

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

**MAR-4-11.70**

**CITY OF MARION  
MARION COUNTY**

**PROJECT DESCRIPTION**

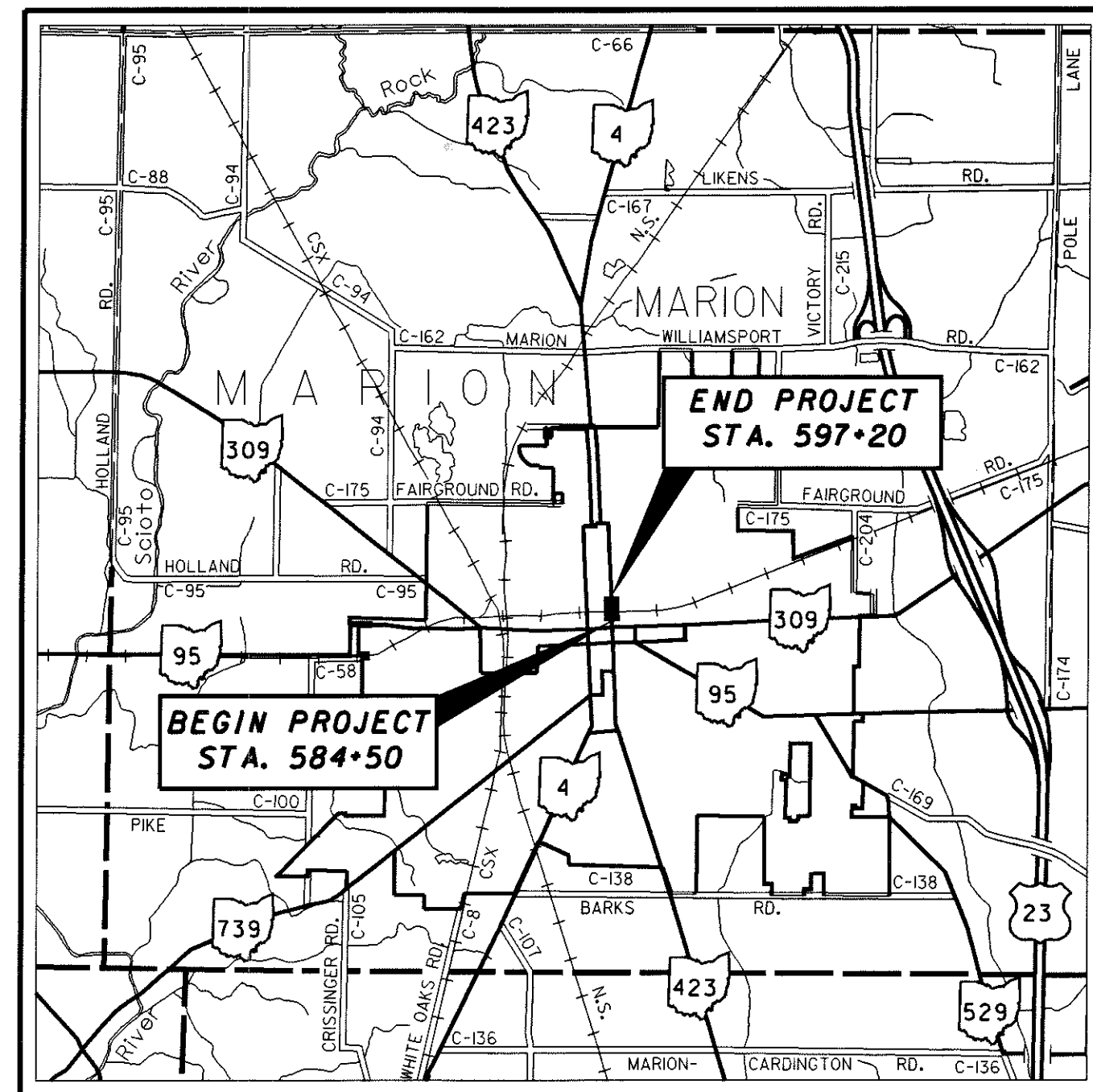
IMPROVEMENT OF 0.23 MILES OF N.B. S.R. 4 (STATE STREET) IN THE CITY OF MARION. REPLACE EXISTING DECK AND BEAMS WITH NEW CONCRETE BOX BEAMS AND NEW CONCRETE COMPOSITE DECK. EXISTING APPROACH SLABS TO BE REPLACED ALSO. UNSOUND CONCRETE ON EXISTING RETAINING WALLS, ABUTMENTS AND PIERS TO BE REPAIRED. EXISTING BRIDGE LIGHTING TO BE UPGRADED AND REFURBISHED AS NECESSARY. HIGHWAY TRAFFIC TO BE DETOURED DURING CONSTRUCTION, RAILROAD TRAFFIC TO BE MAINTAINED.

**1997 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.

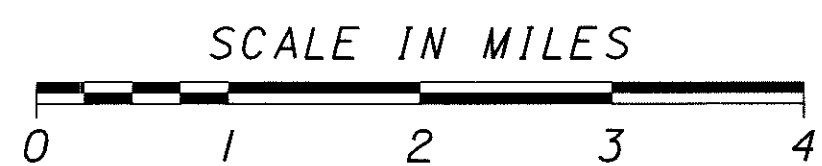
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 5.

PLANS CERTIFIED BY:  
NAME Bruce B. Sherer DATE 7/15/02  
DISTRICT 6  
OHIO DEPT. OF TRANSPORTATION



**LOCATION MAP**

LATITUDE: 40°35'30" LONGITUDE: 83°07'35"



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

**DESIGN DESIGNATION**

CURRENT ADT (2000).....	5,917
DESIGN YEAR ADT (2020).....	7,969
DESIGN HOURLY VOLUME (2017).....	797
DIRECTIONAL DISTRIBUTION.....	---
TRUCKS (24 HOUR B&C).....	274
DESIGN SPEED.....	35 MPH
LEGAL SPEED.....	25 MPH

DESIGN FUNCTIONAL CLASSIFICATION - URBAN ARTERIAL

**DESIGN EXCEPTIONS:**

NONE

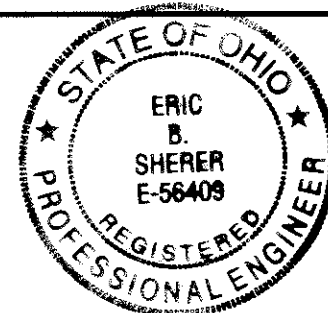
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STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS			
BP-1.1	7-28-00	HL-10.13M	5-01-95	MT-101.60M	4-25-94	806	9-9-97	905	4-1-98
BP-2.1	7-28-00	HL-20.14M	5-01-95	MT-105.10M	4-25-94	814	6-2-98	906	5-5-98
BP-2.2	7-28-00	HL-30.31M	5-01-95	MT-105.11M	4-25-94	830	10-21-98	907	10-21-98
BP-2.3	7-28-00	HL-40.10	4-19-02	MT-110.30M	3-1-96	842	1-6-99	908	4-14-02
BP-3.1	7-28-00	HL-50.11	7-20-01			851	6-6-00	932	10-2-96
BP-5.1	7-28-00	HL-50.22	1-18-02	AS-1-81	4-20-01	863	10-12-99		
		HL-60.11	7-20-01	BR-1	1-6-99	870	3-27-01		
CB-2.1	7-20-01	HL-60.12	7-20-01	EXJ-5-93	4-20-01	877	4-13-99		
CB-2.2	7-20-01	HL-60.31	7-20-01	PSBD-1-93	3-4-94	899	10-21-98		
DM-4.4	7-20-01	TC-22.20	1-19-01						
		TC-41.40	1-18-02						
RM-3.1M	10-21-97	TC-52.10	4-20-01						
		TC-52.20	4-20-01						
		TC-65.10	10-19-01						

**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

ENGINEERS SEAL:



SIGNED: Eric B. Sherer  
DATE: 6-27-02

PLAN PREPARED BY:

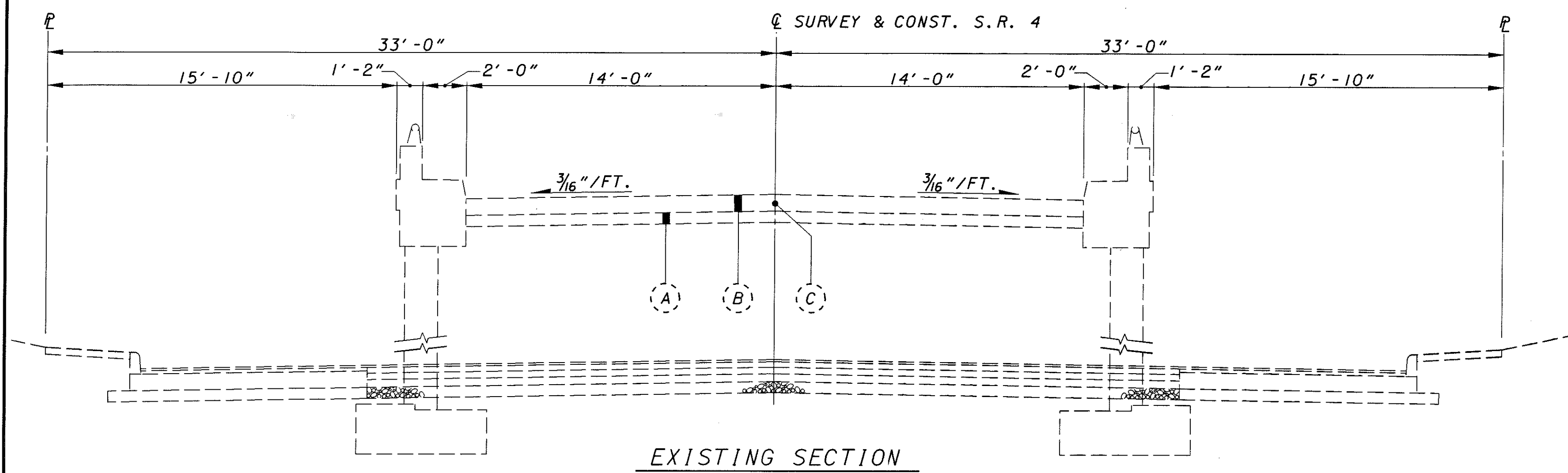
**PARSONS BRINCKERHOFF OHIO, INC.**  
6235 ENTERPRISE COURT  
DUBLIN, OHIO 43016

APPROVED Jack R. Marshall  
DATE 7/15/02 DISTRICT DEPUTY DIRECTOR

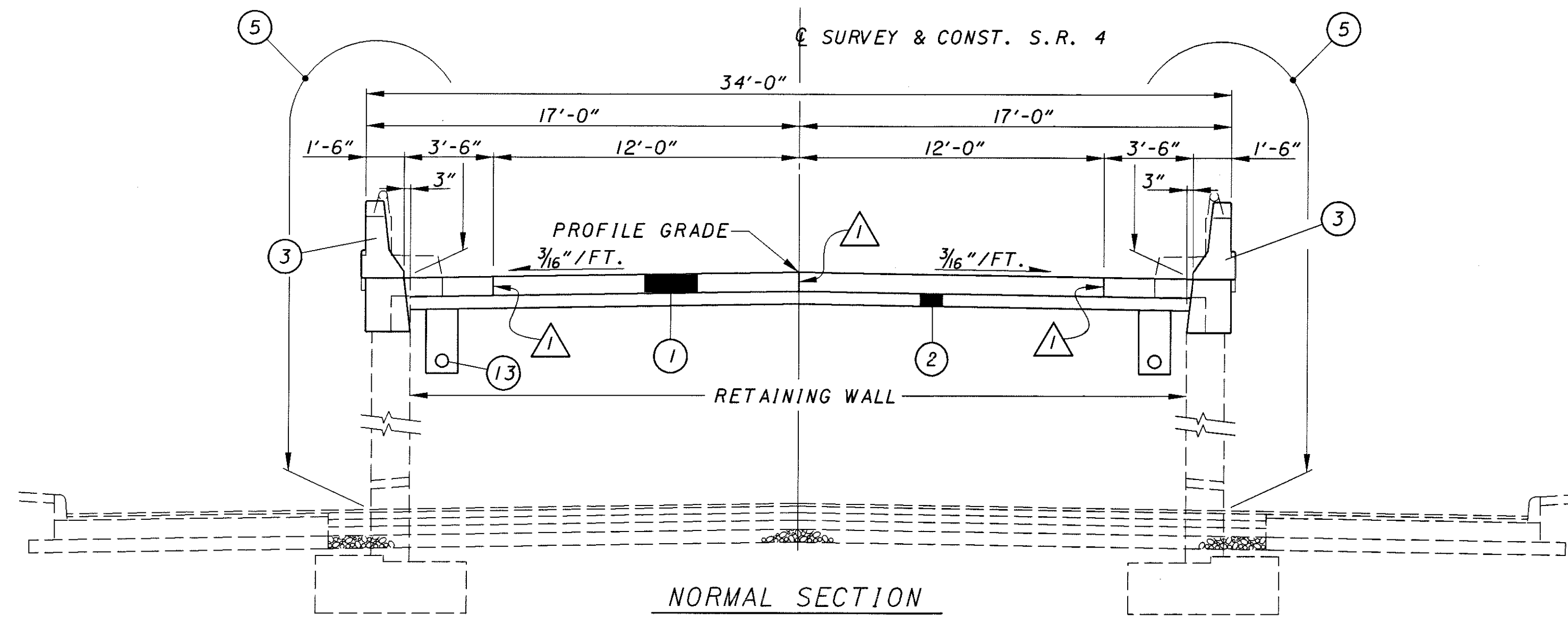
APPROVED London Proctor  
DATE 8-8-02 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. **NON-FEDERAL**  
 PID NO. **20535**  
 CONSTRUCTION PROJECT NO.  
 RAILROAD INVOLVEMENT **NEW YORK CENTRAL LINES LLC (CSX TRANSPORTATION, INC.) RAILROAD**  
**MAR-4-11.70**  
 1/68

MAR-SR-4-11.70  
 020482 PID-20535  
 Dist 6 10/23/2002

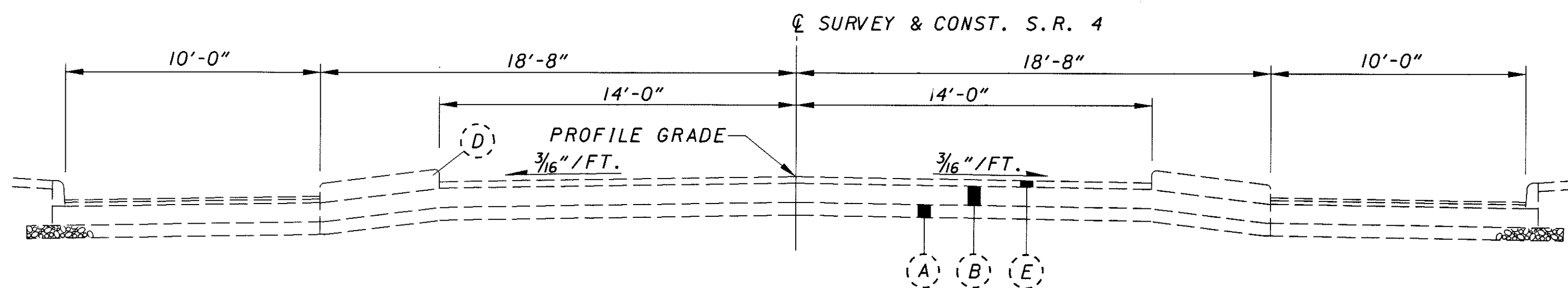


EXISTING SECTION



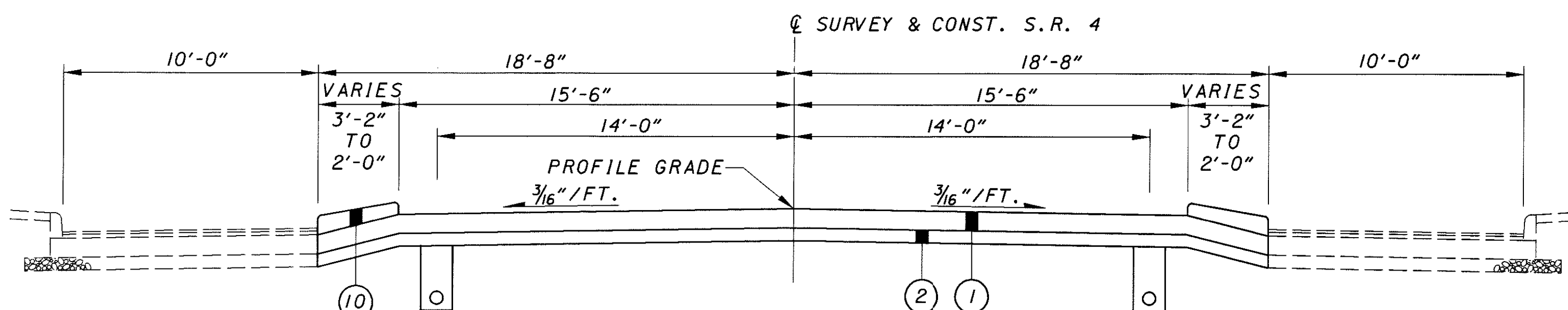
NORMAL SECTION

SECTION APPLIES:  
 STA. 584+74.34± TO STA. 586+22.13  
 STA. 594+81.80 TO STA. 596+93.80±



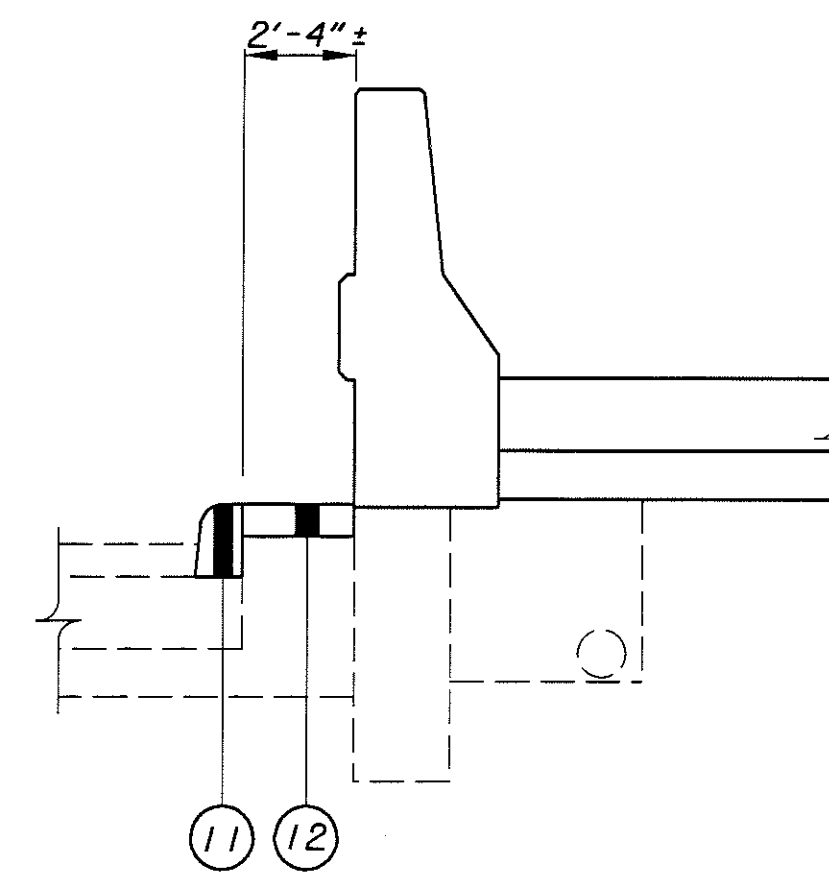
EXISTING SECTION

SECTION APPLIES:  
 STA. 584+50.00 TO STA. 584+74.34±  
 STA. 596+93.80± TO STA. 597+20.00



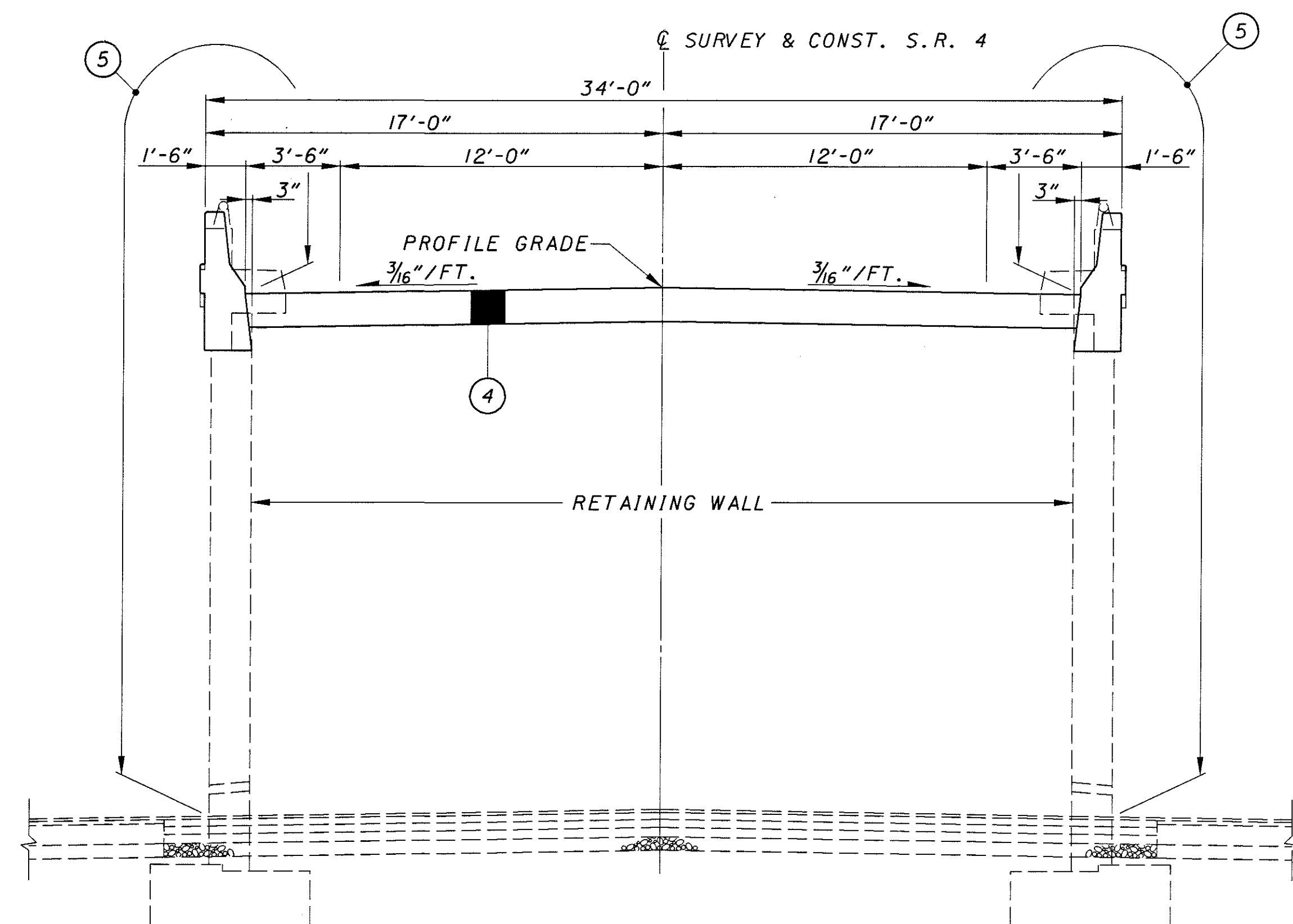
PROPOSED SECTION

SECTION APPLIES:  
 STA. 584+50.00 TO STA. 584+74.34±  
 STA. 596+93.80± TO STA. 597+20.00



CURB REPLACEMENT SECTION

SECTION APPLIES:  
 STA. 584+74.34± TO STA. 585+00.00  
 STA. 596+70.00 TO STA. 596+93.80±



APPROACH SLAB SECTION

SECTION APPLIES:  
 STA. 586+22.13 TO STA. 586+47.13  
 STA. 594+56.80 TO STA. 594+81.80

LEGEND

- ① ITEM 451 - 9" REINFORCED CONCRETE PAVEMENT
- ② ITEM 304 - 6" AGGREGATE BASE
- ③ DEFLECTOR PARAPET 36" HIGH (SEE STRUCTURE DRAWINGS)
- ④ ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T-15")
- ⑤ ITEM 864 - SEALING OF CONCRETE SURFACE (EPOXY-URETHANE)
- ⑥ ITEM 446 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22
- ⑦ TACK COAT FOR INTERMEDIATE COURSE @ 0.075 GAL./SQ. YD.
- ⑧ ITEM 446 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22
- ⑨ TACK COAT @ 0.075 GAL./SQ. YD.
- ⑩ ITEM 830 - CONCRETE MEDIAN
- ⑪ ITEM 830 - CONCRETE CURB
- ⑫ ITEM 842 - CONCRETE MISC.: 4" CLASS C CONCRETE CAP
- ⑬ ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
- Ⓐ 6" SUBBASE
- Ⓑ 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- Ⓒ STANDARD LONGITUDINAL JOINT
- Ⓓ CONCRETE MEDIAN
- Ⓔ 3" ASPHALT CONCRETE

NOTES:

▲ LONGITUDINAL JOINT PER BP-2.1

STATION		SECTION	451 REINFORCED CONCRETE PAVEMENT				304 AGGREGATE BASE				611 REINFORCED CONCRETE APPROACH SLAB			203 SUBGRADE COMPACTION		SPECIAL PRESSURE RELIEF JOINT, TYPE A
			LENGTH	THICKNESS	AVERAGE WIDTH	AREA	THICKNESS	AVERAGE WIDTH	AREA	VOLUME	THICKNESS	AVERAGE WIDTH	AREA	AVERAGE WIDTH	AREA	WIDTH
FROM	TO		FEET	IN.	FEET	SQ. FT.	IN.	FEET	SQ. FT.	CU. YD.	IN.	FEET	SQ. YD.	FEET	SO. YD.	LIN. FT.
584+50	584+74.34	S.R. 4	24.4	9	37.50	101.67	6	37.50	915.00	16.94				37.50	101.67	
596+93.80	597+20	S.R. 4	26.2	9	37.50	109.17	6	37.50	982.50	18.19				37.50	109.17	
584+74.34	586+22.13	S.R. 4	147.8	9	31	509.08	6	31	4581.8	84.8				31	509.10	
586+22.13	586+47.13	APPROACH SLAB	25								15	31	86.1	31	86.10	
594+56.80	594+81.80	APPROACH SLAB	25								15	31	86.1	31	86.10	
594+81.80	596+93.80	S.R. 4	212	9	31	730.22	6	31	6572	121.70				31	730.30	
	586+20.00	LT./RT.														34
	594+84.00	LT./RT.														34
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>																
(SHEET 6)						1450			242.00			172.20		1623.00		68

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**

THE STATE OF OHIO CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED 1997, INCLUDING ALL SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN UNLESS OTHERWISE NOTED.

**SAFETY**

THE CONTRACTOR AND SUB-CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.

**EXISTING UTILITIES**

THE IDENTITY AND LOCATION OF THE EXISTING UNDERGROUND UTILITY FACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE PLANS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY. THE ENGINEER ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR DEPTHS OF THE UNDERGROUND FACILITIES SHOWN ON THE PLANS.

SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

THE CONTRACTOR SHALL CAUSE NOTICE TO BE GIVEN TO THE OHIO UTILITIES PROTECTION SERVICE, TELEPHONE 800-362-2764 TOLL FREE AND TO THE OWNERS OF UNDERGROUND UTILITY FACILITIES SHOWN ON THE PLANS WHO ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE REVISED CODE. THE ABOVE MENTIONED NOTICE SHALL BE GIVEN AT LEAST 2 WORKING DAYS PRIOR TO START OF CONSTRUCTION.

**UTILITIES OWNERS**

THE FOLLOWING UTILITIES ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

**SANITARY**  
CITY OF MARION  
MARION WATER POLLUTION CONTROL  
1810 MARION-AUGUSTA RD.  
MARION, OH 43302

**TELEPHONE**  
VERIZON  
550 LEADER ST.  
MARION, OH 43302  
(740) 383-0537  
ATTN: SUSAN HALL

**WATER LINES**  
OHIO-AMERICAN WATER COMPANY  
365 E. CENTER ST.  
MARION, OHIO 43302  
(740) 387-2293

**GAS**  
COLUMBIA GAS OF OHIO, INC.  
OPERATIONS CENTER  
126 LEADER ST.  
MARION, OH 43302  
(800) 421-8556

**ELECTRIC**  
OHIO EDISON  
1040 SOUTH PROSPECT ST  
MARION, OH 43302

**UTILITIES**

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.

**STORAGE OF EQUIPMENT AND MATERIALS**

NO MATERIALS, INCLUDING PIPE, SHALL BE STORED WITHIN THE RIGHT-OF-WAY OR WITHIN ONE HUNDRED (100) FEET OF ANY INTERSECTING STREET OR DRIVEWAY. DURING NON-WORKING HOURS, STORAGE OF EQUIPMENT SHALL COMPLY WITH THESE SAME REQUIREMENTS. COMPLIANCE WITH THESE REQUIREMENTS SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS LEGAL RESPONSIBILITIES OR LIABILITIES FOR THE SAFETY OF THE PUBLIC.

**PERMITS**

THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS.

**FIELD OFFICE**

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE, TYPE A. EXCEPT IT SHALL HAVE 400 SQUARE FEET OF FLOOR SPACE. KEROSENE HEATERS SHALL NOT BE USED AS A HEAT SOURCE. ITEM 806 FIELD OFFICE, TYPE A [6] MONTH

**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 "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER.

**WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**CONVERSION OF STANDARD CONSTRUCTION DRAWINGS**

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

**CONTRACTION AND EXPANSION JOINTS**

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN EXPANSION AND CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL, IN ALL CASES, BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWINGS AND THE SPECIFICATIONS. SEE PAVEMENT DETAIL NOTES AND SPECIAL JOINT DETAIL.

**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.

**MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED**

ALL CASTINGS SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT OF WAY FOR SALVAGE BY (STATE) (CITY) (VILLAGE) (COUNTY) FORCES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

**ITEM 203, PROOF ROLLING**

PORTIONS OF THIS ROADWAY MAY BE CONSTRUCTED ON POORLY DRAINED SOILS. ALL PREPARED SUBGRADES SHALL BE PROOF ROLLED WITH A TANDEM TRUCK LOADED WITH A MAXIMUM LEGAL LOAD IN THE PRESENCE OF THE ENGINEER WHO WILL DETERMINE THE NUMBER OF PASSES REQUIRED. AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 203 PROOF ROLLING [25] HOURS

**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 CONTRACTOR'S 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.

**TRAFFIC CONTROL DEVICES**

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE "OHIO MANUAL OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS".

**626 BARRIER REFLECTORS**

THESE REFLECTORS AND THEIR MOUNTING SHALL CONFORM TO SPECIFICATION 626 EXCEPT THAT SPACING SHALL BE AS SHOWN ON THE PLANS.

**ELEVATION DATUM**  
ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

**MEETING EXISTING GRADES**

WHEN THE PLANS PROVIDE FOR PROPOSED PAVEMENT TO MEET THE EXISTING PAVEMENT, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTING GRADES.

**TEMPORARY SOIL EROSION AND SEDIMENT CONTROL**

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE PLACED BY THE CONTRACTOR WITH THE ENGINEER'S CONCURRENCE FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 877 TEMPORARY INLET PROTECTION FILTER FABRIC FENCE [14] LIN. FT.

**ITEM 203-EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION**

THE FOLLOWING EARTHWORK ESTIMATED QUANTITIES ARE REQUIRED TO RECONSTRUCT THE ABUTMENTS AS SHOWN ON THE PLANS. (SEE DETAIL SHEET [11/68])

ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION [58] CU. YD.

ITEM 203 EMBANKMENT USING GRANULAR MATERIAL [25] CU. YD.

ITEM 203 SUBGRADE COMPACTION [35] SO. YD.

IF UNSUITABLE FOUNDATION SOILS ARE ENCOUNTERED IN THE AREAS OF THE PROPOSED ROADBED, THEY SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL MEETING THE REQUIREMENTS OF 203.08. THE LOCATIONS AND DIMENSIONS WILL BE AS DETERMINED BY THE ENGINEER.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 203 [30] CU. YDS. EMBANKMENT

ITEM 203 [30] CU. YDS. EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION

GENERAL NOTES AND CALCULATIONS

MAR-4-11.70

# MAINTENANCE OF TRAFFIC NOTES

CALCULATED  
EJC  
CHECKED  
EBS

MAINTENANCE OF TRAFFIC NOTES

MAR - 4 - 11 - 70

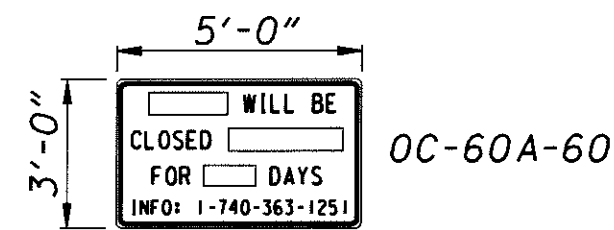
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**CONSTRUCTION INITIATION**

THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS AT 740-363-1251, EXT. 469 OR BY FAX AT 740-369-7437 AND THE DISTRICT TRAFFIC MANAGEMENT ENGINEER AT 740-363-1251, EXT. 323, FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT TRAFFIC MANAGEMENT ENGINEER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION PROJECT. THE PROJECT ENGINEER WILL PROVIDE CLARIFICATION FOR ANY QUESTIONS ABOUT THIS NOTIFICATION REQUIREMENT.

**ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN**

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.



"NOTICE OF CLOSURE SIGN DETAIL"

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" "ROAD CLOSED" SIGNS, SIGN SUPPORTS, BARRICADES, GATES, AND LIGHTS, AS DETAILED IN STANDARD CONSTRUCTION DRAWING MT-101.60M AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

PLACE AT CORNER OF S.R. 4 & CENTER ST. FACING NORTHBOUND TRAFFIC.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ALL TRAFFIC CONTROL DEVICES AND DETOUR SIGNS SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, AS PER PLAN UNLESS SEPARATELY ITEMIZED IN THE PLAN.

**DESIGNATED LOCAL DETOUR ROUTE**

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE." THIS ROUTE IS SHOWN ON SHEET NO. 5. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DIRECTED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

407, TACK COAT  GAL.

614, BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC  CU. YD.

642, CENTER LINE  MILE

**COMPLETION DATES**

THE CONTRACTOR SHALL COMPLETE ALL WORK ON THE PROJECT INCLUDING BUT NOT LIMITED TO, THE OPENING OF ALL LANES TO TRAFFIC, THE REMOVAL OF ALL TEMPORARY TRAFFIC CONTROL DEVICES, THE PLACEMENT OF ALL PERMANENT TRAFFIC CONTROL MEASURES AND DEVICES, BY AUG. 1, 2003 OR CONTRACTOR SUBJECTED TO LIQUIDATED DAMAGES.

**ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR)**

IN ADDITION TO THE REQUIREMENTS OF 614 AND 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:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S 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 :

CITY OF MARION POLICE  
MAJOR BILL COLLINS  
233 WEST CENTER STREET  
MARION, OHIO 43302  
PHONE # (740) 387-0541 OR (740) 387-2525

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 QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR  HOURS

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

IF CONTRACTORS WISH TO UTILIZE LEO'S 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, AS PER PLAN.

**DUST CONTROL**

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

616, WATER  M. GAL.

616, CALCIUM CHLORIDE  TON

**COORDINATION WITH RAILROADS**

THE CONTRACTOR SHALL COORDINATE ALL WORK IN THE VICINITY OF THE RAILROAD TRACKS BENEATH THE BRIDGE WITH THE NEW YORK CENTRAL LINES LLC (CSX TRANSPORTATION, INC.) RAILROADS. NO WORK OVER OR AROUND THESE TRACKS WILL BE PERMITTED WITHOUT PRIOR NOTIFICATION AND COORDINATION GIVEN TO LOCAL RAILROAD OFFICIALS. (SEE PROPOSAL NOTE)

**COORDINATION WITH ADJACENT PROPERTY OWNERS**

THE CONTRACTOR MUST COORDINATE CLOSURE OF S.R. 4 AND THE STREETS BELOW WITH ALL ADJACENT PROPERTY OWNERS. THE CONTRACTOR MUST PROVIDE WRITTEN ADVANCE NOTICE ON COMPANY LETTERHEAD TWO WEEKS PRIOR TO CLOSURE TO ALL ADJACENT PROPERTY OWNERS. SHOULD THIS PROJECT PREVENT INGRESS OR EGRESS TO ANY ADJACENT PROPERTY, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AN ALTERNATIVE WITH THE PROPERTY OWNER.

**LIQUIDATED DAMAGES**

FAILURE TO COMPLETE THE PROJECT BY THE STATED CONTRACT COMPLETION DATE SHALL RESULT IN THE CONTRACTOR BEING ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH SECTION 108.07 OF THE 1997 CONSTRUCTION AND MATERIAL SPECIFICATIONS.

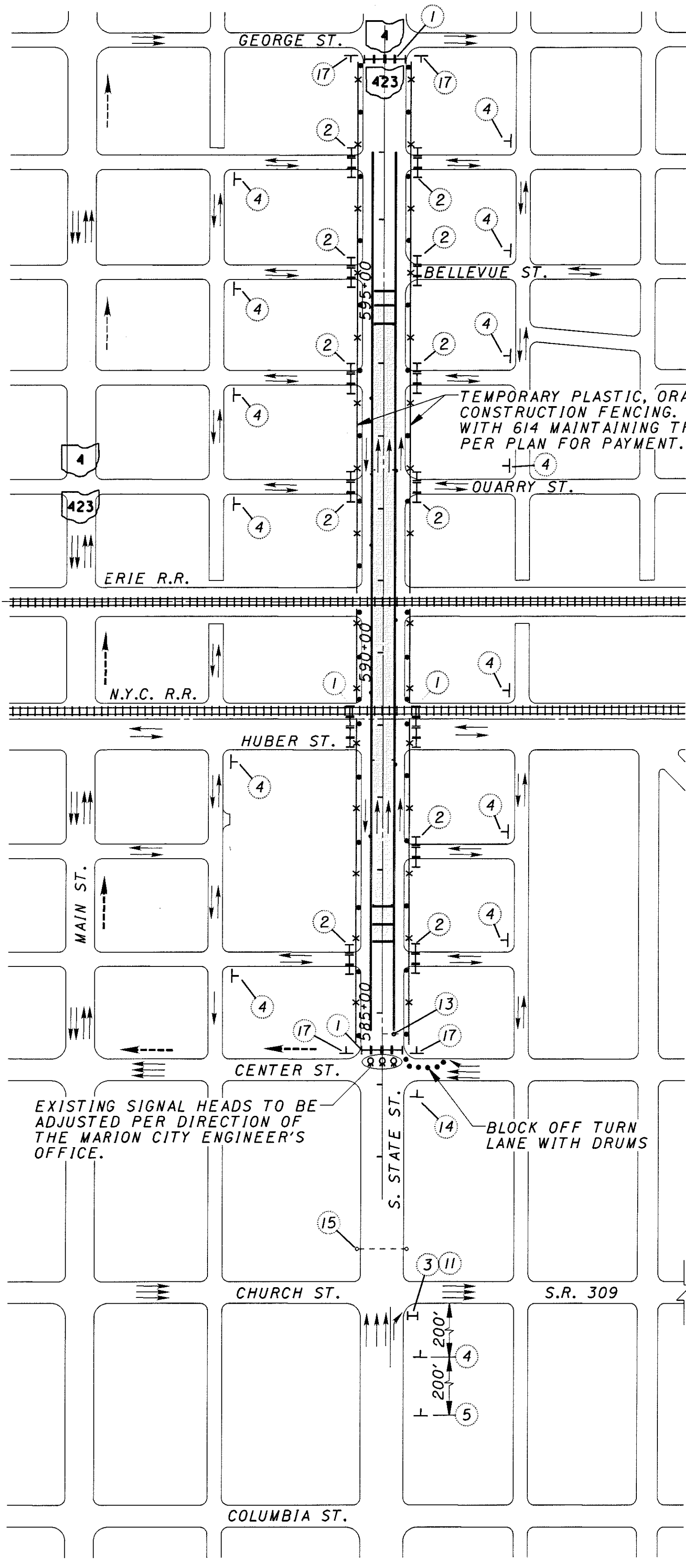
**COORDINATION WITH O.D.O.T.'S CENTRAL OHIO TRAFFIC MANAGEMENT PROGRAM (COTMP):**

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES ON A WEEKLY BASIS. WHEN DETOURS ARE PLANNED, THIS NOTIFICATION SHALL BE AT THE PRE-CONSTRUCTION MEETING OR 30 DAYS IN ADVANCE ONCE CONSTRUCTION HAS BEGUN. LANE AND RAMP CLOSURES FOR 2 OR MORE WEEKS SHALL BE REPORTED 2 WEEKS IN ADVANCE OF CLOSURE. LANE AND RAMP CLOSURES OF LESS THAN 2 WEEKS DURATION AND MORE THAN 2 DAYS SHALL BE REPORTED AT LEAST 3 WORKING DAYS IN ADVANCE. FOR SHORT TERM LANE OR RAMP CLOSURES (2 DAYS OR LESS) NOTIFICATION SHALL BE MADE AT LEAST 1 WORKING DAY IN ADVANCE. INFORMATION SHALL INCLUDE BUT NOT BE LIMITED TO ALL CONSTRUCTION ACTIVITIES THAT IMPACT TRAFFIC AT PRESENT AND IN THE NEXT 30 DAYS. THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL WHO WILL BE RESPONSIBLE FOR PREPARING THIS REPORT AT THE PRE-CONSTRUCTION MEETING. ANY UNFORESEEN IMPACTS TO TRAFFIC SHALL BE REPORTED TO THE PROJECT ENGINEER AS SOON AS POSSIBLE. THE PROJECT ENGINEER SHALL PROVIDE THIS INFORMATION TO COTMP. ALL CONSTRUCTION ACTIVITIES THAT INTERFERE WITH TRAFFIC SHALL BE PROVIDED TO COTMP. THIS INFORMATION SHALL BE PROVIDED TO COTMP AT (740) 363-1251 (EXT. 323), OR BY FAX AT (740) 363-6831.

**SIGNS LEGEND:**

- ① R-75-48 R-41B-36 R-75-48 R-41B-36 R-75-48  
ROAD CLOSED ROAD CLOSED ROAD CLOSED ROAD CLOSED ROAD CLOSED  
SOLID ACROSS INTERSECTION  
10' TYPE III BARRICADES
- ② R-75-48 R-41B-36 R-75-48  
ROAD CLOSED ROAD CLOSED ROAD CLOSED  
SOLID ACROSS INTERSECTION  
10' TYPE III BARRICADES
- ③ R-76C-60 OC-14R-48  
ROAD CLOSED TO THRU TRAFFIC  
DETOUR
- ④ ROAD CLOSED AHEAD  
OW-120-48 48" x 48"
- ⑤ DETOUR AHEAD  
OW-127-48 48" x 48"
- ⑥ DETOUR NORTH OM-23-24 M-37-24 M-2-24-2 M-2-24-2 M-26-24  
423 4 4
- ⑦ DETOUR NORTH OM-23-24 M-37-24 M-2-24-2 M-26-24  
423 4
- ⑧ OM-23-24 M-37-24 M-2-24-2 M-24L-24  
DETOUR NORTH NORTH 423 4  
← → M-24R-24
- ⑨ DETOUR NORTH OM-23-24 M-37-24 M-2-24-2 M-27-24  
423 4
- ⑩ DETOUR NORTH OM-23-24 M-37-24 M-2-24-2 M-24L-24  
423 4  
← → M-24R-24
- ⑪ DETOUR NORTH OM-23-24 M-37-24 M-2-24-2 M-24R-24  
423 4  
← → M-24R-24
- ⑫ DETOUR NORTH OM-23-24 M-37-24 M-2-24-2 M-24R-24  
423 4  
↗ ↘ M-24R-24
- ⑬ 4 423 STATE CLOSED  
8'x2' BLACK ON ORANGE 8'x2' BLACK ON ORANGE
- ⑭ R-120-24 RP-120-24  
NO RIGHT TURN
- ⑮ 309 95 WEST LEFT ONLY 4 423 STATE CLOSED  
8'x2' BLACK ON ORANGE 8'x2' BLACK ON ORANGE
- ⑯ 4 NORTH CLOSED IN DOWNTOWN THRU TRAFFIC FOLLOW DETOUR  
SPECIAL 96" x 72" BLACK ON ORANGE
- ⑰ SIDEWALK CLOSED  
R-175-30

**NOTE:**  
ALL DETOUR SIGNS SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED THE CONTRACTOR.



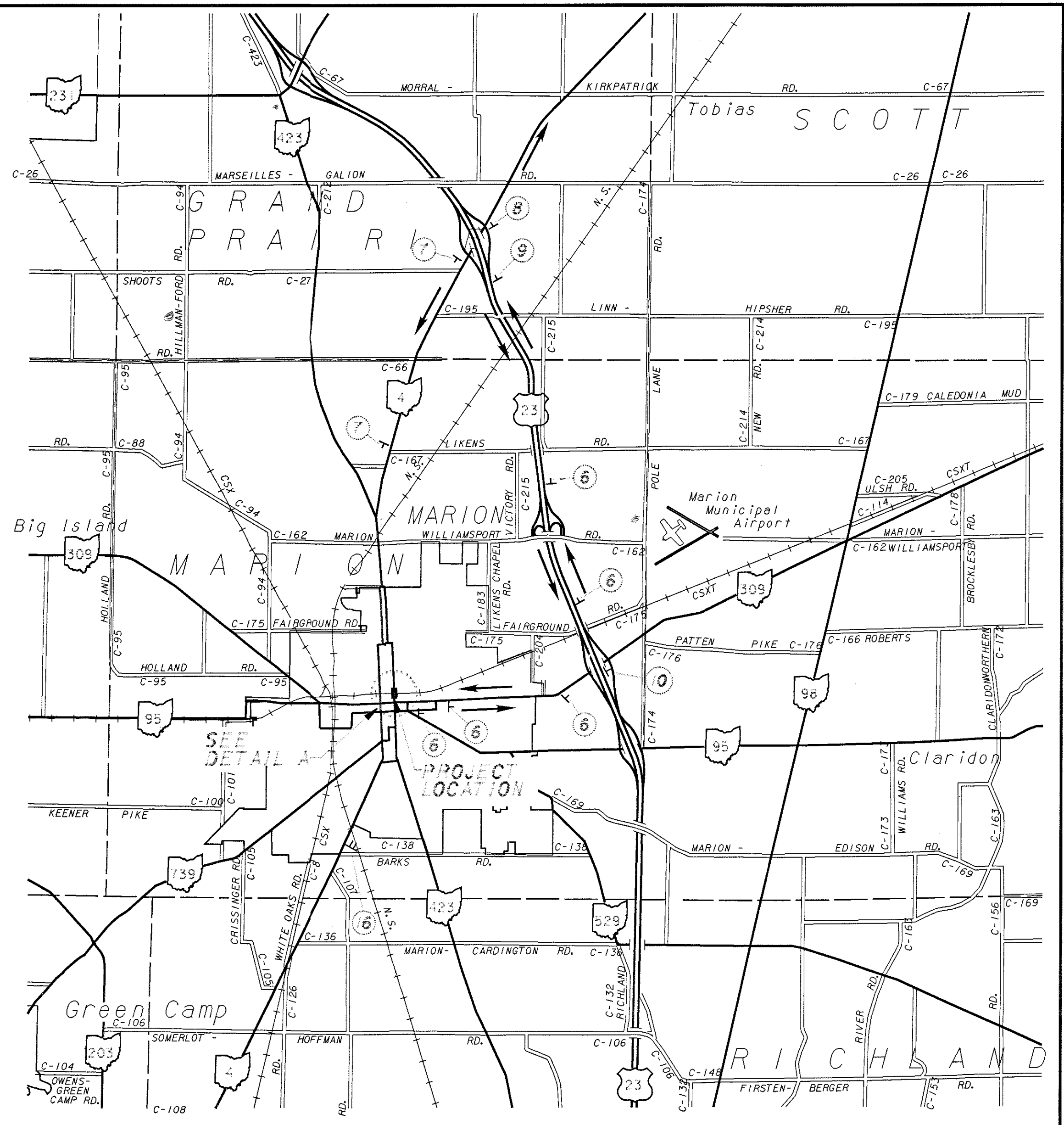
TEMPORARY PLASTIC, ORANGE CONSTRUCTION FENCING, INCLUDE WITH 614 MAINTAINING TRAFFIC, AS PER PLAN FOR PAYMENT.

EXISTING SIGNAL HEADS TO BE ADJUSTED PER DIRECTION OF THE MARION CITY ENGINEER'S OFFICE.

BLOCK OFF TURN LANE WITH DRUMS

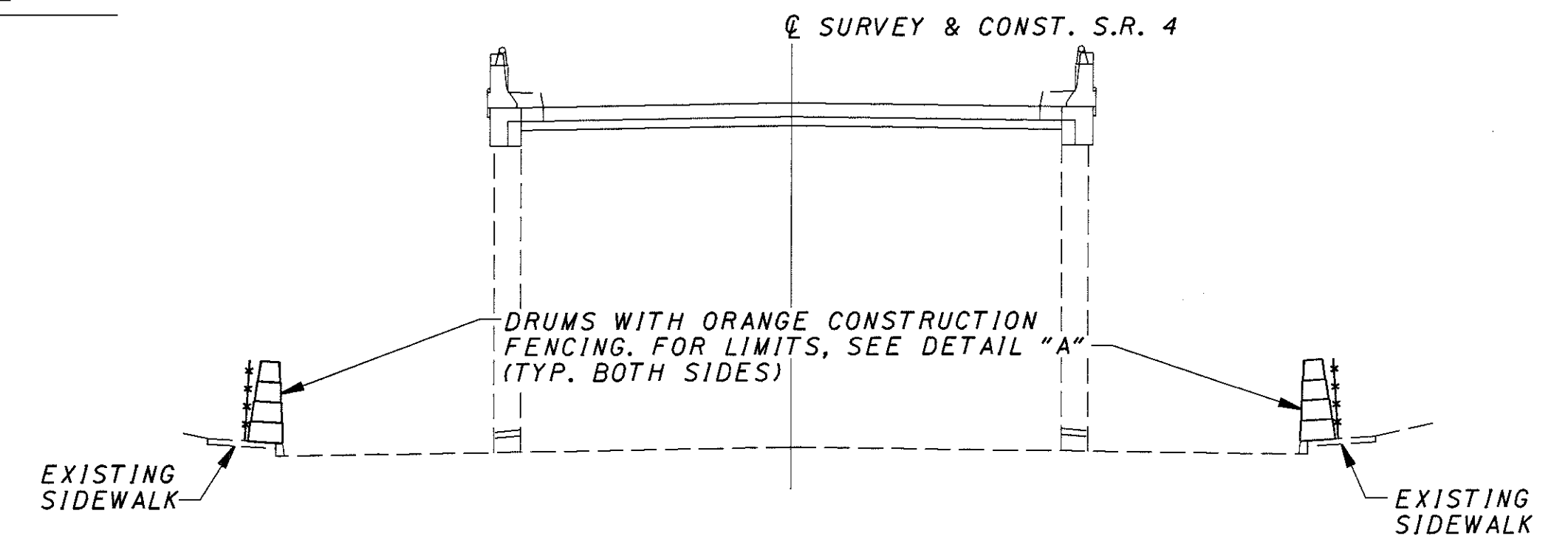
--- DENOTES UNSIGNED LOCAL DETOUR ROUTE  
← EXISTING TRAFFIC PATTERNS

DETAIL A



DETOUR MAP  
SCALE IN MILES

- PORTION TO BE IMPROVED
- INTERSTATE & DIVIDED HIGHWAY
- UNDIVIDED STATE & FEDERAL ROUTES
- OTHER ROADS
- DETOUR ROUTE



PEDESTRIAN RESTRICTION DETAILS  
(SEE STD. DWG. MT-110.30M FOR ADDITIONAL DETAILS)

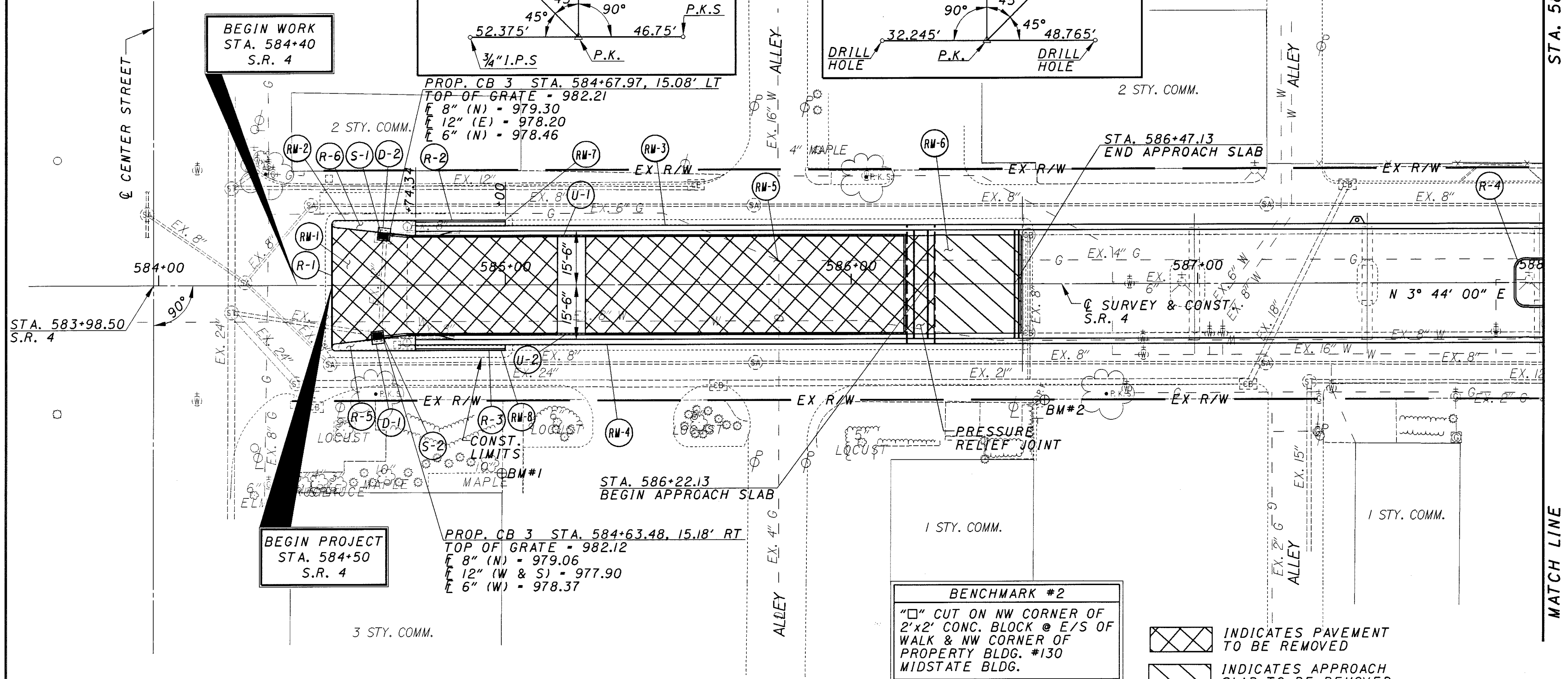
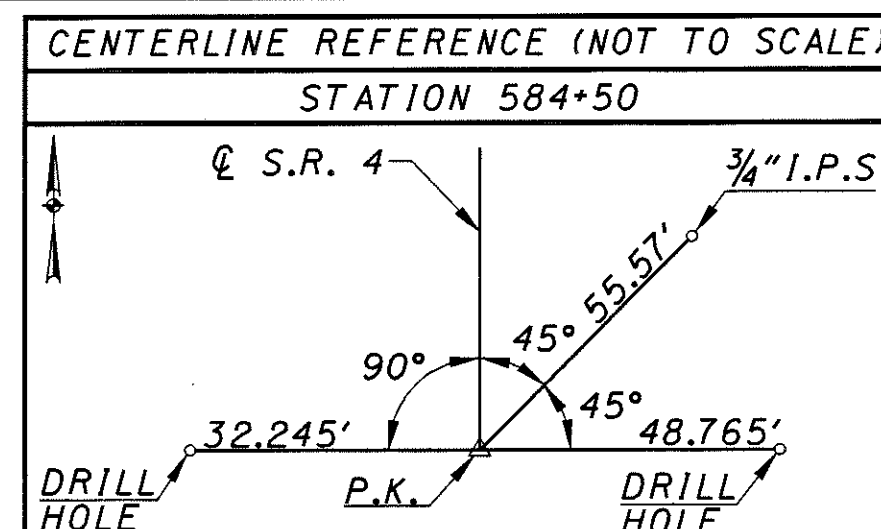
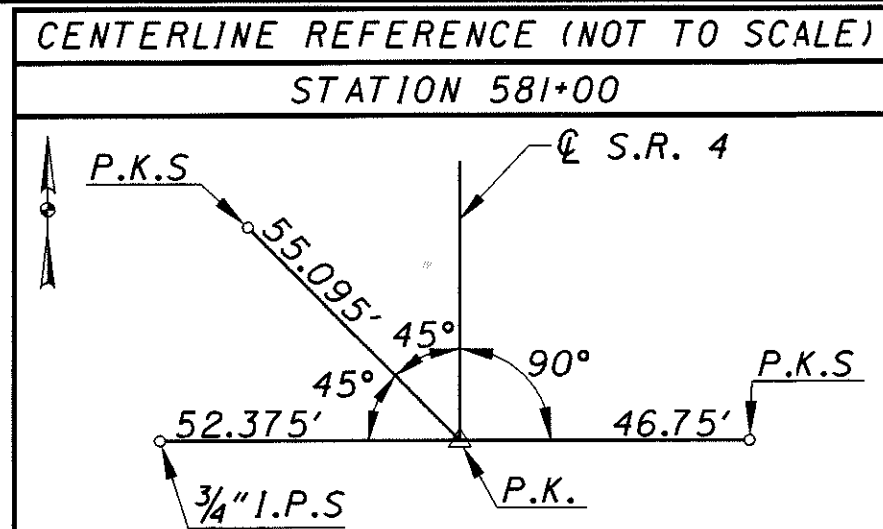
SHEET NUMBER										ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED ABS	CHECKED EBS
3	4	7	8	9	10	12	13										
<b>ROADWAY</b>																	
		85		85						202	22900	170	SQ YD	APPROACH SLAB REMOVED			
		610		275	428					202	23000	1313	SQ YD	PAVEMENT REMOVED			
		18		20						202	30600	38	SQ YD	CONCRETE MEDIAN REMOVED			
		300		162	188					202	30700	650	LIN FT	CONCRETE BARRIER REMOVED			
		52	145	33	48					202	32000	278	LIN FT	CURB REMOVED			
						45				202	35100	45	LIN FT	PIPE REMOVED, 24" AND UNDER			
		2			2					202	58100	4	EACH	CATCH BASIN REMOVED			
		9	28	2.8	9					202	98300	49	SQ YD	REMOVAL, MISC.: CONCRETE CAP			
88		100		61	54					203	12000	303	CU YD	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION			
30										203	20000	30	CU YD	EMBANKMENT			
25										203	21000	25	CU YD	EMBANKMENT USING GRANULAR MATERIAL			
										203	45000	25	HOUR	PROOF ROLLING			
1658										203	50000	1658	SQ YD	SUBGRADE COMPACTION			
<b>EROSION CONTROL</b>																	
14		14			14					877	30300	42	LIN FT	TEMPORARY INLET PROTECTION FILTER FABRIC FENCE			
<b>DRAINAGE</b>																	
		10								603	01800	10	LIN FT	8" CONDUIT, TYPE B			
		15								603	04400	15	LIN FT	12" CONDUIT, TYPE B			
					20					603	05900	20	LIN FT	15" CONDUIT, TYPE B			
		2			2					604	00400	4	EACH	CATCH BASIN, NO. 3			
		300		224	214					605	11100	738	LIN FT	6" SHALLOW PIPE UNDERDRAIN			
<b>PAVEMENT</b>																	
		85			89					252	01500	174	LIN FT	FULL DEPTH PAVEMENT SAWING			
242		1	2.3	0.23						304	20000	246	CU YD	AGGREGATE BASE			
	1010									407	10000	1010	GAL	TACK COAT			
1450										451	14000	1450	SQ YD	9" REINFORCED CONCRETE PAVEMENT			
68										SPECIAL	45130000	68	LIN FT	PRESSURE RELIEF JOINT, TYPE A			
173										611	25000	173	SQ YD	REINFORCED CONCRETE APPROACH SLAB, T=15"			
		52			48					830	16000	100	LIN FT	CURB, TYPE 2-B			
		45	145	33						830	16001	223	LIN FT	CURB, TYPE 2-B, AS PER PLAN			12
		18			15					830	72000	33	SQ YD	CONCRETE MEDIAN			
		2.2	3	0.3	1					842	71100	6.5	CU YD	CONCRETE MISC.: 4" CLASS C CONCRETE CAP			
<b>MAINTENANCE OF TRAFFIC</b>																	
	24									614	11100	24	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR			
	340									614	13000	340	CU YD	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC			
	2									616	10000	2	M GAL	WATER			
	1									616	20000	1	TON	CALCIUM CHLORIDE			
<b>TRAFFIC CONTROL</b>																	
						16				621	00100	16	EACH	RAISED PAVEMENT MARKER			
						26				626	00200	26	EACH	BARRIER REFLECTOR, TYPE B			
	0.85									642	00290	0.85	MILE	CENTER LINE			
						26				630	03100	26	LIN FT	GROUND MOUNTED SUPPORT, NO. 3 POST			
						6				630	75000	6	EACH	SIGN ATTACHMENT ASSEMBLY			
						52				630	80102	52	SQ FT	SIGN, FLAT SHEET, TYPE G			
						2				630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL			
						10				630	87500	10	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL			
						0.24				644	00200	0.24	MILE	LANE LINE			
						315				644	00900	315	SQ. FT.	ISLAND MARKING			
<b>FOR LIGHTING GENERAL SUMMARY</b>															27		
<b>FOR STRUCTURE GENERAL SUMMARY</b>															33		
	LUMP									614	11001	LUMP		MAINTAINING TRAFFIC, AS PER PLAN			4.5
	LUMP									623	10000	LUMP		CONSTRUCTION LAYOUT STAKES			
	LUMP									624	10000	LUMP		MOBILIZATION			
6										806	16000	6	MONTH	FIELD OFFICE, TYPE A			

**GENERAL SUMMARY**

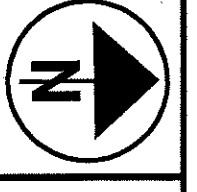
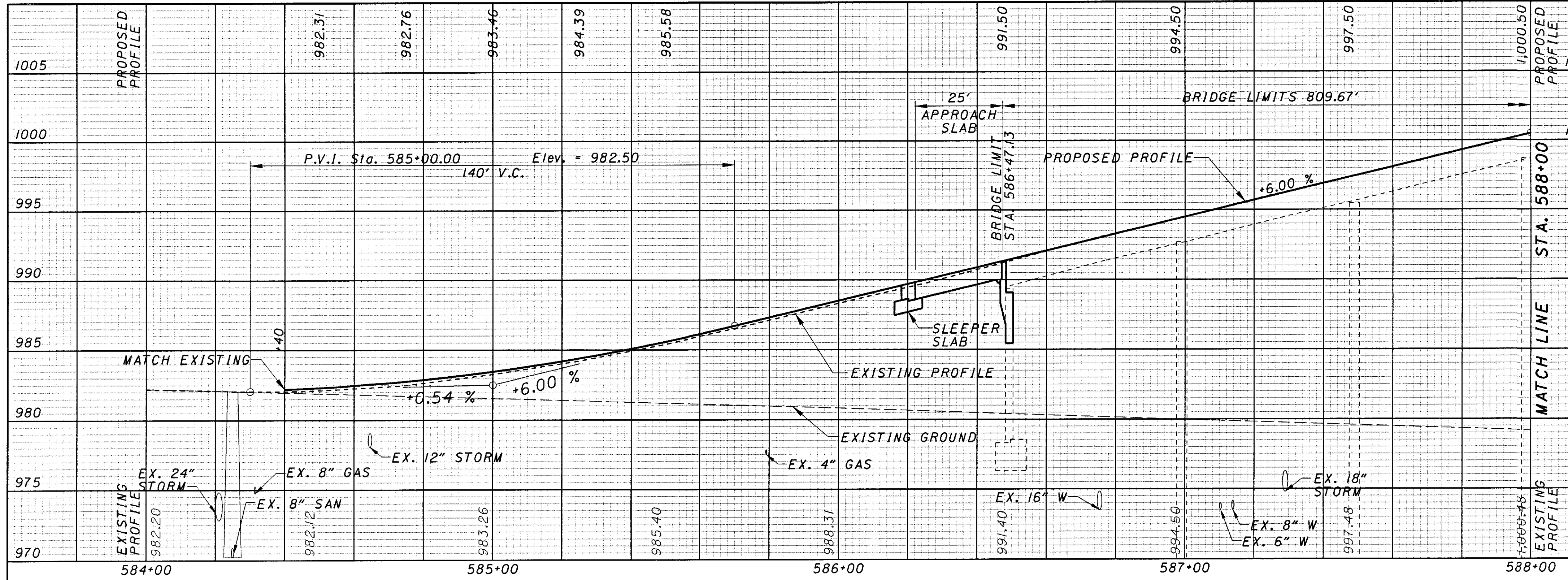
**MAR-4-11.70**

6  
68

**BENCHMARK # 1**  
 "□" CUT ON NW CORNER OF WALL AROUND AIR CONDITIONING UNIT @ NW CORNER OF UNITED CHURCH HOUSE @ NE. CORNER OF CENTER & STATE STREET

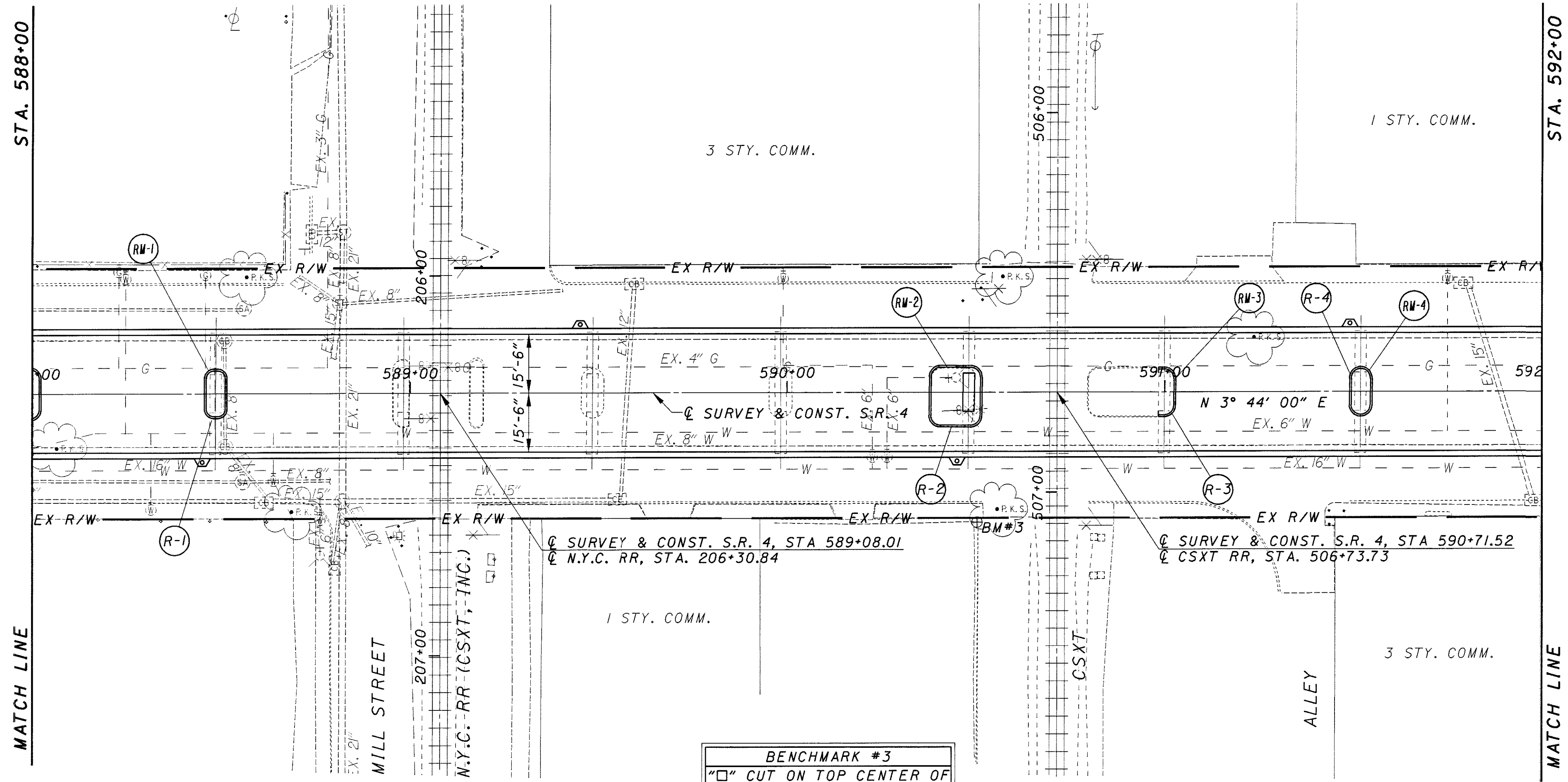


REF NO.	STATION		SIDE	GENERAL SUMMARY		TOTALS CARRIED TO
	FROM	TO		GENERAL SUMMARY	GENERAL SUMMARY	
D-1	584+63.00		RT			
D-2	584+68.00		LT			
R-1	584+50.00		L/R			
R-2	584+74.34	585+00.00	LT			
R-3	584+74.34	585+00.00	RT			
R-4	587+91.00	588+02.00	L/R			
R-5	584+50.00	584+74.34	LT			
R-6	584+50.00	584+74.34	RT			
RM-1	584+50.00	584+74.34	L/R			
RM-2	584+50.00	584+74.34	L/R			
RM-3	584+74.34	586+49.02	LT			
RM-4	584+74.34	586+49.02	RT			
RM-5	584+74.34	586+24.02	L/R			
RM-6	586+24.02	586+49.02	L/R			
RM-7	584+74.00	585+00.00	L/R			
RM-8	584+74.00	585+00.00	L/R			
S-1	584+68.00		LT			
S-2	584+63.00		LT			
U-1	584+78.00		LT			
U-2	584+63.00		RT			
<b>TOTALS CARRIED TO</b>				<b>GENERAL SUMMARY</b>		
				85	6/10	300
				18		18
				150		150
				508		508
				85		85
				26		26
				26		26
				4.5		4.5
				4.5		4.5
				52		52
				9		9
				2		2
				1		1
				1		1
				85		85
				1.0		1.0
				10		10
				15		15
				2		2
				1		1
				300		300
				150		150
				45		45
				52		52
				18		18
				2.2		2.2
				14		14

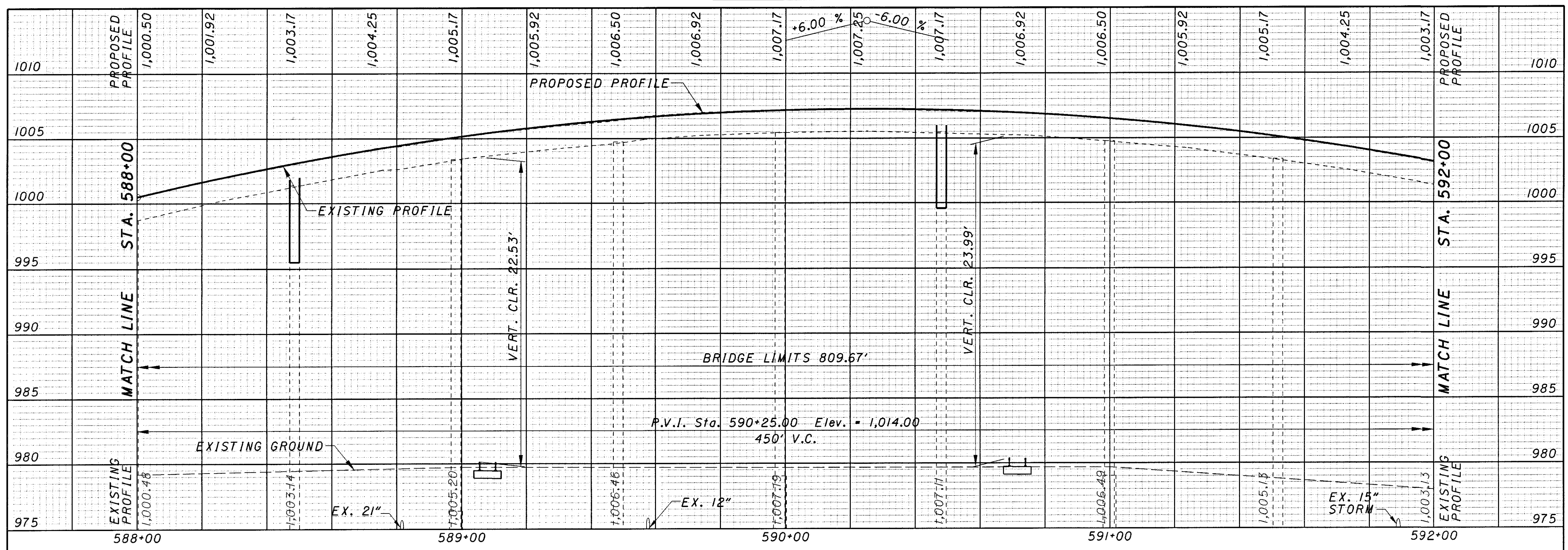


**PLAN AND PROFILE**  
**STA. 584+40 TO STA. 588+00**

**MAR-4-11.70**



**BENCHMARK #3**  
 "□" CUT ON TOP CENTER OF WEST END OF OLD FOOTER @ E/S STATE ST. & S/S RAILROAD.



REF NO.	STATION		SIDE	QUANTITY	UNIT
	FROM	TO			
RM-1	588+45	588+52	L/R	37	LINEAL FT.
RM-2	590+37	590+52	L/R	55	LINEAL FT.
RM-3	590+98	591+03	L/R	20	LINEAL FT.
RM-4	591+48	591+54	L/R	33	LINEAL FT.
R-1	588+45	588+52	L/R	.40	CUBIC YD.
R-2	590+37	590+52	L/R	1.50	CUBIC YD.
R-3	590+98	591+03	L/R	.15	CUBIC YD.
R-4	591+48	591+54	L/R	.23	CUBIC YD.
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				145	
842	CONCRETE MISC.			3	CUBIC YD.
850	CURB, TYPE 2-B A.P.P.			145	LINEAL FT.
304	AGGREGATE BASE			2.30	CUBIC YD.
202	REMOVAL MISC. CONCRETE CAP			27.50	SQ. YD.
202	CURB REMOVED			145	LINEAL FT.

