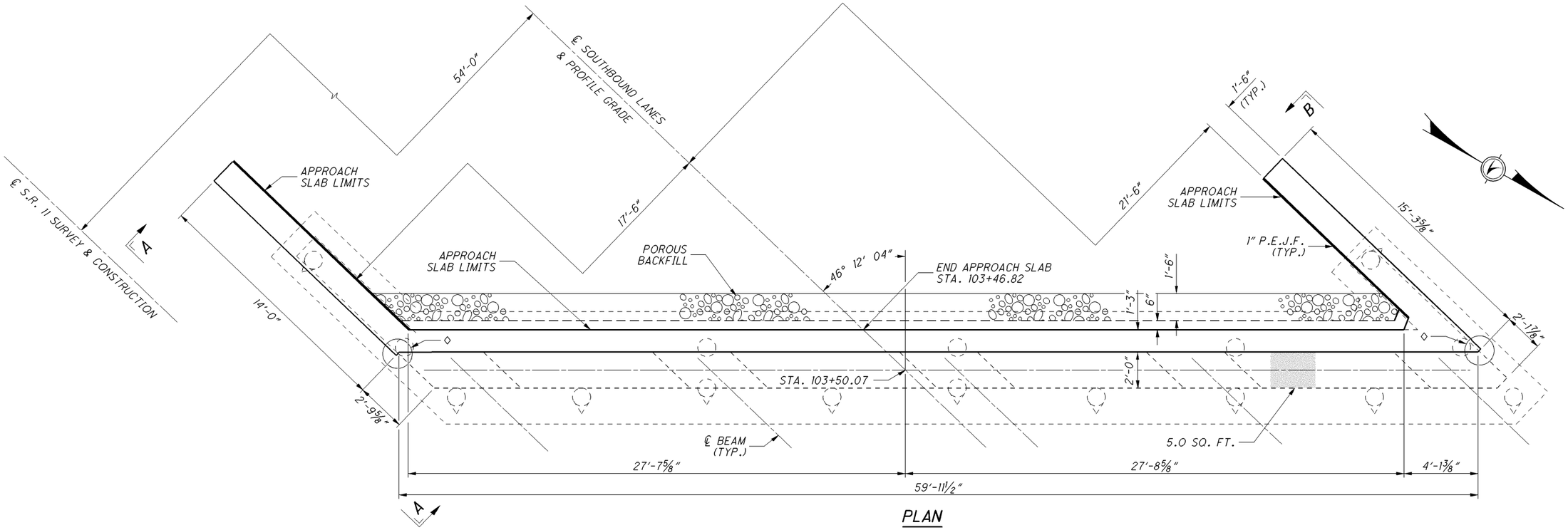


PLAN

NOTES & LEGEND

FIELD VERIFY ALL EXISTING DIMENSIONS.

MINIMUM LENGTHS:
#5 BAR - 2'-6" LAP

SEE SHEET 9/19 FOR VIEWS A-A & B-B AND SECTION C-C

* - ELEVATIONS MEASURED ALONG THE BRIDGE LIMITS.

◕ - EXISTING BEAM SEAT REINFORCING BARS SHALL BE LOCATED BY USE OF A PACHOMETER AND AVOIDED WHEN DOWELING.

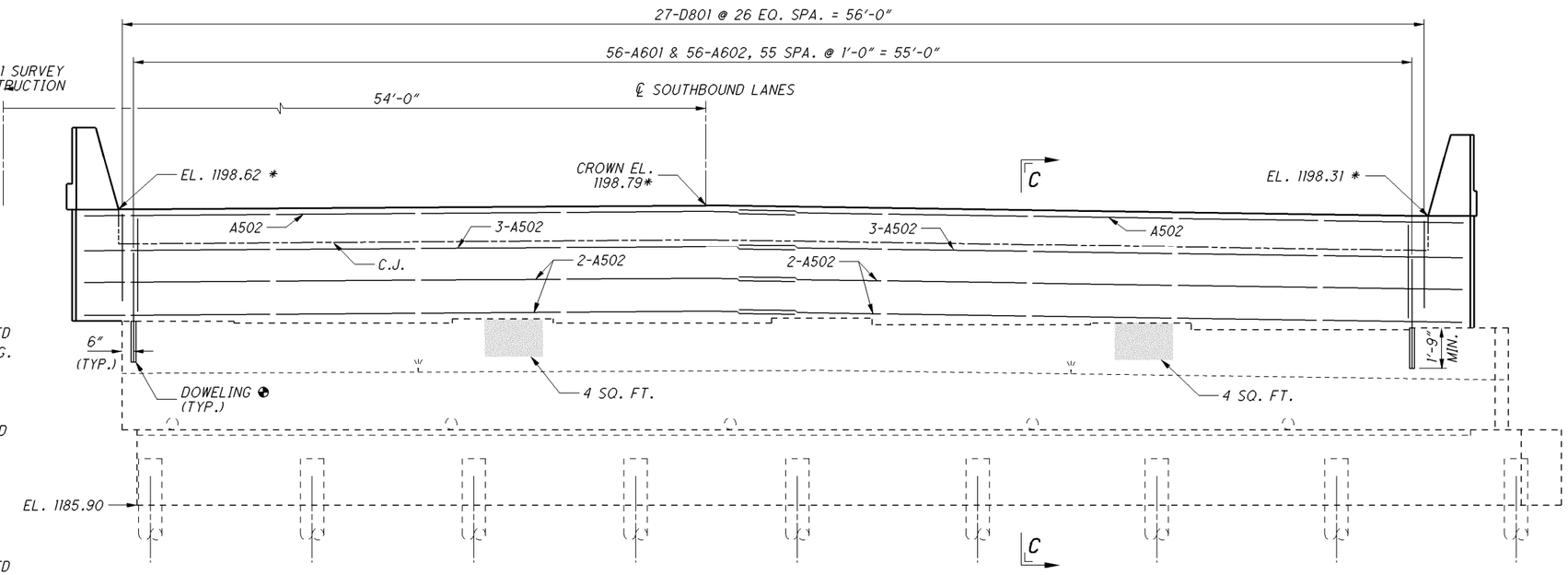
◇ - SEE SHEET 18/19 FOR CORNER FORMING DETAILS.

PARAPET NOT SHOWN FOR CLARITY. SEE SHEETS 15/19 AND 16/19 FOR PARAPET INFORMATION.

C.J. - CONSTRUCTION JOINT

P.E.J.F. - PREFORMED EXPANSION JOINT FILLER

▒ - INDICATES AREAS OF ABUMENT CONCRETE TO BE PATCHED UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE



ELEVATION

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

REAR ABUTMENT DETAIL
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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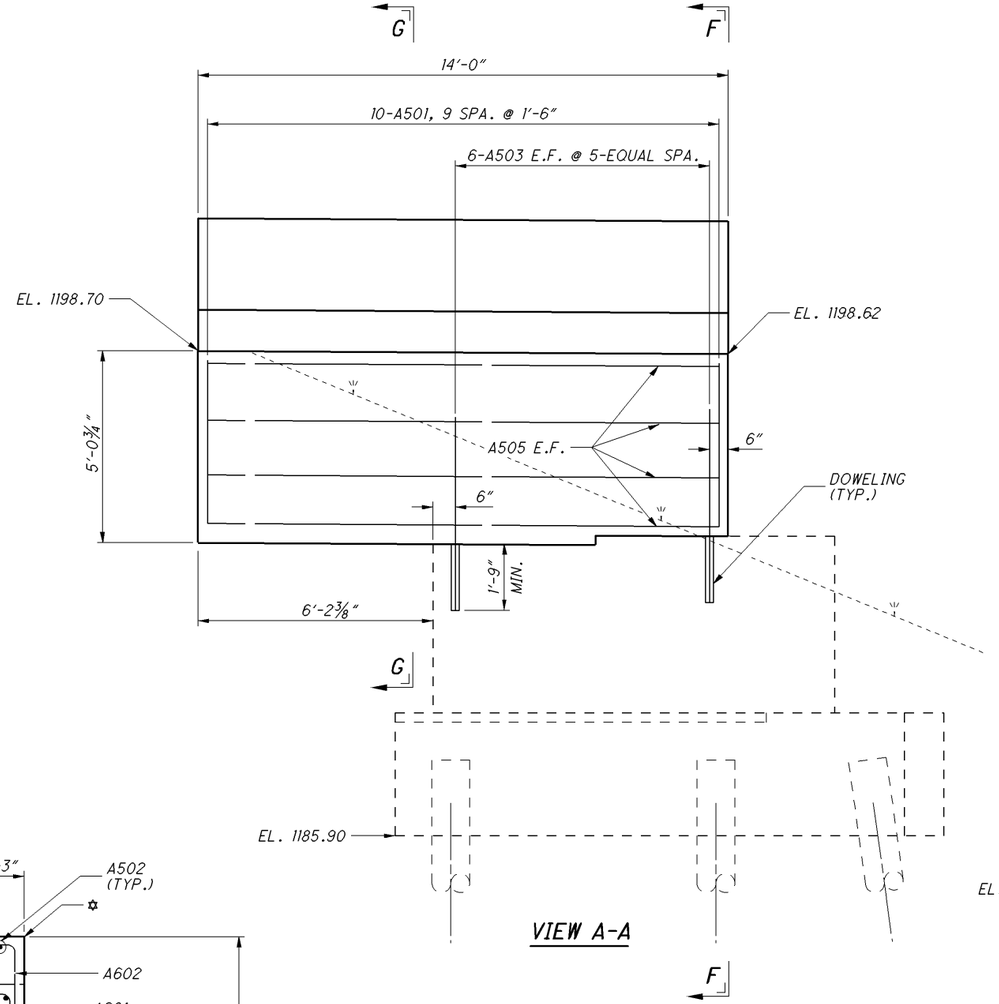
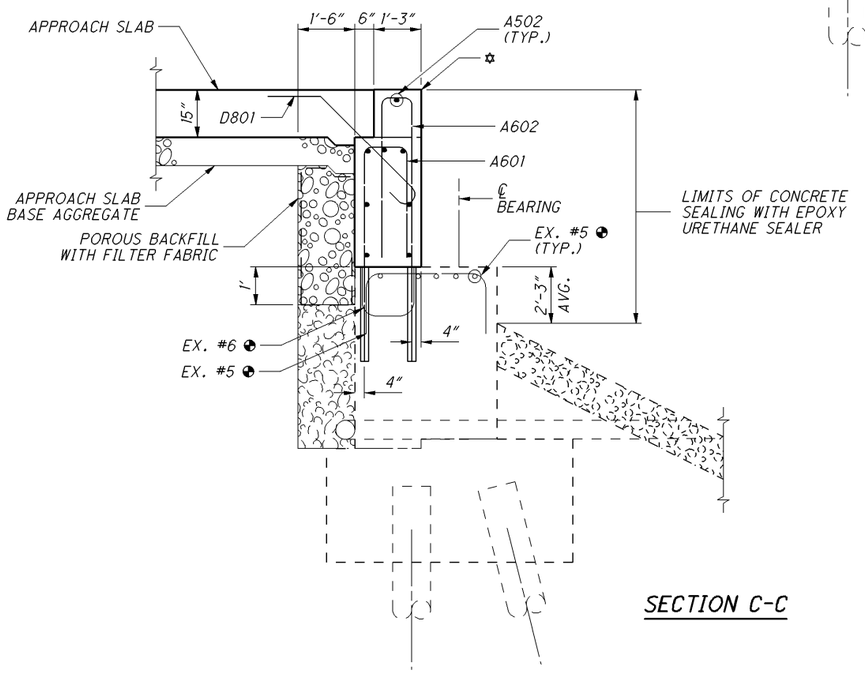


VIEW A-A



SECTION C-C

NOTES & LEGEND

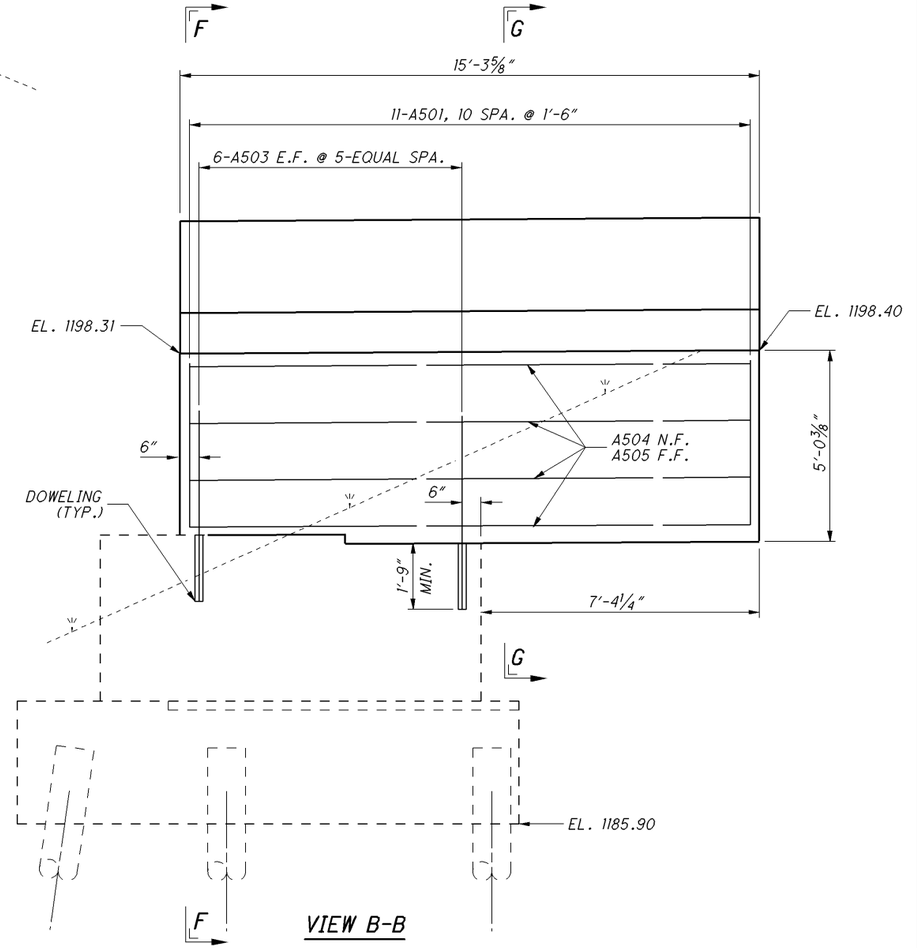
FIELD VERIFY ALL EXISTING DIMENSIONS.

SEE SHEET 11/19 FOR SECTIONS F-F AND G-G

◕ - EXISTING REINFORCING BARS SHALL BE LOCATED BY USE OF A PACHOMETER AND AVOIDED WHEN DOWELING.

✡ - EXPANSION JOINT NOT SHOWN FOR CLARITY. SEE SHEETS 17/19 AND 18/19 FOR DETAILS.

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



VIEW B-B

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

MISCELLANEOUS ABUTMENT DETAILS

BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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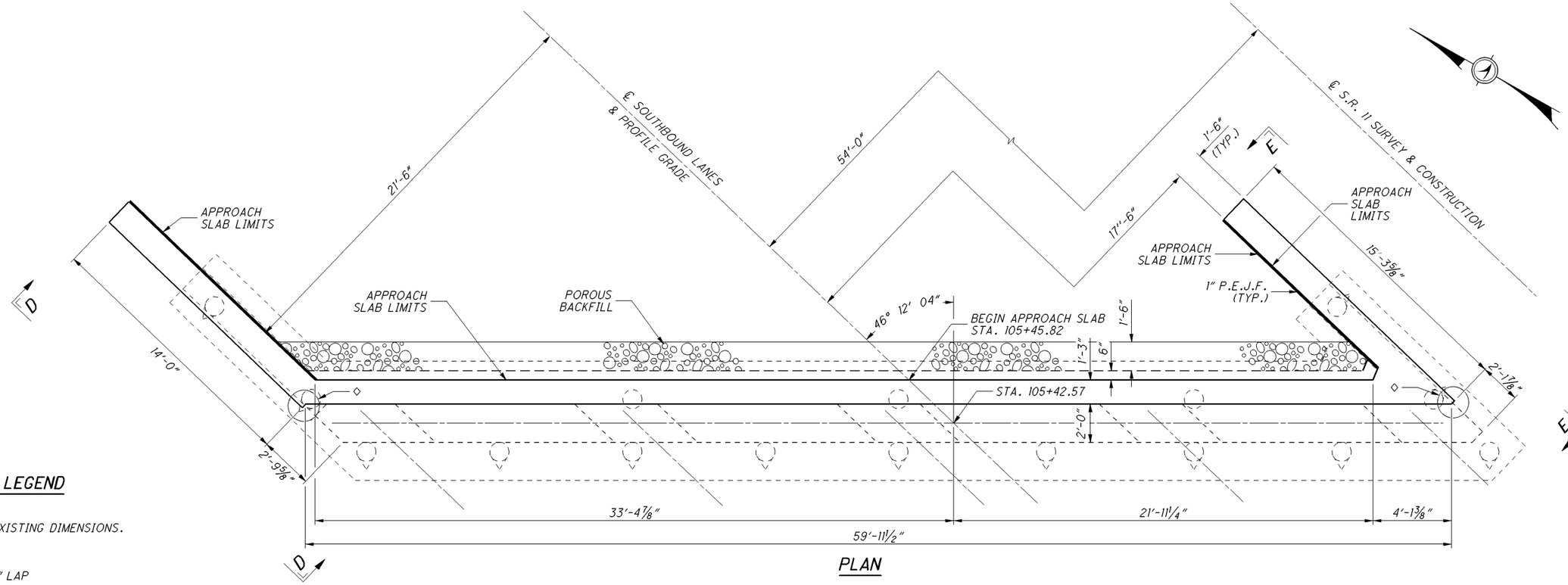


PLAN

NOTES & LEGEND

FIELD VERIFY ALL EXISTING DIMENSIONS.

MINIMUM LENGTHS:
#5 BAR - 2'-6" LAP

SEE SHEET 9/19 FOR SECTION C-C
SEE SHEET 11/19 FOR VIEWS D-D AND E-E

* - ELEVATIONS MEASURED ALONG THE BRIDGE LIMITS.

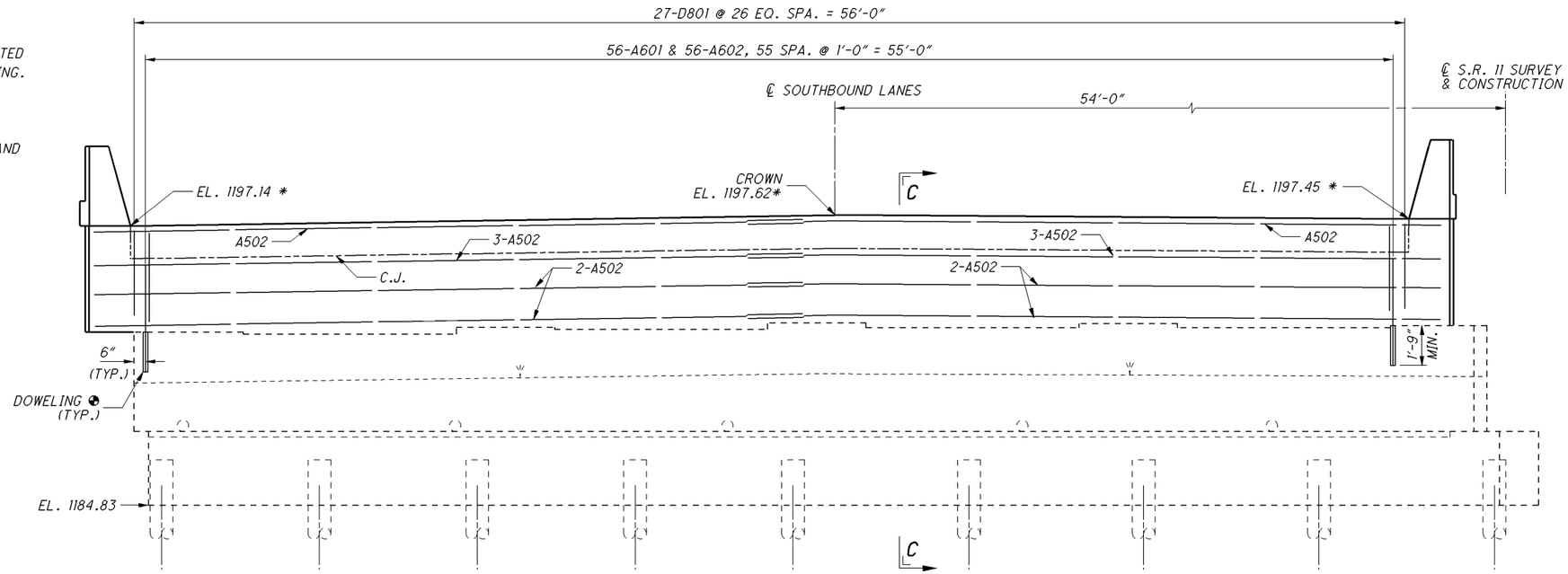
◕ - EXISTING BEAM SEAT REINFORCING BARS SHALL BE LOCATED BY USE OF A PACHOMETER AND AVOIDED WHEN DOWELING.

◇ - SEE SHEET 18/19 FOR CORNER FORMING DETAILS.

PARAPET NOT SHOWN FOR CLARITY. SEE SHEETS 15/19 AND 16/19 FOR PARAPET INFORMATION.

C.J. - CONSTRUCTION JOINT

P.E.J.F. - PREFORMED EXPANSION JOINT FILLER



ELEVATION

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000270

FORWARD ABUTMENT DETAILS
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

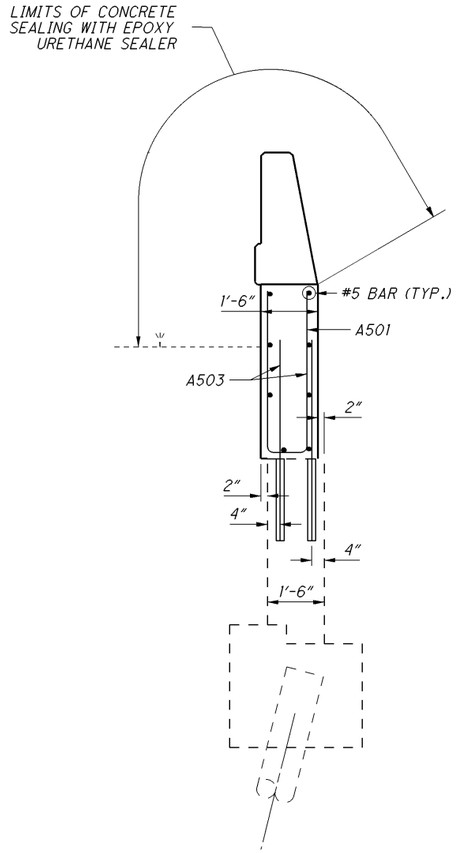
NOTES & LEGEND

FIELD VERIFY ALL EXISTING DIMENSIONS.

