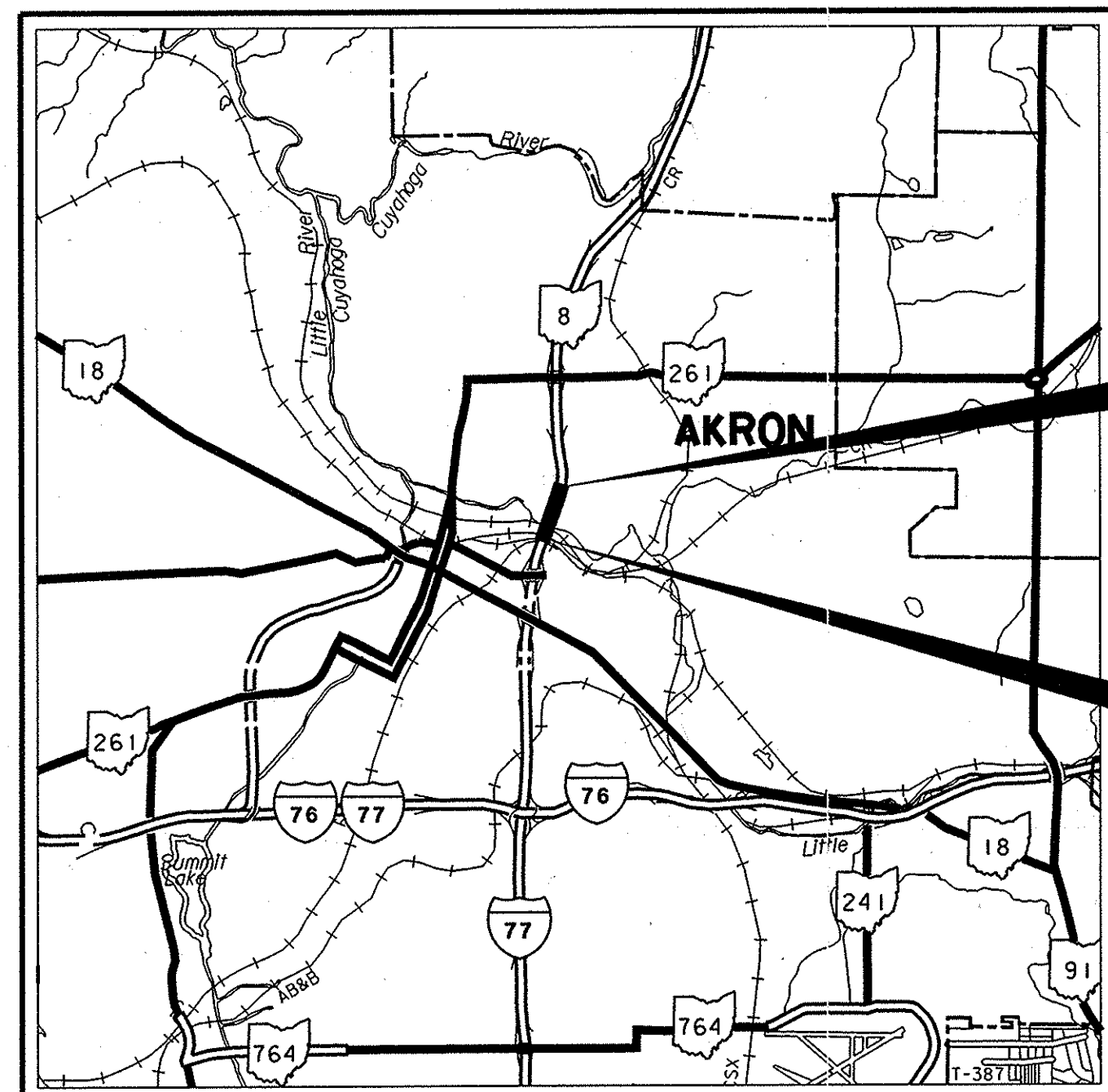


STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUM-8-1.95

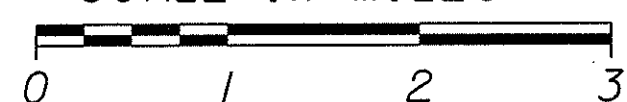
CITY OF AKRON SUMMIT COUNTY



LOCATION MAP

LATITUDE: 41° 05' 18" N LONGITUDE: 81° 30' 06" W

SCALE IN MILES



- PORTION TO BE IMPROVED.....
- INTERSTATE & DIVIDED HIGHWAY.....
- UNDIVIDED STATE & FEDERAL ROUTES.....
- COUNTY HIGHWAYS.....
- OTHER ROADS.....

DESIGN DESIGNATION

CURRENT ADT (2008).....	131,000
DESIGN YEAR ADT (2028).....	141,300
DESIGN HOURLY VOLUME (2028).....	12,720
DIRECTIONAL DISTRIBUTION.....	58%
TRUCKS (24 HOUR B&C).....	7%
DESIGN SPEED.....	55 MPH
LEGAL SPEED.....	50 MPH

DESIGN FUNCTIONAL CLASSIFICATION -
URBAN FREEWAYS AND EXPRESSWAYS

DESIGN EXCEPTIONS

DESIGN FEATURES	APPROVAL DATE	SHEET NO.
BRIDGE WIDTH	NOV. 21, 2006	36

INDEX OF SHEETS:

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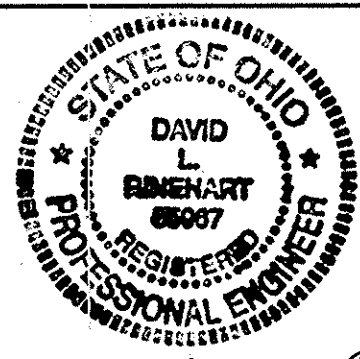
PLAN PREPARED BY:

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD OHIO 44902
PHONE: (419) 524-0074 FAX: (419) 524-1812

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

ENGINEERS SEAL:



SIGNED: David L. Rinehart
DATE: November 28, 2007

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
GR-1.1	7-16-04	DM-1.1	4-21-06	TC-41.20	1-19-01	MT-35.10	4-20-01	800	1-18-08		
GR-2.1	1-16-04	DM-1.4	4-21-06			MT-95.30	9-5-06	832	4-25-06		
GR-3.1	1-19-07	DM-4.3	7-19-02	TC-72.20	1-21-05	MT-95.50	9-5-06				
GR-5.1	4-18-03	DM-4.4	7-19-02	TC-73.10	1-19-01	MT-98.11	10-19-07	848	4-15-05		
GR-6.1	4-18-03					MT-101.60	9-20-06				
		HL-30.31	1-21-05			MT-101.70	10-18-02				
CB-1.1	7-15-05	HL-30.32	4-19-02			MT-105.10	10-18-02				
CB-3.3	7-15-05					MT-105.11	10-18-02				
		HL-40.20	1-19-07								
HW-2.1	4-21-06										
HW-2.2	4-21-06	HL-50.21	1-19-07								
MH-1.2	1-20-06					EXJ-4-87	7-19-02				
		HL-60.11	1-19-07								
		HL-60.12	1-19-07								
		HL-60.31	1-19-07								

SPECIAL PROVISIONS
WATERWAY PERMIT NWP#3 (MAINTENANCE)
11/27/07

PROJECT EARTH DISTURBED AREA	= 1.12 AC. (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	= N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA	= N/A (MAINTENANCE PROJECT)

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE REHABILITATION OF THE STRUCTURE BY REPLACING THE DECK OVERLAY, PERFORMING STRUCTURAL REPAIRS, REPLACING LIGHTING LUMINAIRES AND CIRCUITRY, AND MAKING DRAINAGE REPAIRS.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2005 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

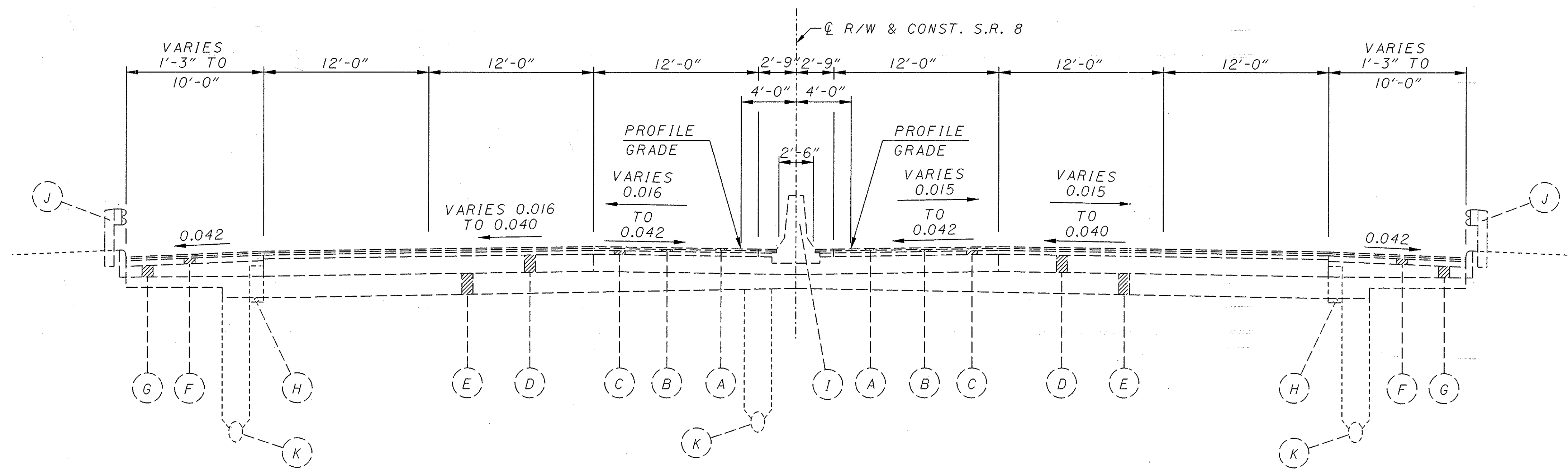
APPROVED *Eric M. Gotli*
DATE 11-30-07 DISTRICT DEPUTY DIRECTOR

APPROVED *James J. Bessley III*
DATE 12-28-07 DIRECTOR, DEPARTMENT OF TRANSPORTATION

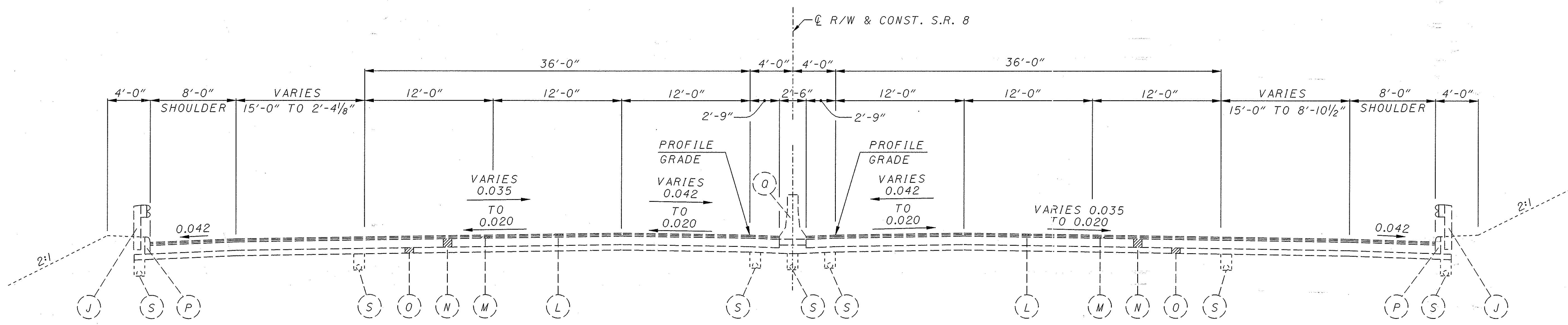
SUM-SR-8-1.95
080206 PID-77078
Dist 4 3/5/2008

77078G100L.DGN 11/23/07 SAM, RB, TWH, JLS

FEDERAL PROJECT NO. NON-FEDERAL
PID NO. 77078
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT
WHEELING & LAKE ERIE RAILROAD
CSX RAILROAD, AKRON METRO RTA & CUYAHOGA VALLEY SCENIC RAILWAY
SUM-8-1.95
102



NORTH OF STRUCTURE SUM-8-0195



SOUTH OF STRUCTURE SUM-8-0195

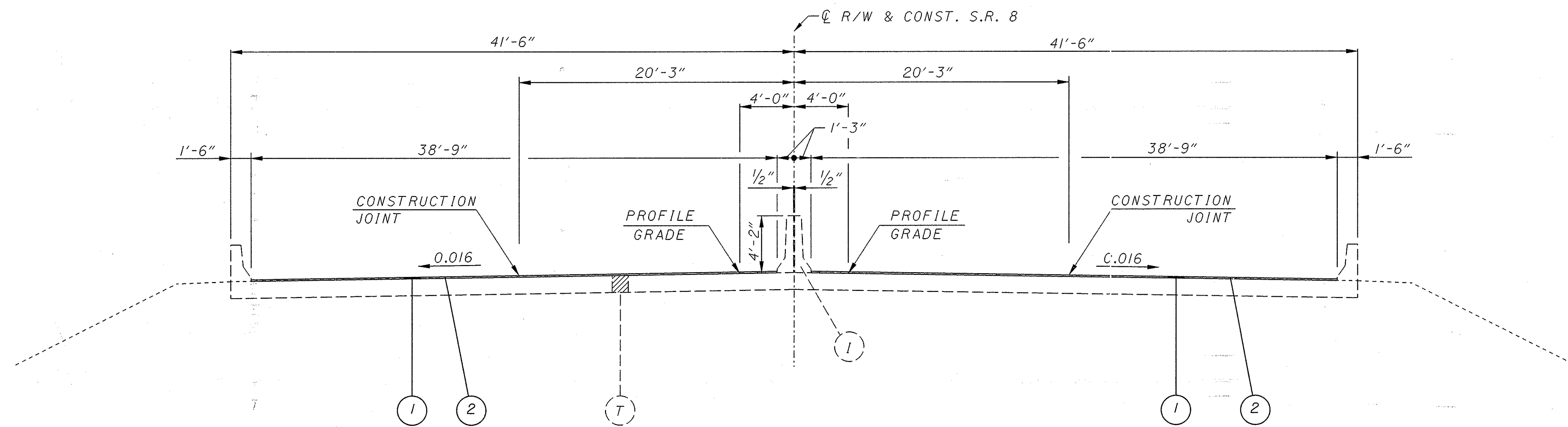
PROPOSED ITEM LEGEND

- ① 848 - SURFACE PREPARATION USING HYDRODEMOLITION
- ② 848 - 2 1/4" MICRO SILICA MODIFIED CONCRETE OVERLAY

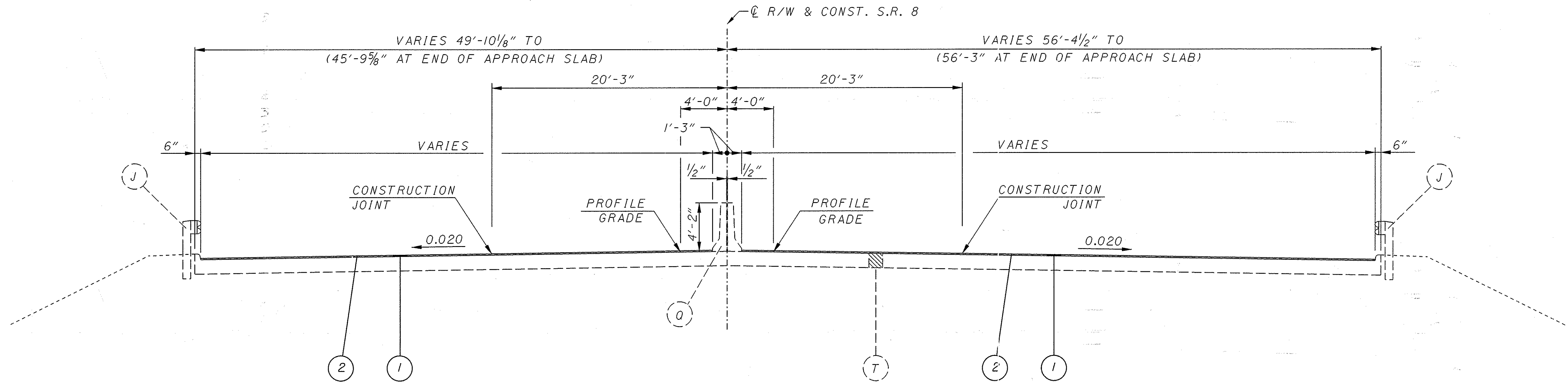
EXISTING ITEM LEGEND

- (A) SPECIAL - 3/4" RUBBERIZED OPEN GRADED ASPHALT FRICTION COURSE, TYPE 1
- (B) 446 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
- (C) 446 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
- (D) 9" REINFORCED CONCRETE PAVEMENT OR 9" CONCRETE BASE
- (E) SUBBASE
- (F) 301 - 4 1/4" BITUMINOUS AGGREGATE BASE, AS PER PLAN
- (G) AGGREGATE BASE
- (H) 605 - SHALLOW UNDERDRAINS, AS PER PLAN
- (I) CONCRETE BARRIER
- (J) 606 - GUARDRAIL, TYPE 5
- (K) UNDERDRAIN
- (L) 446 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
- (M) 446 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28
- (N) 302 - 9 1/2" BITUMINOUS AGGREGATE BASE, PG64-22
- (O) 304 - 6" AGGREGATE BASE
- (P) 609 - CURB, TYPE 6
- (Q) 622 - CONCRETE BARRIER, TYPE BI
- (R) NOT USED
- (S) 605 - 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP (18" DEEP)
- (T) 526 - REINFORCED CONCRETE APPROACH SLAB (T=15"±)

T7078CY001.DGN 11/23/07 SAM.HN



NORTH APPROACH SLAB
 STA. 118+75.15 TO STA. 119+00.15 = 25.00 FT.



SOUTH APPROACH SLAB
 STA. 102+68.65 TO STA. 102+93.65 = 25.00 FT.
 SEE SHEET 3 FOR ITEM LEGEND

770786Y002.DGN 11/23/07 SAM.HN.JLS

UTILITIES

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

LIGHTING: ODOT DISTRICT 4
2088 S. ARLINGTON
AKRON, OH 44306
ATTN: STEVEN A. SASALA
OFFICE: (330) 786-4857
FAX: (330) 786-4801

MCI
2400 N. GLENVILLE
RICHARDSON, TX 75082
ATTN: BETH SEUBERT
(972) 729-6016

OHIO EDISON
1910 WEST MARKET STREET
AKRON, OH 44313
ATTN: STEVE VANCHOFF
(330) 384-4750

QWEST
6155 ROCKSIDE ROAD
INDEPENDENCE, OH 44131
ATTN: SCOTT SIMCOX
(216) 573-5794

LEVEL 3
1025 ELDORADO BOULEVARD
BROOMFIELD, CO 80021
ATTN: MARSHA KIDD
(918) 547-0029

CITY OF AKRON, PUBLIC UTILITIES BUREAU
146 S. HIGH STREET, ROOM 300
PO BOX 3665
AKRON, OH 44309-3665
ATTN: GEORGE THOMAS
(330) 375-2690 EXT. 6418

DOMINION EAST OHIO GAS
7015 FREEDOM AVE. NW
N. CANTON, OH 44720
ATTN: GEORGE TURNER
(330) 266-2041

AKRON WATER DISTRIBUTION
565 JOHNSTON STREET
AKRON, OH 44311
ATTN: JOHN THOMPSON
(330) 375-2420

AT&T
50 W. BOWERY STREET
AKRON, OH 44308
ATTN: JOE RODRIGUEZ
(330) 384-4336

AKRON SEWER MAINTENANCE
1055 HOME AVENUE
AKRON, OH 44310
ATTN: DISPATCHER
(330) 375-2666

SPRINT
11815 HIGHWAY DR.
CINCINNATI, OH 45241
ATTN: DANA COSTA
(513) 459-5761

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

RAILROAD CONTACT INFORMATION

URS CORPORATION (CSX)
ONE INDIANA SQUARE, SUITE 2100
INDIANAPOLIS, IN 46204
ATTN: LARRY J. SHAW, PE
(317) 635-0064

WHEELING & LAKE ERIE RAILWAY
100 EAST FIRST STREET
BREWSTER, OH 44613
ATTN: KASEY O'CONNOR
(330) 767-7279

METRO REGIONAL TRANSIT AUTHORITY
416 KENMORE BOULEVARD
AKRON, OH 44301
ATTN: KIRT W. CONRAD
(330) 564-2281

(ALSO SEE COFFERDAMS, CRIBS AND SHEETING NOTE SHEET 6)

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM - N.A.V.D. 88

WORK LIMITS

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

201 - CLEARING AND GRUBBING, AS PER PLAN

REMOVE TREES AND BRUSH WITHIN THE RIGHT OF WAY LIMITS AND AS SHOWN IN THE PLANS. THIS ITEM SHALL CONFORM TO 201 EXCEPT FOR SCALPING AND REMOVAL OF ALL VEGETATION.

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

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	1	0	1

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	<u>2</u> EACH
659, SEEDING AND MULCHING, CLASS 3C	<u>2721</u> SQ. YD.
659, REPAIR SEEDING AND MULCHING	<u>137</u> SQ. YD.
659, INTER-SEEDING	<u>137</u> SQ. YD.
659, COMMERCIAL FERTILIZER	<u>0.40</u> TON
659, LIME	<u>0.60</u> ACRES
659, WATER	<u>16</u> M. GAL.
659, TOPSOIL	<u>302</u> CU. YD.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF DISTURBED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS.

QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTORS OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT, ROCKS, AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

ACCESS GAINED THROUGH MANHOLES THAT WERE MORTARED SHUT SHALL BE REMORTARED SHUT AT THE COMPLETION OF WORK.

THE FOLLOWING ADDITIONAL QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER TO CLEAR OBSTRUCTIONS IN THE STORM SEWER.

SPECIAL - PIPE CLEANOUT 150 FT.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT AS DETAILED ABOVE.

CALCULATED
TCM
CHECKED
PDG

GENERAL NOTES

SUM-8-1.95

5
102

T70786N001.DGN 11/23/07 HN.MLB.JLS

ITEM 202 - REMOVAL, MISC.: MANHOLE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT, ROCKS, AND DEBRIS FROM THE EXISTING MANHOLE SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. THE MANHOLE SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

MANHOLE COVER SHALL BE REMORTARED SHUT AT THE COMPLETION OF WORK.

CLEANOUT OF THE MANHOLE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 202 REMOVAL, MISC.: MANHOLE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT AS DETAILED ABOVE.

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER

AT PIER TWO PLACE THE ROCK BETWEEN THE PIER AND THE EXISTING RAILROAD-TIE WALL AND FILL IN THE AREA TO THE WEST OF THE PIER. SEE SHEET 34&51. AT PIER FOUR, PLACE THE ROCK ON TOP OF THE EXISTING RIPRAP AND FILL IN BEHIND THE EXISTING RETAINING WALL AT THE LITTLE CUYAHOGA RIVER. SEE SHEETS 36-37. THE CONTRACTOR SHALL EXERCISE CARE TO PREVENT DAMAGE TO THE PIERS OR TO THE DRAINAGE SYSTEMS. QUANTITIES HAVE BEEN CARRIED ON THE PLAN AND PROFILE SUBSUMMARY FOR THE ABOVE ITEMS.

AT THE WASHOUT AREAS, LOCATED SOUTHEAST OF THE NORTH ABUTMENT, THE EXISTING FABRIC SHALL BE CUT AT THE LIMITS SHOWN IN THE PLANS AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. PLACE THE ROCK APPROXIMATELY AS SHOWN ON THE CROSS SECTIONS, SHEETS 48-49.

ALL MATERIAL, EQUIPMENT, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 601 - ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE WASHOUT AREAS.

- WASHOUT AREA - 1
601 ROCK CHANNEL PROTECTION, TYPE D, WITHOUT FILTER 135 CU. YD.
- WASHOUT AREA - 2
601 ROCK CHANNEL PROTECTION, TYPE D, WITHOUT FILTER 358 CU. YD.
- TOTAL 493 CU. YD.

COFFERDAMS, CRIBS AND SHEETING

FOR DRAINAGE STRUCTURES ADJACENT TO RAILROAD TRACKS THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE TEMPORARY SHEETING FOR THE CONSTRUCTION OF THE NEW CATCH BASINS. SHORING PROTECTION SHALL BE PROVIDED WHEN EXCAVATING ADJACENT TO AN ACTIVE RAILROAD TRACK, EXCEPT AS NOTED BELOW.

SHORING WILL NOT BE REQUIRED IF BOTH THE FOLLOWING CONDITIONS ARE SATISFIED:

1. EXCAVATION DOES NOT ENCROACH UPON A 1/2 HORIZONTAL: 1 VERTICAL THEORETICAL SLOPE LINE STARTING 1'-6" BELOW TOP OF RAIL AND AT 12'-0" MINIMUM FROM CENTERLINE OF THE TRACK.
2. TRACK IS ON LEVEL GROUND OR IN A CUT SECTION AND NON STABLE SOIL.

WHEN THE TRACK IS ON AN EMBANKMENT, EXCAVATING THE TOE OF THE EMBANKMENT WITHOUT SHORING MAY AFFECT THE STABILITY OF THE EMBANKMENT. THEREFORE, EXCAVATION OF THE EMBANKMENT TOE WITHOUT SHORING WILL NOT BE PERMITTED.

PREFERRED PROTECTION IS THE COFFERDAM TYPE THAT COMPLETELY ENCLOSES THE EXCAVATION. WHERE DICTATED BY CONDITIONS, PARTIAL COFFERDAMS WITH OPEN SIDES AWAY FROM THE TRACK MAY BE USED. COFFERDAMS SHALL BE CONSTRUCTED USING STEEL SHEET PILING OR STEEL SOLDIER BEAMS WITH TIMBER LAGGING. WALES AND STRUTS SHALL BE PROVIDED AS NEEDED. THE FOLLOWING SHALL BE CONSIDERED WHEN DESIGNING COFFERDAMS:

- a. SHORING SHALL BE DESIGNED TO RESIST A VERTICAL LIVE LOAD SURCHARGE OF 1800 POUNDS PER SQUARE FOOT, IN ADDITION TO ACTIVE EARTH PRESSURE. THE SURCHARGE SHALL BE ASSUMED TO ACT ON A CONTINUOUS STRIP, 8'-6" WIDE. LATERAL PRESSURES DUE TO SURCHARGE SHALL BE COMPUTED USING THE STRIP LOAD FORMULA SHOWN IN AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 9, PART 20.

- b. ALLOWABLE STRESSES IN MATERIALS SHALL BE IN ACCORDANCE WITH AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTERS 7, 8 AND 15.
- c. A CONSTRUCTION PROCEDURE FOR TEMPORARY SHORING SHALL BE SHOWN ON THE DRAWING.
- d. SAFETY RAILING SHALL BE INSTALLED WHEN TEMPORARY SHORING IS WITHIN 12 FEET OF TRACK.
- e. A MINIMUM DISTANCE OF 10 FEET FROM CENTERLINE OF THE TRACK TO FACE OF NEAREST POINT OF SHORING SHALL BE MAINTAINED.

THE CONTRACTOR SHALL SUBMIT THE FOLLOWING DRAWINGS AND CALCULATIONS FOR RAILROAD REVIEW AND APPROVAL AT LEAST THIRTY (30) DAYS BEFORE THE ACTUAL WORK IS TO BEGIN:

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

SUBMITTALS FOR CSX SHALL BE SENT TO:

MR. DAVID J. FETTE
CSXT REGIONAL DIRECTOR RIGHT-OF-WAY CONSTRUCTION
1717 DIXIE HIGHWAY
SUITE 400
FT. WRIGHT, KY. 41011-2785

SUBMITTALS FOR WHEELING AND LAKE ERIE RAILWAY OR METRO RTA SHALL BE SENT AS INDICATED IN THE RAILROAD CONTACT INFORMATION ON SHEET 5.

THE DRAWINGS AND CALCULATIONS SHALL BE PREPARED AND STAMPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER. SHORING PLANS SHALL BE APPROVED BY THE RAILROAD DIRECTOR STRUCTURAL ENGINEERING.

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE DRAINAGE STRUCTURE, AND SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT, MATERIALS, DESIGN, AND SUBMITTALS NECESSARY TO COMPLETE THIS ITEM OF WORK TO THE SATISFACTION OF THE ENGINEER.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES

ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED IN SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER. WATER COLUMN AND SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR EROSION CONTROL AS PER NPDES CONSTRUCTION PERMIT IMPLEMENTATION FLOW CHART, DATED APRIL 24, 2006.

832 EROSION CONTROL 1000 EACH

ENVIRONMENTAL COMMITMENTS

WATERWAY PERMIT DETERMINATION (404/401) - ODOT PROJECTS

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. THE OHIO DEPARTMENT OF TRANSPORTATION - OFFICE OF ENVIRONMENTAL SERVICES (OES) AND/OR THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE) HAS DETERMINED THAT THE PROJECT MEETS THE CRITERIA OF NATIONWIDE PERMIT (NWP) 3 - MAINTENANCE; BASED UPON THE ANTICIPATED IMPACTS TO STREAM(S) AND/OR WETLAND(S). HOWEVER, THE PERMIT DETERMINATION DID NOT INCLUDE THE USE OF TEMPORARY CONSTRUCTION ACCESS FILLS THAT MAY BE REQUIRED FOR CONSTRUCTION (i.e. CAUSEWAY STREAM CROSSINGS, CONSTRUCTION ACCESS PADS, COFFERDAMS, ECT.). INFORMATION REGARDING THE USE OF TEMPORARY CONSTRUCTION ACCESS FILLS MAY NOT HAVE BEEN KNOWN AT THE TIME OF THE PERMIT DETERMINATION. THE CONTRACTOR SHOULD BE AWARE THAT THE USE OF TEMPORARY FILL BELOW THE ORDINARY HIGH WATER MARK (OHWM), WHICH IS THE USACE'S JURISDICTIONAL LIMITS, WILL REQUIRE A PRE-CONSTRUCTION NOTIFICATION (PCN) WITH AUTHORIZATION BY THE USACE UNDER NWP 33 - TEMPORARY CONSTRUCTION ACCESS AND DEWATERING. SHOULD TEMPORARY CONSTRUCTION ACCESS FILL BE REQUIRED, THE CONTRACTOR SHALL COORDINATE SUCH ACTIVITIES, INCLUDING THE PCN, THROUGH OES AND ALLOW 60 DAYS MINIMUM FOR PROCESSING WITH THE USACE. THE CONTRACTOR SHALL NOT COORDINATE THESE ACTIVITIES DIRECTLY WITH THE USACE. THE CONTRACTOR SHALL NOT UTILIZE TEMPORARY FILLS BELOW OHWM UNTIL SUCH ACTIVITY IS AUTHORIZED BY THE USACE. SHOULD A PCN BE REQUIRED, THE PCN SHALL INCLUDE PERTINENT INFORMATION (i.e. VOLUME AND SURFACE AREA OF TEMPORARY FILLS) AND DRAWINGS (PLAN AND PROFILE VIEW) OF TEMPORARY FILLS BELOW OHWM. ONLY CLEAN, NON ERODIBLE MATERIALS SHALL BE USED FOR TEMPORARY CONSTRUCTION ACCESS FILLS. ANY TEMPORARY FILLS BELOW OHWM SHALL BE REMOVED FOLLOWING COMPLETION OF THE AUTHORIZED ACTIVITY AND THE AREA OF STREAM WHERE TEMPORARY FILL WAS LOCATED SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITION.

USACE DEFINITION OF OHWM - THE ORDINARY HIGH WATER MARK IS THE LINE ON THE SHORES ESTABLISHED BY THE FLUCTUATIONS OF WATER AND INDICATED BY PHYSICAL CHARACTERISTICS SUCH AS A CLEAR, NATURAL LINE IMPRESSED ON THE BANK; SHELVEING; CHANGES IN THE CHARACTER OF THE SOIL; DESTRUCTION OF TERRESTRIAL VEGETATION; THE PRESENCE OF LITTER AND DEBRIS; OR THE APPROPRIATE MEANS THAT CONSIDER THE CHARACTERISTICS OF THE SURROUNDING AREAS.

PAINTING AND SEALING OPERATIONS

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT EPOXY-URETHANE SEALER, PAINT, OR OTHER MATERIALS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY BRIDGE STRUCTURE FROM ENTERING ANY STREAMS, WETLANDS OR OTHER WATERS OF THE UNITED STATES AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

CONSTRUCTION AND DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING THE STREAM. ANY MATERIAL THAT DOES FALL INTO THE STREAM SHALL BE REMOVED AS SOON AS POSSIBLE.

MECHANICAL EQUIPMENT OPERATION AT STREAM CHANNEL

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE RIVER CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATION SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEAN OUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS. THE MECHANICAL EQUIPMENT USED TO EXECUTE THE WORK AUTHORIZED HERIN SHALL BE OPERATED IN SUCH A WAY AS TO MINIMIZE TURBIDITY THAT COULD DEGRADE WATER QUALITY AND ADVERSELY AFFECT AQUATIC PLANT AND ANIMAL LIFE.

ENDANGERED SPECIES HABITAT

THIS PROJECT IS WITHIN THE RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND MAY IMPACT SUMMER ROOSTING HABITAT FOR THIS SPECIES. THE SUMMER ROOSTING HABITAT FOR THE INDIANA BAT CONSISTS OF LIVING OR DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES. THEREFORE, ANY UNAVOIDABLE CUTTING OF SUCH TREES WILL BE PERFORMED ONLY AFTER SEPTEMBER 15 AND BEFORE APRIL 15. PRIOR TO ANY REMOVAL OF STRUCTURAL MEMBERS, THE AREA OF BRIDGE TO BE IMPACTED SHOULD BE CAREFULLY EXAMINED FOR THE PRESENCE OF BATS, ESPECIALLY FROM APRIL 15 TO SEPTEMBER 15. IF ANY BATS ARE FOUND ROOSTING ON THE BRIDGE, THE USFWS, ECOLOGICAL SERVICES DIVISION SHOULD BE CONTACTED OR PROVIDED WITH INFORMATION.

CLEANOUT OPERATIONS

THE REMOVAL OF MATERIALS FROM DITCHES AND/OR OTHER DRAINAGE STRUCTURES SHALL BE LIMITED TO THE EXTENT NECESSARY TO RESTORE THE FEATURE BACK TO THE ORIGINAL SPECIFICATIONS. ALL MATERIALS REMOVED FROM DITCHES AND/OR OTHER DRAINAGE STRUCTURES MUST BE IMMEDIATELY REMOVED TO AN UPLAND SITE AND STABILIZED (I.E., SEEDED) TO PREVENT REDISTRIBUTION INTO ANY WATERS OF THE UNITED STATES. IMMEDIATE REMOVAL IS DEFINED BY THE UNITED STATES ARMY CORPS OF ENGINEERS AS DEPOSITING THE REMOVED MATERIALS DIRECTLY INTO A TRUCK AND REMOVING THE MATERIAL FROM THE SITE; PLACEMENT OF REMOVED MATERIALS INTO A WETLAND OR ON THE BANKS OF A STREAM RIVER OR CANAL EVEN TEMPORARILY IS CONSIDERED A FILL AND REQUIRES A PERMIT ACTION. ANY AREAS DISTURBED BY EQUIPMENT ACTIVITIES MUST BE SEEDED TO PREVENT EROSION OF SEDIMENTS INTO WATERS OF THE UNITED STATES.

ITEM 614 - MAINTAINING TRAFFIC

A. GENERAL

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED REPAIR WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY. FURTHERMORE, IN ADDITION TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

THE DECK OVERLAY SHALL BE CONSTRUCTED IN PART-WIDTH PHASES WHILE MAINTAINING A MINIMUM OF ONE LANE OF TRAFFIC DURING WEEKEND LANE CLOSURES AS PER THE PERMITTED LANE CLOSURE CHART REQUIREMENTS.

LIGHTING AND BRIDGE REPAIR WORK, OTHER THAN THE DECK OVERLAY, SHALL BE PERFORMED IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE REQUIREMENTS BELOW.

B. NOTIFICATION

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED ON FUTURE LANE CLOSURES AND TRAFFIC RESTRICTIONS. THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-2211) AND CITY OF AKRON ENGINEER (330-375-2355) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE LANE CLOSURES AND ALTERNATE ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE ALTERNATE ROUTES SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

C. RESTRICTIONS

THE THREE (3) LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON STATE ROUTE 8 AT ALL TIMES EXCEPT DURING PERMITTED LANE CLOSURES CHART AS NOTED BELOW:

1. NO LANES SHALL BE CLOSED ON S.R. 8 DURING THE FOLLOWING DESIGNATED HOLIDAY OR SPECIAL EVENT WEEKENDS:

MEMORIAL DAY	FOURTH OF JULY
LABOR DAY	AKRON ROADRUNNER MARATHON

2. WEEKEND LANE CLOSURE REQUIREMENTS:

ONE LANE TRAFFIC AT A TIME WILL BE PERMITTED, BUT IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. WEEKEND LANE CLOSURES ARE LIMITED TO THE PERMITTED LANE CLOSURE CHART REQUIREMENTS BELOW.

THE CONTRACTOR HAS 12 WEEKENDS DESIGNATED TO RESTRICT TRAFFIC IN ORDER TO COMPLETE THE DECK OVERLAY WORK. A WEEKEND IS DEFINED AS THE 55-HOUR PERIOD FROM 8 PM FRIDAY THROUGH 5 AM MONDAY. THE 12 WEEKENDS SHALL BE CONSECUTIVE CALENDAR WEEKENDS, INTERRUPTED ONLY BY THE HOLIDAY OR SPECIAL EVENT WEEKENDS DESIGNATED IN ITEM 1. THE CONTRACTOR MAY BEGIN ANYTIME AFTER THE NOTICE TO PROCEED DATE AND MUST COMPLETE THE DECK OVERLAY WORK WITHIN THE 12 WEEKENDS OR BY THE COMPLETION DATE LISTED IN THE PROPOSAL, WHICHEVER COMES FIRST. THE 12-WEEKEND TIMEFRAME BEGINS WHEN THE CONTRACTOR STARTS WORK THE FIRST WEEKEND, AND ENDS AFTER 12 WEEKENDS. IF THE WORK IS NOT COMPLETED WITHIN THE 12 WEEKENDS DESIGNATED, THE CONTRACTOR WILL BE SUBJECT TO A DISINCENTIVE OF \$50,000 PER WEEKEND.

ALL MAINTENANCE OF TRAFFIC WORK FOR THE WEEKEND CLOSURES, INCLUDING INSTALLATIONS OF SIGNING AND LANE CLOSURES, SHALL OCCUR WITHIN THESE WEEKEND CLOSURE TIME FRAMES. NO OTHER EXCEPTIONS OR TIME EXTENSIONS WILL BE PERMITTED.

THE CONTRACTOR SHALL SUBMIT A SCHEDULE FOR THE PROPOSED WEEKEND WORK TO THE PROJECT ENGINEER FOR APPROVAL. THIS SUBMITTAL SHOULD BE MADE AT LEAST 48 HOURS IN ADVANCE OF THE WEEKEND THE PROPOSED WORK IS TO OCCUR. PRODUCTION RATES, SEQUENCE OF OPERATIONS, EQUIPMENT AND CREW SIZES SHOULD BE DISCUSSED IN THIS SUBMITTAL.

A MINIMUM OF ONE TWELVE (12) FOOT LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT AND BRIDGE DURING CONSTRUCTION OF THE WORK.

THE CONTRACTOR SHALL HAVE TWO (2) ADDITIONAL ARROW BOARDS ON THE PROJECT FOR USE AS DIRECTED BY THE ENGINEER, COST INCLUDED IN ITEM 614 MAINTAINING TRAFFIC.

3. PERMITTED LANE CLOSURE CHART REQUIREMENTS:

LANE CLOSURES WILL BE PERMITTED, BUT IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. THE TIME AND DURATION OF ALL LANE CLOSURES AND RESTRICTIONS SHALL BE AS PER THE PERMITTED LANE CLOSURE CHART ON THE DATE THIS PROJECT SELLS AVAILABLE ON THE DISTRICT WEB-SITE AT:

[HTTPS://DOTAW100.DOT.STATE.OH.US/PLCM_WEB.JSP](https://dotaw100.dot.state.oh.us/plcm_web.jsp)

4. PARAPET REPLACEMENT WORK:

THE PARAPET REPLACEMENT WORK ON THE NORTHBOUND LANES AND THE NEW PARAPET TRANSITION AND APPROACH GUARDRAIL ON THE SOUTHBOUND LANES SHALL BE COMPLETED WITH OR PRIOR TO THE ADJACENT DECK AND APPROACH SLAB OVERLAYS NOTED ON MOT PLAN SHEETS.

THE PARAPET WORK SHALL BE COORDINATED WITH AND COMPLETED WITHIN THE WEEKENDS LANE CLOSURE REQUIREMENTS OF ITEMS 2 AND 3.

SEE SHEETS 16-17 FOR THE MOT TREATMENT FOR THE NORTHBOUND PARAPET REPLACEMENT WORK.

SEE SHEET 22 FOR THE MOT TREATMENT FOR THE SOUTHBOUND PARAPET TRANSITION AND APPROACH GUARDRAIL WORK.

5. DECK OVERLAY WORK (PHASE 1 AND 2):

A MINIMUM OF ONE (1) LANE OF TRAFFIC SHALL BE MAINTAINED ON NORTHBOUND S.R. 8 DURING BRIDGE NO. SUM-8-0195 REPAIRS AND DECK OVERLAY OPERATIONS, AS PER DETAILS ON SHEETS 15-20. THIS WORK SHALL BE COMPLETED IN THE WORK PHASES AS DETAILED IN THE PLAN.

IN ADDITION, DURING THE PERIODS WHEN NORTHBOUND S.R. 8 IS RESTRICTED TO ONLY ONE (1) LANE OF TRAFFIC, THE S.R. 8 NORTHBOUND TRUCK TRAFFIC WILL BE ROUTED ON AN ALTERNATE ROUTE OVER NORTHBOUND I.R. 77 AND I.R. 271 AS DETAILED ON SHEET 28. SIGNING, ALTERNATE ROUTE AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PROVIDED AND ERECTED BY THE CONTRACTOR ON NORTHBOUND I.R. 77 AND I.R. 271 PER DETAILS ON SHEET 28. A LOCAL ALTERNATE ROUTE SHALL BE ESTABLISHED AND SIGNED AS SHOWN ON SHEET 29.

6. DECK OVERLAY WORK (PHASE 3 AND 4):

A MINIMUM OF ONE (1) LANE OF TRAFFIC SHALL BE MAINTAINED ON SOUTHBOUND S.R. 8 DURING BRIDGE NO. SUM-8-0195 REPAIRS AND DECK OVERLAY OPERATIONS, AS PER DETAILS ON SHEETS 21-26. THIS WORK SHALL BE COMPLETED IN THE WORK PHASES AS DETAILED IN THE PLAN. IN ADDITION, DURING THE PERIODS WHEN SOUTHBOUND S.R. 8 IS RESTRICTED TO ONLY ONE (1) LANE OF TRAFFIC, THE S.R. 8 SOUTHBOUND TRUCK TRAFFIC WILL BE ROUTED ON AN ALTERNATE ROUTE OVER SOUTHBOUND I.R. 271 AND I.R. 77 AS DETAILED ON SHEET 28. SIGNING, ALTERNATE ROUTE AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PROVIDED AND ERECTED BY THE CONTRACTOR ON SOUTHBOUND I.R. 77 AND I.R. 271 PER DETAILS ON SHEET 28. A LOCAL ALTERNATE ROUTE SHALL BE ESTABLISHED AND SIGNED AS SHOWN ON SHEET 29.

7. THE CLOSING OF LANES TO REDUCE THE NUMBER OF LANES TO ONE SHALL BE AS PER MT-95.30 AND MAINTENANCE OF TRAFFIC - LANE CLOSURES SIGNING SHEET 27. THE CONTRACTOR MAY START CLOSING THE ROADWAYS DOWN TO TWO (2) LANES PRIOR TO 10:00 P.M. FRIDAY AS PER THE PERMITTED LANE CLOSURE CHART. TWO LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHALL BE USED AT EACH CLOSING LOCATION

PRIOR TO REOPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHENEVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

DURING NON-WORKING HOURS, ALL LANES SHALL BE IN FULL OPERATION WITH ALL TRAFFIC CONTROL SIGNS, EXCEPT W20-I-48 "ROAD WORK AHEAD" SIGNS, REMOVED OR COVERED AND ALL CHANNELIZING DEVICES REMOVED FROM THE PAVEMENT SURFACES. CHANNELIZING DEVICES MAY NOT BE STORED ON THE SHOULDER.

8. CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE:

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN WORK OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

D. MAINTENANCE OF TRAFFIC SYSTEMS

1. WHEN REQUIRED:

WHENEVER ANY PART OF THE TRAVELED SURFACE IS BEING WORKED UPON OR IS OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS THEREINAFTER REFERRED TO AS THE "MANUAL". THE TRAFFIC CONTROL DEVICE SYSTEM SHALL CONSTITUTE THE MINIMUM PROVISIONS FOR TRAFFIC CONTROL FOR EACH PARTICULAR SITUATION. WHENEVER THE ENGINEER DEEMS IT NECESSARY, ESPECIALLY WHERE A GRADE, CURVE, OR MERGE CONDITION EXISTS, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED.

NOTE CONTINUED

ITEM 614 - MAINTAINING TRAFFIC CONT'D

2. **CONDITIONS:**
DURING ALL PARTS OF THIS PROJECT, SIGNING, BARRICADES, FLASHING ARROWS, ETC. SHALL BE LOCATED AS INDICATED IN THE MANUAL, AS SHOWN ON THE MAINTENANCE OF TRAFFIC SHEETS OR AS SHOWN ON STANDARD DRAWING MT-95.30, AND MT-95.50.
3. **ADVANCE WARNING SIGNS:**
ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE.
4. **FLASHING ARROW REQUIREMENT:**
FLASHING ARROWS SHALL BE FURNISHED AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS OR ON STANDARD DRAWING MT-95.30.
5. **PROTECTION OF PUBLIC:**
WHENEVER ANY WORK IS BEING DONE OVER A TRAVELED LANE OR SHOULDER, THE CONTRACTOR SHALL SUPPLY SUFFICIENT SAFETY EQUIPMENT AS APPROVED BY THE DIRECTOR TO PROTECT THE TRAVELING PUBLIC FROM ANY CONSTRUCTION DEBRIS. IF TRAVELED LANES UNDER STRUCTURES ARE TO BE CLOSED FOR REASONS OF SAFETY, METHOD AND TIME OF CLOSURE MUST BE APPROVED PRIOR TO IMPLEMENTATION. PERSONAL CARS SHALL NOT BE PARKED WITHIN THE L/A.
6. **LAW ENFORCEMENT OFFICER WITH PATROL CAR:**
SEE NOTE AT RIGHT.
7. **FAILURE TO COMPLY:**
IF THERE IS ANY FAILURE TO COMPLY WITH PROVISION FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, OR WITH THE PROVISIONS OF THE "MANUAL". THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL NOT BE CONSIDERED IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY IN THE VICINITY OF THE WORK AREA IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

E. TRAFFIC CONTROL MATERIAL

1. **SIGNS:**
SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES SHALL BE AS PROVIDED IN THE "MANUAL", OR IN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THIS PROJECT.
2. **SIGN SUPPORTS:**
SIGN SUPPORTS SHALL BE AS SHOWN ON THE STANDARD DRAWINGS MT-105.I0 AND MT-105.II.
3. **FLASHING ARROW PANEL:**
THE ELECTRIC FLASHING ARROW PANELS SHALL BE AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-35.I0.
4. **DRUMS:**
DRUMS SHALL BE LOCATED AS SHOWN ON THE TRAFFIC CONTROL PLANS AND ARE REQUIRED FOR NIGHTTIME CLOSURES. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS.
5. **FLOODLIGHTING:**
FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.
6. **PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN:**
SEE NOTE, SHEET 10.

F. RAILROAD COORDINATION

A CLEARANCE OF 14'-0" HORIZONTALLY FROM THE CENTER OF CURVED RAILROAD TRACKS SHALL BE MAINTAINED AT ALL TIMES EXCEPT AT THE SPECIFIC LOCATIONS DESCRIBED IN THE COFFERDAMS, CRIBS AND SHEETING NOTE ON SHEET 6.

- G. **ESTIMATED QUANTITIES**
THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO REPAIR ANY ASPHALT THAT MAY BE DAMAGED DURING THE CONSTRUCTION.

614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 10 CU YD

H. PAYMENT

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

INNOVATIVE CONTRACTING

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE \$ PER TIME UNIT
ALL LANES/RAMPS OPEN TO TRAFFIC	5 AM MONDAY TO 8 PM FRIDAY	15 MINUTES	\$5,000

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP-MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS AS PER 614 MAINTAINING TRAFFIC NOTE AND AS DIRECTED BY THE ENGINEER:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS OR TEAR DOWN PERIODS.
- FOR OTHER PERIODS AS DIRECTED BY THE ENGINEER.

LAW ENFORCEMENT OFFICERS (LEOS) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEOS ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

CANTON PATROL POST
4710 SHUFFEL ROAD
NORTH CANTON, OHIO 44720
PHONE: 330-433-6200
FAX: 330-433-6230

IF AFTER CONTACTING THE OHIO HIGHWAY PATROL, IT IS DETERMINED THAT THEY CANNOT SUPPLY THE LEO, THEN AN AUTHORIZED MUNICIPAL OR COUNTY POLICE OFFICER WITH A MARKED AND FLASHER-LIGHT EQUIPPED OFFICIAL POLICE OR PATROL CAR SHALL BE PROVIDED.

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 500 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF CONTRACTORS WISH TO UTILIZE LEOS FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614, MAINTAINING TRAFFIC.

WORKSITE TRAFFIC SUPERVISOR

THE CONTRACTOR SHALL EMPLOY (OTHER THAN THE SUPERINTENDENT) AND SUBJECT TO THE APPROVAL OF THE ENGINEER, A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS). THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

- AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS).
- THE NATIONAL SAFETY COUNCIL, TRAFFIC CONTROL ZONES SUPERVISORS COURSE, PHONE NUMBER 1-800-441-5103.
- NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0528.
- THE OCA/TCS WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004.

THE WTS POSITION IS ESTABLISHED FOR THE PURPOSE OF MONITORING AND CORRECTING ANY TRAFFIC CONTROL DEFICIENCIES IN THE WORK ZONE. THE WTS MUST ALSO COORDINATE WITH ALL LAW ENFORCING AGENCIES RESPONSIBLE FOR THE ROADWAY UNDER CONSTRUCTION AND RETRIEVE ALL CRASH REPORTS (OH-1) THAT OCCUR DURING THE CONSTRUCTION SEASON. THE WTS SHALL OVERSEE ALL OPERATIONS THAT AFFECT THE MOVEMENT OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH THE WORK ZONE. TRAFFIC CONTROL AND CRASH DATA EVALUATION WILL BE THE WTS'S MAIN DUTY WHILE THE WORK ZONE IS IN PLACE.

THE WTS SHALL BE PRESENT WHEN THE WORK ZONE IS BEING SET UP, AND SHALL ALSO BE PRESENT WHEN THE CONTRACTOR OR SUBCONTRACTOR INSTALLS A TRAFFIC RESTRICTION, LANE CLOSURE, ETC. IN LIEU OF THE WTS BEING PRESENT WHEN A SUBCONTRACTOR HAS A WORK ZONE IN PLACE, THE CONTRACTOR MAY USE HIS OWN PERSONNEL THAT IS A CERTIFIED WTS. THE CONTRACTOR OR SUBCONTRACTOR MUST PRESENT A COPY OF HIS WTS CERTIFICATION TO THE PROJECT ENGINEER.

DAILY, INCLUDING WEEKENDS AND HOLIDAYS, THE WTS SHALL SPEND A MINIMUM OF ONE HOUR REVIEWING THE WORK ZONE AND/OR CRASH DATA FOR DEFICIENCIES AND MAINTAINING THE WORK ZONE. THE WTS MUST RECOMMEND SOLUTIONS TO ADDRESS ANY ISSUES THAT ARE POTENTIALLY CREATING CRASHES WITHIN THE WORK ZONE. THE WTS MUST PRESENT THESE RECOMMENDATIONS TO THE ENGINEER AND THE DISTRICT WORK ZONE TRAFFIC MANAGER (DWZTM) FOR APPROVAL AT ALL PROJECT PROGRESS MEETINGS. UPON APPROVAL BY THE ENGINEER AND THE DWZTM, THE CONTRACTOR MUST IMPLEMENT THE RECOMMENDED SOLUTIONS TO THE WORK ZONES WITHIN ONE WEEK. THESE HOURS MAY BE ADJUSTED BY THE ENGINEER BUT MUST BE PERFORMED ONCE A DAY DURING THE CONSTRUCTION SEASONS. THE WTS MUST INSPECT THE WORK ZONE AT THE BEGINNING AND THE END OF EACH WORK DAY AND ONE TIME PER WEEK DURING THE HOURS OF DARKNESS.

A RECORD OF EACH DAILY REVIEW SHALL BE GIVEN TO THE PROJECT ENGINEER THE FOLLOWING WORK DAY. ALSO IN WRITING THE WTS'S REPORT SHALL INCLUDE: TRAFFIC CONTROL DEVICE CONDITION, PLACEMENT, VISIBILITY, TRAFFIC FLOW CONDITIONS, INCIDENTS, ACCIDENTS, CONGESTION POINTS, ADEQUACY OF ADVANCED WARNING SIGNS BEYOND PROJECT LIMITS, INTERACTION OF WORK VEHICLES AND TRAFFIC, PROPER STORAGE OF MATERIALS AND EQUIPMENT.

IF THE RESTRICTIONS ARE SHORT TERM, THE WTS SHALL MONITOR THE ZONE FOR COMPLIANCE. DURING LANE CLOSURES THE WTS SHALL MAKE SURE ALL TRAFFIC CONTROL ITEMS ARE FUNCTIONING PROPERLY. TRAFFIC CONTROL AND CRASH DATA EVALUATION WILL BE THE WTS'S MAIN DUTY DURING IMPLEMENTATION OF ZONES OR SHORT TERM ZONES. THE WTS SHALL HAVE THE AUTHORITY TO HAVE DEFICIENCIES CORRECTED AS SOON AS POSSIBLE. THE WTS SHALL PROVIDE THE DWZTM A SKETCH OF THE TRAFFIC CONTROL PLAN (TCP) EVERY DAY THERE IS TO BE A SHORT-TERM TRAFFIC RESTRICTION, LANE CLOSURE, ETC. THIS TCP SHALL SHOW HOW THE WORK ZONES ARE TO BE IMPLEMENTED.

THE WTS SHALL BE AVAILABLE ON A 24-HOUR BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. A 24-HOUR PHONE NUMBER SHALL BE MADE AVAILABLE TO THE PROJECT ENGINEER IN ORDER TO CONTACT THE WTS. THE WTS SHALL HAVE A PAGER AND THE PHONE NUMBER PROVIDED TO THE PROJECT ENGINEER.

FAILURE OF THE CONTRACTOR TO COMPLY WITH ANY OF THE ABOVE, SHALL CONSTITUTE CAUSE FOR THE PROJECT ENGINEER TO DEDUCT \$500.00 PER DAY FROM MONEY DUE TO THE CONTRACTOR, NOT AS A PENALTY, BUT AS A LIQUIDATION DAMAGE.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614 WORKSITE TRAFFIC SUPERVISOR 5 MONTHS

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. EACH SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT [HTTP://WWW.DOT.STATE.OH.US/TESTLAB/APPLISTS/MISC/PCMS.HTM](http://www.dot.state.oh.us/testlab/applists/misc/pcms.htm). THE CLASS UNITS SHALL HAVE A MINIMUM LEGIBILITY DISTANCE OF 850 FEET.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEETS 28-29 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE PCMS SHOULD NOT BE LOCATED IN THE MEDIAN OF THE HIGHWAY. THE PCMS SHOULD BE LOCATED BEHIND GUARDRAIL WHENEVER POSSIBLE. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE HIGH-INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE TWO DIFFERENT MEMORIES (PROM AND RAM) AND THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES WILL BE PERMITTED. NORMALLY ONLY A MAXIMUM OF THREE MESSAGE PHASES SHOULD BE EMPLOYED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL IN ACTIVE CELLULAR AREAS ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE PCMS UNITS ON THE PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY OUTLINED IN 614.07.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ESTIMATED QUANTITIES CARRIED ON SHEETS 28&29.

WORK ZONE MARKINGS

THE CONTRACTOR SHALL REPLACE PAVEMENT MARKINGS PRIOR TO REOPENING THE WORK AREA TO TRAFFIC.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF 614.11:

- 614 WORK ZONE LANE LINE, CLASS 1, AS PER PLAN 1.24 MILE
- 614 WORK ZONE EDGE LINE, CLASS 1, AS PER PLAN 1.24 MILE

THE WORK ZONE MARKINGS SHALL BE PLACED AT THE LOCATION OF THE FINAL PAVEMENT MARKINGS.

REPLACEMENT BARRIER REFLECTORS

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR REPLACEMENT OF DAMAGED OR MISSING BARRIER REFLECTORS PRIOR TO EACH PHASE OF THE WORK.

- 614 BARRIER REFLECTOR, TYPE B 68 EACH

TRUCK MOUNTED ATTENUATOR

WHEN THE CONTRACTOR IS PERFORMING WORK ON ROADWAY, A TRUCK MOUNTED ATTENUATOR MUST TRAIL THE OPERATION. THIS SAME TRUCK MUST HAVE A TYPE B FLASHING ARROW PANEL MOUNTED ON IT FACING THE REAR OF THE TRUCK.

THE T.M.A. SHALL BE AN ALPHA 60 M.D., MANUFACTURED BY

ENERGY ABSORPTION SYSTEMS, INC.
ONE EAST WACKER DRIVE
CHICAGO, ILLINOIS 60601-2076
(312)467-6750

AN EQUAL PRODUCT MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER. THE T.M.A. MUST BRING A VEHICLE WEIGHING ABOUT 1,800 TO 4,500 LBS. AND TRAVELING AT 60 MPH TO A SAFE, CONTROLLED STOP, PER NCHRP 350 CRITERIA. THE MANUFACTURE'S SPECIFICATION MUST BE FOLLOWED CONCERNING THE SIZE OF THE TRUCK AND THE CONNECTIONS TO THE T.M.A.

OPERATIONS THAT THE T.M.A. AND FLASHING ARROW PANEL ARE INTENDED FOR, BUT NOT LIMITED TO, ARE THE FOLLOWING;

1. SET-UP AND TEAR-DOWN OF A LANE CLOSURE.
2. PLACING OR PICKING UP DRUMS, CONES, OR EQUIPMENT.
3. DURING EACH PHASE OF BRIDGE OVERLAY WORK (SEE M.O.T. PLAN SHEETS)

ALL COSTS ASSOCIATED WITH THIS ITEM ARE TO BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC.

COVERING OF SIGNS

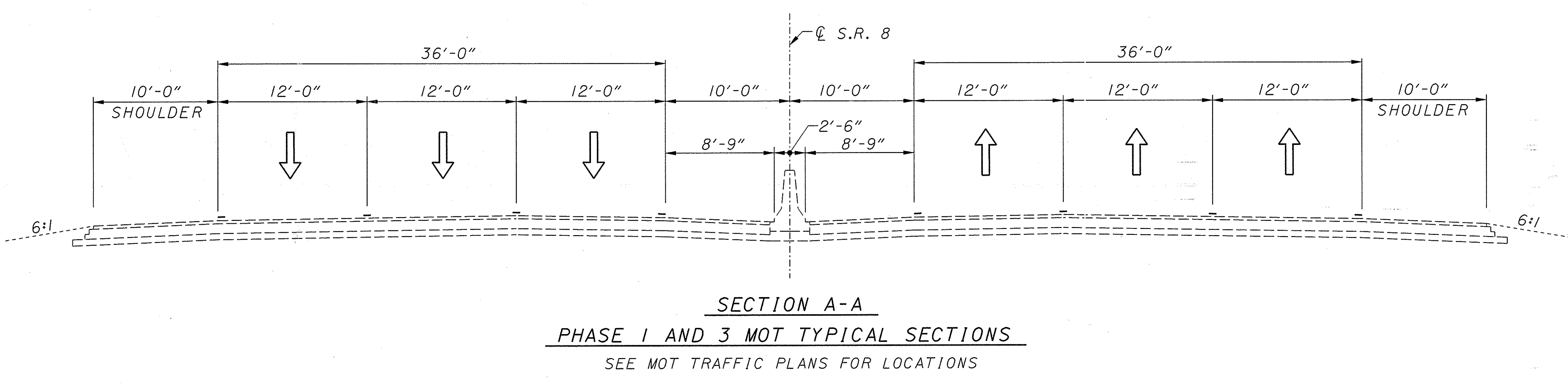
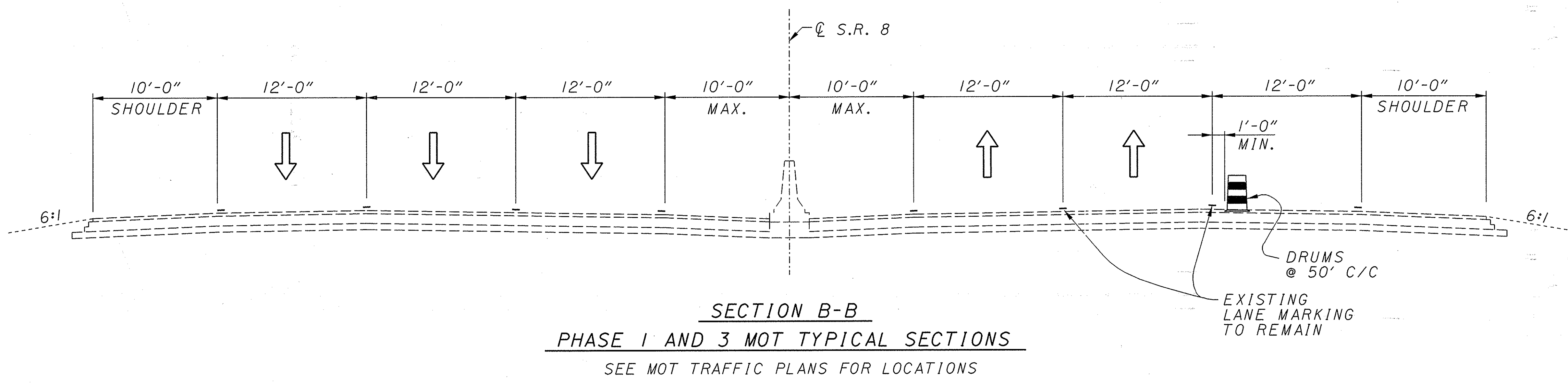
WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. THE CONTRACTOR SHALL PROVIDE ALL OF THE "CLOSED" PLAQUES NECESSARY.

614 WORK ZONE PAVEMENT MARKINGS, AS PER PLAN

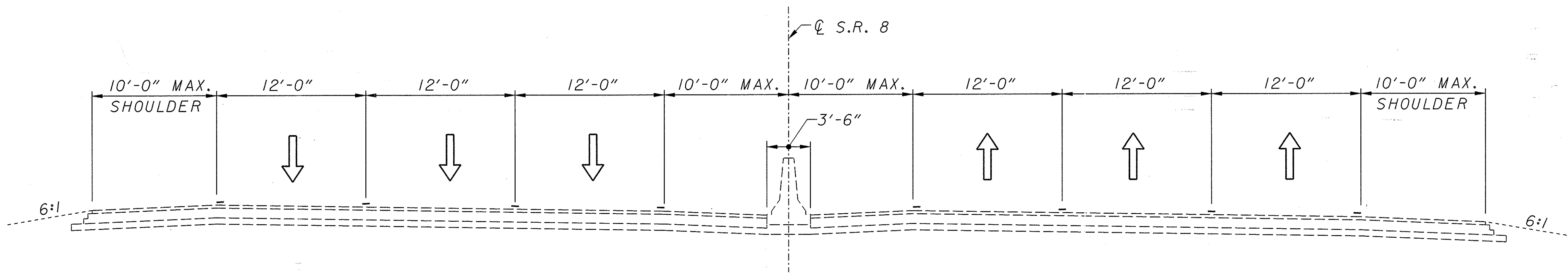
IN ADDITION TO THE REQUIREMENTS OF 614.11, ALL CLASS 1 EDGE LINES, LANE LINES, CENTER LINES AND DOTTED LINES SHALL BE 6 INCHES WIDE AND CHANNELIZING MARKINGS SHALL BE 8 INCHES WIDE. THE APPLICATION RATES FOR THESE LINES SHALL BE 1.5 TIMES THE RATES SPECIFIED FOR 4 INCH LINES IN TABLE 614.11-1 AND TABLE 614.11-2.

614 BARRIER REFLECTORS AND/OR OBJECT MARKERS

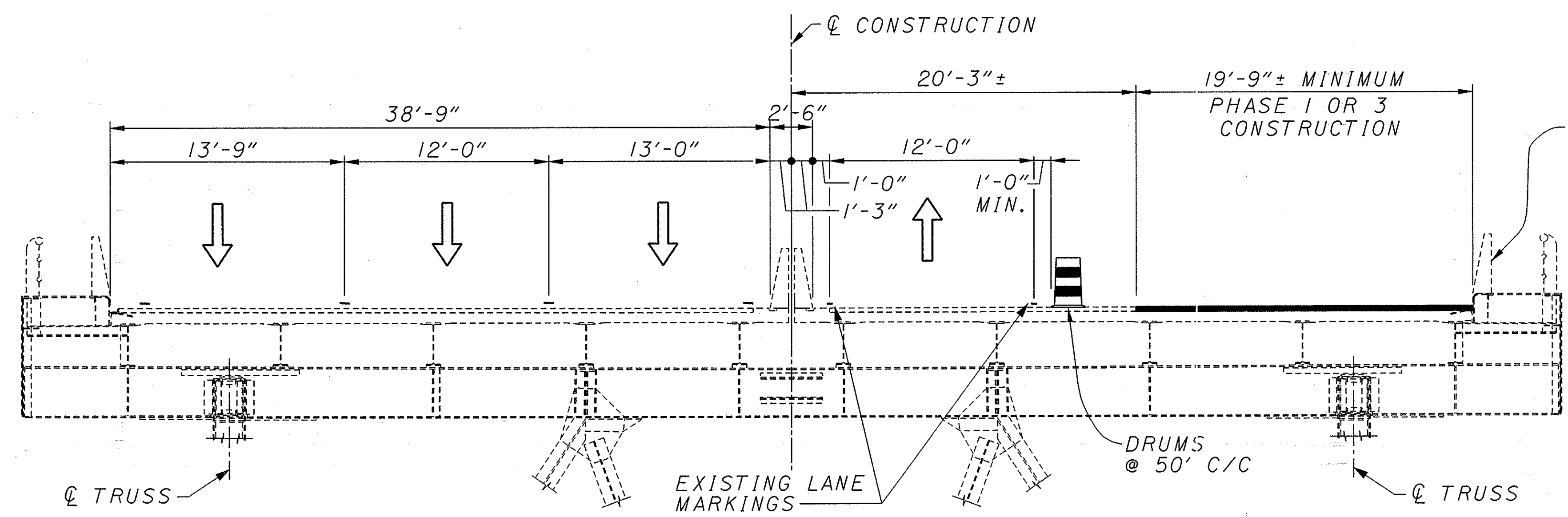
BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 526, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF THE APPROPRIATE TYPE BARRIER REFLECTORS AND OBJECT MARKERS HAS BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC QUANTITIES.



77078MY001.DGN 11/23/07 SAM,RC,MLB,JLS



SECTION D-D
PHASE 1 AND 3 MOT TYPICAL SECTIONS
 SEE MOT TRAFFIC PLANS FOR LOCATIONS



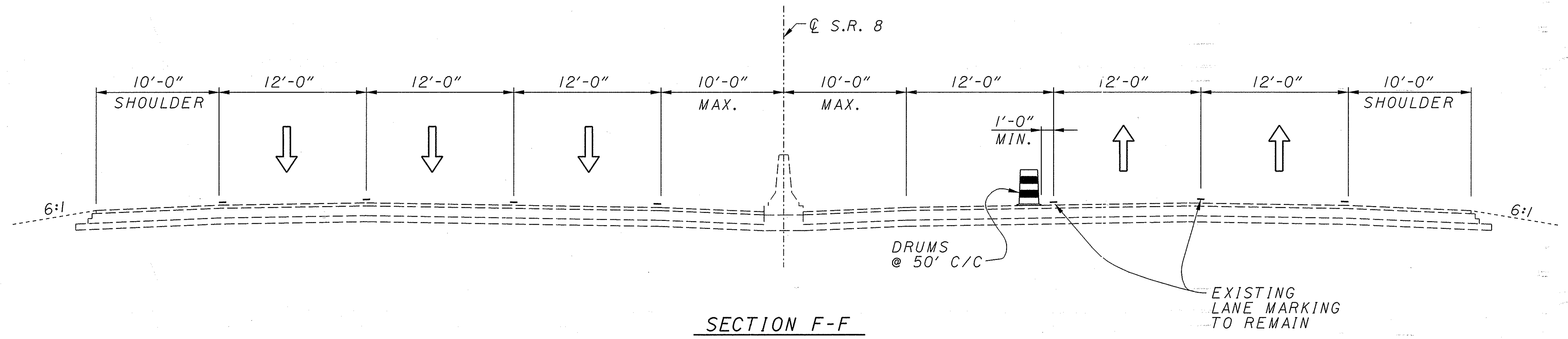
SEE SHEETS 16,17&22 FOR MOT TREATMENT TO REPLACE A PORTION OF NB PARAPET (PHASE 1) AND SB PARAPET TRANSITION (PHASE 3)

SECTION C-C
PHASE 1 AND 3 MOT TYPICAL SECTIONS
 SEE MOT TRAFFIC PLANS FOR LOCATIONS

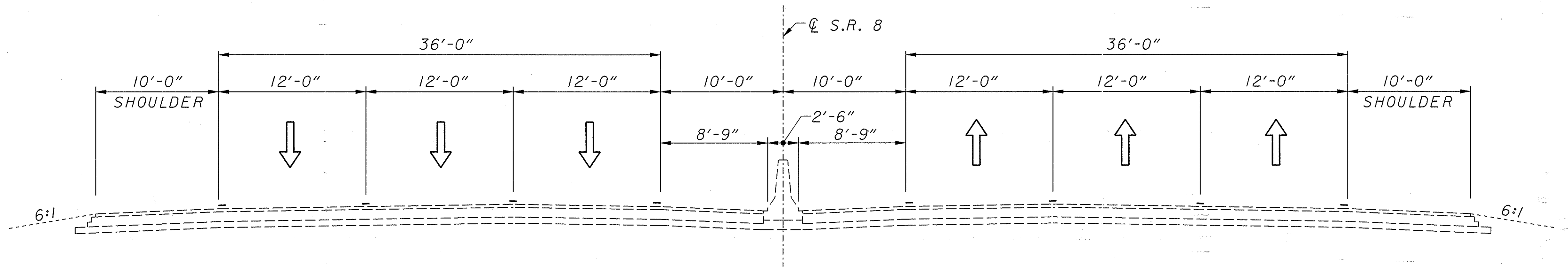
T7078MY001.DGN 11/23/07 SAM,RC,MLB,JLS

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

SUM-8-1.95

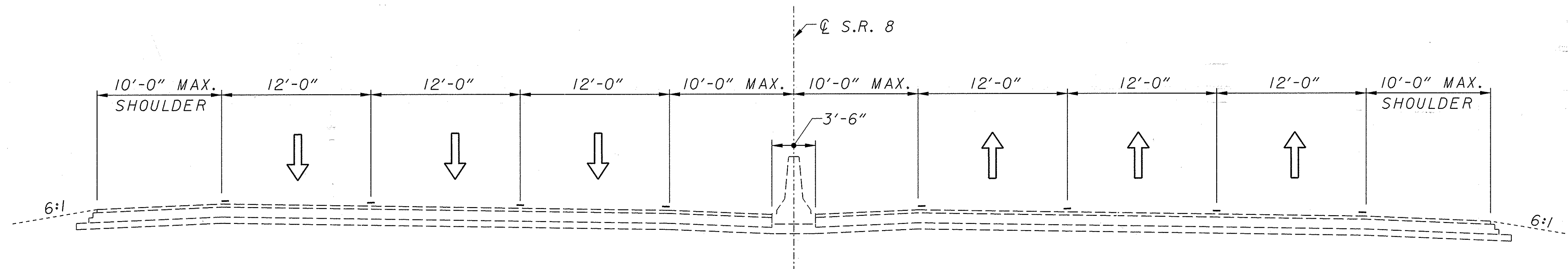


SECTION F-F
PHASE 2 AND 4 MOT TYPICAL SECTIONS
 SEE MOT TRAFFIC PLANS FOR LOCATIONS

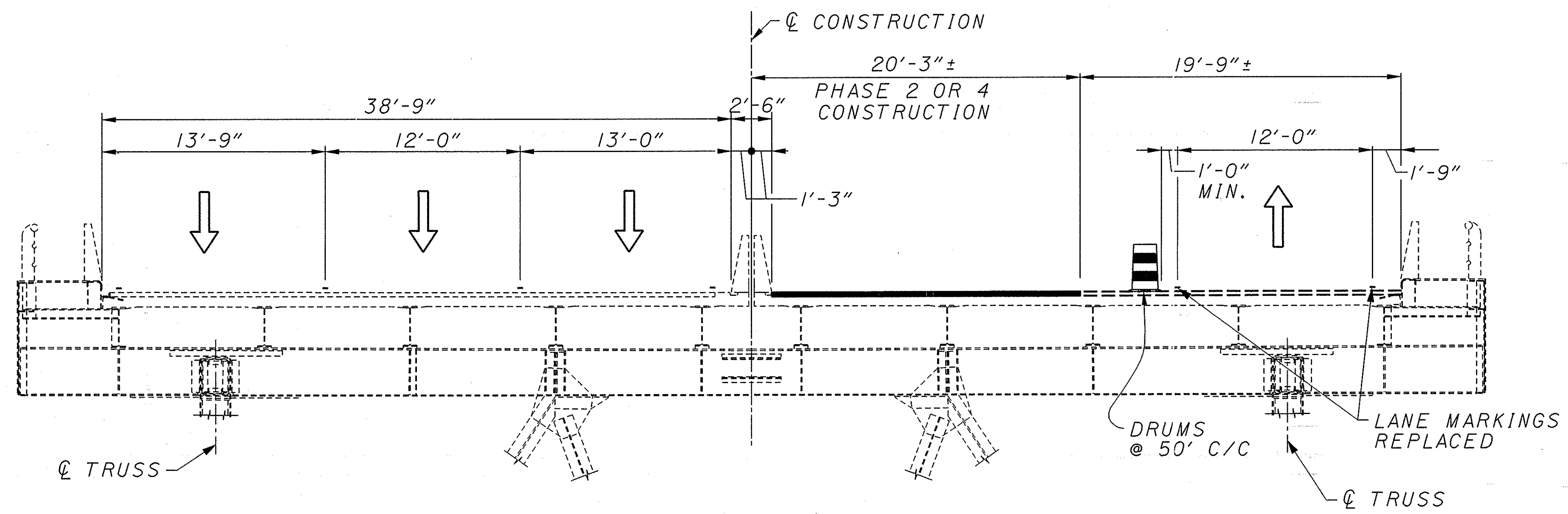


SECTION E-E
PHASE 2 AND 4 MOT TYPICAL SECTIONS
 SEE MOT TRAFFIC PLANS FOR LOCATIONS

T7078MY002.DGN 11/23/07 SAM,RC,MLB,JLS

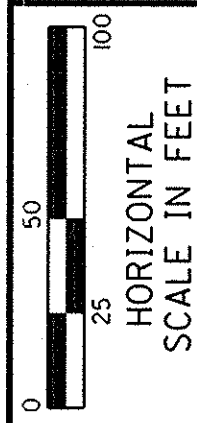
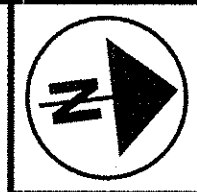


SECTION H-H
PHASE 2 AND 4 MOT TYPICAL SECTIONS
 SEE MOT TRAFFIC PLANS FOR LOCATIONS



SECTION G-G
PHASE 2 AND 4 MOT TYPICAL SECTIONS
 SEE MOT TRAFFIC PLANS FOR LOCATIONS

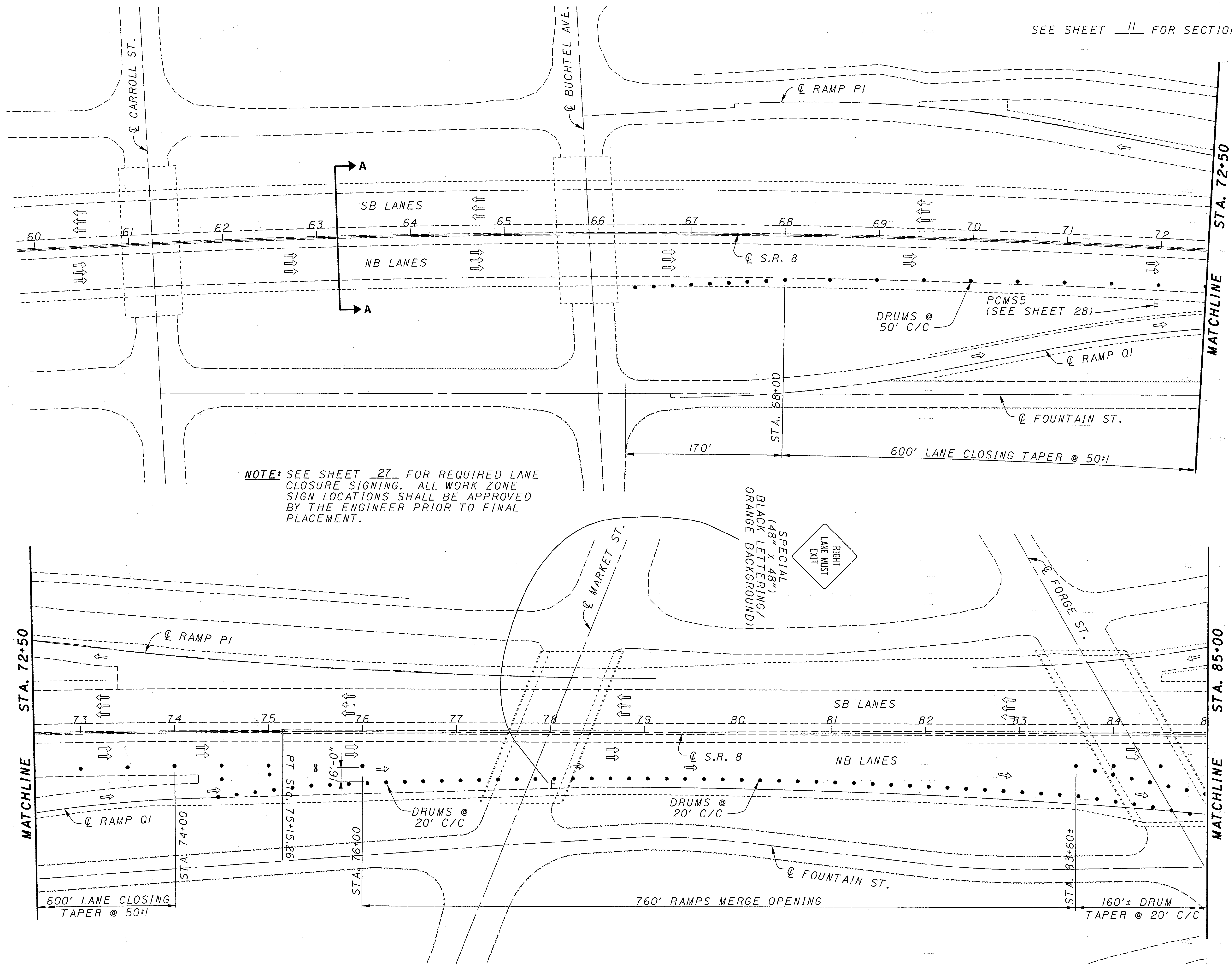
SEE SHEET 11 FOR SECTION A-A



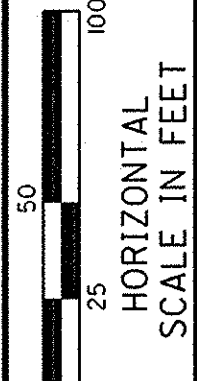
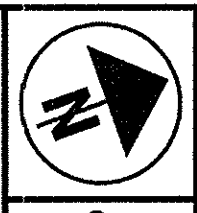
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**MAINTENANCE OF TRAFFIC PLAN
PHASE 1 - STA. 60+00 TO STA. 85+00**

SUM-8-1.95



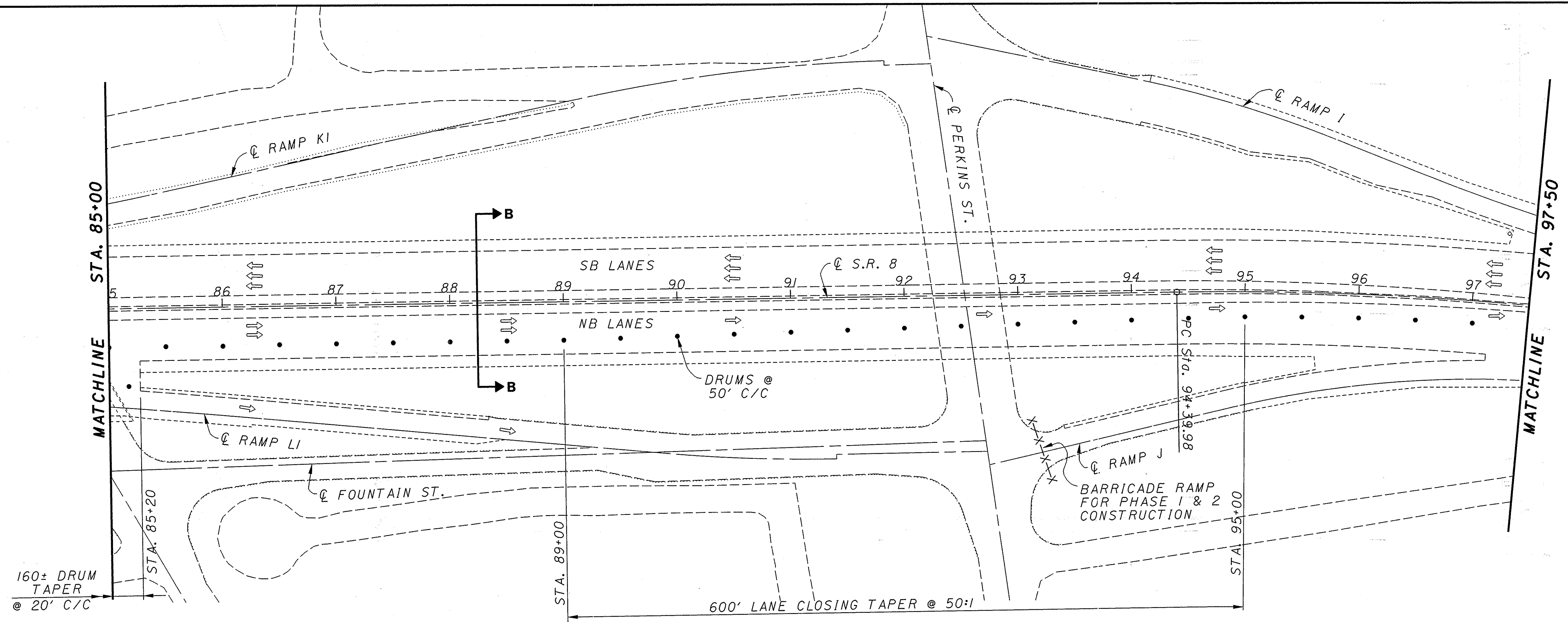
77078MPO01-PHASE1.DGN 11/23/07 SAM,RC,MLB,JLS



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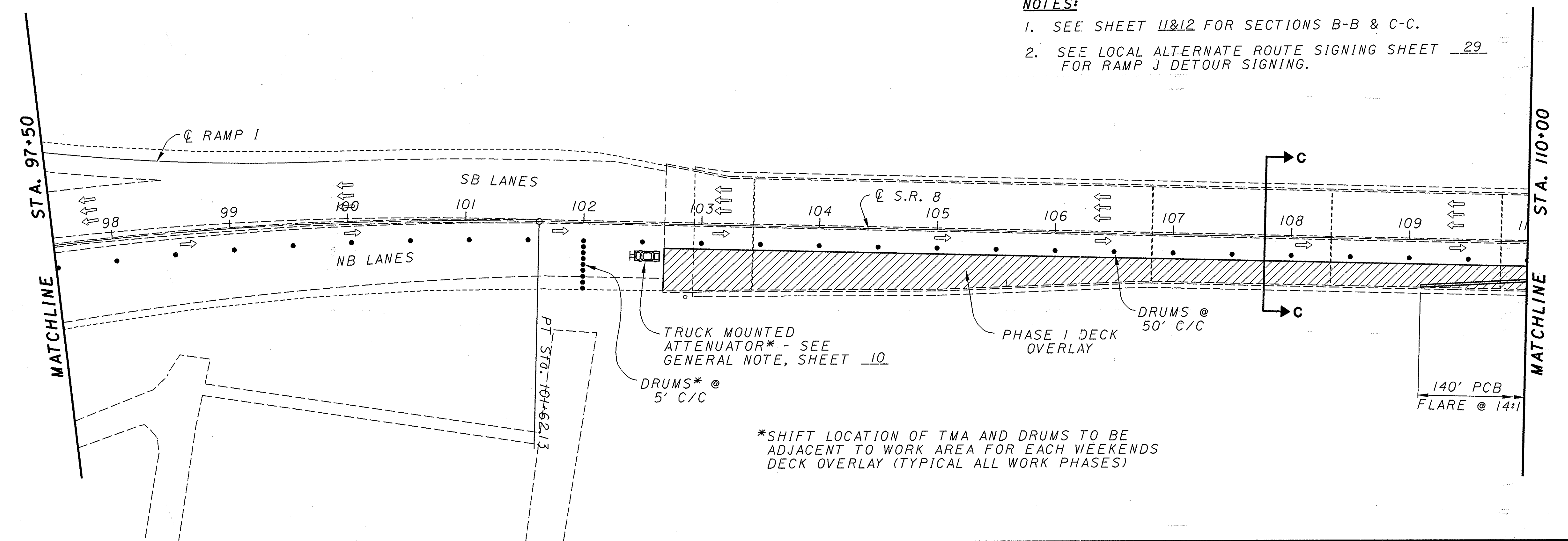
MAINTENANCE OF TRAFFIC PLAN PHASE 1 - STA. 85+00 TO STA. 110+00

SUM-8-1.95



NOTES:

1. SEE SHEET 11&12 FOR SECTIONS B-B & C-C.
2. SEE LOCAL ALTERNATE ROUTE SIGNING SHEET 29 FOR RAMP J DETOUR SIGNING.

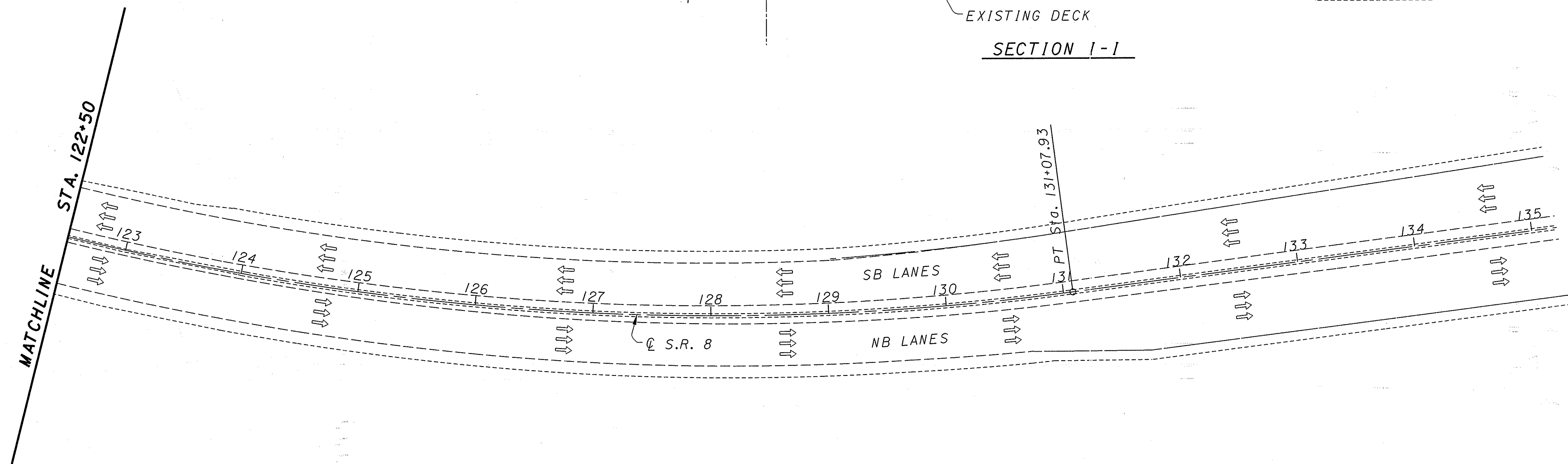
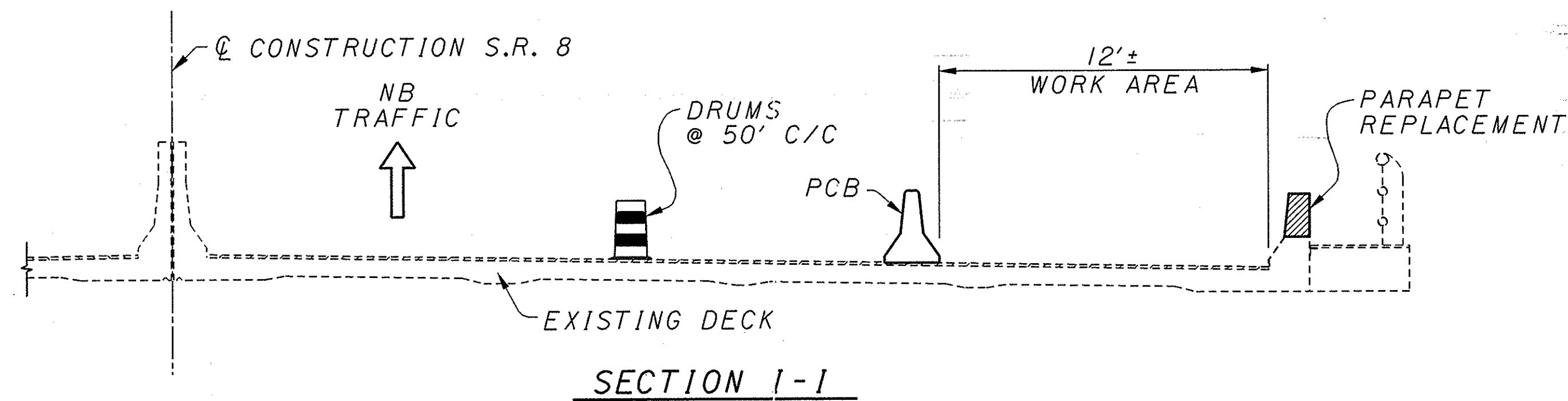
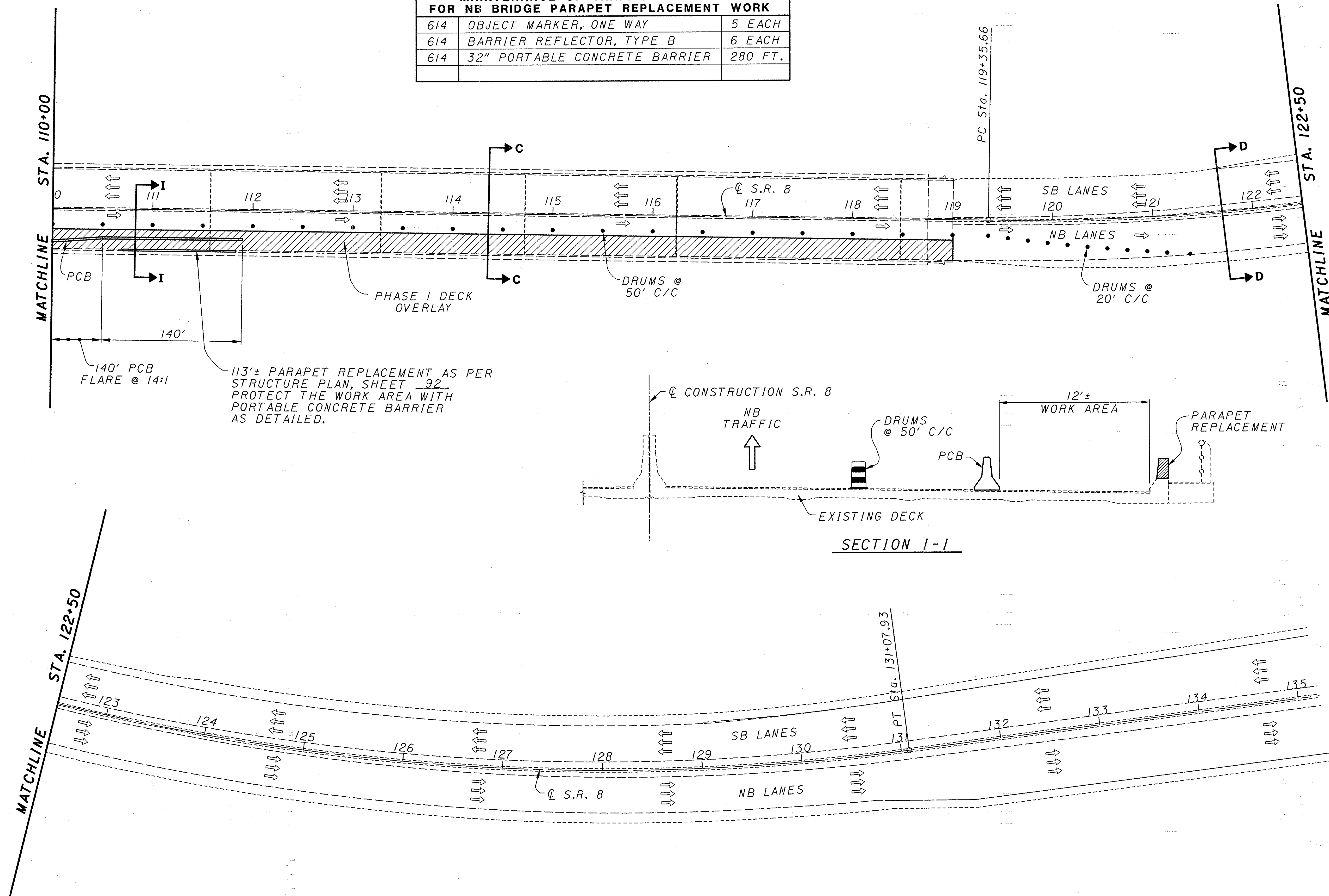


*SHIFT LOCATION OF TMA AND DRUMS TO BE ADJACENT TO WORK AREA FOR EACH WEEKENDS DECK OVERLAY (TYPICAL ALL WORK PHASES)

77078MP002-PHASE1DGN 11/23/07 SAM,PC,MLB,JLS

SEE SHEET 12 FOR SECTIONS C-C AND D-D

MAINTENANCE OF TRAFFIC QUANTITIES FOR NB BRIDGE PARAPET REPLACEMENT WORK		
614	OBJECT MARKER, ONE WAY	5 EACH
614	BARRIER REFLECTOR, TYPE B	6 EACH
614	32" PORTABLE CONCRETE BARRIER	280 FT.