**PLAN AND PROFILE**  
**STA. 588+00 TO STA. 592+00**

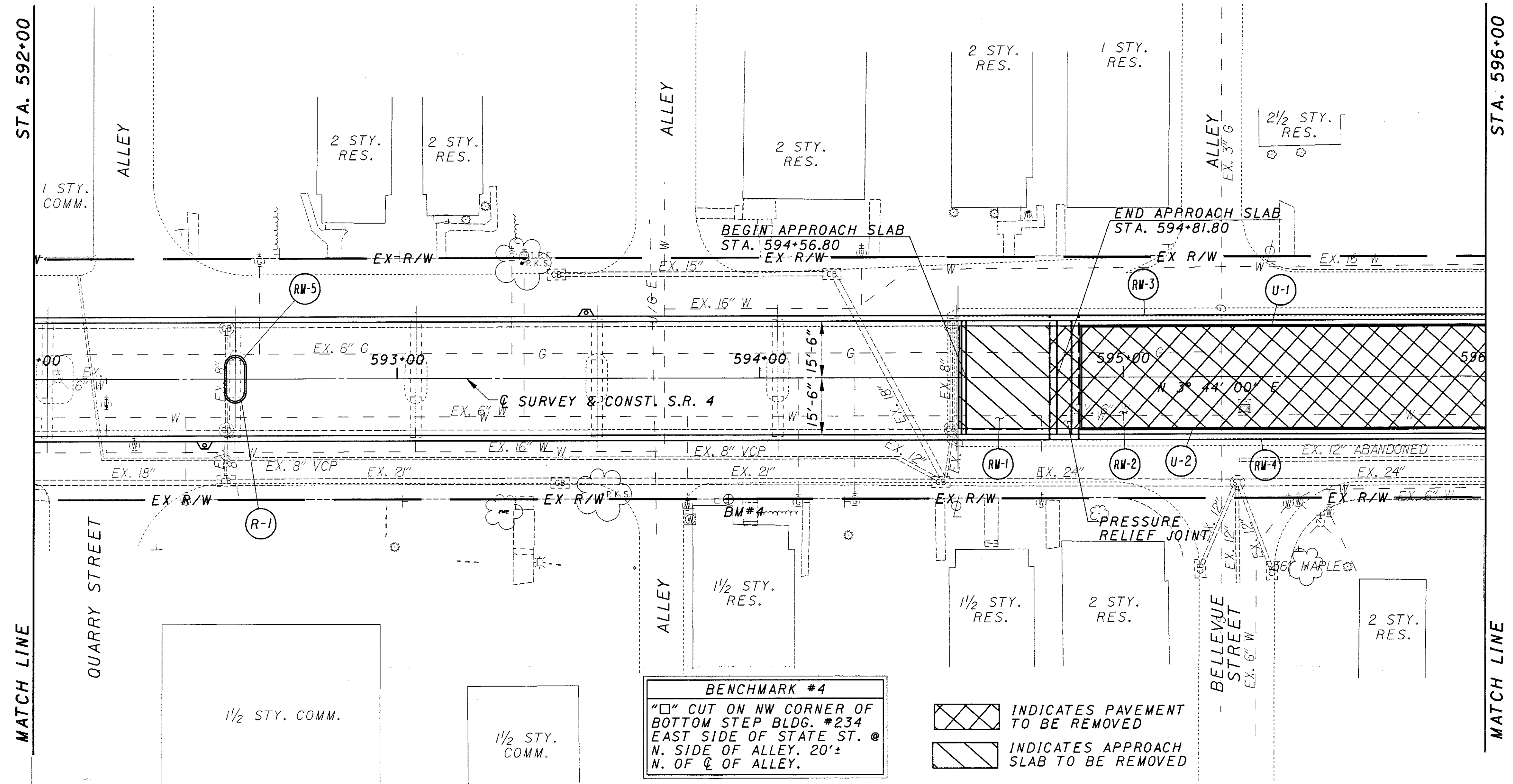
**MAR-4-11.70**

0 10 20  
HORIZONTAL SCALE IN FEET

CALCULATED: NAH  
CHECKED: EBS

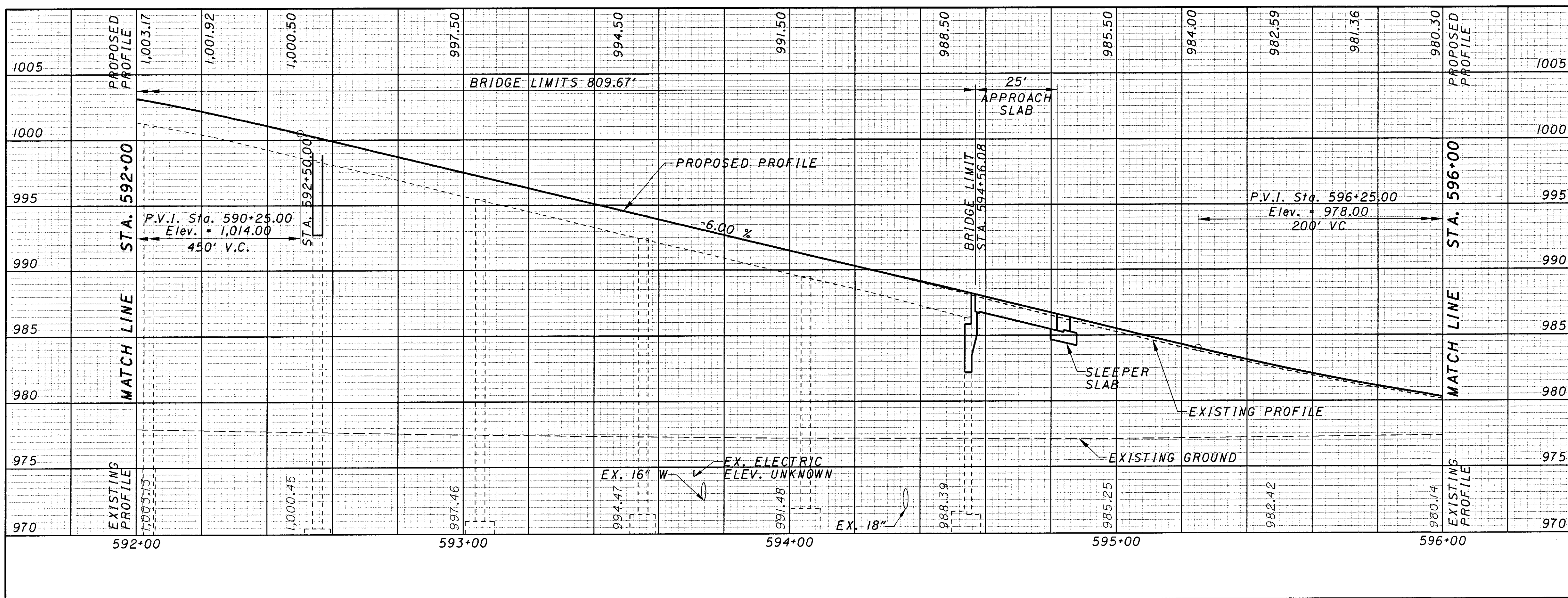
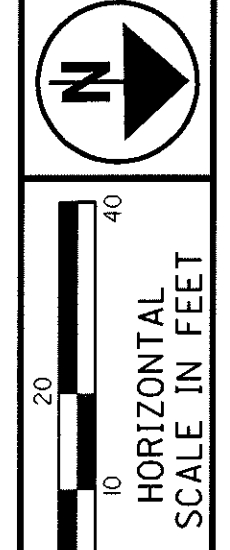
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**BENCHMARK #4**  
 "□" CUT ON NW CORNER OF  
 BOTTOM STEP BLDG. #234  
 EAST SIDE OF STATE ST. @  
 N. SIDE OF ALLEY. 20'±  
 N. OF Q. OF ALLEY.

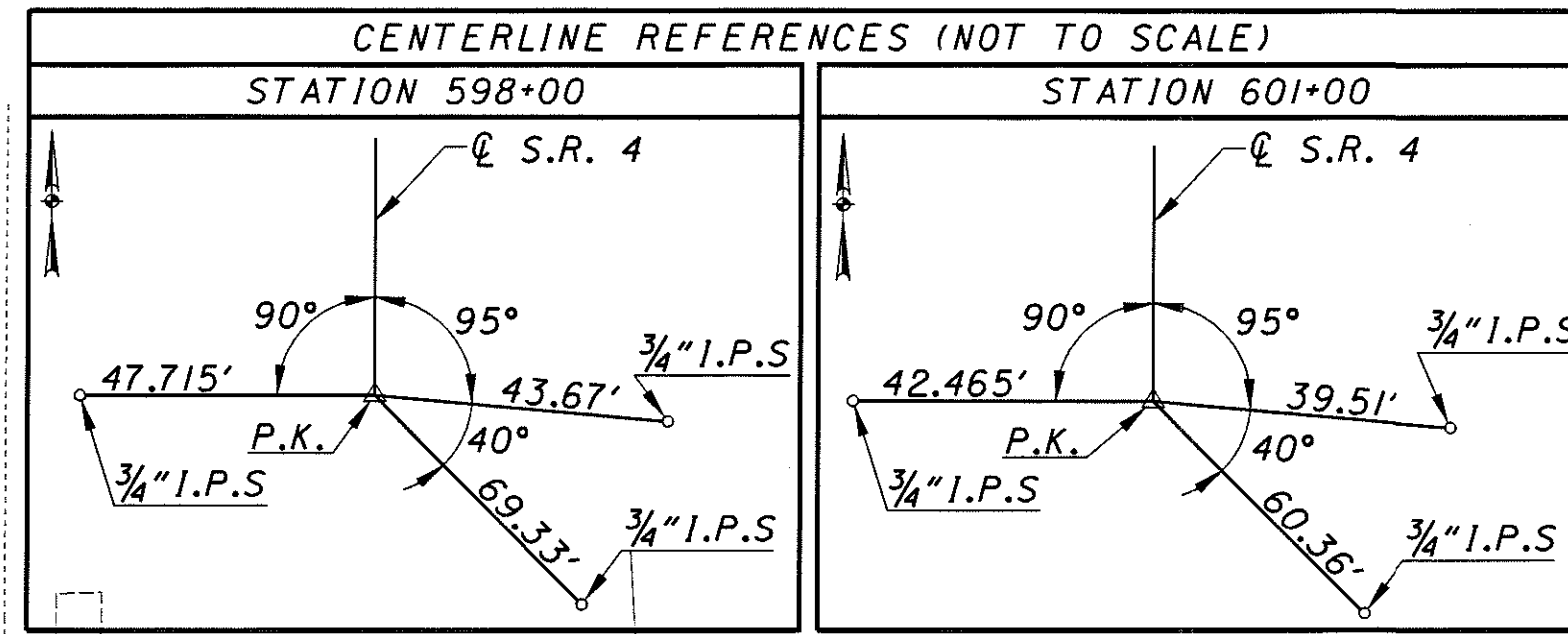
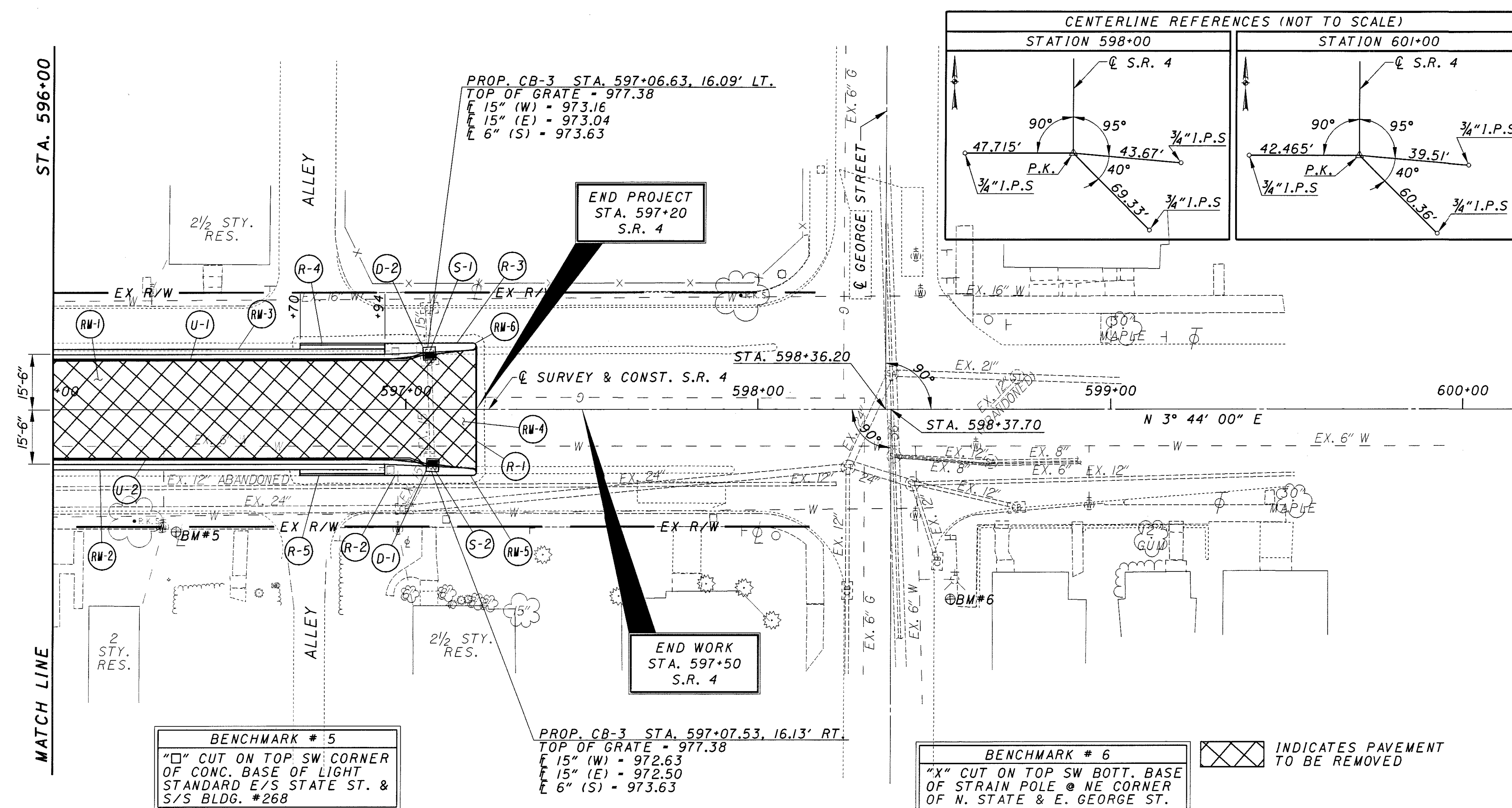
INDICATES PAVEMENT  
 TO BE REMOVED  
 INDICATES APPROACH  
 SLAB TO BE REMOVED



REF NO.	STATION		SIDE	QUANTITY
	FROM	TO		
RM-1	594+94.03	596+00.00	L/R	
RM-2	595+19.03	596+00.00	L/R	
RM-3	594+94.03	596+00.00	LT	
RM-4	594+94.03	596+00.00	RT	
RM-5	592+52.00	592+58.00	L/R	
R-1	592+52.00	592+58.00	L/R	
U-1	594+88.00	596+00.00	LT	
U-2	594+88.00	596+00.00	RT	
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				
842	CONCRETE, MISC.:	CU. YD.		.30
830	CURB, TYPE 2-B, AS PER PLAN	LIN. FT.		33
605	6" SHALLOW PIPE UNDERDRAIN	LIN. FT.		224
304	AGGREGATE BASE	CU. YD.		.23
203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	CU. YD.		61
202	REMOVAL, MISC.:	SO. YD.		2.78
202	CURB REMOVED	LIN. FT.		33
202	CONCRETE BARRIER REMOVED	LIN. FT.		162
202	PAVEMENT REMOVED	SO. YD.		275
202	APPROACH SLAB REMOVED	SO. YD.		85

**PLAN AND PROFILE**  
**STA. 592+00 TO STA. 596+00**

**MAR-4-11.70**

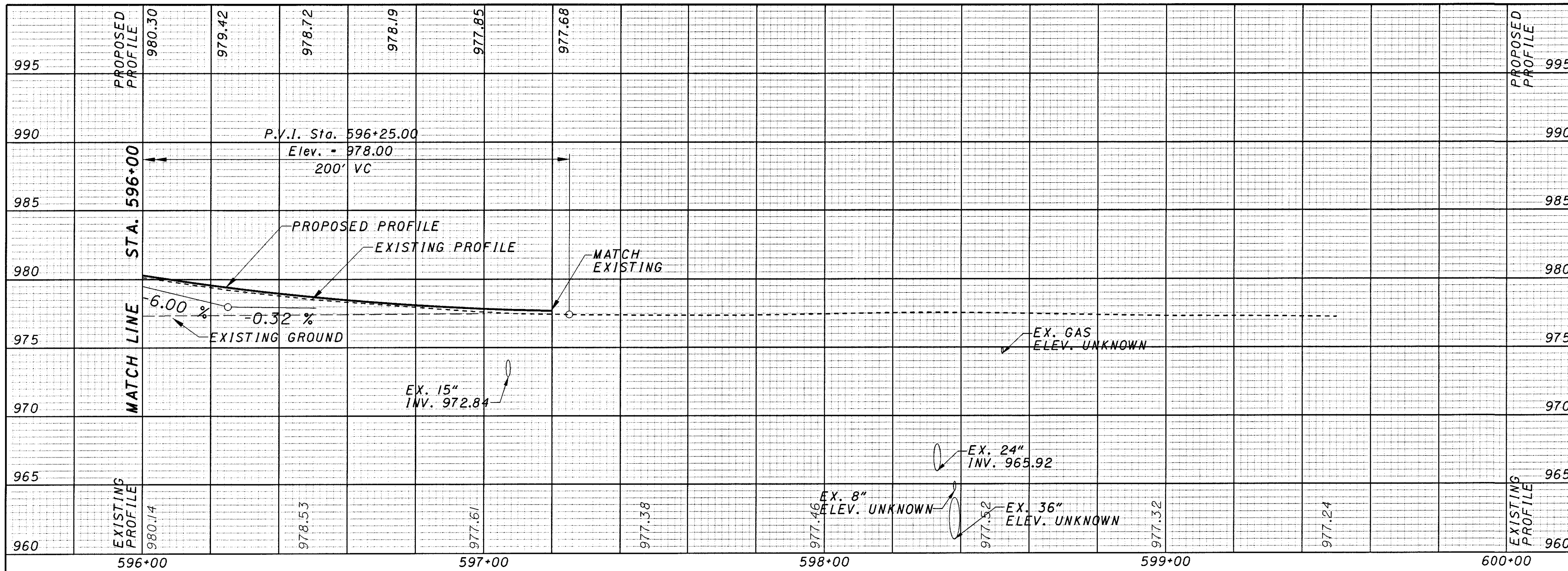


**BENCHMARK # 5**  
 "□" CUT ON TOP SW CORNER OF CONC. BASE OF LIGHT STANDARD E/S STATE ST. & S/S BLDG. #268

**PROP. CB-3 STA. 597+07.53, 16.13' RT.**  
 TOP OF GRATE = 977.38  
 15" (W) = 972.63  
 15" (E) = 972.50  
 6" (S) = 973.63

**BENCHMARK # 6**  
 "X" CUT ON TOP SW BOTT. BASE OF STRAIN POLE @ NE CORNER OF N. STATE & E. GEORGE ST.

INDICATES PAVEMENT TO BE REMOVED



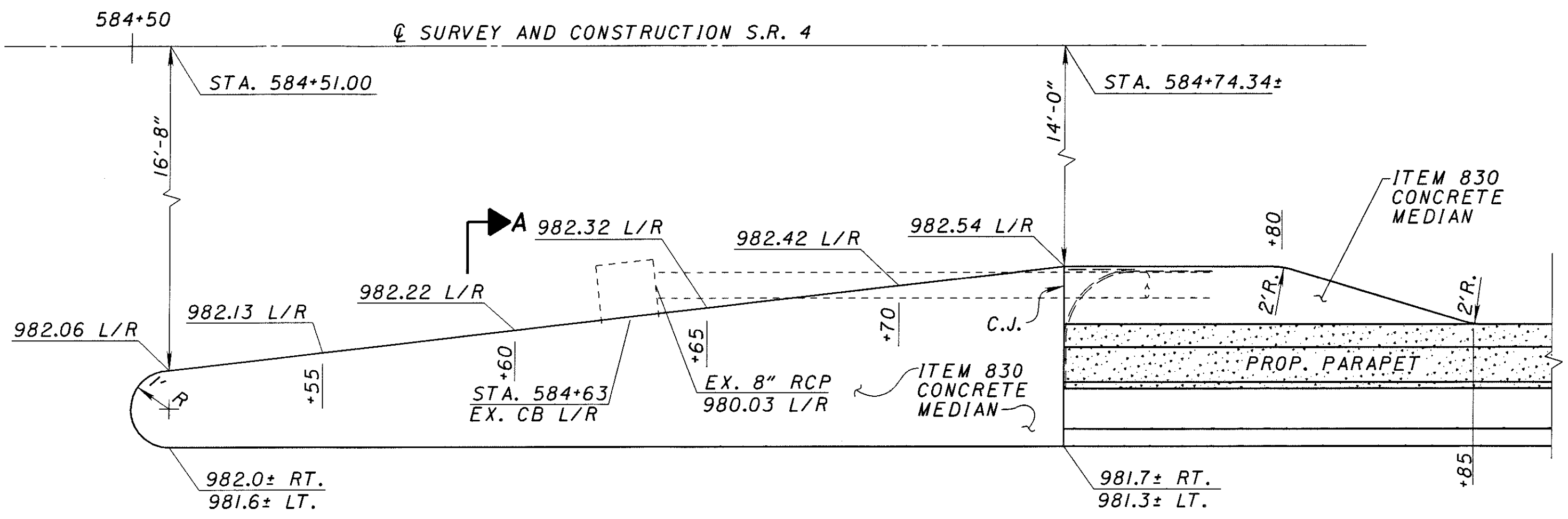
REF NO.	STATION		SIDE	GENERAL SUMMARY
	FROM	TO		
D-1	597+07.00	RT	877	TEMP INLET PROTECTION FILTER FABRIC FENCE
D-2	597+07.00	LT		842
R-1	597+20.00	L/R	830	CONCRETE MEDIAN
R-2	596+94.00	RT		830
R-3	596+94.00	LT	605	6" SHALLOW PIPE UNDERDRAIN
R-4	596+70.00	RT		605
R-5	596+70.00	LT	604	CATCH BASIN NO. 3
RM-1	596+00.00	L/R		604
RM-2	596+00.00	RT	252	FULL DEPTH PAVEMENT SAWING
RM-3	596+00.00	LT		252
RM-4	596+94.03	L/R	203	CATCH BASIN REMOVED
RM-5	596+94.03	RT		203
RM-6	596+94.03	LT	202	CURB REMOVED
S-1	597+08.00	LT		202
U-1	596+00.00	LT	202	CONCRETE BARRIER REMOVED
U-2	596+00.00	RT		202
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				428

**PLAN AND PROFILE**  
**STA. 596+00 TO STA. 597+50**

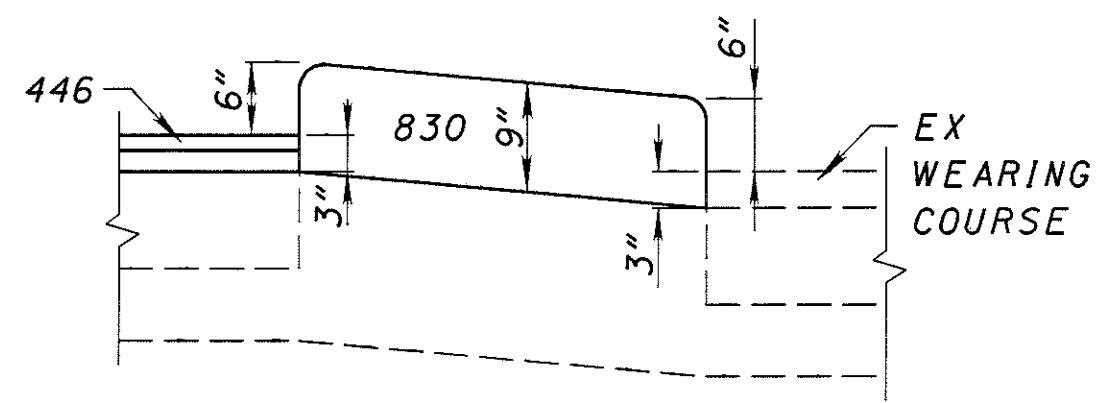
**MAR-4-11.70**

CALCULATED: NAH  
 CHECKED: EBS

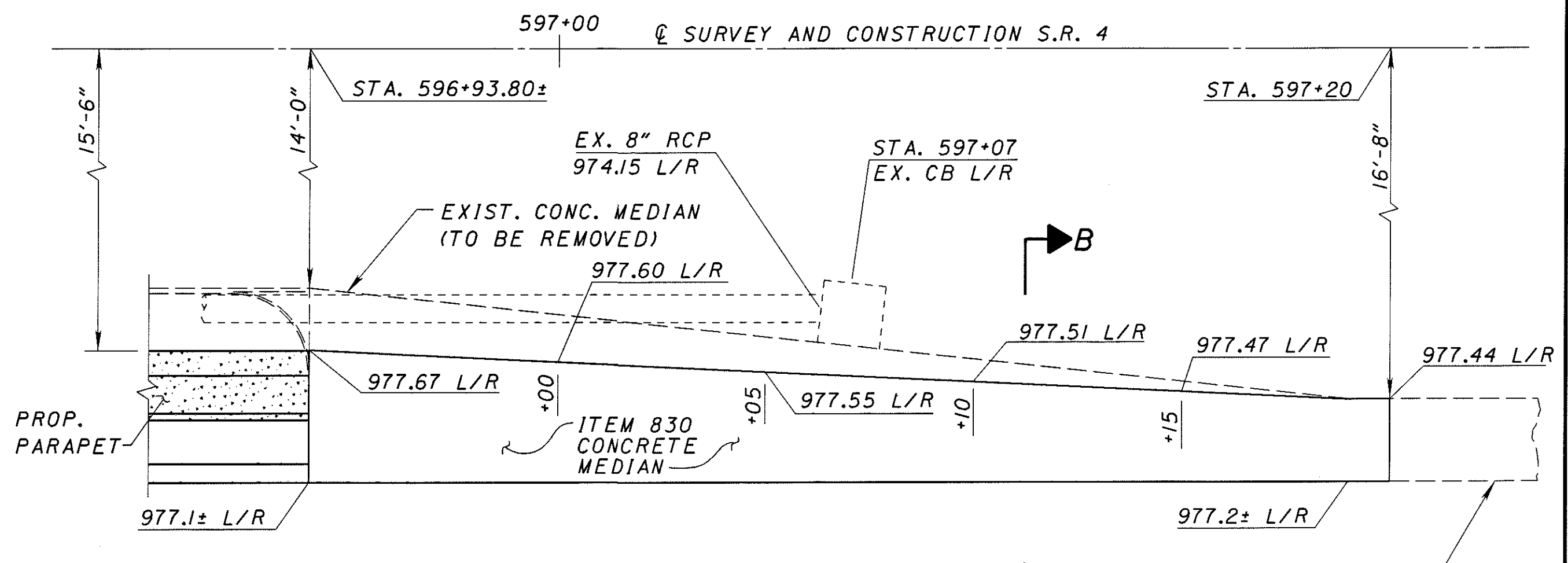
HORIZONTAL SCALE IN FEET



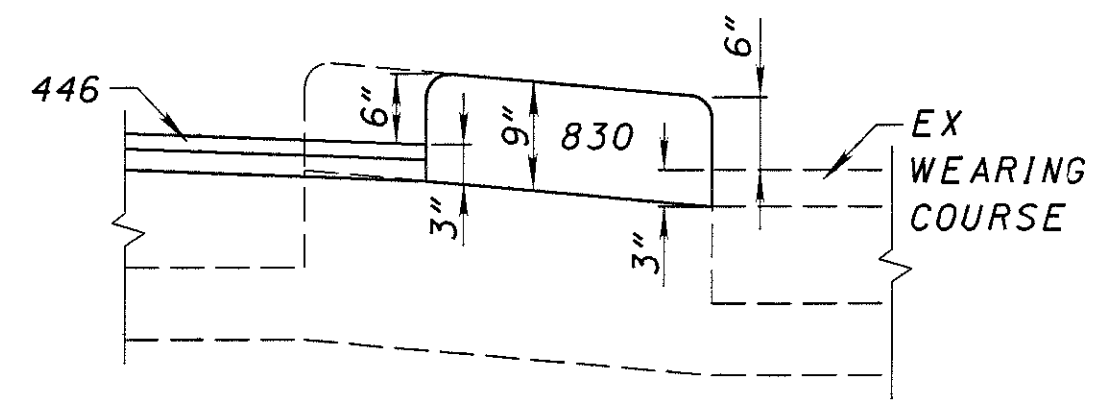
**PLAN**  
STATE ST. (REAR)  
CONCRETE MEDIAN  
LEFT SIDE OPPOSITE HAND



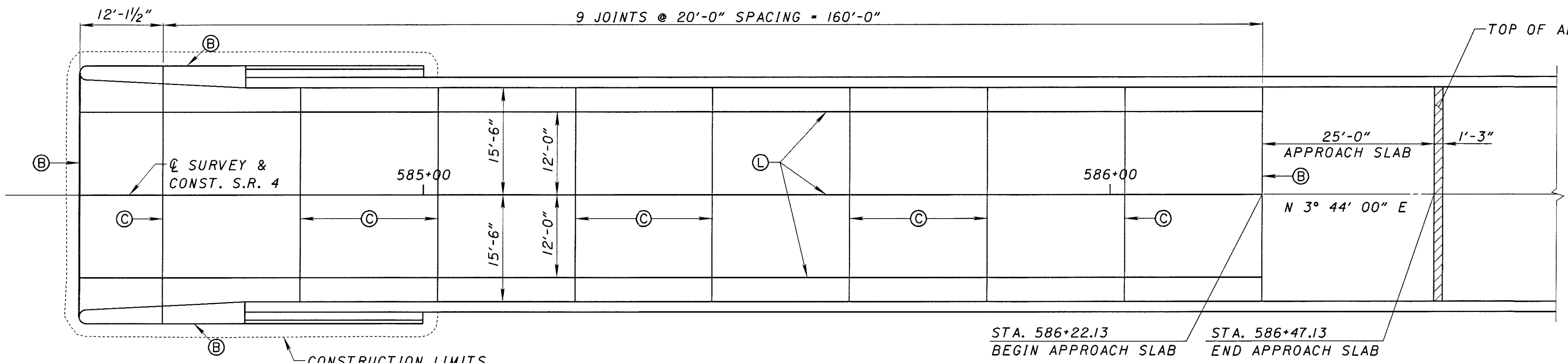
**SECTION A-A**



**PLAN**  
STATE ST. (FORWARD)  
CONCRETE MEDIAN  
LEFT SIDE OPPOSITE HAND

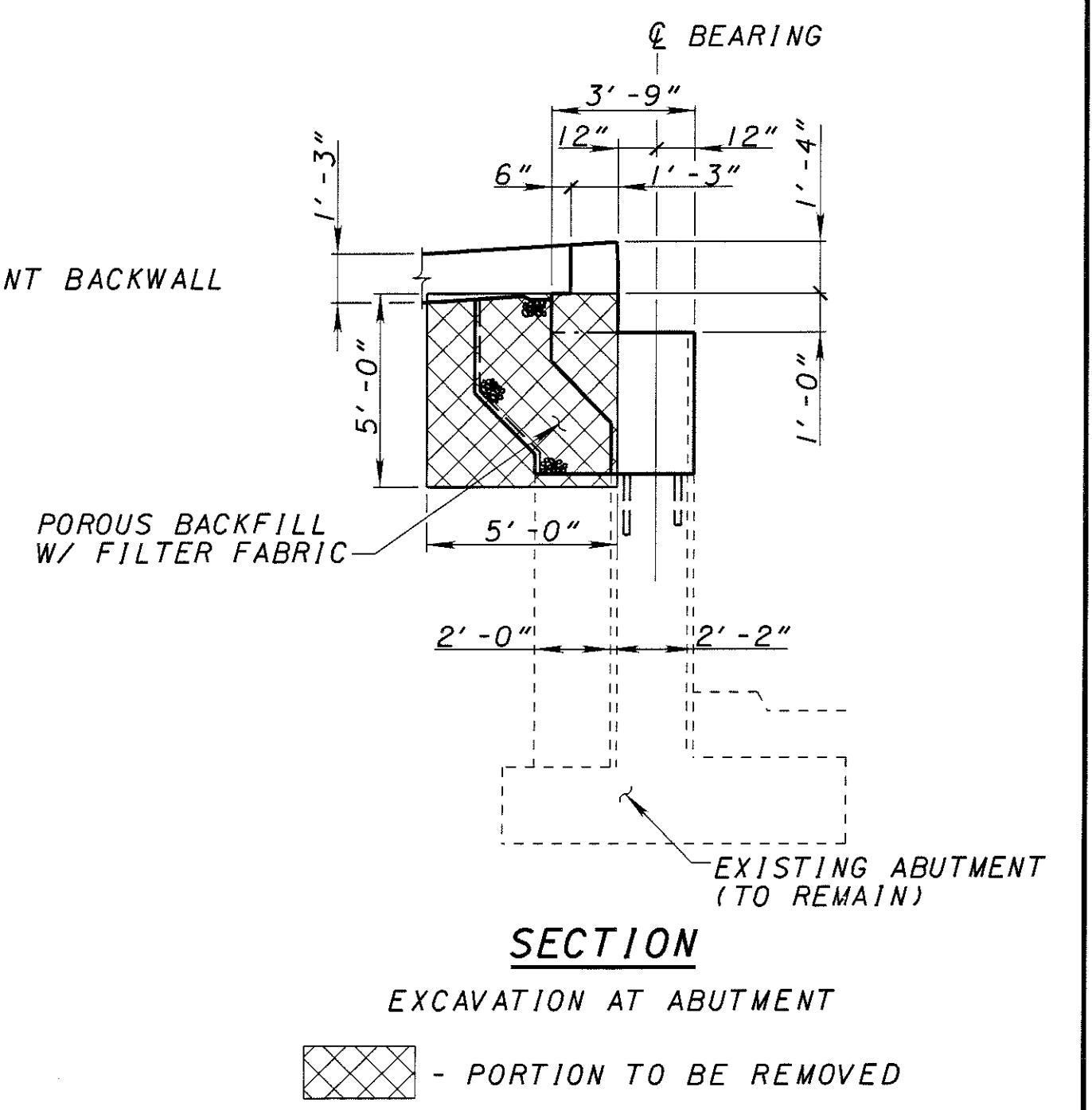


**SECTION B-B**



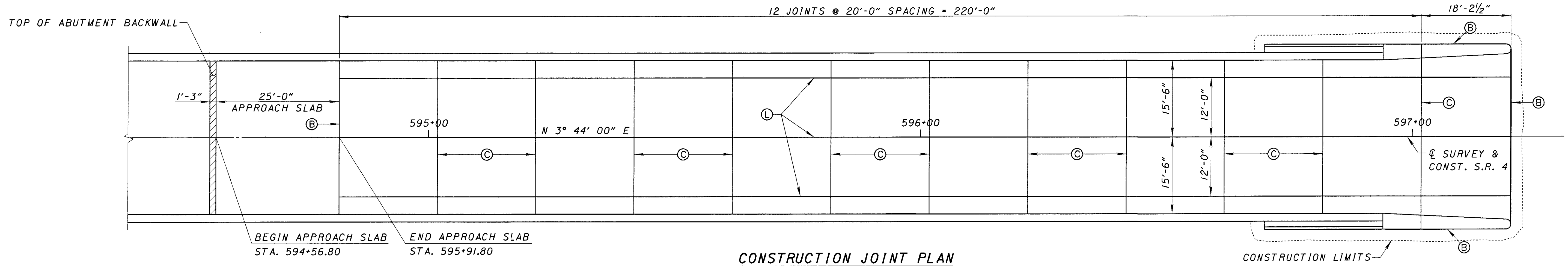
**CONSTRUCTION JOINT PLAN**  
(REAR)

- ⓑ - BUTT JOINT
- ⓒ - CONTRACTION JOINT
- Ⓛ - LONGITUDINAL JOINT

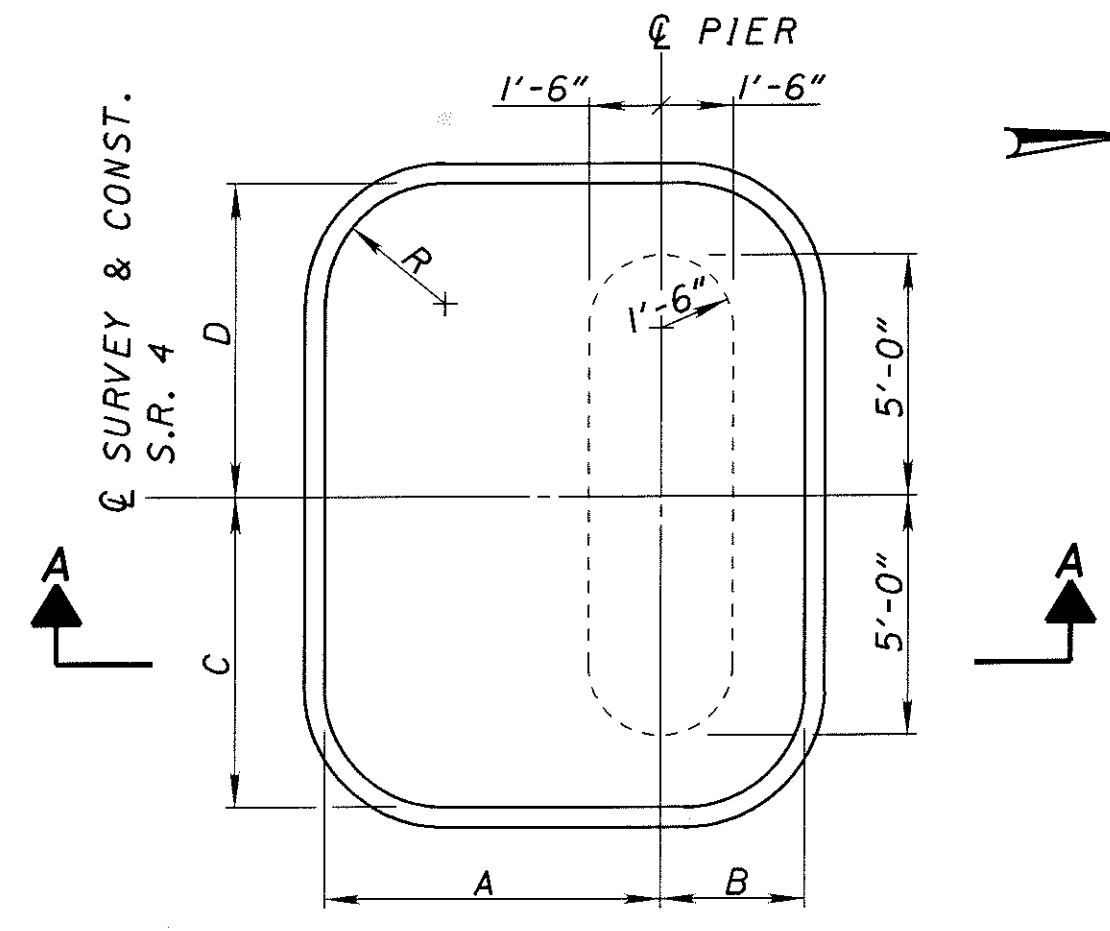


**SECTION**  
EXCAVATION AT ABUTMENT

⊠ - PORTION TO BE REMOVED

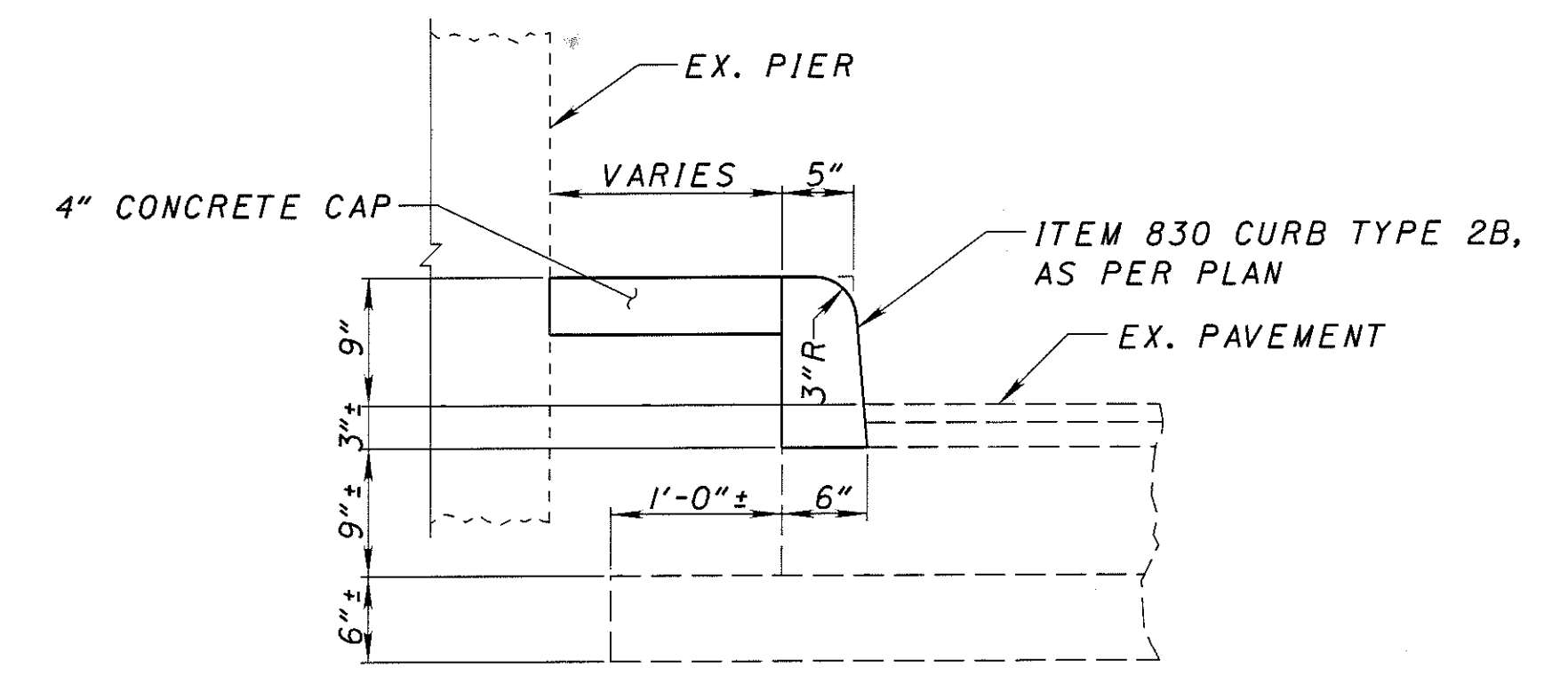


**CONSTRUCTION JOINT PLAN**  
(FORWARD)

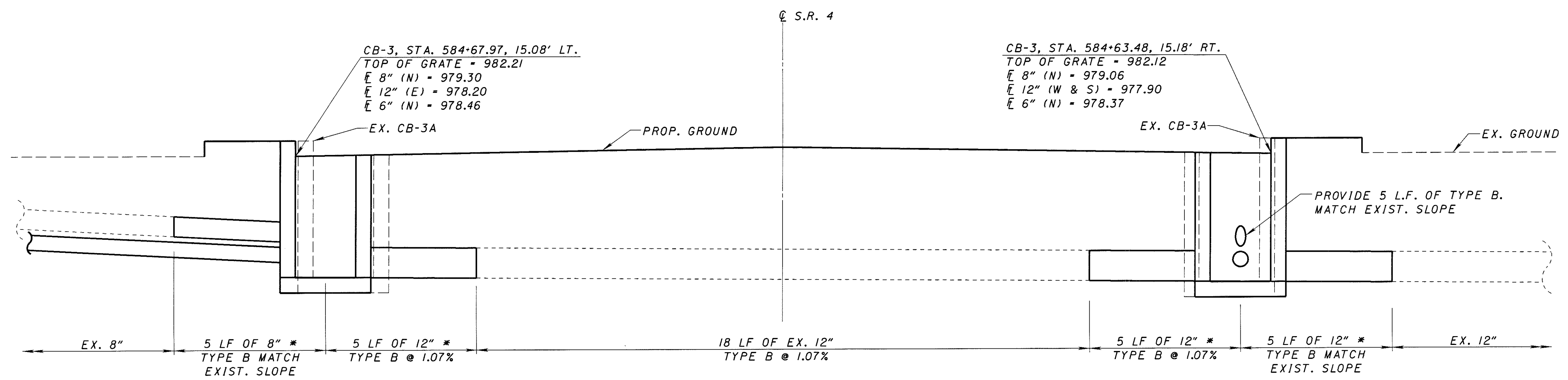
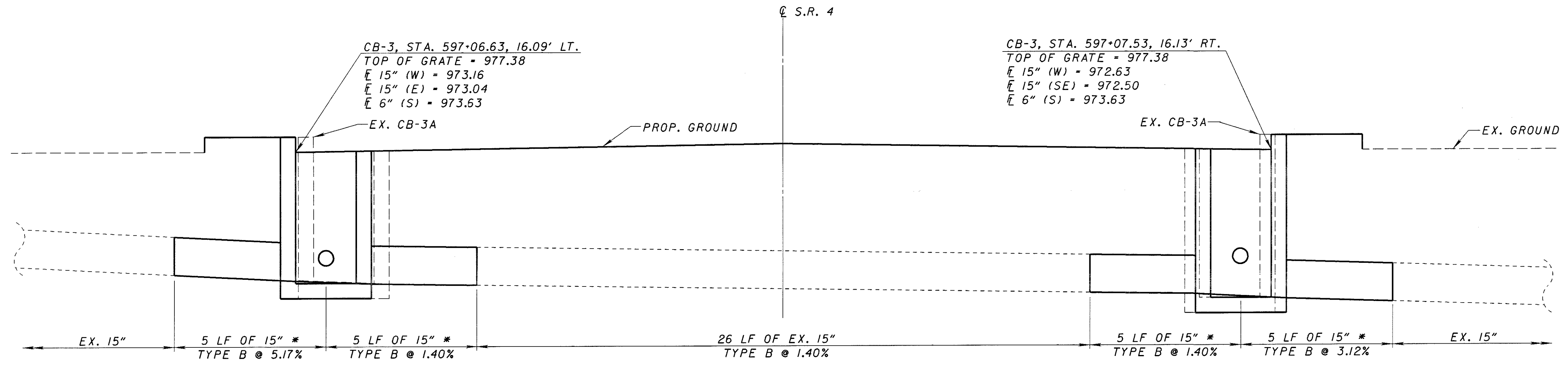


**PLAN**  
CURB REPLACEMENT AT BASE OF PIERS

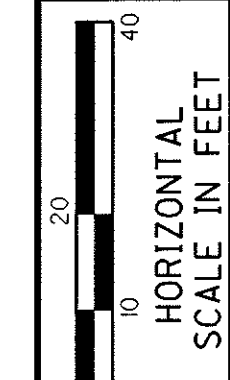
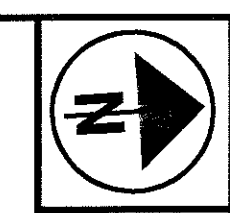
PIER #	DIMENSION				
	A	B	C	D	R
3	7'-0"	3'-0"	6'-6"	6'-6"	2'-6"
4	2'-6"	2'-6"	6'-0"	6'-0"	2'-0"
8	10'-0"	3'-0"	8'-6"	6'-6"	2'-6"
9	1'-6"	2'-6"	6'-0"	6'-0"	2'-6"
10	2'-6"	2'-6"	6'-0"	6'-0"	2'-6"
12	2'-6"	2'-6"	6'-0"	6'-0"	2'-6"



**TYPE 2B CURB, AS PER PLAN**  
**SECTION A-A**



**NOTE:**  
 \* EXISTING PIPE TO BE REMOVED AT PROPOSED PIPE LOCATIONS. QUANTITIES CARRIED TO GENERAL SUMMARY.

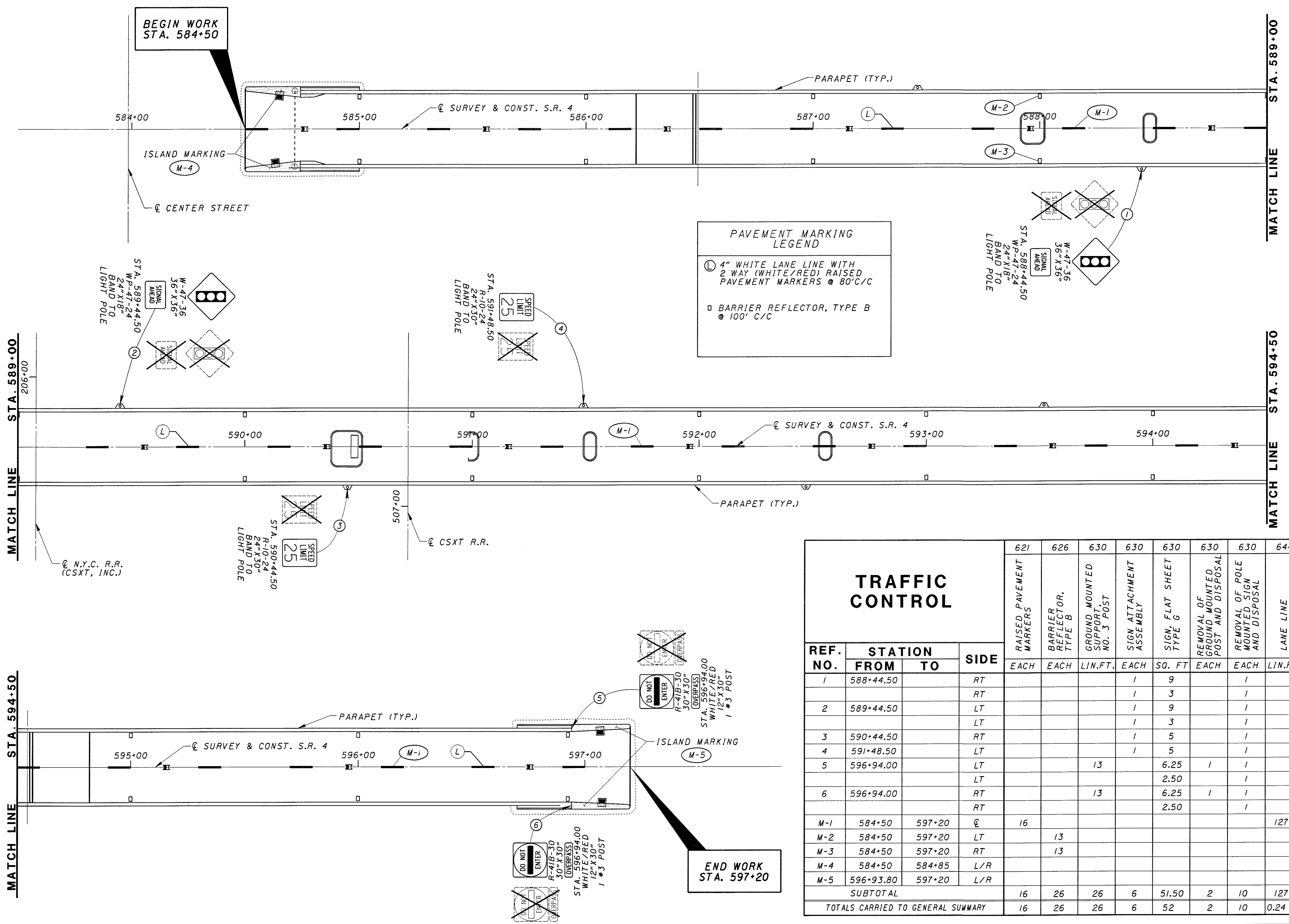


CALCULATED JMR  
CHECKED JRW

# TRAFFIC CONTROL PLAN

## MAR-4-11.70

13  
68



**PAVEMENT MARKING LEGEND**

① 4" WHITE LANE LINE WITH 2 WAY (WHITE/RED) RAISED PAVEMENT MARKERS @ 80'C/C

□ BARRIER REFLECTOR, TYPE B @ 100' C/C

TRAFFIC CONTROL				621	626	630	630	630	630	630	644	644
REF. NO.	STATION		SIDE	RAISED PAVEMENT MARKERS	BARRIER REFLECTOR, TYPE B	GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN ATTACHMENT ASSEMBLY	SIGN, FLAT SHEET TYPE G	REMOVAL OF GROUND MOUNTED POST AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	LANE LINE	ISLAND MARKING
	FROM	TO		EACH	EACH	LIN.FT.	EACH	SQ. FT	EACH	EACH	LIN.FT.	SQ.FT.
1	588+44.50		RT				1	9		1		
			RT				1	3		1		
2	589+44.50		LT				1	9		1		
			LT				1	3		1		
3	590+44.50		RT				1	5		1		
4	591+48.50		LT				1	5		1		
5	596+94.00		LT			13		6.25	1	1		
			LT					2.50		1		
6	596+94.00		RT			13		6.25	1	1		
			RT					2.50		1		
M-1	584+50	597+20	℄	16							1270	
M-2	584+50	597+20	LT		13							
M-3	584+50	597+20	RT		13							
M-4	584+50	584+85	L/R									182.44
M-5	596+93.80	597+20	L/R									132.16
SUBTOTAL				16	26	26	6	51.50	2	10	1270	314.6
TOTALS CARRIED TO GENERAL SUMMARY				16	26	26	6	52	2	10	0.24 MI	314.6

STA. 588+00

MATCH LINE

588

584+00

CENTER STREET

MATCH LINE

MILL STREET

N.Y.C. RR (CSX, INC.)

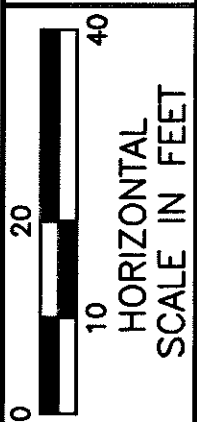
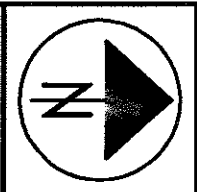
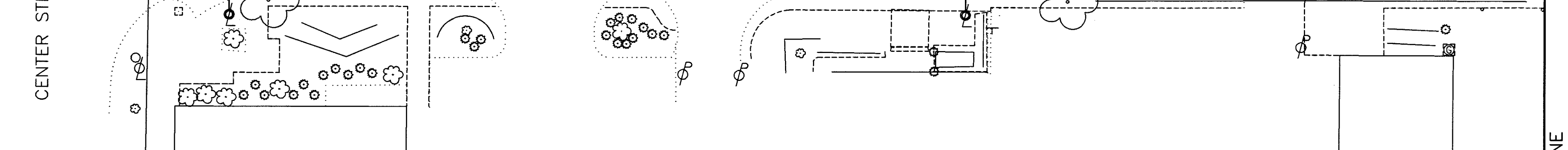
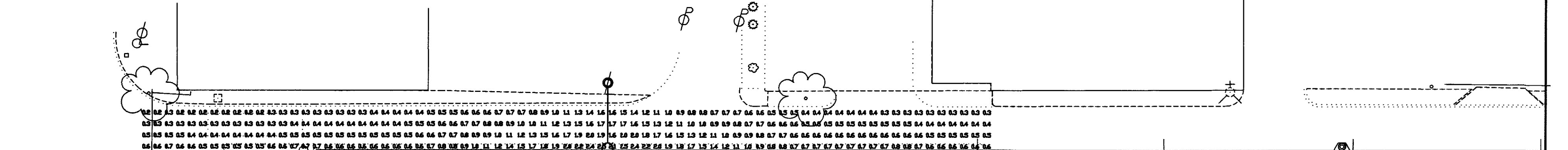
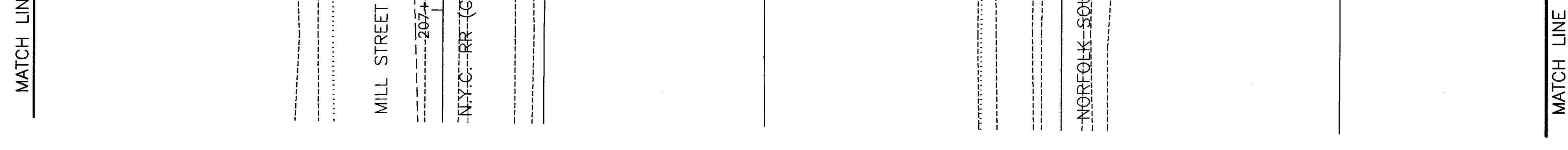
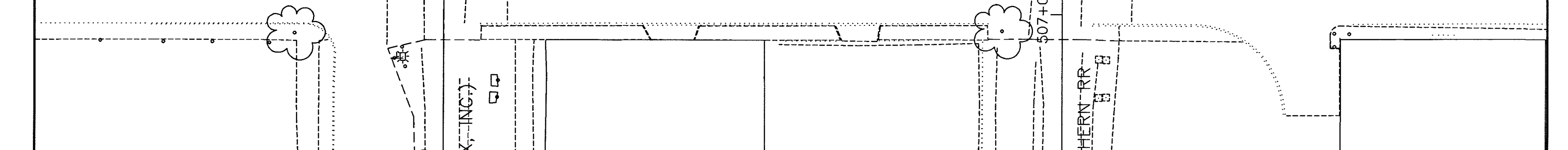
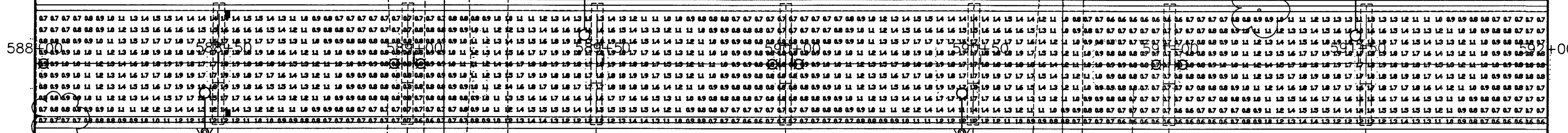
NORFOLK SOUTHERN RR

MATCH LINE

STA. 588+00

MATCH LINE

STA. 592+00



CALCULATED  
KAH  
CHECKED  
RAP

ROADWAY PHOTOMETRIC STUDY-AMER. ELECTRIC FIXTURES  
BEGIN PROJECT TO STA. 592+00

MAR-4-11.70

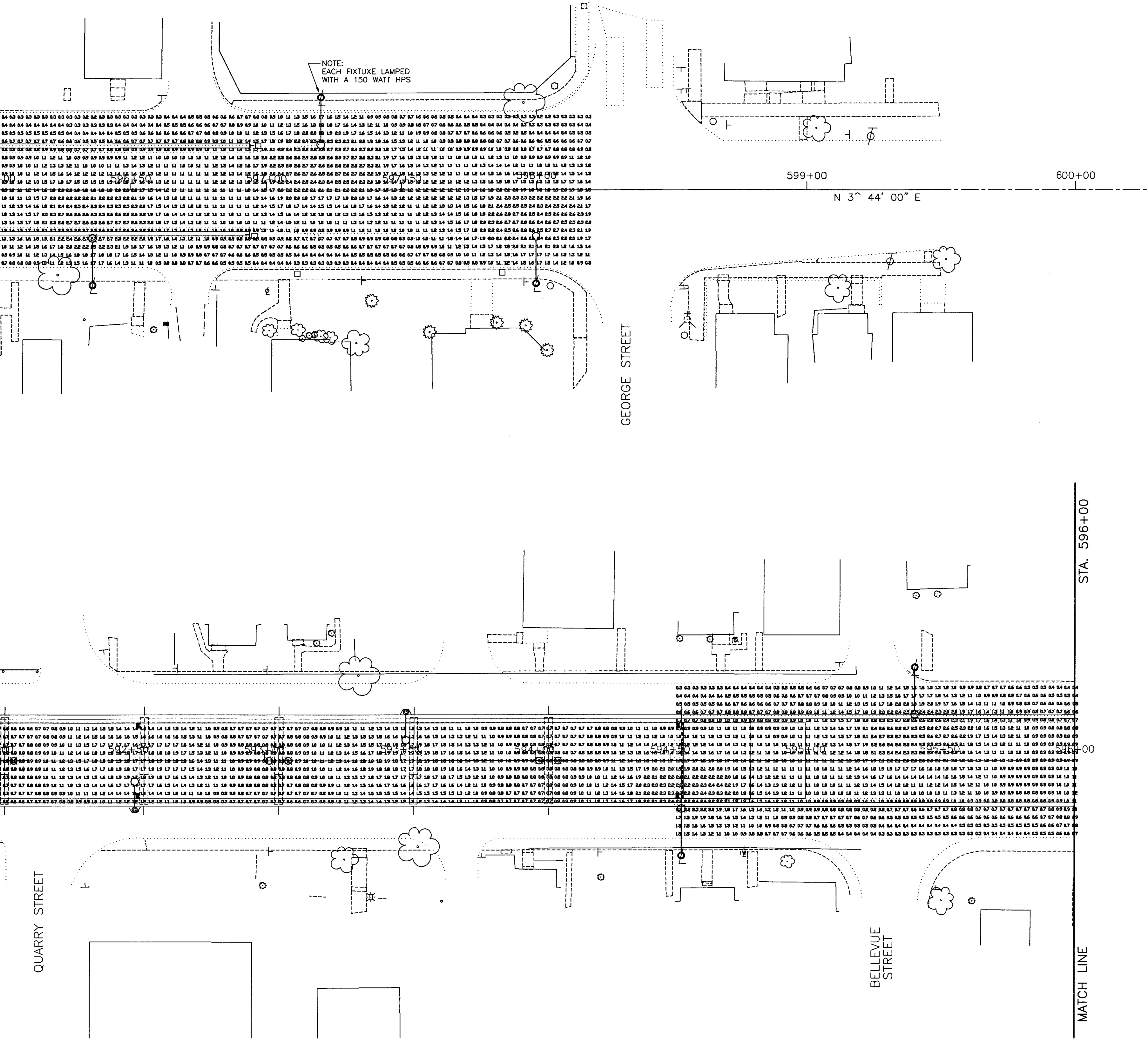
CALCULATION SUMMARY	
LIGHT SOURCE:	150W HPS
PHOTOMETRIC TEST RESULTS:	
MANUFACTURER:	AMERICAN ELECTRIC LIGHTING
IES FILE:	AE2030.IES
AVERAGE F.C. LEVEL:	1.3
MAXIMUM F.C. LEVEL:	2.8
MINIMUM F.C. LEVEL:	0.6
MAX TO MIN RATIO:	4.7:1
NOTES: PHOTOMETRIC RESULTS CALCULATED USING LITHONIA VISUAL 2.0 PROFESSIONAL SOFTWARE AND THE ABOVE NOTED IES PHOTOMETRIC FILE(S).	
FOOTCANDLE LEVELS AND THE MAX-TO-MIN RATIO ARE BASED ON THE OVERPASS ROAD DECK FROM STATION 584+50 TO STATION 592+25 ONLY.	

STA. 596+00

MATCH LINE

STA. 592+00

MATCH LINE



NOTE:  
EACH FIXTURE LAMPED  
WITH A 150 WATT HPS

599+00 600+00

N 3° 44' 00" E

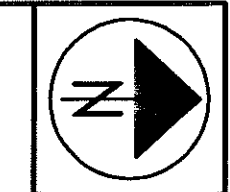
GEORGE STREET

QUARRY STREET

BELLEVUE STREET

STA. 596+00

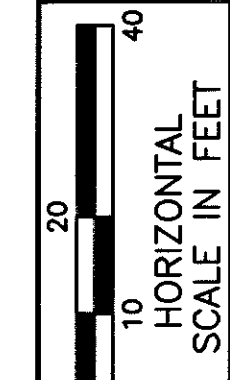
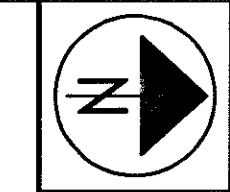
MATCH LINE



CALCULATED  
KAH  
CHECKED  
RAP

ROADWAY PHOTOMETRIC STUDY-AMER. ELECTRIC FIXTURES  
STA. 592+00 TO END PROJECT

MAR-4-11.70



CALCULATED	KAH
CHECKED	RAP

ROADWAY PHOTOMETRIC STUDY - G.E. FIXTURES  
BEGIN PROJECT TO STA. 592+00

MAR-4-11.70

STA. 588+00

STA. 592+00

588+00

592+00

MATCH LINE

MATCH LINE

STA. 588+00

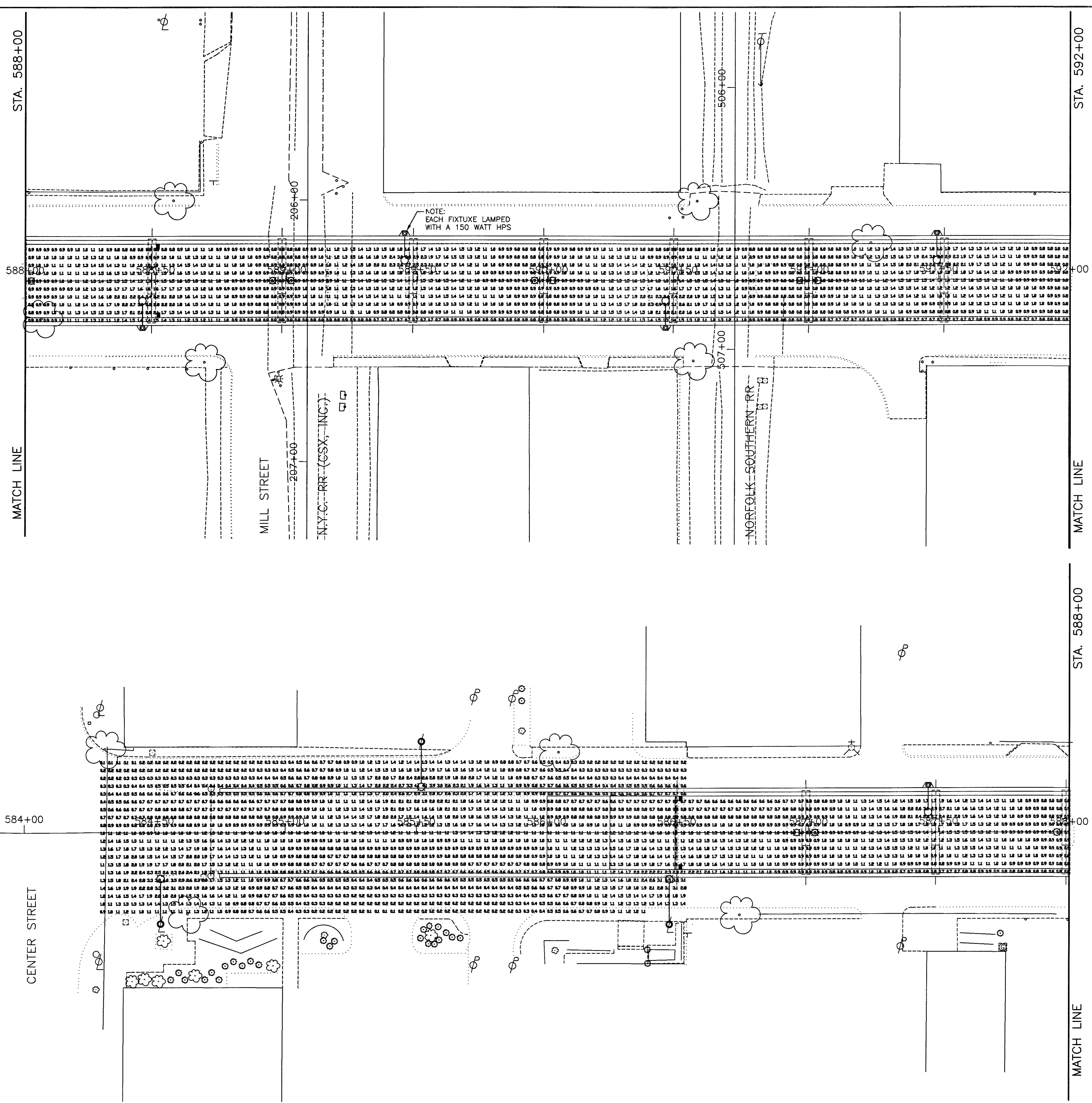
STA. 588+00

584+00

584+00

CENTER STREET

MATCH LINE



CALCULATION SUMMARY

LIGHT SOURCE:	150W HPS
PHOTOMETRIC TEST RESULTS:	
MANUFACTURER:	GENERAL ELECTRIC LIGHTING
IES FILE:	GE394.IES
AVERAGE F.C. LEVEL:	1.2
MAXIMUM F.C. LEVEL:	3.1
MINIMUM F.C. LEVEL:	0.5
MAX TO MIN RATIO:	6.2:1

NOTES:  
PHOTOMETRIC RESULTS CALCULATED USING LITHONIA VISUAL 2.0 PROFESSIONAL SOFTWARE AND THE ABOVE NOTED IES PHOTOMETRIC FILE(S).

FOOTCANDLE LEVELS AND THE MAX-TO-MIN RATIO ARE BASED ON THE OVERPASS ROAD DECK FROM STATION 584+50 TO STATION 597+25 ONLY.



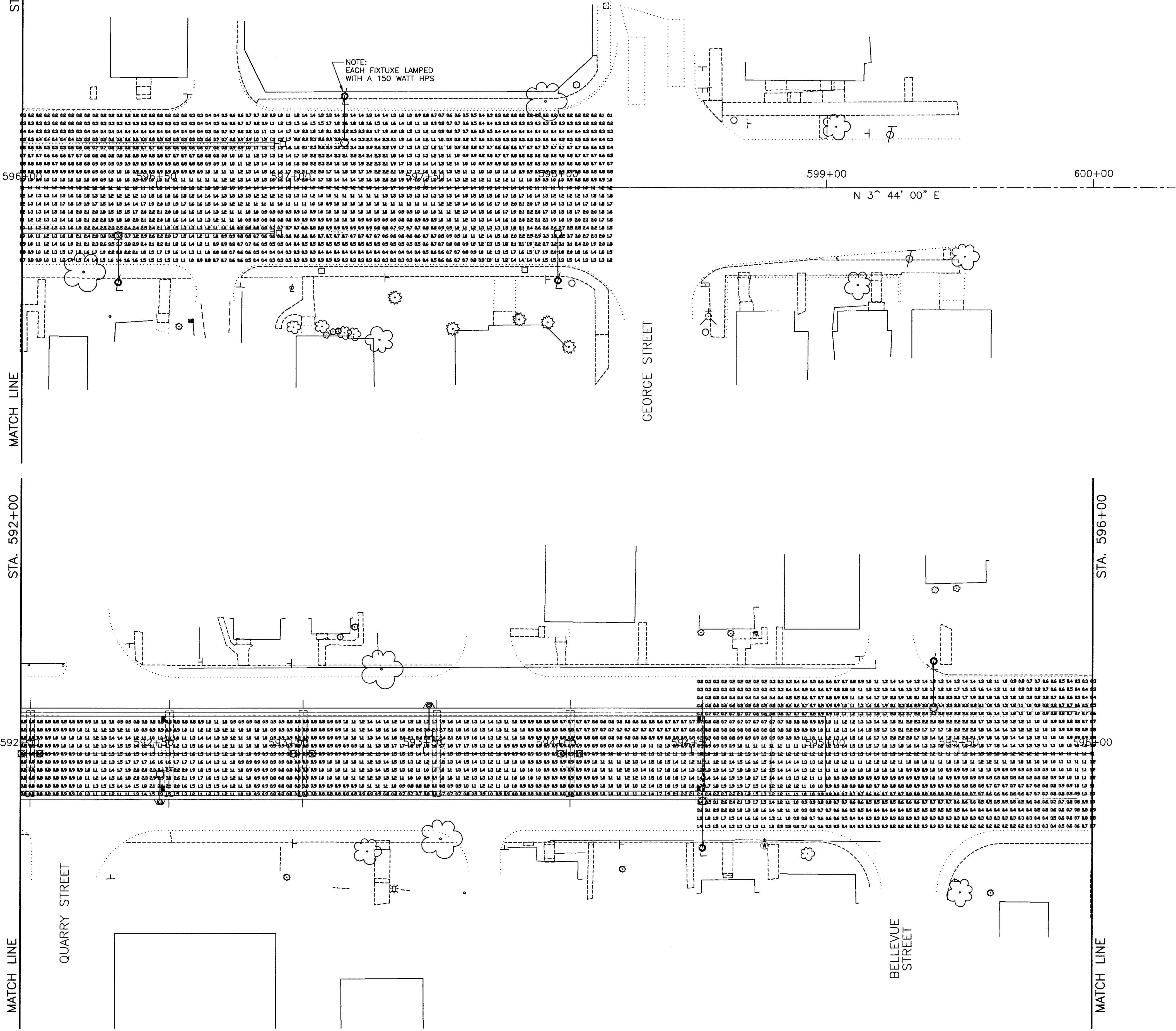
STA. 596+00

MATCH LINE

STA. 592+00

MATCH LINE

QUARRY STREET



0 20 40  
HORIZONTAL SCALE IN FEET

CALCULATED: KAH  
CHECKED: RAP

ROADWAY PHOTOMETRIC STUDY - G.E. FIXTURES  
STA. 592+00 TO END PROJECT

MAR-4-11.70

STA. 588+00

MATCH LINE

588

584+00

CENTER STREET

MILL STREET

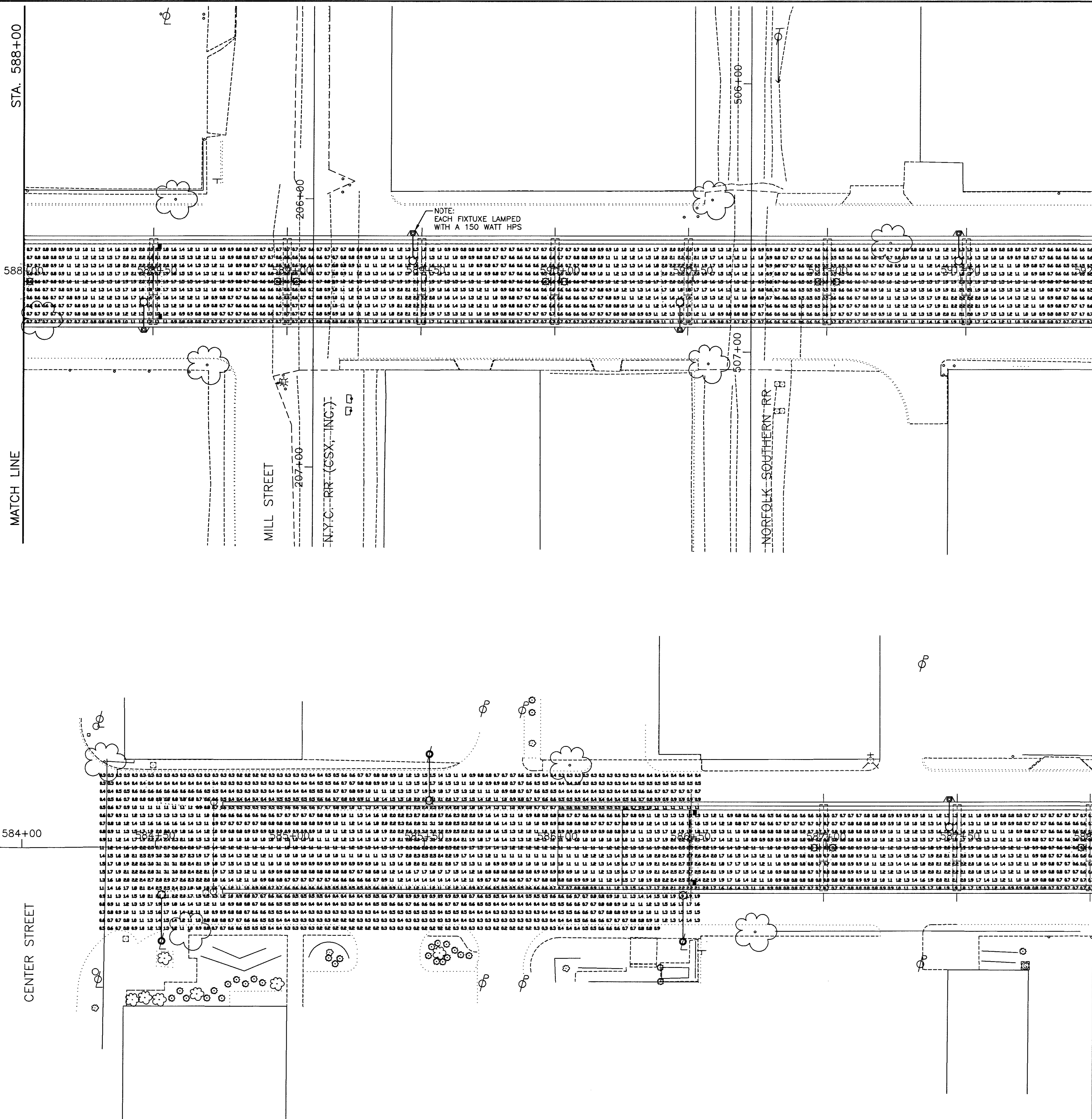
N.Y.C. RR. (CSX, INC.)

NORFOLK SOUTHERN RR

MATCH LINE

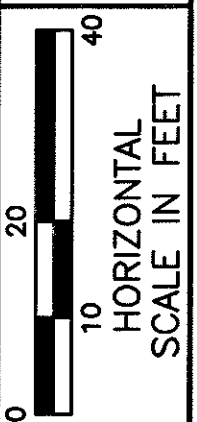
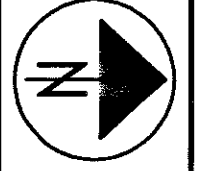
STA. 588+00

MATCH LINE



NOTE:  
EACH FIXTURE LAMPED  
WITH A 150 WATT HPS

CALCULATION SUMMARY	
LIGHT SOURCE:	150W HPS
PHOTOMETRIC TEST RESULTS:	
MANUFACTURER:	HUBBELL LIGHTING
IES FILE:	HP03156.IES
AVERAGE F.C. LEVEL:	1.2
MAXIMUM F.C. LEVEL:	3.3
MINIMUM F.C. LEVEL:	0.5
MAX TO MIN RATIO:	6.6:1
NOTES: PHOTOMETRIC RESULTS CALCULATED USING LITHONIA VISUAL 2.0 PROFESSIONAL SOFTWARE AND THE ABOVE NOTED IES PHOTOMETRIC FILE(S).	
FOOTCANDLE LEVELS AND THE MAX-TO-MIN RATIO ARE BASED ON THE OVERPASS ROAD DECK FROM STATION 584+50 TO STATION 597+25 ONLY.	