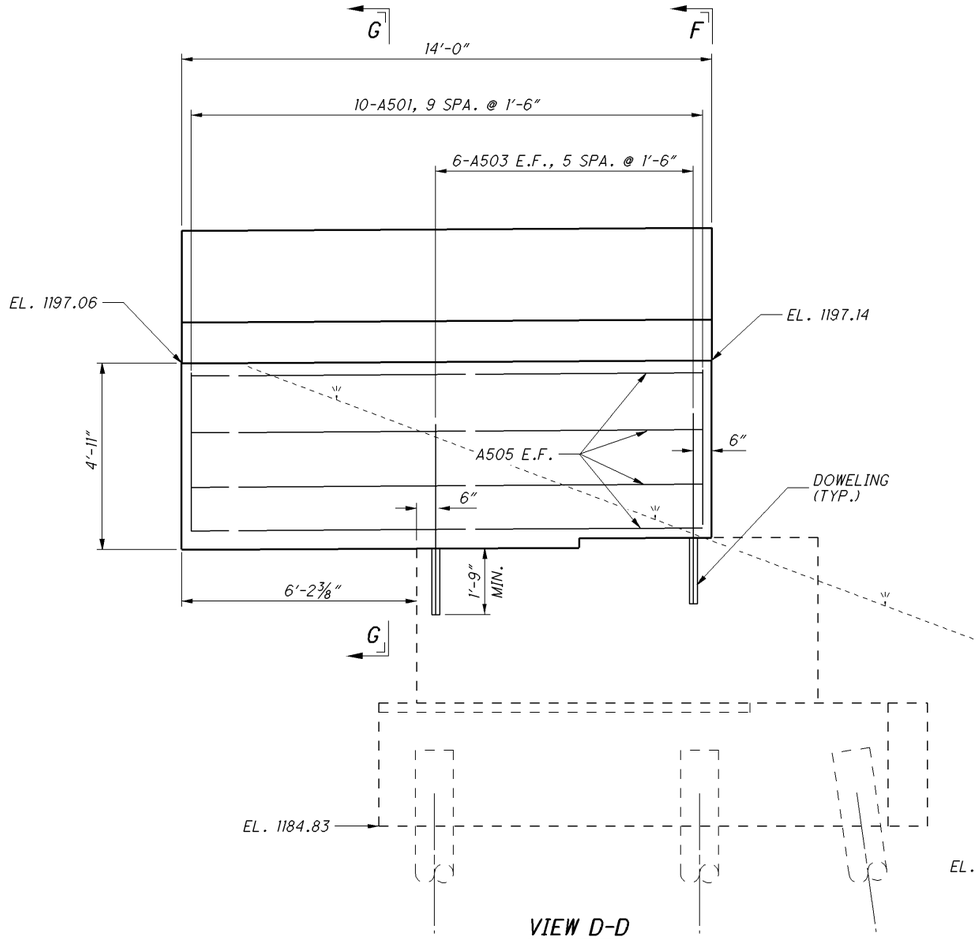
◕ - EXISTING REINFORCING BARS SHALL BE LOCATED BY USE OF A PACHOMETER AND AVOIDED WHEN DOWELING.

PARAPET REINFORCEMENT IS NOT SHOWN FOR CLARITY. SEE SHEETS 15/19 AND 16/19 FOR PARAPET INFORMATION.

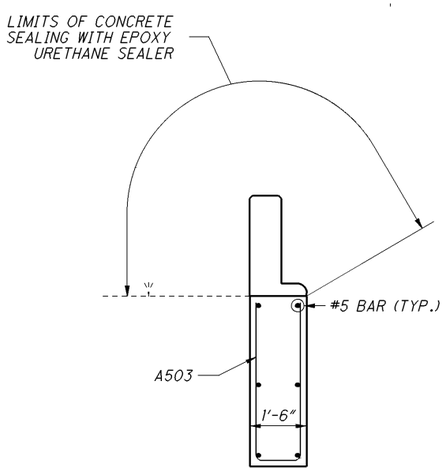
N.F. - NEAR FACE
F.F. - FAR FACE
E.F. - EACH FACE



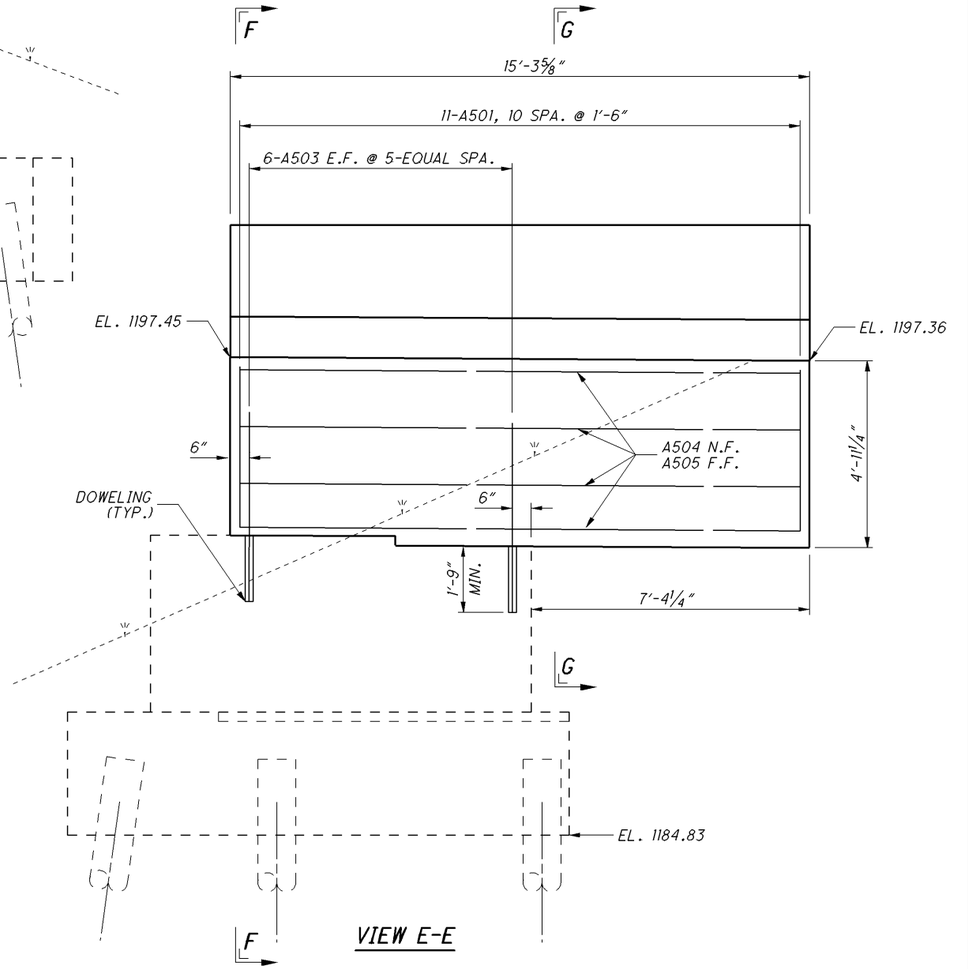
SECTION F-F



VIEW D-D



SECTION G-G



VIEW E-E

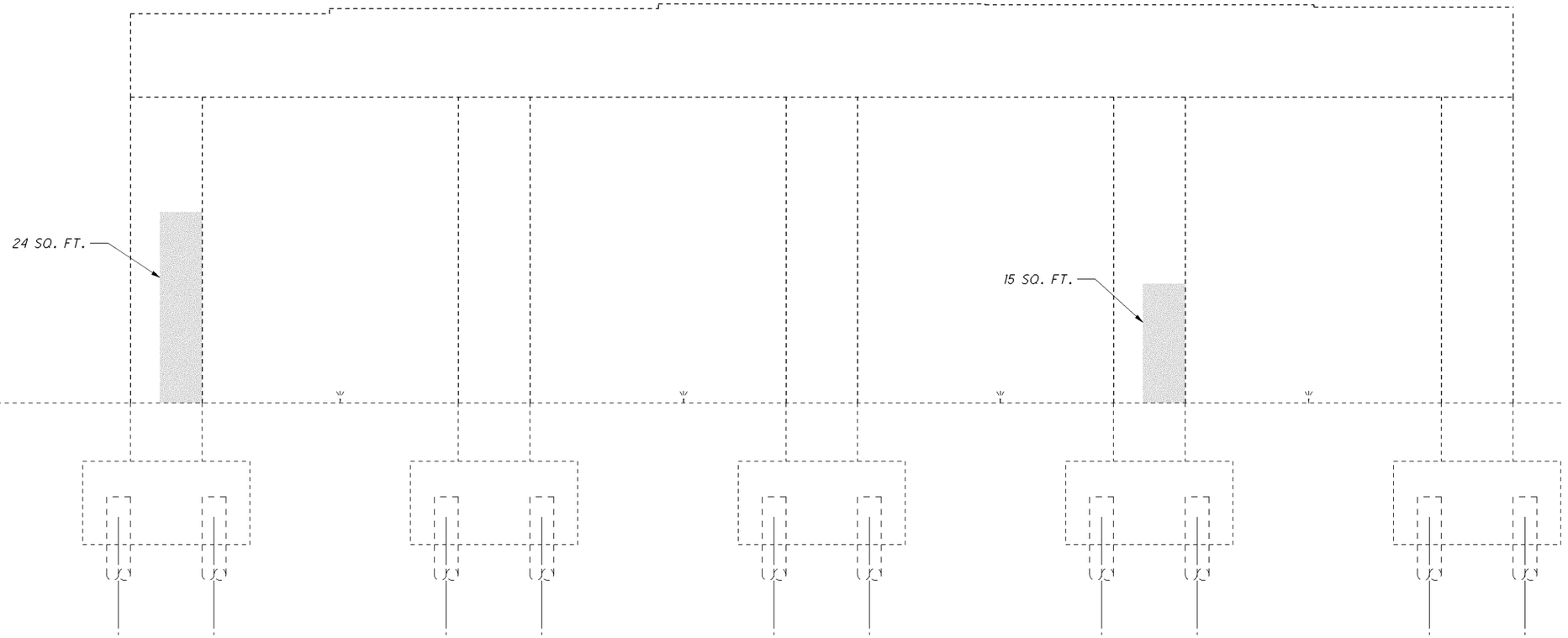
DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

MISCELLANEOUS ABUTMENT DETAILS

BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940



PIER 2

SOUTH ELEVATION VIEW

NOTES & LEGEND

- INDICATES AREAS OF PIER CONCRETE TO BE PATCHED UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE

PATCHED AREAS SHALL BE SEALED UNDER ITEM 512 - SEALING OF CONCRETE STRUCTURES, AS PER PLAN. THE COLOR OF THE NEW SEALANT SHALL MATCH THAT OF THE EXISTING.

NO REMOVAL OF EXISTING COATINGS IS REQUIRED FOR THE PIER REPAIRS AND SEALING THEREOF.

DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000270

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

PIER PATCHING DETAILS
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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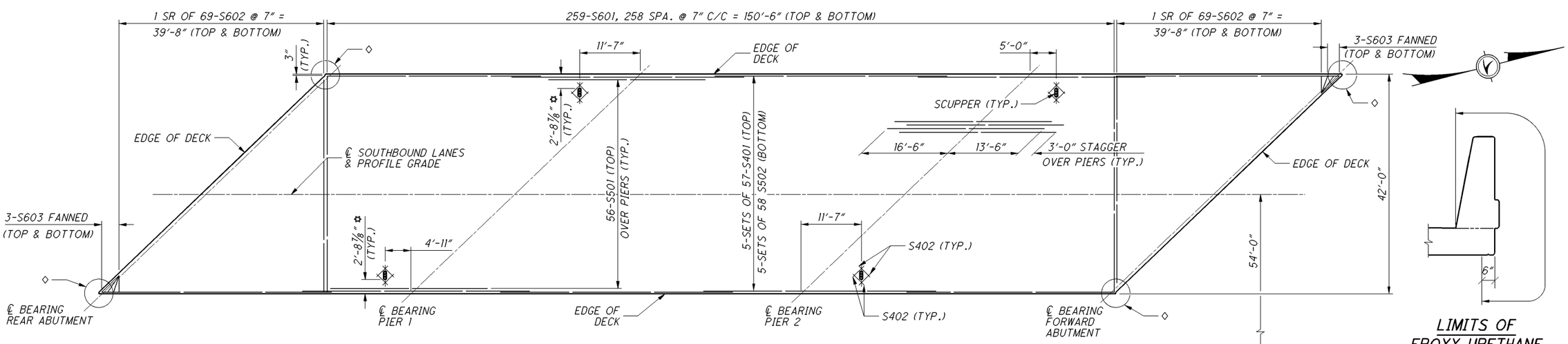
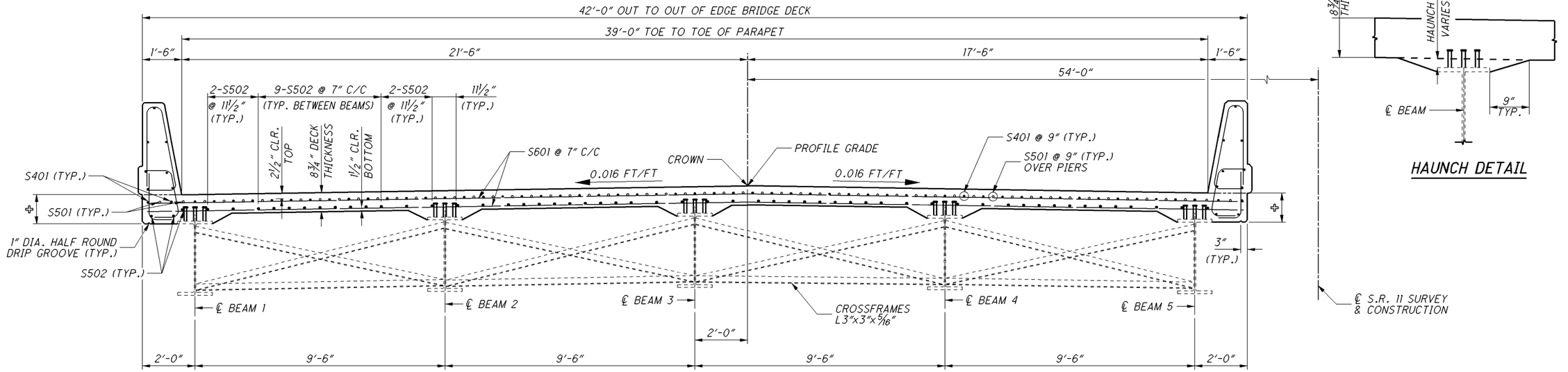


DECK REINFORCEMENT



TRANSVERSE SECTION

HAUNCH DETAIL

NOTES & LEGEND

REINFORCING STEEL MAY BE FIELD OR SHOP BENT TO ACCOMODATE THE CROWN OF THE DECK. PAYMENT SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL.

MINIMUM LAP LENGTH FOR #4 BAR = 2'-0"
MINIMUM LAP LENGTH FOR #5 BAR = 2'-6"

#4 BARS AT SCUPPERS SHALL BE PAID UNDER ITEM 509, EPOXY COATED REINFORCING STEEL.

DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 4" AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS ±3".

THE HAUNCH THICKNESS IS VARIABLE AND IT IS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE BOTTOM OF THE DECK TO THE TOP OF THE TOP FLANGE AS SHOWN IN THE HAUNCH DETAIL.

✣ - SEE TABLE ON SHEET 14/19 FOR OVERHANG & HAUNCH THICKNESS.

◇ - SEE SHEET 18/19 FOR CORNER FORMING DETAILS.

✡ - OFFSET OF SCUPPER FROM TOE OF PARAPET IS PREDICATED UPON MAINTAINING A 1" CLEARANCE, AS PER STANDARD DRAWING GSD-1-96, BETWEEN THE REAR FACE OF THE SCUPPER AND THE INSIDE TOP FLANGE OF THE FASCIA BEAM.

SEE STD. DWG. GSD-1-96 FOR ADDITIONAL SCUPPER DETAILS.

FOR PARAPET DETAILS, SEE SHEETS 15/19 AND 16/19

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

DECK PLAN AND TRANSVERSE SECTION
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
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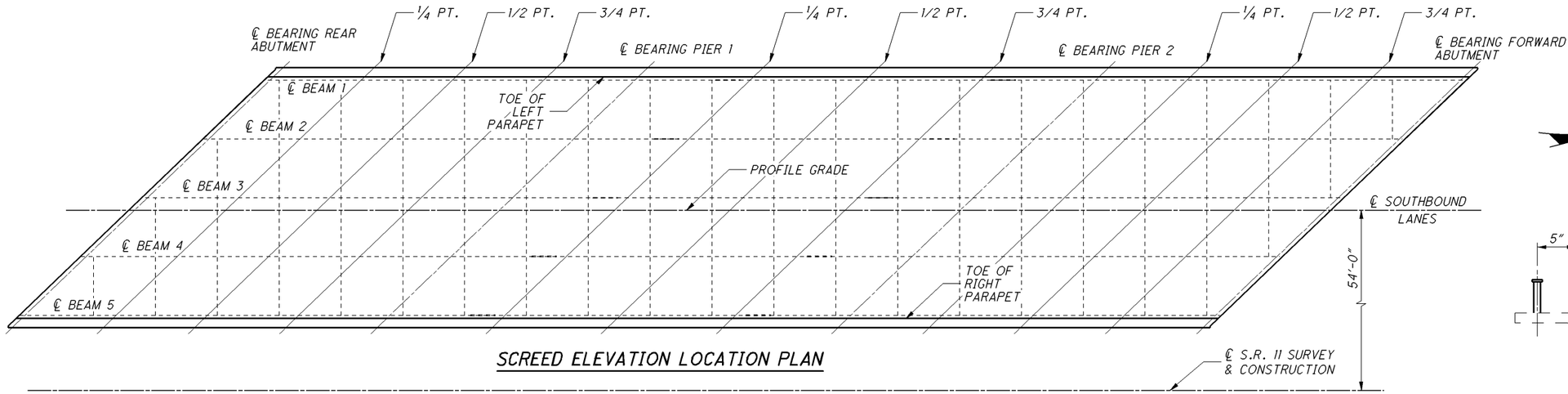
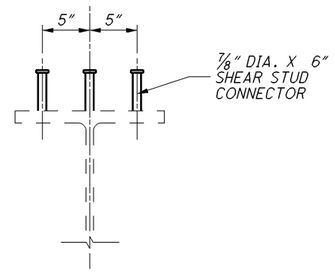
SCREED ELEVATIONS

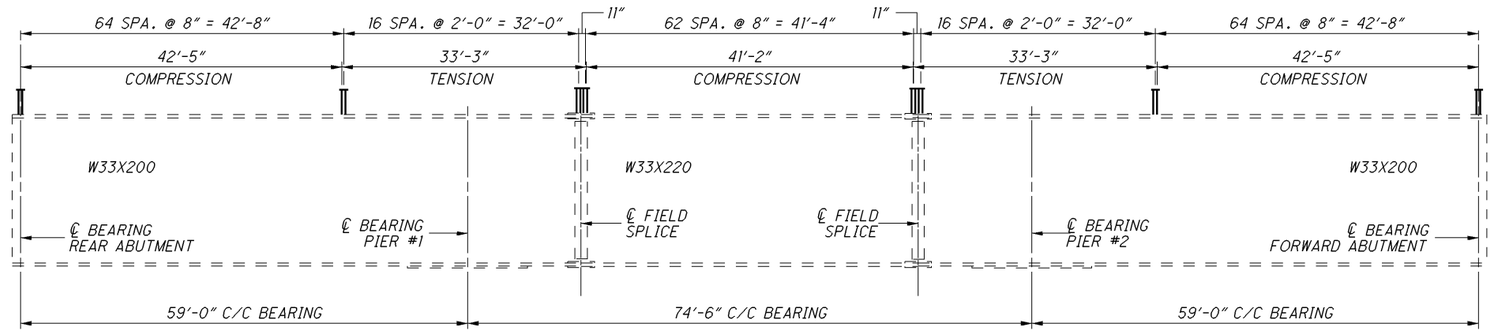
LOCATION	TOE OF LEFT PARAPET			BEAM 1			BEAM 2			BEAM 3			PROFILE GRADE		BEAM 4			BEAM 5			TOE OF RIGHT PARAPET		
	STATION	ELEVATION	OVERHANG	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	OVERHANG
BEGIN APP. SLAB	103+44.24	1198.46											103+21.82	1198.93							103+03.57	1198.76	
℄ REAR BRG.	103+72.50	1198.29	13.89	103+71.97	1198.30	4.08	103+62.06	1198.51	3.80	103+52.16	1198.72	3.56	103+50.07	1198.77	103+42.25	1198.69	3.72	103+32.34	1198.60	4.25	103+31.82	1198.60	14.06
1/4 SPAN	103+87.25	1198.21	13.80	103+86.72	1198.22	4.00	103+76.81	1198.43	3.90	103+66.91	1198.64	3.70	103+64.82	1198.68	103+57.00	1198.61	3.86	103+47.09	1198.51	4.24	103+46.57	1198.51	14.04
1/2 SPAN	104+02.00	1198.12	13.71	104+01.47	1198.13	3.92	103+91.56	1198.34	4.00	103+81.66	1198.55	3.83	103+79.57	1198.60	103+71.75	1198.52	3.99	103+61.84	1198.43	4.22	103+61.32	1198.42	14.04
3/4 SPAN	104+16.75	1198.03	13.64	104+16.22	1198.04	3.84	104+06.31	1198.25	4.09	103+96.41	1198.46	3.95	103+94.32	1198.51	103+86.50	1198.44	4.14	103+76.59	1198.34	4.22	103+76.07	1198.34	14.02
℄ PIER #1	104+31.50	1197.95	13.80	104+30.97	1197.96	4.01	104+21.06	1198.17	4.44	104+11.16	1198.38	4.21	104+09.07	1198.42	104+01.25	1198.35	4.22	103+91.34	1198.25	4.33	103+90.82	1198.25	14.13
1/4 SPAN	104+50.12	1197.84	13.68	104+49.60	1197.85	3.87	104+39.69	1198.06	4.32	104+29.78	1198.27	4.13	104+27.70	1198.31	104+19.87	1198.24	4.14	104+09.97	1198.15	4.19	104+09.44	1198.14	14.00
1/2 SPAN	104+68.75	1197.73	13.56	104+68.22	1197.74	3.63	104+58.31	1197.95	4.08	104+48.41	1198.16	3.94	104+46.32	1198.20	104+38.50	1198.13	3.93	104+28.59	1198.04	3.92	104+28.07	1198.03	13.86
3/4 SPAN	104+87.37	1197.62	13.42	104+86.85	1197.63	3.62	104+76.94	1197.84	4.09	104+67.03	1198.05	4.00	104+64.95	1198.09	104+57.12	1198.02	3.98	104+47.22	1197.93	3.90	104+46.69	1197.92	13.71
℄ PIER #2	105+06.00	1197.51	13.21	105+05.47	1197.52	3.40	104+95.56	1197.73	3.89	104+85.66	1197.94	3.85	104+83.57	1197.99	104+75.75	1197.91	3.82	104+65.84	1197.82	3.66	104+65.32	1197.81	13.46
1/4 SPAN	105+20.75	1197.42	13.24	105+20.22	1197.43	3.44	105+10.31	1197.64	3.71	105+00.41	1197.85	3.68	104+98.32	1197.90	104+90.50	1197.82	3.59	104+80.59	1197.73	3.59	104+80.07	1197.72	13.40
1/2 SPAN	105+35.50	1197.34	13.29	105+34.97	1197.35	3.48	105+25.06	1197.56	3.51	105+15.16	1197.77	3.50	105+13.07	1197.81	105+05.25	1197.74	3.35	104+95.34	1197.64	3.54	104+94.82	1197.64	13.35
3/4 SPAN	105+50.25	1197.25	13.33	105+49.72	1197.26	3.52	105+39.81	1197.47	3.32	105+29.91	1197.68	3.34	105+27.82	1197.73	105+20.00	1197.65	3.13	105+10.09	1197.56	3.48	105+09.57	1197.55	13.28
℄ FORWARD BRG.	105+65.00	1197.16	13.36	105+64.47	1197.17	3.57	105+54.56	1197.38	3.13	105+44.66	1197.59	3.16	105+42.57	1197.64	105+34.75	1197.56	2.90	105+24.84	1197.47	3.42	105+24.32	1197.47	13.23
END APP. SLAB	105+93.24	1197.00											105+70.82	1197.47							105+52.57	1197.31	



SCREED ELEVATION LOCATION PLAN



BEAM AND SHEAR CONNECTOR DETAIL



EXISTING BEAM ELEVATION

(EXAGGERATED VERTICAL SCALE)
675 SHEAR CONNECTORS PER BEAM

NOTES

THE ELEVATIONS ARE MEASURED IN FEET. THE HAUNCH THICKNESS AND OVERHANG THICKNESS ARE MEASURED IN INCHES.

SINCE THE DEFLECTION CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS IS NEGLIGIBLE, THE SCREED & FINAL ELEVATIONS ARE THE SAME.

