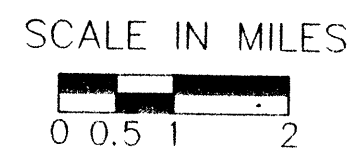


LOCATION MAP



Portion to be Improved
Other Roads



STATE OF OHIO DEPARTMENT OF TRANSPORTATION CUY-EAST 9th STREET EAST 9th STREET- BRIDGE OVER CONRAIL AND WATERFRONT PIER RECONSTRUCTION

PHASE II
CUYAHOGA COUNTY
CITY OF CLEVELAND

PROJECT DESCRIPTION

WIDENING OF THE WEST SIDEWALK OF E. 9th STREET BRIDGE OVER CONRAIL, CONSTRUCTION OF REINFORCED CONCRETE FACING FOR WALL 'C' ALONG SOUTH MARGINAL ROAD, REHABILITATION OF EAST 9th STREET PIER INCLUDING MINOR STRUCTURAL REPAIRS IN BRICK SURFACE, STRUCTURAL REHABILITATION OF WATERFRONT PIER WITH BRICK PAVER SURFACE, STREETSCAPING AND PEDESTRIAN LIGHTING.

1995 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 THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____
DATE _____ DIRECTOR OF PUBLIC SERVICE

APPROVED _____
DATE _____ COMMISSIONER OF ENGINEERING & CONSTRUCTION

INDEX OF SHEETS

TITLE SHEET	1
MAINTENANCE OF TRAFFIC PLANS	2-3
E. 9TH STREET BRIDGE OVER CONRAIL STRUCTURE PLANS	5-25
E. 9TH STREET PIER RECONSTRUCTION PLANS	26-48
E. 9TH STREET CROSSWALK PLANS	49-50
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INFORMATIONAL DRAWINGS	

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
Call...800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

SHEETS 1 TO 25 AND 49 TO 50 PREPARED BY

URS CONSULTANTS INC.
ARCHITECTS ENGINEERS PLANNERS
AKRON COLUMBUS CLEVELAND

D. S. BUCHANAN REG. ENGINEER No. 48053

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

AS-1-81	09-15-94	MC-9.2	05-06-91	MT-99.10	11-14-86	HL-10.13	05-01-87
EXJ-2-81	04-02-84					HL-30.31	05-01-87
FB-1-82	05-10-82					HL-60.11	05-01-87
PCB-91	04-24-92					HL-20.11	05-01-87
SD-1-69	06-12-69					HL-30.11	05-01-87
						HL-10.11	5-01-87
						HL-30.22	05-01-87

SUPPLEMENTAL SPECIFICATIONS

849	06-14-95
910	07-17-95
927	06-14-95
949	06-14-95

DESIGNED BY: DSB CHECKED BY: _____
 DATE: 6/10/94 DATE: _____
 DRAWN BY: C.J.H. REVISED BY: FFF
 DATE: 6/13/94 DATE: 6/3/96
 CAD FILE NAME: 7019700-TITLSHT

PID NO.
15318

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
CONRAIL

CUY-EAST 9th STREET

MAY 20 1996 11:00 AM

ITEM 614 - MAINTAINING TRAFFIC

A MINIMUM OF TWO LANES OF TRAFFIC IN EACH DIRECTION BETWEEN LAKESIDE AVENUE AND ERIESIDE AVENUE SHALL BE MAINTAINED AT ALL TIMES.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE TRAFFIC ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

THE CONTRACTOR SHALL NOTIFY, AT LEAST SEVENTY-TWO (72) HOURS IN ADVANCE, THE DIVISION OF TRAFFIC ENGINEERING AND PARKING BEFORE STARTING ANY WORK. THE CITY'S CONTACT PERSON, FOR TRAFFIC ENGINEERING MATTERS, SHALL BE MR. TONY TOTH AT 664-3194. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY POLICE, FIRE, EMS, RTA AT THE BEGINNING OF THE WORK AND ALSO AS THE WORK PROGRESSES, OR AS DIRECTED BY THE TRAFFIC ENGINEER.

PARKING ALONG E. 9TH ST. DURING CONSTRUCTION SHALL BE PROHIBITED. TEMPORARY NO PARKING SIGNS WILL BE REQUIRED TO BE POSTED AND MAY BE OBTAINED, AT THE FEE OF ONE (1) DOLLAR EACH FROM THE CITY OF CLEVELAND TRAFFIC SIGN SHOP AT 4150 EAST 49TH ST., BUILDING NUMBER 4, NEWBURGH HEIGHTS, OHIO. THE CITY'S CONTACT PERSON AT THE SIGN SHOP SHALL BE MR. WILLIAM TWIGGER. THE TELEPHONE NUMBER IS 420-8280. THE CONTRACTOR IS RESPONSIBLE FOR THE PLACEMENT AND REMOVAL OF THE SIGNAGE. PARKING METER BAGS WILL BE INSTALLED AND REMOVED BY CITY FORCES. THE DIVISION OF PARKING FACILITIES CONTACT PERSON IS EDWARD ZAZODA, 2001 PAYNE AVENUE, CLEVELAND, OHIO. THE TELEPHONE NUMBER IS 664-2507. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION OPERATIONS WITH MR. ZAZODA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOSS OR DESTRUCTION OF ANY OF THE PARKING METER BAGS AND REPLACEMENT COSTS SHALL BE \$12.50 EACH.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATED AS FOLLOWS: 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. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIAL SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWINGS 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 L.E.O.'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 THE CLEVELAND POLICE DEPARTMENT. CONTACT PERSON: LT. LAWLER (216) 623-5188.

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 A PATROL CAR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE ESTIMATED QUANTITIES TABLE:

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR 100 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE L.E.O.'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 - MAINTAINING TRAFFIC.

TEMPORARY WORK ZONE MARKINGS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE ESTIMATED QUANTITIES TABLE FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF THE STANDARD CONSTRUCTION DRAWINGS:

ITEM 614 - TEMPORARY CENTERLINE, 740.05, TYPE C 0.2 MI.
ITEM 614 - TEMPORARY LANE LINE, 740.05, TYPE C 0.2 MI.

ITEM 622 - PORTABLE CONCRETE BARRIER

PLACEMENT OF THE CONCRETE BARRIER SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL THE BARRIER PLACEMENT IS COMPLETED. TAPERED END SECTIONS SHALL BE PROVIDED AT THE BARRIER ENDS. THE BARRIER ON THE BRIDGE DOES NOT REQUIRE ANCHORING.

THE UNIT PRICES BID FOR THE BARRIER ITEMS SHALL INCLUDE ALL LABOR AND MATERIALS REQUIRED TO INSTALL AND SUBSEQUENTLY REMOVE THE PORTABLE CONCRETE BARRIER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE ESTIMATED QUANTITIES TABLE:

ITEM 622 - PORTABLE CONCRETE BARRIER, 32" 150 LIN. FT.
ITEM 622 - PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED 208 LIN. FT.

COVERING OF SIGNS

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

TRAFFIC CONTROL DEVICES

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL BE ERECTED AND MAINTAINED IN COMPLIANCE WITH THE STATE OF OHIO "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" CURRENT EDITION, LATEST REVISION. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR PROVIDING AND MAINTAINING LIGHTS, SIGNS, AND BARRICADES FOR THE MAINTENANCE OF TRAFFIC AND SAFETY OF HIS WORK AT THE LOCATIONS SHOWN ON THESE PLANS OR AS DIRECTED BY THE ENGINEER. ANY REPAIRS TO TRAFFIC CONTROL DEVICES SHALL BE PERFORMED WITHIN 24 HOURS OF NOTIFICATION.

SUSPENSION OF WORK

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR MAINTENANCE OF TRAFFIC AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE MANUAL, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

INSTALLATION AND REMOVAL OF CONSTRUCTION PHASES

ONLY DURING OFF-PEAK TRAFFIC PERIODS (I.E. ANY PERIOD OTHER THAN 7-9:30 A.M. AND 4-6 P.M.) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY REMOVE ALL TRAFFIC CONTROL DEVICES NECESSARY FOR MAINTAINING TRAFFIC.