CALCULATED: KAH  
CHECKED: RAP

ROADWAY PHOTOMETRIC STUDY - HUBBELL FIXTURES  
BEGIN PROJECT TO STA. 592+00

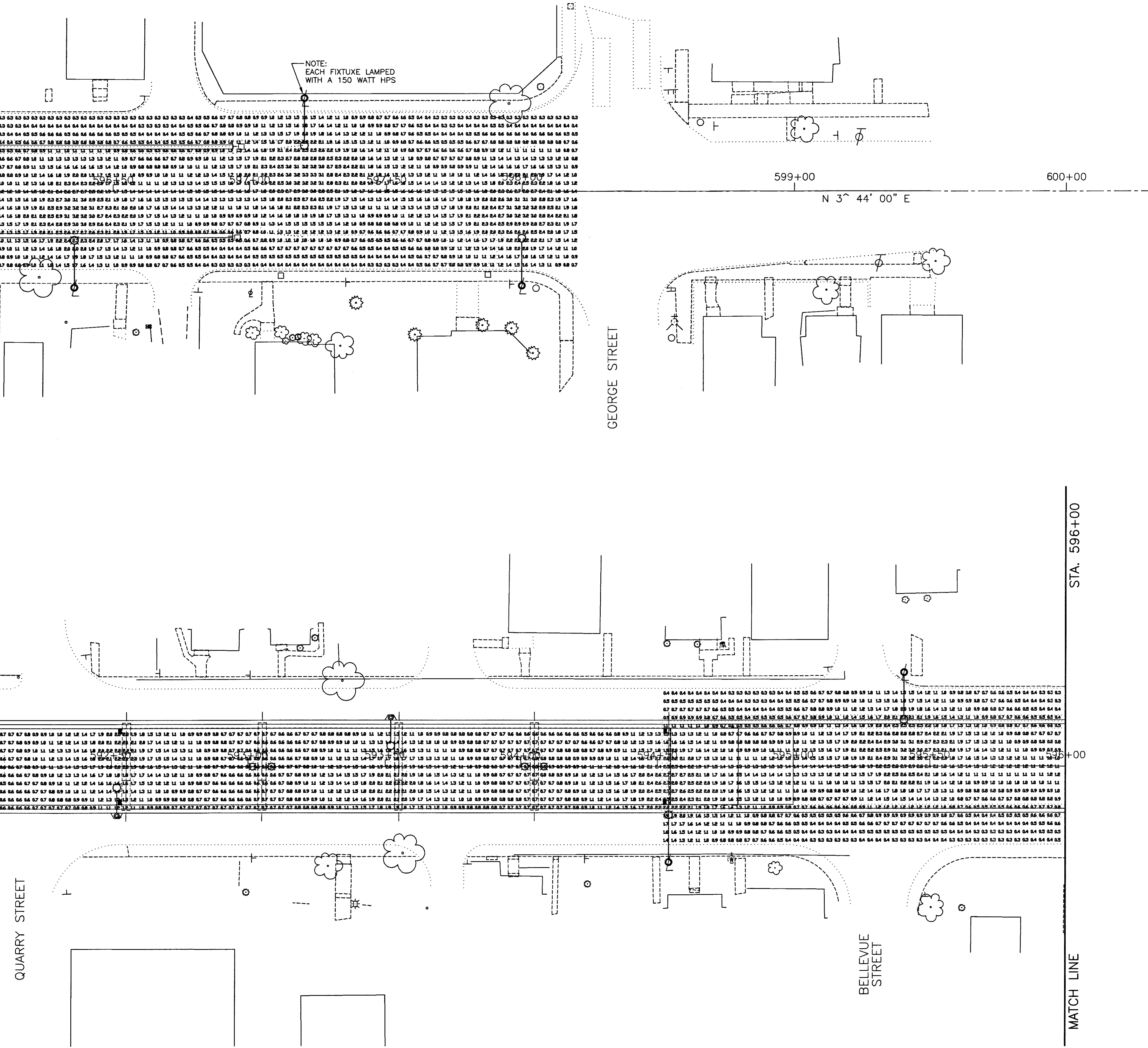
MAR-4-11.70

STA. 596+00

MATCH LINE

STA. 592+00

MATCH LINE



NOTE:  
EACH FIXTURE LAMPED  
WITH A 150 WATT HPS

599+00 600+00

N 3° 44' 00" E

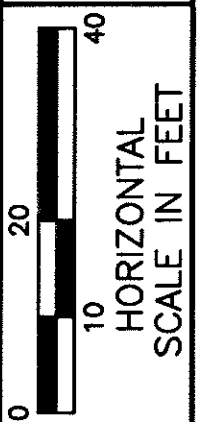
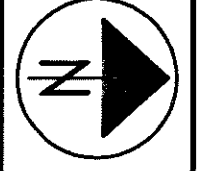
GEORGE STREET

QUARRY STREET

BELLEVUE STREET

STA. 596+00

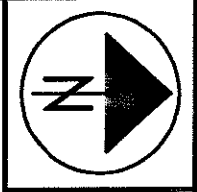
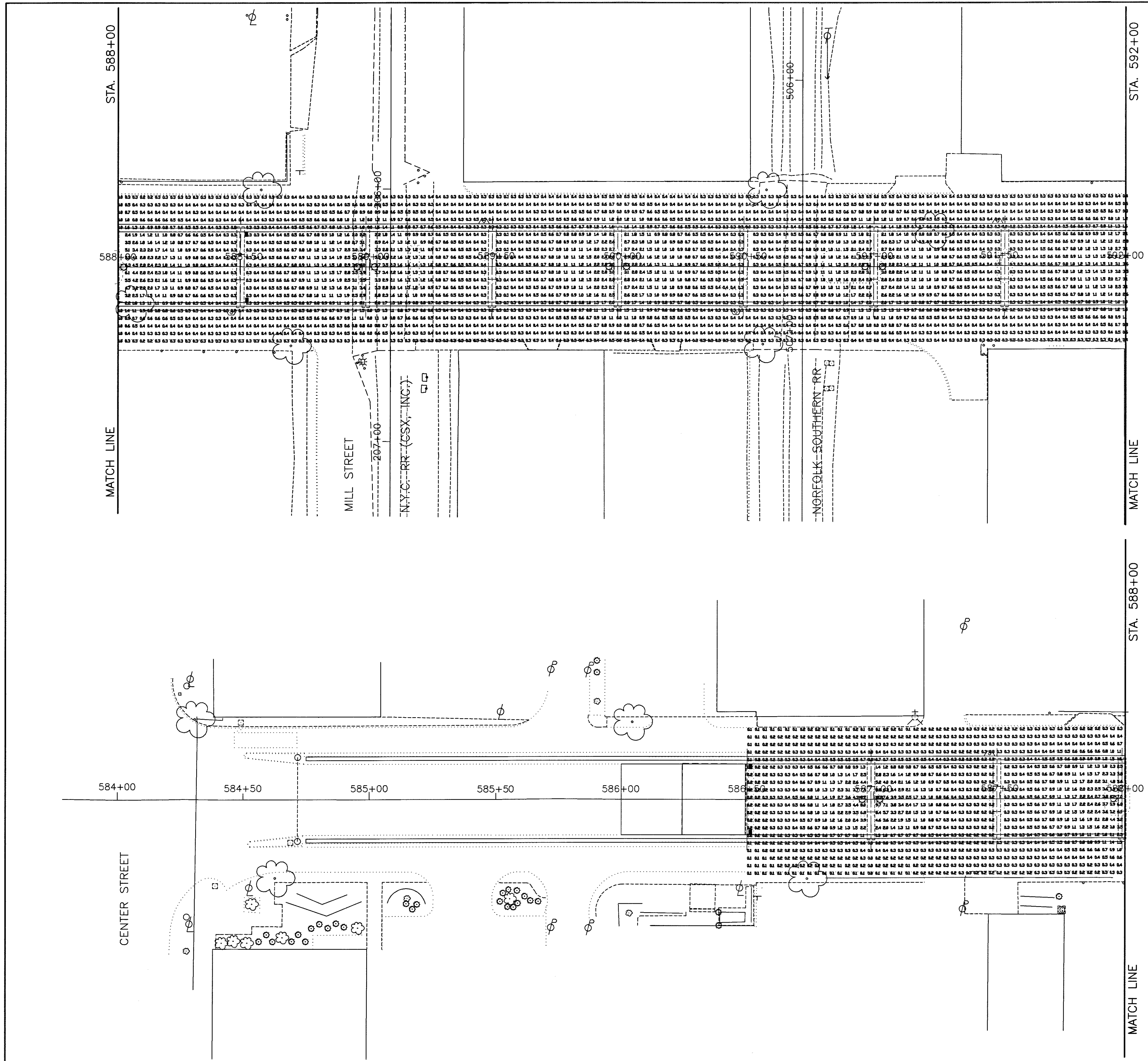
MATCH LINE



CALCULATED  
KAH  
CHECKED  
RAP

ROADWAY PHOTOMETRIC STUDY - HUBBELL FIXTURES  
STA. 592+00 TO END PROJECT

MAR-4-11.70



0 10 20 40  
HORIZONTAL  
SCALE IN FEET

CALCULATED  
KAH  
CHECKED  
RAP

UNDERPASS PHOTOMETRIC STUDY - LITHONIA FIXTURES  
BEGIN PROJECT TO STA. 592+00

MAR-4-11.70

20  
68

CALCULATION SUMMARY	
LIGHT SOURCE:	HPS (REFER TO LIGHTING PLANS FOR WATTAGES)
PHOTOMETRIC TEST PARAMETERS:	
MANUFACTURER:	AMERICAN ELECTRIC LIGHTING
IES FILE:	AE2081.IES
<p>NOTES: PHOTOMETRIC RESULTS CALCULATED USING LITHONIA VISUAL 2.0 PROFESSIONAL SOFTWARE AND THE ABOVE NOTED IES PHOTOMETRIC FILE(S).</p> <p>THE AREA UNDER THE OVERPASS IS USED FOR PARKING AND ACCESS TO THE BUSINESS'S ON THE WEST SIDE OF THE STREET. THE LIGHTING FIXTURES INDICATED REPLACE THE EXISTING WALL-PACK LIGHTING FIXTURES TO PROVIDE SECURITY LIGHTING FOR THIS AREA.</p>	

STA. 596+00

596+00

596+50

597+00

597+50

598+00

599+00

600+00

N 3° 44' 00" E

MATCH LINE

STA. 592+00

592+00

QUARRY STREET

MATCH LINE

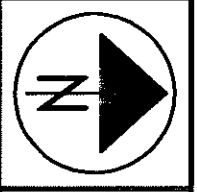
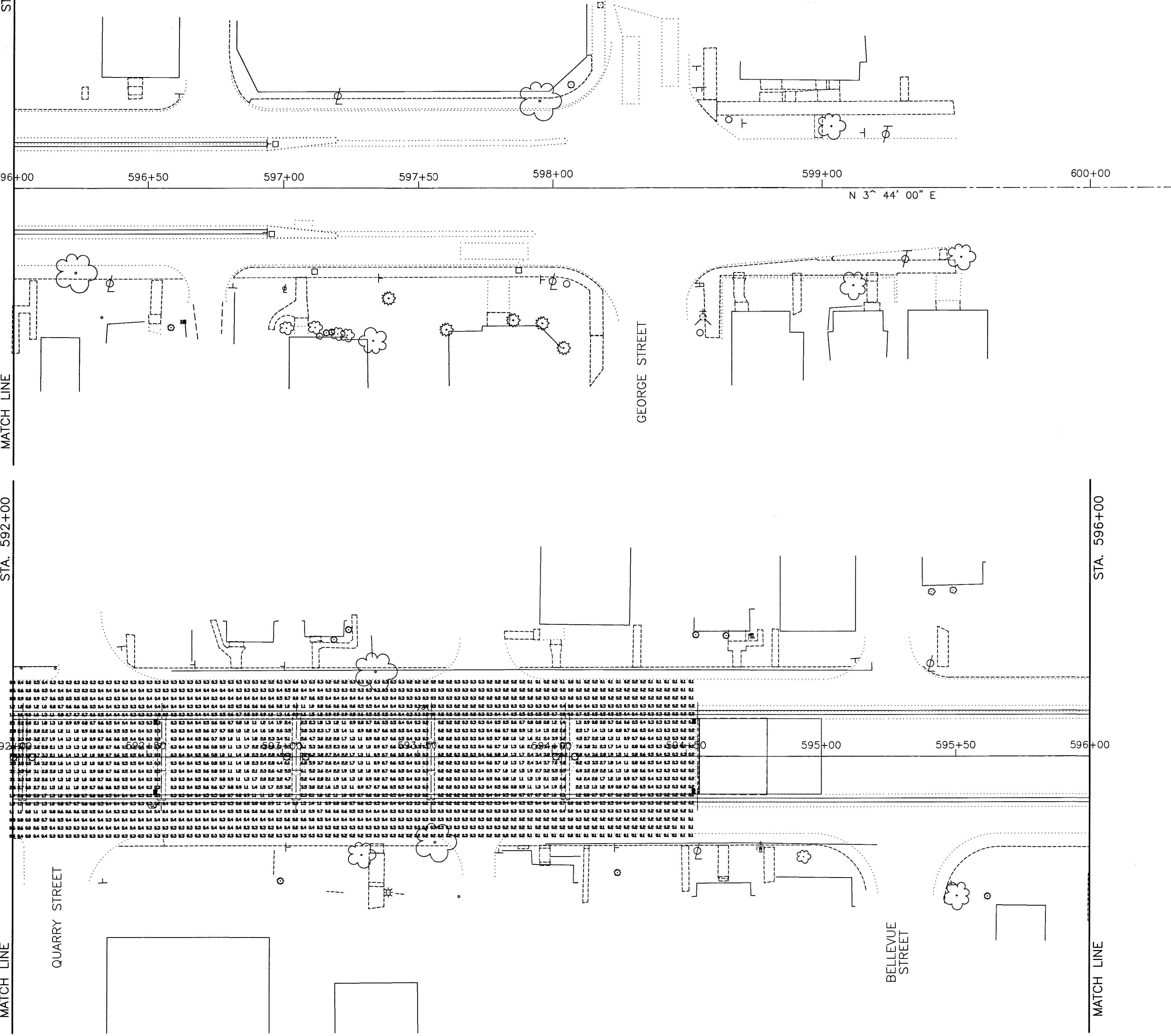
GEORGE STREET

STA. 596+00

596+00

BELLEVUE STREET

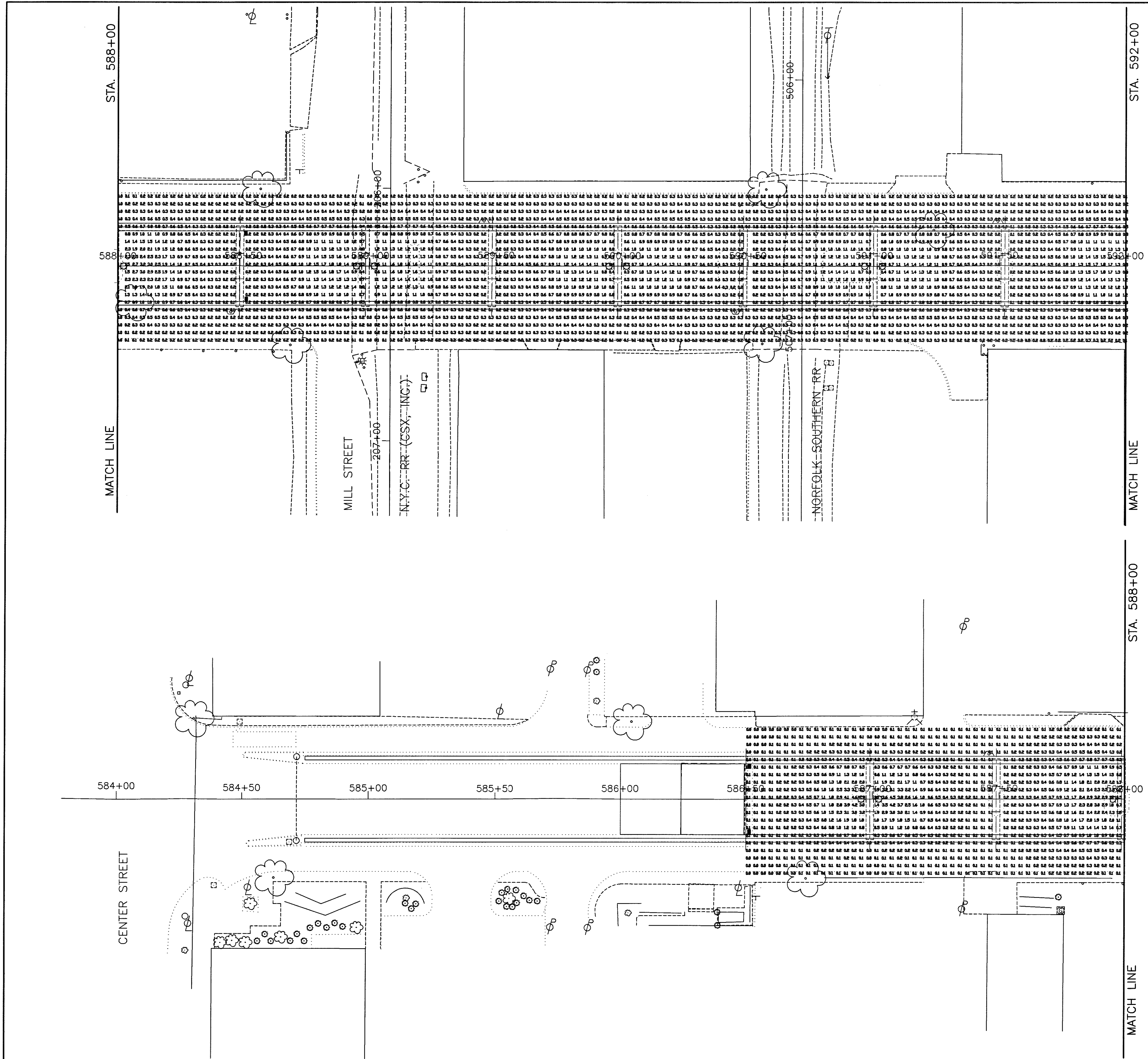
MATCH LINE



CALCULATED	KAH
CHECKED	RAP

UNDERPASS PHOTOMETRIC STUDY - LITHONIA FIXTURES  
 STA. 592+00 TO END PROJECT

MAR-4-11.70



CALCULATED KAH  
CHECKED RAP

0 10 20 40  
HORIZONTAL SCALE IN FEET

N

UNDERPASS PHOTOMETRIC STUDY - G.E. FIXTURES  
BEGIN PROJECT TO STA. 592+00

MAR-4-11.70

CALCULATION SUMMARY	
LIGHT SOURCE:	HPS (REFER TO LIGHTING PLANS FOR WATTAGES)
PHOTOMETRIC TEST PARAMETERS:	GENERAL ELECTRIC
MANUFACTURER:	GE7576.IES
IES FILE:	
<p>NOTES: PHOTOMETRIC RESULTS CALCULATED USING LITHONIA VISUAL 2.0 PROFESSIONAL SOFTWARE AND THE ABOVE NOTED IES PHOTOMETRIC FILE(S).</p> <p>THE AREA UNDER THE OVERPASS IS USED FOR PARKING AND ACCESS TO THE BUSINESS'S ON THE WEST SIDE OF THE STREET. THE LIGHTING FIXTURES INDICATED REPLACE THE EXISTING WALL-PACK LIGHTING FIXTURES TO PROVIDE SECURITY LIGHTING FOR THIS AREA.</p>	

STA. 596+00

596+00 596+50 597+00 597+50 598+00 599+00 600+00

N 3° 44' 00" E

MATCH LINE

STA. 592+00

592+00 592+50 593+00 593+50 594+00 594+50 595+00 595+50 596+00

STA. 596+00

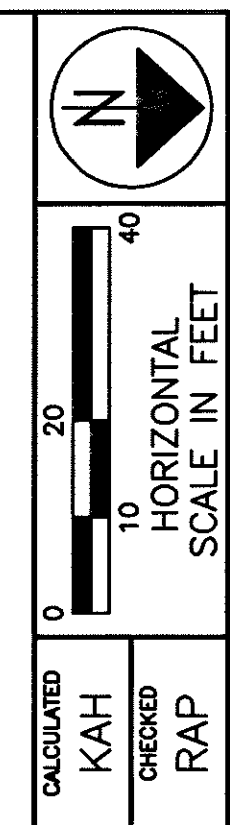
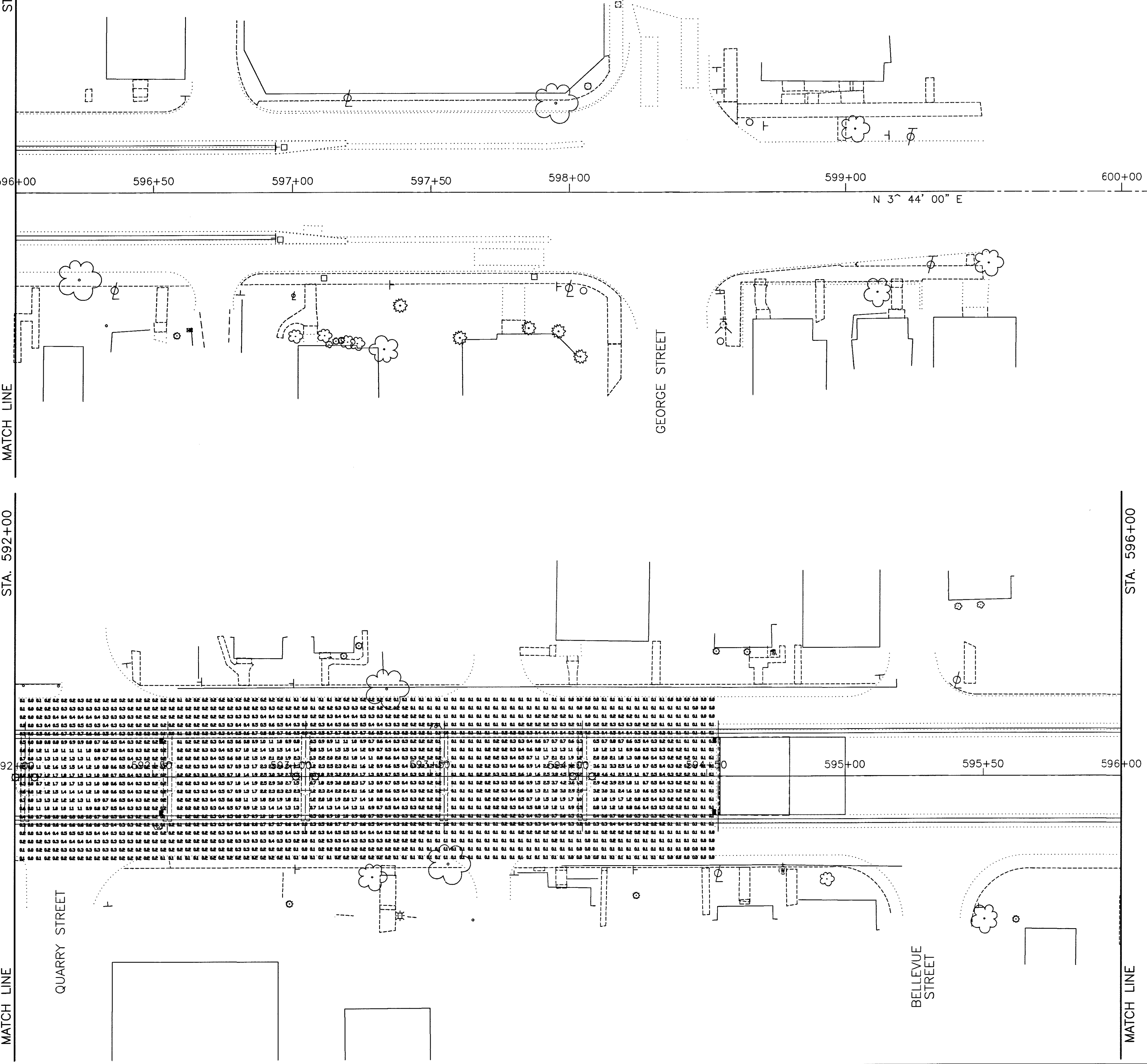
MATCH LINE

QUARRY STREET

GEORGE STREET

BELLEVUE STREET

MATCH LINE



CALCULATED	KAH
CHECKED	RAP

UNDERPASS PHOTOMETRIC STUDY - G.E. FIXTURES  
STA. 592+00 TO END PROJECT

MAR-4-11.70

23  
68

STA. 588+00

STA. 592+00

MATCH LINE

MATCH LINE

588

584+00

584+50

585+00

585+50

586+00

586+50

587+00

STA. 588+00

STA. 588+00

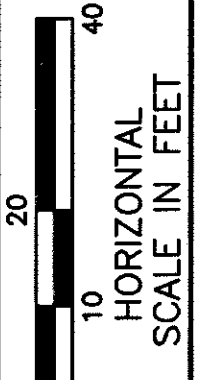
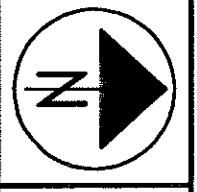
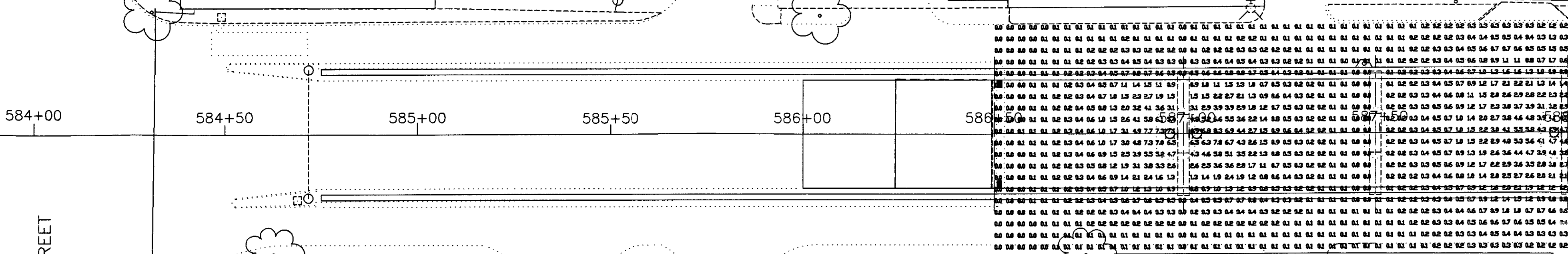
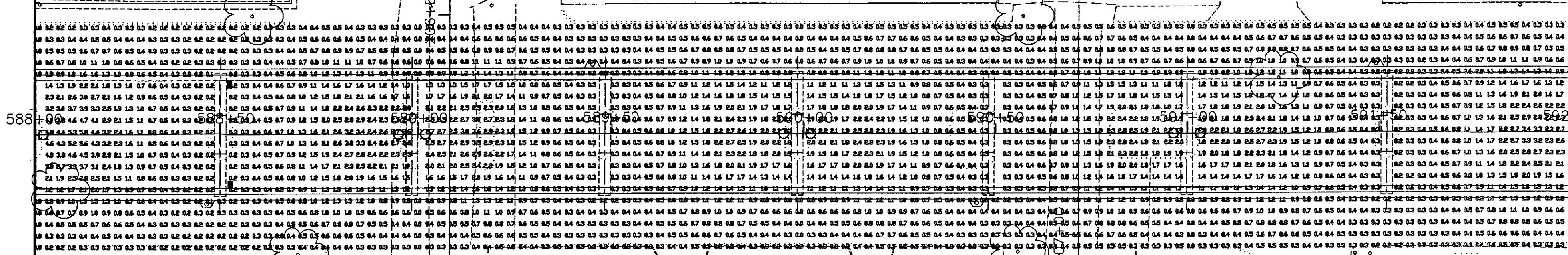
MATCH LINE

CENTER STREET

MILL STREET

N.Y.C. RR. (CSX, INC.)

NORFOLK SOUTHERN RR



CALCULATED  
KAH  
CHECKED  
RAP

UNDERPASS PHOTOMETRIC STUDY - HUBBELL FIXTURES  
BEGIN PROJECT TO STA. 592+00

MAR-4-11.70

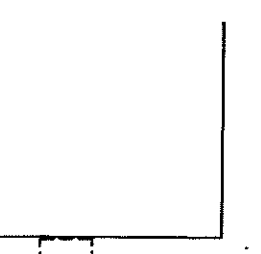
24  
68

CALCULATION SUMMARY	
LIGHT SOURCE:	HPS (REFER TO LIGHTING PLANS FOR WATTAGES)
PHOTOMETRIC TEST PARAMETERS:	HUBBELL LIGHTING
MANUFACTURER:	HP07343.IES
IES FILE:	
NOTES: PHOTOMETRIC RESULTS CALCULATED USING LITHONIA VISUAL 2.0 PROFESSIONAL SOFTWARE AND THE ABOVE NOTED IES PHOTOMETRIC FILE(S).	
THE AREA UNDER THE OVERPASS IS USED FOR PARKING AND ACCESS TO THE BUSINESS'S ON THE WEST SIDE OF THE STREET. THE LIGHTING FIXTURES INDICATED REPLACE THE EXISTING WALL-PACK LIGHTING FIXTURES TO PROVIDE SECURITY LIGHTING FOR THIS AREA.	

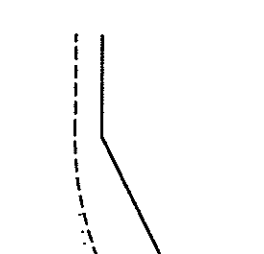


STA. 596+00

596+00



596+50



597+00



597+50



598+00



599+00



600+00

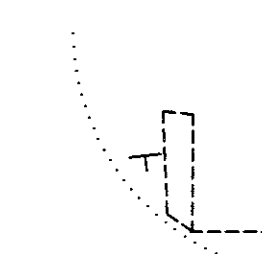
N 3° 44' 00" E

MATCH LINE

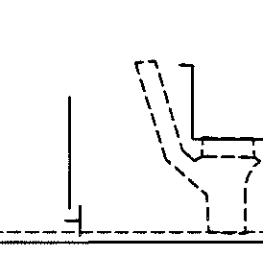
STA. 592+00

592+00

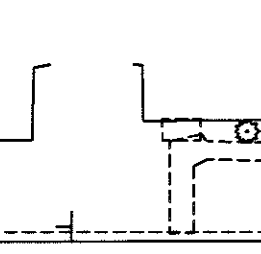
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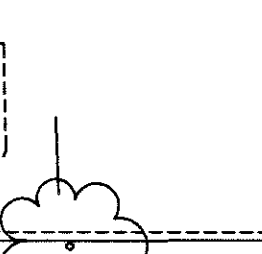
592+50



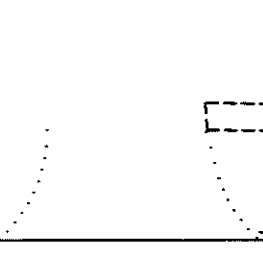
593+00



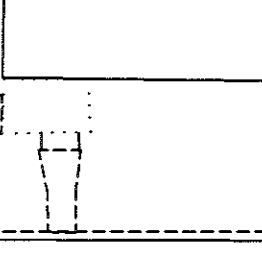
593+50



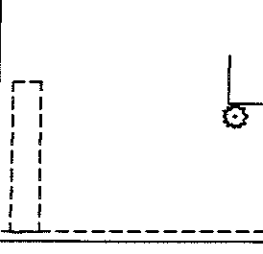
594+00



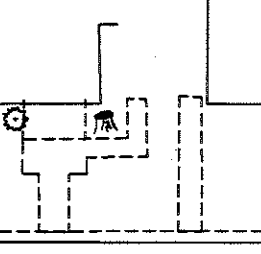
594+50



595+00



595+50



596+00

STA. 596+00

596+00

MATCH LINE

MATCH LINE

GEORGE STREET

BELLEVUE STREET

CALCULATED  
KAH  
CHECKED  
RAP

HORIZONTAL SCALE IN FEET

UNDERPASS PHOTOMETRIC STUDY - HUBBELL FIXTURES  
STA. 592+00 TO END PROJECT

MAR-4-11.70

**LIGHTING NOTES**

**LAMPS**

High Pressure Sodium lamps shall have heat resistant clear glass envelopes with a ceramic arc tube interior. The horizontal initial lumens and approximate hours of life shall not be less than the values shown in the State of Ohio, Department of Transportation, Construction and Material Specification, Article 713.14.

**LUMINAIRE, CONVENTIONAL, AS PER PLAN**

High Intensity Discharge luminaires shall be mounted as indicated on the Plans, with the centerline elevation noted above the proposed pavement and/or structure. They shall be adjusted vertically and horizontally to provide the required mounting height and specified alignment with the roadway.

Each luminaire shall have an internal ballast capable of operating from a multiple 240 volt, single phase, grounded circuit. The ballast shall be prewired to the lamp socket and terminal board. Ballasts shall conform to the State of Ohio, Department of Transportation, Construction and Material Specification, Article 713.11.

Pole-mounted High Pressure Sodium luminaire shall be GE, Hubbell, or American Electric Lighting or approved equal, suitable for use on 240 volt multiple circuits. It shall consist of a cast aluminum housing and refractor holder, a hinged refractor holder, a detachable reflector with gasketing between reflector and refractor holder and the socket entry. It shall be capable of producing IES Type III distribution with the specified lamp and a heat resistant glass refractor. Luminaires shall conform to the State of Ohio, Department of Transportation, Construction and Material Specification, Article 713.11.

Manufacturer	Model	IES Photometric File
General Electric	M400 Series	GE394.IES
Hubbell Lighting	RMG Series	HPO3156.IES
American Electric	113 Series	AE2030.IES

Wall-mounted High Pressure Sodium luminaires shall be GE, Hubbell, or American Electric Lighting or approved equal, suitable for use on 240 volt multiple circuits. The luminaires shall be designed to have watertight construction. It shall consist of a cast aluminum housing and door frame assembly containing a thermal shock resistant glass refractor attached to the frame with hinges and closed by latches, a reflector, porcelain socket, integral ballast, fuse holder with fuse, and 3/4" conduit openings in housing. Luminaires shall conform to the State of Ohio, Department of Transportation, Construction and Material Specification, Article 713.13.

Manufacturer	Model	IES Photometric File
General Electric	WM7 Series	GE7576.IES
Hubbell Lighting	PGS Series	HP07343.IES
American Electric	581 Series	AE2081.IES

**LIGHTING STANDARD FOUNDATIONS**

Reinforcing steel shall be placed as specified.

Light standard anchor bolts shall be installed in the foundations in strict conformance with approved shop drawings and anchor bolt setting templates. The tops of foundations shall be finished smooth and level.

**GROUNDING**

Grounding of electrical equipment shall be accomplished by furnishing and installing one or more 1 inch diameter by 10 foot minimum length ground rods with driving points (713.16), to provide a maximum resistance of 25 ohms for grounding of each lighting standard and service pole.

One rod shall be driven in the bottom of the duct trench approximately one foot from the pole or foundation. The top of the rod shall extend approximately 4 inches to 6 inches above the bottom of the trench to facilitate exothermic welding of the insulated ground wire to the rod. If the required 25 ohm resistance is not obtained by the use of a single 10 foot length ground rod, the original rod shall be extended and driven further into the ground and/or additional deep driven sectional rods employed, driven 10 feet apart, to obtain the specified resistance. Addition rods shall be connected either in parallel or in series to the original rod, using NO. 1/0 AWG 7 strand soft annealed 600 volt insulated copper cable. Cables connecting the additional ground rods shall be protected by furnishing and installing either a 2" x 6" treated wood board or a 4" x 6" Class C concrete slab, approximately 4 inches above the cable.

**GROUNDING OF STRUCTURES AND RETAINING WALLS**

Conduits at structure lighting standard foundations and junction boxes shall be furnished with grounding bushings and shall be grounded to the circuit ground wire to complete the ground at the first lighting standard or pull box beyond the structure.

Conduits within the retaining walls shall be grounded in a similar manner.

Each ground shall provide a maximum resistance of 25 ohms.

**CONDUIT, AS PER PLAN**

Conduit of the size specified shall be installed at locations designated by the plans or as directed.

Underground conduits are to be encased in concrete, the concrete encasement shall be Class E and shall have a minimum thickness of 3 inches.

Bends in conduit shall be used only when absolutely necessary. The total bending between adjacent junction boxes and/or pull boxes shall not exceed 180 degrees and the total bending between adjacent light standards shall not exceed 270 degrees. The radius of any field bend shall be not less than 12 times the internal diameter of the conduit. Bends in conduit shall be so made that the protective covering will not be injured and the internal diameter at the bend will not be reduced.

All rigid ferrous metal conduit, and fittings and appurtenances thereto, shall be galvanized inside and outside. They shall be of such size that the wires can be easily drawn into the conduit without excessive pull. All cut ends of metallic conduit shall be reamed to remove rough edges.

Cut threads shall be painted with a zinc rich base paint in such a manner that there will be no unprotected surfaces and the joint will be watertight. All conduit on a structure shall be securely fastened or built into the structure and properly drained using a t-coupling at the low point of each concrete encased run, unless the conduit is sloped to drain into junction boxes. In the latter case, junction boxes shall be provided with drains. Expansion fittings shall be provided at all expansion joints on structures, and they shall be provided with suitable copper jumpers to assure electrical continuity of the grounding system.

All metallic conduit shall have electrical continuity and be adequately grounded. The ends shall be fitted with approved bushings and all boxes, fittings, expansion joints and other appurtenances to the conduit shall be so designed and connected that adequate electrical continuity from one conduit to another will be secured.

The contractor shall check each conduit run by "rodding" or by pushing a mandrel through the conduit run. Any obstructions which may develop in the conduit shall be removed.

Terminal points of all conduits containing conductor wire or cable shall be completely sealed in an approved manner with a removable sealing compound which is compatible with the cable jacket, the insulation, and the conduit material.

Conduit shall conform to ASA Specification C80.1 and shall be galvanized in accordance with the requirements of ASTM A 53. In addition, an enamel or equivalent protective coating conforming to ASA Specification C80.1 shall be applied to the interior surface of all conduit. All exposed conduit shall further meet the requirements of Supplemental Specification 707.08.

**STRUCTURE JUNCTION BOX, AS PER PLAN**

Junction boxes used in the bridge structure and retaining walls shall be gray iron castings ASTM A 48, hot dipped galvanized in accordance with ASTM A 123. Junction boxes shall be of the size specified and have a wall thickness such that five full threads of the conduit shall engage the threaded holes in the box. Bosses may be employed to obtain the five threads. Boxes shall be provided with 3/4" rigid galvanized steel conduit drains.

**WIRE AND CABLE**

Wire and cable installation shall conform to the State of Ohio, Department of Transportation, Construction and Material Specification, Article 713.02 and shall be of the sizes and types shown herein.

Circuit cable shall be Size No. 4 AWG, stranded, and shall meet the requirements of FAA Specification L-824 for 600 V., Type A Cable.

Cable installed in light standards and bracket arms and in 3/4" conduit for wall-mounted luminaires shall be Size No. 10 AWG, stranded, and shall meet the requirements of FAA Specification L-824 for 600 V., Type A Cable.

Field wrapped cable splices shall not be used on this project. Where cable connections are required, they shall be permitted only in pull boxes, junction boxes, or within light standards and shall be accomplished by approved, field applied, waterproof connector kits which are capable of being disassembled without damage to either cable or connector kit. In-line connector kits shall be Type I connector kit. Where "Y" type cable splices are required in pull boxes, an unfused "Y" type connector kit (Connector Kit Type IV, 713.15) shall be employed.

Connections between circuit cable and pole and bracket cable that occur in light standards or junction boxes shall employ fused and unfused "Y" type connectors and shall be Connector Kits Type II or Type IV, 713.15 as applicable. Fuses used in fusible connector kits shall be 600 volt, 6 amp. midget type fuses (See Schematic Wiring Diagram).

The contractor shall furnish all necessary equipment and demonstrate to the satisfaction of the Engineer that all circuits are free of short circuits and unspecified grounds, and are properly connected and operable. System and equipment grounding shall be tested by approved method in the presence of the Engineer.

**POWER SERVICE, AS PER PLAN**

Coordinate work on the existing service pole with the power company.

The combination lighting contactor and switch shall be a 60 amp, 240 volts, 3 pole combination fused switch and contactor. The contactor shall have a 120 v. 60 cycle coil. The enclosure for the combination lighting contactor and switch shall be NEMA 4, watertight, AISA 302 or 303 stainless steel without hubs, having 3 mounting holes in top mounting flange and 3 mounting slots in bottom mounting flange. It shall have a flange mounted disconnect operator capable of being locked in either position and shall have a coverlock mechanism. Space shall be provided for knock out for direct wiring into structure. In addition to above, a selector switch for "hand-off auto" shall be field mounted inside the enclosure to provide for pilot control of the circuit. The combination lighting contactor and switch shall be Square D Company Class 8903 or General Electric Co., Cutler-Hammer, or approved equal.

Service riser conduit shall be 2" galvanized steel conduit.

Insulated ground wire shall be No. 6 AWG and shall meet the requirements of F.A.A. Specification L-824, Type A 600 volts. The ground wire shall be exothermic welded to a 1" x 10'-0" ground rod (713.16).

A photoelectric control for activating the contactor coil shall be mounted on the service pole. The photoelectric control shall be a hermetically sealed cadmium-sulphide type control, suitable for use on a 120 volt circuit. Wire used for the control circuit between the photoelectric control and the contactor coil shall be No. 10 AWG stranded copper, insulated, 600 volts.

Service pole shall be provided with all the equipment and appurtenances as shown on the typical service pole detail.

**LUMINAIRE REMOVED, AS PER PLAN**

All existing pole and wall mounted luminaires shall be removed from the bridge. Estimated existing luminaire locations are shown in the plans. Proper disposal of the removed luminaires shall be the contractor's responsibility and shall be included in the cost bid for Luminaire Removed, As Per Plan.

**LIGHT POLE REMOVED FOR STORAGE, AS PER PLAN**

After removal of existing luminaires, the existing light poles, bracket arms and bases shall be carefully removed to avoid damage to the poles, bracket arms, bases and hardware. Existing wiring in the poles and bracket arms is to be removed and disposed of by the contractor. The contractor shall store the removed light poles, bracket arms, bases and light pole hardware during demolition and construction of the beams, deck and parapets. Existing light poles, bracket arms, bases and hardware damaged in the removal process or during storage shall be replaced at the contractors expense.

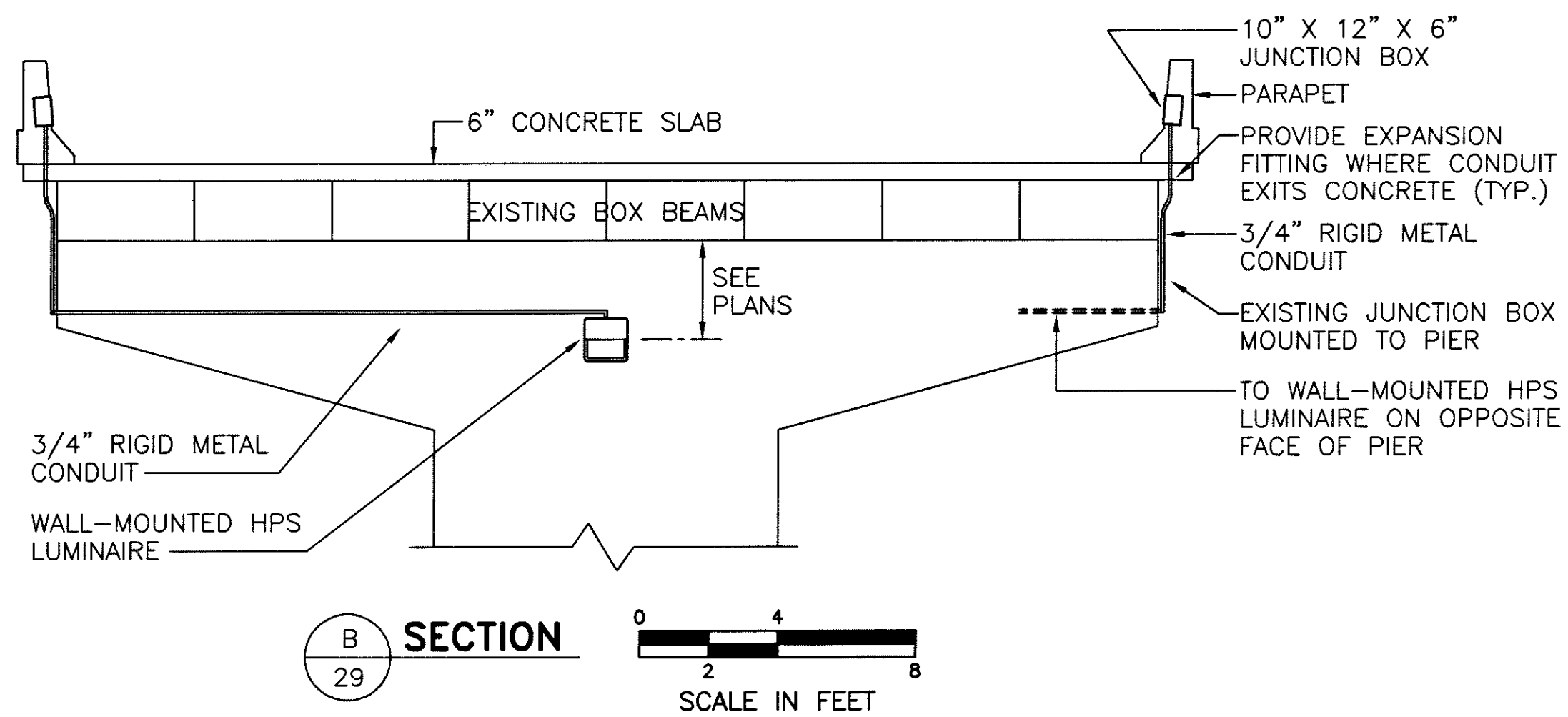
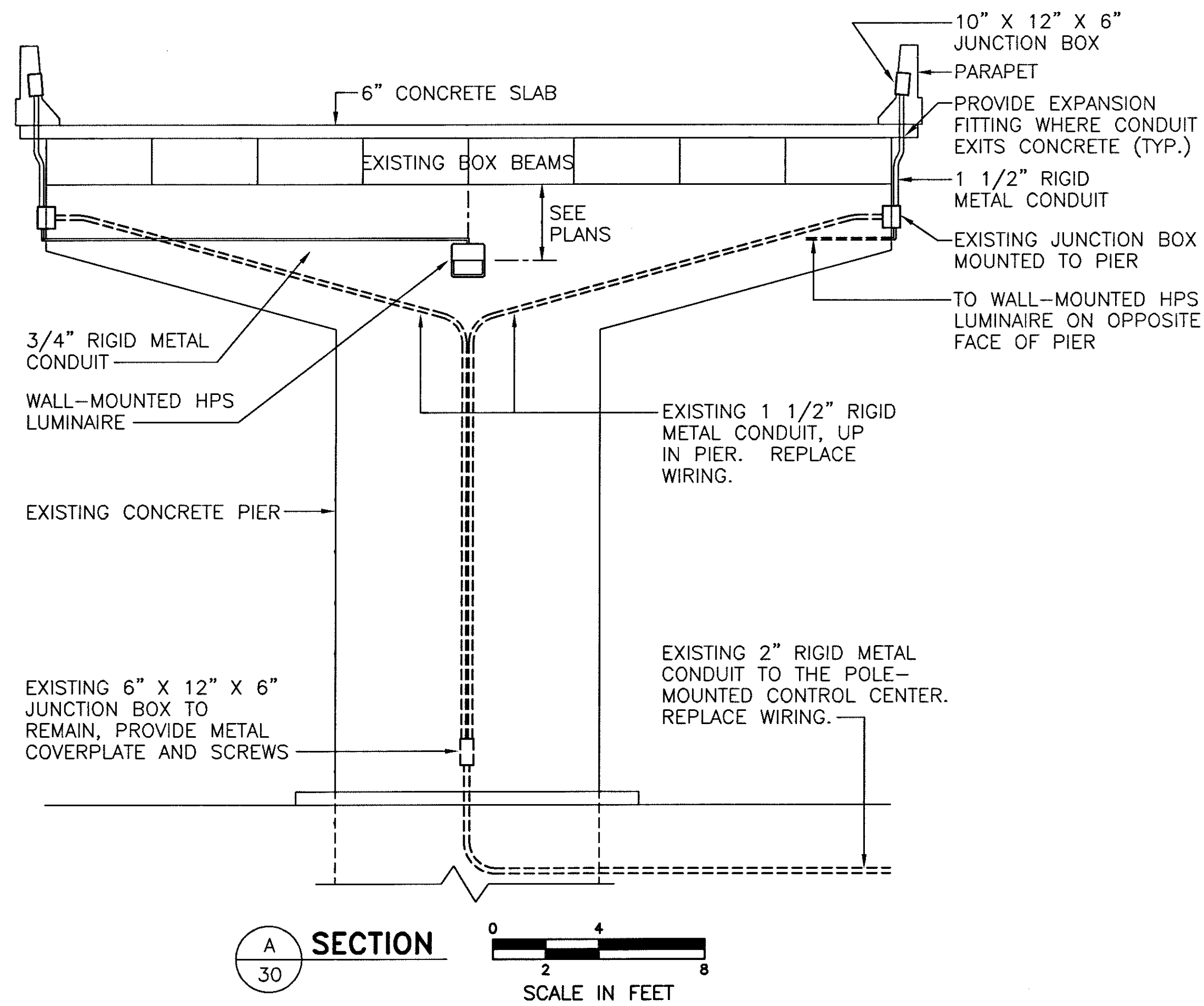
**LIGHTING MISC.: REFURBISH AND RE-ERECT EXISTING LIGHT POLE AND BRACKET ARMS**

Refurbishment shall include cleaning and repair of existing poles, bracket arms and bases held in storage and repair and replacement of missing hardware. After refurbishing stored material and reconstruction of the beams, deck and parapets, the contractor shall re-erect the light poles and bracket arms at the locations indicated in the plans. Wiring of the refurbished poles and new anchor bolts in the proposed light pole pilasters required to re-erect the refurbished light poles shall be included in this bid item.

CALCULATED  
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RAP

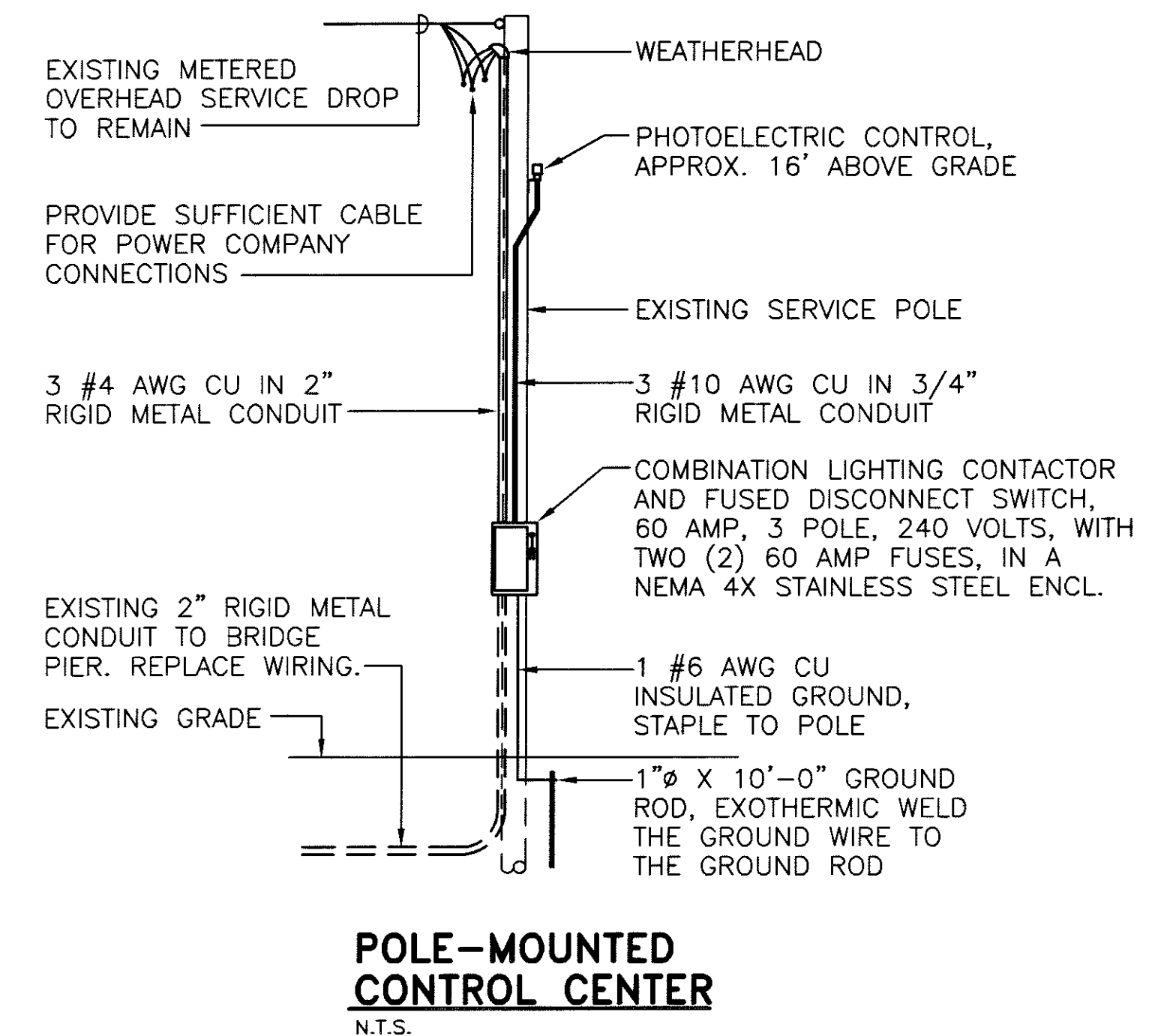
**LIGHTING DETAILS**

**MAR-4-11.70**



**LIGHTING GENERAL SUMMARY**

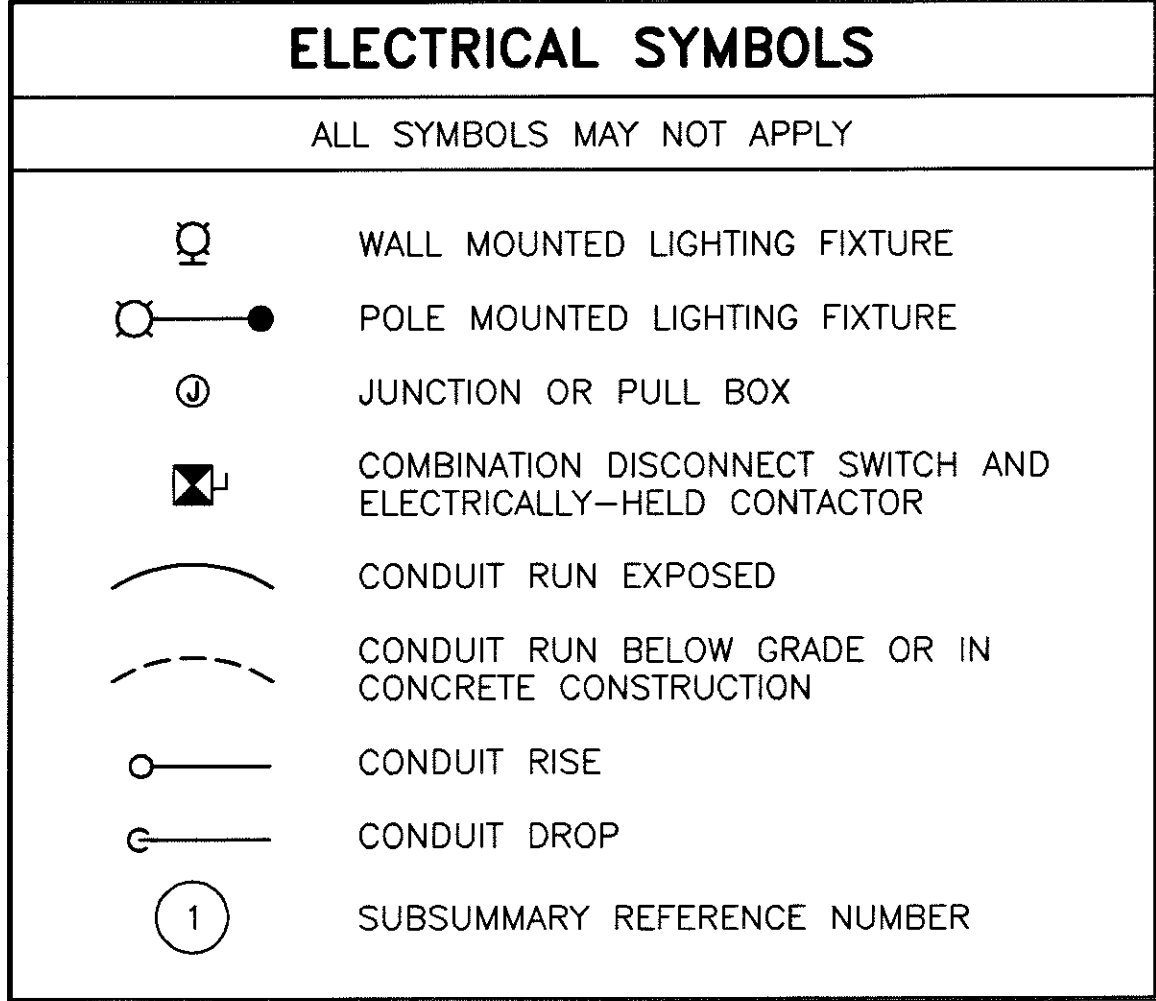
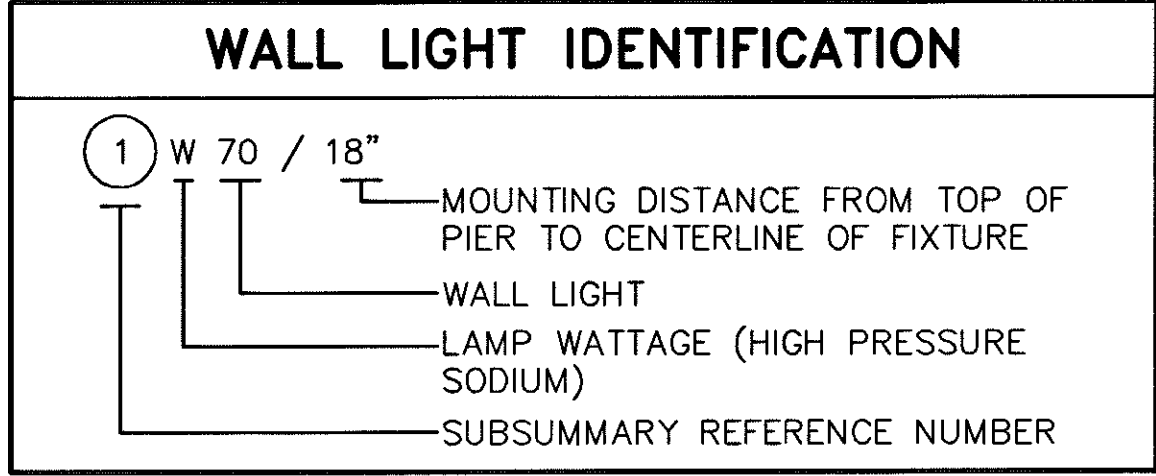
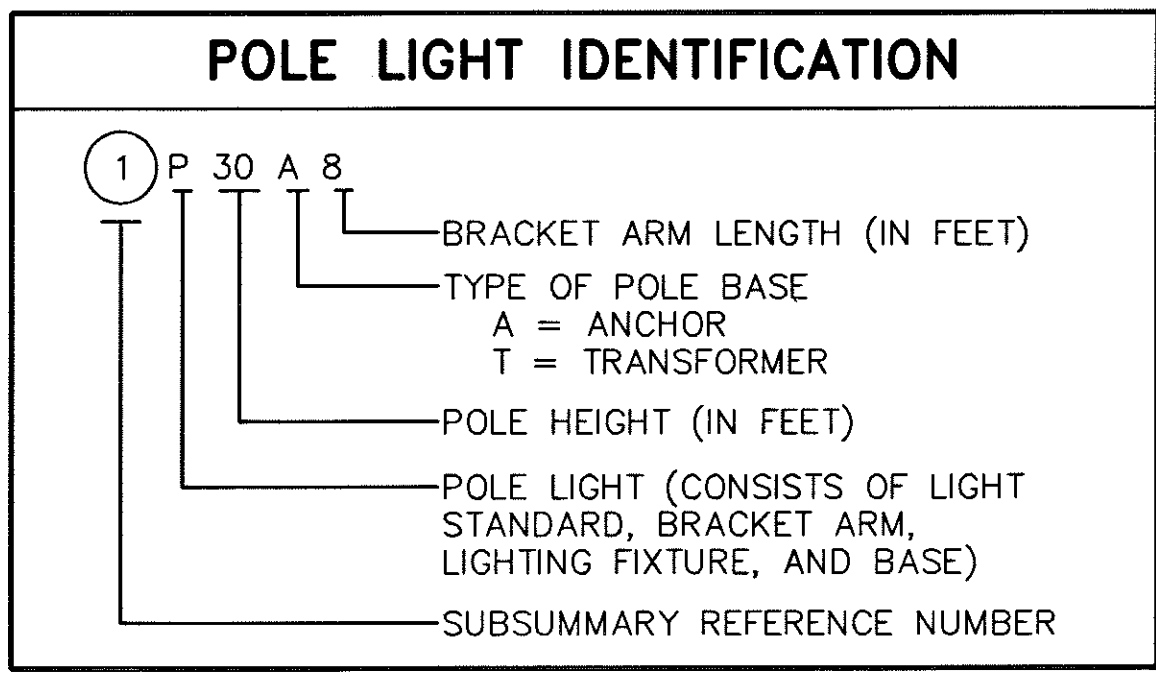
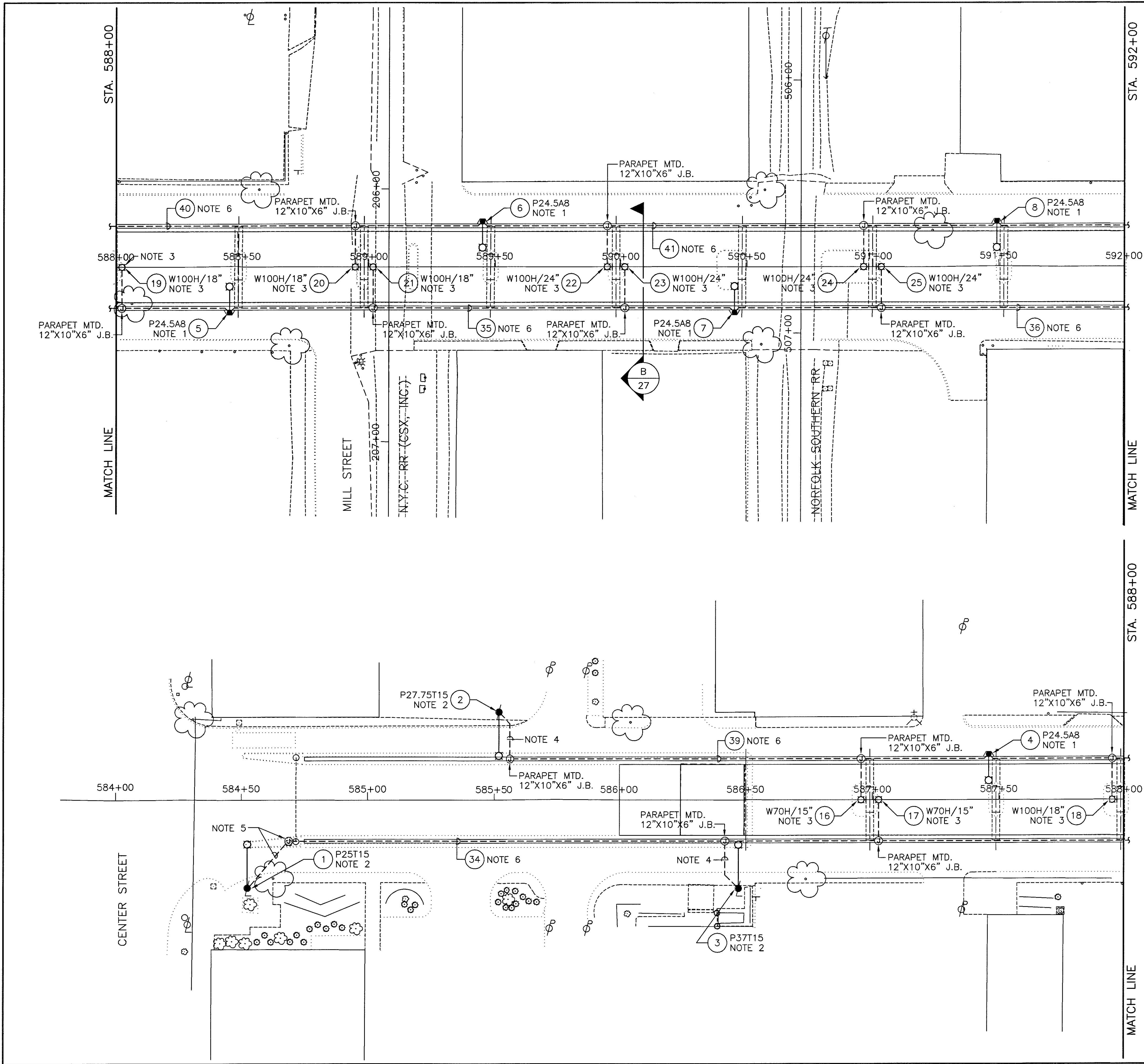
GRAND TOTAL	UNIT	ITEM	ITEM EXT	DESCRIPTION	SHEET NO.
9	EACH	202	75403	LIGHT POLE REMOVED FOR STORAGE, AS PER PLAN	26
31	EACH	202	75507	LUMINAIRE REMOVED, AS PER PLAN	26
LUMP	LUMP	202	75700	CONTROL CENTER REMOVED	
54	EACH	625	00500	CONNECTOR KIT, TYPE II	
34	EACH	625	00700	CONNECTOR KIT, TYPE IV	
8	EACH	625	01200	CONNECTOR KIT, TYPE VIII, CU	
6330	LIN. FT.	625	23000	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	
6115	LIN. FT.	625	23306	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	
480	LIN. FT.	625	25001	CONDUIT, 3/4", 713.04, AS PER PLAN	26
15	LIN. FT.	625	25301	CONDUIT, 1 1/2", 713.04, AS PER PLAN	26
2510	LIN. FT.	625	25303	CONDUIT, 1 1/2", 713.07, AS PER PLAN	26
15	EACH	625	26251	LUMINAIRE, CONVENTIONAL, AS PER PLAN (POLE-MOUNTED, 150W, HPS, 240V)	26
4	EACH	625	26251	LUMINAIRE, CONVENTIONAL, AS PER PLAN (WALL-MOUNTED, 70W, HPS, 240V)	26
12	EACH	625	26251	LUMINAIRE, CONVENTIONAL, AS PER PLAN (WALL-MOUNTED, 100W, HPS, 240V)	26
21	EACH	625	29921	STRUCTURE JUNCTION BOX, AS PER PLAN	26
1	EACH	625	34001	POWER SERVICE, AS PER PLAN	26
9	EACH	625	98000	LIGHTING, MISC.: REFURBISH AND RE-ERECT EXISTING LIGHT POLE AND BRACKET ARMS	



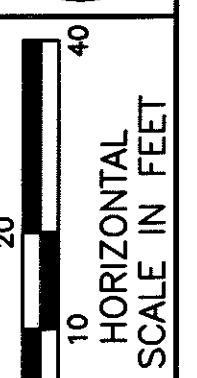
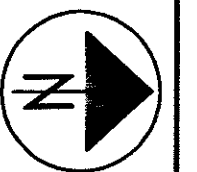
LIGHTING GENERAL SUMMARY AND DETAILS

MAR-4-11.70





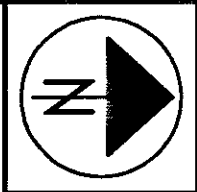
- ### DRAWING NOTES
1. LIGHTING STANDARD, BRACKET ARM, AND BASE ARE EXISTING, TO BE RE-USED. REMOVE AND STORE THE ABOVE COMPONENTS DURING DEMOLITION AND CONSTRUCTION OF THE DECK AND PARAPETS. PROVIDE POLE WITH A 150 WATT HPS LIGHTING FIXTURE AND RE-INSTALL WHERE INDICATED ON THE PLANS.
  2. LIGHTING STANDARD, BRACKET ARM, AND BASE ARE EXISTING, TO REMAIN. REMOVE THE EXISTING LIGHTING FIXTURE, PROVIDE A 150 WATT HPS LIGHTING FIXTURE, AND INSTALL ON THE EXISTING BRACKET ARM. REMOVE EXISTING WIRING UP IN POLE TO LUMINAIRE AND PROVIDE WIRING FROM CONNECTORS IN BASE TO LUMINAIRE.
  3. REMOVE THE EXISTING WALL-MOUNTED LIGHTING FIXTURE FROM THE BRIDGE PIER, INCLUDING ALL ASSOCIATED CONDUIT AND WIRING. PROVIDE LIGHTING FIXTURE INDICATED, AND RECIRCUIT TO MATCH EXISTING.
  4. EXISTING UNDERGROUND 2" CONDUIT FROM GROUND-MOUNTED POLE LIGHT TO REMAIN. REMOVE THE EXISTING WIRING, EXTEND THE CONDUIT TO THE PARAPET-MOUNTED JUNCTION BOX AS INDICATED, AND PROVIDE 2 NO. 4 AWG AND 1 NO. 10 AWG GROUND, FROM THE POLE BASE TO THE JUNCTION BOX.
  5. EXISTING PULLBOX AND UNDERGROUND 2" CONDUIT FROM GROUND-MOUNTED POLE LIGHT TO REMAIN. REMOVE THE EXISTING WIRING, EXTEND THE PARAPET-MOUNTED CONDUIT TO THE EXISTING PULLBOX, AND PROVIDE 2 NO. 4 AWG AND 1 NO. 10 AWG GROUND FROM THE POLE BASE TO THE INDICATED PARAPET-MOUNTED JUNCTION BOX.
  6. 1 1/2" CONDUIT RUN IN THE PARAPET, WITH 2 NO. 4 AWG AND 1 NO. 10 AWG GROUND.



CALCULATED  
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R A P

LIGHTING PLANS  
BEGIN PROJECT TO STA. 592+00

MAR-4-11.70



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CHECKED RAP

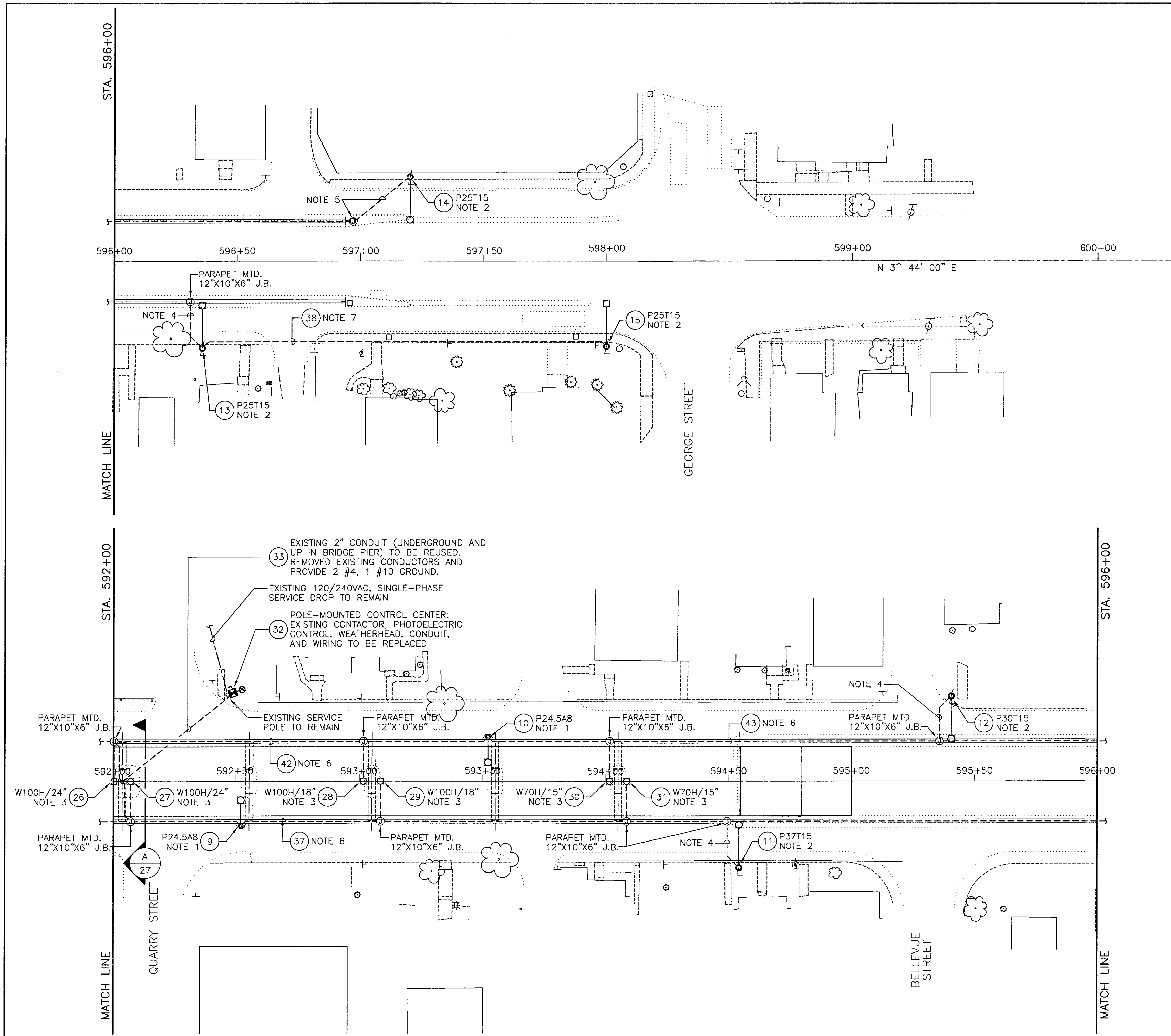
### DRAWING NOTES

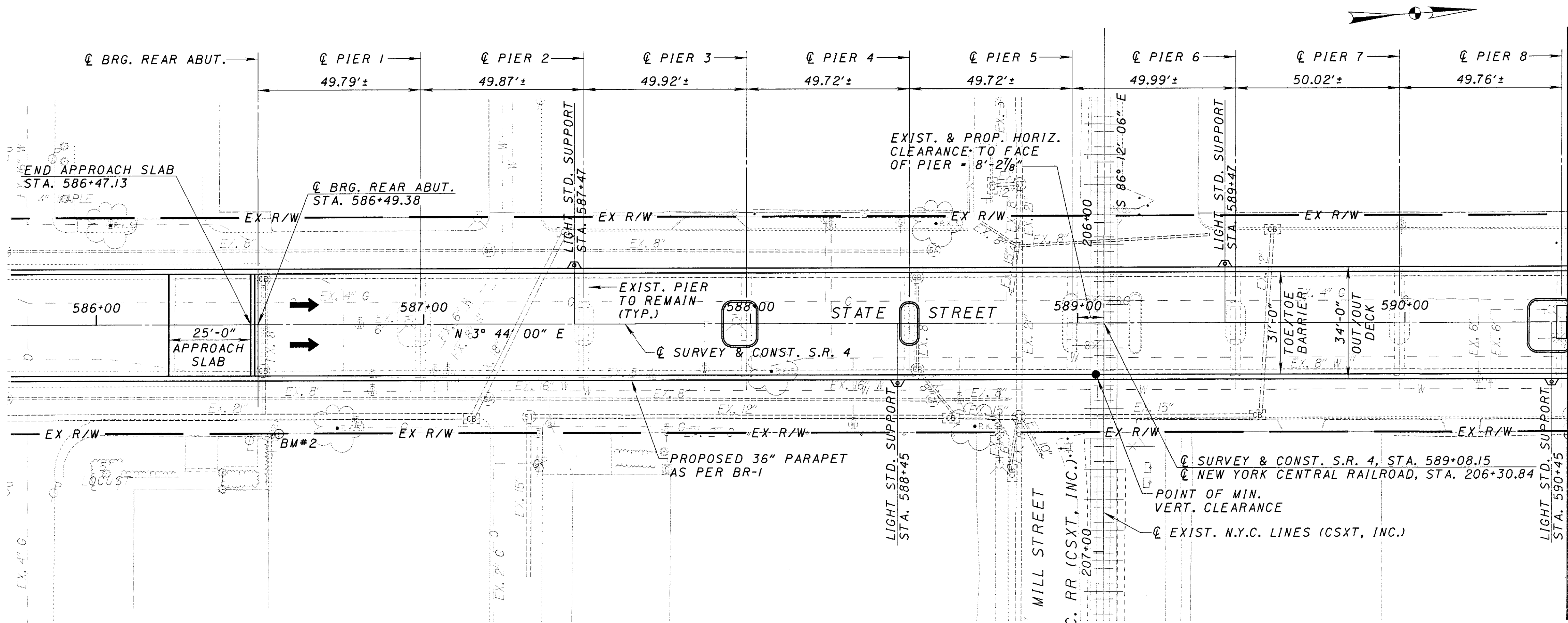
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2. LIGHTING STANDARD, BRACKET ARM, AND BASE ARE EXISTING, TO REMAIN. REMOVE THE EXISTING LIGHTING FIXTURE, PROVIDE A 150 WATT HPS LIGHTING FIXTURE, AND INSTALL ON THE EXISTING BRACKET ARM. REMOVE EXISTING WIRING UP IN POLE TO LUMINAIRE AND PROVIDE WIRING FROM CONNECTORS IN BASE TO LUMINAIRE.
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4. EXISTING UNDERGROUND 2" CONDUIT FROM GROUND-MOUNTED POLE LIGHT TO REMAIN. REMOVE THE EXISTING WIRING, EXTEND THE CONDUIT TO THE PARAPET-MOUNTED JUNCTION BOX AS INDICATED, AND PROVIDE 2 NO. 4 AWG AND 1 NO. 10 AWG GROUND, FROM THE POLE BASE TO THE JUNCTION BOX.
5. EXISTING PULLBOX AND UNDERGROUND 2" CONDUIT FROM GROUND-MOUNTED POLE LIGHT TO REMAIN. REMOVE THE EXISTING WIRING, EXTEND THE PARAPET-MOUNTED CONDUIT TO THE EXISTING PULLBOX, AND PROVIDE 2 NO. 4 AWG AND 1 NO. 10 AWG GROUND FROM THE POLE BASE TO THE INDICATED PARAPET-MOUNTED JUNCTION BOX.
6. 1 1/2" CONDUIT RUN IN THE PARAPET, WITH 2 NO. 4 AWG AND 1 NO. 10 AWG GROUND.
7. EXISTING UNDERGROUND 2" CONDUIT BETWEEN GROUND-MOUNTED POLE LIGHTS TO REMAIN. REMOVE THE EXISTING WIRING AND PROVIDE 2 NO. 4 AWG AND 1 NO. 10 AWG GROUND, FROM POLE TO POLE.