CONNECTORS MAY BE ALTERED AT FIELD SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FLANGE SPLICE BOLTS PROVIDED THAT AT LEAST THE NUMBER OF STUDS SPECIFIED IN THE BEAM ELEVATION ARE FURNISHED.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

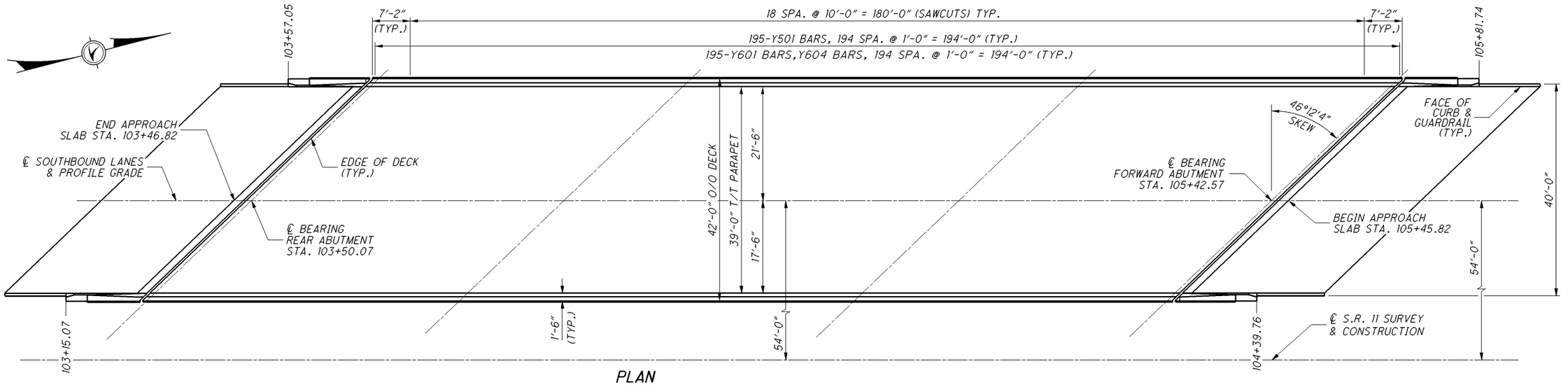
DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000270

SUPERSTRUCTURE DETAILS
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

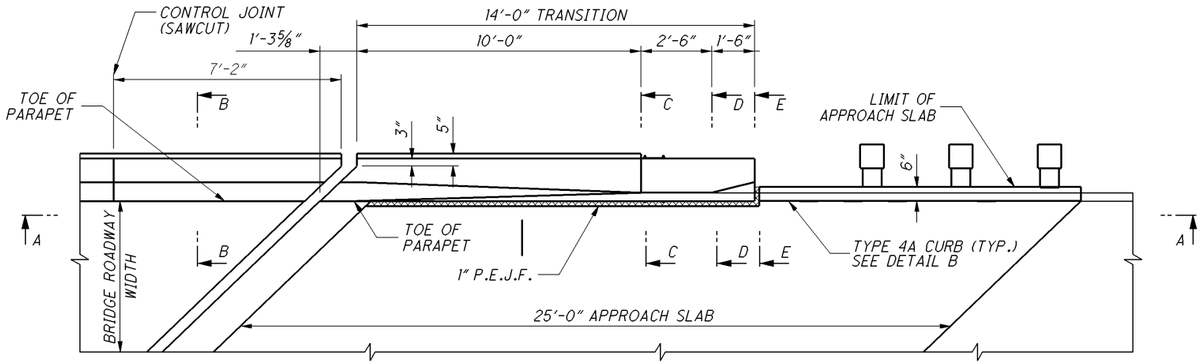
MAH-11-1.94/5.08
PID No. 82940

14 / 19

112
177

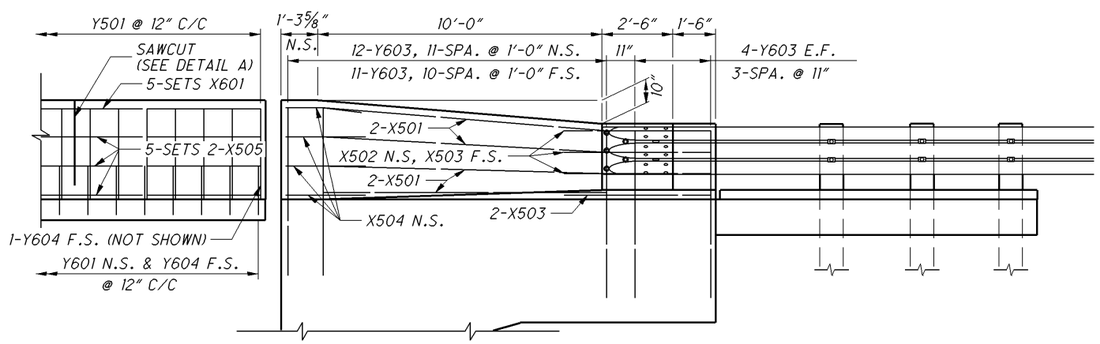


PLAN



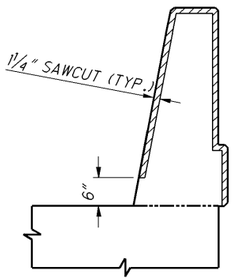
PART PLAN AT ABUTMENT

N.W. AND S.E. TRANSITIONS



VIEW A-A

N.W. AND S.E. TRANSITIONS



DETAIL A

(SECTION THROUGH SAWCUT)
SAWCUT PERIMETER = 7'-6"

NOTES & LEGEND

QUANTITIES:
QUANTITIES OF CONCRETE, REINFORCING STEEL, DEFLECTION JOINT SAWCUT AND CAULKING MATERIAL FOR PARAPET ARE INCLUDED WITH ITEM 511 HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET).

FOR BRIDGE TERMINAL ASSEMBLY, SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

MIN. LAP SPLICES: #4 BAR = 2'-0"
#5 BAR = 2'-6"
#6 BAR = 3'-0"

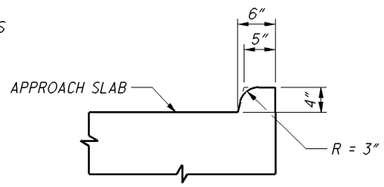
FOR ADDITIONAL REINFORCEMENT DETAILS, SEE STD. DRAWING SBR-1-99.

FOR SECTIONS B, C, D, E AND DETAIL PLAN AND ELEVATION VIEWS FOR THE N.W. AND S.E. TRANSITIONS, SEE SHEET 16/19.

N.S. - NEAR SIDE
F.S. - FAR SIDE
E.F. - EACH FACE

THE FOLLOWING REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO ENSURE PROPER FIT:
X503
Y603

VERTICAL REINFORCING STEEL SHALL CLEAR THE CONTROL JOINTS BY 3" MINIMUM.



DETAIL B

TYPE 4A CURB ON APPROACH SLAB

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

PARAPET DETAILS
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

15 / 19

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177

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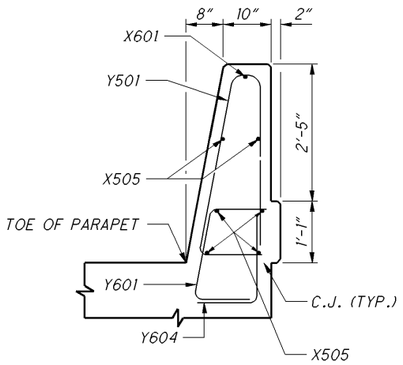
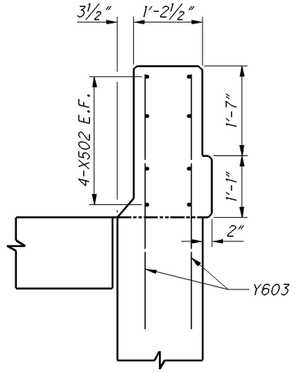
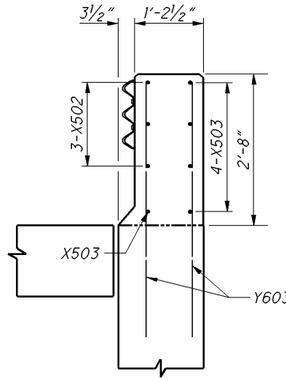


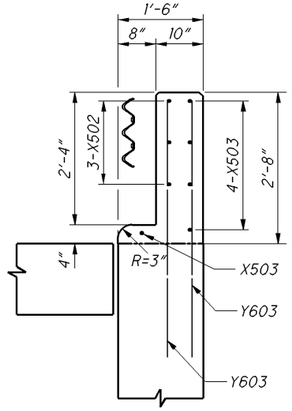
SECTION B-B



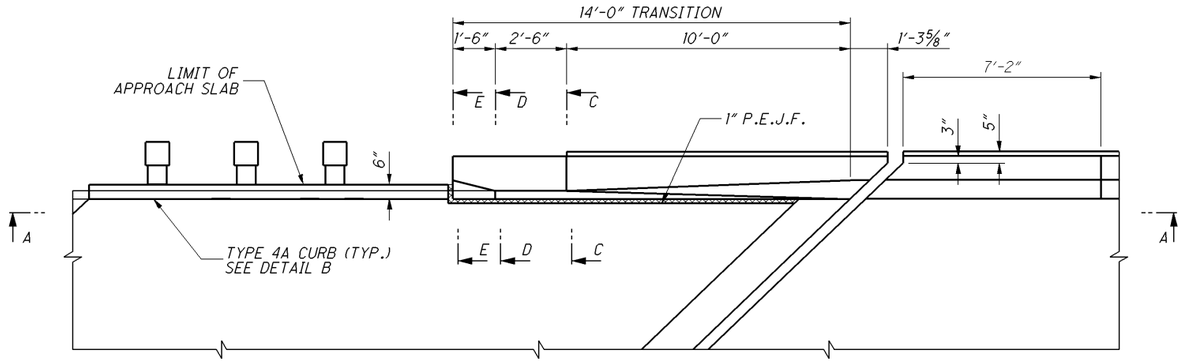
SECTION C-C



SECTION D-D

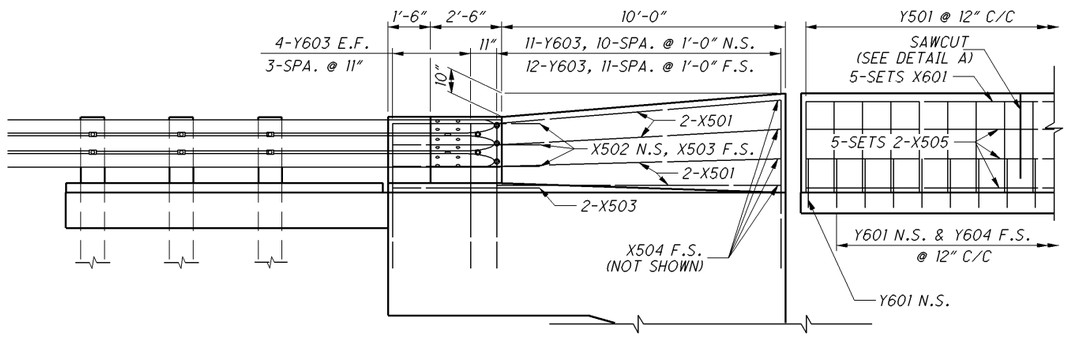


SECTION E-E



PART PLAN AT ABUTMENT

N.E. AND S.W. TRANSITIONS



VIEW A-A

N.E. AND S.W. TRANSITIONS

NOTES & LEGEND

QUANTITIES:

QUANTITIES OF CONCRETE, REINFORCING STEEL, DEFLECTION JOINT SAWCUT AND CAULKING MATERIAL FOR PARAPET ARE INCLUDED WITH ITEM 511 HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET).

FOR BRIDGE TERMINAL ASSEMBLY, SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

MIN. LAP SPLICES: #4 BAR = 2′-0″
#5 BAR = 2′-6″
#6 BAR = 3′-0″

FOR ADDITIONAL REINFORCEMENT DETAILS, SEE STD. DRAWING SBR-1-99.

FOR DETAILS A & B AND PLAN & ELEVATION VIEWS OF THE N.E. AND S.W. TRANSITIONS, SEE SHEET 15/19.

FOR DECK RAIL REINFORCEMENT, SEE SHEET 15/19.

N.S. - NEAR SIDE
F.S. - FAR SIDE
E.F. - EACH FACE

THE FOLLOWING REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO ENSURE PROPER FIT:
X503
Y603

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

PARAPET DETAILS
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

16/19

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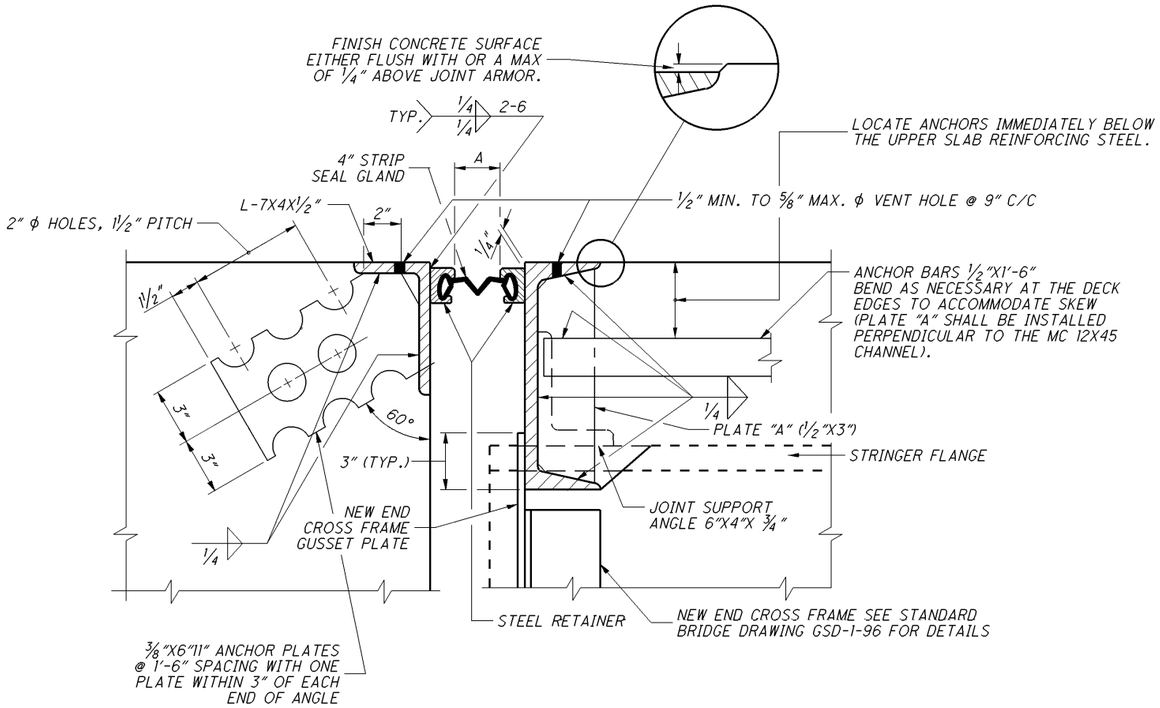

EXPANSION JOINT DETAIL

4" EXPANSION JOINT OPENING		
AMBIENT TEMP (°F)	DIMENSION "A"	
	REAR ABUT.	FWD. ABUT.
30°	2.30"	2.36"
40°	2.27"	2.29"
50°	2.23"	2.21"
60°	2.20"	2.14"
70°	2.17"	2.07
80°	2.14"	2.00
90°	2.11"	1.93

DIMENSION "A"

FOR ADDITIONAL INFORMATION SEE STD. DWG. EXJ-4-87. THE EXPANSION JOINT SEAL GLAND MUST BE A 4" STRIP.

NOTES

DETAIL SECTION IS TAKEN PERPENDICULAR TO BACKWALL.

SEE SHEET 18/19 FOR JOINT DETAILS AT PARAPET

FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE STANDARD DRAWING EXJ-4-87.

FOR NEW END CROSS FRAME DETAILS, SEE STANDARD BRIDGE DRAWING GSD-1-96.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

JOINT DETAILS
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

17 / 19

115
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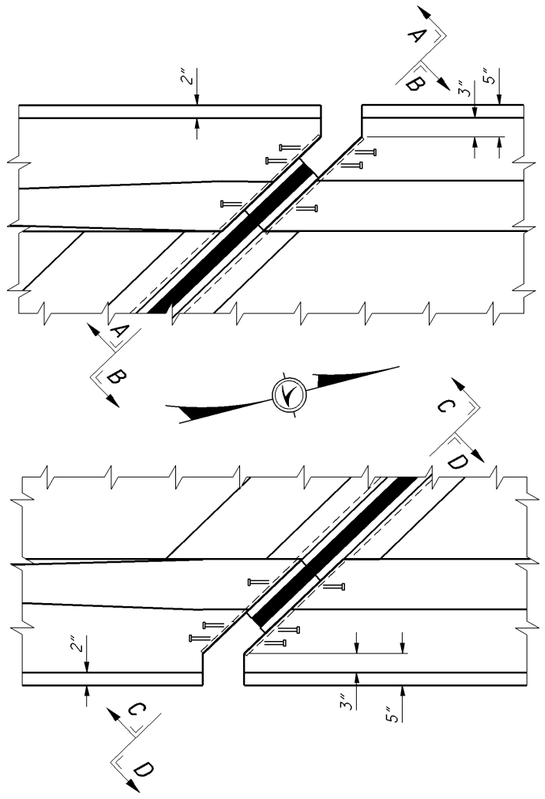
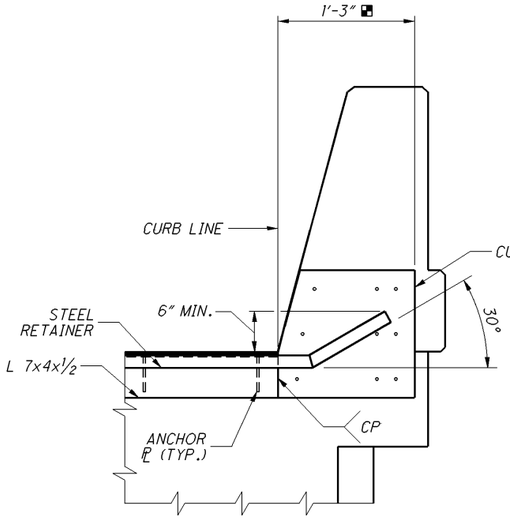
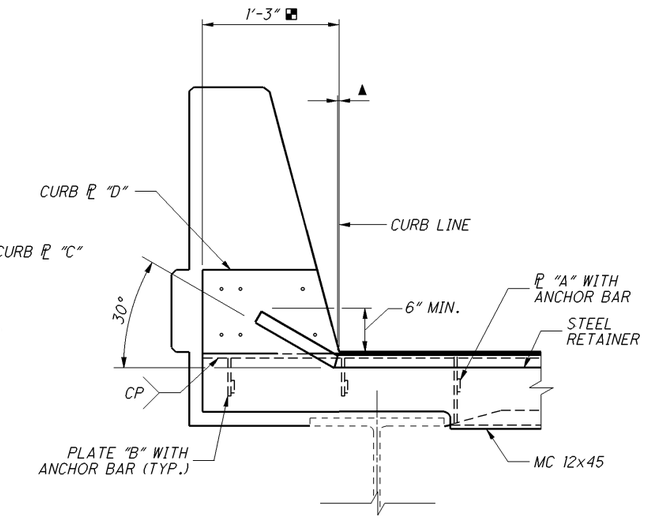


PARTIAL PLAN, PARAPET JOINT DETAILS

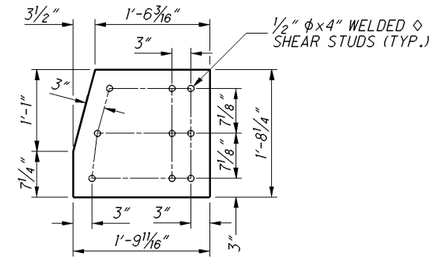
REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR



SECTION A-A

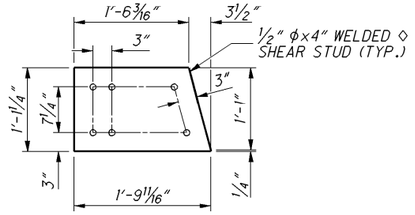


SECTION B-B



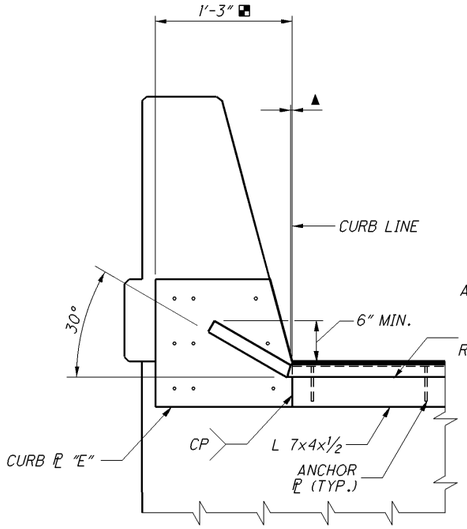
CURB PLATE "C"

(½" THICK PLATE)

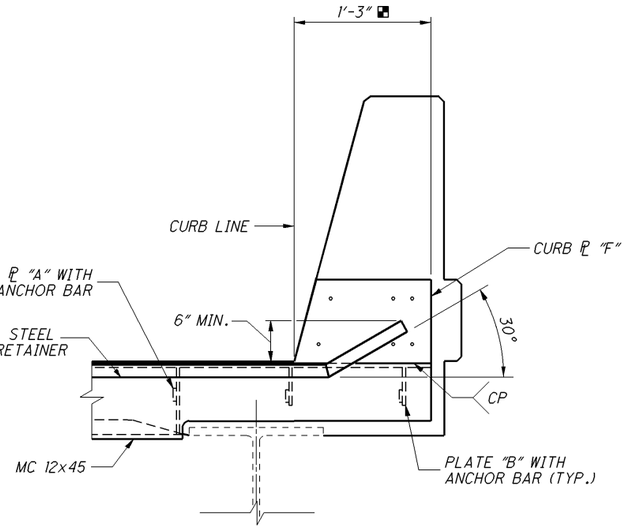


CURB PLATE "D"

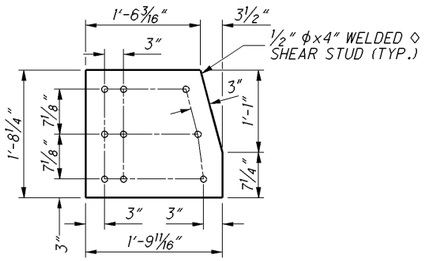
(½" THICK PLATE)



SECTION C-C

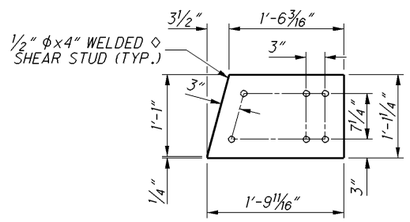


SECTION D-D



CURB PLATE "E"

(½" THICK PLATE)



CURB PLATE "F"

(½" THICK PLATE)

NOTES & LEGEND

SEE SHEET 17/19 FOR JOINT INSTALLATION DETAIL AND SETTINGS.

FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE STANDARD DRAWING EXJ-4-87.

◇ - SHEAR STUDS MUST BE WELDED AT AN ANGLE TO MAINTAIN COVER IN PARAPET.

■ - MEASURED PERPENDICULAR TO PARAPET.