ITEM SPECIAL - SUSPEND WORK FOR A DAY

THE CONTRACTOR SHALL SUSPEND ALL OPERATIONS, WHEN DIRECTED BY THE ENGINEER, FOR THE FOLLOWING:

- A) SPECIAL EVENTS
- B) SPORTING EVENTS
- C) EMERGENCY REPAIRS

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES TABLE FOR USE AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL - SUSPEND WORK FOR A DAY 5 DAY

THIS QUANTITY IS FOR ESTIMATING PURPOSES ONLY. ANY ADDITIONAL SUSPENSIONS SHALL BE PAID AT THE UNIT PRICE BID.

TEMPORARY DRAINAGE

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ADEQUATE DRAINAGE OF THE TRAVELLED ROADWAYS DURING ALL PHASES OF CONSTRUCTION. EXISTING DRAINAGE FACILITIES, TEMPORARY DRAINAGE FACILITIES, AND PERMANENT DRAINAGE FACILITIES MAY BE USED FOR THIS PURPOSE. THE INSTALLATION AND REMOVAL OF TEMPORARY DRAINAGE FACILITIES SHALL BE AT THE CONTRACTOR'S EXPENSE.

PEDESTRIAN ACCESS

PEDESTRIAN ACCESS FROM E. 9TH ST. TO THE R.T.A. WATERFRONT RAIL STATION HEADHOUSE SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EAST SIDE SIDEWALK AND CROSSING AT THE SHOREWAY RAMP SIGNAL. THE CONTRACTOR SHALL KEEP THE SIDEWALK AREA ADJACENT TO THE HEADHOUSE CLEAN AND FREE FROM DEBRIS AND MUD. COST SHALL BE CONSIDERED INCIDENTAL TO ITEM 614 - MAINTAINING TRAFFIC.

NIGHT WORK

THE USE OF NIGHT WORK ON THIS PROJECT IS ENCOURAGED. THE CONTRACTOR SHALL NOTIFY THE CITY OF CLEVELAND, DIVISION OF ENGINEERING AND CONSTRUCTION AT LEAST TWO (2) WORKING DAYS BEFORE COMMENCING ANY NIGHT WORK. TEMPORARY LIGHTING OF THE WORK SITE FOR OPERATIONS DURING NIGHTTIME PERIODS SHALL BE SUCH THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE HIGHWAYS. TO INSURE THE ADEQUACY OF THE LIGHT PLACEMENT, THE CONTRACTOR AND THE PROJECT ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS. ALL TEMPORARY LIGHTING REQUIRED FOR NIGHT WORK SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

FAILURE TO COMPLY

IF THERE IS ANY FAILURE TO COMPLY WITH PROVISIONS FOR MAINTENANCE OF TRAFFIC SET OUT IN THESE PLANS AND NOTES, OR WITH THE PROVISIONS OF THE MANUAL, THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL BE CONSIDERED IN A CONDITION UNACCEPTABLE FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY IN THE VICINITY OF THE WORKING AREA IN A CONDITION ACCEPTABLE FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

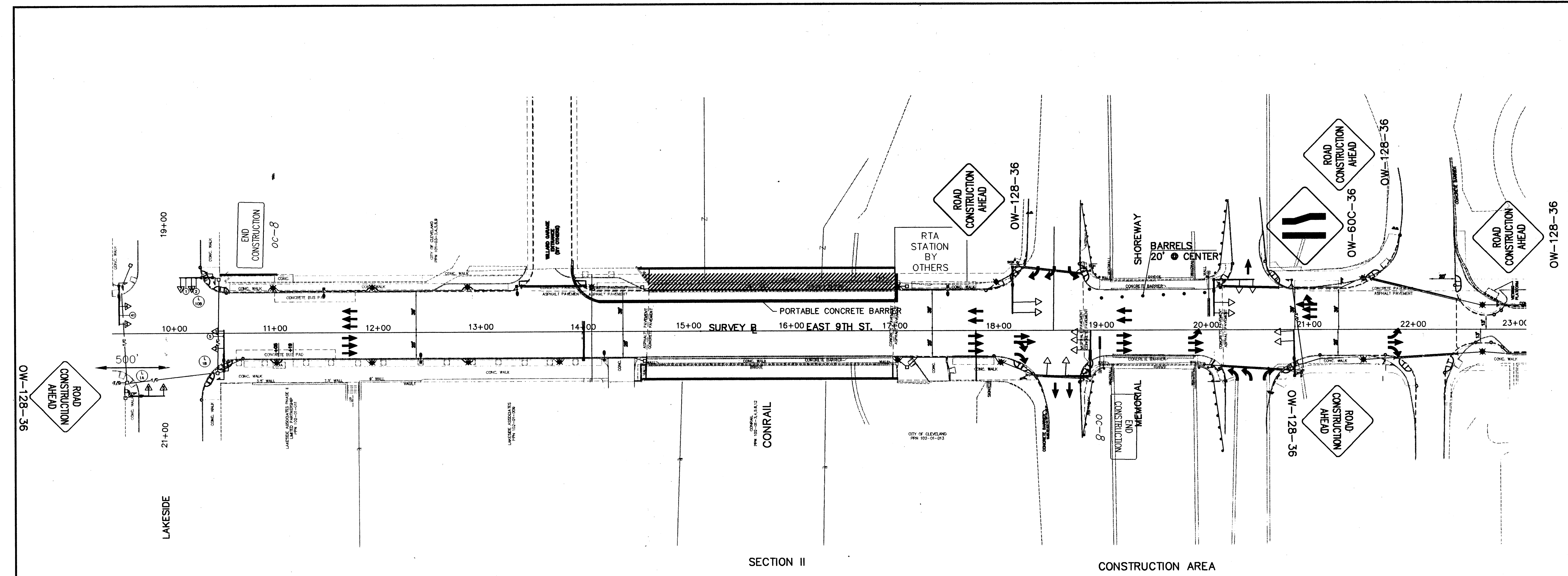
DESIGNED BY: DSB	CHECKED BY:
DATE: 6/7/94	DATE:
DRAWN BY: JAN	REV. BY: T.K.I.
DATE: 6/30/94	DATE: 10/25/96
CAD FILE NAME: 7019700/BRMOTNOT	



CALCULATED
ENK
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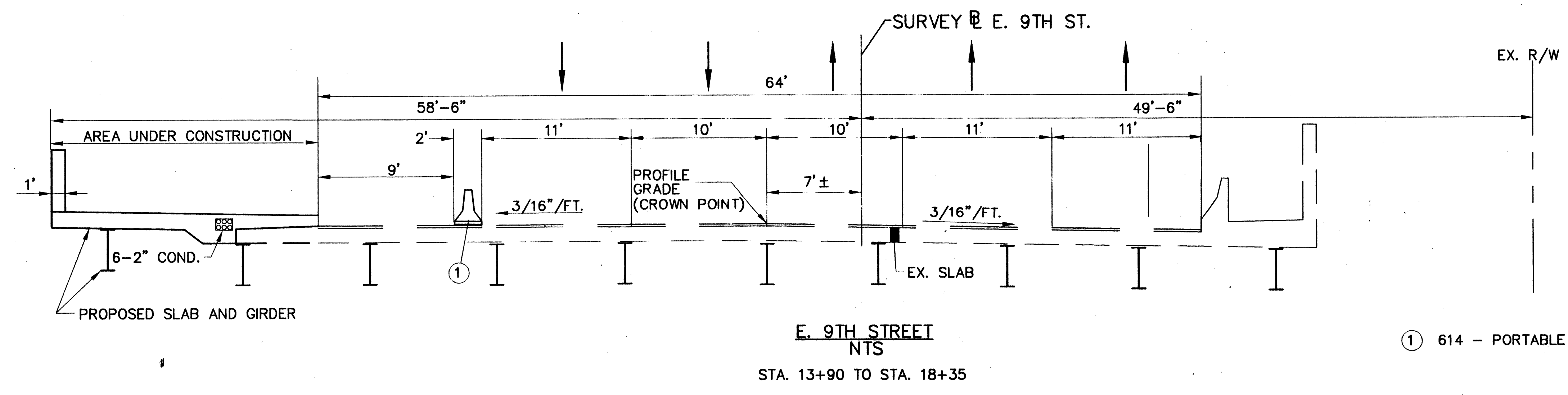
MAINTENANCE OF TRAFFIC PLANS