CALCULATED P/DG
 CHECKED DAW
MAINTENANCE OF TRAFFIC PLAN
PHASE 1 - STA. 110+00 TO STA. 135+00

SUM-8-1.95
 17
 102

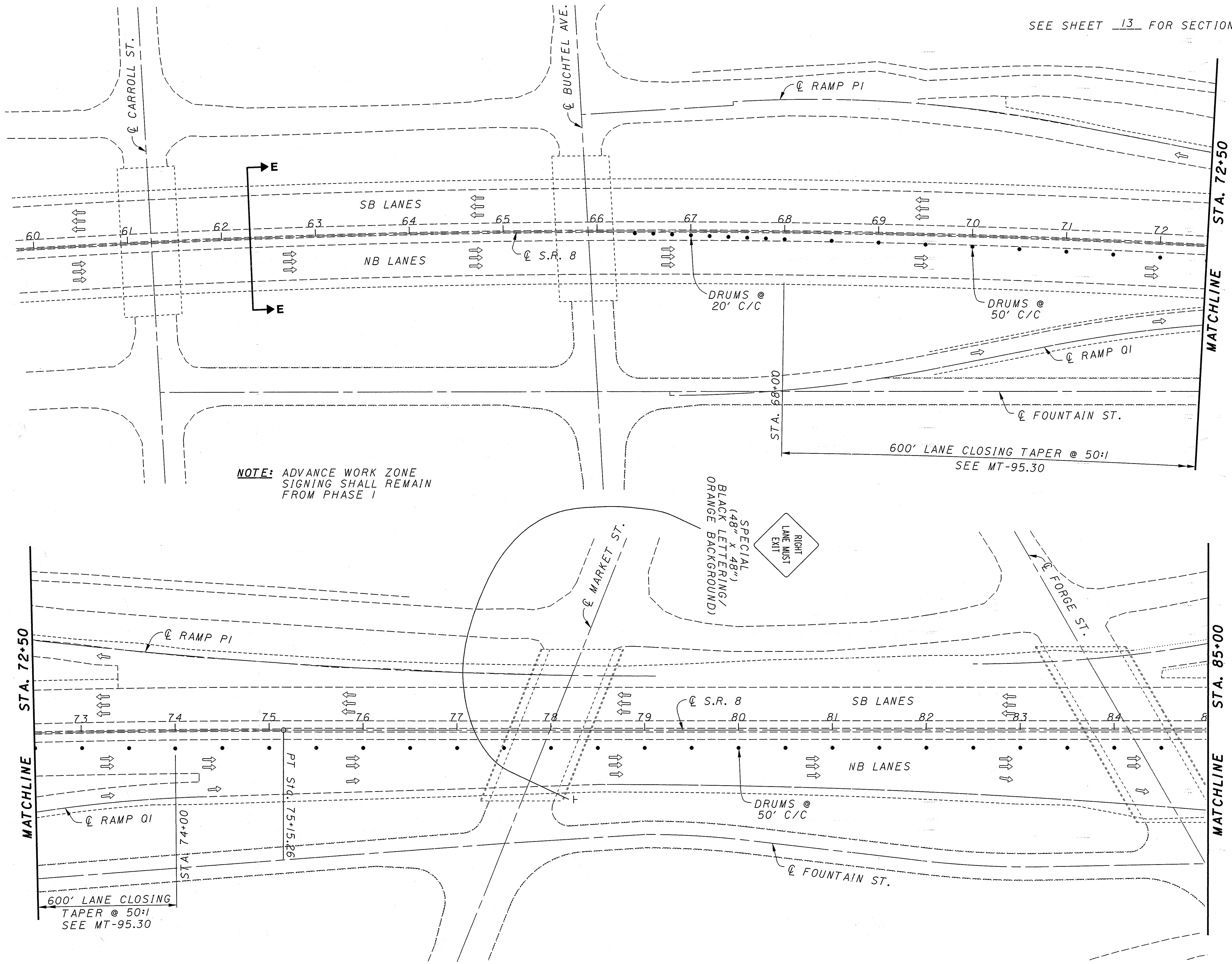
77078MPC003-PHASE1DGN 11/23/07 SAM,PC,MLB,JLS

77078MP004-PHASE2.DGN 11/23/07 SAM,RC,MLB,JLS

SEE SHEET 13 FOR SECTION E-E

CALCULATED PDG
 CHECKED DAW

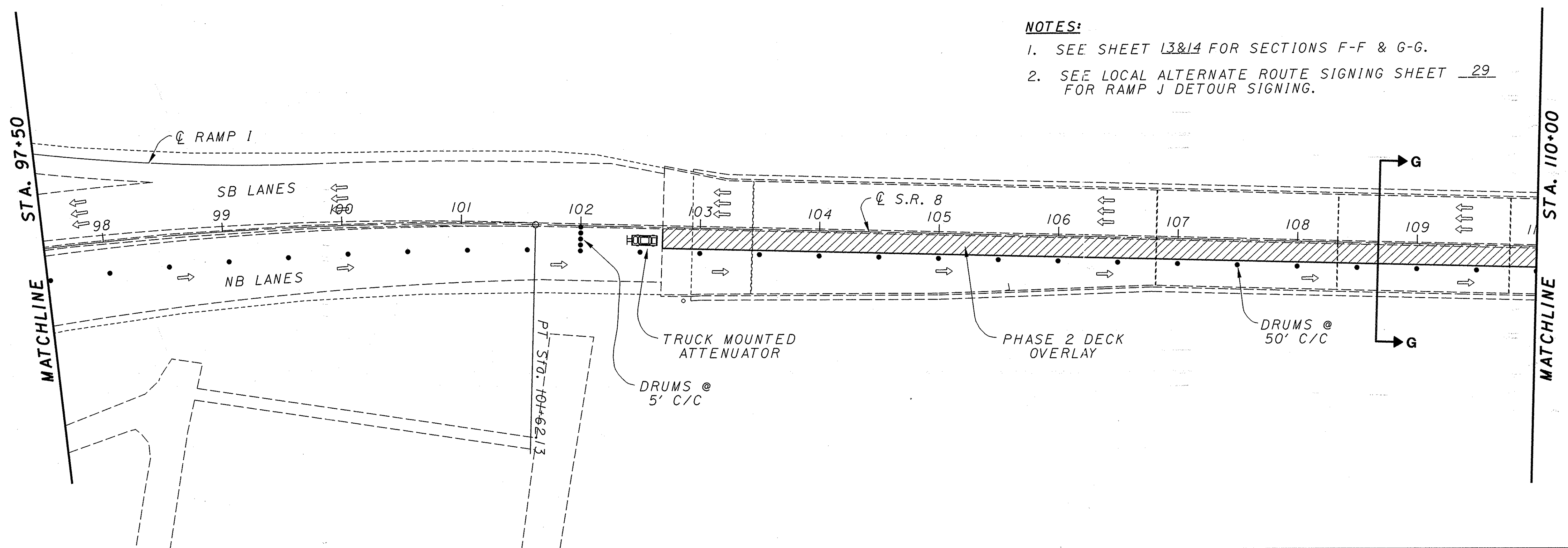
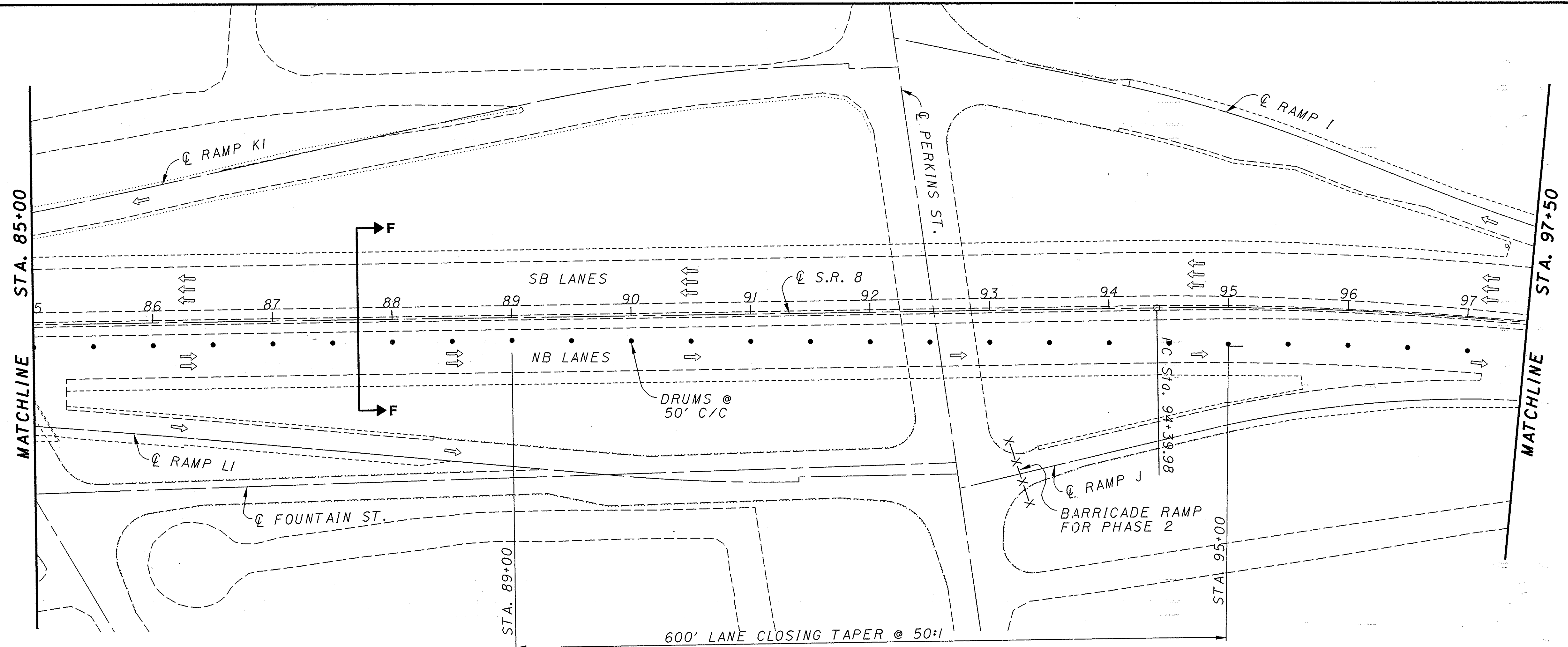
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 HORIZONTAL SCALE IN FEET



MAINTENANCE OF TRAFFIC PLAN
PHASE 2 - STA. 60+00 TO STA. 85+00

SUM-8-1.95

T7078MP005-PHASE2.DGN 11/23/07 SAM,RC,MLB,JLS

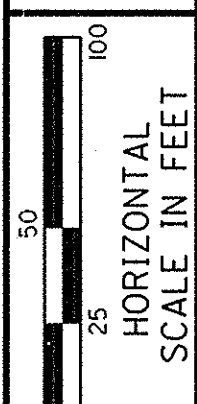


- NOTES:**
- SEE SHEET 13&14 FOR SECTIONS F-F & G-G.
 - SEE LOCAL ALTERNATE ROUTE SIGNING SHEET 29 FOR RAMP J DETOUR SIGNING.

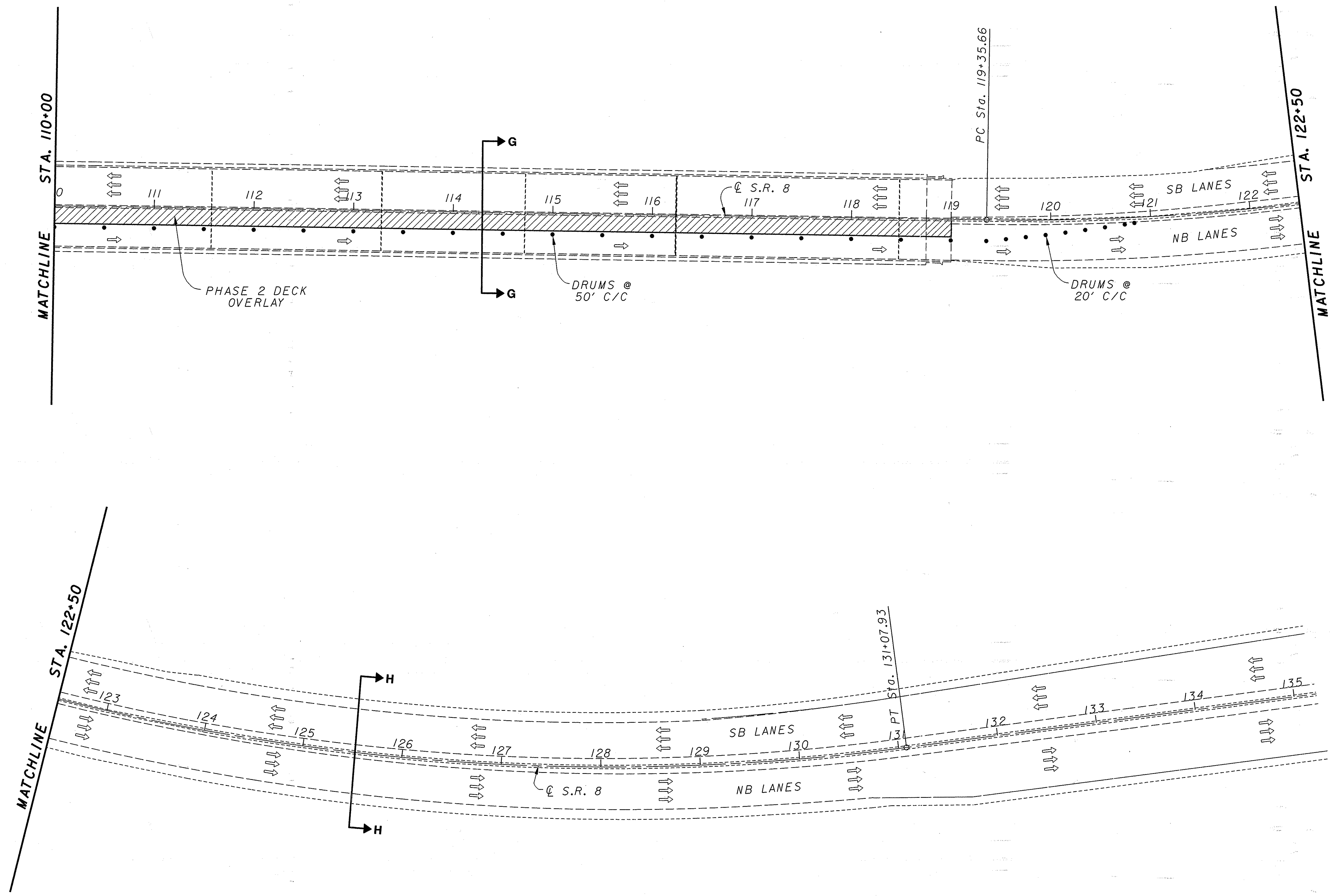
CALCULATED PDG
 CHECKED DAW

**MAINTENANCE OF TRAFFIC PLAN
 PHASE 2 - STA. 85+00 TO STA. 110+00**

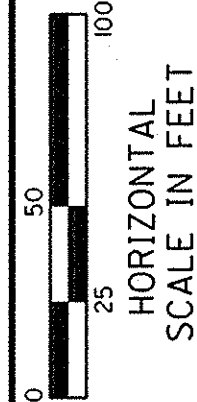
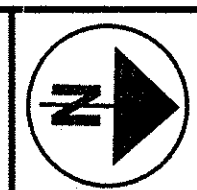
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SEE SHEET 14 FOR SECTION G-G & H-H



77078MP006-PHASE2.DGN 11/23/07 SAM,RC,MLB,JLS



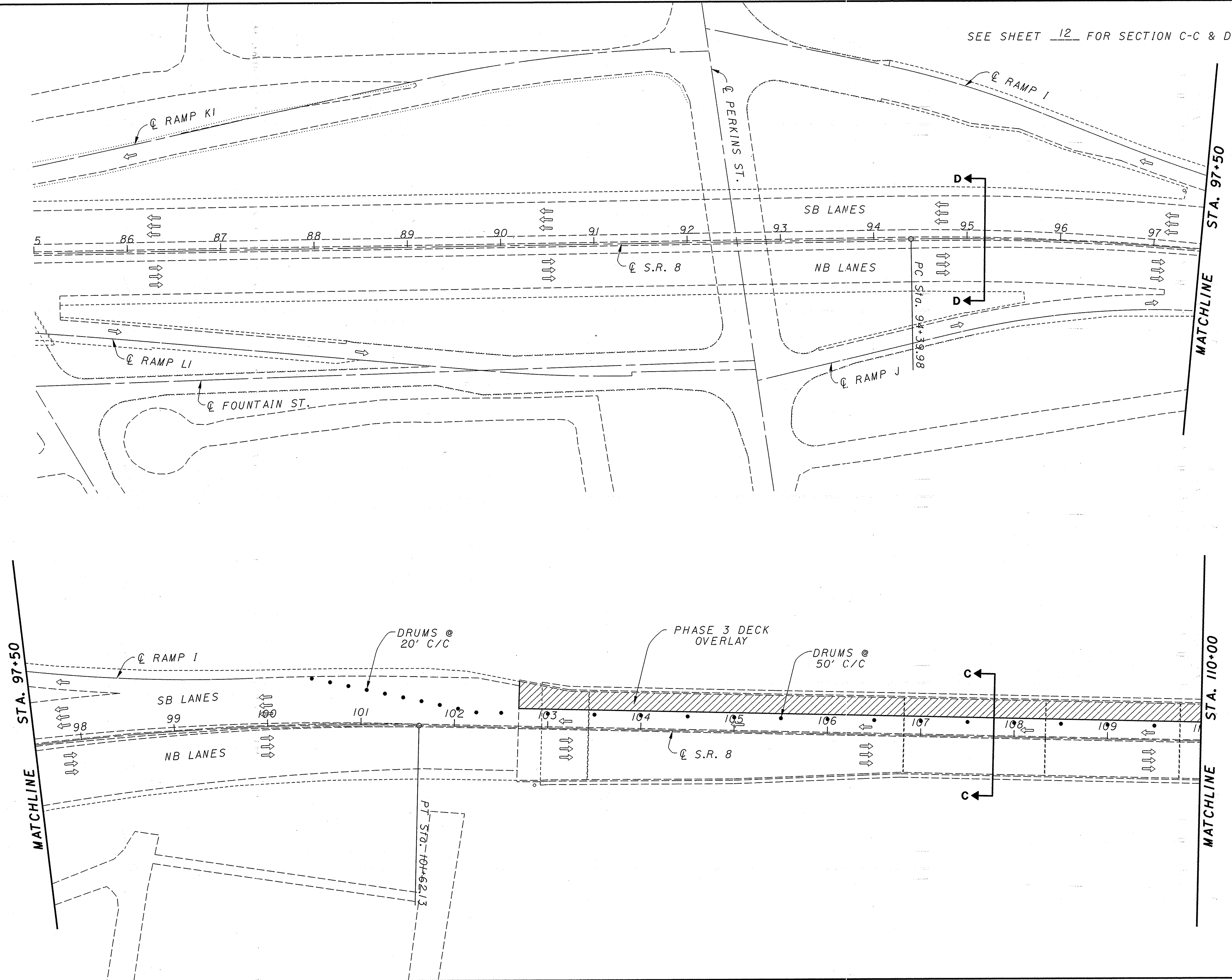
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MAINTENANCE OF TRAFFIC PLAN
PHASE 2 - STA. 110+00 TO STA. 135+00

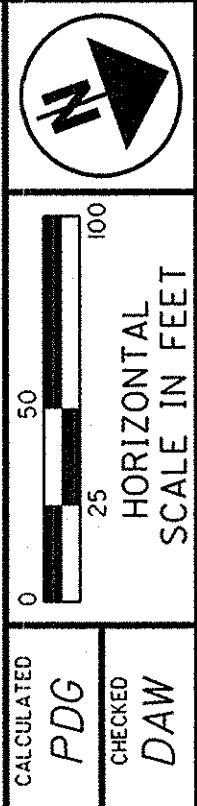
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102

77078MPO07-PHASE3.DGN 11/23/07 SAM,RC,MLB,JLS



SEE SHEET 12 FOR SECTION C-C & D-D



MAINTENANCE OF TRAFFIC PLAN
 PHASE 3 - STA. 85+00 TO STA. 110+00

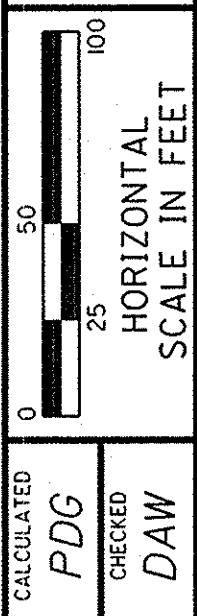
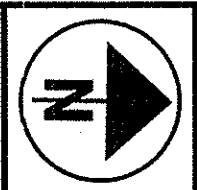
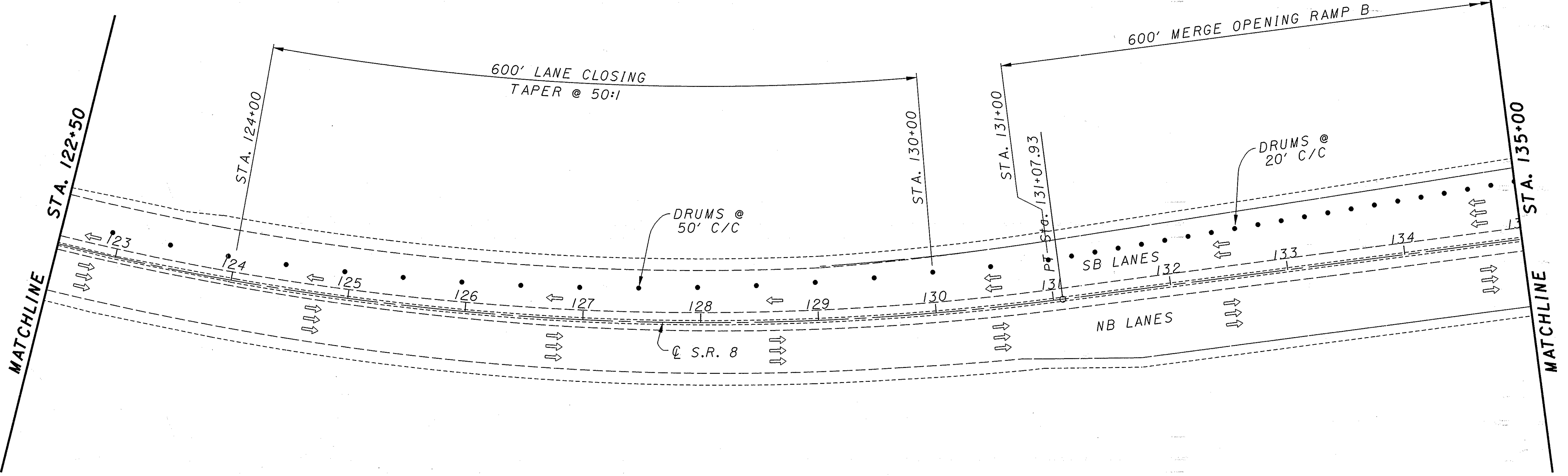
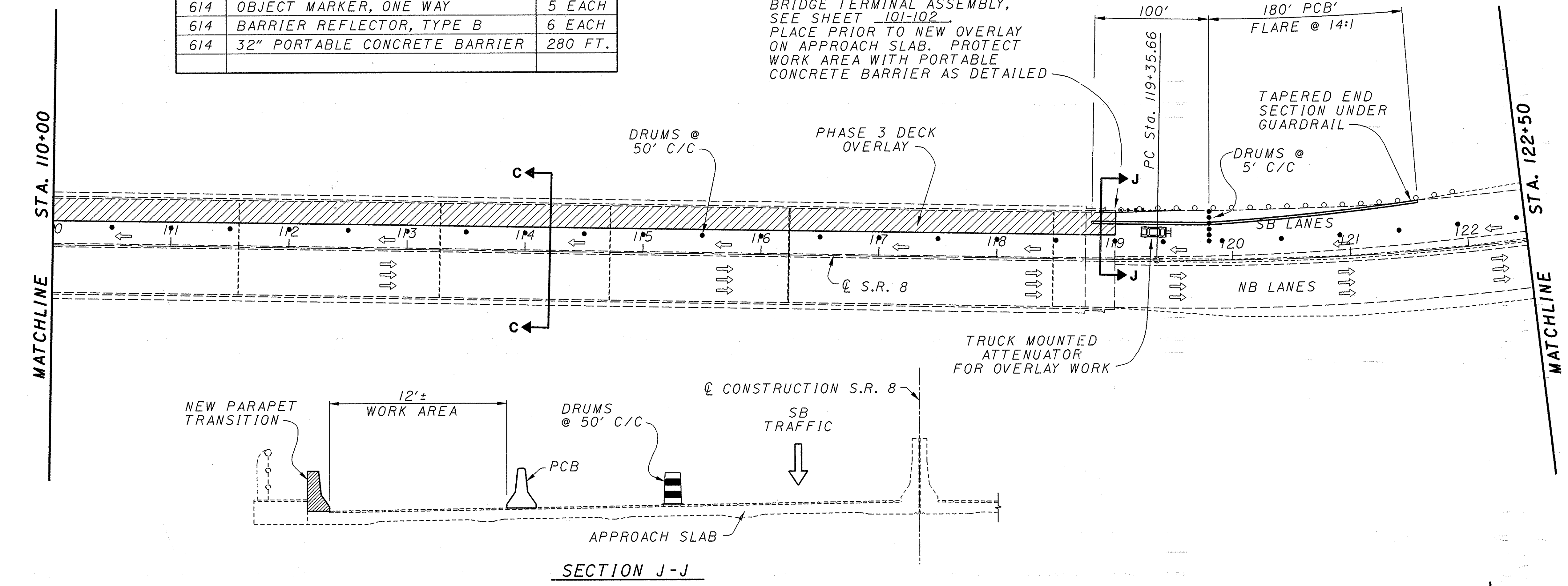
SUM-8-1.95

CALCULATED P.D.G.
 CHECKED D.A.W.

MAINTENANCE OF TRAFFIC QUANTITIES FOR SB BRIDGE PARAPET TRANSITION WORK		
614	OBJECT MARKER, ONE WAY	5 EACH
614	BARRIER REFLECTOR, TYPE B	6 EACH
614	32" PORTABLE CONCRETE BARRIER	280 FT.

NEW PARAPET TRANSITION AND
BRIDGE TERMINAL ASSEMBLY,
SEE SHEET 101-102
PLACE PRIOR TO NEW OVERLAY
ON APPROACH SLAB. PROTECT
WORK AREA WITH PORTABLE
CONCRETE BARRIER AS DETAILED

SEE SHEET 12 FOR SECTION C-C



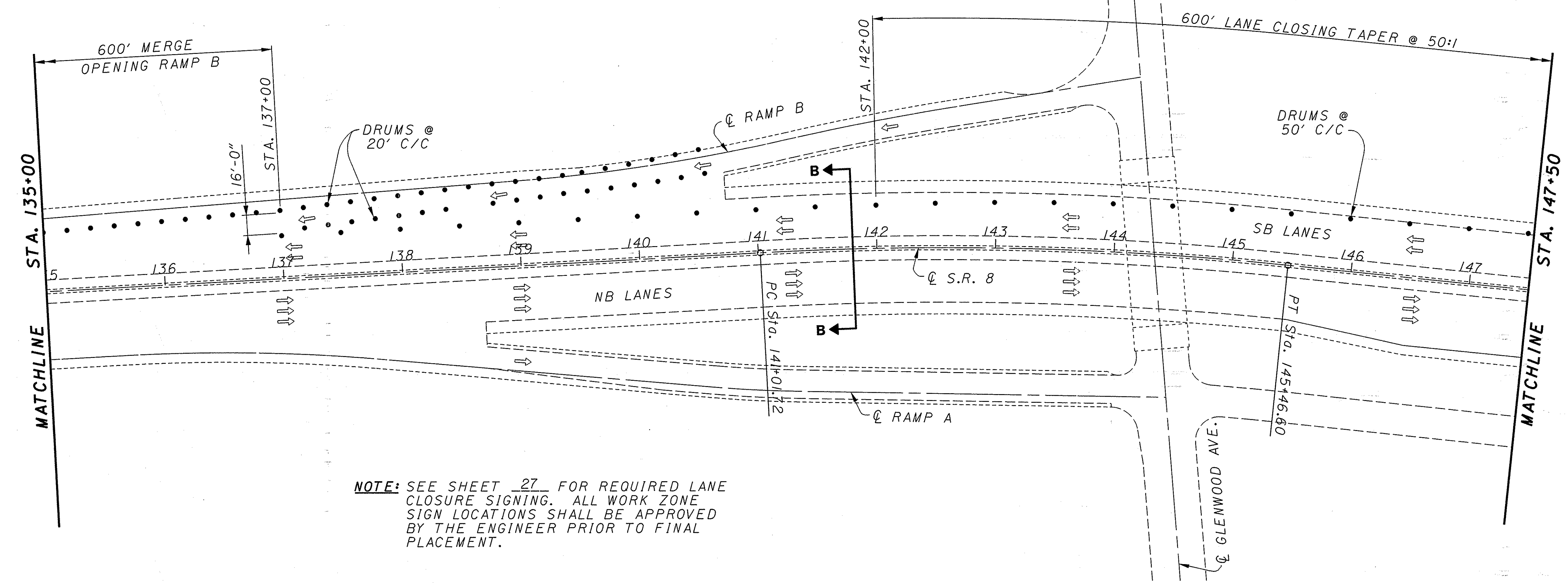
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CHECKED D.A.W.

**MAINTENANCE OF TRAFFIC PLAN
PHASE 3 - STA. 110+00 TO STA. 135+00**

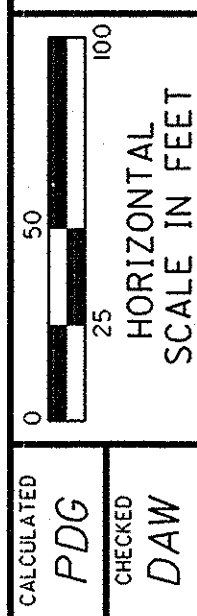
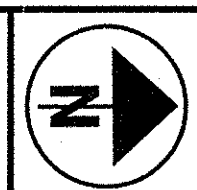
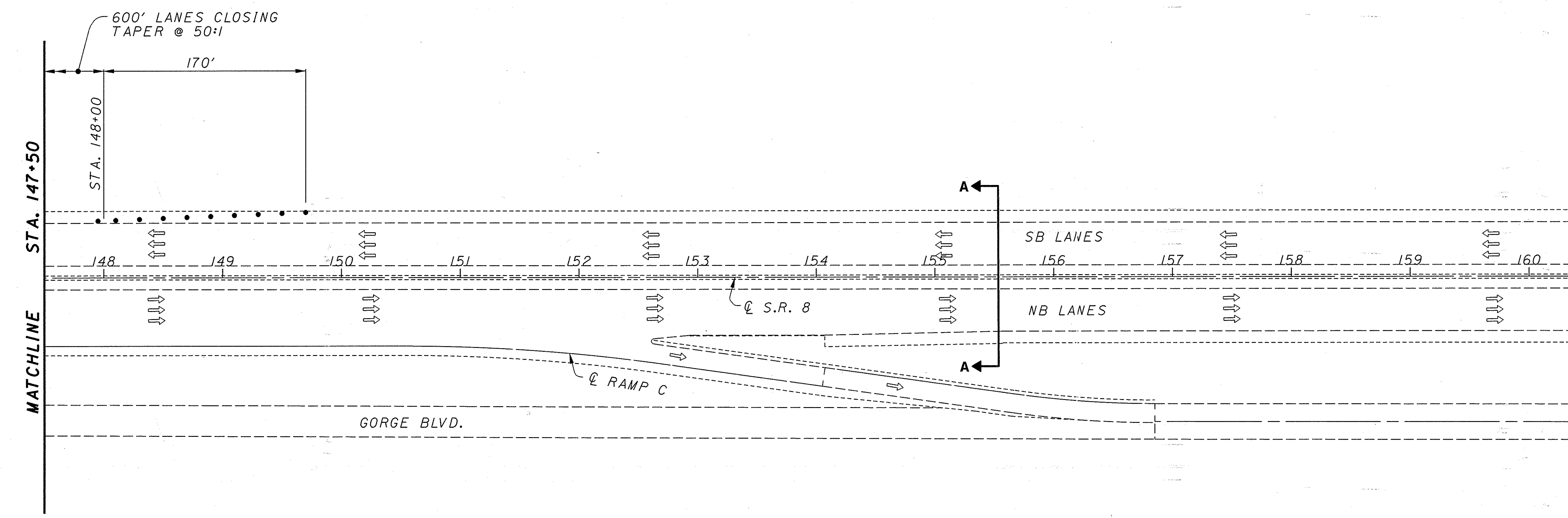
SUM-8-1.95

77078MPO08-PHASE3.DGN 11/23/07 SAM,RC,MLB,JLS

SEE SHEET 11 FOR SECTION A-A & B-B



NOTE: SEE SHEET 27 FOR REQUIRED LANE CLOSURE SIGNING. ALL WORK ZONE SIGN LOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO FINAL PLACEMENT.



CALCULATED PDG
CHECKED DAW

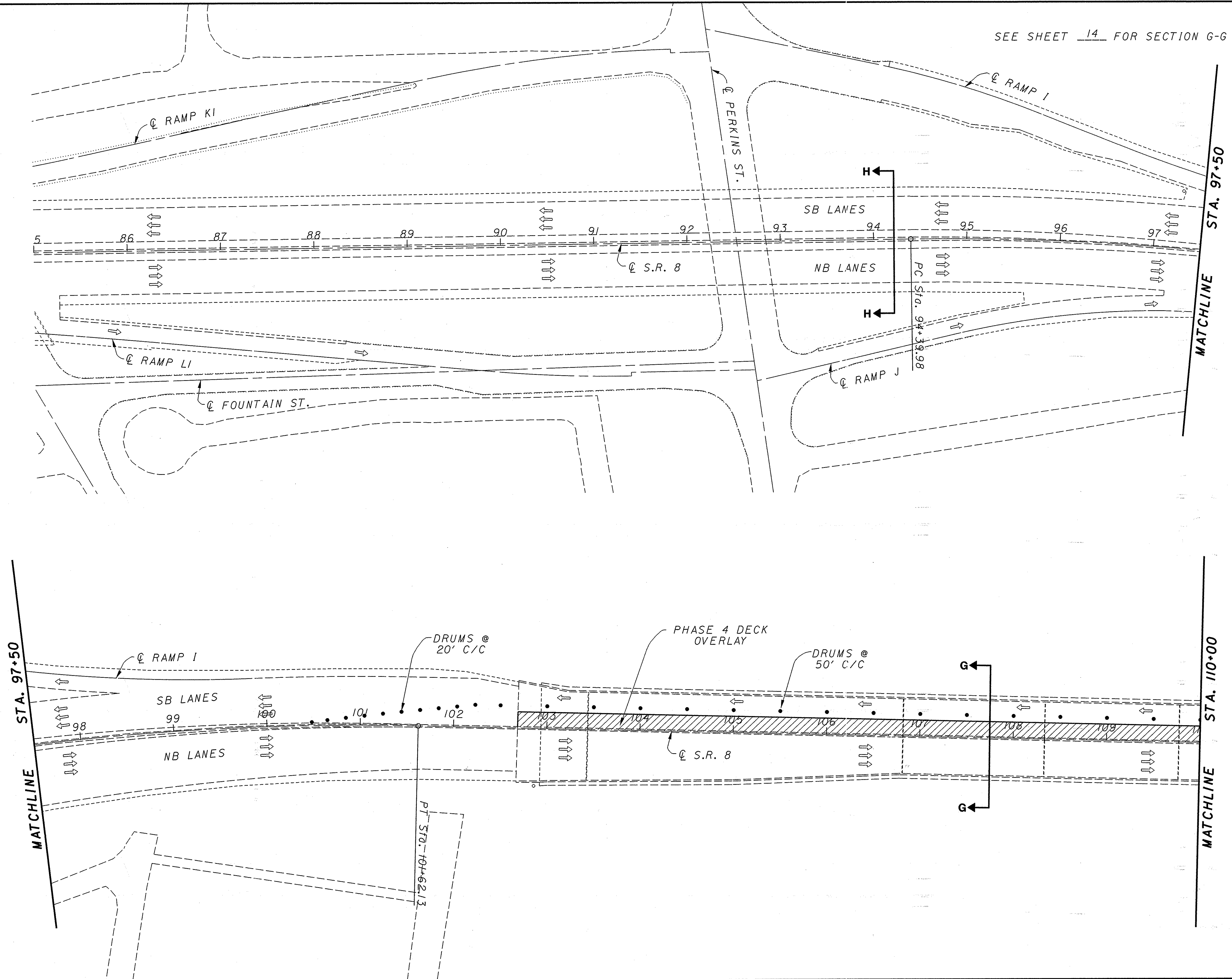
**MAINTENANCE OF TRAFFIC PLAN
PHASE 3 - STA. 135+00 TO STA. 160+00**

SUM-8-1.95

77078MPO09-PHASE3.DGN 11/23/07 SAM,RC,MLB,JLS

77078MPO10-PHASE4.DGN 11/23/07 SAM,PC,MLB,JLS

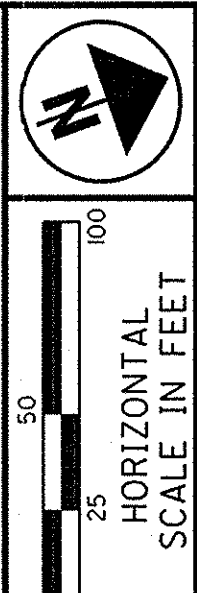
SEE SHEET 14 FOR SECTION G-G & H-H



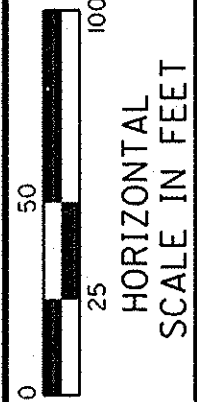
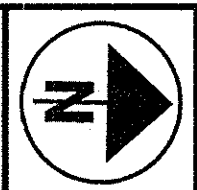
CALCULATED PDC
 CHECKED DAW

**MAINTENANCE OF TRAFFIC PLAN
 PHASE 4 - STA. 85+00 TO STA. 110+00**

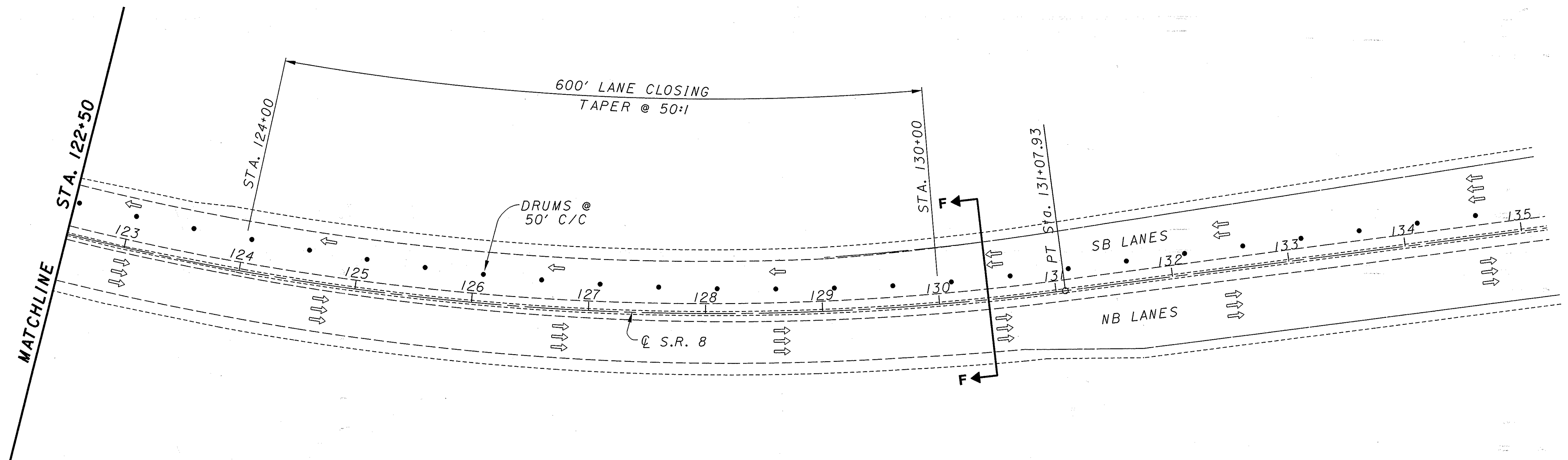
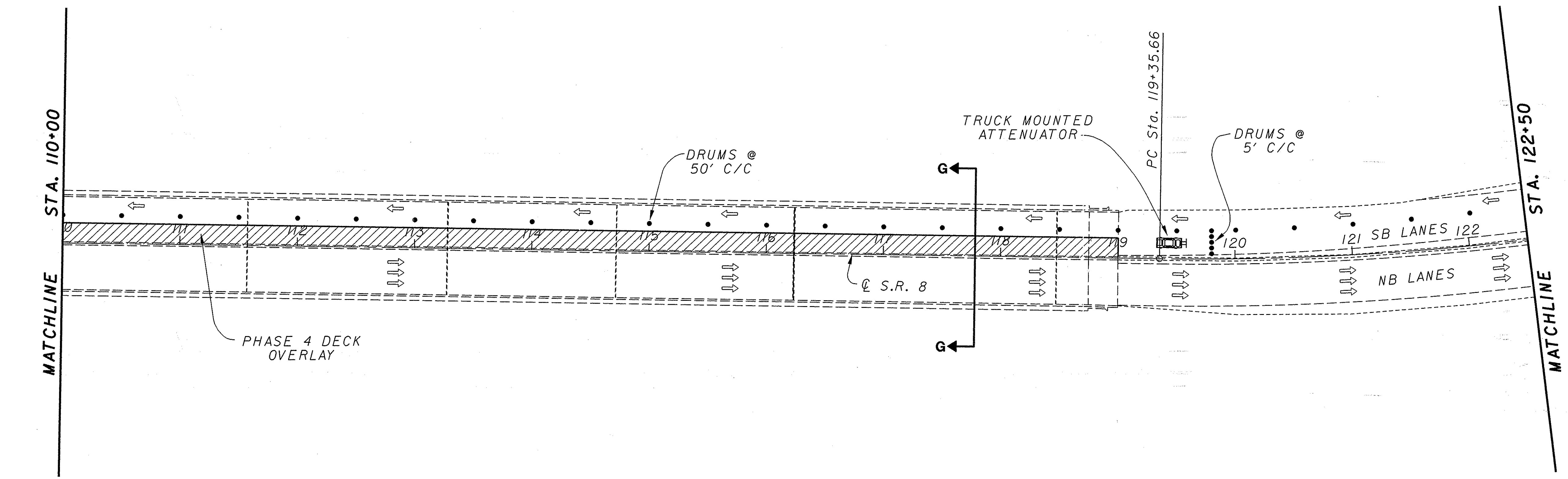
SUM-8-1.95



SEE SHEET 13&14 FOR SECTION F-F & G-G



CALCULATED P.D.G.
CHECKED D.A.W.

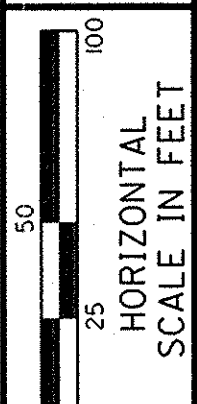
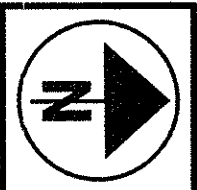


T7078MPOI-PHASE4.DGN 11/23/07 RC,MLB,JLS

MAINTENANCE OF TRAFFIC PLAN
PHASE 4 - STA. 110+00 TO STA. 135+00

SUM-8-1.95

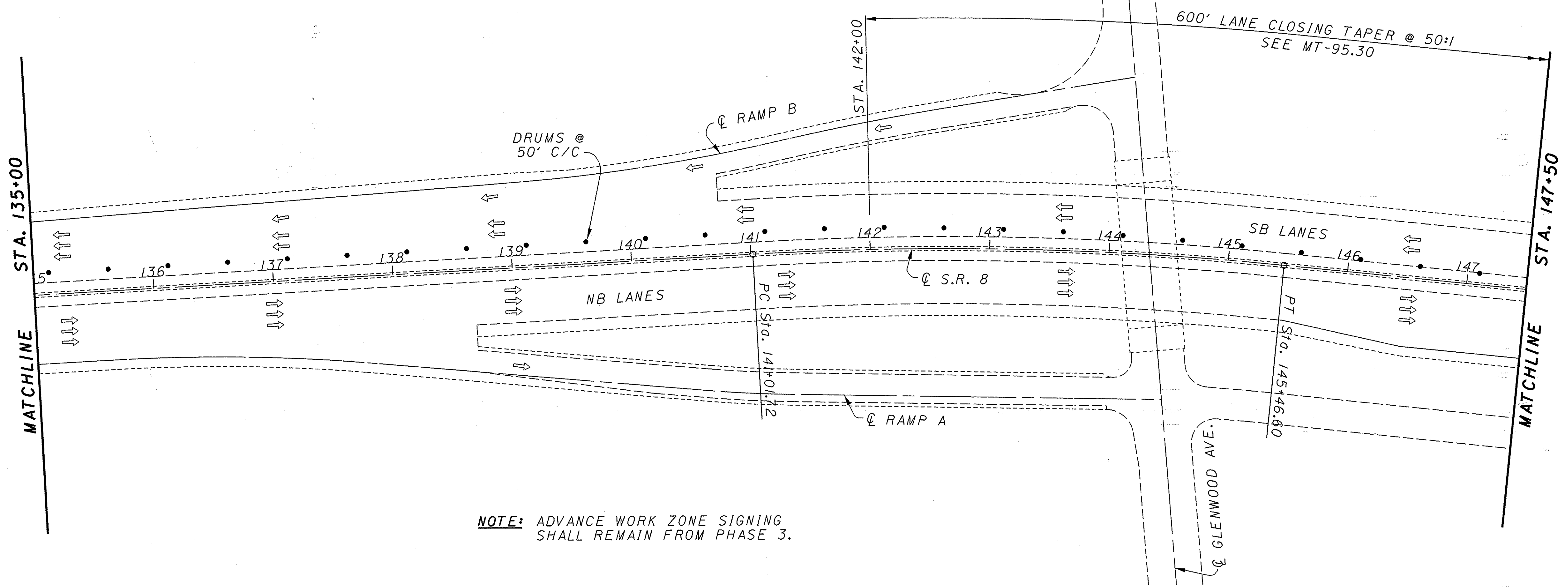
SEE SHEET 13 FOR SECTION E-E



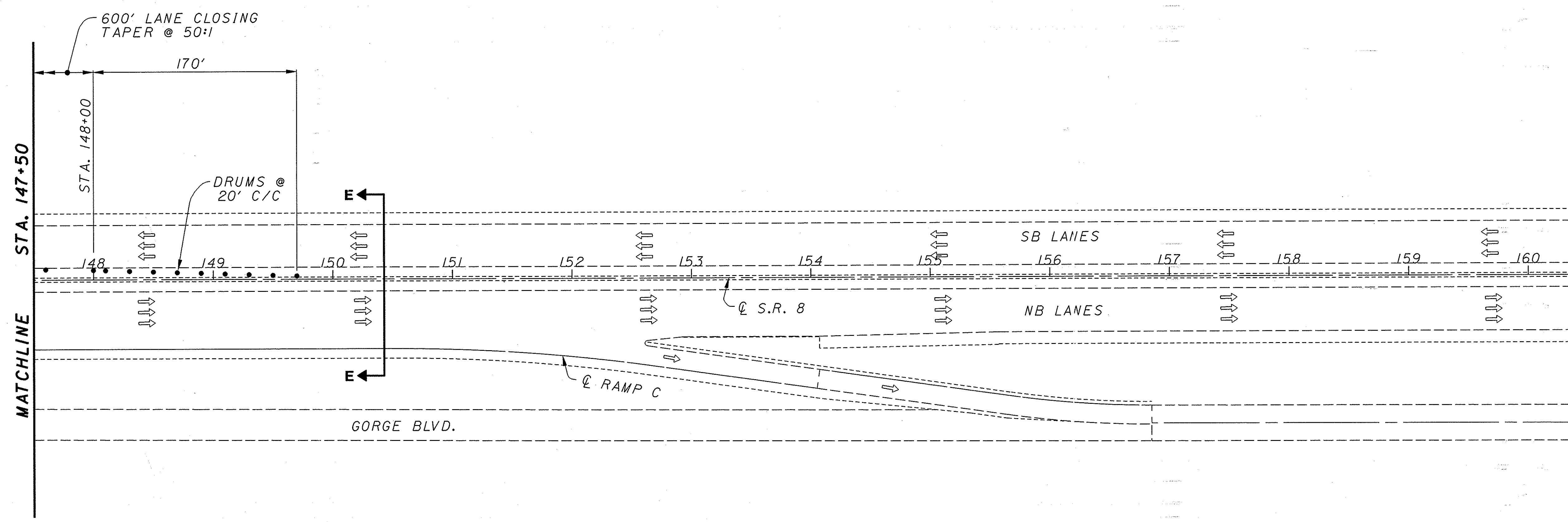
CALCULATED P.D.G.
CHECKED D.A.W.

**MAINTENANCE OF TRAFFIC PLAN
PHASE 4 - STA. 135+00 TO STA. 160+00**

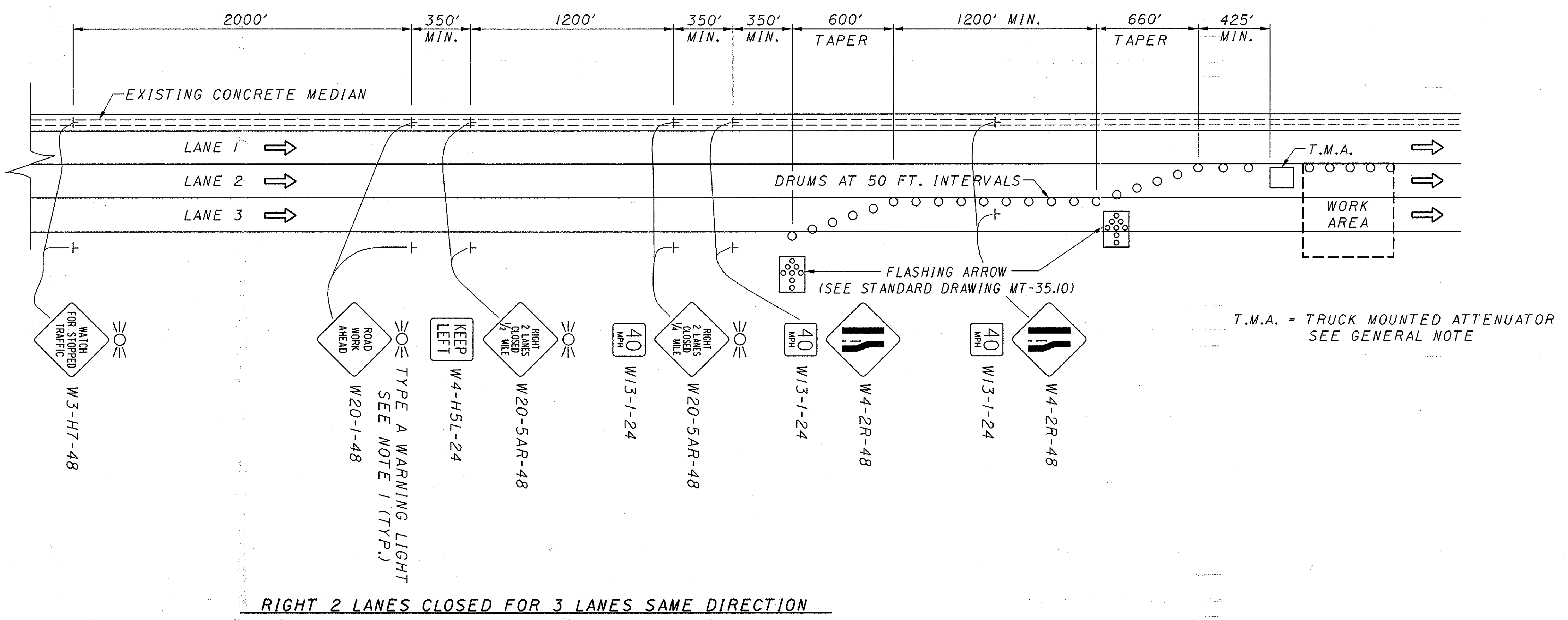
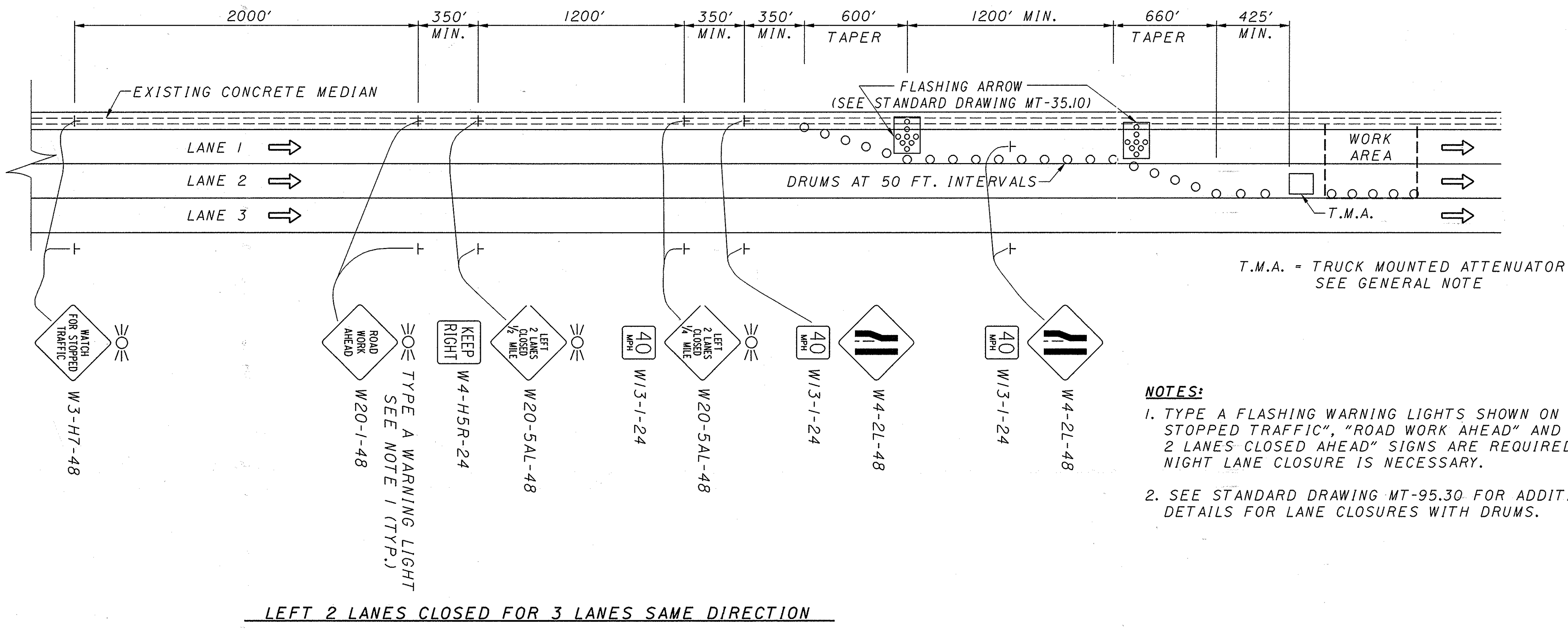
SUM-8-1.95



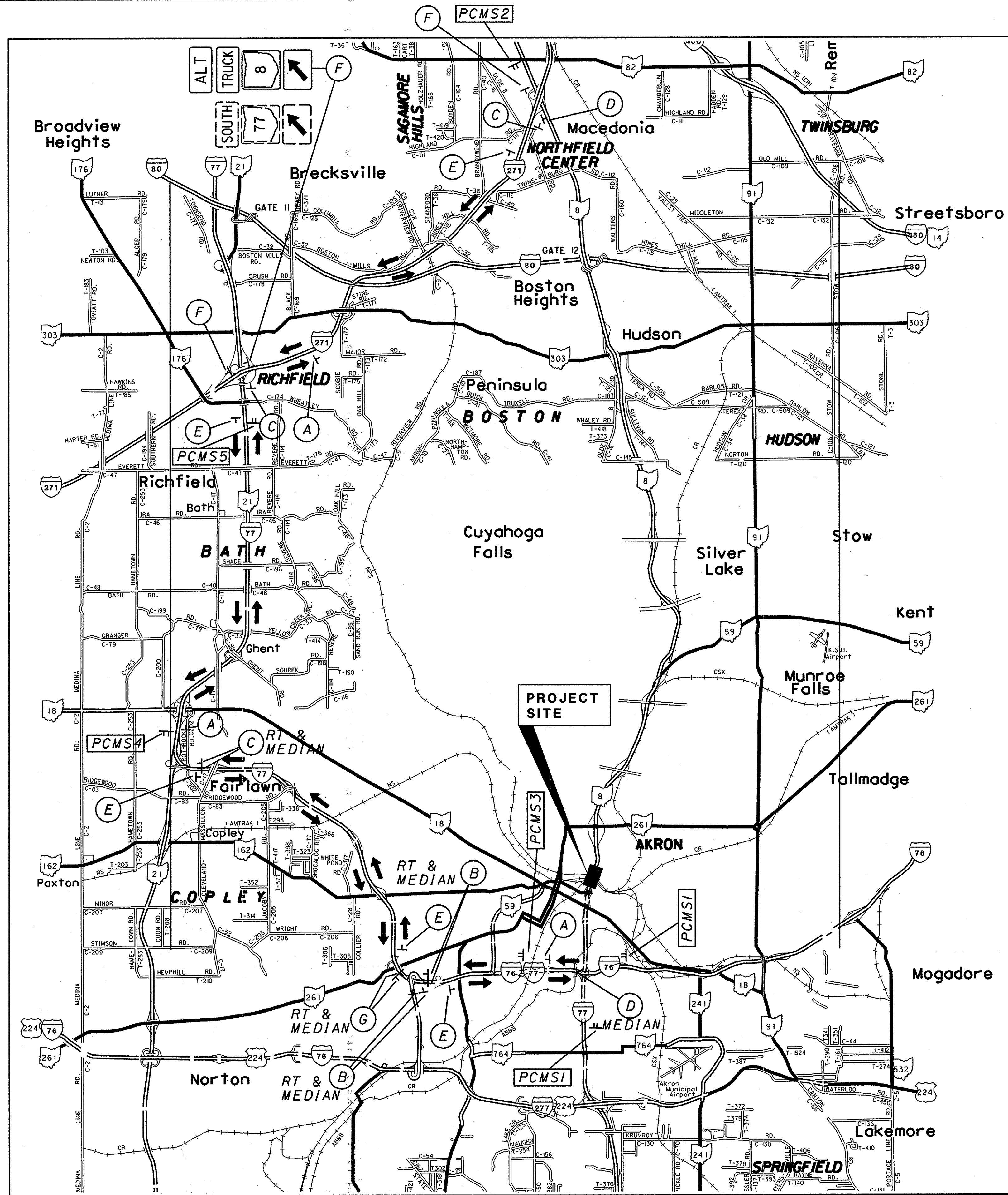
NOTE: ADVANCE WORK ZONE SIGNING SHALL REMAIN FROM PHASE 3.



77078MFO2-PHASE4.DGN 11/23/07 SAM,RC,MLB,JLS



77078MDB.DGN 11/23/07 RC.TWH



LEGEND
 ↔ ALTERNATE ROUTE - TRUCK TRAFFIC (SEE NOTE 1)

ALT ROUTE 8 NORTH FOLLOW 77 NORTH PCMS1	ALT TRUCK ROUTE SR 8 EXIT 271 SOUTH PCMS2	ALT 8 NORTH TRUCKS FOLLOW 77 LOCALS EXIT TO 59 PCMS3	ALT TRUCK ROUTE SR 8 FOLLOW 77 SOUTH PCMS4	ALT TRUCK ROUTE SR 8 EXIT 271 NORTH PCMS5
---	---	--	--	---

2 REQUIRED

ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24
TRUCK M4-4-24	TRUCK M4-4-24	TRUCK M4-4-24
8 M1-5-24	8 M1-5-24	8 M1-5-24
↑ M6-3-21	↑ M6-2-21	↑ M6-2-21
(A)	(B)	(C)
END M4-6-24	ALT M4-1A-24	ALT M4-1A-24
ALT M4-1A-24	TRUCK M4-4-24	TRUCK M4-4-24
TRUCK M3-3-24	TRUCK M3-3-24	8 M1-5-24
8 M1-5-24	8 M1-5-24	↑ M6-2-21
(D)	(E)	(F)
ALT M4-1A-24		
TRUCK M4-4-24		
8 M1-5-24		
↑ M6-3-21		
(G)		

614 DETOUR SIGNING:

ALL ALTERNATE TRUCK ROUTE SIGNING SHOWN EXCEPT PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE INCLUDED FOR PAYMENT IN LUMP SUM PRICE BID FOR ITEM 614 - DETOUR SIGNING

614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN
 (6 UNITS x 5 MONTH EACH) 30 SIGN MONTH

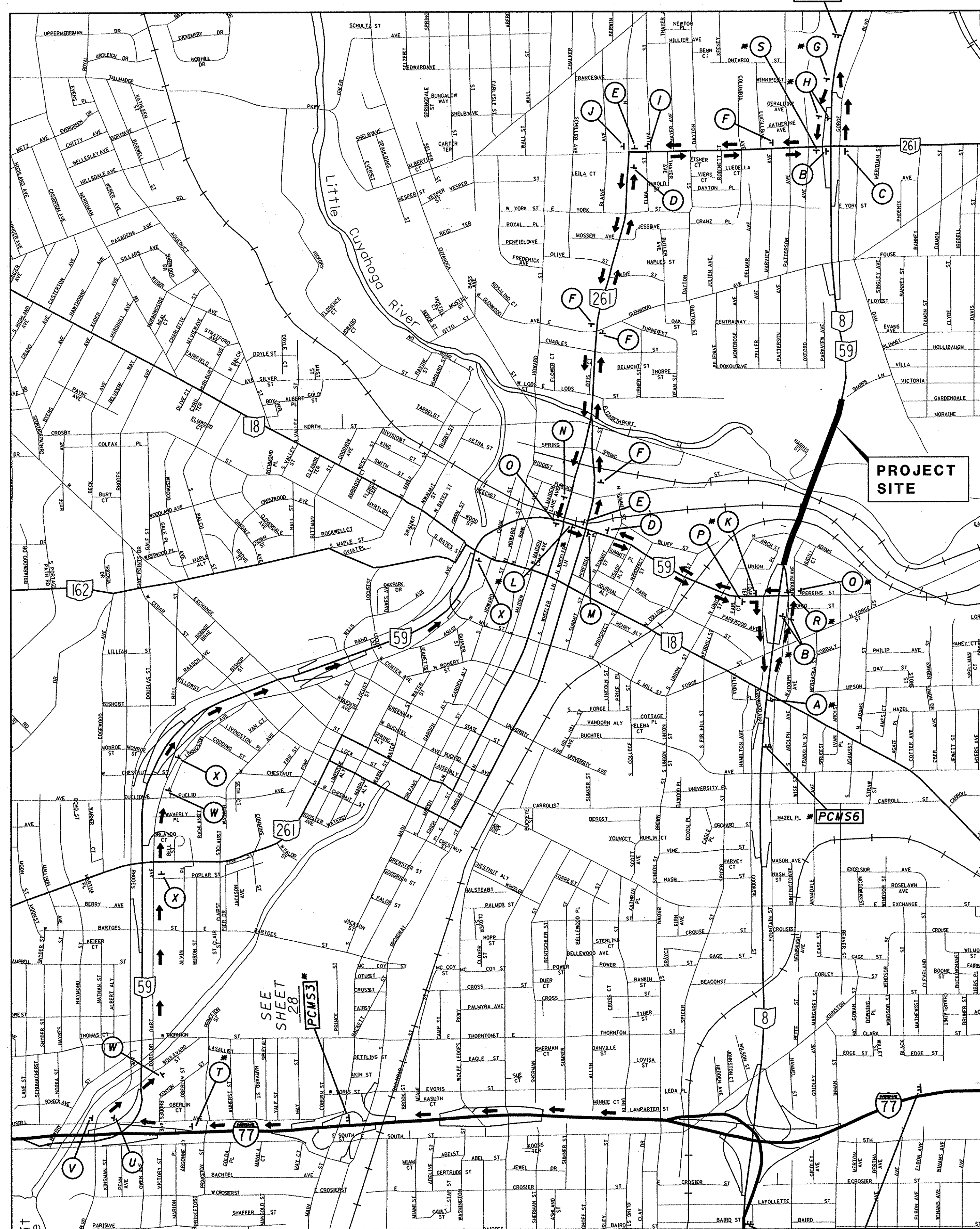
NOTES:

1. ALTERNATE TRUCK ROUTE SIGNING IS SHOWN FOR BOTH NORTHBOUND AND SOUTHBOUND S.R. 8 TRAFFIC, BUT ONLY APPLICABLE SIGNS FOR DIRECTIONAL LANE CLOSURES SHALL BE IN PLACE AT ANY TIME.
2. ALL SIGN LOCATIONS TO BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION
3. SEE SHEET 29 FOR S.R. 8 LOCAL ALTERNATE ROUTE SIGNING.
4. TURN OFF OR REMOVE PCMS SIGNS WHEN ALL S.R.8 TRAFFIC LANES REOPENED TO TRAFFIC. ALSO REMOVE OR COVER SIGN (F) AT S.R. 8 EXIT RAMP TO I.R. 271. OTHER SIGNS MAY BE LEFT IN PLACE.

MAINTENANCE OF TRAFFIC - ALTERNATE ROUTE SIGNING

SUM - 8 - 1.95

77078MD001.DGN 11/23/07 SAM,RC,MLB



LEGEND
 ↕ ALTERNATE ROUTE - LOCAL TRAFFIC (SEE NOTE 1)
 * REMOVE OR COVER SIGNS WHEN DIRECTIONAL S.R.8 TRAFFIC LANES ARE REOPENED. ALL OTHER SIGNS MAY BE LEFT IN PLACE.

SEE SHEET 28
 PCMS1

ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24
NORTH M3-1-24	NORTH M3-1-24	NORTH M3-1-24	NORTH M3-1-24	NORTH M3-1-24	NORTH M3-1-24
8 MI-5-24	8 MI-5-24	8 MI-5-24	8 MI-5-24	8 MI-5-24	8 MI-5-24
59 MI-5-24	59 MI-5-24	59 MI-5-24	59 MI-5-24	59 MI-5-24	59 MI-5-24
M6-2-21	M5-1L-21	M6-1-21	M5-1R-21	M6-1-21	M6-3-21
(A)	(B)	(C)	(D)	(E)	(F)
ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24	DETOUR M4-8-24	ALT M4-1A-24
SOUTH M3-3-24	SOUTH M3-3-24	ALT M4-1A-24	ALT M4-1A-24	NORTH M3-1-24	NORTH M3-1-24
8 MI-5-24	8 MI-5-24	8 MI-5-24	8 MI-5-24	8 MI-5-24	8 MI-5-24
59 MI-5-24	59 MI-5-24	59 MI-5-24	59 MI-5-24	59 MI-5-24	59 MI-5-24
M6-2-21	M5-1R-21	M5-1L-21	M6-1-21	M6-3-21	M5-1L-21
(G)	(H)	(I)	(J)	(K)	(L)
ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24	R11-2-48	ROAD CLOSED
NORTH M3-1-24	8 MI-5-24	8 MI-5-24	SOUTH M3-3-24	DETOUR AHEAD	DETOUR
8 MI-5-24	M5-1L-21	M6-1-21	8 MI-5-24	M4-10L-48 MOUNT ON RAMP BARRICADE	
59 MI-5-24	(N)	(O)	M5-1R-21	W20-2-24	(R)
M6-1-21					
(M)	ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24	ALT M4-1A-24
ALT M4-1A-24	NORTH M3-1-24	NORTH M3-1-24	NORTH M3-1-24	NORTH M3-1-24	NORTH M3-1-24
SOUTH M3-3-24	8 MI-5-24	8 MI-5-24	8 MI-5-24	8 MI-5-24	8 MI-5-24
8 MI-5-24	M6-2-21	M5-1R-21	M6-1-21	M6-2-21	M6-3-21
59 MI-5-24	(T)	(U)			
M6-1-21					
(S)					

EXPECT DELAYS AHEAD
 ALTERNATE ROUTE
 EXIT ON PERKINS ST
 PCMS6

EXPECT DELAYS AHEAD
 ALTERNATE ROUTE
 EXIT ON TALLMADGE
 PCMS7

NOTES:

1. ALTERNATE ROUTE SIGNING IS SHOWN FOR BOTH NORTHBOUND AND SOUTHBOUND S.R. 8 TRAFFIC, BUT ONLY APPLICABLE SIGNS FOR DIRECTIONAL LANE CLOSURES SHALL BE IN PLACE AT ANY TIME.
2. ALL SIGN LOCATIONS TO BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

614 DETOUR SIGNING:

ALL DETOUR & ALT. ROUTE SIGNING SHOWN EXCEPT PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE INCLUDED FOR PAYMENT IN LUMP SUM PRICE BID FOR ITEM 614 - DETOUR SIGNING.

ADDITIONAL MAINTENANCE OF TRAFFIC FLAT SHEET SIGNS FOR S.R. 8 (MI-5-24) AND ALT (M4-1A-24) SHALL BE PROVIDED BY THE CONTRACTOR TO BE USED AS DIRECTED BY THE ENGINEER. A QUANTITY OF 5 EACH OF THESE SIGNS SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM PRICE BID FOR ITEM 614 DETOUR SIGNING.

614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (2 UNITS x 5 MONTH EACH) 10 SIGN MONTH

7707866.DGN 11/23/07 RC,MLB,HN,JLS

SHEET NUMBER													ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	9	10	17	22	28	29	32	53	54	56	57						
													ROADWAY					
LUMP													201	11001	LUMP		CLEARING AND GRUBBING, AS PER PLAN	5
								1					202	20010	1	EACH	HEADWALL REMOVED	
								201					202	35100	201	FT	PIPE REMOVED, 24" AND UNDER	
								57					202	38000	57	FT	GUARDRAIL REMOVED	
								1					202	58000	1	EACH	MANHOLE REMOVED	
								6					202	58100	6	EACH	CATCH BASIN REMOVED	
								5					202	58500	5	EACH	CATCH BASIN ABANDONED	
150								310					SPECIAL	20270100	460	FT	PIPE CLEANOUT	5
								1					202	98100	1	EACH	REMOVAL, MISC.: MANHOLE CLEANOUT	6
								2					203	20000	2	CU YD	EMBANKMENT	
								91					209	10000	91	FT	DITCH CLEANOUT	
								56.25					606	13000	56.25	FT	GUARDRAIL, TYPE 5	
								1					606	35000	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
													EROSION CONTROL					
								277					601	20000	277	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	
								2					601	32204	2	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
	493							47					601	34300	540	CU YD	ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER	
								0.33					602	20000	0.33	CU YD	CONCRETE MASONRY	
2													659	00100	2	EACH	SOIL ANALYSIS TEST	
302								1					659	00300	303	CU YD	TOPSOIL	
2721													659	00540	2721	SQ YD	SEEDING AND MULCHING, CLASS 3C	
137													659	14000	137	SQ YD	REPAIR SEEDING AND MULCHING	
137													659	15000	137	SQ YD	INTER-SEEDING	
0.40													659	20000	0.40	TON	COMMERCIAL FERTILIZER	
0.60													659	31000	0.60	ACRE	LIME	
16													659	35000	16	MGAL	WATER	
	1000												832	30000	1000	EACH	EROSION CONTROL	
													DRAINAGE					
								50					603	02000	50	FT	8" CONDUIT, TYPE C, 706.08	
								16					603	03300	16	FT	10" CONDUIT, TYPE C, 706.08	
								47					603	04400	47	FT	12" CONDUIT, TYPE B	
								247					603	04600	247	FT	12" CONDUIT, TYPE C	
								36					603	04600	36	FT	12" CONDUIT, TYPE C, 706.08	
								23					603	07400	23	FT	18" CONDUIT, TYPE B	
								150					603	07600	150	FT	18" CONDUIT, TYPE C	
								7					604	02801	7	EACH	CATCH BASIN, NO. 8, AS PER PLAN-1	6,50
								1					604	02801	1	EACH	CATCH BASIN, NO. 8, AS PER PLAN-2	51
								3					604	04501	3	EACH	CATCH BASIN, NO. 2-2B, AS PER PLAN	6,51
								3					604	31500	3	EACH	MANHOLE, NO. 3	

GENERAL SUMMARY

SUM-8-1.95

CALCULATED
TCM
CHECKED
EEL

SHEET NUMBER													ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
5	6	9	10	17	22	28	29	32	53	54	56	57							
													LIGHTING						
											10	6	202	62001	16	EACH	JUNCTION BOX REMOVED, AS PER PLAN	54	
										18			202	62001	18	EACH	JUNCTION BOX REMOVED, AS PER PLAN-I	54	
												11	10	202	75506	21	EACH	LUMINAIRE REMOVED	
												2		202	75511	2	EACH	POWER SERVICE REMOVED, AS PER PLAN	54
												1,308		202	75550	1,308	FT	DISTRIBUTION CABLE REMOVED	
												11	10	202	98100	21	EACH	REMOVAL MISC.: POLE AND BRACKET CABLES	54
												1,474	1,303	202	98200	2,777	FT	REMOVAL MISC.: CONDUIT REMOVED	54
												26	16	625	00500	42	EACH	CONNECTOR KIT, TYPE II	
												13	8	625	00600	21	EACH	CONNECTOR KIT, TYPE III	
												6		625	01500	6	EACH	CABLE SPLICING KIT	
												2,160	1,351	625	23200	3,511	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
												4,320	2,702	625	23302	7,022	FT	NO. 6 AWG 5000 VOLT DISTRIBUTION CABLE	
												1,038	950	625	23400	1,988	FT	NO. 10 AWG POLE AND BRACKET CABLE	
												28	40	625	25200	68	FT	CONDUIT, 1-1/4", 725.04	
												1,446	1,271	625	25401	2,717	FT	CONDUIT, 2", 725.04, AS PER PLAN	54
												11	10	625	26251	21	EACH	LUMINAIRE, CONVENTIONAL, AS PER PLAN, 200 WATT HPS, TYPE II DISTRIBUTION, 480 VOLT	54
												10	8	625	29921	18	EACH	STRUCTURE JUNCTION BOX, AS PER PLAN	54
												1		625	33001	1	EACH	STRUCTURE GROUNDING SYSTEM, AS PER PLAN	55
												2		625	34001	2	EACH	POWER SERVICE, AS PER PLAN	54
													TRAFFIC CONTROL						
														626	00100	1	EACH	BARRIER REFLECTOR, TYPE A	
														646	10000	1.24	MILE	EDGE LINE	
														646	10100	1.24	MILE	LANE LINE	
													STRUCTURE OVER 20'						
													STRUCTURE SUM-8-0195, SEE SHEET 69						
													MAINTENANCE OF TRAFFIC						
														614	11100	500	HR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
														614	11500	5	MNTH	WORKSITE TRAFFIC SUPERVISOR	
														614	12420	LUMP		DETOUR SIGNING	
														614	13000	10	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
														614	13300	80	EACH	BARRIER REFLECTOR, TYPE B	
														614	13350	10	EACH	OBJECT MARKER, ONE WAY	
														614	18601	40	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	10
														614	20001	1.24	MILE	WORK ZONE LANE LINE, CLASS I, AS PER PLAN	10
														614	22001	1.24	MILE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN	10
														622	40020	560	FT	PORTABLE CONCRETE BARRIER, 32"	
														614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16010	8	MNTH	FIELD OFFICE, TYPE B	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

GENERAL SUMMARY

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7707866.DGN 11/23/07 RC,HN,JLS

PLAN & PROFILE SUBSUMMARY

REFERENCE NO.	SHEET NO.	FROM		TO		202	209	601		606		626
		STATION	SIDE	STATION	SIDE	GUARDRAIL REMOVED	DITCH CLEANOUT	CRUSHED AGGREGATE SLOPE PROTECTION	ROCK CHANNEL PROTECTION, TYPE D, WITHOUT FILTER	GUARDRAIL, TYPE 5	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BARRIER REFLECTOR, TYPE A, WHITE
		FT.	FT.	SQ.YD.	CU.YD.	FT.	EACH	EACH				
I-CAS	34	103+48.00		103+71.00				277				
I-RCP	34	105+26.50	LT.	105+39.00	LT.			5				
I-RCP	36	109+62.00		109+82.00				42				
I-DC	36	106+94.00		107+18.00			91					
I-GR	40	119+01.02	LT.	119+57.27	LT.	57				56.25	1	1
TOTALS						57	91	277	47	56.25	1	1
TOTALS CARRIED TO GENERAL SUMMARY						57	91	277	47	56.25	1	1

DRAINAGE SUBSUMMARY

REFERENCE NO.	SHEET NO.	FROM			TO			202			SPECIAL	203	601	602	603			604			659									
		STATION	OFFSET	SIDE	STATION	OFFSET	SIDE	HEADWALL REMOVED	PIPE REMOVED, 24" AND UNDER	CATCH BASIN REMOVED	CATCH BASIN ABANDONED	MANHOLE REMOVED	REMOVAL, MISC. MANHOLE CLEANOUT	PIPE CLEANOUT	EMBANKMENT	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	CONCRETE MASONRY	8" CONDUIT, TYPE C, 706.08	10" CONDUIT, TYPE C, 706.08	12" CONDUIT, TYPE	12" CONDUIT, TYPE C, 706.08	18" CONDUIT, TYPE	CATCH BASIN, NO. 8, AS PER PLAN-1	CATCH BASIN, NO. 8, AS PER PLAN-2	CATCH BASIN, NO. 2-2B, AS PER PLAN	MANHOLE, NO. 3	TOPSOIL	BENDS		
		FT.	FT.		FT.	FT.		EACH	FT.	EACH	EACH	EACH	FT.	CU.YD.	CU.YD.	CU.YD.	FT.	FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH	EACH	CU.YD.	EACH		
1-D	42	103+51.00	25.00	RT.	103+53.87	16.80	RT.		5	1			5								4			1						
2-D	42	104+05.75	35.25	LT.	104+14.50	9.90	RT.		44		1														1					
3-D	42	104+20.25	43.50	RT.	104+14.50	9.90	RT.		32		1														1					
4-D	42	105+47.00	44.50	LT.	105+47.10	17.30	LT.				1																			
5-D	42	105+47.10	17.30	LT.	105+58.00	45.00	RT.				1															1				
6-D	42	106+72.51	16.70	LT.	106+73.00	29.00	LT.		8	1			9	2			4							1				1		
7-D	42	106+90.00	16.83	LT	106+88.39	22.47	RT				1		12				46						1							
7A-D	42	106+90.00	16.83	LT																		8					1			
8-D	43	111+65.53	61.11	LT	111+86.50	31.50	LT																							
9-D	43	110+21.20	37.26	LT	111+86.50	31.50	LT	1	41						2	0.33												1		
10-D	43	111+86.50	31.50	LT.	112+81.00	28.00	LT.		28			1						8	47	48								1		
11-D	43	112+81.00	28.00	LT.	113+18.75	42.30	LT.		6	1			30				4							1						
12-D	43	112+81.00	28.00	LT.	113+18.50	42.50	RT.		5	1			70				4							1						
13-D	44	118+40.60	41.00	LT.	118+43.03	55.25	LT.		15	1			11								14			1					45°	
14-D	44	118+40.60	41.00	RT.	118+42.36	33.94	RT.		17	1			58								18			1					45°	
15-D	44	118+42.36	41.00	RT.	118+43.02	55.82	RT.					1	12																	
16-D	44	118+43.02	55.82	RT.	119+00.08	69.69	RT.						59																	
17-D	44	119+00.08	69.69	RT.	119+34.29	42.83	RT.						44																	
TOTALS								1	201	6	5	1	1	310	2	2	0.33	50	16	47	247	36	23	150	7	1	3	3	1	X
TOTALS CARRIED TO GENERAL SUMMARY								1	201	6	5	1	1	310	2	2	0.33	50	16	47	247	36	23	150	7	1	3	3	1	X

CALCULATED
T.C.M.
CHECKED
P.D.G.

SUBSUMMARIES

SUM - 8 - 1.95

32
102

T70786SA.DGN 11/23/07 RC, RB, JLS

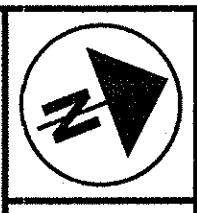
LINE	DESCRIPTION	CALCULATION						QUANTITY
ITEM 659 - SEEDING AND MULCHING, CLASS 3C								
	LOCATION	FROM STATION	TO STATION	LENGTH	WIDTH		SURFACE AREA	
					FROM TO			
1	LT & RT	102+70.00	103+47.50	77.50 FEET	X (30.00 + 30.00) / 2 / 9 =		258.33 SQ YD	
2		105+48.00	106+20.00	72.00 FEET	X (98.00 + 98.00) / 2 / 9 =		784.00 SQ YD	
3		106+74.00	107+34.00	60.00 FEET	X (120.00 + 120.00) / 2 / 9 =		800.00 SQ YD	
4	DEDUCT FOR PIER 3		17.00 FEET X	20.00 FEET	X 2 / 9 =		-75.56 SQ YD	
5	DEDUCT FOR CANAL			16.00 FEET	X (120.00 + 120.00) / 2 / 9 =		-213.33 SQ YD	
6		107+34.00	107+78.00	44.00 FEET	X (98.00 + 98.00) / 2 / 9 =		479.11 SQ YD	
7		108+18.00	109+26.00	108.00 FEET	X (98.00 + 98.00) / 2 / 9 =		1176.00 SQ YD	
8	LT	113+15.00	114+11.00	96.00 FEET	X (45.00 + 60.00) / 2 / 9 =		560.00 SQ YD	
9		114+11.00	114+60.00	49.00 FEET	X (60.00 + 120.00) / 2 / 9 =		490.00 SQ YD	
10	DEDUCT FOR PIER 5		17.00 FEET X	20.00 FEET	X / 9 =		-37.78 SQ YD	
11		114+60.00	115+12.00	52.00 FEET	X (120.00 + 120.00) / 2 / 9 =		693.33 SQ YD	
12	LT & RT	115+12.00	117+20.00	208.00 FEET	X (12.00 + 12.00) / 2 / 9 =		277.33 SQ YD	
13	LT	117+20.00	119+00.00	180.00 FEET	X (6.00 + 15.00) / 2 / 9 =		210.00 SQ YD	
14		119+00.00	119+60.00	60.00 FEET	X (6.00 + 6.00) / 2 / 9 =		40.00 SQ YD	
15						TOTAL AREA =	5441.43 SQ YD	
16						ESTIMATED PORTION TO BE SEEDED (50%) =	2720.72 SQ YD	
17						TOTAL CARRIED TO GENERAL NOTES =	2721 SQ YD	
ITEM 659 - COMMERCIAL FERTILIZER								
18	LINE 16	(2720.72 SQ. YD. x	1	TON /	7410 SQ. YD.)		0.37 TON	
19	LINE 16	(2720.72 SQ. YD. x	5.00%	x	9 SQ FT/ SQ. YD. x 20 LBS. / 1000 SQ FT x 1TON/2000 LBS.		0.02 TON	
20	SUM OF LINES 18 AND 19					TOTAL ITEM (659)	0.39 TON	
						TOTAL CARRIED TO GENERAL NOTES	0.40 TON	
ITEM 659 - LIME								
21	LINE 16	(2720.72 SQ. YD. /	4840 SQ YD /	1	ACRE)	TOTAL ITEM (659)	0.56 ACRE	
						TOTAL CARRIED TO GENERAL NOTES	0.6 ACRE	
ITEM 659 - INTERSEEDING								
22	LINE 16	(2720.72 SQ. YD. x	5.00%)		TOTAL ITEM (659)	136.04 SQ. YD.	
						TOTAL CARRIED TO GENERAL NOTES	137 SQ. YD.	
ITEM 659 - WATER								
23	LINE 16	(2720.72 SQ. YD. x	0.0027 M. GAL. / SQ. YD. x	2	APPLICATIONS)		14.69 M. GAL.	
24	LINE 16	(2720.72 SQ. YD. x	5.00% x	0.0027 M. GAL. / SQ. YD. x	1 APPLICATIONS)		0.37 M. GAL.	
25	SUM OF LINES 23 AND 24					TOTAL ITEM (659)	15.06 M. GAL.	
						TOTAL CARRIED TO GENERAL NOTES	16 M. GAL.	
ITEM 659 - REPAIR SEEDING AND MULCHING								
26	LINE 16	(2720.72 SQ. YD. x	5.00%)		TOTAL ITEM (659)	136.04 SQ. YD.	
						TOTAL CARRIED TO GENERAL NOTES	137 SQ. YD.	
ITEM 659 - TOPSOIL								
27	LINE 16	(2720.72 SQ. YD. x	111 CU. YD. / 1000 SQ. YD.)			TOTAL ITEM (659)	302.00 CU. YD.	
						TOTAL CARRIED TO GENERAL NOTES	302 CU. YD.	

CALCULATED
TCM
CHECKED
PDG

CALCULATIONS

SUM - 8 - 1.95

770786C.DGN 11/23/07 RC, RB, JLS



0 10 20 30 40
HORIZONTAL
SCALE IN FEET

CALCULATED TCM
CHECKED PDG

PLAN
STA. 101+00 TO STA. 106+00

SUM-8-1.95

34
102

CROSS REFERENCES	
32	SUBSUMMARIES
35	PROFILE SHEET
42-47	STORM SEWER P & P

CURVE DATA (CI)
 C/R/W & SURVEY S.R. 8
 P.I. Sta = 98+02.91
 D = 14° 10' 44" (RT)
 Dc = 1° 57' 48"
 R = 2,918.12'
 T = 362.93'
 L = 722.14'
 E = 22.48'

BEGIN PROJECT
 STA. 102+68.65
 SLM 1.95

BEGIN WORK
 STA. 102+65.00

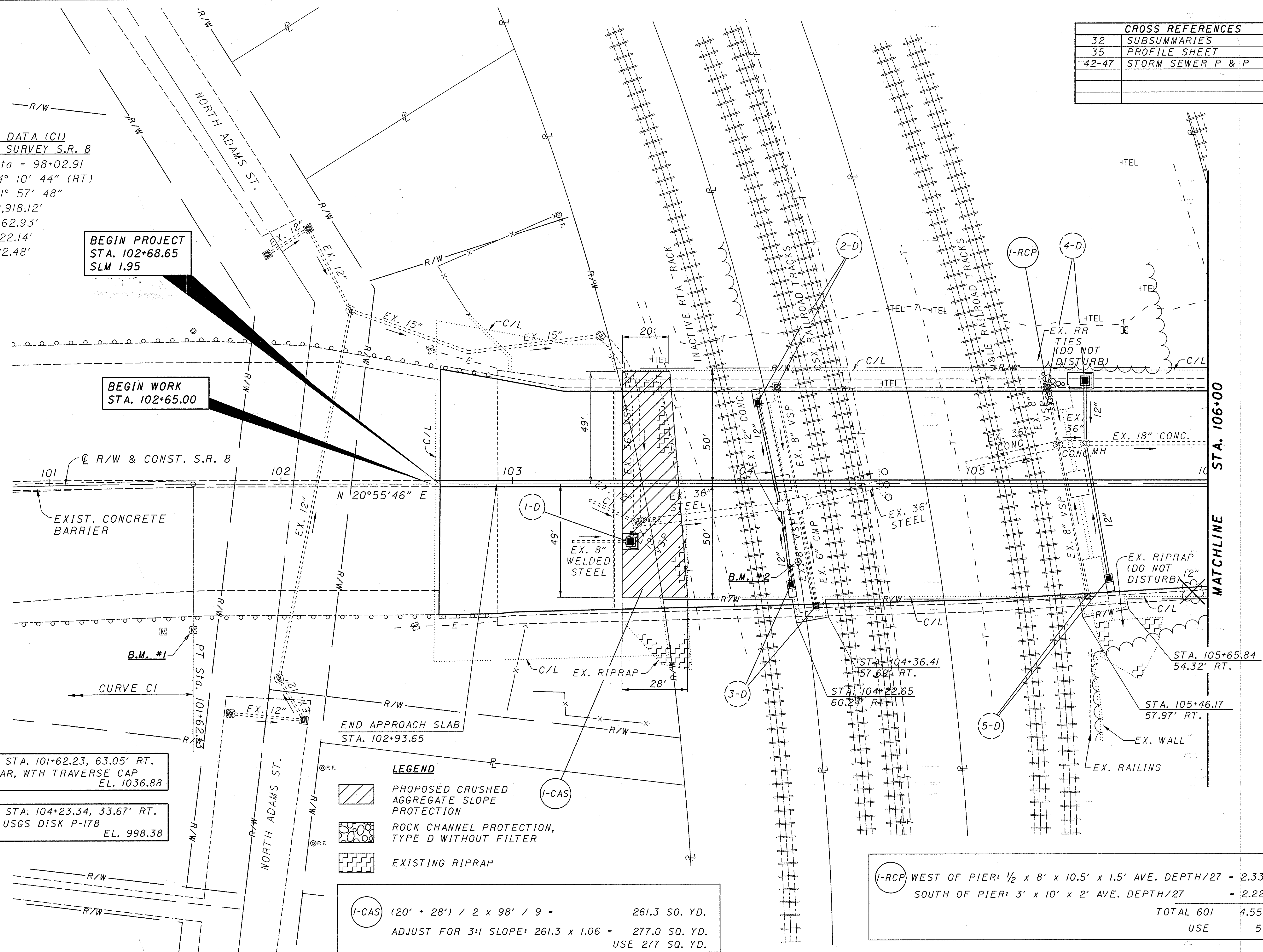
BM #1 - STA. 101+62.23, 63.05' RT.
 5/8" REBAR, WTH TRAVERSE CAP
 EL. 1036.88

BM #2 - STA. 104+23.34, 33.67' RT.
 TOP OF USGS DISK P-178
 EL. 998.38

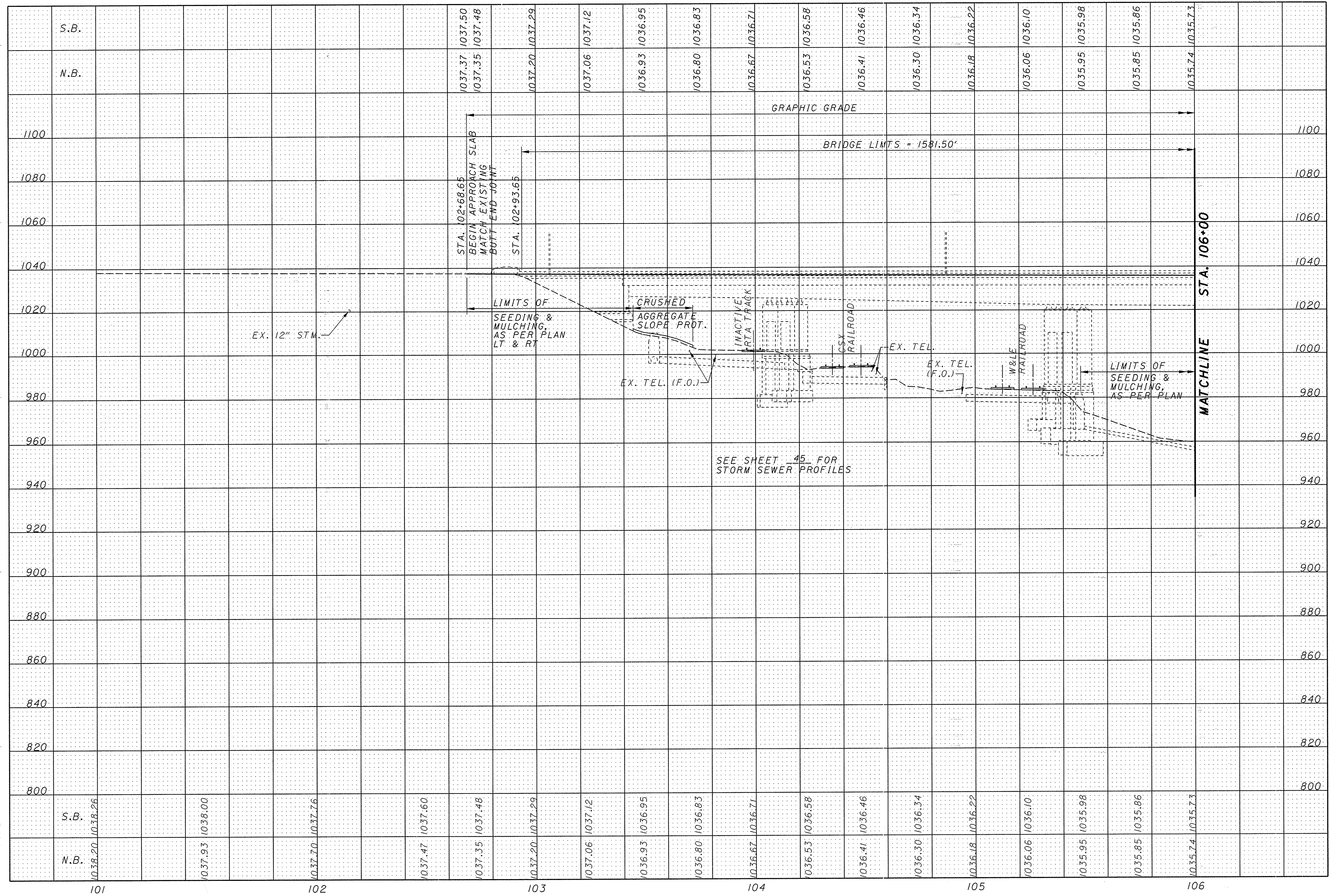
- LEGEND**
- PROPOSED CRUSHED AGGREGATE SLOPE PROTECTION
 - ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER
 - EXISTING RIPRAP

(I-CAS) $(20' + 28') / 2 \times 98' / 9 = 261.3$ SQ. YD.
 ADJUST FOR 3:1 SLOPE: $261.3 \times 1.06 = 277.0$ SQ. YD.
 USE 277 SQ. YD.

(I-RCP) WEST OF PIER: $1/2 \times 8' \times 10.5' \times 1.5'$ AVE. DEPTH/27 = 2.33 CU. YD.
 SOUTH OF PIER: $3' \times 10' \times 2'$ AVE. DEPTH/27 = 2.22 CU. YD.
 TOTAL 601 4.55 CU. YD.
 USE 5 CU. YD.