▲ - 0" TO ½" MAX. AT BREAKPOINT IN RETAINER

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000270	

JOINT DETAILS
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

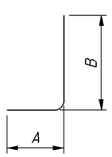
MAH-11-1.94/5.08
PID No. 82940

18/19

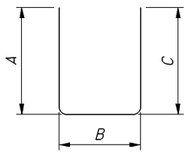
116/177

MARK	NUMBER REAR	NUMBER FWD.	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENTS													
A501	21	21	42	9′-6″	416	2	4′-3 ½″	1′-2″	4′-3 ½″				
A502	16	16	32	31′-1″	1037	STR							
A503	24	24	48	4′-3″	213	STR							
A504	4	4	8	14′-11″	124	STR							
A505	12	12	24	13′-8″	342	STR							
A601	56	56	112	8′-11″	1500	2	4′-11″	1′-3″	3′-1″				
A602	56	56	112	11′-0″	1850	2	4′-4″	0′-9″	6′-3″				
D801	27	27	54	5′-11″	853	18	3′-9″	1′-0″	1′-0″				
SUB-TOTAL					6335								

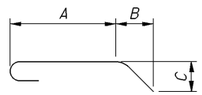
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S401	285	40′-6″	7710	STR							
S402	16	3′-0″	32	STR							
S501	112	30′-0″	3504	STR							
S502	290	40′-11″	12376	STR							
S601	518	41′-8″	32418	STR							
	4 SR	3′-1″									
S602	OF	TO	9172	STR							0′-6 ¾″
	69	41′-2″									
S603	12	3′-0″	54	STR							
X501	32	10′-0″	334	STR							
X502	12	5′-6″	69	25	1′-8″	2′-5″	1′-4 ¼″	0′-1 ½″	0′-5″		
X503	20	5′-6″	115	STR							
X504	16	3′-2″	53	STR							
X505	60	40′-11″	2561	STR							
X601	10	41′-4″	621	STR							
Y501	390	7′-5″	3017	23	1′-1″	3′-2″	3′-0″			0′-2 ¾″	
Y601	390	3′-6″	2050	28	1′-8″	1′-1″					
Y603	124	5′-4″	993	STR							
Y604	390	2′-7″	1513	1	1′-1″	1′-8″					
SUB-TOTAL			76,592								



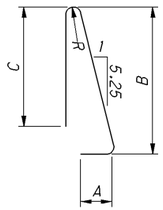
TYPE-1



TYPE-2



TYPE-18



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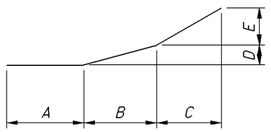

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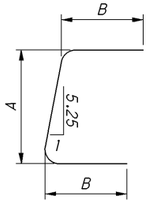

TYPE-28

NOTES

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

THE BAR SIZE IS INDICATED BY THE FIRST DIGIT IN THE BAR MARK. FOR EXAMPLE, A501 IS A #5 BAR.

THE "R" DESCRIBES THE INSIDE RADIUS OF THE BEND. ALL OTHER DIMENSIONS ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.

THE FOLLOWING REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO ENSURE PROPER FIT:

A501
X503
Y603

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000270

REINFORCEMENT STEEL LIST
BRIDGE NO. MAH-11-0194L
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

19 / 19

117
177

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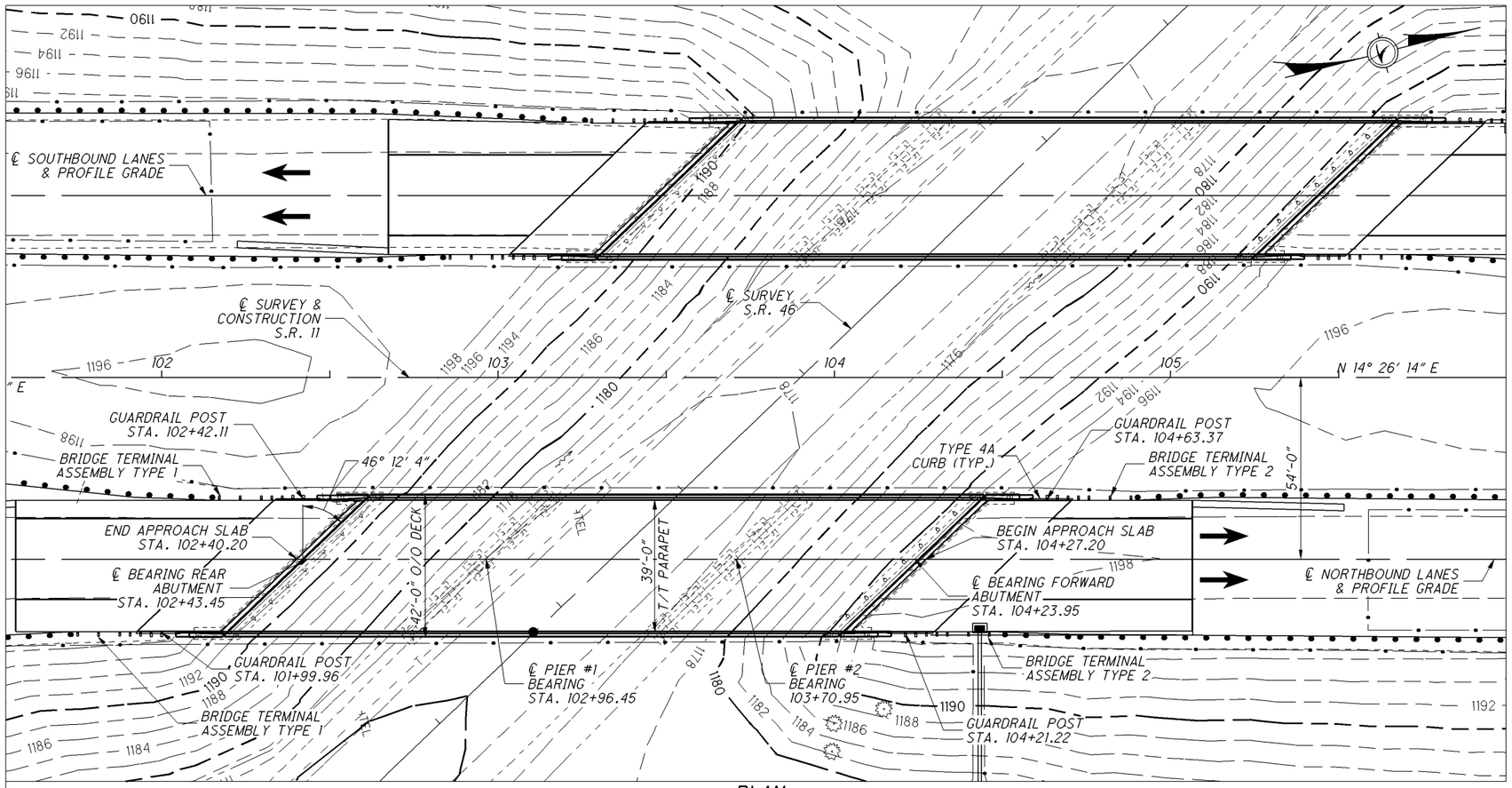
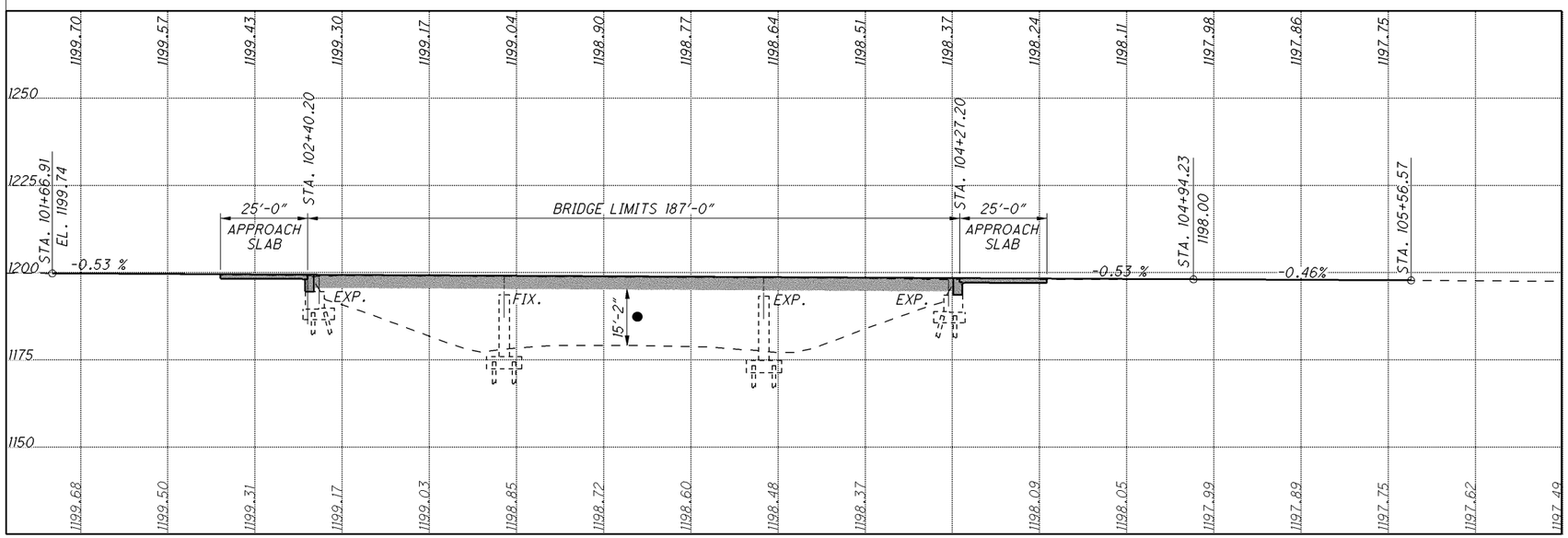


PLAN



PROFILE ALONG PROFILE GRADE LINE

BENCHMARK DATA

FOR BENCHMARK AND OTHER PERTINENT INFORMATION, SEE ROAD SHEETS

NOTES

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

DESIGN TRAFFIC:
2012 ADT = 14970 2012 ADTT = 2395
2032 ADT = 16785 2032 ADTT = 2685
DIRECTIONAL DISTRIBUTION = 0.53

LEGEND

● 15'-2" ACTUAL MINIMUM VERTICAL CLEARANCE
14'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
FIX. = FIXED
EXP. = EXPANSION

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 53'-0", 74'-6", 53'-0" C/C BEARINGS
ROADWAY: 38'-0" F/F SAFETY CURB
LOADING: CF 2000 (1957)
SKEW: 46° 12' 4" LF
WEARING SURFACE: 3" MICROSILICA MODIFIED CONCRETE OVERLAY
APPROACH SLABS: 25'-0" LONG (AS-1-67)
ALIGNMENT: STRAIGHT
CROWN: 3/16 IN./FT.
STRUCTURAL FILE NUMBER: 5000300
DATE BUILT: 7/1/1972
DISPOSITION: DECK AND PART OF SUBSTRUCTURE TO BE REPLACED

PROPOSED STRUCTURE

PROPOSED WORK:
1. REMOVE DECK, ABUTMENT BACKWALLS, PARAPETS, APPROACH SLABS, EXPANSION JOINTS, SCUPPERS, END CROSS FRAMES AND PORTIONS OF THE WING WALLS
2. RECONSTRUCT DECK, ABUTMENT BACKWALLS, WINGWALLS, PARAPETS; REPLACE THE EXPANSION JOINTS AND THE END CROSS-FRAMES
3. PAINT BEAMS, BEARINGS AND ALL OTHER EXISTING AND NEW STEEL
4. SEAL CONCRETE SURFACES

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 53'-0", 74'-6", 53'-0" C/C BEARINGS
ROADWAY: 39'-0" TOE/TOE PARAPET
LOADING: HS20-44 CASE II AND ALTERNATE MILITARY
SKEW: 46° 12' 4" LF
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: STRAIGHT
CROWN: 0.016 FT/FT
COORDINATES: LATITUDE 40° 55' 42" N
LONGITUDE 80° 43' 14" W

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DATE 11/1/11
REVIEWED TAA
STRUCTURE FILE NUMBER 5000300
DRAWN AP
REVISED
DESIGNED AP
CHECKED CJW

MAHONING COUNTY
STA. 102+40.20
STA. 104+27.20

SITE PLAN
BRIDGE NO.: MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

1/20

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

A-1-69	DATED (REVISED)	7-19-02
AS-1-81	DATED (REVISED)	7-19-02
EXJ-4-87	DATED (REVISED)	7-19-02
GSD-1-96	DATED (REVISED)	7-19-02
SBR-1-99	DATED (REVISED)	7-19-02
PCB-91	DATED (REVISED)	7-19-02
RB-1-55	DATED (REVISED)	2-02-59

DESIGN SPECIFICATIONS

THE SUPERSTRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH ED. 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

THE SUPERSTRUCTURE IS DESIGNED FOR:
HS20-44, CASE II AND THE ALTERNATE MILITARY LOADING.

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

THE SUBSTRUCTURE WAS NOT ANALYZED.

DESIGN DATA

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60 KSI.

STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

EXISTING BRIDGE PLANS

MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO OR AT THE ODOT DISTRICT 4 OFFICE IN AKRON, OHIO.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL WITH 2 ½" CONCRETE COVER.

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

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). 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. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

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. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

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 STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PER- FORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

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.

CUT LINE CONSTRUCTION JOINT PREPARATION

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 THE 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 PACK 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

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.

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.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER STRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING THE EXISTING STRUCTURES TO PERMIT RESETTING OF THE ABUTMENT BEARINGS.

ALL JACKING AND BEARING RESETTING SHALL BE PERFORMED PRIOR TO THE PLACEMENT OF THE NEW DECK.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

IF, DURING THE JACKING OPERATIONS, DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATIS- FACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. THE DEPARTMENT WILL NOT PAY FOR THE COST OF REQUIRED REPAIRS.

THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

ITEM 516 - BEARING DEVICE, ROCKER, AS PER PLAN

THIS ITEM SHALL ENCOMPASS ALL LABOR AND MATERIALS NECESSARY TO REPLACE AN EXISTING ROCKER BEARING. THIS WORK SHALL INCLUDE: THE DISSEMBLY OF THE EXISTING BEARING; REMOVAL AND GRINDING OF EXISTING WELDS; FURNISHING AND INSTALLATION OF THE NEW BEARING; ALIGNMENT OF THE NEW BEARING PRIOR TO WELDING SUCH THAT THE ROCKER WILL BE VERTICAL AT 60 DEGREES F.; PROVIDING ADEQUATE SHIMMING SUCH THAT NO BEAMS AND/OR BEARING DEVICES ARE FLOATING, AND; PAINTING.

BEARINGS TO BE REPLACED ARE: REAR ABUTMENTS BEAMS 1 AND 5; FORWARD ABUTMENT BEAMS 1 AND 5.

THE NEW BEARINGS SHALL CONSIST OF ROCKER R-100 AS PER STD DRAWING RB-1-55, REV. 2-2-59.

ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MAERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR THE ITEM.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN: PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGHPRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX DESIGN 4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, AS PER PLAN.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11

CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000300

GENERAL NOTES
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/ 5.08
PID No. 82940

2 / 20

119
177

DECK PLACEMENT DESIGN ASSUMPTIONS:

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 1.28 KIPS FOR A TOTAL MACHINE LOAD OF 10.24 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

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

CONCRETE PARAPETS

CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1-1/4" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAWCUTS AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ½ INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN: IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ITEM 511 - CLASS HP CONCRETE, AS PER PLAN

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
ALL SUPERSTRUCTURE, BRIDGE DECK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)
MIX 4, 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	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

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

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, CU YD
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN, CU YD

ITEM 513 - STRUCTURAL STEEL MEMBERS. LEVEL UF, AS PER PLAN

THIS ITEM INCLUDES THE INSTALLATION OF THE PROPOSED STRUCTURAL MEMBERS SUPPLIED BY THE FABRICATOR. THE FABRICATOR WILL DELIVER THE END CROSS FRAMES TO THE PROJECT SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK ITEMS REQUIRED TO INSTALL THE END CROSS FRAMES INCLUDING UNLOADING THE END CROSS FRAMES, THE PURCHASE AND INSTALLATION OF MISCELLANEOUS STEEL ITEMS REQUIRED UNDER THIS ITEM.

THE FABRICATOR IS TO SHOP APPLY A PRIME COAT OF PAINT TO THE END CROSS FRAMES IN ACCORDANCE WITH CMS 708.01. THE CONTRACTOR WILL PROVIDE THE FABRICATOR WITH A MINIMUM OF A 7 DAY NOTICE TO ALLOW THE FABRICATOR TO ARRANGE FOR DELIVERY.

STORAGE OF THE END CROSS FRAMES WILL NOT BE PERMITTED AT ANY LOCATION OTHER THAN THE FABRICATOR'S FACILITY.

ITEM 530 - STRUCTURE MISC.: SALT REMEDIATION FOR STRUCTURAL STEEL PAINTING.

IN ADDITION TO THE REQUIREMENTS OF C&MS 514.13 SURFACE PREPERATION, TEST EXISTING STEEL SURFACES FOR CHLORIDE CONTAMINANTS, SOLUBLE FERROUS ION LEVELS, AND SULFATE CONTAMINANTS PRIOR TO COATING APPLICATION.

USE RELIABLE, REPRODUCIBLE TEST METHODS. THESE TESTS SHALL USE EXTRACT SOLUTIONS THAT ARE ACIDIC, FACTORY PRE-MEASURED, PRE-PACKAGED AND OF UNIFORM CONCENTRATION. THE SOLUTIONS SHALL BE MERCURY FREE. THE EXTRACTION TEST CONTAINER SHALL CREATE A SEALED, ENCAPSULATED ENVIRONMENT DURING SALT ION EXTRACTION FROM HORIZONTAL, VERTICAL, CURVED, SMOOTH, PITTED AND ROUGH STEEL SURFACES. ALL SALT ION CONCENTRATION SHALL BE DIRECTLY MEASURED IN MICROGRAMS PER SQUARE CENTIMETER OR GRAINS PER SQUARE INCH.

PERFORM THREE TESTS FOR THE FIRST 1000 SQUARE FEET AND ONE TEST FOR EACH ADDITIONAL 2000 SQUARE FEET OR PART THEREOF. THE ENGINEER WILL SELECT TEST LOCATIONS AT AREAS OF COATING FAILURE AND AREAS OF CORROSION PITTING. RE-BLAST TESTED AND CLEANED AREAS AND RE-TEST UNTIL ALL REQUIRED TESTS SHOW RESULTS LESS THAN 7 MICROGRAMS PER SQUARE CENTIMETER (0.0007 GRAINS PER SQUARE INCH) OF CHLORIDE CONTAMINANTS, LESS THAN 10 MICROGRAMS PER SQUARE CENTIMETER (0.001 GRAINS PER SQUARE INCH) OF SOLUBLE FERROUS ION LEVELS, OR LESS THAN 17 MICROGRAMS PER SQUARE CENTIMETER (0.0017 GRAINS PER SQUARE INCH) OF SULFATE CONTAMINANTS. METHODS OF REMOVAL OF SOLUBLE SALT CONTAMINATION MAY INCLUDE ABRASIVE BLAST CLEANING, HIGH PRESSURE WATER RINSING, STEAM CLEANING, AND CLEANING USING A SOLUTION OF WATER WASHING AND SOLUBLE SALTS REMOVER. THE SOLUBLE SALTS REMOVER SHALL BE BIODEGRADABLE, NONTOXIC, NONCORROSIVE, AND AFTER APPLICATION, SHALL NOT INTERFERE WITH PRIMER ADHESION.

CONTAIN, COLLECT, CHARACTERIZE AND LEGALLY DISPOSE OF ALL WASTE WATER AND SLUDGE GENERATED DURING THE WORK. DO NOT MIX WASTE WATER WITH STORM WATER. DO NOT DISCHARGE ANY WASTE WATER WITHOUT THE APPROPRIATE REGULATORY PERMITS. MANAGE WASTE WATER AND SLUDGE IN ACCORDANCE WITH ORC CHAPTER 6111 AND ALL OTHER LAWS, REGULATIONS, PERMITS AND LOCAL ORDINANCES RELATING TO THIS WASTE. WASTE WATER MANAGEMENT IS INCIDENTAL TO THE WORK UNLESS OTHERWISE SPECIFIED IN THE CONTRACT.

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE TESTING, REMOVAL, CONTAINMENT, COLLECTION, CHARACTERIZATION AND DISPOSAL OF THE SOLUBLE SALT CONTAMINATION FROM THE STRUCTURAL STEEL ON A LUMP BASIS FOR ITEM 530E00200 SPECIAL - STRUCTURE MISC.: SALT REMEDIATION FOR STRUCTURAL STEEL PAINTING.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

GENERAL NOTES
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/ 5.08
PID No. 82940

ESTIMATED QUANTITIES (01/BRO/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/20
202	22900	134	SQ YD	APPROACH SLAB REMOVED				134	
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	
503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
509	10001	78076	POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN	6335		71741		3/20
510	10000	272	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	272				
511	45700	50	CU YD	CLASS C CONCRETE, ABUTMENT	50				
511	50001	235	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			235		3/20
511	50101	66	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			66		3/20 16/20 17/20
511	52000	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP	
512	10100	601	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	141	10	450		
512	74000	62	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	62				
513	10001	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN			LUMP		3/20
513	20000	2880	EACH	WELDED STUD SHEAR CONNECTORS (6" HT.)			2880		
514	00050	11200	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			11200		
514	00056	11200	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			11200		
514	00060	11200	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			11200		
514	00066	11200	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			11200		
514	00504	16	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			16		
514	10000	10	EACH	FINAL INSPECTION REPAIR			10		
516	11211	120	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			120		18/20 19/20
516	46201	4	EACH	BEARING DEVICE, ROCKER, AS PER PLAN			4		2/20
516	46700	6	EACH	RESET BEARING			6		
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	2/20
518	12201	4	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			4		14/20
518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC	LUMP				
519	11101	181	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	95	86			2/20
526	25001	220	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				220	2/20
SPECIAL	53000200	LUMP		STRUCTURE, MISC.: SALT REMEDIATION FOR STRUCTURAL STEEL PAINTING			380		

NOTES

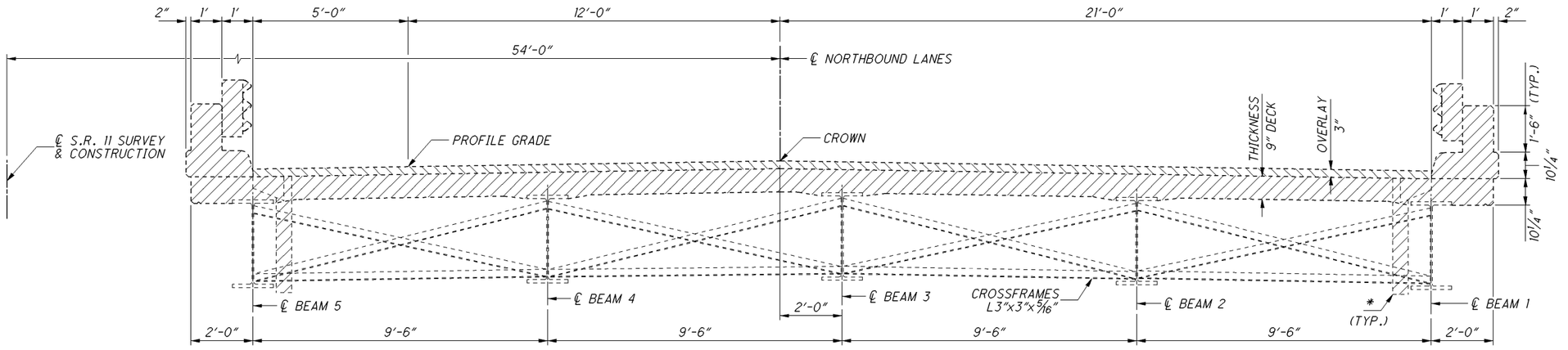
THE FINISH COAT COLOR FOR ALL PAINTED STRUCTURAL STEEL SHALL BE GREEN IN ACCORDANCE WITH CMS 708.02 GREEN FS-595B, 14277.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

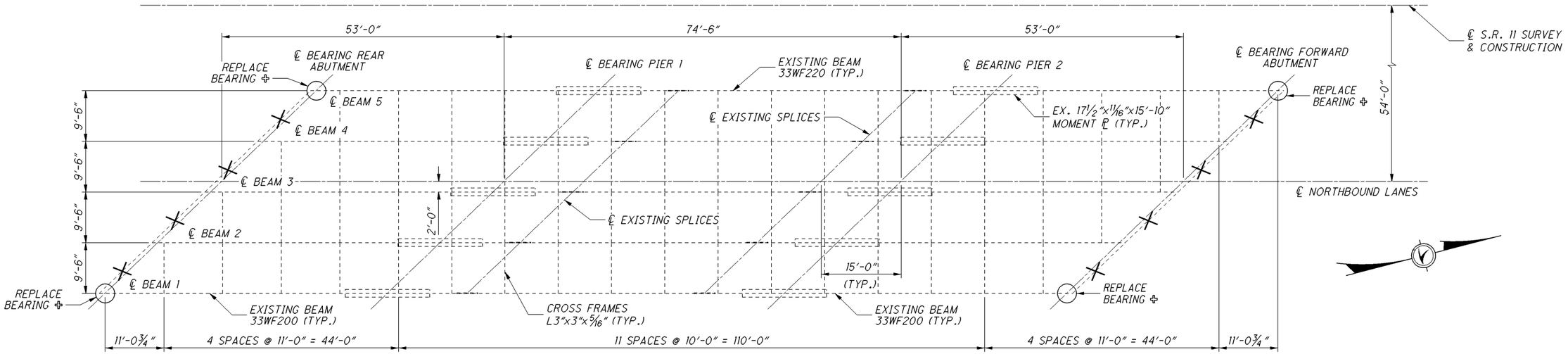
DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11 | CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000300

ESTIMATED QUANTITIES
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940



EXISTING TRANSVERSE CROSS SECTION



FRAMING PLAN

NOTES & LEGEND

* - SCUPPER ANCHORING BARS WELDED TO BEAM SHALL BE REMOVED AND GROUND FLUSH AT WEB DURING REMOVAL. GRINDING SHALL BE DONE IN A HORIZONTAL DIRECTION. PAYMENT INCLUDED WITH ITEM 202-PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

▨ - INDICATES CONCRETE AREAS, RAILING, AND SCUPPERS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

▨ - INDICATES MICROSILICA OVERLAY AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

FIELD VERIFY ALL EXISTING DIMENSIONS.