CUY - E. 9th STREET



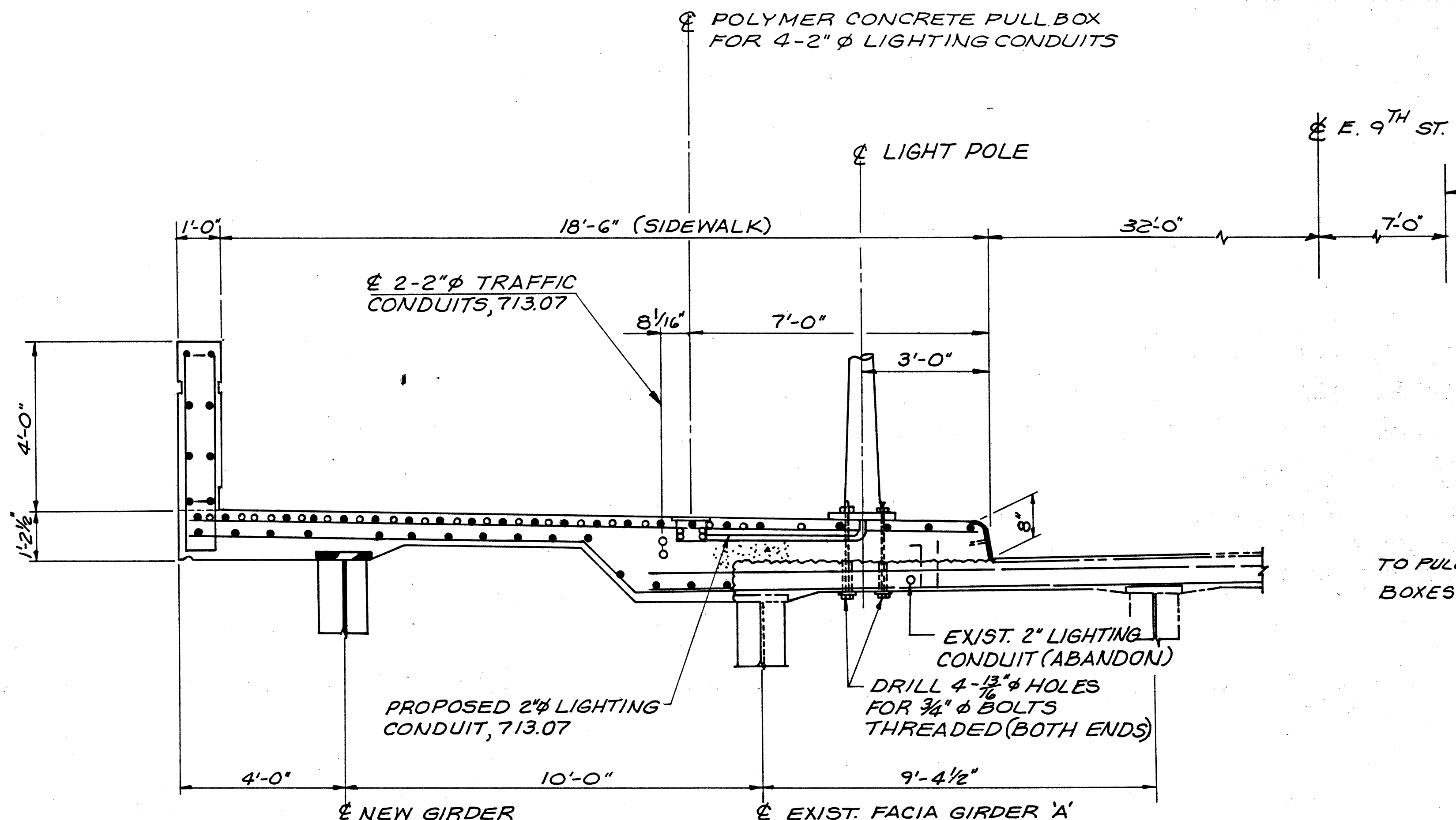
NOTE: UTILIZE EXIST. PAVEMENT MARKINGS
STA. 10+30 TO STA. 22+43

FOR NOTES SEE SHEET 2.

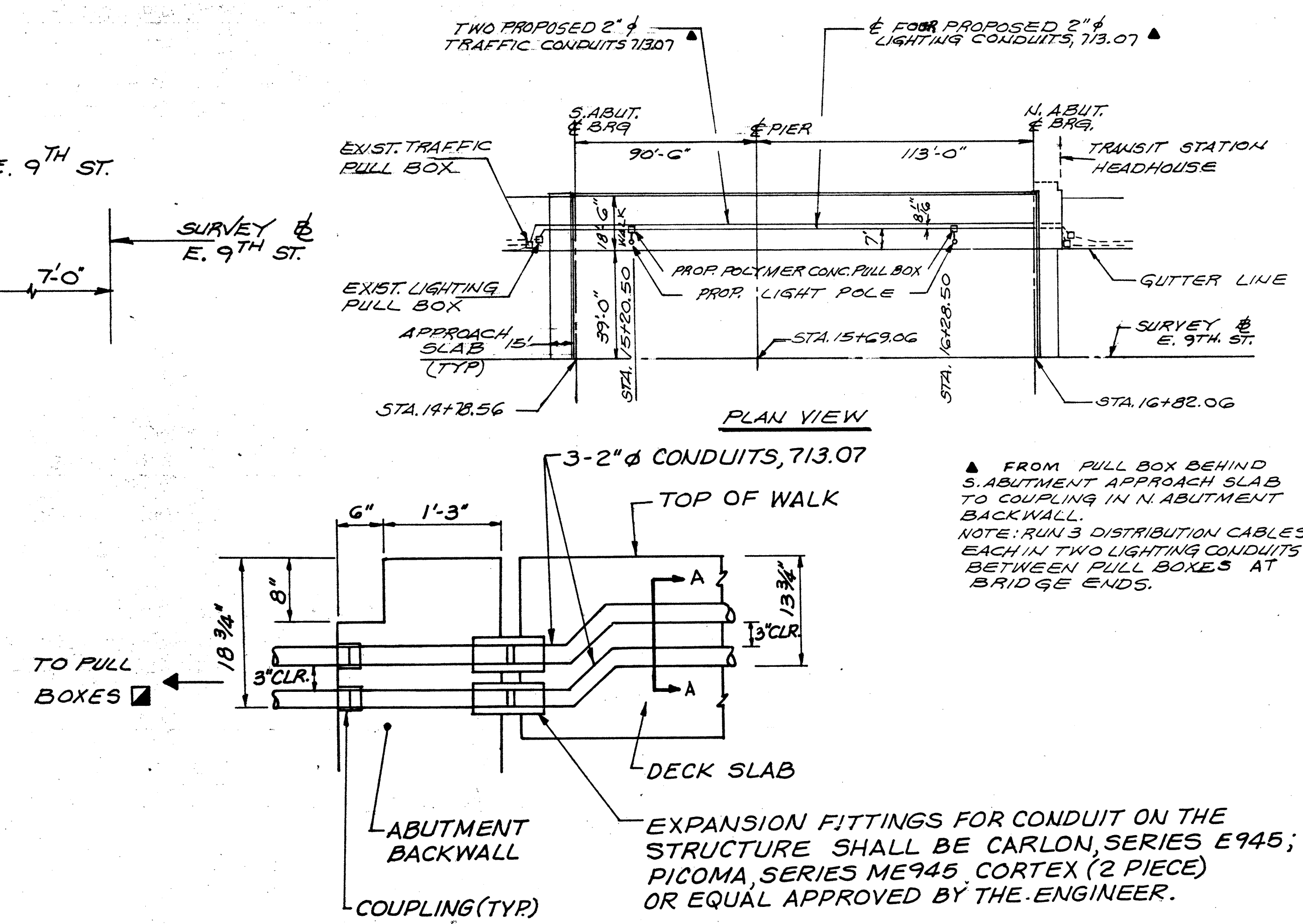


LEGEND
① 614 - PORTABLE CONCRETE BARRIER, 32"