### LIGHTING PLANS STA. 592+00 TO END PROJECT

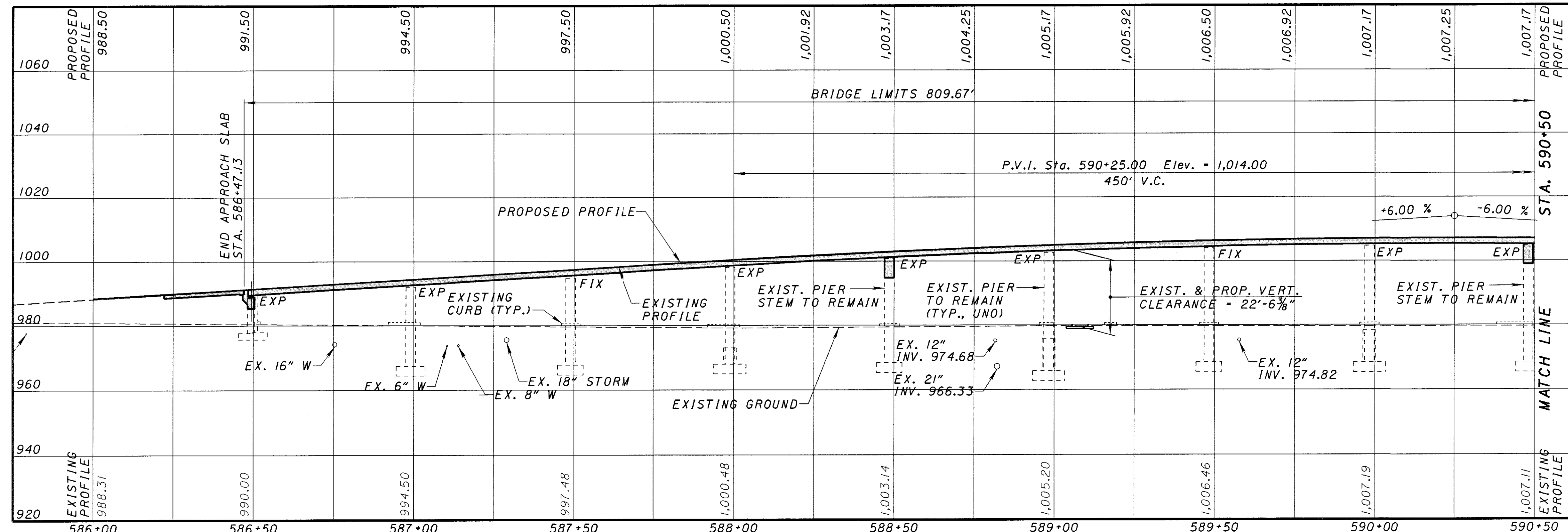
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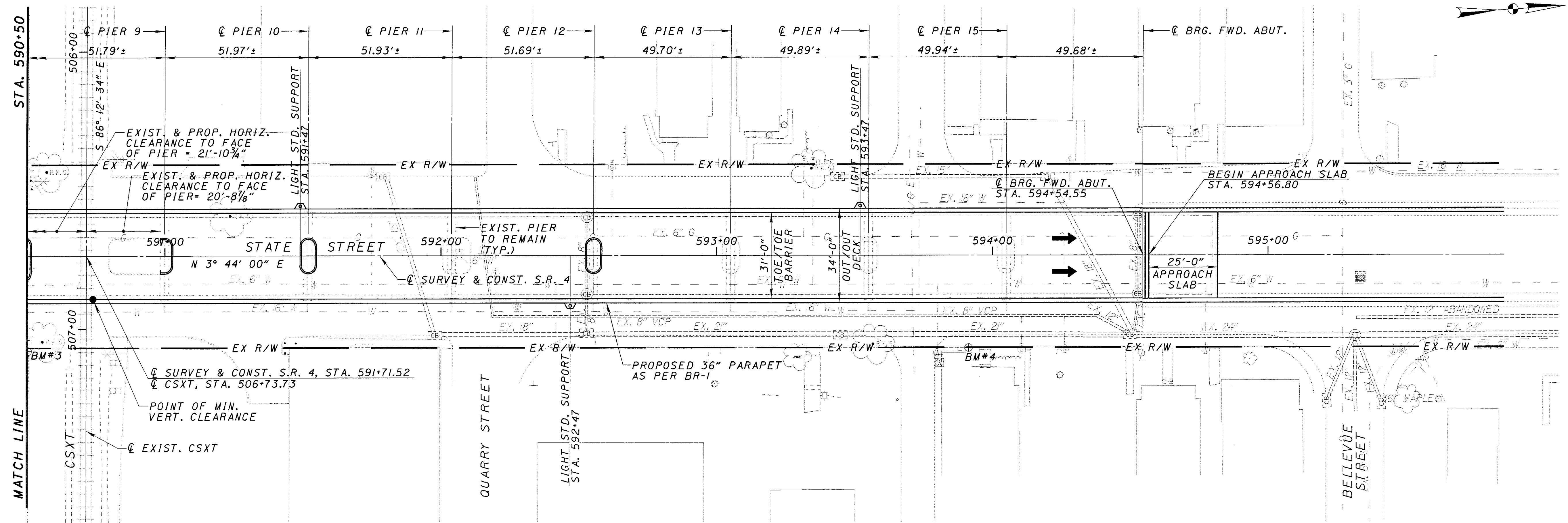


**BENCHMARK #2**  
 "□" CUT ON NW CORNER OF 2'x2' CONC. BLOCK @ E/S OF WALK & NW CORNER OF PROPERTY BLDG. #130 MIDSTATE BLDG. STA. 586+55.82, 33.14' RT.



TRAFFIC DATA	
ADT (2000) - 5917	ADT (2020) - 7969
ADTT (2020) - 274	
EXISTING STRUCTURE	
TYPE: PRESTRESSED COMPOSITE BOX BEAM BRIDGE W/ CONC. DECK & SUBSTRUCTURE	
SPANS: (APPROX. LENGTHS) 8 @ 50'-0", 4 @ 52'-0" & 4 @ 50'-0"	
DESIGN LOADING: S20-60	
SKEW: NONE	
ROADWAY: 28'-0" W/ 2'-0" SAFETY CURB	
WEARING SURFACE: 1" MONOLITHIC	
APPROACH SLABS: AS-1-54 (25' LONG)	
RAILING: BRIDGE RAILING, TYPE I	
ALIGNMENT: TANGENT	
PROPOSED STRUCTURE	
PROPOSED WORK: NEW COMPOSITE CONCRETE DECK AND REINFORCED CONCRETE DEFLECTOR PARAPETS ON PROPOSED BOX BEAMS AND EXISTING SUBSTRUCTURE.	
SPANS: 49.79'±, 49.87'±, 49.92'±, 49.72'±, 49.72'±, 49.99'±, 50.02'±, 49.76'±, 51.79'±, 51.97'±, 51.93'±, 51.69'±, 49.70'±, 49.89'±, 49.94'±, 49.68'±	
ROADWAY: 31'-0" TOE/TOE BARRIER	
DESIGN LOADING: HS-25 & ALTERNATE MILITARY LOADING	
SKEW: NONE	
WEARING SURFACE: MONOLITHIC	
APPROACH SLABS: AS-1-81 (25' LONG)	
ALIGNMENT: TANGENT	
LATITUDE: 40°35'30" NORTH	
LONGITUDE: 83°07'35" WEST	

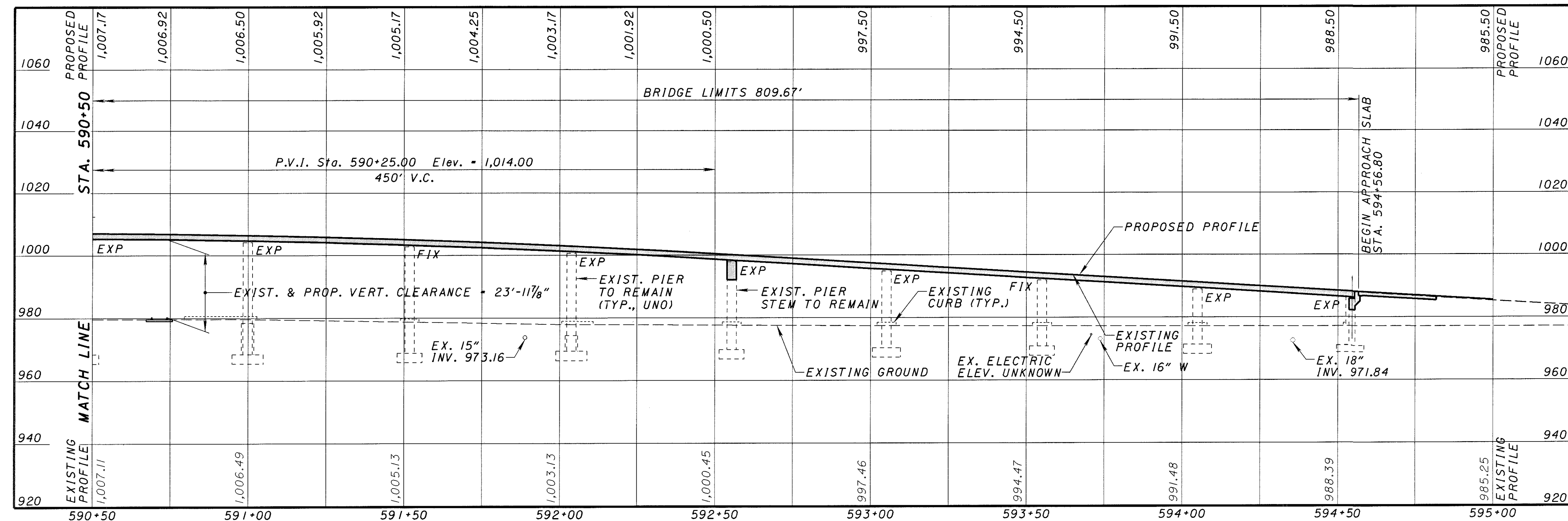
DESIGN AGENCY: PARSONS BRINCKERHOFF OHIO, INC. 6235 ENTERPRISE COURT DUBLIN, OHIO 43016  
 DATE: 02/11/02  
 REVIEWED: PJJ  
 DRAWN: MME  
 DESIGNED: EBS  
 CHECKED: EJC  
 MARION COUNTY STA. 586+47.13  
 STA. 594+56.80  
 SITE PLAN: BRIDGE NO. MAR-4-1171 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT  
 MAR-4-11.70  
 1/38  
 31/68  
 Mon Jun 10 16:29:13 2002



PLAN

**BENCHMARK #3**  
 "□" CUT ON TOP CENTER OF WEST END OF OLD FOOTER @ E/S STATE ST. & S/S RAILROAD. STA. 590+50.26, 34.16' RT.

**BENCHMARK #4**  
 "□" CUT ON NW CORNER OF BOTTOM STEP BLDG. #234 EAST SIDE OF STATE ST. @ N. SIDE OF ALLEY. 20'± N. OF C. OF ALLEY. STA. 593+91.39, 33.15' RT.



PROFILE  
 ALONG C. SURVEY & CONST.

DESIGN AGENCY: **PARSONS BRINCKERHOFF OHIO, INC.**  
 6235 ENTERPRISE COURT  
 DUBLIN, OHIO 43016

DATE: 02/11/02  
 REVIEWED: P.J.L.  
 DRAWN: M.W.E.  
 DESIGNED: E.B.S.  
 CHECKED: E.J.C.

MARION COUNTY  
 STA. 586+47.13  
 STA. 594+56.80

**SITE PLAN**  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC  
 (CSXT, INC.) & CSXT

MAR-4-11.70

2/38

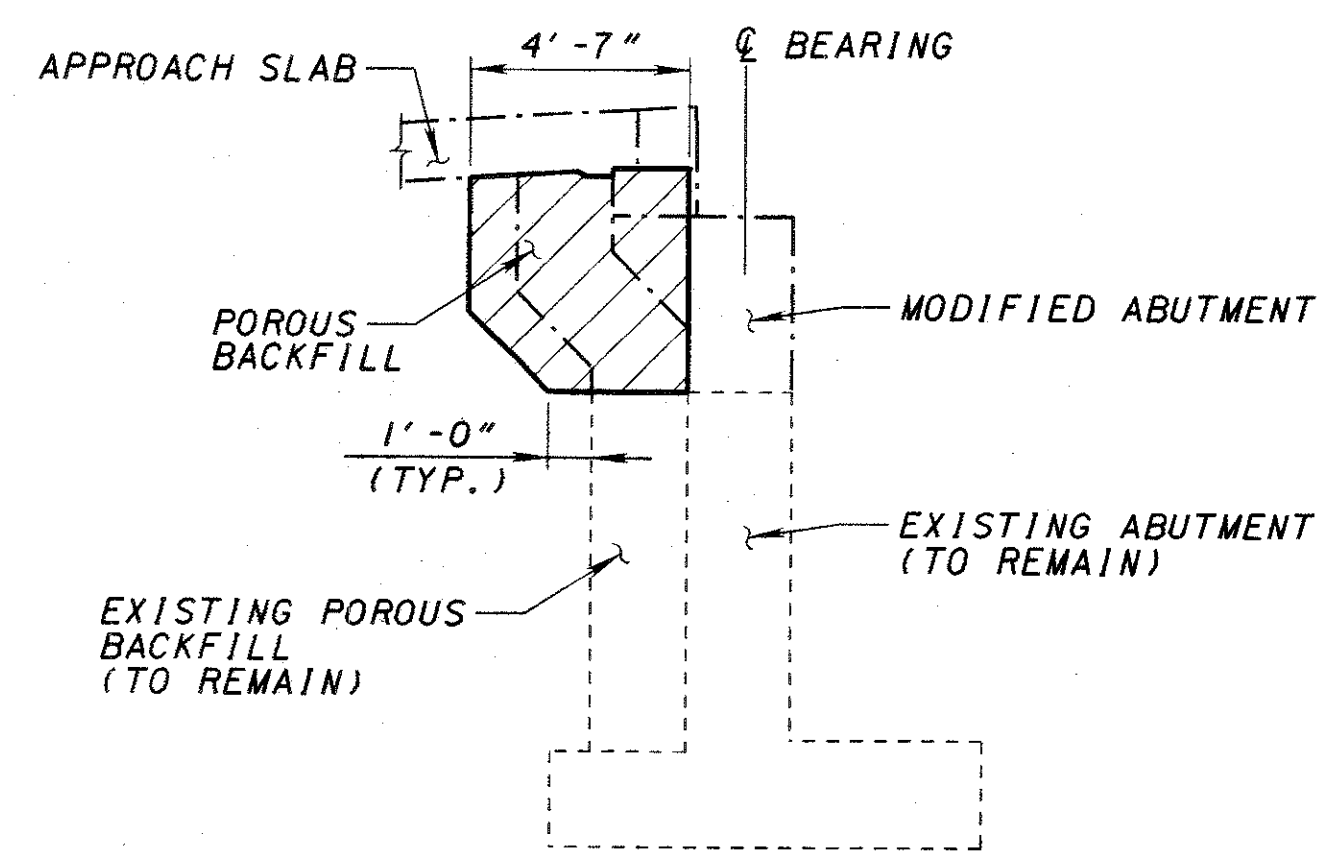
32  
 68



ESTIMATED QUANTITIES										
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	RET. WALL	SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP		4/38
503	21101	186	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN	58				128	3/38
509	20001	150	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	50	50			50	4/38
512	44400	24	SQ YD	TYPE B WATERPROOFING	7				17	
516	11210	170	LIN FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	68	102				
516	13600	71	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	37				34	
516	43100	128	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) 6 1/2" x 7 1/2" x 1.57"	32	96				
516	44001	384	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES (NEOPRENE) 6 1/2" x 7 1/2" x 1.57" AND LOAD PLATE 7 1/2" x 8 1/2", AS PER PLAN		384				36/38
518	21200	186	CU YD	POROUS BACKFILL WITH FILTER FABRIC	58				128	
519*	11101	1069	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	204	770			95	4/38
842	34450	96	CU YD	CLASS S CONCRETE, MISC.: PARAPETS ON ABUTMENTS AND RETAINING WALLS	3				93	
842	42500	43	CU YD	CLASS C CONCRETE, PIER CAP		43				
842	45500	44	CU YD	CLASS C CONCRETE, ABUTMENT	44					
842	46000	210	CU YD	CLASS C CONCRETE					210	
844	48000	633	CU YD	HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE (DECK)			633			
844	48020	190	CU YD	HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE (PARAPET)			190			
844	49000	LUMP		HIGH PERFORMANCE CONCRETE TRIAL MIX			LUMP			
844	49010	LUMP		HIGH PERFORMANCE CONCRETE TESTING			LUMP			
864	10100	4457	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	139	1120	2078		1120	
865	12050	128	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48			128			

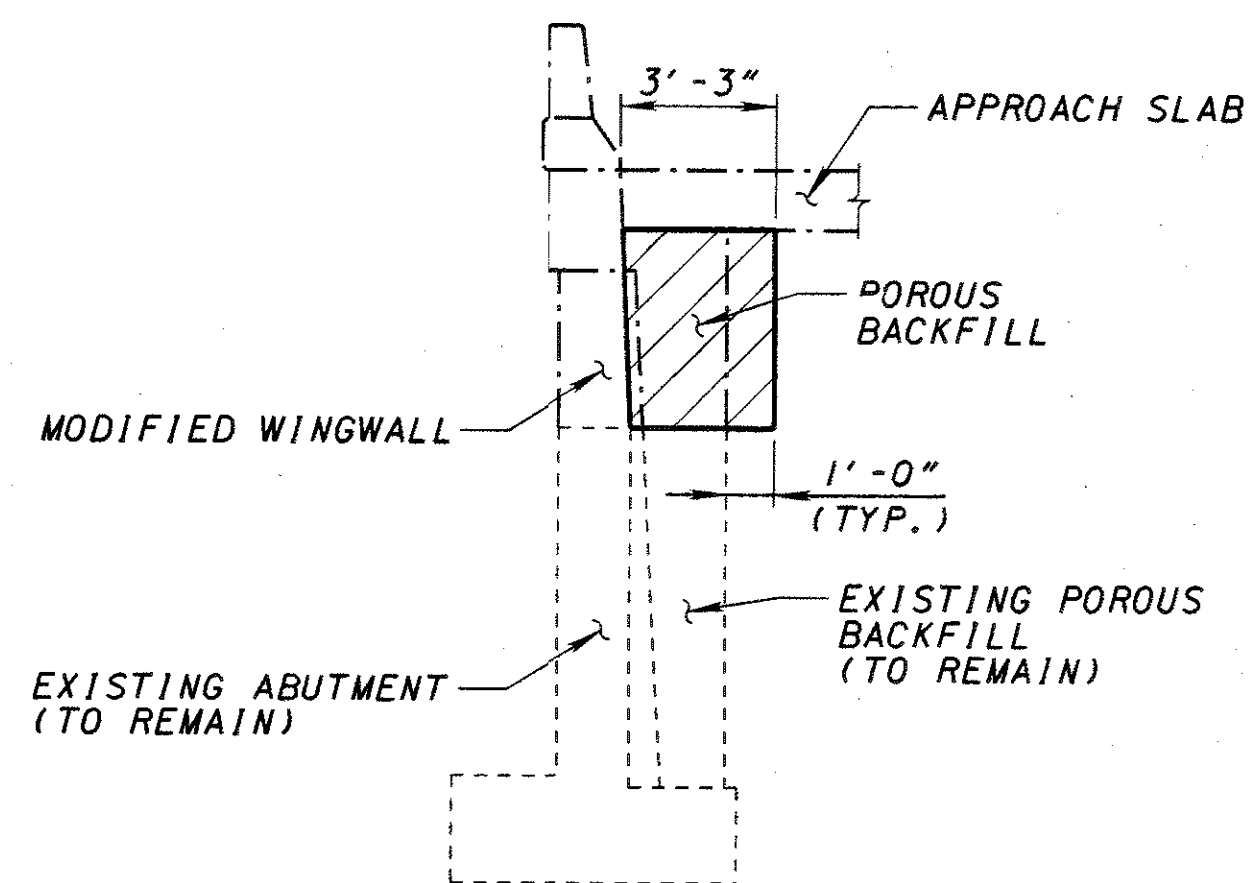
\* THE QUANTITY FOR ITEM 519 HAS BEEN INCREASED BY 150% TO ACCOUNT FOR FIELD UNCERTAINTIES

UNCLASSIFIED EXCAVATION, AS PER PLAN  
SEE DETAILS ON THIS SHEET FOR LIMITS OF UNCLASSIFIED EXCAVATION.

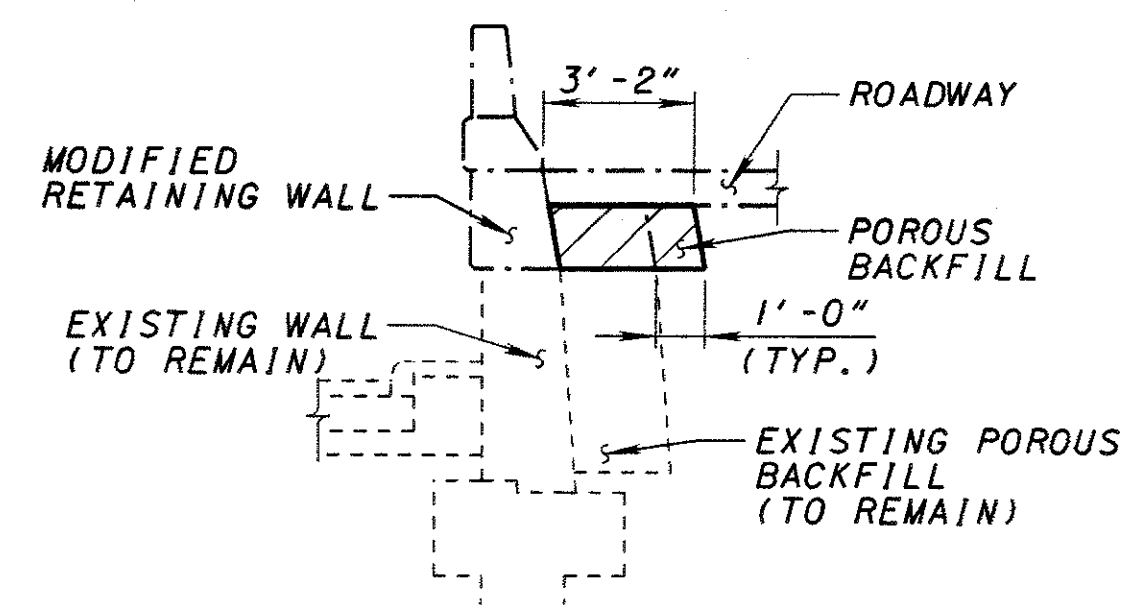


ABUTMENT SECTION

ABUTMENT UNCLASSIFIED EXCAVATION LIMITS

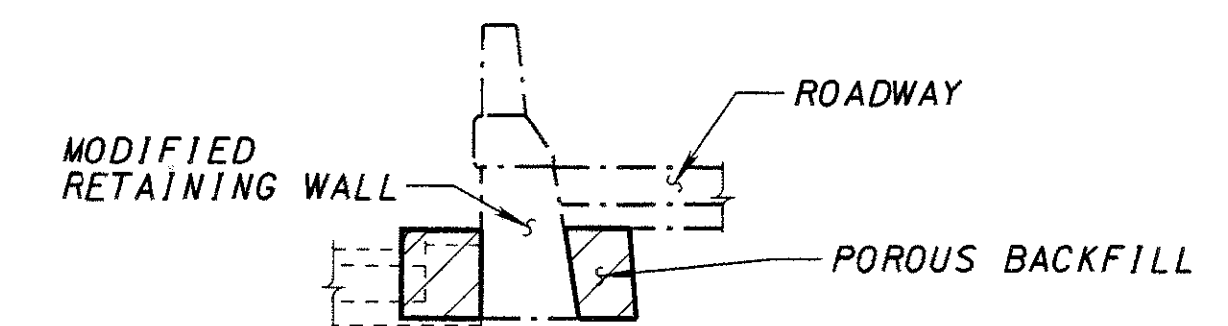


WINGWALL SECTION

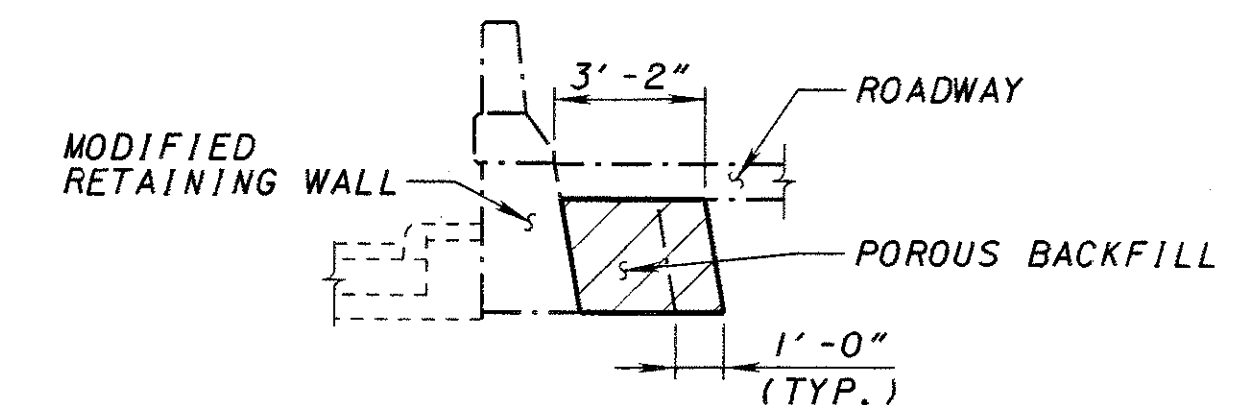


RETAINING WALL SECTION

RETAINING WALL UNCLASSIFIED EXCAVATION LIMITS



FORWARD END SECTION



REAR END SECTION

LEGEND:  
INDICATES UNCLASSIFIED EXCAVATION

DESIGN AGENCY  
PARSONS BRINCKERHOFF OHIO, INC.  
6235 ENTERPRISE COURT  
DUBLIN, OHIO 43016

DATE  
02/11/02  
REVIEWED  
EBS  
STRUCTURE FILE NUMBER  
5100127

DRAWN  
AP  
REVISOR  
DESIGNED  
BMG  
CHECKED  
TJM

ESTIMATED QUANTITIES  
BRIDGE NO. MAR-4-1171  
OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT

MAR-4-11.70

3/38

33  
68

**REFERENCE:**

SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81 REVISED 04-20-01  
 BR-1 REVISED 01-06-99  
 EXJ-5-93 REVISED 04-20-01  
 PSBD-1-93 DATED 03-04-94

AND TO SUPPLEMENTAL SPECIFICATIONS:

842 DATED 01-06-99  
 844 DATED 01-06-99  
 864 DATED 07-11-00  
 865 DATED 02-22-00  
 899 DATED 10-21-98  
 905 DATED 04-01-98  
 907 DATED 10-21-98  
 911 DATED 07-10-97

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997, 1998, 1999 & 2000 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING:**

HS-25, AND THE ALTERNATE MILITARY LOADING.  
 FUTURE WEARING SURFACE (FWS) OF 60 PSF.

**DESIGN DATA:**

CONCRETE HIGH PERFORMANCE SS 844  
 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CLASS C CONCRETE  
 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - A615, A616 OR A617  
 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

MILD REINFORCING STEEL FOR PRESTRESSED CONCRETE BOX BEAMS  
 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

CONCRETE FOR PRESTRESSED BOX BEAMS  
 COMPRESSIVE STRENGTH (FINAL) - 7000 PSI  
 COMPRESSIVE STRENGTH (RELEASE) - 5000 PSI  
 UNIT STRESSES - 2800 PSI COMPRESSION  
 502 PSI TENSION

PRESTRESSING STRAND ASTM A416  
 1/2" DIAMETER AREA = 0.153 IN<sup>2</sup>  
 f<sub>s</sub> = 270 KSI  
 INITIAL STRESS = 0.75 f<sub>s</sub> (LOW RELAXATION STRANDS)

CONCRETE FOR CONCRETE DIAPHRAGMS  
 HIGH PERFORMANCE CONCRETE SS 844  
 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

**DECK PROTECTION METHOD:**

EPOXY COATED REINFORCING STEEL  
 2 1/2" CONCRETE COVER

**MONOLITHIC WEARING SURFACE:**

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

**ITEM 864, SEALING OF CONCRETE SURFACES:**

ALL SEALING OF CONCRETE SURFACES SHALL BE EPOXY-URETHANE AND THE COLOR OF THE URETHANE TOP COAT SHALL BE FEDERAL COLOR NO. 17778 (LIGHT NEUTRAL).

**PATCHING CONCRETE STRUCTURE, AS PER PLAN:**

ALL SURFACES TO BE PATCHED AND THE EXPOSED REINFORCING STEEL WITHIN SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING PRIOR TO THE CLEANING SPECIFIED BY 519.04. CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL OR ERECTION OF THE FORMS BY NOT MORE THAN 24 HOURS.

**PROTECTION OF TRAFFIC:**

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL BE PROVIDED IN ADDITION TO THE MEASURES CONTAINED IN THE MAINTENANCE OF TRAFFICE PLANS AND SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PAYMENT FOR THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, ITEM 614 MAINTAINING TRAFFIC, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

**ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:**

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. ALL WORK SHALL BE DONE 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. ALL REMAINING STRUCTURE DRAINAGE ITEMS AT THE ABUTMENTS AND PIERS SHALL BE COPPED AS SHOWN IN THE PLANS.

**CUT LINE CONSTRUCTION JOINT PREPARATION:**

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, SHALL BE LEFT IN PLACE. INSTALL DOWELS BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT ALL PACK AND LOOSE RUST SHALL BE REMOVED. EXISTING CONCRETE SURFACES WHICH NEW CONCRETE WILL BE PLACED AGAINST SHALL BE WET, BUT WITHOUT FREE WATER, AT THE TIME OF CONCRETE PLACEMENT.

**SUBSTRUCTURE CONCRETE REMOVAL:**

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

**UTILITY LINES:**

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

**EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 205.02 AND 865.08. CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

**ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:**

ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW REINFORCING STEEL. ANY EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT THE CONTRACTOR'S COST. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER.

THE NUMBER OF POUNDS OF REINFORCING STEEL PAID FOR AT CONTRACT PRICES SHALL BE THE ACTUAL POUNDS OF REPLACEMENT REINFORCING STEEL SPECIFIED BY THE ENGINEER DUE TO CORROSION AND SHALL INCLUDE PLACEMENT, DOWELING, BENDING, SUPPORTING, TIE WIRES AND TYPING OF THAT SPECIFIED REINFORCING STEEL.

**ITEM 510 DOWEL HOLES:**

THIS ITEMS SHALL INCLUDE THE DRILLING OR FORMING OF HOLES INTO CONCRETE OR MASONRY AND THE FURNISHING AND PLACING OF GROUT INTO HOLES. NON-SHRINK EPOXY GROUT SHALL BE USED IN ACCORDANCE WITH CMS 510 AND CMS 705.20. DEPTH OF HOLES SHALL BE AS SHOWN IN PLANS.

PAYMENT FOR DRILLING OR FORMING HOLES AND FURNISHING AND PLACING MATERIALS SHALL BE INCLUDED IN THE CONTRACT PRICES FOR ITEM 510 - DOWEL HOLES.

**CONSTRUCTION CLEARANCE:**

CONSTRUCTION CLEARANCE OF 14 FEET HORIZONTALLY FROM THE CENTER OF TRACKS AND 22 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL, SHALL BE MAINTAINED AT ALL TIMES.

**LEGEND:**

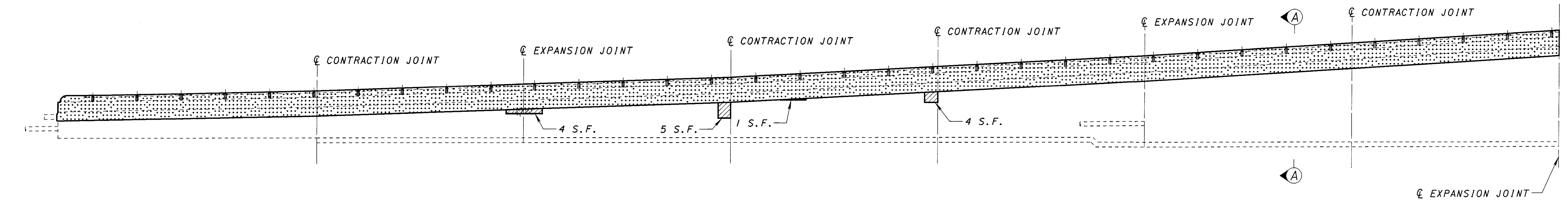
ABUT. - ABUTMENT  
 BRG. - BEARING  
 C.I.P. - CAST IN PLACE  
 C.J. - CONSTRUCTION JOINT  
 CLR. - CLEAR  
 CONST. - CONSTRUCTION  
 DIA. - DIAMETER  
 E.F. - EACH FACE  
 EL. - ELEVATION  
 EMBED. - EMBEDMENT  
 EQ. - EQUAL  
 EX. - EXISTING  
 F.A. - FORWARD ABUTMENT  
 F.F. - FAR FACE  
 FWD. - FORWARD  
 JT. - JOINT  
 LLH - LONG LEG HORIZONTAL  
 N.F. - NEAR FACE  
 P.E.J.F. - PERFORMED EXPANSION JOINT FILLER  
 P.G. - PROFILE GRADE  
 R.A. - REAR ABUTMENT  
 SER. - SERIES  
 TYP. - TYPICAL  
 UNO - UNLESS NOTED OTHERWISE

DESIGN AGENCY  
**PARSONS BRINCKERHOFF OHIO, INC.**  
 6235 ENTERPRISE COURT  
 DUBLIN, OHIO 43016  
 1992

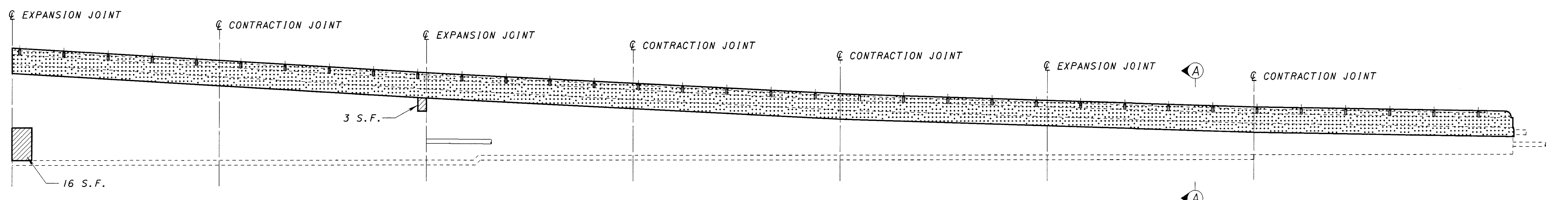
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REVISED	EBS
STRUCTURE FILE NUMBER	5100127
DRAWN	AP
REVISED	
DESIGNED	BMG
CHECKED	TJM

**GENERAL NOTES**  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT

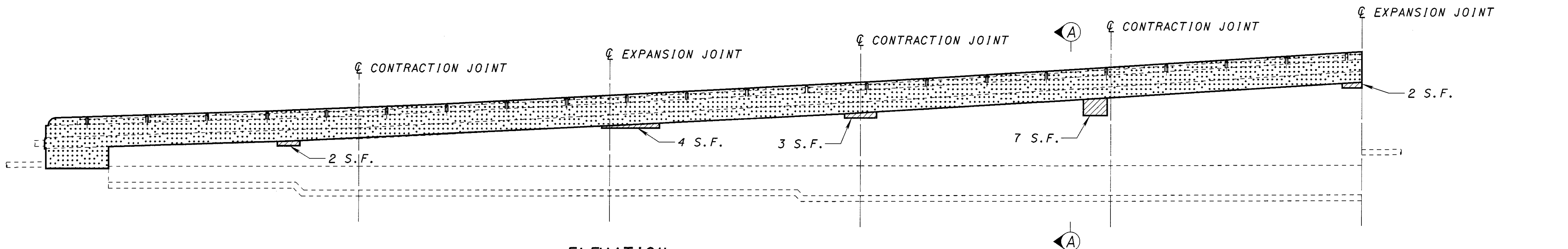
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 4/38  
 34  
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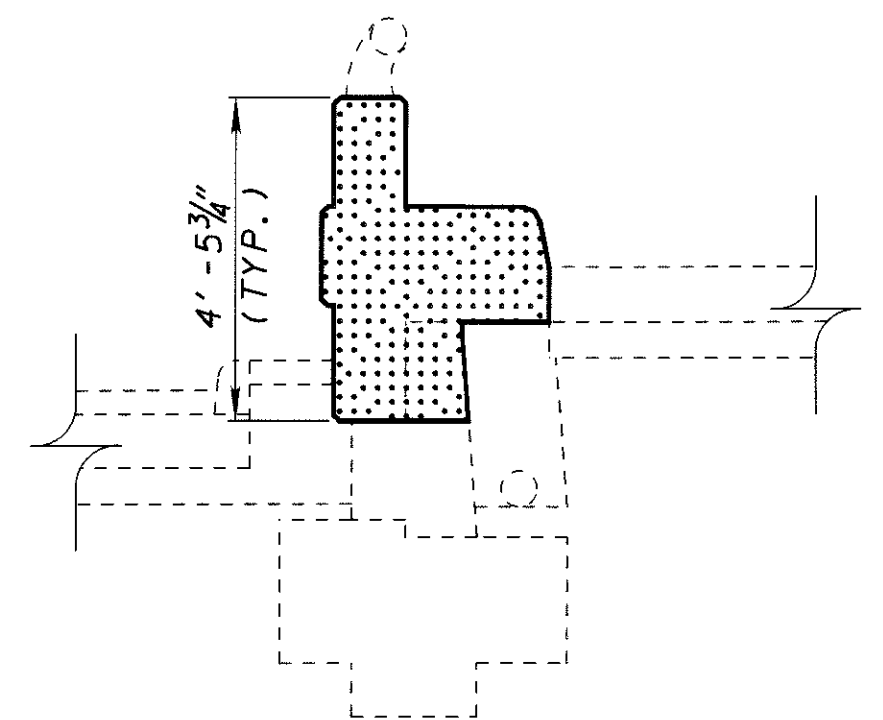
**ELEVATION**  
 FORWARD WEST RETAINING WALL  
 (LOOKING EAST)



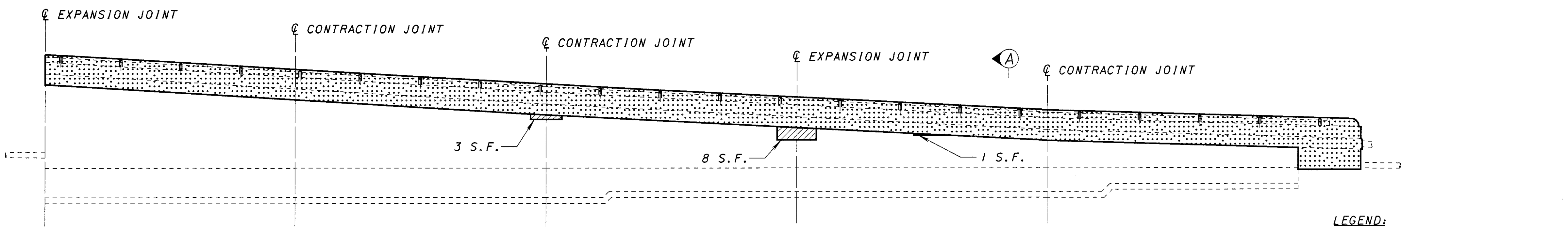
**ELEVATION**  
 FORWARD EAST RETAINING WALL  
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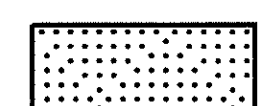
**ELEVATION**  
 REAR EAST RETAINING WALL  
 (LOOKING WEST)

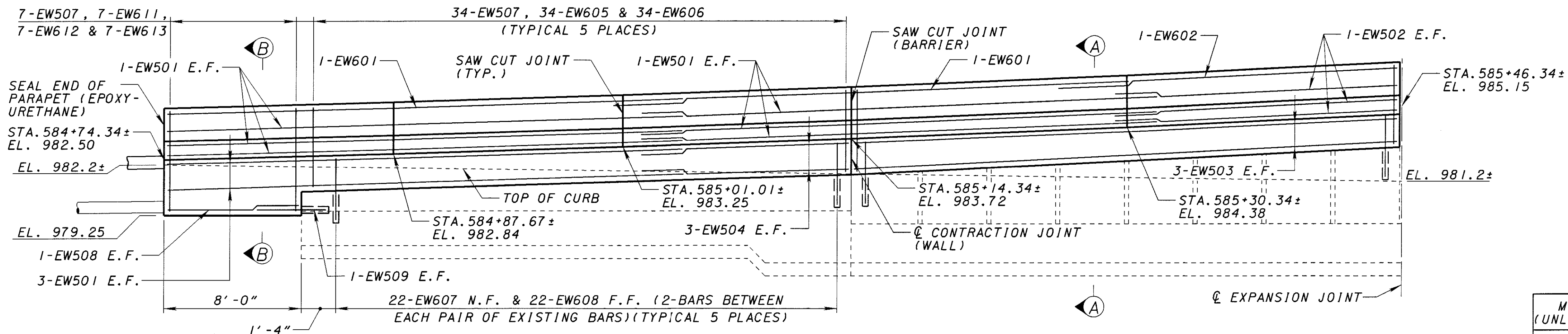


**SECTION A-A**



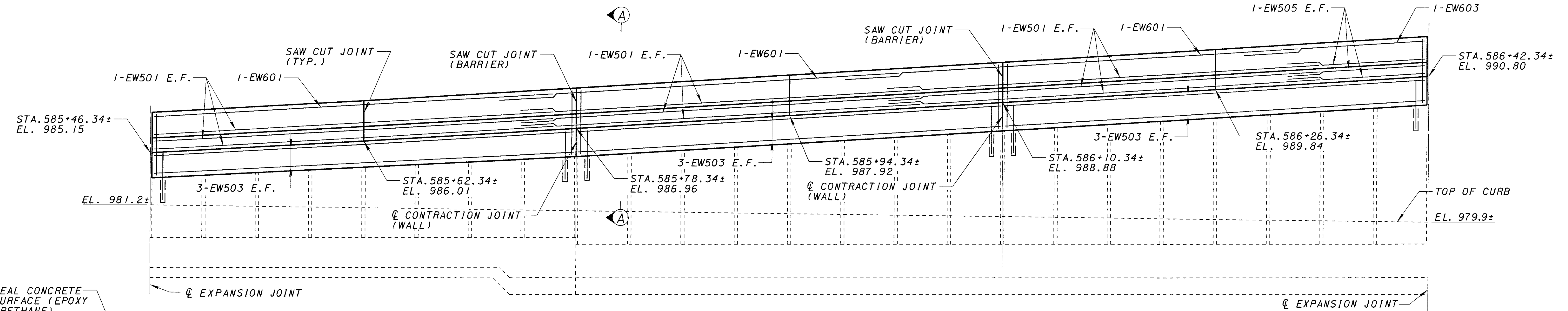
**ELEVATION**  
 REAR WEST RETAINING WALL  
 (LOOKING EAST)

**LEGEND:**  
 INDICATES PATCHING  
 INDICATES REMOVAL

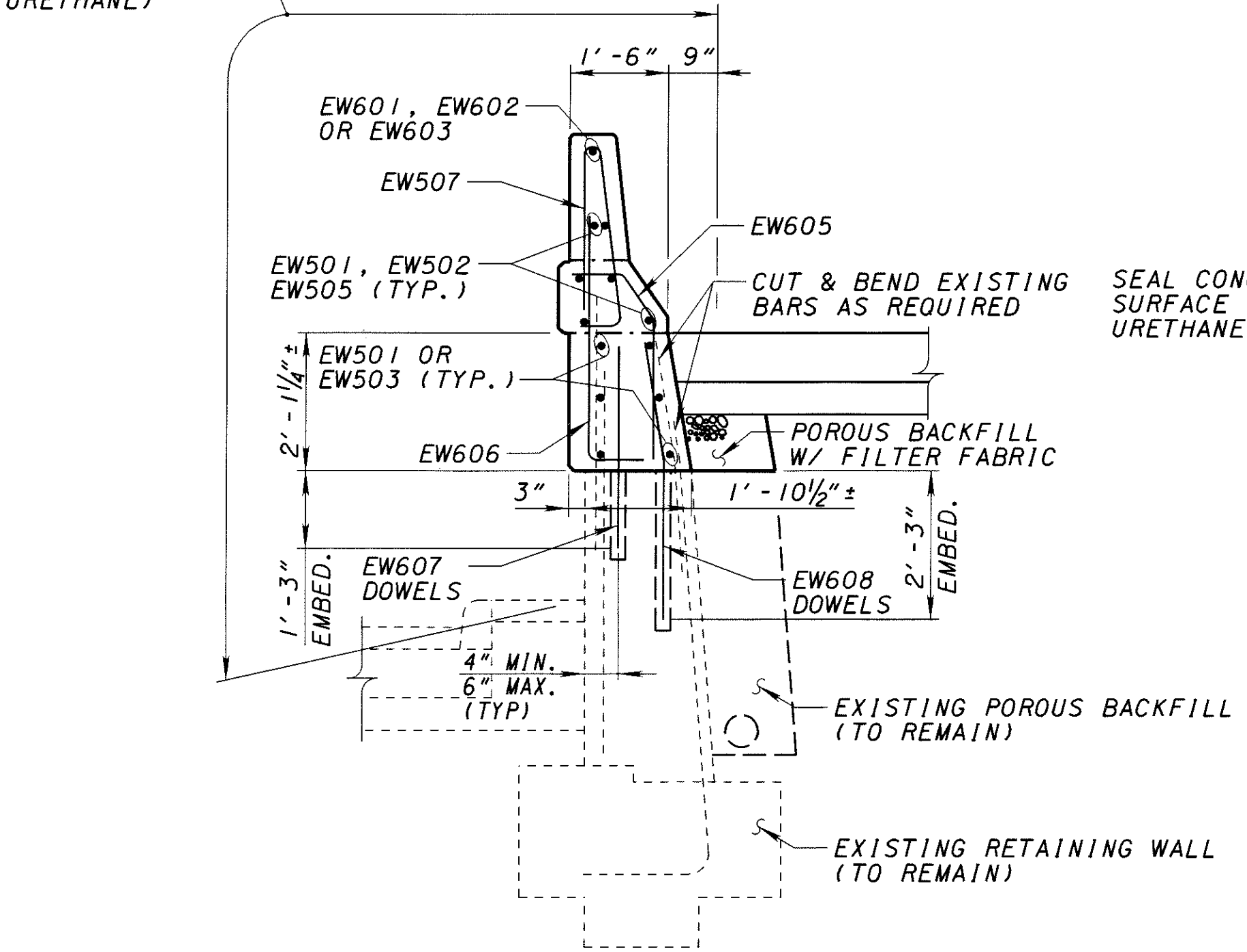


**ELEVATION**  
(EAST WALL SHOWN,  
WEST WALL OPPOSITE HAND)

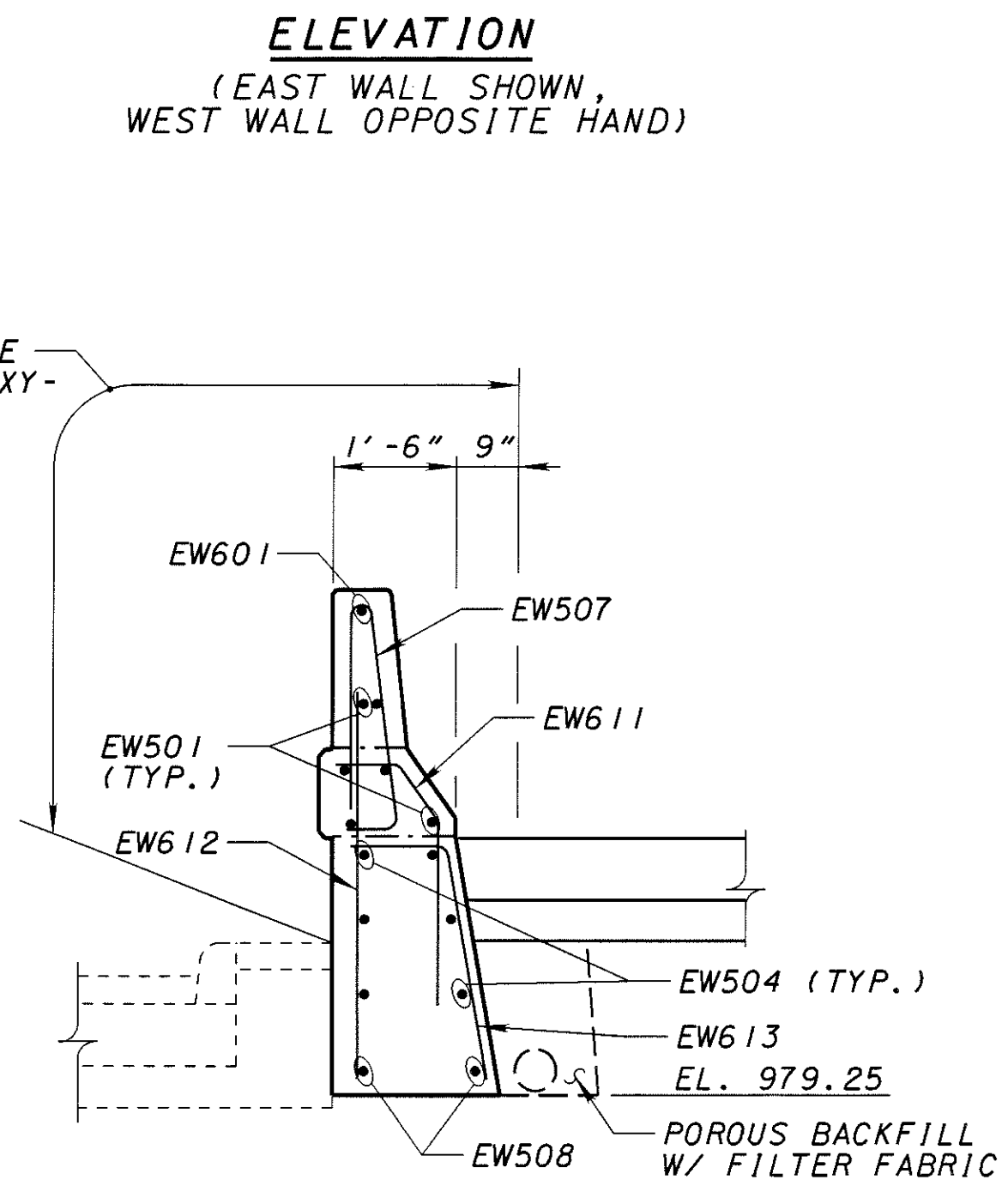
MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)	
#5 BAR	= 2'-5"
#6 BAR	= 4'-1"



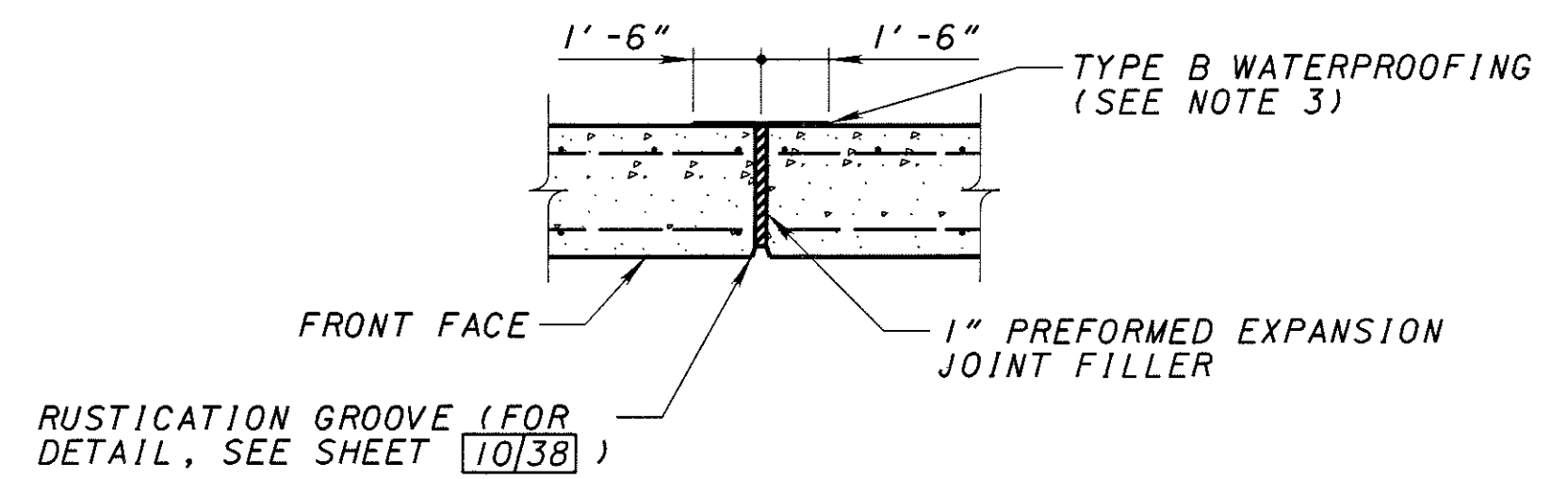
**ELEVATION**  
(EAST WALL SHOWN,  
WEST WALL OPPOSITE HAND)



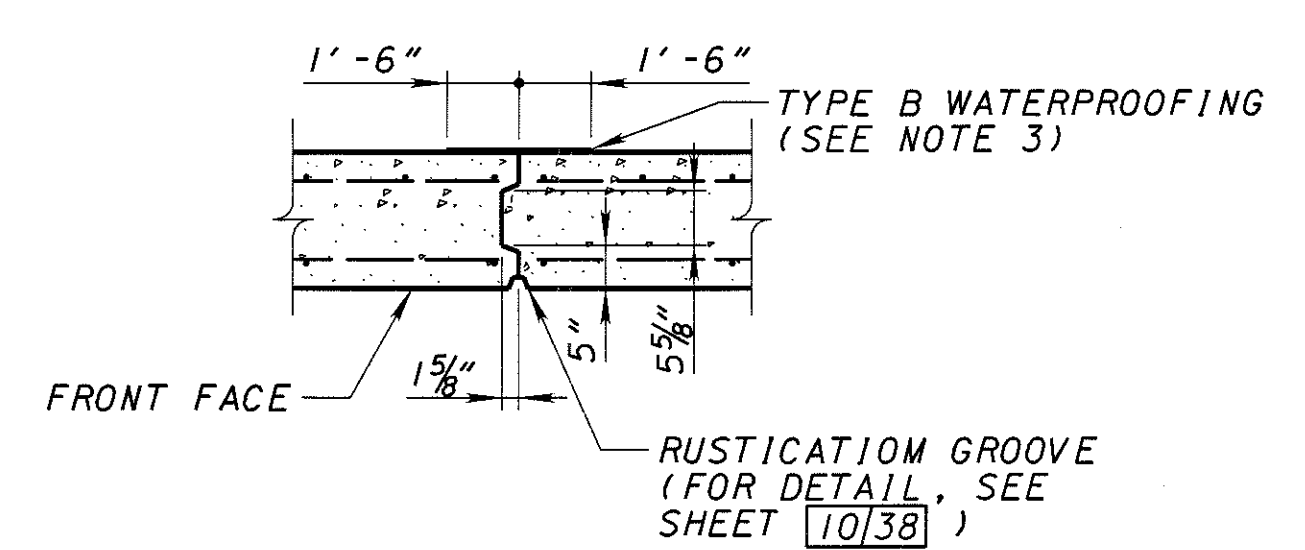
**SECTION A-A**



**SECTION B-B**



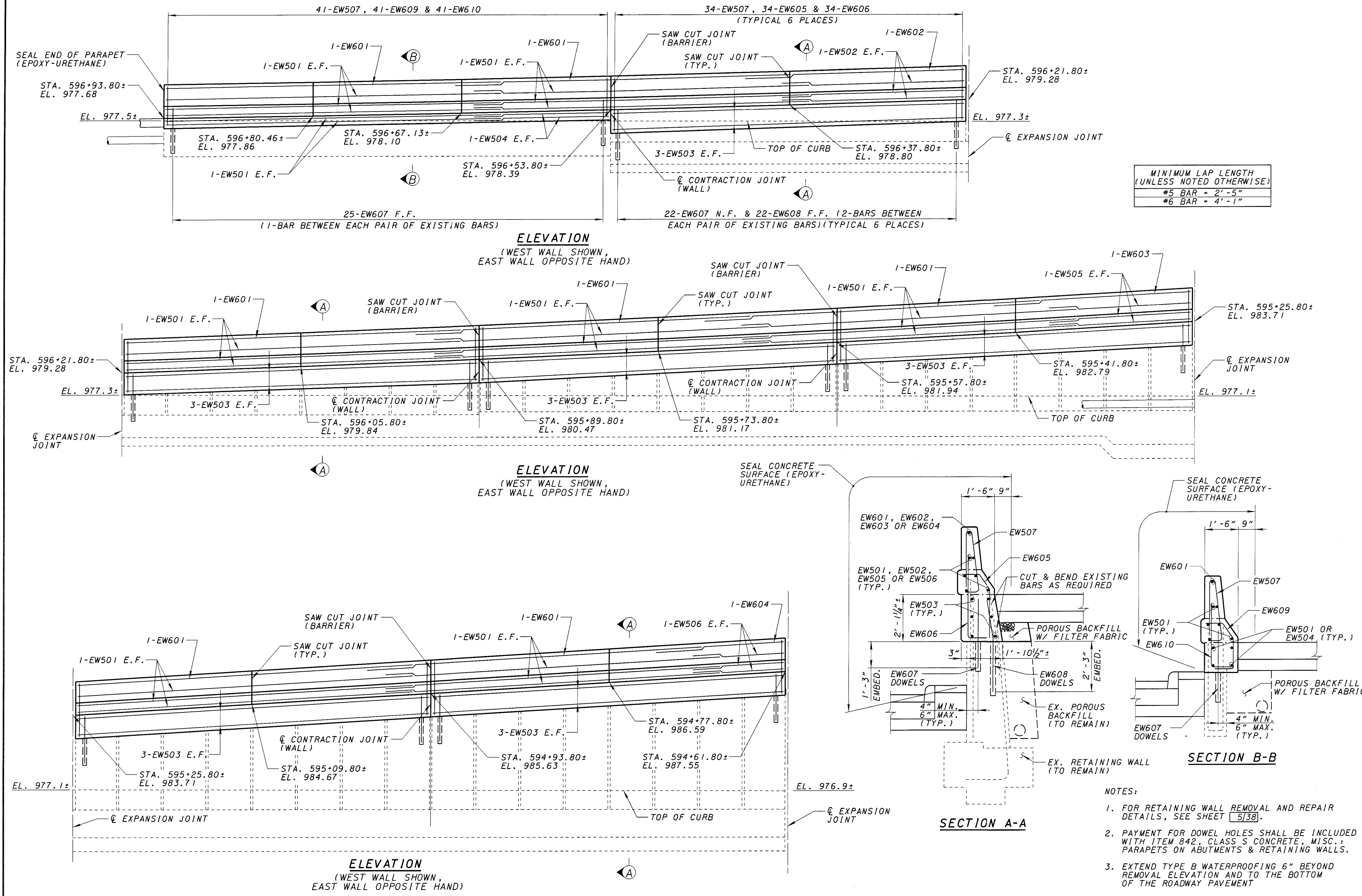
**EXPANSION JOINT DETAIL**



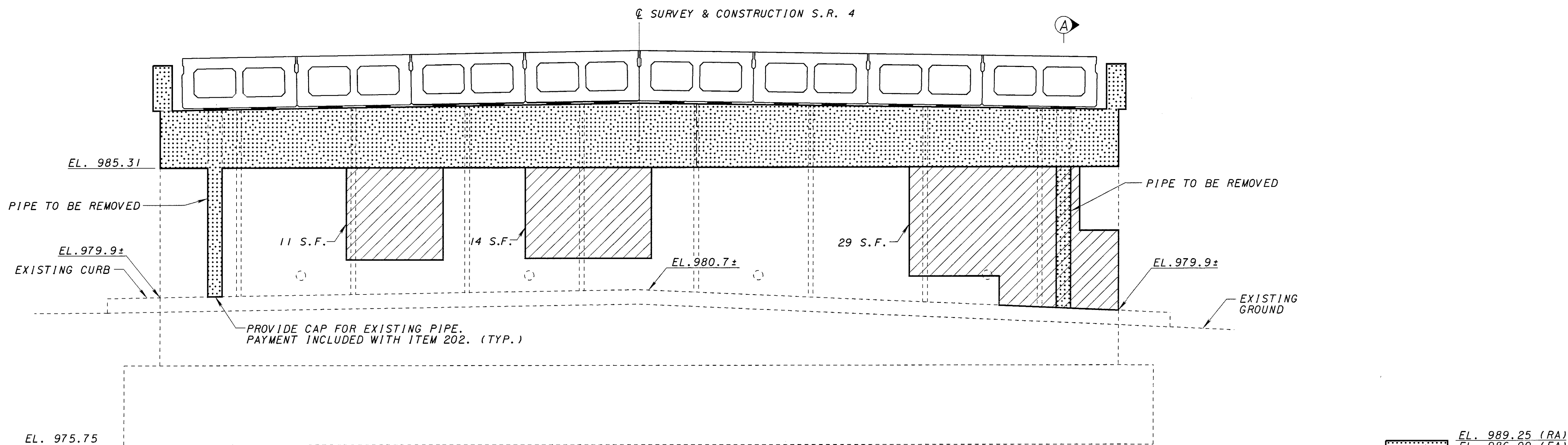
**CONTRACTION JOINT DETAIL**

- NOTES:**
- FOR RETAINING WALL REMOVAL AND REPAIR DETAILS, SEE SHEET 5/38.
  - PAYMENT FOR DOWEL HOLES SHALL BE INCLUDED WITH ITEM 842, CLASS S CONCRETE, MISC.; PARAPETS ON ABUTMENTS & RETAINING WALLS.
  - EXTEND TYPE B WATERPROOFING 6" BEYOND REMOVAL ELEVATION AND TO THE BOTTOM OF THE ROADWAY PAVEMENT.

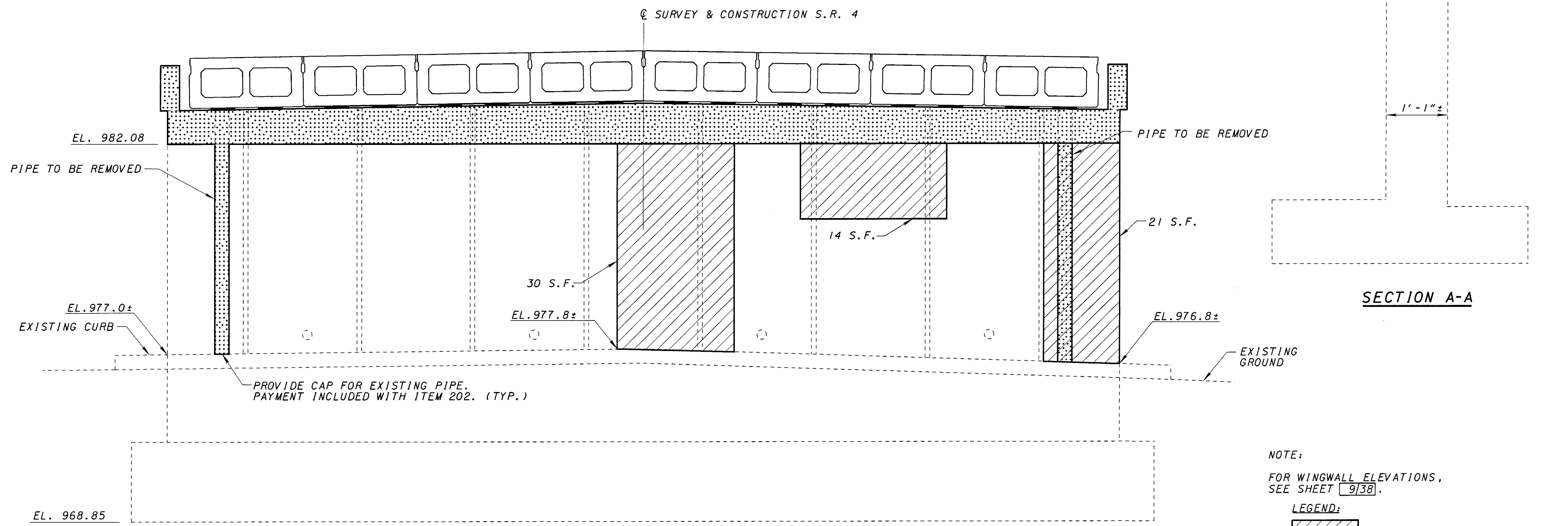
DESIGN AGENCY: **PARSONS BRINCKERHOFF OHIO, INC.**  
 6235 ENTERPRISE COURT  
 DUBLIN, OHIO 43016  
 DATE: 02/11/02  
 REVIEWED: EBS  
 STRUCTURE FILE NUMBER: 5100127  
 DRAWN: AP  
 REVISED:  
 DESIGNED: BMG  
 CHECKED: TJM  
**REAR RETAINING WALL MODIFICATIONS DETAILS**  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT  
**MAR-4-11.70**  
 6/38  
 36/68



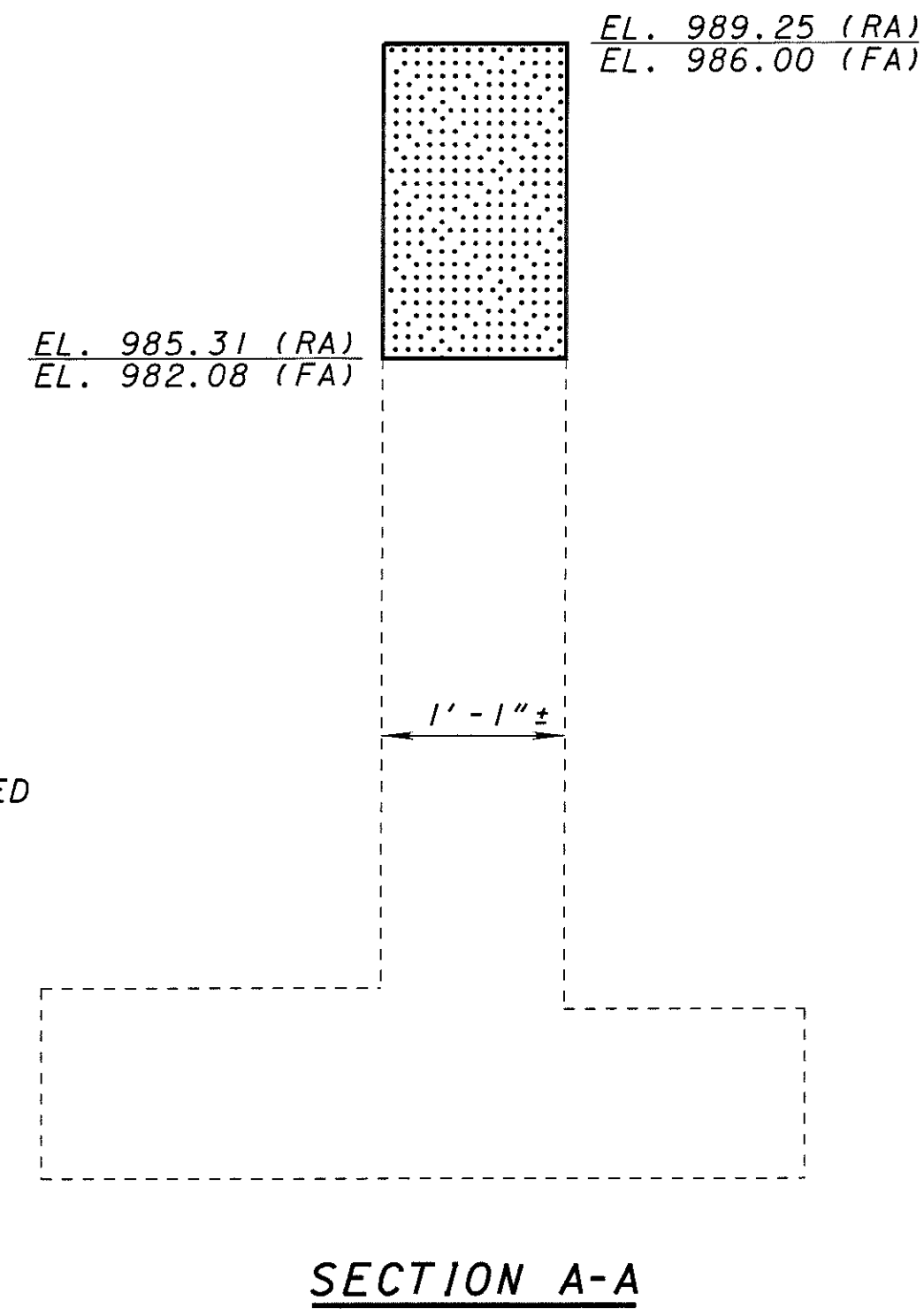
- NOTES:
- FOR RETAINING WALL REMOVAL AND REPAIR DETAILS, SEE SHEET 5/38.
  - PAYMENT FOR DOWEL HOLES SHALL BE INCLUDED WITH ITEM 842, CLASS 5 CONCRETE, MISC.: PARAPETS ON ABUTMENTS & RETAINING WALLS.
  - EXTEND TYPE B WATERPROOFING 6" BEYOND REMOVAL ELEVATION AND TO THE BOTTOM OF THE ROADWAY PAVEMENT
  - FOR EXPANSION AND CONTRACTION JOINT DETAILS, SEE SHEET 6/38.



**REAR ABUTMENT ELEVATION**

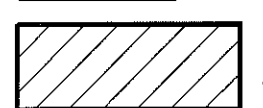
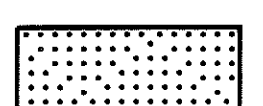


**FORWARD ABUTMENT ELEVATION**



**SECTION A-A**

NOTE:  
FOR WINGWALL ELEVATIONS,  
SEE SHEET 9/38.