✕ - CROSSFRAME TO BE REMOVED. WELDS SHALL BE REMOVED AND GROUND FLUSH AT THE WEB DURING REMOVAL. GRINDING SHALL BE DONE IN A HORIZONTAL DIRECTION. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

✣ - FORWARD AND REAR BEARINGS, BEAMS 1 AND 5, SHALL BE REPLACED. SEE SHEET 2/20 FOR ADDITIONAL INFORMATION.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

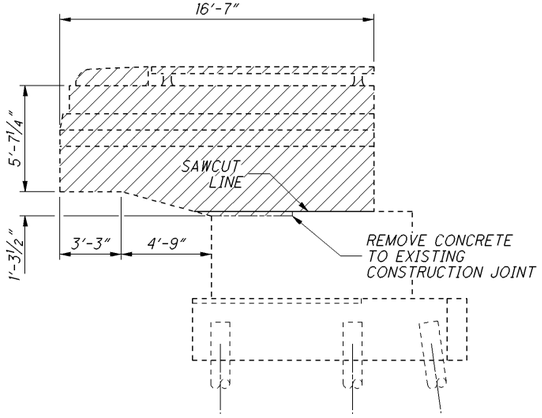
DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000300

SUPERSTRUCTURE REMOVAL DETAIL
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

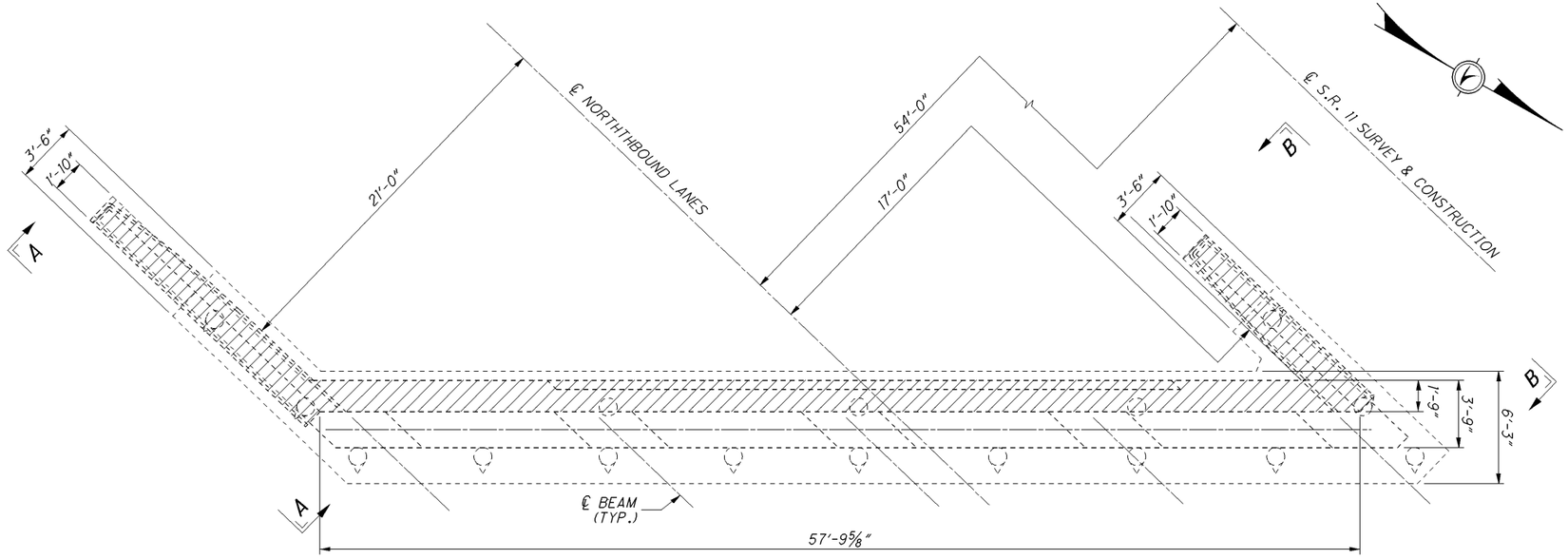
MAH-11-1.94/5.08
PID No. 82940

5/20

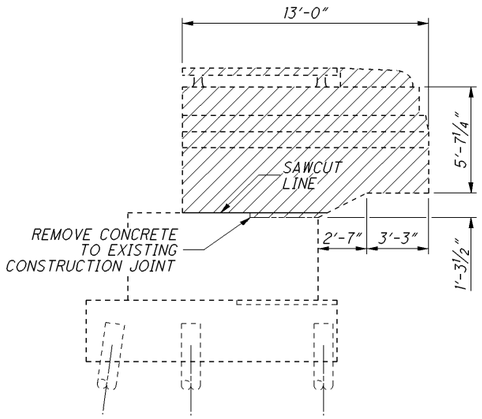
122/177



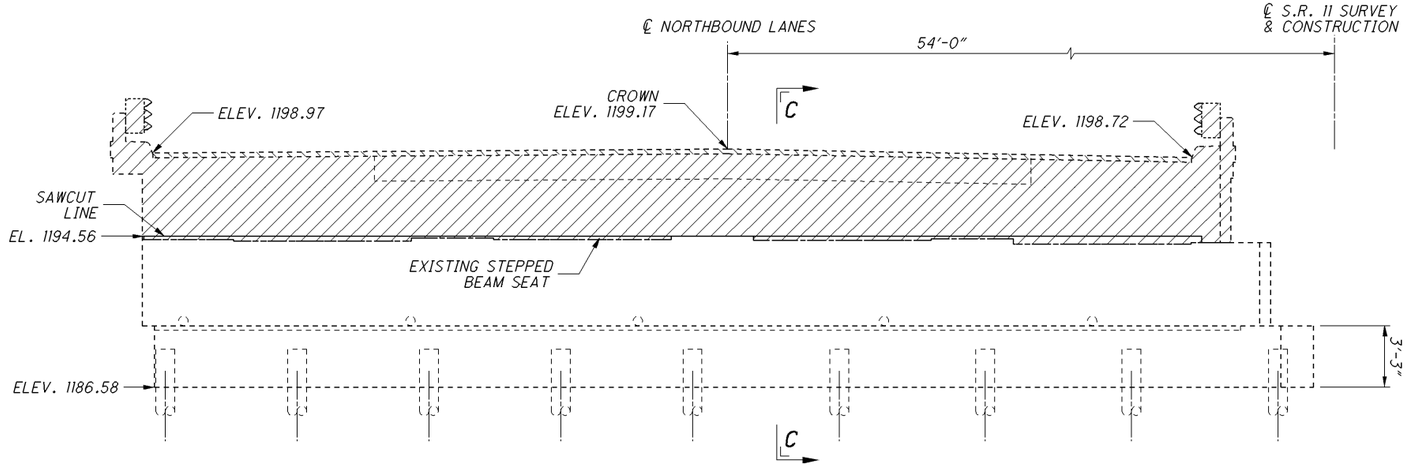
VIEW A-A



PLAN



VIEW B-B



ELEVATION

LEGEND

- INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE TO BE REMOVED OVER 20' SPAN, AS PER PLAN.
- - INDICATES MICROSILICA OVERLAY AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

NOTES

FIELD VERIFY ALL EXISTING DIMENSIONS

CUT ALL EXISTING REINFORCING STEEL AT THE SAWCUT LINE.

SEE SHEET 7/20 FOR SECTION C-C.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

REAR ABUTMENT REMOVAL DETAIL

BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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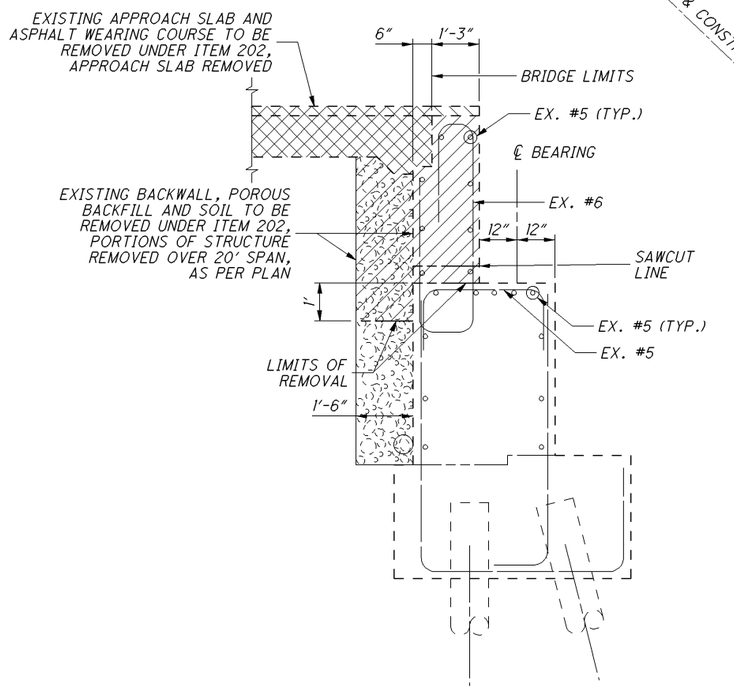
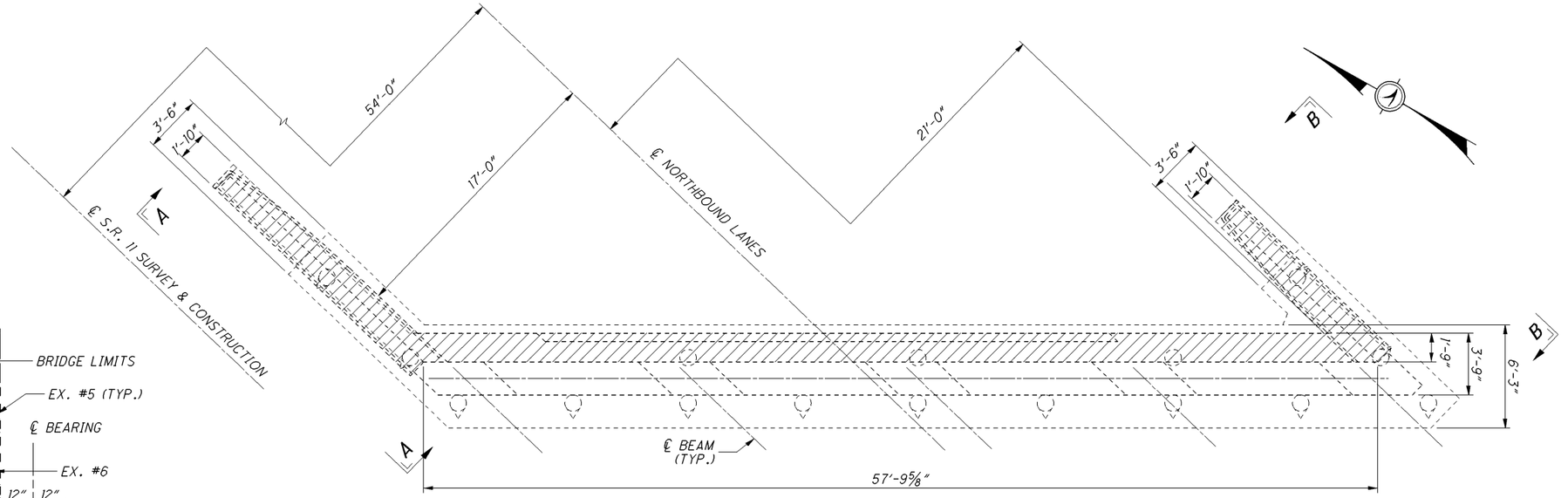
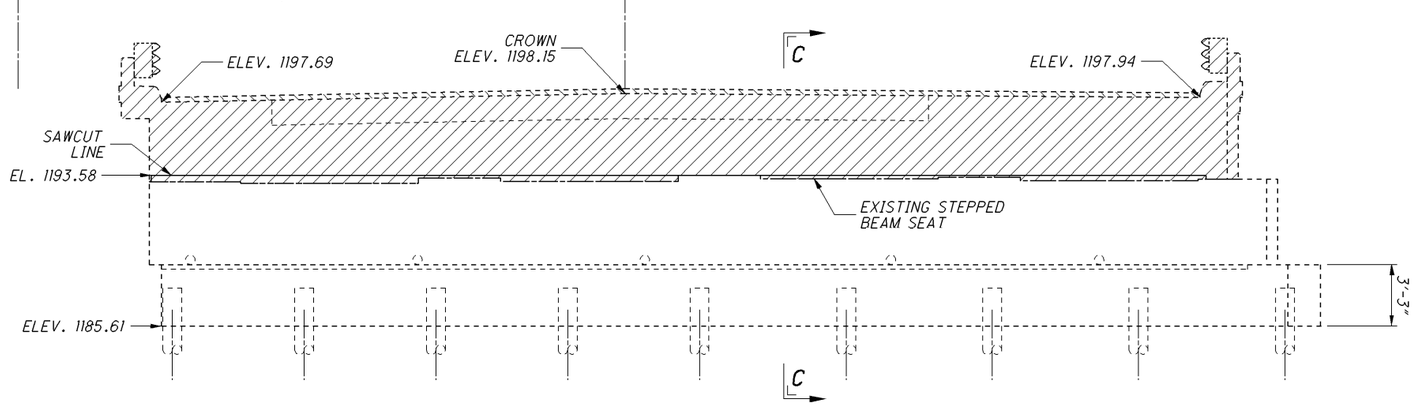


SECTION C-C



PLAN



ELEVATION

LEGEND

INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE TO BE REMOVED OVER 20' SPAN, AS PER PLAN.

INDICATES MICROSILICA OVERLAY AREAS TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

INDICATES AREAS TO BE REMOVED UNDER ITEM 202 - APPROACH SLAB REMOVED.

NOTES

SEE SHEET 6/20 FOR VIEWS A-A AND B-B

FIELD VERIFY ALL EXISTING DIMENSIONS

CUT ALL EXISTING REINFORCING STEEL AT THE SAWCUT LINE. WHERE REMOVAL IS INDICATED BELOW THE SAWCUT LINE, EXISTING VERTICAL REINFORCEMENT SHALL BE PRESERVED.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

FORWARD ABUTMENT REMOVAL DETAIL

BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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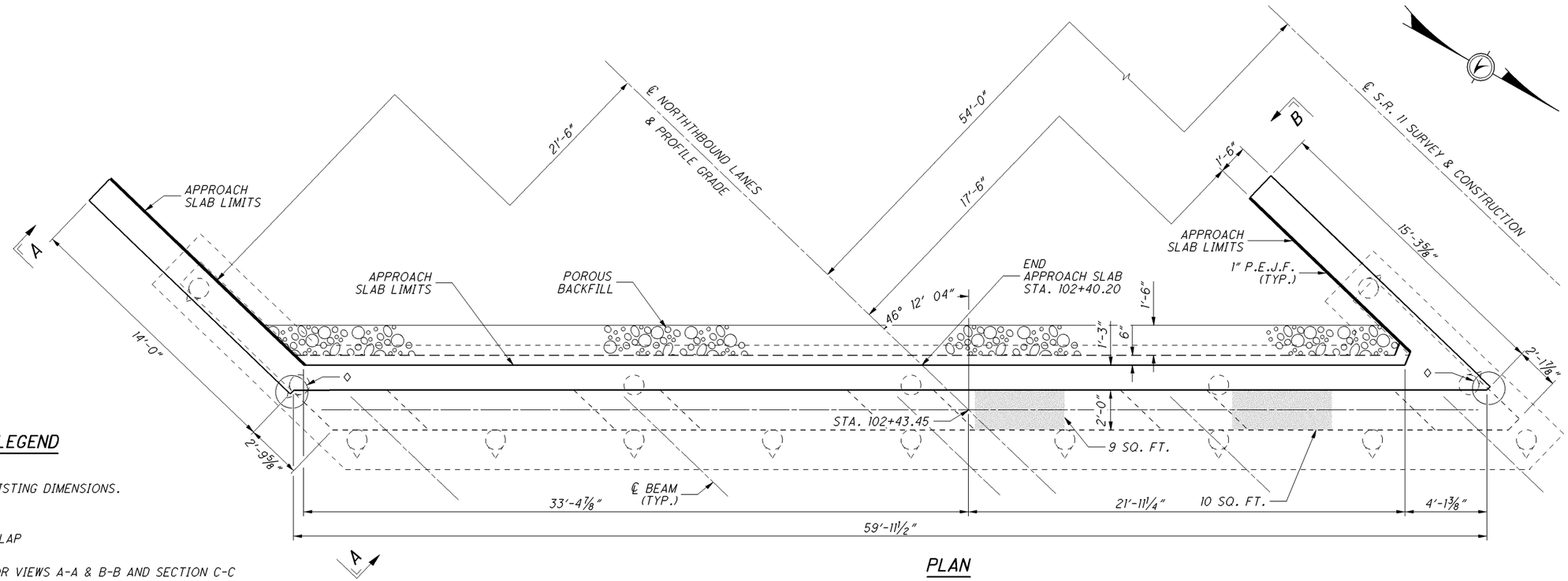


PLAN

NOTES & LEGEND

FIELD VERIFY ALL EXISTING DIMENSIONS.

MINIMUM LENGTHS:
#5 BAR - 2'-6" LAP

SEE SHEET 9/20 FOR VIEWS A-A & B-B AND SECTION C-C

* - ELEVATIONS MEASURED ALONG THE BRIDGE LIMITS.

◕ - EXISTING BEAM SEAT REINFORCING BARS SHALL BE LOCATED BY USE OF A PACHOMETER AND AVOIDED WHEN DOWELING.

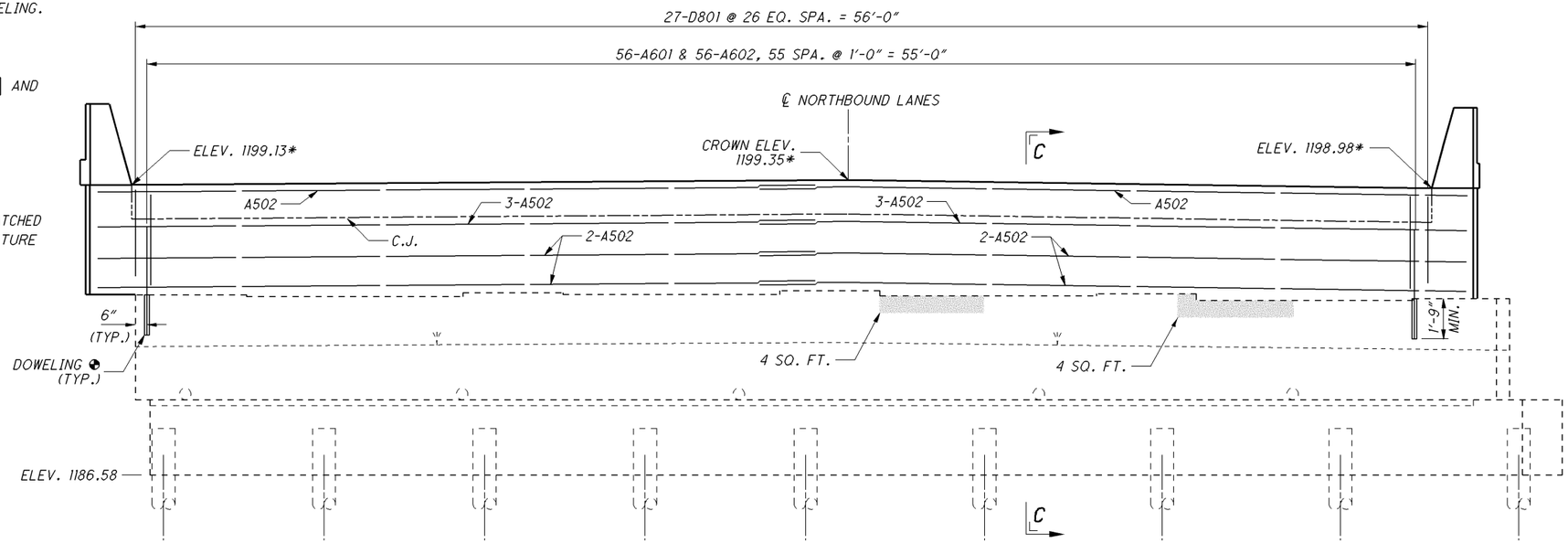
◇ - SEE SHEET 19/20 FOR CORNER FORMING DETAILS.

PARAPET NOT SHOWN FOR CLARITY. SEE SHEETS 16/20 AND 17/20 FOR PARAPET INFORMATION.