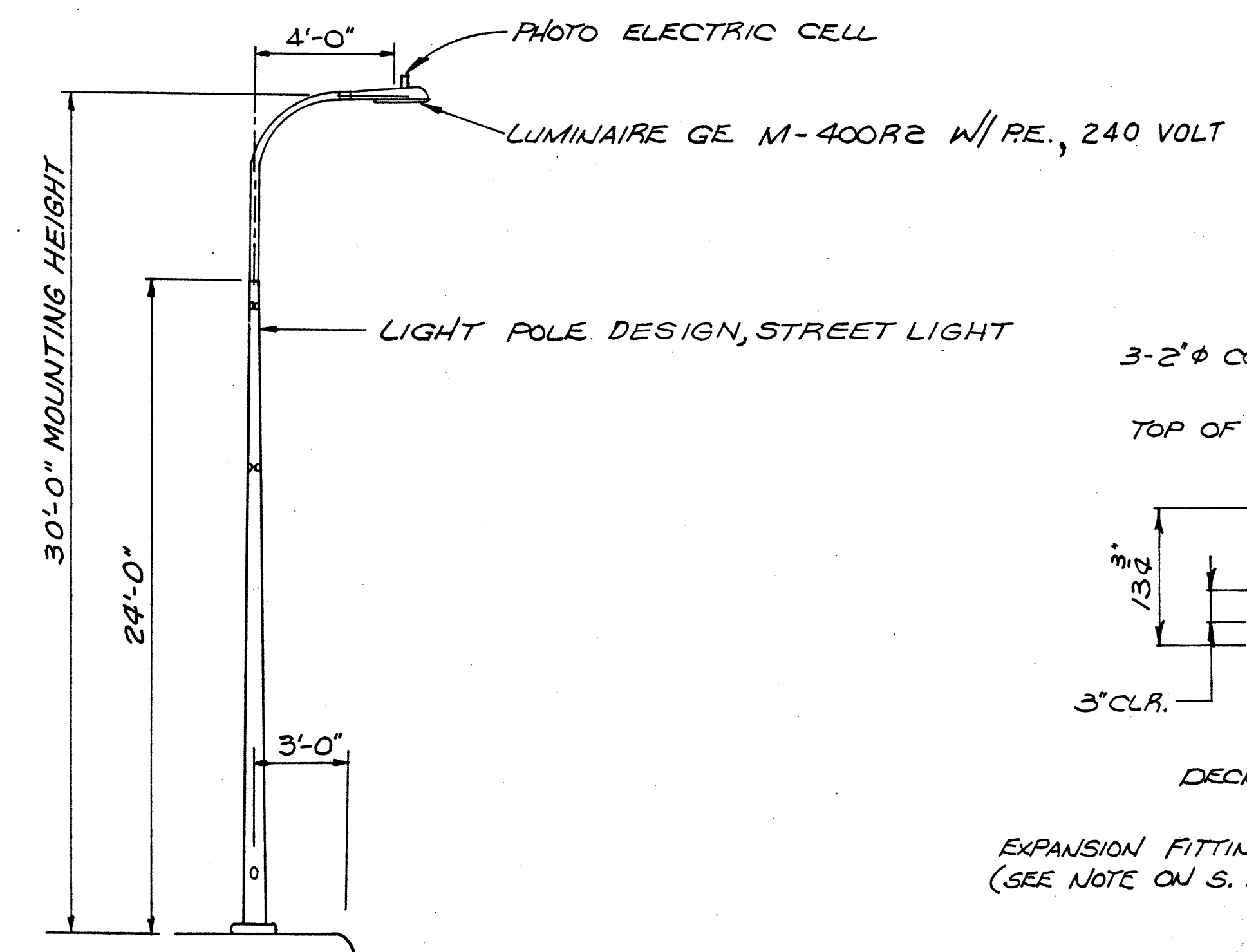
DESIGNED BY: DSB	CHECKED BY:
DATE: 9/12/94	DATE:
DRAWN BY: C.G.S.	REV. BY: T.K.I.
DATE: 9/12/94	DATE: 10/25/96
CAD FILE NAME: 7019700/MOTBRDG	