770786POOL.DGN 11/23/07 HN, RB, JLS



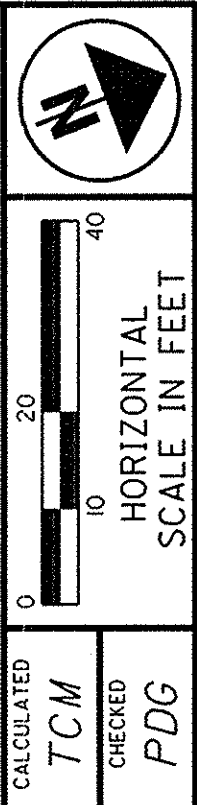
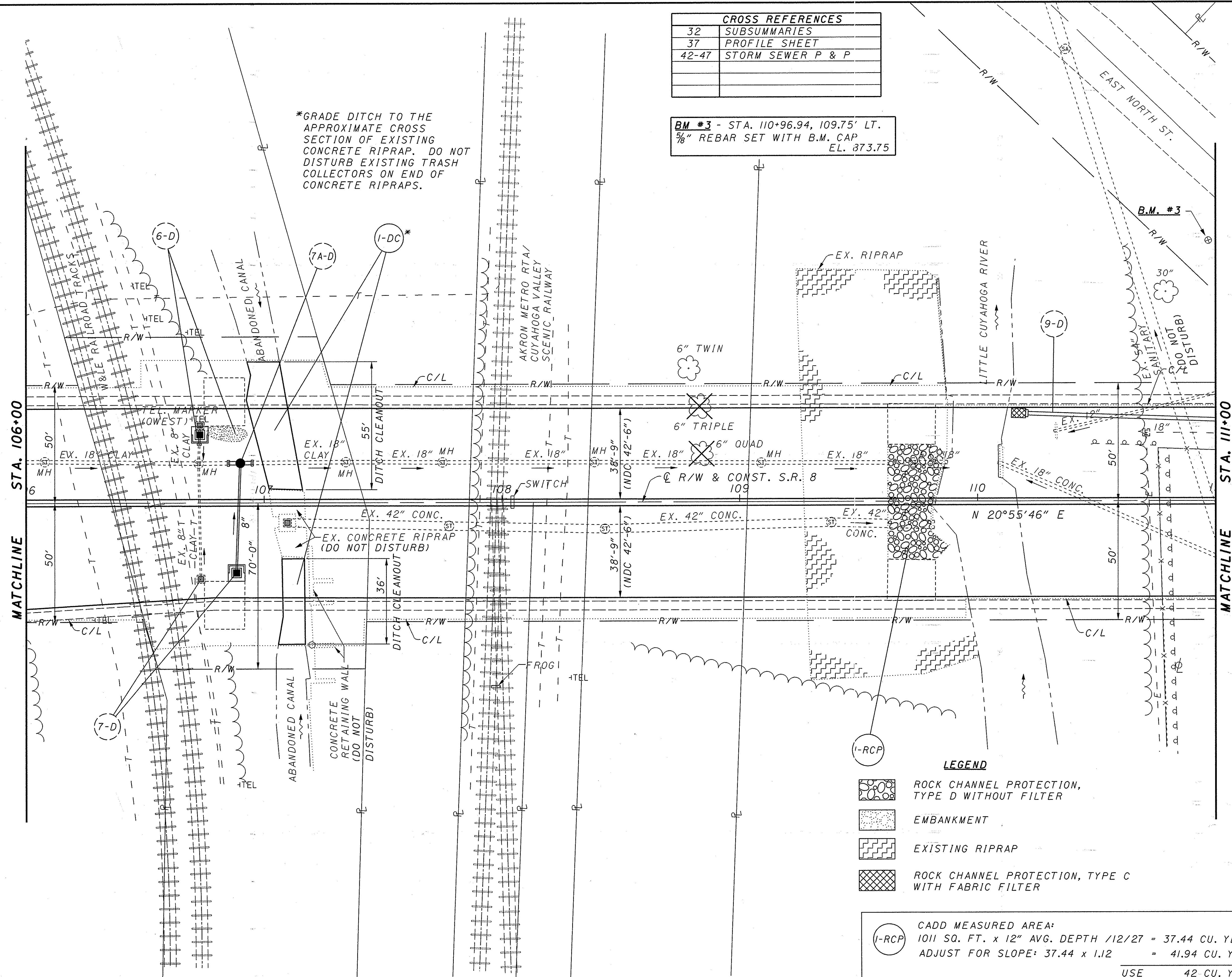
PROFILE STA. 101+00 TO STA. 106+00

77078CP002.DGN 11/23/07 SAM, RB, JLS

CROSS REFERENCES	
32	SUBSUMMARIES
37	PROFILE SHEET
42-47	STORM SEWER P & P

BM #3 - STA. 110+96.94, 109.75' LT.
 3/8" REBAR SET WITH B.M. CAP
 EL. 873.75

*GRADE DITCH TO THE APPROXIMATE CROSS SECTION OF EXISTING CONCRETE RIPRAP. DO NOT DISTURB EXISTING TRASH COLLECTORS ON END OF CONCRETE RIPRAP.



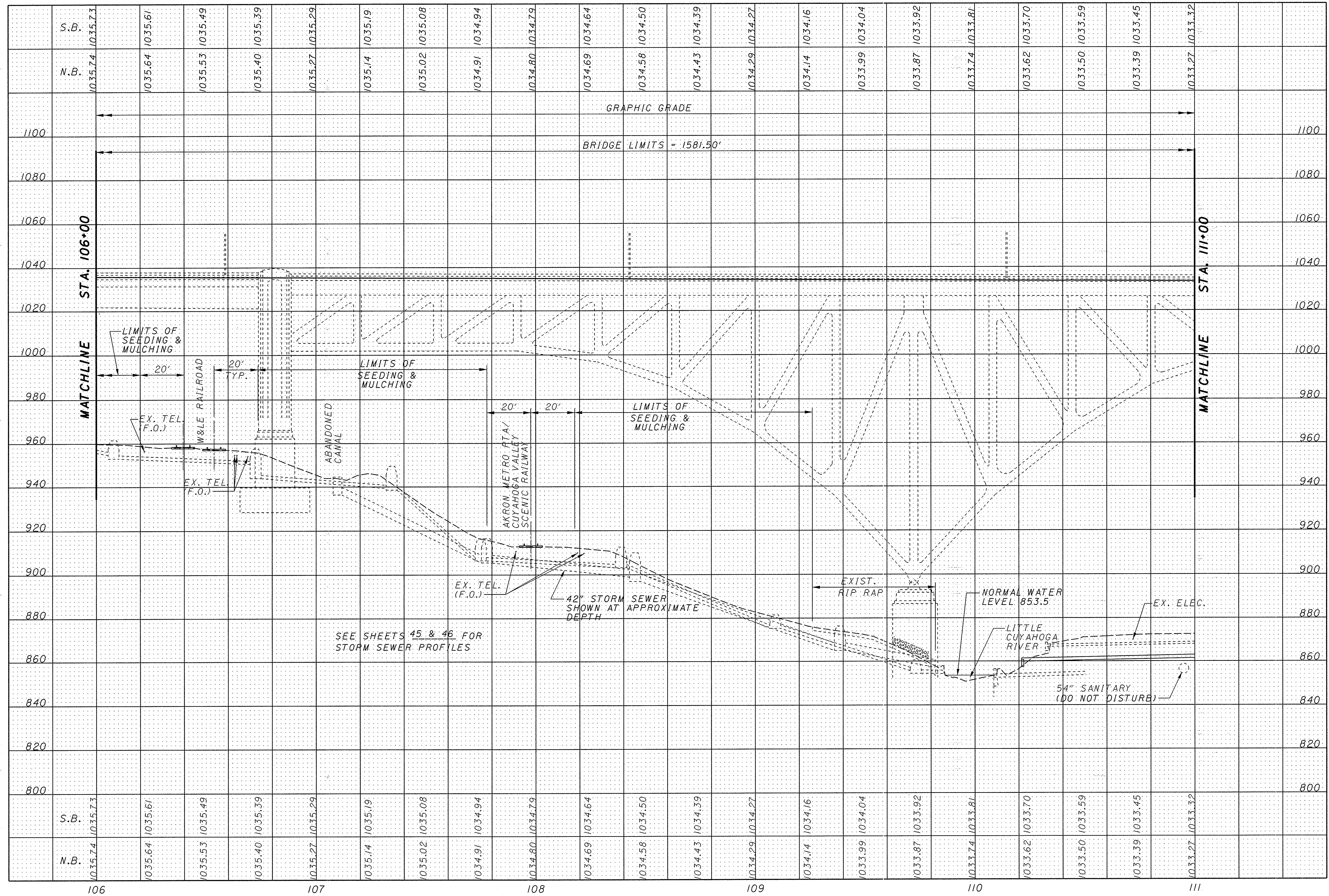
PLAN
 STA. 106+00 TO STA. 111+00

- LEGEND**
- ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER
 - EMBANKMENT
 - EXISTING RIPRAP
 - ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER

(I-RCP) CADD MEASURED AREA:
 1011 SQ. FT. x 12" AVG. DEPTH /12/27 = 37.44 CU. YD.
 ADJUST FOR SLOPE: 37.44 x 1.12 = 41.94 CU. YD.
 USE 42 CU. YD.

SUM-8-1.95

770786F002.DGN 11/23/07 SAM, RB, JLS



CALCULATED TCM
CHECKED PDG

PROFILE
STA. 106+00 TO STA. 111+00

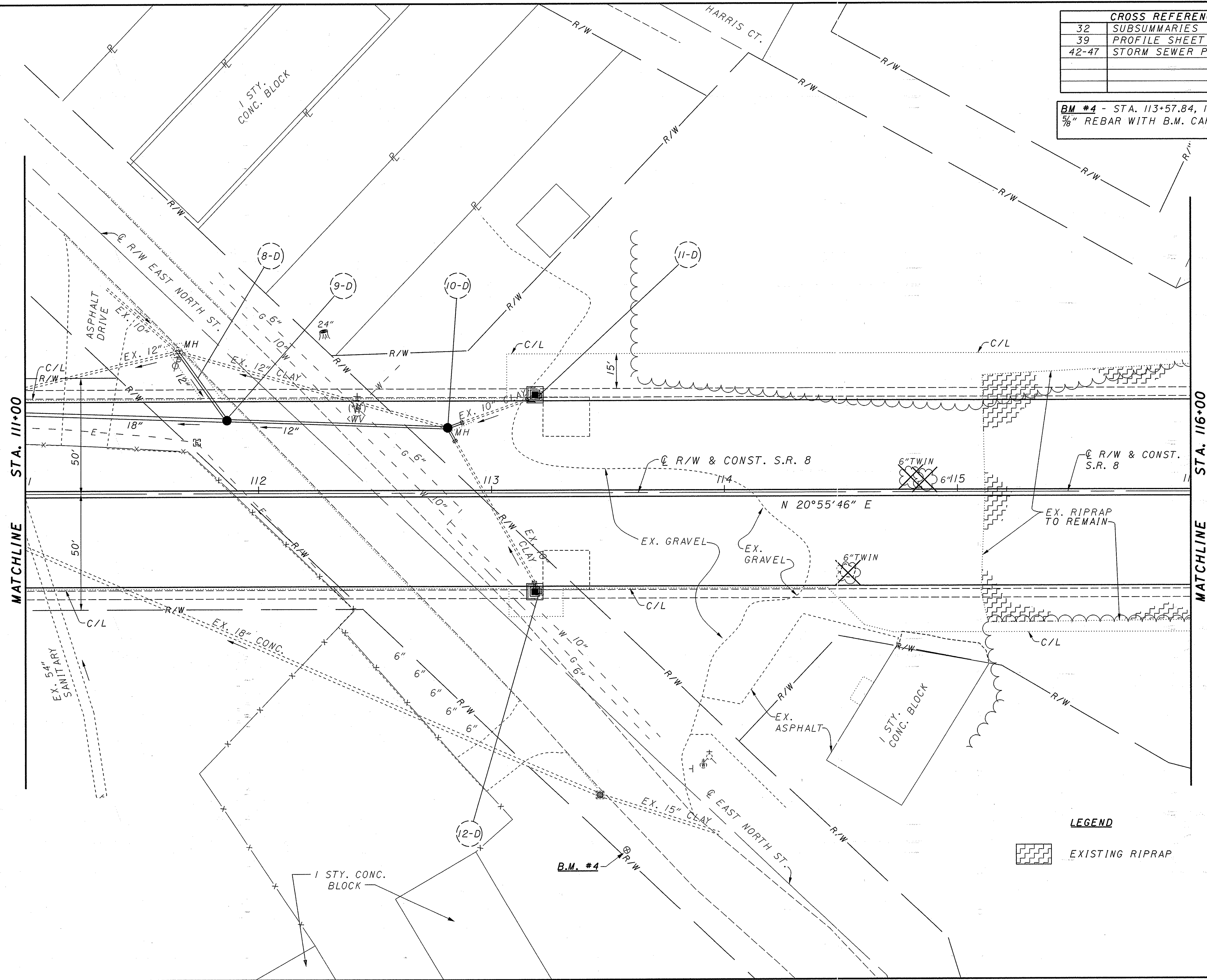
SUM - 8 - 1.95


CROSS REFERENCES	
32	SUBSUMMARIES
39	PROFILE SHEET
42-47	STORM SEWER P & P

BM #4 - STA. 113+57.84, 153.88' RT.
 5/8" REBAR WITH B.M. CAP
 EL. 876.03

CALCULATED TCM
 CHECKED PDG

0 10 20 30
 HORIZONTAL SCALE IN FEET

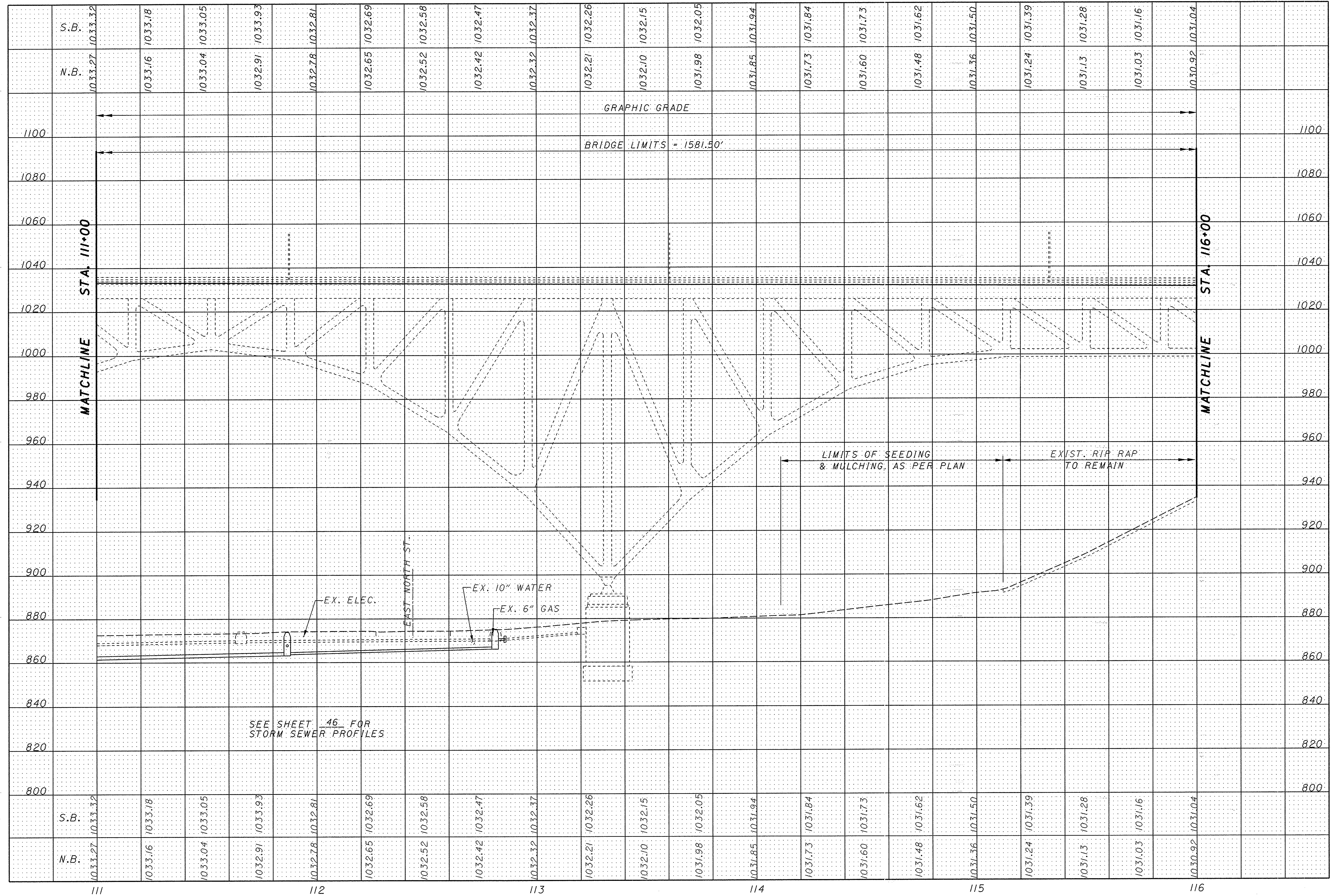


LEGEND
 EXISTING RIPRAP

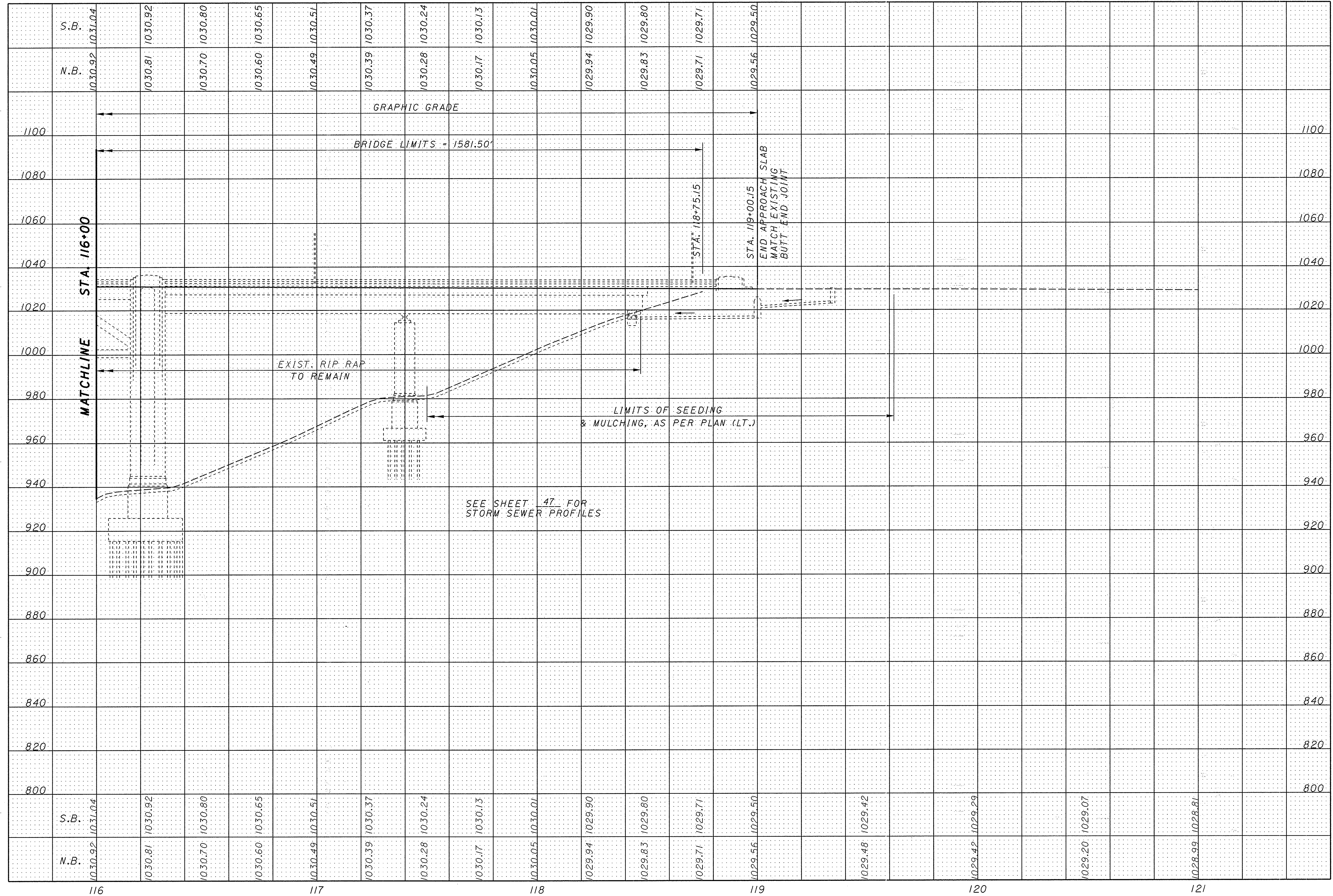
PLAN
STA. 111+00 TO STA. 116+00

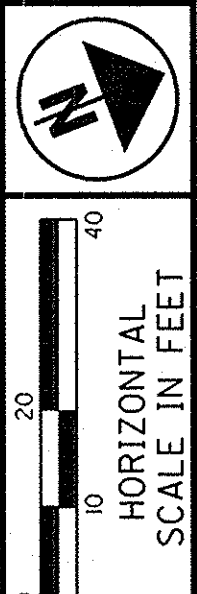
SUM-8-1.95

770786P003.DGN 11/23/07 SAM, RB, JLS



PROFILE
STA. 111+00 TO STA. 116+00

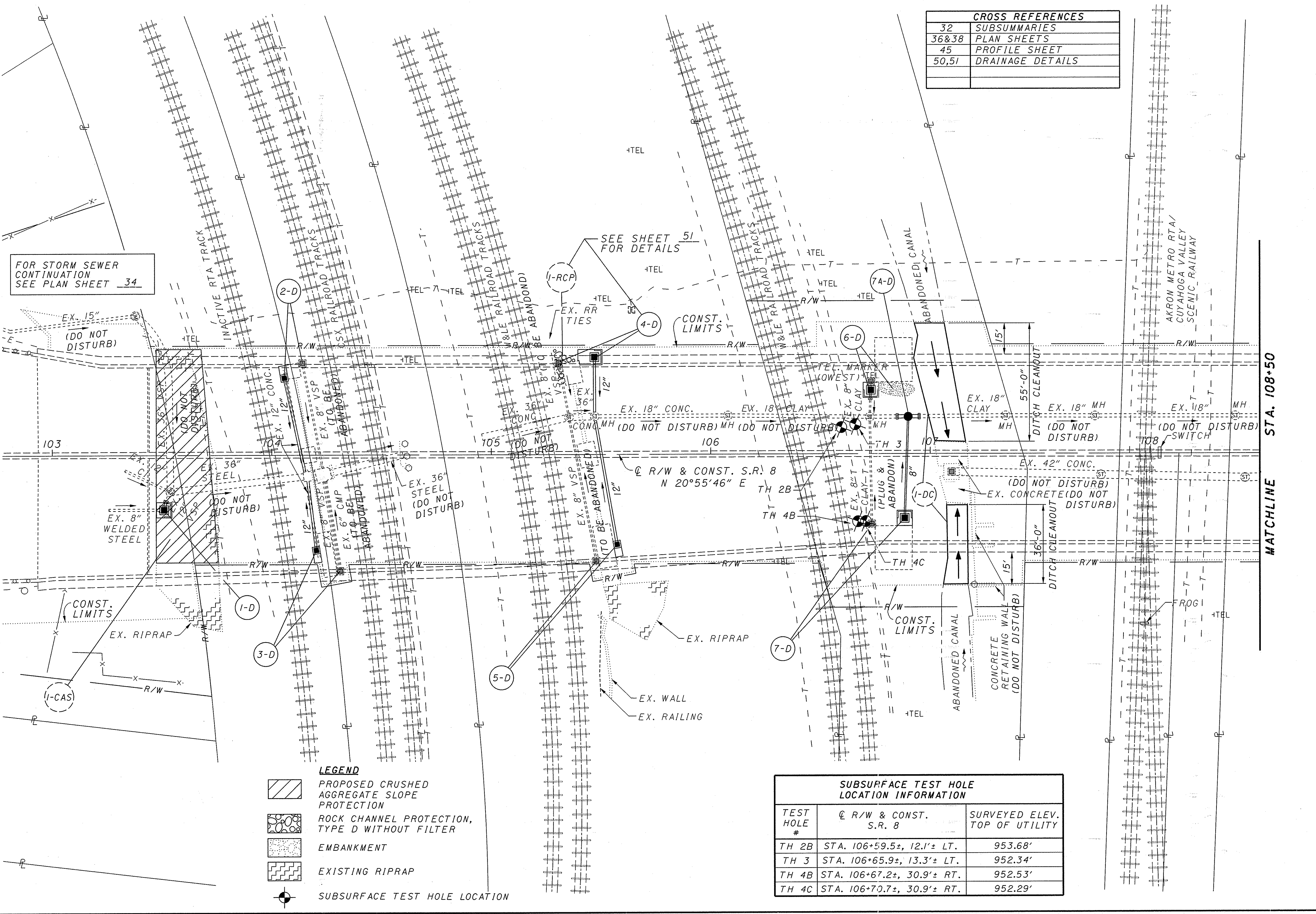




CALCULATED TCM
CHECKED PDG

CROSS REFERENCES	
32	SUBSUMMARIES
36&38	PLAN SHEETS
45	PROFILE SHEET
50,51	DRAINAGE DETAILS

FOR STORM SEWER CONTINUATION SEE PLAN SHEET 34



LEGEND

	PROPOSED CRUSHED AGGREGATE SLOPE PROTECTION
	ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER
	EMBANKMENT
	EXISTING RIPRAP
	SUBSURFACE TEST HOLE LOCATION

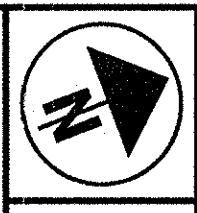
SUBSURFACE TEST HOLE LOCATION INFORMATION

TEST HOLE #	Q R/W & CONST. S.R. 8	SURVEYED ELEV. TOP OF UTILITY
TH 2B	STA. 106+59.5±, 12.1'± LT.	953.68'
TH 3	STA. 106+65.9±, 13.3'± LT.	952.34'
TH 4B	STA. 106+67.2±, 30.9'± RT.	952.53'
TH 4C	STA. 106+70.7±, 30.9'± RT.	952.29'

MATCHLINE STA. 108+50

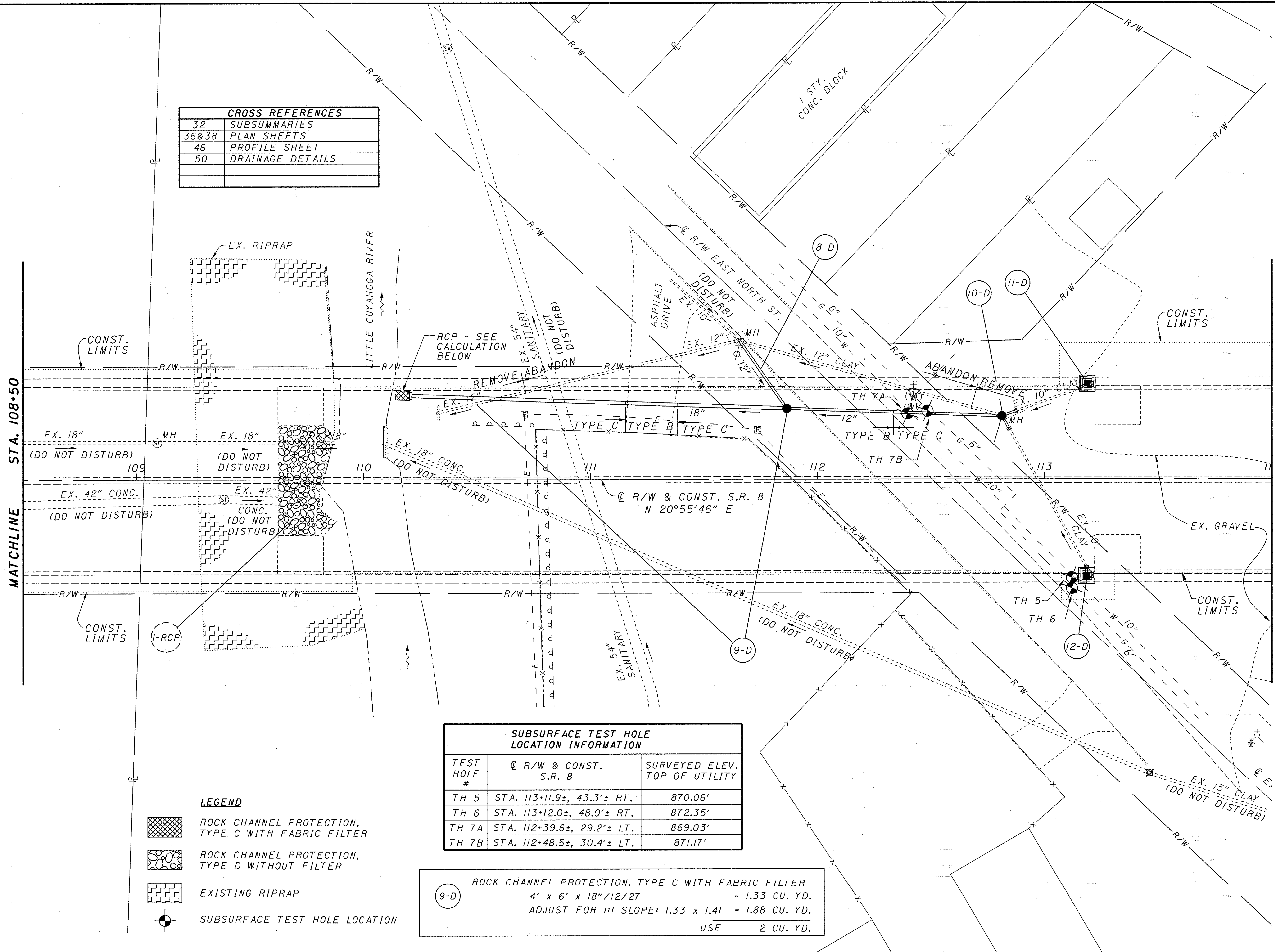
STORM SEWER PLAN

SUM - 8 - 1.95



0 10 20 40
HORIZONTAL SCALE IN FEET
CALCULATED TCM CHECKED PDG

CROSS REFERENCES	
32	SUBSUMMARIES
36&38	PLAN SHEETS
46	PROFILE SHEET
50	DRAINAGE DETAILS



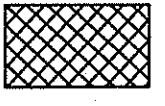
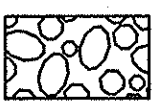


MATCHLINE STA. 108+50

MATCHLINE STA. 114+00

SUBSURFACE TEST HOLE LOCATION INFORMATION		
TEST HOLE #	Q R/W & CONST. S.R. 8	SURVEYED ELEV. TOP OF UTILITY
TH 5	STA. 113+11.9±, 43.3'± RT.	870.06'
TH 6	STA. 113+12.0±, 48.0'± RT.	872.35'
TH 7A	STA. 112+39.6±, 29.2'± LT.	869.03'
TH 7B	STA. 112+48.5±, 30.4'± LT.	871.17'

(9-D) ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
 4' x 6' x 18" / 12/27 = 1.33 CU. YD.
 ADJUST FOR 1:1 SLOPE: 1.33 x 1.41 = 1.88 CU. YD.
 USE 2 CU. YD.

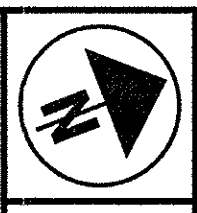
LEGEND

-  ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
-  ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER
-  EXISTING RIPRAP
-  SUBSURFACE TEST HOLE LOCATION

STORM SEWER PLAN

SUM-8-1.95

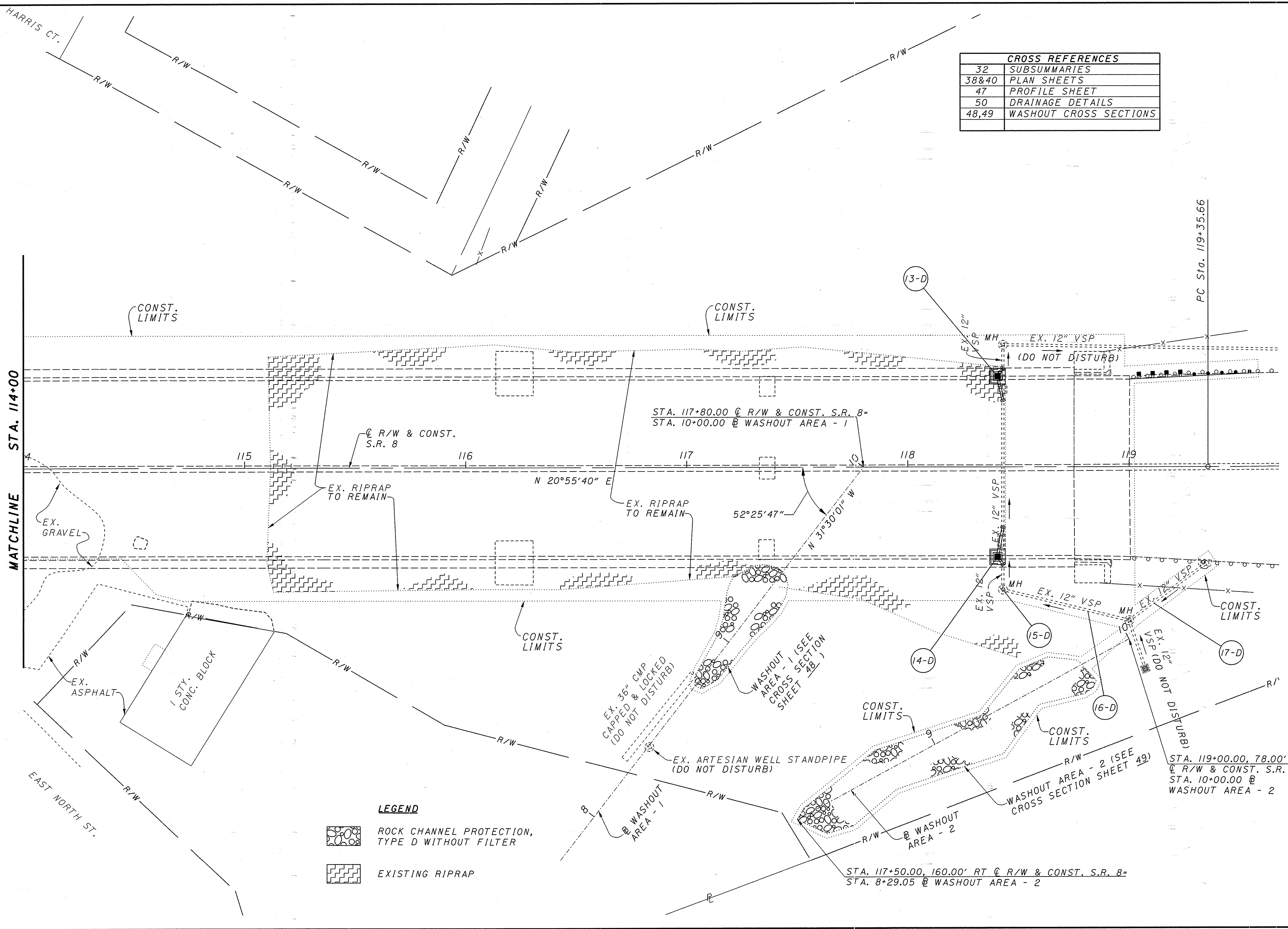
77078DP002.DGN 11/23/07 SAM,HN,RC,JLS



0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED TCM
CHECKED PDG

CROSS REFERENCES	
32	SUBSUMMARIES
38&40	PLAN SHEETS
47	PROFILE SHEET
50	DRAINAGE DETAILS
48,49	WASHOUT CROSS SECTIONS



LEGEND

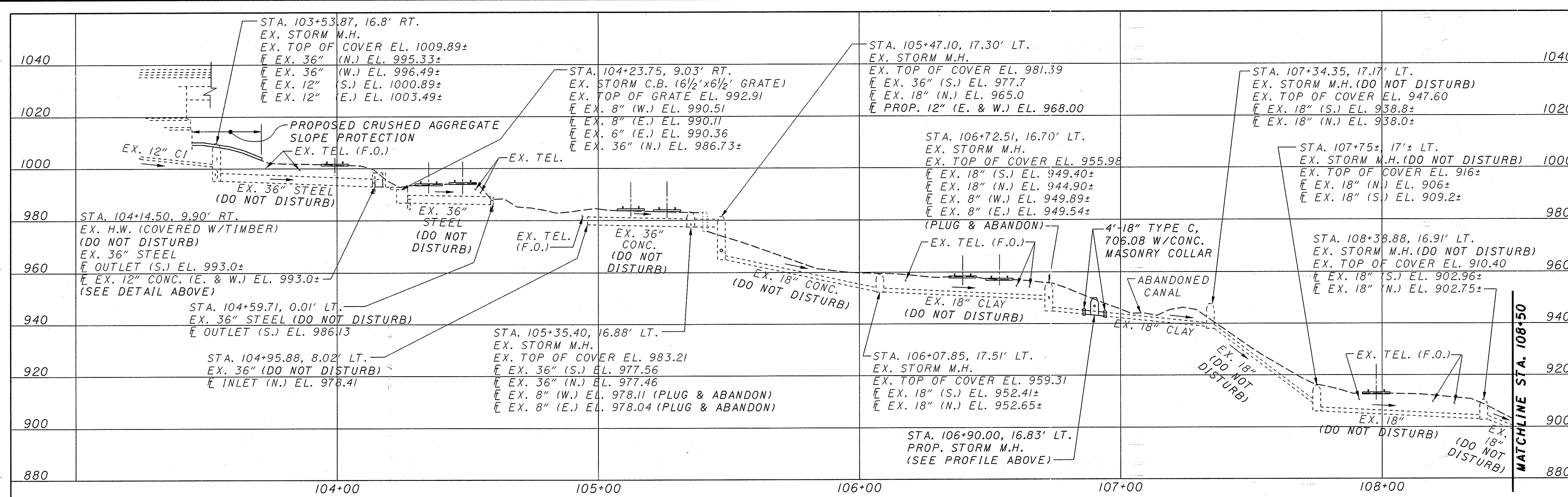
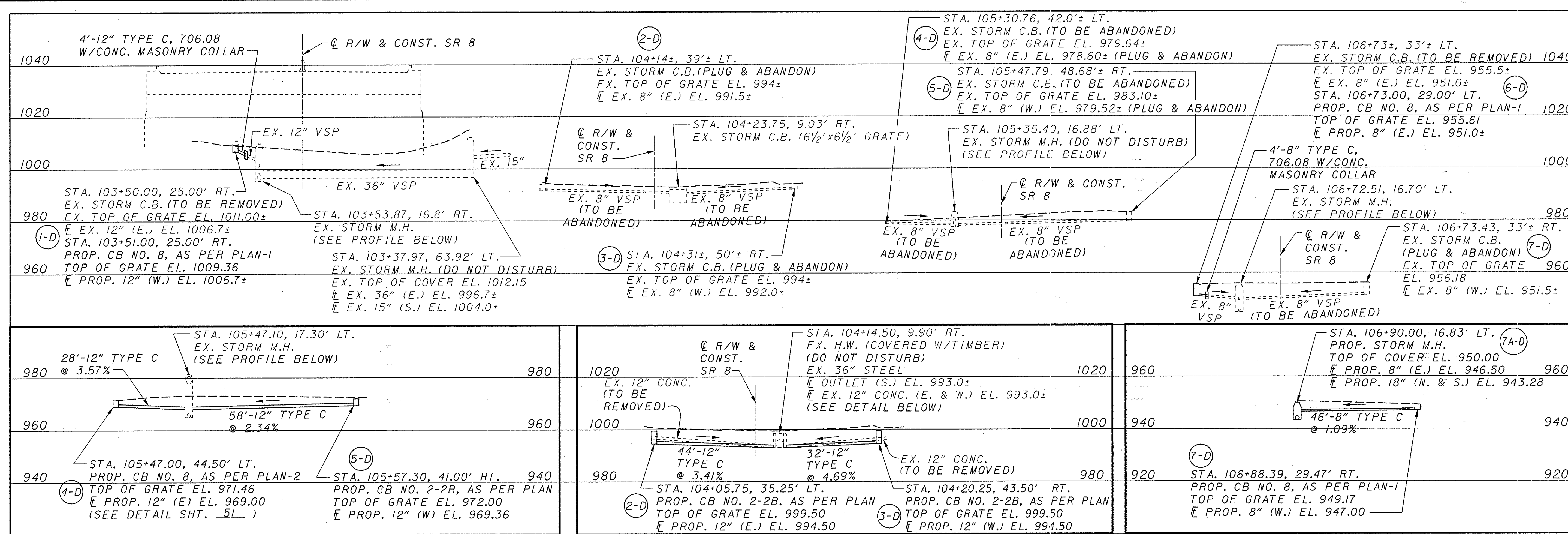
ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER

EXISTING RIPRAP

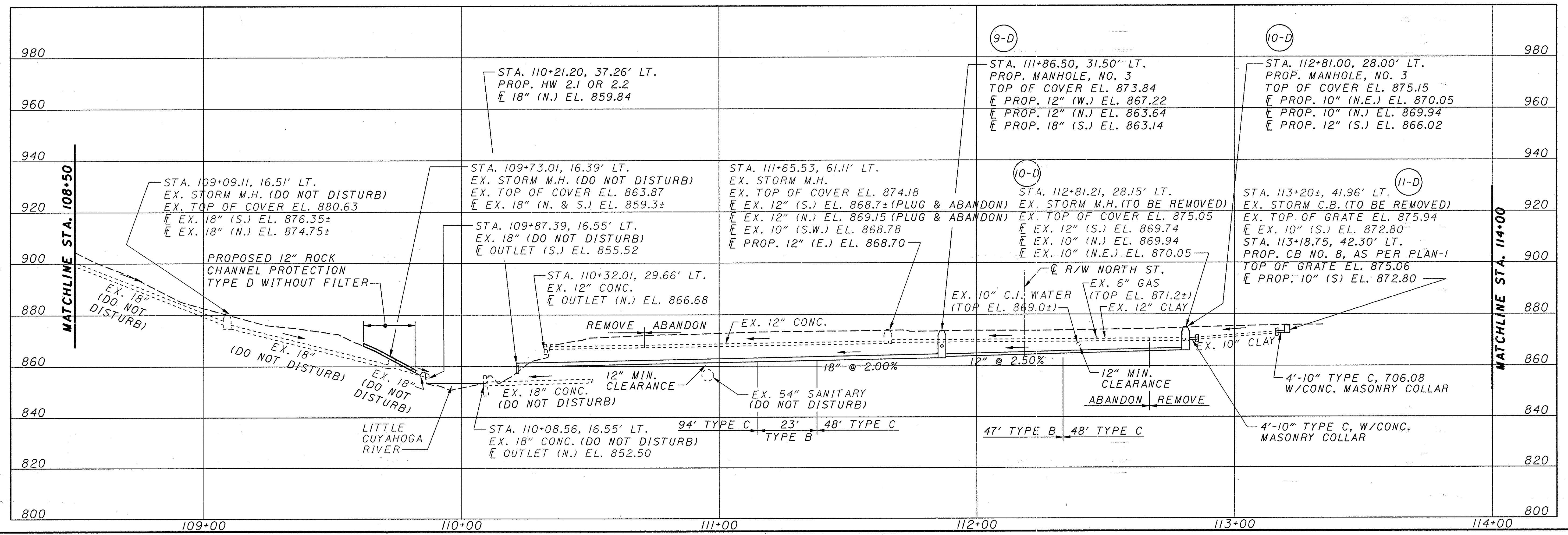
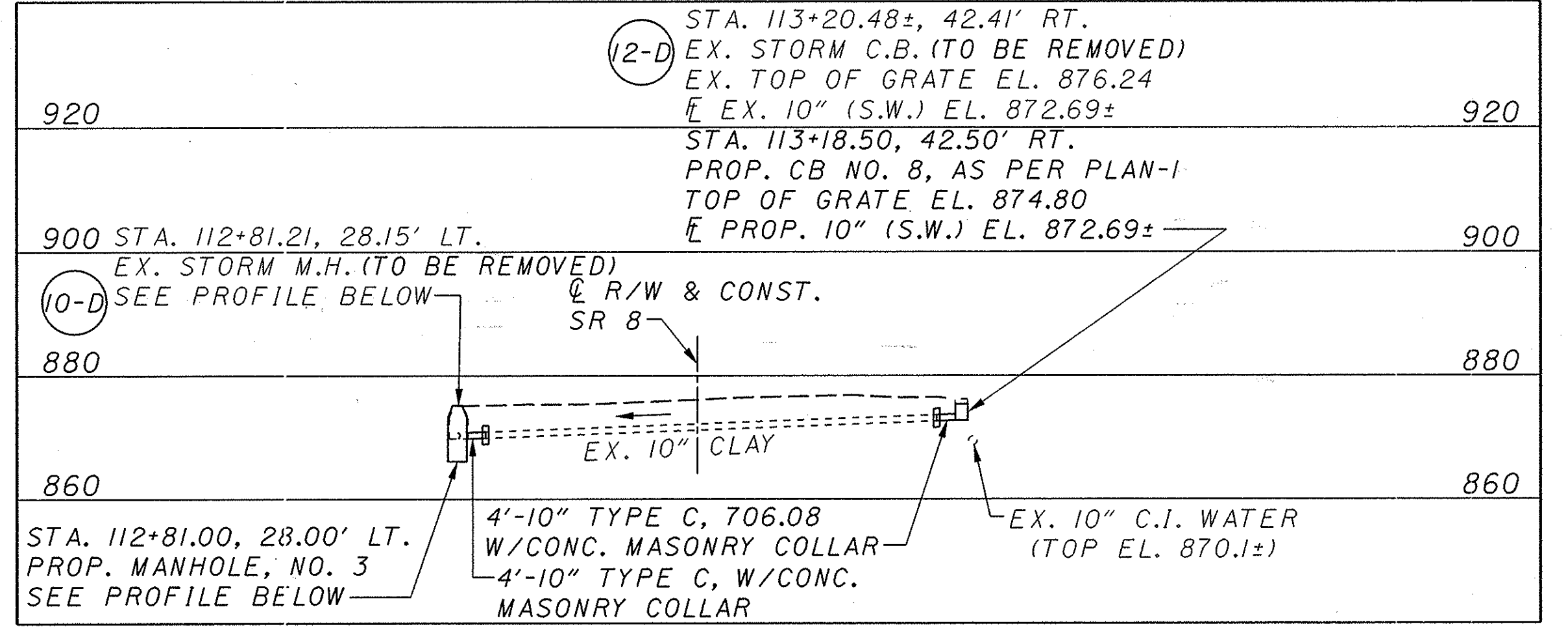
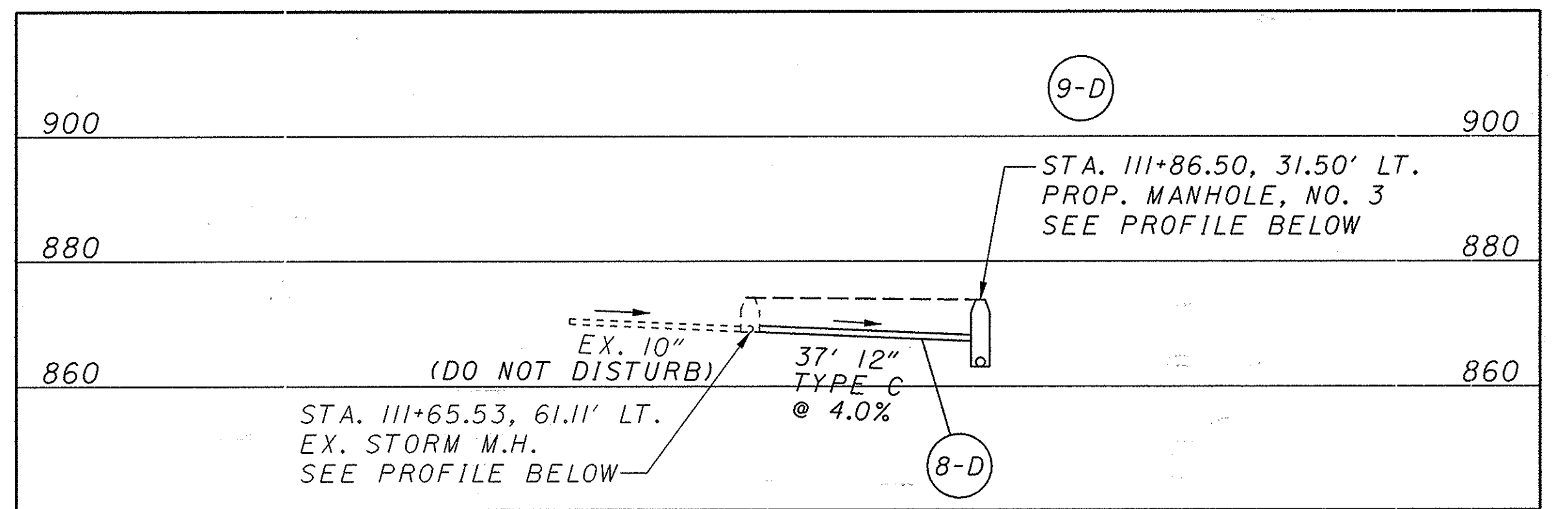
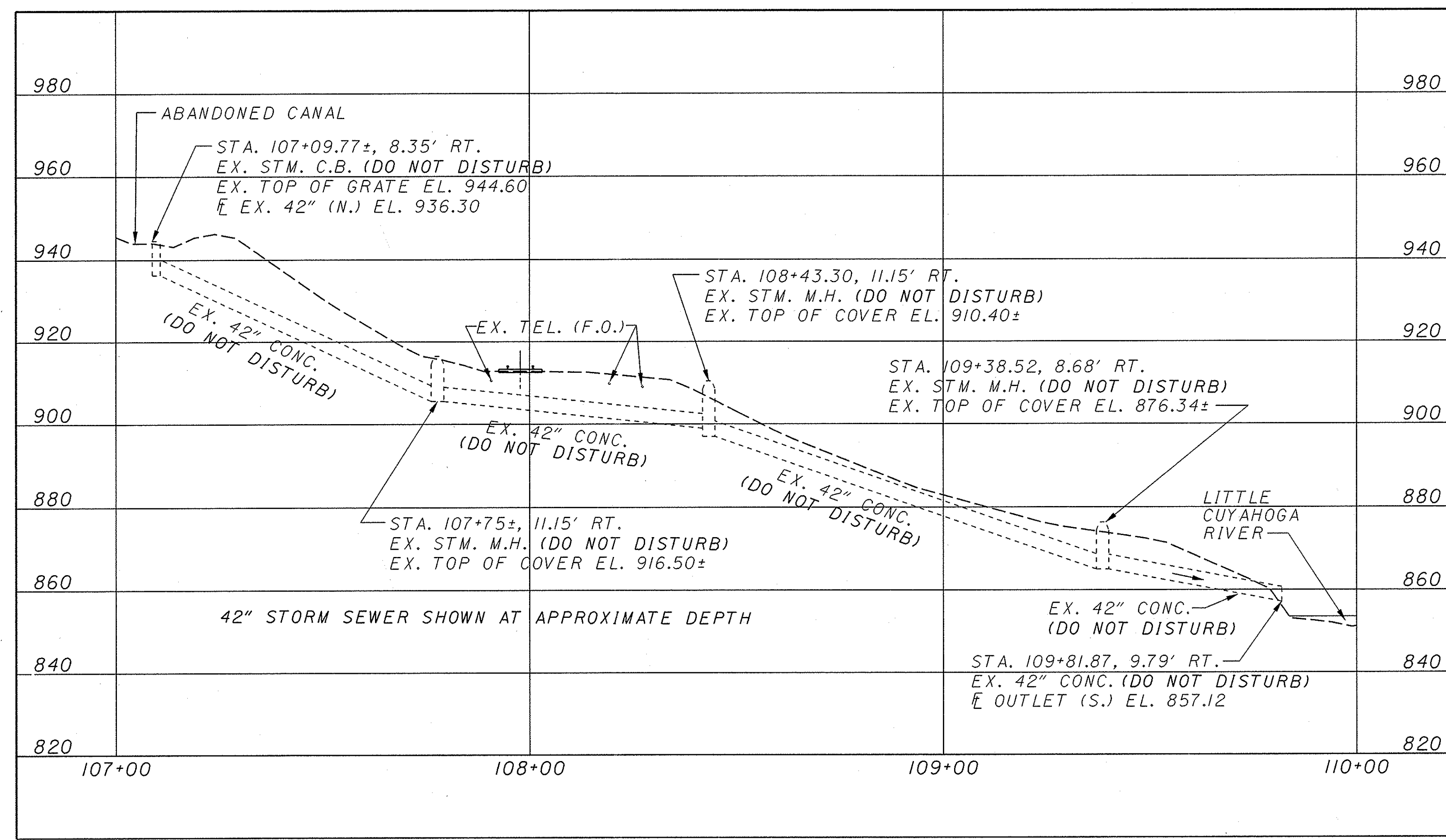
STORM SEWER PLAN

SUM-8-1.95

77078DP003.DGN 11/23/07 SAM,HN,RC,JLS



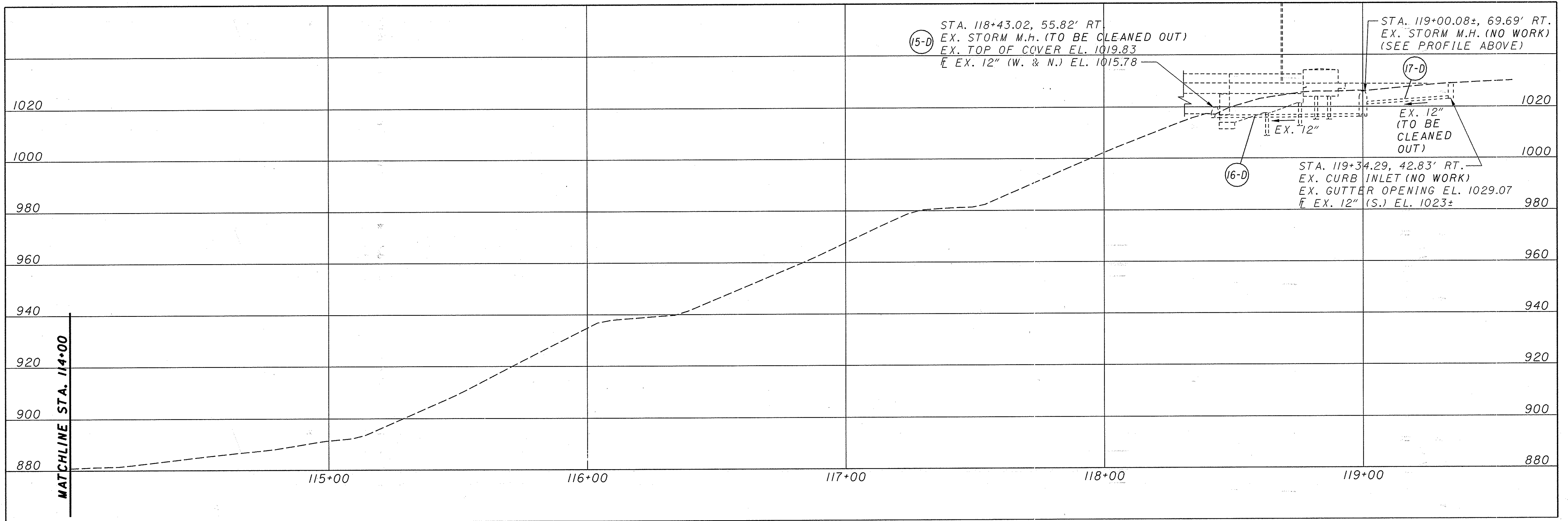
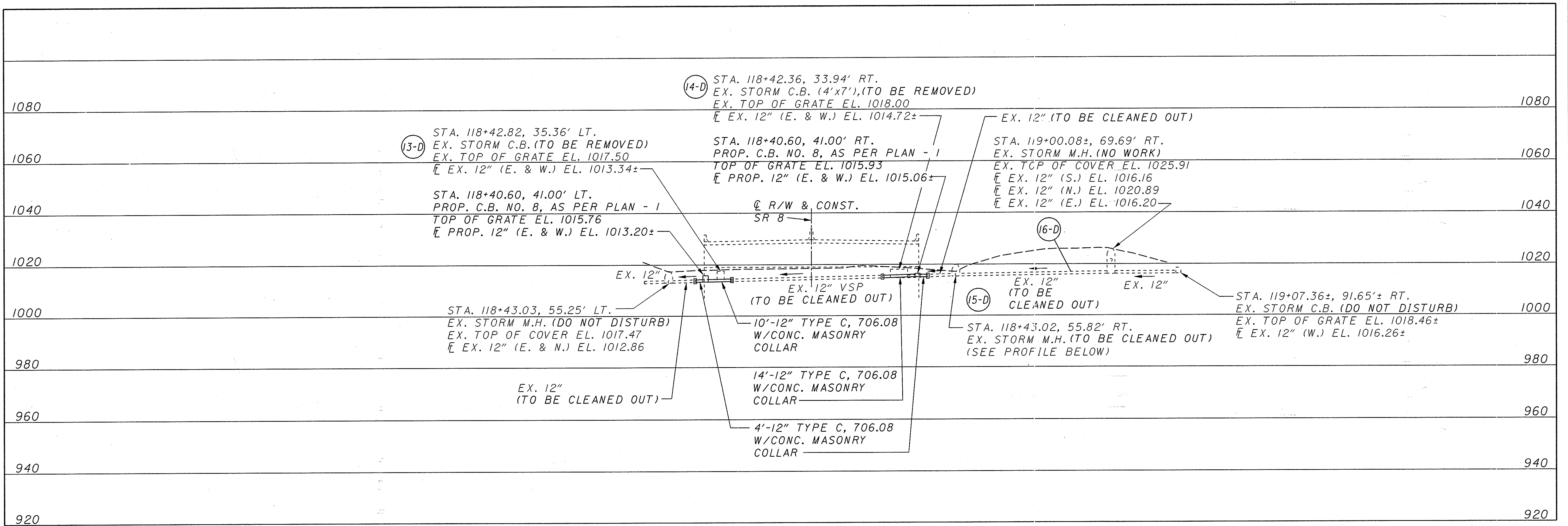
T7078DF001.DGN 11/23/07 SAM,HN,PC,JLS



STORM SEWER PROFILES

SUM-8-1.95

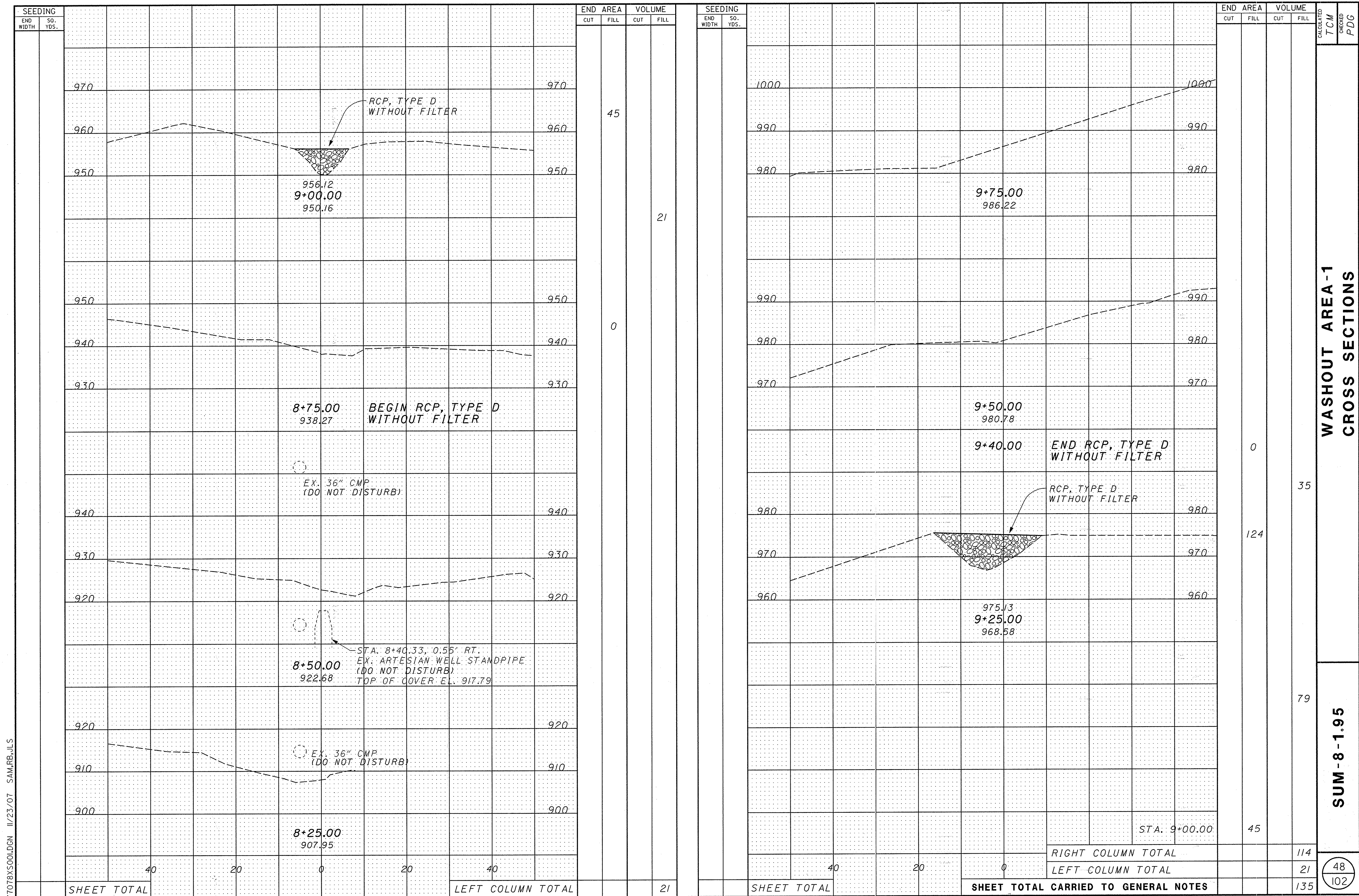
T7078DF002.DGN 11/23/07 SAM,HN,RC,JLS



77078DF003.DGN 11/23/07 SAM,JLS

STORM SEWER PROFILES

SUM-8-1.95



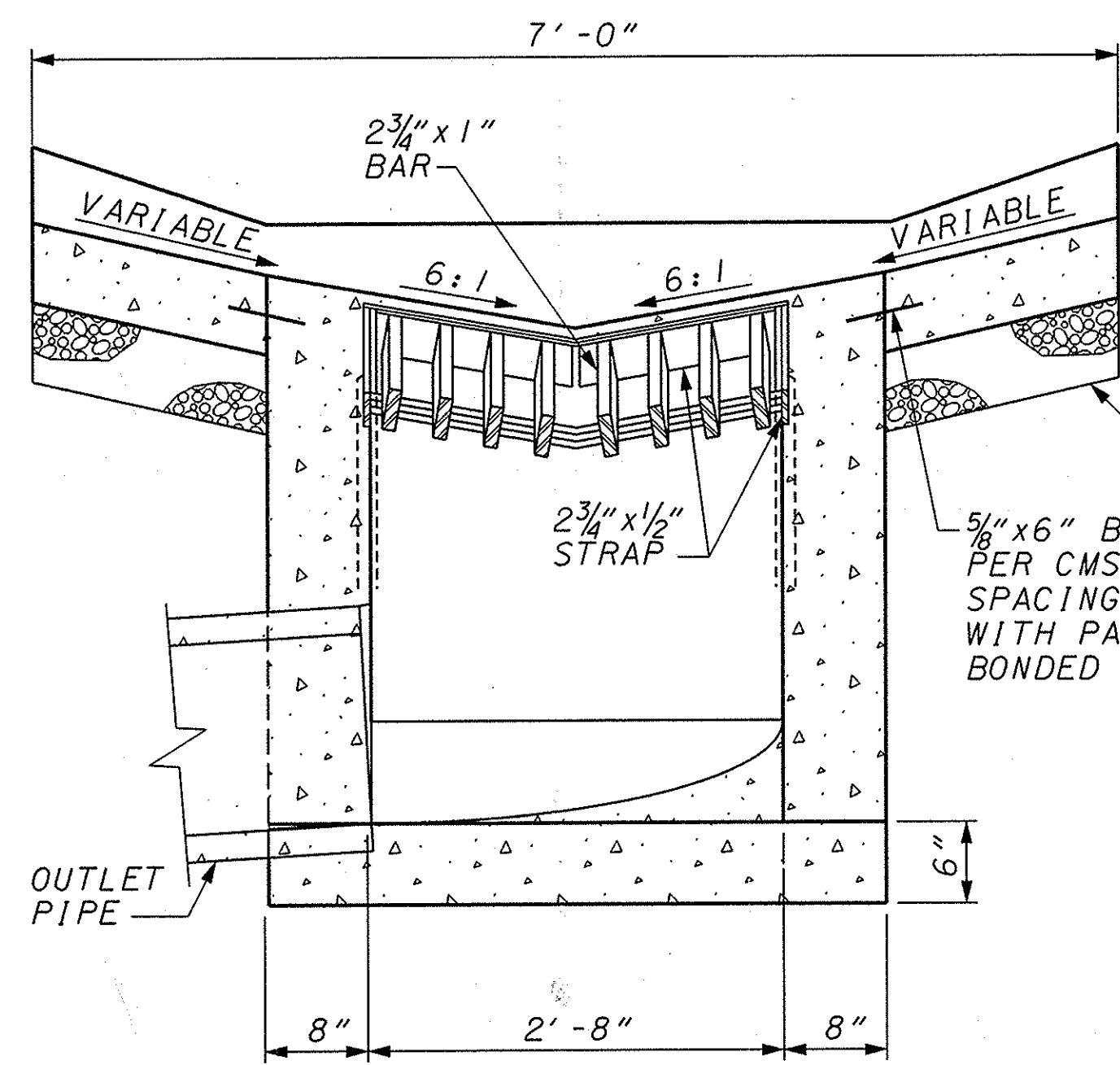
77078XS001.DGN 11/23/07 SAM, RB, JLS

**WASHOUT AREA-1
CROSS SECTIONS**

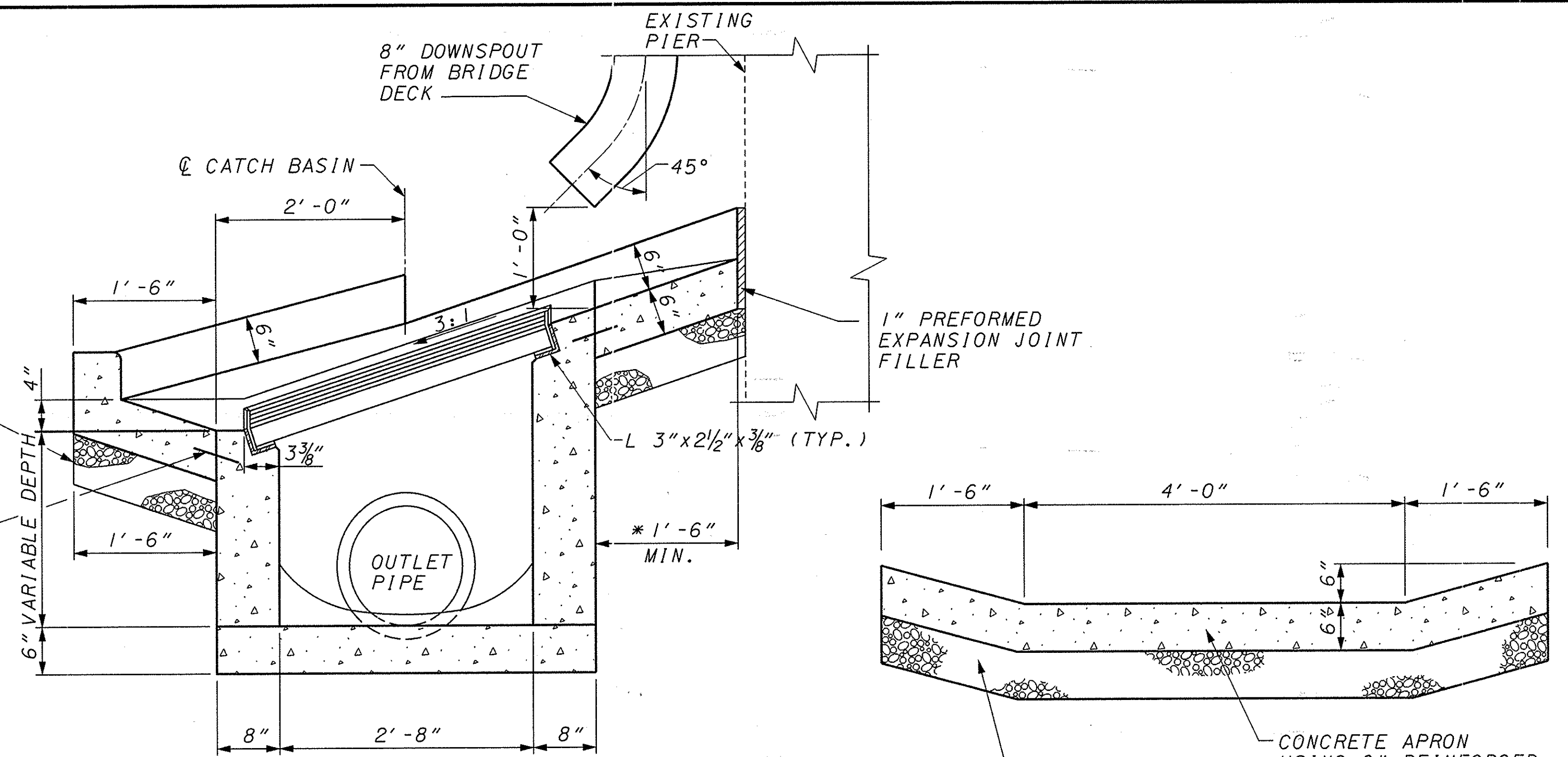
SUM - 8 - 1.95

CALCULATED
T.C.M.
CHECKED
P.D.G.

114
21
135
48
102



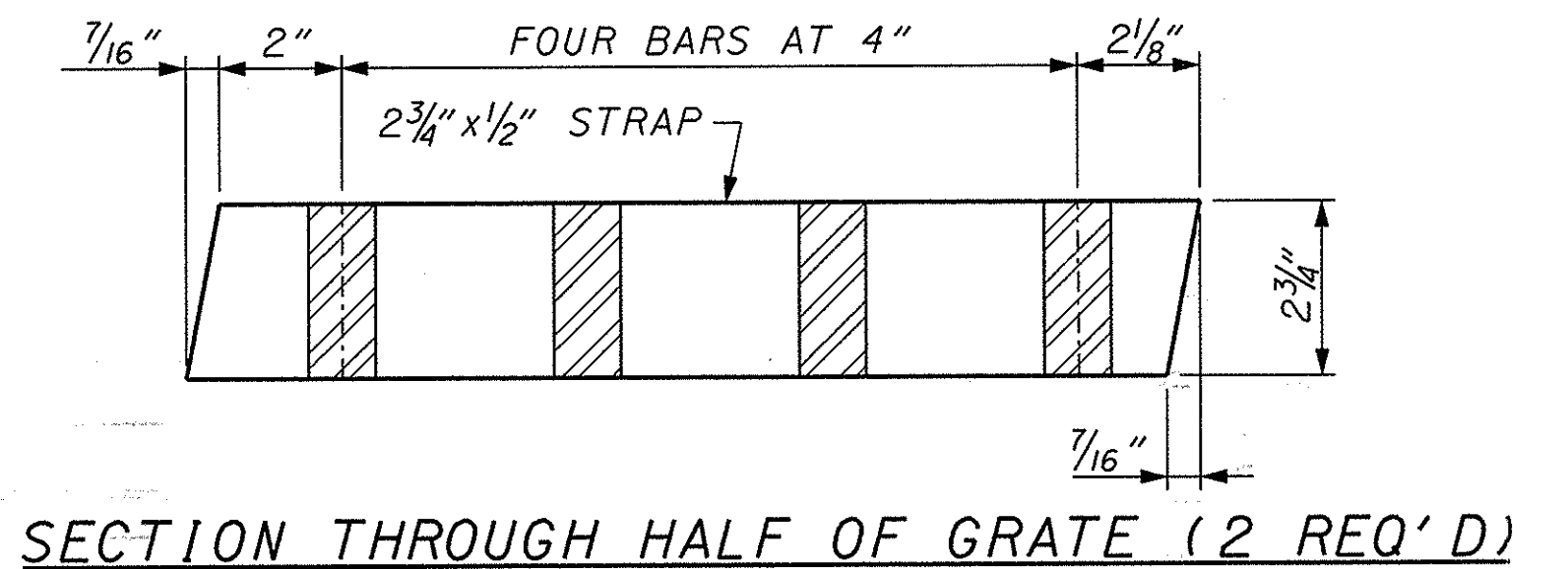
SECTION A-A



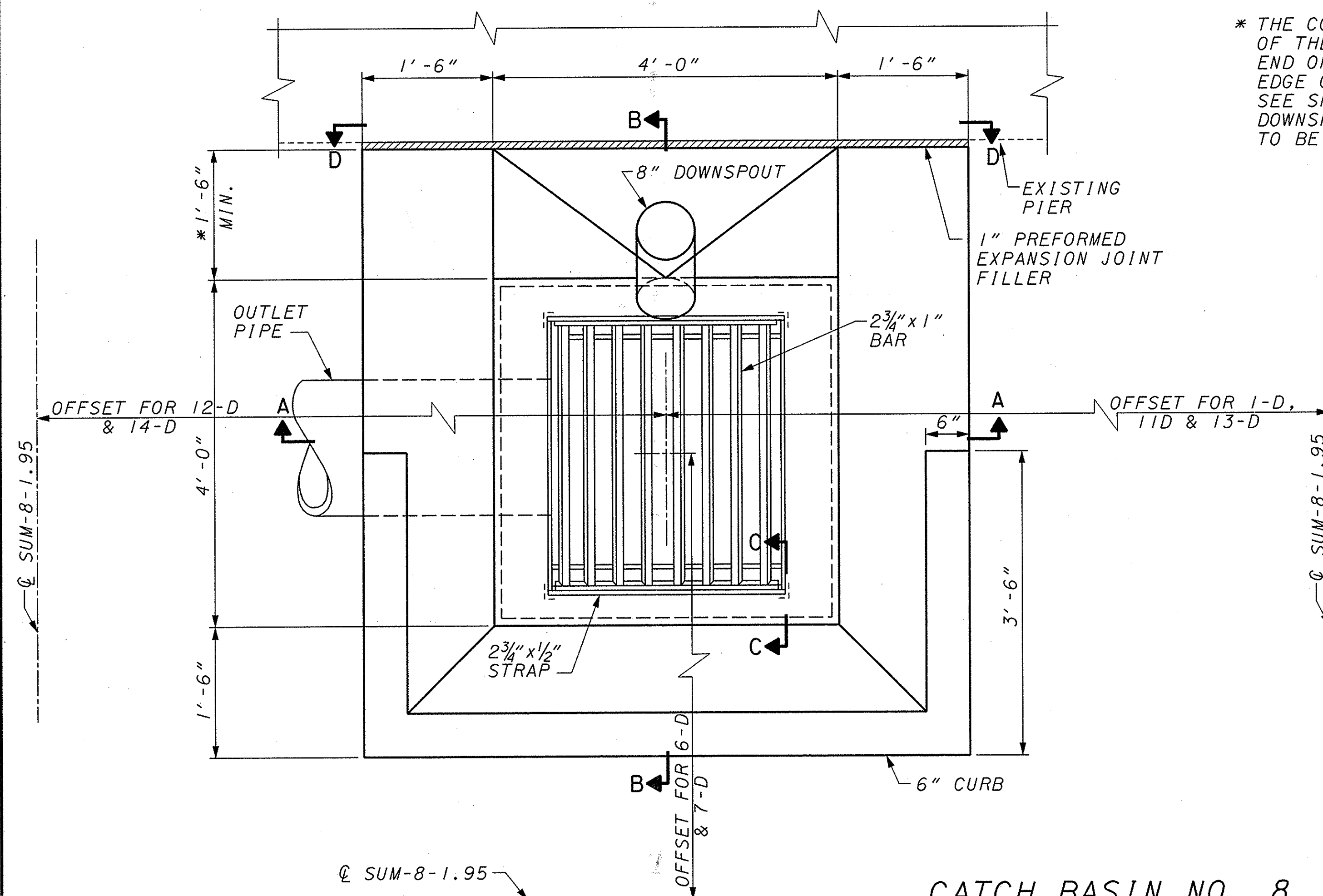
SECTION B-B

VIEW D-D

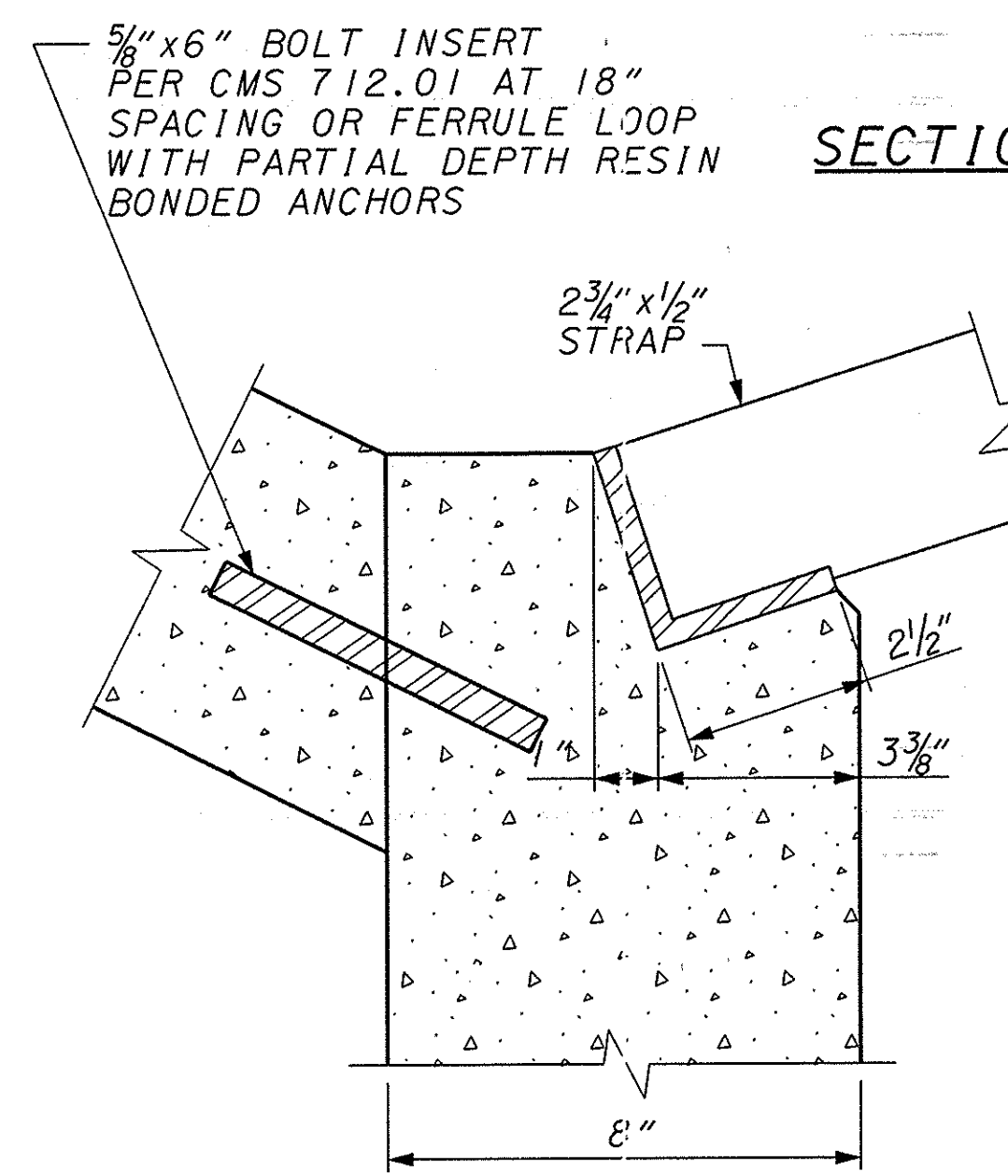
* THE CONTRACTOR SHALL ADJUST THE LOCATION OF THE "SPASH PAD" TO KEEP THE DOWNSPOUT END OF THE 45° BEND DIRECTLY OVER THE EDGE OF THE CATCH BASIN AS DETAILED. SEE SHEET 96 OF 102 FOR ADDITIONAL DOWNSPOUT DETAILS. DOWNSPOUT MODIFICATIONS TO BE PAID FOR WITH ITEM 518.



SECTION THROUGH HALF OF GRATE (2 REQ'D)



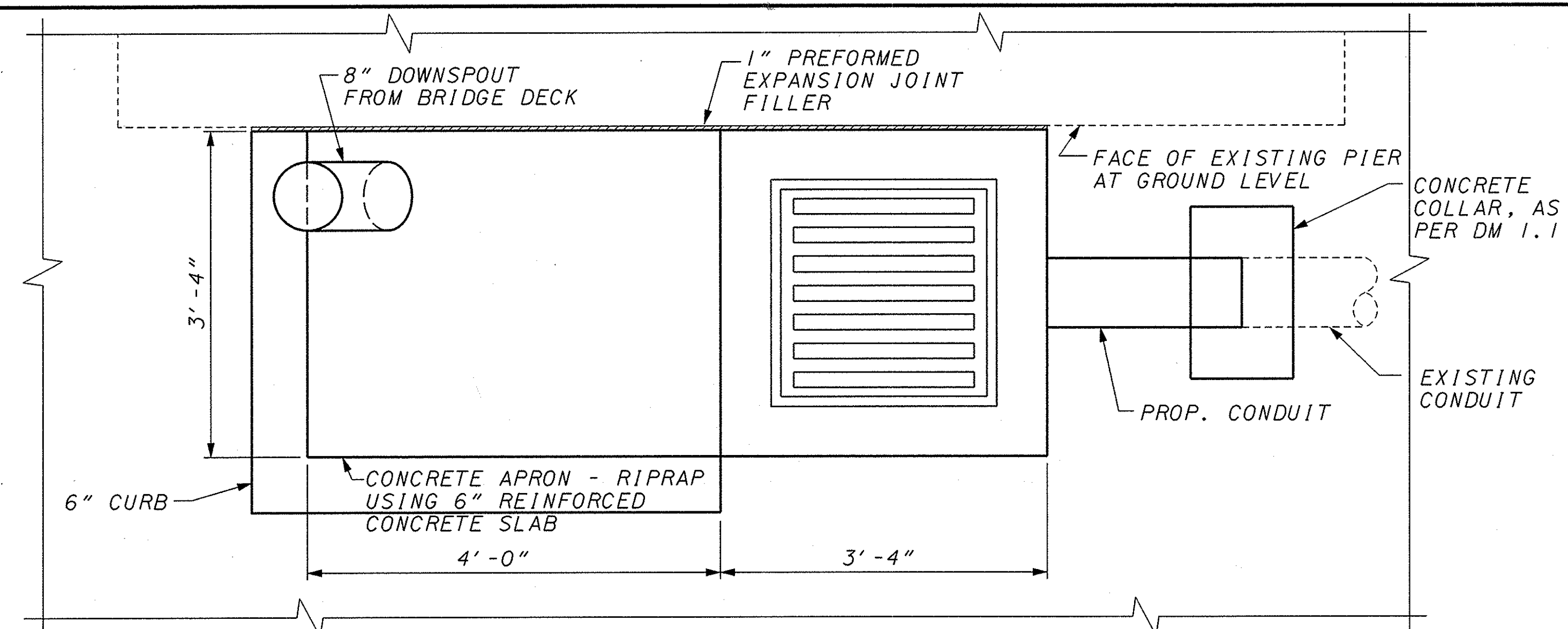
PLAN OF CATCH BASIN



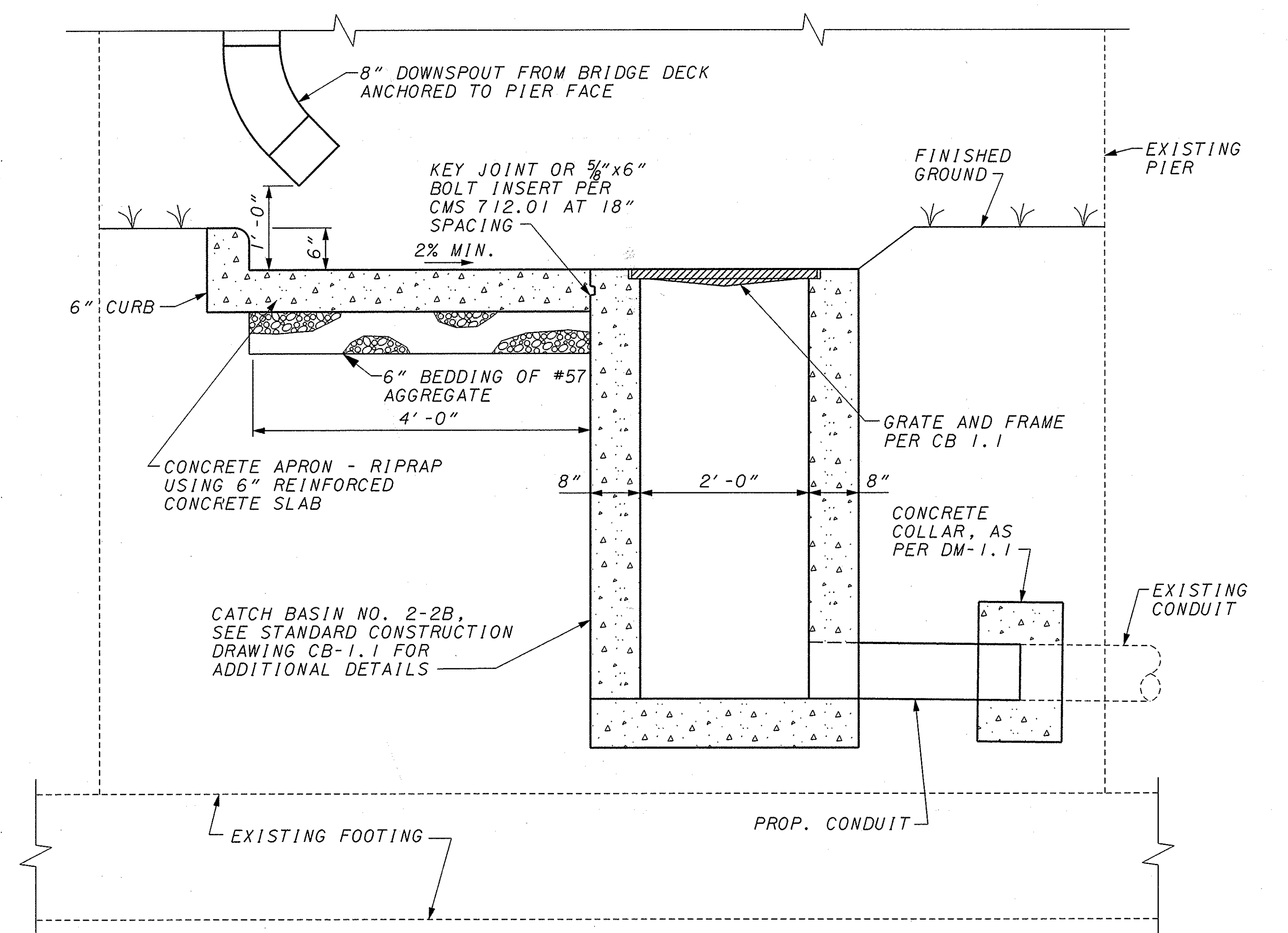
SECTION C-C

CATCH BASIN NO. 8, AS PER PLAN-1

CATCH BASIN, CONCRETE APRON WITH BEDDING AND CURBS, EXPANSION JOINT MATERIAL AND MINOR GRADING TO ADJUST EXISTING GROUND TO CONFORM TO DETAIL SHALL BE INCLUDED FOR PAYMENT IN ITEM 604 CATCH BASIN, NO. 8, AS PER PLAN-1.



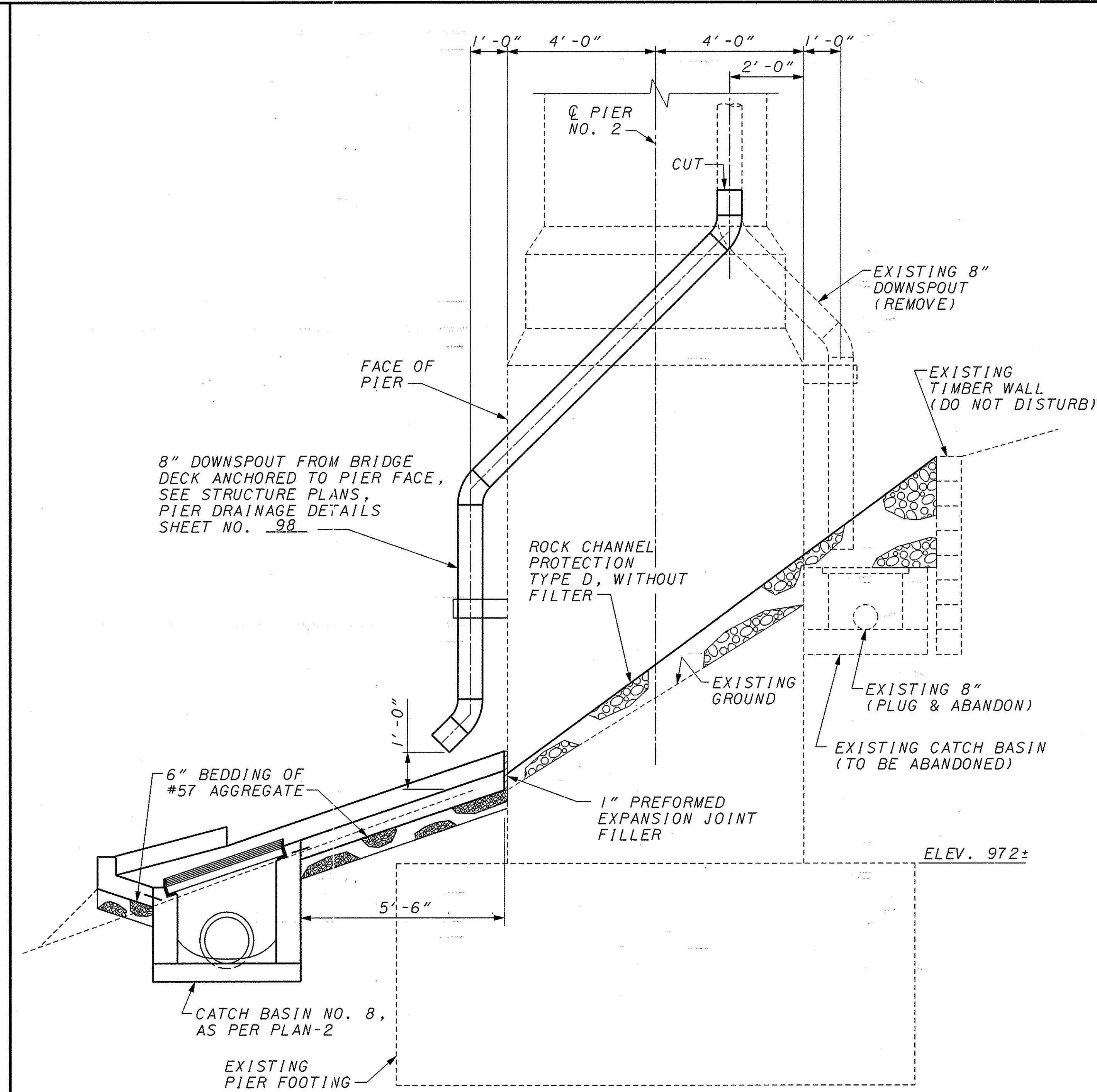
PLAN



SECTION

CATCH BASIN NO. 2-2B, AS PER PLAN

CATCH BASIN, CURB, CONCRETE APRON WITH BEDDING, EXPANSION JOINT MATERIAL AND MINOR GRADING TO ADJUST EXISTING GROUND TO CONFORM TO DETAIL SHALL BE INCLUDED FOR PAYMENT IN ITEM 604 - CATCH BASIN, NO. 2-2B, AS PER PLAN.



SCUPPER OUTLET DETAIL

WEST SIDE OF PIER NO. 2, STA. 105+47.00, 44.50' LT. & CONST. SR 8

4-D

CATCH BASIN NO. 8, AS PER PLAN-2

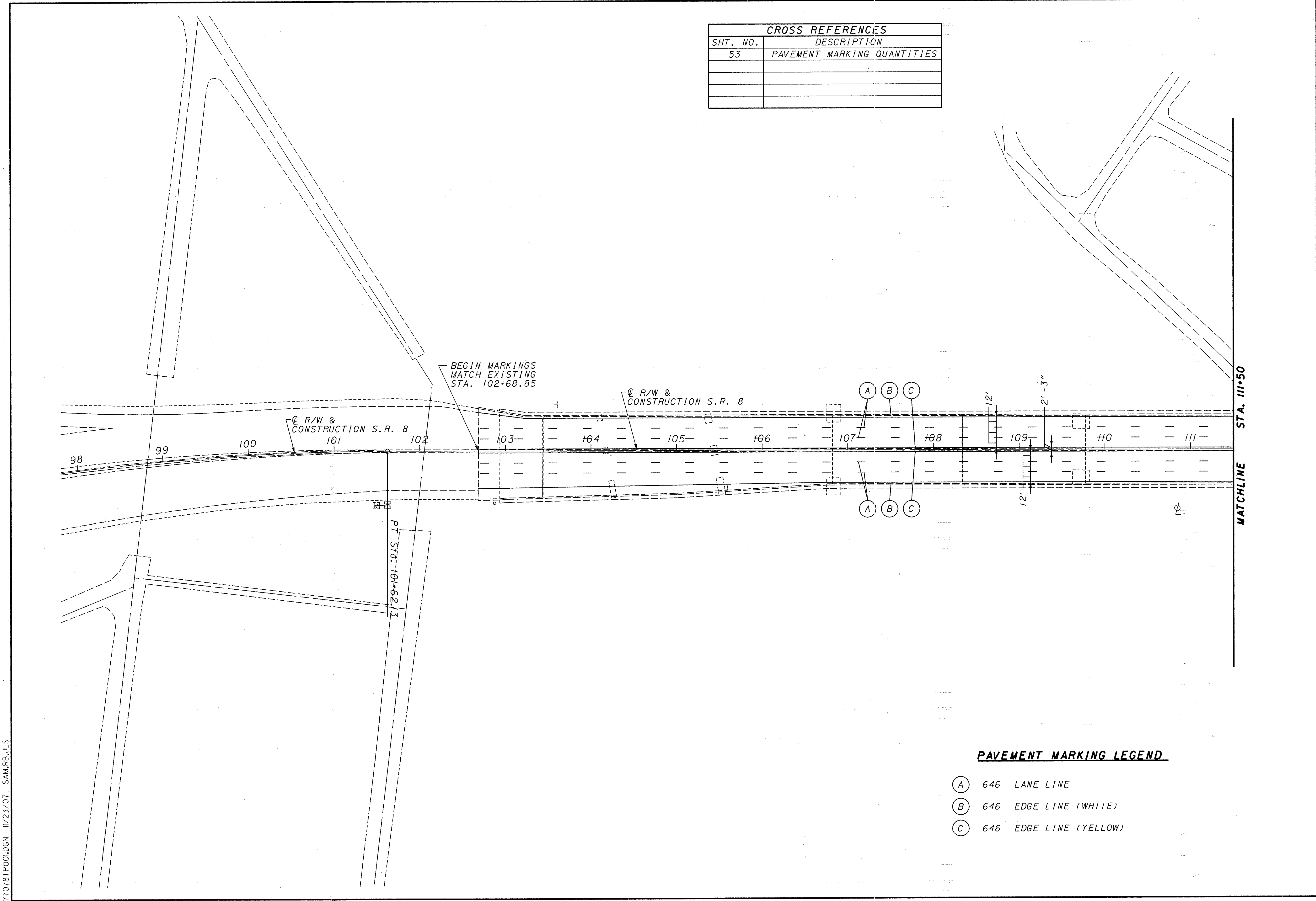
CATCH BASIN, CONCRETE APRON WITH BEDDING AND CURBS, EXPANSION JOINT MATERIAL AND MINOR GRADING TO ADJUST EXISTING GROUND TO CONFORM TO DETAIL SHALL BE INCLUDED FOR PAYMENT IN ITEM 604 CATCH BASIN, NO. 8, AS PER PLAN-2

DRAINAGE DETAILS


SUM-8-1.95

77078DD002.DGN 11/23/07 RC, RB, JLS

77078TP001.DGN 11/23/07 SAM, RB, JLS



CROSS REFERENCES	
SHT. NO.	DESCRIPTION
53	PAVEMENT MARKING QUANTITIES

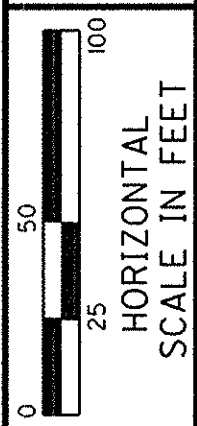

 0 50 100
 HORIZONTAL SCALE IN FEET
 CALCULATED P.D.G.
 CHECKED T.C.M.