C.J. - CONSTRUCTION JOINT

P.E.J.F. - PREFORMED EXPANSION JOINT FILLER

▒ - INDICATES AREAS OF ABUMENT CONCRETE TO BE PATCHED UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE



ELEVATION

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

REAR ABUTMENT DETAILS
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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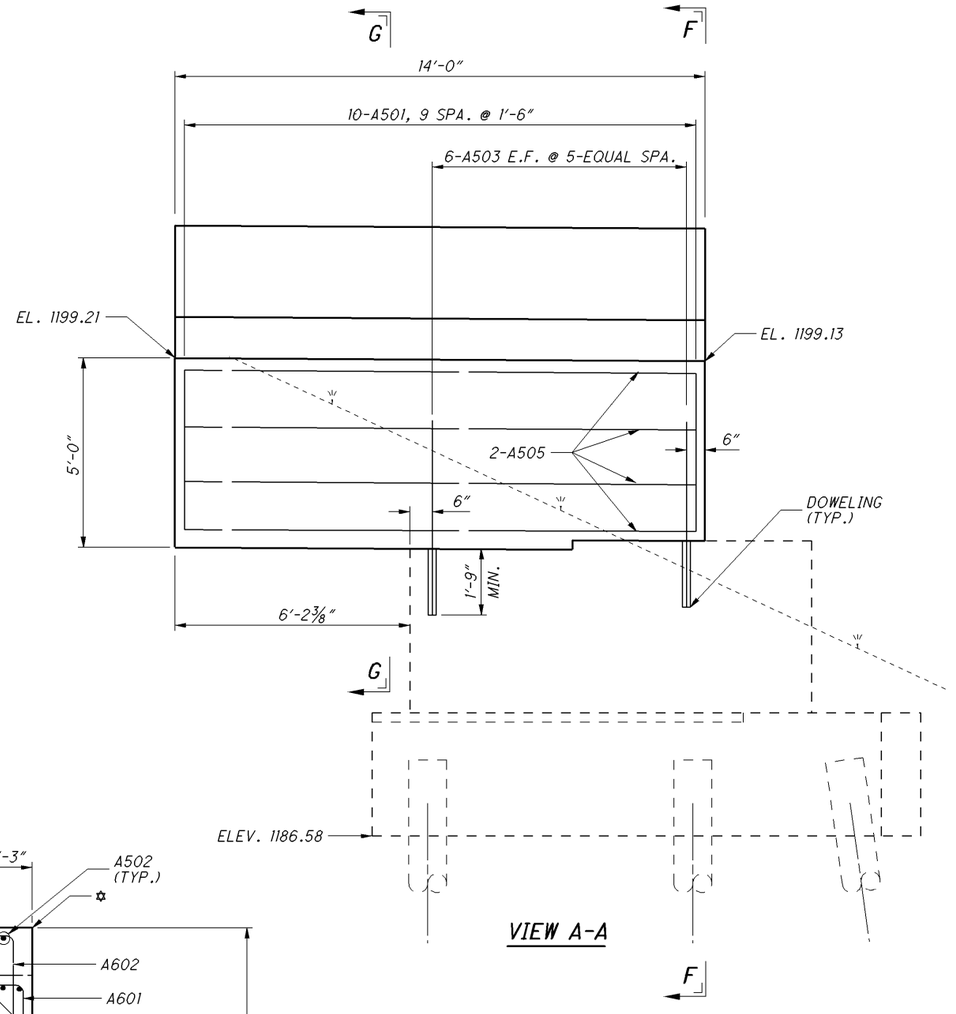
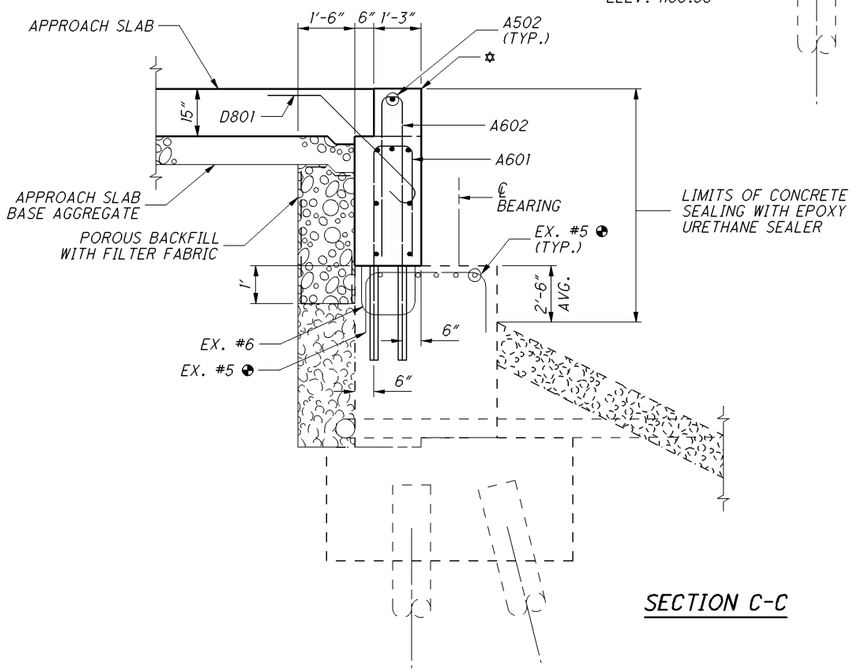


VIEW A-A



SECTION C-C

NOTES & LEGEND

FIELD VERIFY ALL EXISTING DIMENSIONS.

SEE SHEET 11/20 FOR SECTIONS F-F AND G-G

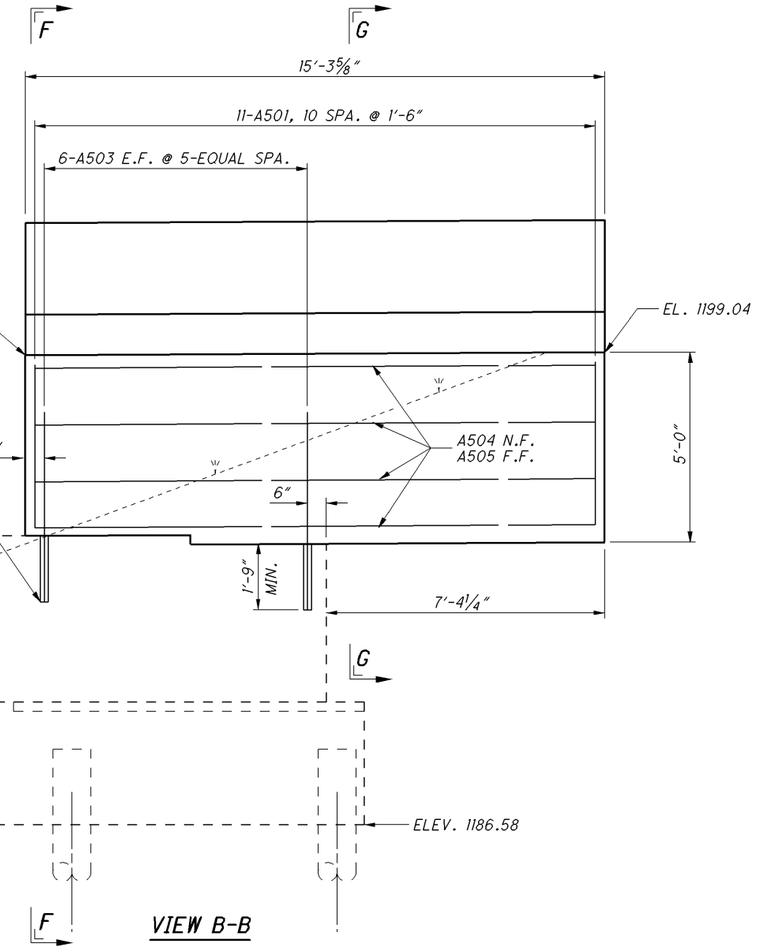
MINIMUM LENGTHS:
#5 BAR - 2'-6" LAP

◕ - EXISTING REINFORCING BARS SHALL BE LOCATED BY USE OF A PACHOMETER AND AVOIDED WHEN DOWELING.

✡ - EXPANSION JOINT NOT SHOWN FOR CLARITY. SEE SHEETS 18/20 AND 19/20 FOR DETAILS.

PARAPET REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SHEETS 16/20 AND 17/20 FOR PARAPET INFORMATION.

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



VIEW B-B

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

MISCELLANEOUS ABUTMENT DETAILS

BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

9/20

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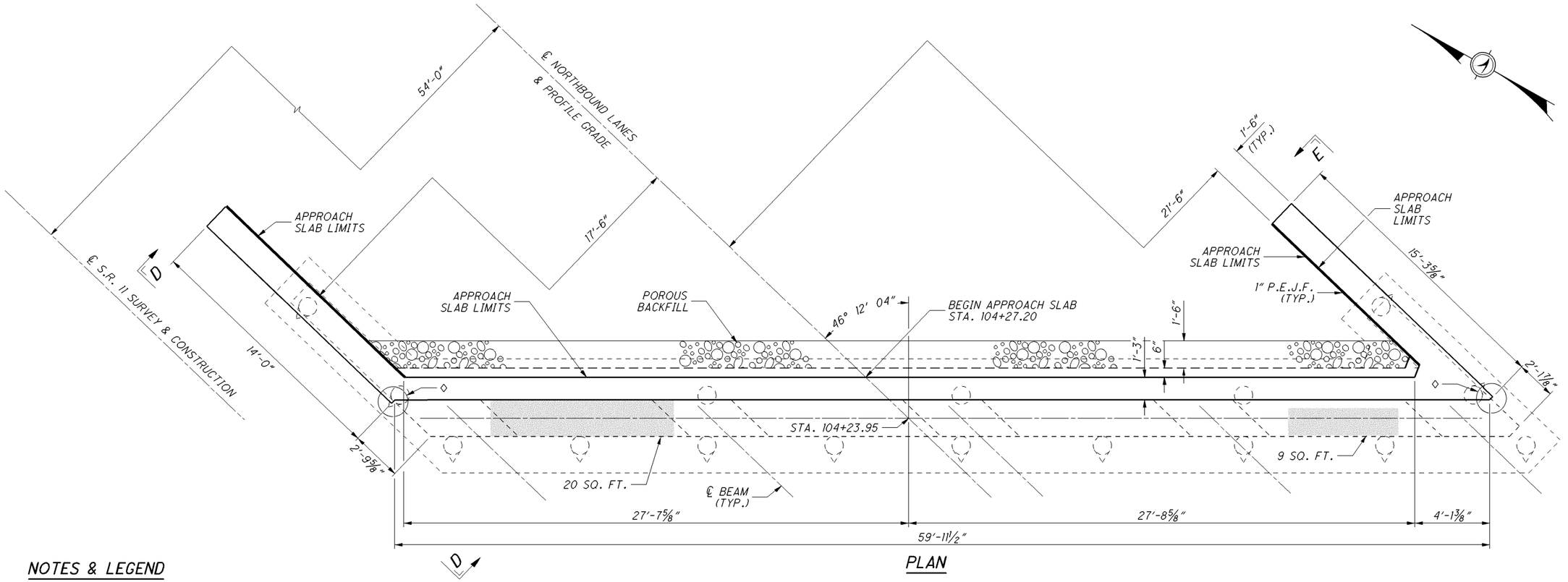


PLAN

NOTES & LEGEND

FIELD VERIFY ALL EXISTING DIMENSIONS.

MINIMUM LENGTHS:
#5 BAR - 2'-6" LAP

SEE SHEET 9/20 FOR SECTION C-C
SEE SHEET 11/20 FOR VIEWS D-D AND E-E

* - ELEVATIONS MEASURED ALONG THE BRIDGE LIMITS.

◕ - EXISTING BEAM SEAT REINFORCING BARS SHALL BE LOCATED BY USE OF A PACHOMETER AND AVOIDED WHEN DOWELING.

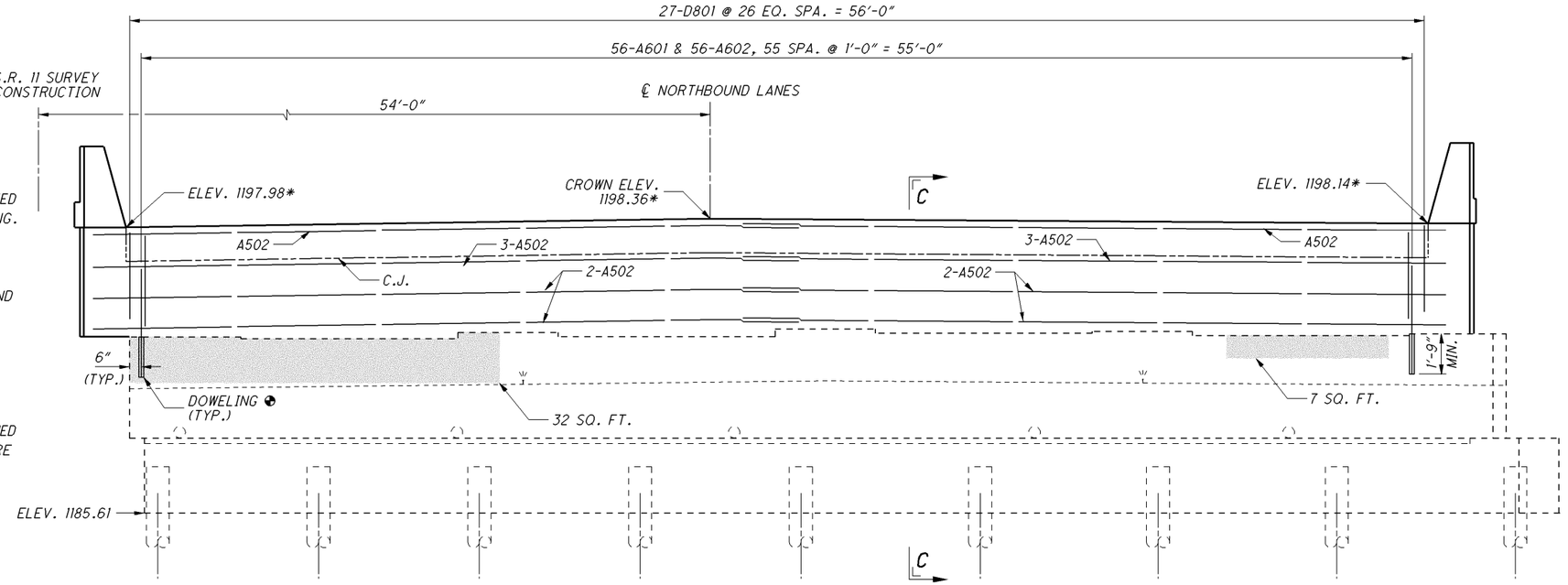
◇ - SEE SHEET 19/20 FOR CORNER FORMING DETAILS.

PARAPET NOT SHOWN FOR CLARITY. SEE SHEETS 16/20 AND 17/20 FOR PARAPET INFORMATION.

C.J. - CONSTRUCTION JOINT

P.E.J.F. - PREFORMED EXPANSION JOINT FILLER

▒ - INDICATES AREAS OF ABUMENT CONCRETE TO BE PATCHED UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE



ELEVATION

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

FORWARD ABUTMENT DETAILS
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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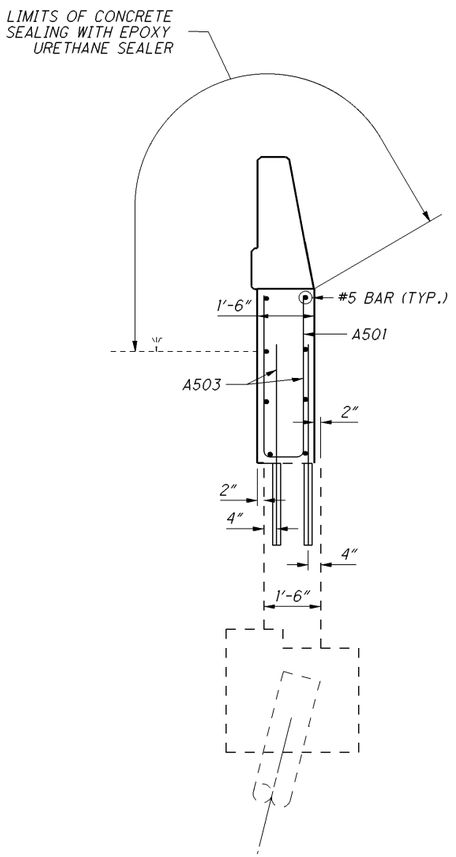
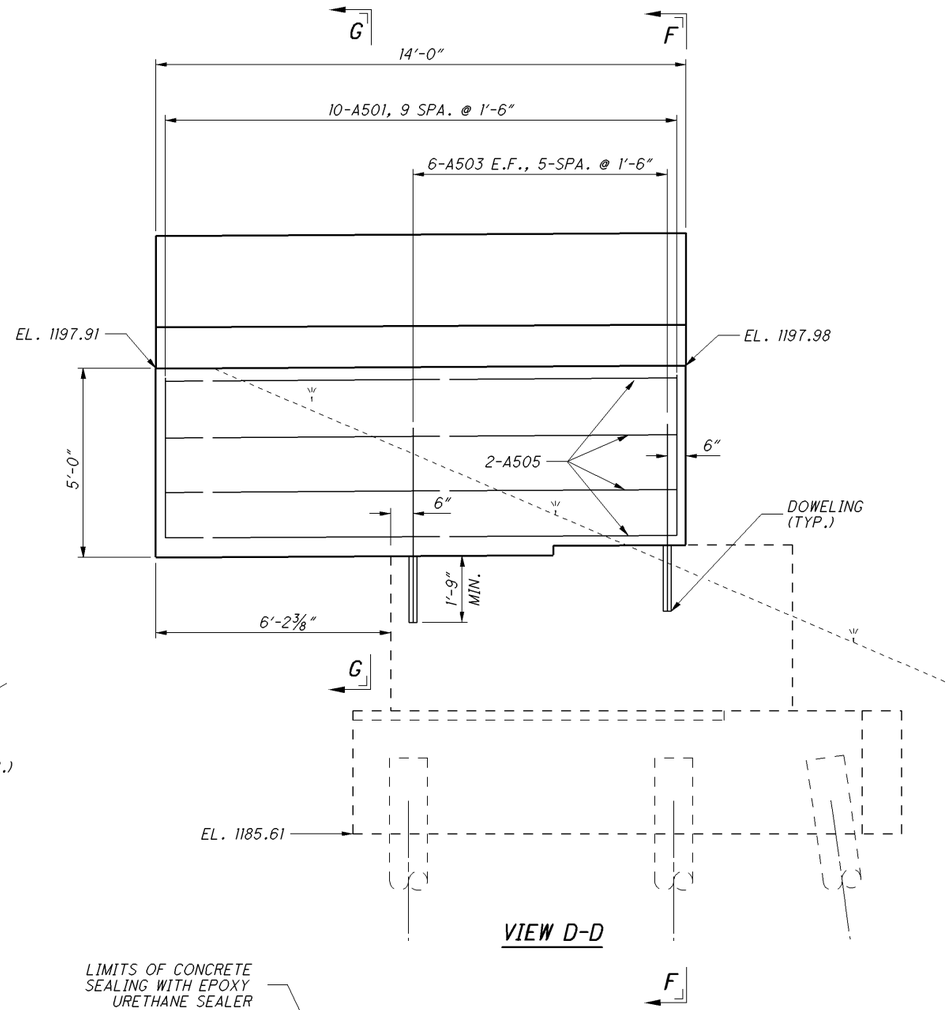
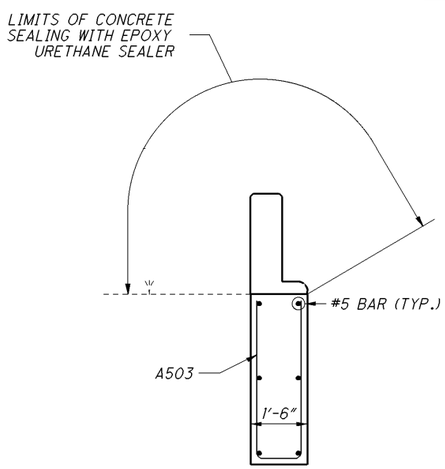


SECTION F-F



VIEW D-D



SECTION G-G

NOTES & LEGEND

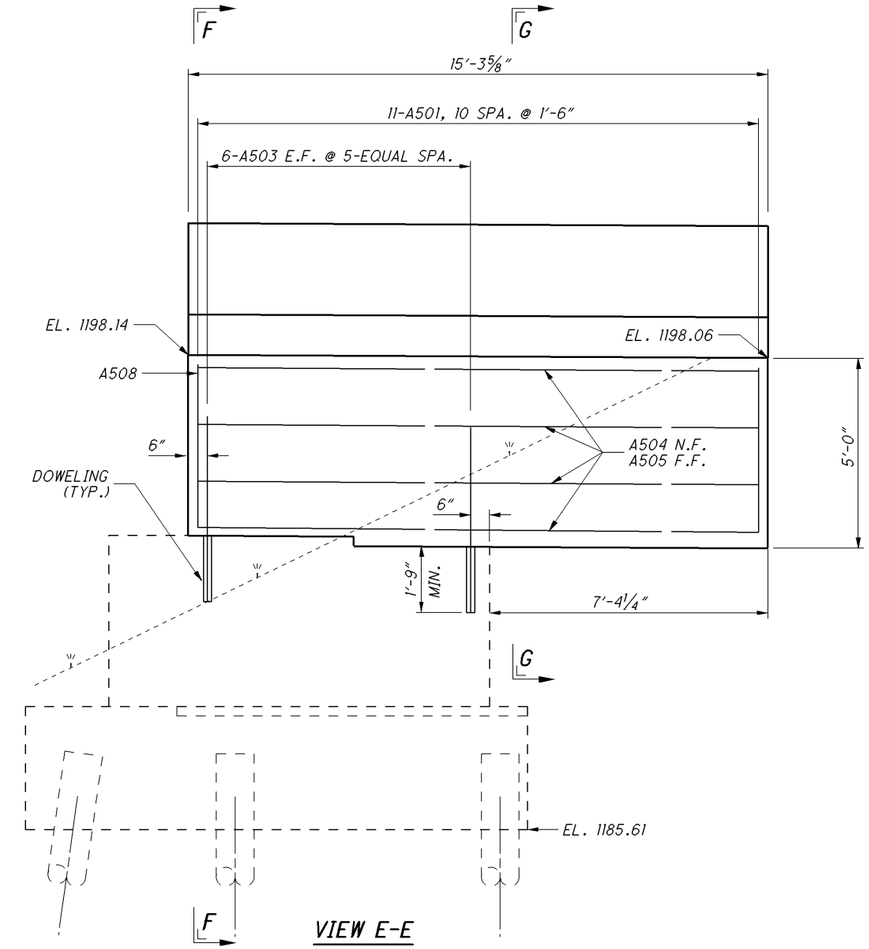
FIELD VERIFY ALL EXISTING DIMENSIONS.

MINIMUM LENGTHS:
#5 BAR - 2'-6" LAP

◒ - EXISTING REINFORCING BARS SHALL BE LOCATED BY USE OF A PACHOMETER AND AVOIDED WHEN DOWELING.

PARAPET NOT SHOWN FOR CLARITY. SEE SHEETS 16/20 AND 17/20 FOR PARAPET INFORMATION.

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



VIEW E-E

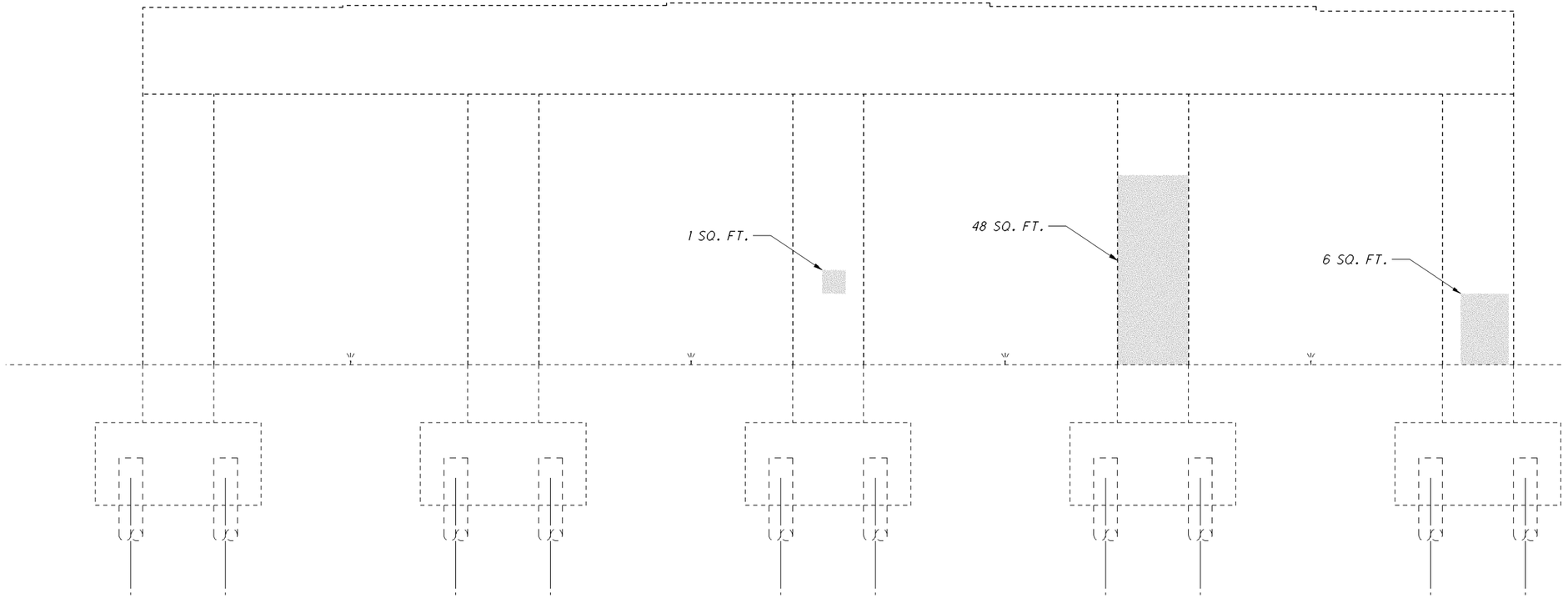
DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

MISCELLANEOUS ABUTMENT DETAILS

BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940



PIER 1

NORTH ELEVATION VIEW

NOTES & LEGEND

- *INDICATES AREAS OF PIER CONCRETE TO BE PATCHED UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE*

PATCHED AREAS SHALL BE SEALED UNDER ITEM 512 - SEALING OF CONCRETE STRUCTURES, AS PER PLAN. THE COLOR OF THE NEW SEALANT SHALL MATCH THAT OF THE EXISTING.