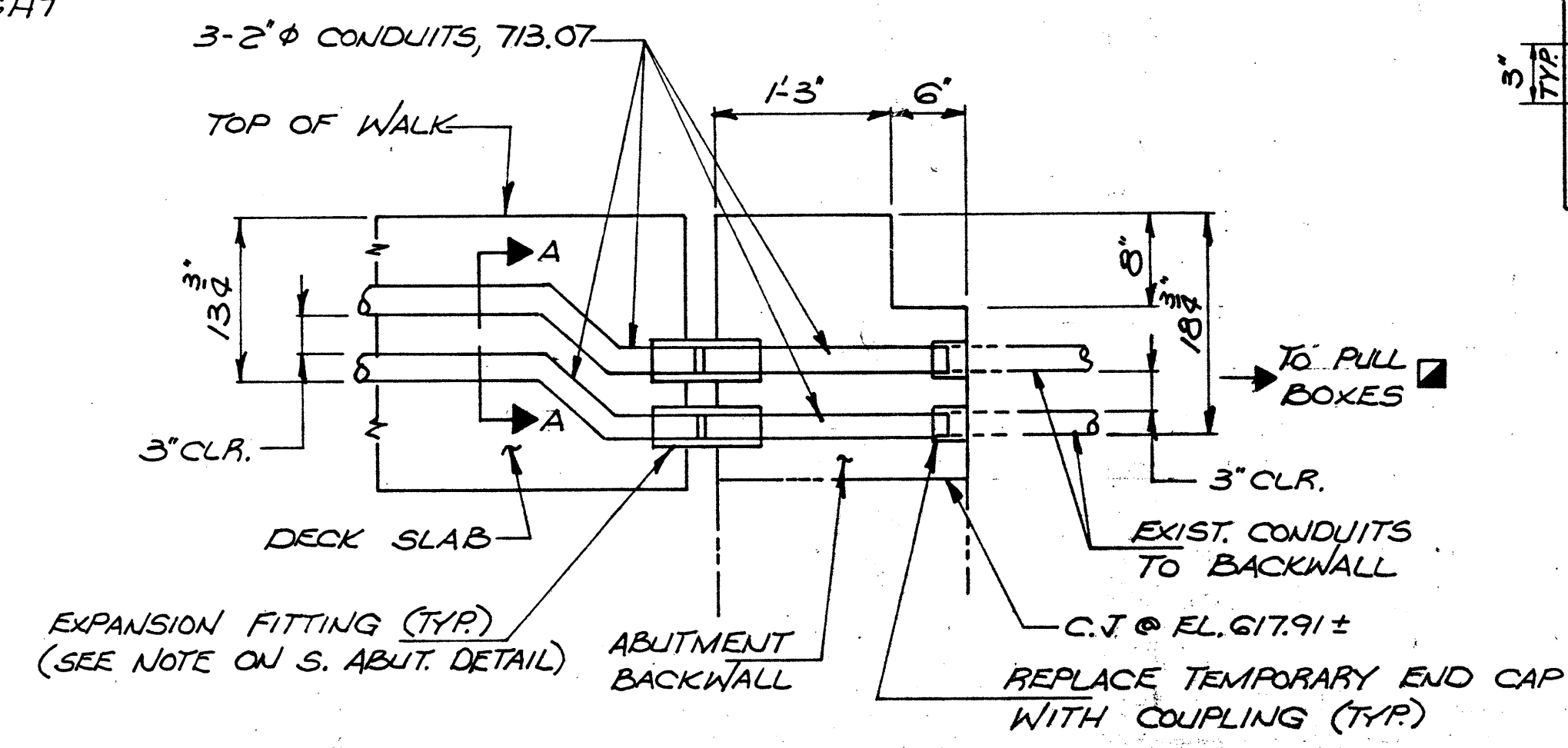
LIGHT POLE DETAIL AT PULL BOX



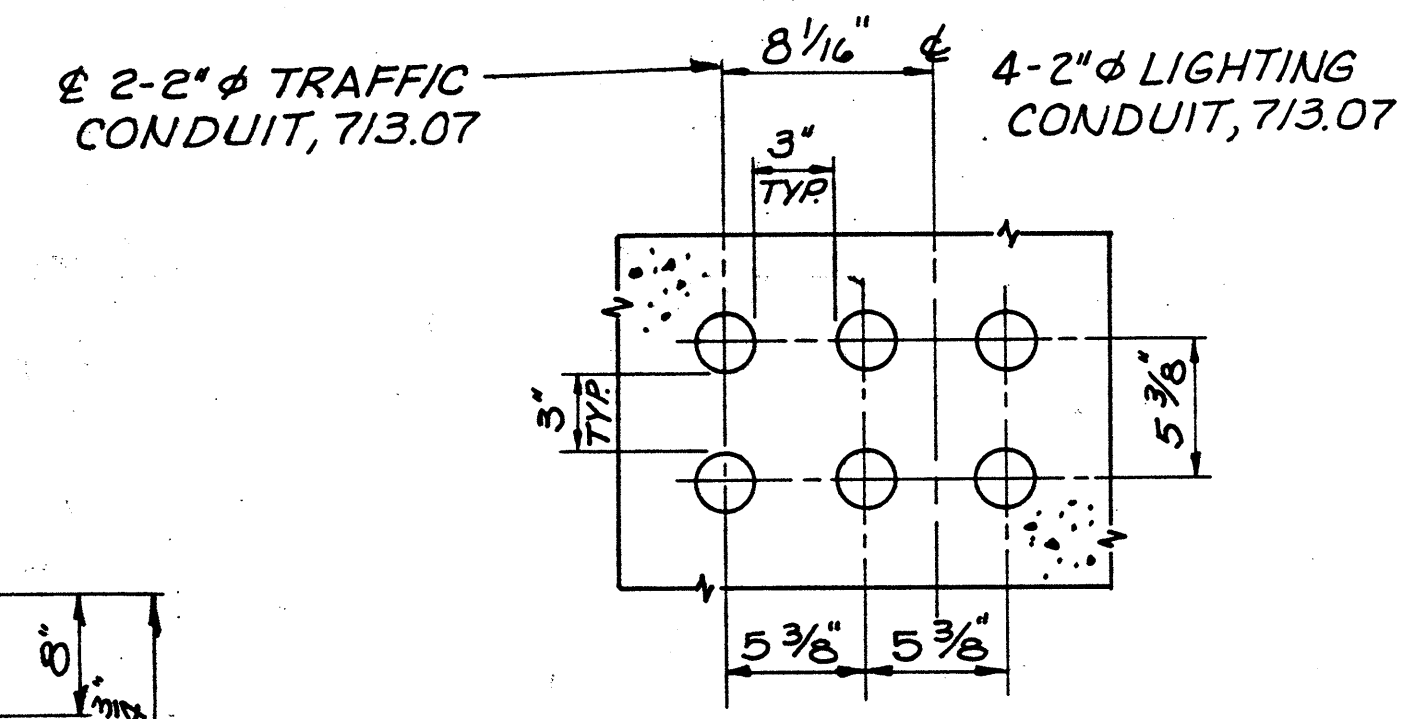
BACKWALL DETAIL AT SOUTH ABUTMENT



TYPICAL LIGHT POLE MOUNTED ON BRIDGE DETAIL



BACKWALL DETAIL AT NORTH ABUTMENT

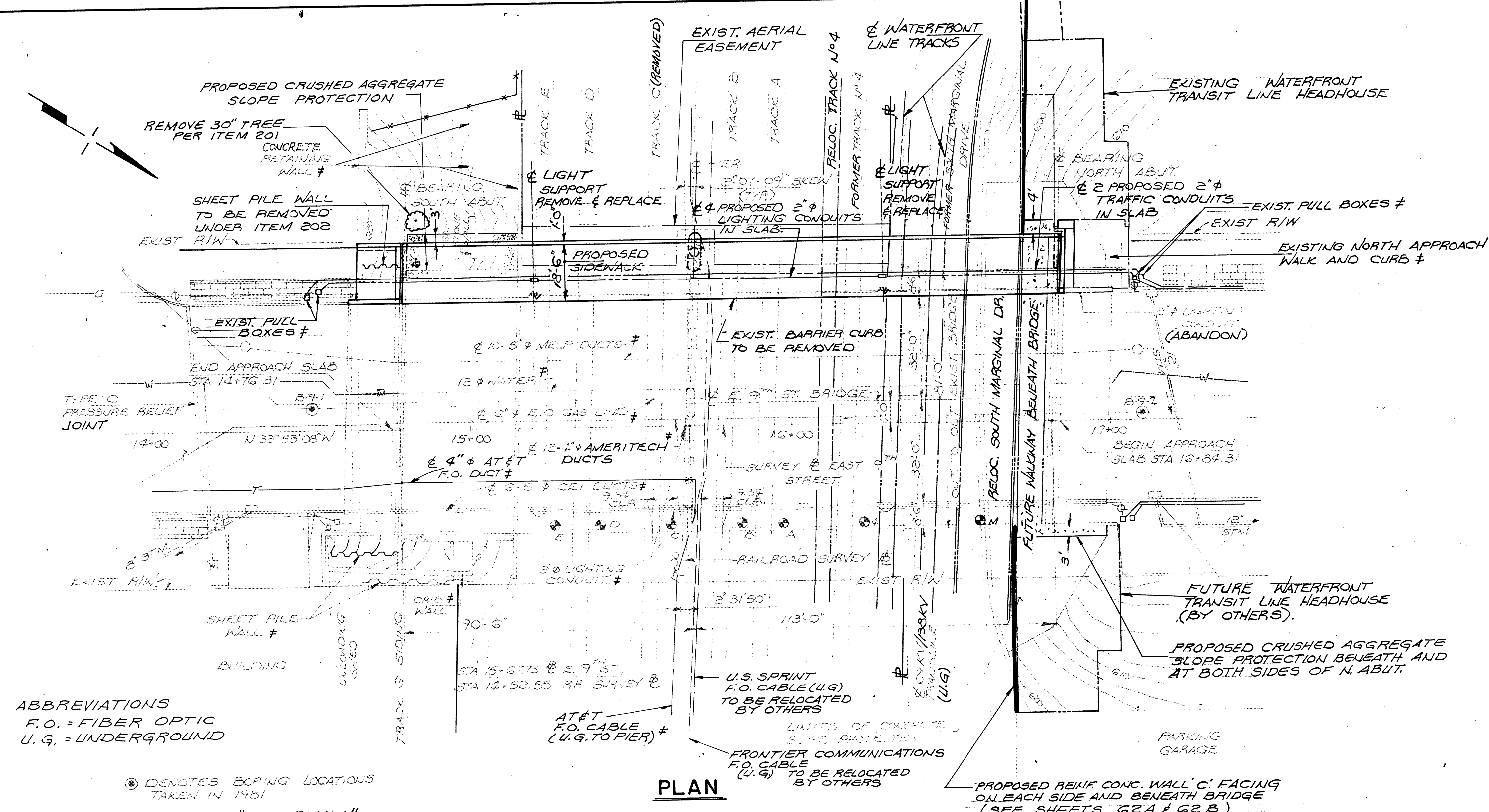


SECTION A-A

NOTES

- ① FOR ADDITIONAL DETAILS AND LOCATIONS FOR CONDUITS, POLYMER PULL BOXES AND LIGHT POLES SEE SUPERSTRUCTURE DETAILS - SHEET 18 EXPANSION JOINT DETAILS - SEE SHEETS 20 & 21
- ② FOR LIGHTING ESTIMATED QUANTITIES, SEE SHEET 8

DESIGNED BY: EDR	CHECKED BY:
DATE: 11/1/94	DATE:
DRAWN BY: T.K.L.	REVISED BY: CDG
DATE: 11/14/94	DATE: 1/18/96
CAD FILE NAME: 7019700-ED	