LEGEND:  
 INDICATES PATCHING  
 INDICATES REMOVAL

☉ SURVEY & CONSTRUCTION S.R. 4

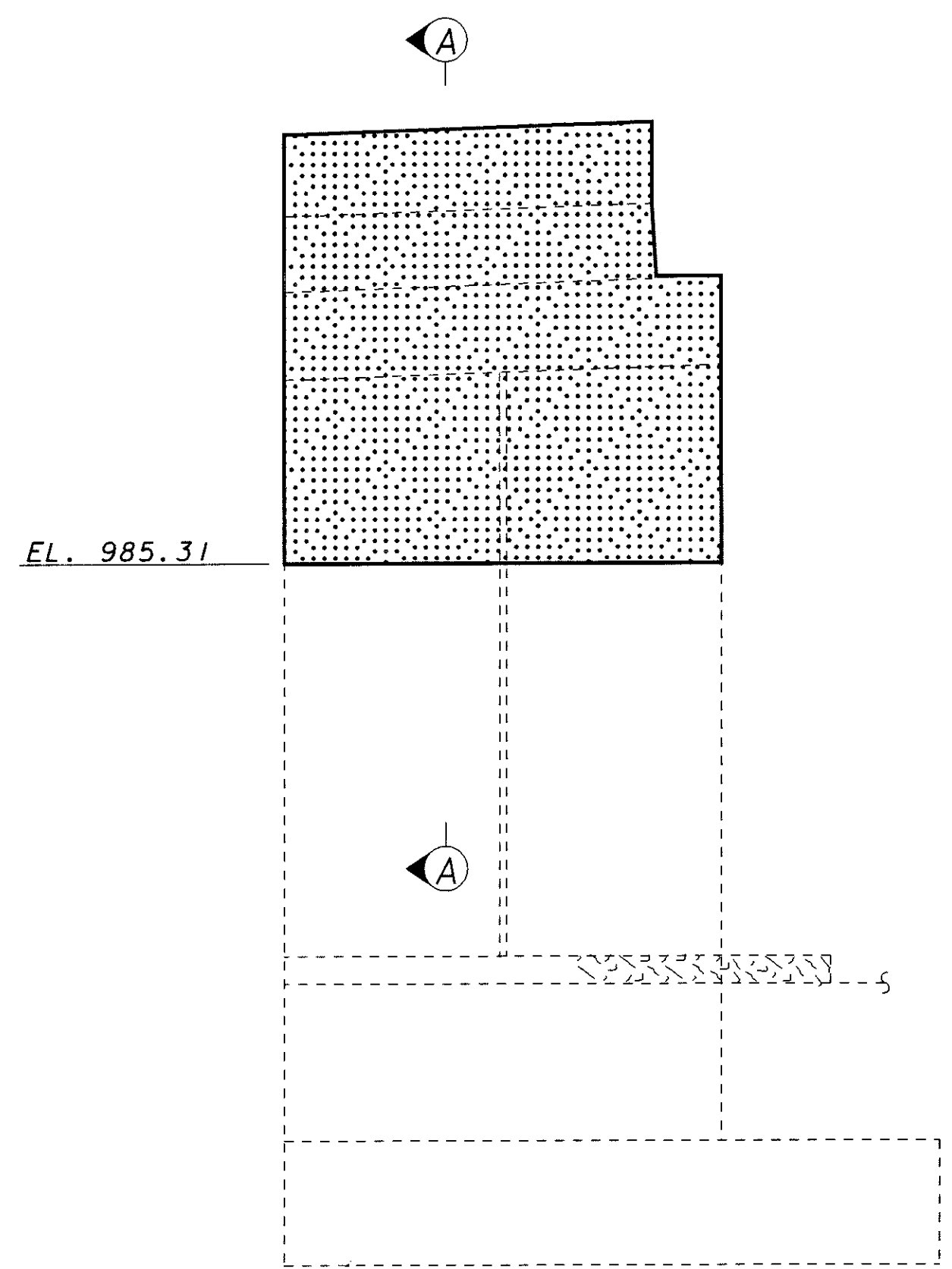
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A

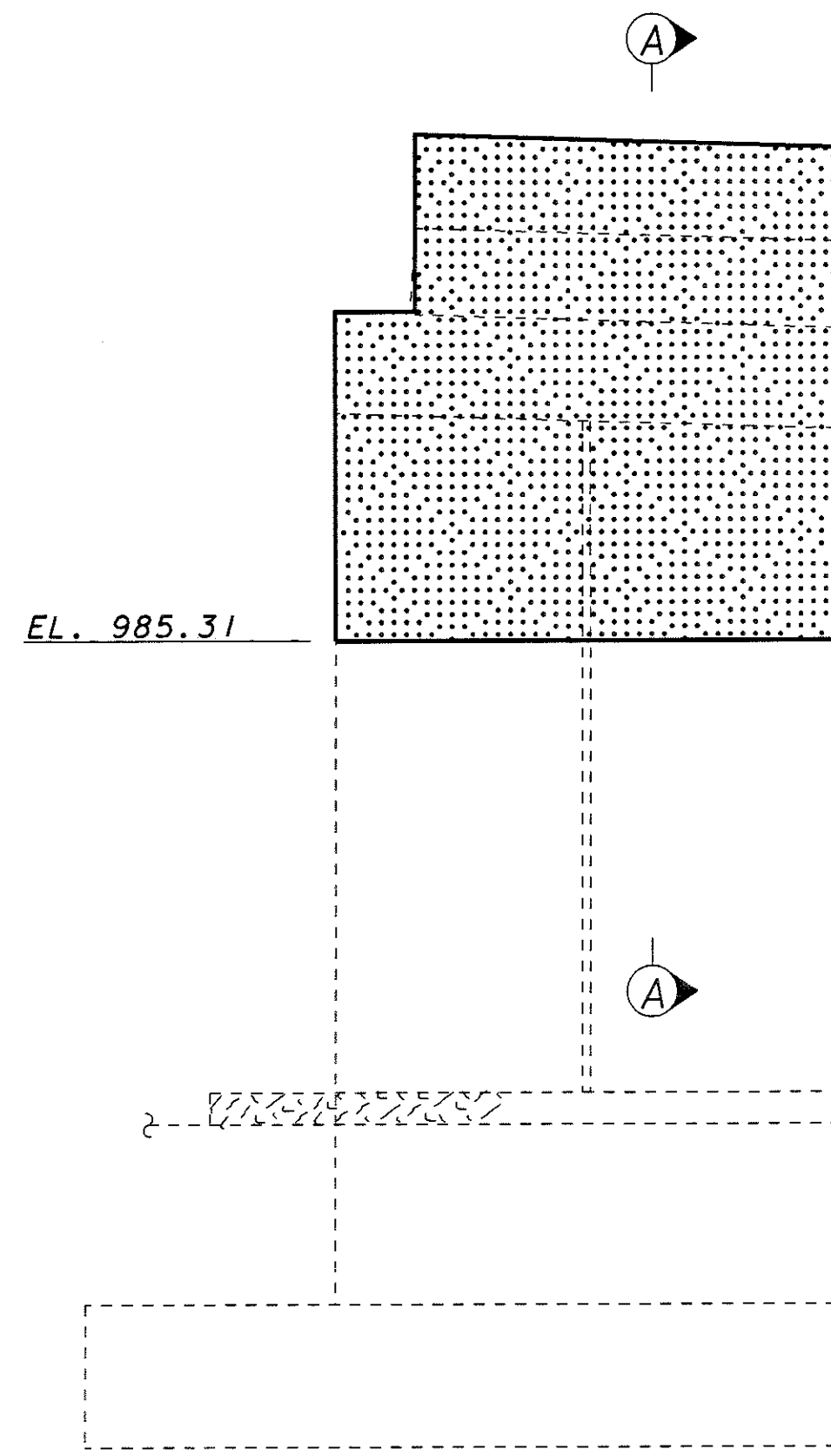
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REVIEWED	EBS
STRUCTURE FILE NUMBER	5100127
DRAWN	AP
REVISION	
DESIGNED	BMG
CHECKED	TJM

**REMOVAL & REPAIR DETAILS**  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT

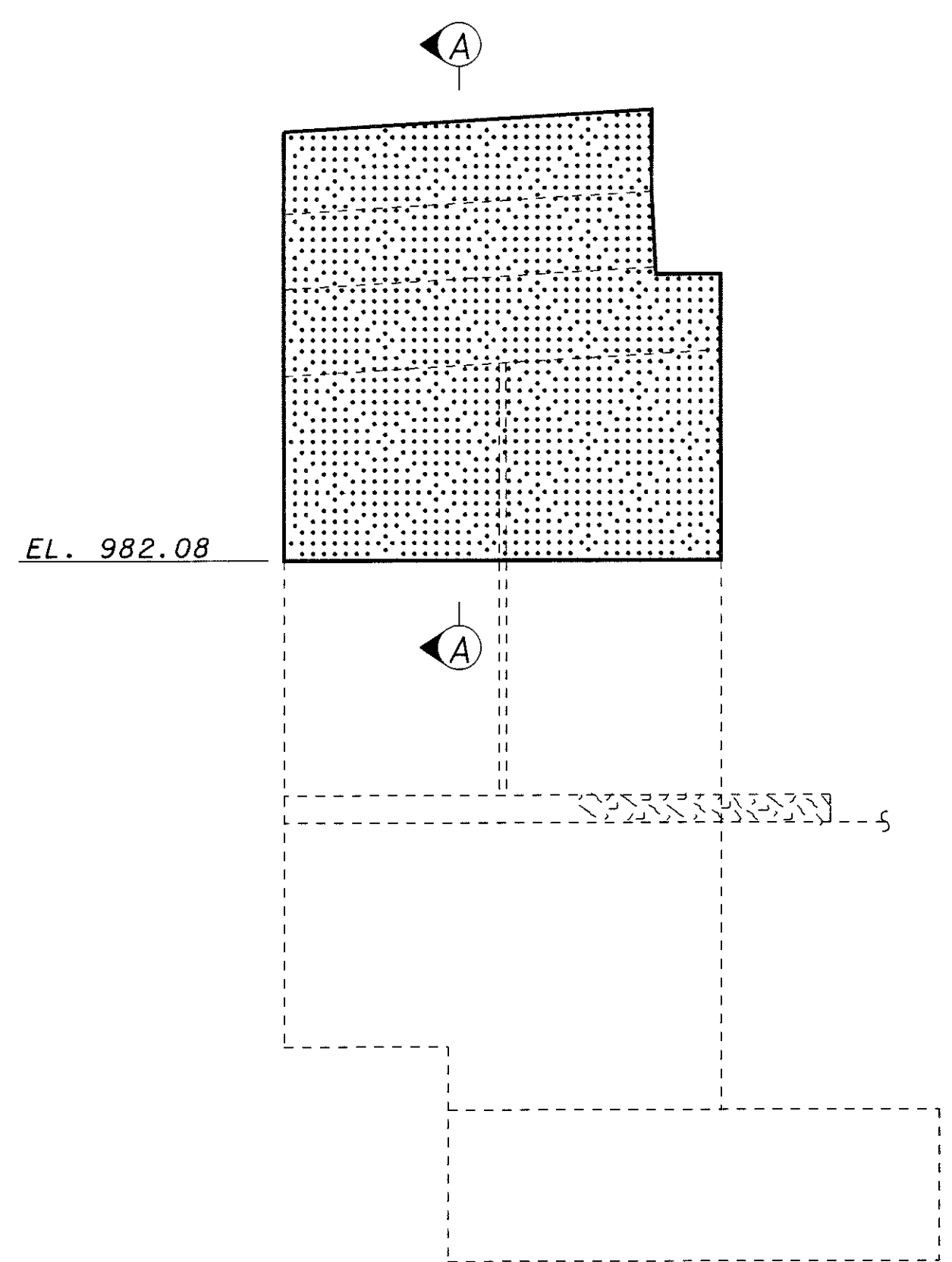
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 38/68



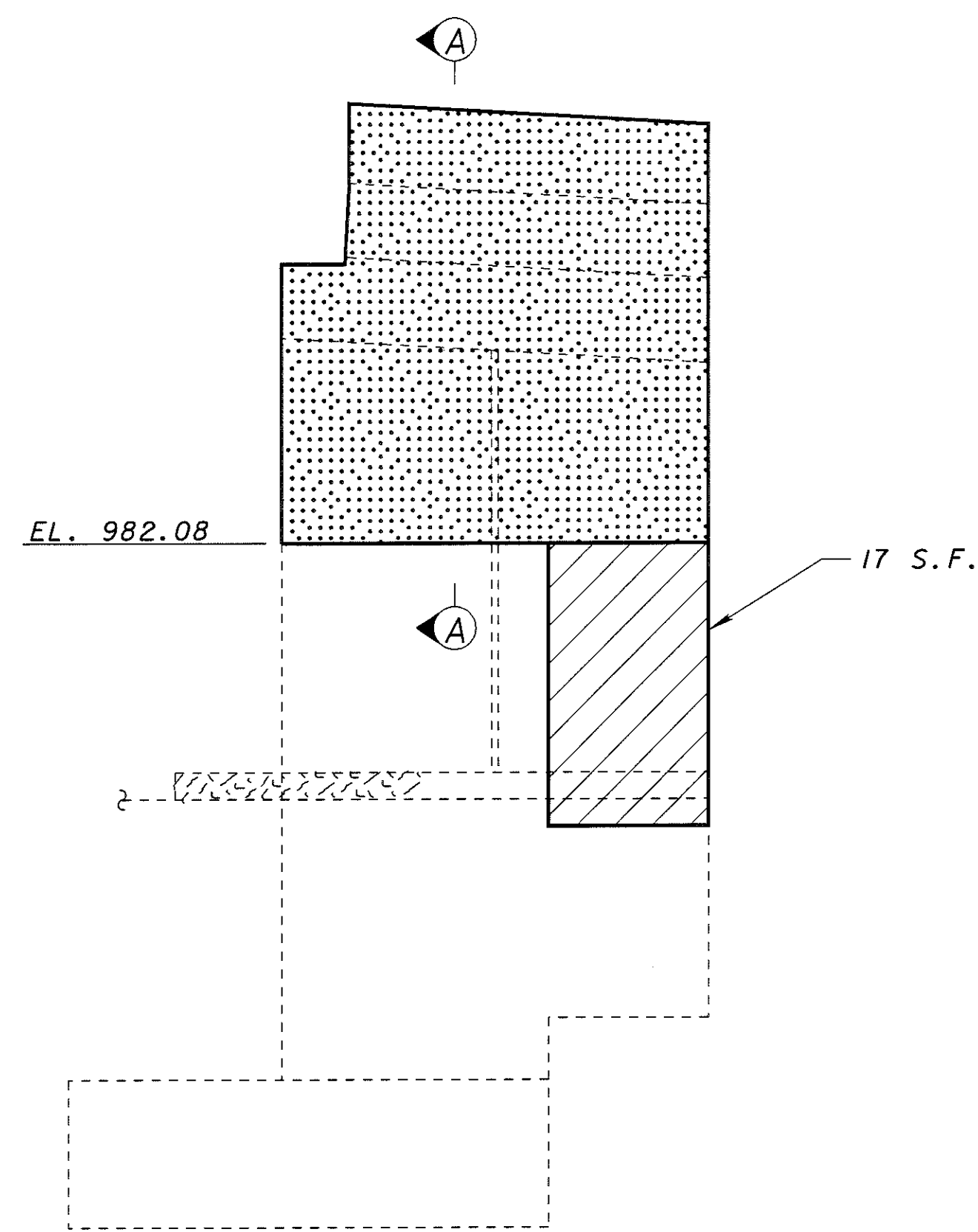
**REAR ABUTMENT EAST WINGWALL**  
(LOOKING WEST)



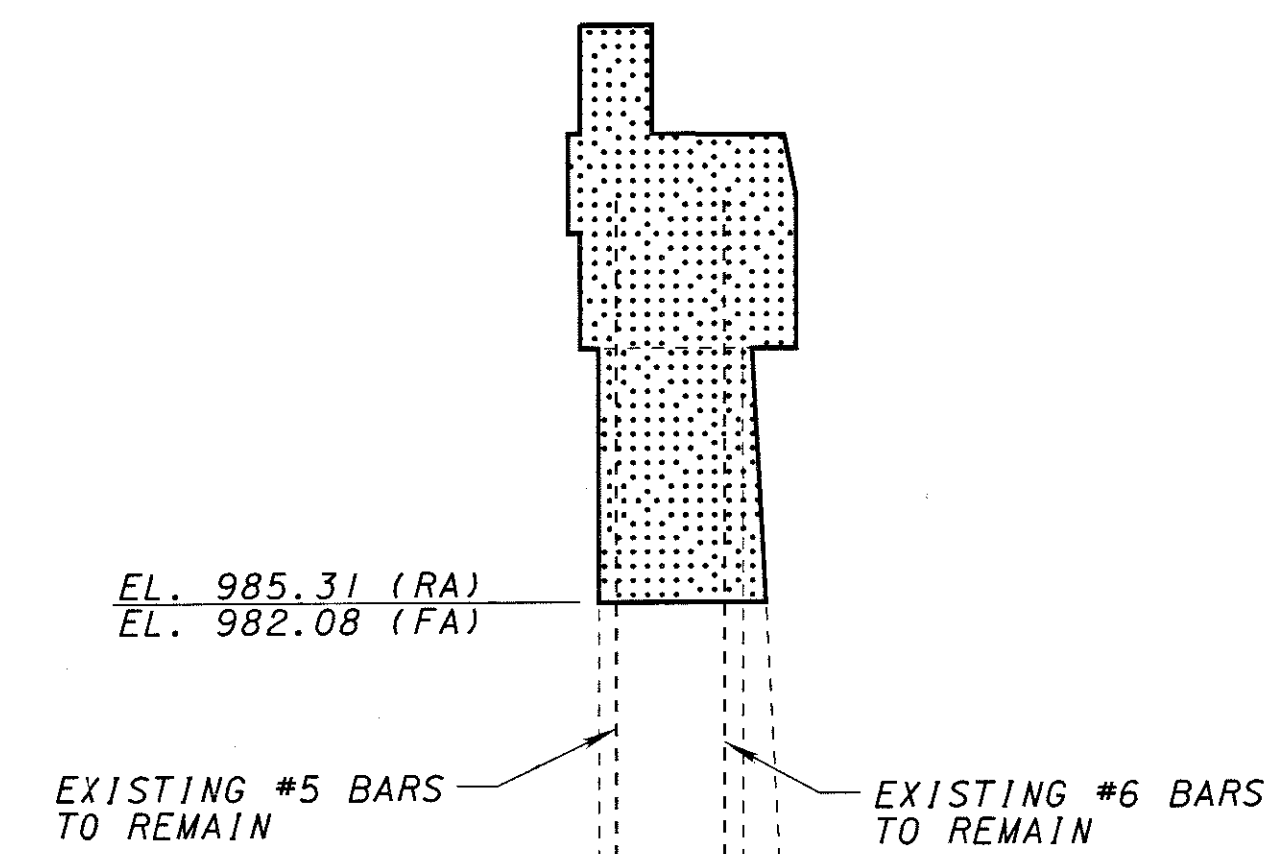
**REAR ABUTMENT WEST WINGWALL**  
(LOOKING EAST)



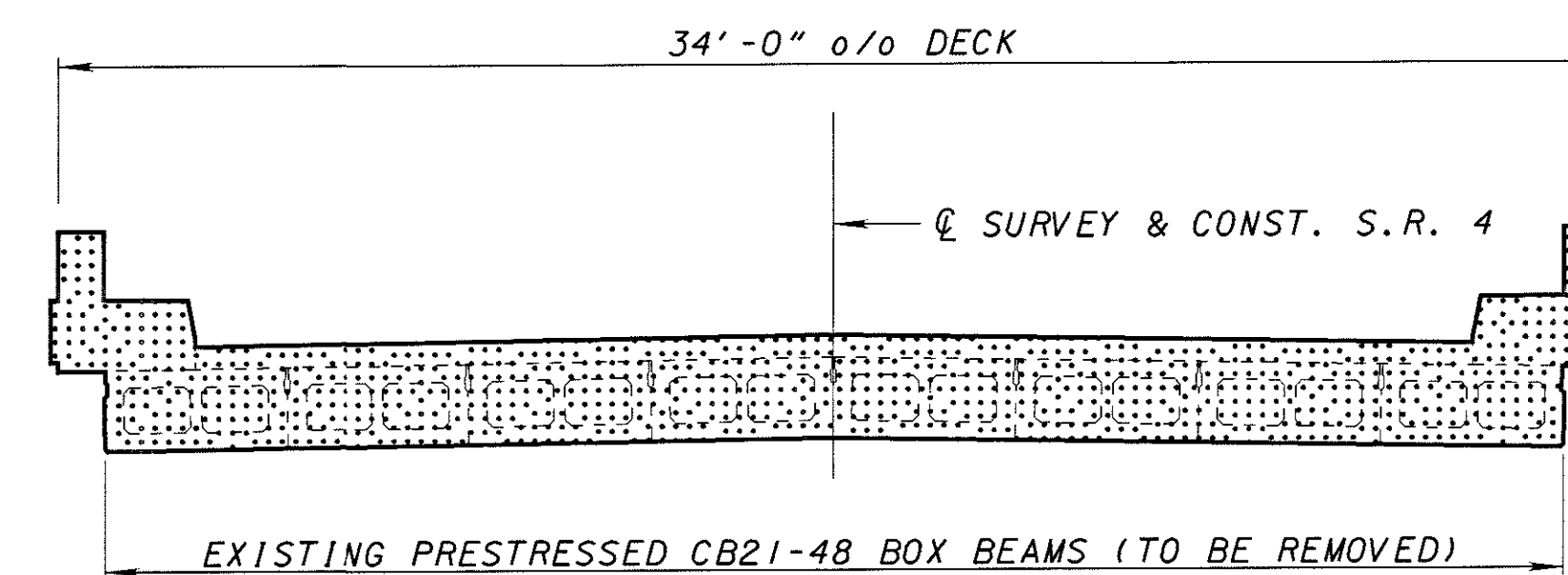
**FORWARD ABUTMENT WEST WINGWALL**  
(LOOKING EAST)



**FORWARD ABUTMENT EAST WINGWALL**  
(LOOKING WEST)

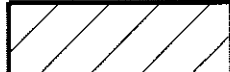
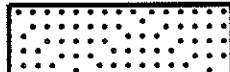



**SECTION A-A**

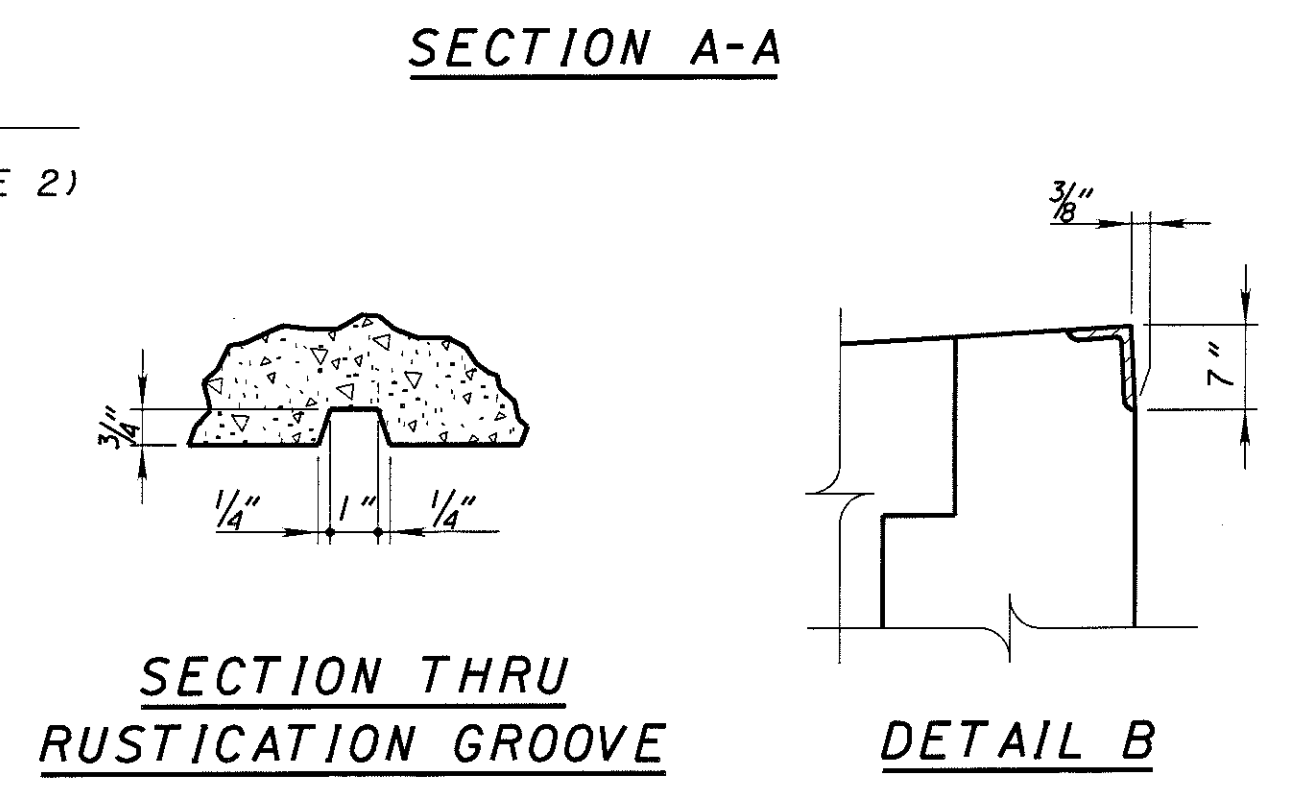
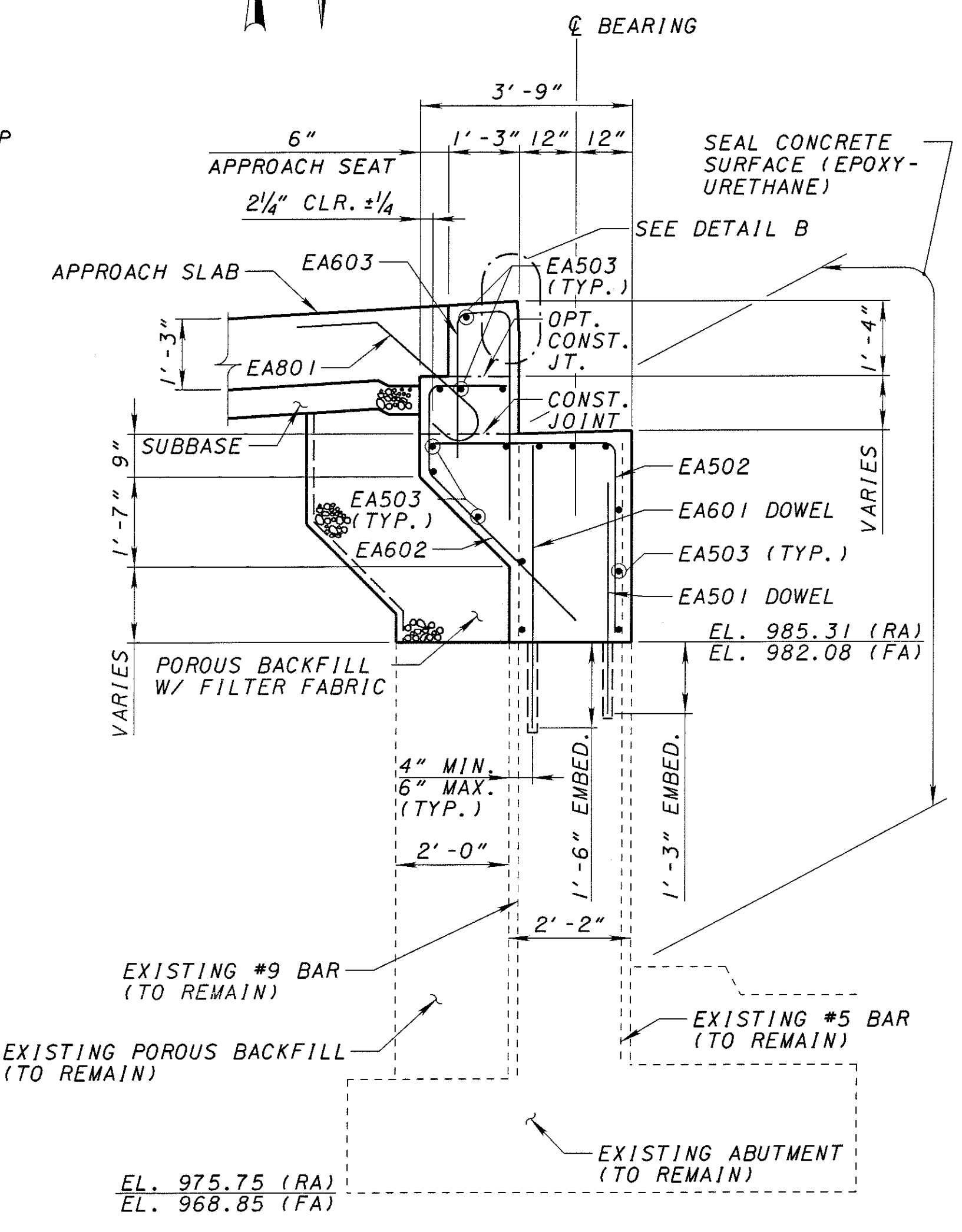
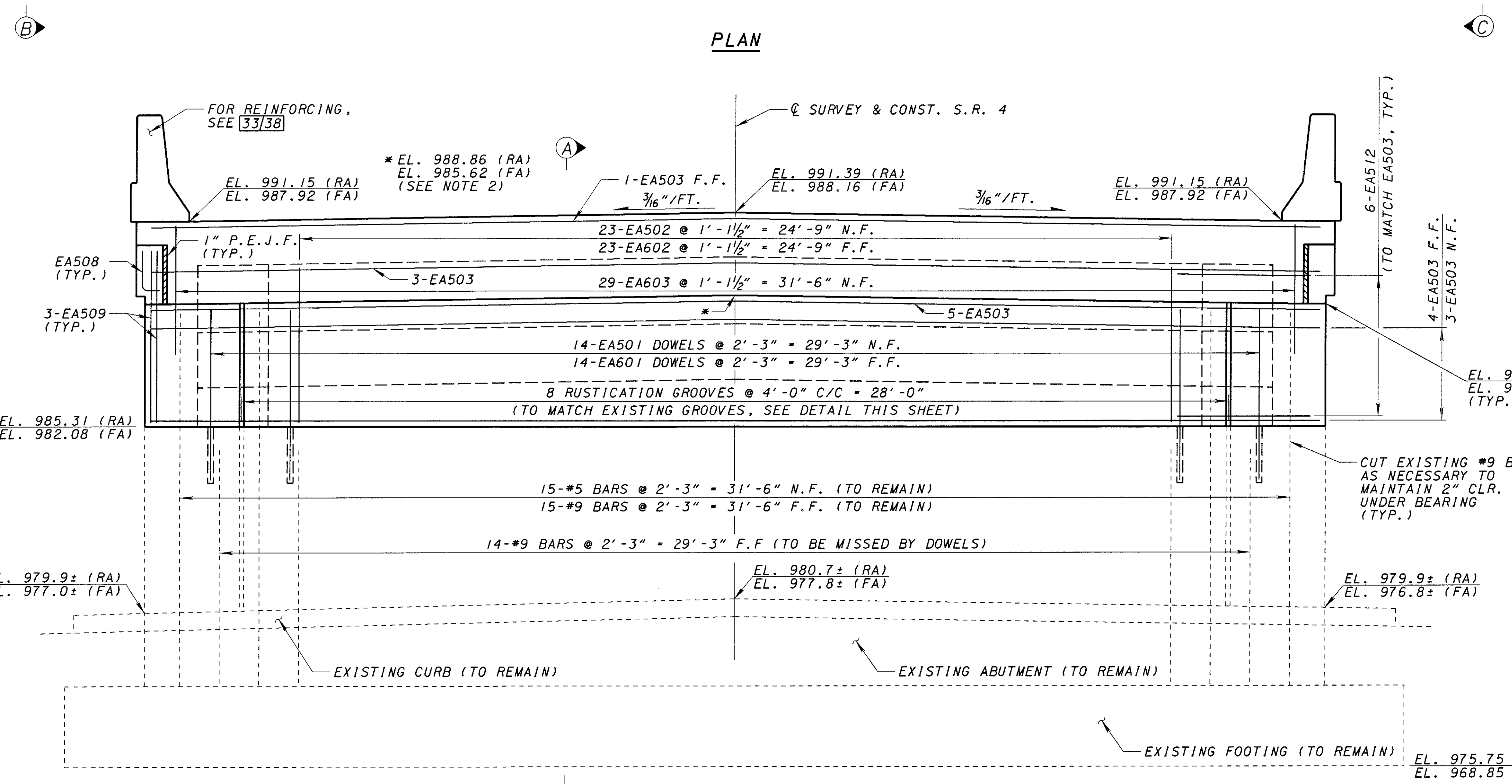
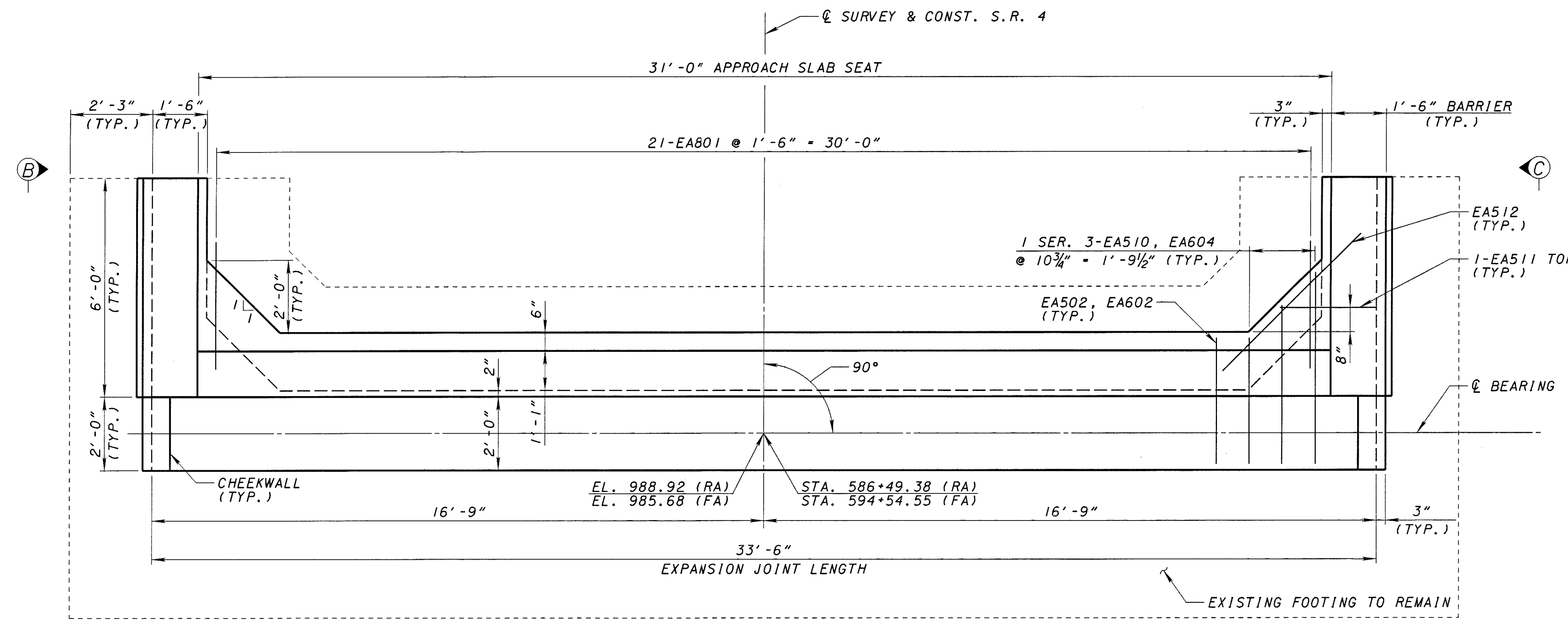
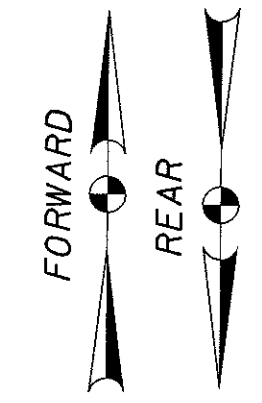


**SUPERSTRUCTURE REMOVAL**

NOTE:  
FOR ABUTMENT MODIFICATION DETAILS,  
SEE SHEETS 10/38 & 11/38.

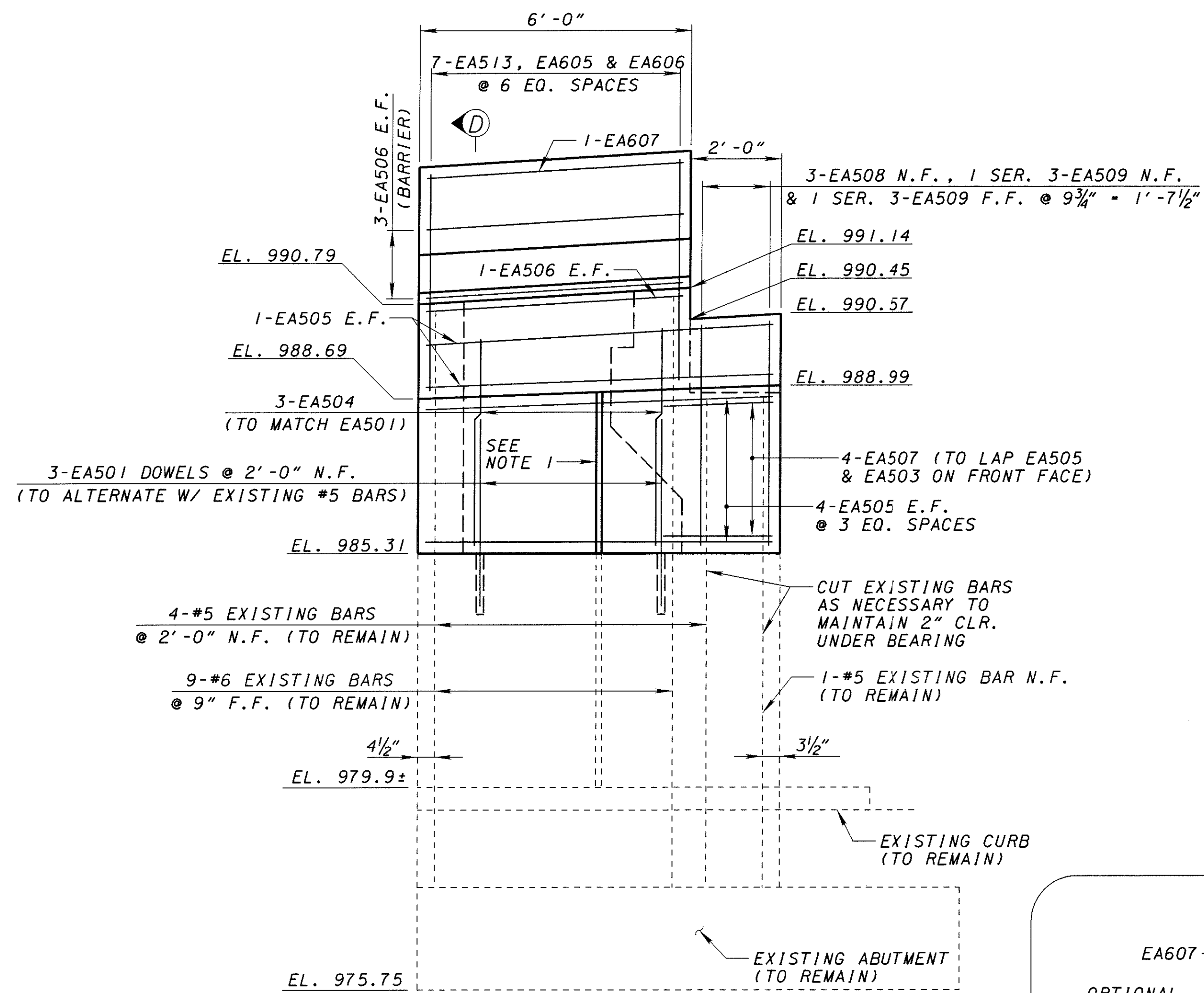
- LEGEND:
-  INDICATES PATCHING
  -  INDICATES REMOVAL

 <b>PARSONS BRINCKERHOFF OHIO, INC.</b> 6235 ENTERPRISE COURT DUBLIN, OHIO 43016	DESIGN AGENCY <b>PARSONS BRINCKERHOFF OHIO, INC.</b> 6235 ENTERPRISE COURT DUBLIN, OHIO 43016	DATE <b>02/11/02</b>	REVISED <b>EBS</b>	STRUCTURE FILE NUMBER <b>5100127</b>
DRAWN <b>TJM</b>	CHECKED <b>TJM</b>	DESIGNED <b>BMG</b>	REVISED <b>TJM</b>	
<b>REMOVAL &amp; REPAIR DETAILS</b> BRIDGE NO. MAR-4-1171 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT				
<b>MAR-4-11.70</b>				
9/38				
39/68				

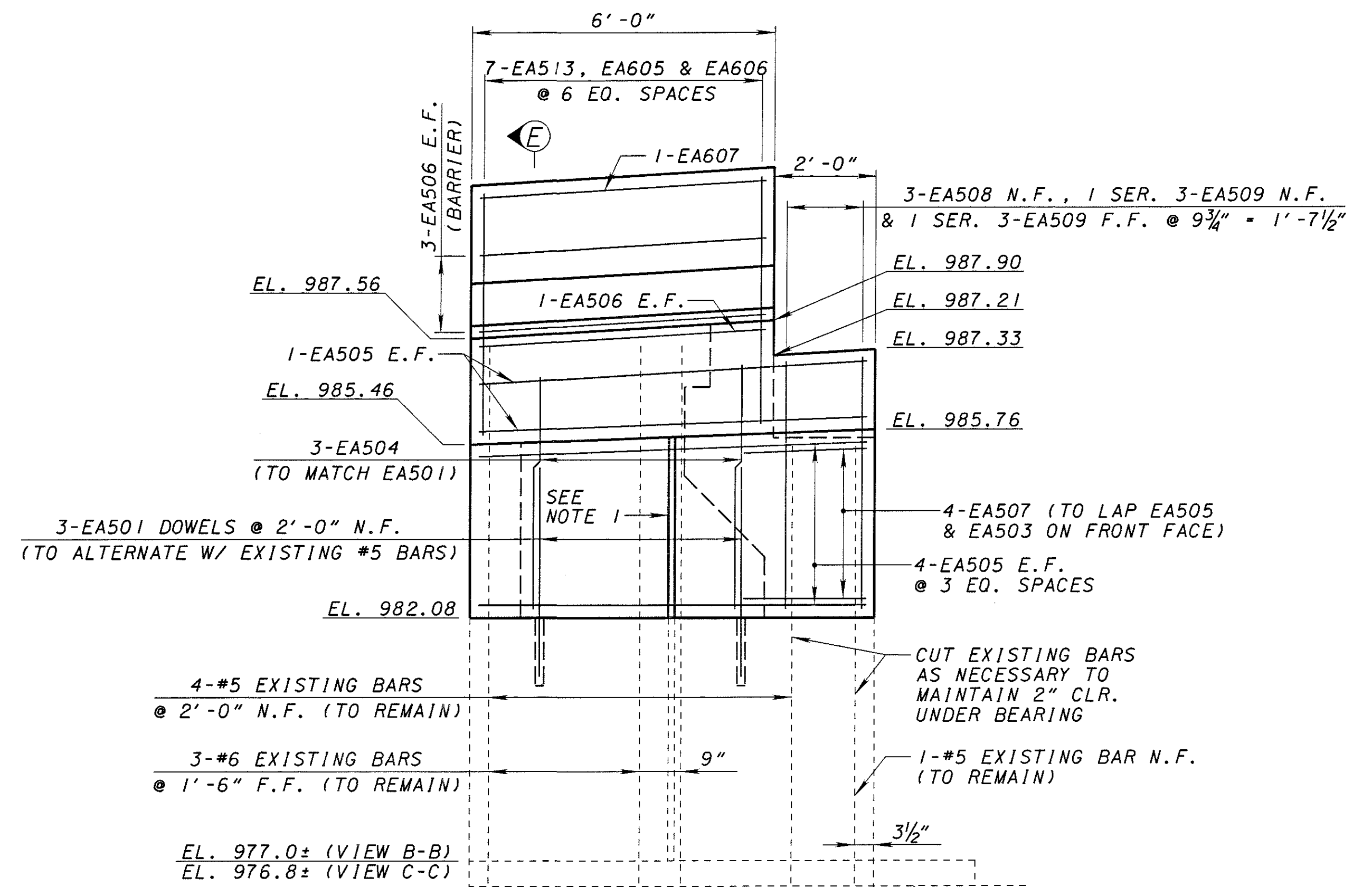


- NOTES:
- FOR VIEW B-B & VIEW C-C, SEE SHEET [11/38].
  - ELEVATIONS ALONG BACKWALL ARE GIVEN AT THE FRONT FACE OF BACKWALL.
  - PAYMENT FOR DOWEL HOLES SHALL BE INCLUDED WITH ITEM 842, CLASS C CONCRETE, ABUTMENT.
  - ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT SHALL NOT BE PLACED UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.

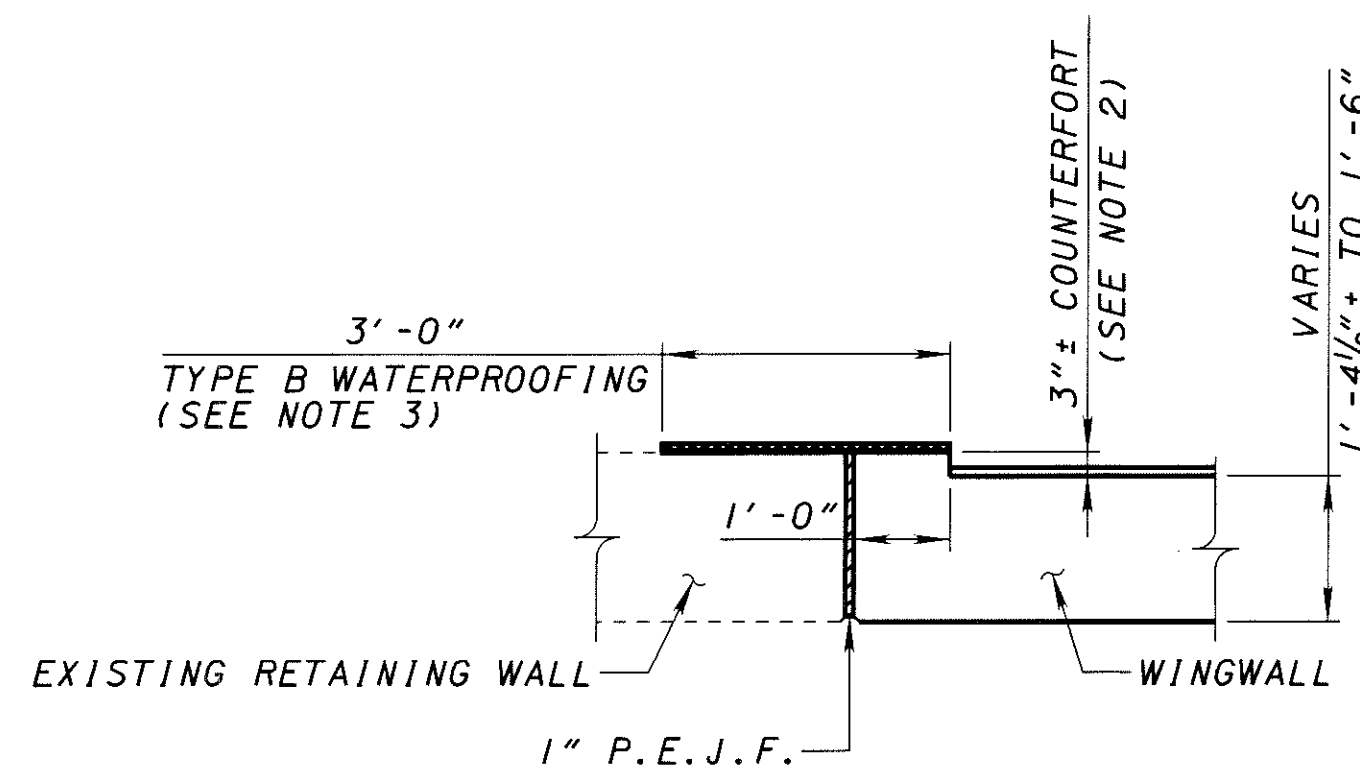




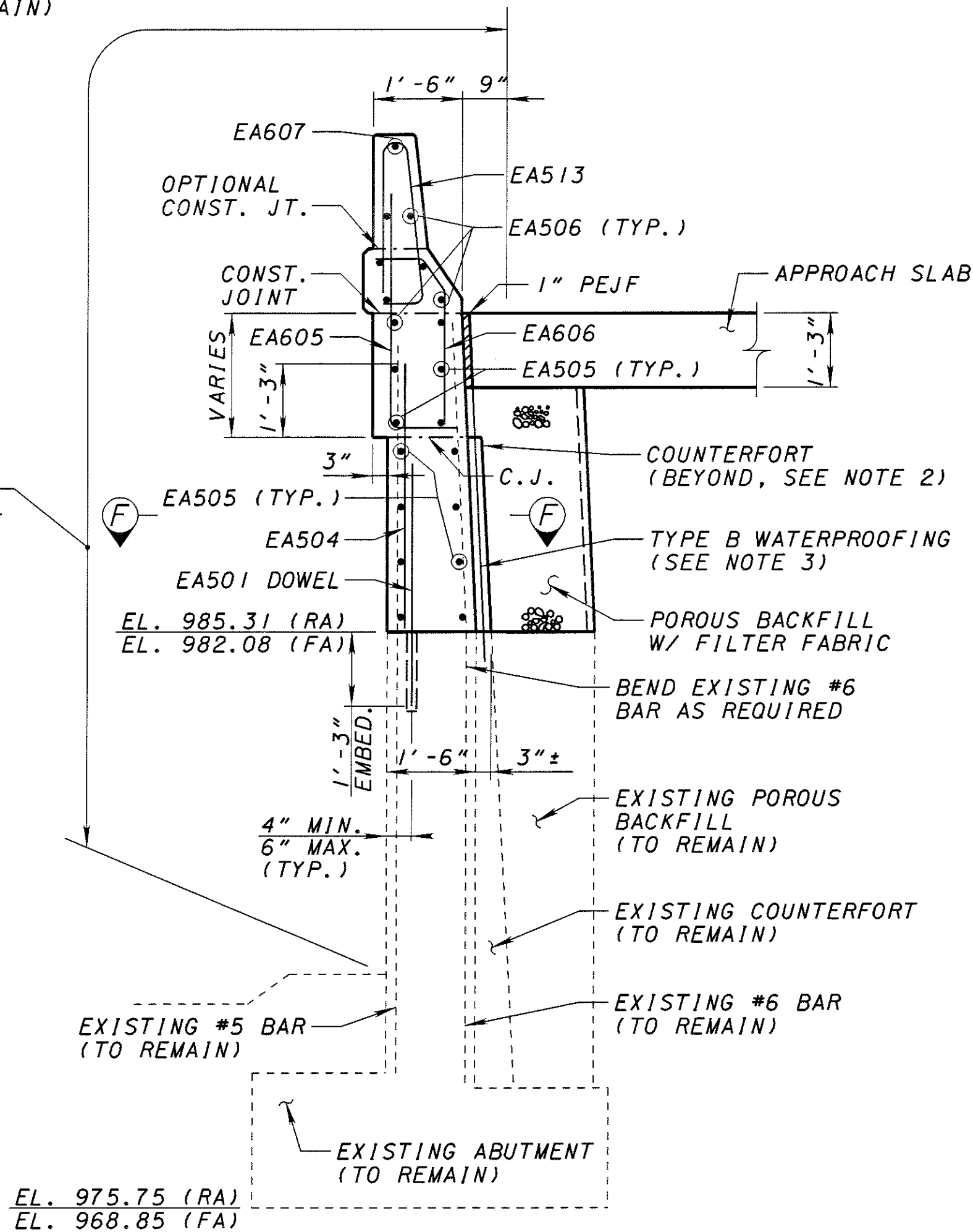
**VIEW B-B - REAR ABUTMENT WINGWALL**  
(VIEW C-C OPPOSITE HAND)



**VIEW B-B - FORWARD ABUTMENT WINGWALL**  
(VIEW C-C OPPOSITE HAND)



**SECTION F-F**

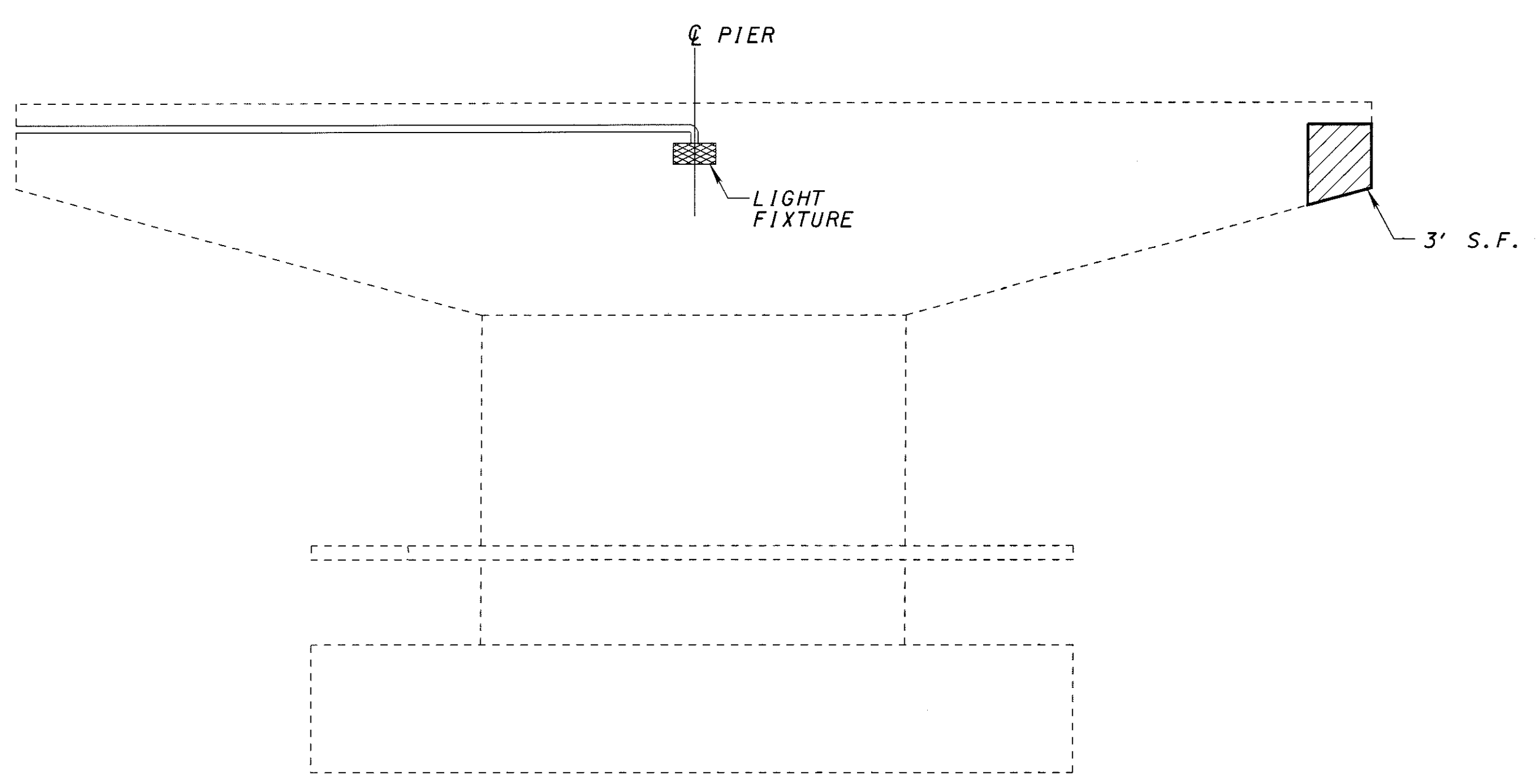


**SECTION D-D**  
(SECTION D-D SHOWN, SECTION E-E SIMILAR)

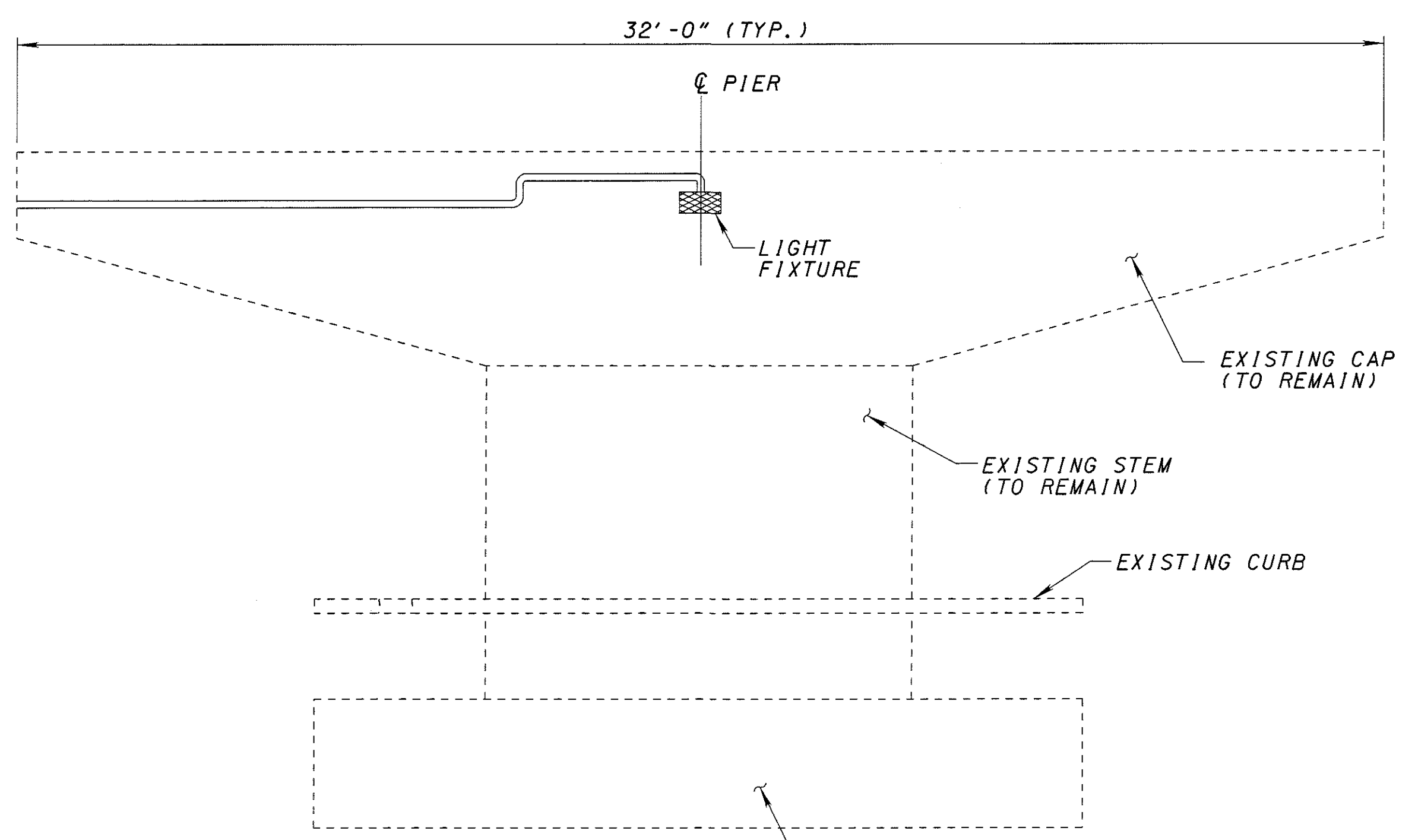
**NOTES:**

1. MATCH EXISTING RUSTICATION GROOVE, SEE DETAIL ON SHEET 10/38.
2. COUNTERFORT TO MATCH EXISTING RETAINING WALL BEYOND.
3. EXTEND TYPE B WATERPROOFING 6" BEYOND DEMOLITION ELEVATION AND TO THE BOTTOM OF THE APPROACH SLAB.
4. PAYMENT FOR DOWEL HOLES SHALL BE INCLUDED WITH ITEM 842 CLASS C CONCRETE, ABUTMENT.

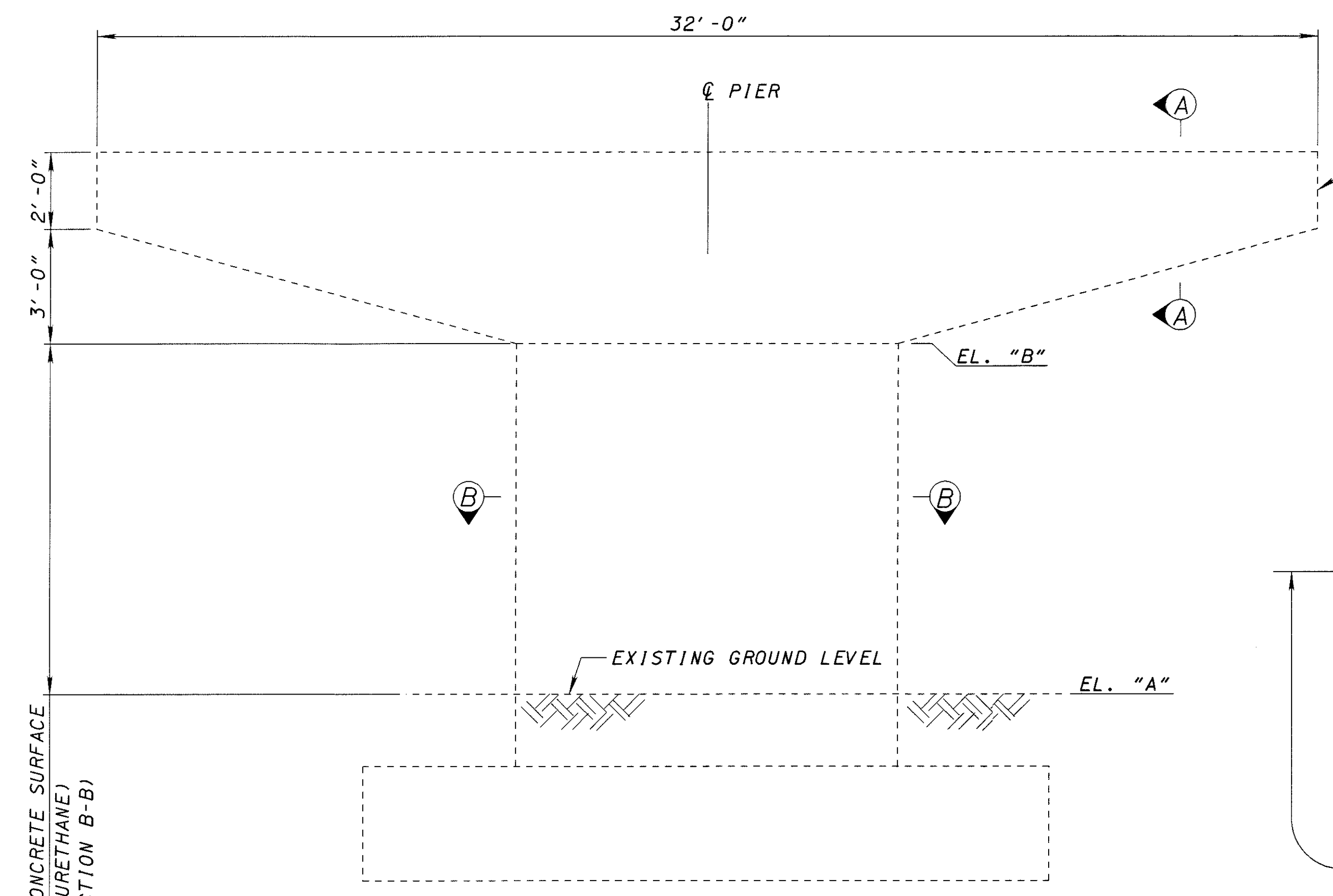
DESIGN AGENCY: PARSONS BRINCKERHOFF OHIO, INC. 6235 ENTERPRISE COURT DUBLIN, OHIO 43016  
 DATE: 02/11/02  
 REVIEWED: EBS  
 DRAWN: TJM  
 DESIGNED: TJM  
 CHECKED: BMG  
 STRUCTURE FILE NUMBER: 5100127  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT  
 MAR-4-11.70  
 11/38  
 41/68



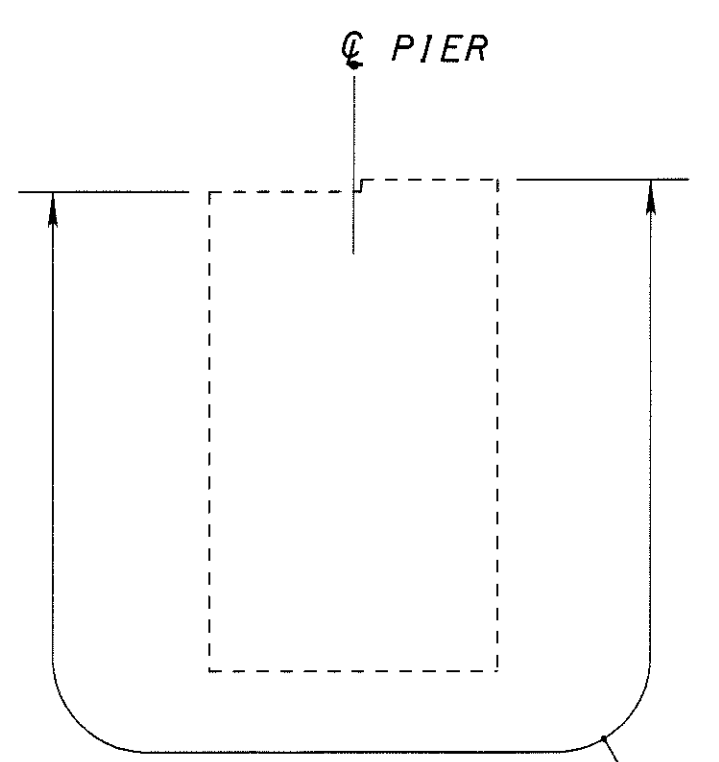
**ELEVATION - PIER 1**  
 (SOUTH FACE)



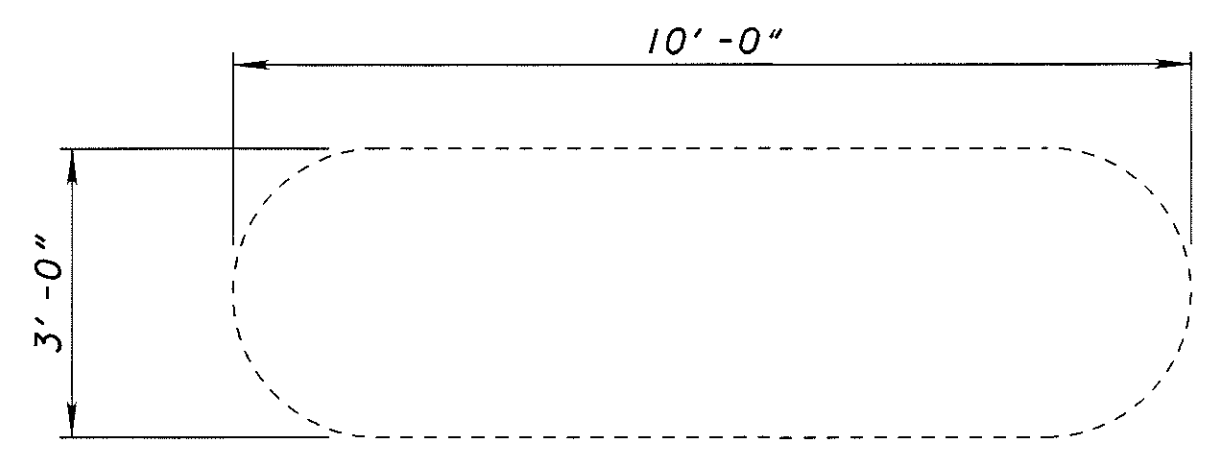
**ELEVATION - PIER 1**  
 (NORTH FACE)



**PIER ELEVATION**



**SECTION A-A**



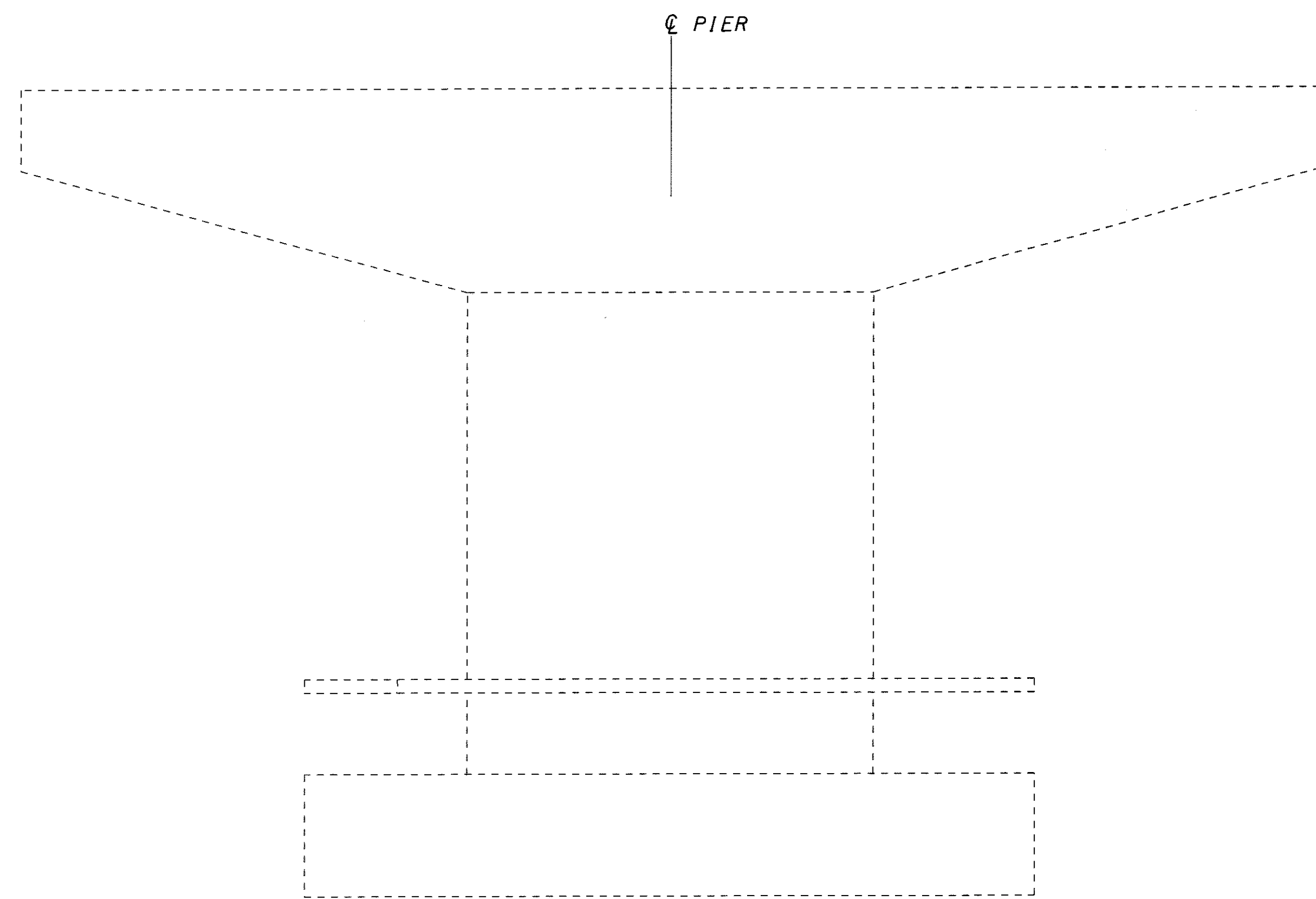
**SECTION B-B**

LOCATION	EL. "A"	EL. "B"
PIER 1	979.8	986.9
PIER 2	980.0	989.9
PIER 3	979.6	992.9
PIER 4	SEE NOTE 1	
PIER 5	980.6	997.6
PIER 6	980.1	999.0
PIER 7	980.1	999.6
PIER 8	SEE NOTE 1	
PIER 9	980.2	999.0
PIER 10	979.0	997.6
PIER 11	978.3	995.5
PIER 12	SEE NOTE 1	
PIER 13	977.9	989.7
PIER 14	977.8	986.7
PIER 15	977.7	983.7

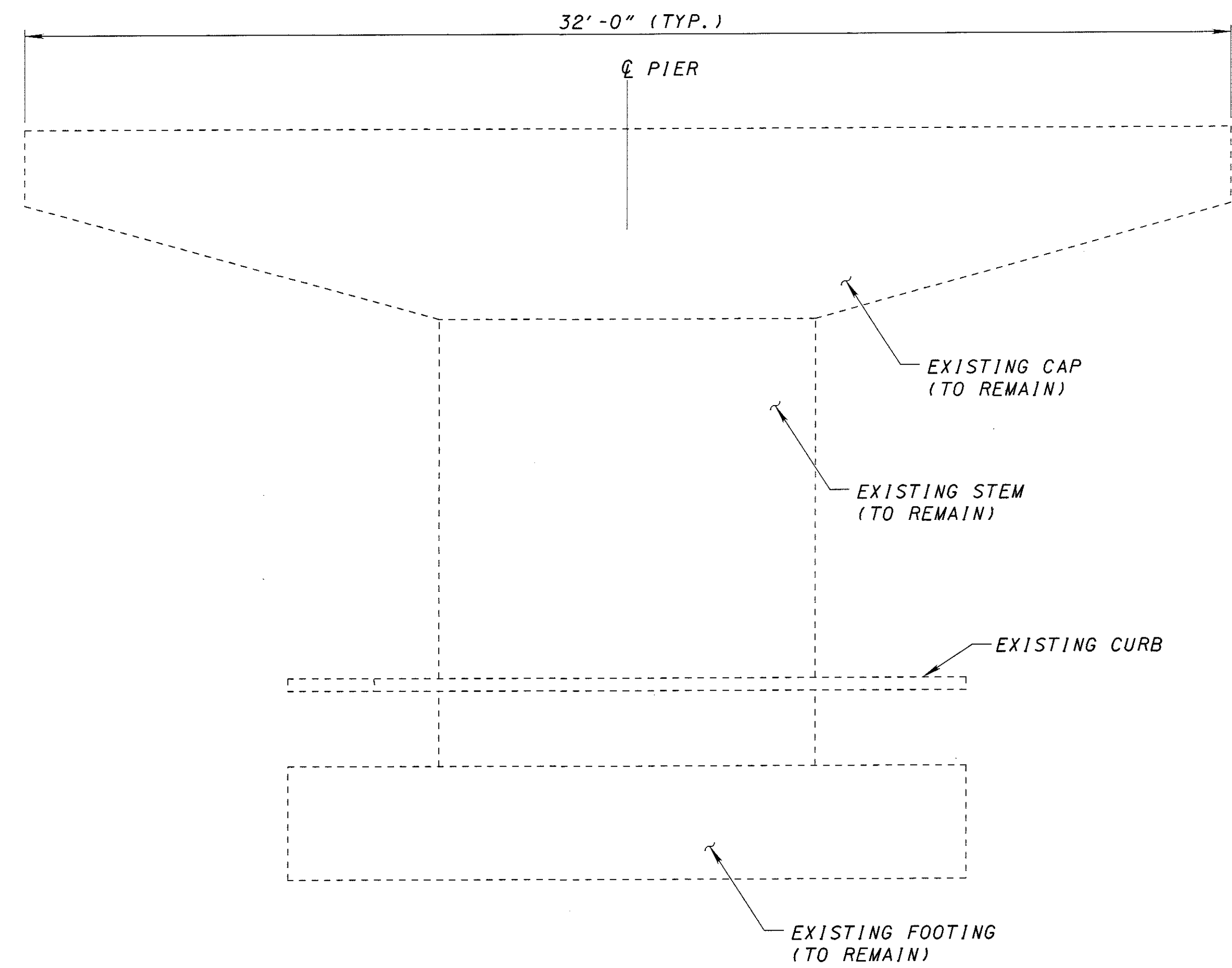
- NOTE:**
- FOR MODIFIED PIER CONCRETE SEALING, SEE SHEET 27/38.
  - FOR CURB REPLACEMENTS AT PIERS SEE ROADWAY PLANS.