NO REMOVAL OF EXISTING COATINGS IS REQUIRED FOR THE PIER REPAIRS AND SEALING THEREOF.

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DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000300

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

PIER PATCHING DETAILS
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

12/20

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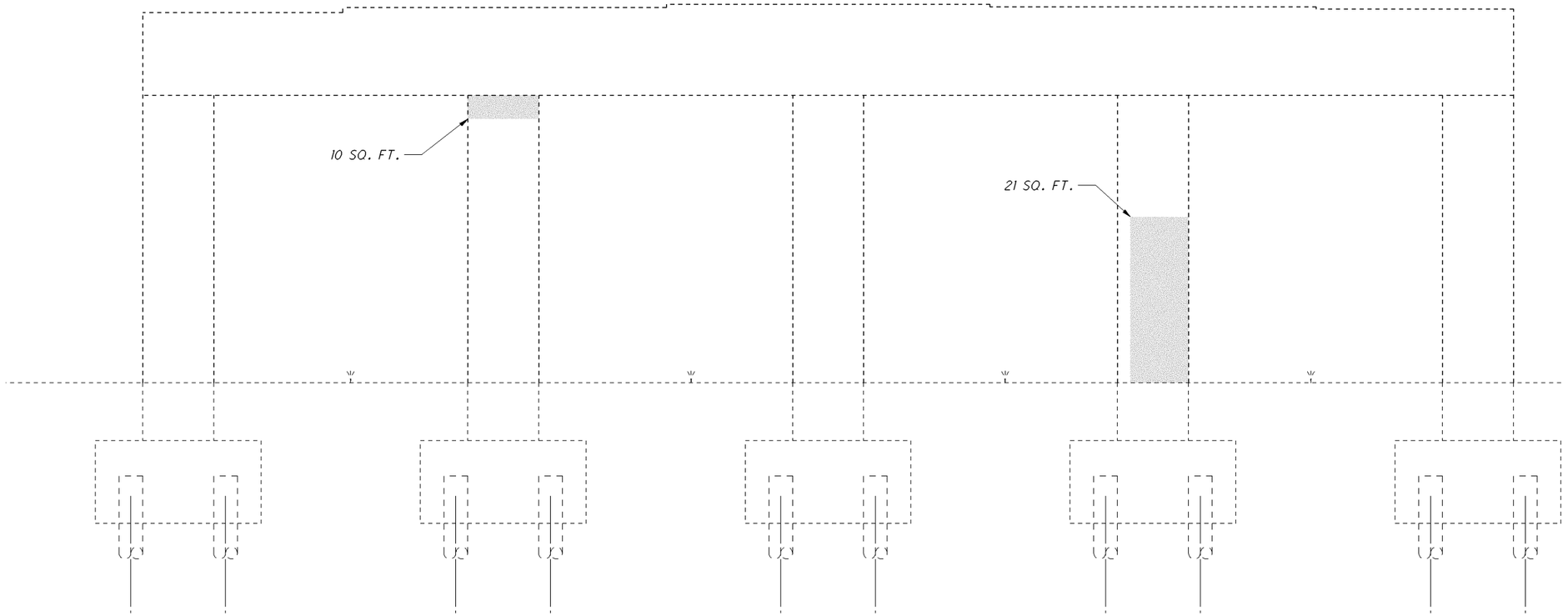

PIER 2

SOUTH ELEVATION VIEW

NOTES & LEGEND

- INDICATES AREAS OF PIER CONCRETE TO BE PATCHED UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE

PATCHED AREAS SHALL BE SEALED UNDER ITEM 512 - SEALING OF CONCRETE STRUCTURES, AS PER PLAN. THE COLOR OF THE NEW SEALANT SHALL MATCH THAT OF THE EXISTING.

NO REMOVAL OF EXISTING COATINGS IS REQUIRED FOR THE PIER REPAIRS AND SEALING THEREOF.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

PIER PATCHING DETAILS

BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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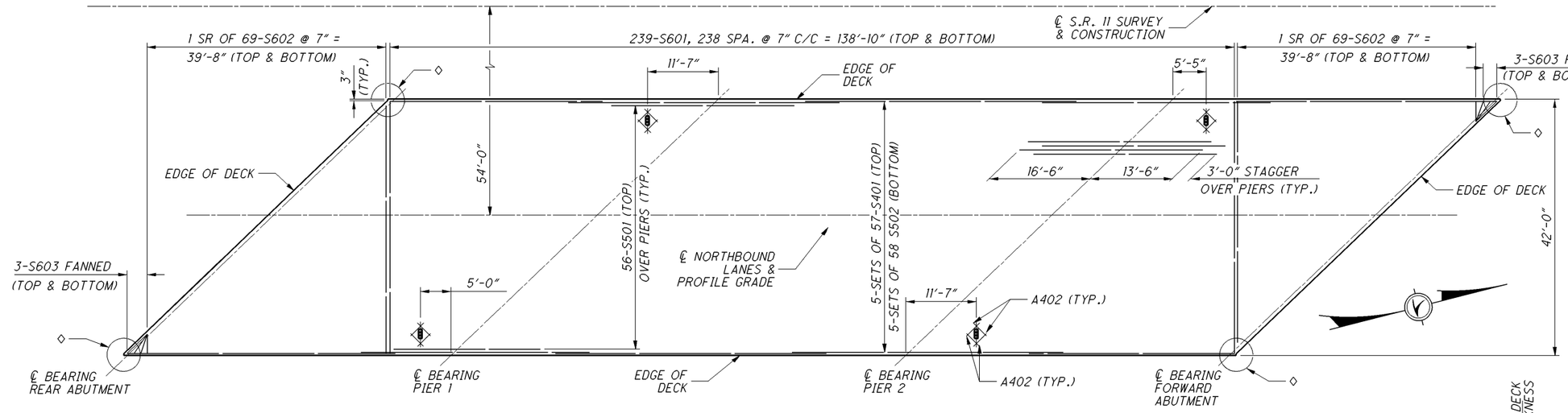
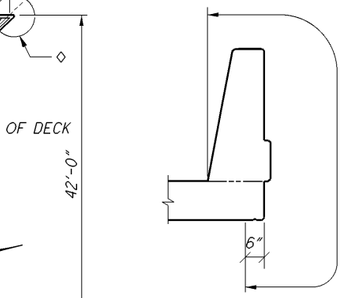
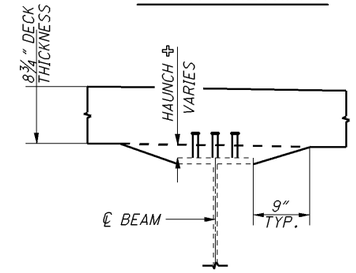


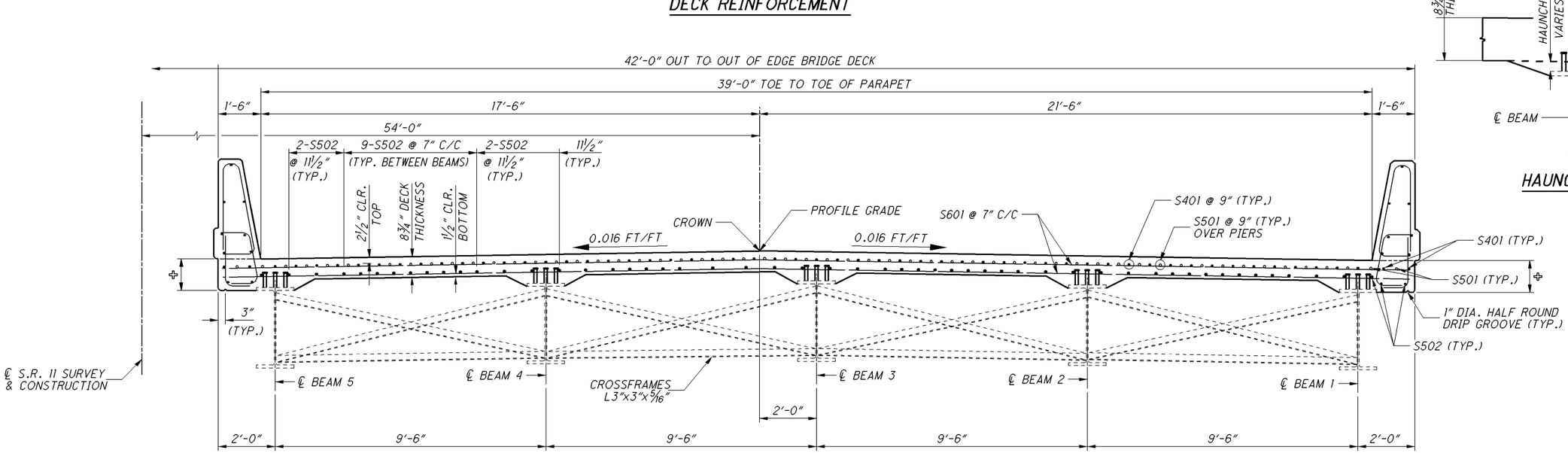
DECK REINFORCEMENT



LIMITS OF EPOXY URETHANE



HAUNCH DETAIL



TRANSVERSE SECTION

NOTES & LEGEND

REINFORCING STEEL MAY BE FIELD OR SHOP BENT TO ACCOMODATE THE CROWN OF THE DECK. PAYMENT SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL.

MINIMUM LAP LENGTH FOR #4 BAR = 2'-0"
MINIMUM LAP LENGTH FOR #5 BAR = 2'-6"

#4 BARS AT SCUPPERS SHALL BE PAID UNDER ITEM 509, EPOXY COATED REINFORCING STEEL.

DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 4" AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS ±3".

THE HAUNCH THICKNESS IS VARIABLE AND IT IS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE BOTTOM OF THE DECK TO THE TOP OF THE TOP FLANGE AS SHOWN IN THE HAUNCH DETAIL.

✣ - SEE TABLE ON SHEET 15/20 FOR OVERHANG & HAUNCH THICKNESS.

◇ - SEE SHEET 19/20 FOR CORNER FORMING DETAILS.

✡ - OFFSET OF SCUPPER FROM TOE OF PARAPET IS PREDICATED UPON MAINTAINING A 1" CLEARANCE, AS PER STANDARD DRAWING GSD-1-96, BETWEEN THE REAR FACE OF THE SCUPPER AND THE INSIDE TOP FLANGE OF THE FASCIA BEAM.

SEE STD. DWG. GSD-1-96 FOR ADDITIONAL SCUPPER DETAILS.

FOR PARAPET DETAILS, SEE SHEETS 15/19 AND 16/19

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000300

DECK PLAN AND TRANSVERSE SECTION
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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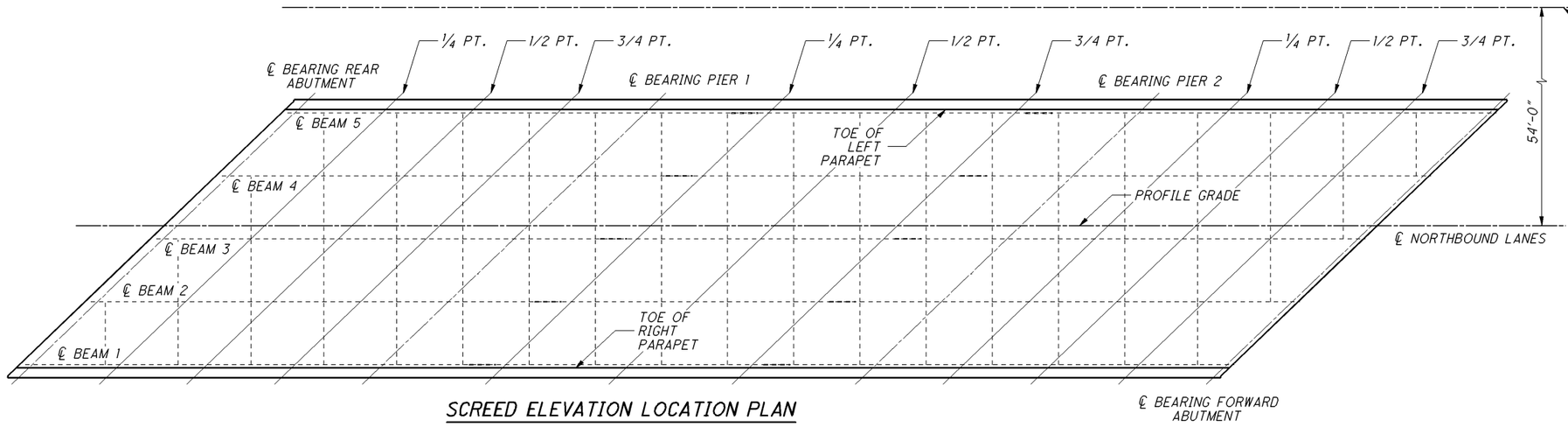
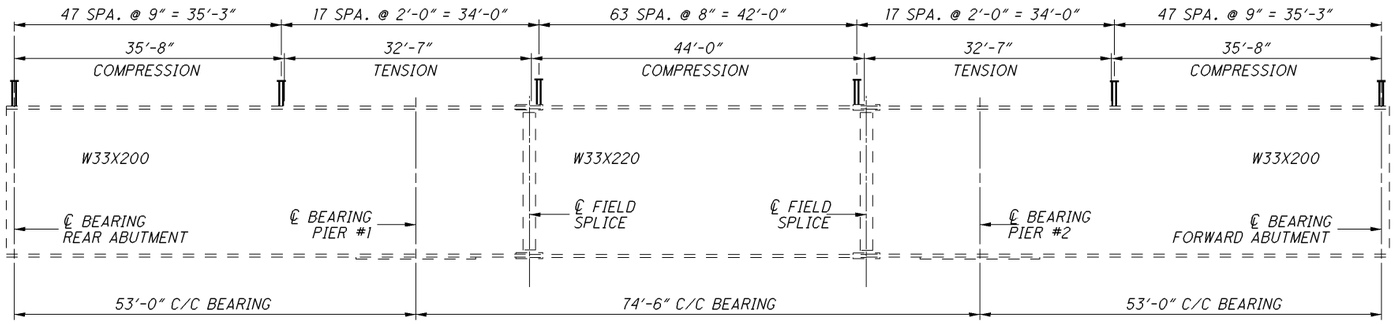
SCREED ELEVATIONS

LOCATION	TOE OF LEFT PARAPET			BEAM 5			BEAM 4			PROFILE GRADE		BEAM 3			BEAM 2			BEAM 1			TOE OF RIGHT PARAPET		
	STATION	ELEVATION	OVERHANG	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	HAUNCH	STATION	ELEVATION	OVERHANG
BEGIN APP. SLAB	102+33.45	1199.11								102+15.20	1199.49										101+92.78	1199.26	
℄ REAR BRG.	102+61.70	1198.96	13.67	102+61.18	1198.97	3.86	102+51.27	1199.18	3.30	102+43.45	1199.34	102+41.37	1199.32	3.20	102+31.45	1199.22	3.10	102+21.55	1199.12	3.76	102+21.03	1199.11	13.56
1/4 SPAN	102+74.95	1198.89	13.75	102+74.43	1198.90	3.94	102+64.52	1199.11	3.49	102+56.70	1199.27	102+54.62	1199.25	3.34	102+44.71	1199.15	3.36	102+34.80	1199.05	3.83	102+34.28	1199.04	13.64
1/2 SPAN	102+88.20	1198.82	13.83	102+87.68	1198.83	4.03	102+77.77	1199.03	3.68	102+69.95	1199.20	102+67.87	1199.18	3.49	102+57.96	1199.08	3.61	102+48.05	1198.98	3.91	102+47.53	1198.97	13.72
3/4 SPAN	103+01.45	1198.75	13.90	103+00.93	1198.76	4.10	102+91.02	1198.96	3.88	102+83.20	1199.13	102+81.12	1199.10	3.63	102+71.21	1199.01	3.86	102+61.30	1198.91	4.00	102+60.78	1198.90	13.79
℄ PIER #1	103+14.70	1198.68	14.14	103+14.18	1198.69	4.34	103+04.27	1198.89	4.38	102+96.45	1199.06	102+94.37	1199.03	4.16	102+84.46	1198.94	4.45	102+74.55	1198.84	4.69	102+74.03	1198.83	14.51
1/4 SPAN	103+33.33	1198.58	14.02	103+32.80	1198.59	4.22	103+22.90	1198.80	4.38	103+15.08	1198.96	103+12.99	1198.94	4.06	103+03.08	1198.84	4.34	102+93.18	1198.74	4.39	102+92.65	1198.73	14.21
1/2 SPAN	103+51.95	1198.48	13.89	103+51.43	1198.49	3.97	103+41.52	1198.70	4.24	103+33.70	1198.86	103+31.62	1198.84	3.85	103+21.71	1198.74	4.11	103+11.80	1198.64	3.97	103+11.28	1198.63	13.91
3/4 SPAN	103+70.58	1198.38	13.76	103+70.05	1198.39	3.96	103+60.15	1198.60	4.35	103+52.33	1198.76	103+50.24	1198.74	3.88	103+40.33	1198.64	4.12	103+30.43	1198.54	3.81	103+29.90	1198.53	13.61
℄ PIER #2	103+89.20	1198.28	13.72	103+88.68	1198.29	3.92	103+78.77	1198.50	4.27	103+70.95	1198.66	103+68.87	1198.64	3.74	103+58.96	1198.54	4.37	103+49.05	1198.44	3.66	103+48.53	1198.43	13.45
1/4 SPAN	104+02.45	1198.21	13.72	104+01.93	1198.22	3.92	103+92.02	1198.43	4.10	103+84.20	1198.59	103+82.12	1198.57	3.66	103+72.21	1198.47	4.20	103+62.30	1198.37	3.72	103+61.78	1198.36	13.52
1/2 SPAN	104+15.70	1198.14	13.72	104+15.18	1198.15	3.91	104+05.27	1198.36	3.94	103+97.45	1198.52	103+95.37	1198.50	3.58	103+85.46	1198.40	4.02	103+75.55	1198.30	3.79	103+75.03	1198.29	13.59
3/4 SPAN	104+28.95	1198.07	13.71	104+28.43	1198.08	3.91	104+18.52	1198.29	3.78	104+10.70	1198.45	104+08.62	1198.43	3.49	103+98.71	1198.33	3.85	103+88.80	1198.23	3.85	103+88.28	1198.22	13.65
℄ FORWARD BRG.	104+42.20	1198.00	13.72	104+41.68	1198.01	3.92	104+31.77	1198.22	3.60	104+23.95	1198.38	104+21.87	1198.36	3.42	104+11.96	1198.26	3.66	104+02.05	1198.16	3.92	104+01.53	1198.15	13.73
END APP. SLAB	104+70.45	1197.85								104+52.2	1198.23										104+29.78	1198.00	

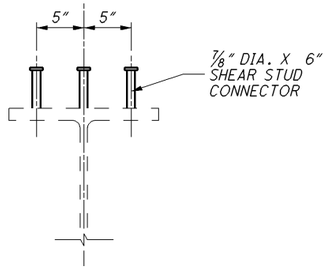


SCREED ELEVATION LOCATION PLAN



EXISTING BEAM ELEVATION

(EXAGGERATED VERTICAL SCALE)
576 SHEAR CONNECTORS PER BEAM



BEAM AND SHEAR CONNECTOR DETAIL

NOTES

THE ELEVATIONS ARE MEASURED IN FEET. THE HAUNCH THICKNESS AND OVERHANG THICKNESS ARE MEASURED IN INCHES.

SINCE THE DEFLECTION CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS IS NEGLIGIBLE, THE SCREED & FINAL ELEVATIONS ARE THE SAME.

CONNECTORS MAY BE ALTERED AT FIELD SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FLANGE SPLICE BOLTS PROVIDED THAT AT LEAST THE NUMBER OF STUDS SPECIFIED IN THE BEAM ELEVATION ARE FURNISHED.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED AP | DRAWN AP | CHECKED CJW | REVIEWED TAA | DATE 11/1/11 | REVISED | STRUCTURE FILE NUMBER 5000300

SUPERSTRUCTURE DETAILS
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

15 / 20

132
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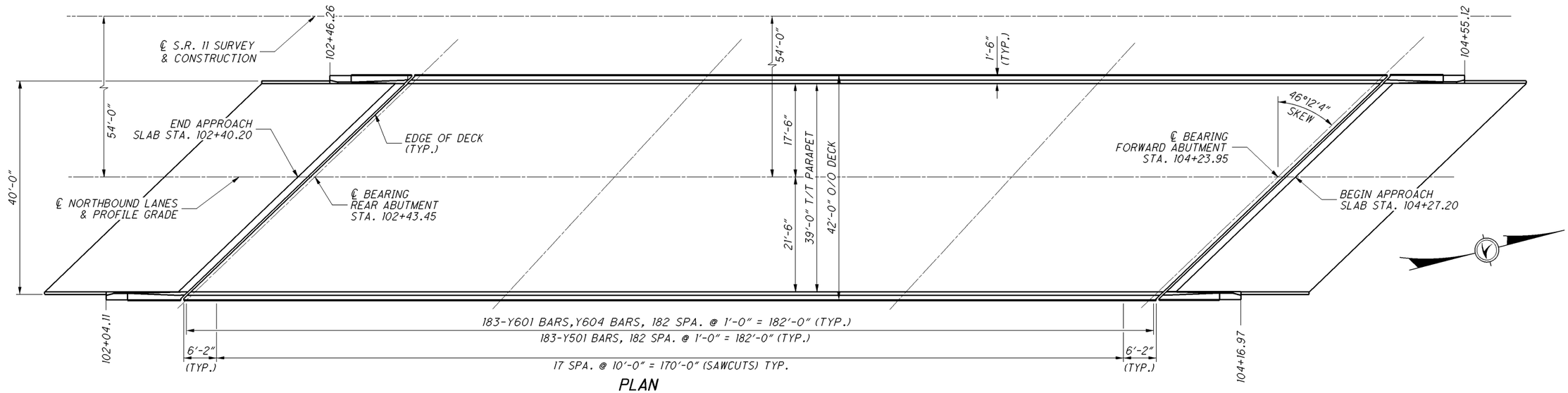
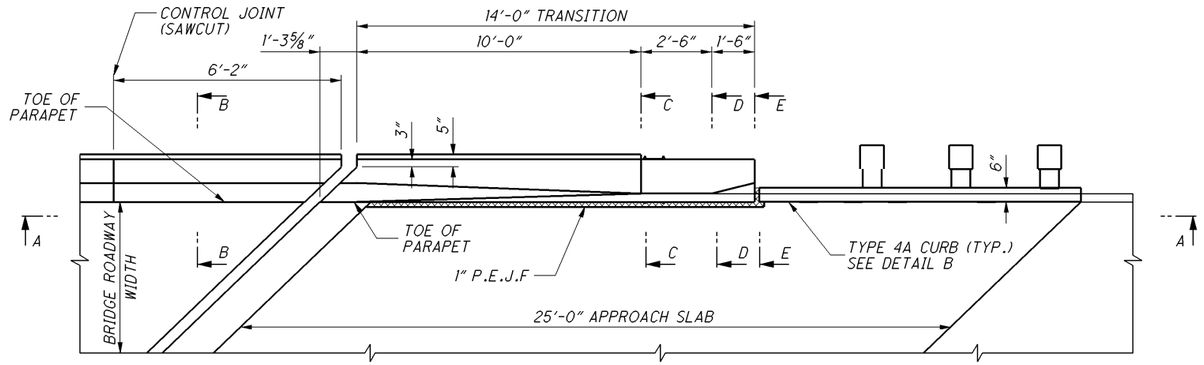
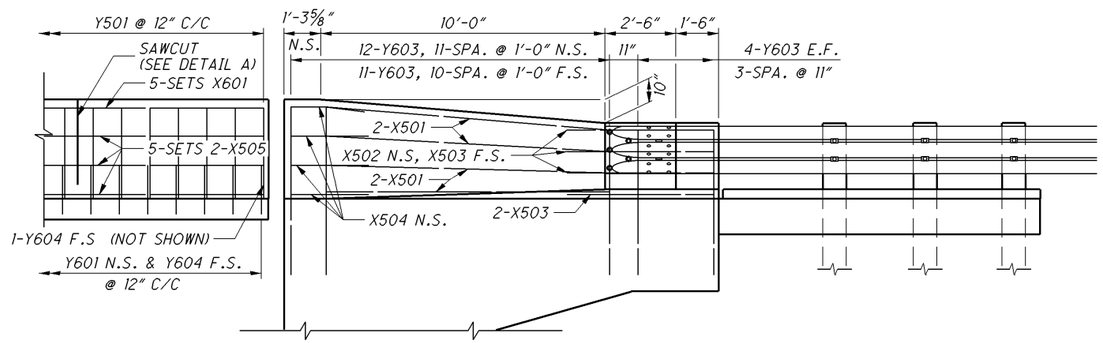


PLAN



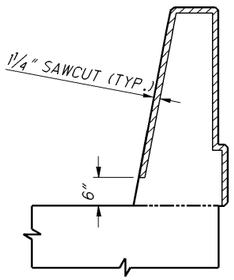
PART PLAN AT ABUTMENT

N.W. AND S.E. TRANSITIONS



VIEW A-A

N.W. AND S.E. TRANSITIONS



DETAIL A

(SECTION THROUGH SAWCUT)
SAWCUT PERIMETER = 7'-6"

NOTES & LEGEND

QUANTITIES:
QUANTITIES OF CONCRETE, DEFLECTION JOINT SAWCUT AND CAULKING MATERIAL FOR PARAPET ARE INCLUDED WITH ITEM 511 HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET).