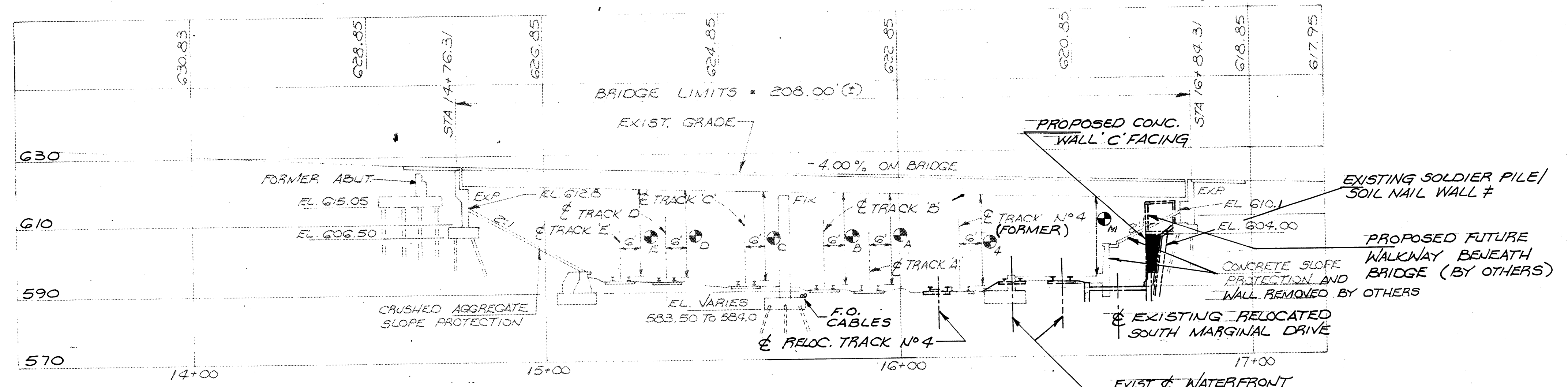


ABBREVIATIONS
 F.O. = FIBER OPTIC
 U.G. = UNDERGROUND

- ⊙ DENOTES BORING LOCATIONS TAKEN IN 1981
- ‡ DENOTES "TO REMAIN"
- ⊕ DENOTES VERTICAL CLEARANCE LOCATIONS (SEE TABLE)

BENCHMARK: O.M. #1200 AT N.W. CORNER OF E. 9TH STREET AND LAKESIDE AVENUE
 ELEVATION = 644.27

PLAN



EXISTING PROFILE ALONG & EAST 9TH STREET

NOTES
 EARTHWORK IS LIMITED TO THAT REQUIRED FOR WIDENING THE PIER & ABUTMENTS, AND SLOPE PROTECTION AT EACH END.

EXISTING STRUCTURE

TYPE: CONTINUOUS AND COMPOSITE (IN POSITIVE REGION) A588 GRADE 50 WELDED STEEL GIRDERS (UNPAINTED) WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES

SPANS: 90'-6", 113'-0" C/C BEARINGS

ROADWAY: 64'-0" FACE TO FACE CURBS WITH 1'-6" CONCRETE BARRIERS

SIDEWALK: 6'-0" SIDEWALK AND 1'-0" CONCRETE PARAPET ON EACH SIDE

SKEW: 2° - 07' - 09" LEFT FORWARD

LOADING: HS20-44, CASE II, AND ALTERNATE MILITARY LOADING

WEARING SURFACES: 1 1/4" LATEX MODIFIED CONCRETE (ROADWAY)
 MONOLITHIC CONCRETE (SIDEWALKS)

CROWN: 0.0156 FT/FT

ALIGNMENT: TANGENT

APPROACH SLABS: 15' LONG WITH TRAFFIC BARRIERS EACH SIDE (AS-1-72, AS PER PLAN)

SLOPE PROTECTION: CRUSHED AGGREGATE @ S. ABUT., CONCRETE @ N. ABUT.

YEAR BUILT: 1982

STRUCTURE FILE NO.: 1870041

PROPOSED STRUCTURE

PROPOSED WORK: REMOVE EXISTING TRAFFIC BARRIER, 6' WIDE SIDEWALK AND CONCRETE PARAPET ON WEST SIDE ONLY OF BRIDGE AND S. APPROACH. WIDEN WEST SIDEWALK TO 18'-6" CLEAR BY ADDING ONE NEW GIRDER AND PIER COLUMN, AND WIDENING THE DECK SLAB AND S. ABUT. (N. ABUT. PREVIOUSLY WIDENED)

SEE EXISTING

TYPE: SEE EXISTING

SPANS: SEE EXISTING

ROADWAY: SEE EXISTING EXCEPT CURB ON WEST SIDE

SIDEWALK: EAST SIDE: SEE EXISTING
 WEST SIDE: 18'-6" WALK AND 1'-0" CONCRETE PARAPET
 SEE EXISTING

SKEW: SEE EXISTING

LOADING: SEE EXISTING

WEARING SURFACES: SEE EXISTING

CROWN: SEE EXISTING

ALIGNMENT: SEE EXISTING

APPROACH SLABS: SEE EXISTING EXCEPT CURB ON WEST SIDE

SLOPE PROTECTION: ADDITIONAL CRUSHED AGGREGATE @ WEST SIDE OF S. ABUTMENT, BY OTHERS @ N. ABUT.

PROPOSED PILE DATA			
SUBSTRUCTURE UNIT	PILE TYPE	DESIGN LOAD	ESTIMATED LENGTH
S. ABUTMENT	12" Ø C.I.P.R.C.P.	41 TON	90'
PIER	14" Ø C.I.P.R.C.P.	68 TON	110'

MINIMUM VERTICAL CLEARANCES			
LOCATION		EXIST.	PROPOSED
CONRAIL TRACKS	⊕ E	25.30'	25.30
	⊕ D	24.67'	24.67
	⊕ C	25.39'	25.39
	⊕ B	26.05'	26.05
	⊕ A	25.73'	25.73
MARGINAL DRIVE	⊕ M	21.70'	21.70

TRAFFIC DATA:			
	1985	2015	
ADT	26,625	29,450	
ADTT	932	1,031	

DESIGNED BY: JTB
 CHECKED BY:
 DATE: 7/95
 DRAWN BY: JAN
 REVISIONS:
 DATE: 7/12/95
 CAD FILE NAME:

URS CONSULTANTS
 564 WHITE POND DRIVE
 AKRON, OHIO 44320-1100

URS

DATE: 1/96
 STRUCTURE FILE NUMBER: 1870041
 DRAWN: JMW
 CHECKED: MJM
 DESIGNED: GTC

SITE PLAN
 EAST 9TH STREET
 OVER CONRAIL

CUY. E. 9TH ST.
 STA 14+76.31
 STA 16+84.31

5

STRUCTURE GENERAL NOTES

REFERENCE SHALL BE MADE TO THE FOLLOWING BRIDGE STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

STANDARD DRAWING AS-1-81	REVISED 9-15-84
STANDARD DRAWING EXJ-2-81	REVISED 4-02-84
STANDARD DRAWING FB-1-82	DATED 5-10-82
STANDARD DRAWING PCB-91	DATED 4-24-92
STANDARD DRAWING SD-1-69	DATED 6-12-69

SUPPLEMENTAL SPECIFICATION 849	DATED 6-14-95
SUPPLEMENTAL SPECIFICATION 910	DATED 7-17-95
SUPPLEMENTAL SPECIFICATION 927	DATED 6-14-95
SUPPLEMENTAL SPECIFICATION 949	DATED 6-14-95

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993 THROUGH 1995 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

HS20-44, CASE II AND ALTERNATE MILITARY LOADING

DESIGN DATA

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)

REINFORCED STEEL - ASTM A615, A616 OR A617
GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

STRUCTURAL STEEL - ASTM A588 - UNIT STRESS 27,000 P.S.I.

DECK PROTECTION - EPOXY COATED REINFORCING STEEL
METHOD 2 1/2" CONCRETE COVER

MONOLITHIC WEARING - FOR DESIGN PURPOSES, IS ASSUMED TO BE 1"
SURFACE THICK

UTILITIES

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

THE CITY OF CLEVELAND WATER DEPARTMENT 1201 LAKESIDE AVENUE CLEVELAND, OHIO 44114 (216) 664-2444 ATTENTION: MR. DONALD TREBAR	AMERITECH 13630 LORAIN AVE., RM 400 CLEVELAND, OHIO 44111 (216) 476-6136 ATTENTION: MR. DAVID ZIEL
--	--

CLEVELAND ELECTRIC ILLUMINATING CO. 55 PUBLIC SQUARE P.O. BOX 5000 CLEVELAND, OHIO 44101 (216) 479-3452 ATTENTION: MR. GLEN YOUNG	CITY OF CLEVELAND CLEVELAND PUBLIC POWER (MELP) 1201 LAKESIDE AVENUE CLEVELAND, OHIO 44114 (216) 664-4245 EXT. 115 ATTENTION: MR. DALE TURKOVICH
---	---

AMERICAN TELEPHONE & TELEGRAPH 3833 WEYMOUTH ROAD MEDINA, OHIO 44256 (216) 723-9110 ATTENTION: MR. TOM SUMMERFIELD	EAST OHIO GAS COMPANY 1201 EAST 55TH STREET CLEVELAND, OHIO 44103 (216) 736-6675 ATTENTION: MR. MILT RADOVICH
--	---

NE OHIO REGIONAL SEWER DISTRICT
4747 E. 49TH STREET
CUYAHOGA HEIGHTS, OHIO 44125
(216) 641-6000 EXT. 411
ATTENTION: MR. ERIC PARHAM

SPRINT
2650 BROADWAY AVENUE
CLEVELAND, OHIO 44115
(216) 781-4443
ATTENTION: MR. BILL GEITH

CONRAIL
TWO COMMERCE SQUARE
P.O. BOX 41412
PHILADELPHIA, PA 19101
(215) 209-2923
ATTENTION: MR. FRAN GIACOMA

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.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING OR INSTALLING THE AFFECTED PRIVATE UTILITY LINES SHALL BE BORNE BY THEIR OWNERS. THE CONTRACTOR AND THE OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER IS HELD TO A MINIMUM.