**LEGEND:**  
 INDICATES PATCHING

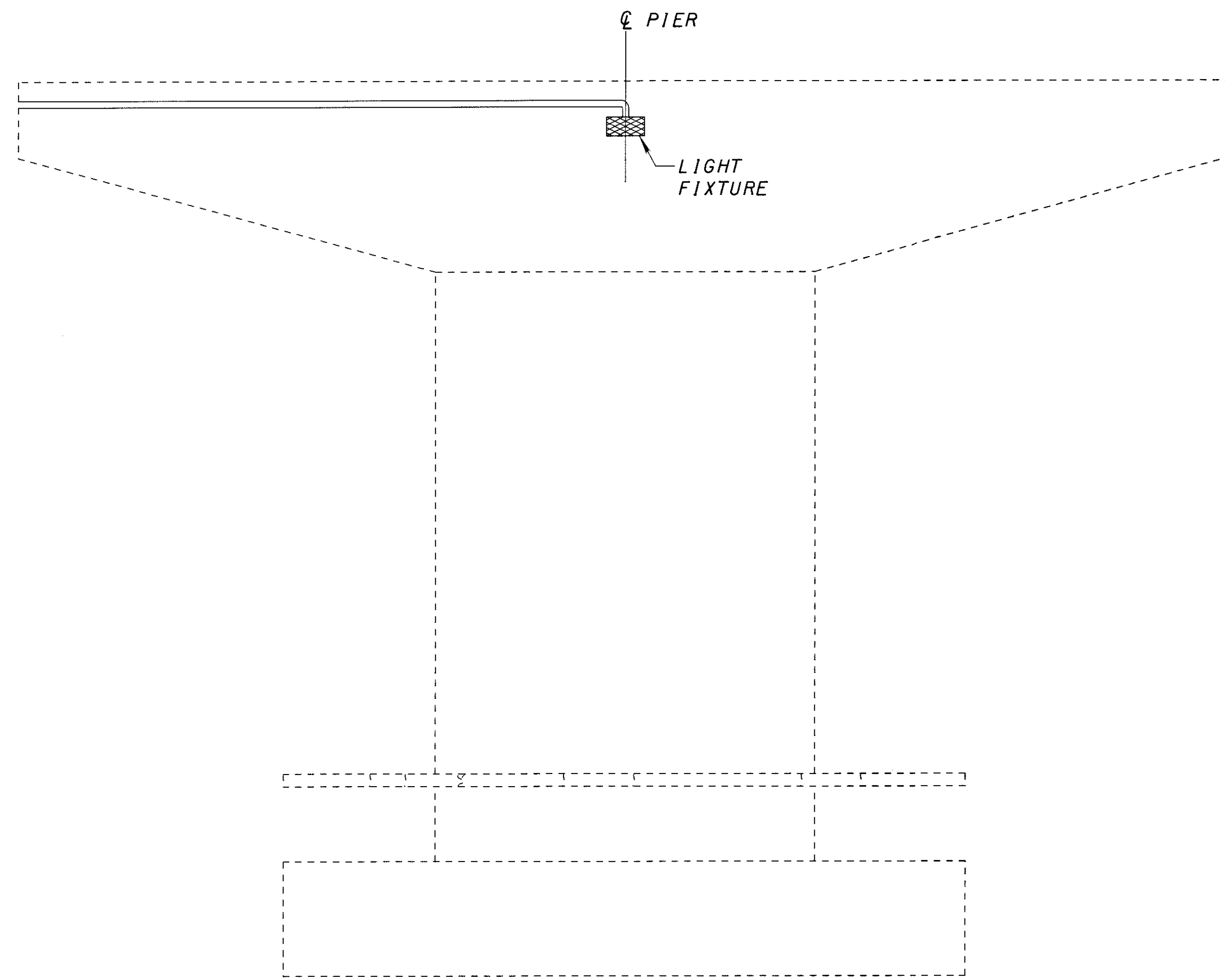
**CONCRETE SEALING OF EXISTING PIERS**



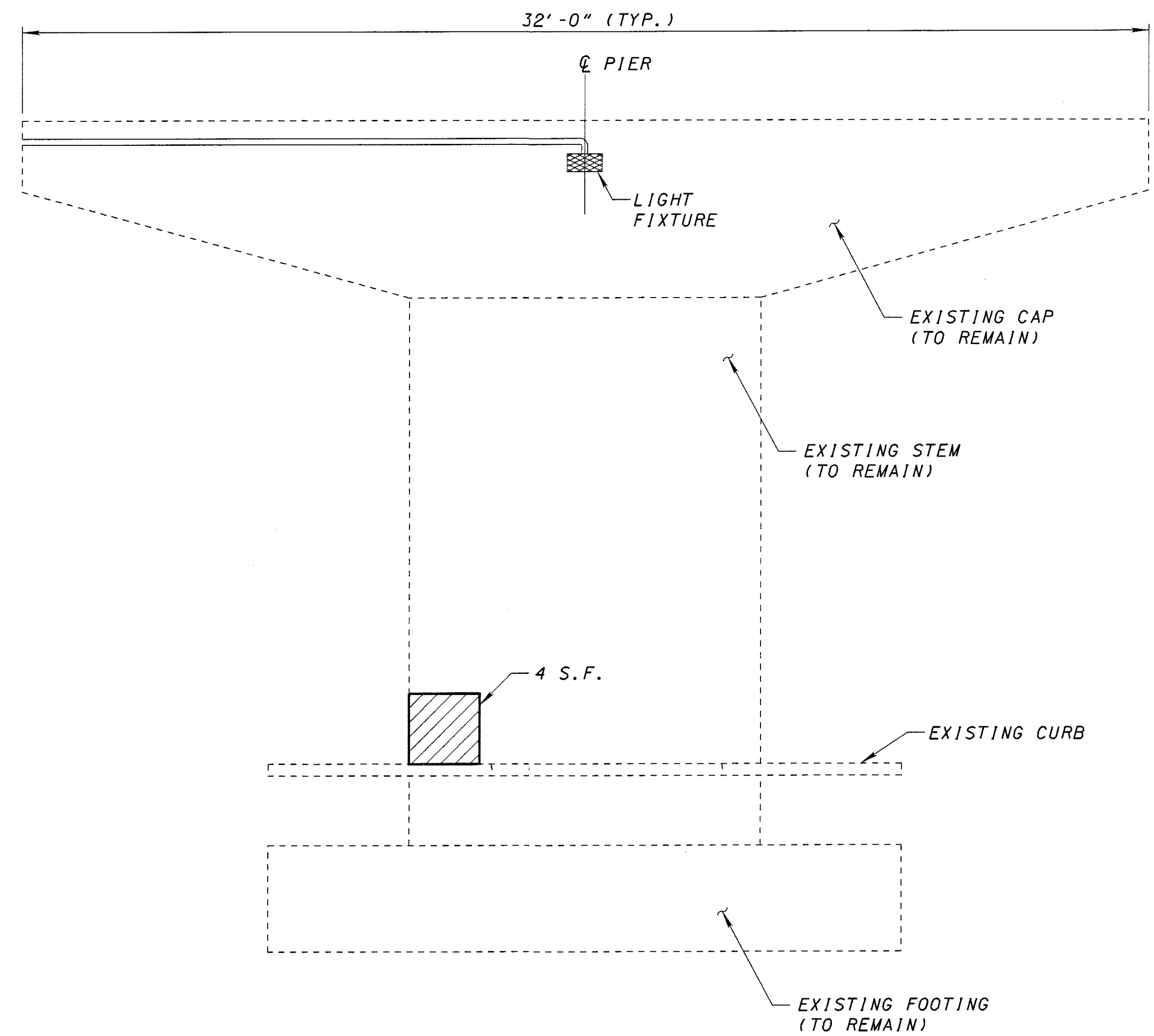
**ELEVATION - PIER 2**  
(SOUTH FACE)



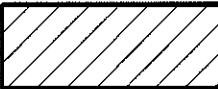
**ELEVATION - PIER 2**  
(NORTH FACE)



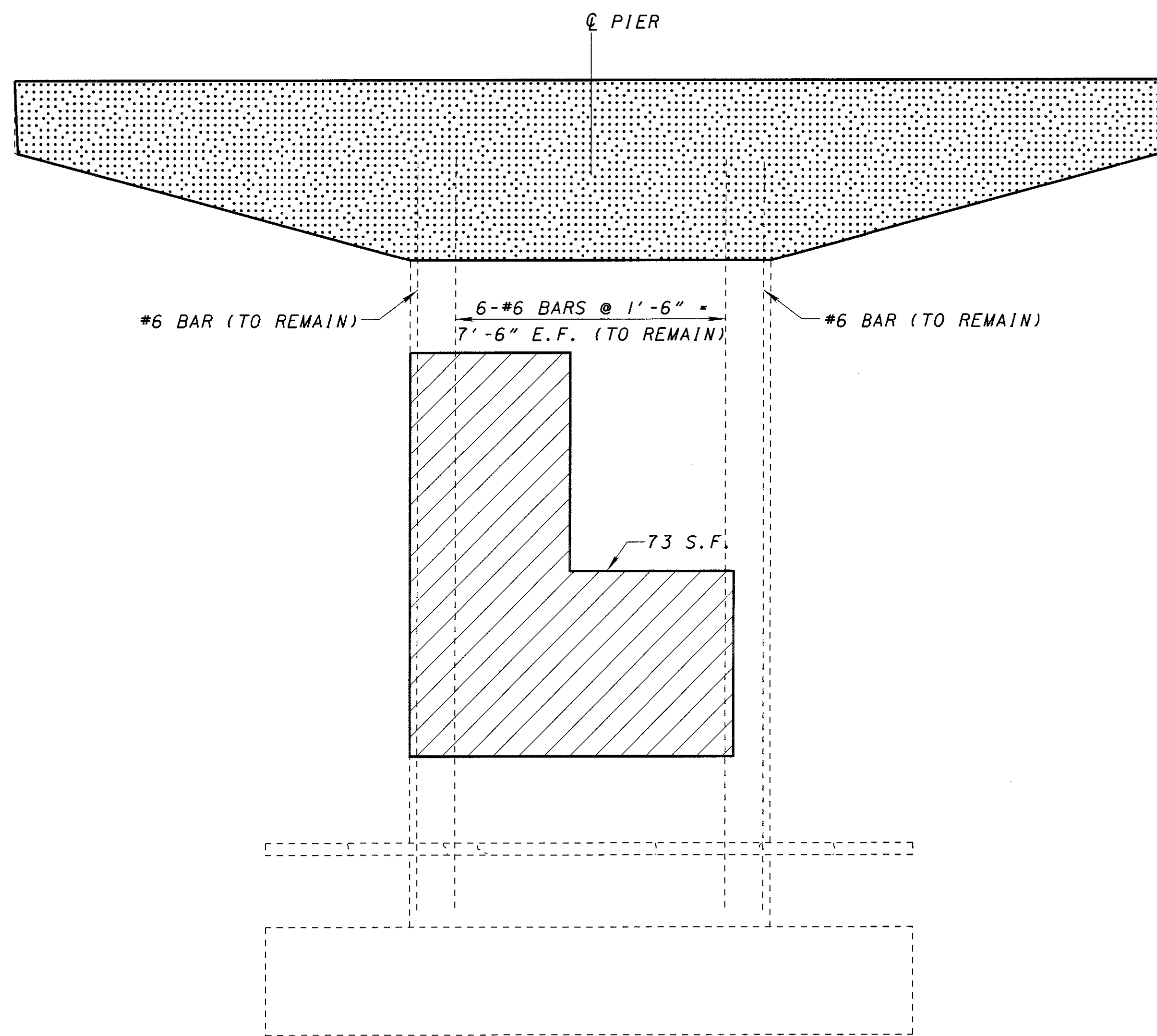
**ELEVATION - PIER 3**  
(SOUTH FACE)



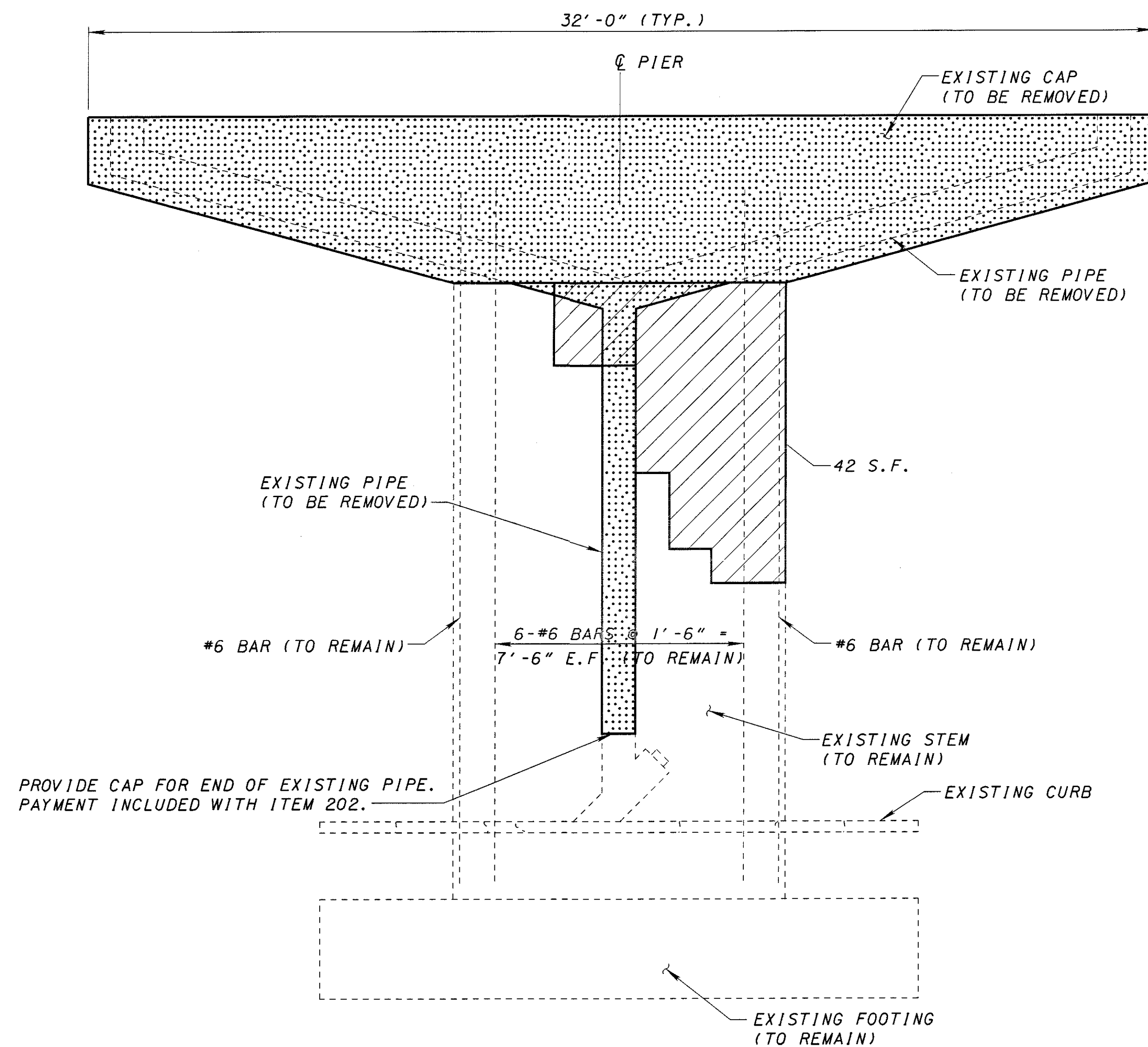
**ELEVATION - PIER 3**  
(NORTH FACE)

**LEGEND:**  
 INDICATES PATCHING

DESIGNED BMG	CHECKED TJM	DESIGN AGENCY	DATE	REVIEWED	DRAWN
		PARSONS BRINCKERHOFF OHIO, INC. 6235 ENTERPRISE COURT DUBLIN, OHIO 43016			
		PIER 3 REPAIR DETAILS	STRUCTURE FILE NUMBER	5/00127	
		BRIDGE NO. MAR-4-1171			
		OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT			
		MAR-4-11.70			
		14/38			
		44 68			

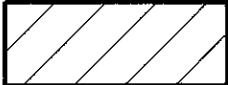
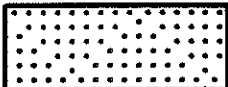


**ELEVATION - PIER 4**  
(SOUTH FACE)

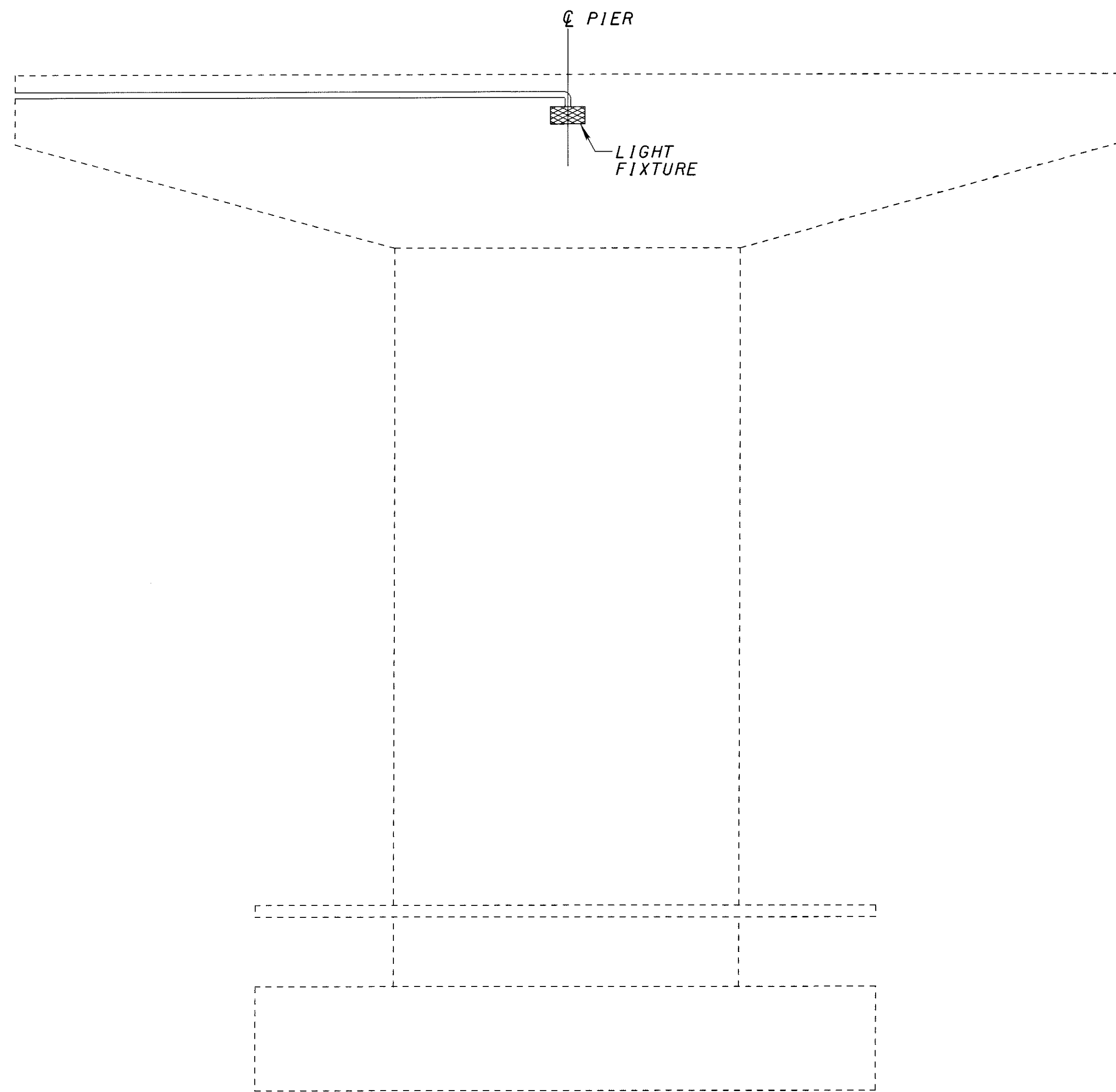


**ELEVATION - PIER 4**  
(NORTH FACE)

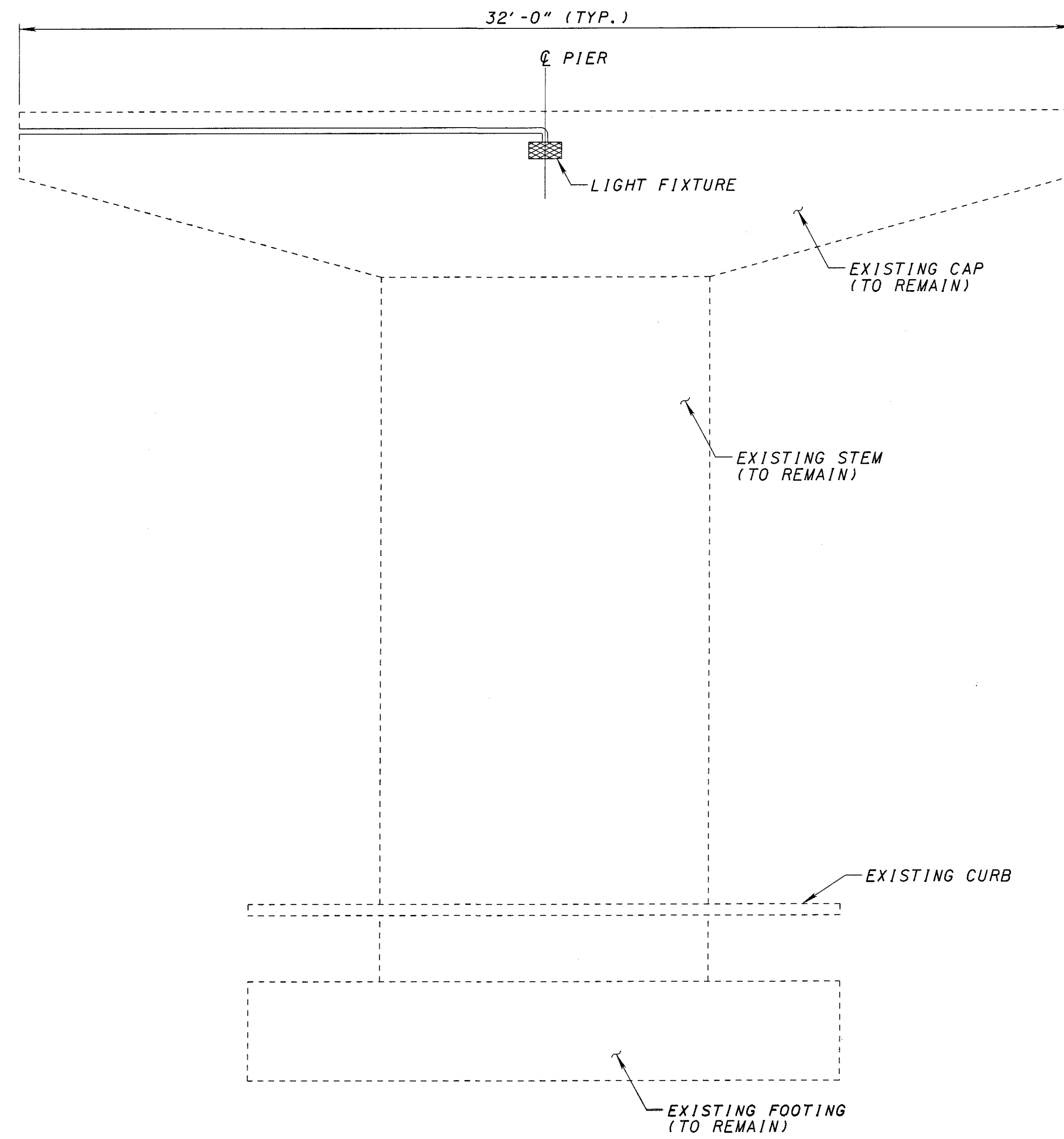
**NOTE:**  
THE ENTIRE LENGTH OF THE EXISTING #6 BARS ARE TO REMAIN. A MINIMUM DOWEL LENGTH OF 2'-6" FOR THE EXISTING BARS SHALL BE PROVIDED INTO THE PROPOSED CAP. DOWELS SHALL BE PROVIDED FOR ALL EXISTING #6 BARS THAT DO NOT EXTEND 2'-6" INTO THE PROPOSED CAP. PAYMENT FOR THESE BARS SHALL BE INCLUDED WITH ITEM 842, CLASS C CONCRETE, PIER CAP.

**LEGEND:**  
 INDICATES PATCHING  
 INDICATES REMOVAL

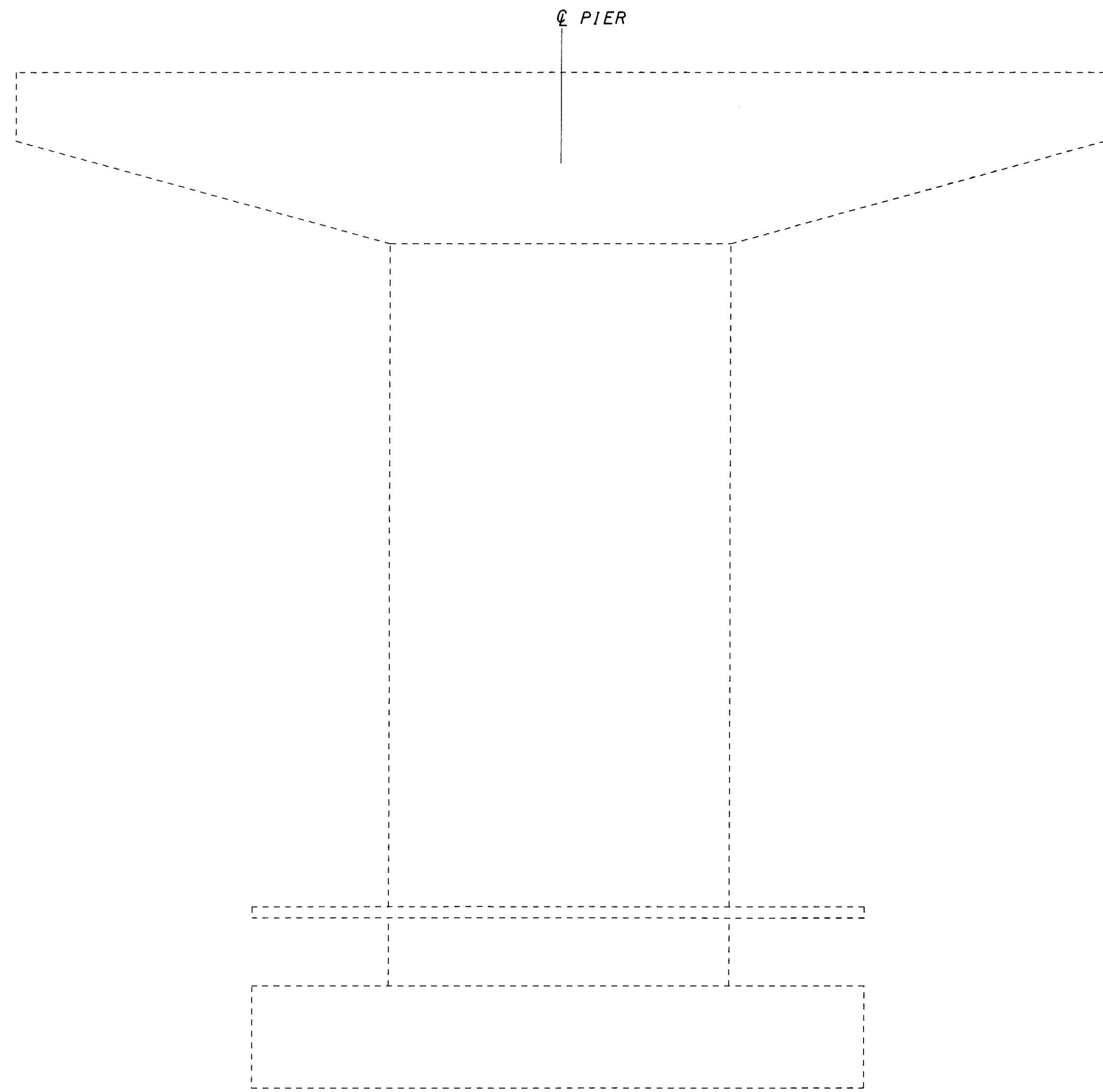
<b>PB</b> PARSONS BRINCKERHOFF OHIO, INC. 6235 ENTERPRISE COURT DUBLIN, OHIO 43016	DESIGN AGENCY DATE 02/11/02 REVIEWED EBS STRUCTURE FILE NUMBER 5100127
	DRAWN AP REVISIONS DESIGNED BMG CHECKED TJM
<b>PIER 4 REMOVAL &amp; REPAIR DETAILS</b> BRIDGE NO. MAR-4-1171 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT	
MAR-4-11.70	
15/38	
45/68	



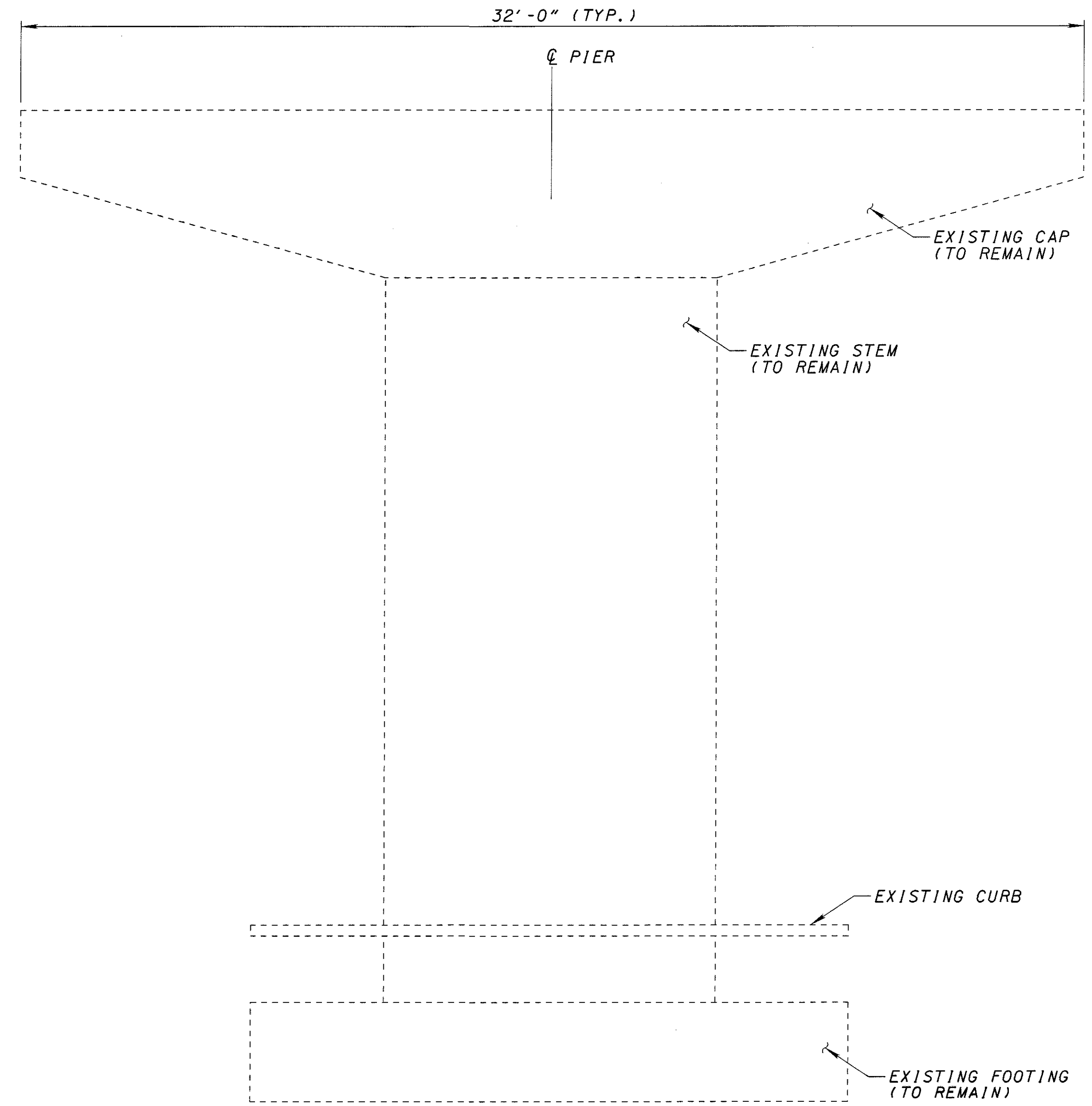
**ELEVATION - PIER 5**  
(SOUTH FACE)



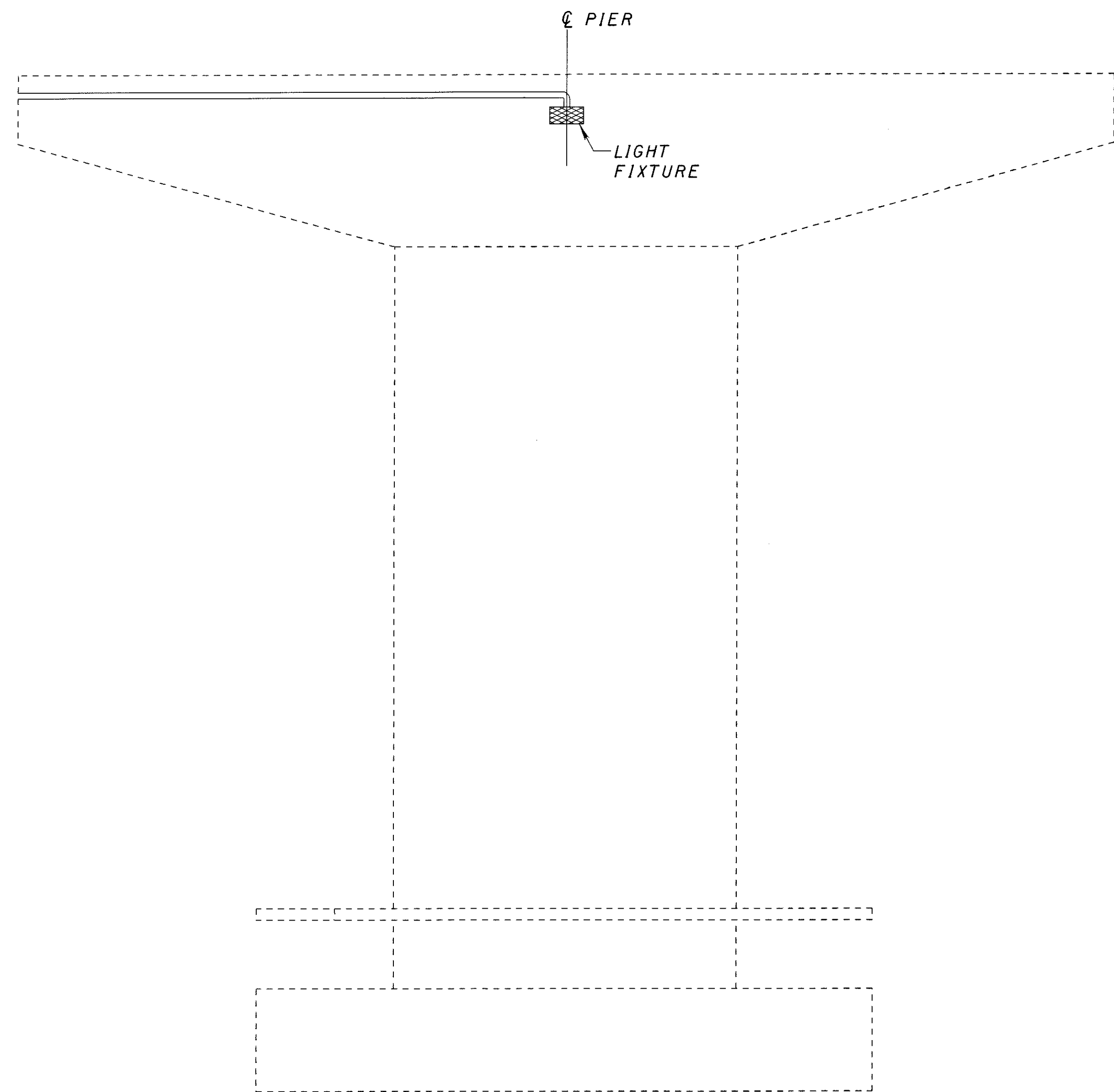
**ELEVATION - PIER 5**  
(NORTH FACE)



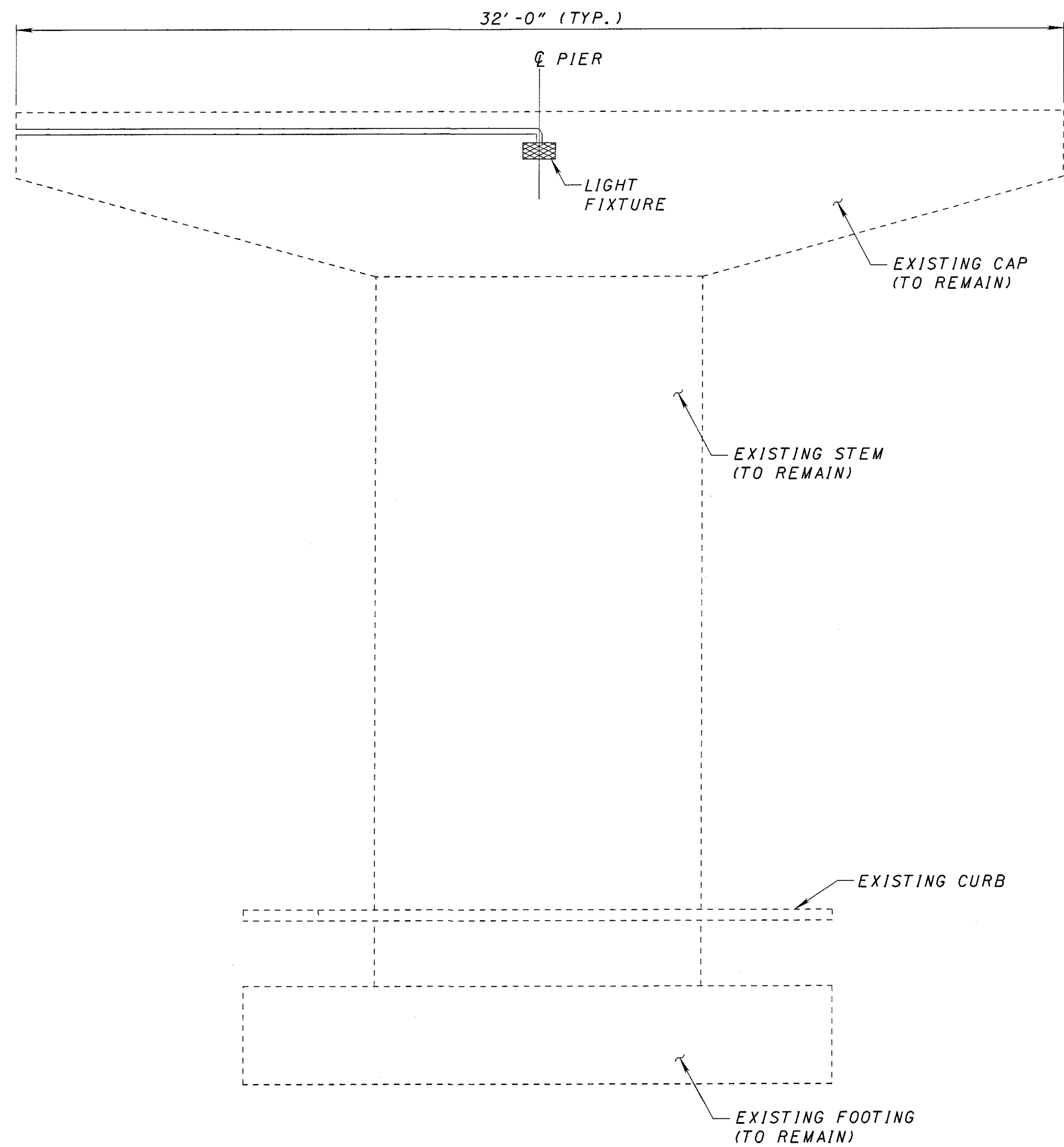
**ELEVATION - PIER 6**  
(SOUTH FACE)



**ELEVATION - PIER 6**  
(NORTH FACE)



**ELEVATION - PIER 7**  
(SOUTH FACE)



**ELEVATION - PIER 7**  
(NORTH FACE)

DATE	02/11/02
REVIEWED	EBS
STRUCTURE FILE NUMBER	5100127
DRAWN	AP
REVISOR	
DESIGNED	BMG
CHECKED	TJM

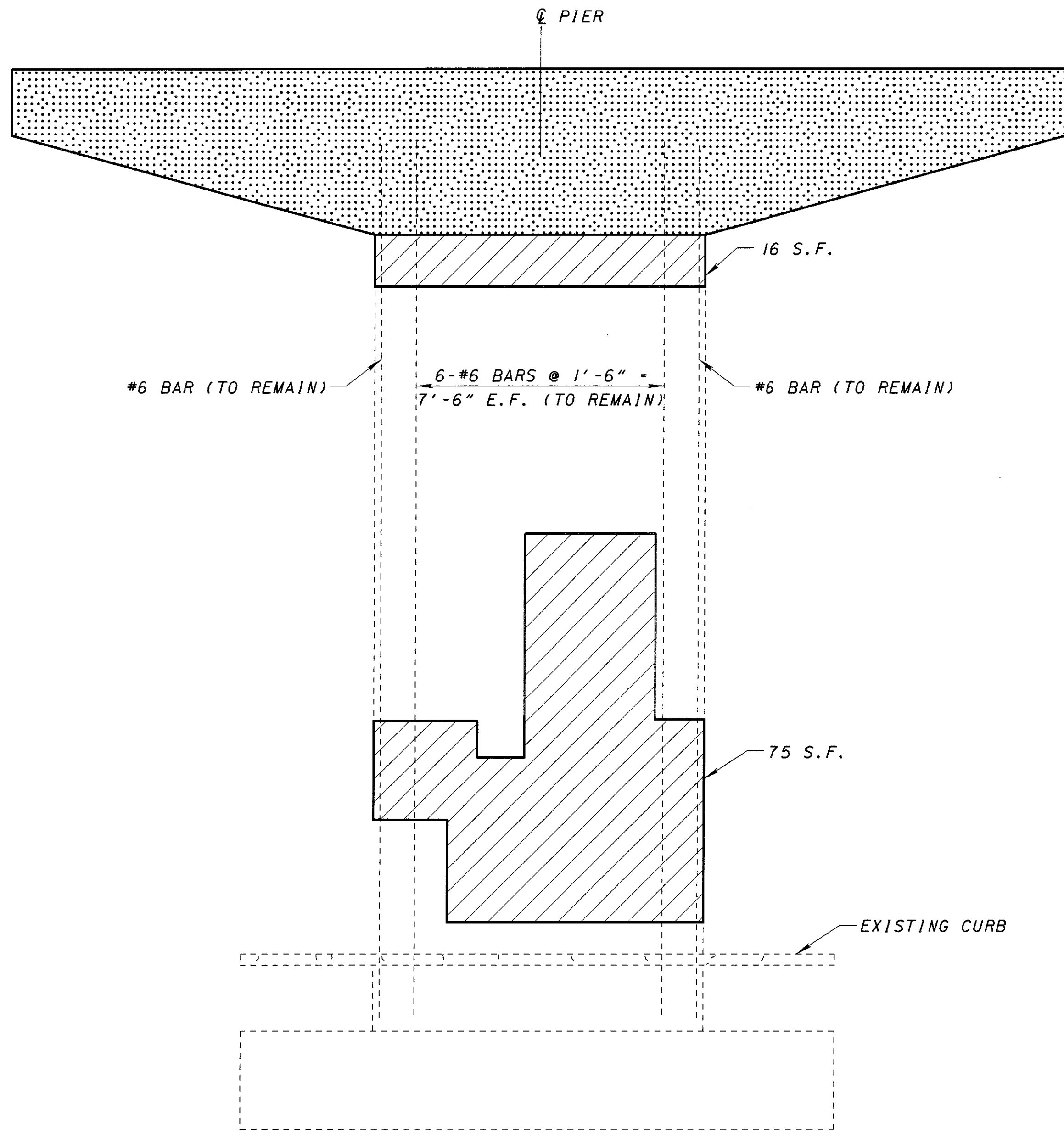
**PIER 7 REPAIR DETAILS**  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT

**MAR-4-11.70**

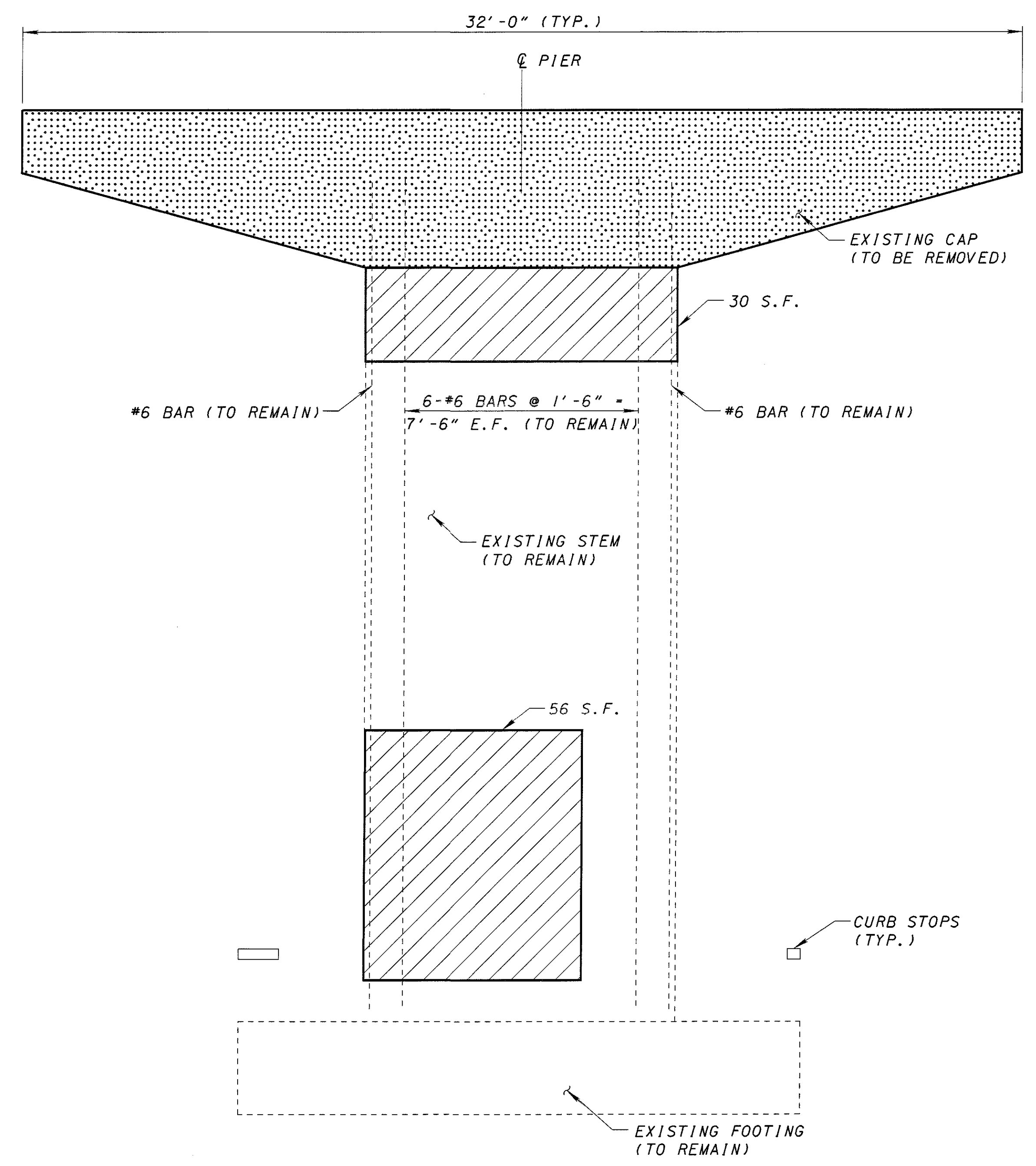
18 / 38

48  
68



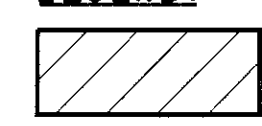
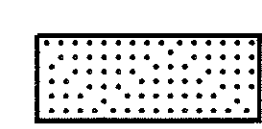



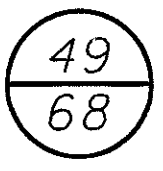
**ELEVATION - PIER 8**  
(SOUTH FACE)

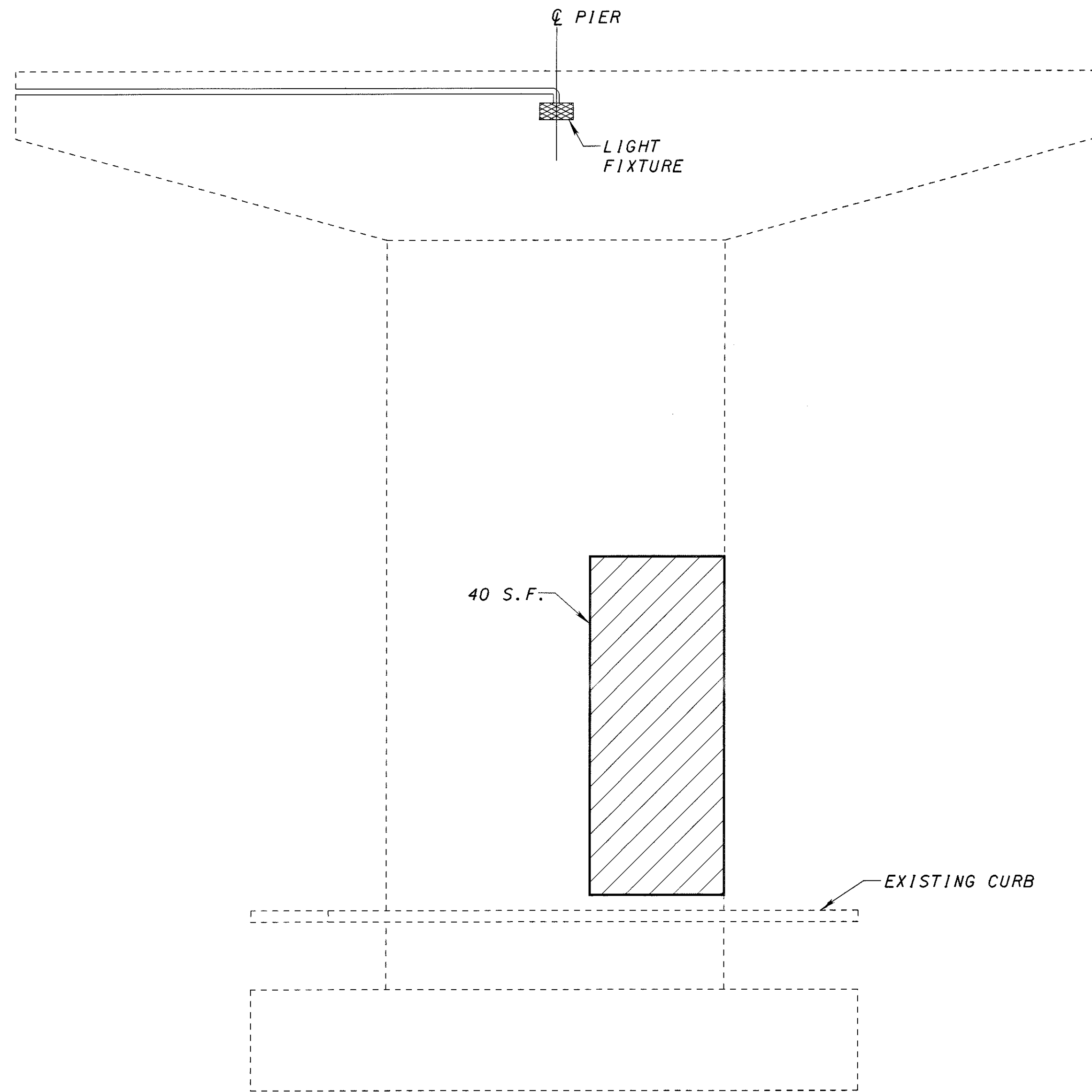


**ELEVATION - PIER 8**  
(NORTH FACE)

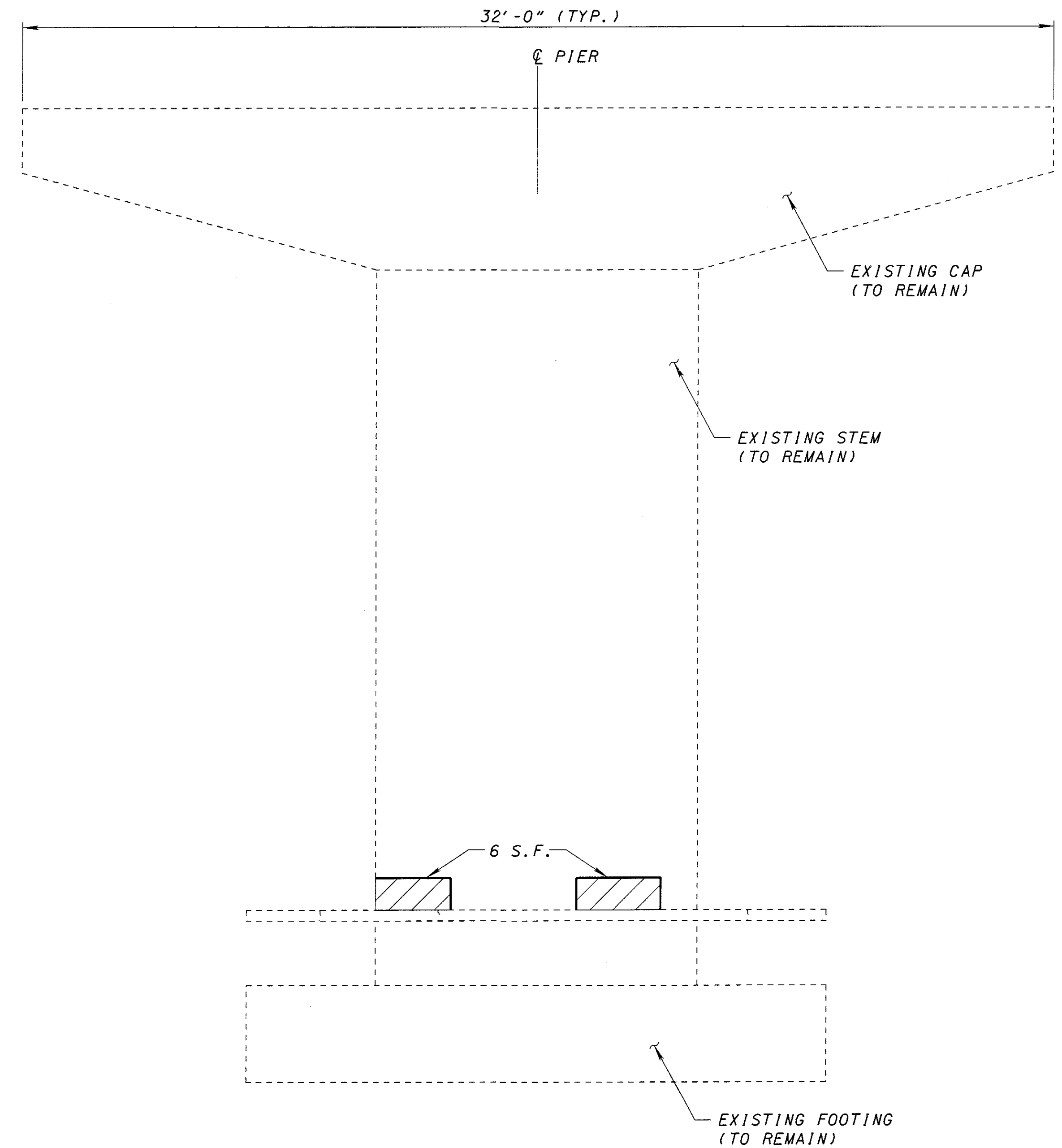
**NOTE:**  
THE ENTIRE LENGTH OF THE EXISTING #6 BARS ARE TO REMAIN. A MINIMUM DOWEL LENGTH OF 2'-6" FOR THE EXISTING BARS SHALL BE PROVIDED INTO THE PROPOSED CAP. DOWELS SHALL BE PROVIDED FOR ALL EXISTING #6 BARS THAT DO NOT EXTEND 2'-6" INTO THE PROPOSED CAP. PAYMENT FOR THESE BARS SHALL BE INCLUDED WITH ITEM 842, CLASS C CONCRETE, PIER CAP.

**LEGEND:**  
 INDICATES PATCHING  
 INDICATES REMOVAL

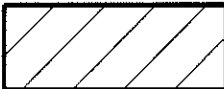
 <b>PARSONS BRINCKERHOFF OHIO, INC.</b> 6235 ENTERPRISE COURT DUBLIN, OHIO 43016	DATE 02/11/02
	REVIEWED EBS
DRAWN AP	STRUCTURE FILE NUMBER 5100127
DESIGNED BMG	CHECKED TJM
<b>PIER 8 REMOVAL &amp; REPAIR DETAILS</b> BRIDGE NO. MAR-4-1171 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT	
<b>MAR-4-11.70</b>	
19/38	
	

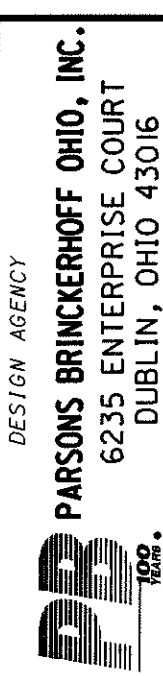
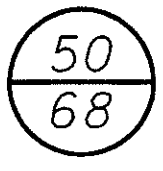


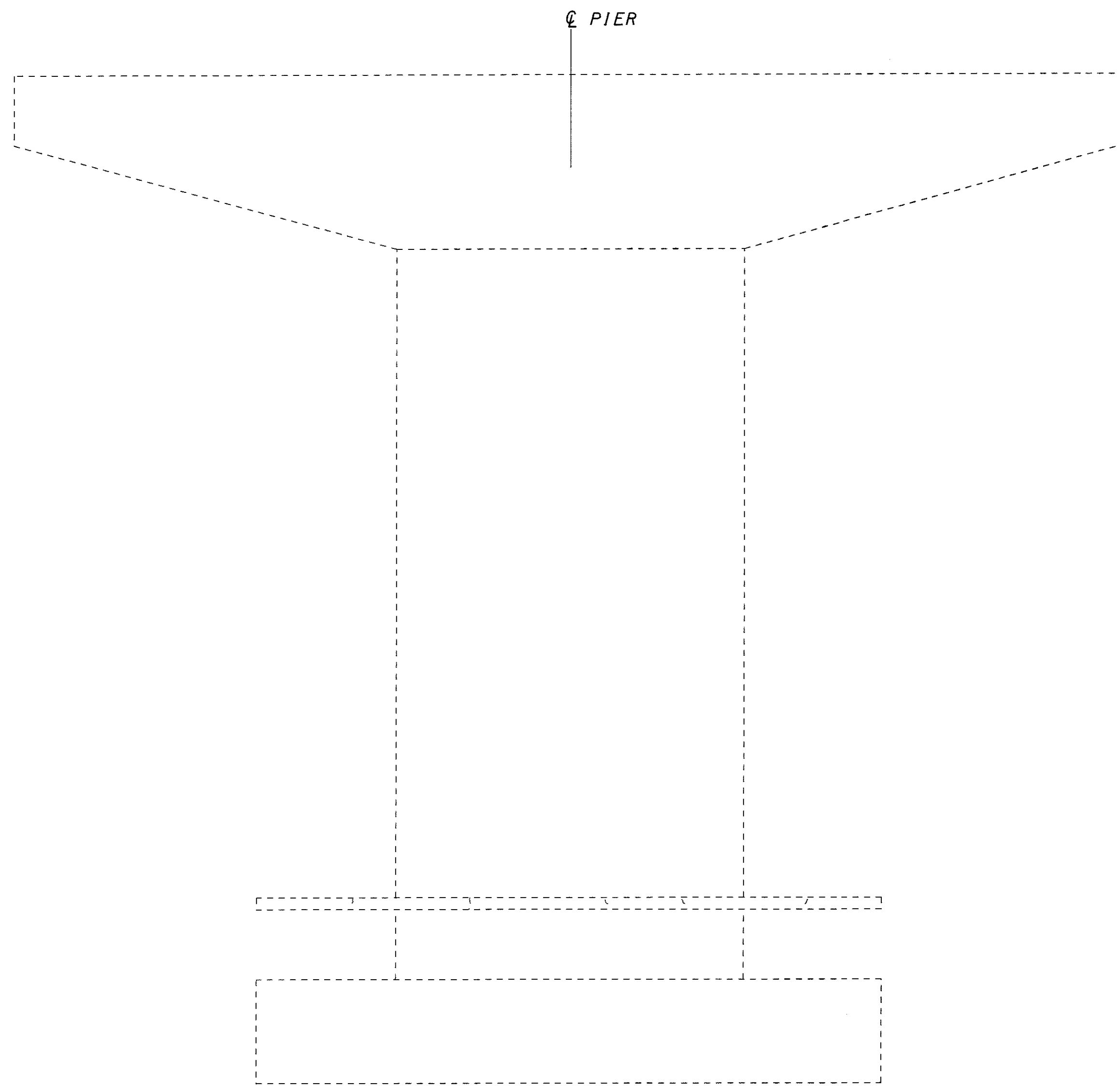
**ELEVATION - PIER 9**  
(SOUTH FACE)



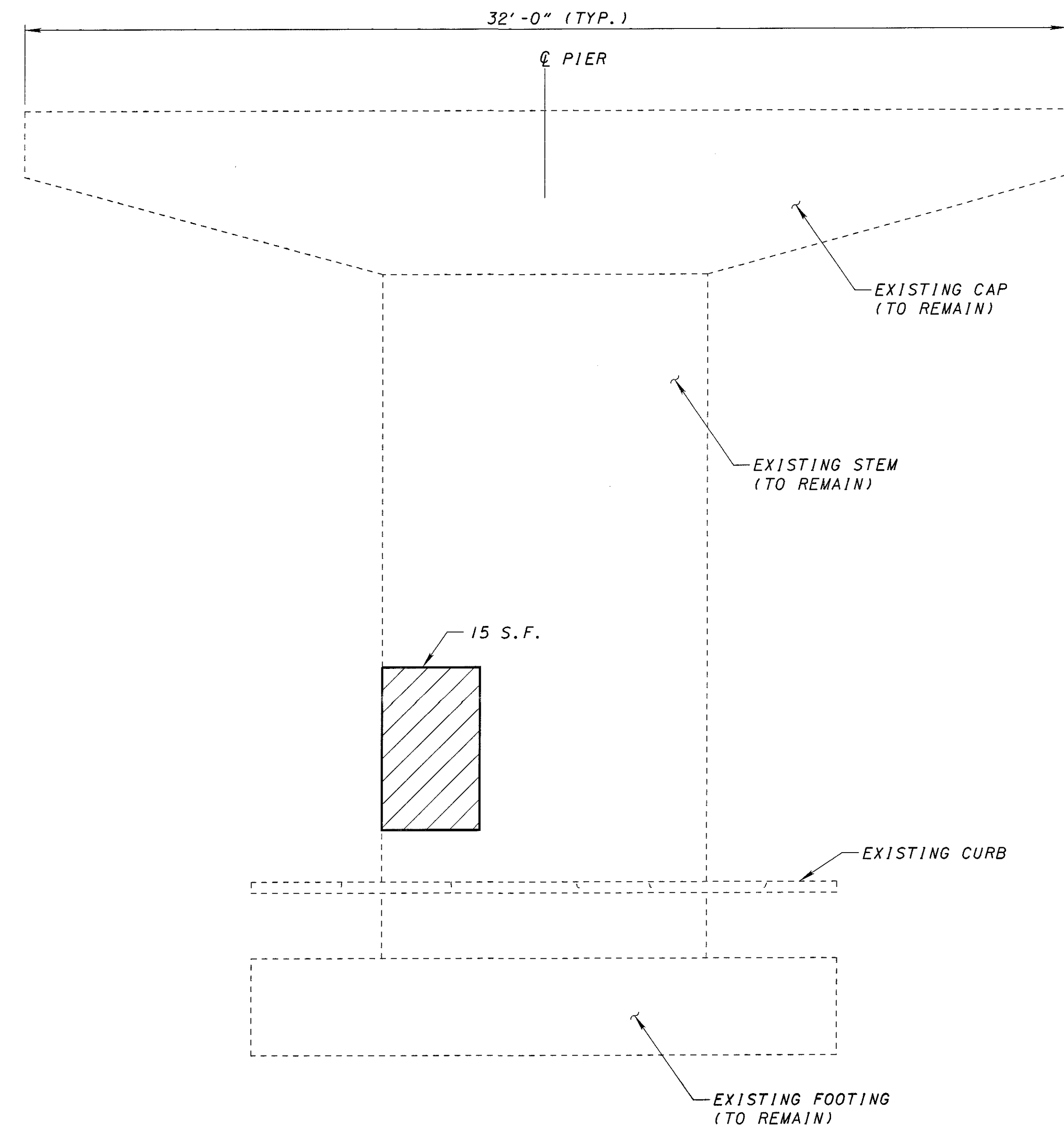
**ELEVATION - PIER 9**  
(NORTH FACE)

**LEGEND:**  
 INDICATES PATCHING


 <b>PARSONS BRINKERHOFF OHIO, INC.</b> 6235 ENTERPRISE COURT DUBLIN, OHIO 43016	
DESIGN AGENCY <b>PARSONS BRINKERHOFF OHIO, INC.</b> 6235 ENTERPRISE COURT DUBLIN, OHIO 43016	DATE 02/11/02
REVIEWED EBS	STRUCTURE FILE NUMBER 5100127
DRAWN AP	REVISED
DESIGNED BMG	CHECKED TJM
<b>PIER 9 REPAIR DETAILS</b> BRIDGE NO. MAR-4-1171 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT	
<b>MAR-4-11.70</b>	
20/38	
	



**ELEVATION - PIER 10**  
(SOUTH FACE)



**ELEVATION - PIER 10**  
(NORTH FACE)

**LEGEND:**  
 INDICATES PATCHING

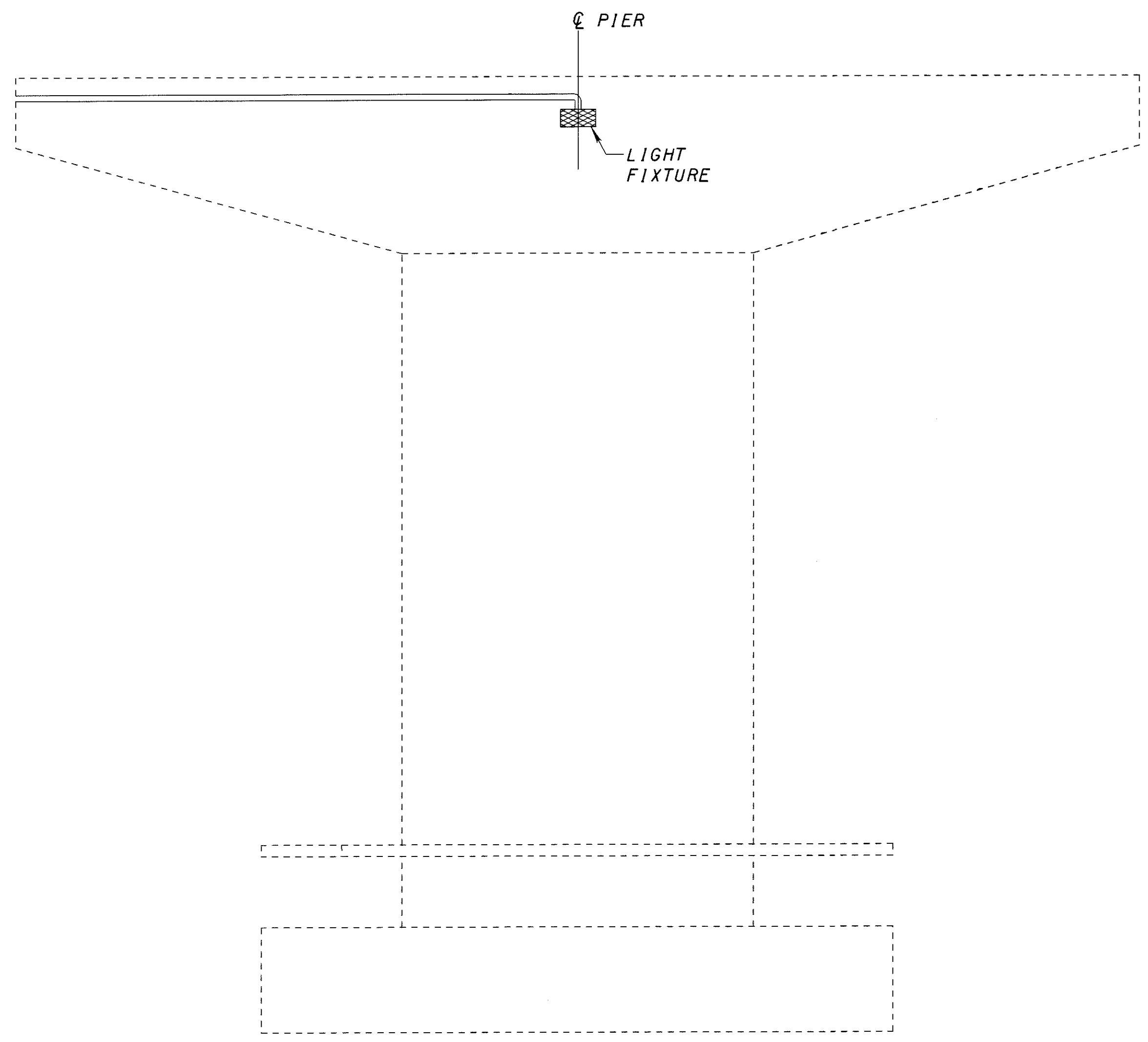
DESIGNED	BMG	CHECKED	TJM
DRAWN	AP	REVISED	
REVIEWED	EBS	STRUCTURE FILE NUMBER	5100127
DATE	02/11/02		

**PIER 10 REPAIR DETAILS**  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT

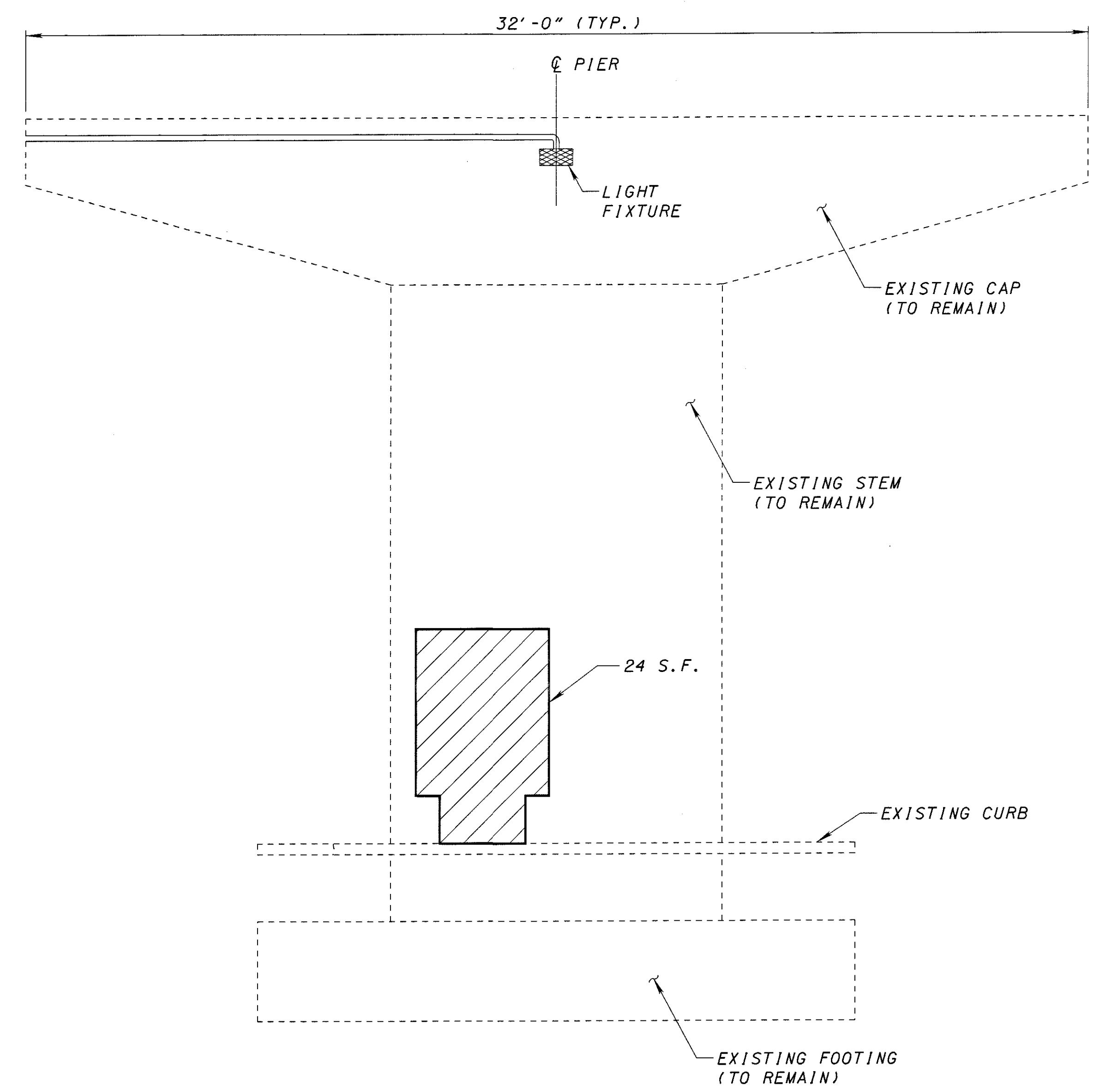
**MAR-4-11.70**

21/38

51/68



**ELEVATION - PIER II**  
(SOUTH FACE)



**ELEVATION - PIER II**  
(NORTH FACE)

**LEGEND:**  
 INDICATES PATCHING

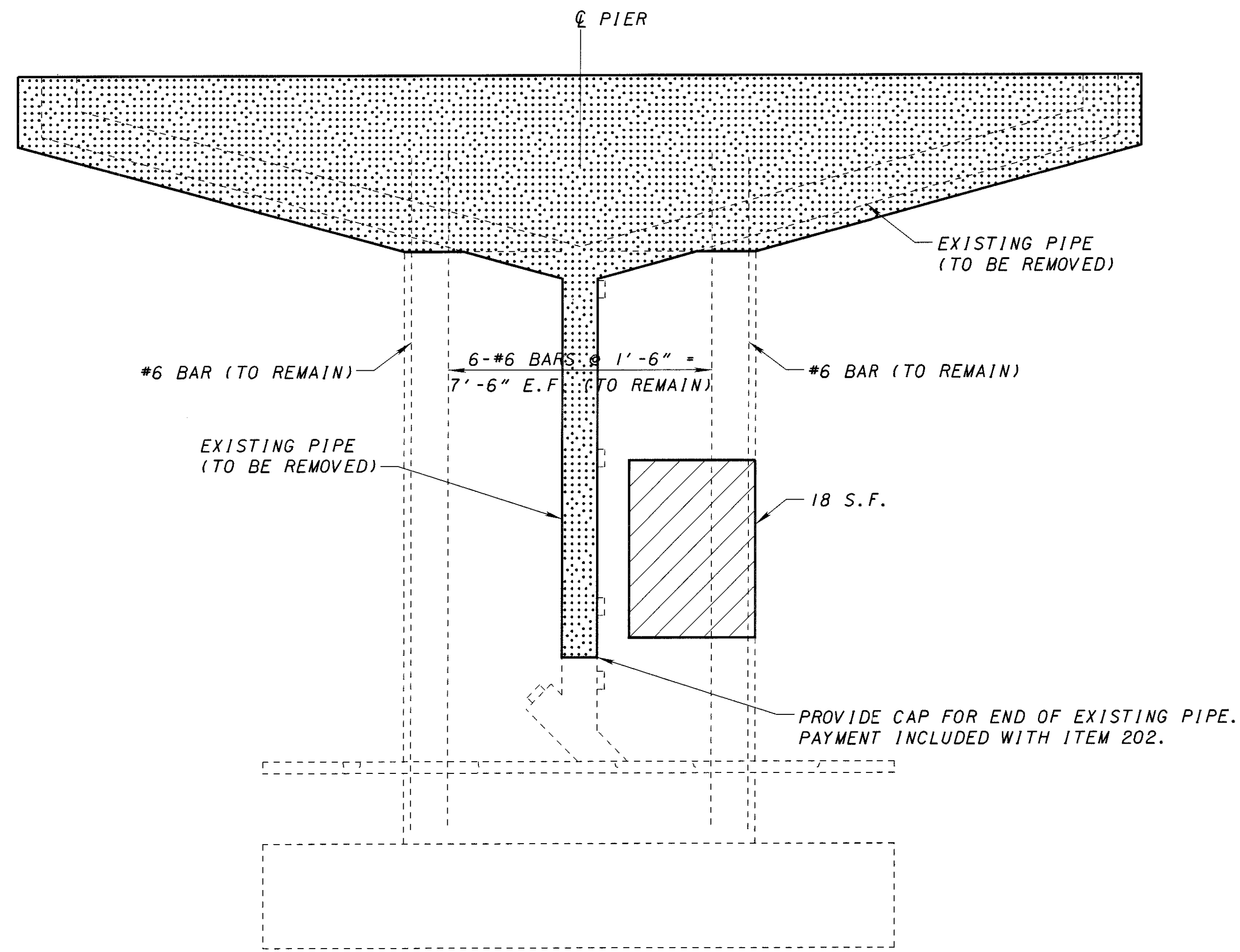
DESIGNED	DATE	REVIEWED	DATE
BMG	02/11/02	EBS	02/11/02
CHECKED	FILE NUMBER	STRUCTURE	FILE NUMBER
TJM	5100127		5100127

**PIER II REPAIR DETAILS**  
 BRIDGE NO. MAR-4-117 I  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT

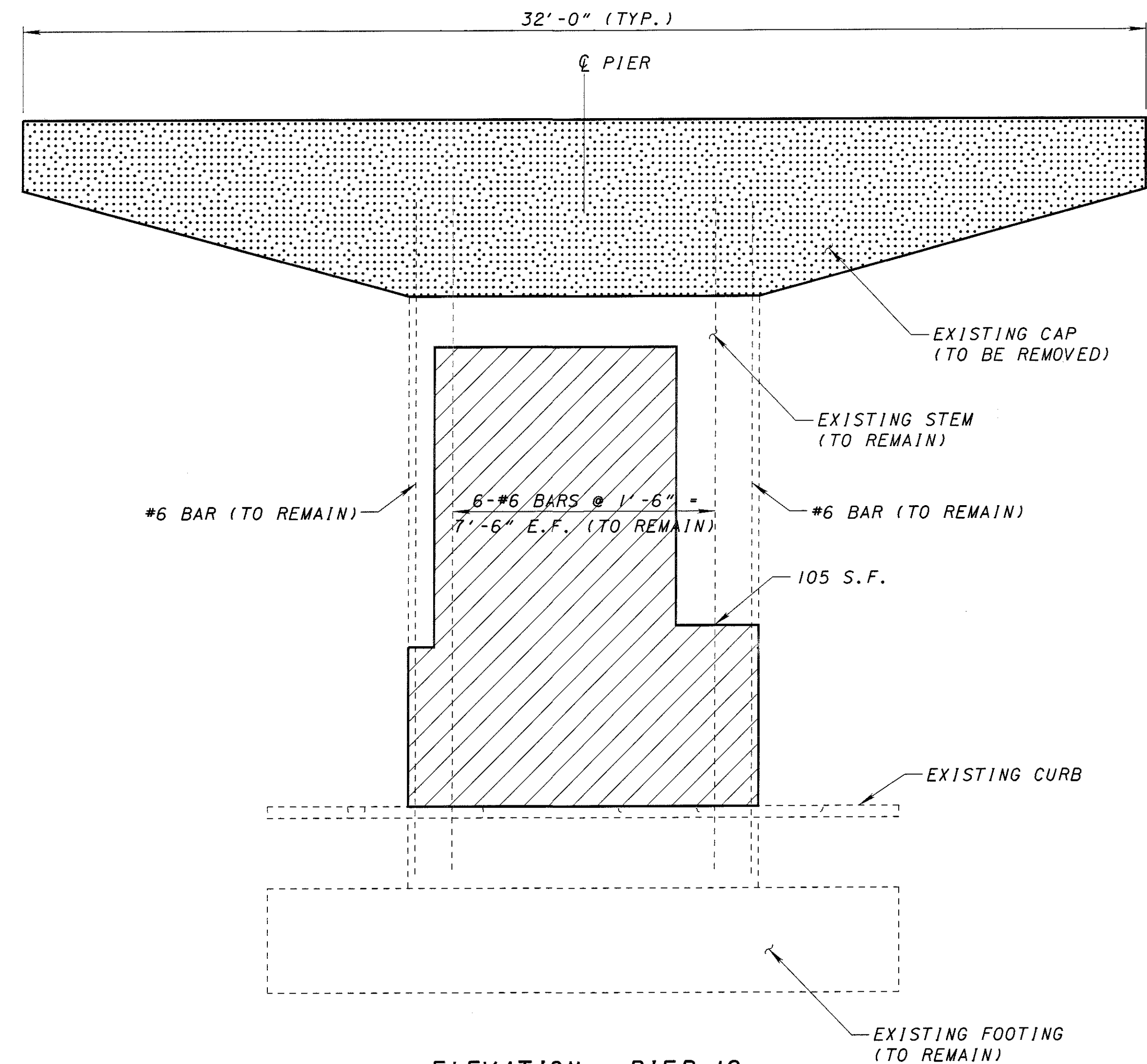
**MAR-4-11.70**

22 / 38

52 / 68



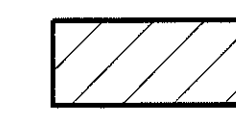
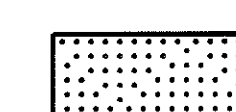
**ELEVATION - PIER 12**  
(SOUTH FACE)

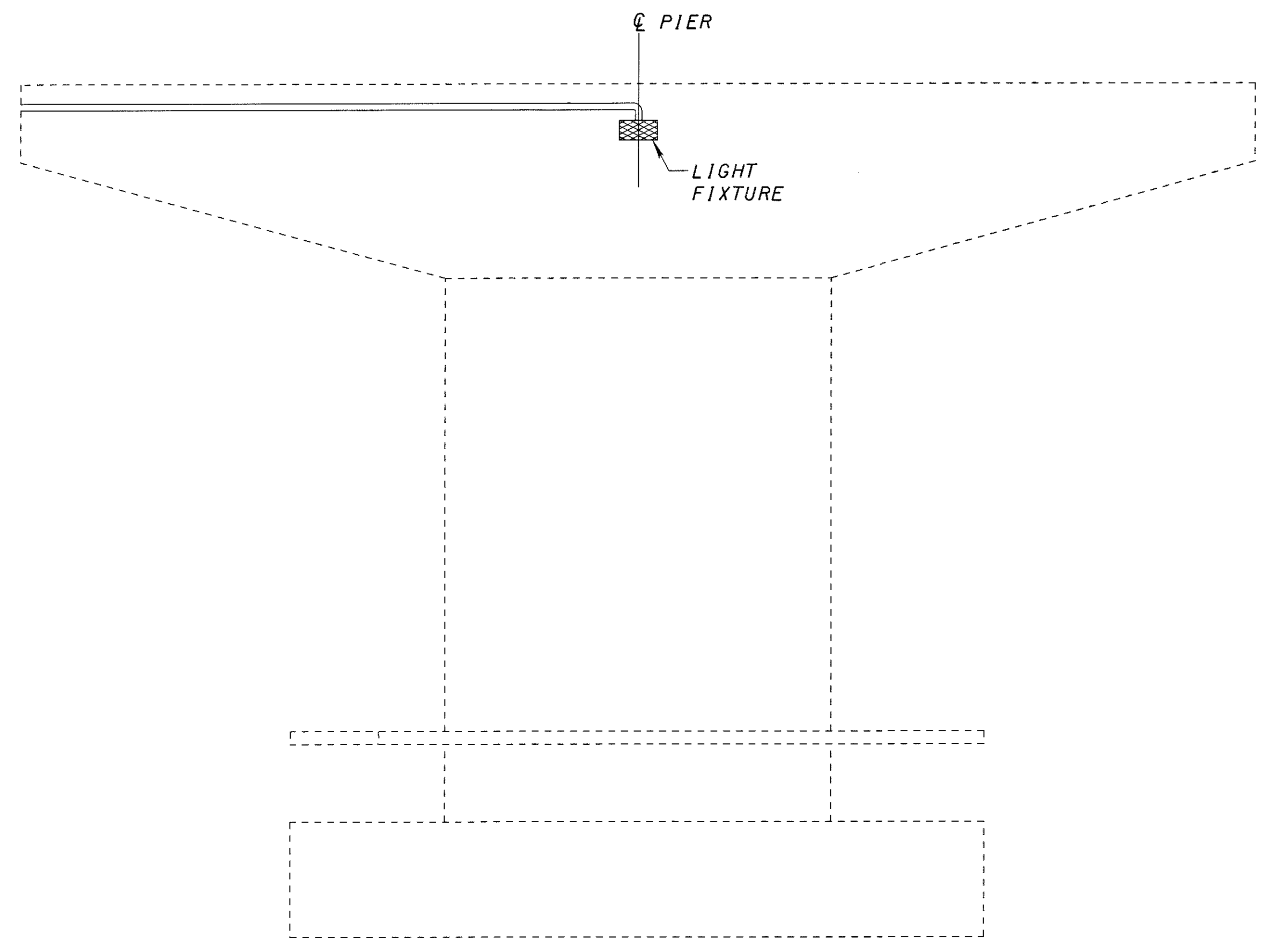


**ELEVATION - PIER 12**  
(NORTH FACE)

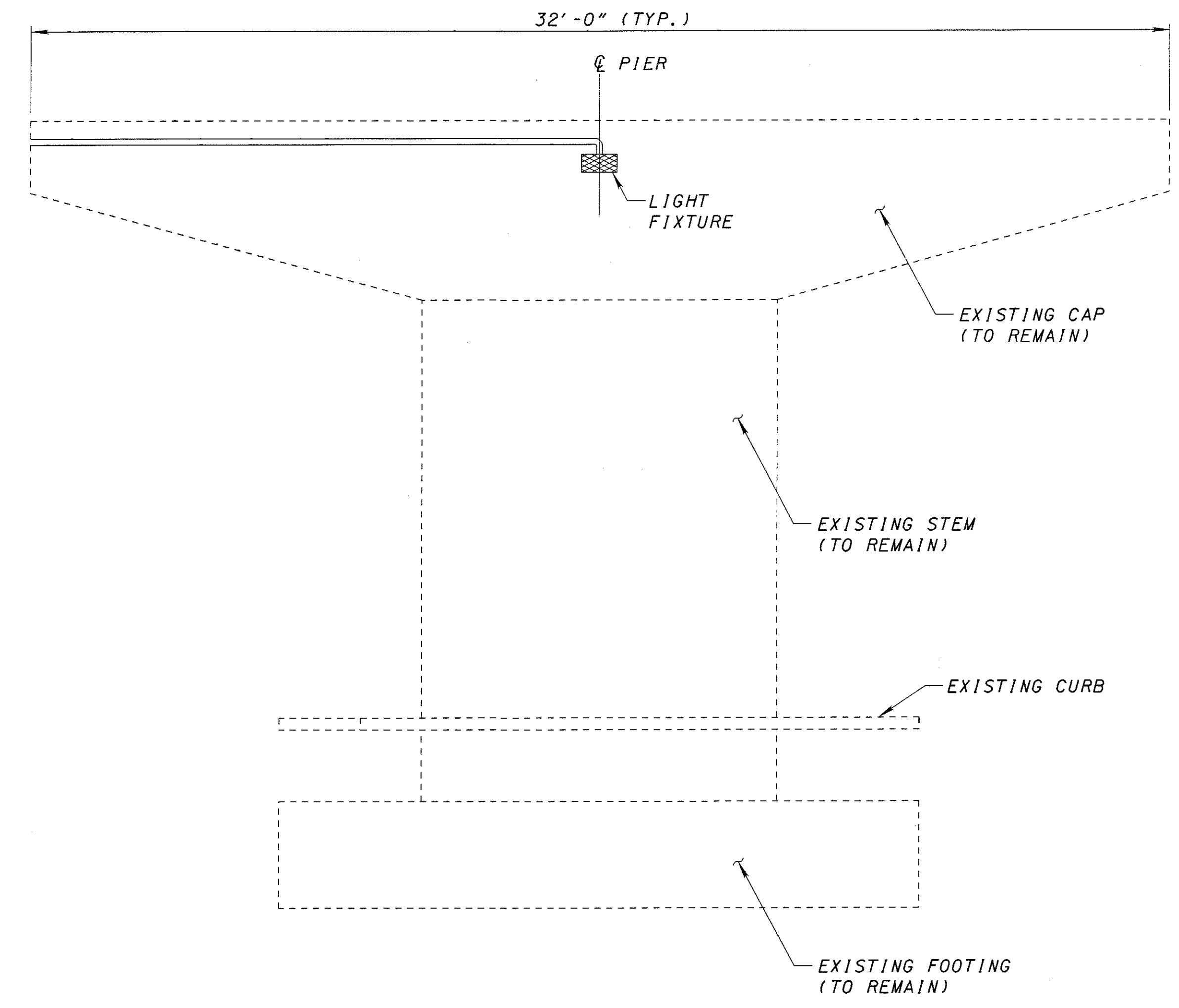
**NOTE:**  
THE ENTIRE LENGTH OF THE EXISTING #6 BARS ARE TO REMAIN. A MINIMUM DOWEL LENGTH OF 2'-6" FOR THE EXISTING BARS SHALL BE PROVIDED INTO THE PROPOSED CAP. DOWELS SHALL BE PROVIDED FOR ALL EXISTING #6 BARS THAT DO NOT EXTEND 2'-6" INTO THE PROPOSED CAP. PAYMENT FOR THESE BARS SHALL BE INCLUDED WITH ITEM 842, CLASS C CONCRETE, PIER CAP.