**TRAFFIC CONTROL PLAN
STA. 98+00 TO STA. 111+50**

PAVEMENT MARKING LEGEND

- (A) 646 LANE LINE
- (B) 646 EDGE LINE (WHITE)
- (C) 646 EDGE LINE (YELLOW)

SUM-8-1.95



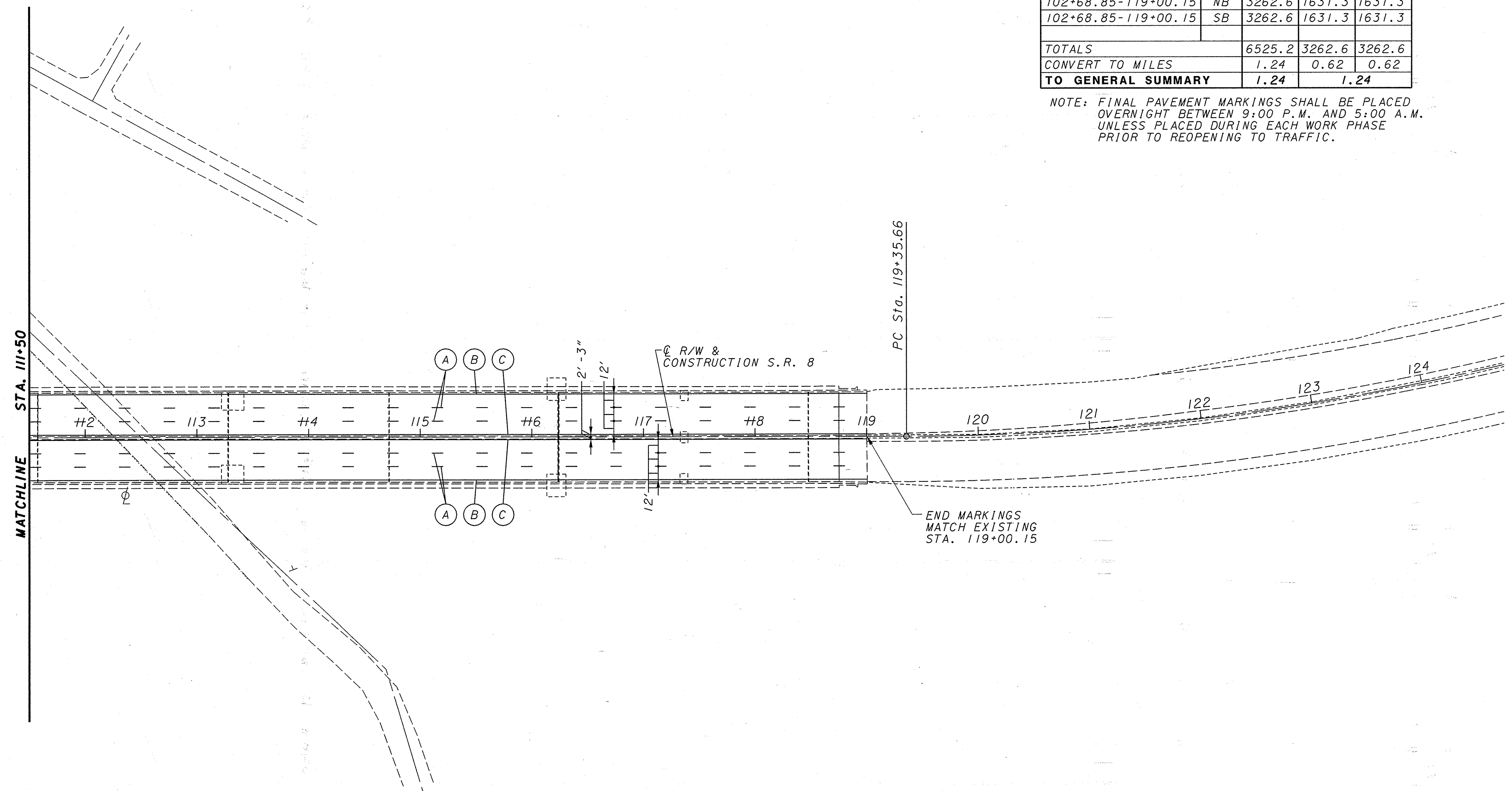
CALCULATED PDG
CHECKED TCM

TRAFFIC CONTROL PLAN
STA. 111+50 TO STA. 124+50

SUM-8-1.95

PAVEMENT MARKING QUANTITIES				
STATION LIMITS	SIDE	646		
		LANE LINE FT.	EDGE LINE WHITE FT.	EDGE LINE YELLOW FT.
102+68.85-119+00.15	NB	3262.6	1631.3	1631.3
102+68.85-119+00.15	SB	3262.6	1631.3	1631.3
TOTALS		6525.2	3262.6	3262.6
CONVERT TO MILES		1.24	0.62	0.62
TO GENERAL SUMMARY		1.24	1.24	

NOTE: FINAL PAVEMENT MARKINGS SHALL BE PLACED OVERNIGHT BETWEEN 9:00 P.M. AND 5:00 A.M. UNLESS PLACED DURING EACH WORK PHASE PRIOR TO REOPENING TO TRAFFIC.



PAVEMENT MARKING LEGEND

- (A) 646 LANE LINE
- (B) 646 EDGE LINE (WHITE)
- (C) 646 EDGE LINE (YELLOW)

THE LIGHTING CONSTRUCTION SHALL BE SUBJECT TO THE FOLLOWING CRITERIA:

- 1) NO LANE CLOSURES SHALL BE ALLOWED ON THE SAME WEEKENDS THAT DECK OVERLAY WORK IS BEING PERFORMED ON EITHER THE NORTHBOUND OR SOUTHBOUND SIDE OF THE BRIDGE. LANE CLOSURE NOTIFICATIONS SHALL BE ACCORDING TO NOTE B ON SHEET 8.
- 2) THE GENERAL CONSTRUCTION LIMITATIONS AND SPECIFICATIONS ITEMIZED IN THE MAINTENANCE OF TRAFFIC GENERAL NOTES ON SHEETS 8 THROUGH 10 SHALL APPLY TO THE LIGHTING CONSTRUCTION ALSO.
- 3) DAYTIME WORK SHALL BE LIMITED TO THOSE ITEMS OF WORK WHICH WILL NOT REQUIRE A LANE CLOSURE, INCLUDING CONDUIT REPLACEMENT, JUNCTION BOX REPLACEMENT. PULLING OF SERVICE CABLE, OR OTHER ASSOCIATED WORK.
- 4) THE CONTRACTOR SHALL BE ALLOWED TO CLOSE ONE LANE OF TRAFFIC MONDAY THROUGH THURSDAY FOR THE HOURS SPECIFIED IN THE PERMITTED LANE CLOSURE CHART WEB-SITE REFERENCED ON PAGE 8, NOTE C.3. FOR THE PURPOSE OF REPLACING THE LUMINARIES AND PULLING NEW POLE AND BRACKET CABLE. ALL LUMINARIES SHALL BE IN SERVICE ON ONE SIDE OF THE BRIDGE WHILE LUMINARIES ARE BEING REPLACED ON THE OTHER SIDE OF THE BRIDGE. STANDARD DRAWING MT-95.30 SHALL BE USED TO SET UP THE LANE CLOSURE.

PRIOR TO PLACING THE LANE CLOSURE INTO EFFECT, THE CONTRACTOR SHALL DETERMINE THE NUMBER OF LUMINARIES AND POLE AND BRACKET CABLE TO BE REPLACED DURING THE CLOSURE TIME. A TEMPORARY CONNECTION SHALL BE MADE FROM THE PULL BOX OR JUNCTION BOX ON THE CONTROL CENTER SIDE OF THE WORK AREA TO THE NEAREST JUNCTION BOX ON THE OTHER END OF THE WORK AREA IN ORDER TO MAINTAIN AS MANY LUMINARIES IN SERVICE AS POSSIBLE AT ALL TIMES.

DISCONNECTION AND RECONNECTION OF CIRCUITS

PAYMENT FOR THE DISCONNECTION AND RECONNECTION OF CIRCUITS AT THE CONTROL CENTERS SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR THE REMOVAL OF THE EXISTING DISTRIBUTION CABLE AND INSTALLATION OF THE NEW DISTRIBUTION CABLE.

202. JUNCTION BOX REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF JUNCTION BOXES SERVICING THE EXISTING ELECTRICAL SYSTEM AND DISPOSAL OFF OF THE PROJECT SITE AT AN ACCEPTABLE DISPOSAL OR RECYCLING CENTER.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER EACH ITEM 202, JUNCTION BOX REMOVED, AS PER PLAN, WHICH PRICE AND PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

202. JUNCTION BOX REMOVED, AS PER PLAN-I

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF JUNCTION BOXES ABANDONED UNDER THE 1985 REHABILITATION PROJECT. THE JUNCTION BOXES ARE LOCATED IN THE SIDEWALK DECK GRID AT EACH LIGHT POLE LOCATION EXCEPT FOR THOSE LOCATED IN THE TAPER AREA OF THE PERKINS AVENUE NORTHBOUND ENTRANCE RAMP. SHORT SECTIONS OF 3" ASBESTOS CONDUIT REMAIN ATTACHED TO BOTH SIDES OF THE BOXES. ALTHOUGH THE SECTIONS ARE NOT THOUGHT TO BE FRIABLE, PROPER REMOVAL, HANDLING, AND DISPOSAL METHODS SHALL BE USED IN ACCOMPLISHING THIS ITEM OF WORK.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER EACH ITEM 202, JUNCTION BOX REMOVED, AS PER PLAN-I WHICH PRICE AND PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

AN ESTIMATED QUANTITY OF 18 EACH, JUNCTION BOX REMOVED, AS PER PLAN-I HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE BY THE ENGINEER FOR THE REMOVAL OF JUNCTION BOXES DESCRIBED ABOVE.

202. REMOVAL MISC.: CONDUIT REMOVED

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF 2" AND SMALLER ELECTRICAL CONDUIT AS CALLED FOR ON THE PLANS. ALSO INCLUDED IN THIS ITEM SHALL BE THE REMOVAL OF THE DISTRIBUTION CABLE WITHIN THE CONDUIT BEING REMOVED. DISPOSAL SHALL BE OFF THE PROJECT SITE IN AN ACCEPTABLE DISPOSAL OR RECYCLING CENTER.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER LINEAL FOOT OF ITEM 202, REMOVAL MISC.: CONDUIT REMOVED, WHICH PRICE AND PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

202. REMOVAL MISC.: POLE AND BRACKET CABLES

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF THE POLE AND BRACKET CABLE FROM EACH LIGHT POLE. REMOVAL SHALL BE ACCOMPLISHED WITHOUT DAMAGE TO THE POLE OR BASE. REMOVAL OF ALL POLE AND BRACKET CABLE AT EACH POLE LOCATION SHALL CONSTITUTE A SINGLE PAY ITEM.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER EACH ITEM 202, REMOVAL MISC.: POLE AND BRACKET CABLE, WHICH PRICE AND PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

202. LUMINAIRE REMOVED

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LUMINAIRE WITHOUT DAMAGE TO THE ARM UPON WHICH IT IS MOUNTED. THE LUMINAIRE SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF OF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 202, "LUMINAIRE REMOVED" FOR EACH LUMINAIRE REMOVED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

202. POWER SERVICE REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF AN EXISTING POWER SERVICE.

INCLUDED FOR REMOVAL WILL BE ALL POWER SERVICE COMPONENTS SUCH AS THE WEATHER HEAD AND ALL ABOVE GRADE WIRING, CONTROL CENTER ENCLOSURE, PHOTOELECTRIC CELL AND ALL OTHER APPURTENANCES. THE EXISTING WOOD POLE AND CONDUIT RUN BETWEEN EXISTING CONTROL CENTER AND SUBSEQUENT PULL BOX SHALL BE PROTECTED FROM DAMAGE TO BE REUSED IN THE NEW POWER SERVICE, AS PER PLAN INSTALLATION.

ALL POWER SERVICE COMPONENTS INCLUDING THE CONTROL CENTER, PHOTOELECTRIC CELL, 2-INCH CONDUIT, WEATHER HEAD AND ALL ABOVE-GROUND WIRING SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF THE PROJECT SITE.

THIS ITEM WILL ALSO COMPENSATE THE CONTRACTOR FOR COORDINATING WITH THE POWER COMPANY TO INSURE THAT THE COMPANY DISCONNECTS THE SERVICE, AND THAT ITEMS WHICH BELONG TO THE POWER COMPANY AND ARE REMOVED BY THE CONTRACTOR SUCH AS THE METER BASE SHALL BE RETURNED TO THE POWER COMPANY.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 202, "POWER SERVICE REMOVED, AS PER PLAN" FOR EACH SERVICE REMOVED WHICH SHALL INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625. LUMINAIRE, CONVENTIONAL, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINARIES FOR CONVENTIONAL LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINARIES FOR CONVENTIONAL LIGHTING UNITS WITH AN IES II-M-SC DISTRIBUTION AND 200 WATT HIGH PRESSURE SODIUM LAMPS SHALL BE AMERICAN ELECTRIC "SERIES 126" WITH PHOTOMETRIC DISTRIBUTION AE3849I, COOPER "OVD" WITH PHOTOMETRIC DISTRIBUTION OVD2S2F, GENERAL ELECTRIC "M-400" WITH PHOTOMETRIC DISTRIBUTION 1014, OR EQUAL AS APPROVED BY THE ENGINEER.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "LUMINAIRE, CONVENTIONAL, AS PER PLAN, 200 WATT HPS, TYPE II DISTRIBUTION, 480 VOLT" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

LAMPS

HIGH-PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX," OSRAM SYLVANIA "LUMALUX," PHILIPS "CERAMALUX," OR EQUAL APPROVED BY THE ENGINEER.

625. STRUCTURE JUNCTION BOXES, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND SECURELY ATTACH A SURFACE MOUNT JUNCTION BOX AT LOCATIONS DESIGNATED IN THE PLANS. JUNCTION BOXES SHALL BE 16" LONG X 12" WIDE X 6" DEEP AND CONFORM TO A NEMA 4X RATING.

THE JUNCTION BOX SHALL HAVE AN EMBOSSEMENT IN THE BACK OF THE BOX THAT SHALL BE DRILLED AND TAPPED FOR A 1/4"- 20 CAP SCREW FOR CONNECTION OF GROUNDS.

WHEN SURFACE MOUNTED, THE JUNCTION BOXES MAY HAVE IN LIEU OF BOSSED DRILLED AND TAPPED CONNECTIONS, FIELD INSTALLED HUBS TO ACCOMMODATE THE CONDUITS ENTERING THE BOX.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER EACH ITEM 625, STRUCTURE JUNCTION BOX, AS PER PLAN, WHICH PRICE AND PAYMENT SHALL INCLUDE ALL MATERIAL LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625. CONDUIT, 2", 725.04, AS PER PLAN

THE NEW LIGHTING CONDUIT SHALL BE PLACED ON THE OUTSIDE OF THE NEW SIDEWALK GRID ON BOTH THE EAST AND WEST SIDES OF THE STRUCTURE. THE CONDUIT SHALL BE ATTACHED TO THE GRID USING APPROPRIATE CLAMPS AND/OR BRACKETS, WITH A MAXIMUM SPACING OF 5 FEET BETWEEN CLAMPS AND/OR BRACKETS. WELDING OF THE CONDUIT TO THE SIDEWALK GRID OR TO THE STRUCTURE SHALL NOT BE PERMITTED.

THE ATTACHMENT SPECIFICATIONS AND LIMITATIONS SPECIFIED ABOVE SHALL APPLY TO THE 2" CONDUIT, MOUNTED ON CONCRETE ON THE RIGHT SIDE FROM LIGHT POLE AE3 UP TO PIER 3.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE 4 INCHES TOTAL (100 MILLIMETERS) MOVEMENT AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

EXPANSION FITTINGS SHALL BE PROVIDED AT THE REAR ABUTMENT, PIER 3 AND PIER 6.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLETON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION FITTINGS SHALL BE PROVIDED AT THE DECK DEFLECTION JOINTS.

625. POWER SERVICE, AS PER PLAN

THE POWER SUPPLY AGENCY FOR THIS PROJECT IS:

OHIO EDISON
1910 WEST MARKET STREET
AKRON, OHIO 44313
ATTN: STEVE VANCHOFF
(330) 384-4750

POWER SERVICE: 480 VOLT, 3-WIRE, SINGLE PHASE, GROUNDED NEUTRAL. THIS PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP.

THE CONTRACTOR SHALL PAY ALL ELECTRICAL ENERGY CHARGES FOR NEW POWER SERVICES ESTABLISHED BY THIS PROJECT. UPON COMPLETION OF THIS PROJECT, POWER SERVICE ELECTRICAL ENERGY ACCOUNTS SHALL BE TRANSFERRED TO MAINTAINING AGENCY. THIS SHALL INCLUDE NEW POWER SERVICE ESTABLISHED BY THIS PROJECT AS WELL AS REASSIGNMENT OF EXISTING SERVICE DUE TO WORK PERFORMED BY THIS PROJECT.

LIGHTING GENERAL NOTES

SUM - 8 - 1.95

770781.N.DGN 11/23/07 RC.MLB.JLS

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL AND TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

B. METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL-30.II.

2. CONDUITS.

A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.

B. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

C. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRE FOR GROUNDING AND BONDING.

A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:

1. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD.

A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUNDROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. POWER SERVICE AND DISCONNECT SWITCH.

A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPICE.

B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

1. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

6. STRUCTURE GROUNDING: HL-50.2I SHOWS A 1/0 AWG STRANDED COPPER CABLE USED FOR STRUCTURE GROUNDING. ADDITIONALLY, THIS SAME CABLE SHALL BE INSULATED AND ANY CONNECTIONS AND BARE COPPER STRANDS EXPOSED TO CONCRETE SHALL BE COVERED WITH MASTIC TO PREVENT CONTACT WITH THE CONCRETE.

7. PAYMENT.

A. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

B. WORK ON BRIDGES MAY BE INCLUDED IN THE BID ITEM FOR "ITEM 625, STRUCTURE GROUNDING SYSTEM, AS PER PLAN."

C. IN A 3-WIRE HIGHWAY LIGHTING SYSTEM, THE THIRD CONDUCTOR OF THE DUCT CABLE OR DISTRIBUTION CABLE WILL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR AND MAY AS SUCH BE PART OF THE CABLE BID ITEM.

625. STRUCTURE GROUNDING SYSTEM, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF ENSURING THAT THE BRIDGE HAS A FUNCTIONAL STRUCTURE GROUNDING SYSTEM PER THE CMS AND STANDARD CONSTRUCTION DRAWINGS. THE GROUND SYSTEM SHOWN ON THE PLANS WAS INSTALLED IN 1986±, THEREFORE THE CONTRACTOR SHALL ENSURE THAT EXISTING BONDING ACROSS BEAMS LINES AND AT LOCATIONS CALLED FOR IN THE STANDARD CONSTRUCTION DRAWINGS ARE INSTALLED AND FUNCTIONING AS REQUIRED. THE CONTRACTOR SHALL REPLACE OR INSTALL ADDITIONAL BONDING, VERTICAL CABLES AND GROUND RODS AS NECESSARY TO MEET CURRENT GROUNDING STANDARDS.

HIGH VOLTAGE TEST WAIVED

THE HIGH VOLTAGE TEST SHALL NOT BE PERFORMED ON THE CIRCUITS CONSTRUCTED BY THIS PROJECT, SINCE THE TEST COULD DAMAGE THE PORTION OF THE COMPLETED CIRCUIT WHICH HAS BEEN IN SERVICE PRIOR TO THIS PROJECT.

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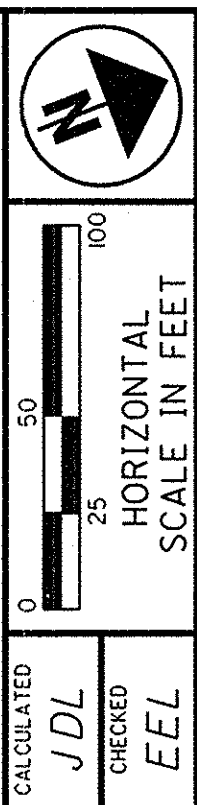
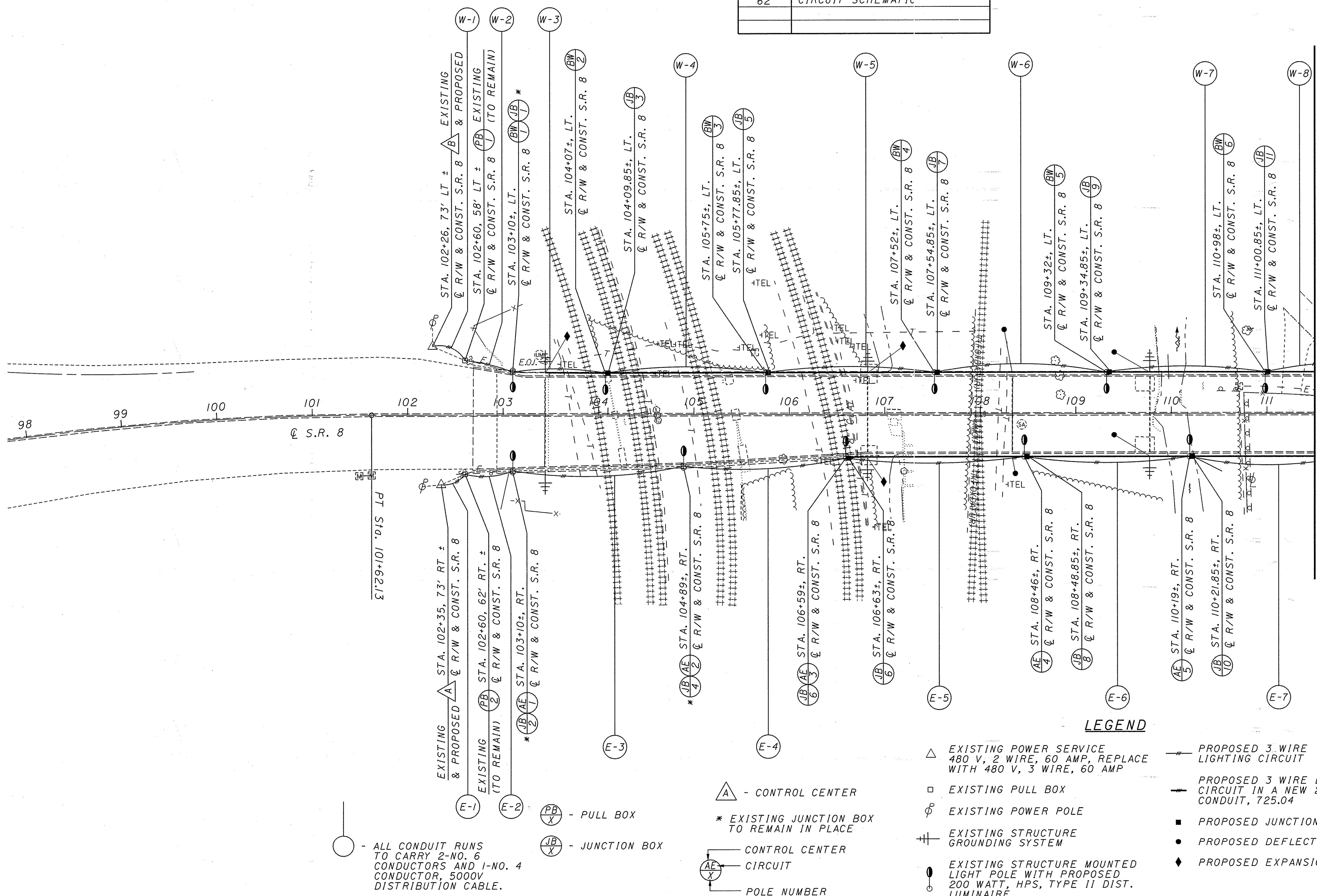
CALCULATED
EEL
CHECKED
JDL

LIGHTING GENERAL NOTES

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55
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CROSS REFERENCES	
56	SUBSUMMARY
60&61	EXIST. AND PROPOSED DETAILS
62	CIRCUIT SCHEMATIC



LIGHTING PLAN
STA. 99+00 TO STA. 111+50

SUM-8-1.95

○ - ALL CONDUIT RUNS TO CARRY 2-NO. 6 CONDUCTORS AND 1-NO. 4 CONDUCTOR, 5000V DISTRIBUTION CABLE.

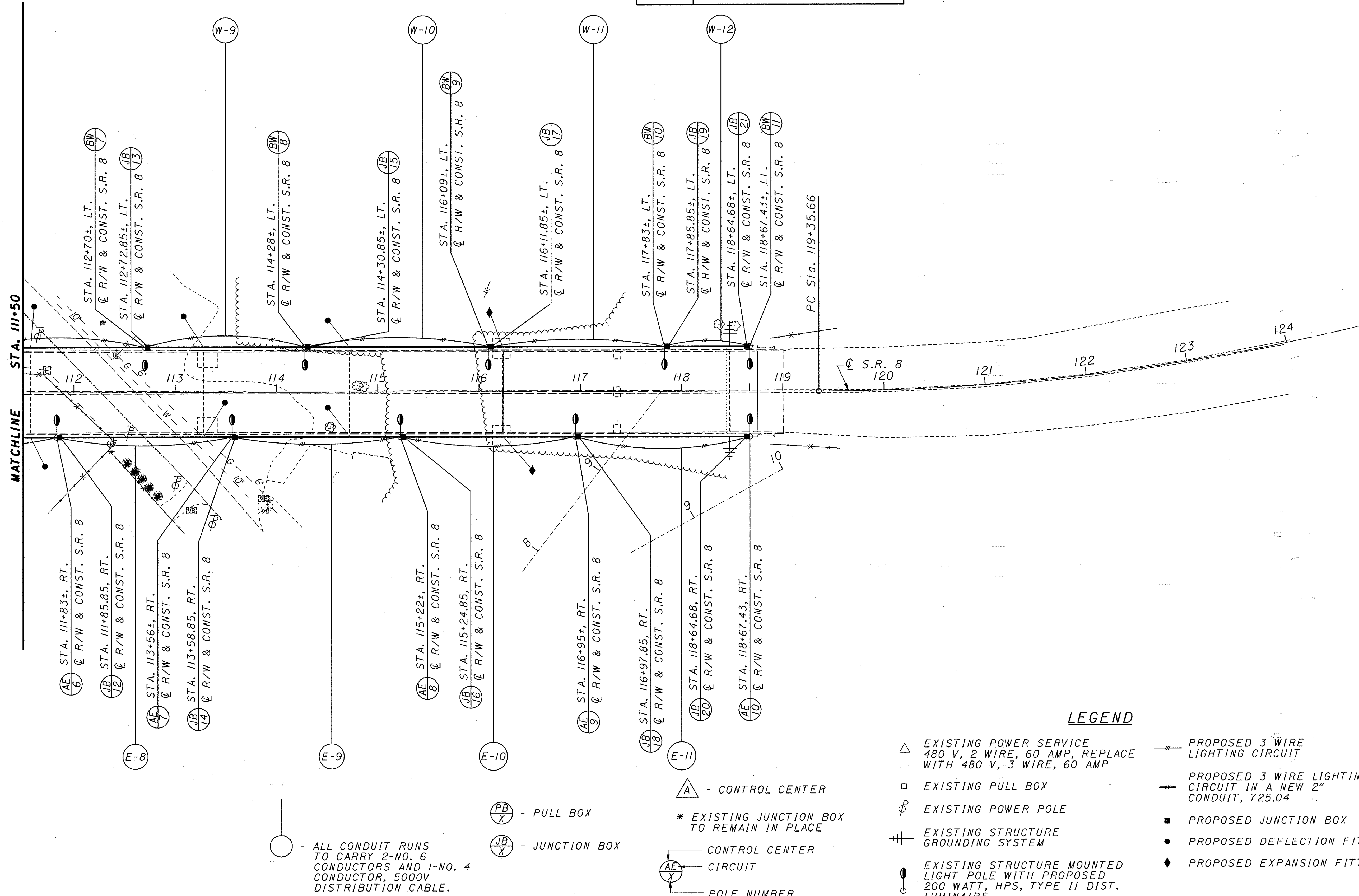
○ - PULL BOX
○ - JUNCTION BOX

△ - CONTROL CENTER
* EXISTING JUNCTION BOX TO REMAIN IN PLACE
○ - CONTROL CENTER CIRCUIT
○ - POLE NUMBER

△ EXISTING POWER SERVICE 480 V, 2 WIRE, 60 AMP, REPLACE WITH 480 V, 3 WIRE, 60 AMP
□ EXISTING PULL BOX
⊕ EXISTING POWER POLE
⊕ EXISTING STRUCTURE GROUNDING SYSTEM
● EXISTING STRUCTURE MOUNTED LIGHT POLE WITH PROPOSED 200 WATT, HPS, TYPE II DIST. LUMINAIRE

— PROPOSED 3 WIRE LIGHTING CIRCUIT
— PROPOSED 3 WIRE LIGHTING CIRCUIT IN A NEW 2" CONDUIT, 725.04
■ PROPOSED JUNCTION BOX
● PROPOSED DEFLECTION FITTING
◆ PROPOSED EXPANSION FITTING

LEGEND



LEGEND

- △ EXISTING POWER SERVICE 480 V, 2 WIRE, 60 AMP, REPLACE WITH 480 V, 3 WIRE, 60 AMP
- EXISTING PULL BOX
- ⊕ EXISTING POWER POLE
- ⚡ EXISTING STRUCTURE GROUNDING SYSTEM
- EXISTING STRUCTURE MOUNTED LIGHT POLE WITH PROPOSED 200 WATT, HPS, TYPE II DIST. LUMINAIRE
- PROPOSED 3 WIRE LIGHTING CIRCUIT
- PROPOSED 3 WIRE LIGHTING CIRCUIT IN A NEW 2" CONDUIT, 725.04
- PROPOSED JUNCTION BOX
- PROPOSED DEFLECTION FITTING
- ◆ PROPOSED EXPANSION FITTING

○ - ALL CONDUIT RUNS TO CARRY 2-NO. 6 CONDUCTORS AND 1-NO. 4 CONDUCTOR, 5000V DISTRIBUTION CABLE.

⊕ - PULL BOX

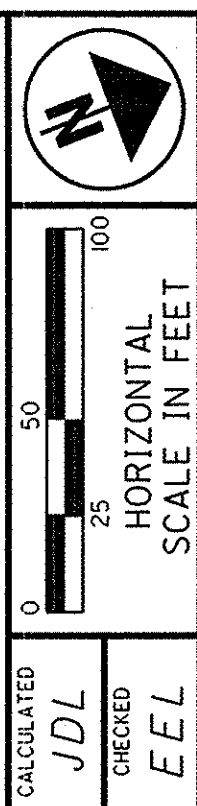
⊕ - JUNCTION BOX

△ - CONTROL CENTER

* EXISTING JUNCTION BOX TO REMAIN IN PLACE

⊕ - CONTROL CENTER CIRCUIT

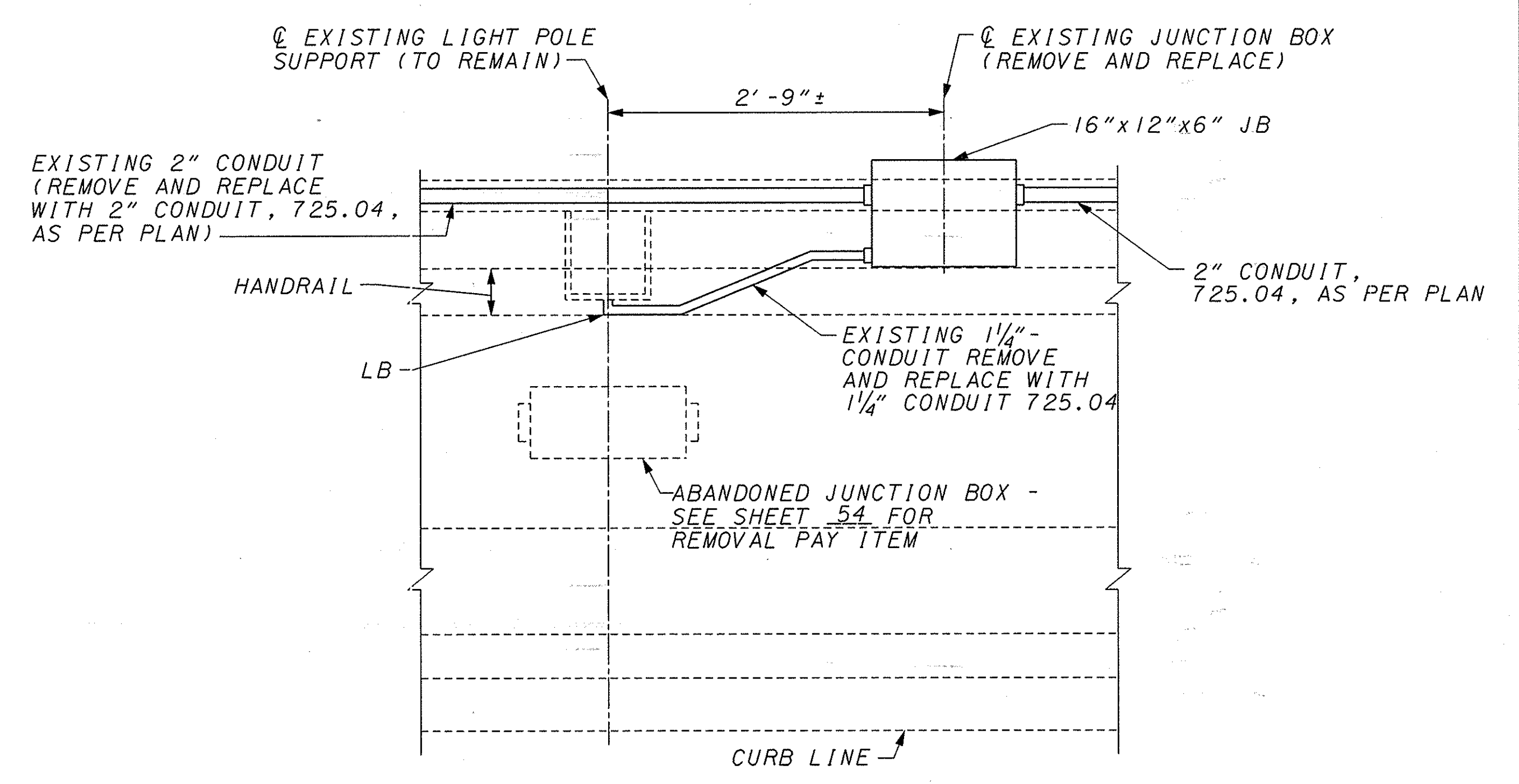
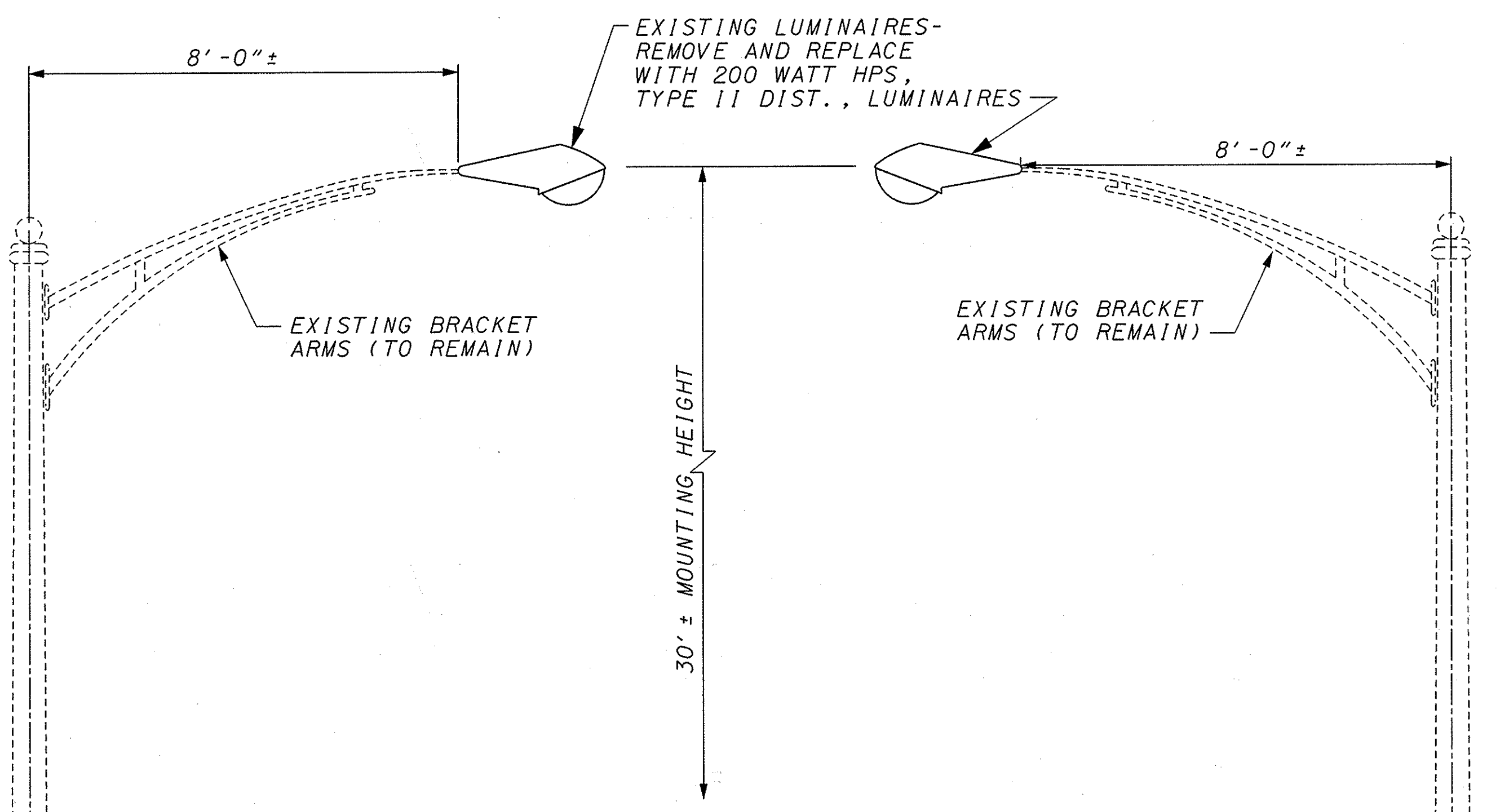
○ - POLE NUMBER



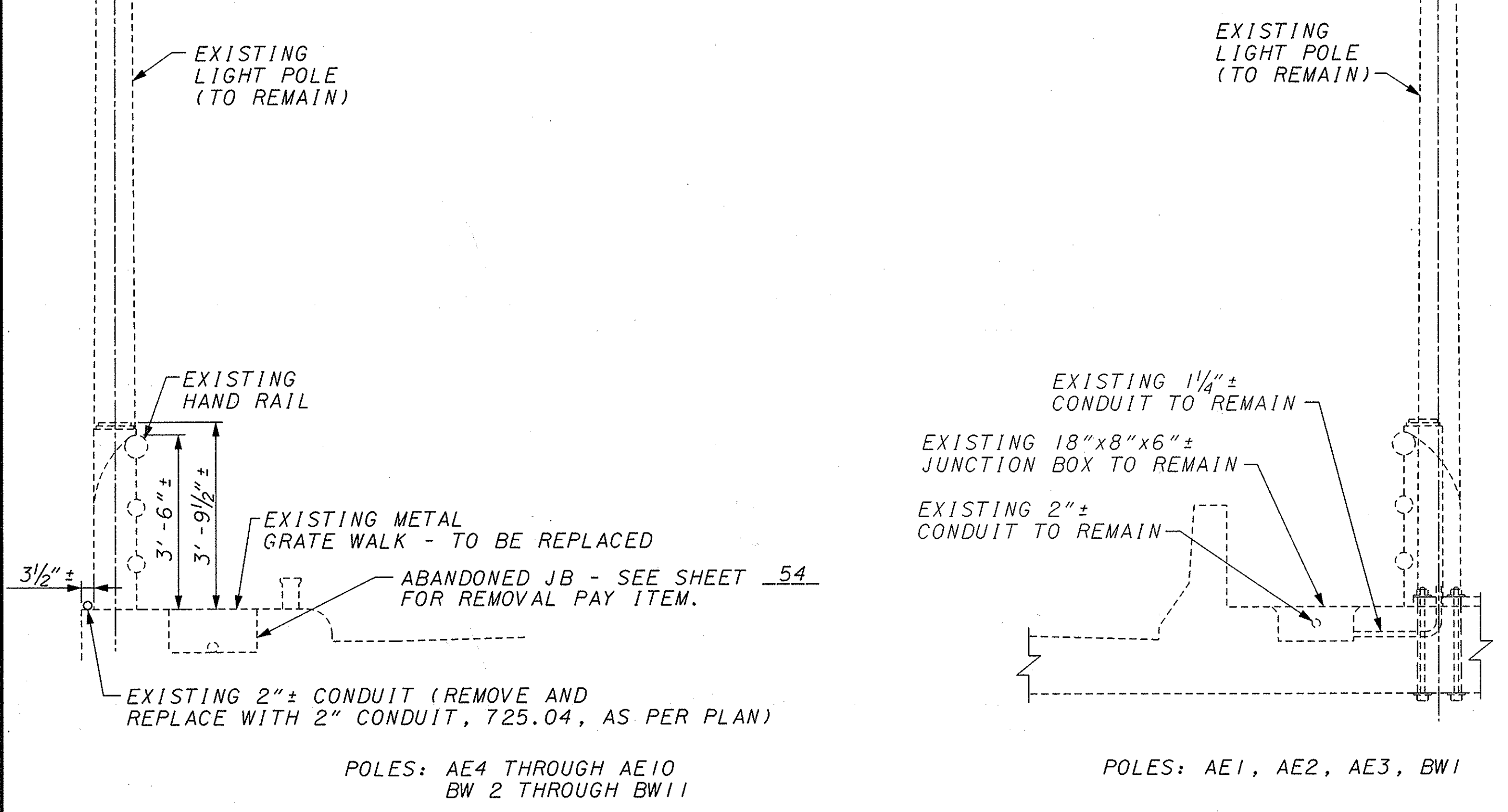
SUM - 8 - 1.95

LIGHTING PLAN

STA. 111+50 TO STA. 124+50



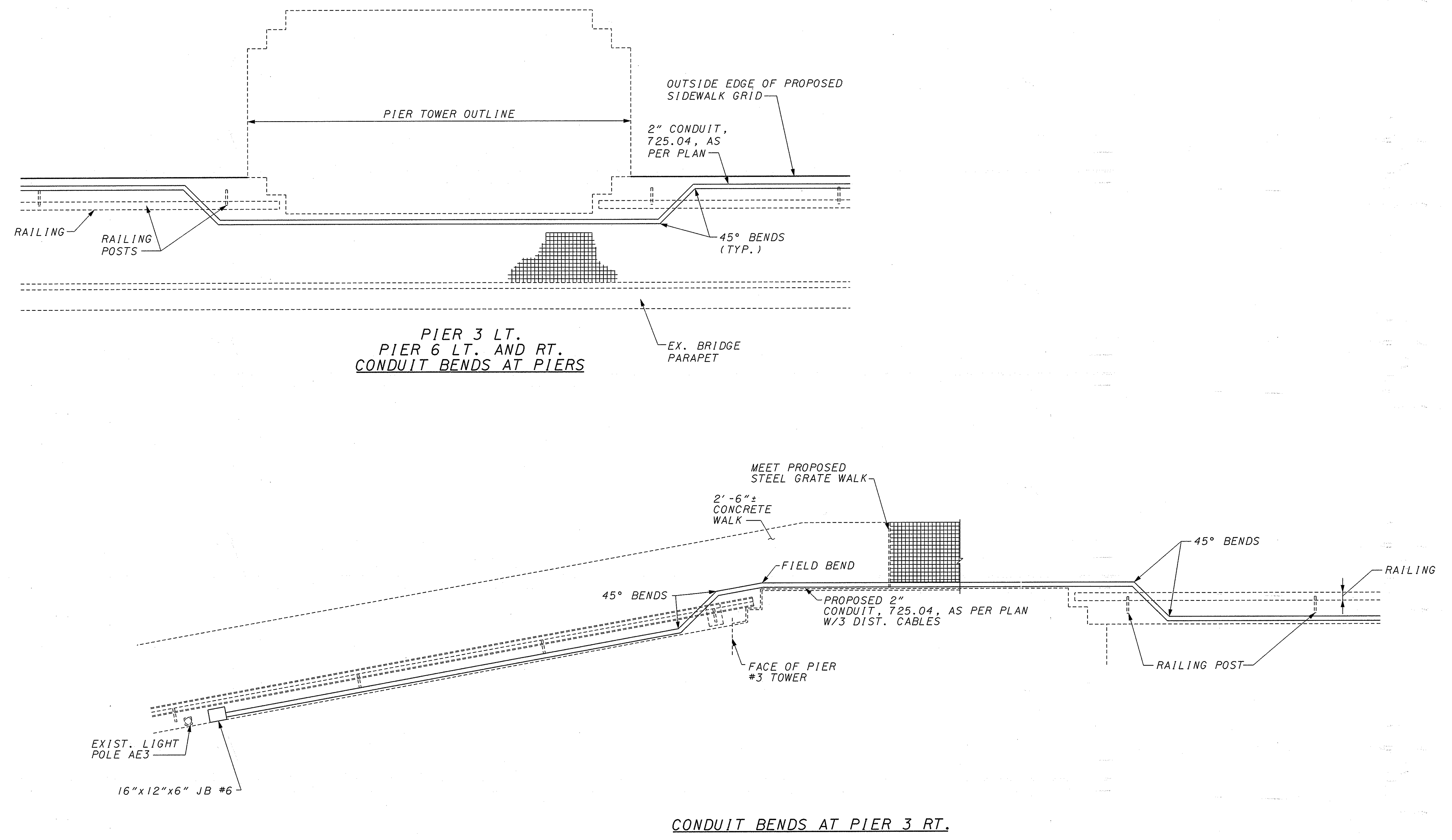
LIGHT POLE CONNECTION PLAN



EXISTING LIGHT POLE SUPPORT DETAILS FOR STRUCTURE NO. SUM-8-195

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EXISTING POWER SERVICE DATA									
POWER SERVICE	LINE VOLTAGE (VOLTS)	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CABLE (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE (AMPS)	MAINTAINING AGENCY
A	480	2.0	4	60	E	4.2	20	6	CITY OF AKRON
B	480	2.3	4	60	W	4.7	20	6	CITY OF AKRON



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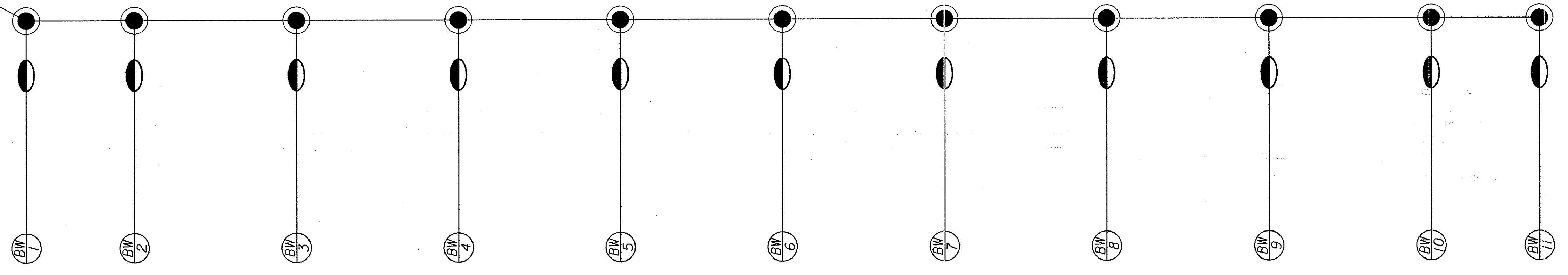
PROPOSED LIGHTING DETAILS

SUM-8-1.95

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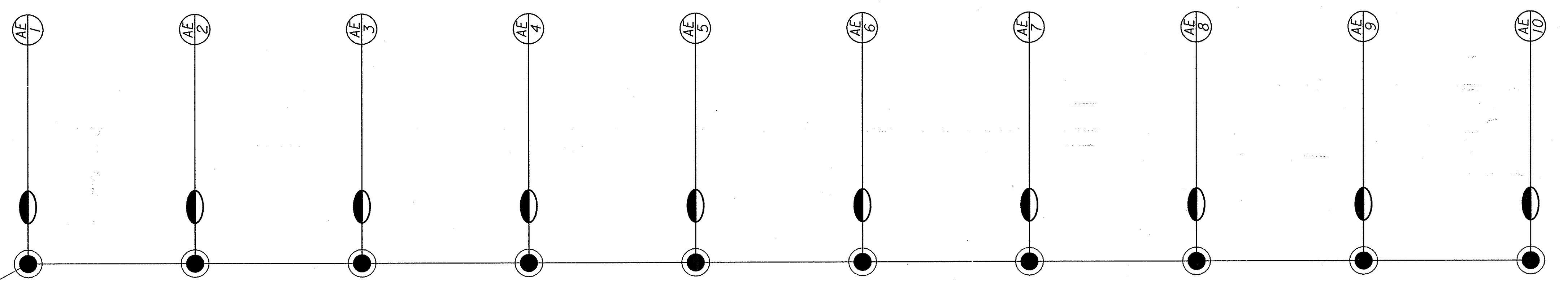
PROPOSED CONTROL CENTER "B"
480V, 3W, 60 AMP
PB 1 EXISTING

CIRCUIT "W"



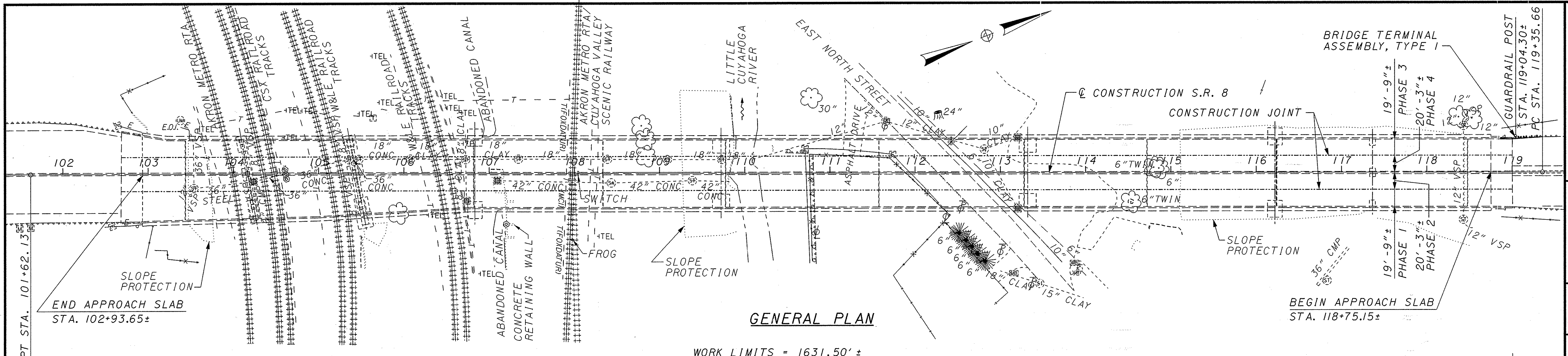
PROPOSED CONTROL CENTER "A"
480V, 3W, 60 AMP
PB 2 EXISTING

CIRCUIT "E"



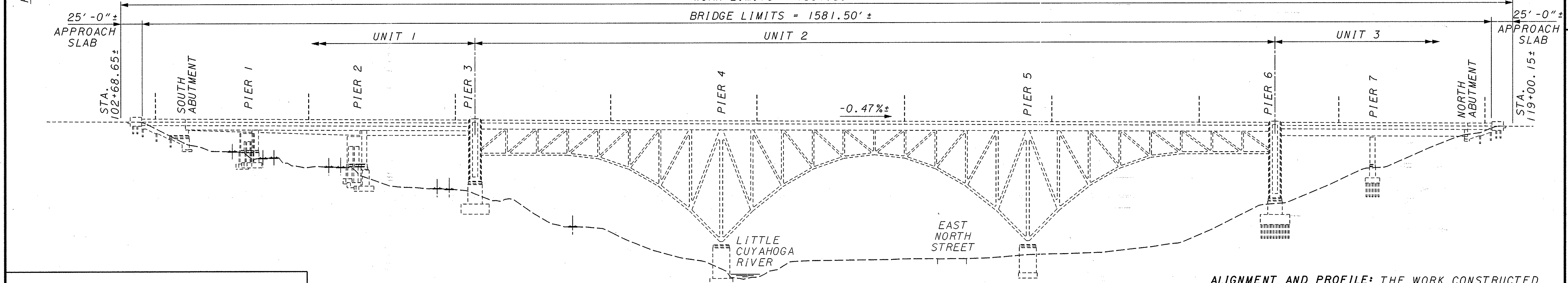
LEGEND

- ▲ CONTROL CENTER
- PULL BOX
- /● CONVENTIONAL LUMINAIRE WITH ONE 200 WATT HPS, TYPE II DIST. LUMINAIRE



GENERAL PLAN

WORK LIMITS = 1631.50' ±
 BRIDGE LIMITS = 1581.50' ±



GENERAL ELEVATION

ALIGNMENT AND PROFILE: THE WORK CONSTRUCTED WITH THE PROJECT WILL NOT CHANGE THE EXISTING ALIGNMENT OR PROFILE OF THE STRUCTURE.

EXISTING STRUCTURE

TYPE: UNITS 1 & 3: CONTINUOUS RIVETED GIRDERS WITH FLOORBEAMS & STRINGERS, AND REINFORCED CONCRETE DECK AND SUBSTRUCTURES
 UNIT 2: CONTINUOUS RIVETED TRUSSES WITH FLOORBEAMS & STRINGERS WITH REINFORCED CONCRETE DECK & PIERS.

SKEW: 0°-00'± TYPICAL,
 10°-30'± PIERS 1 & 2

SPANS: UNIT 1 - 71'-11³/₈"±, 126'-11⁷/₈"±, 135'-0"± C/C BEARINGS
 UNIT 2 - 287'-6¹/₈"±, 360'-0"±, 288'-5⁷/₈"± C/C BEARINGS
 UNIT 3 - 110'-0"±, 110'-0"± C/C BEARINGS

ROADWAY: VARIES 106'-2"± TO 80'-0"± F/F CURBS WITH 2'-6"± MEDIAN BARRIER AND 3'-0"± SAFETY WALK EACH SIDE

LOADING: HS 20-44 (CASE II) AND ALTERNATE MILITARY LOADING

WEARING SURFACE: LATEX MODIFIED CONCRETE OVERLAY

APPROACH SLABS: AS-1-81 (25'-0"± LONG)

ALIGNMENT: TANGENT

CONDITION: FAIR

YEAR BUILT: 1953 (REHAB 1987)

STRUCTURE FILE NO.: 7700369

DISPOSITION: MINOR REHABILITATION

PROPOSED WORK

1. REMOVE EXISTING LATEX MODIFIED CONCRETE OVERLAY FROM BRIDGE DECK.
2. USE HYDRODEMOLITION TO PREPARE REINFORCED CONCRETE DECK AND APPROACH SLABS.
3. INSTALL NEW MICRO SILICA MODIFIED CONCRETE OVERLAY ON DECK AND APPROACH SLABS.
4. INSTALL NEW SCUPPER GRATES.
5. REMOVE PORTION OF EXISTING PARAPET AND INSTALL NEW PARAPET TRANSITION.
6. REMOVE PORTION OF EXISTING PARAPET AND RECONSTRUCT PARAPET.
7. REMOVE EXISTING AND INSTALL NEW ELASTOMERIC AND MODULAR EXPANSION JOINT STRIP SEALS.
8. REPAIR DETERIORATED BRIDGE RAILING SPLICES.
9. INSTALL NEW SILICONE JOINT SEALANT BETWEEN MEDIAN BARRIERS.
10. SEAL CONCRETE PARAPETS AND MEDIAN BARRIERS WITH EPOXY-URETHANE.
11. ADD LACING ANGLES TO TRUSS MEMBERS.
12. INSTALL NEW STRINGER COVER PLATE FATIGUE RETROFITS.
13. REMOVE AND REPLACE PORTION OF DRAINAGE DOWNSPOUT AT PIERS 1, 2 AND 3.
14. MODIFY ENDS OF EXISTING DRAINAGE DOWNSPOUTS AT NEW CATCH BASINS.
15. CLEAN STRUCTURE DRAINAGE SYSTEM ABOVE GROUND.
16. REPLACE STEEL BAR GRATING ON SIDEWALKS.
17. REPLACE DETERIORATED INSPECTION WALKWAY FLOOR.
18. REPLACE MISSING SECTION OF INSPECTION WALKWAY RAILING.
19. ADD FALL PREVENTION SYSTEM TO VERTICAL LADDERS.
20. CLEAN BRIDGE SEATS.
21. REPAIR CONCRETE DETERIORATION TO ABUTMENTS, WINGWALLS AND PIERS.
22. SEAL SUBSTRUCTURE CONCRETE WITH EPOXY-URETHANE.

PROPOSED STRUCTURE

PROPOSED WORK: MINOR REHABILITATION INCLUDING MICRO SILICA MODIFIED CONCRETE OVERLAY ON EXISTING REINFORCED CONCRETE DECK AND APPROACH SLABS.

SPANS: SAME AS EXISTING

ROADWAY: SAME AS EXISTING

LOADING: SAME AS EXISTING

SKEW: SAME AS EXISTING

WEARING SURFACE: 2¹/₄" MICRO SILICA MODIFIED CONCRETE OVERLAY

APPROACH SLABS: SAME AS EXISTING

ALIGNMENT: SAME AS EXISTING

LATITUDE: N 41° 05' 12"

LONGITUDE: W 81° 30' 08"

CURRENT AVERAGE DAILY TRAFFIC: 131,000 (2008)

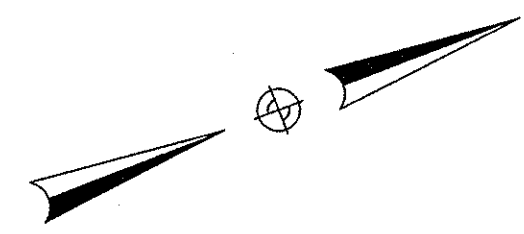
DESIGN AVERAGE DAILY TRAFFIC: 141,300 (2028)

DESIGN AVERAGE DAILY TRUCK TRAFFIC: 9,900 (2028)

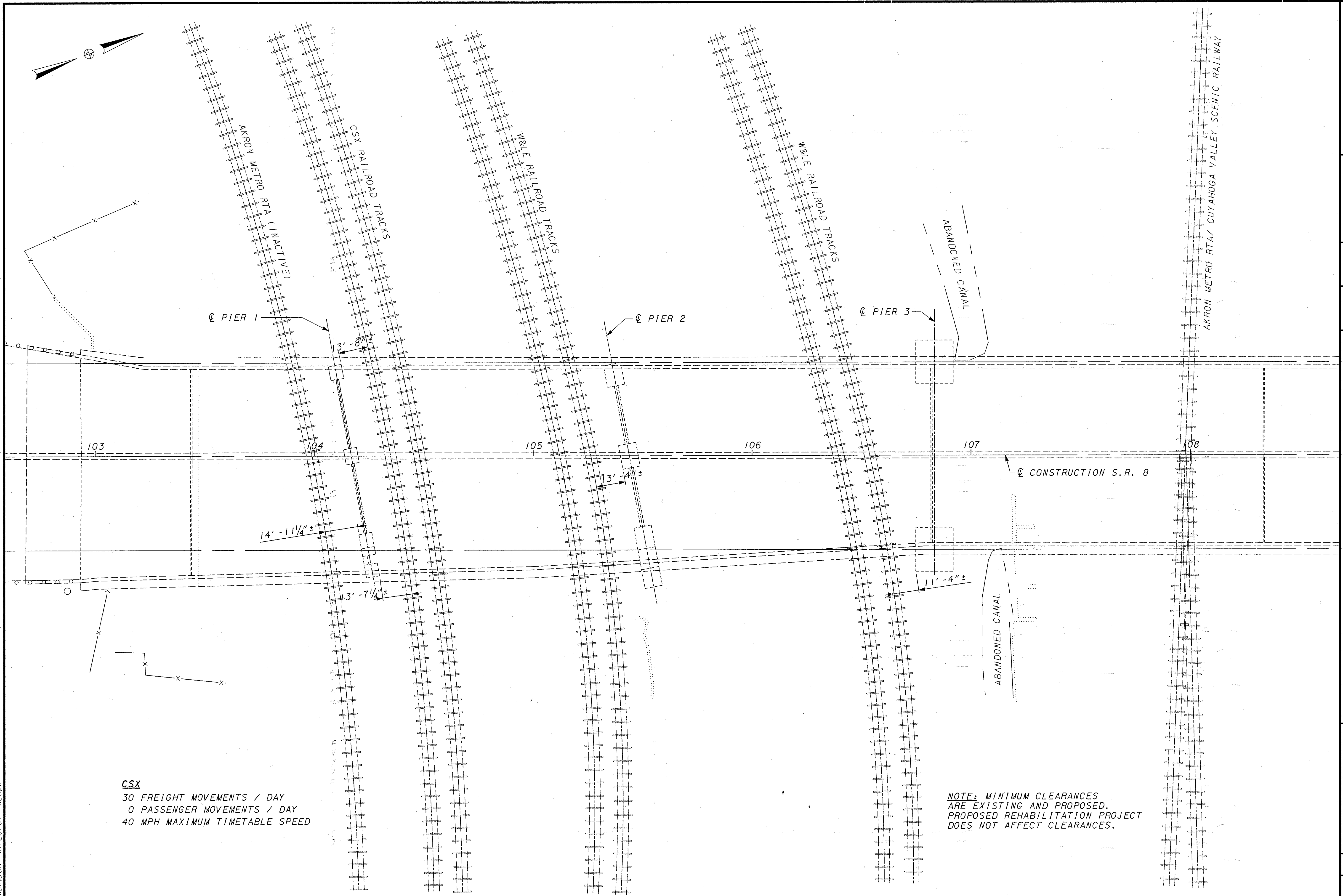
770786P.A.DGN 11/27/07 TWH,JLS,KH

GENERAL PLAN AND ELEVATION	BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET	DATE 11/28/07	REVIEWED DLR	STRUCTURE FILE NUMBER 7700369
SUM-8-1.95	PID 77078	DESIGNED JDB	DRAWN JLS	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902
1/40	63 102			

77078MDK.DGN 10/28/07 JLS:KH



CSX
30 FREIGHT MOVEMENTS / DAY
0 PASSENGER MOVEMENTS / DAY
40 MPH MAXIMUM TIMETABLE SPEED



NOTE: MINIMUM CLEARANCES
ARE EXISTING AND PROPOSED.
PROPOSED REHABILITATION PROJECT
DOES NOT AFFECT CLEARANCES.

RAILROAD CLEARANCES

SUM-8-1.95 PID 77078	RAILROAD CLEARANCES BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET		DESIGNED JDB	CHECKED ALP	DRAWN KH	REVISED (blank)	REVIEWED DLR	DATE 11/28/07	STRUCTURE FILE NUMBER 7700369	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902
	2 / 40	64 / 102								

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

EXJ-4-87 REVISED 7-19-2002

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

848 DATED 4-15-2005

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 17TH EDITION (2002), AND THE 2004 ODOT BRIDGE DESIGN MANUAL AND INTERIMS.

DESIGN LOADING

EXISTING STRUCTURE PLANS STATE THAT THE STRUCTURE WAS DESIGNED FOR HS 20-44 CASE II AND THE ALTERNATE MILITARY LOADING. NO STRENGTHENING OF THE STRUCTURE IS INCLUDED IN THIS PLAN.

DESIGN STRESSES (LOAD FACTOR DESIGN)

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (PARAPET)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
STRUCTURAL STEEL -
PROPOSED: ASTM A709 GRADE 50 - YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD:

MICRO SILICA CONCRETE OVERLAY AND SEALING OF CONCRETE SURFACES.

WEARING SURFACE:

WEARING SURFACE IS 2 1/4" MICRO SILICA MODIFIED CONCRETE OVERLAY.

UTILITY LINES

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

EXISTING BRIDGE PLANS

MAY BE INSPECTED AT THE ODOT DISTRICT FOUR OFFICE, 2088 S. ARLINGTON ROAD, AKRON, OHIO 44306.

ALIGNMENT AND PROFILE

THE WORK CONSTRUCTED WITH THIS PROJECT WILL NOT CHANGE THE EXISTING ALIGNMENT OR PROFILE OF THE STRUCTURE.

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 OBSERVATION 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 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.

CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING THE COMPLETION OF THIS PROJECT.

S.R. 8 MAINTENANCE OF TRAFFIC:

STATE ROUTE 8 VEHICULAR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS PROVIDED IN THE MAINTENANCE OF TRAFFIC NOTES ON SHEETS 8 THROUGH 10 OF 102.

CONSTRUCTION SEQUENCE

ALSO SEE MAINTENANCE OF TRAFFIC PLAN SHEETS. THE FOLLOWING IS THE REQUIRED SEQUENCE OF CONSTRUCTION:

PHASE 1 (NORTHBOUND OUTSIDE PORTION OF DECK):

1. SET UP ZONE TO MAINTAIN TRAFFIC.
2. REMOVE PORTION OF EXISTING OUTSIDE PARAPET.
3. SAW CUT PHASE LINE IN EXISTING LATEX MODIFIED CONCRETE OVERLAY AND REMOVE FROM EXISTING DECK BY SCARIFICATION.
4. REMOVE ANY REMAINING LATEX MODIFIED CONCRETE OVERLAY FROM THE EXISTING DECK AND MONOLITHIC CONCRETE WEARING SURFACE FROM APPROACH SLABS USING HYDRODEMOLITION AND HAND CHIPPING.
5. INSTALL NEW PORTION OF OUTSIDE PARAPET.
6. PLACE NEW MICRO SILICA MODIFIED CONCRETE OVERLAY.
7. REMOVE ZONE TO MAINTAIN TRAFFIC.

PHASE 2 (NORTHBOUND INSIDE PORTION OF DECK):

1. SET UP ZONE TO MAINTAIN TRAFFIC.
2. REMOVE EXISTING LATEX MODIFIED CONCRETE OVERLAY FROM EXISTING DECK BY SCARIFICATION.
3. REMOVE ANY REMAINING LATEX MODIFIED CONCRETE OVERLAY FROM THE EXISTING DECK AND MONOLITHIC CONCRETE WEARING SURFACE FROM APPROACH SLABS USING HYDRODEMOLITION AND HAND CHIPPING.
4. PLACE NEW MICRO SILICA MODIFIED CONCRETE OVERLAY.
5. REMOVE ZONE TO MAINTAIN TRAFFIC.

PHASE 3 (SOUTHBOUND OUTSIDE PORTION OF DECK):

1. SET UP ZONE TO MAINTAIN TRAFFIC.
2. REMOVE PORTION OF EXISTING OUTSIDE CONCRETE PARAPET AND GUARDRAIL FROM NORTHWEST CORNER OF BRIDGE.
3. SAW CUT PHASE LINE IN EXISTING LATEX MODIFIED CONCRETE OVERLAY AND REMOVE FROM EXISTING DECK BY SCARIFICATION.
4. REMOVE ANY REMAINING LATEX MODIFIED CONCRETE OVERLAY FROM THE EXISTING DECK AND MONOLITHIC CONCRETE WEARING SURFACE FROM APPROACH SLABS USING HYDRODEMOLITION AND HAND CHIPPING.
5. INSTALL NEW CONCRETE PARAPET TRANSITION AT NORTHWEST CORNER OF BRIDGE.
6. PLACE NEW MICRO SILICA MODIFIED CONCRETE OVERLAY.
7. ATTACH NEW BRIDGE TERMINAL ASSEMBLY TO NEW PARAPET TRANSITION AND EXISTING GUARDRAIL.
8. REMOVE ZONE TO MAINTAIN TRAFFIC.

PHASE 4 (SOUTHBOUND INSIDE PORTION OF DECK):

1. SET UP ZONE TO MAINTAIN TRAFFIC.
2. REMOVE EXISTING LATEX MODIFIED CONCRETE OVERLAY FROM EXISTING DECK BY SCARIFICATION.
3. REMOVE ANY REMAINING LATEX MODIFIED CONCRETE OVERLAY FROM THE EXISTING DECK AND MONOLITHIC CONCRETE WEARING SURFACE FROM APPROACH SLABS USING HYDRODEMOLITION AND HAND CHIPPING.
4. PLACE NEW MICRO SILICA MODIFIED CONCRETE OVERLAY.
5. REMOVE ZONE TO MAINTAIN TRAFFIC.

WORK TO BE COMPLETED AFTER NEW OVERLAY HAS BEEN PLACED:

1. ALL WORK SHALL BE PERFORMED WHILE MAINTAINING TRAFFIC ACCORDING TO THE PERMITTED LANE CLOSURE CHART.
2. REMOVE EXISTING JOINT SEALS TO BE REPLACED.
3. PREPARE EXISTING STEEL EXTRUSION RETAINERS PER MANUFACTURER'S RECOMMENDATIONS.
4. INSTALL NEW ELASTOMERIC JOINT SEALS IN ONE CONTINUOUS PIECE FOR EACH JOINT.
5. REMOVE EXISTING JOINT SEAL FROM BETWEEN MEDIAN BARRIERS.
6. INSTALL NEW SILICONE JOINT SEAL BETWEEN MEDIAN BARRIERS.
7. SEAL ALL JOINTS AND ABUTTING SURFACES, PER 848.27, WITH HIGH MOLECULAR WEIGHT METHACRYLATE.
8. SEAL CONCRETE PARAPETS AND MEDIAN BARRIER WITH EPOXY-URETHANE.
9. CLEAN STRUCTURE DRAINAGE SYSTEM ABOVE GROUND.
10. REPLACE ALL SCUPPER GRATES.
11. CLEAN BRIDGE SEATS ON PIERS 3, 4, 5, 6 AND BOTH ABUTMENTS.

OTHER WORK TO BE COMPLETED INCLUDES THE FOLLOWING:

1. REPAIR DETERIORATED BRIDGE RAILING SPLICES.
2. INSTALL NEW TRUSS REINFORCEMENT.
3. INSTALL NEW STRINGER COVER PLATE FATIGUE RETROFITS.
4. REMOVE AND REPLACE PORTION OF DRAINAGE DOWNSPOUTS AT PIERS 1, 2 AND 3.
5. MODIFY ENDS OF EXISTING DRAINAGE DOWNSPOUTS.
6. REPLACE INSPECTION WALKWAY FLOOR.
7. REPLACE MISSING SECTION OF INSPECTION WALKWAY RAILING.
8. REPAIR CONCRETE DETERIORATION TO ABUTMENTS, WINGWALLS, AND PIERS.
9. SEAL SUBSTRUCTURE UNITS USING EPOXY-URETHANE.
10. REPLACE STEEL GRATE SIDEWALKS.
11. INSTALL FALL PREVENTION SYSTEM.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY OF THE S.R. 8 BRIDGE (SFN 7700369) SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY CONFIRMED THAT ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

KNOWN LOCATIONS OF ASBESTOS MATERIAL INCLUDES THE VENT PIPES IN THE PIERS AND PORTIONS OF REMAINING ABANDONED CONDUIT UNDER THE SIDEWALK GRATING.

THE EXISTING JUNCTION BOXES IN THE SIDEWALK GRATE, INCLUDING PORTIONS OF ABANDONED ASBESTOS CONDUIT, WILL BE REMOVED WITH THE SIDEWALK GRATE.

NONE OF THE ASBESTOS IN THE PIER VENT PIPES IS SCHEDULED TO BE DISTURBED DURING THIS PROJECT, BUT THE CONTRACTOR SHOULD BE AWARE OF ITS PRESENCE IF WORKING IN THE VICINITY DURING SUBSTRUCTURE CONCRETE PATCHING OR OTHER ACTIVITIES.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGH ST. SUITE 904
AKRON, OHIO 44308
LYNN M. MALCOLM, ADMIN.
(330) 375-2480
FAX: (330) 375-2402

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR REHABILITATION, THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTOR'S NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON ROAD, AKRON, OHIO, 44306.

BASIS FOR PAYMENT - THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

CONNECTION BOLTS:

5/8 INCH DIAMETER AND LARGER SHALL BE HEX HEAD, GALVANIZED ASTM A325 HIGH STRENGTH STEEL BOLTS, UNLESS OTHERWISE NOTED. BOLTS 1/2 INCH DIAMETER AND SMALLER SHALL BE GALVANIZED ASTM A449 OR SAE J429 GRADE 5. STAINLESS STEEL BOLTS SHALL BE TYPE 304. NEW CONNECTION BOLTS SHALL BE INCLUDED FOR PAYMENT WITH THE PERTINENT NEW MATERIAL PAY ITEM.

NEW GALVANIZED STEEL:

SHALL BE GALVANIZED AFTER FABRICATION PER C.M.S. 711.02. THE CONTRACTOR SHALL BE VERY CAREFUL IN HANDLING THE GALVANIZED STEEL TO MINIMIZE SCRATCHES AND ABRASIONS OF THE FINISH. WIRE ROPE SLINGS AND METAL HOOKS SHALL BE PADDED WITH WOOD, OR REINFORCED FABRIC WEBBING SHALL BE USED FOR MATERIAL HANDLING. SCRATCHES AND ABRASIONS OF THE GALVANIZED FINISH SHALL BE TOUCHED UP IN THE FIELD BY "COLD APPLIED GALVANIZING" AS DIRECTED BY THE ENGINEER. CONNECTION BOLTS FOR GALVANIZED STEEL MEMBERS SHALL BE MECHANICALLY GALVANIZED.

GENERAL NOTES CONTINUED: SEE SHEET 4/40.

770766N.DGN 11/28/07 RB,SCB,TWH,KH

RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DESIGNED JDB	CHECKED ALP
DRAWN KH	REVIEWED DLR
DESIGNED 11/28/07	STRUCTURE FILE NUMBER 7700369
GENERAL NOTES - 1 BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET	
SUM-8-1.95	PID 77078
3/40	65 102

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

SOME OF THE MAJOR ITEMS TO BE REMOVED ARE LISTED BELOW.

- PORTIONS OF INSPECTION WALKWAY RAIL TO BE REPLACED.
- EXISTING PARAPET TO BE REPLACED BY NEW PARAPET TRANSITION.
- EXISTING PARAPET TO BE RECONSTRUCTED.
- INSPECTION WALKWAY CHECKERED PLATE.
- PORTIONS OF DRAINAGE DOWNSPOUTS, SUPPORTS AND INCIDENTALS.
- EXISTING STEEL BAR SIDEWALK GRATING.

REPLACEMENT OF EXISTING REINFORCING STEEL

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. PAYMENT WILL BE MADE VIA CHANGE ORDER UNDER ITEM 509, REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN.

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

REMOVAL OF EXISTING RIVETS: EXISTING RIVETS THAT ARE IN HOLES USED TO CONNECT NEW MATERIAL TO EXISTING MATERIAL, EXISTING RIVETS THAT MUST BE REMOVED TO REMOVE EXISTING STEEL, AND RIVETS DIRECTED TO BE REMOVED BY THE ENGINEER SHALL BE REMOVED WITH CARE IN ACCORDANCE WITH C.M.S. SECTION 202.03.

NO MORE RIVETS SHALL BE REMOVED FROM AN AREA THAN ARE NECESSARY FOR CONNECTING EACH NEW MATERIAL PIECE. RIVETS SHALL BE REMOVED FROM ONLY ONE SIDE OF A MEMBER AT A TIME.

ALL EXISTING RIVETS TO BE REMOVED SHALL FIRST HAVE THE HEADS CUT OFF AND THEN THE REMAINDER OF THE RIVET REMOVED BY DRILLING OR BURNING. SOME RIVETS TO BE REMOVED MAY HAVE COUNTERSUNK HEADS ON ONE OR BOTH ENDS. RIVETS THAT ARE COUNTERSUNK ON BOTH ENDS SHALL BE REMOVED BY DRILLING OR BURNING. PUNCHING MAY BE USED TO REMOVE LOOSE FITTING SHANKS. RIVET REMOVAL METHODS SHALL NOT DAMAGE BASE MATERIAL THAT IS TO REMAIN IN PLACE. THE CONTRACTOR SHALL SUBMIT DETAILS OF THE PROPOSED RIVET REMOVAL METHOD FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK. ANY DAMAGE TO EXISTING MATERIAL TO REMAIN IN PLACE, DUE TO THE CONTRACTOR'S REMOVAL OPERATION, SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE COST OF THE CONTRACTOR.

PAYMENT FOR CAREFUL STRUCTURAL STEEL REMOVAL SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

BOLTED CONNECTION TO EXISTING STEEL: AT LOCATIONS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER, NEW STRUCTURAL STEEL SHALL BE CONNECTED TO EXISTING STRUCTURAL STEEL USING EXISTING RIVET OR BOLT HOLES AND NEW BOLTS. RIVET REMOVAL PROCEDURES ARE DESCRIBED IN THE GENERAL NOTES. PAYMENT FOR RIVET OR BOLT REMOVAL IS INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN UNLESS OTHERWISE NOTED.

HOLES IN NEW MATERIAL SHALL BE MADE BY ANY OF THE FOLLOWING METHODS (TO BE SELECTED BY THE CONTRACTOR):

1. CAREFUL FIELD MEASUREMENT BY THE CONTRACTOR SHALL BE USED FOR LOCATING HOLES IN NEW MATERIAL TO BE SUBPUNCHED OR DRILLED UNDERSIZE IN THE SHOP. THE HOLE SHALL BE 3/16 INCH LESS IN DIAMETER THAN THE NOMINAL DIAMETER OF THE NEW BOLT. THE HOLES SHALL BE REAMED TO PROPER SIZE IN THE FIELD AFTER FIT-UP TO THE EXISTING RIVET OR BOLT HOLES.
2. MAKE TEMPLATES IN THE FIELD OF HOLE PATTERNS AND LOCATIONS AFTER REMOVAL OF RIVETS OR BOLTS. USE THE FIELD TEMPLATES IN THE SHOP TO SUBPUNCH OR DRILL UNDERSIZE HOLES. THE HOLES SHALL BE REAMED IN THE FIELD AFTER FIT-UP TO THE EXISTING RIVET OR BOLT HOLES.
3. FURNISH NEW STRUCTURAL STEEL WITHOUT SHOP HOLES FOR RECONNECTION TO EXISTING RIVET OR BOLT HOLES. HOLES IN NEW MATERIAL TO BE FIELD DRILLED AND REAMED TO MATCH EXISTING RIVET OR BOLT LOCATION.

RIVET HOLES NOT USED FOR BOLTED CONNECTIONS OF NEW STRUCTURAL STEEL SHALL BE FILLED WITH A BOLT UNLESS OTHERWISE NOTED.

EXISTING MATERIAL WITHOUT HOLES FOR CONNECTION TO NEW MATERIAL SHALL BE FIELD DRILLED.

ALL HOLES THROUGH NEW AND EXISTING MATERIAL SHALL BE REAMED AFTER ASSEMBLY. THE FINAL HOLES SHALL BE STANDARD SIZE, 1/16 INCH LARGER IN DIAMETER THAN THE NOMINAL BOLT DIAMETER, UNLESS OTHERWISE NOTED.

ADDITIONAL REQUIREMENTS FOR HOLES SHALL BE PER C.M.S. 513.19. SHOP HOLES THAT DO NOT MATCH EXISTING RIVET HOLES SHALL BE FIELD DRILLED.

THE COST OF ALL MATERIAL, EQUIPMENT AND LABOR FOR CONNECTING NEW MATERIAL TO EXISTING MATERIAL, INCLUDING REAMING NEW OR EXISTING HOLES, AND DRILLING NEW HOLES, SHALL BE INCLUDED AS INCIDENTAL TO THE PERTINENT NEW MATERIAL PAY ITEM.

ITEM 511 - CONCRETE, MISC.: RECONSTRUCT CONCRETE PARAPET

ITEM 511 - CONCRETE, MISC.: 32" CONCRETE PARAPET TRANSITION

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, DRILLING, EPOXY GROUTING, REMOVING UNSOUND CONCRETE, CAULKING, CUTTING CRACK CONTROL JOINTS, TESTING AND LABOR NECESSARY TO CONSTRUCT AND ERECT THE PARAPET AS SHOWN IN THE PLANS AND AS SPECIFIED HEREIN.

ALL CONCRETE SHALL CONFORM TO THE FOLLOWING NOTES AND SHALL BE INCLUDED IN THE COST OF THIS ITEM.

CONCRETE MIX OPTIONS:

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

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)

HP4, AS PER PLAN (GGBF SLAG + MICRO SILICA)

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 CEMENTIOUS 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.

GENERAL REQUIREMENTS:

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL BE INCLUDED IN THE COST OF THIS ITEM. THE CONTRACTOR MAY FIELD BEND REINFORCING STEEL TO MAINTAIN MINIMUM CLEARANCES AND COVER.

ALL DRILLING AND EPOXY GROUTING REQUIRED FOR INSTALLATION OF PARAPET SHALL CONFORM TO C.M.S. 510 (GROUT ANCHORING) AND SHALL BE INCLUDED IN THE COST OF THIS ITEM.

BEFORE ANY DRILLING, THE CONTRACTOR SHALL USE A REBAR LOCATOR TO IDENTIFY LOCATIONS OF EXISTING REINFORCING STEEL. THE CONTRACTOR SHALL DRILL ONLY WHERE EXISTING REINFORCING STEEL IS NOT LOCATED.

ALL 1" PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED IN THE COST OF THIS ITEM.

CAULK EDGES OF ALL JOINTS BETWEEN NEW AND EXISTING CONCRETE WITH CAULK WHICH MEETS FEDERAL SPECIFICATION TT-S-00227E. ALL CAULKING COSTS SHALL BE INCLUDED UNDER THIS ITEM.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
511	FT.	CONCRETE, MISC.: RECONSTRUCT CONCRETE PARAPET
511	EACH	CONCRETE, MISC.: 32" CONCRETE PARAPET TRANSITION

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

EPOXY-URETHANE SHALL BE THE LIGHT NEUTRAL COLOR MEETING FEDERAL COLOR STANDARD NO. 17778. ALL EXPOSED ABUTMENT CONCRETE SURFACES SHALL BE COMPLETELY SEALED DOWN TO THE GROUNDLINE WITH EPOXY-URETHANE. ALL EXPOSED CONCRETE SURFACES OF THE PIERS, WITH THE EXCEPTION OF THE HORIZONTAL UNDERSIDE OF THE PIER CAPS, SHALL BE SEALED WITH EPOXY-URETHANE. STONE FACING AT THE NORTH ABUTMENT, PIER 3, AND PIER 6 SHALL NOT BE SEALED WITH EPOXY-URETHANE. THE SUPERSTRUCTURE, ABUTMENT, AND APPROACH SLAB PARAPETS AND MEDIAN BARRIER SHALL BE SEALED AS PER PLAN DETAILS.

ITEM 513 - STRUCTURAL STEEL, MISC.: REPLACE MISSING INSPECTION WALKWAY RAIL

WORK UNDER THIS ITEM SHALL CONSIST OF ALL LABOR, TOOLS AND MATERIALS REQUIRED TO REPLACE THE SECTION OF INSPECTION WALKWAY HAND RAIL AS DETAILED IN THE PLANS ON SHEET [28/40]. AN ALLOWANCE OF 300 POUNDS OF STRUCTURAL STEEL IS INCLUDED FOR ADDITIONAL REPAIRS AS DIRECTED BY THE ENGINEER.

ALL SECTIONS OF ITEM 513 APPLY EXCEPT AS REVISED HEREIN. THE ENGINEER IS RESPONSIBLE FOR ENSURING ANY SHOP OR FIELD FABRICATED STEEL SUPPLIED UNDER THIS BID ITEM IS ACCEPTABLE. THE REQUIREMENTS FOR SUBMITTAL OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING IS WAIVED. AT THE ENGINEER'S OPTION, THE CONTRACTOR SHALL EITHER SUPPLY THE ENGINEER WITH SHOP DRAWINGS, REQUIRED IN SECTION 501.04, PRIOR TO ANY INCORPORATION OF SHOP FABRICATED STEEL AT THE PROJECT, OR SUPPLY THE ENGINEER WITH "AS FABRICATED" DRAWINGS, MEETING 501.04, AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER SHALL ASSURE THE SUBMITTED DRAWINGS MATCH THE FINAL AS BUILT STEEL INCORPORATED INTO THE WORK. IF THE ENGINEER IS SATISFIED WITH THE DRAWINGS AND THE DELIVERED MATERIALS, THE CONTRACTOR SHALL SUPPLY A COPY SET, STAMPED AND DATED AS PER 501.04, TO THE PROJECT ENGINEER FOR RECORD PURPOSES. SUBMITTAL REQUIREMENTS UNDER 501.04, MATERIALS, SHALL BE MADE TO THE PROJECT ENGINEER. THE CONTRACTOR SHALL FURNISH A COPY OF THE WRITTEN LETTER OF ACCEPTANCE, 501.04, TO THE PROJECT ENGINEER.

NEW MATERIAL SHALL RECEIVE A PRIME COAT PER 513.27. PRIME PAINTING WILL BE CONSIDERED INCIDENTAL TO THIS ITEM.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
513	POUND	STRUCTURAL STEEL, MISC.: REPLACE MISSING INSPECTION WALKWAY RAIL

GENERAL NOTES CONTINUED: SEE SHEET [5/40].

770786N.DGN 11/27/07 RB,SCB,TWH,KH

RICHLAND ENGINEERING LIMITED

29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DATE 11/28/07

REVIEWED DLR

STRUCTURE FILE NUMBER 7700369

DRAWN KH

REVISION

DESIGNED JDB

CHECKED ALP

GENERAL NOTES - 2

BRIDGE NO. SUM-8-0195

SUM-8-1.95

PID 77078

OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET

4

/ 40

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ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS REINFORCEMENT

THIS ITEM INCLUDES INSTALLING STIFFENING ANGLES OVER THE SIDE PLATES OF THREE BUILT-UP TRUSS MEMBERS.

AREAS OF THE EXISTING STEEL SIDE PLATES THAT WILL BE COVERED WITH STIFFENING ANGLES SHALL BE PREPARED AND PRIMED WITH AN ORGANIC ZINC PRIME COAT PER CMS 514 PRIOR TO INSTALLING THE STIFFENING ANGLES. THE NEW STEEL ANGLES FOR THIS ITEM SHALL RECEIVE A SHOP APPLIED PRIME COAT OF PAINT PER CMS 513.27.

THIS ITEM SHALL INCLUDE THE STIFFENING ANGLES AND BOLTS FOR THE RETROFITS SHOWN IN THE PLANS. THE UNIT PRICE SHALL INCLUDE ALL EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO INSTALL THE STIFFENING ANGLES AS SHOWN. BLASTING AND PRIMING THE EXISTING STEEL SIDE PLATES ARE INCLUDED WITH THIS ITEM FOR PAYMENT.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
513	POUND	STRUCTURAL STEEL, MISC.: TRUSS REINFORCEMENT

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER COVER PLATE RETROFIT

THIS ITEM INCLUDES INSTALLING COVER PLATE RETROFITS AT EACH EXISTING STRINGER BOTTOM FLANGE COVER PLATE LOCATION. BLAST AND PRIME EXISTING STEEL TO BE COVERED WITH RETROFIT WITH AN ORGANIC ZINC PRIME COAT PER CMS. 514 PRIOR TO INSTALLING THE COVER PLATE RETROFITS. THE NEW STEEL PLATES FOR THIS ITEM SHALL RECEIVE A SHOP APPLIED PRIME COAT OF PAINT PER CMS 513.27. THIS ITEM SHALL INCLUDE SPLICE PLATES, FILL PLATES AND BOLTS FOR THE COVER PLATE RETROFITS SHOWN IN THE PLANS. THE UNIT PRICE SHALL INCLUDE ALL EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO INSTALL THE COVER PLATE RETROFITS AS SHOWN. BLASTING AND PRIMING ARE INCLUDED WITH THIS ITEM FOR PAYMENT. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER COVER PLATE RETROFIT.

ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL REMOVALS, LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO INSTALL NEW ELASTOMERIC STRIP SEALS IN THE EXPANSION AND CONTRACTION JOINTS AS DESIGNATED IN THE PLANS.

THE JOINTS AT THE SOUTH ABUTMENT, PIER 3, THE FIVE CONTRACTION JOINTS, AND THE NORTH ABUTMENT ARE ALL SINGLE SEAL JOINTS. THE JOINT AT PIER 6 HAS THREE SEALS. SEE SHEET 32/40 FOR ADDITIONAL DETAILS.

THE SIZE AND SHAPE OF THE EXISTING STEEL EXTRUSIONS SHALL BE VERIFIED BY THE CONTRACTOR TO ENSURE THE NEW SEALS WILL PROPERLY LOCK INTO THE EXISTING STEEL EXTRUSIONS. THE CONTRACTOR SHALL INSTALL THE NEW SEALS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE PROPOSED CONCRETE OVERLAY SHALL BE COMPLETED BEFORE THE EXISTING STRIP SEALS ARE REMOVED. PRIOR TO INSTALLING THE NEW STRIP SEALS, ALL EXISTING STRIP SEALS, DIRT AND DEBRIS THAT WOULD IMPEDE THE NEW STRIP SEALS FROM LOCKING INTO PLACE SHALL BE REMOVED AND THE STEEL EXTRUSION SURFACES PREPARED PER THE MANUFACTURER'S RECOMMENDATIONS.

THE EXPANSION JOINTS SHALL BE SEALED WITH AN ELASTOMERIC STRIP SEAL AT ALL TIMES. AN EXCEPTION TO THIS IS DURING THE REMOVAL OF A SEAL AND A PERIOD OF NO MORE THAN 2 DAYS IMMEDIATELY AFTER THE REMOVAL. THE EXCEPTION IS PROVIDED AS LONG AS NO TRAFFIC IS PERMITTED ON THE OPEN JOINT.

THE NEW STRIP SEALS SHALL BE FURNISHED IN ONE PIECE AND CONTINUOUS ACROSS THE EXPANSION JOINTS FOR EACH SIDE OF THE BRIDGE.

THE COST OF ALL REMOVALS, SURFACE PREPARATION, LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY FOR THE INSTALLATION OF THE NEW ELASTOMERIC STRIP SEALS SHALL BE INCLUDED FOR PAYMENT IN THE BID PRICE PER FOOT.

PAYMENT FOR COMPLETE IN PLACE AND ACCEPTED QUANTITIES SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
516	FOOT	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN

ITEM 516 - JOINT SEALER, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL REMOVALS, LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO INSTALL A SILICONE JOINT SEALER AT THE LOCATIONS DESIGNATED IN THE PLANS.

PRIOR TO PLACING NEW SILICONE JOINT SEALANT, ALL EXISTING JOINT SEALANT MATERIAL SHALL BE REMOVED TO APPROXIMATELY ONE INCH BELOW THE TOP OF THE MEDIAN BARRIER SURFACE. ALL VOIDS BETWEEN THE EXISTING PREFORMED EXPANSION JOINT FILLER AND MEDIAN BARRIER SHALL BE CAULKED PRIOR TO SILICONE INSTALLATION TO PREVENT THE NEW SEALANT FROM LEAKING THROUGH THE JOINT.

THE SILICONE JOINT SEALANT SHALL BE "WABO@SILICONESEAL"; "DOW CORNING@902 RCS JOINT SEALANT"; OR AN APPROVED EQUAL. THE MEDIAN BARRIER SURFACES TO RECEIVE THE NEW JOINT SEALANT SHALL BE PREPARED, AND THE SEALANT INSTALLED, PER THE MANUFACTURER'S RECOMMENDATIONS.

"WABO@SILICONESEAL" IS AVAILABLE FROM WATSON BOWMAN ACME CORP., 95 PINEVIEW DRIVE, AMHERST, NY 14228, PHONE: 716-691-7566. "DOW@CORNING 902 RCS JOINT SEALANT" IS AVAILABLE FROM SILICONE SPECIALTIES INC., P.O. BOX 50009, TULSA, OK 74150, PHONE: 918-587-5567.

THE COST OF ALL REMOVALS, SURFACE PREPARATION, LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY FOR THE INSTALLATION OF THE NEW JOINT SEAL SHALL BE INCLUDED FOR PAYMENT IN THE BID PRICE PER FOOT FOR SILICONE JOINT SEAL.

PAYMENT FOR COMPLETE IN PLACE AND ACCEPTED QUANTITIES SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
516	FOOT	JOINT SEALER, AS PER PLAN

ITEM 517 - RAILING, MISC.: REPAIR DETERIORATED RAILING SPLICES

THIS ITEM SHALL INCLUDE ALL REMOVALS, LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO REPAIR THE DETERIORATED SPLICES IN THE UNIT 2 SAFETY WALK RAILING AS DETAILED IN THE PLANS ON SHEET 27/40 AND ACCORDING TO THE FOLLOWING NOTES.

FURNISH SHAPED STRUCTURAL STEEL TUBING ACCORDING TO ASTM A53, GRADE B.

ONCE THE RAILING REPAIR HAS BEEN COMPLETED, ANY EXISTING PAINT DAMAGED BY THE REMOVALS OR WELDING AND ALL NEW STEEL SHALL BE REPAIRED AS FOLLOWS:

SURFACE PREPARATION:

1. THE CONTRACTOR SHALL REMOVE ALL DIRT, DEBRIS, OIL AND GREASE FROM THE AREAS TO BE PAINTED PER STEEL STRUCTURE PAINTING COUNCIL (SSPC) - SPI.
2. REMOVE ALL LOOSE MILL SCALE, RUST OR PAINT FROM THE AREAS TO BE PAINTED WITH HAND TOOLS PER SSPC-SP2.

PAINTING:

1. BRUSH APPLY AN ALUMINUM FILLED EPOXY MASTIC PRIMER. THE PRIMER SHALL BE CARBOMASTIC 15 AS MANUFACTURED BY CARBOLINE COMPANY, EPOXY MASTIC ALUMINUM II AS MANUFACTURED BY THE SHERWIN WILLIAMS COMPANY OR AN APPROVED EQUIVALENT. ESTIMATED BUILD OF EPOXY MASTIC PRIMER IS TO BE 8-10 MILS.
2. BRUSH APPLY A URETHANE FINISH COAT. THE URETHANE FINISH COAT SHALL CONFORM TO 708.02. THE DRY FILM COATING THICKNESS SHOULD BE 2.0 TO 4.0 MILS. THE FINISH COAT SHALL BE LIGHT BLUE TO CLOSELY MATCH THE EXISTING LIGHT BLUE FINISH PAINT. THE 1985 PAINTING GENERAL NOTES INDICATED THE PAINT WAS TO BE FEDERAL STANDARD NUMBER 25200, MEDIUM BLUE.

TEMPERATURE, RELATIVE HUMIDITY AND CURE TIME LIMITATIONS FOR THE VARIOUS TYPES OF PAINT SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS.

THE COST OF ALL REMOVALS, SURFACE PREPARATION, PAINTING, LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY FOR THE REPAIR OF THE DETERIORATED RAILING SPLICES SHALL BE INCLUDED FOR PAYMENT IN THE BID PRICE PER EACH LOCATION.

PAYMENT FOR COMPLETE IN PLACE AND ACCEPTED QUANTITIES SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
517	EACH	RAILING, MISC.: REPAIR DETERIORATED RAILING SPLICES

ITEM 518 - STRUCTURE DRAINAGE, MISC.: REPLACE SCUPPER GRATE

ALL EXISTING SCUPPER GRATES ON THE STRUCTURE SHALL BE REPLACED WITH NEW STEEL GRATES AS DETAILED ON SHEET 32/40. THIS WORK SHALL BE PERFORMED AFTER THE CONCRETE OVERLAY HAS BEEN PLACED AND THE STRUCTURE DRAINAGE SYSTEM HAS BEEN CLEANED.