AERIAL POWER AND TELEGRAPH LINES

THESE LINES WILL BE RELOCATED WHERE NECESSARY BY THEIR OWNERS. THE CONTRACTOR SHALL USE ALL PRECAUTIONS TO SEE THAT THESE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THEIR RESPECTIVE OWNERS IN THE RELOCATION.

RAILROAD AERIAL LINES

RAILROAD AERIAL LINES WILL BE RELOCATED BY THE RAILROAD. THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THE RAILROAD IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION SHALL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

SPECIAL CONRAIL AND GCRTA REQUIREMENTS

A. GENERAL

THE CONTRACTOR SHALL COOPERATE AT ALL TIMES WITH THE OFFICIALS OF THE CONSOLIDATED RAIL CORPORATION (CONRAIL) AND THE GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (GCRTA). HE SHALL USE ALL REASONABLE CARE AND DILIGENCE IN THE WORK IN ORDER TO AVOID ACCIDENTS, DAMAGE OR INTERFERENCE WITH THE TRAINS OR THE PROPERTY OF CONRAIL AND GCRTA. THE CONTRACTOR SHALL NOTIFY THEM PRIOR TO STARTING WORK THAT MAY AFFECT THEIR PROPERTY AND FACILITIES AND SHALL PAY THEM THE COST OF FLAGMEN FURNISHED BY THEM AND MADE NECESSARY BECAUSE OF ANY OF THE CONTRACTOR'S OPERATIONS OVER OR ADJACENT TO THE TRACKS.

FOR SPECIFIC REQUIREMENTS OF CONRAIL AND GCRTA SEE THE PROPOSAL BOOK.

FRONTIER COMMUNICATIONS, INC.
1468 WEST NINTH STREET
CLEVELAND, OHIO 44113
(216) 621-3075
ATTENTION: MR. FRANK EUREKA

GREATER CLEVELAND REGIONAL
TRANSIT AUTHORITY (GCRTA)
615 SUPERIOR AVENUE, N.W.
CLEVELAND, OHIO 44113
(216) 566-5036
ATTENTION: MR. WAHEEB TADROS

B. CONSTRUCTION ADJACENT TO CONRAIL TRACKS

CONSTRUCTION CLEARANCE OF 22-FT-0-IN. VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL AND 6' FROM THE CENTER OF TRACKS AND 8-FT-6-IN, HORIZONTALLY FROM THE CENTER OF TRACKS SHALL BE MAINTAINED AT ALL TIMES EXCEPT BETWEEN TRACK B AND FORMER TRACK C DURING THE CONSTRUCTION OF THE PROPOSED PIER. THE EDGE OF THE FOOTING FOR THE PROPOSED PIER IS LOCATED ABOUT 6-FT HORIZONTALLY FROM THE CENTER OF TRACK B AND FORMER TRACK C. CONSTRUCTION OF THIS PROPOSED PIER FOOTING WILL REQUIRE SPECIAL ATTENTION. THE CONTRACTOR SHALL PREPARE DETAILED PROCEDURES AND PLANS FOR THIS WORK. THIS DATA SHALL FULLY DEFINE THE PROPOSED EXCAVATION AND CONSTRUCTION METHOD, SEQUENCE OF OPERATION, EQUIPMENT, SHEETING AND DURATION OF WORK AND SHALL BE APPROVED BY THE RAILROAD COMPANY BEFORE BEING SUBMITTED TO THE DIRECTOR FOR APPROVAL.

A SHEET FROM THE EXISTING BRIDGE PLANS IS INCLUDED IN THESE PLANS FOR INFORMATION ONLY, SHOWING THE RAILROAD TRACK PROFILES WHEN THE EXISTING BRIDGE WAS CONSTRUCTED. ALSO SEE GENERAL NOTES FOR ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN, AND ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN, FOR ADDITIONAL REQUIREMENTS.

C. COMMUNICATION AND SIGNAL POLE LINE LOCATED ADJACENT TO TRACK NO. 4

THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO INSURE THAT THE COMMUNICATION AND SIGNAL LINE IS NOT DISTURBED DURING CONSTRUCTION OPERATIONS.

MAINTENANCE OF TRAFFIC

FOR MAINTENANCE OF TRAFFIC NOTES AND DETAILS SEE SHEETS 2 AND 3.

EXISTING STRUCTURES VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES INCLUDING THE GCRTA TRANSIT STATION HAVE BEEN OBTAINED FROM EXISTING PLANS, FROM FIELD OBSERVATIONS AND MEASUREMENTS, AND/OR FROM ASSUMPTIONS MADE FOR THOSE ELEMENTS WHICH COULD NOT BE OBSERVED DUE TO THEIR INACCESSIBILITY. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTION 102.05, 105.02 AND 513.02.

IMPROVEMENTS TO THE APPROACHES AT BOTH ENDS OF THE BRIDGE AND A MAJOR PORTION OF THE NORTH ABUTMENT WIDENING WERE CONSTRUCTED AS PART OF THE EAST 9TH STREET PHASE I CONTRACT.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

NO SEPARATE PAYMENT WILL BE MADE FOR ANY FIELD MEASUREMENTS BUT COST THEREOF SHALL BE INCLUDED IN THE COST OF OTHER ITEMS OF WORK OF THIS PROJECT.

AVAILABLE PLANS OF THE EXISTING STRUCTURE AND THE EAST 9TH STREET PHASE I CONTRACT MAY BE REVIEWED AT THE OFFICE OF COMMISSIONER, DIVISION OF ENGINEERING AND CONSTRUCTION, ROOM 518, CITY HALL, CLEVELAND, OHIO 44114.

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URS CONSULTANTS 564 WHITE POND DRIVE AKRON, OHIO 44320-1100	
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DATE	REVIEWED
STRUCTURE FILE NUMBER	1870041
DRAWN	FFF
DESIGNED	GTC
CHECKED	MJM
STRUCTURE GENERAL NOTES EAST 9TH STREET OVER CONRAIL	
CUY - E. 9TH ST.	
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STRUCTURE GENERAL NOTES

WATERFRONT TRANSIT LINE

CONSTRUCTION OF THE GCRTA WATERFRONT TRANSIT LINE AND STATION AND THE RELOCATION OF SOUTH MARGINAL DRIVE IN THE VICINITY OF THE NORTH ABUTMENT WERE CONSTRUCTED AS PART OF GCRTA PROJECT PACKAGE 32E (LAKEFRONT LINE SECTION) AND PACKAGE 32J (LAKEFRONT STATIONS).

CONSTRUCTION PLANS OF THESE GCRTA PROJECTS (AND AS-BUILT PLANS WHEN AVAILABLE) MAY BE REVIEWED AT THE GCRTA OFFICE (SEE UTILITIES LISTING).

EXISTING CONSTRUCTION

WITHIN THE LIMITS OF THIS CONTRACT, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ANY WORK NECESSARY TO PROPERLY JOIN THE NEW AND EXISTING CURBS AND WALKS AT THE TERMINI OF THE NEW CURBS AND WALKS. THE PAYMENT FOR THIS ITEM SHALL BE INCLUDED UNDER ITEM 608 - 8" CONCRETE WALK, AS PER PLAN, AND ITEM 608 - WALKWAY, MISC.: BRIDGE APPROACH.