FOR BRIDGE TERMINAL ASSEMBLY, SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

MIN. LAP SPLICES: #4 BAR = 2'-0"
#5 BAR = 2'-6"
#6 BAR = 3'-0"

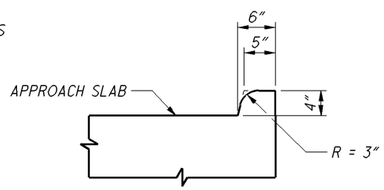
FOR ADDITIONAL REINFORCEMENT DETAILS, SEE STD. DRAWING SBR-1-99.

FOR SECTIONS B, C, D, E AND DETAIL PLAN AND ELEVATION VIEWS FOR THE S.W. AND N.E. TRANSITIONS, SEE SHEET 17/20.

N.S. - NEAR SIDE
F.S. - FAR SIDE
E.F. - EACH FACE

THE FOLLOWING REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO ENSURE PROPER FIT:
X503
Y603

VERTICAL REINFORCING STEEL SHALL CLEAR THE CONTROL JOINTS BY 3" MINIMUM.



DETAIL B

TYPE 4A CURB ON APPROACH SLAB

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

PARAPET DETAILS
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

16/20

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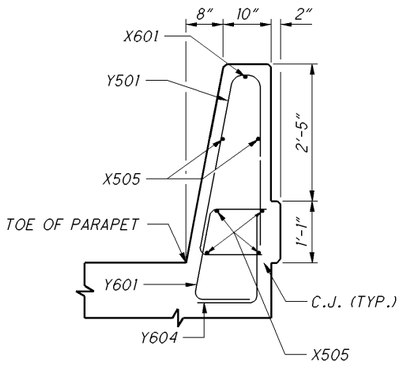
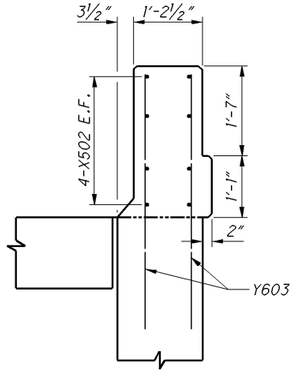
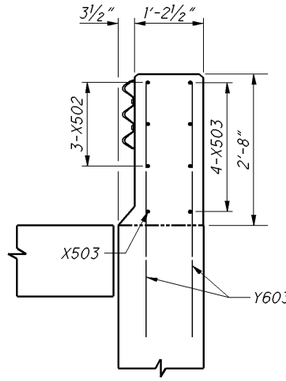


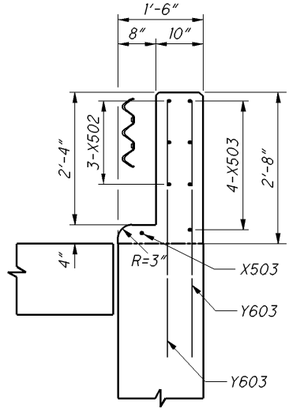
SECTION B-B



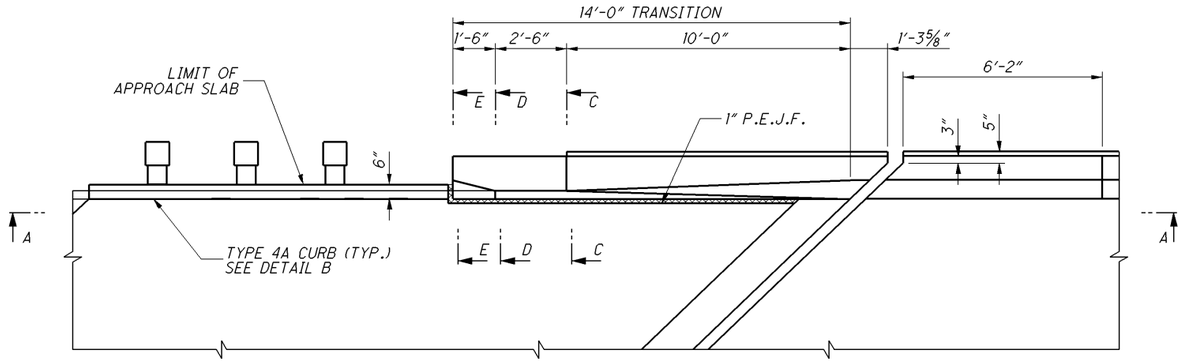
SECTION C-C



SECTION D-D

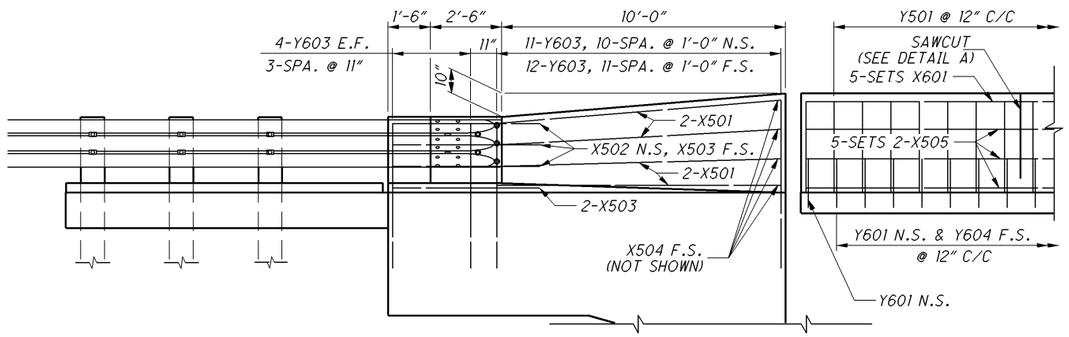


SECTION E-E



PART PLAN AT ABUTMENT

N.E. AND S.W. TRANSITIONS



VIEW A-A

N.E. AND S.W. TRANSITIONS

NOTES & LEGEND

QUANTITIES:

QUANTITIES OF CONCRETE, REINFORCING STEEL, DEFLECTION JOINT SAWCUT AND CAULKING MATERIAL FOR PARAPET ARE INCLUDED WITH ITEM 511 HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET).

FOR BRIDGE TERMINAL ASSEMBLY, SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

MIN. LAP SPLICES: #4 BAR = 2′-0″
#5 BAR = 2′-6″
#6 BAR = 3′-0″

FOR ADDITIONAL REINFORCEMENT DETAILS, SEE STD. DRAWING SBR-1-99.

FOR DETAILS A & B AND PLAN & ELEVATION VIEWS OF THE N.W. AND S.E. TRANSITIONS, SEE SHEET 16/20.

FOR DECK RAIL REINFORCEMENT, SEE SHEET 16/20.

N.S. - NEAR SIDE
F.S. - FAR SIDE
E.F. - EACH FACE

THE FOLLOWING REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO ENSURE PROPER FIT:
X503
Y603

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000300

PARAPET DETAILS
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

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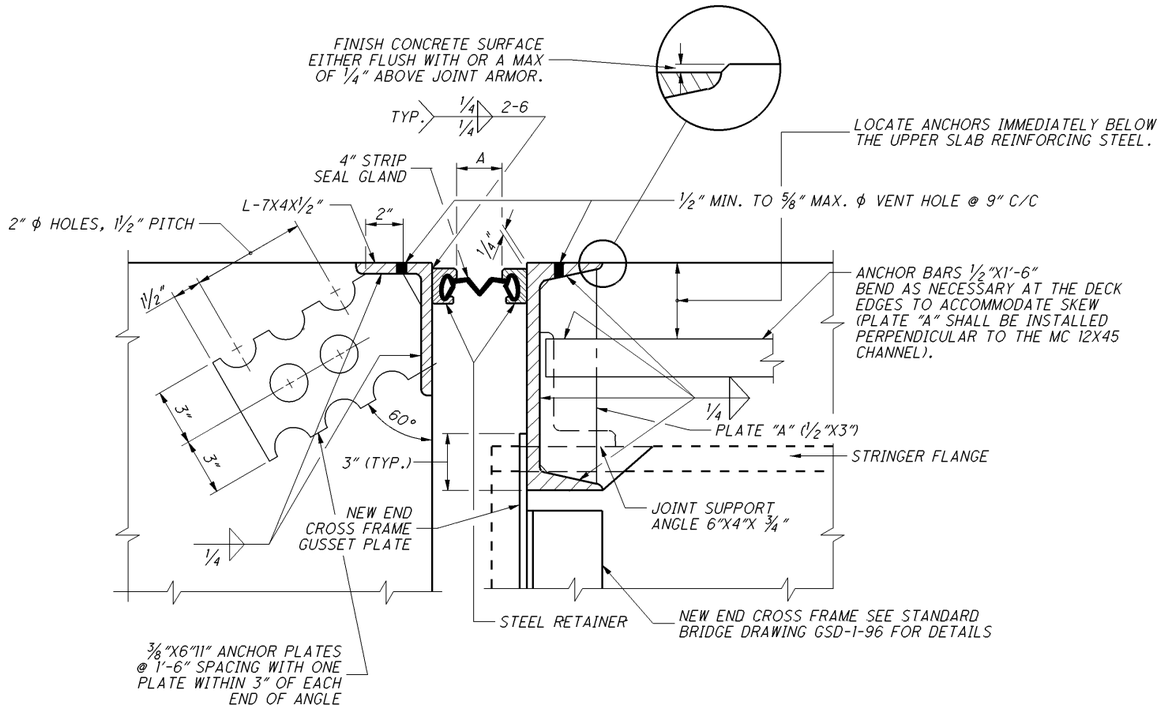
I:\Projects _Consultant\MAH\82940_MAH-11-(1.94)(5.08)\82940\structures\MAH011_0194R\sheets\011_0194RRA002.dgn 19-NOV-2012 7:52AM rbaughma



EXPANSION JOINT DETAIL

4" EXPANSION JOINT OPENING		
AMBIENT TEMP (°F)	DIMENSION "A"	
	REAR ABUT.	FWD. ABUT.
30°	2.29	2.35
40°	2.26	2.28
50°	2.24	2.22
60°	2.21	2.15
70°	2.18	2.08
80°	2.15	2.01
90°	2.12	1.94

DIMENSION "A"

FOR ADDITIONAL INFORMATION SEE STD. DWG. EXJ-4-87. THE EXPANSION JOINT SEAL GLAND MUST BE A 4" STRIP.

NOTES

DETAIL SECTION IS TAKEN PERPENDICULAR TO BACKWALL.

SEE SHEET 19/20 FOR JOINT DETAILS AT PARAPET

FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE STANDARD DRAWING EXJ-4-87.

FOR NEW END CROSS FRAME DETAILS, SEE STANDARD BRIDGE DRAWING GSD-1-96.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED AP | DRAWN AP | REVIEWED TAA | DATE 11/1/11
CHECKED CJW | REVISED | STRUCTURE FILE NUMBER 5000300

JOINT DETAILS
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

18/20

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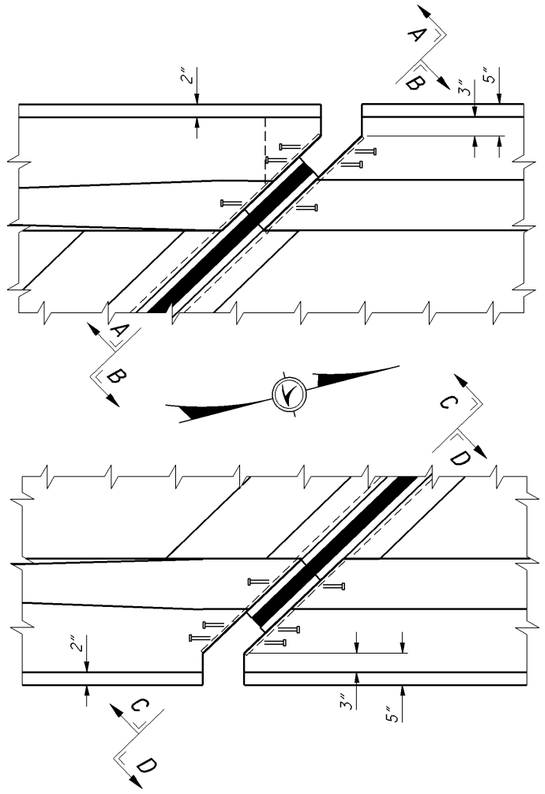
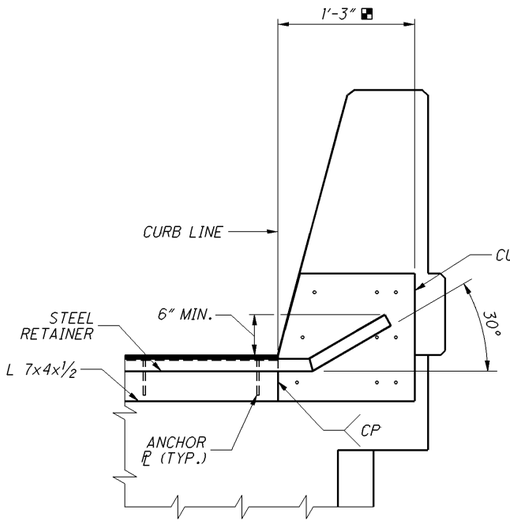
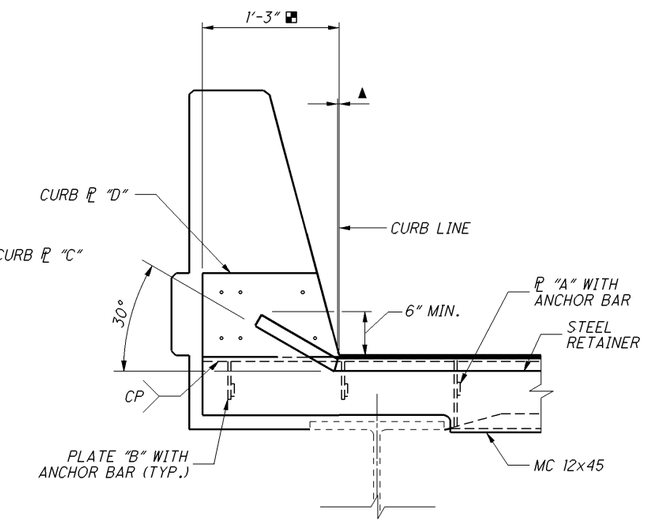


PARTIAL PLAN, PARAPET JOINT DETAILS

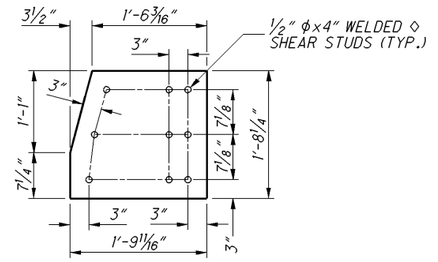
REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR



SECTION A-A

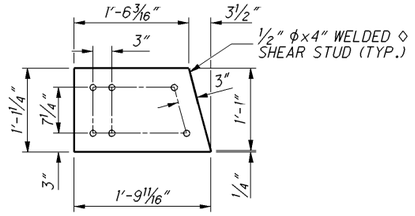


SECTION B-B



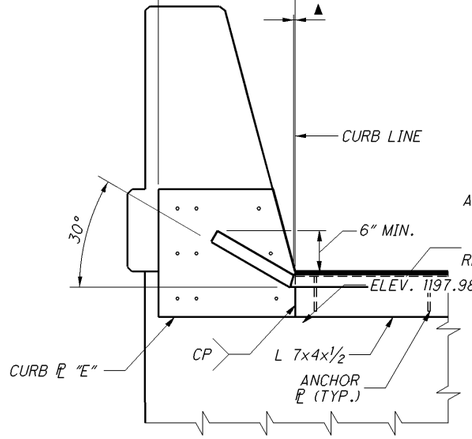
CURB PLATE "C"

(½" THICK PLATE)

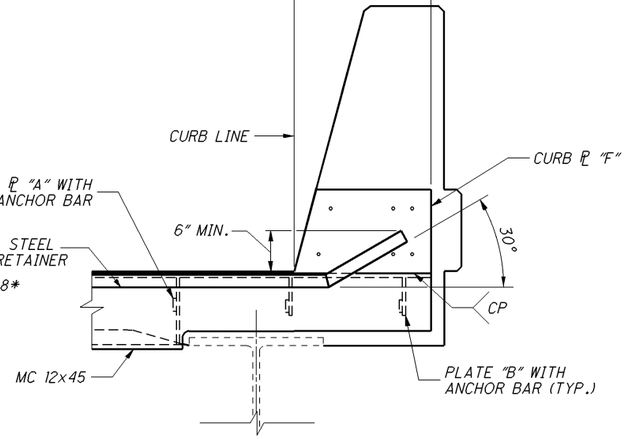


CURB PLATE "D"

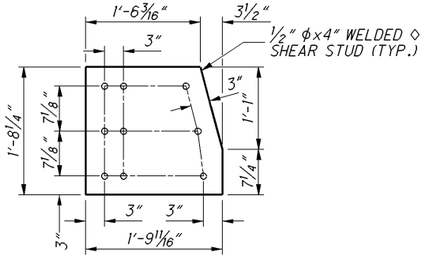
(½" THICK PLATE)



SECTION C-C

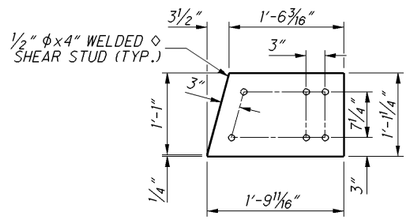


SECTION D-D



CURB PLATE "E"

(½" THICK PLATE)



CURB PLATE "E"

(½" THICK PLATE)

NOTES & LEGEND

SEE SHEET 18/20 FOR JOINT INSTALLATION DETAIL AND SETTINGS.

FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE STANDARD DRAWING EXJ-4-87.

◇ - SHEAR STUDS MUST BE WELDED AT AN ANGLE TO MAINTAIN COVER IN PARAPET.

■ - MEASURED PERPENDICULAR TO PARAPET.

▲ - 0" TO ½" MAX. AT BREAKPOINT IN RETAINER

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
AP	AP	TAA	11/1/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CJW		5000300	

JOINT DETAILS
BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940

19/20

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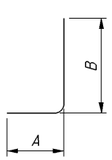
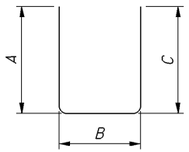
MARK	NUMBER REAR	NUMBER FWD.	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENTS													
A501	21	21	42	9'-6"	416	2	4'-3 1/2"	1'-2"	4'-3 1/2"				
A502	16	16	32	31'-1"	1037	STR							
A503	24	24	48	4'-3"	213	STR							
A504	4	4	8	14'-11"	124	STR							
A505	12	12	24	13'-8"	342	STR							
A601	56	56	112	8'-9"	1500	2	4'-11"	1'-3"	3'-1"				
A602	56	56	112	10'-10"	1850	2	4'-4"	0'-9"	6'-3"				
D801	27	27	54	5'-11"	853	18	3'-9"	1'-0"	1'-0"				
SUB-TOTAL					6,335								

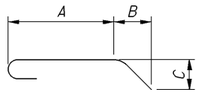
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S401	285	38'-1"	7250	STR							
S402	16	3'-0"	32	STR							
S501	112	30'-0"	3504	STR							
S502	290	38'-6"	11645	STR							
S601	478	41'-8"	29915	STR							
	4 SR	3'-1"									
S602	OF	TO	9172	STR							0'-6 3/4"
	69	41'-2"									
S603	12	3'-0"	54	STR							
X501	32	10'-0"	334	STR							
X502	12	5'-6"	69	25	1'-8"	2'-5"	1'-4 1/4"	0'-1 1/2"	0'-5"		
X503	20	5'-6"	115	STR							
X504	16	3'-2"	53	STR							
X501	60	38'-6"	2409	STR							
X601	10	38'-11"	585	STR							
Y501	366	7'-5"	2831	23	1'-1"	3'-2"	3'-0"			0'-2 3/4"	
Y601	366	3'-6"	1368	28	1'-8"	1'-1"	1'-1"				
Y603	124	5'-4"	993	STR							
Y604	364	2'-7"	1412	1	1'-1"	1'-8"					
SUB-TOTAL			71,741								



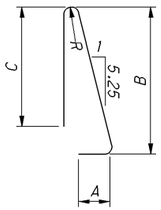
TYPE-1



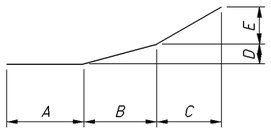
TYPE-2



TYPE-18



TYPE-23



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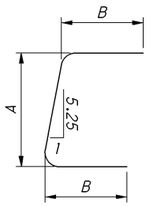

TYPE-28

NOTES

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

THE BAR SIZE IS INDICATED BY THE FIRST DIGIT IN THE BAR MARK. FOR EXAMPLE, A501 IS A #5 BAR.

THE "R" DESCRIBES THE INSIDE RADIUS OF THE BEND. ALL OTHER DIMENSIONS ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.

THE FOLLOWING REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO ENSURE PROPER FIT:

A501
X503
Y603

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED AP | DRAWN AP | CHECKED CJW | REVIEWED TAA | DATE 11/1/11 | REVISED | STRUCTURE FILE NUMBER 5000300

REINFORCEMENT STEEL LIST

BRIDGE NO. MAH-11-0194R
S.R. 11 OVER S.R. 46

MAH-11-1.94/5.08
PID No. 82940