**LEGEND:**

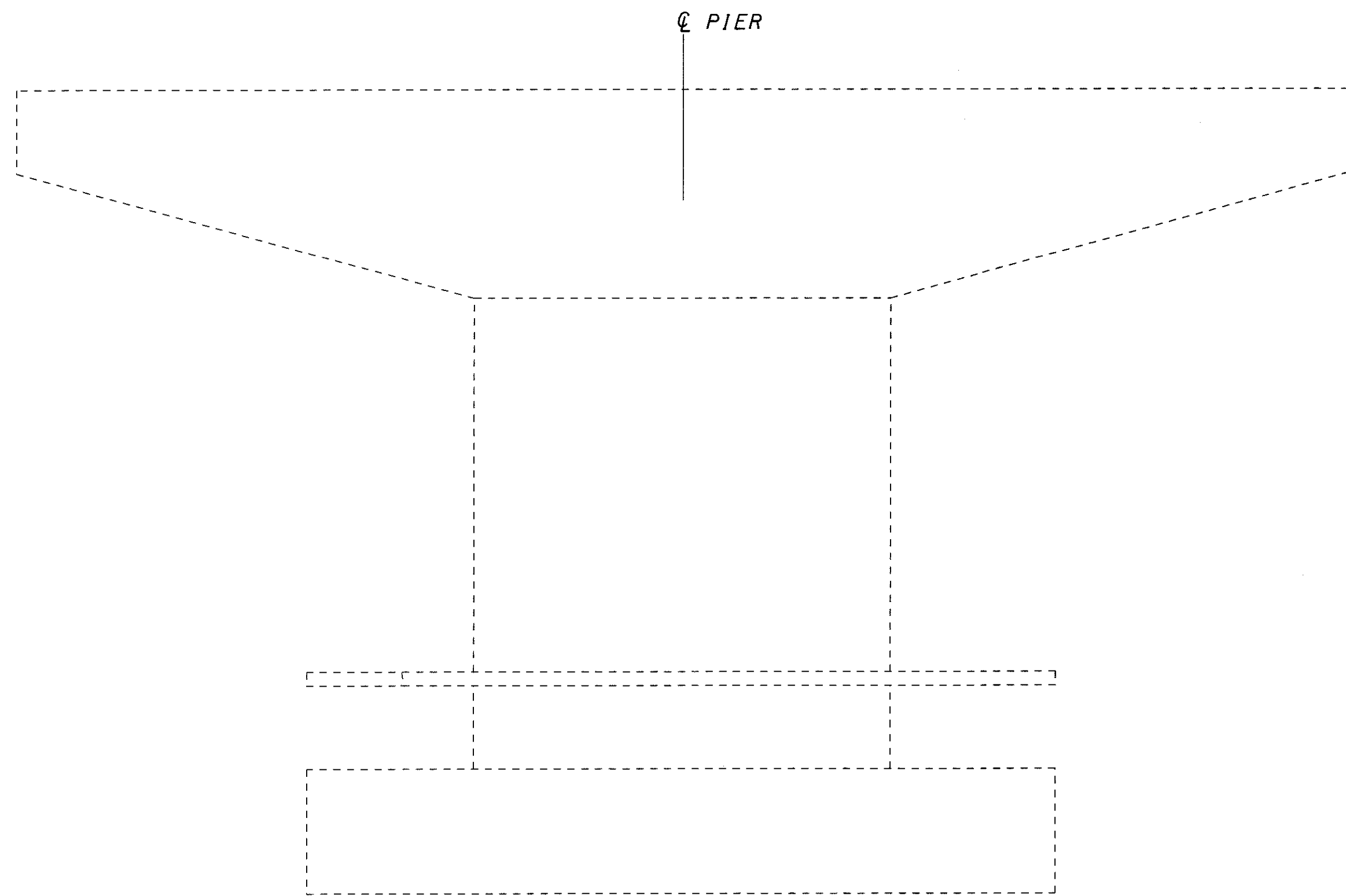
-  INDICATES PATCHING
-  INDICATES REMOVAL



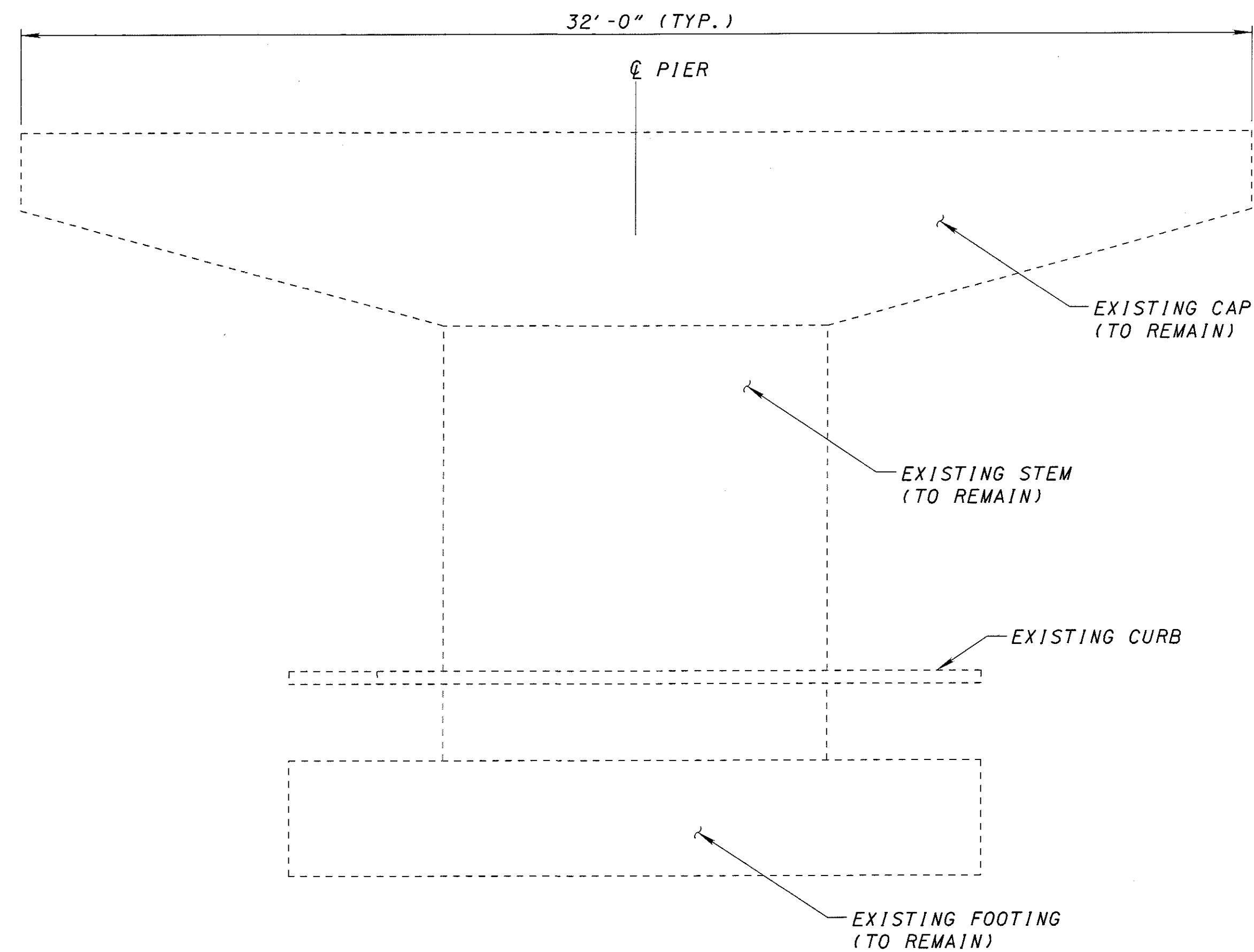
**ELEVATION - PIER 13**  
(SOUTH FACE)



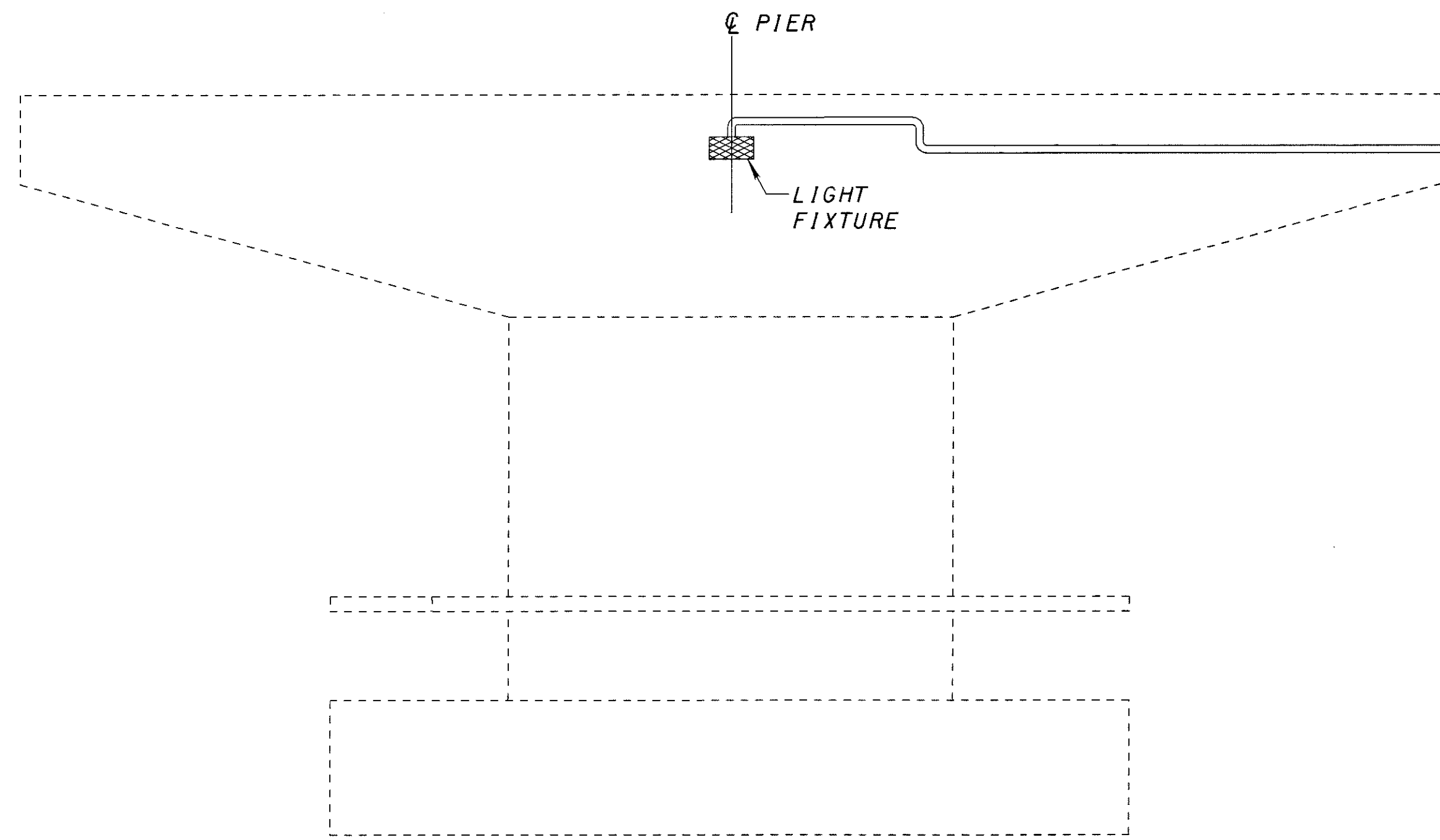
**ELEVATION - PIER 13**  
(NORTH FACE)



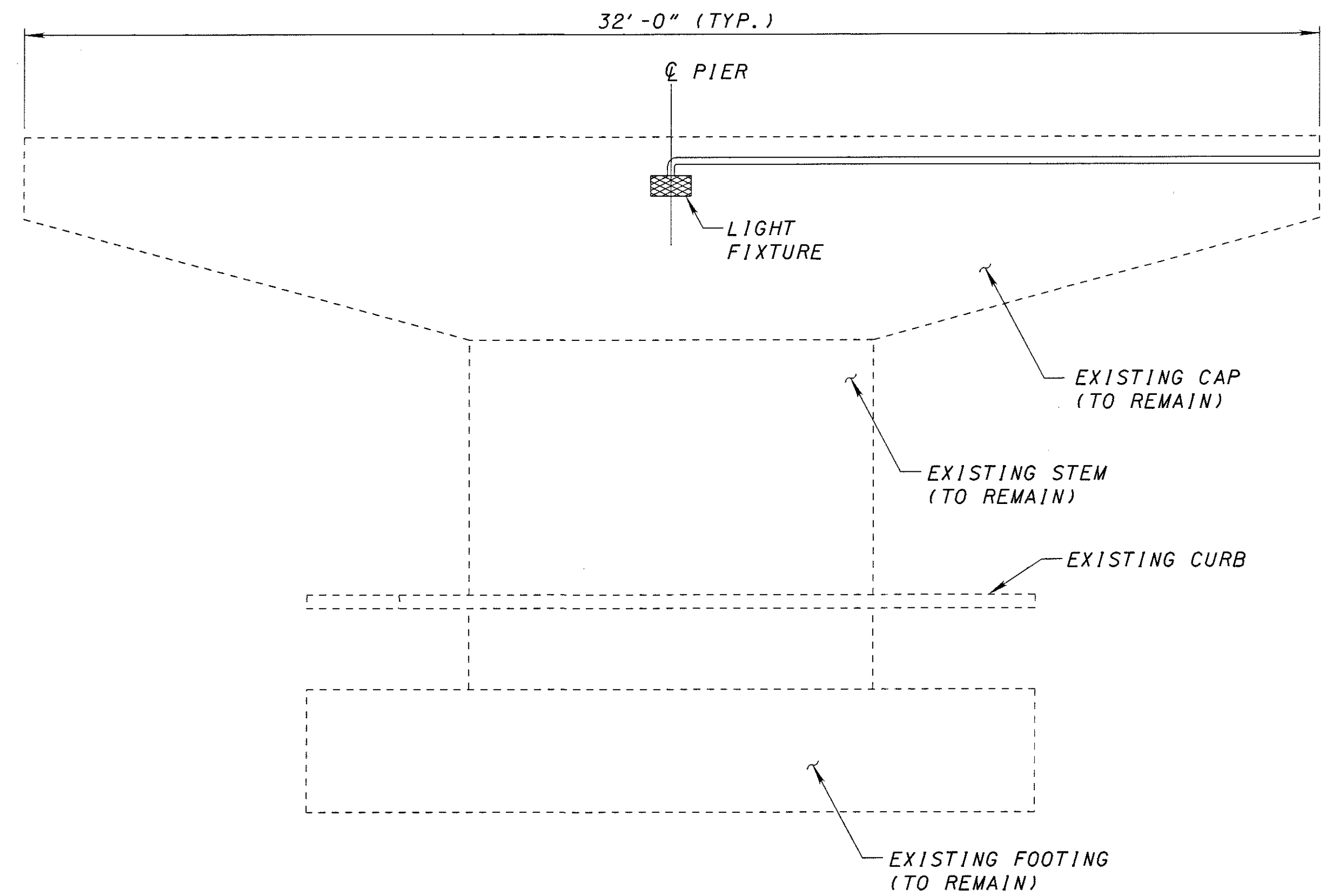
**ELEVATION - PIER 14**  
(SOUTH FACE)



**ELEVATION - PIER 14**  
(NORTH FACE)

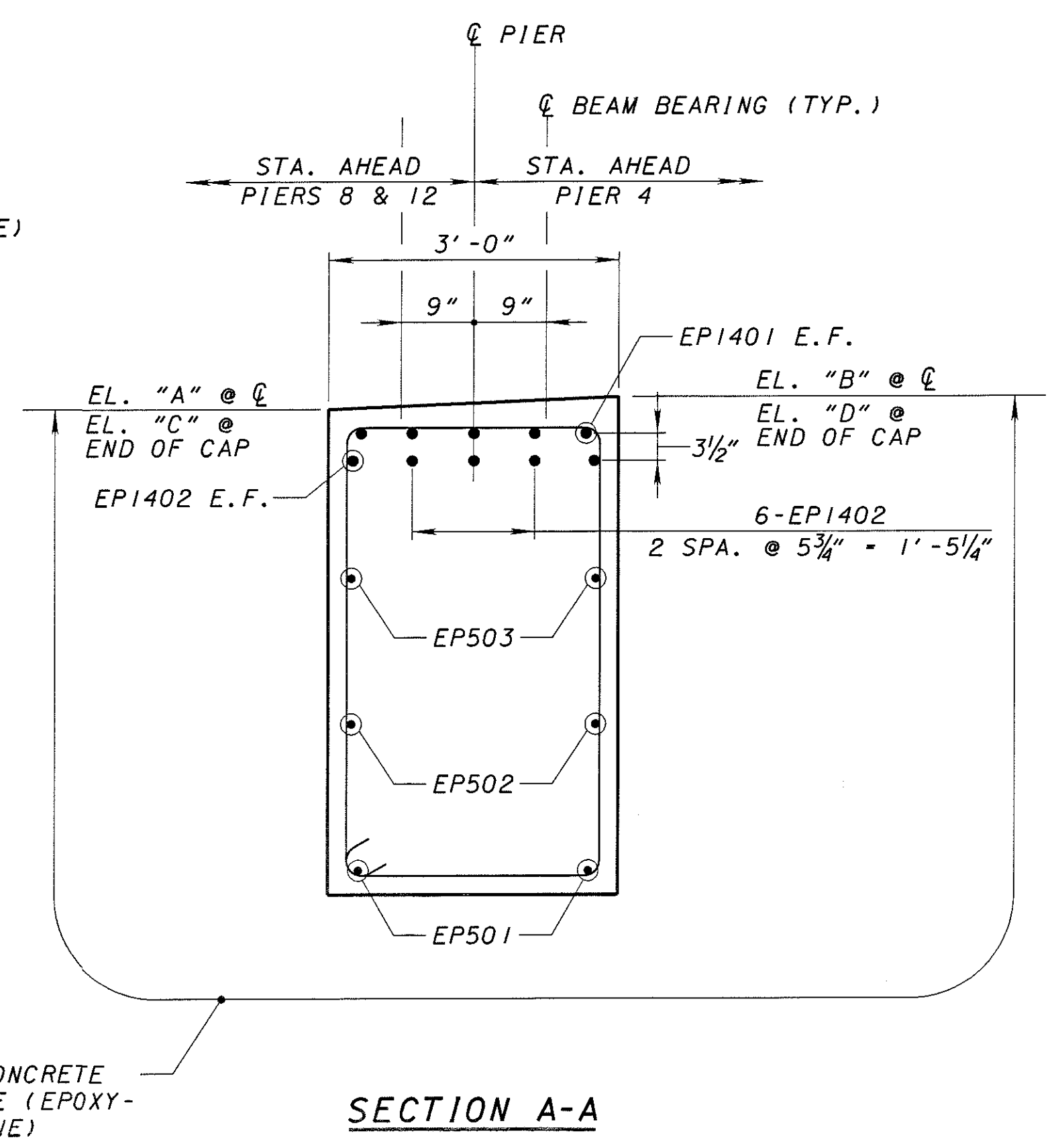
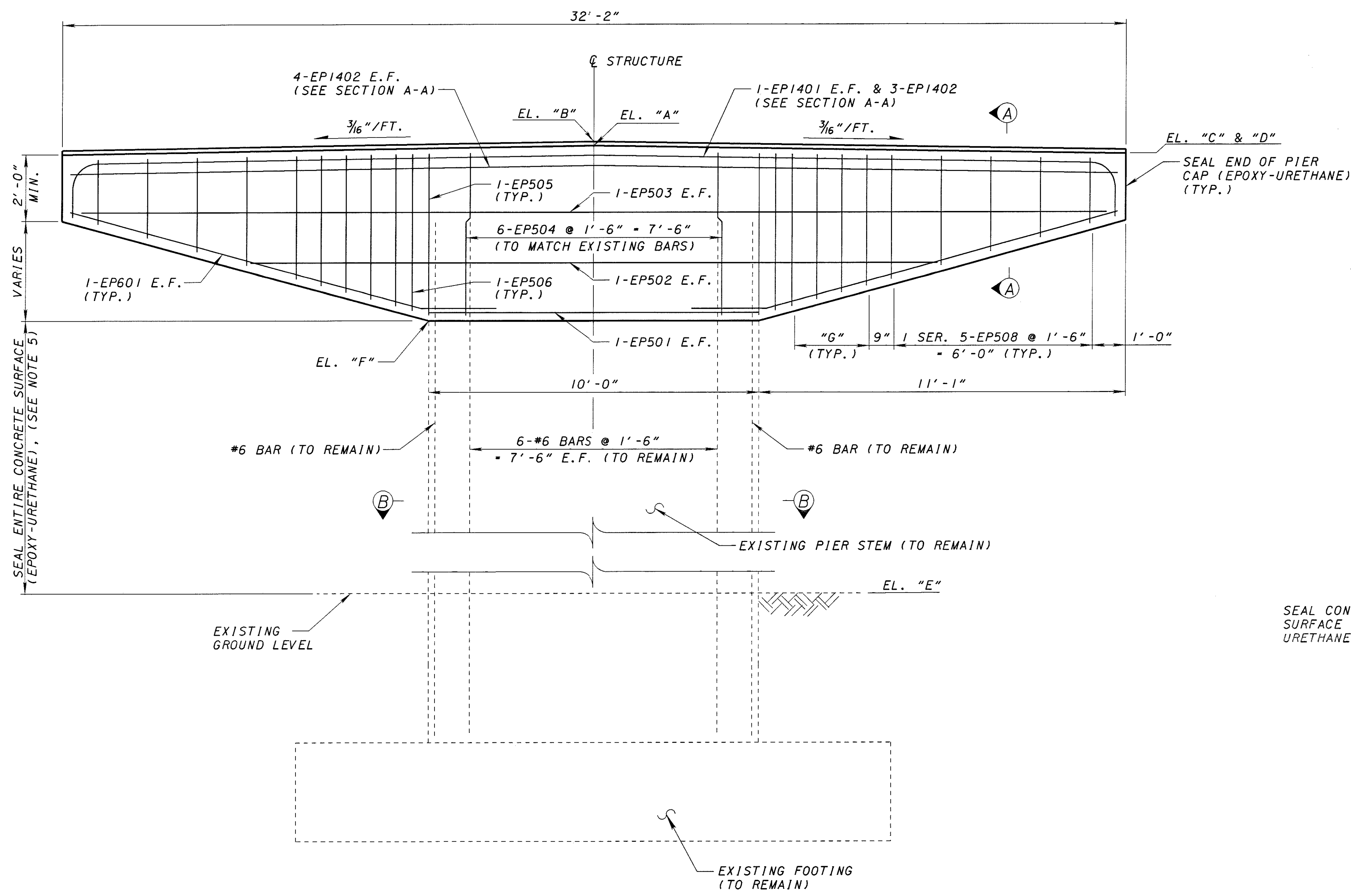


**ELEVATION - PIER 15**  
(SOUTH FACE)



**ELEVATION - PIER 15**  
(NORTH FACE)

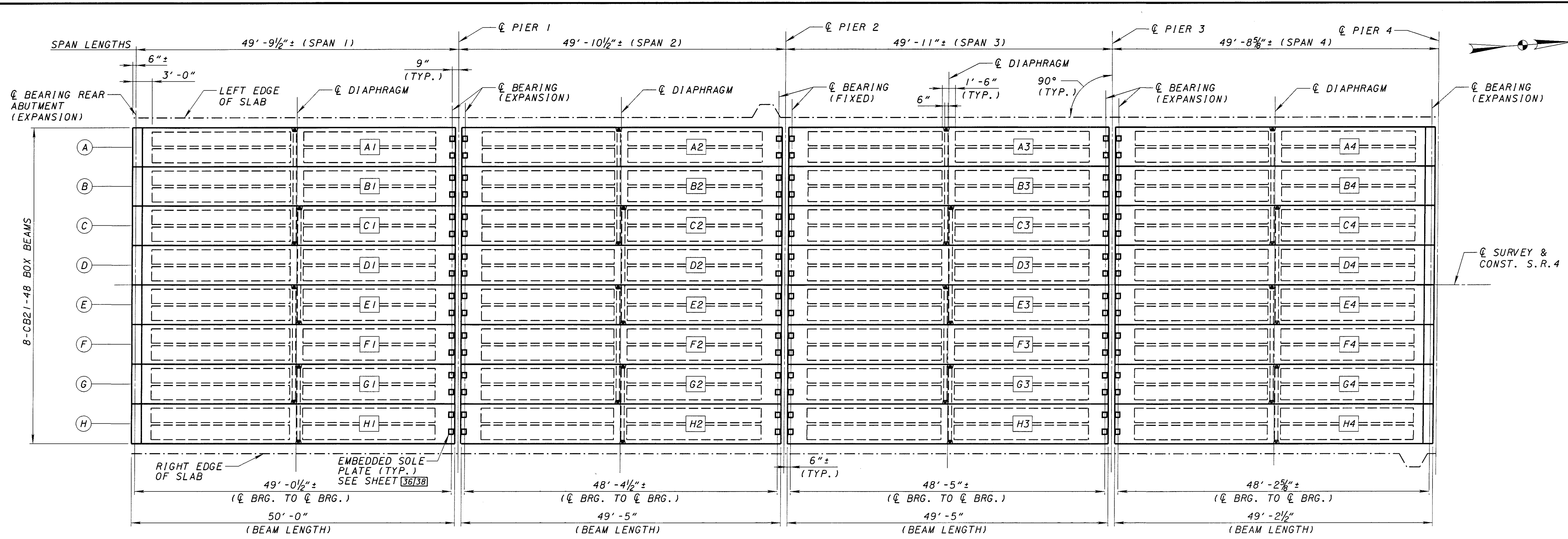




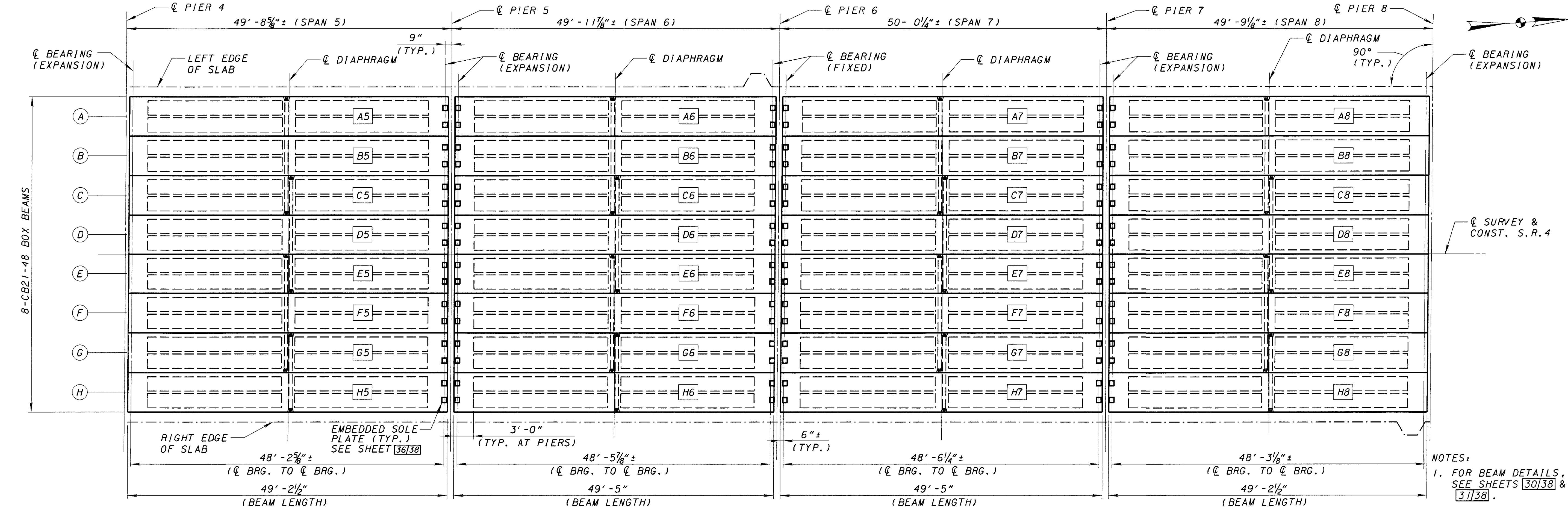
**PIER REINFORCING ELEVATION**  
 (PIER #4 LOOKING NORTH, PIERS #8 & #12 LOOKING SOUTH)

LOCATION	"A" @ CL	"B"	"C" @ END OF CAP	"D"	"E"	"F"	"G"
PIER 4	1000.61	1000.75	1000.36	1000.50	979.2	995.6	1 SER. 4-EP507 @ 9" = 2'-3"
PIER 8	1004.74	1004.78	1004.49	1004.53	980.3	999.7	1 SER. 4-EP507 @ 9" = 2'-3"
PIER 12	997.57	997.77	997.32	997.52	977.9	992.6	1 SER. 4-EP507 @ 9" = 2'-3"

- NOTES:
- FOR PIER 4 REMOVAL & REPAIR DETAILS, SEE SHEET 15/38.
  - FOR PIER 8 REMOVAL & REPAIR DETAILS, SEE SHEET 19/38.
  - FOR PIER 12 REMOVAL & REPAIR DETAILS, SEE SHEET 23/38.
  - FOR SECTION B-B SEE SHEET 12/38.



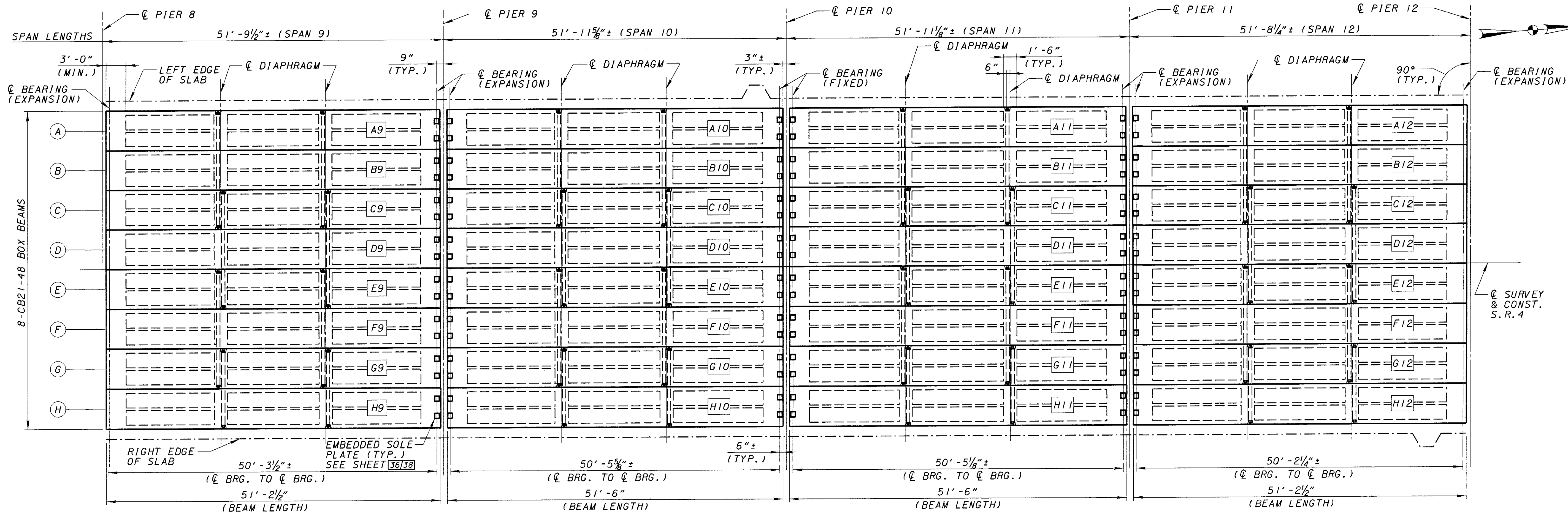
FRAMING PLAN (SPANS 1 THRU 4)



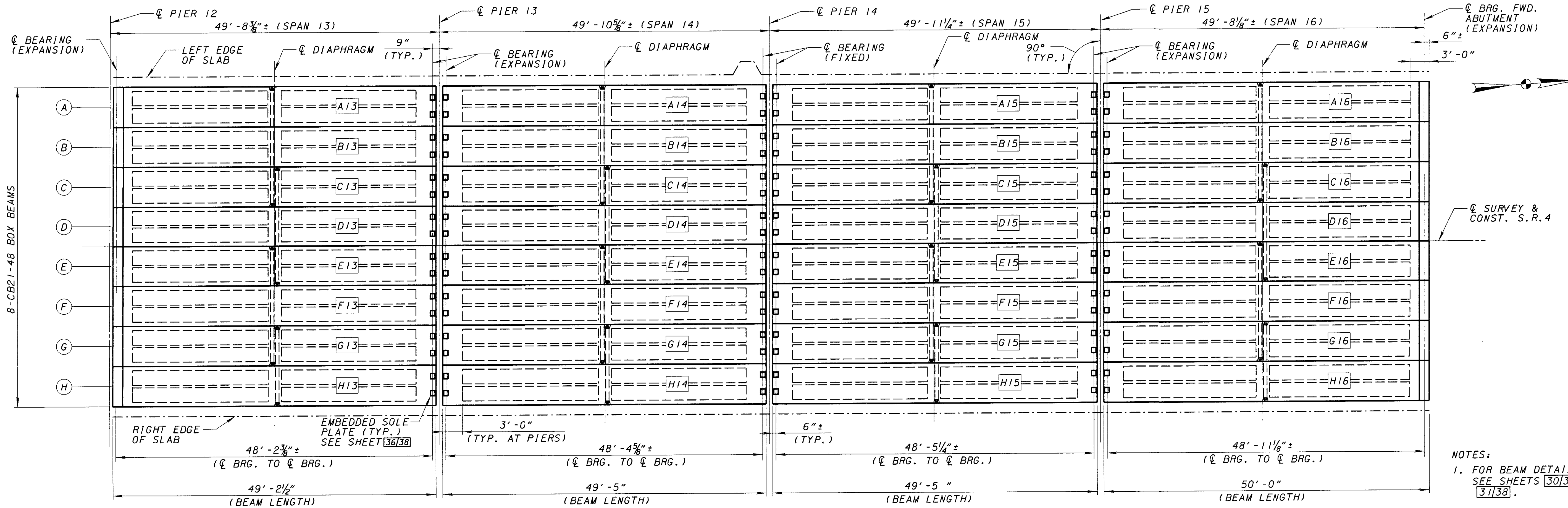
FRAMING PLAN (SPANS 5 THRU 8)

- NOTES:
- 1. FOR BEAM DETAILS, SEE SHEETS 30/38 & 31/38.
  - 2. SPAN LENGTHS ARE MEASURED AT  $\phi$  SURVEY & CONST. S.R. 4.
- (A) INDICATES BEAM LINE DESIGNATION  
 (A1) INDICATES BEAM DESIGNATION

DESIGN AGENCY: PARSONS BRINCKERHOFF OHIO, INC. 6235 ENTERPRISE COURT DUBLIN, OHIO 43016  
 DATE: 02/11/02  
 REVIEWED: EBS  
 STRUCTURE FILE NUMBER: 5100127  
 DRAWN: AP  
 REVISIONS:  
 DESIGNED: BMG  
 CHECKED: TJM  
 FRAMING PLAN 1 (SPANS 1 THRU 8)  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT  
 MAR-4-11.70  
 28/38  
 58/68  
 PROJECTS: \*20535\*dgnbr1dgs\*no004sd1.dgn  
 PROJECTS: \*20535\*dgnbr1dgs\*no004sd1.prp  
 Mon Jun 10 16:26:20 2002



FRAMING PLAN (SPANS 9 THRU 12)



FRAMING PLAN (SPANS 13 THRU 16)

(A) INDICATES BEAM LINE DESIGNATION  
 (A1) INDICATES BEAM DESIGNATION

NOTES:  
 1. FOR BEAM DETAILS, SEE SHEETS 30/38 & 31/38.  
 2. SPAN LENGTHS ARE MEASURED AT Q SURVEY & CONST. S. R. 4.

DESIGN AGENCY  
**PARSONS BRINCKERHOFF OHIO, INC.**  
 6235 ENTERPRISE COURT  
 DUBLIN, OHIO 43016

DATE  
 02/11/02

REVIEWED  
 EBS

STRUCTURE FILE NUMBER  
 5100127

DESIGNED  
 BMG

CHECKED  
 TJM

DRAWN  
 AP

REVISED

BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT

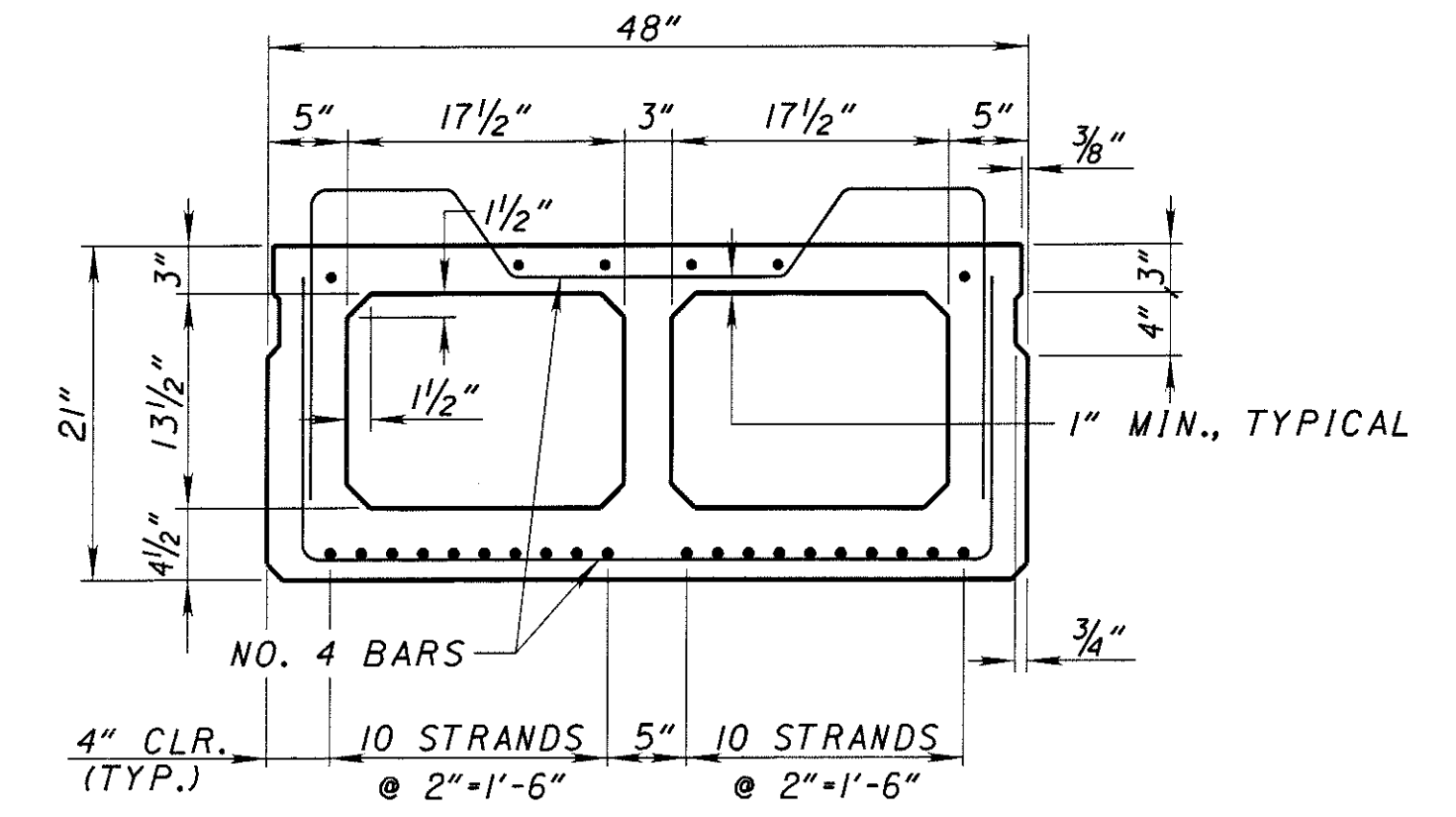
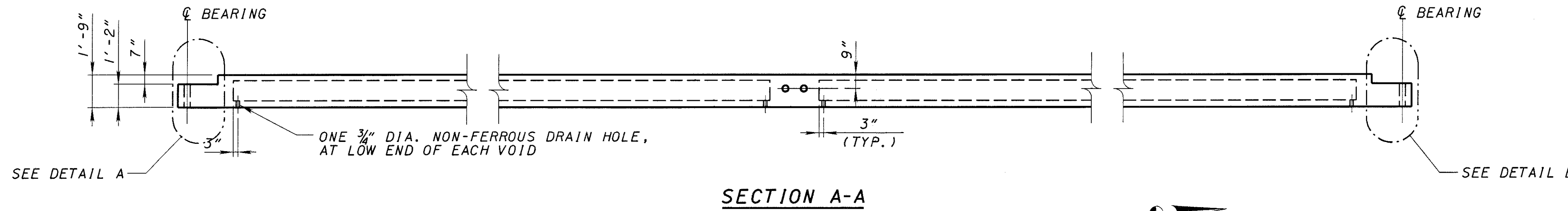
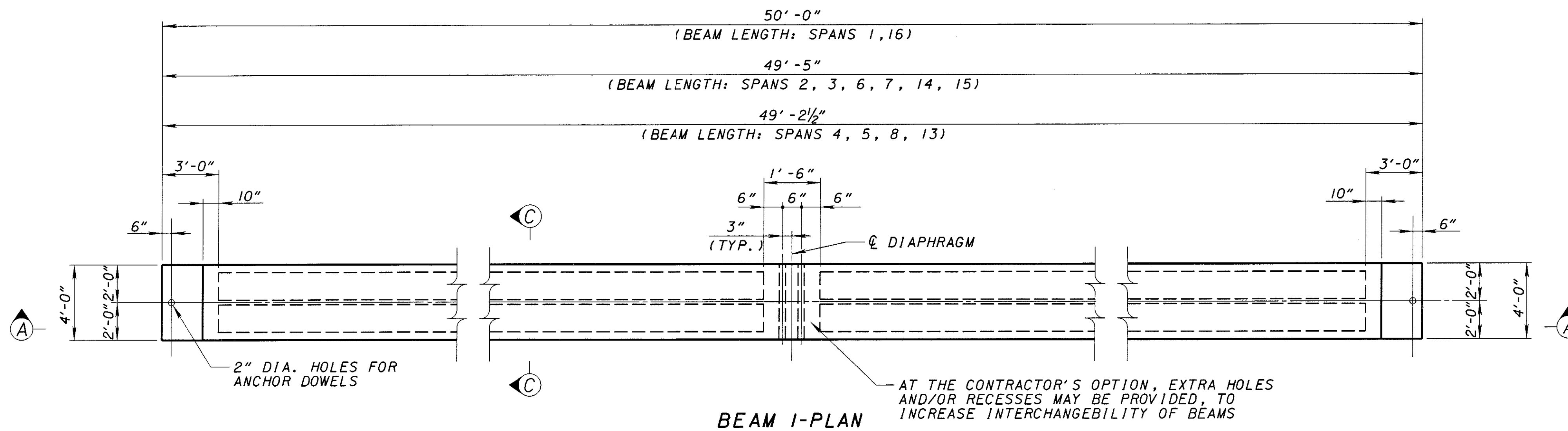
FRAMING PLAN 11 (SPANS 9 THRU 16)

MAR-4-11.70

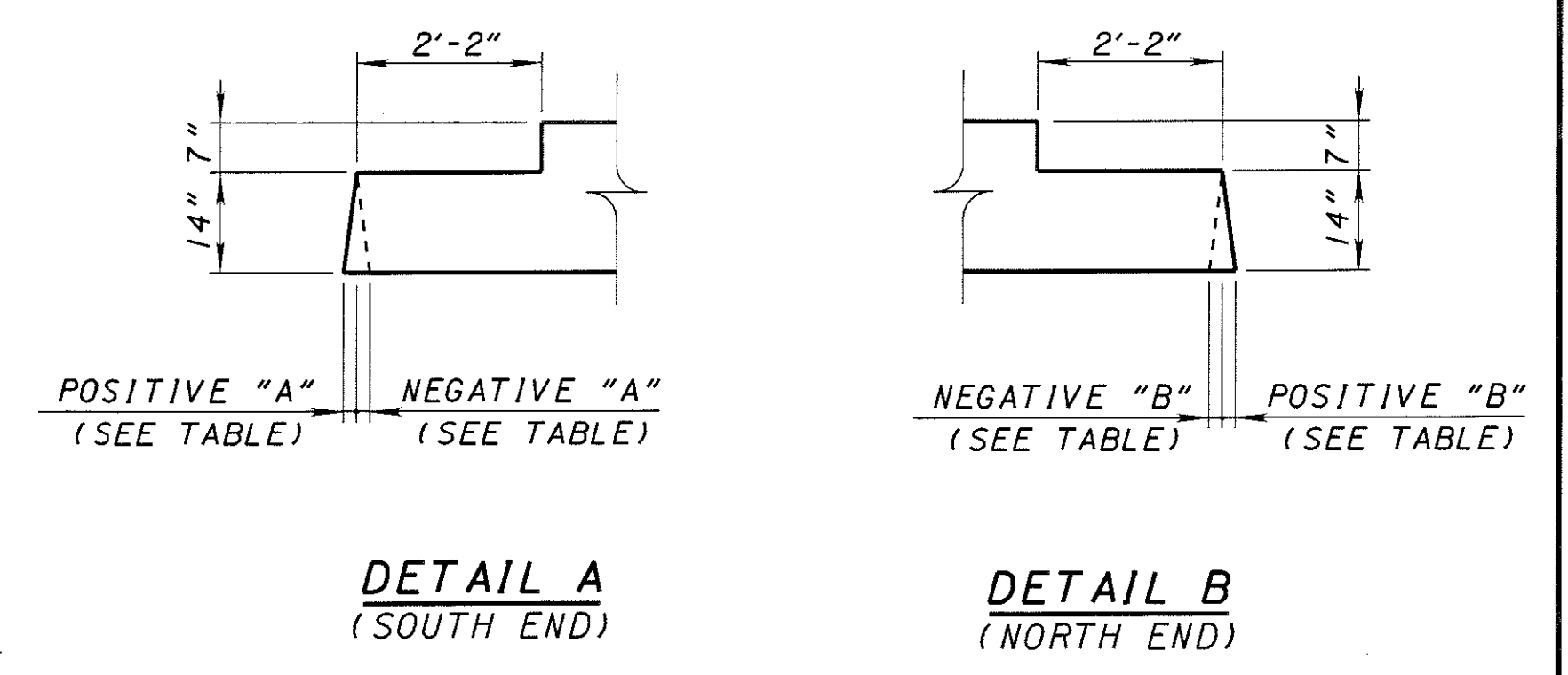
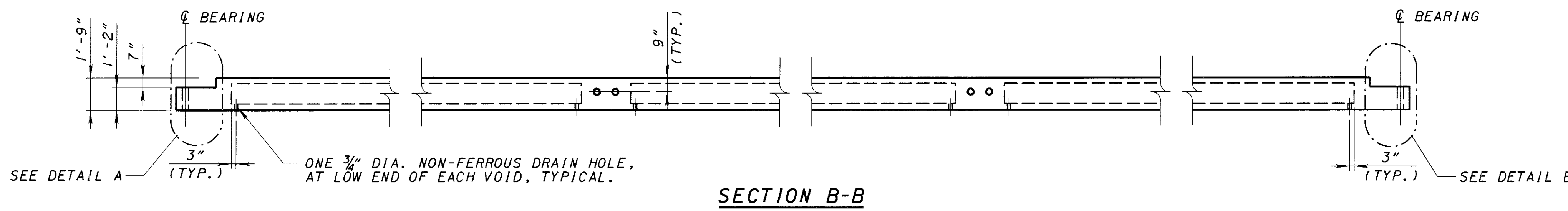
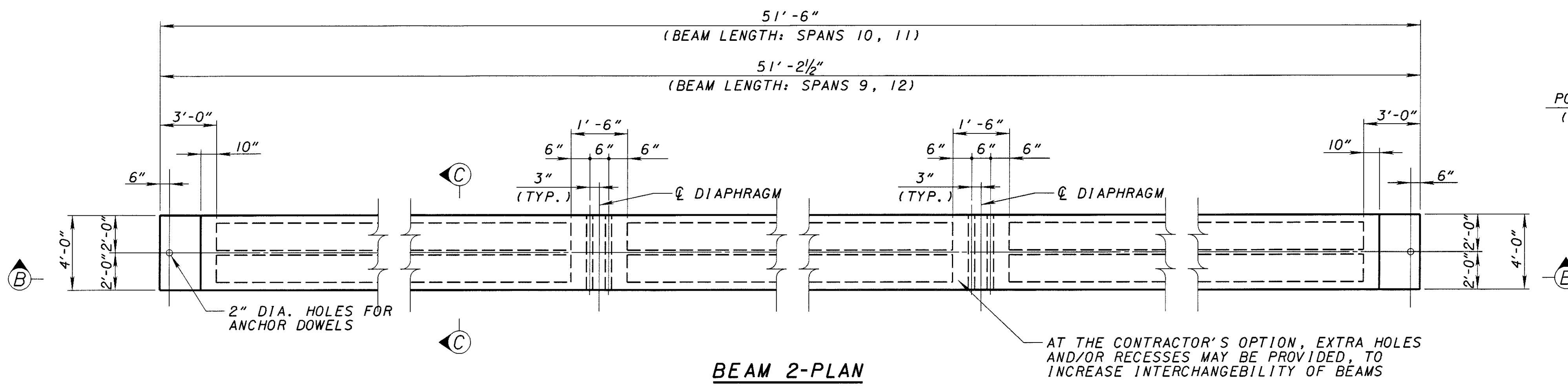
29/38

59/68

G:\PROJECTS\20535\*dgnbr1\dge\*mo004sd2.dgn g:\projects\20535\*dgnbr1\dge\*mo004sd2.prf Mon Jun 10 16:26:42 2002

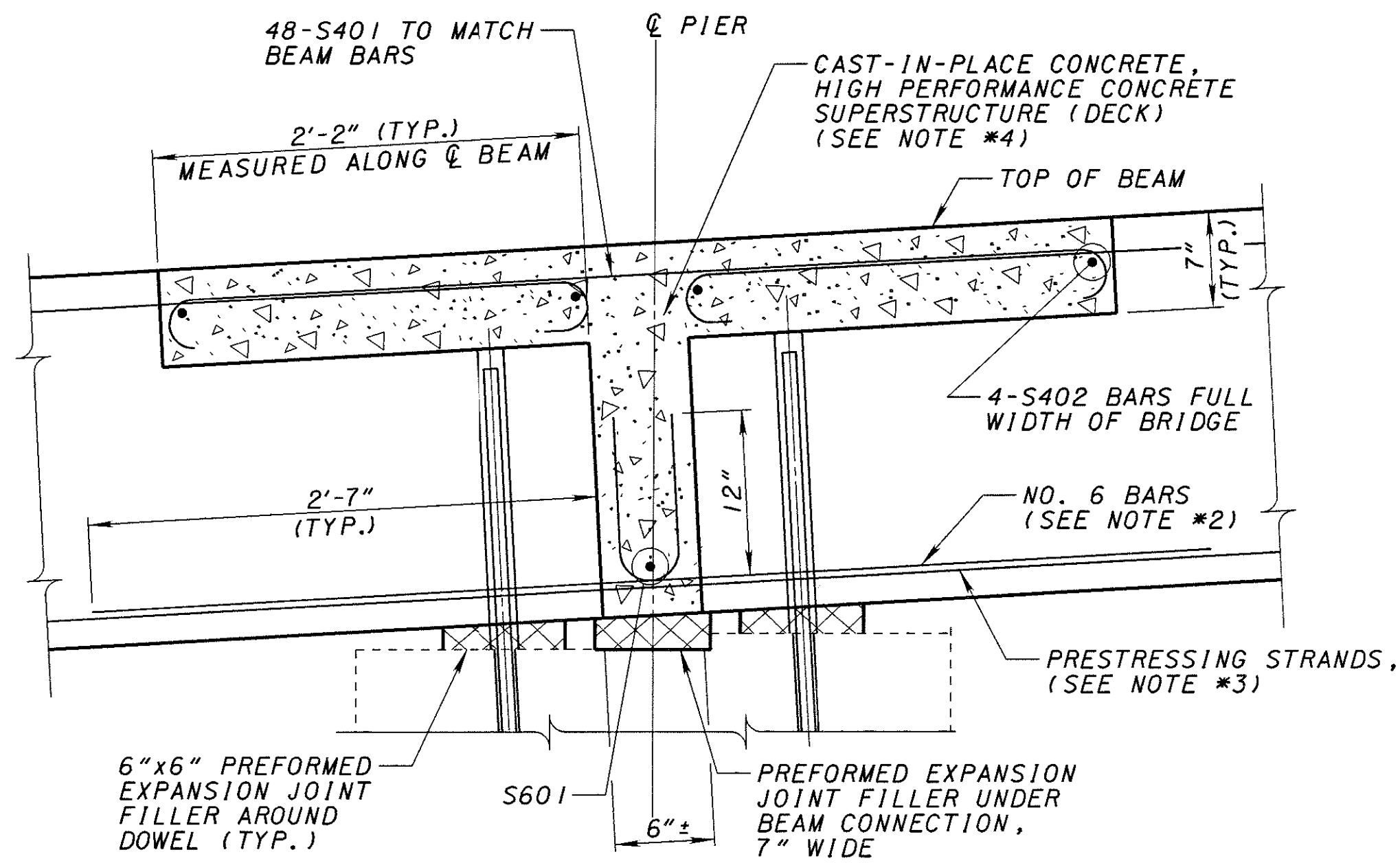


**SECTION C-C**  
(CB21-48)  
(FOR SPACING OF NO. 4 BARS SEE STD. DWG. PSBD-1-93)



BEAM DESIGNATION	DIMENSION "A"	DIMENSION "B"
A1 THRU H1	7/8"	0"
A4 THRU H4	0"	-5/8"
A5 THRU H5	5/8"	0"
A12 THRU H12	0"	7/8"
A13 THRU H13	-7/8"	0"
A16 THRU H16	0"	7/8"
ALL OTHERS	0"	0"

- NOTES:
- FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG. NO. PSBD-1-93.
  - SEE FRAMING PLAN FOR SOLE PLATE LOCATIONS.

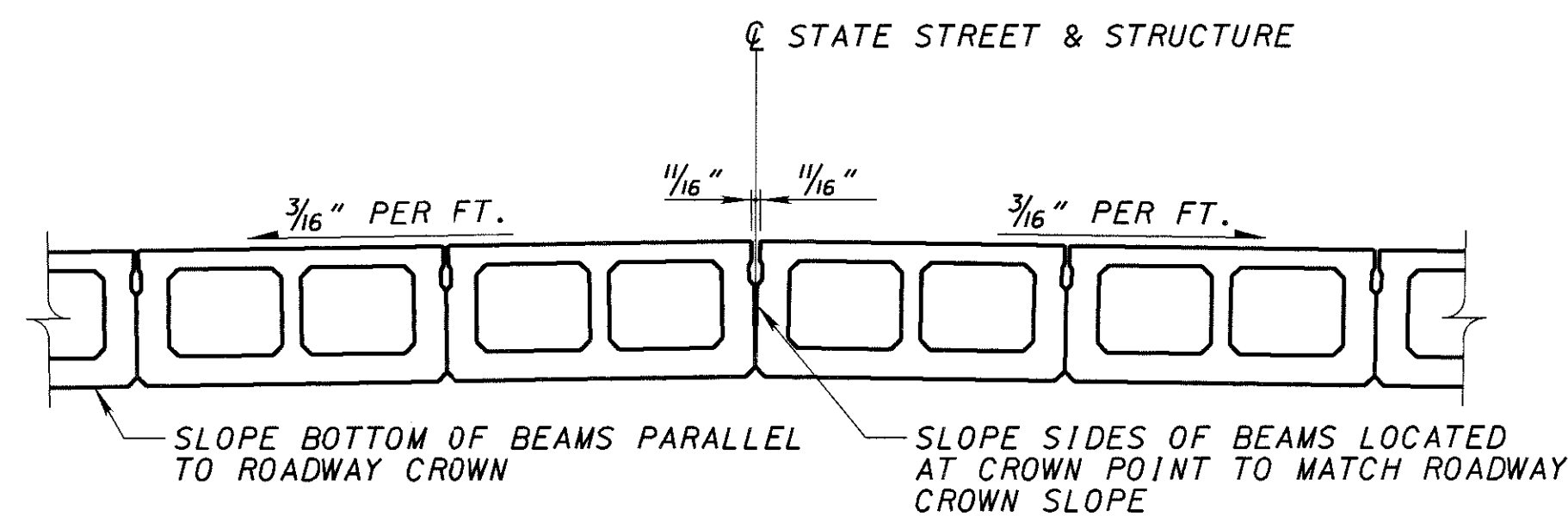


**BOX BEAM CONNECTION NOTES:**

- \*1. LAP BARS SAME SIZE AND NUMBER AS BEAM BARS. HOOKS MAY BE ROTATED FROM THE VERTICAL POSITION TO PROVIDE THE REQUIRED CLEARANCE.
- \*2. PROVIDE 6 NO. 6 BARS EACH BEAM END IN BEAMS. NO. 6 BARS SHALL BE LOCATED ON TOP OF STIRRUPS AND SHALL BE UNIFORMLY SPACED ACROSS THE BEAM.
- \*3. AT THE FABRICATOR'S OPTION, STRANDS MAY BE EXTENDED AND BENT UP IN LIEU OF NO. 6 BARS. BEAMS WITH A TOTAL OF 12 OR MORE STRANDS SHALL HAVE A MINIMUM OF 6 STRANDS BENT UP. BEAMS WITH LESS THAN 12 STRANDS TOTAL SHALL HAVE APPROXIMATELY ONE HALF OF THE TOTAL NUMBER OF STRANDS BENT UP. THE PRESTRESSING STRANDS WHICH ARE BENT UP SHALL BE STAGGERED IN ABUTTING BEAM ENDS TO AVOID INTERFERENCE.
- \*4. IN LIEU OF HIGH PERFORMANCE CONCRETE, THE CONTRACTOR AT HIS OPTION MAY USE OTHER CONCRETE MIXTURES IN ACCORDANCE WITH CMS 499.03 FOR ACHIEVING THE REQUIRED STRENGTH EARLIER.

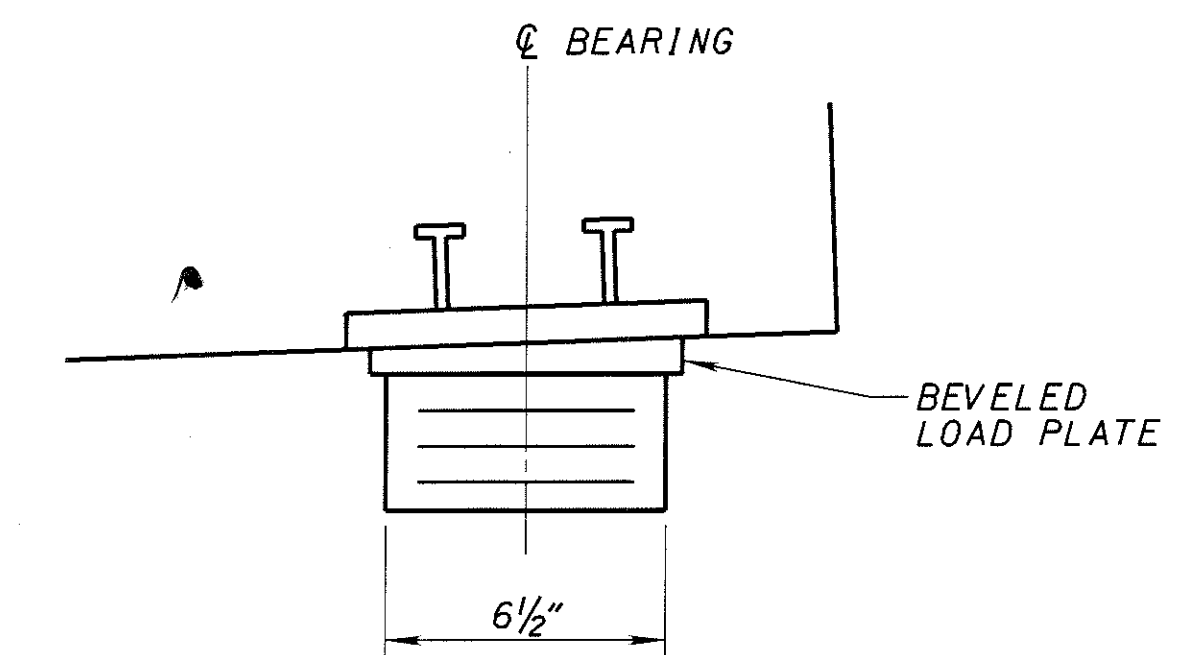
**BOX BEAM CONNECTION OVER PIER**

(DECK SLAB REINFORCEMENT NOT SHOWN, TYP. @ ALL PIERS EXCEPT #4, #8 & #12)  
(FOR ADDITIONAL DETAILS, SEE STD. DWG. NO. PSBD-1-93, SHEET 4 OF 4.)



**BEAM TREATMENT AT CROWN LINE**

LOAD PLATE HEIGHT TABLE			
SUBSTRUCTURE UNIT	BEARING LINE	DOWNSTATION	UPSTATION
REAR ABUTMENT	--	NONE	NONE
PIER 1 THRU 3	SOUTH	9/16"	15/16"
	NORTH	9/16"	15/16"
PIER 4		NONE	NONE
PIER 5	SOUTH	9/16"	3/4"
	NORTH	9/16"	3/4"
PIER 6	SOUTH	9/16"	1/16"
	NORTH	9/16"	1/16"
PIER 7		NONE	NONE
PIER 8		NONE	NONE
PIER 9	SOUTH	11/16"	9/16"
	NORTH	11/16"	9/16"
PIER 10	SOUTH	3/4"	9/16"
	NORTH	3/4"	9/16"
PIER 11	SOUTH	7/8"	9/16"
	NORTH	7/8"	9/16"
PIER 12		NONE	NONE
PIER 13 THRU 15	SOUTH	15/16"	9/16"
	NORTH	15/16"	9/16"
FWD. ABUTMENT	--	NONE	NONE

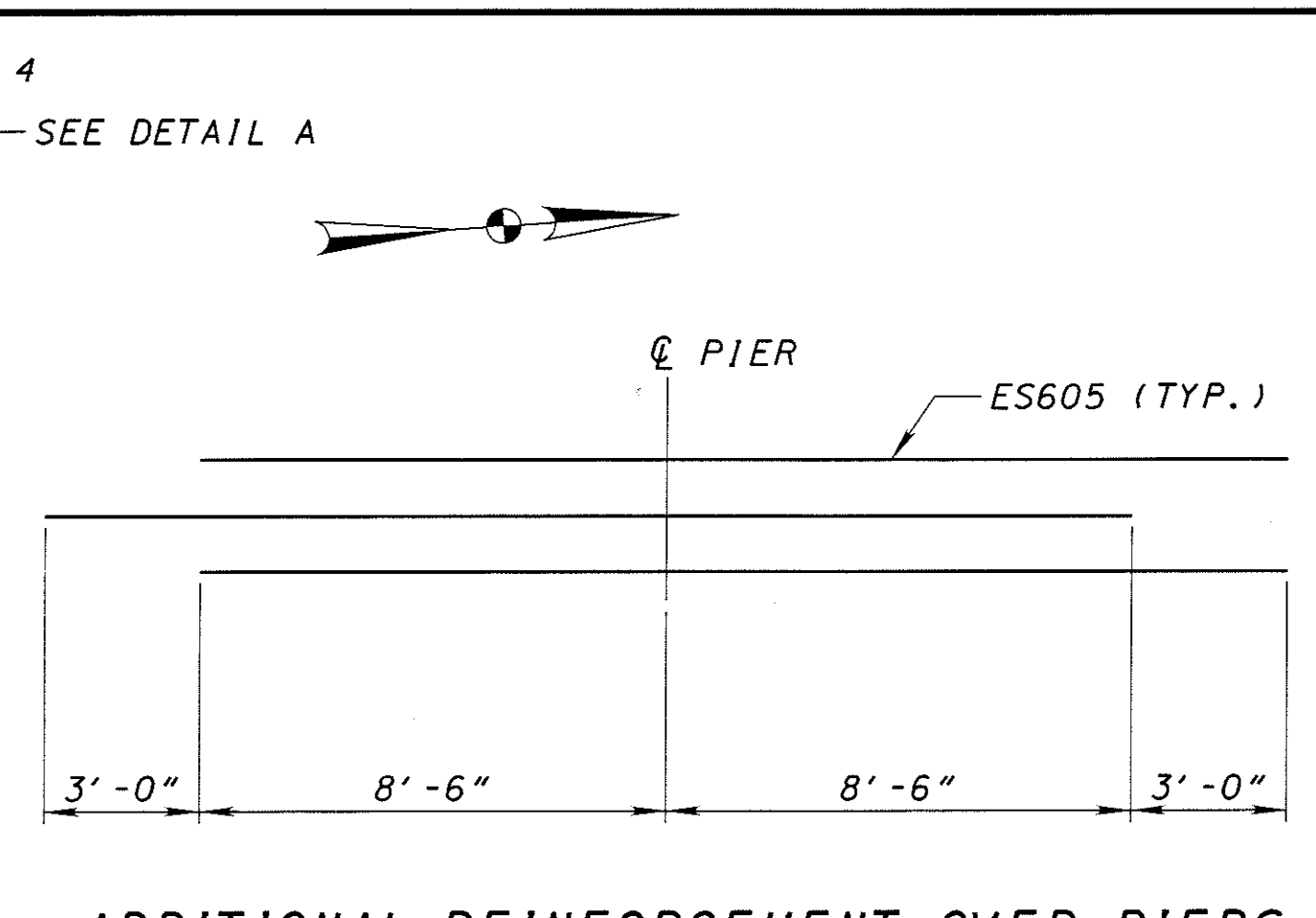
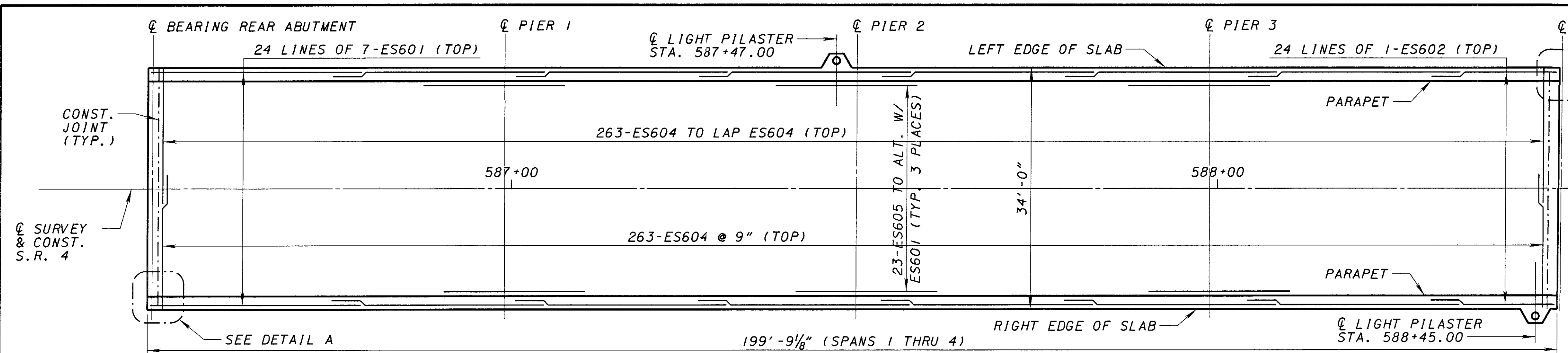


**ELEVATION**  
(AT BEARINGS LOOKING WEST)

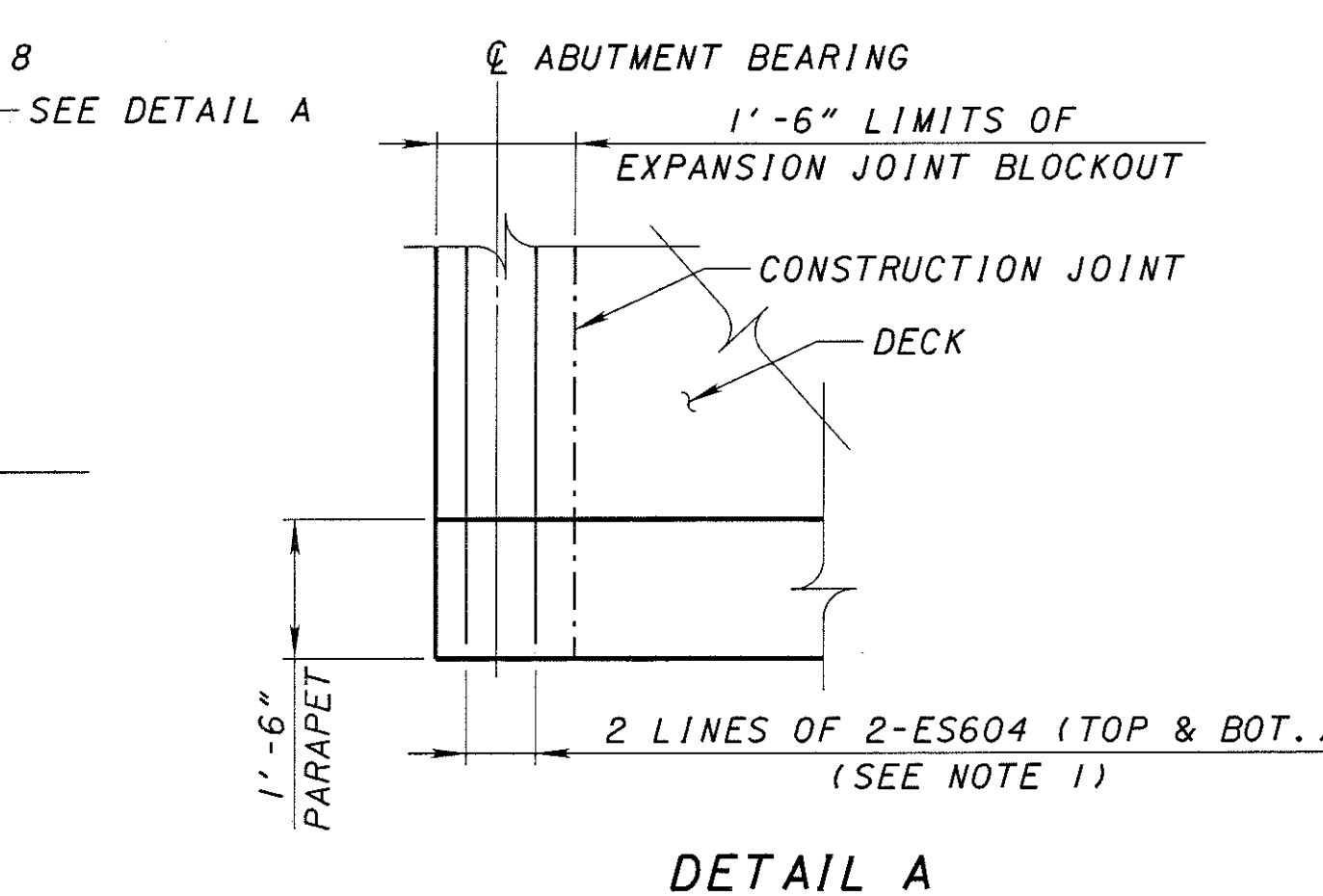
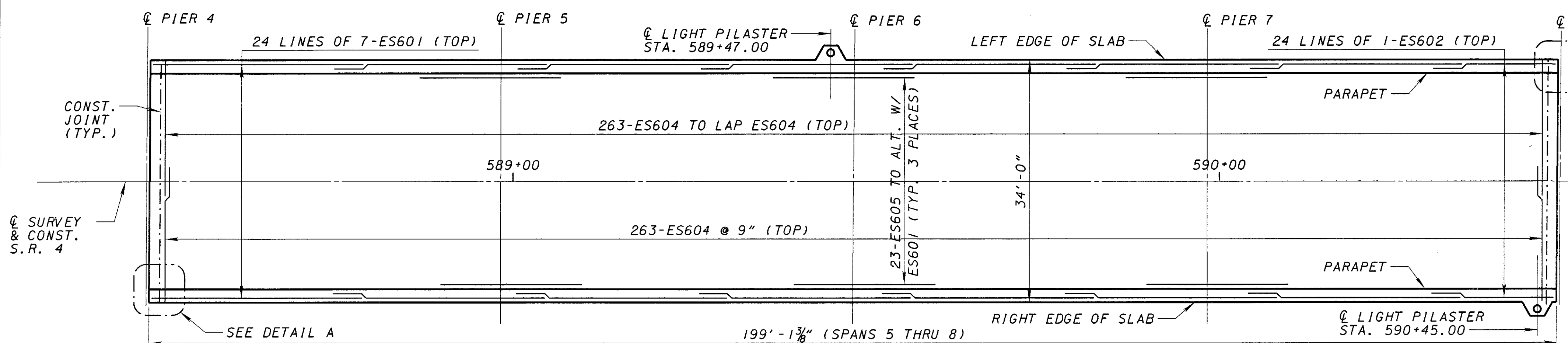
**NOTE:**

1. FOR ADDITIONAL NOTES & DETAILS, SEE STD. DWG. NO. PSBD-1-93.

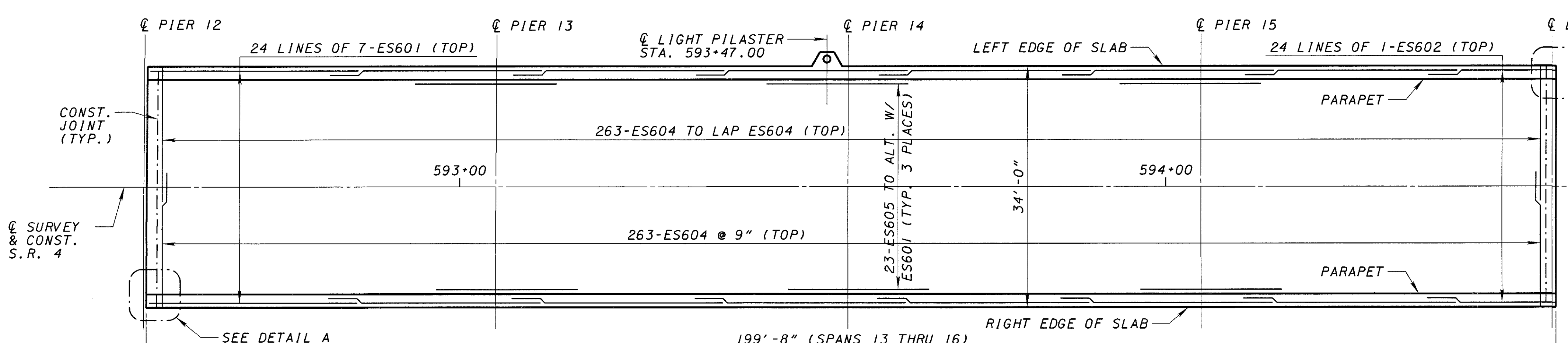
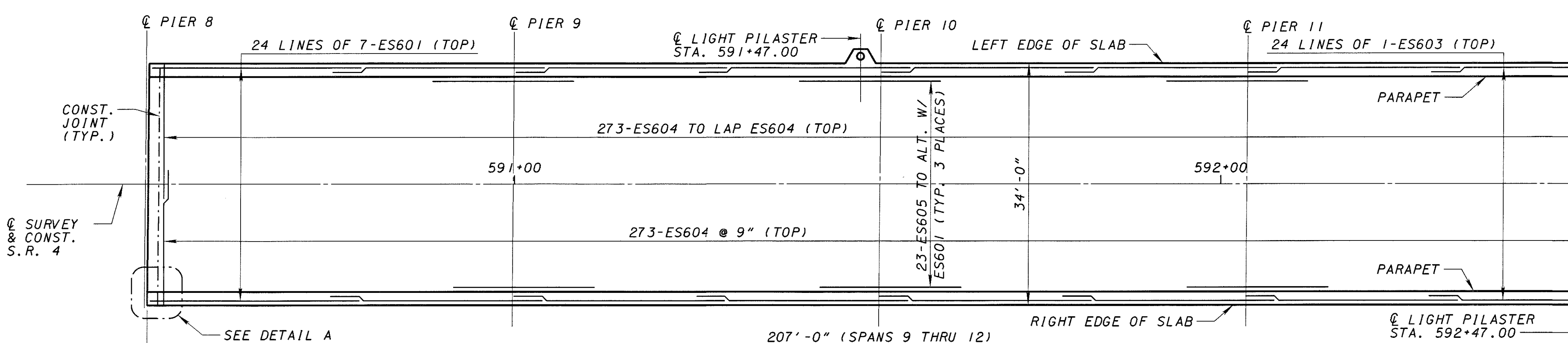
DESIGN AGENCY: PARSONS BRINCKERHOFF OHIO, INC. 6235 ENTERPRISE COURT DUBLIN, OHIO 43016  
 DATE: 02/11/02  
 REVIEWED: EBS  
 STRUCTURE FILE NUMBER: 5100127  
 DRAWN: AP  
 REVISED:  
 DESIGNED: BNG  
 CHECKED: TJM  
 BEAM DETAILS  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT  
 MAR-4-11.70  
 31/38  
 61/68



ADDITIONAL REINFORCEMENT OVER PIERS

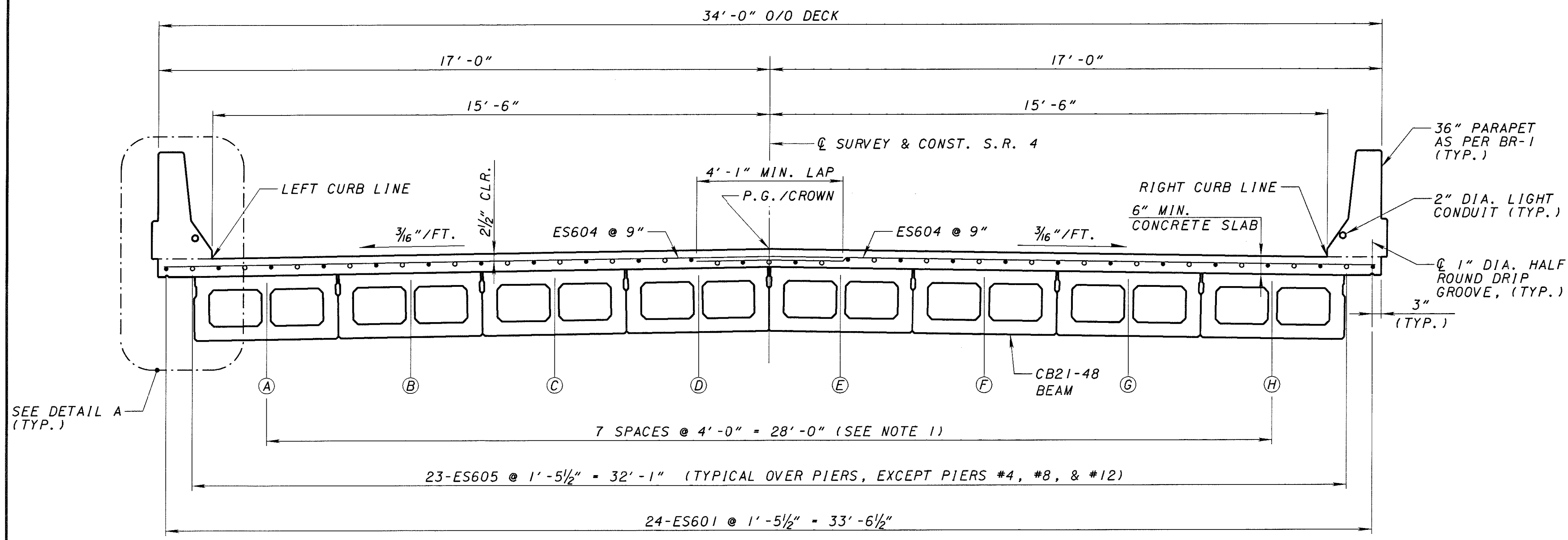


DETAIL A  
(ABUTMENT SHOWN, PIERS SIMILAR AT BOTH SIDES OF EXPANSION JOINT)

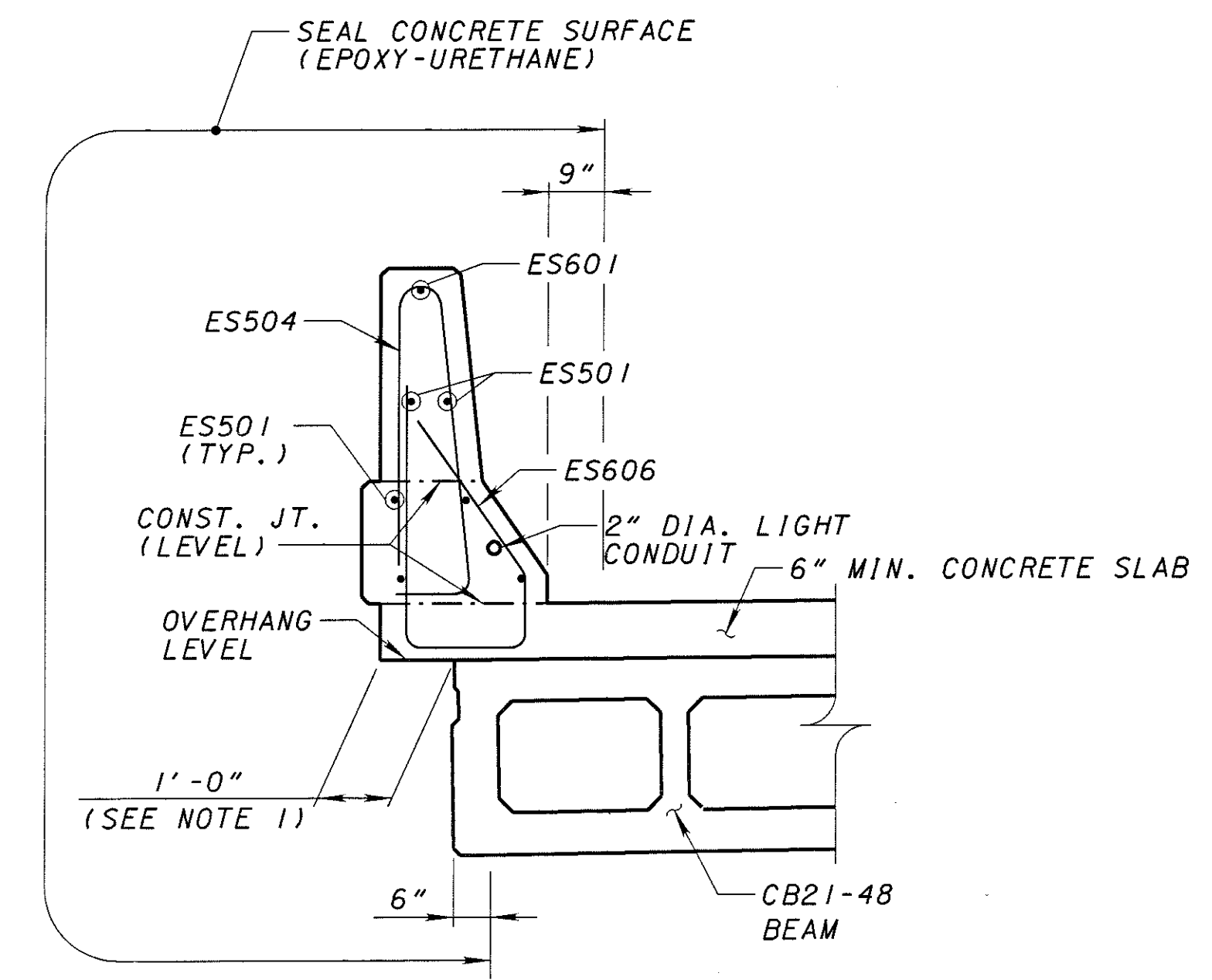


- NOTES:
1. FOR LIGHT PILASTER DETAILS, SEE SHEET 34/38.
  2. OVERALL DIMENSIONS SHOWN ARE TAKEN ALONG  $\phi$  SURVEY & CONSTRUCTION S.R. 4.
  4. FOR EXPANSION JOINT DETAILS, SEE SHEET 36/38.
  5. FOR BOX BEAM CONNECTION OVER PIERS, SEE SHEET 31/38.
  6. FOR PARAPET ELEVATION, SEE SHEET 34/38.
  7. SLAB PLAN DIMENSIONS BASED ON 1/2" RETAINER SLIP AND PLACEMENT @ 60°F.