THIS ITEM INCLUDES FABRICATING NEW SCUPPER GRATES, REMOVAL OF THE EXISTING SCUPPER GRATES, INSTALLING NEW GRATES WITH NEW BOLTS, AND DISPOSING OF THE EXISTING SCUPPER GRATES. THE UNIT PRICE SHALL INCLUDE ALL EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO REPLACE THE SCUPPER GATES.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
518	EACH	STRUCTURAL DRAINAGE, MISC.: REPLACE SCUPPER GRATE

ITEM 518 - STRUCTURE DRAINAGE, MISC.: CLEAN STRUCTURE DRAINAGE SYSTEM

THIS ITEM SHALL BE PERFORMED AFTER THE OVERLAY PLACEMENT IS COMPLETE AND THE NEW BRIDGE DECK JOINT SEALS HAVE BEEN INSTALLED. REMOVE ALL DIRT AND DEBRIS FROM CURB AREAS, SCUPPERS, HOPPERS, DRAINAGE TROUGHS, PIPE COLLECTORS AND DOWNSPOUTS ABOVE GROUND. AFTER THE DIRT AND DEBRIS HAVE BEEN REMOVED, FLUSH THE ENTIRE DRAINAGE SYSTEM WITH CLEAN WATER, MAKING CERTAIN THE WATER FLOWS SMOOTHLY TO THE ADJACENT CATCH BASIN. CATCH BASINS, PAVED GUTTERS AND UNDERGROUND STORM SEWERS ARE NOT INCLUDED WITH THIS ITEM.

THE CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF ALL DIRT AND DEBRIS FROM THE BRIDGE SITE. DIRT AND DEBRIS SHALL NOT BE FLUSHED INTO THE UNDERGROUND DRAINAGE SYSTEM. REMOVE ANY DIRT OR DEBRIS THAT ENDS UP IN THE UNDERGROUND DRAINAGE SYSTEM BY THE CONTRACTOR'S CLEANING OPERATIONS TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.

COMPLY WITH POLLUTION CONTROL LAWS, RULES, AND REGULATIONS OF FEDERAL, STATE, AND LOCAL AGENCIES. THE DEPARTMENT WILL NOT PAY FOR ADDITIONAL TESTING REQUIRED BY ANY HAULER, TREATMENT FACILITY, DISPOSAL FACILITY OR LANDFILL.

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT NEAR THE COMPLETION OF THE WORK FOR THE PURPOSE OF EXAMINING THE EXISTING STRUCTURE DRAINAGE SYSTEM. THE CONTRACTOR'S SUPERINTENDENT SHALL ACCOMPANY THE ENGINEER DURING THIS DETAILED EXAMINATION OF THE STRUCTURE DRAINAGE SYSTEM. NO SEPARATE PAYMENT WILL BE MADE TO THE CONTRACTOR TO COVER ANY COSTS OF THIS EXAMINATION.

ALL ITEMS REMOVED FOR THE PURPOSE OF CLEANING, SUCH AS DOWNSPOUT CLEANOUT CAPS, SHALL BE REINSTALLED ONCE THE CLEANING IS COMPLETE.

ALL COSTS FOR LABOR, TOOLS, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE CLEANING AND EXAMINATION OF THE STRUCTURE DRAINAGE SYSTEM AND THE DISPOSAL OF THE DIRT AND DEBRIS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 518 - STRUCTURE DRAINAGE, MISC.: CLEAN STRUCTURE DRAINAGE SYSTEM.

770786N.DGN 11/28/07 RB,SCB,TWH,KH

GENERAL NOTES - 3
 BRIDGE NO. SUM-8-0195
 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET
SUM-8-1.95
PID 77078
 5/40
 67
 102

GENERAL NOTES CONTINUED: SEE SHEET 6/40.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SUBSTRUCTURE SURFACES TO BE PATCHED INCLUDING ALL EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE ESTIMATED QUANTITY OF PATCHING REQUIRED IS BASED ON FIELD MEASUREMENTS OF ABOVE GROUND DETERIORATION. THE CONTRACTOR SHALL EXCAVATE REPAIR AREAS THAT EXTEND TO THE EXISTING GROUND LINE. THE ENGINEER SHALL DETERMINE THE EXTENT OF BELOW GROUND REPAIR BASED ON THE CONTRACTOR'S EXCAVATION.

THE CONTRACTOR SHOULD INCLUDE THIS EXCAVATION, PERFORMED IN ACCORDANCE WITH ITEM 503, IN THE UNIT PRICE BID FOR ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

ITEM SPECIAL - STRUCTURE, MISC.: CLEAN BRIDGE SEATS

THIS ITEM SHALL BE PERFORMED AFTER THE OVERLAY PLACEMENT IS COMPLETE AND THE NEW BRIDGE DECK JOINT SEALS HAVE BEEN INSTALLED, BUT PRIOR TO PATCHING AND SEALING CONCRETE ON THE SUBSTRUCTURE UNITS. THIS WORK SHALL CONSIST OF REMOVING ALL DIRT AND DEBRIS FROM THE HORIZONTAL SURFACES OF PIERS 3, 4, 5, 6 AND FROM THE SEATS OF BOTH ABUTMENTS. AFTER THE DIRT AND DEBRIS HAVE BEEN REMOVED, FLUSH THE BRIDGE SEATS WITH CLEAN WATER. BRIDGE SEATS WILL BE FURTHER CLEANED BY WATER BLASTING UNDER ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

THE CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF ALL DIRT AND DEBRIS FROM THE BRIDGE SITE. DIRT AND DEBRIS SHALL NOT BE FLUSHED INTO THE UNDERGROUND DRAINAGE SYSTEM. REMOVE ANY DIRT OR DEBRIS THAT ENDS UP IN THE UNDERGROUND DRAINAGE SYSTEM BY THE CONTRACTOR'S CLEANING OPERATIONS TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.

COMPLY WITH POLLUTION CONTROL LAWS, RULES, AND REGULATIONS OF FEDERAL, STATE, AND LOCAL AGENCIES. THE DEPARTMENT WILL NOT PAY FOR ADDITIONAL TESTING REQUIRED BY ANY HAULER, TREATMENT FACILITY, DISPOSAL FACILITY OR LANDFILL.

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT AT THE COMPLETION OF THE WORK FOR THE ENGINEER TO EXAMINE THE CLEANED SURFACES. NO SEPARATE PAYMENT WILL BE MADE TO THE CONTRACTOR TO COVER ANY COSTS OF THIS EXAMINATION.

ALL COSTS FOR LABOR, TOOLS, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE CLEANING AND EXAMINATION OF THE BRIDGE SEATS AND THE DISPOSAL OF THE DIRT AND DEBRIS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM SPECIAL - STRUCTURE, MISC.: CLEAN BRIDGE SEATS.

ITEM SPECIAL - STRUCTURE, MISC.: FALL PREVENTION SYSTEM

ADD FALL PREVENTION SYSTEMS TO THE EXISTING LADDERS ON THE WEST PYLON OF PIER 3 AND PIER 6. THE LADDERS TO BE RETROFIT EXTEND FROM THE TRUSS SEAT ELEVATION TO THE SIDEWALK ELEVATION, A LENGTH OF ABOUT 33 FEET.

THE FALL PREVENTION SYSTEM SHALL BE THE SAF-T-CLIMB SYSTEM FROM NORTH SAFETY PRODUCTS, 2000 PLAINFIELD PIKE, CRANSTON, RI 02921, TELEPHONE: (401) 943-4400.

THIS ITEM SHALL INCLUDE THE CARRIER RAIL AND MOUNTING BRACKETS NECESSARY TO RETROFIT THE LADDERS NOTED. THE PRICE BID SHALL INCLUDE ALL EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO INSTALL THE FALL PREVENTION SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. FOUR (4) SAF-T-LOK SLEEVES SHALL ALSO BE PROVIDED BY THE CONTRACTOR AND SHALL BECOME THE PROPERTY OF THE STATE.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP	STRUCTURAL, MISC.: FALL PREVENTION SYSTEM

ITEM SPECIAL - STRUCTURE, MISC.: 3/4" GALVANIZED STEEL BAR GRATING

WORK UNDER THIS ITEM SHALL CONSIST OF THE FURNISHING AND INSTALLATION OF 3/4" STEEL BAR GRATING FOR THE INSPECTION WALKWAY UNDER UNIT 2.

THE STEEL GRID SHALL CONFORM TO ASTM A1011, ASTM A709 GRADE 36 OR GRADE 50. THE STEEL GRID SHALL BE GALVANIZED PER ASTM A123. THE MAIN BARS SHALL BE 3/4"x3/16" ON 1 1/2" CENTERS. CROSSBARS SHALL BE ON 4" CENTERS. ALL EDGES SHALL BE BANDED. THE GRATING SHALL BE ATTACHED TO SUPPORTS WITH BOLTS AND SADDLE CLIPS AT A MAXIMUM OF TWO FOOT CENTERS. BOLTS AND SADDLE CLIPS SHALL BE GALVANIZED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING 5/16"± CHECKERED PLATE FROM THE UNIT 2 INSPECTION WALKWAY. THIS WORK SHALL BE PAID FOR UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN. THE NEW GRATING DIMENSIONS SHALL BE FIELD VERIFIED TO FIT ONTO THE EXISTING INSPECTION WALKWAY SUPPORTS, WHICH ARE TO REMAIN IN PLACE.

THE GRATING SHALL BE PRESSURE LOCKED GRATING AS MANUFACTURED BY IKG INDUSTRIES, OHIO GRATINGS, GRATING PACIFIC OR OTHER GRATING CONFORMING TO THE LATEST EDITION OF ANSI/NAAMM MBG 531, METAL BAR GRATING MANUAL.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE AND IN PLACE SHALL BE MADE AT THE CONTRACT PRICE BID, PER SQUARE FOOT, UNDER ITEM SPECIAL - STRUCTURE, MISC.: 3/4" GALVANIZED STEEL BAR GRATING.

ITEM SPECIAL - STRUCTURE, MISC.: 1" GALVANIZED STEEL BAR GRATING

WORK UNDER THIS ITEM SHALL CONSIST OF THE FURNISHING AND INSTALLATION OF 1" STEEL BAR GRATING FOR THE EAST AND WEST SIDEWALKS.

THE STEEL GRID SHALL CONFORM TO ASTM A1011, ASTM A709 GRADE 36 OR GRADE 50. THE STEEL GRID SHALL BE GALVANIZED PER ASTM A123. THE MAIN BARS SHALL BE 1"x3/16" ON 1 1/2" CENTERS. CROSSBARS SHALL BE ON 4" CENTERS. ALL EDGES SHALL BE BANDED PRIOR TO FIELD ADJUSTMENTS AROUND RAILING POSTS. WHERE FIELD CUTTING OF THE GRATING IS REQUIRED, OR ANYWHERE ELSE THE GALVANIZED FINISH IS DAMAGED, TOUCH UP DAMAGED GALVANIZING BY APPLYING "COLD APPLIED GALVANIZING". THE GRATING SHALL BE ATTACHED TO SUPPORTS WITH BOLTS AND SADDLE CLIPS AT A MAXIMUM OF ONE FOOT CENTERS. BOLTS AND SADDLE CLIPS SHALL BE GALVANIZED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING 1"± STEEL BAR GRATING FROM THE EAST AND WEST SIDEWALKS. THE EXISTING STEEL GRATING IS WELDED TO THE SIDEWALK SUPPORTS AT APPROXIMATELY ONE FOOT CENTERS. THIS WORK SHALL BE PAID FOR UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN. THE NEW GRATING DIMENSIONS SHALL BE FIELD VERIFIED TO FIT ONTO THE EXISTING SIDEWALK SUPPORTS, WHICH ARE TO REMAIN IN PLACE.

THE ABANDONED JUNCTION BOXES BUILT INTO THE SIDEWALK SHALL ALSO BE REMOVED. SEE ITEM 202, JUNCTION BOX REMOVED, AS PER PLAN - 1 ON SHEET 54 OF 102 FOR ADDITIONAL DETAILS AND PAYMENT.

THE GRATING SHALL BE PRESSURE LOCKED GRATING AS MANUFACTURED BY OHIO GRATINGS, GRATING PACIFIC OR OTHER GRATING CONFORMING TO THE LATEST EDITION OF ANSI/NAAMM MBG 531, METAL BAR GRATING MANUAL.

ACCESS HATCHES IN THE LEFT SIDEWALK AT PIERS 3 AND 6 ARE INCIDENTAL TO THIS ITEM, AS ARE THE 14" PLATES AT THE BRIDGE EXPANSION JOINT LOCATIONS.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE AND IN PLACE SHALL BE MADE AT THE CONTRACT PRICE BID, PER SQUARE FOOT, UNDER ITEM SPECIAL - STRUCTURE, MISC.: 1" GALVANIZED STEEL BAR GRATING.

ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2 1/4" THICK), AS PER PLAN

ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION (1" DEPTH), AS PER PLAN

ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN

ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED (1 1/4" THICK LMC), AS PER PLAN

THESE ITEMS SHALL BE PERFORMED AS PER SUPPLEMENTAL SPECIFICATION: 848 "BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE USING HYDRODEMOLITION" WITH THE FOLLOWING REVISIONS.

(SEE 848.18) THE REMOVAL OPERATIONS SHALL NOT BEGIN IF SUSTAINED RAINS (5 HOURS OR MORE WITH BREAKS BETWEEN SHOWERS LESS THAN 1 1/2 HOURS) ARE PREDICTED WITHIN 48 HOURS OF COMMENCEMENT.

(SEE 848.21) THE FINAL SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY.

(SEE 848.23) FULL DEPTH REPAIR IS NOT REQUIRED IF LESS THAN ONE HALF OF THE ORIGINAL DECK CONCRETE THICKNESS IS SOUND.

(SEE 848.29) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS AND UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL 705.07, TYPE 1 OR 1D, AS PER C.M.S. 511.17 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL, AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND. IN NO CASE SHALL MORE THAN 24 HOURS ELAPSE BETWEEN REMOVAL OF THE WET CURE AND APPLICATION OF THE MEMBRANE CURING COMPOUND.

(SEE 848.29) TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 450 PSI.

(SEE 848.30) THE OVERLAY SURFACE EVAPORATION RATE REQUIREMENTS ARE IN EFFECT FROM 11:30 AM TO 11:00 PM. THEY ARE NOT IN EFFECT FROM 11:00 PM TO 11:30 AM.

(SEE 848.31) FOR EACH PHASE, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 12 HOURS, 24 HOURS, 36 HOURS, AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS, AND THE MODULUS OF RUPTURE FOR EACH BEAM UNTIL THE MODULUS OF RUPTURE OF TWO TESTS IS NOT LESS THAN 650 PSI. (TRAFFIC IS ALLOWED ON THE OVERLAY AT 450 PSI.)

HYDRODEMOLITION SHALL REMOVE 2 1/4" FROM THE CONCRETE APPROACH SLABS AND AN ADDITIONAL 1" OF THE CONCRETE DECK AND ABUTMENT SLABS BELOW THE 1 1/4" LMC OVERLAY.

ALL OTHER REQUIREMENTS OF SS 848 REMAIN IN EFFECT.

770780N.DGN 11/28/07 RB,SCB,TWH,KH

GENERAL NOTES - 4
 BRIDGE NO. SUM-8-0195
 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET

SUM-8-1.95
PID 77078

RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902

DATE 11/28/07
 REVIEWED DLR
 DRAWN KH
 DESIGNED JDB
 CHECKED ALP

STRUCTURE FILE NUMBER 7700369

6 / 40

68
102

ESTIMATED QUANTITIES

CALCULATED JDB DATED 11/07
 CHECKED ALP DATED 11/07

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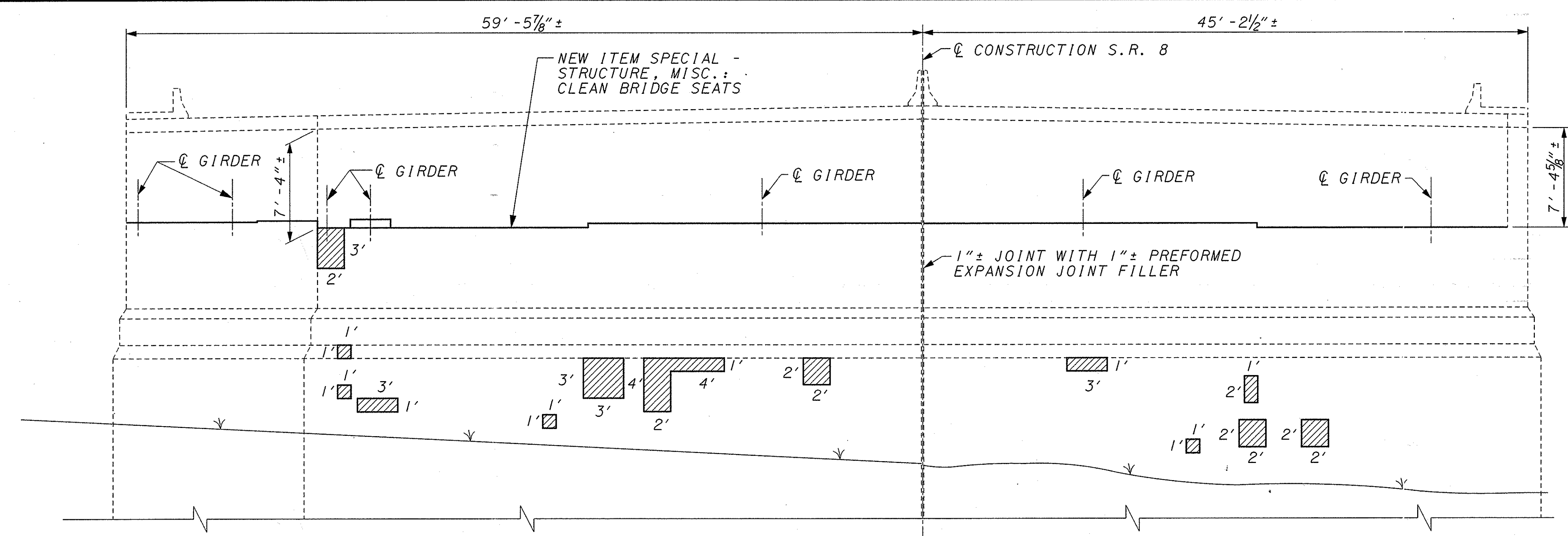
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ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER.	SUBSTR.	GENERAL	SEE SHEET
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	LUMP	LUMP		4 / 40
511	81100	113	FT.	CONCRETE, MISC.: RECONSTRUCT CONCRETE PARAPET	113			4 / 40
511	81300	1	EACH	CONCRETE, MISC.: 32" CONCRETE PARAPET TRANSITION			1	4 / 40
512	10100	12,301	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	3967	8201	133	
513	90000	500	POUND	STRUCTURAL STEEL, MISC.: REPLACE MISSING INSPECTION WALKWAY RAIL	200		300	4 / 40
513	90000	8070	POUND	STRUCTURAL STEEL, MISC.: TRUSS REINFORCEMENT	8070			5 / 40
513	95030	24	EACH	STRUCTURAL STEEL, MISC.: STRINGER COVER PLATE RETROFIT	24			5 / 40
516	01301	900	FT.	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN	900			5 / 40
516	31001	1632	FT.	JOINT SEALER, AS PER PLAN	1504	78	50	5 / 40
517	76302	3	EACH	RAILING, MISC.: REPAIR DETERIORATED RAILING SPLICES	3			5 / 40
518	51101	193	FT.	8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN		193		38 / 40
518	51300	5	EACH	8" DOWNSPOUT MODIFICATION		5		
518	62200	40	EACH	STRUCTURE DRAINAGE, MISC.: REPLACE SCUPPER GRATE	40			5 / 40
518	63300	LUMP		STRUCTURE DRAINAGE, MISC.: CLEAN STRUCTURE DRAINAGE SYSTEM			LUMP	5 / 40
* 519	11101	4550	SQ.FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN		4550		6 / 40
SPECIAL	53000200	LUMP		STRUCTURE, MISC.: CLEAN BRIDGE SEATS		LUMP		6 / 40
SPECIAL	53000200	LUMP		STRUCTURE, MISC.: FALL PREVENTION SYSTEM		LUMP		6 / 40
SPECIAL	53000600	2267	SQ.FT.	STRUCTURE, MISC.: 3/4" GALVANIZED STEEL BAR GRATING	2267			6 / 40
SPECIAL	53000600	9790	SQ.FT.	STRUCTURE, MISC.: 1" GALVANIZED STEEL BAR GRATING	9790			6 / 40
848	10001	14,467	SQ.YD.	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2 1/4" THICK), AS PER PLAN	13,214	756	497	6 / 40
848	20001	14,467	SQ.YD.	SURFACE PREPARATION USING HYDRODEMOLITION (1" DEPTH), AS PER PLAN	13,214	756	497	6 / 40
* 848	30001	45	CU.YD.	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	40	3	2	6 / 40
* 848	50000	104	SQ.YD.	HAND CHIPPING	94	6	4	
848	50100	LUMP		TEST SLAB	LUMP			
848	50321	13,970	SQ.YD.	EXISTING CONCRETE OVERLAY REMOVED (1 1/4" THICK LMC), AS PER PLAN	13,214	756		6 / 40

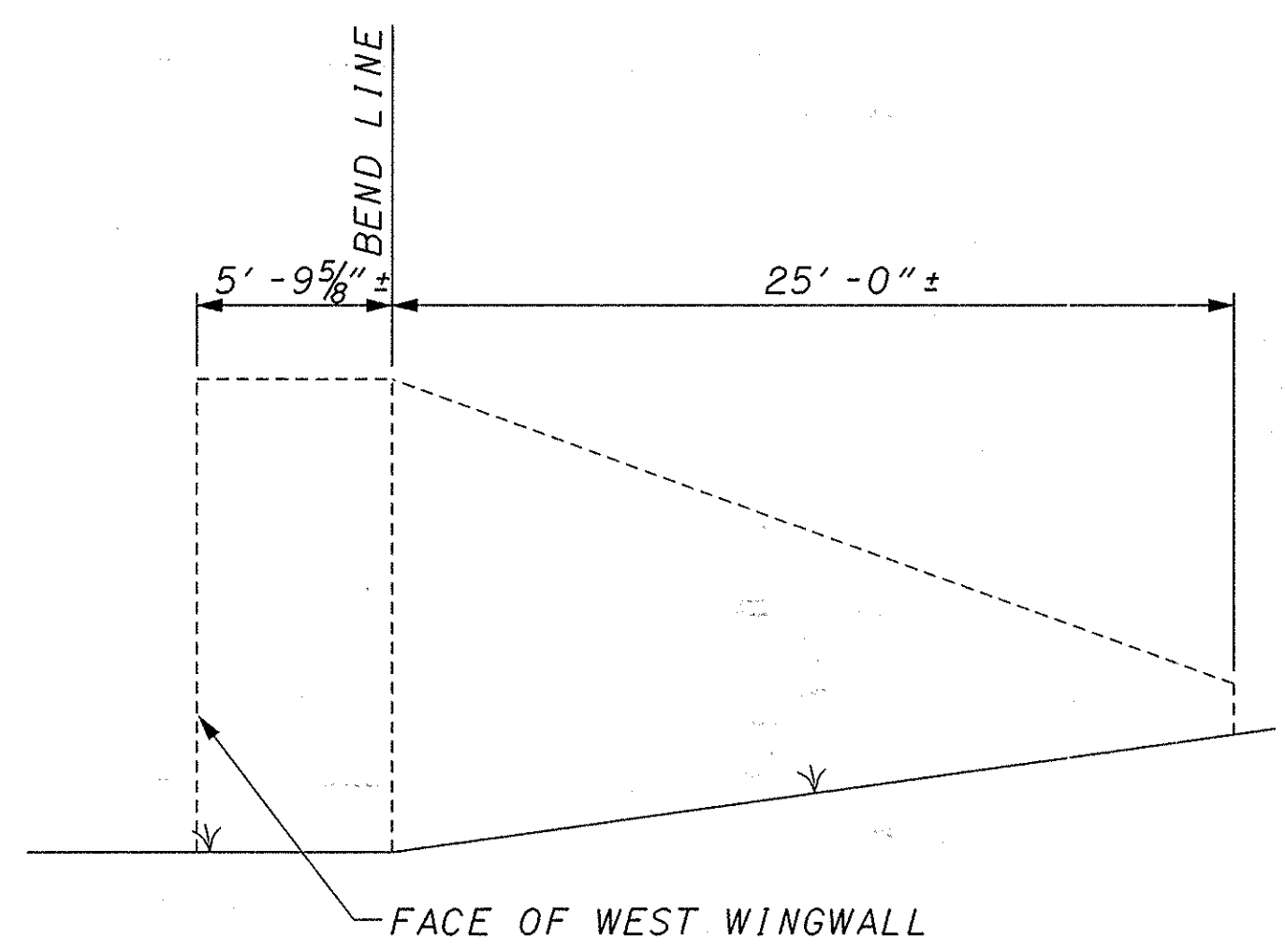
* INDICATES APPROXIMATE QUANTITIES ARE FOR BID ONLY. ACTUAL PAY QUANTITIES WILL BE BASED ON FIELD MEASUREMENTS.

77078EQ.DGN 11/28/07 JLS.KH

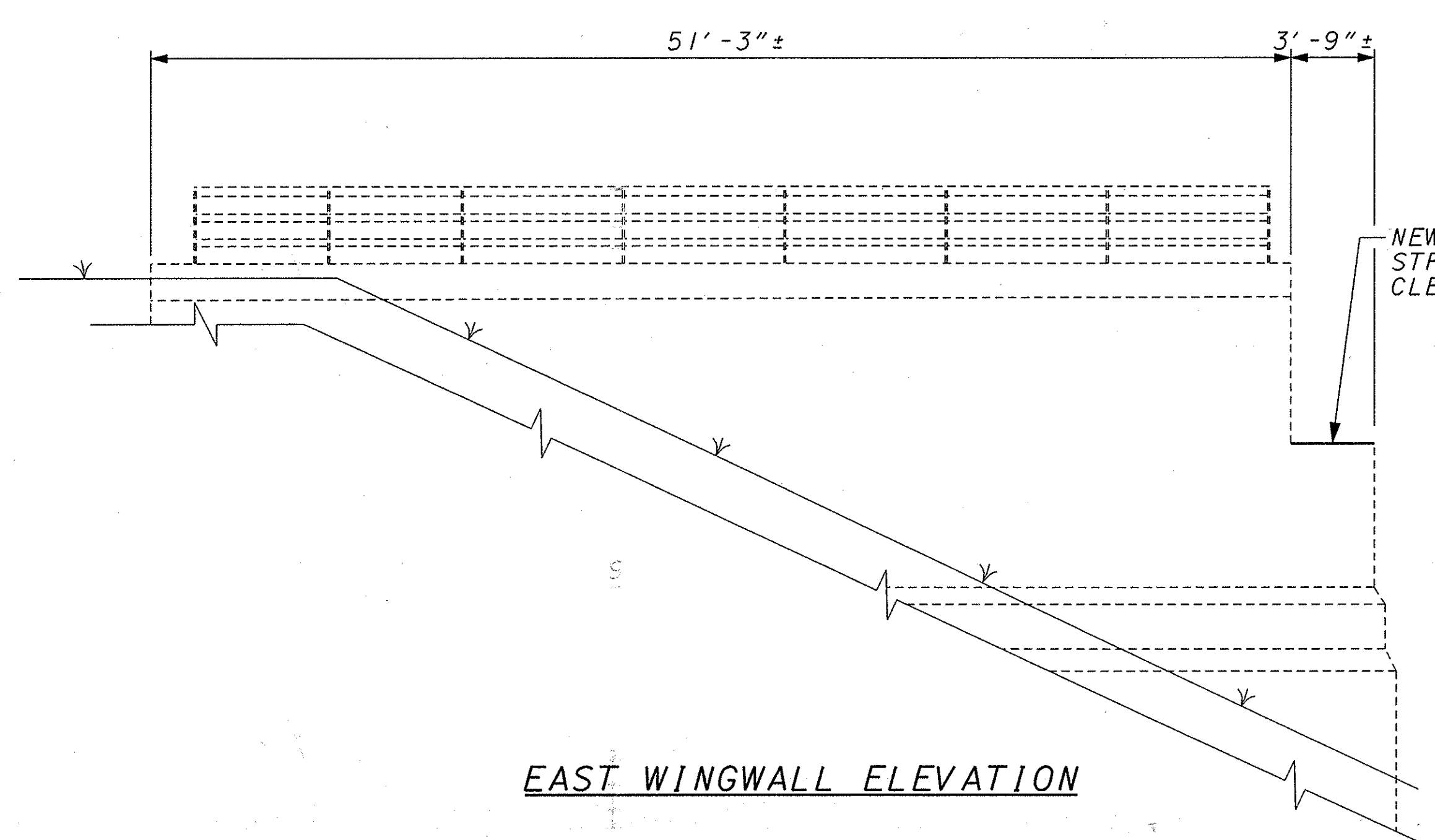
RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902
 DATE 11/28/07
 REVIEWED DLR 11/28/07
 STRUCTURE FILE NUMBER 7700369
 DRAWN KH
 DESIGNED JDB
 CHECKED ALP
ESTIMATED QUANTITIES
 BRIDGE NO. SUM-8-0195
 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET
SUM-8-1.95
PID 77078
 7 / 40
 69 / 102



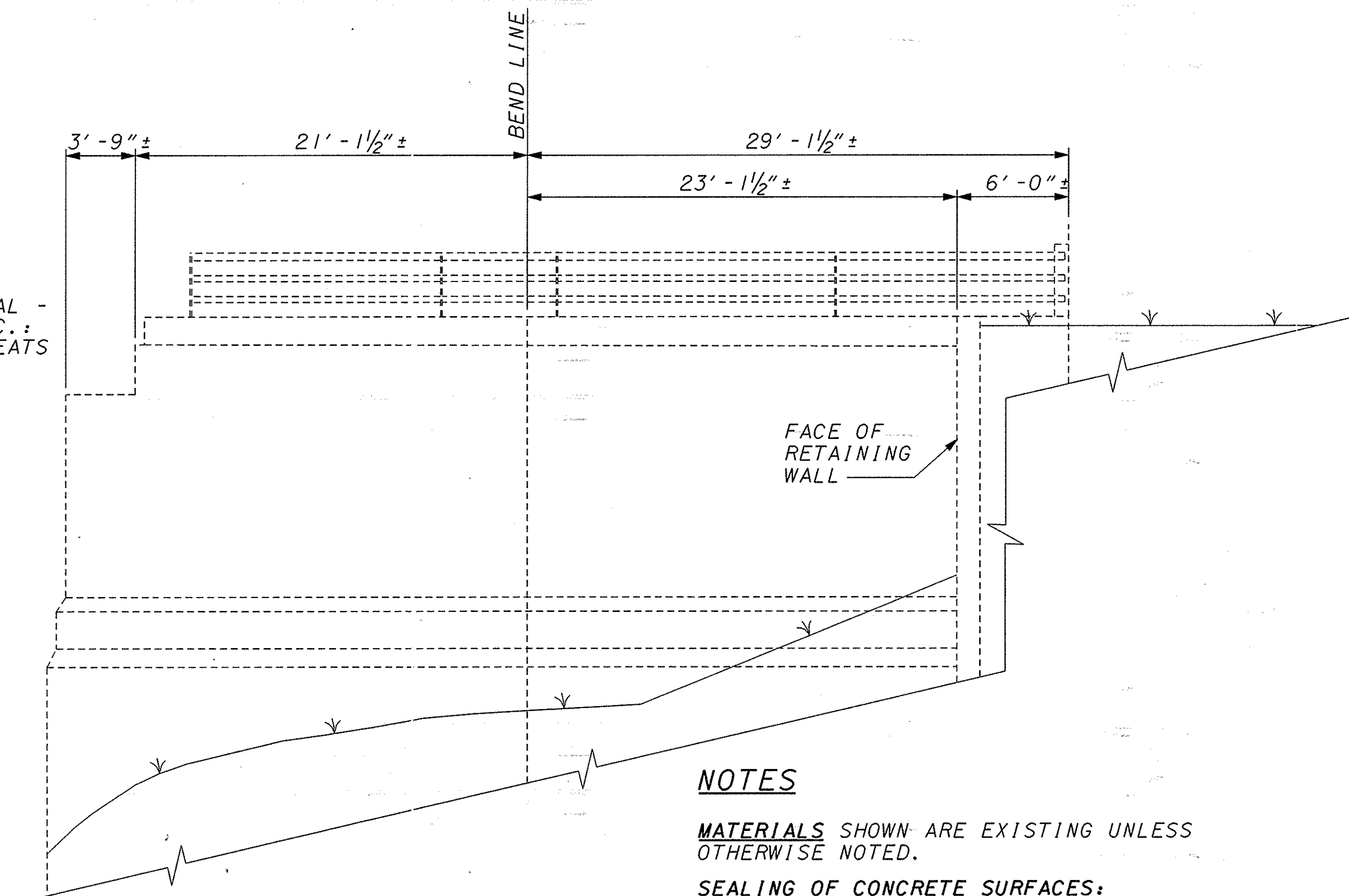
FRONT ELEVATION



RETAINING WALL ELEVATION



EAST WINGWALL ELEVATION



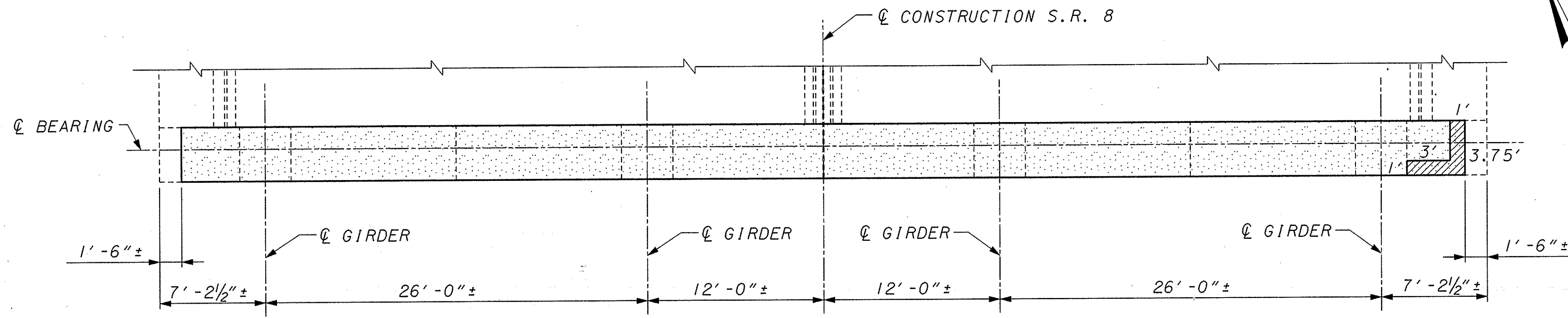
WEST WINGWALL ELEVATION
(TURNED BACK PORTION OF RETAINING WALL NOT SHOWN FOR CLARITY)

LEGEND
 INDICATES APPROXIMATE AREA TO BE REPAIRED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

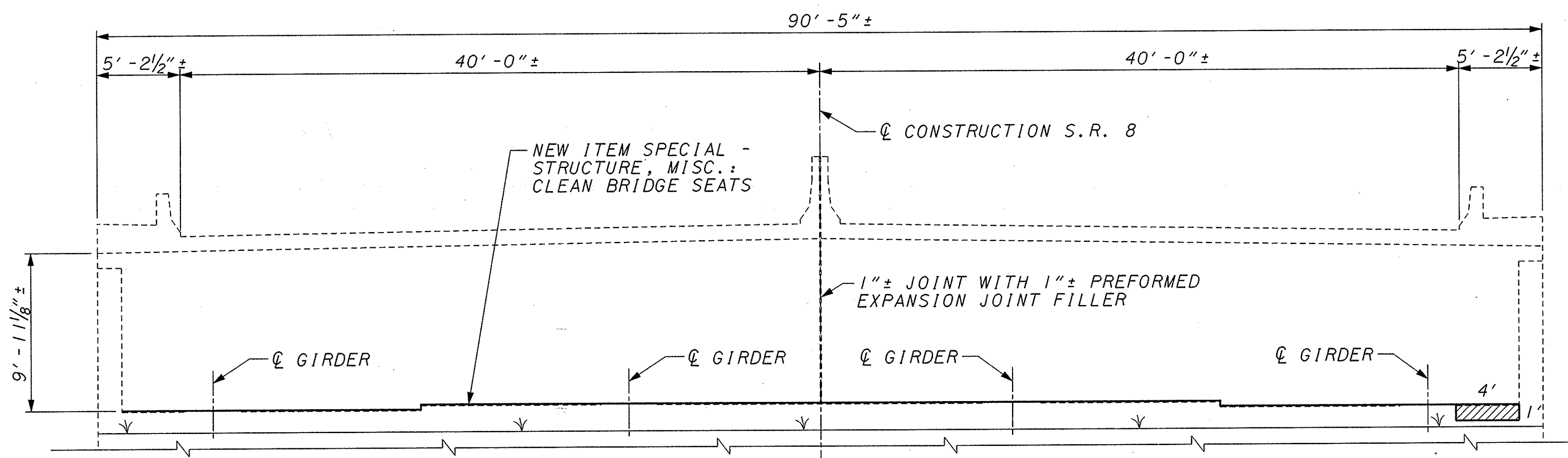
NOTES
 MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
SEALING OF CONCRETE SURFACES: SEE GENERAL NOTE ON SHEET [4/40] FOR DETAILS.
CLEAN BRIDGE SEATS NOTES: SEE SHEET [6/40].
 PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETEIORATION WAS PERFORMED IN AUGUST, 2005.
CONTINGENCY QUANTITIES SHALL NOT BE USED UNLESS AUTHORIZED AND MARKED BY THE ENGINEER.
ESTIMATED QUANTITIES HAVE BEEN INCREASED TO ALLOW FOR ADDITIONAL DETEIORATION.
EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.

SUMMARY OF SOUTH ABUTMENT PATCHING QUANTITIES				
LOCATION	UNIT	PATCHING QUANTITIES		REPAIR QUANTITY
		MEASURED QUANTITY	ESTIMATED QUANTITY	
FRONT ELEVATION	SQ FT	51	102	
EAST WINGWALL	SQ FT			
WEST WINGWALL	SQ FT			
RETAINING WALL	SQ FT			
CONTINGENCY	SQ FT		48	
SUB TOTAL	SQ FT		150	

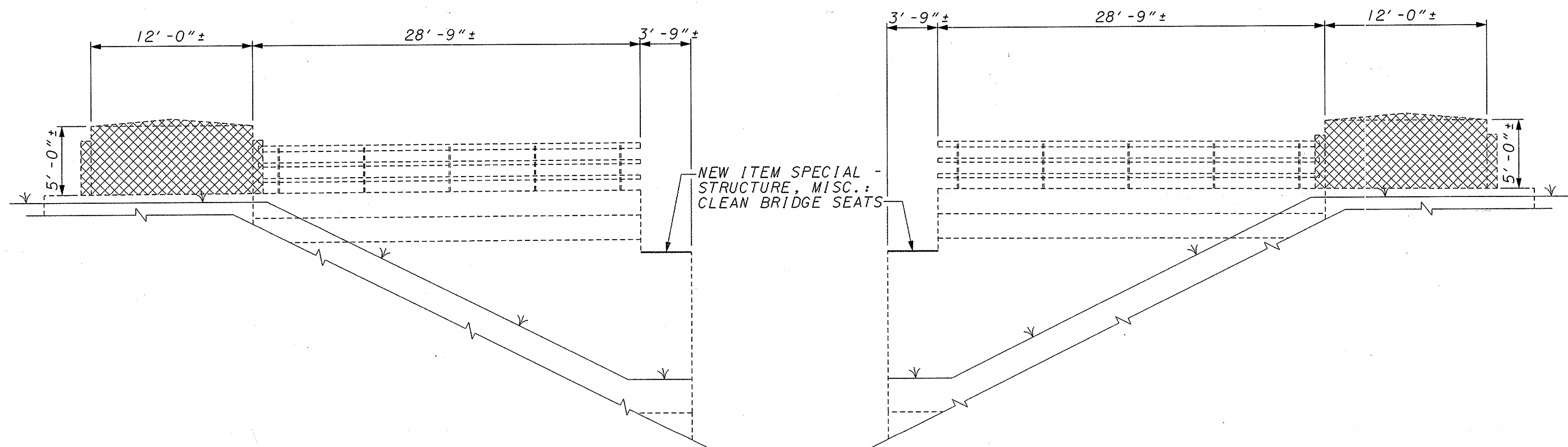
77078MDA.DGN 11/28/07 JLS:RB,TWH:KH



PLAN



FRONT ELEVATION



WEST WINGWALL ELEVATION

EAST WINGWALL ELEVATION

SUMMARY OF NORTH ABUTMENT PATCHING QUANTITIES

LOCATION	[Hatched Area]			
	UNIT	MEASURED QUANTITY	ESTIMATED QUANTITY	REPAIR QUANTITY
FRONT ELEVATION	SQ FT	4	8	
PLAN	SQ FT	7	14	
EAST WINGWALL	SQ FT			
WEST WINGWALL	SQ FT			
CONTINGENCY	SQ FT		8	
SUB TOTAL	SQ FT		30	

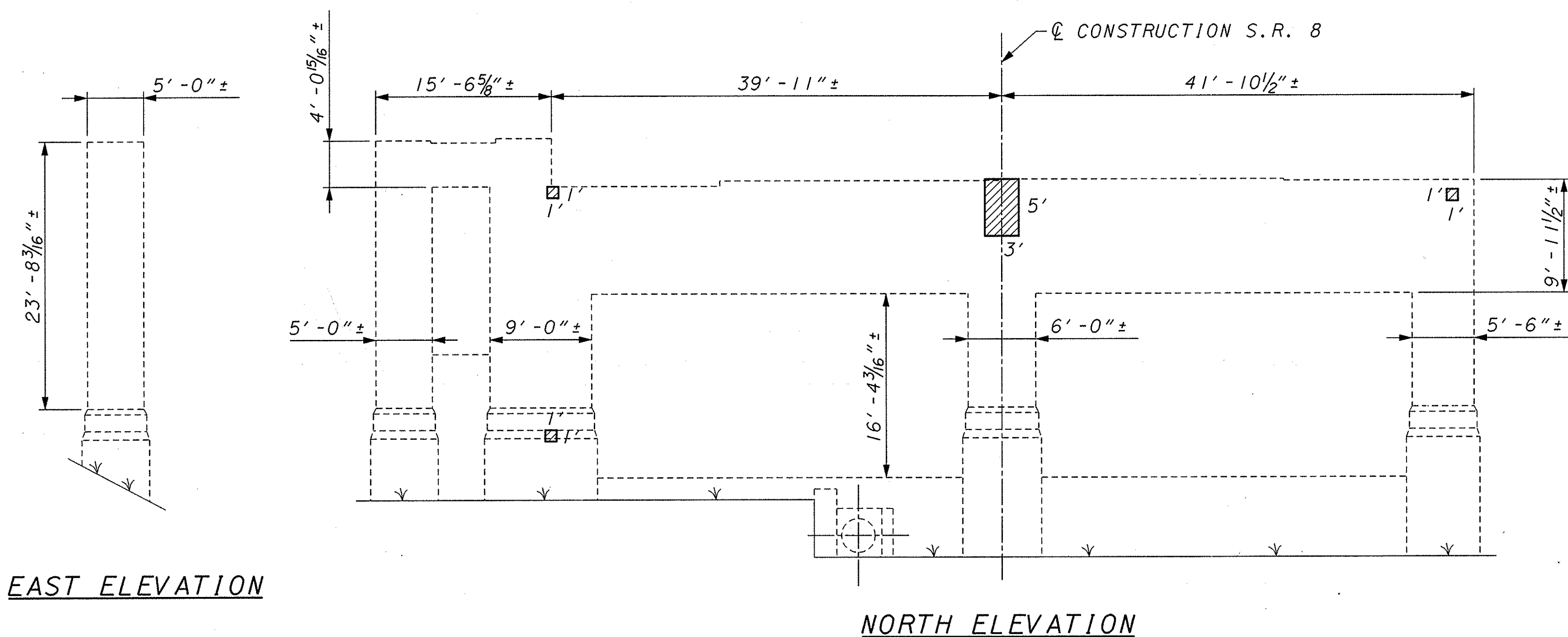
LEGEND

- [Hatched Area] INDICATES APPROXIMATE AREA TO BE REPAIRED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- [Dotted Area] INDICATES NEW ITEM SPECIAL - STRUCTURE, MISC.: CLEAN BRIDGE SEATS
- [Cross-hatched Area] INDICATES STONE FACING TO BE LEFT UNSEALED

NOTES

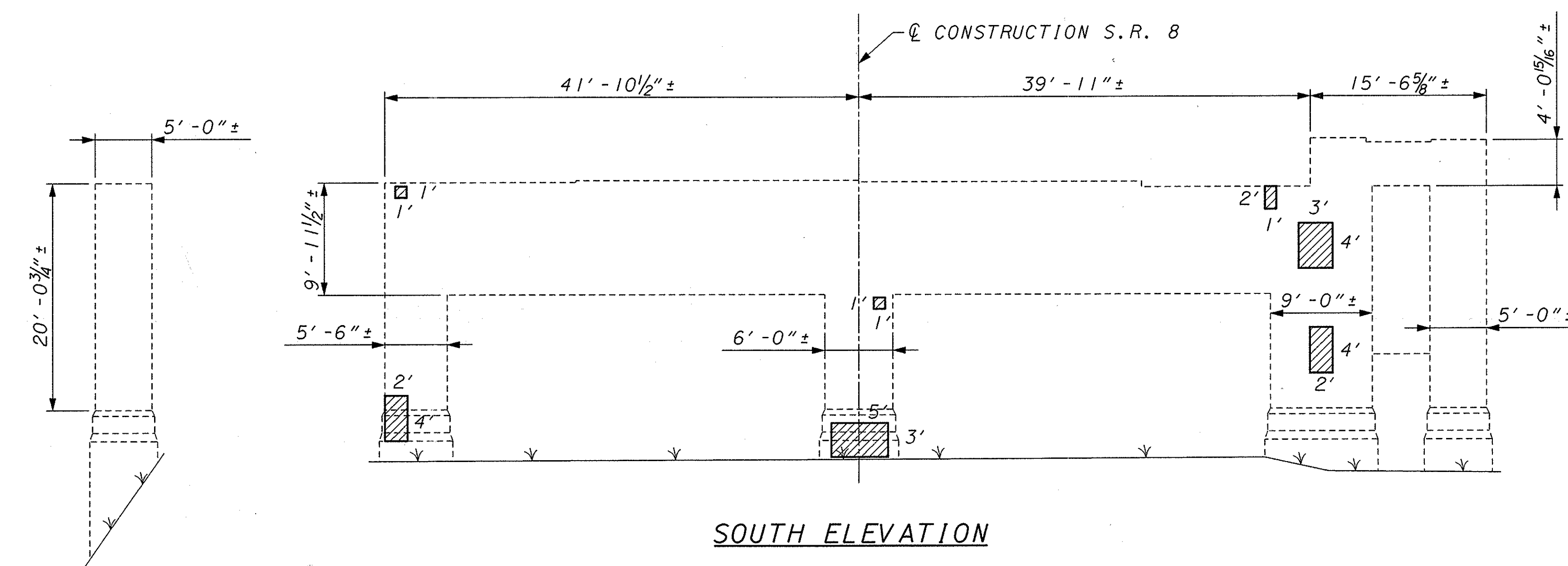
MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
 SEALING OF CONCRETE SURFACES: SEE GENERAL NOTE ON SHEET [4/40] FOR DETAILS.
 CLEAN BRIDGE SEATS NOTES: SEE SHEET [6/40].
 ADDITIONAL NOTES: SEE SHEET [8/40].

77078MDB.DGN 11/26/07 JLS.RB.KH



EAST ELEVATION

NORTH ELEVATION



WEST ELEVATION

SOUTH ELEVATION

SUMMARY OF PIER 1 PATCHING QUANTITIES				
LOCATION				
	UNIT	MEASURED QUANTITY	ESTIMATED QUANTITY	REPAIR QUANTITY
NORTH ELEVATION	SQ FT	18	36	
SOUTH ELEVATION	SQ FT	47	94	
CONTINGENCY	SQ FT		40	
SUB TOTAL	SQ FT		170	

LEGEND

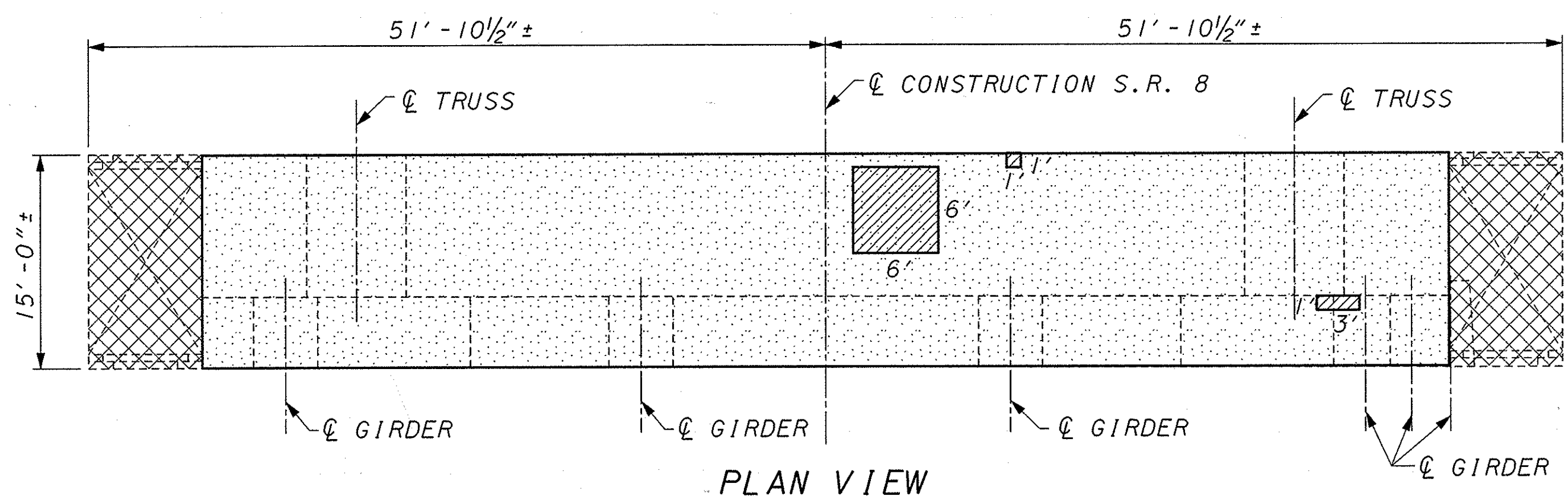
INDICATES APPROXIMATE AREA TO BE REPAIRED PER ITEM 519- PATCHING CONCRETE STRUCTURE, AS PER PLAN

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

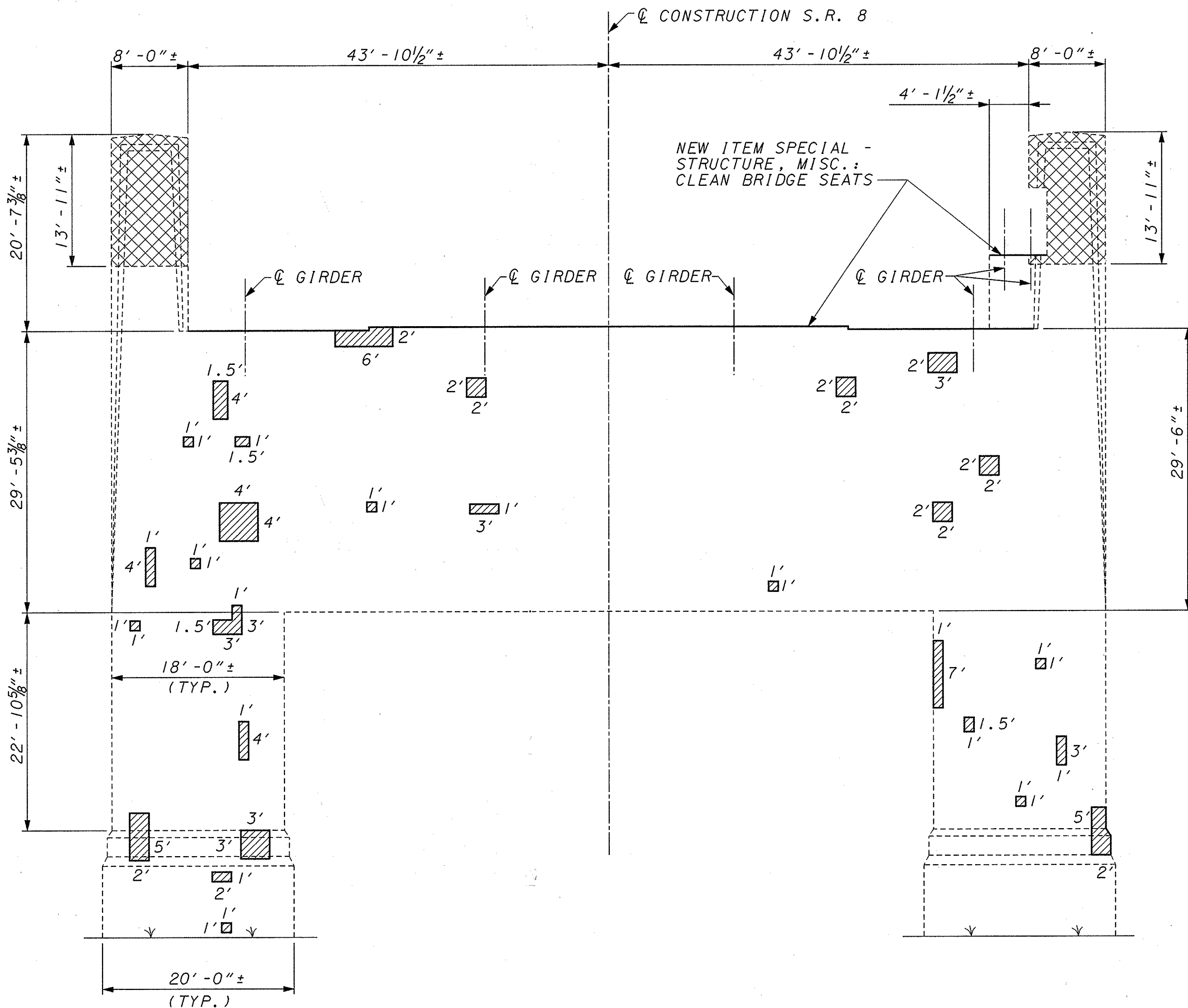
SEALING OF CONCRETE SURFACES:
SEE GENERAL NOTE ON SHEET 4/40 FOR DETAILS.

ADDITIONAL NOTES: SEE SHEET 8/40.

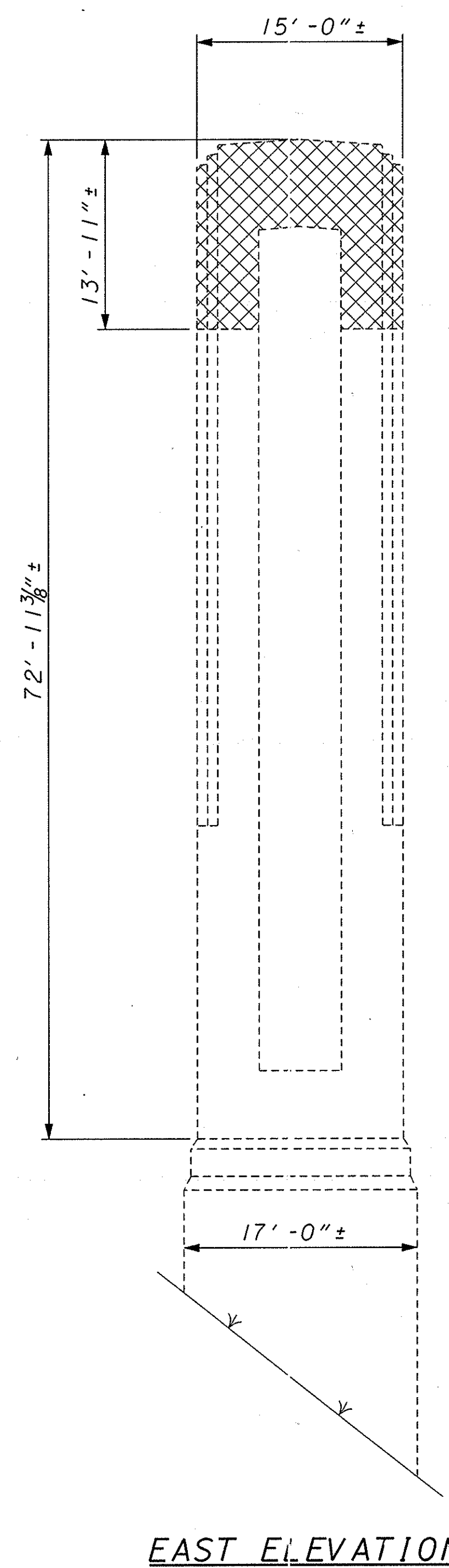


PLAN VIEW

SUMMARY OF PIER 3 PATCHING QUANTITIES				
LOCATION	UNIT			REPAIR QUANTITY
		MEASURED QUANTITY	ESTIMATED QUANTITY	
SOUTH ELEVATION	SQ FT	125	250	
NORTH ELEVATION	SQ FT	136	272	
INSIDE FACE OF COLUMN	SQ FT	6.5	13	
BOTTOM OF CAP	SQ FT	18	36	
PLAN VIEW	SQ FT	40	80	
CONTINGENCY	SQ FT		149	
SUB TOTAL	SQ FT		800	



SOUTH ELEVATION



EAST ELEVATION

LEGEND

- INDICATES APPROXIMATE AREA TO BE REPAIRED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- INDICATES NEW ITEM SPECIAL - STRUCTURE, MISC.: CLEAN BRIDGE SEATS
- INDICATES STONE FACING TO BE LEFT UNSEALED

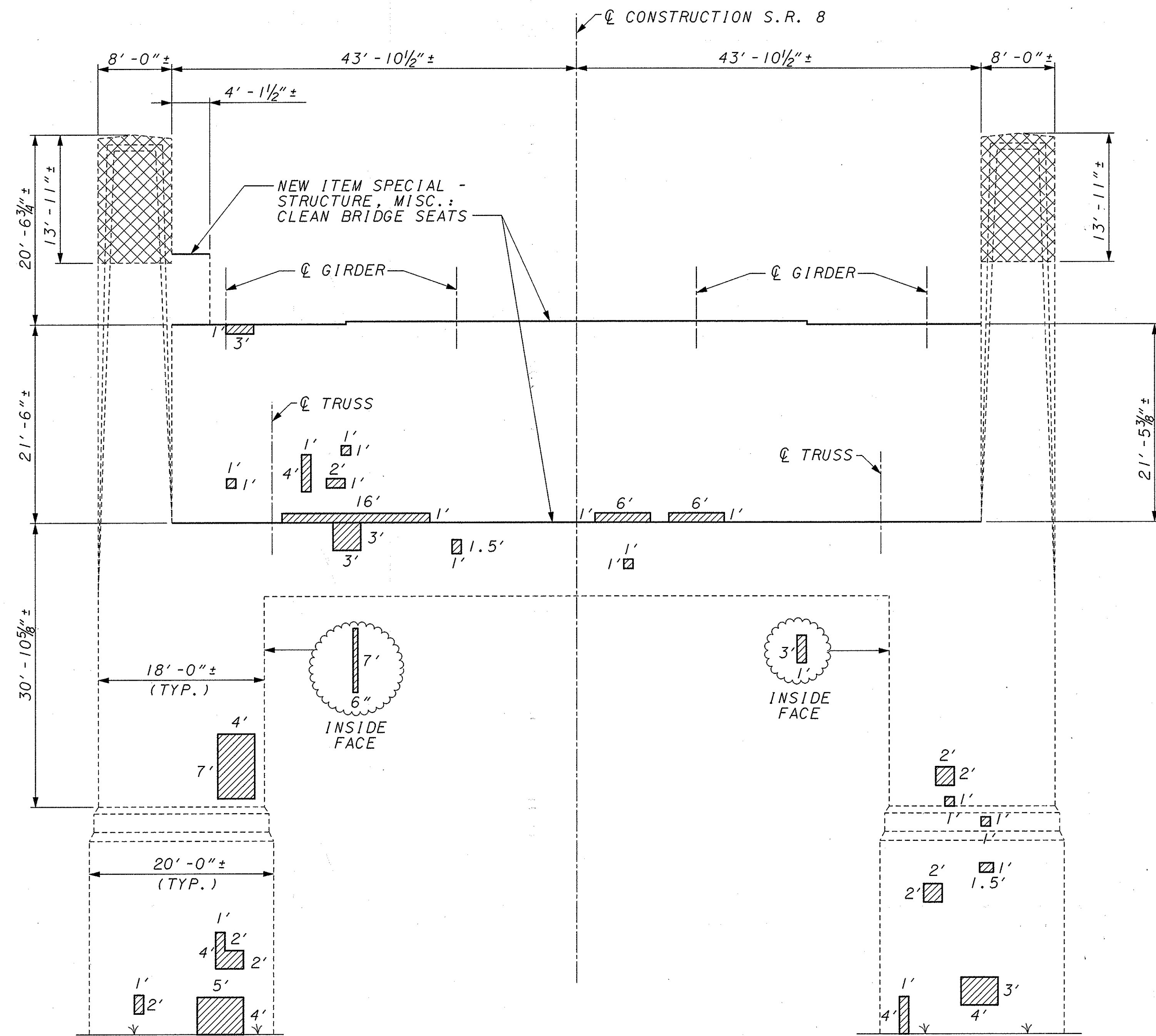
NOTES

- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SEALING OF CONCRETE SURFACES: SEE GENERAL NOTE ON SHEET [4/40] FOR DETAILS.
- CLEAN BRIDGE SEATS NOTES: SEE SHEET [6/40].
- ADDITIONAL NOTES: SEE SHEET [8/40].

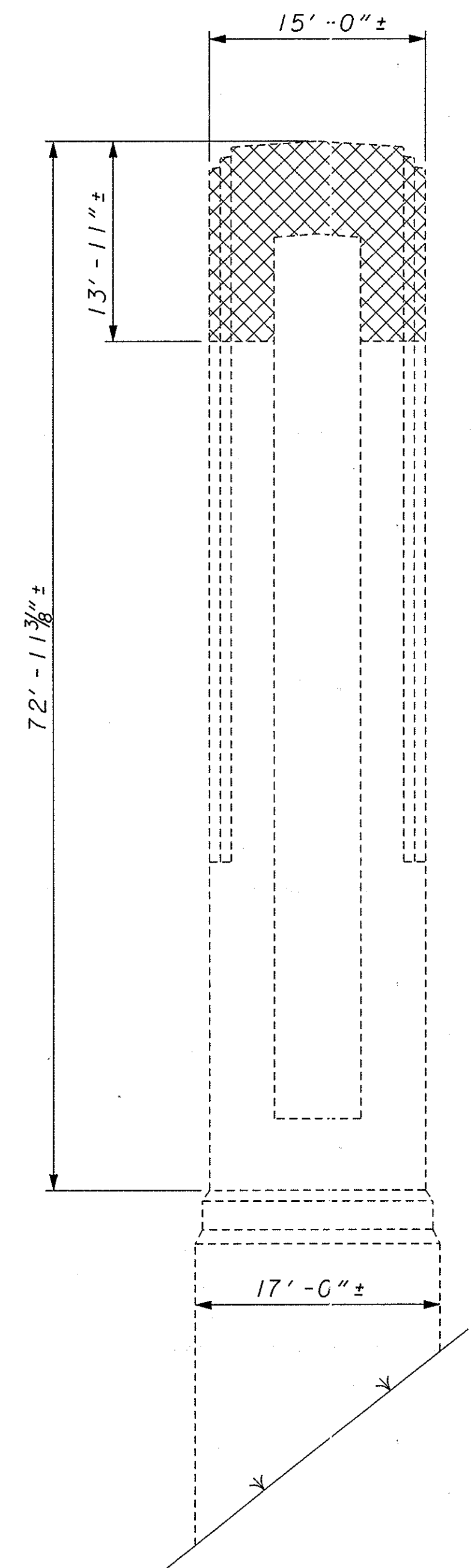
77078MDI.DGN 11/27/07 JLS, RB, TWH, KH

RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902
 DATE 11/28/07
 REVIEWED DLR
 DRAWN KH
 DESIGNED JDB
 CHECKED ALP
 STRUCTURE FILE NUMBER 7700369
PIER 3 - REPAIR DETAILS - 1
 BRIDGE NO. SUM-8-0195
 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET
SUM-8-1.95
PID 77078
 12/40
 74
 102

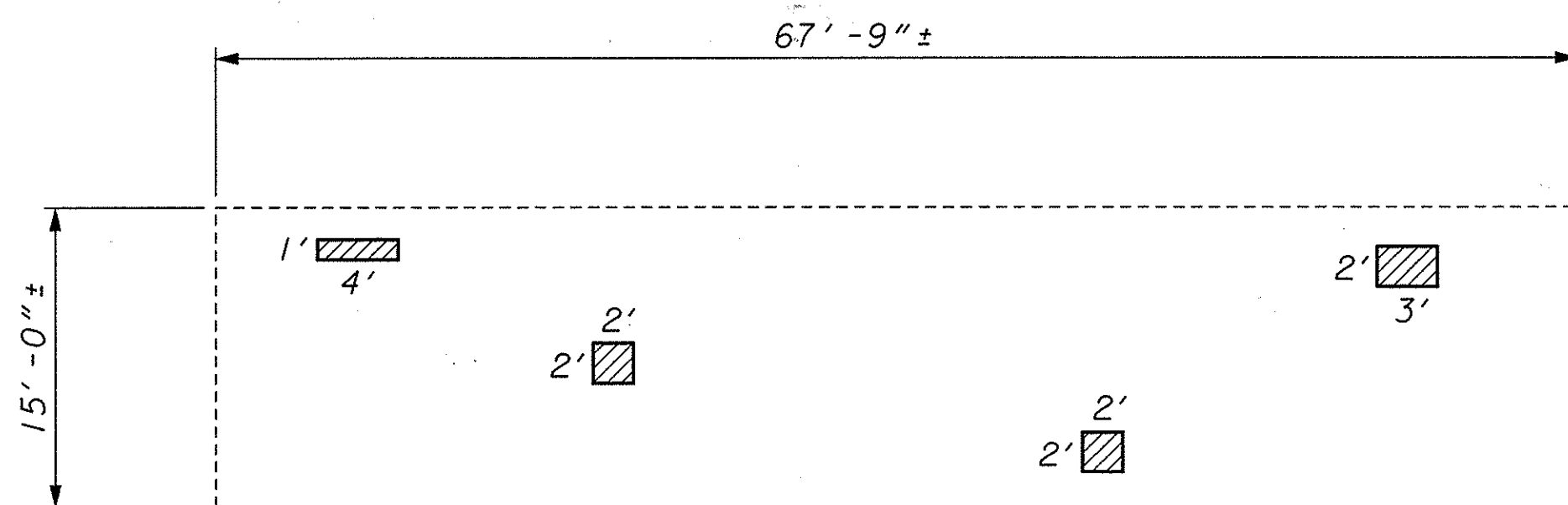
77078MD1.DGN 11/26/07 JLS, RB, TWH, KH



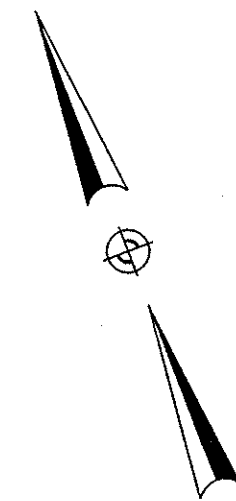
NORTH ELEVATION



WEST ELEVATION



BOTTOM OF CAP

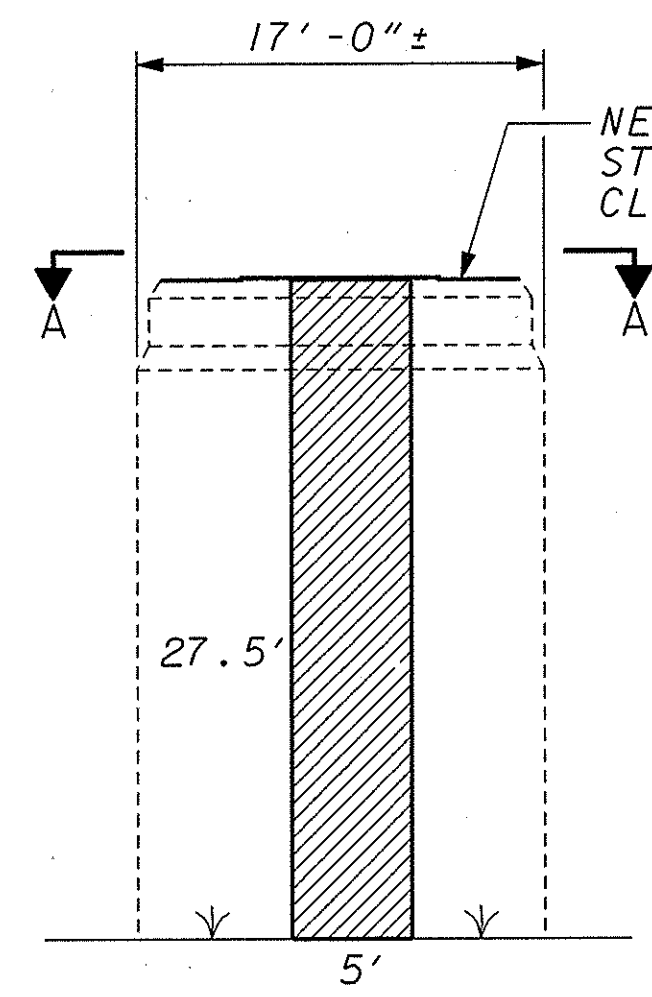


LEGEND

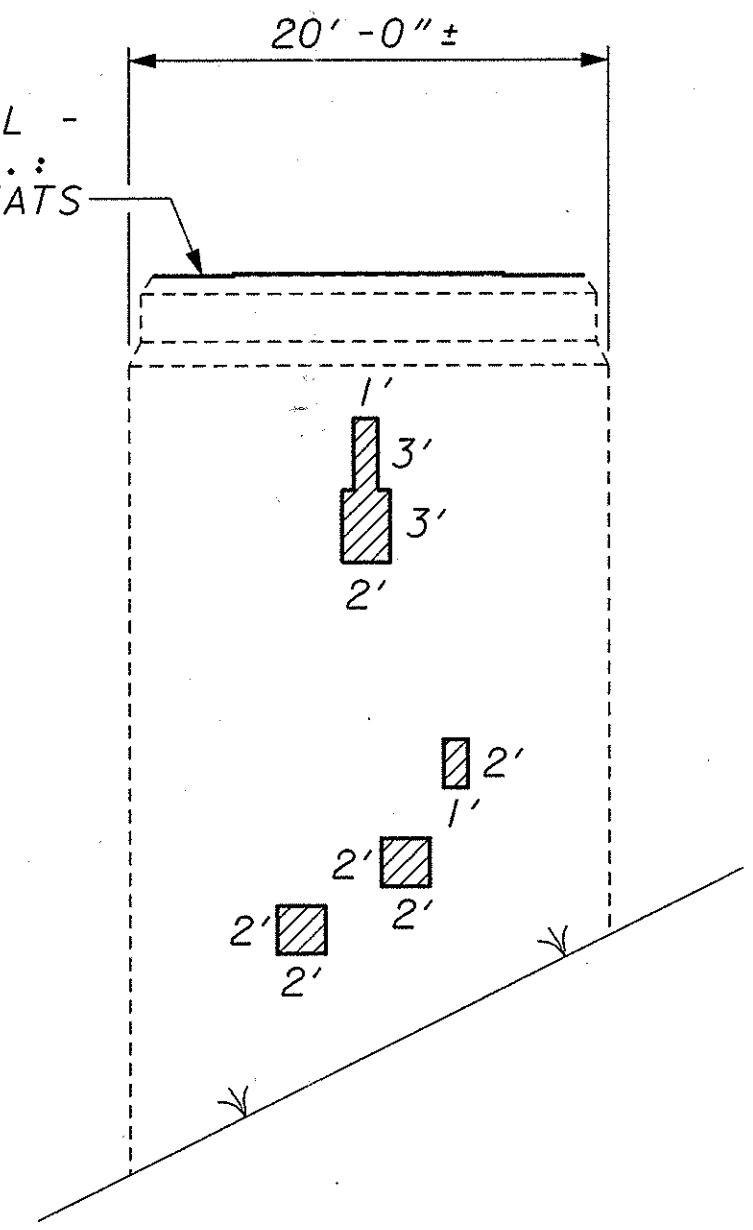
- INDICATES APPROXIMATE AREA TO BE REPAIRED PER ITEM 519- PATCHING CONCRETE STRUCTURE, AS PER PLAN
- INDICATES STONE FACING TO BE LEFT UNSEALED

NOTES

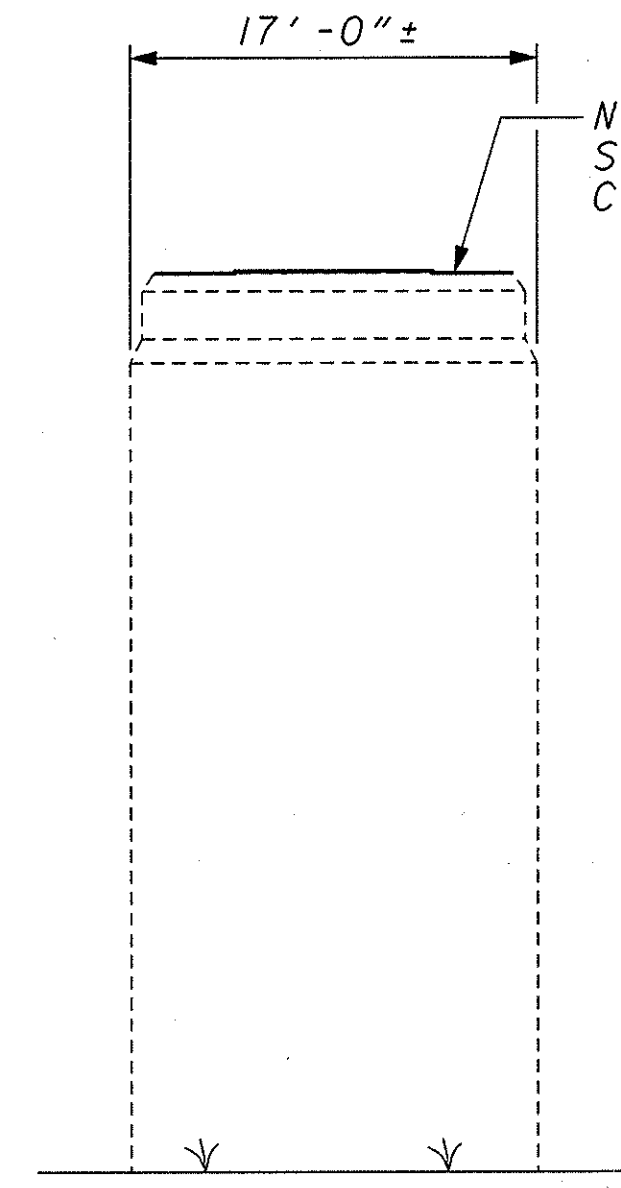
- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SEALING OF CONCRETE SURFACES: SEE GENERAL NOTE ON SHEET 4/40 FOR DETAILS.
- CLEAN BRIDGE SEATS NOTES: SEE SHEET 6/40.
- ADDITIONAL NOTES: SEE SHEET 8/40.
- SUMMARY OF PIER 3 PATCHING QUANTITIES: SEE SHEET 12/40.



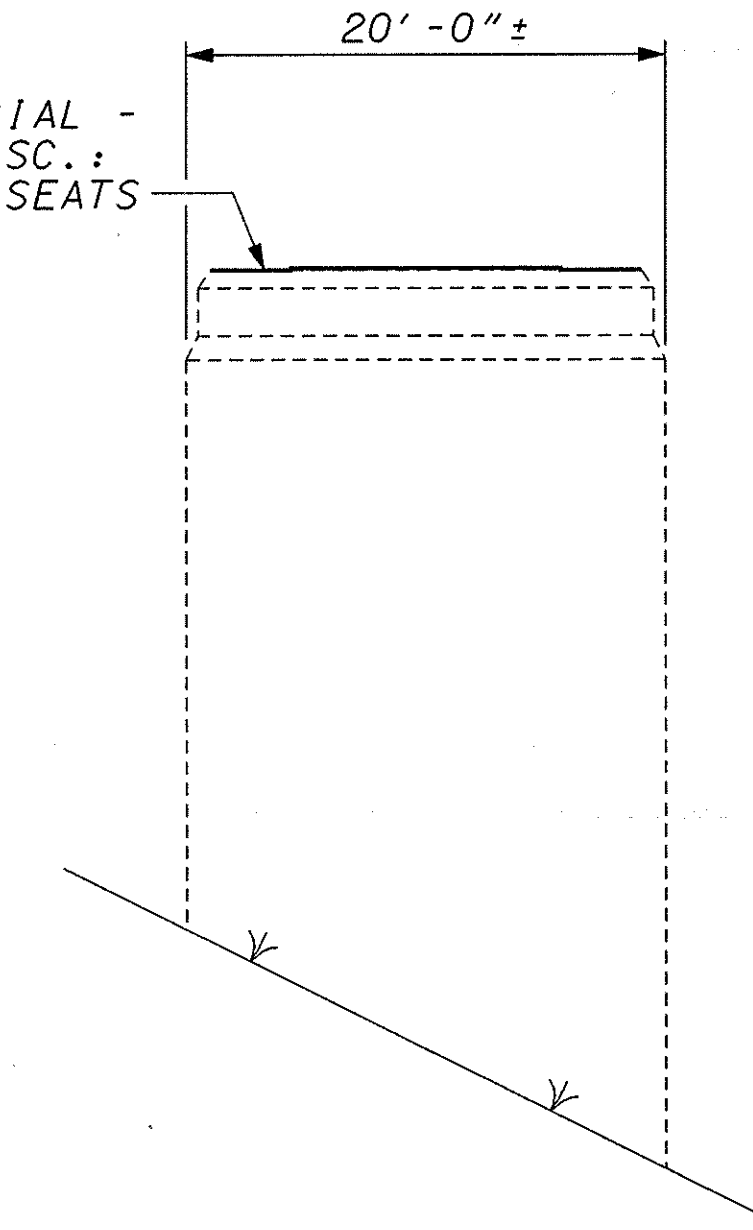
SOUTH FACE



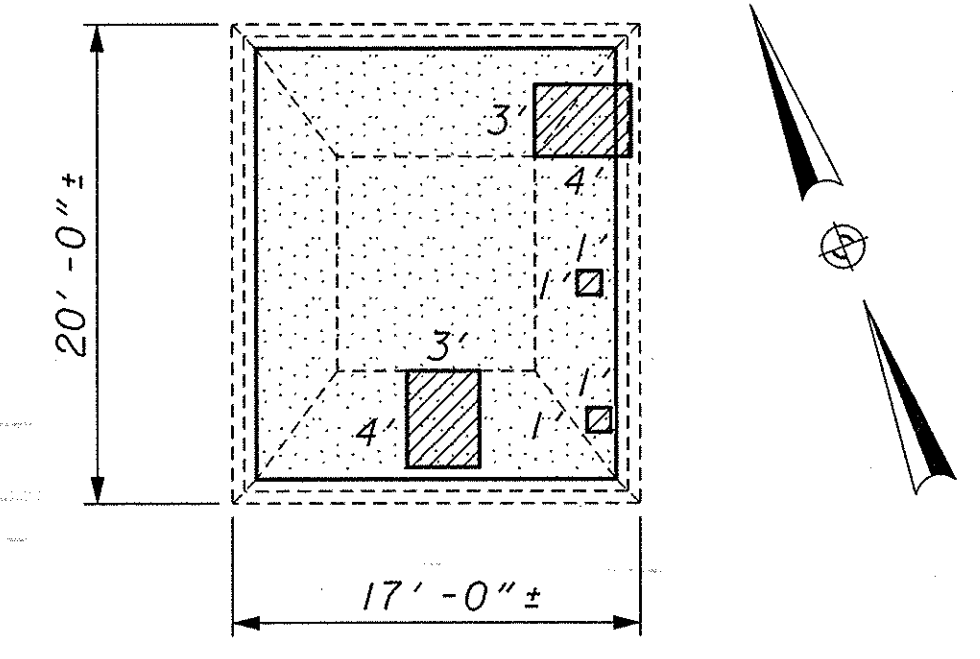
WEST FACE



NORTH FACE

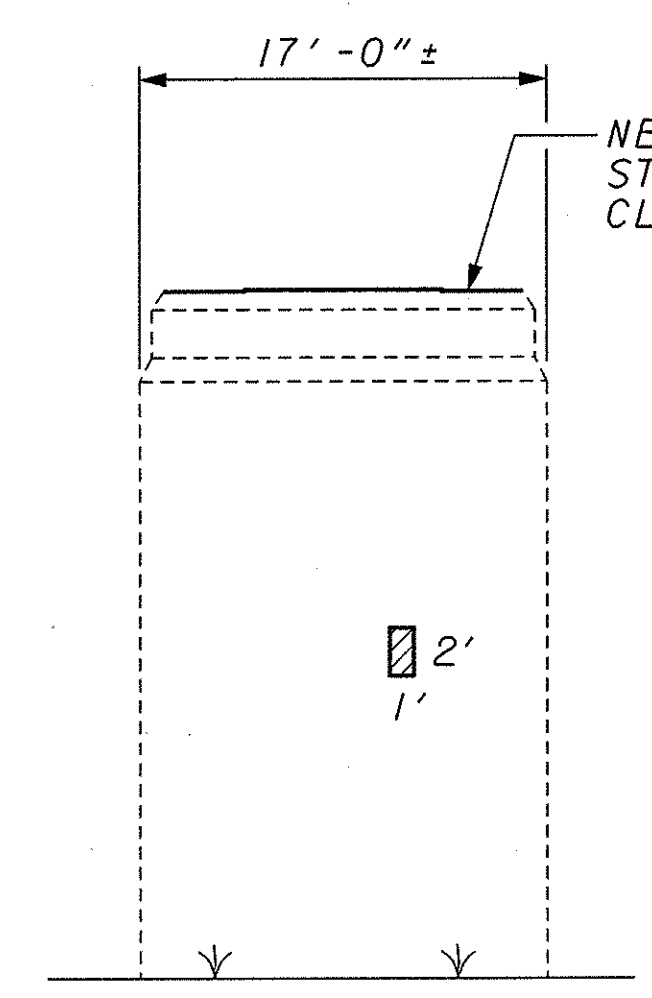


EAST FACE

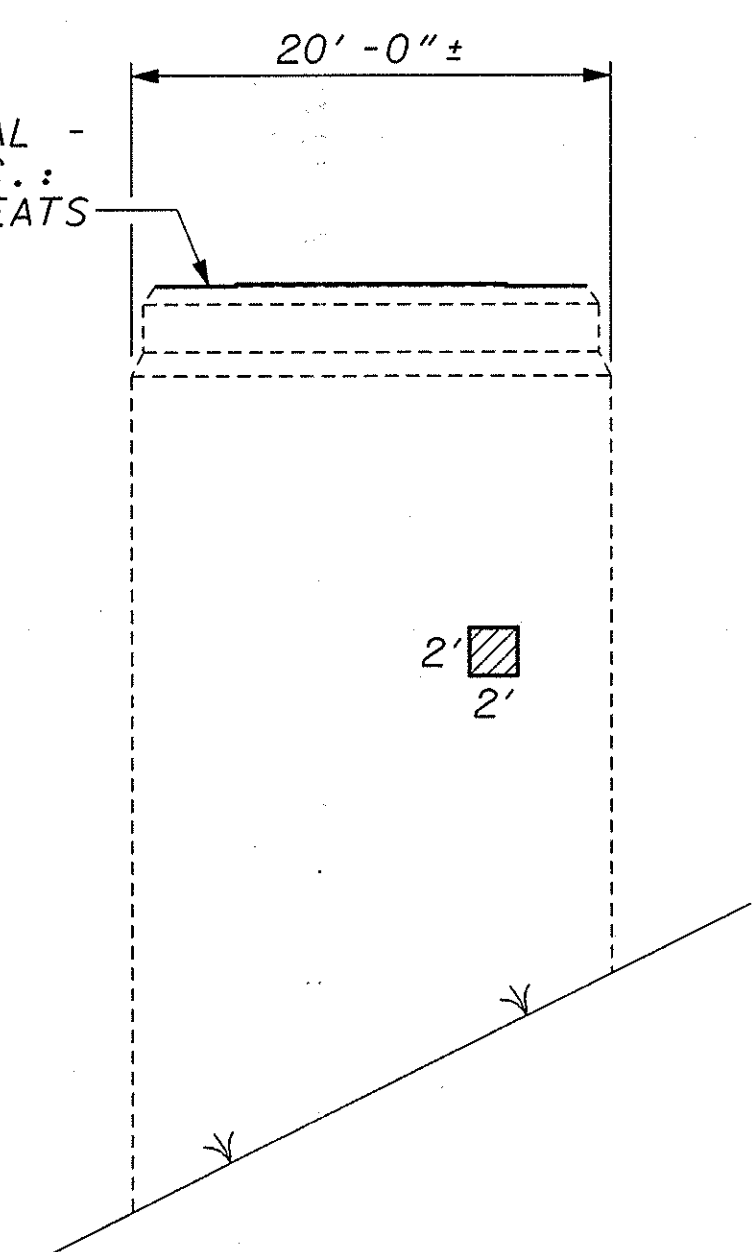


VIEW A-A

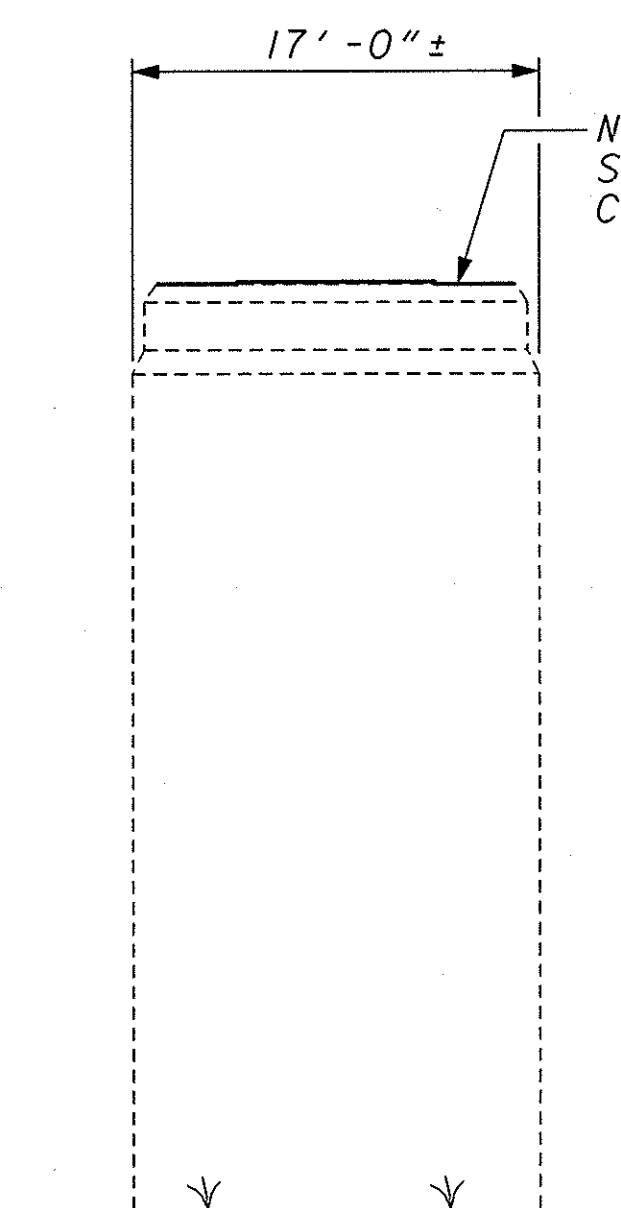
WEST PEDESTAL



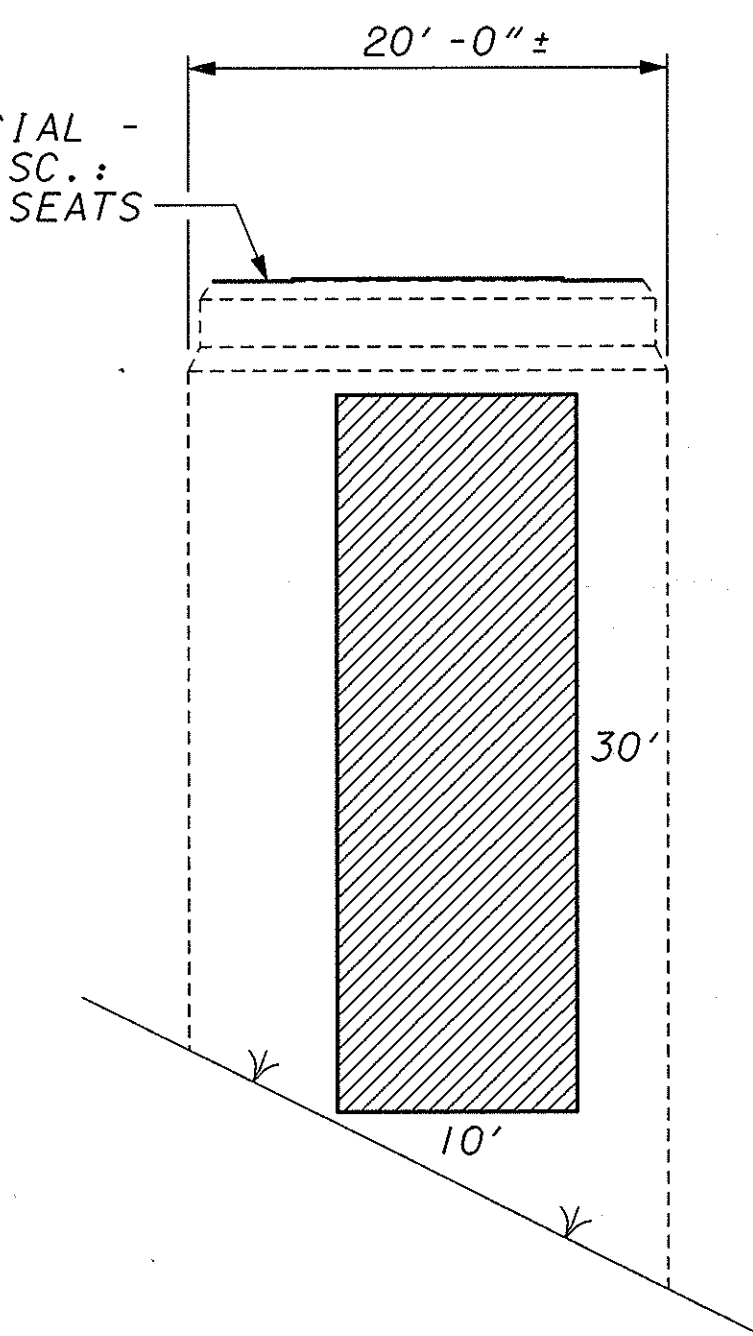
SOUTH FACE



WEST FACE



NORTH FACE



EAST FACE

EAST PEDESTAL

SUMMARY OF PIER 4 PATCHING QUANTITIES				
LOCATION	[Hatched Pattern]			
	UNIT	MEASURED QUANTITY	ESTIMATED QUANTITY	REPAIR QUANTITY
WEST PEDESTAL	SQ FT	182.5	365	
EAST PEDESTAL	SQ FT	306	612	
CONTINGENCY	SQ FT		223	
SUB TOTAL	SQ FT		1200	

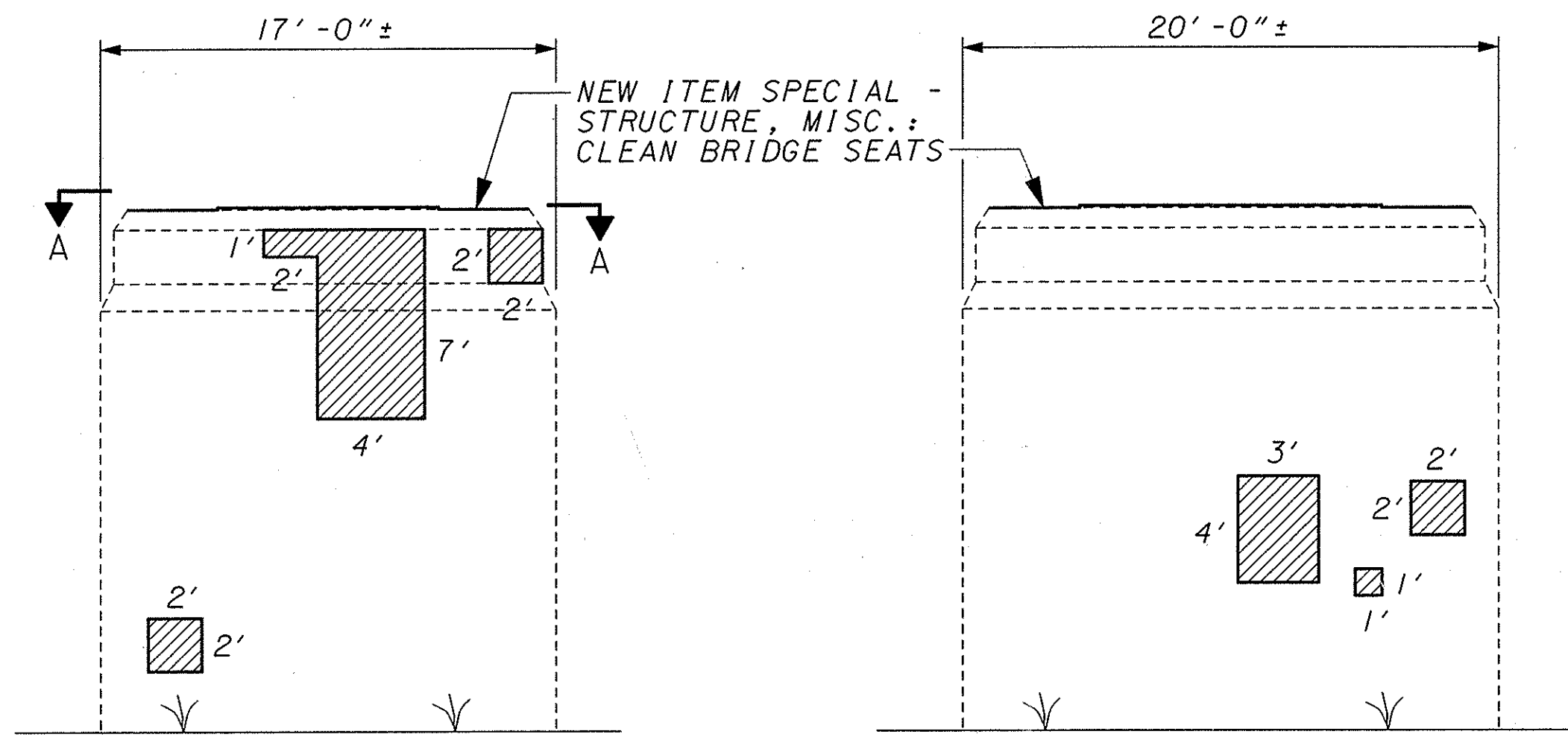
LEGEND

- [Hatched Pattern] INDICATES APPROXIMATE AREA TO BE REPAIRED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- [Dotted Pattern] INDICATES NEW ITEM SPECIAL - STRUCTURE, MISC.: CLEAN BRIDGE SEATS

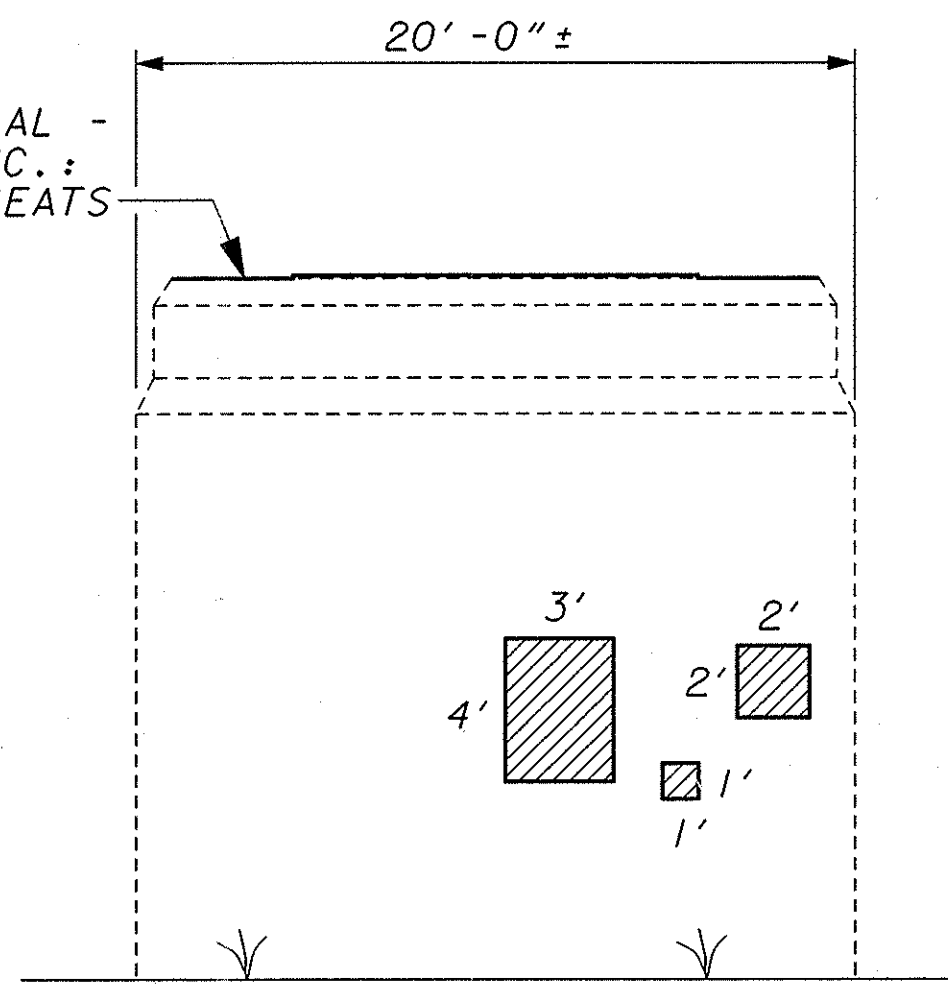
NOTES

- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SEALING OF CONCRETE SURFACES: SEE GENERAL NOTE ON SHEET [4/40] FOR DETAILS.
- CLEAN BRIDGE SEATS NOTES: SEE SHEET [6/40].
- ADDITIONAL NOTES: SEE SHEET [8/40].