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 DESIGNED: TJM  
 CHECKED: BMG  
 STRUCTURE FILE NUMBER: 5100127  
 SLAB PLAN  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT  
 MAR-4-11.70  
 32/38  
 62/68



**TRANSVERSE SECTION**

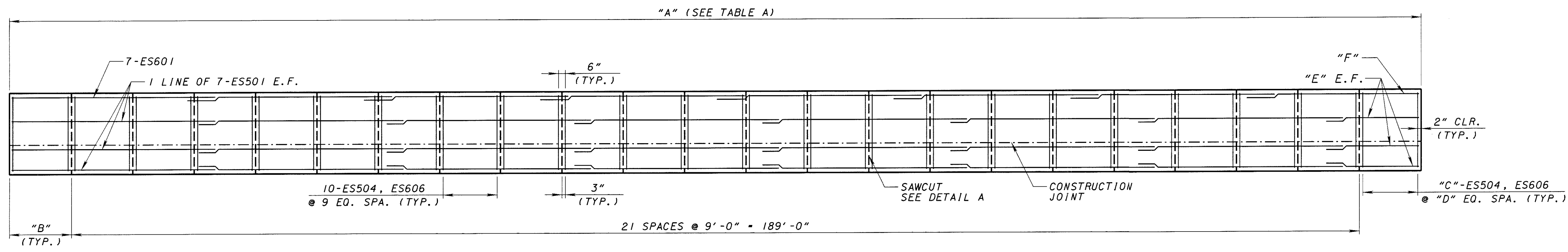


**DETAIL A**

SEE DETAIL A (TYP.)

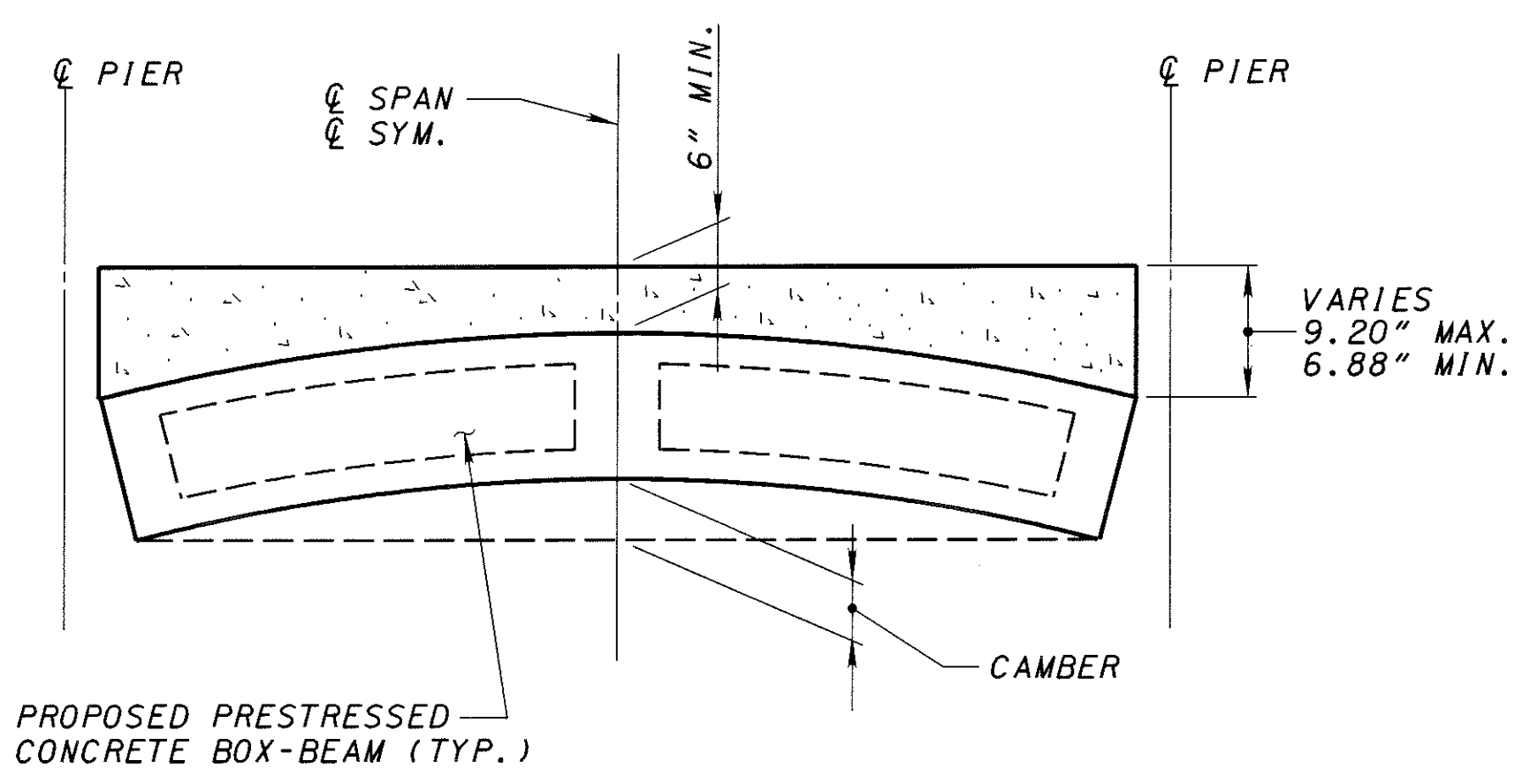
NOTES:  
 1. THIS DIMENSION MAY VARY DUE TO TOLERANCE OF 1/2" ALLOWED BETWEEN PRECAST UNITS. THE DIMENSION MAY VARY FROM 1'-0" TO 10 1/4".

DESIGN AGENCY <b>PARSONS BRINCKERHOFF OHIO, INC.</b> 6235 ENTERPRISE COURT DUBLIN, OHIO 43016
DATE 02/11/02
REVIEWED EBS
STRUCTURE FILE NUMBER 5.100.127
DRAWN TJM
REVISOR BMG
DESIGNED TJM
CHECKED BMG
<b>TRANSVERSE SECTION</b> BRIDGE NO. MAR-4-1171 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT
MAR-4-11.70
33/38
63/68

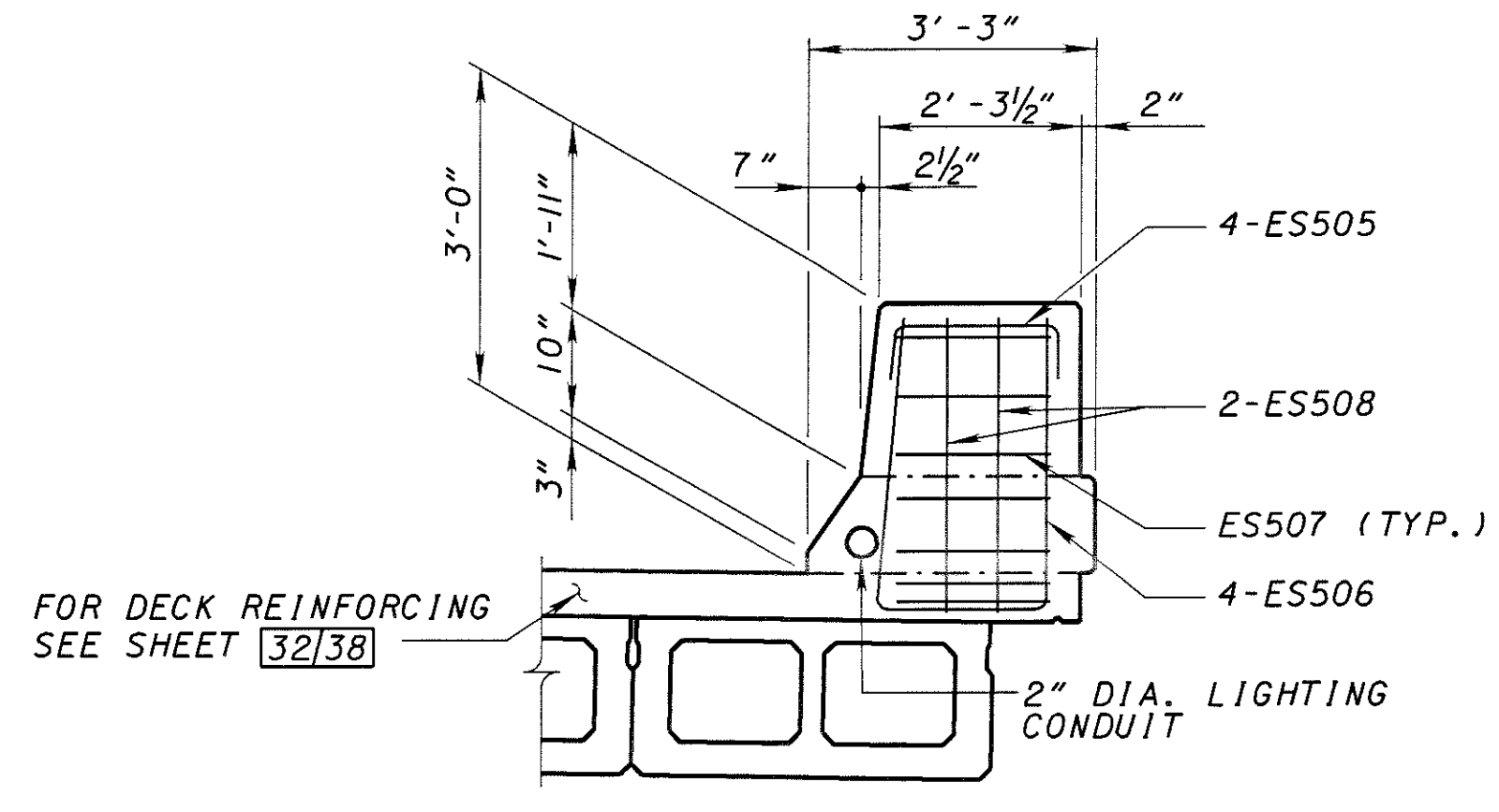


**PARAPET ELEVATION**  
(INSIDE FACE LEFT PARAPET SHOWN, RIGHT PARAPET SIMILAR)

TABLE A						
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"
SPANS 1 THRU 4	199'-9 <sup>1</sup> / <sub>8</sub> "	5'-4 <sup>9</sup> / <sub>16</sub> "	6	5	3-ES502	1-ES602
SPANS 5 THRU 8	199'-1 <sup>3</sup> / <sub>8</sub> "	5'-0 <sup>1</sup> / <sub>16</sub> "	6	5	3-ES502	1-ES602
SPANS 9 THRU 12	207'-0"	9'-0"	10	9	3-ES503	1-ES603
SPANS 13 THRU 16	199'-8"	5'-4"	6	5	3-ES502	1-ES602

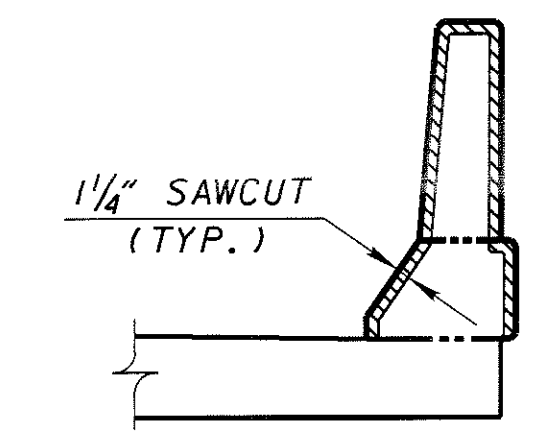


**DECK SLAB THICKNESS DIAGRAM**  
(COMPENSATION FOR NET CURVATURE)



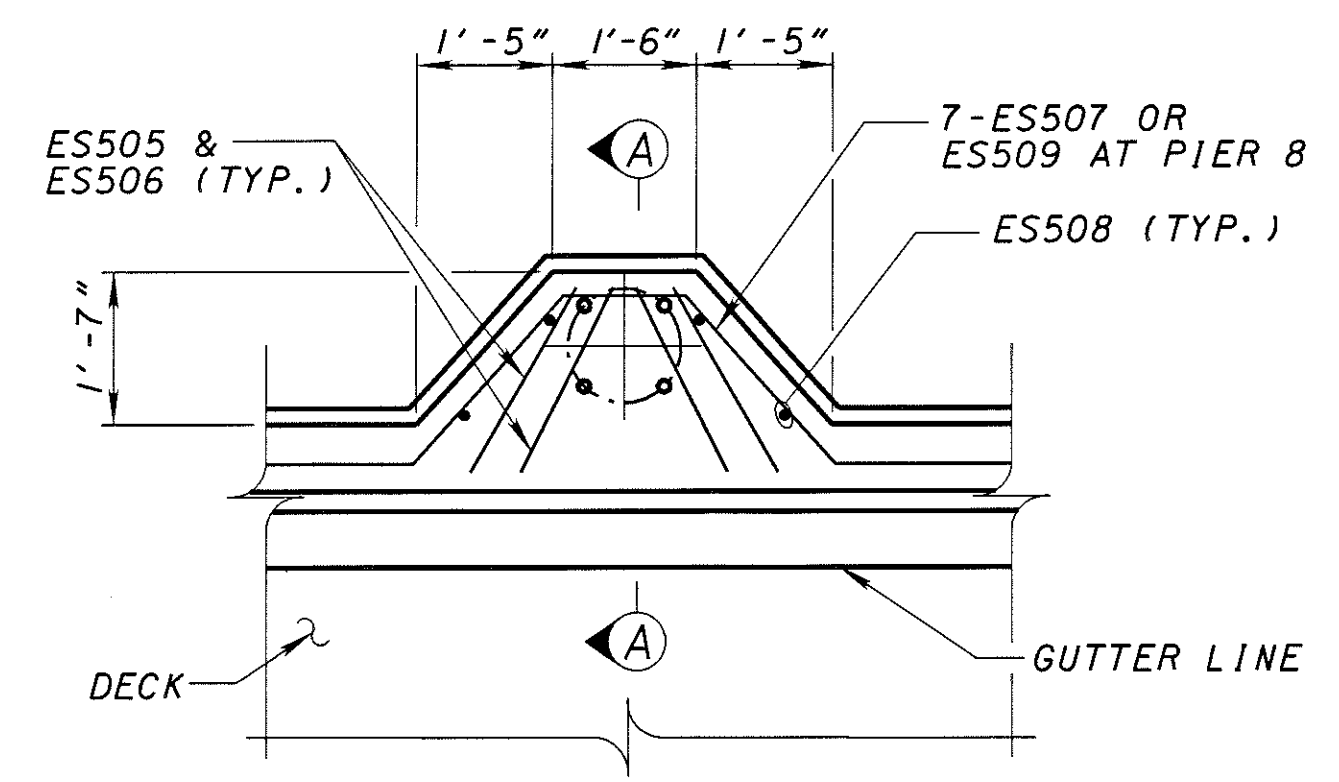
**SECTION A-A**

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)	
#5 BAR	= 2'-5"
#6 BAR	= 4'-1"



**DETAIL A**  
(SECTION THROUGH SAWCUT)  
SAWCUT PERIMETER = 7'-1"

CALCULATED CAMBER AT TIME OF PAVING IS 1 INCH.  
 CALCULATED DEFLECTION DUE TO WEIGHT OF DECK AND DEFLECTOR PARAPETS IS 1/2 INCH.  
 A FINAL CAMBER OF APPROXIMATELY 1 INCH AT CENTER OF SPANS IS REQUIRED FOR THE VERTICAL CURVE.  
 NET FINAL CAMBER OF BEAMS IS 1 3/8". THIS IS 3/8 INCH IN EXCESS OF THE AMOUNT REQUIRED TO PLACE THE TOP OF THE BEAM PARALLEL TO PROFILE GRADE. THIS EXCESS AMOUNT SHALL BE COMPENSATED FOR BY THICKENING THE DECK AT THE BEAM ENDS. THE MINIMUM THICKNESS SHALL BE 6" AT CENTER OF SPANS. THE MAXIMUM SHALL VARY BETWEEN 9.20" AND 6.88" AT ENDS OF SPANS.



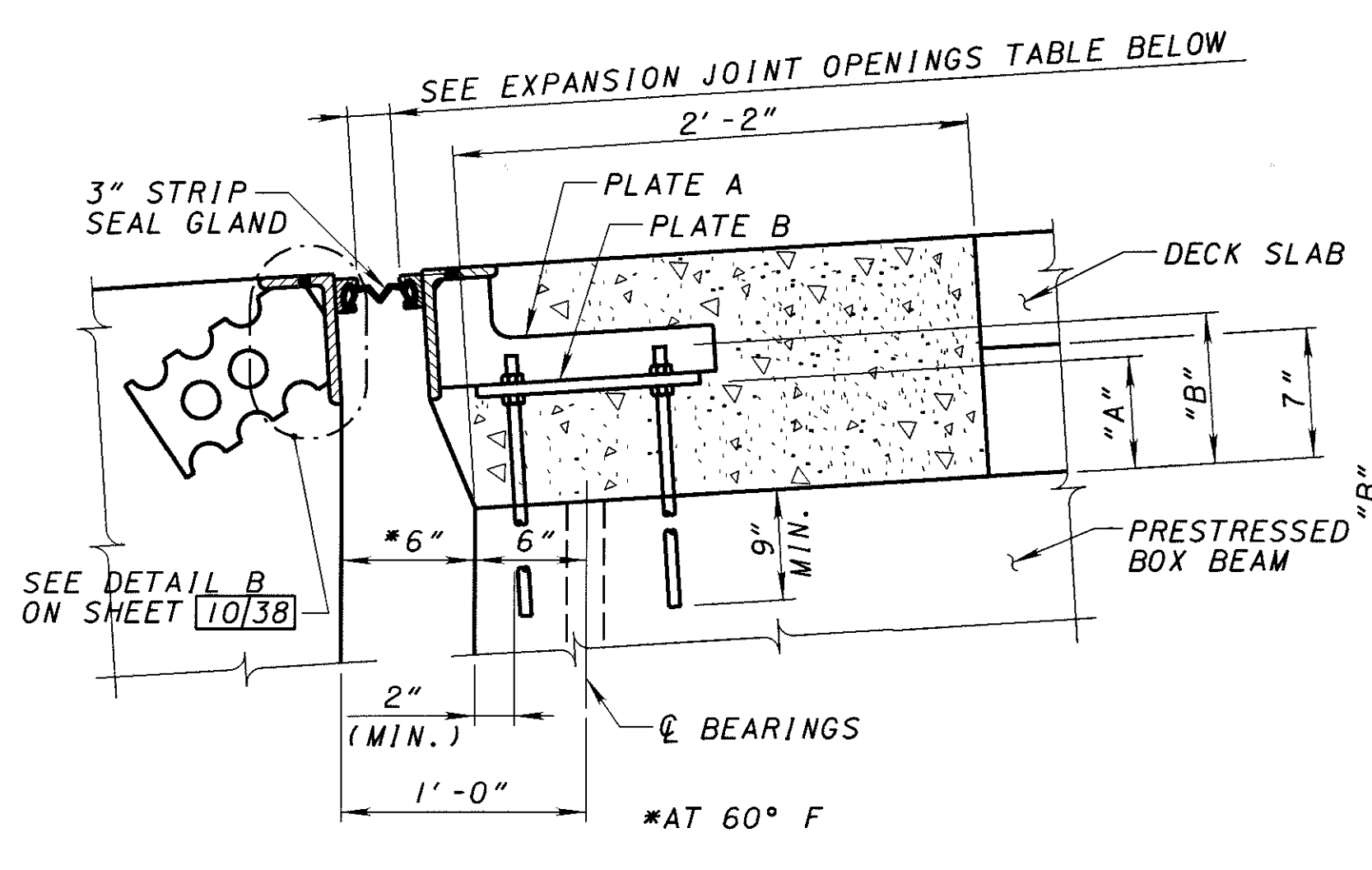
**LIGHT POLE PILASTER PLAN**

**NOTES:**  
 1. FOR SECTION THRU PARAPET, SEE DETAIL A ON SHEET [33/38].

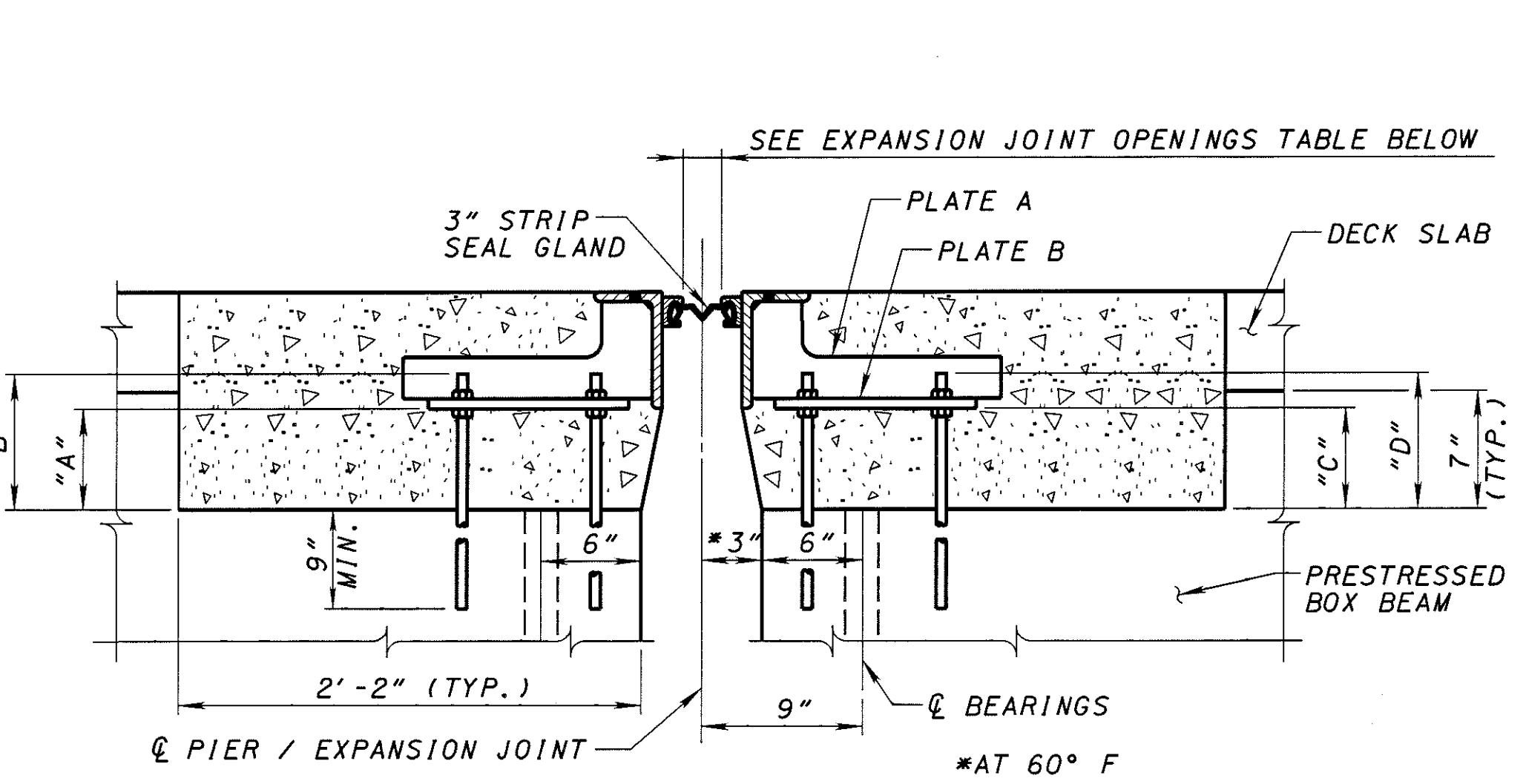
DESIGN AGENCY: PARSONS BRINCKERHOFF OHIO, INC. 6235 ENTERPRISE COURT DUBLIN, OHIO 43016  
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 BRIDGE NO. MAR-4-1171  
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 MAR-4-11.70  
 34/38  
 64/68



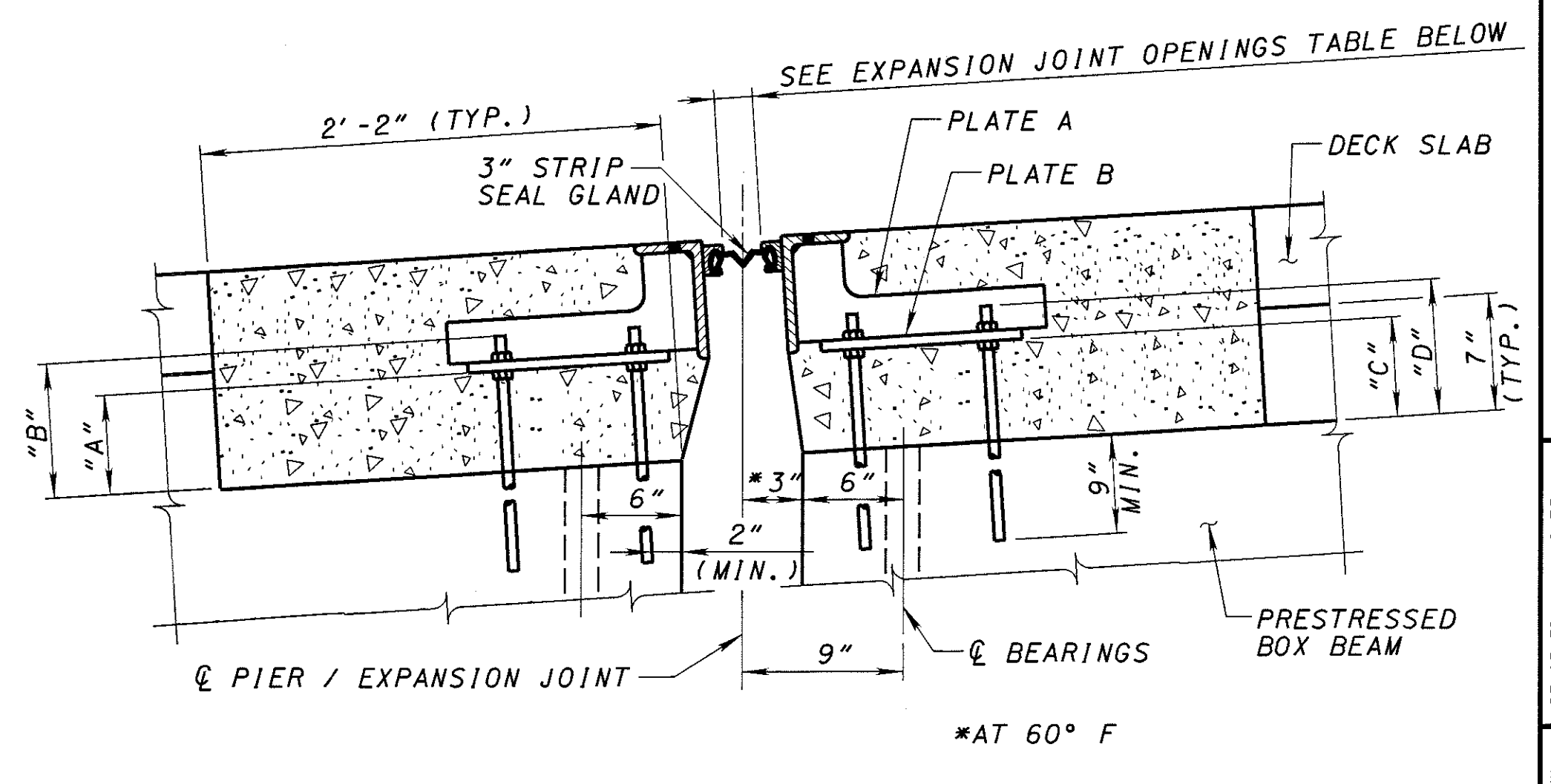




**ABUTMENT EXPANSION JOINT DETAIL**  
 (FOR ADDITIONAL DETAILS, SEE STD. DWG. NO. EXJ-5-93, DATED 4-20-01, SHEET 2 OF 5)

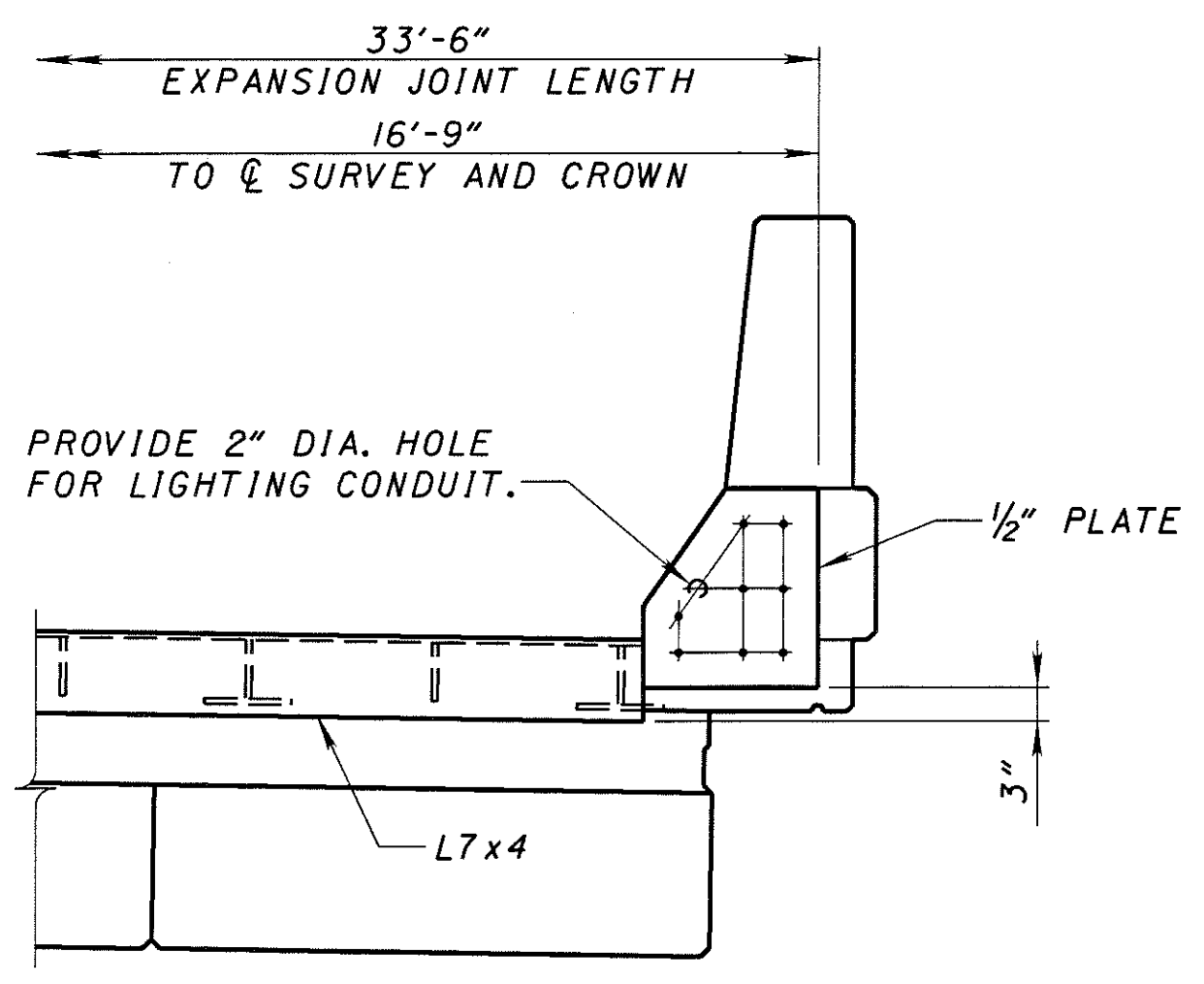


**PIER 8 EXPANSION JOINT DETAIL**  
 (FOR ADDITIONAL DETAILS, SEE STD. DWG. NO. EXJ-5-93, DATED 4-20-01, SHEET 2 OF 5)



**PIERS 4 & 12 EXPANSION JOINT DETAIL**  
 (PIER 4 SHOWN, PIER 12 OPPOSITE HAND)  
 (FOR ADDITIONAL DETAILS, SEE STD. DWG. NO. EXJ-5-93, DATED 4-20-01, SHEET 2 OF 5)

PIER EXPANSION JOINT DIMENSIONS				
	"A"	"B"	"C"	"D"
R. A.	8 3/8"	10 3/8"	--	--
PIER 4	7 5/8"	9 5/8"	7 3/4"	9 3/4"
PIER 8	7 7/8"	7 7/8"	8"	10"
PIER 12	8 3/8"	10 3/8"	8 1/8"	10 1/8"
F. A.	8"	10"	--	--



**EXPANSION JOINT ELEVATION AT SUPERSTRUCTURE SIDE OF JOINT**  
 (FOR ADDITIONAL DETAILS, SEE STD. DWG. NO. EXJ-5-93, DATED 4-20-01, SHEET 1 OF 5)

EXPANSION JOINT OPENINGS					
TEMPERATURE	REAR ABUTMENT	PIER 4	PIER 8	PIER 12	FORWARD ABUTMENT
30°	1 7/8"	2"	2"	1 5/8"	1 7/8"
40°	1 3/4"	1 3/8"	1 3/8"	1 3/8"	1 3/4"
50°	1 1/2"	1 1/8"	1 1/8"	1 1/8"	1 1/2"
60°	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
70°	1 1/8"	1 3/8"	1 3/8"	1 1/8"	1 1/8"
80°	1 1/2"	1 1/8"	1 1/8"	1 1/8"	1 1/2"
90°	1 3/8"	1 1/8"	1 1/8"	1 1/4"	1 3/8"

\*\*NOTE: THE MINIMUM JOINT OPENING AT THE TIME OF THE SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 1 1/2". IF THE JOINT OPENING IS LESS, THE INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE MINIMUM 1 1/2" OPENING.

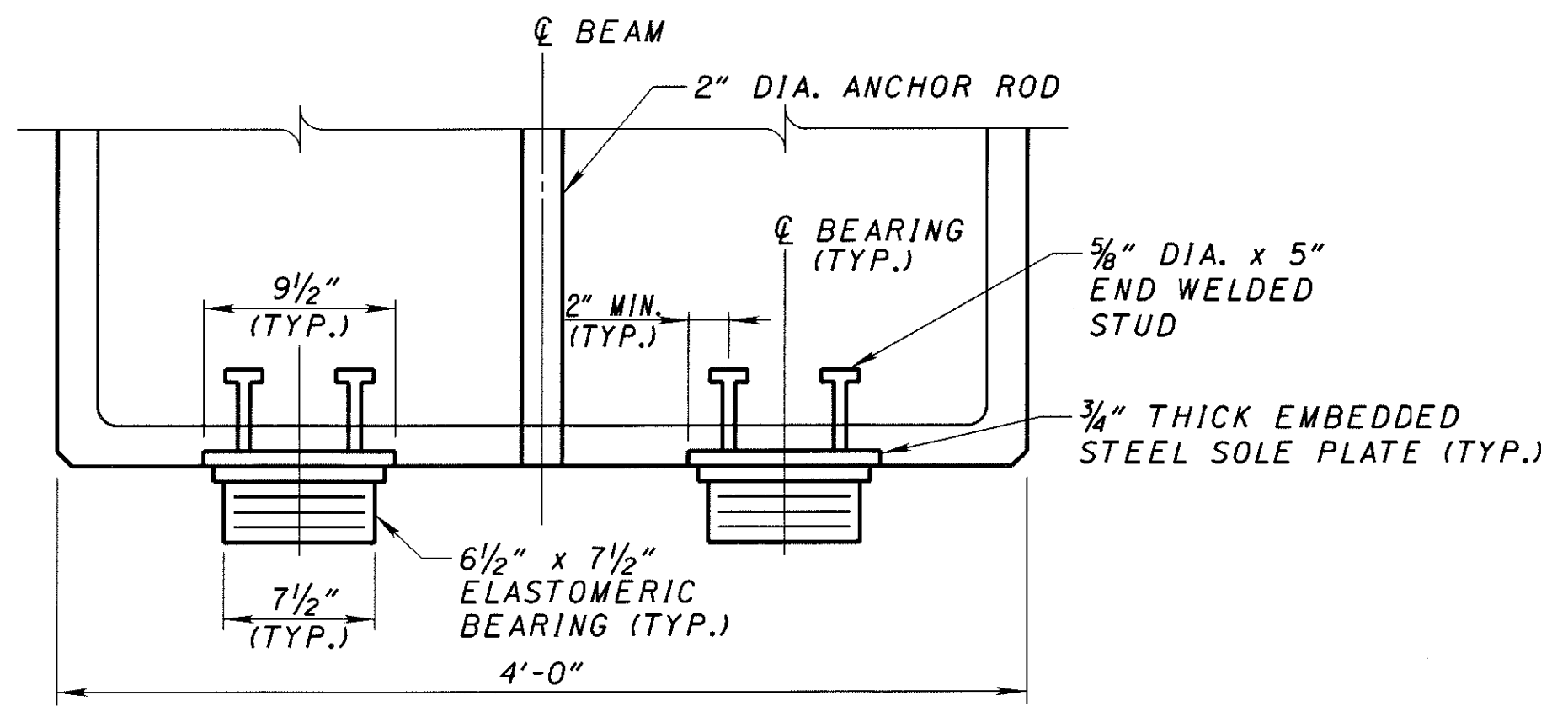
**NOTES:**

- ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, SECTION 18, BEARING DEVICES, DIVISION 11, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.6 OF SECTION 14, BEARINGS, DIVISION 1, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.

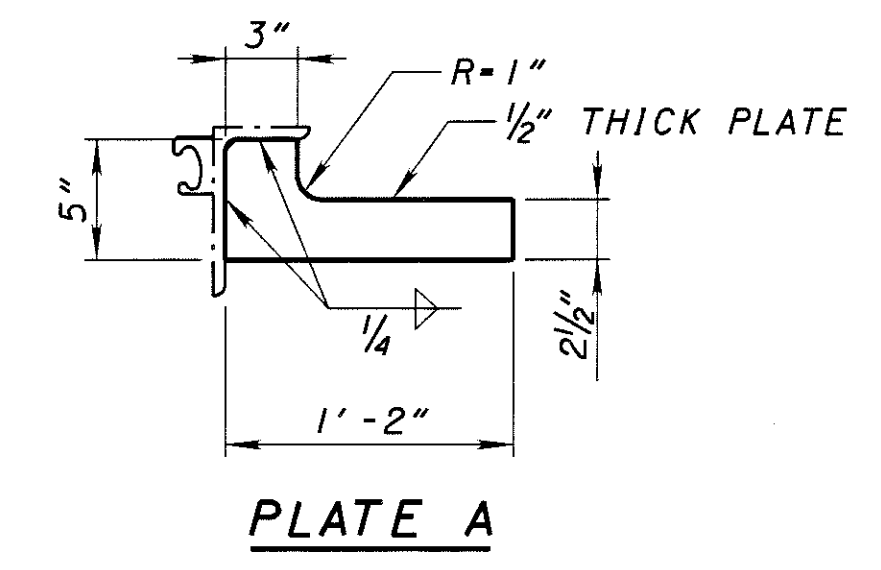
THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. WELDING SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES. THE STEEL LOAD PLATE SHALL BE GALVANIZED PRIOR TO VULCANIZING.

BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR TESTING ANCHOR RODS AND INCIDENTALS NECESSARY TO FURNISH LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES (6 1/2" x 7 1/2" x 1.5735") AND LOAD PLATE (NEOPRENE) (7 1/2" x 8 1/2"), AS PER PLAN WHERE APPLICABLE.

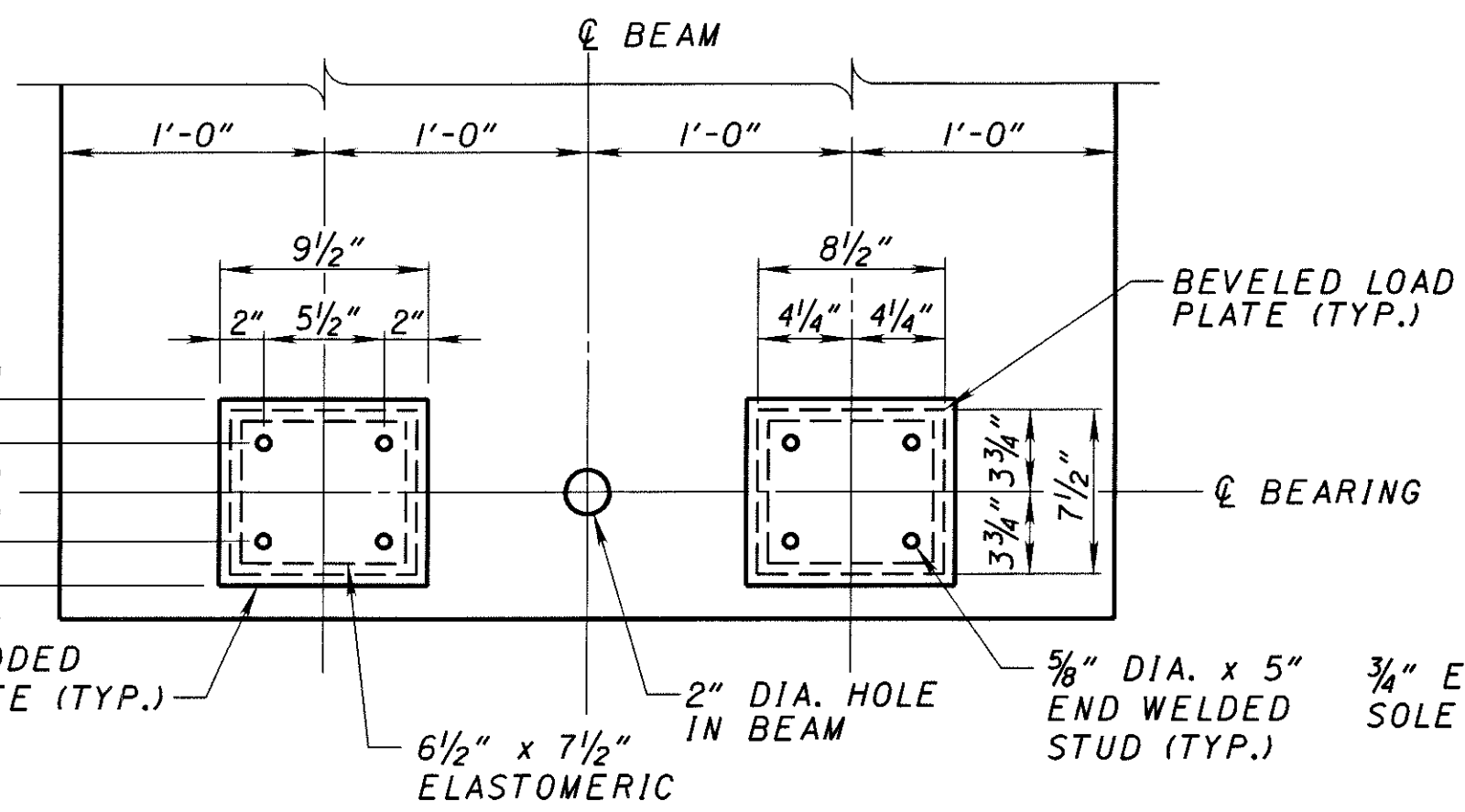
- DEAD LOAD REACTIONS: PER BEAM  
 REAR ABUTMENT = 17 KIPS  
 PIERS = 17 KIPS  
 FORWARD ABUTMENT = 17 KIPS
- LIVE LOAD REACTIONS WITHOUT IMPACT: PER BEAM  
 REAR ABUTMENT = 13 KIPS  
 PIERS = 13 KIPS  
 FORWARD ABUTMENT = 13 KIPS
- FOR ANCHOR DOWEL DETAILS, SEE STANDARD DRAWING PSBD-1-93 SHEET 1 OF 4.
- THICKNESS OF INTERNAL ELASTOMERIC LAYER (4 REQUIRED) = 0.22"  
 THICKNESS OF EXTERNAL ELASTOMERIC LAYER (2 REQUIRED) = 0.16"  
 INTERNAL STEEL LAMINATE THICKNESS = 0.0747-14 GAGE (5 REQUIRED)
- END WELD STUDS MAY BE MOVED SLIGHTLY IN ORDER TO AVOID REINFORCING STEEL AND PRESTRESSING STANDS.
- HORIZONTAL DIMENSIONS ARE PERPENDICULAR TO C OF BEARING.
- THE CONTRACTOR HAS THE OPTION TO PROVIDE A 3/4" CHAMFER FOR THE EMBEDDED SOLE PLATES.
- PROVIDE AN ELASTOMERIC BEARING WITHOUT A SOLE PLATE OR LOAD PLATE AT THE FOLLOWING LOCATIONS: ABUTMENTS, PIERS 4, 8 AND 12.



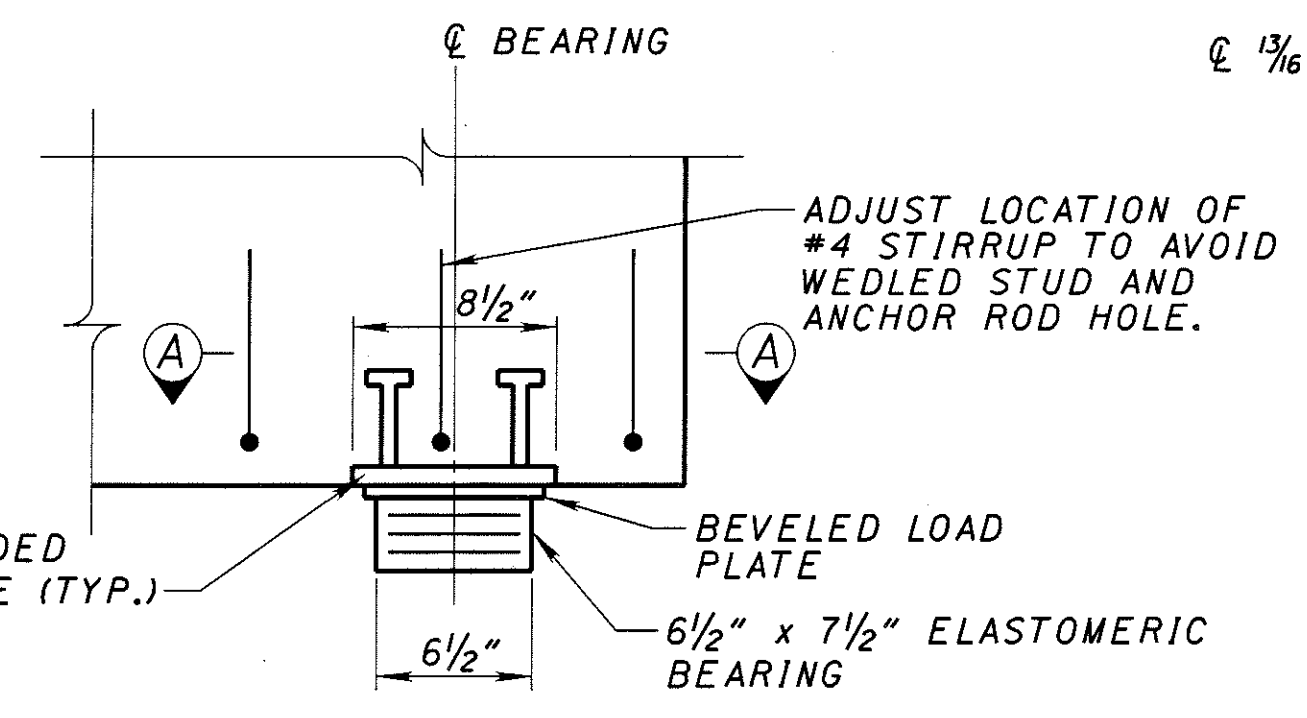
**TYPICAL BEAM SECTION AT BEARINGS**  
 (SEE NOTE 9)



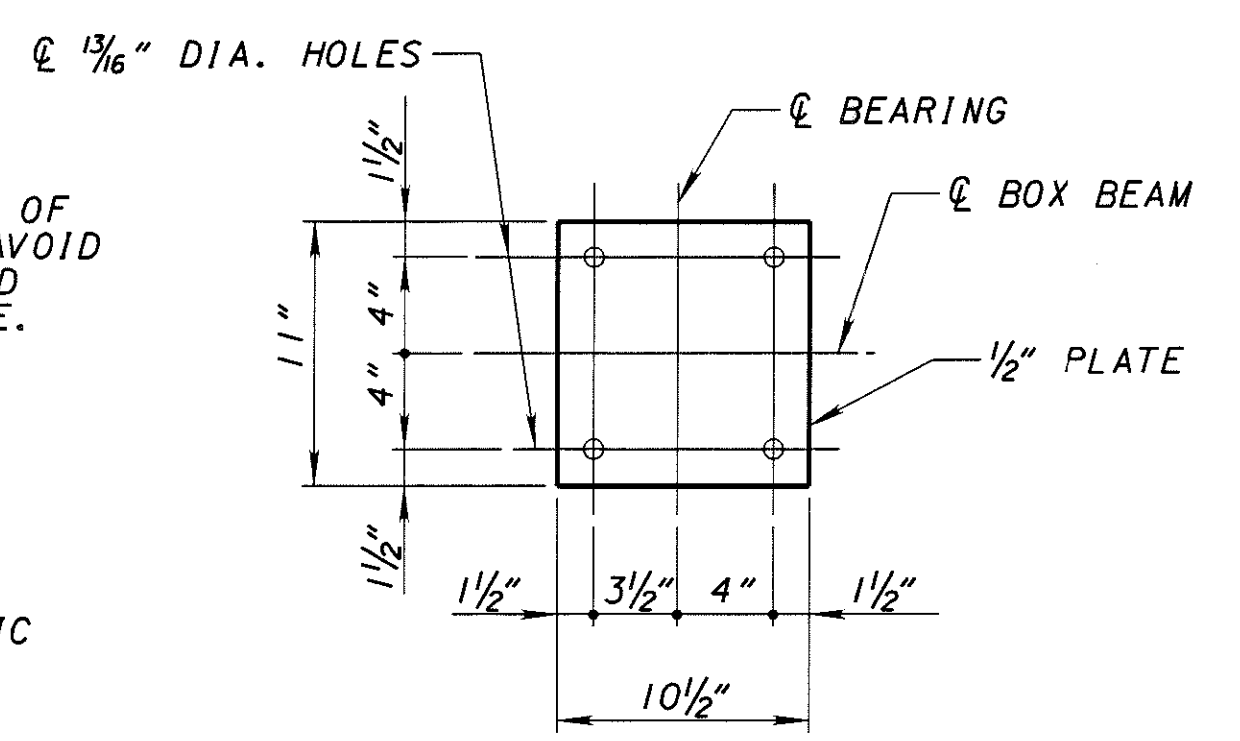
**PLATE A**



**SECTION A-A**  
 (BEARING PLAN)  
 (SEE NOTE 9)



**ELEVATION**  
 (SOLE PLATE AND BEARING)



**PLATE B**

ABUTMENT SIDE  
 SUPERSTRUCTURE SIDE

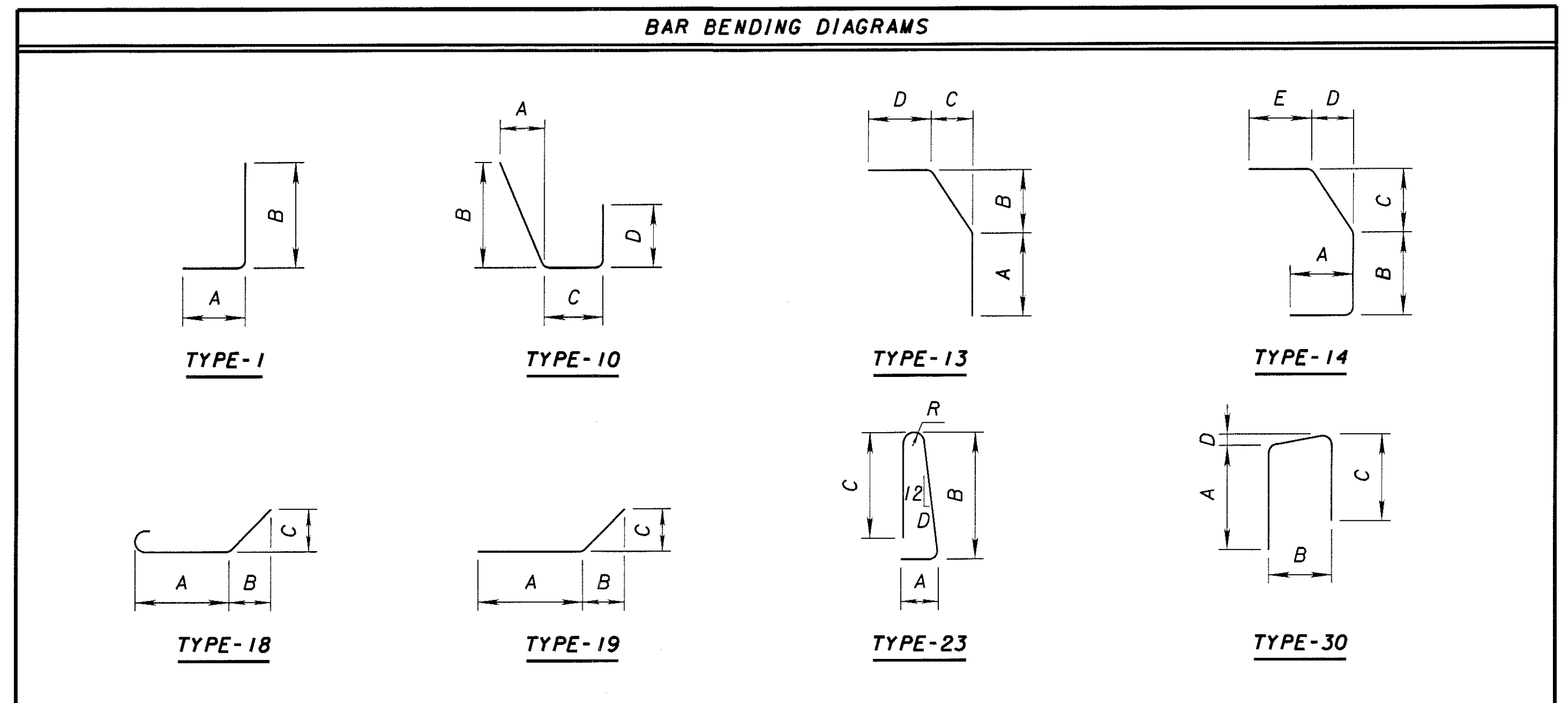
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS								REMARKS
	REAR	FWD	TOTAL				A	B	C	D	E	R	INC.		
<b>ABUTMENTS</b>															
EA501	20	20	40	4'-1"	170	STR								DOWEL	
EA502	23	23	46	6'-5"	308	1	3'-5"	3'-2"							
EA503	16	16	32	33'-2"	1107	STR									
EA504	6	6	12	4'-8"	58	STR								TURNBACK WALL	
EA505	24	24	48	7'-8"	384	STR									
EA506	16	16	32	5'-8"	189	STR								PARAPET	
EA507	8	8	16	4'-10"	81	1	2'-6"	2'-6"							
EA508	6	6	12	1'-5"	18	1	1'-2"	0'-5"						CHEEKWALL	
EA509	4 SER OF 3	4 SER OF 3	8 SER OF 3	4'-10" TO 4'-11"	122	STR							1/2"	CHEEKWALL	
EA510	2 SER OF 3	2 SER OF 3	4 SER OF 3	6'-5" TO 8'-3"	92	1	3'-5" TO 5'-2"	3'-2"					11"		
EA511	2	2	4	2'-8"	11	STR									
EA512	12	12	24	5'-4"	134	STR								FILLET BAR	
EA513	14	14	28	6'-0"	175	23	0'-8"	2'-9"	2'-6"	0'-1 1/4"			1 1/2"	PARAPET	
EA601	14	14	28	4'-6"	190	STR								DOWEL	
EA602	23	23	46	8'-0"	443	10	2'-7"	2'-7"	1'-7"	1'-5"					
EA603	29	29	58	6'-9"	588	30	2'-6"	0'-11"	3'-8"	0'-0 5/8"					
EA604	2 SER OF 3	2 SER OF 3	4 SER OF 3	6'-5" TO 8'-2"	132	10	2'-7"	2'-7"	1'-7"	1'-5" TO 3'-2"			10 1/2"		
EA605	14	14	28	5'-0"	210	1	3'-11"	1'-3"						TURNBACK WALL	
EA606	14	14	28	3'-8"	154	13	2'-3"	0'-8 1/2"	0'-6"	0'-8"				TURNBACK WALL	
EA607	2	2	4	5'-8"	34	STR								PARAPET	
EA801	21	21	42	4'-10"	542	18	2'-7"	1'-0"	1'-0"					APPROACH SLAB	
TOTAL WEIGHT = 5142 LBS *															

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS								REMARKS
	REAR	FWD	TOTAL				A	B	C	D	E	R	INC.		
<b>RETAINING WALL</b>															
EW501	72	92	164	30'-0"	5132	STR								PARAPET	
EW502	12	12	24	16'-6"	413	STR								PARAPET	
EW503	48	72	120	31'-7"	3953	STR									
EW504	12	8	20	12'-1"	252	STR									
EW505	12	12	24	13'-0"	325	STR								PARAPET	
EW506		12	12	8'-6"	106	STR								PARAPET	
EW507	354	490	844	6'-0"	5355	23	0'-8"	2'-9"	2'-6"	0'-1 1/4"			2 1/8"	PARAPET	
EW508	4		4	7'-8"	32	STR									
EW509	4		4	4'-0"	17	STR									
EW601	10	14	24	30'-0"	1081	STR								PARAPET	
EW602	2	2	4	19'-10"	119	STR								PARAPET	
EW603	2	2	4	18'-0"	108	STR								PARAPET	
EW604		2	2	11'-11"	36	STR								PARAPET	
EW605	340	408	748	3'-7"	4026	13	2'-2"	0'-8 1/2"	0'-6"	0'-8"					
EW606	340	408	748	4'-10"	5430	1	1'-0"	4'-0"							
EW607	220	314	534	3'-1"	2473	STR									
EW608	220	264	484	4'-2"	3029	19	2'-5"	1'-9"	0'-2 1/8"						
EW609		82	82	3'-7"	441	14	0'-10 1/2"	1'-4"	0'-8 1/2"	0'-6"	0'-9"				
EW610		82	82	3'-7"	441	1	1'-0"	2'-10"							
EW611	14		14	3'-8"	77	13	2'-3'	0'-8 1/2"	0'-6"	0'-8"					
EW612	14		14	4'-10"	102	STR									
EW613	14		14	3'-10"	81	19	2'-10"	0'-3"	1'-2"						
TOTAL WEIGHT = 33029 LBS *															

**REINFORCING SAMPLES:**

REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08 SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL. SPLICED IN ACCORDANCE WITH 509.08.

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGITS WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.



**NOTES:**

ALL REINFORCING STEEL TO BE EPOXY COATED  
 \* REINFORCING STEEL WEIGHTS ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

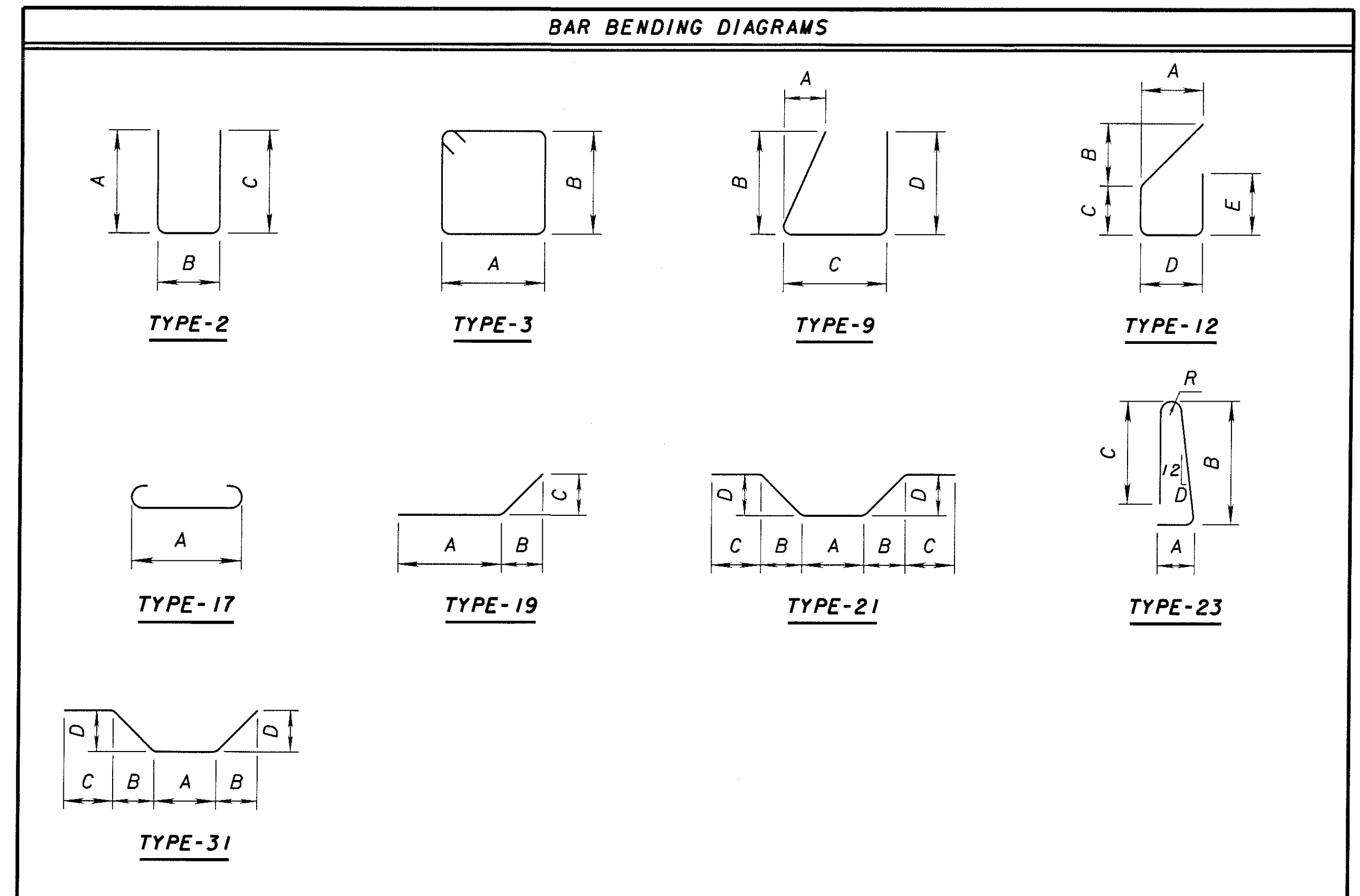
MARK	NUMBER				LENGTH	WEIGHT	TYPE	DIMENSIONS								REMARKS
	PIER 4	PIER 8	PIER 12	TOTAL				A	B	C	D	E	R	INC.		
<b>PIERS</b>																
EP501	2	2	2	6	10'-0"	63	STR									
EP502	2	2	2	6	21'-5"	134	STR									
EP503	2	2	2	6	31'-8"	198	STR									
EP504	6	6	6	18	12'-1"	227	2	4'-10"	2'-8"	4'-10"						
EP505	2	2	2	6	15'-6"	97	3	2'-8"	4'-10"							
EP506	2	2	2	6	15'-3"	95	3	2'-8"	4'-8"							
EP507	2 SER OF 4	2 SER OF 4	2 SER OF 4	6 SER OF 4	13'-9" TO 14'-10"	358	3	2'-8"	3'-11" TO 4'-6"					4 3/8"		
EP508	2 SER OF 5	2 SER OF 5	2 SER OF 5	6 SER OF 5	9'-9" TO 13'-3"	360	3	2'-8"	1'-11" TO 3'-8"					10 1/2"		
EP601	4	4	4	12	14'-0"	252	19	11'-3"	2'-2"	0'-7"						
EPI401	2	2	2	6	34'-0"	1557	2	0'-8"	31'-8"	0'-8"						
EPI402	8	8	8	24	31'-8"	5814	STR									
TOTAL WEIGHT = 9155 LBS *																

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS								REMARKS
					A	B	C	D	E	R	INC.		
<b>SUPERSTRUCTURE</b>													
ES501	336	30'-0"	10514	STR									PARAPET
ES502	36	6'-4"	238	STR									PARAPET
ES503	12	13'-9"	172	STR									PARAPET
ES504	1792	6'-0"	11214	23	0'-8"	2'-9"	2'-6"	0'-1 1/4"				1 1/2"	PARAPET
ES505	28	2'-9"	80	2	0'-7"	1'-10"	0'-7"						LIGHT PILASTER
ES506	28	8'-5"	246	9	0'-5"	3'-2"	2'-4"	3'-2"					LIGHT PILASTER
ES507	42	7'-4"	322	21	1'-4"	1'-10"	0'-6"	1'-10"					LIGHT PILASTER
ES508	28	3'-2"	93	STR									LIGHT PILASTER
ES509	7	6'-11"	51	31	1'-4"	1'-10"	0'-6"	1'-10"					PILASTER @ PIER 8
ES601	728	30'-0"	32804	STR									DECK/PARAPET
ES602	78	17'-11"	2099	STR									DECK/PARAPET
ES603	26	25'-5"	993	STR									DECK/PARAPET
ES604	2188	18'-11"	62167	STR									DECK
ES605	276	20'-10"	8637	STR									DECK
ES606	1792	5'-5"	14579	12	0'-11 1/2"	1'-4 1/2"	0'-7 3/4"	1'-2"	2'-4"				PARAPET
S401	576	5'-2"	2051	17	4'-2"								OVER PIERS
S402	48	33'-8"	1080	STR									OVER PIERS
S601	12	33'-8"	270	STR									OVER PIERS
TOTAL WEIGHT = 147610 LBS *													

**REINFORCING SAMPLES:**

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DESIGN AGENCY: PARSONS BRINCKERHOFF OHIO, INC. 6235 ENTERPRISE COURT DUBLIN, OHIO 43016  
 DATE: 02/11/02  
 REVIEWED: EBS  
 STRUCTURE FILE NUMBER: 5100127  
 DRAWN: AP  
 REVISION: 1  
 DESIGNED: BNG  
 CHECKED: TJM  
 REINFORCEMENT SCHEDULE 11  
 BRIDGE NO. MAR-4-1171  
 OVER NEW YORK CENTRAL LINES LLC (CSXT, INC.) & CSXT  
 MAR-4-11.70  
 38/38  
 68/68