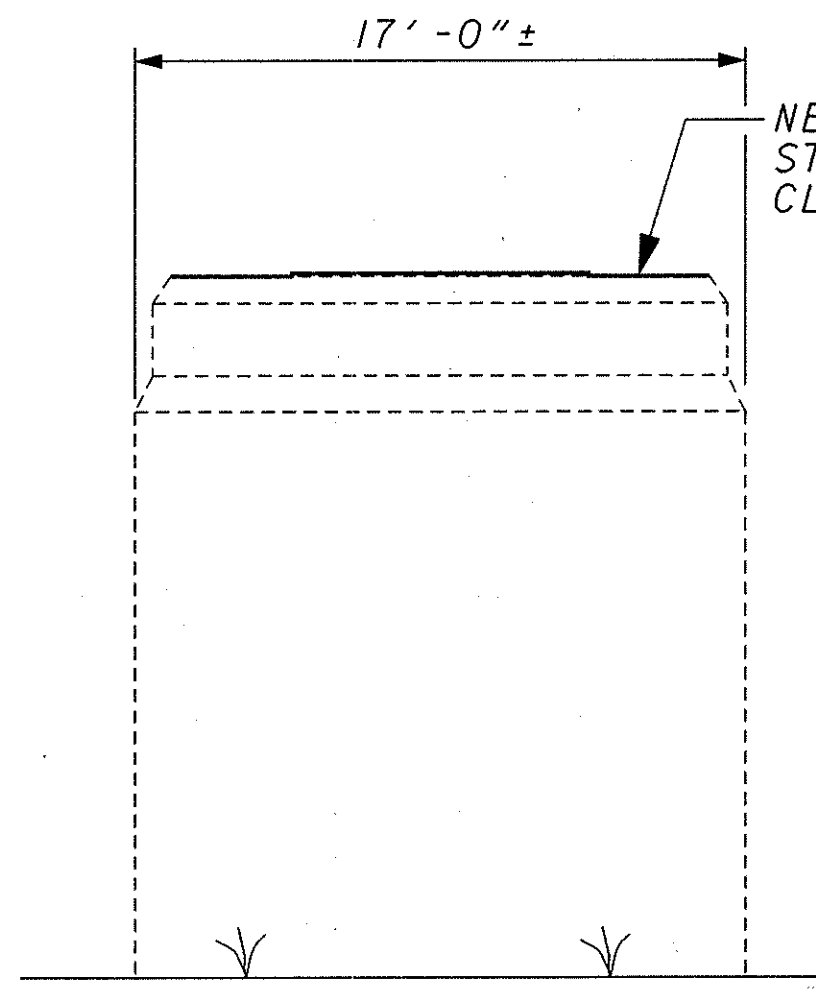
77078MDE.DGN 11/26/07 JLS, RB, KH



SOUTH FACE

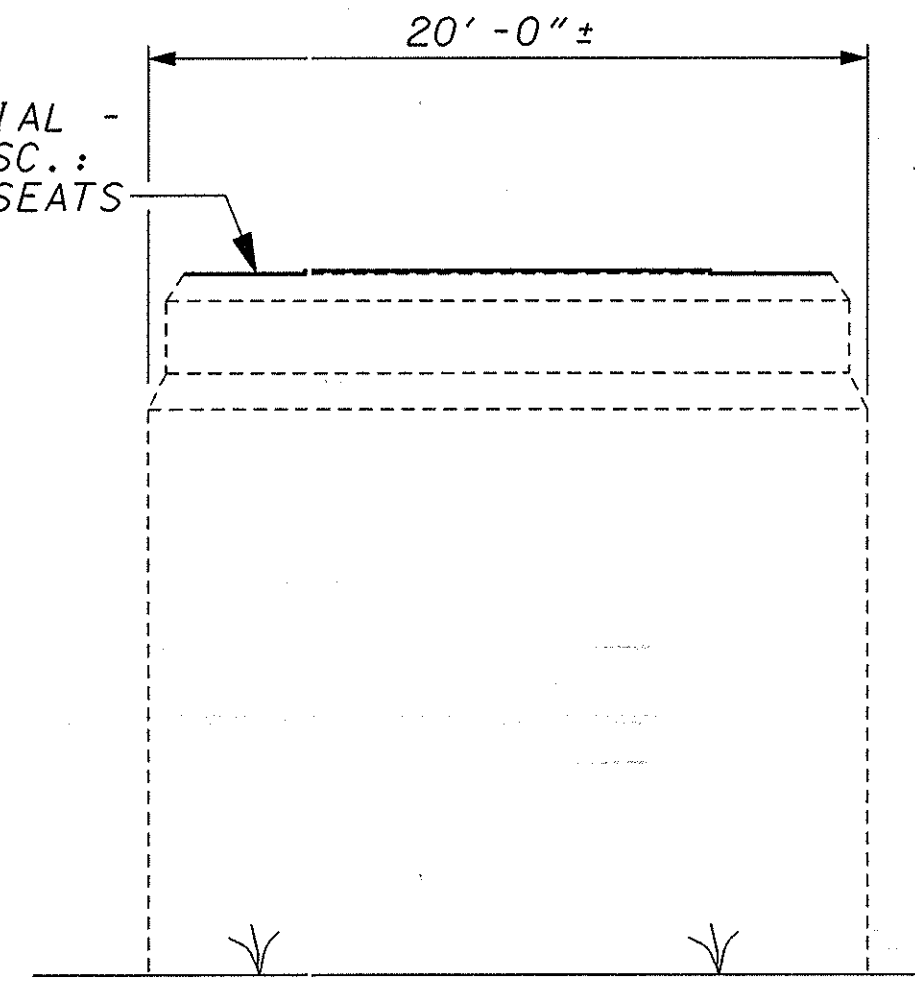


WEST FACE

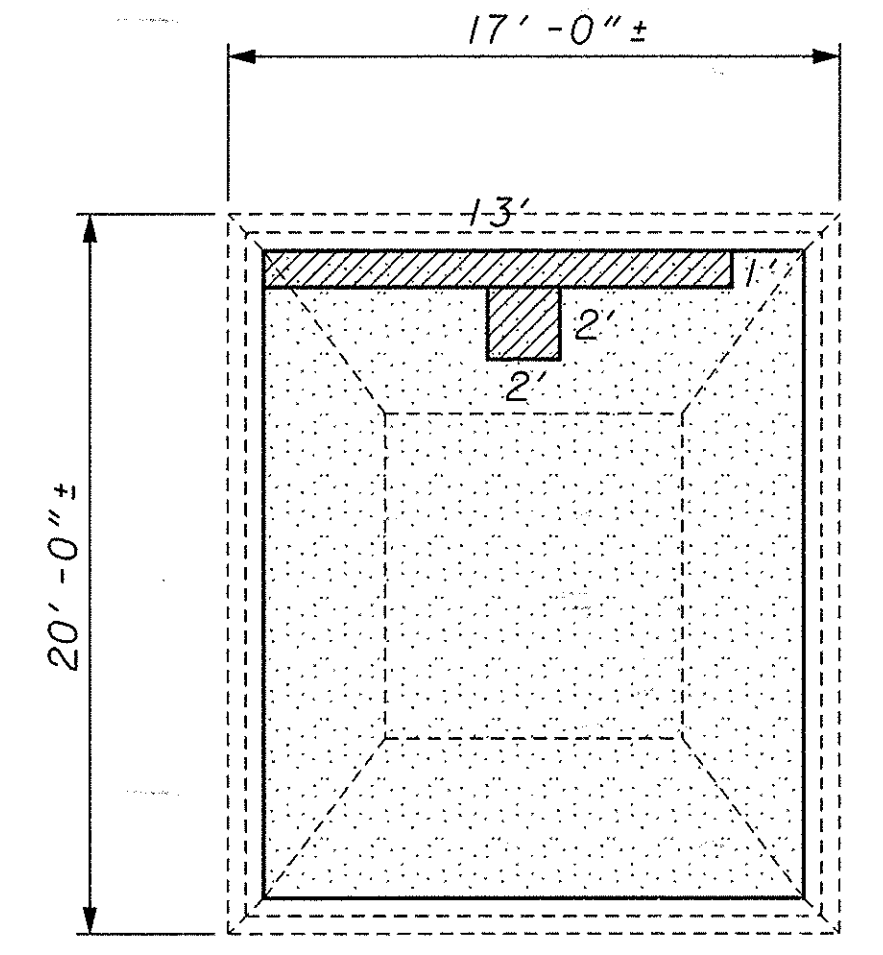


NORTH FACE

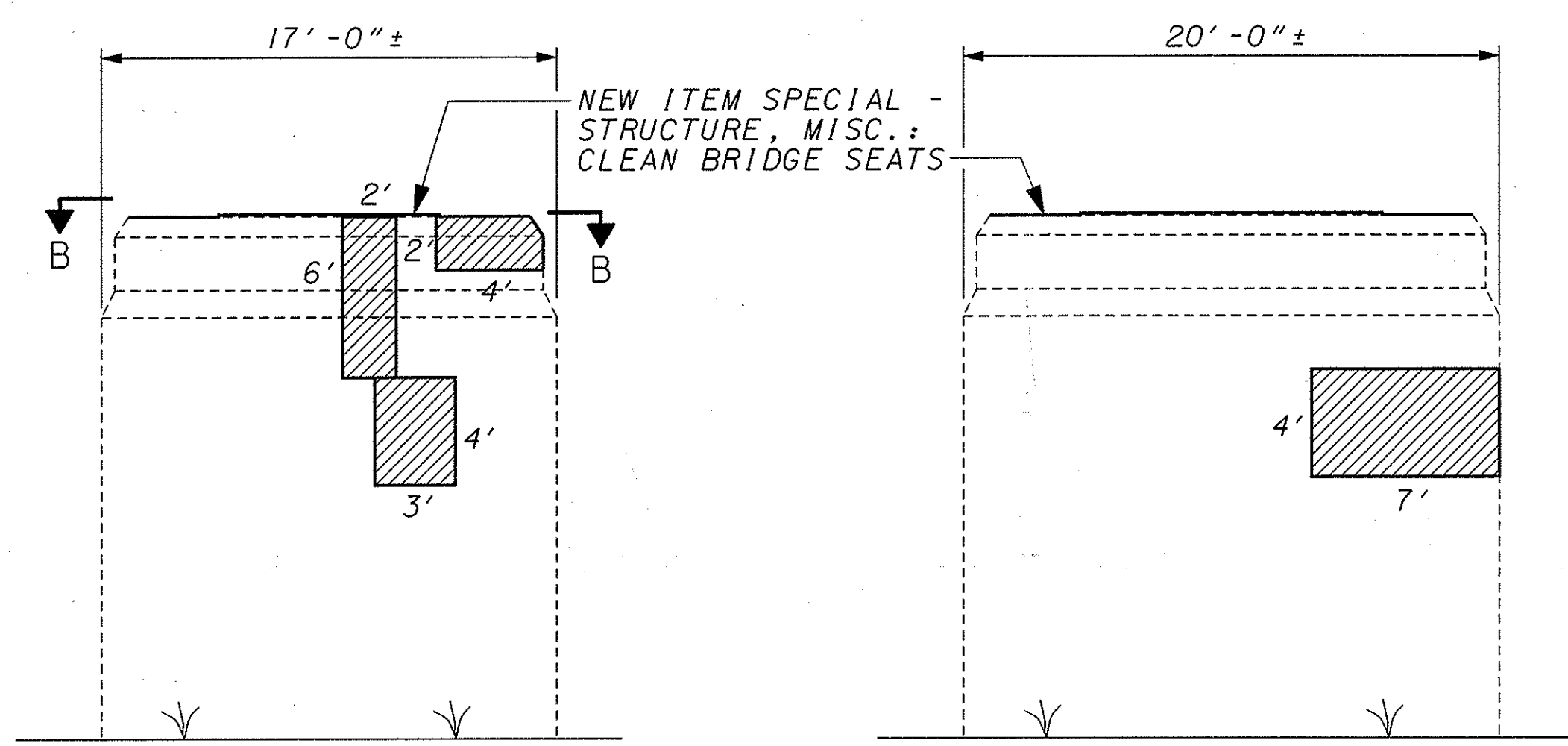
WEST PEDESTAL



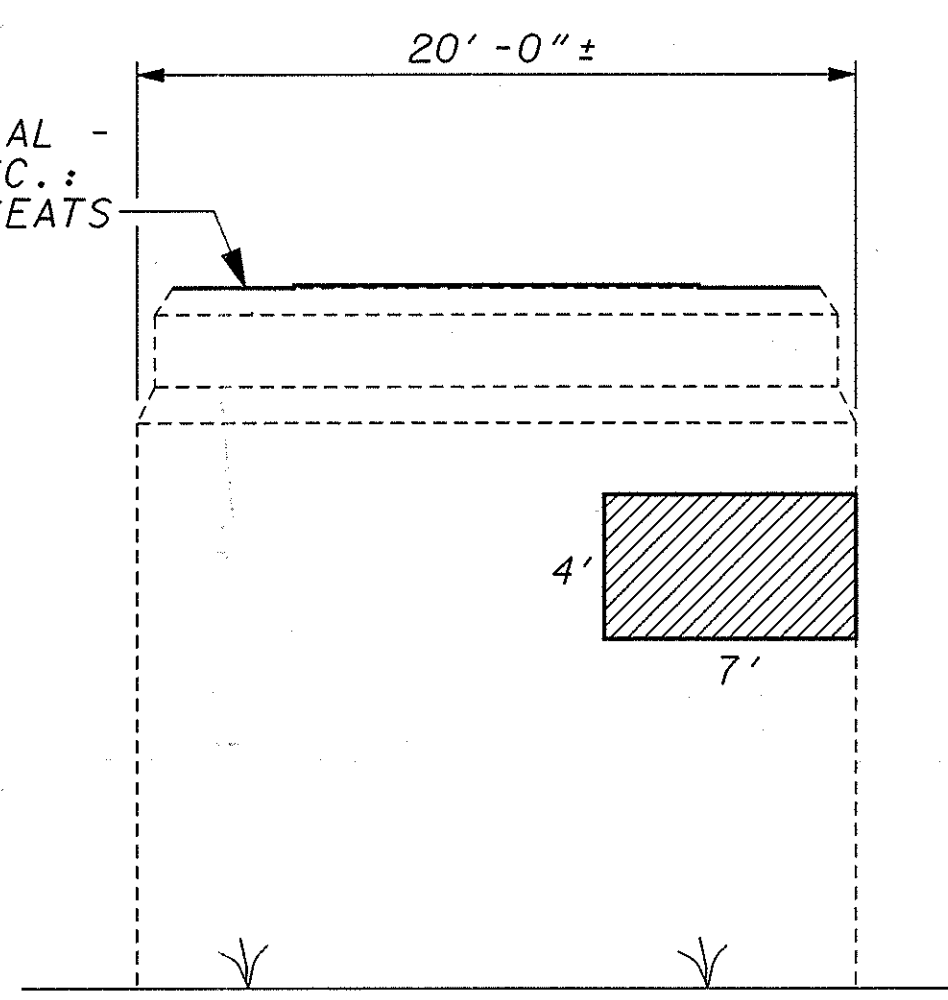
EAST FACE



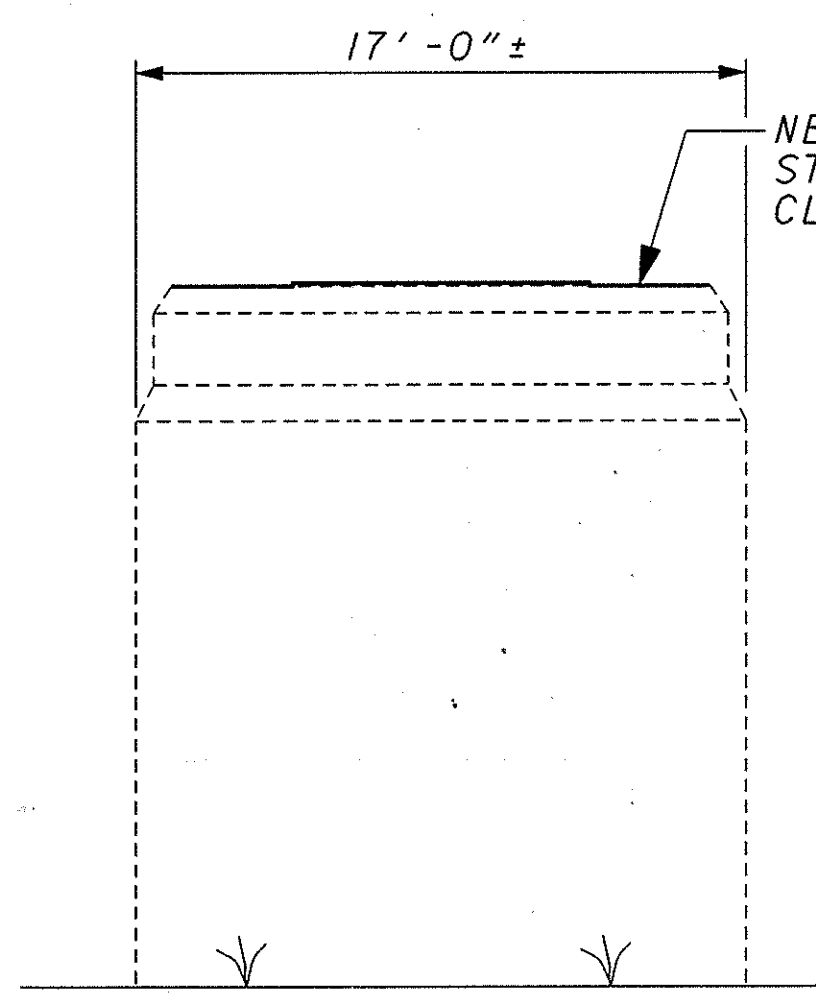
VIEW A-A



SOUTH FACE

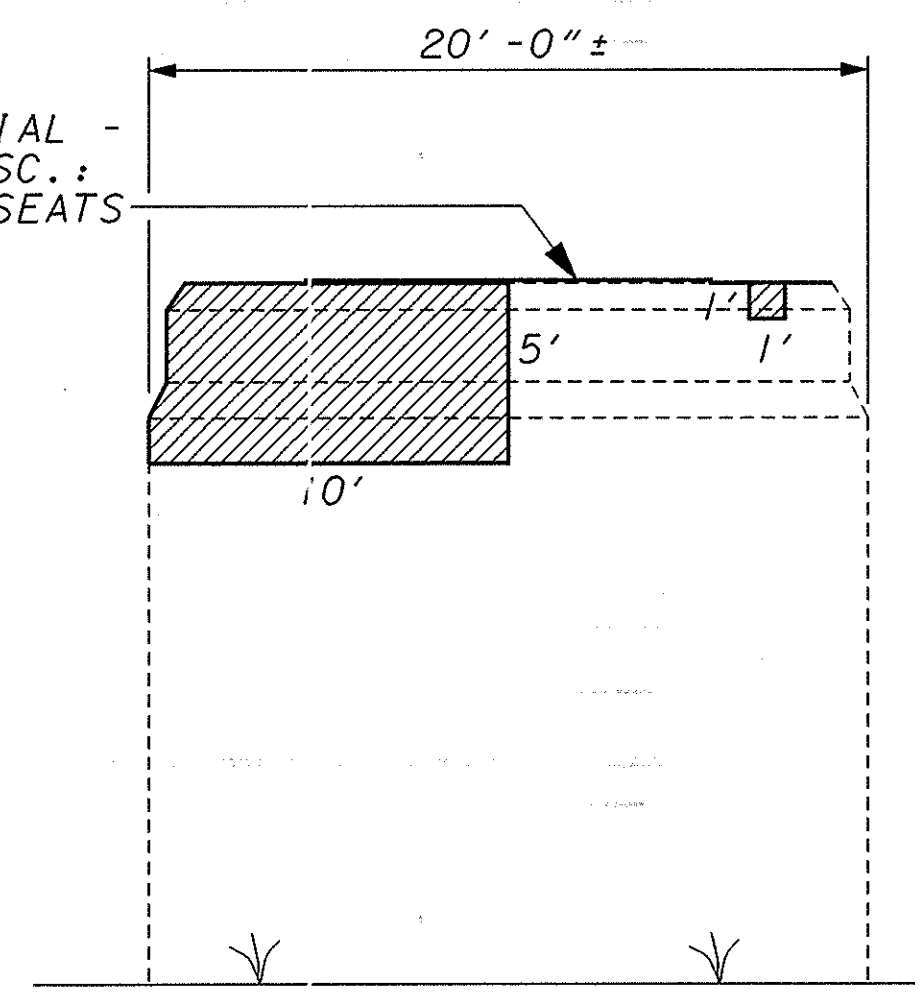


WEST FACE

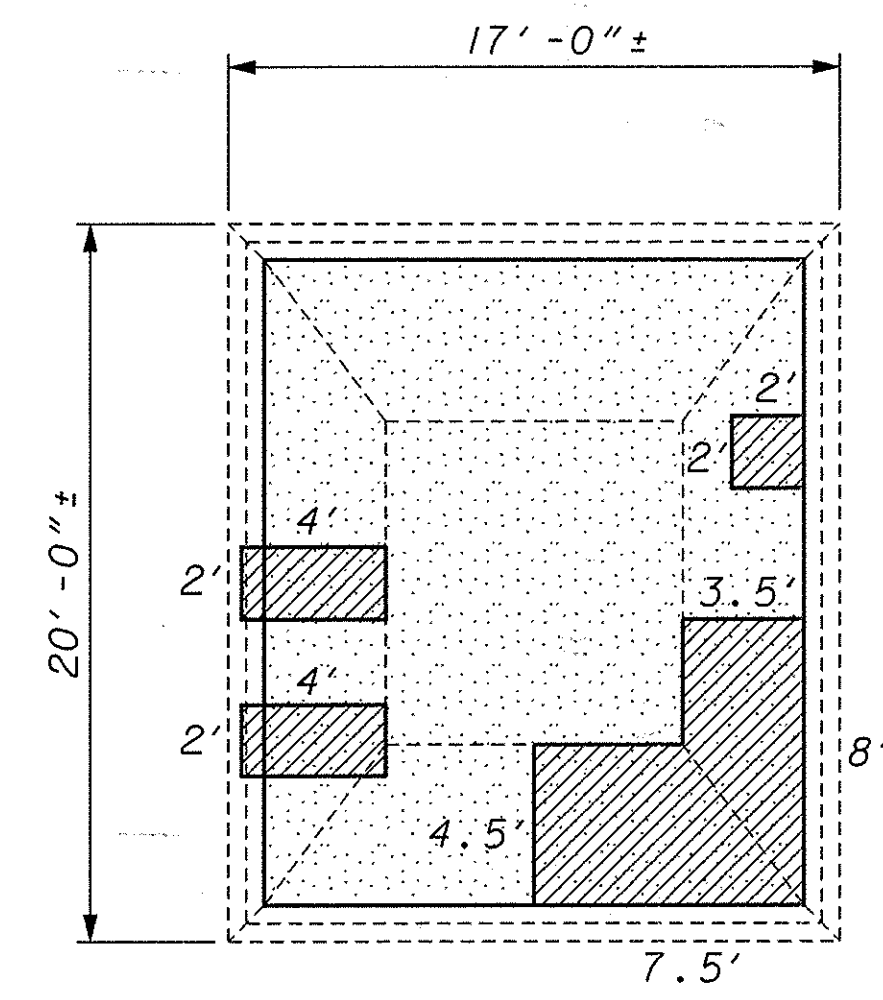


NORTH FACE

EAST PEDESTAL



EAST FACE



VIEW B-B

LEGEND

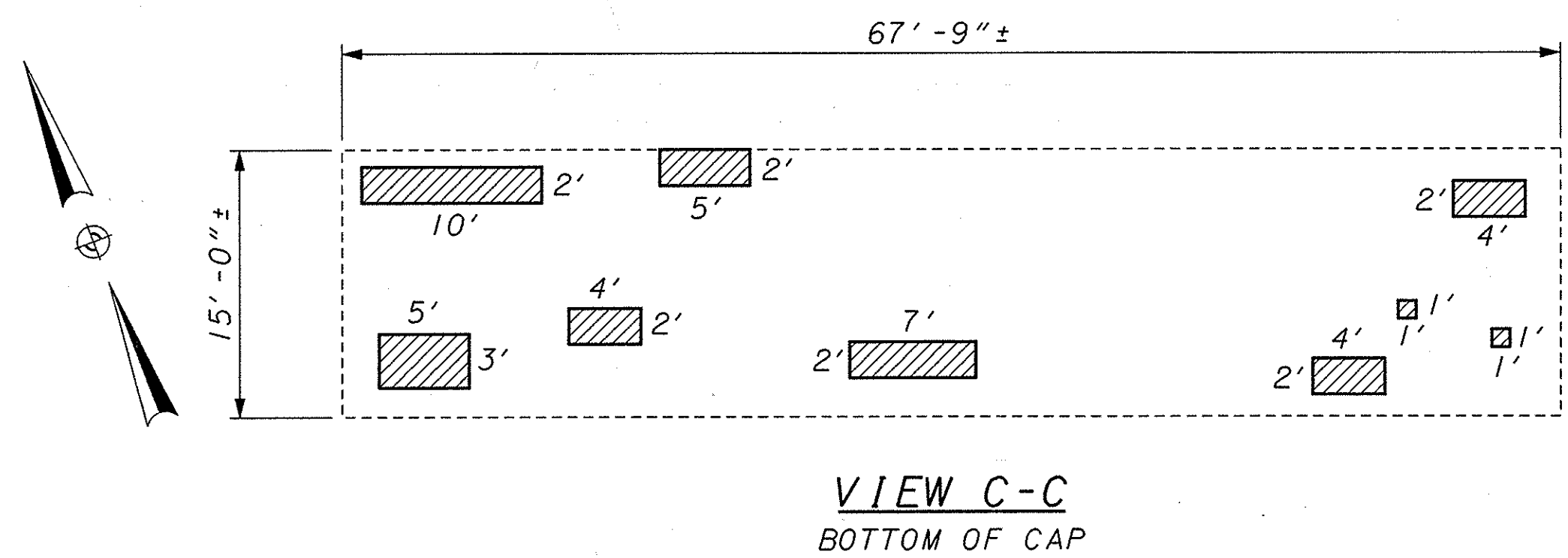
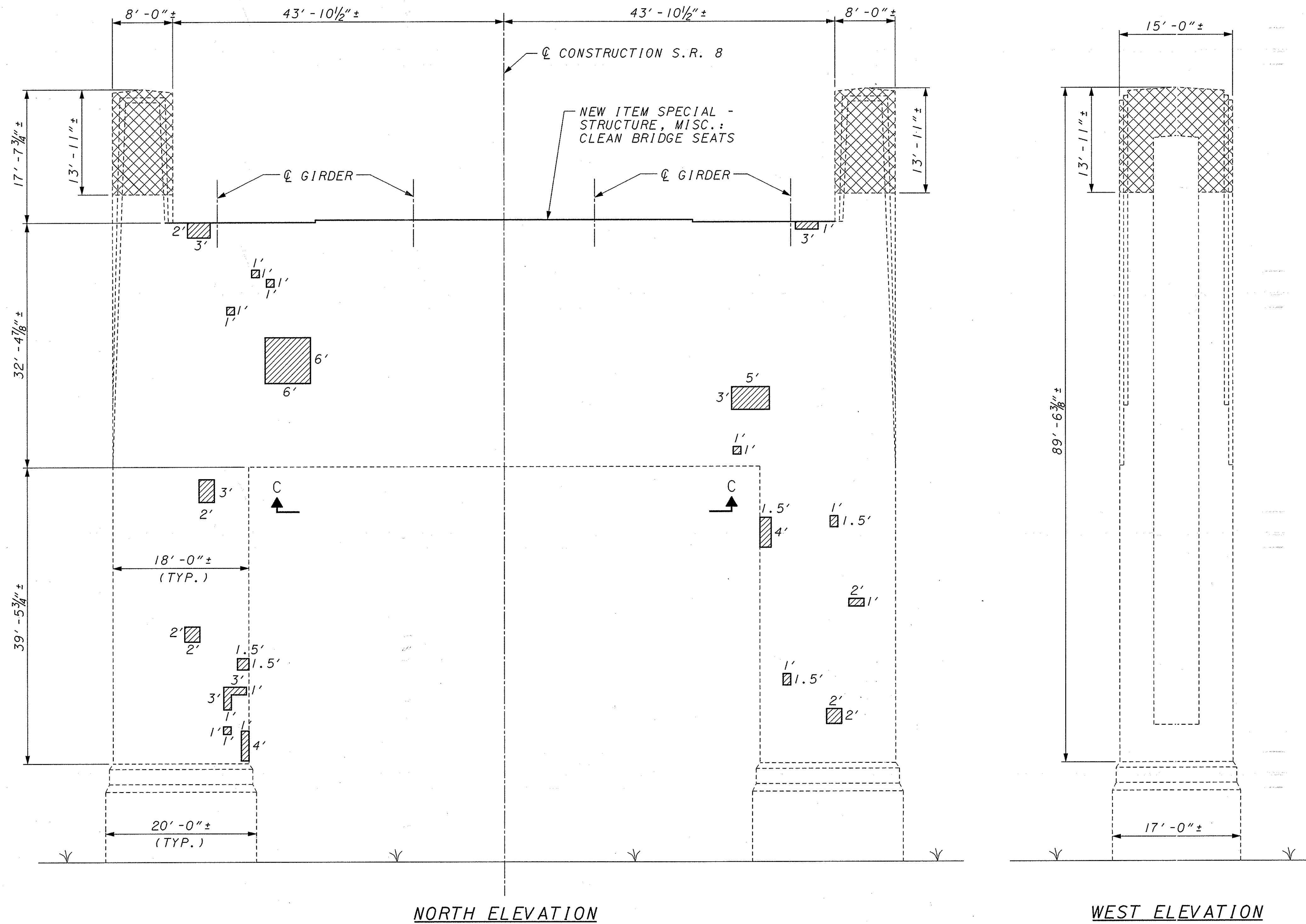
- INDICATES APPROXIMATE AREA TO BE REPAIRED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- INDICATES NEW ITEM SPECIAL - STRUCTURE, MISC.: CLEAN BRIDGE SEATS

NOTES

- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SEALING OF CONCRETE SURFACES: SEE GENERAL NOTE ON SHEET [4/40] FOR DETAILS.
- CLEAN BRIDGE SEATS NOTES: SEE SHEET [6/40].
- ADDITIONAL NOTES: SEE SHEET [8/40].

SUMMARY OF PIER 5 PATCHING QUANTITIES				
LOCATION	UNIT		ESTIMATED QUANTITY	REPAIR QUANTITY
		MEASURED QUANTITY		
WEST PEDESTAL	SQ FT	72	144	
EAST PEDESTAL	SQ FT	177	354	
CONTINGENCY	SQ FT		152	
SUB TOTAL	SQ FT		650	

77078MDD.DGN 11/27/07 JLS,REB,KH



SUMMARY OF PIER 6 PATCHING QUANTITIES				
LOCATION	UNIT	REPAIR QUANTITY		
		MEASURED QUANTITY	ESTIMATED QUANTITY	REPAIR QUANTITY
SOUTH ELEVATION	SQ FT	63	126	
NORTH ELEVATION	SQ FT	101.25	203	
INSIDE FACE OF COLUMN	SQ FT	60	120	
BOTTOM OF CAP	SQ FT	85	170	
CONTINGENCY	SQ FT		181	
SUB TOTAL			800	

LEGEND

INDICATES APPROXIMATE AREA TO BE REPAIRED PER ITEM 519- PATCHING CONCRETE STRUCTURE, AS PER PLAN

INDICATES STONE FACING TO BE LEFT UNSEALED

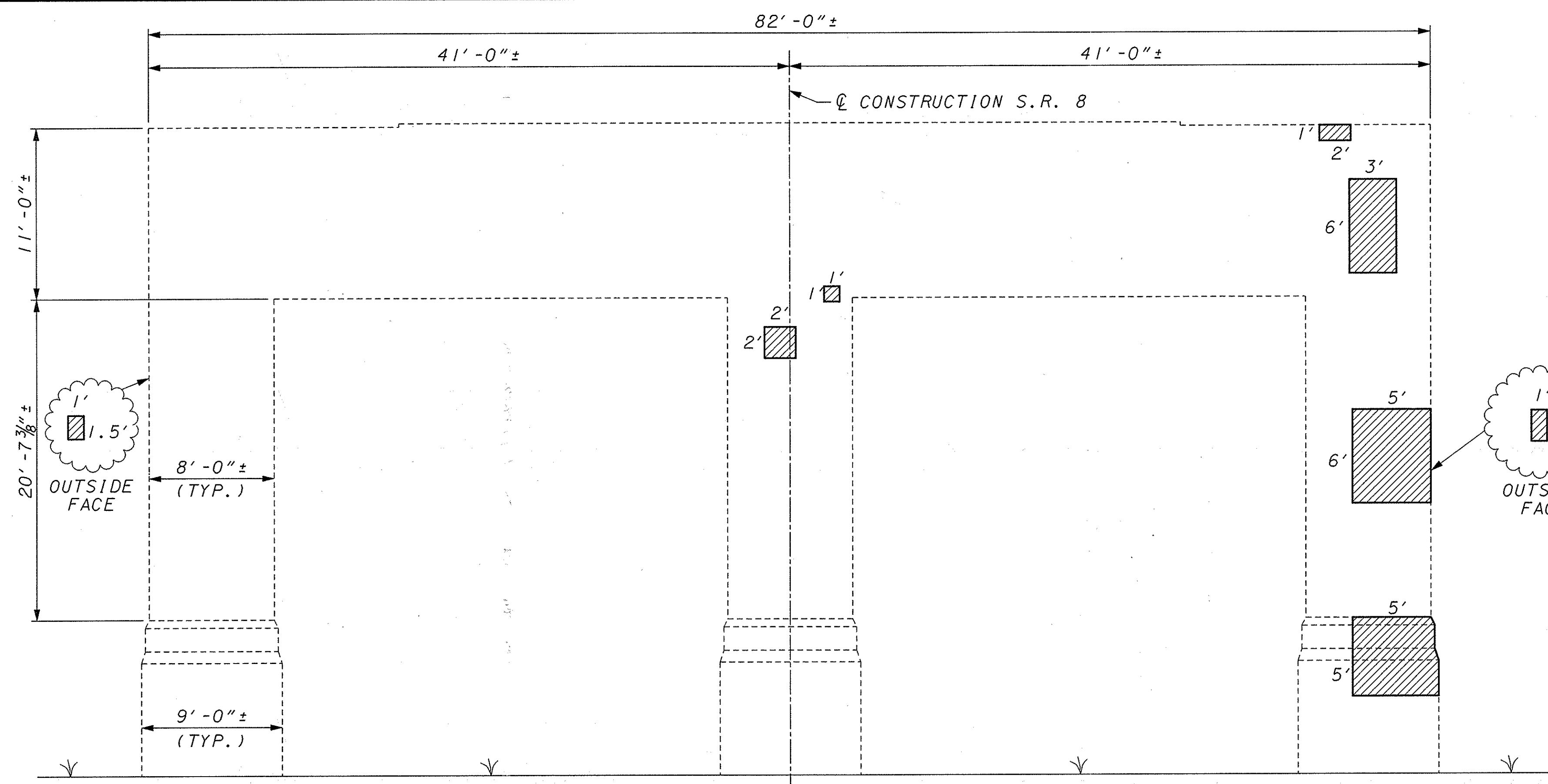
NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

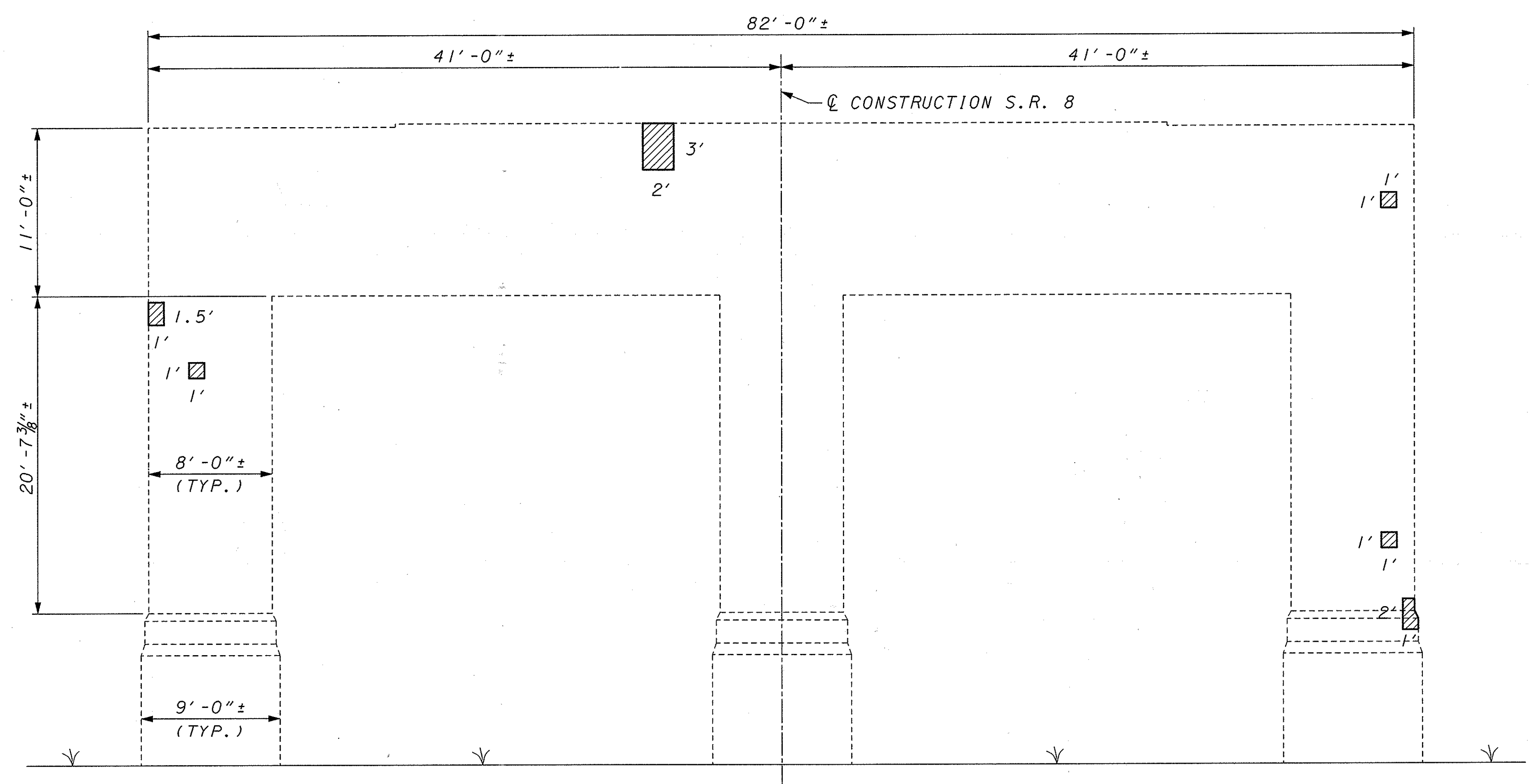
SEALING OF CONCRETE SURFACES: SEE GENERAL NOTE ON SHEET [4/40] FOR DETAILS.

CLEAN BRIDGE SEATS NOTES: SEE SHEET [6/40].

ADDITIONAL NOTES: SEE SHEET [8/40].



SOUTH ELEVATION



NORTH ELEVATION

SUMMARY OF PIER 7 PATCHING QUANTITIES				
LOCATION	UNIT			REPAIR QUANTITY
		MEASURED QUANTITY	ESTIMATED QUANTITY	
SOUTH ELEVATION	SQ FT	80	160	
NORTH ELEVATION	SQ FT	12.5	25	
OUTSIDE FACE OF COLUMN	SQ FT	3.5	7	
CONTINGENCY	SQ FT		58	
SUB TOTAL	SQ FT		250	

LEGEND

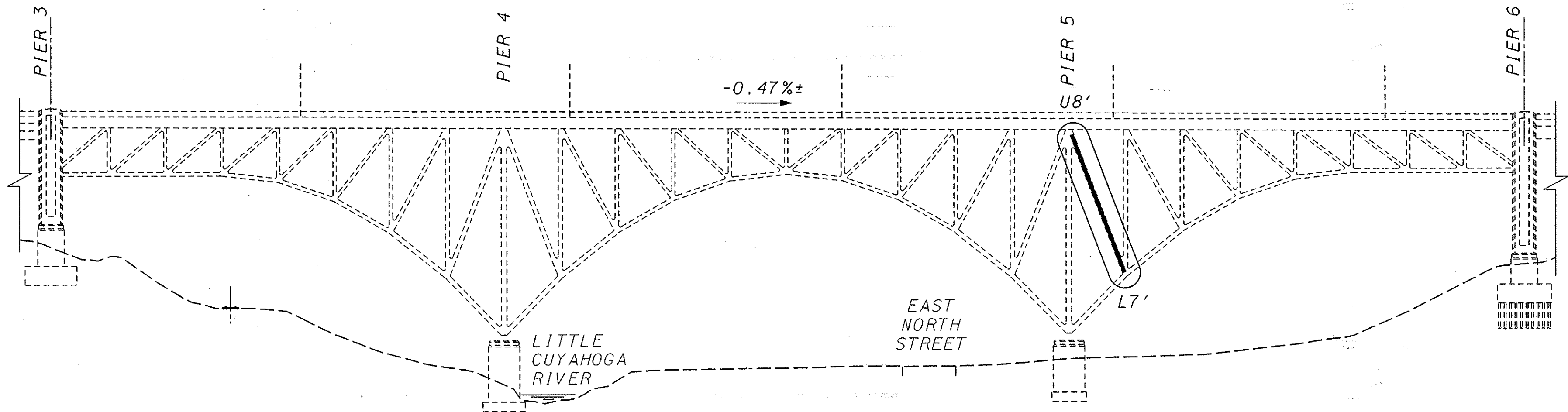
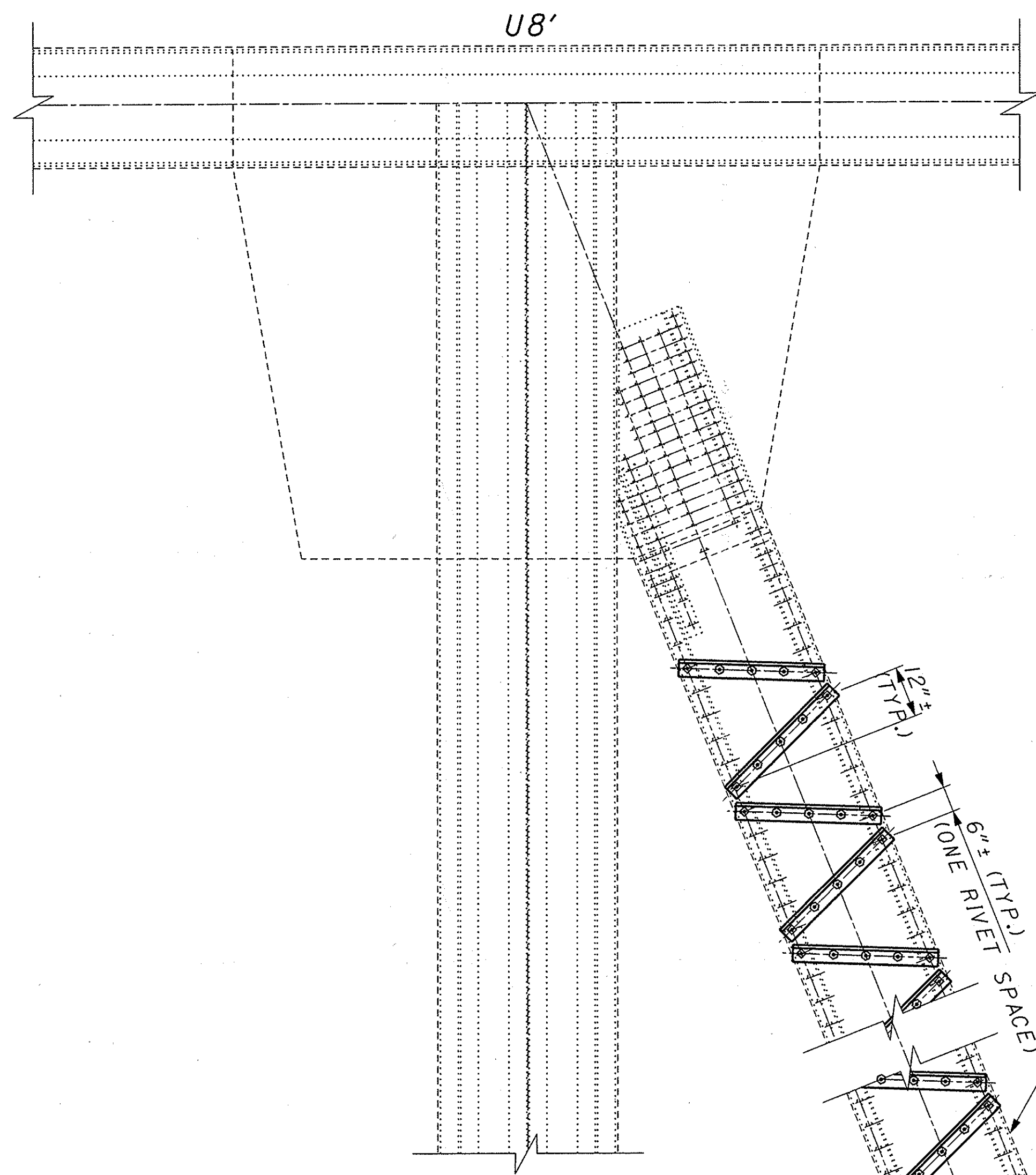
INDICATES APPROXIMATE AREA TO BE REPAIRED PER ITEM 519- PATCHING CONCRETE STRUCTURE, AS PER PLAN

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
SEALING OF CONCRETE SURFACES: SEE GENERAL NOTE ON SHEET 4/40 FOR DETAILS.
ADDITIONAL NOTES: SEE SHEET 8/40.

77078MDC.DGN 11/26/07 JLS.RB.KH

PID 77078
SUM-8-1.95
PIER 7 - REPAIR DETAILS
 BRIDGE NO. SUM-8-0195
 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET
 DATE 11/28/07
 REVIEWED DLR
 DRAWN JLS
 DESIGNED JDB
 CHECKED ALP
 STRUCTURE FILE NUMBER 7700369
 RICHLAND ENGINEERING LIMITED
 29 NORTH PARK STREET
 MANSFIELD, OHIO 44902



L7' - U8'
(WEST TRUSS ONLY)

2 - NEW L4x4x1/2"x2'-10"± (TYP.)

2 - PL 32x7/16"±

CHANNEL 18x42.7±

NEW L4x4x1/2"x2'-10"±
(5I ESTIMATED)

PL 32x7/16"±

NEW L4x4x1/2"x2'-10"±
(5I ESTIMATED)

CHANNEL 18x42.7±

SECTION X-X

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

MATERIAL

NEW BOLTS SHALL MATCH EXISTING RIVET DIAMETER (7/8" DIAMETER PER ORIGINAL CONSTRUCTION PLANS).

EDGE DISTANCE FROM THE CENTER OF A FASTENER TO THE FIELD CUT END OF THE NEW STIFFENER ANGLE SHALL BE 2 INCHES.

BOLT HOLES SHALL BE EQUAL TO THE NOMINAL BOLT DIAMETER PLUS 1/16".

CONSTRUCTION

REMOVE EXISTING RIVETS FOR ONLY ONE NEW ANGLE STIFFENER AT ANY TIME, UNLESS NOTED OTHERWISE. INSTALL AND FULLY TIGHTEN ALL NEW BOLTS IN A NEW STIFFENER ANGLE PRIOR TO WORK ON ADDITIONAL NEW ANGLE REMOVALS AND INSTALLATIONS.

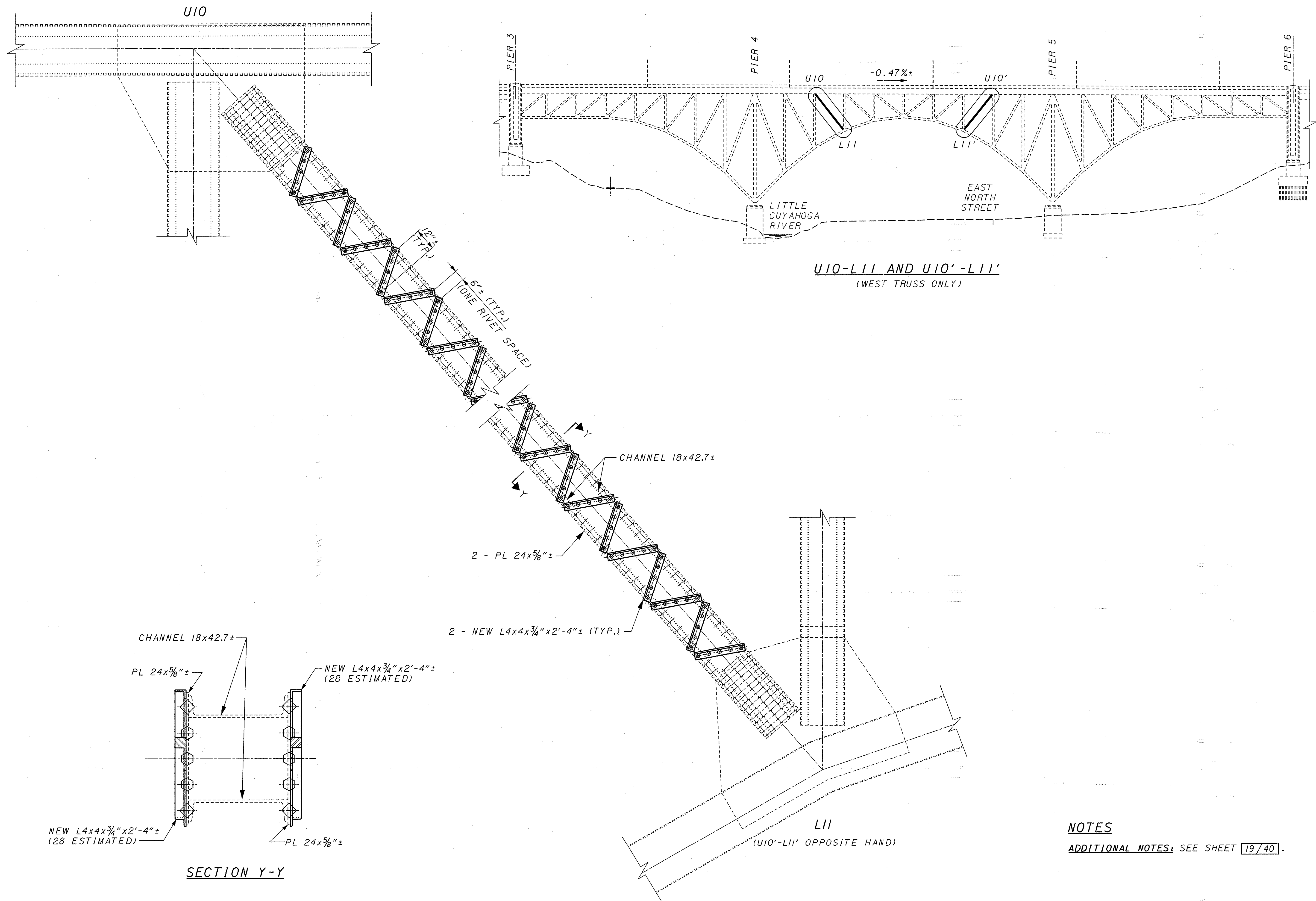
CONNECTOR LEGEND

- + - EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- ⊙ - FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW STIFFENER ANGLE TO EXISTING MATERIAL.
- ◇ - REMOVE EXISTING RIVET OR BOLT FOR NEW BOLTED CONNECTION. NEW STIFFENER ANGLE TO EXISTING MATERIAL.

770785DF.DGN 11/28/07 RB.KH

SUM-8-1.95 PID 77078	TRUSS REINFORCEMENT - L7' - U8' BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET	DATE 11/28/07	STRUCTURE FILE NUMBER 7700369
DESIGNED JDB	CHECKED ALP	DRAWN AFB	REVISED
REVIEWED DLR		RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	

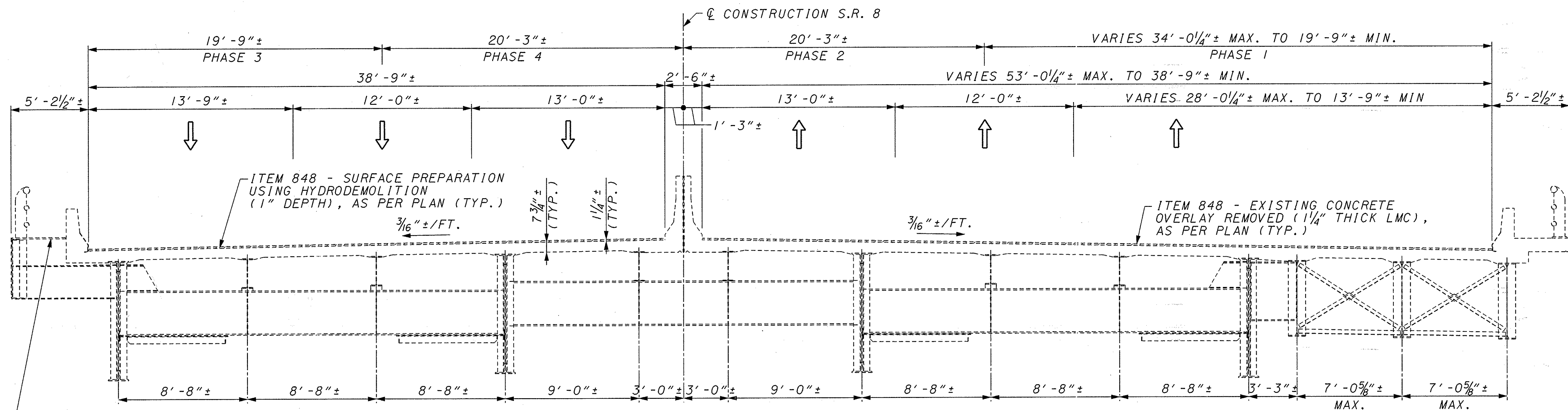
77078SDC.DGN 11/27/07 RB-KH



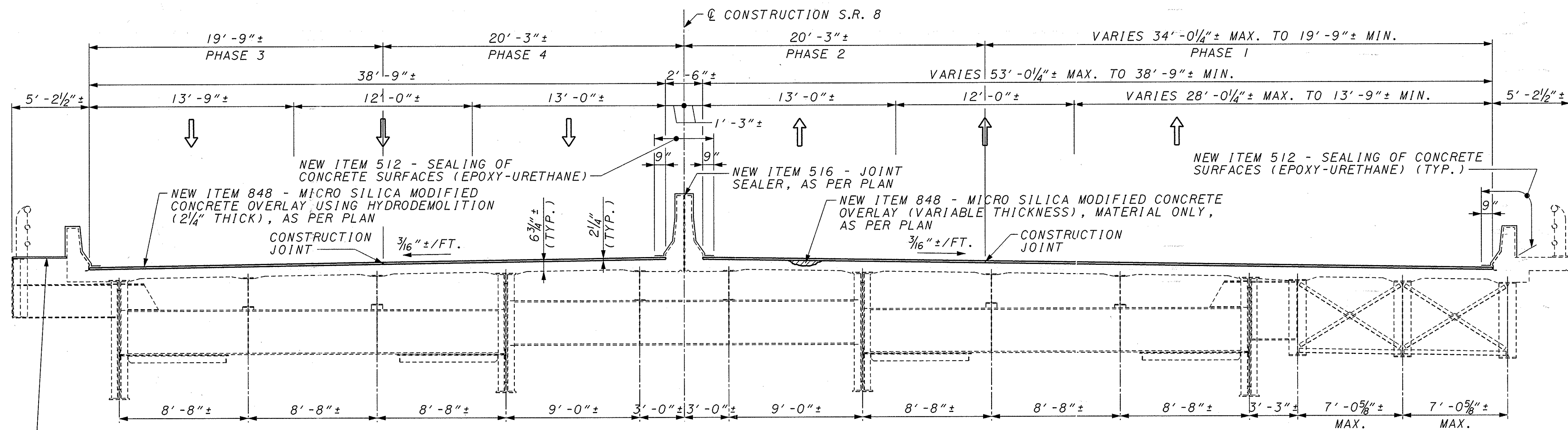
U10-L11 AND U10'-L11'
(WEST TRUSS ONLY)

NOTES
ADDITIONAL NOTES: SEE SHEET 19/40.

SUM-8-1.95 PID 77078	TRUSS REINFORCEMENT - U10-L11 AND U10'-L11' BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOCA RIVER AND EAST NORTH STREET		DESIGNED JDB	CHECKED ALP
	DRAWN RRB	REVISED 	REVIEWED DLR	DATE 11/28/07
RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902		STRUCTURE FILE NUMBER 7700369		



UNIT 1 EXISTING AND REMOVAL



UNIT 1 PROPOSED

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

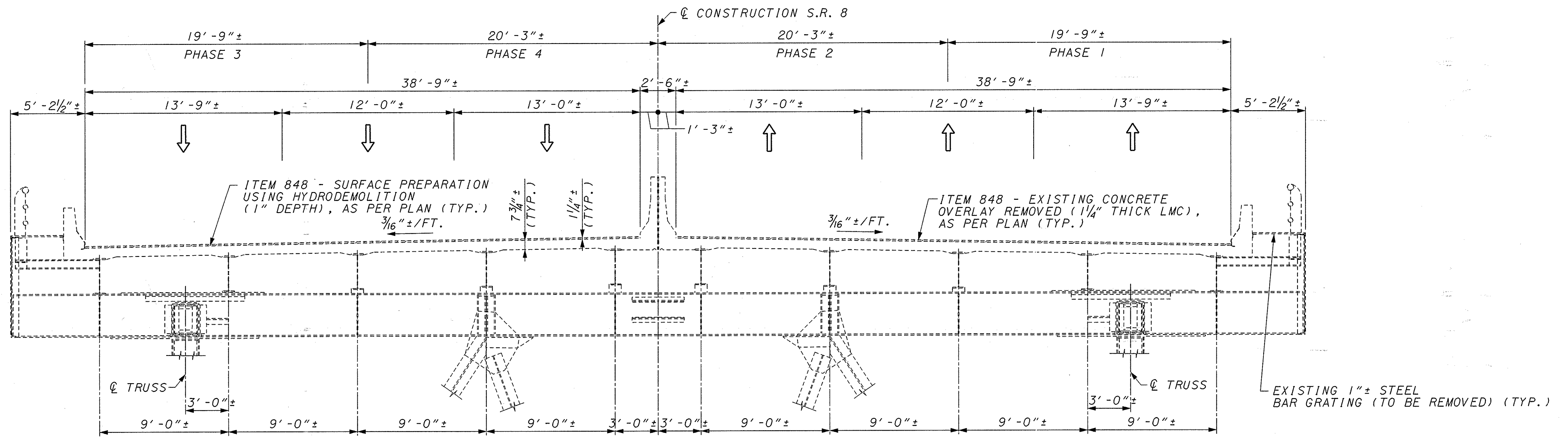
1" GALVANIZED STEEL BAR GRATING NOTES: SEE SHEET 6/40.

MEDIAN BARRIER JOINT SEALER DETAILS: SEE SHEET 33/40.

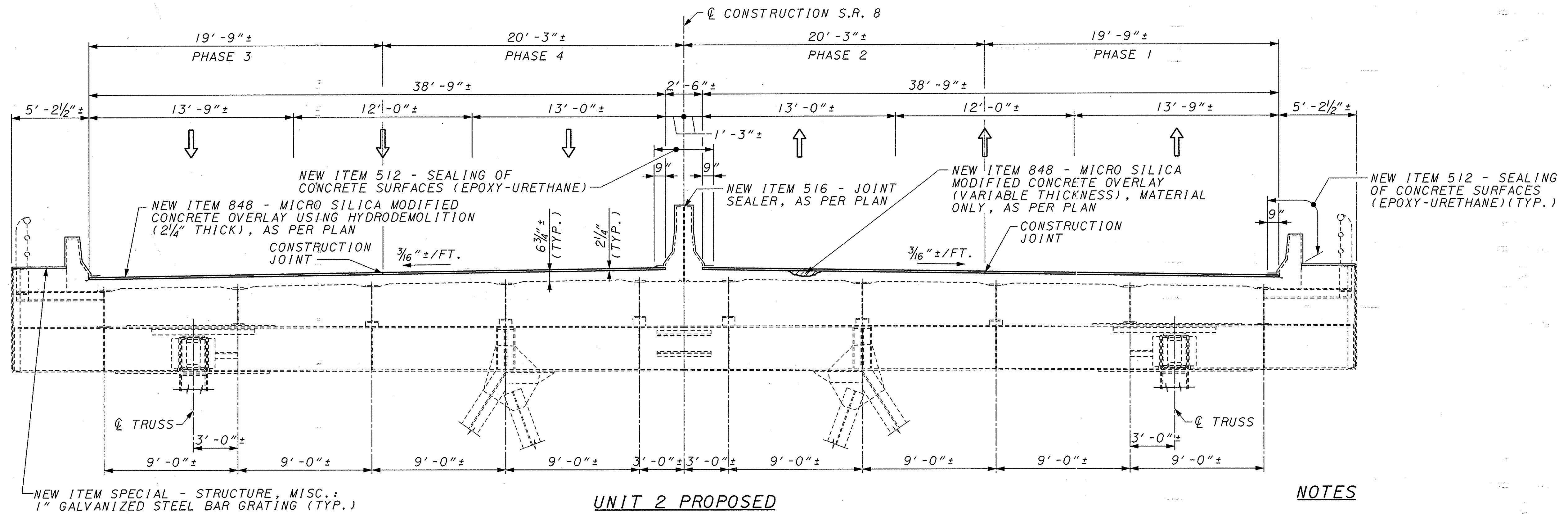
MEDIAN BARRIER DIMENSIONS: SEE SHEET 33/40.

PARAPET DIMENSIONS: SEE SHEET 23/40.

77078TSA.DGN 11/28/07 RB,TWH,KH



UNIT 2 EXISTING AND REMOVAL



UNIT 2 PROPOSED

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

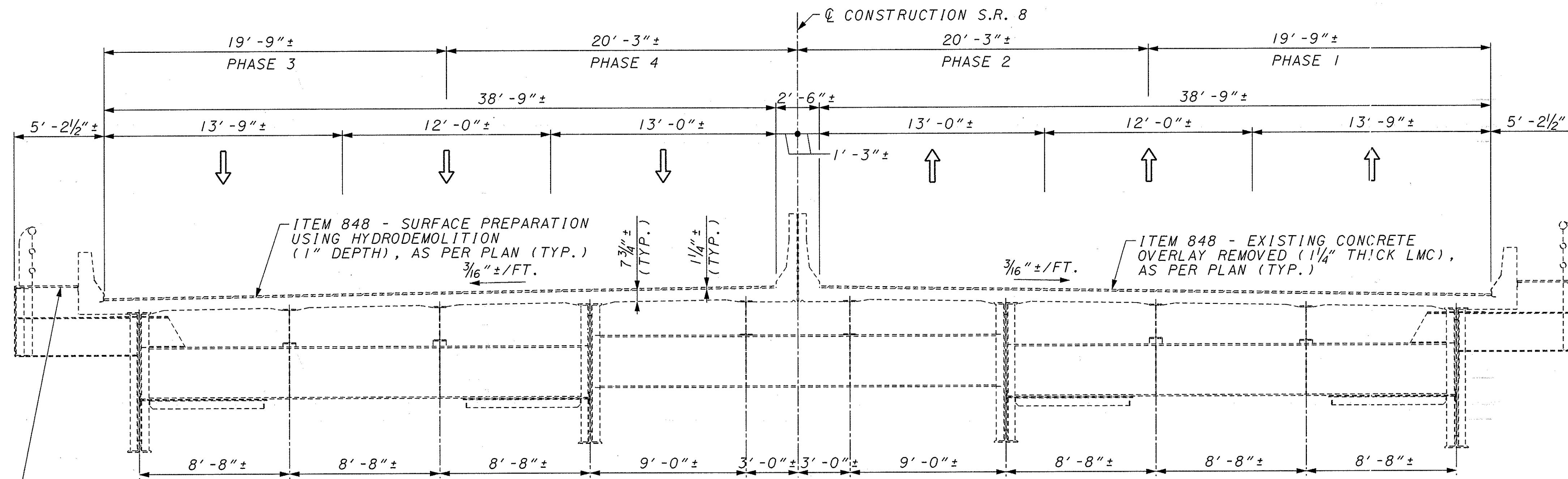
1" GALVANIZED STEEL BAR GRATING NOTES:
SEE SHEET **6/40**.

MEDIAN BARRIER JOINT SEALER DETAILS:
SEE SHEET **33/40**.

MEDIAN BARRIER DIMENSIONS: SEE SHEET **33/40**.

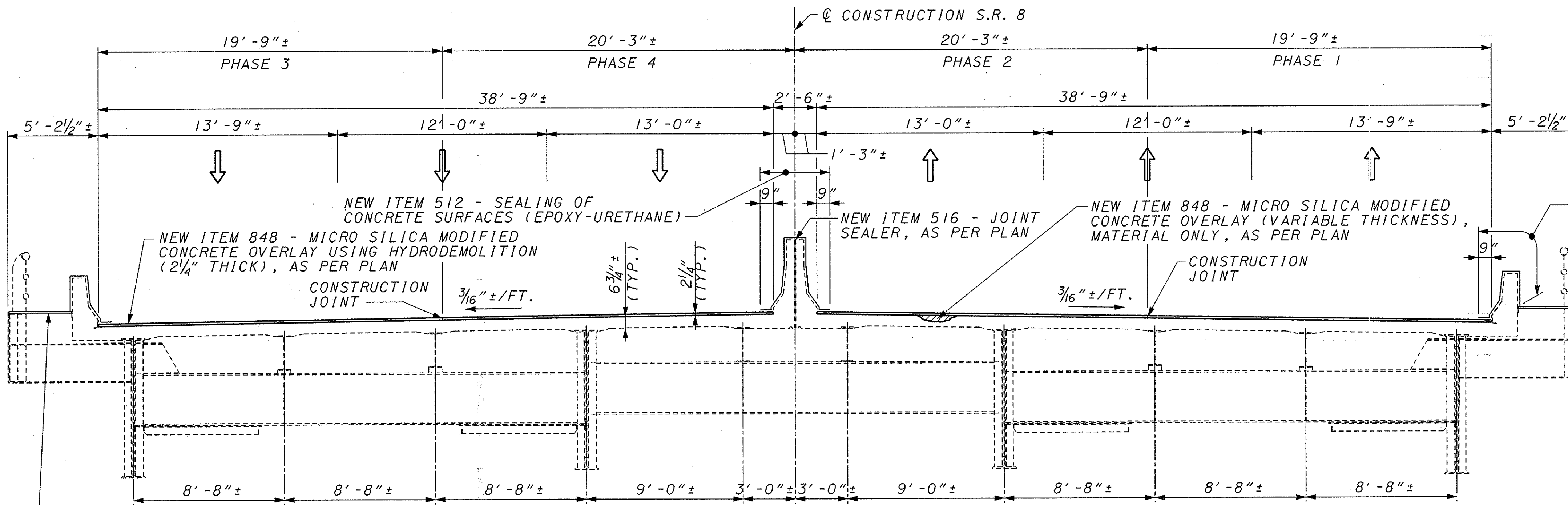
PARAPET DIMENSIONS: SEE SHEET **23/40**.

77078TSA.DGN 11/28/07 KH:RB,TWH



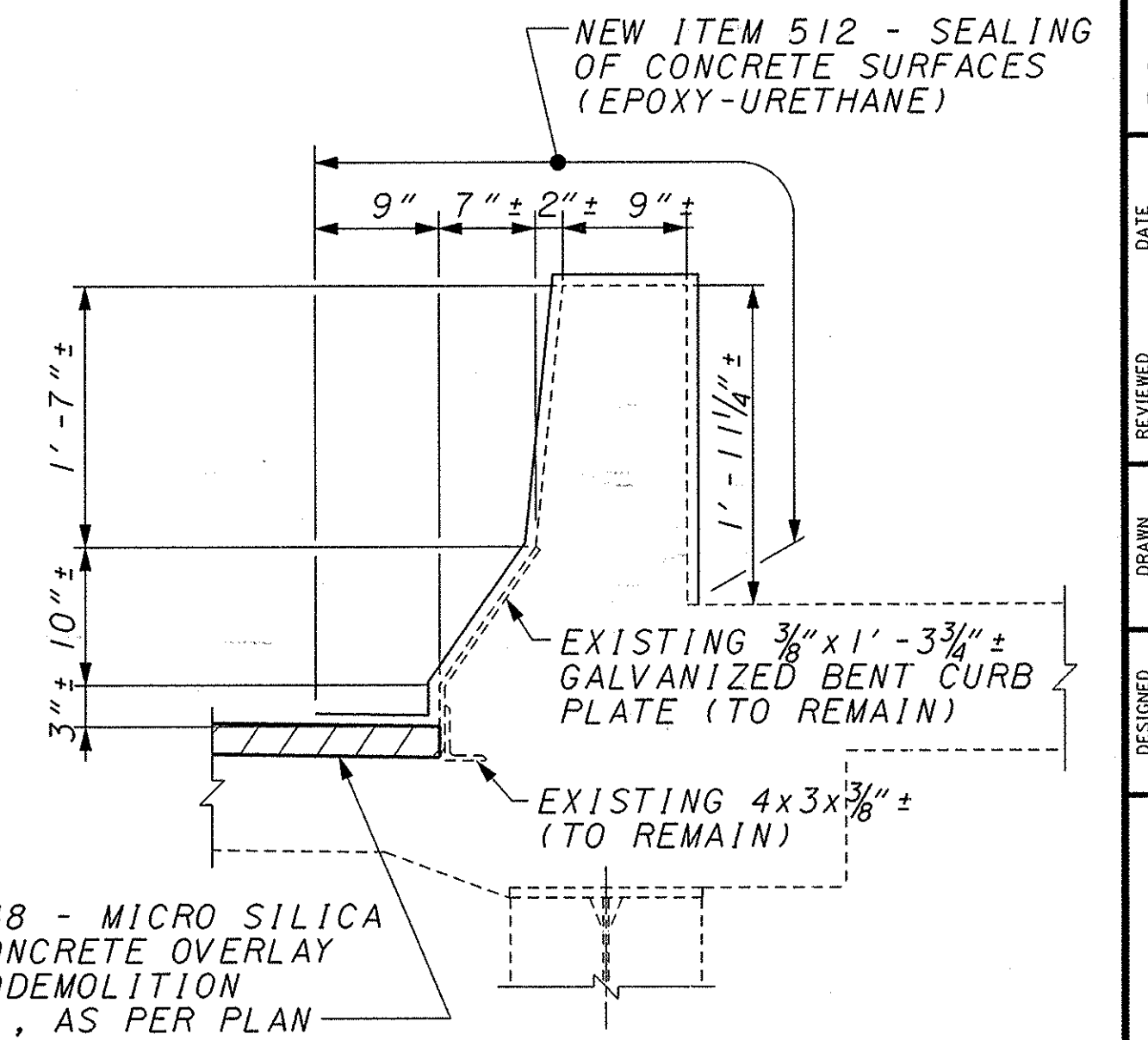
UNIT 3 EXISTING AND REMOVAL

EXISTING 1"± STEEL BAR GRATING (TO BE REMOVED) (TYP.)



UNIT 3 PROPOSED

NEW ITEM SPECIAL - STRUCTURE, MISC.: 1" GALVANIZED STEEL BAR GRATING (TYP.)



TYPICAL EXTERIOR PARAPET

NOTES

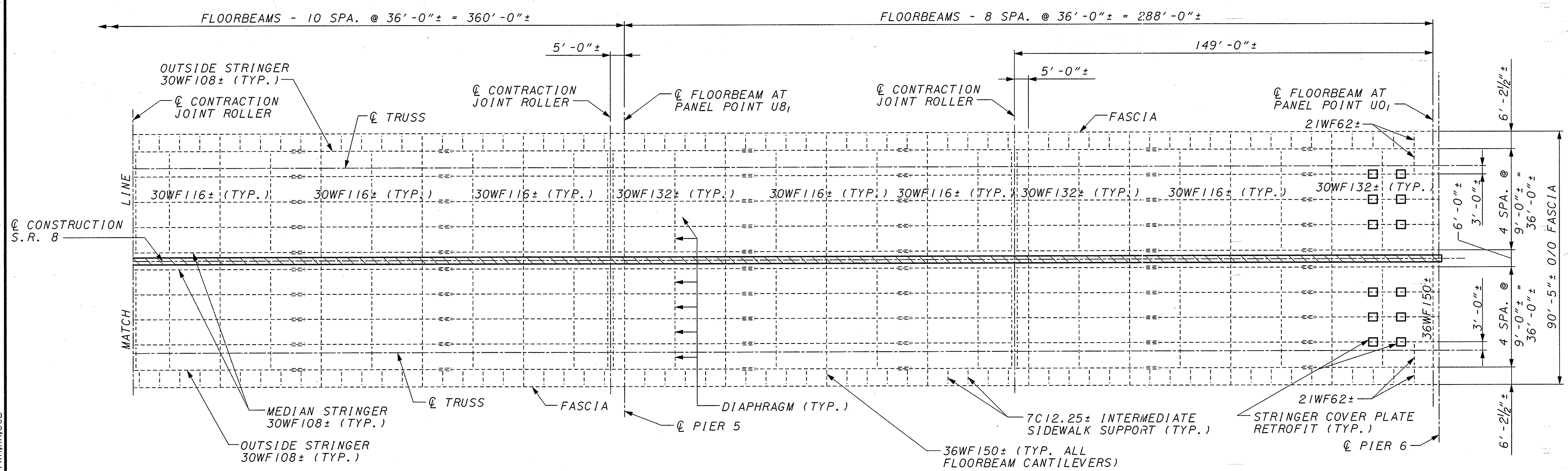
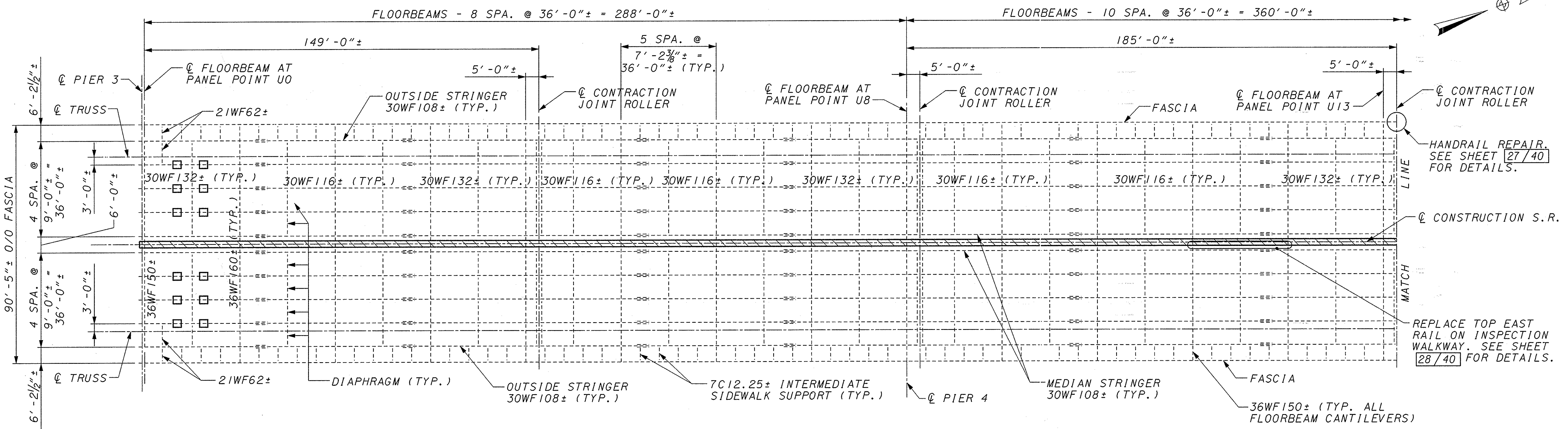
MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

1" GALVANIZED STEEL BAR GRATING NOTES: SEE SHEET 6/40.

MEDIAN BARRIER JOINT SEALER DETAILS: SEE SHEET 33/40.

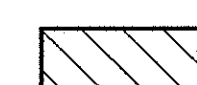
MEDIAN BARRIER DIMENSIONS: SEE SHEET 33/40.

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FRAMING PLAN - UNIT 2

LEGEND

 INDICATES NEW INSPECTION WALKWAY FLOOR PER ITEM SPECIAL - STRUCTURE, MISC.: 3/4" GALVANIZED STEEL BAR GRATING. SEE SHEET 28/40 FOR ADDITIONAL DETAILS.

NOTES

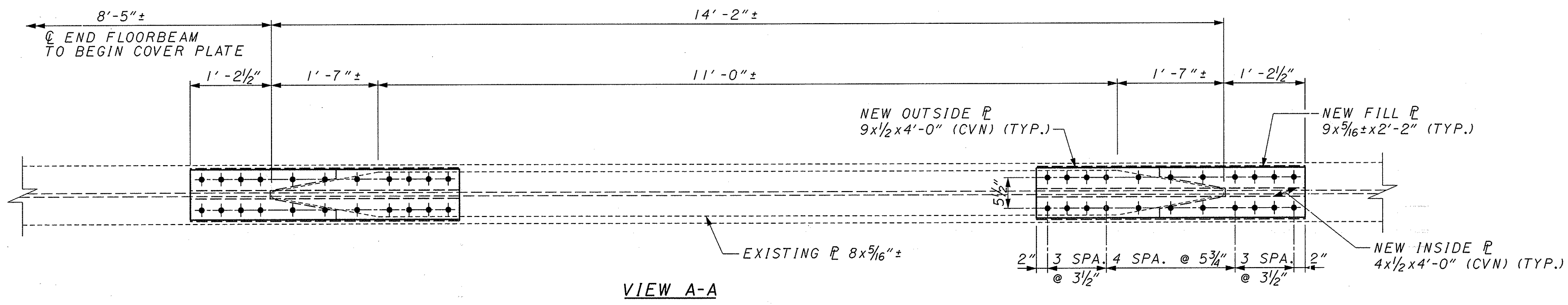
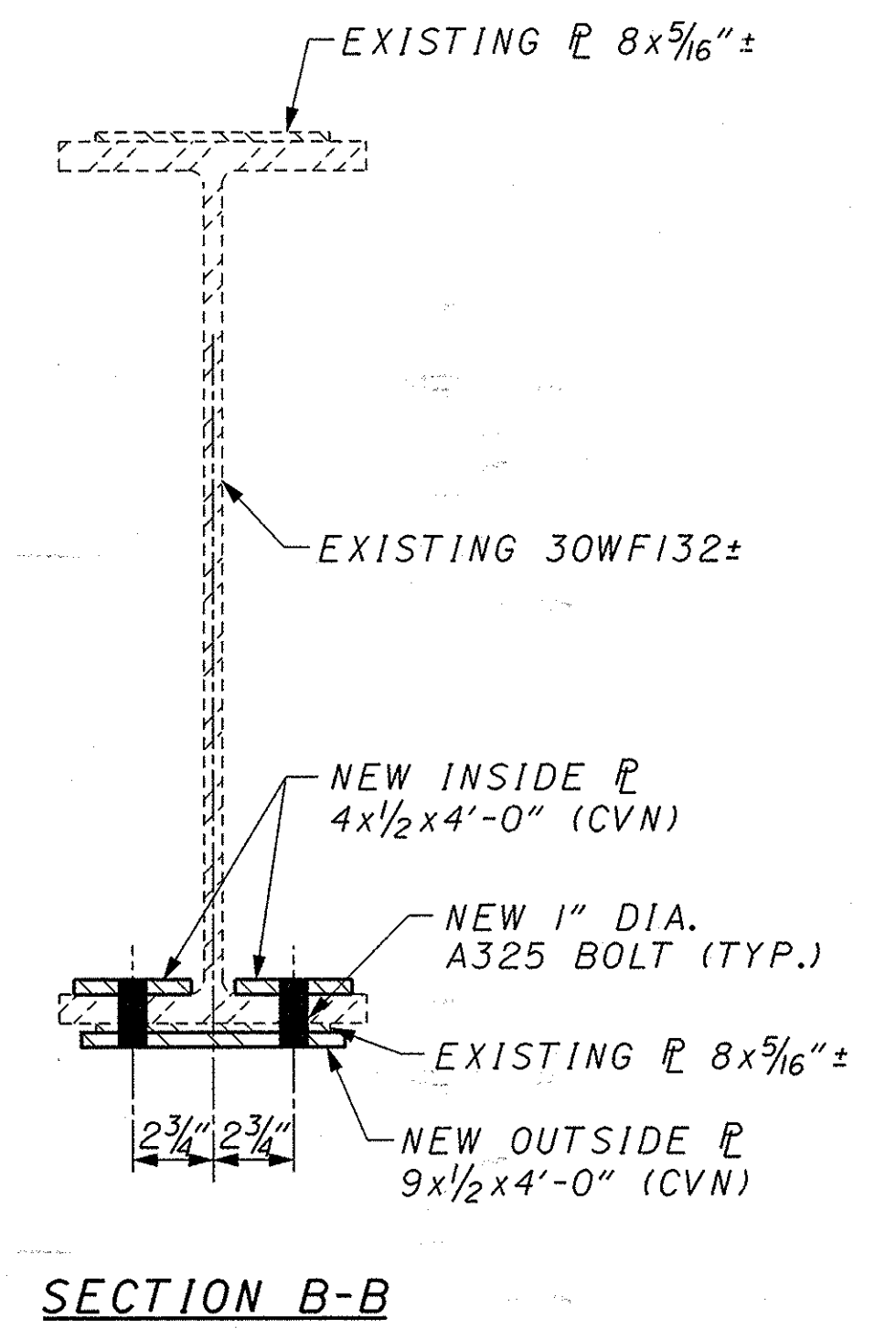
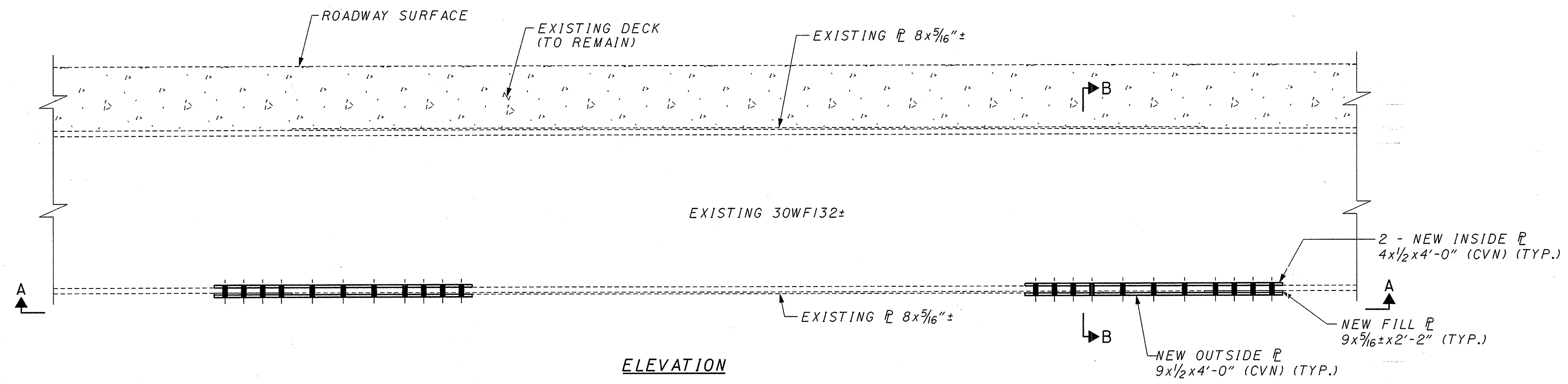
- TRANSVERSE SECTION: SEE SHEET 22/40.
- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- UNITS 1 AND 3 FRAMING PLANS: SEE SHEET 24/40.
- STRINGER COVER PLATE RETROFIT DETAIL: SEE SHEET 26/40.

HANDRAIL REPAIR, SEE SHEET 27/40 FOR DETAILS.

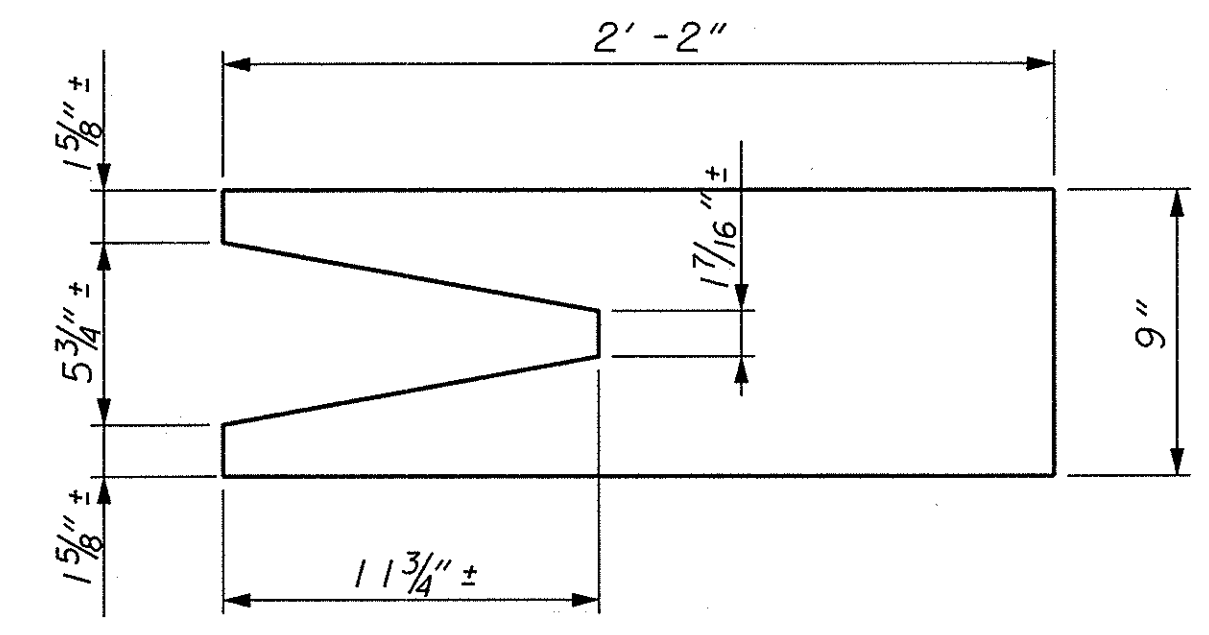
REPLACE TOP EAST RAIL ON INSPECTION WALKWAY. SEE SHEET 28/40 FOR DETAILS.

RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DATE 11/28/07	REVIEWED DLR
STRUCTURE FILE NUMBER 7700369	REVISIONS
DESIGNED JDB	CHECKED ALP
FRAMING PLAN - UNIT 2 BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET	
SUM-8-1.95	PID 77078
25/40	87/102

77078SDA.DGN 11/26/07 JLS,TWH,KH,SCB



INTERIOR STRINGER COVER PLATE DETAIL
 SPAN 4 AND SPAN 6

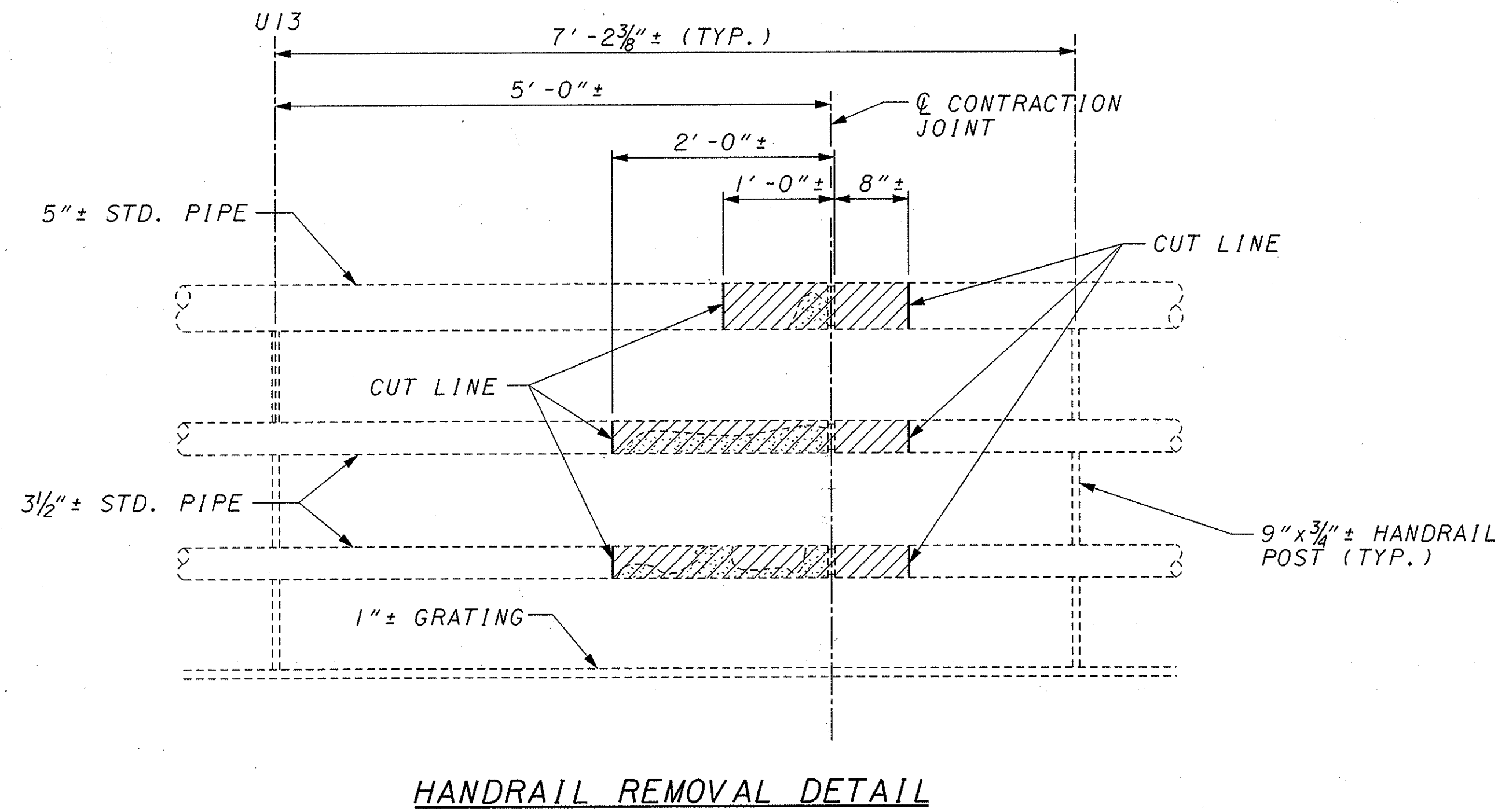


FILL PLATE DETAIL
 (NEW BOLTS NOT SHOWN FOR CLARITY)

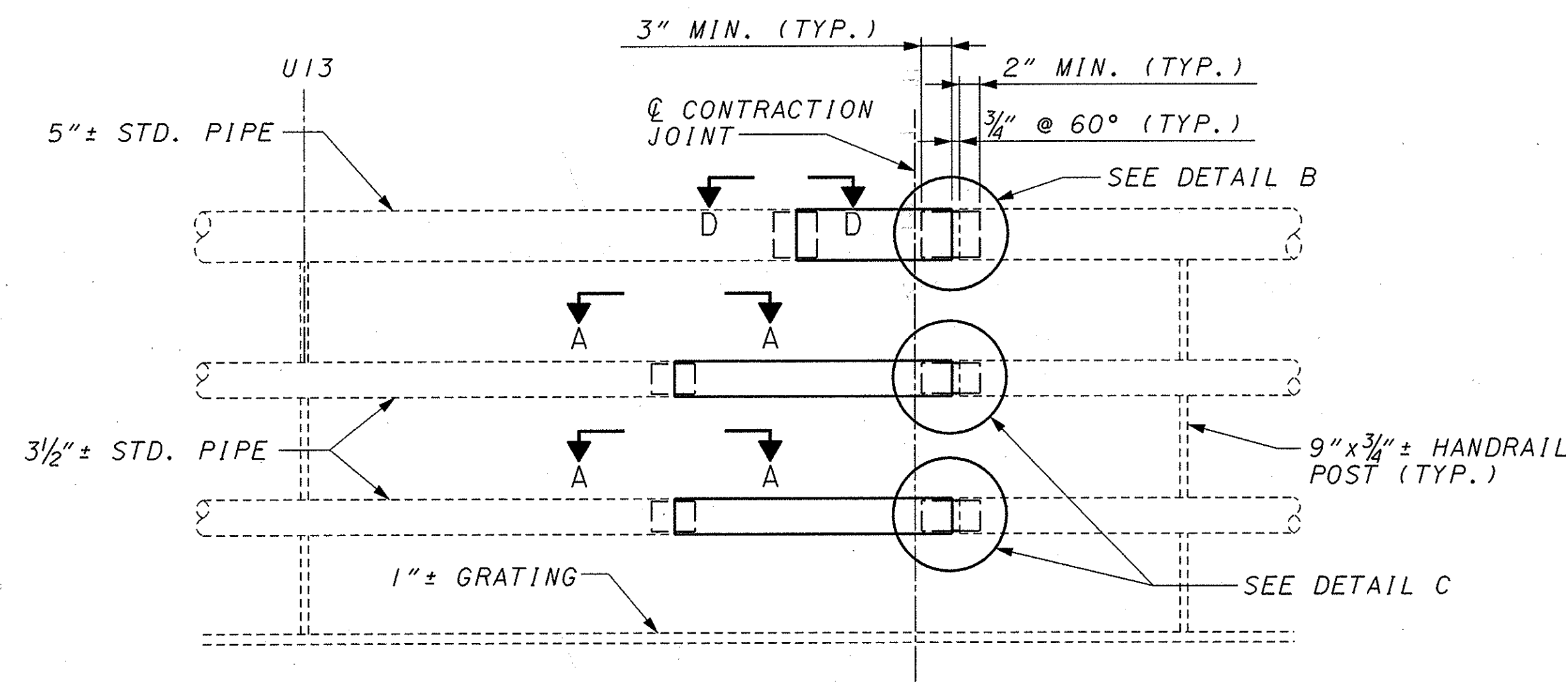
NOTES

- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325, TYPE 1, UNLESS OTHERWISE NOTED. GALVANIZE BOLTS PER 711.09.
- CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
- UNIT 2 FRAMING PLAN: SEE SHEET 25/40.
- STRINGER COVER PLATE RETROFIT NOTES: SEE SHEET 4/40.
- NOTATION: SPA. - SPACES

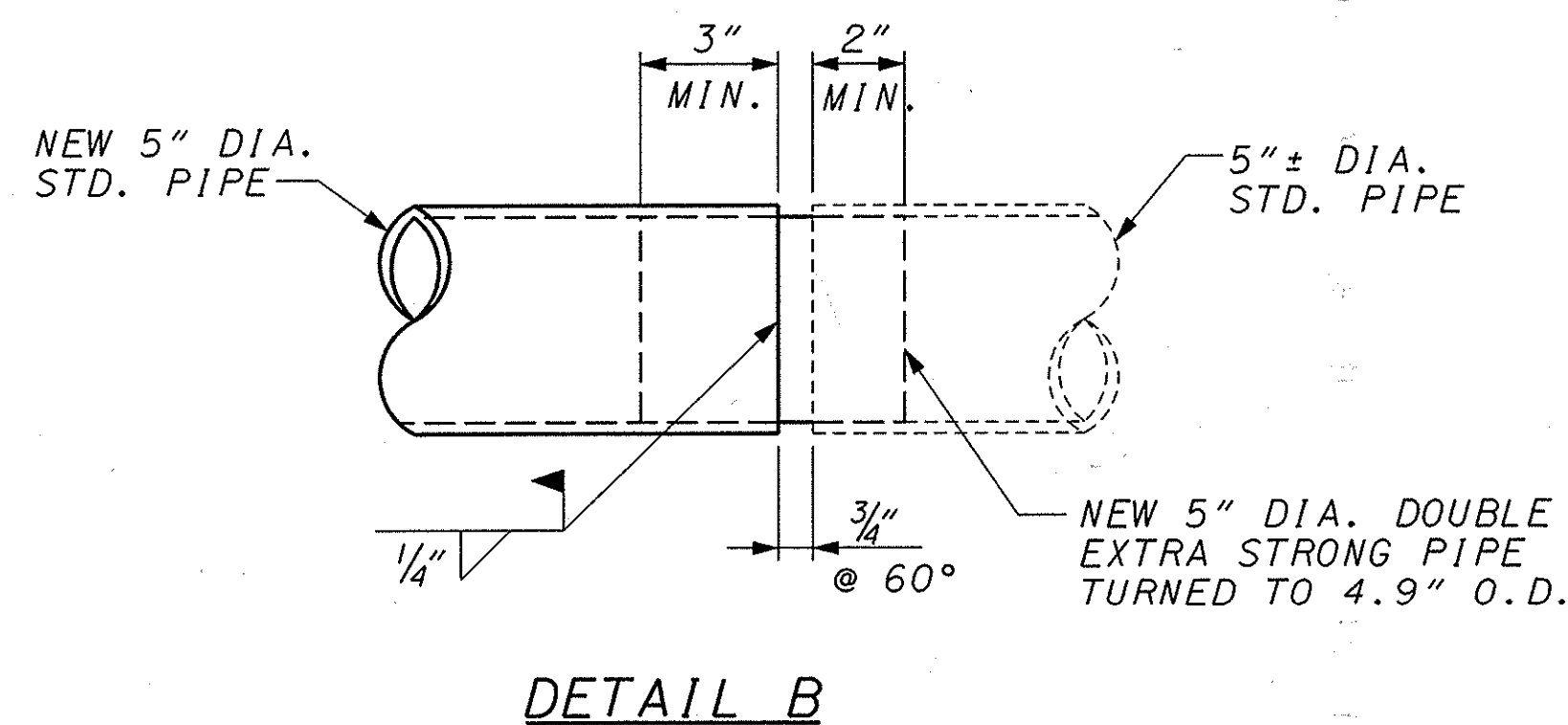
77078SDB.DGN 11/26/07 TWH,KH,SCB



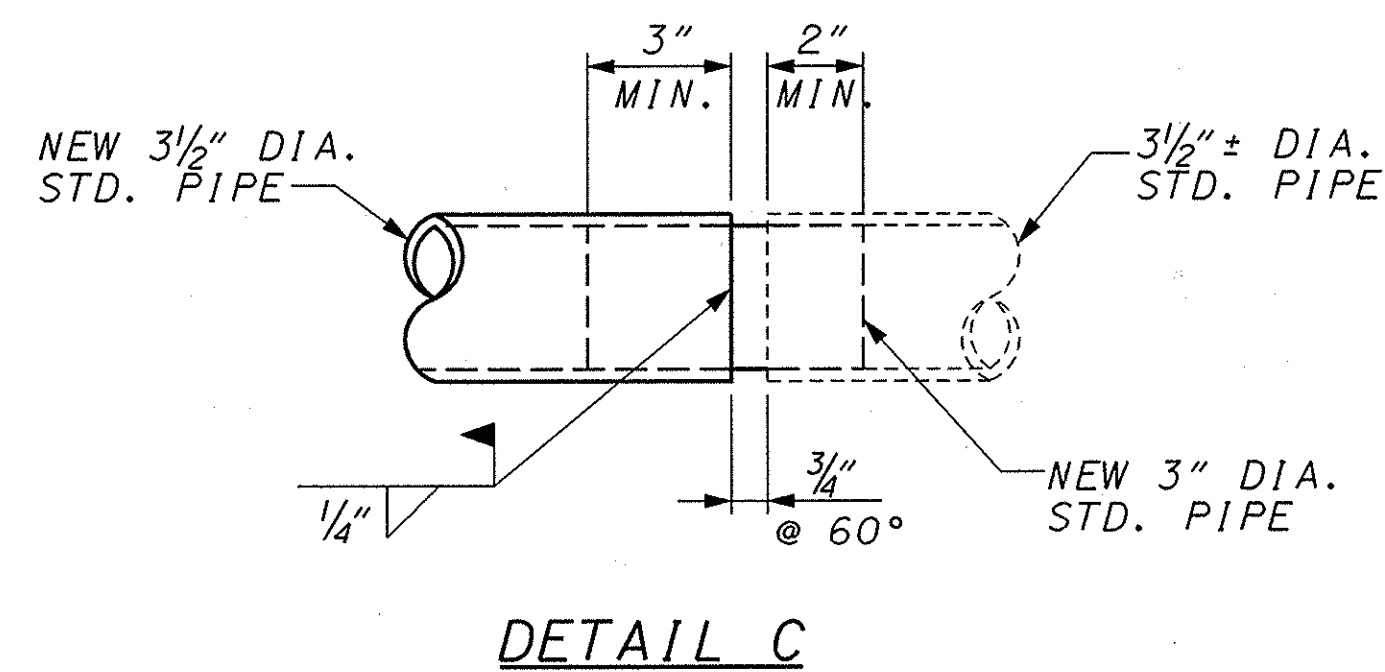
HANDRAIL REMOVAL DETAIL



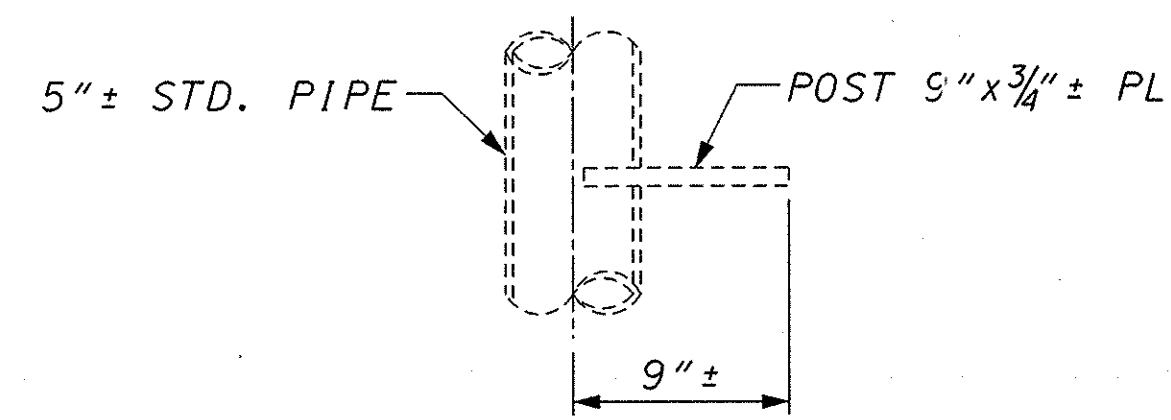
HANDRAIL REPAIR DETAIL



DETAIL B

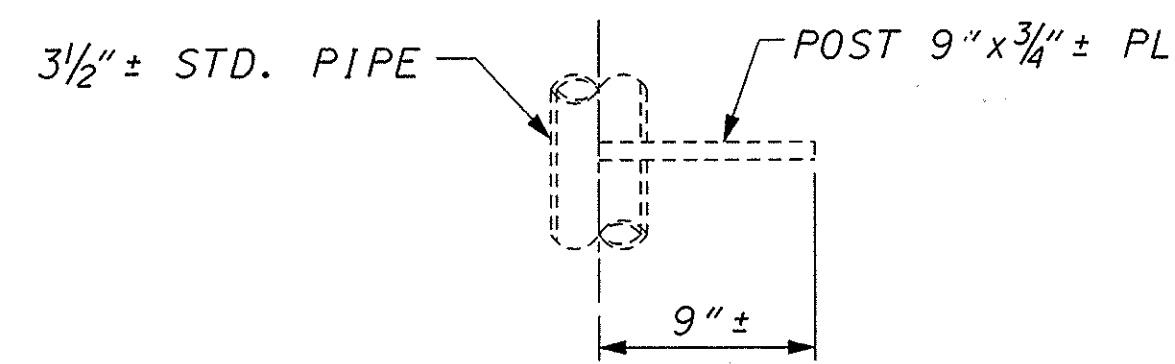


DETAIL C



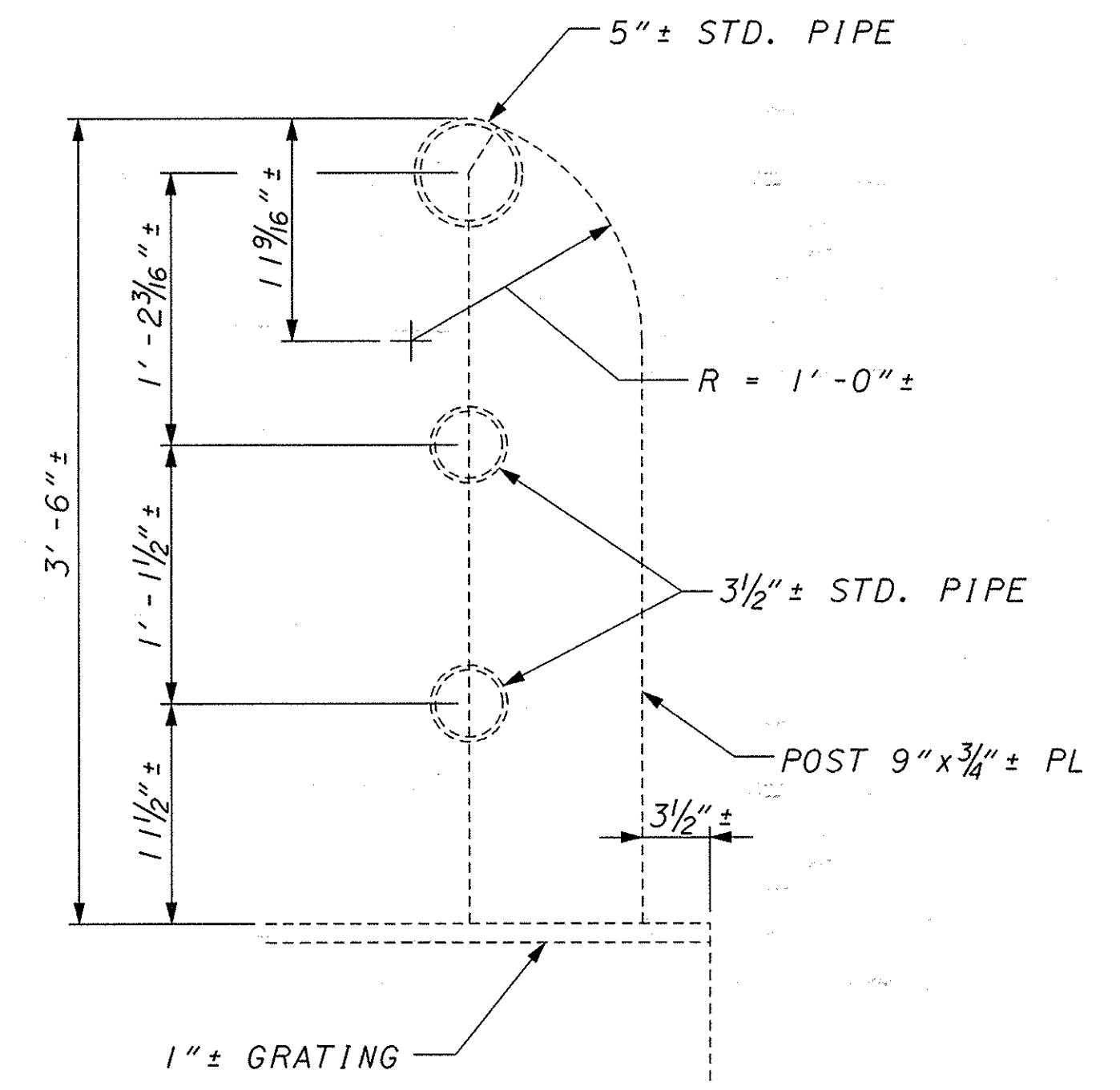
PLAN OF TOP RAIL

PIPE NOTCHED AND WELDED AROUND POST

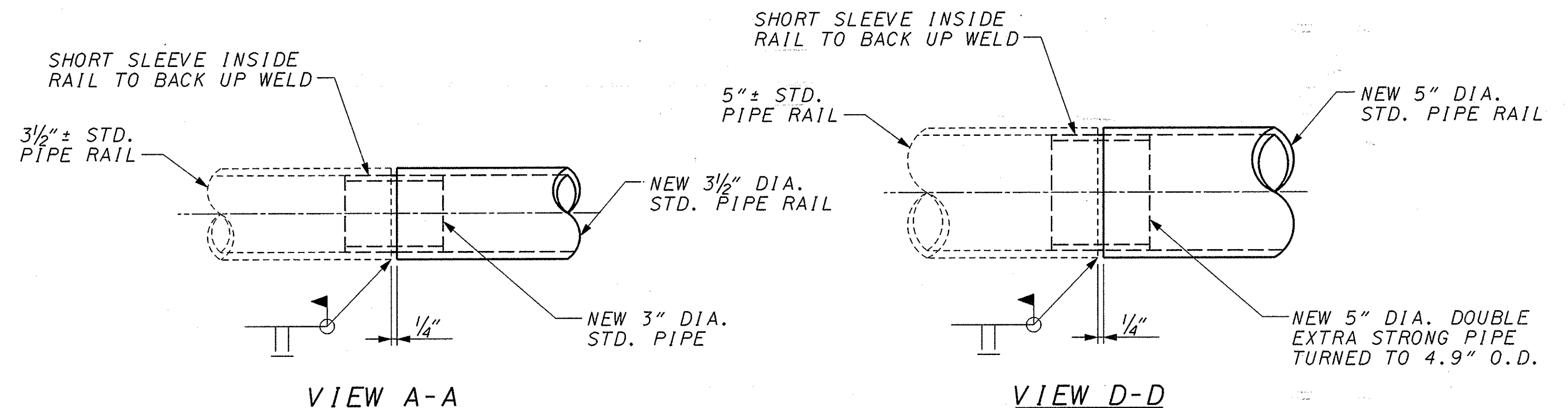


PLAN OF LOWER RAILS

PIPE NOTCHED AND WELDED AROUND POST



TYPICAL SECTION THROUGH HANDRAIL



VIEW A-A

VIEW D-D

LEGEND

- INDICATES APPROXIMATE AREA OF DETERIORATION
- INDICATES PIPE HANDRAIL TO BE REMOVED

NOTES

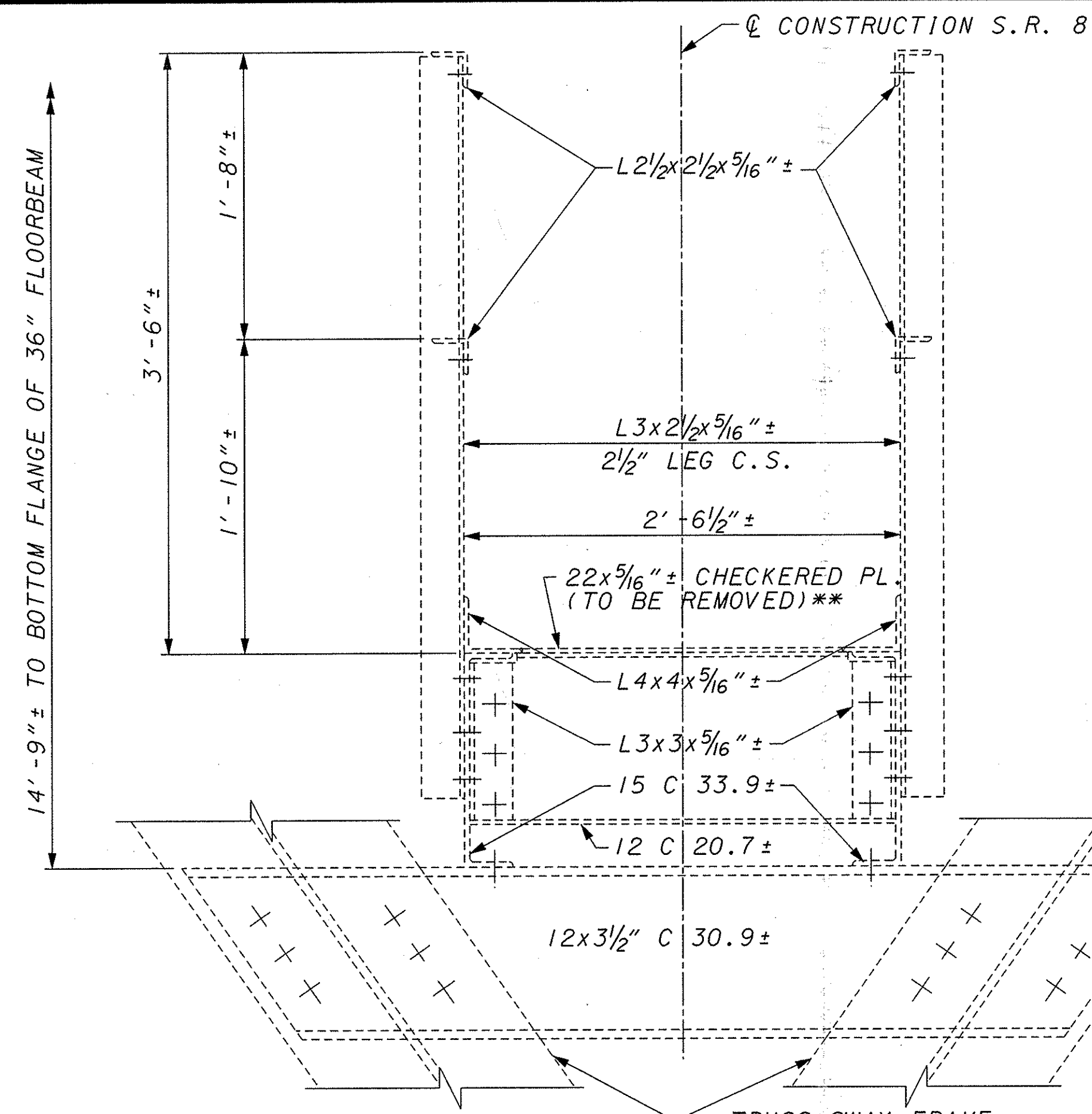
MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

UNIT 2 FRAMING PLAN: SEE SHEET 25/40.

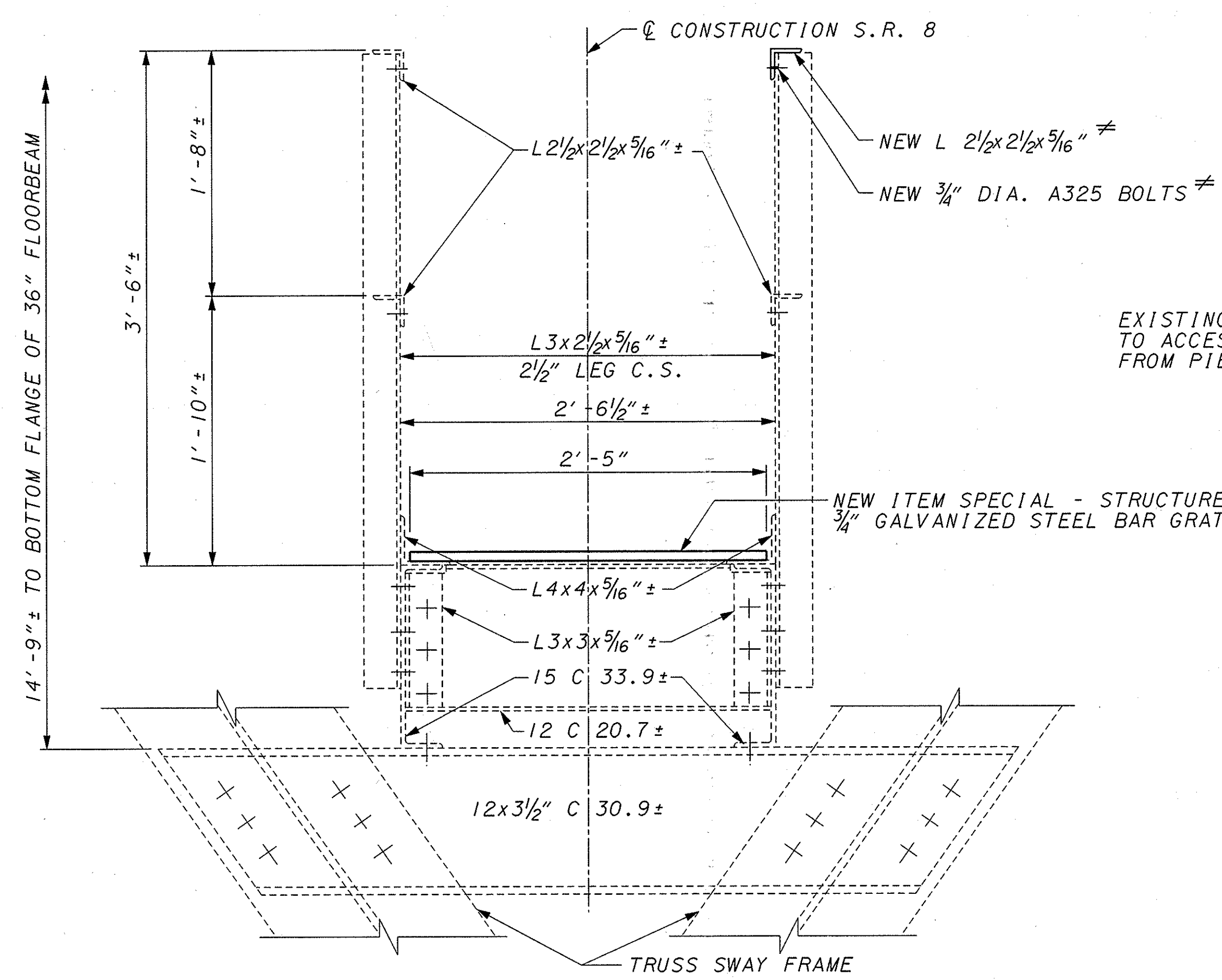
REPAIR DETERIORATED RAILING SPLICES NOTES: SEE SHEET 5/40.

T70785DD.DGN 11/26/07 JLS,TWH,KH,SCB

77078SDC.DGN 11/26/07 KH,TWH,SCB

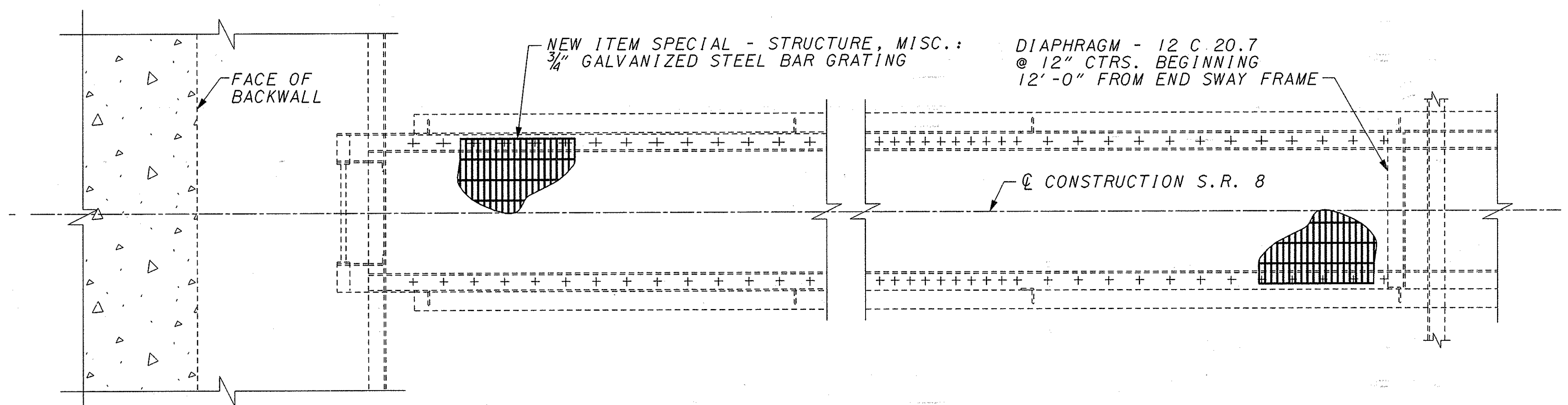


EXISTING INSPECTION WALKWAY SECTION

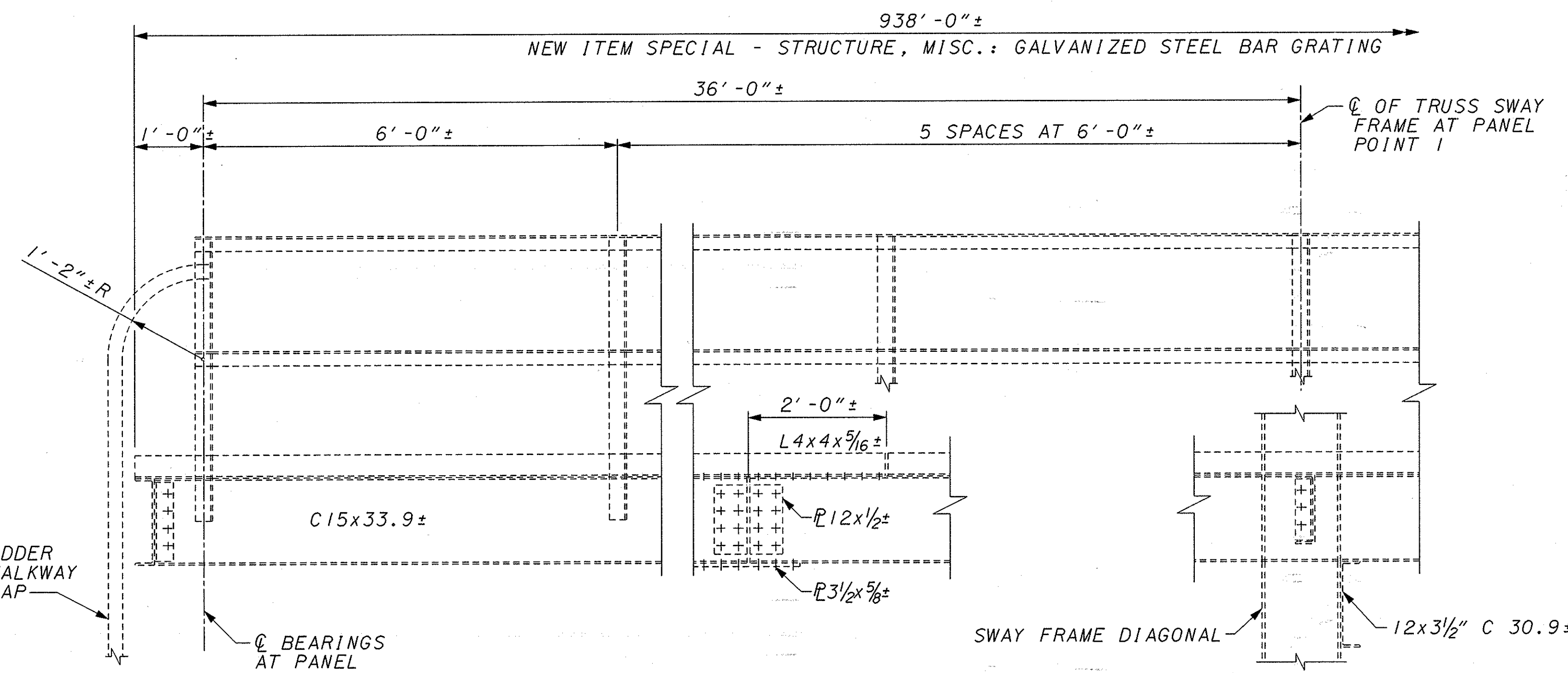


PROPOSED INSPECTION WALKWAY SECTION

** EXISTING CHECKERED PLATE SUSPENDED BETWEEN ANGLE LEGS BY STITCH WELDS TO OUTSTANDING ANGLE LEGS.



PLAN



ELEVATION

≠ REPLACE 36'-0" ± LENGTH OF EAST TOP RAIL BETWEEN RAIL SPLICES AT PANEL POINTS 11 AND 12. INCLUDE WITH NEW ITEM 513 - STRUCTURAL STEEL, MISC.: REPLACE MISSING INSPECTION WALKWAY RAIL.

NOTES

- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- UNIT 2 FRAMING PLAN: SEE SHEET 25/40.
- 3/4" GALVANIZED STEEL BAR GRATING NOTES: SEE SHEET 6/40.
- INSPECTION WALKWAY RAIL NOTES: SEE SHEET 4/40.
- HIGH STRENGTH BOLTS SHALL BE 3/4" DIAMETER A325, TYPE 1, UNLESS OTHERWISE NOTED. GALVANIZE BOLTS PER 711.09.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED JDB	DRAWN KH	REVISIONS DLR 11/28/07	DATE 11/28/07
CHECKED ALP	REVISIONS	STRUCTURE FILE NUMBER 7700369	

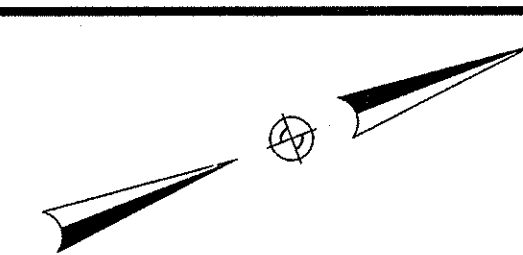
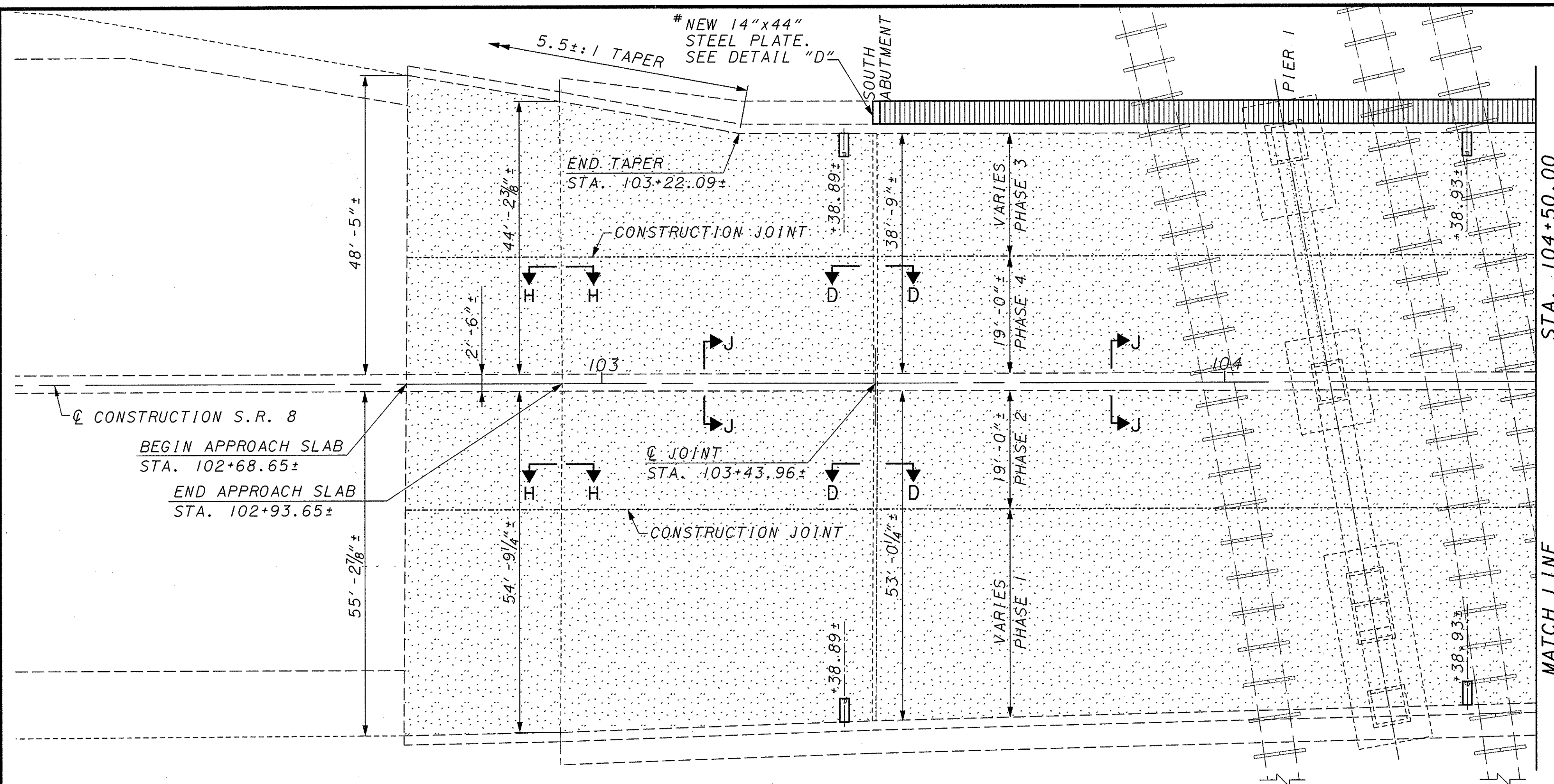
INSPECTION WALKWAY REPAIRS
BRIDGE NO. SUM-8-0195
OVER RAILROADS, LITTLE CUYAHOCA RIVER AND EAST NORTH STREET

SUM-8-1.95
PID 77078




28 / 40

90
102

77078DPA.DGN 11/28/07 KH

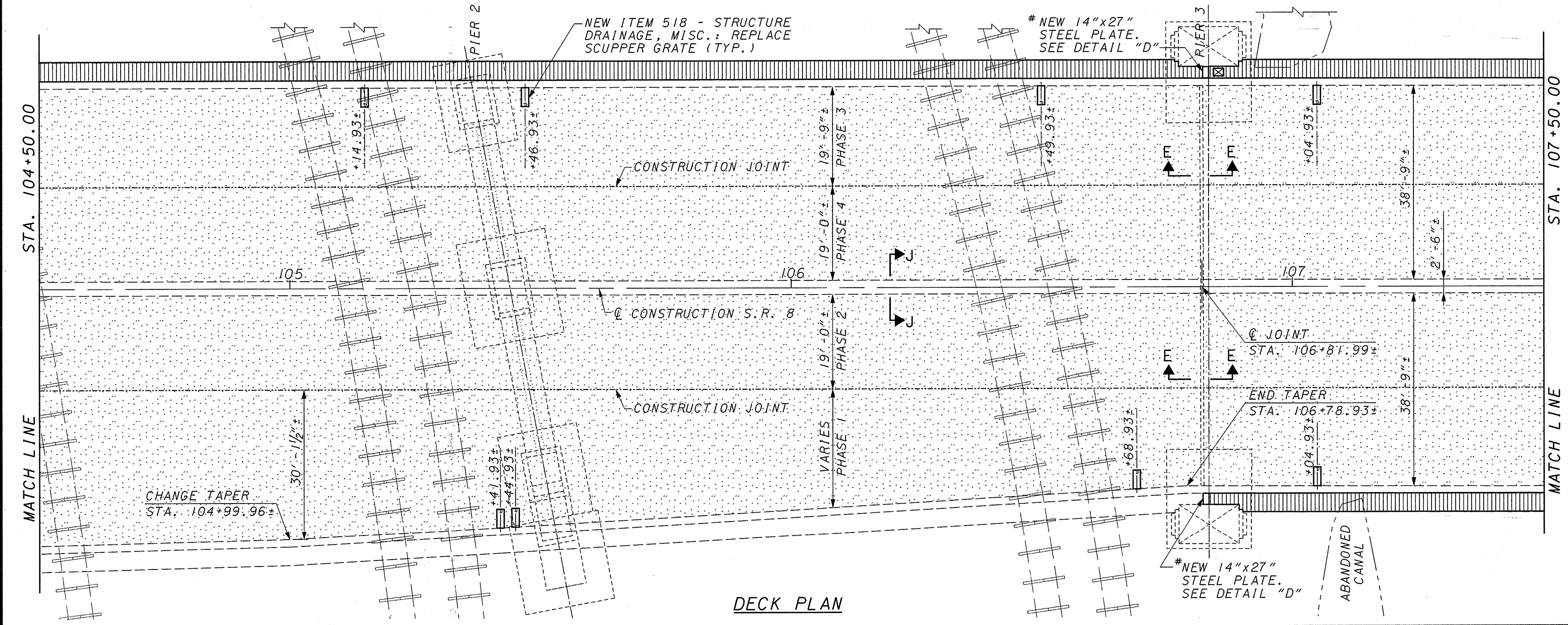


LEGEND


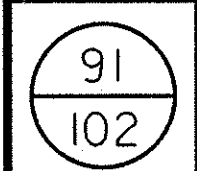
-  - INDICATES NEW ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2 1/4" THICK), AS PER PLAN
-  - INDICATES NEW ITEM SPECIAL - STRUCTURE, MISC.: 1" GALVANIZED STEEL BAR GRATING
-  - INDICATES APPROXIMATE LOCATION OF HINGED PIER ACCESS HATCH, INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: 1" GALVANIZED STEEL BAR GRATING FOR PAYMENT
- # - TO BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: 1" GALVANIZED STEEL BAR GRATING FOR PAYMENT

NOTES

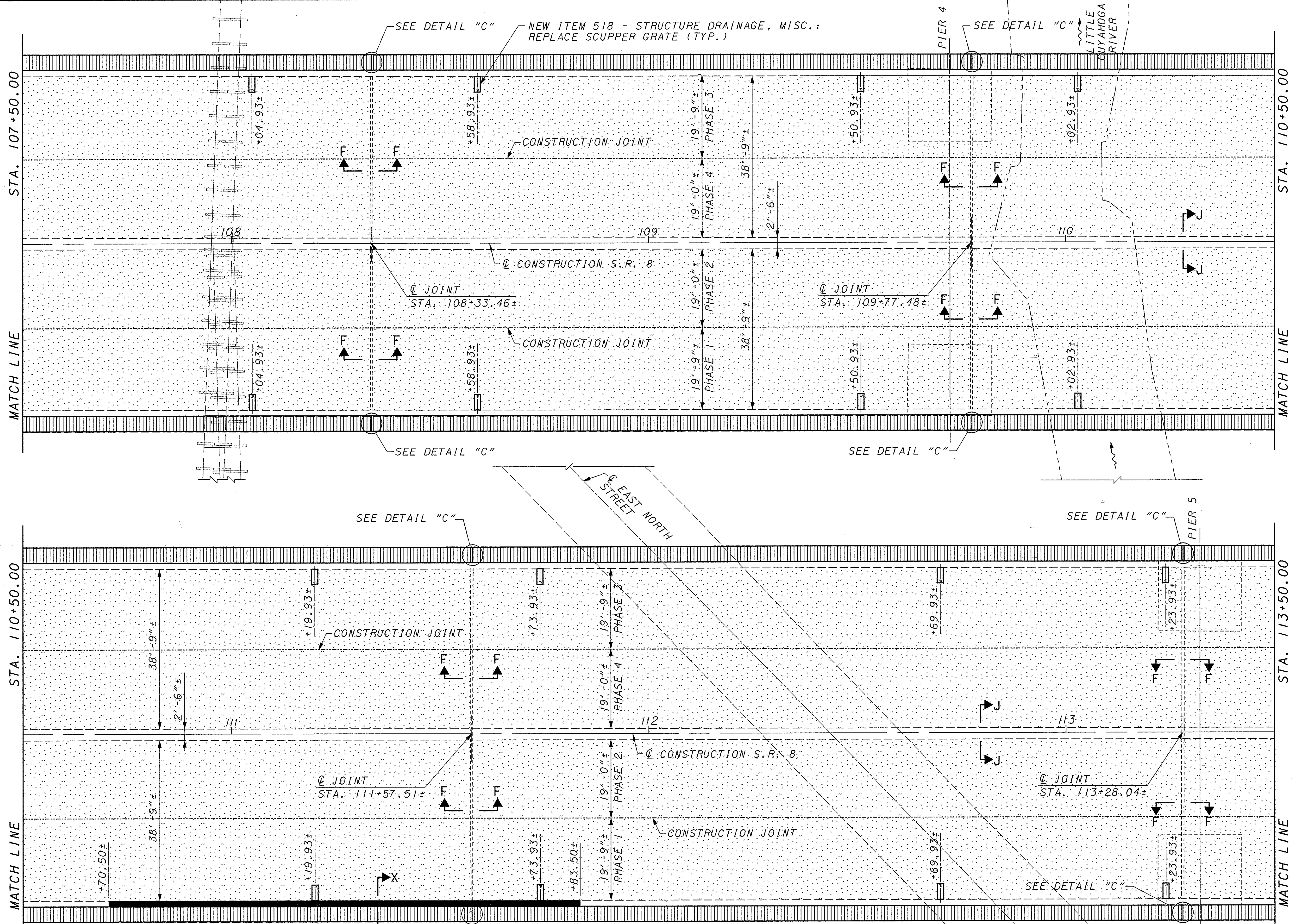
- SECTIONS D-D & E-E: SEE SHEET 32/40.
- SECTIONS H-H & J-J: SEE SHEET 33/40.
- TRANSVERSE SECTIONS: SEE SHEETS 21/40 AND 22/40.
- REPLACE SCUPPER GRATE DETAILS: SEE SHEET 32/40.
- DETAIL "D": SEE SHEET 33/40.



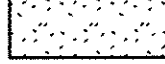


DECK PLAN

		RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DATE	11/28/07	DRAWN	KH
REVISION	DLR	CHECKED	ALP
STRUCTURE FILE NUMBER	7700369	DESIGNED	JDB
DECK PLAN - 1 BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET			
SUM-8-1.95 PID 77078			
29/40			
			

77078DPB.DGN 11/28/07 KH



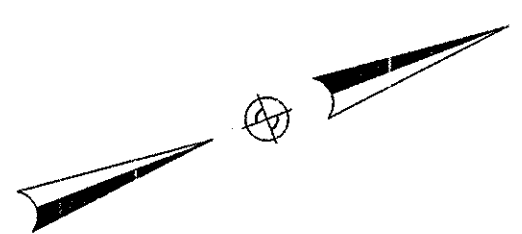
LEGEND

-  - INDICATES NEW ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2 1/4" THICK), AS PER PLAN
-  - INDICATES NEW ITEM SPECIAL - STRUCTURE, MISC.: 1" GALVANIZED STEEL BAR GRATING
-  - INDICATES NEW ITEM 511 - CONCRETE, MISC.: RECONSTRUCT CONCRETE PARAPET

DECK PLAN

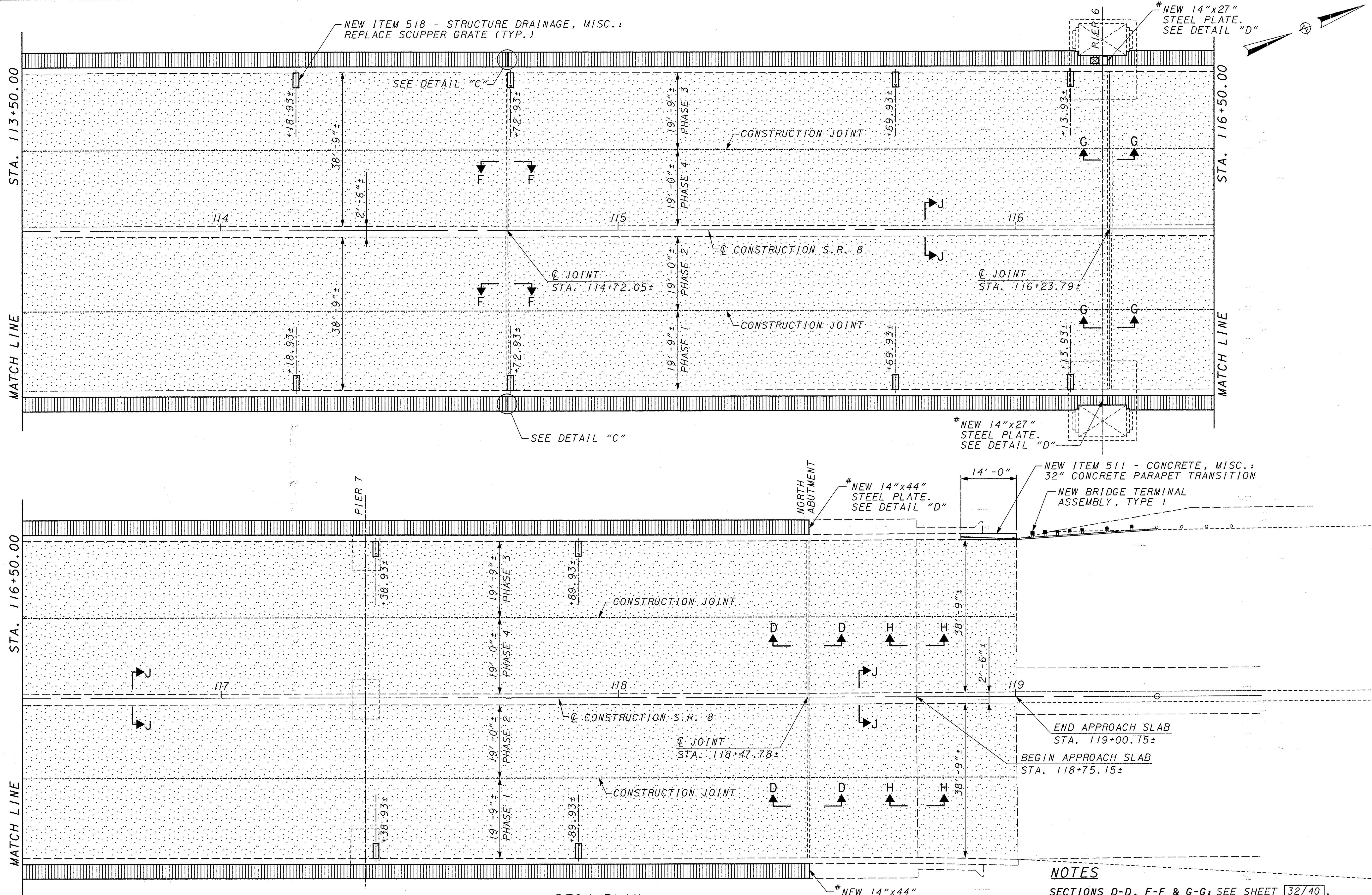
NOTES

- SECTION F-F: SEE SHEET 32/40.
- SECTION J-J: SEE SHEET 33/40.
- SECTION X-X: SEE SHEET 39/40.
- TRANSVERSE SECTION: SEE SHEET 22/40.
- REPLACE SCUPPER GRATE DETAILS: SEE SHEET 32/40.
- DETAIL "C": SEE SHEET 33/40.



SUM-8-1.95	DECK PLAN - 2	RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	DATE 11/28/07	REVIEWED DLR
PID 77078	OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET	DRAWN KH	STRUCTURE FILE NUMBER 7700369	DESIGNED JDB
30/40	BRIDGE NO. SUM-8-0195	CHECKED ALP		
92 102				

77078DFC.DGN 11/28/07 KH



- INDICATES NEW ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2 1/4\"/>
- INDICATES NEW ITEM SPECIAL - STRUCTURE, MISC.: 1\"/>

- INDICATES APPROXIMATE LOCATION OF HINGED PIER ACCESS HATCH, INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: 1\"/>
- TO BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: 1\"/>

NOTES

SECTIONS D-D, F-F & G-G: SEE SHEET 32/40.

SECTIONS H-H & J-J: SEE SHEET 33/40.

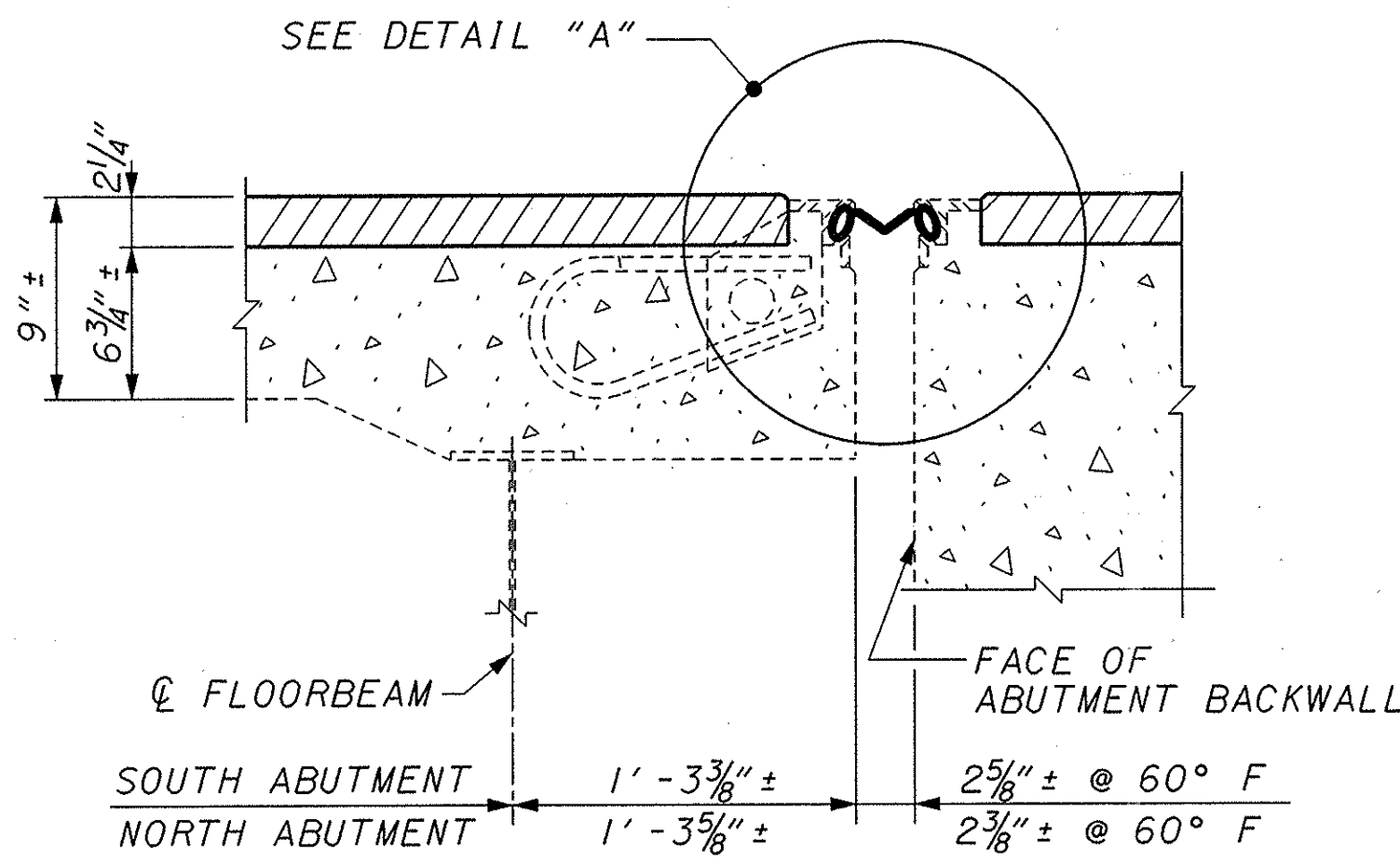
TRANSVERSE SECTIONS: SEE SHEETS 22/40 AND 23/40.

PARAPET TRANSITION DETAILS: SEE SHEETS 39/40 AND 40/40.

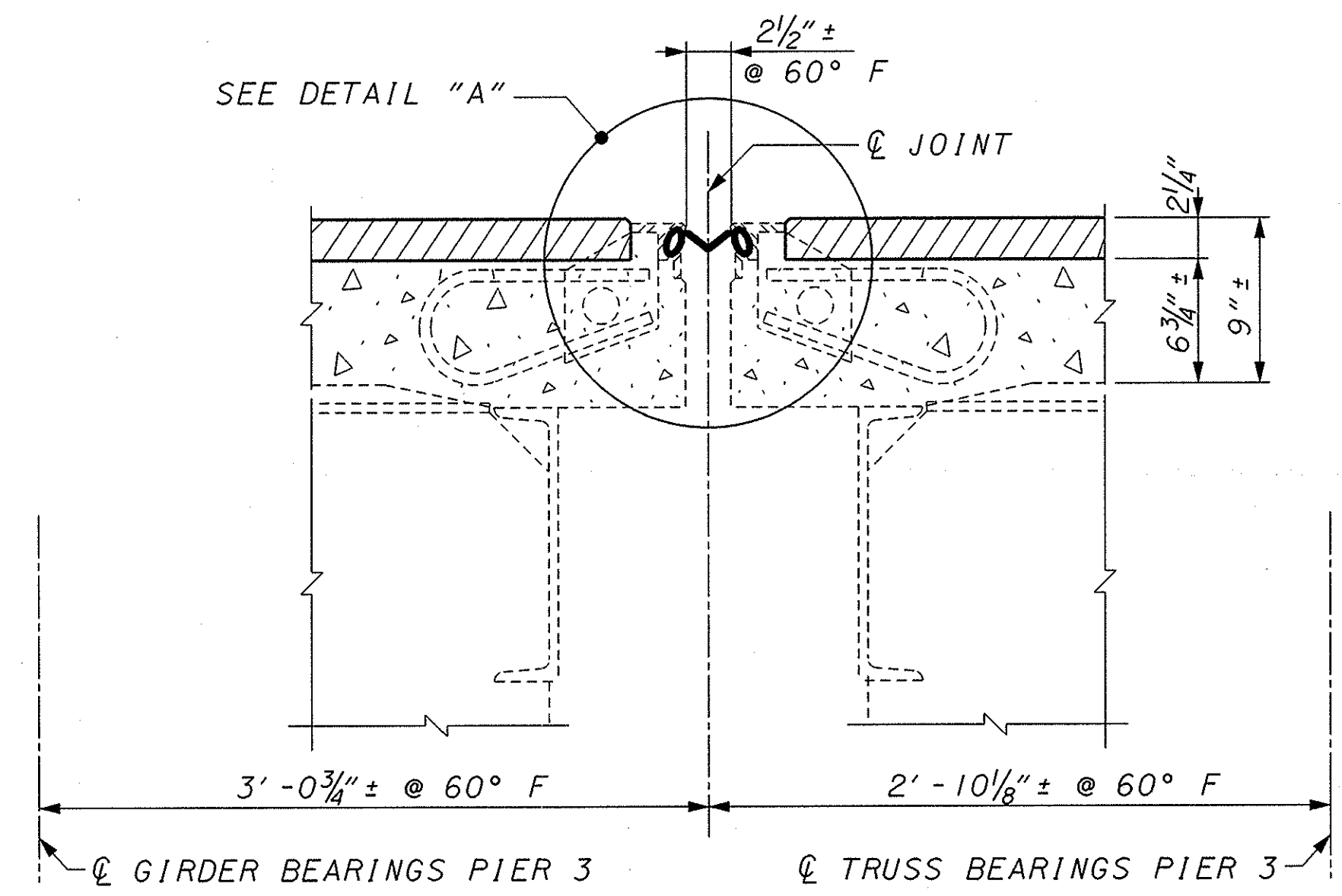
REPLACE SCUPPER GRATE DETAILS: SEE SHEET 32/40.

DETAILS "C" & "D": SEE SHEET 33/40.

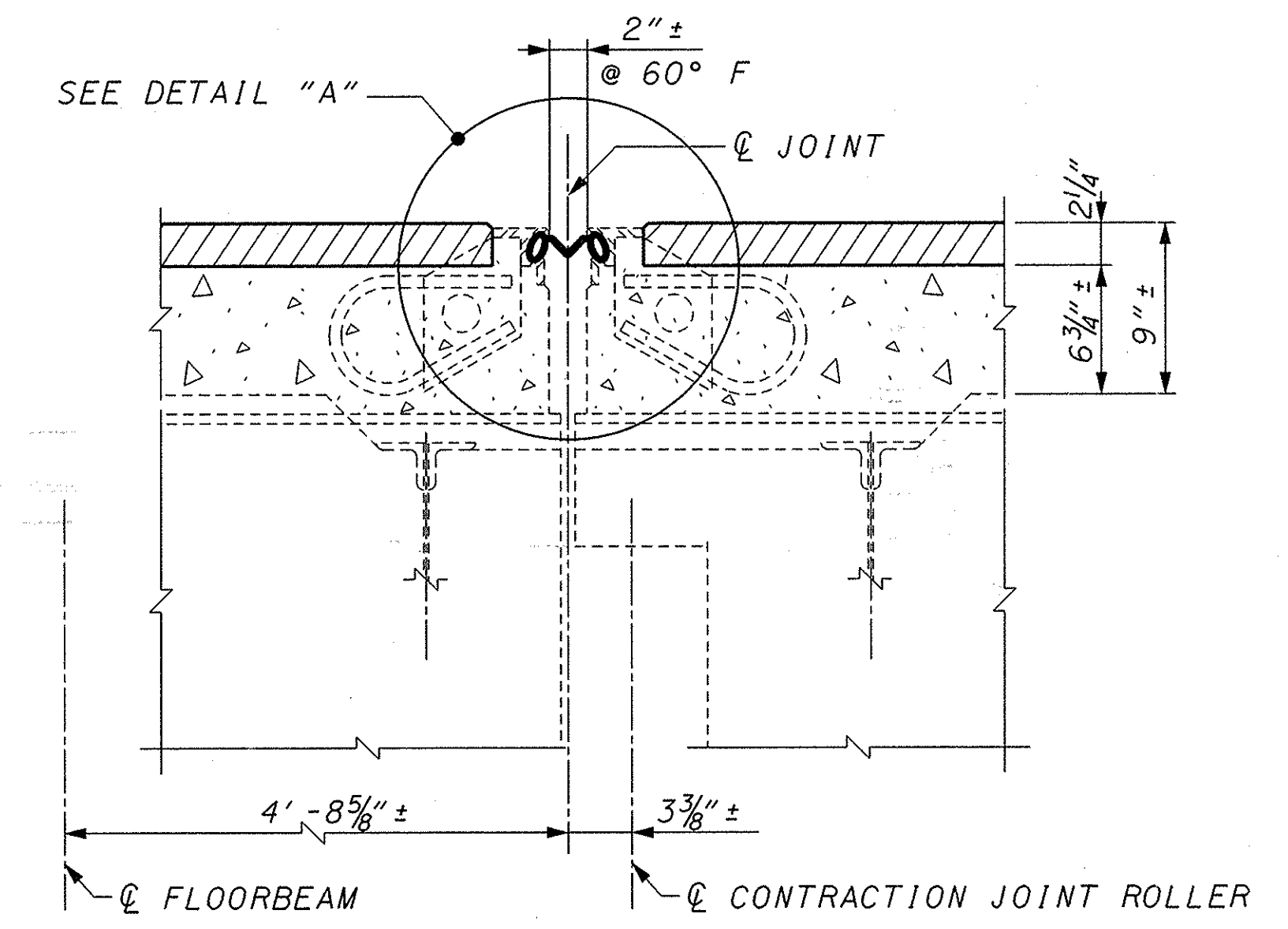
<p>SUM-8-1.95 PID 77078</p>	<p>DECK PLAN - 3 BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET</p>	<p>DESIGNED JDB CHECKED ALP</p>	<p>DRAWN KH REVISED</p>	<p>REVIEWED DLR STRUCTURE FILE NUMBER 7700369</p>	<p>DATE 11/28/07</p>	<p>RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902</p>
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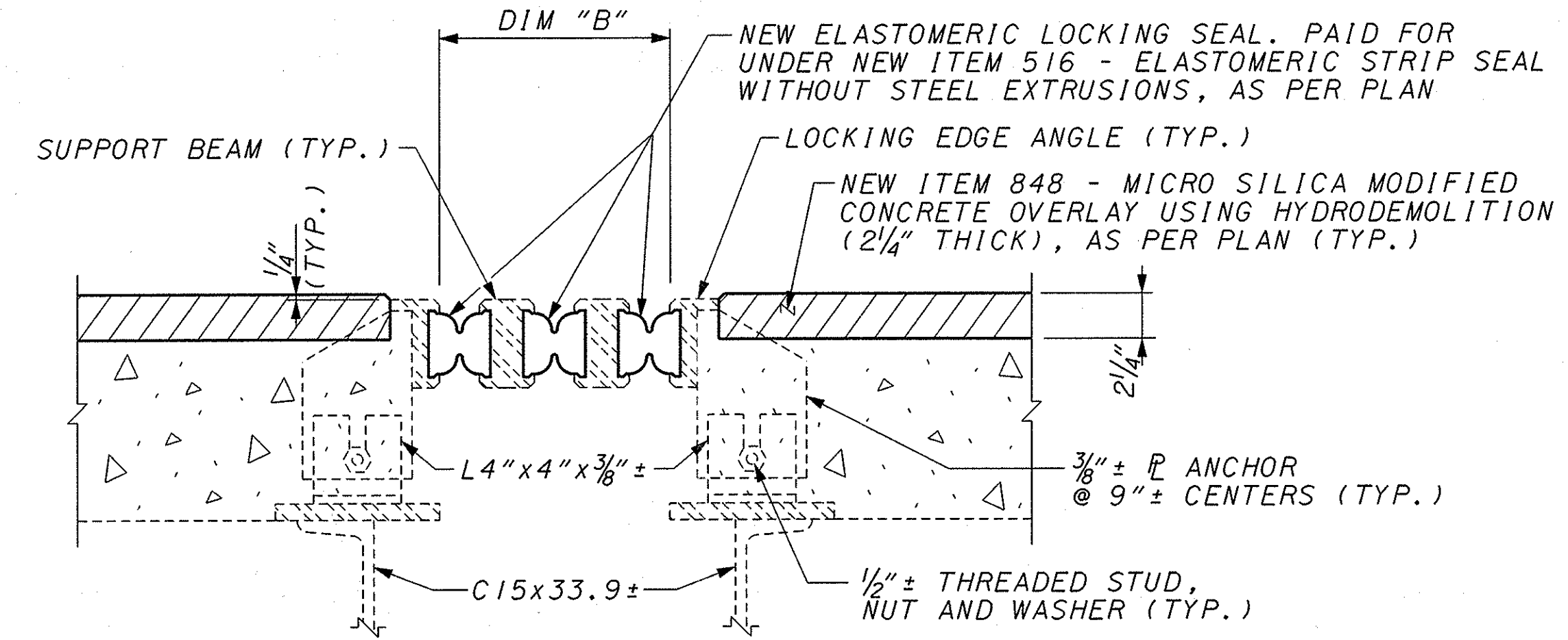
SECTION D-D
(ABUTMENTS)



SECTION E-E
(PIER 3)

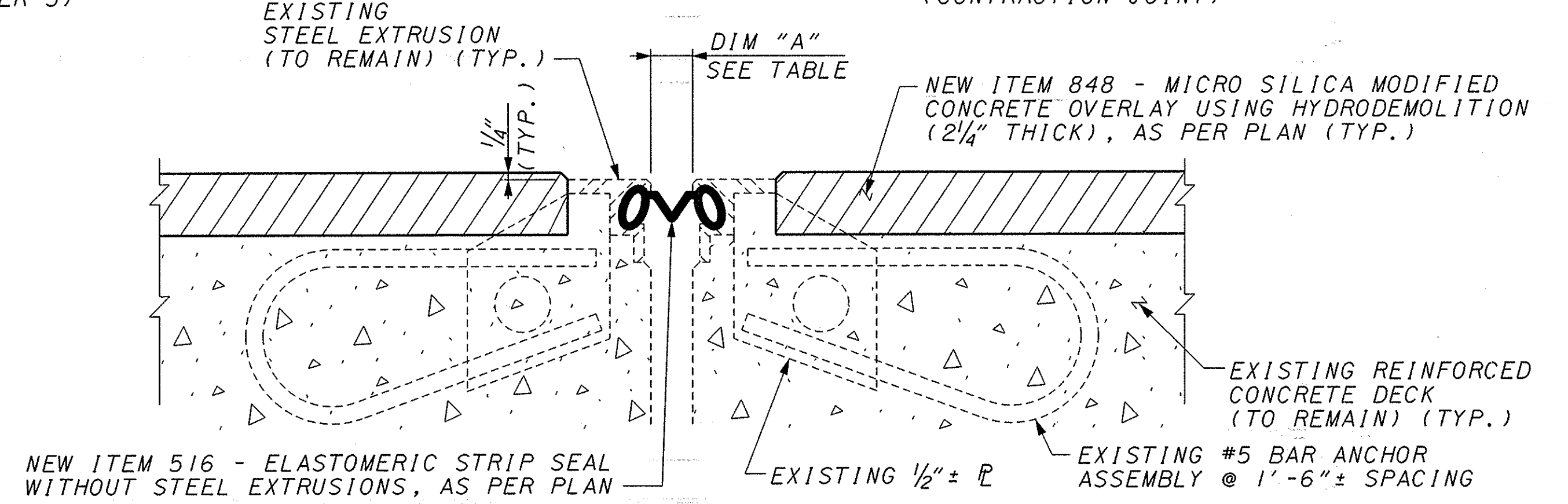


SECTION F-F
(CONTRACTION JOINT)



SECTION G-G
(PIER 6)

(SECTION G-G SHOWN BETWEEN SUPPORT BOXES)



DETAIL "A"

(SEE STANDARD DRAWING EXJ-4-87 FOR ADDITIONAL DETAILS)

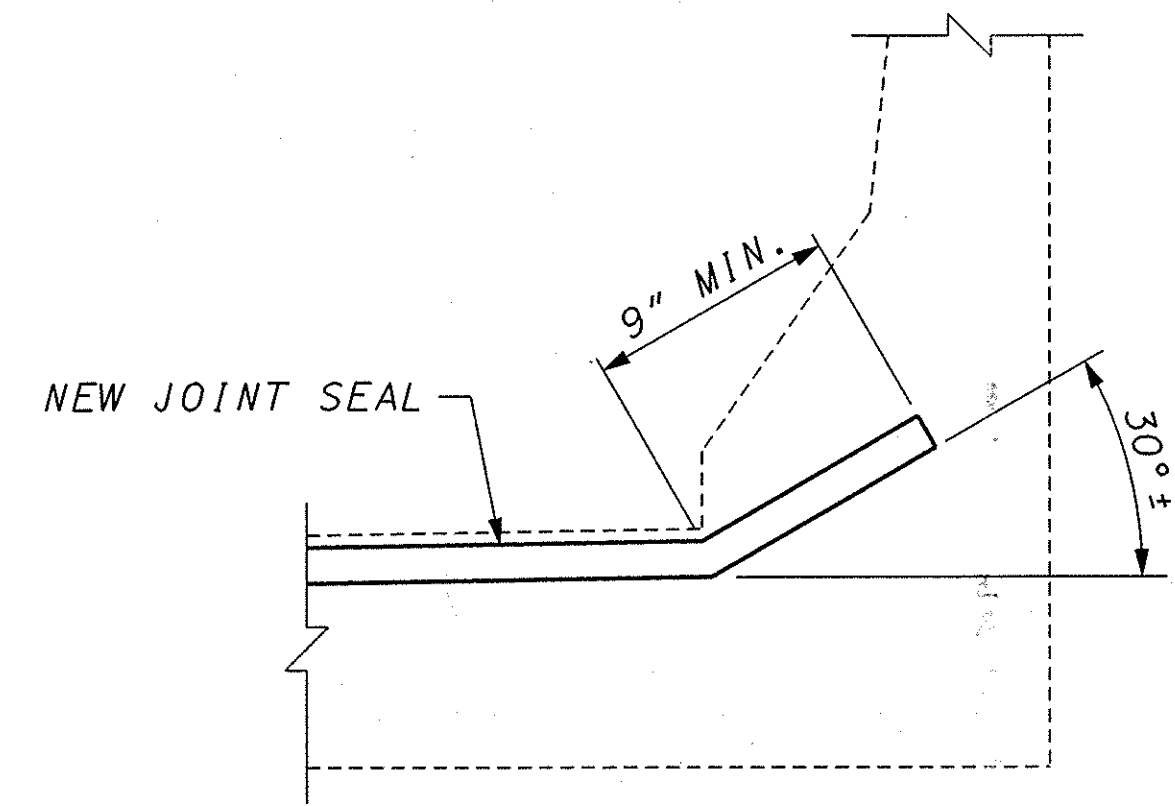
DIM. "B"± (FOR INFORMATION ONLY) (TAKEN FROM ORIGINAL CONSTRUCTION PLANS)	TEMPERATURE °F							LENGTH #	
	30	40	50	60	70	80	90	SOUTHBOUND	NORTHBOUND
PIER 6	11 1/8"	10 5/8"	10 1/8"	9 5/8"	9 1/8"	8 5/8"	8 1/8"	40' - 3"±	40' - 3"±

LENGTH INCLUDES 9" MINIMUM SEAL EXTENSION INTO PARAPETS. SEE DETAIL "B".

DIM. "A"± (FOR INFORMATION ONLY) (TAKEN FROM ORIGINAL CONSTRUCTION PLANS)	TEMPERATURE °F							NOMINAL SEAL GLAND SIZE	LENGTH #	
	30	40	50	60	70	80	90		SOUTHBOUND	NORTHBOUND
SOUTH ABUTMENT	3 7/16"	3 1/8"	2 7/8"	2 5/8"	2 3/8"	2 1/8"	1 13/16"	5"	40' - 3"±	54' - 7"±
PIER 3	3 3/16"	2 15/16"	2 3/4"	2 1/2"	2 1/4"	2 1/16"	1 13/16"	5"	40' - 3"±	40' - 3"±
CONTRACTION JOINTS *	2 7/16"	2 1/4"	2 1/8"	2"	1 7/8"	1 3/4"	1 9/16"	3"	40' - 3"±	40' - 3"±
NORTH ABUTMENT	2 7/8"	2 3/4"	2 9/16"	2 3/8"	2 3/16"	2"	1 7/8"	4"	40' - 3"±	40' - 3"±

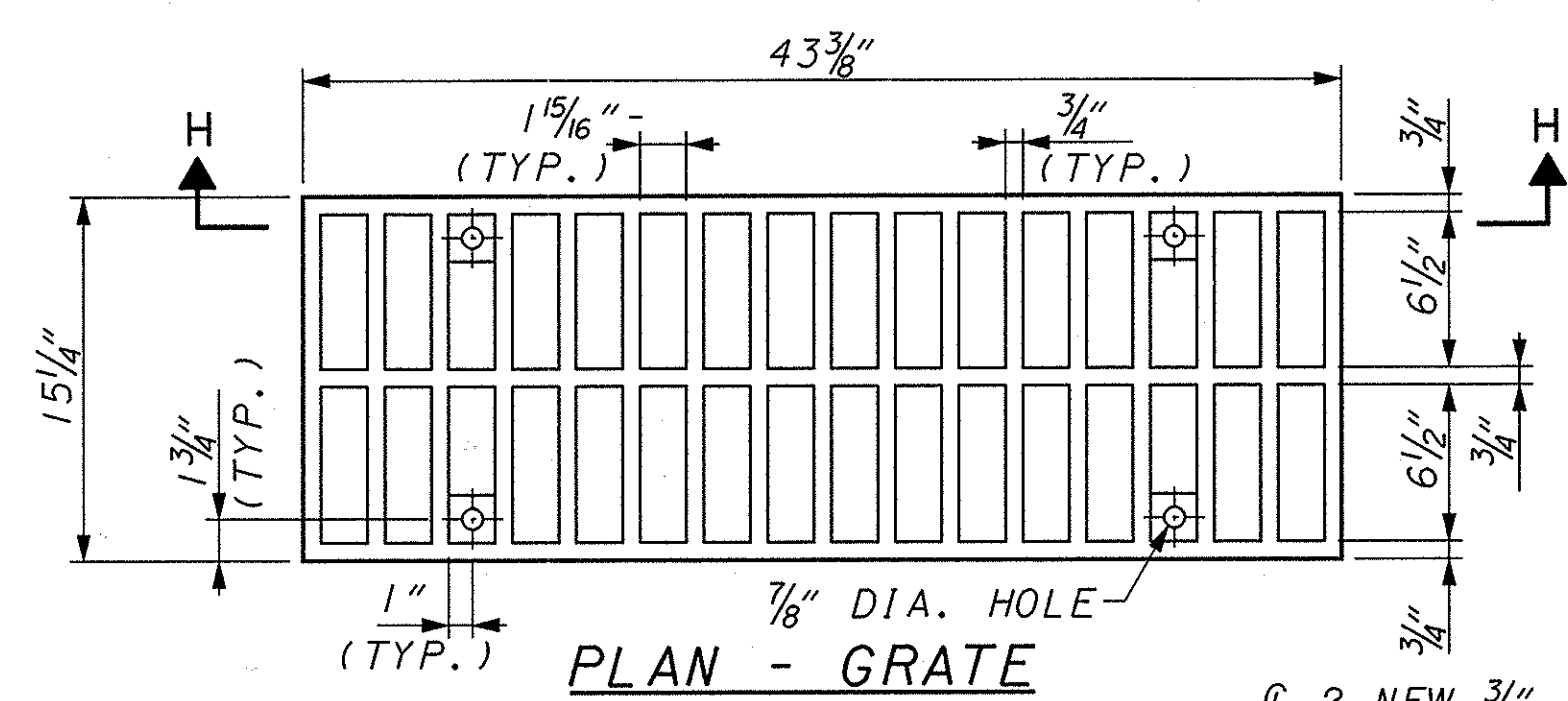
* 5 LOCATIONS IN UNIT 2

LENGTH INCLUDES 9" MINIMUM SEAL EXTENSION INTO PARAPETS. SEE DETAIL "B".

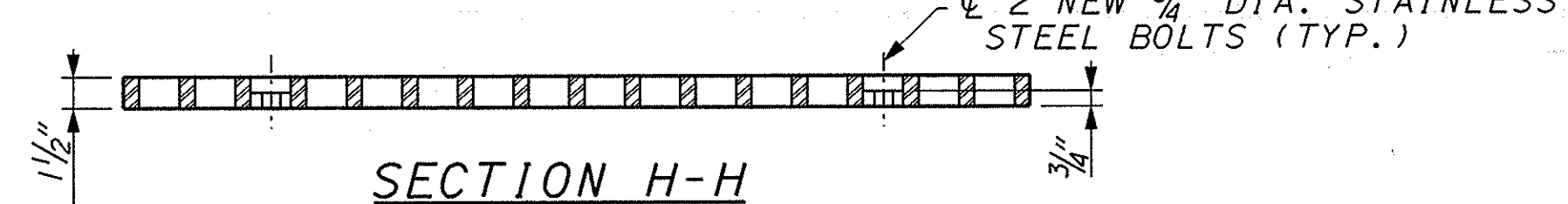


DETAIL "B"

(MEDIAN BARRIER SHOWN; OUTSIDE PARAPETS SIMILAR)



PLAN - GRATE



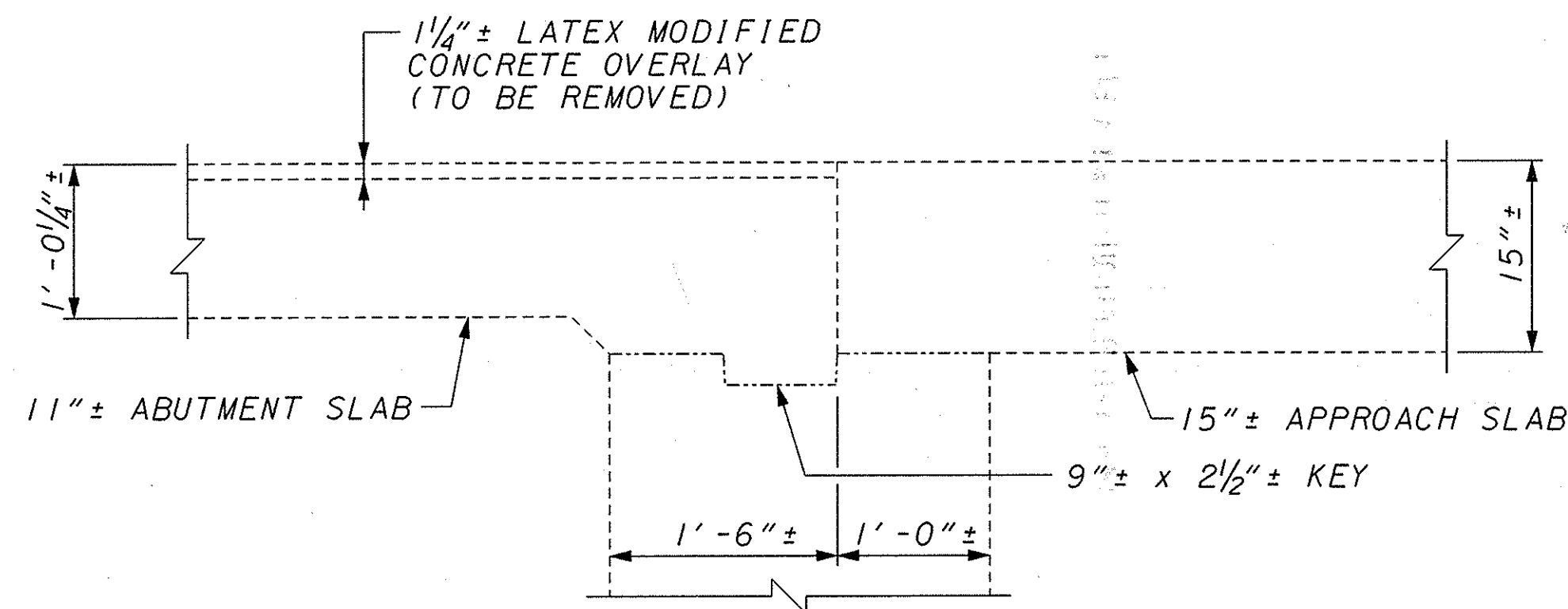
SECTION H-H

ITEM 518 - STRUCTURE DRAINAGE, MISC.: REPLACE SCUPPER GRATE

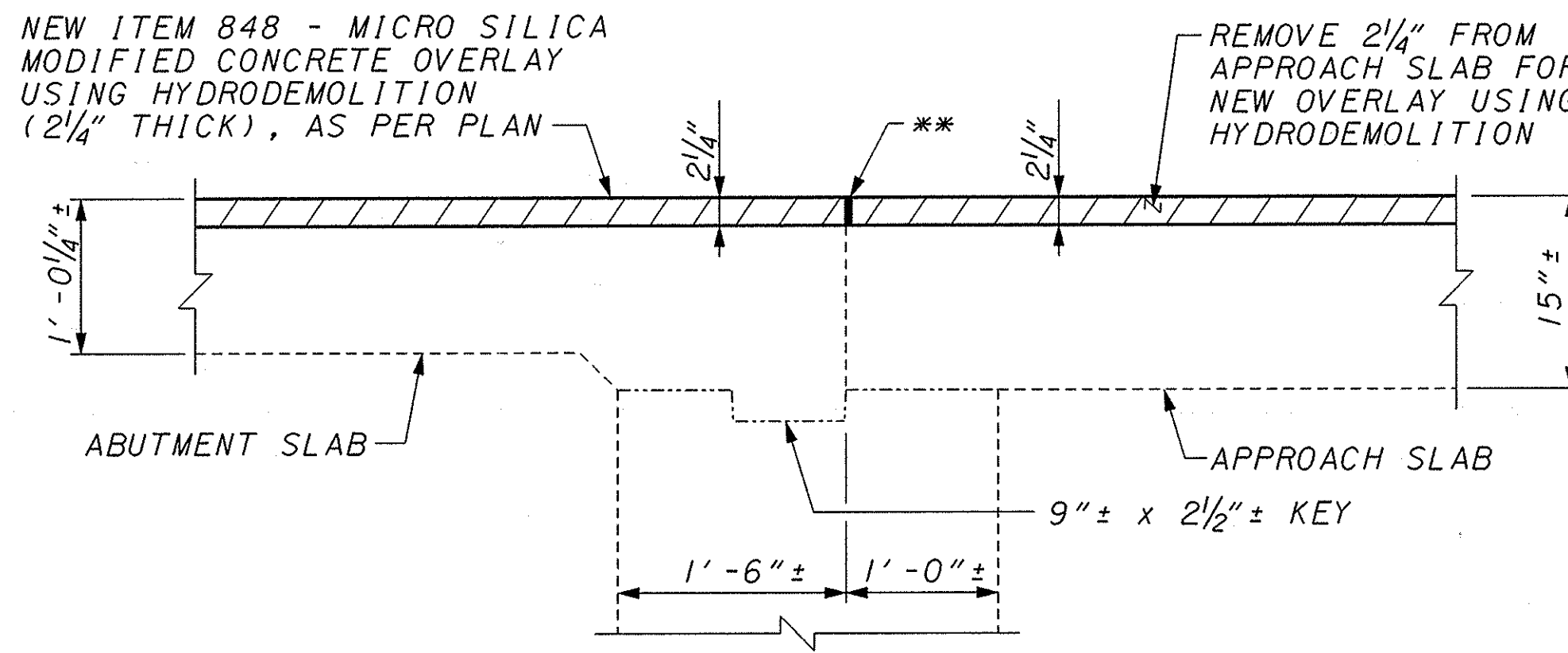
NOTES

- MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SECTION D-D:** FOR LOCATIONS SEE SHEETS [29/40] AND [31/40].
- SECTION E-E:** FOR LOCATIONS SEE SHEET [29/40].
- SECTION F-F:** FOR LOCATIONS SEE SHEETS [30/40] AND [31/40].
- SECTION G-G:** FOR LOCATIONS SEE SHEET [31/40].
- REPLACE SCUPPER GRATE LOCATIONS:** SEE SHEETS [29/40] TO [31/40].

77078EXB.DGN 11/27/07 KH.SCB,TWH

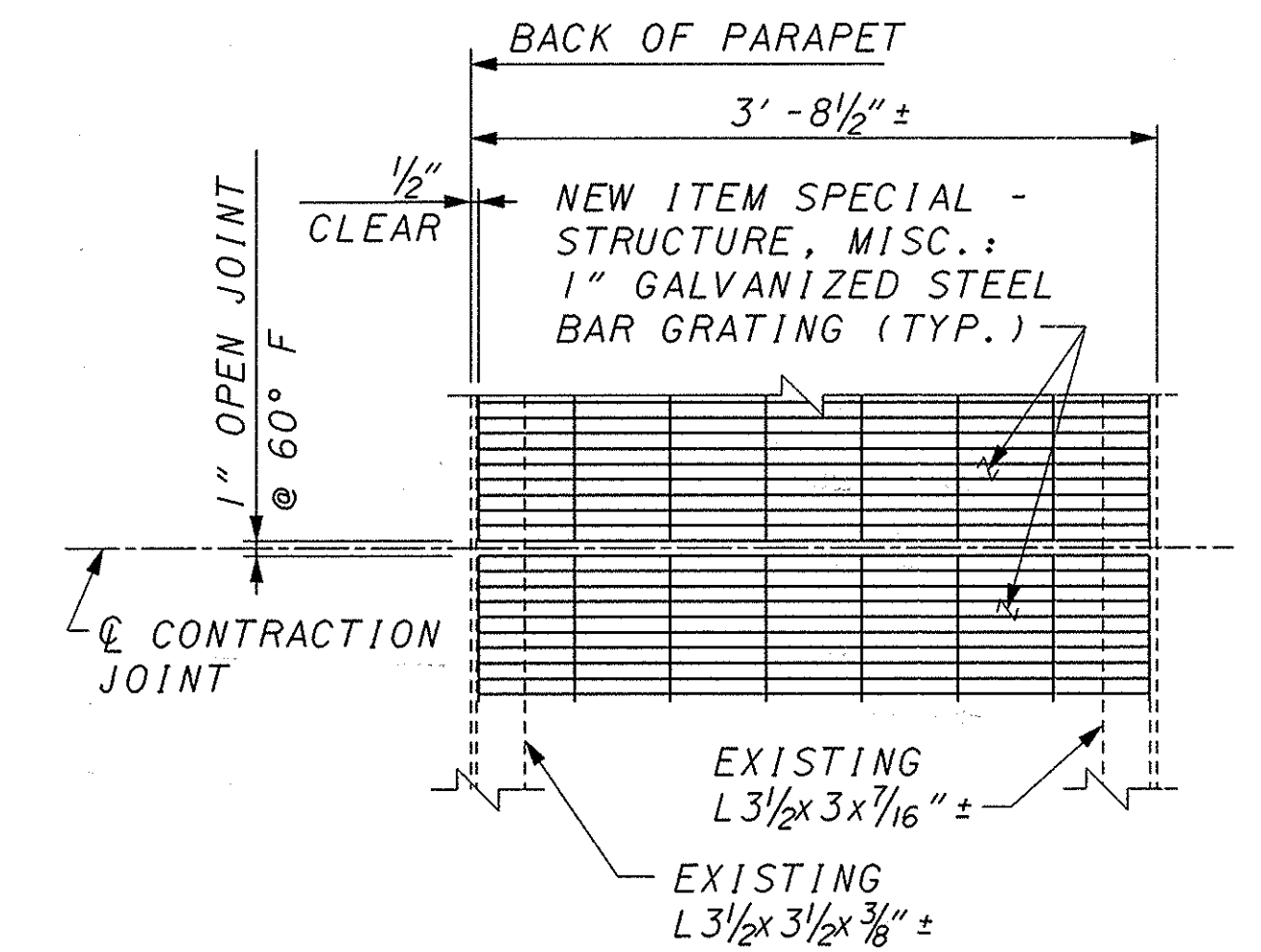


EXISTING SECTION H-H
(SOUTH ABUTMENT SHOWN; NORTH ABUTMENT SIMILAR)

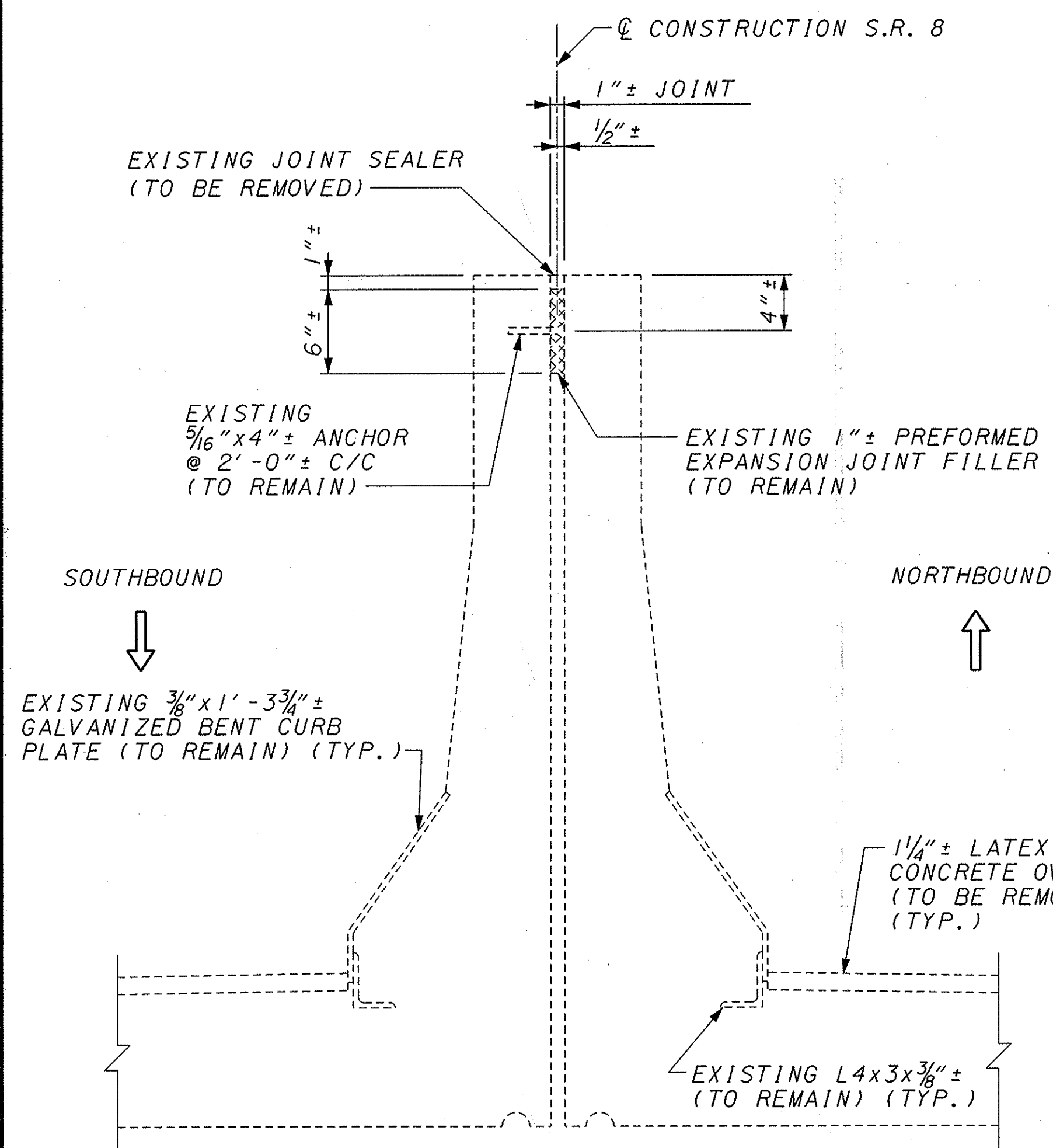


PROPOSED SECTION H-H
(SOUTH ABUTMENT SHOWN; NORTH ABUTMENT SIMILAR)

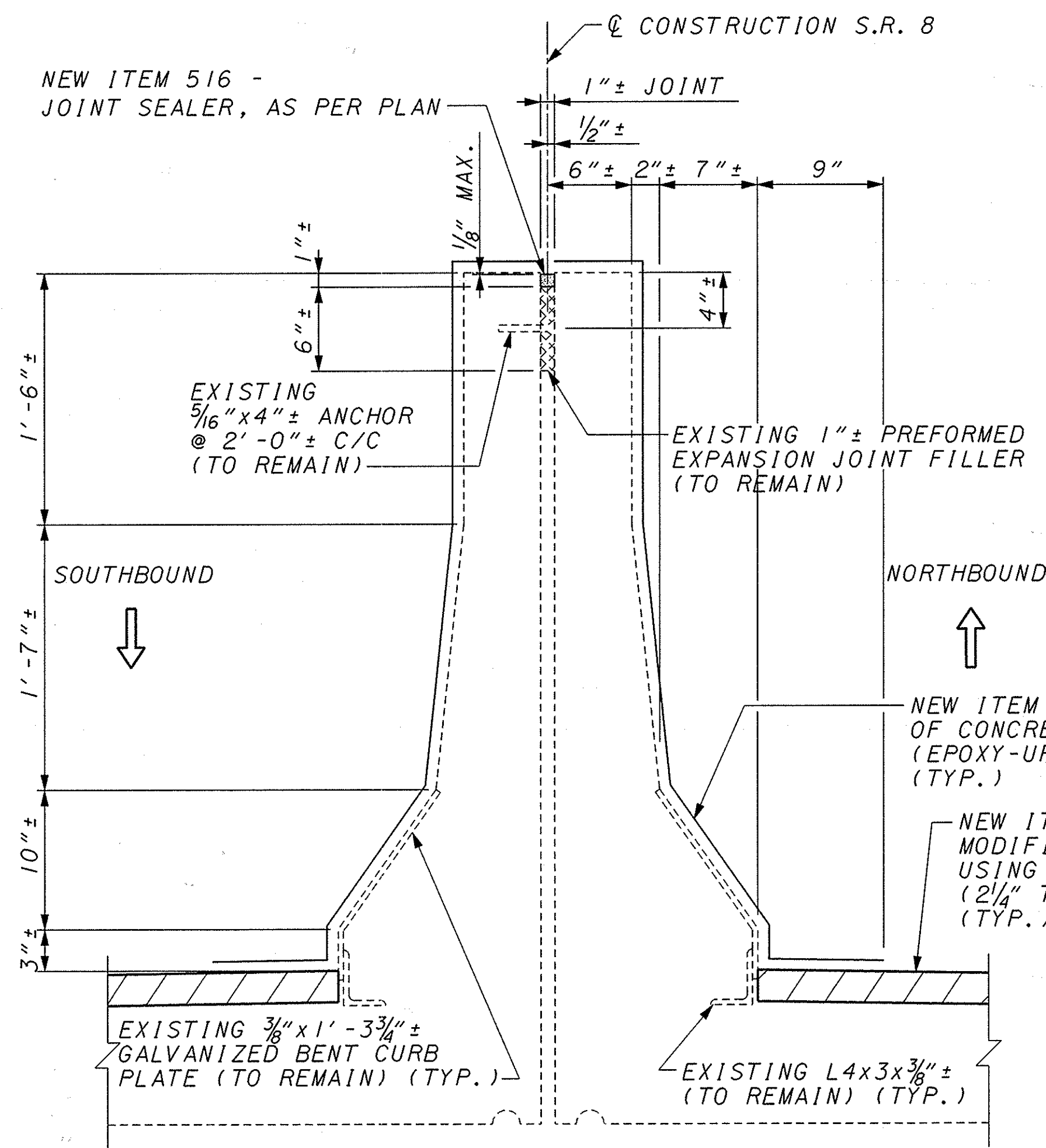
** PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, 705.11 (1 1/2" WIDE FOR A 1/2" WIDE GROOVE) PLACED IN 1/2" X 2 1/4" GROOVE. INCLUDED WITH ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2 1/4" THICK), AS PER PLAN.



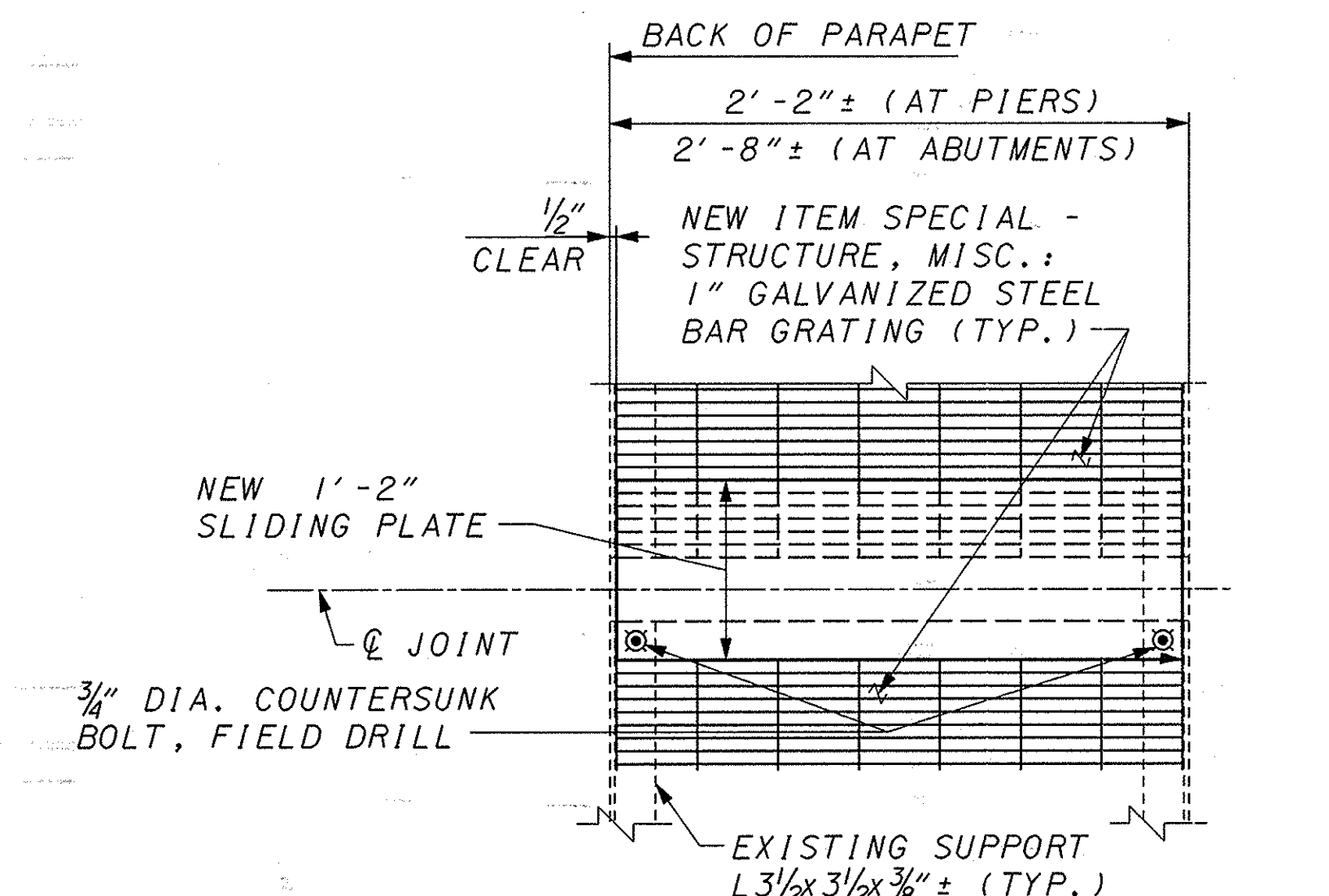
DETAIL "C"
(UNIT 2 - SLAB CONTRACTION JOINTS)



EXISTING SECTION J-J
(TYPICAL AT ABUTMENT AND SUPERSTRUCTURE MEDIAN BARRIER)



PROPOSED SECTION J-J
(TYPICAL AT ABUTMENT AND SUPERSTRUCTURE MEDIAN BARRIER)



DETAIL "D"
PIER 3 SOUTHBOUND AND PIER 6 SHOWN SOUTH ABUTMENT SOUTHBOUND, NORTH ABUTMENT AND PIER 3 NORTHBOUND SIMILAR

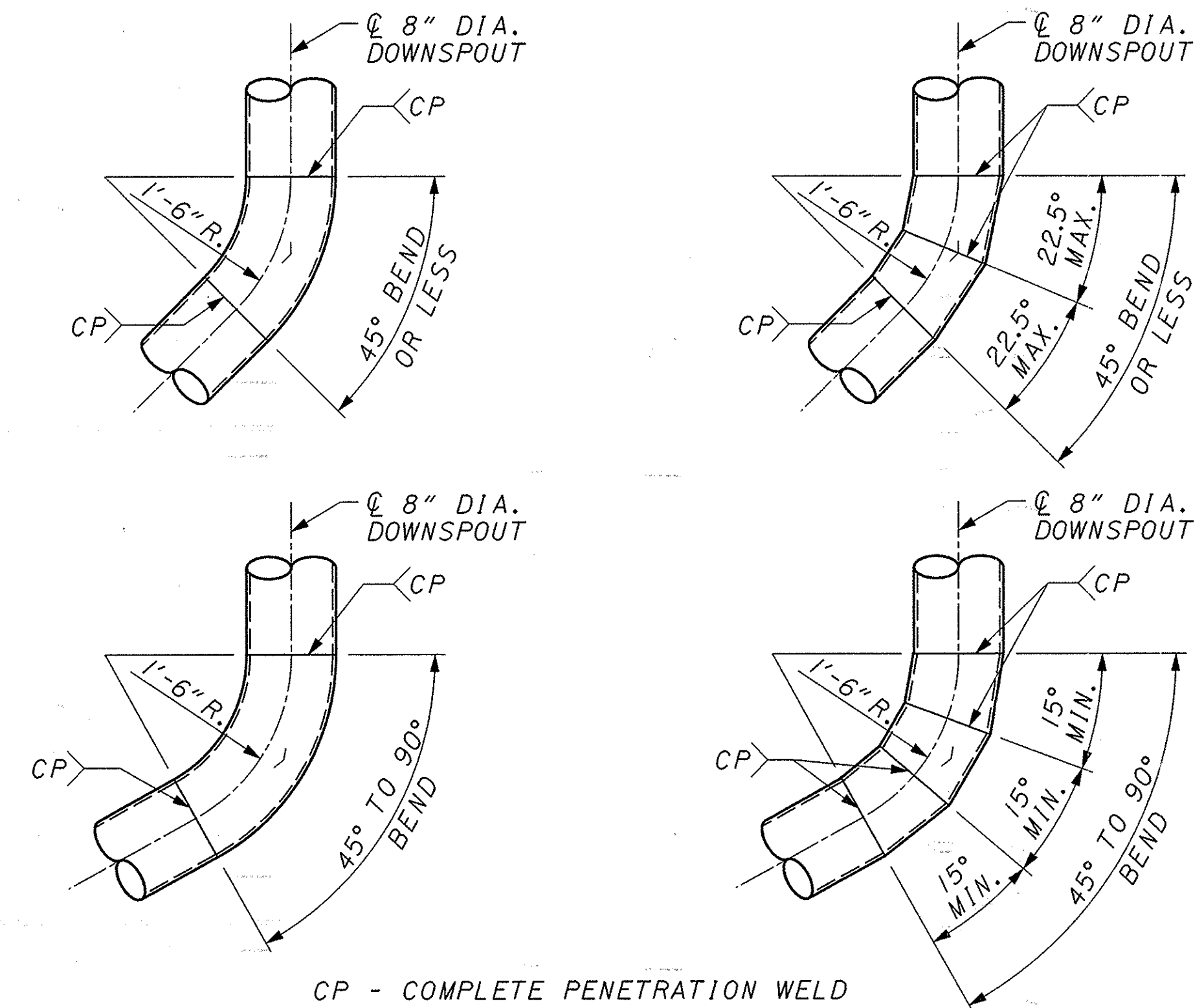
NOTES
MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
TRANSVERSE SECTIONS: SEE SHEETS 21/40 THROUGH 23/40.
SECTION H-H: FOR LOCATIONS SEE SHEETS 29/40 AND 31/40.
SECTION J-J: FOR LOCATIONS SEE SHEETS 29/40 THROUGH 31/40.
DETAIL "C": FOR LOCATIONS SEE SHEETS 30/40 AND 31/40.
DETAIL "D": FOR LOCATIONS SEE SHEETS 29/40 AND 31/40.

77078EXA.DGN 11/28/07 TWH,SCB,KH

LOCATION	ROADWAY REFERENCE NO.	CATCH BASIN LOCATION		# EXISTING DOWNSPOUT ELEVATION "A"	# PROPOSED DOWNSPOUT ELEVATION "B"	TOP OF C.B. GRATE ELEVATION "C"
		STATION	OFFSET			
SOUTH ABUT.	1-D	103+51.00	25.00' RT.	1011.50	1011.57	1010.44
PIER 5 LEFT	11-D	113+18.75	42.30' LT.	876.44	877.27	876.14
PIER 5 RIGHT	12-D	113+18.50	42.50' RT.	876.74	877.01	875.88
N. ABUT. LEFT	13-D	118+40.60	41.00' LT.	1018.00	1017.97	1016.84
N. ABUT. RIGHT	14-D	118+40.60	41.00' RT.	1018.50	1018.14	1017.01

* ELEVATIONS ARE APPROXIMATE AND PROVIDED FOR BIDDING PURPOSES ONLY. PROPOSED ELEVATIONS SHALL BE 1'-0" ABOVE NEW CATCH BASIN "SPLASH PADS" AS DETAILED IN THE PLANS.

** VARIES FROM 1'-0"± TO 1'-8"± BETWEEN DIFFERENT SUBSTRUCTURE UNITS.



SMOOTH RADIUS BEND

MITERED BEND

DOWNSPOUT BEND DETAILS

CP - COMPLETE PENETRATION WELD

ITEM 518 - 8" DOWNSPOUT MODIFICATION

THIS ITEM SHALL INCLUDE ALL REMOVALS, LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO INSTALL NEW 8" DOWNSPOUT ENDS AT THE LOCATIONS DESIGNATED IN THE PLANS.

SEVERAL OF THE EXISTING DRAINAGE CATCH BASINS ARE TO BE REPLACED AS PART OF THIS PROJECT. THE NEW CATCH BASINS ARE DESIGNED TO BE SELF CLEANING WITH THE 8" DOWNSPOUTS DELIVERING THE DRAINAGE AT A 45° ANGLE TO ASSIST IN WASHING DEBRIS OFF OF THE CATCH BASIN GRATES.

THE EXISTING 8" DOWNSPOUTS ARE TO BE CUT AT AN ELEVATION SUFFICIENT FOR INSTALLING A NEW FIELD SPLICE IN THE 8" PIPE WITH THE DOWNSPOUT TERMINATING INTO THE PROPOSED CATCH BASINS AS DETAILED ON SHEETS 50 AND 51 OF 102. ANY GALVANIZING DAMAGED BY CUTTING THE EXISTING DOWNSPOUTS OR INSTALLING THE PROPOSED DOWNSPOUT ENDS SHALL BE REPAIRED BY USING "COLD APPLIED GALVANIZING" AS DIRECTED BY THE ENGINEER.

THE NEW DOWNSPOUT MODIFICATIONS SHALL BE COMPLETED AFTER THE NEW CATCH BASINS HAVE BEEN INSTALLED TO ENSURE PROPER LOCATION OF THE DOWNSPOUT ENDS. THE CONTRACTOR SHALL ADJUST THE LENGTH OF THE CATCH BASIN "SPLASH PAD" OR MODIFY THE END OF THE EXISTING DOWNSPOUT TO KEEP THE END OF THE 45° BEND DIRECTLY OVER THE EDGE OF THE CATCH BASIN AS DETAILED.

ANY EXISTING DOWNSPOUT SUPPORTS REMOVED SHALL BE REINSTALLED OR REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT.

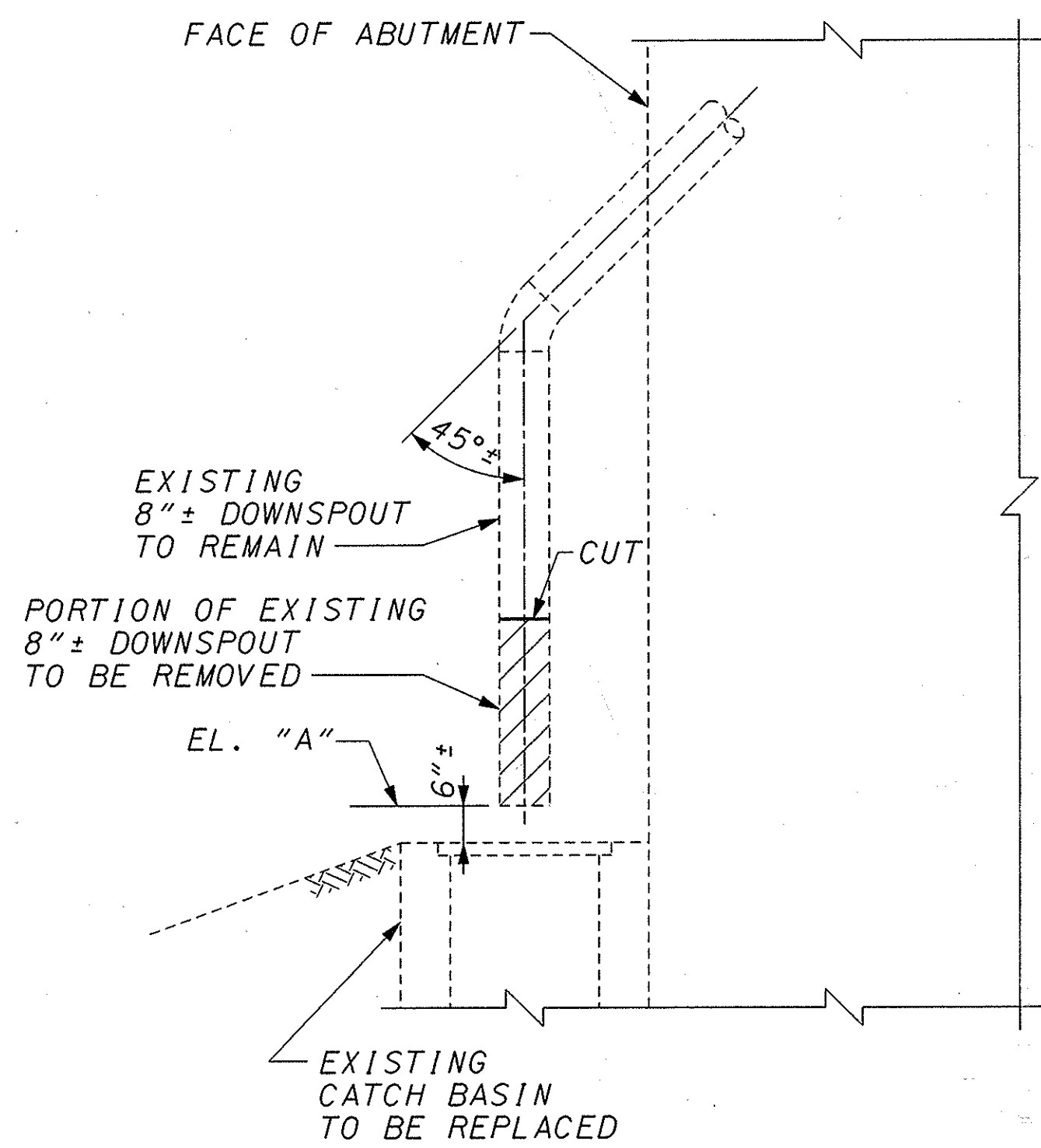
DOWNSPOUTS SHALL BE STANDARD WEIGHT (28.55 P.L.F.) SCHEDULE 40, 8" DIAMETER STEEL PIPE WITH A WALL THICKNESS OF 0.322". ELBOWS SHALL BE SCHEDULE 40 WELDED FITTINGS WITH FULL PENETRATION BUTT WELDS AND SHALL BE SHOP FABRICATED WITH THE DOWNSPOUT. ELBOWS AND BENDS SHALL BE STANDARD LONG RADIUS OR DOUBLE MITERED. THE CENTERLINE RADIUS SHALL BE 1'-6" AS DETAILED ABOVE. FIELD SPLICES IN THE DOWNSPOUTS SHALL BE VICTAULIC COUPLING STYLE 99, DRESSER COUPLING STYLE 38, OR APPROVED EQUAL.

MATERIALS FOR DOWNSPOUTS, COUPLINGS, AND HARDWARE SHALL BE GALVANIZED PER 711.02 AFTER FABRICATION. TOUGHNESS TESTING IN ACCORDANCE WITH ASTM E436 IS NOT REQUIRED.

THE COST OF ALL REMOVALS, SURFACE PREPARATION, GALVANIZING, LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY FOR THE INSTALLATION OF THE NEW 8" DOWNSPOUT ENDS SHALL BE INCLUDED FOR PAYMENT IN THE BID PRICE PER EACH LOCATION.

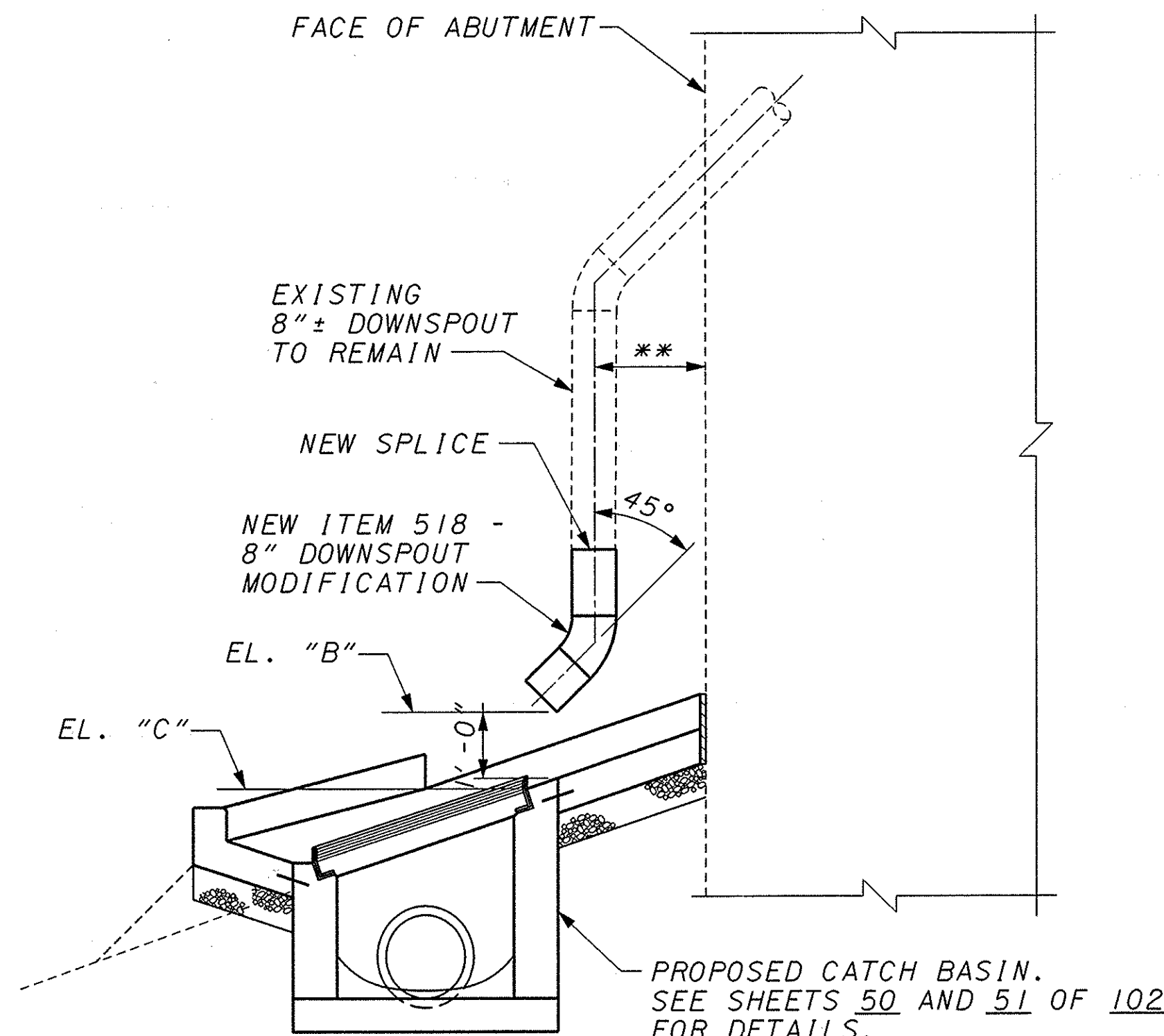
PAYMENT FOR COMPLETE IN PLACE AND ACCEPTED QUANTITIES SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
518	EACH	8" DOWNSPOUT MODIFICATION



EXISTING DOWNSPOUT END

(SOUTH ABUTMENT SHOWN, OTHER SUBSTRUCTURE LOCATIONS SIMILAR)



PROPOSED DOWNSPOUT END

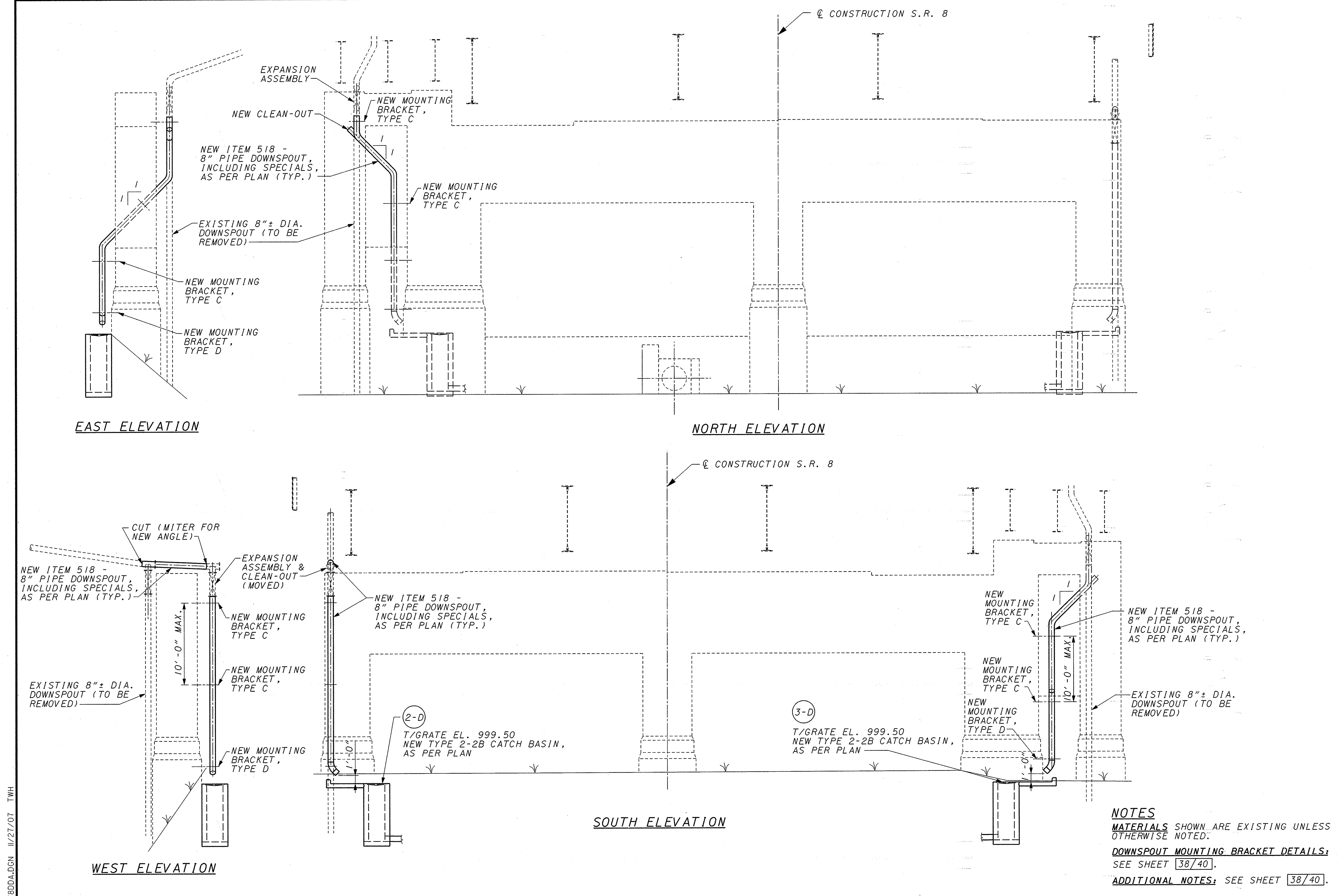
77078SDE.DGN 11/26/07 JLS,KH,SCB,TWH

EAST ELEVATION

NORTH ELEVATION

WEST ELEVATION

SOUTH ELEVATION



NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

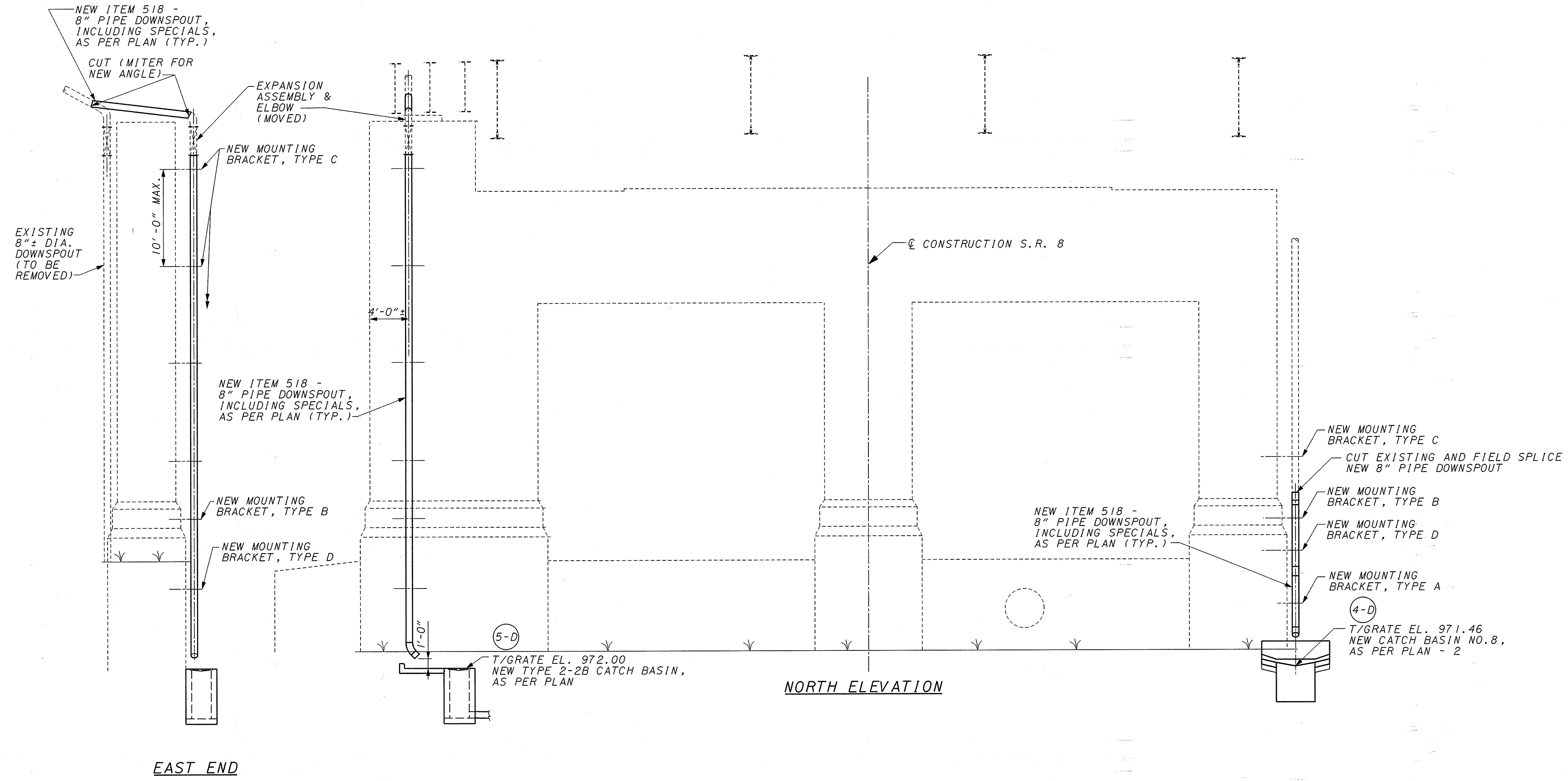
DOWNSPOUT MOUNTING BRACKET DETAILS: SEE SHEET 38/40.

ADDITIONAL NOTES: SEE SHEET 38/40.

77078DDA.DGN 11/27/07 TWH

RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DATE 11/28/07	STRUCTURE FILE NUMBER 7700369
REVIEWED DLR	REVISION 7700369
DRAWN TWH	CHECKED JDB
DRAINAGE DETAILS - PIER 1 BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET	
DESIGNED BLN	CHECKED JDB
SUM-8-1.95 PID 77078	35/40 97 102

77078DDC.DGN 11/27/07 TWH

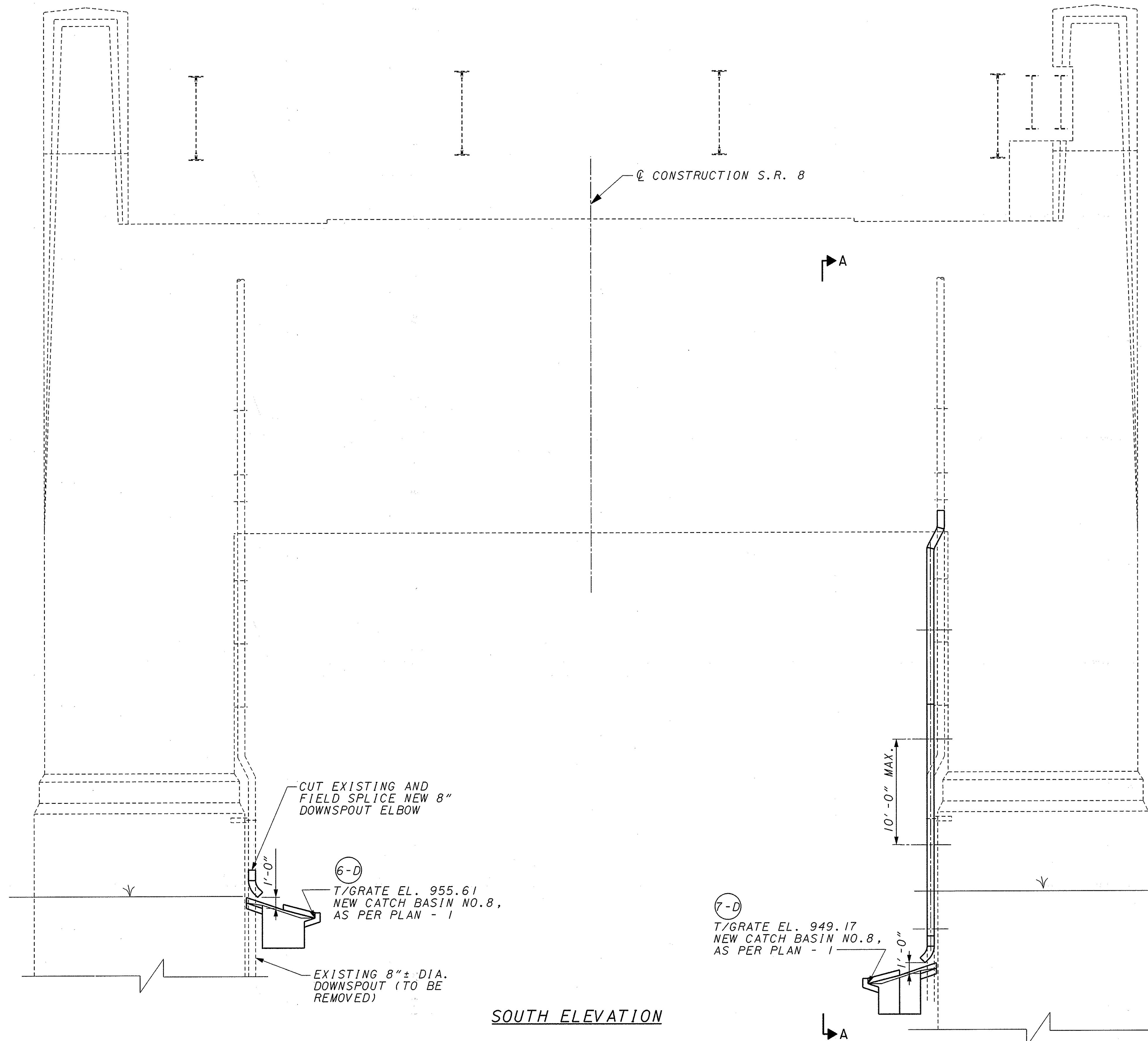


NORTH ELEVATION

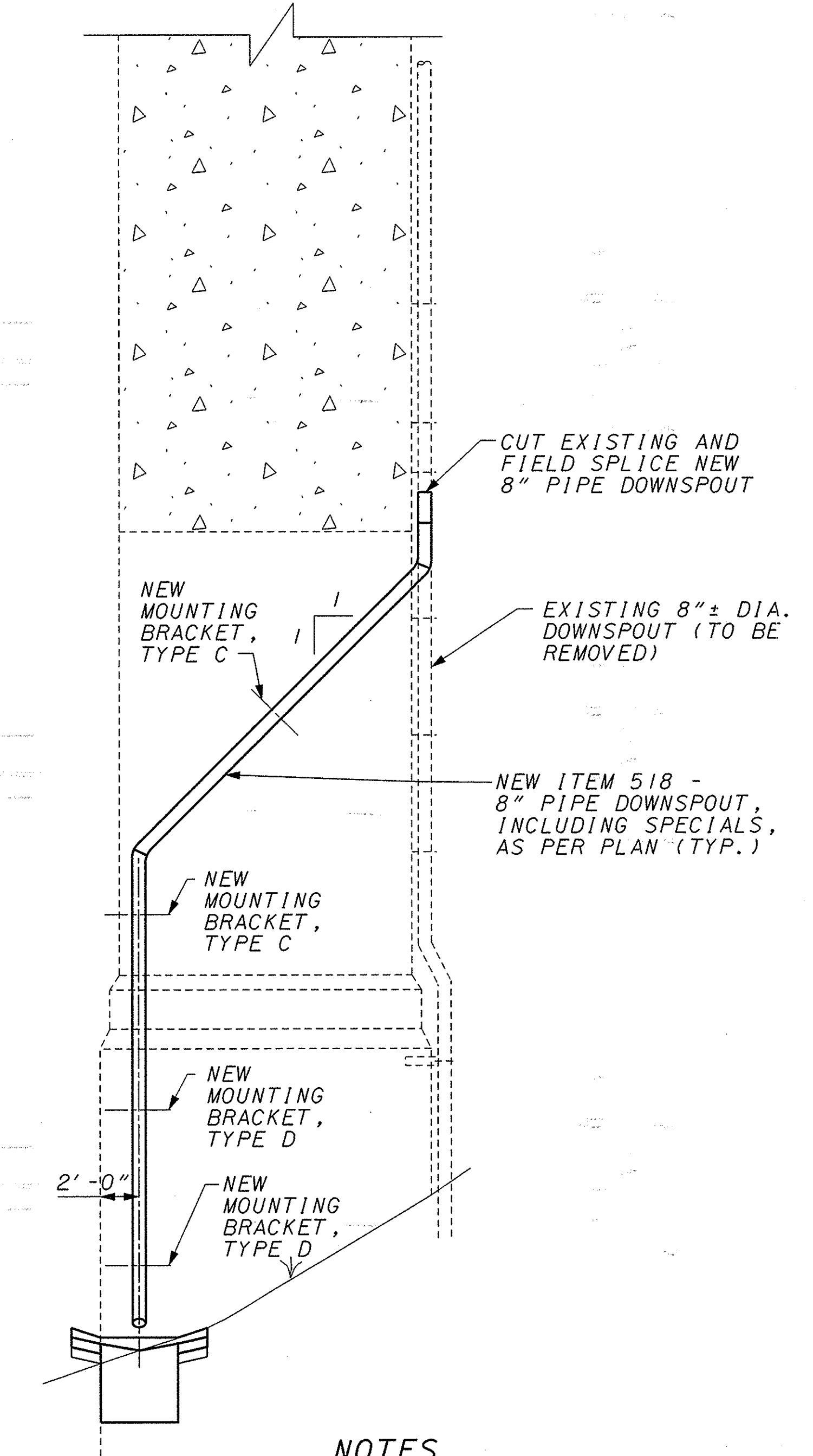
NOTES
 MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
 WEST ELEVATION: SEE SHEET 38/40.
 DOWNSPOUT MOUNTING BRACKET DETAILS: SEE SHEET 38/40.
 ADDITIONAL NOTES: SEE SHEET 38/40.

RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902	
DATE 11/28/07	STRUCTURE FILE NUMBER 7700369
REVIEWED DLR	REVISION 7700369
DRAWN TWH	CHECKED JDB
DESIGNED BLN	CHECKED JDB
DRAINAGE DETAILS - PIER 2 BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET	
SUM-8-1.95 PID 77078	
36/40 98 102	

77078DDD.DGN 11/27/07 TWH



SOUTH ELEVATION

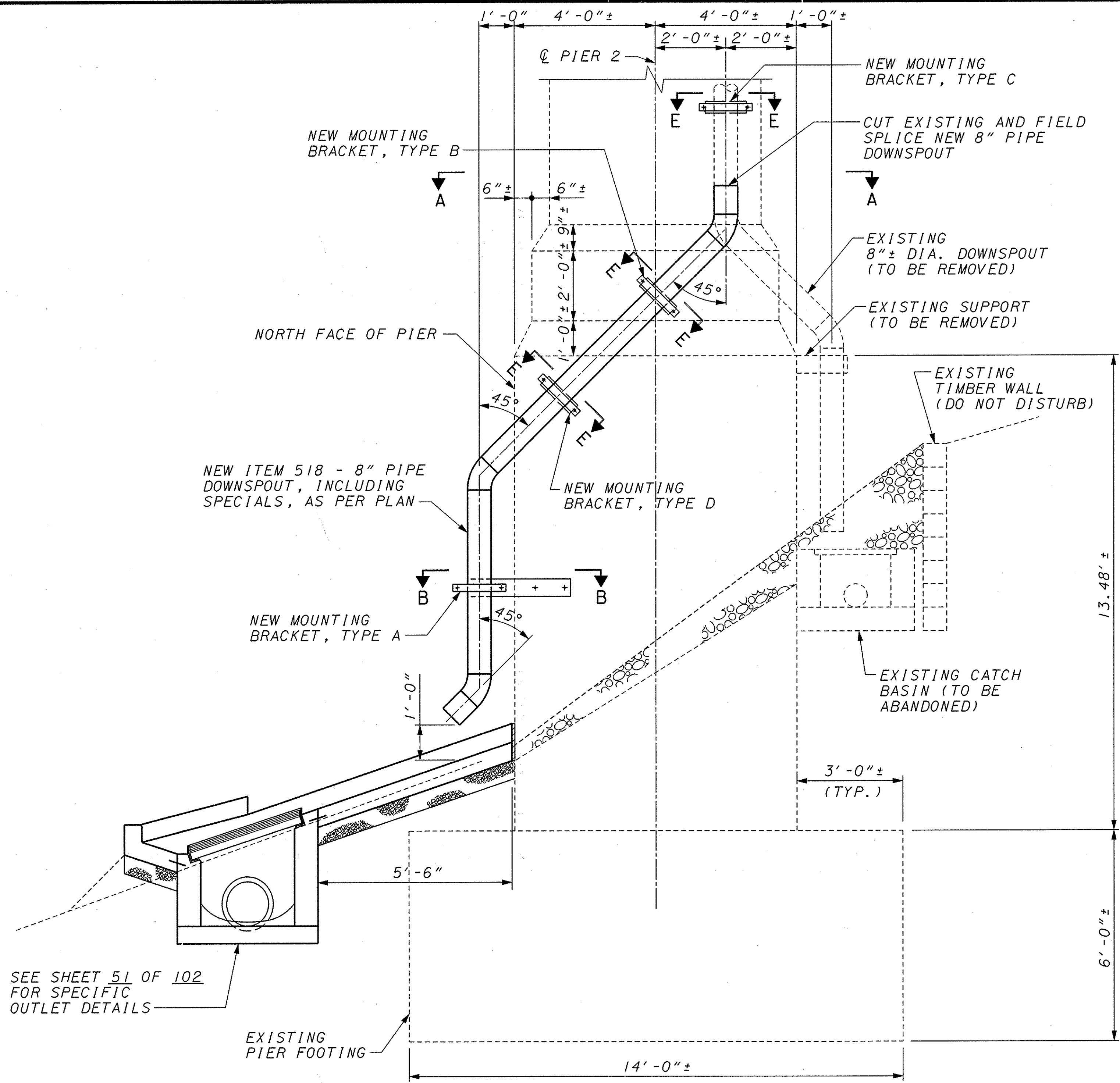


SECTION A-A

NOTES
 MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
 DOWNSPOUT MOUNTING BRACKET DETAILS: SEE SHEET 38/40.
 ADDITIONAL NOTES: SEE SHEET 38/40.

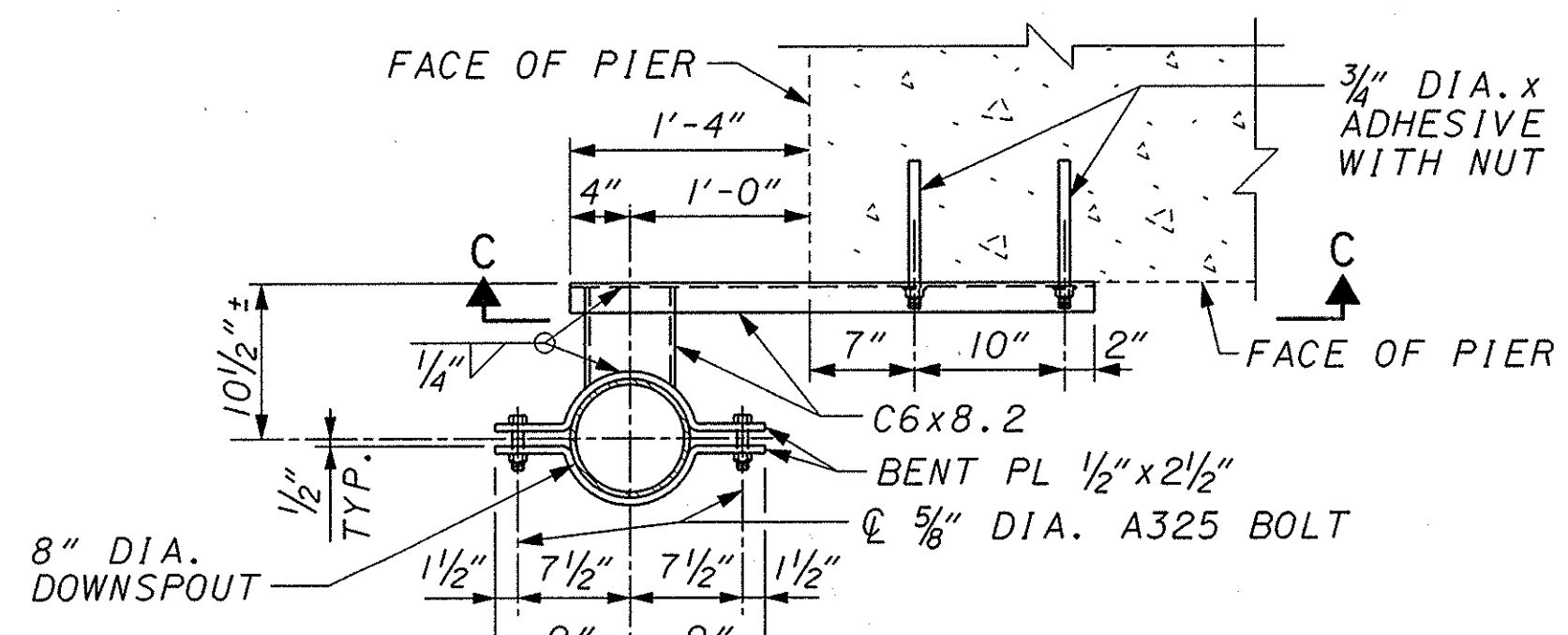
RICHLAND ENGINEERING LIMITED 29 NORTH PARK STREET MANSFIELD, OHIO 44902 		
DATE 11/28/07	REVIEWED DLR	STRUCTURE FILE NUMBER 7700369
DRAWN TWH	DESIGNED BLN	CHECKED JDB
DRAINAGE DETAILS - PIER 3 BRIDGE NO. SUM-8-0195 OVER RAILROADS, LITTLE CUYAHOGA RIVER AND EAST NORTH STREET		
SUM-8-1.95 PID 77078		37/40 99 102

7707800B.DGN 11/23/07 JLS:KH,TWH



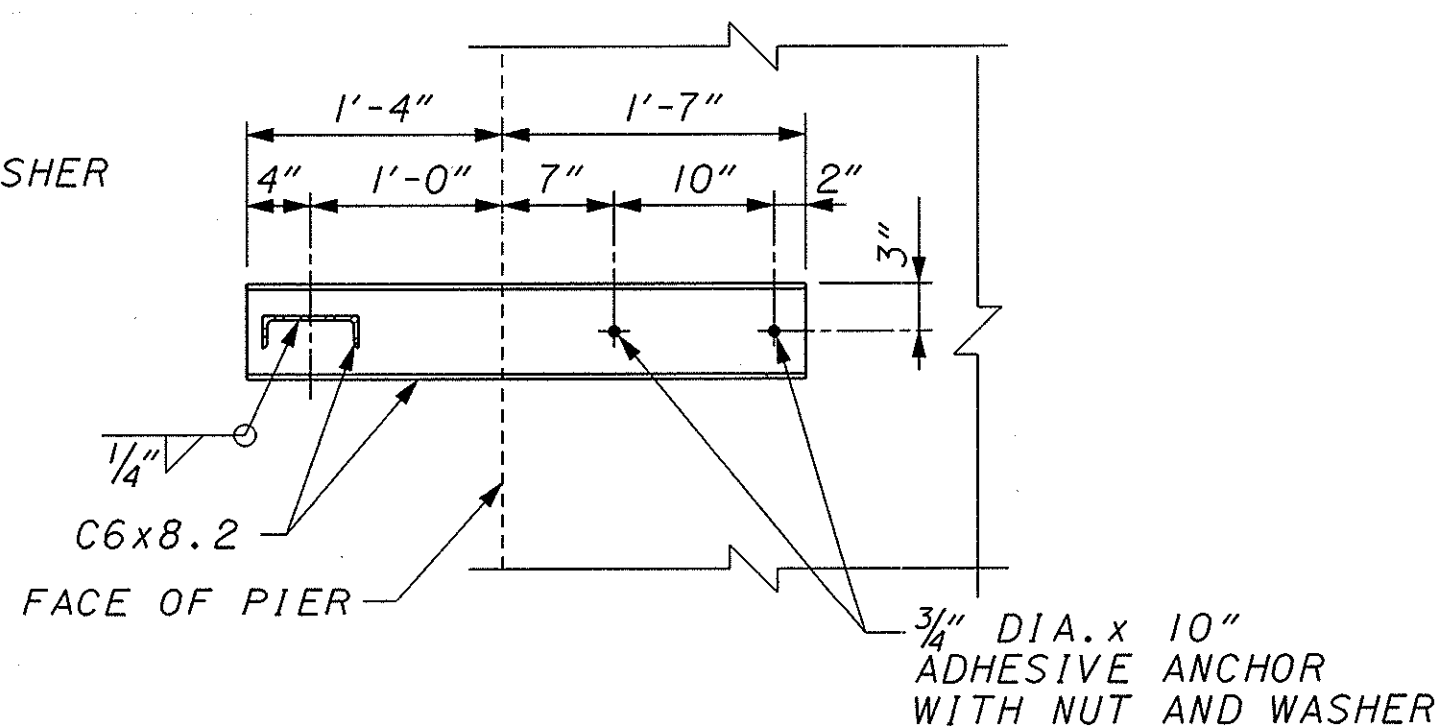
PIER 2 ELEVATION
(WEST END)

SEE SHEET 51 OF 102 FOR SPECIFIC OUTLET DETAILS

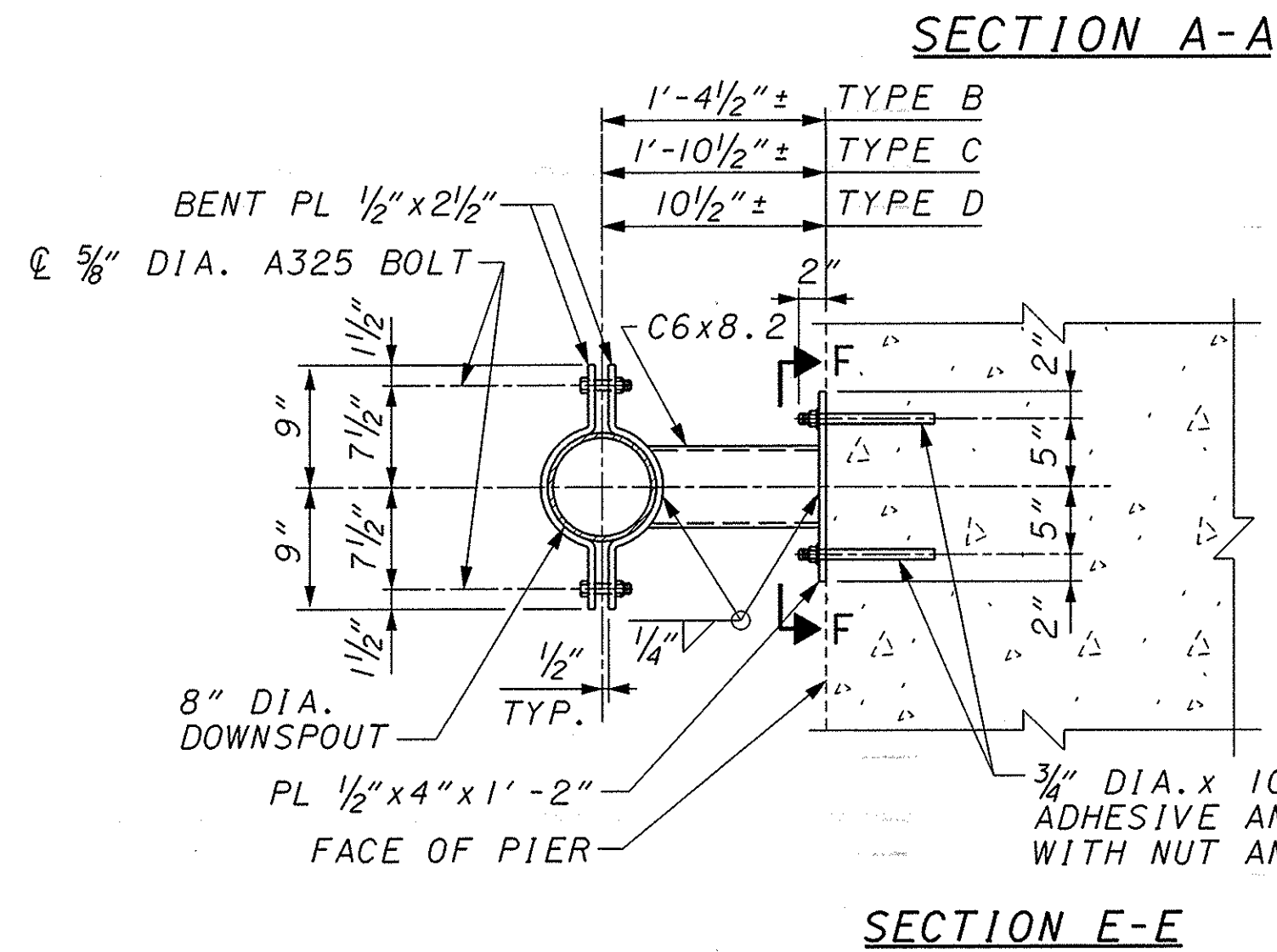


SECTION B-B

DOWNSPOUT MOUNTING BRACKET TYPE A



SECTION C-C



SECTION E-E

DOWNSPOUT MOUNTING BRACKET TYPES B, C AND D

NOTES

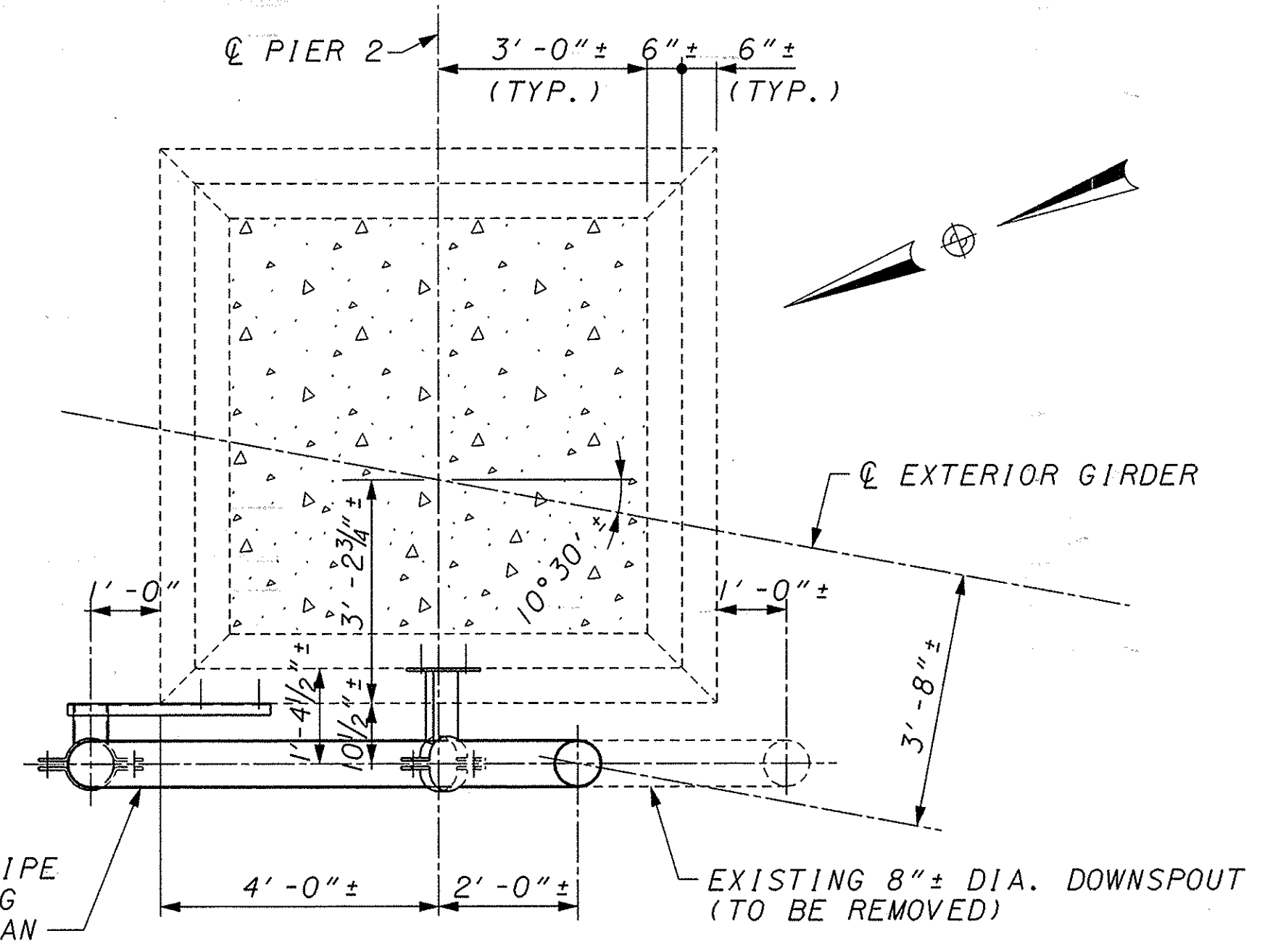
DOWNSPOUT: SHALL BE STANDARD WEIGHT (28.55 P.L.F.) SCHEDULE 40, 8" DIAMETER STEEL PIPE WITH A WALL THICKNESS OF 0.322". ELBOWS SHALL BE SCHEDULE 40 WELDED FITTINGS WITH FULL PENETRATION BUTT WELDS. ELBOWS SHALL BE SHOP FABRICATED WITH THE DOWNSPOUTS. FIELD SPLICES IN THE DOWNSPOUTS SHALL BE VICTAULIC COUPLING STYLE 99, DRESSER COUPLING STYLE 38, OR EQUAL.

ELBOWS AND BENDS SHALL BE STANDARD LONG RADIUS OR DOUBLE MITERED. THE CENTERLINE RADIUS SHALL BE 1'-6". SEE SHEET 34/40 FOR ADDITIONAL DETAILS.

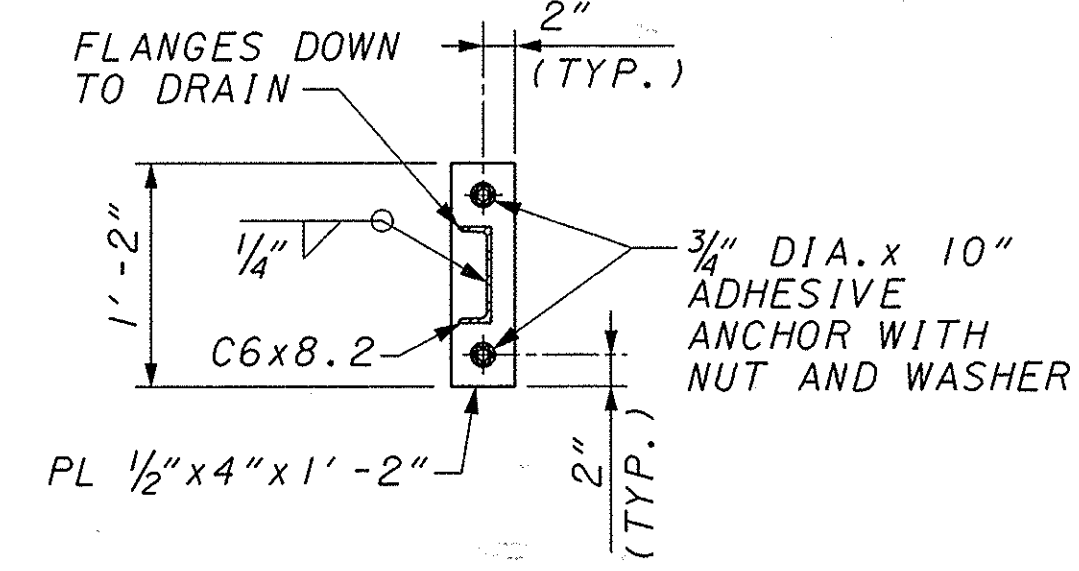
MATERIALS FOR DOWNSPOUTS, MOUNTING BRACKETS, COUPLINGS AND HARDWARE SHALL BE GALVANIZED PER 711.02 AFTER FABRICATION. TOUGHNESS TESTING IN ACCORDANCE WITH ASTM E436 IS NOT REQUIRED.

ADHESIVE ANCHORS SHALL BE HVA ADHESIVE ANCHORS AS MANUFACTURED BY HILTI CORPORATION, MOLLY PARABOND CAPSULE ANCHOR AS MANUFACTURED BY EMHART CORPORATION, OR AN APPROVED EQUAL. CARE SHALL BE TAKEN NOT TO DAMAGE REINFORCING STEEL WHILE DRILLING FOR ADHESIVE ANCHORS. BEFORE ANY DRILLING, THE CONTRACTOR SHALL USE A REBAR LOCATOR TO IDENTIFY LOCATIONS OF EXISTING REINFORCING STEEL. THE MOUNTING BRACKET LOCATIONS SHALL BE ADJUSTED TO MISS ALL REINFORCING STEEL.

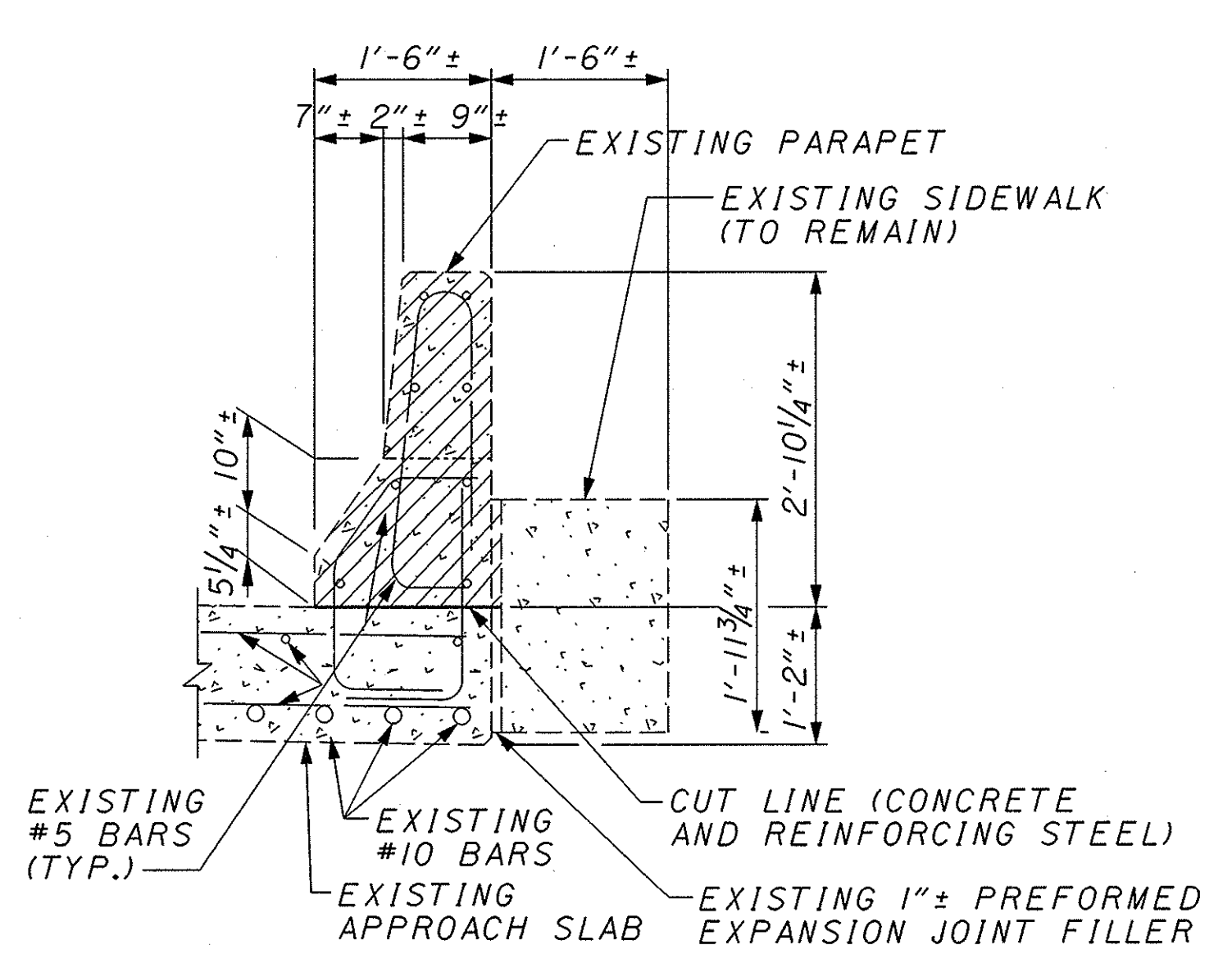
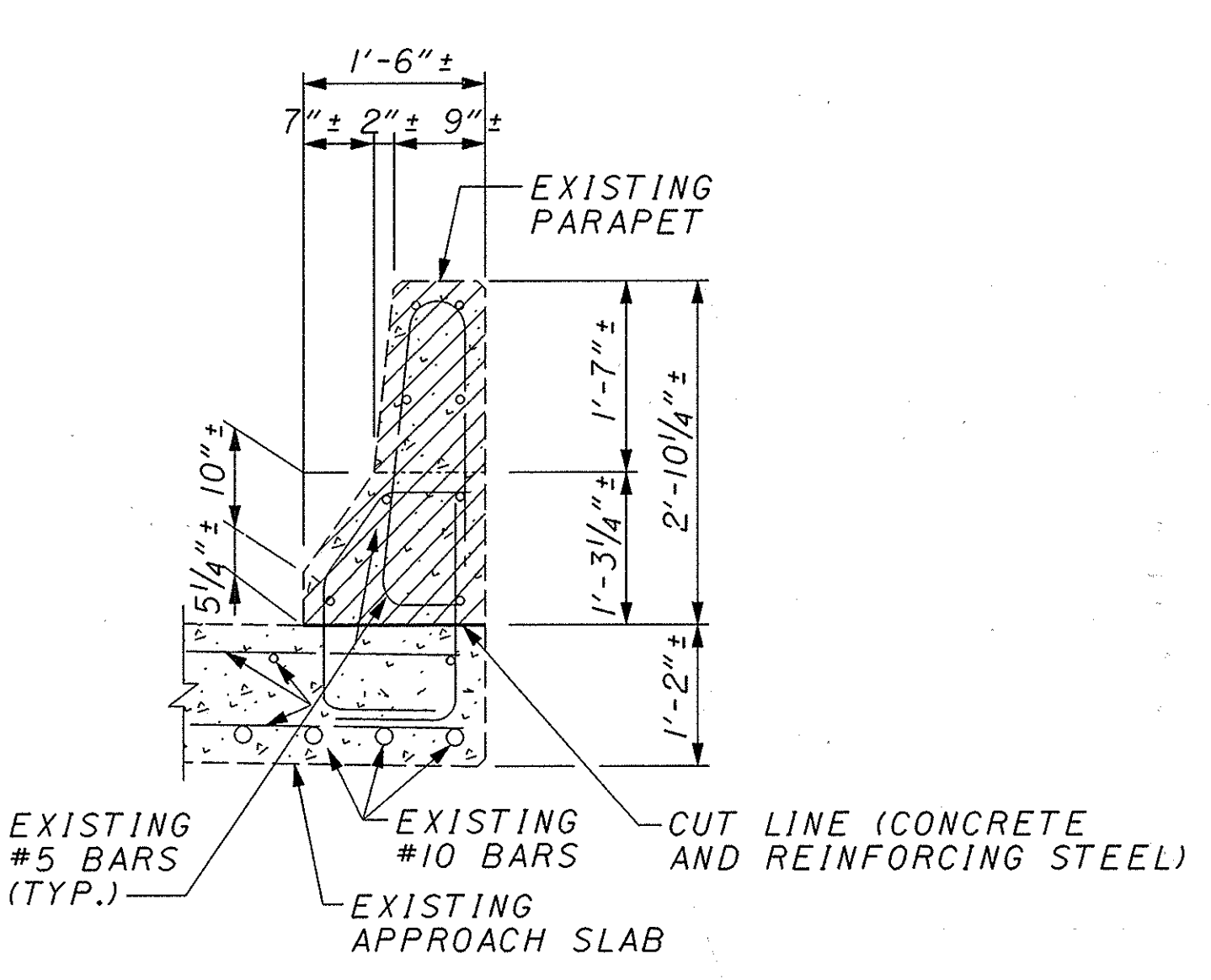
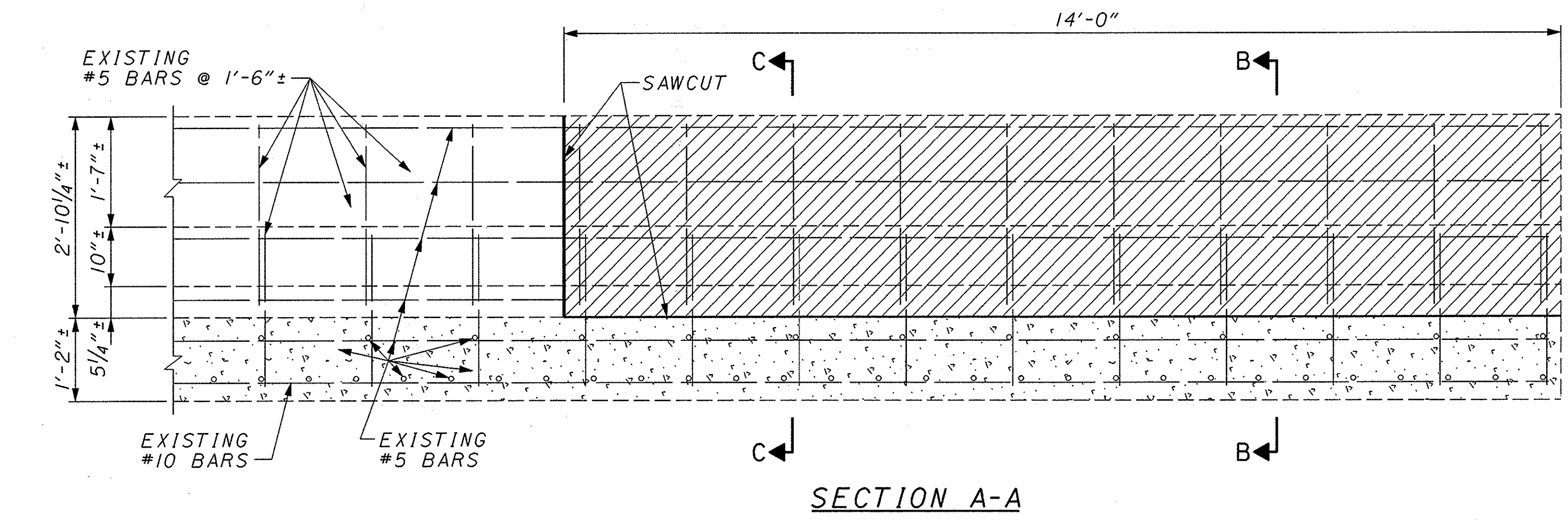
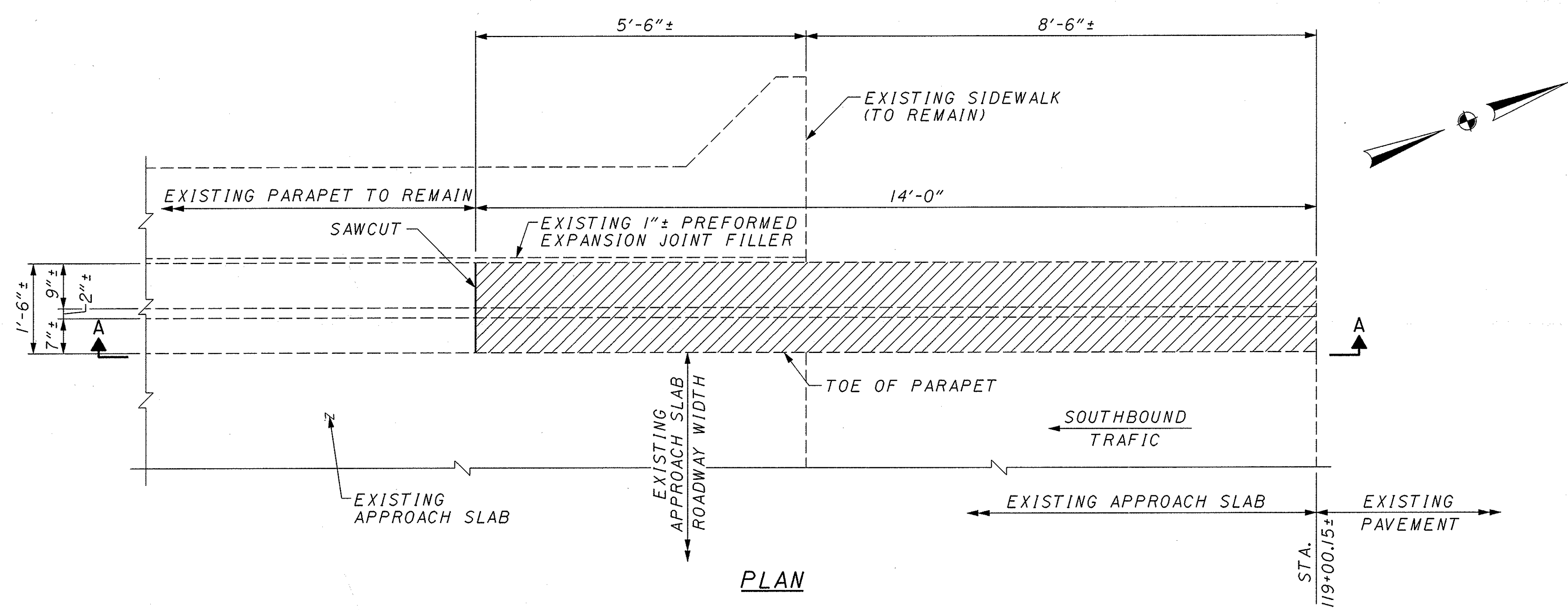
PAYMENT FOR DOWNSPOUT MOUNTING BRACKETS, ADHESIVE ANCHORS, AND ALL OTHER INCIDENTALS REQUIRED TO INSTALL THE NEW 8" DOWNSPOUT SHALL BE INCLUDED FOR PAYMENT WITH ITEM 518 - 8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.



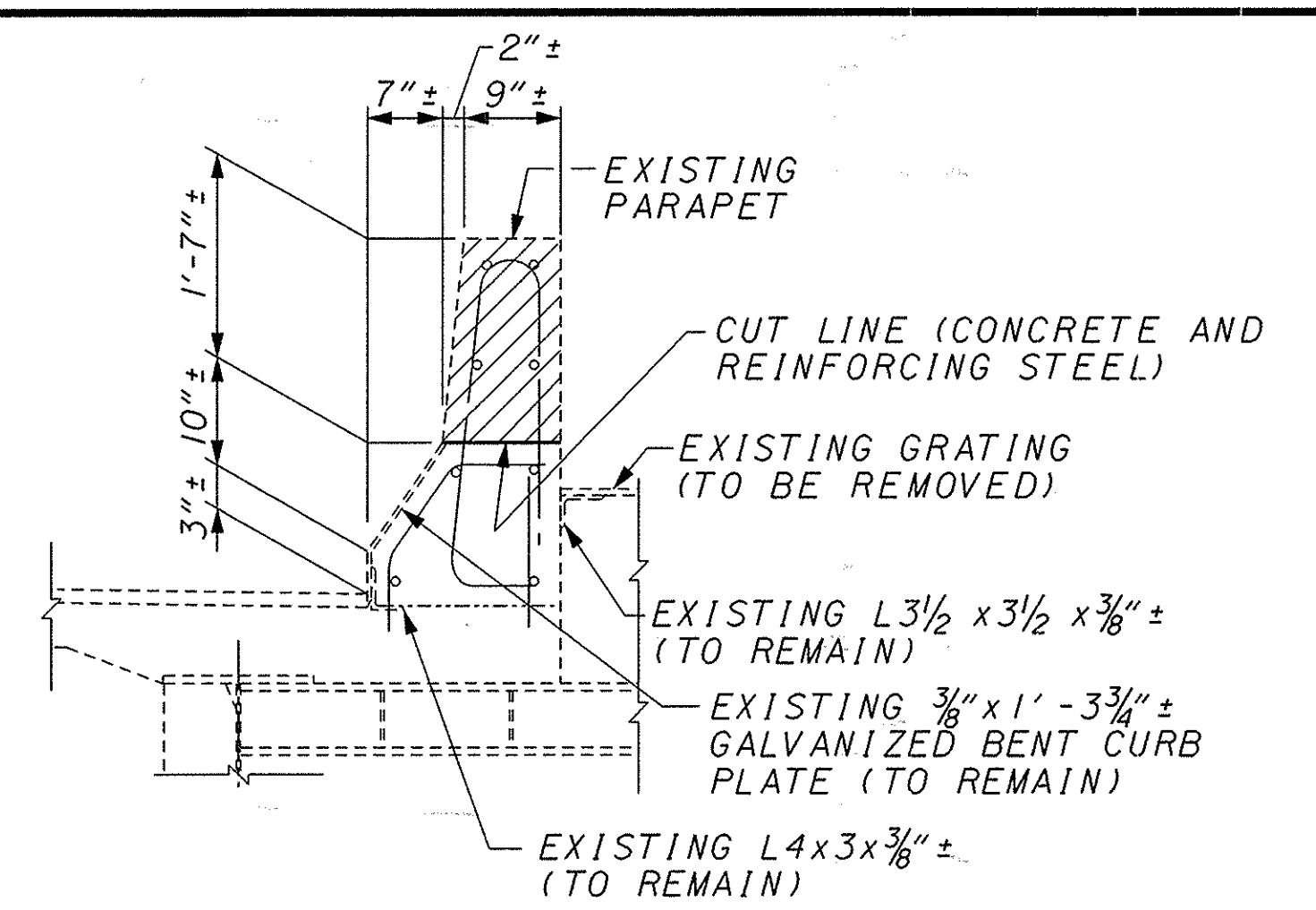
SECTION A-A



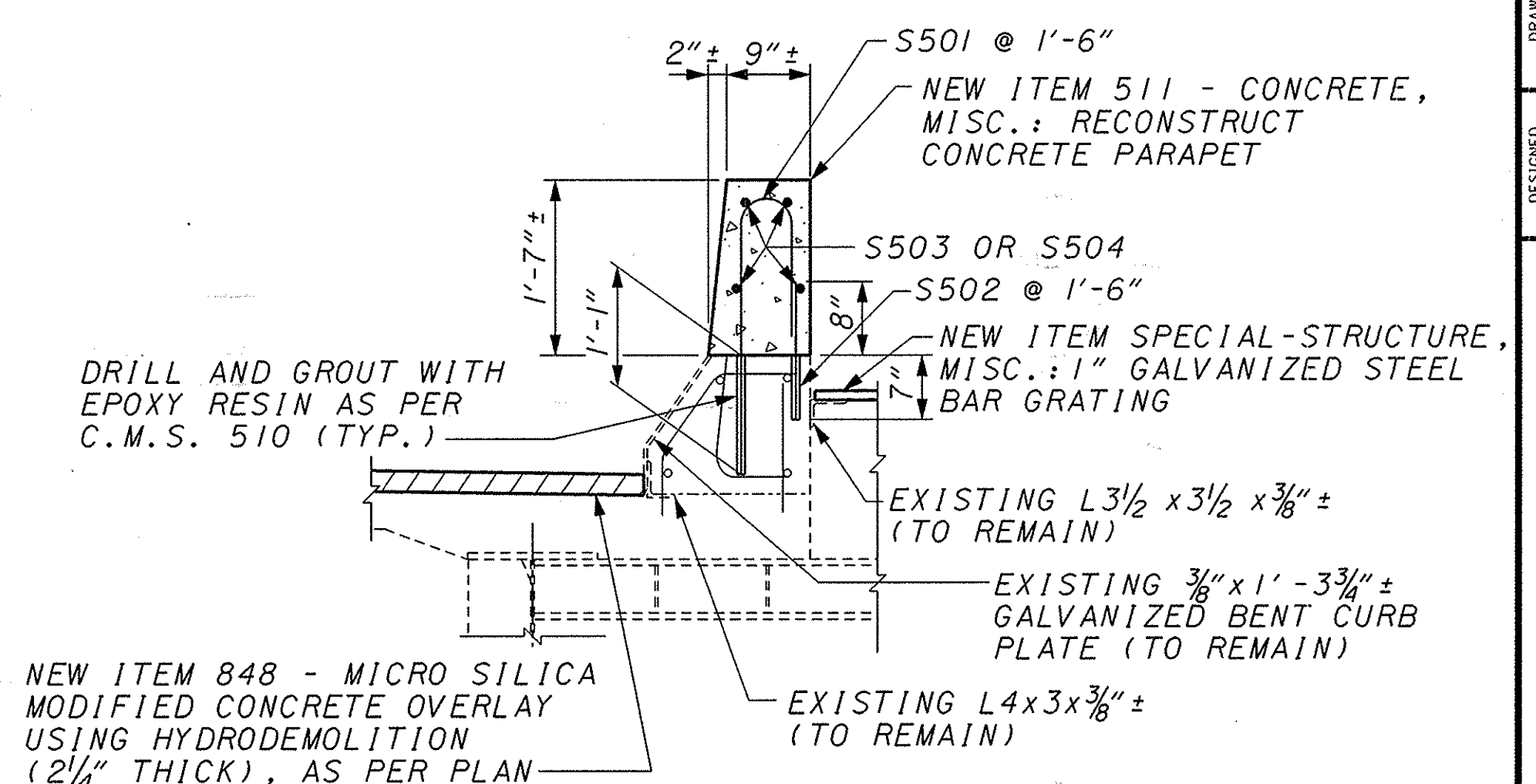
SECTION F-F



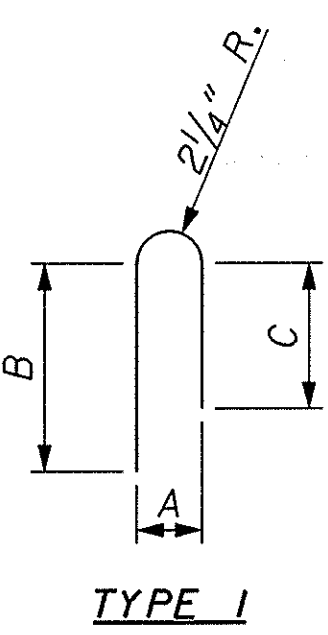
(EXISTING 1 1/4"± LMC OVERLAY AND 1"± REMOVAL BY HYDRODEMOLITION NOT SHOWN FOR CLARITY)



EXISTING SECTION X-X



PROPOSED SECTION X-X



PARAPET RECONSTRUCTION									CALCULATED DLR DATE 11/07
									CHECKED JDB DATE 11/07
MARK	TOTAL	LENGTH	TYPE	A	B	C	INC.	WEIGHT (LBS.)	
S501	77	3'-8"	1	4 1/2"	2'-3"	1'-2"		295	
S502	77	1'-3"	STR.					100	
S503	12	30'-4"±	STR.					380	
S504	4	25'-9"±	STR.					107	
TOTAL WEIGHT								882#	

* WEIGHTS FOR INFORMATIONAL PURPOSES ONLY. REINFORCING STEEL IS INCLUDED WITH ITEM 511 - CONCRETE, MISC.: RECONSTRUCT CONCRETE PARAPET FOR PAYMENT.

ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLAN IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, ASS01 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

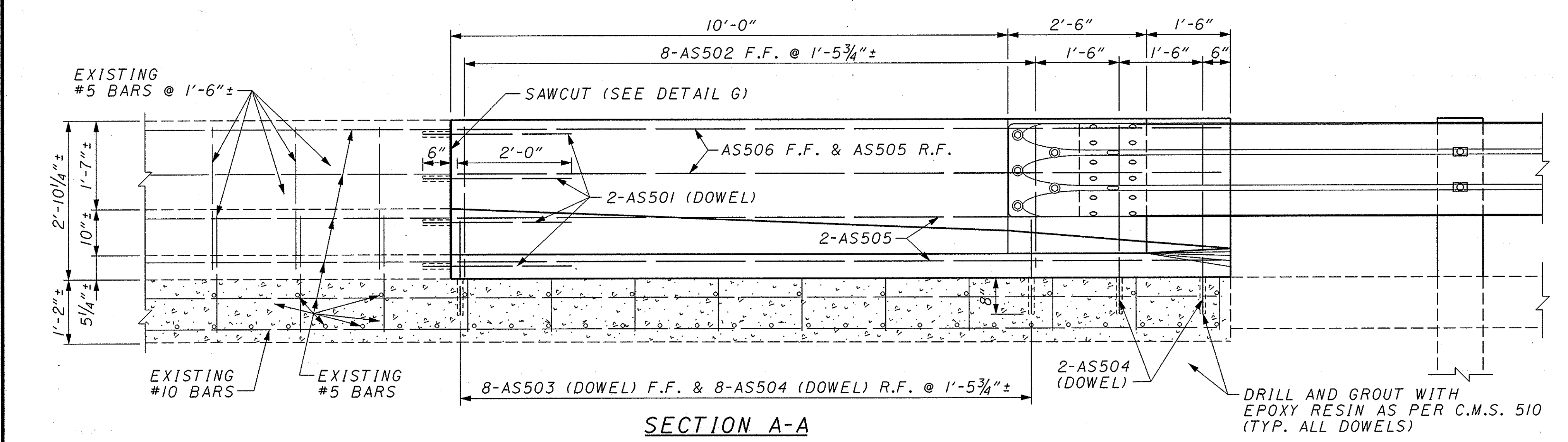
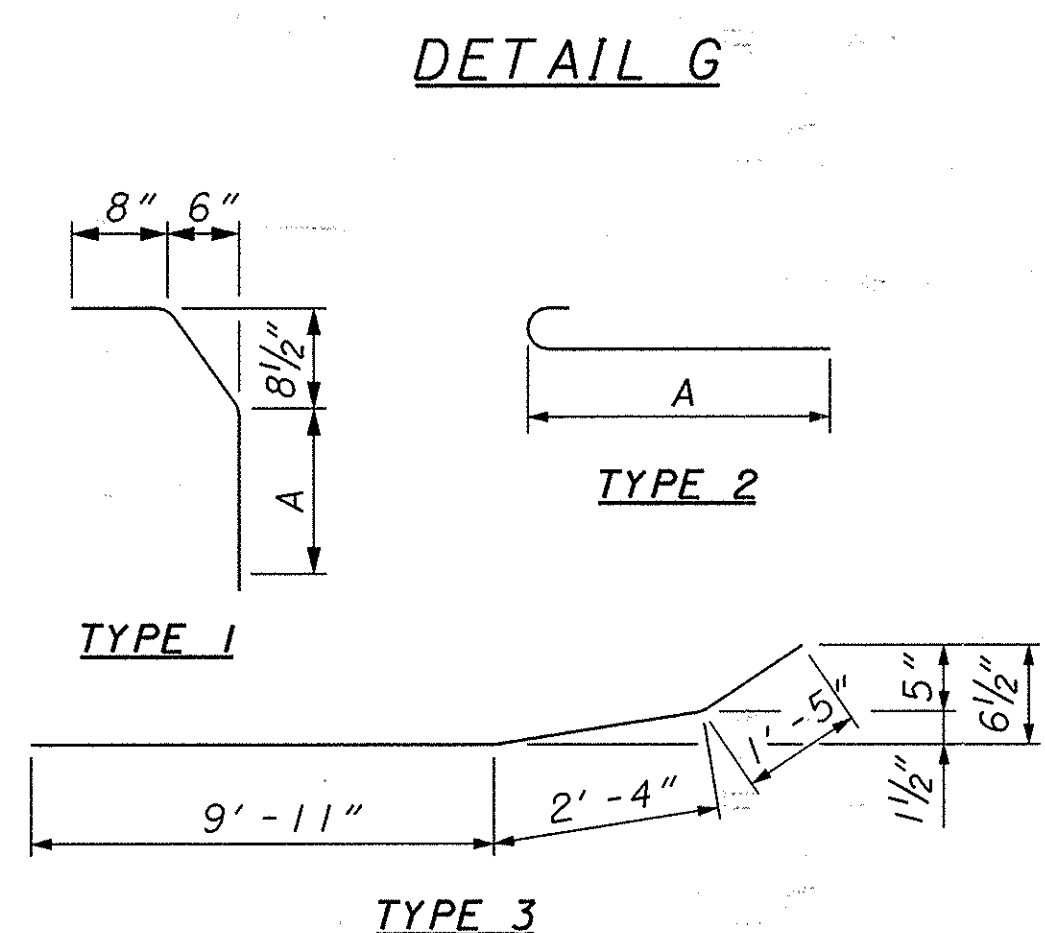
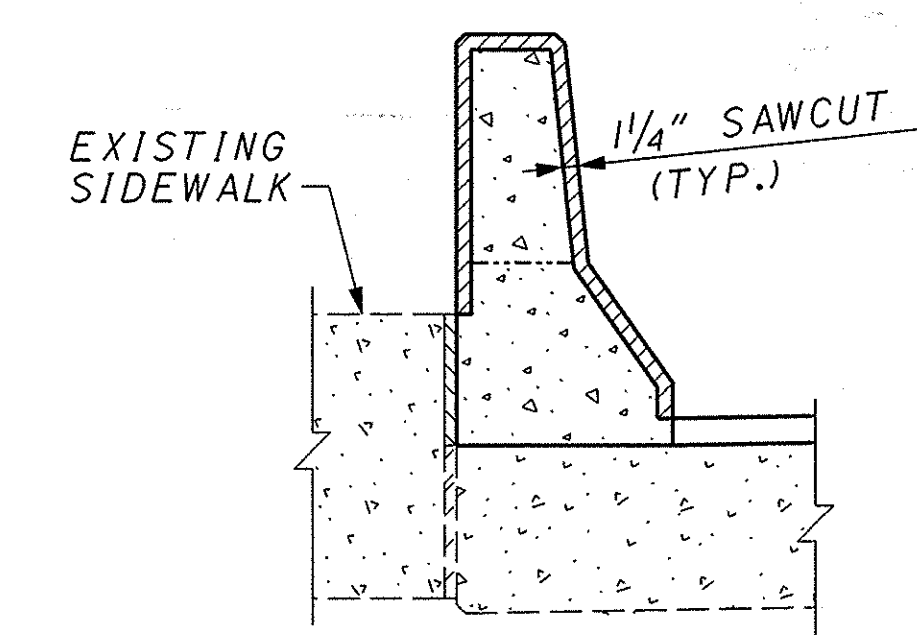
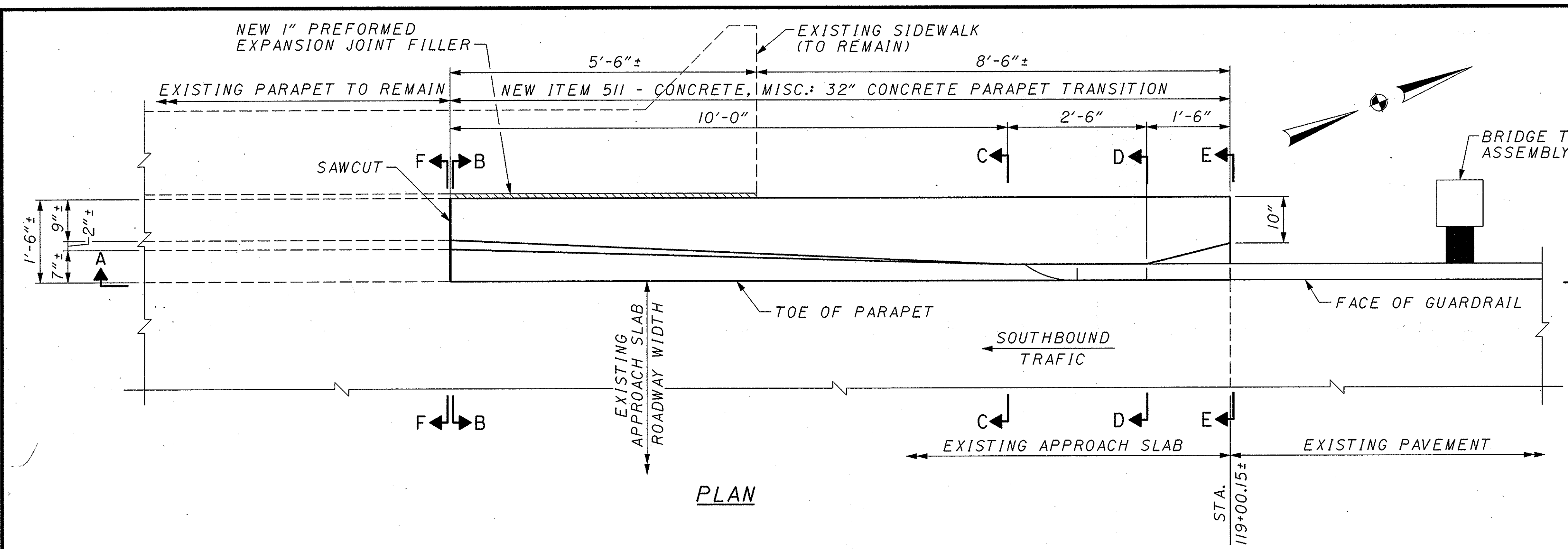
LEGEND

- INDICATES MATERIALS TO BE REMOVED BY ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, FOR PAYMENT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
SECTION X-X: FOR LOCATION SEE SHEET 30/40.
ADDITIONAL NOTES: SEE SHEET 40/40.

T7078MSM.DGN 11/28/07 SCB.TWH.KH

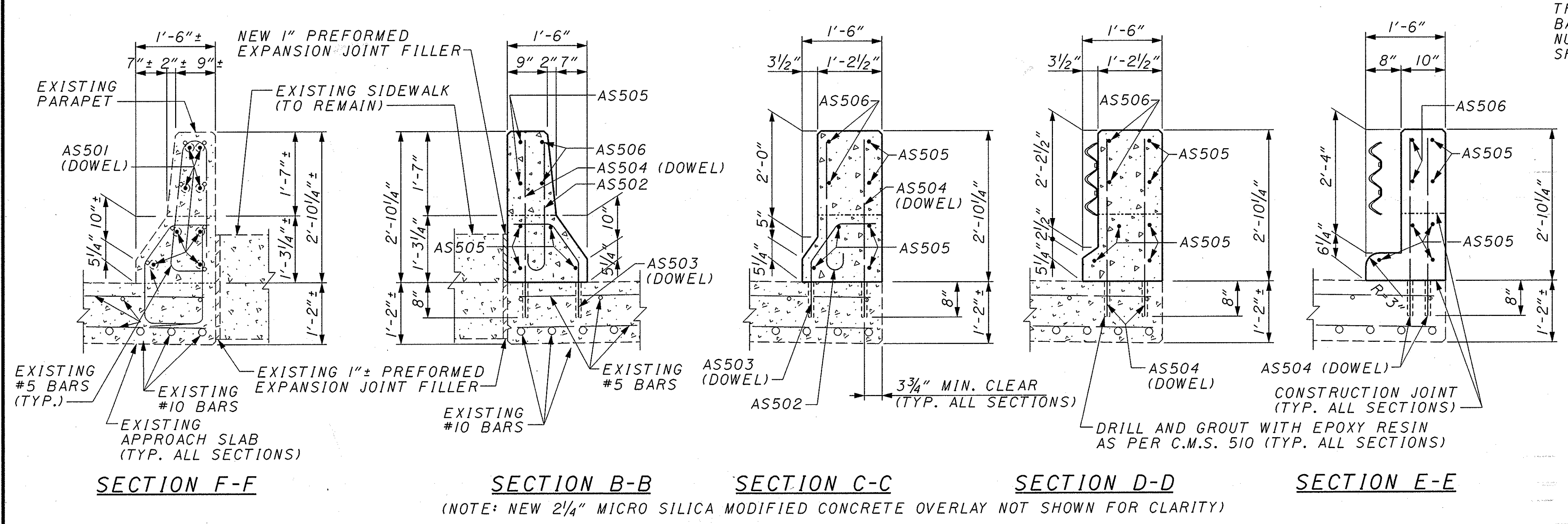


APPROACH SLAB PARAPET TRANSITION									
MARK	TOTAL	LENGTH	TYPE	A	B	C	INC.	WEIGHT (LBS.)	
AS501	8	2'-8"	STR.					22	
AS502	8	3'-1"	2	2'-6"				26	
AS503	8	2'-6"	1	1'-0"				21	
AS504	12	3'-4"	STR.					42	
AS505	6	13'-8"	STR.					86	
AS506	2	13'-8"	3					29	
TOTAL WEIGHT								226 #	

WEIGHTS FOR INFORMATIONAL PURPOSES ONLY. REINFORCING STEEL IS INCLUDED WITH ITEM 511 - CONCRETE, MISC.: 32" CONCRETE PARAPET TRANSITION FOR PAYMENT.

ALL REINFORCING STEEL SHALL BE GRADE 60, EPOXY COATED.

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLAN IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, AS501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.



NOTES

REINFORCING STEEL SPLICE LENGTHS: SHALL BE 2'-0" FOR #5 HORIZONTAL BARS.

ALL REBAR SHALL MAINTAIN 2" CONCRETE COVER.

CRACK CONTROL JOINTS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1/4" DEEP CRACK CONTROL JOINT, INTO THE PERIMETER OF THE CONCRETE PARAPET AS SHOWN IN DETAIL G. 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 1/4". SEAL THE PERIMETER OF THE CRACK CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2" OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

BRIDGE TERMINAL ASSEMBLY: SEE STANDARD CONSTRUCTION DRAWING GR-3.1.

NOTATION: F.F. - FRONT FACE
R.F. - REAR FACE

77078MSL.DGN 11/28/07 TWH,SCB,KH