RESTORATION OF AREAS OUTSIDE NORMAL CONSTRUCTION LIMITS

CARE SHALL BE TAKEN AT THE NORTH ABUTMENT APPROACH TO NOT DAMAGE THE ARTIST'S BRICK WELCOME MAT AT THE ENTRANCE TO THE GCRTA TRANSIT STATION HEADHOUSE.

THE CONTRACTOR WILL BE RESPONSIBLE FOR RESTORING PAVEMENT, CURB, AND GUTTER AND ANY OTHER ITEM OUTSIDE NORMAL CONSTRUCTION LIMITS THAT BECOME DAMAGED OR DESTROYED BY HIS OPERATION. THE CONTRACTOR SHALL PROMPTLY REPLACE THESE ITEMS AT HIS OWN EXPENSE.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

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

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.

REINFORCING BARS

ALL REINFORCING BARS FOR THIS PROJECT SHALL BE EPOXY COATED. ANY EPOXY COATED BARS WHICH ARE DAMAGED DUE TO FIELD CUTTING OR BENDING SHALL BE FIELD REPAIRED WITH LIQUID EPOXY. ANY CUTTING OR BENDING OF REINFORCING BARS NECESSARY TO ACCOMMODATE THE UTILITY OPENINGS OR ANY OTHER ESSENTIAL ELEMENT OF WORK RELATED TO THE PROJECT, AND FIELD REPAIR OF EPOXY COATED BARS, SHALL BE INCIDENTAL TO THE PRICE BID PER POUND FOR ITEM 509 - EPOXY COATED REINFORCING STEEL, GRADE 60, UNLESS OTHERWISE NOTED.

ALL REINFORCING BARS SHALL HAVE A CLEAR COVER OF 2", UNLESS SHOWN OTHERWISE ON THE PLANS.

REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THE CONTRACTOR'S COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 200 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE, LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

BACKWALL CONCRETE

IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE SOUTH ABUTMENT HAS BEEN PLACED. THIS ALSO APPLIES TO BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT SHOWN IN THE NORTH ABUTMENT.

CONCRETE PARAPETS

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 1 INCH DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT A MINIMUM OF 6'-0" AND A MAXIMUM OF 10'-0" CENTERS. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED, ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4 INCH. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1 INCH WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

ITEM SPECIAL - STRUCTURE, MISC.: PROTECTION OF GCRTA CATENARY SYSTEM

THE GCRTA CATENARY SYSTEM, WHICH PROVIDES POWER TO THE GCRTA TRAINS AND IS LOCATED ABOVE THE GCRTA TRACKS AND BENEATH THE SUPERSTRUCTURE NEAR THE NORTH ABUTMENT, SHALL BE PROTECTED BY A TEMPORARY CANOPY TO BE DESIGNED BY THE CONTRACTOR.

THE CONTRACTOR SHALL SUBMIT HIS DESIGN FOR THE TEMPORARY PROTECTION OF THE CATENARY SYSTEM TO THE ENGINEER FOR APPROVAL.

PAYMENT FOR THE DESIGN, LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO INSTALL, MAINTAIN, AND SUBSEQUENTLY REMOVE CATENARY SYSTEM PROTECTION SHALL BE MADE AT THE CONTRACT PRICE FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP SUM	STRUCTURE, MISC.: PROTECTION OF GCRTA CATENARY SYSTEM

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESCRIPTION: THIS WORK SHALL CONSIST OF THE REMOVAL OF THE TRAFFIC BARRIER, SIDEWALK AND PARAPET ON THE WEST SIDE OF THE BRIDGE AND APPROACHES, INCLUDING PORTIONS OF THE DECK JOINTS, ABUTMENTS, DRAINAGE PIPE, SHEET PILE WALL AT THE SOUTH ABUTMENT, CHAIN LINK FENCE ON THE WEST SIDE OF THE NORTH ABUTMENT, AND OTHER ELEMENTS AS INDICATED IN THE PLANS AND GENERAL NOTES TO BE REMOVED. CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HYDRAULIC HOE-RAM TYPE OF EQUIPMENT IS PROHIBITED.

THE CONTRACTOR SHALL ALSO CAREFULLY REMOVE THE TWO EXISTING LIGHTING UNITS ON THE WEST SIDE OF THE BRIDGE DECK. ALL MATERIAL, INCLUDING POLES, BRACKET ARMS, LUMINAIRES, LAMPS, AND OTHER SALVAGEABLE ITEMS SHALL BE CAREFULLY STORED FOR PICK-UP BY:

CITY OF CLEVELAND
DIVISION OF LIGHT AND POWER
2490 W. 41ST STREET
CLEVELAND, OHIO 44113

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

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB REMOVAL IS PERMITTED, THE OUTLINE OF THE OUTER EDGE OF THE WEST FASCIA GIRDER IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF THE DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2 INCHES OUTSIDE THIS LINE TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS THROUGH THE SIDEWALK SLAB SHALL NOT EXTEND LOWER THAN THE TOP SURFACE OF THE ROADWAY DECK SLAB. DURING REMOVAL OF THE DECK, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS AND REINFORCING STEEL THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, THE EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE AND 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, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

REMOVAL METHODS: CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. 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, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT 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.

DECK REMOVALS: CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE ENGINEER.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECT TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

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DATE: 2/14/96	DATE:
CAD FILE NAME: 7019700 - STRUNOT2	

URS CONSULTANTS
564 WHITE POND DRIVE
AKRON, OHIO 44320-1100

DATE	REVIEWED	DATE
STRUCTURE FILE NUMBER	1870041	
DRAWN	FFF	REVISED
DESIGNED	GTC	CHECKED
		MJM

STRUCTURE GENERAL NOTES
EAST 9TH STREET
OVER CONRAIL

CUY - E. 9TH ST.

7

STRUCTURE GENERAL NOTES

PAYMENT: THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, 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 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

THIS ITEM SHALL INCLUDE THE EXCAVATION AND BACKFILLING REQUIRED FOR PIER CONSTRUCTION AS SHOWN ON SHEET 12. THE LIMITS ON THE TRACK 'C' SIDE OF THE PIER VARY, DEPENDING ON WHETHER THE STEEL SHEET PILING FOR TRACK 'C' WILL BE REQUIRED BY THE RAILROAD.

AN ESTIMATED QUANTITY OF 44 CU. YD. OF UNCLASSIFIED EXCAVATION IS INCLUDED IN ITEM 503 IF SHEETING FOR THE TRACK 'C' SIDE OF THE PIER IS NOT REQUIRED, AND SHALL BE USED AS DIRECTED BY THE ENGINEER.

ALSO REFER TO THE "SPECIAL REQUIREMENTS OF CONSOLIDATED RAIL CORPORATION FOR WORK ON ITS RIGHT OF WAY" IN THE PROPOSAL BOOK FOR ADDITIONAL REQUIREMENTS.

ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN

THE STEEL SHEET PILING LEFT IN PLACE FOR PIER CONSTRUCTION ADJACENT TO THE RAILROAD SHALL HAVE A MINIMUM SECTION MODULUS OF 28 CUBIC INCHES PER FOOT OF WALL.

DURING PIER CONSTRUCTION THE TOP OF SHEETING SHALL BE AT THE TOP OF THE RAILROAD TIES. AFTER CONSTRUCTION AND BACKFILLING HAS BEEN COMPLETED, THE SHEETING SHALL BE CUT OFF 18 INCHES BELOW THE EXISTING GROUND LINE AND LEFT IN PLACE.

THE ENGINEER SHALL INFORM THE CONTRACTOR WHETHER THE SHEETING FOR THE TRACK 'C' SIDE OF THE PIER IS REQUIRED BY CONRAIL FOR PIER CONSTRUCTION. AN ESTIMATED QUANTITY OF 672 SQ. FT. IS INCLUDED IN ITEM 504 FOR THE TRACK 'C' SHEETING, AND SHALL BE USED AS DIRECTED BY THE ENGINEER.

ALSO REFER TO THE "SPECIFIC REQUIREMENTS OF CONSOLIDATED RAIL CORPORATION FOR WORK ON ITS RIGHT OF WAY" IN THE PROPOSAL BOOK FOR ADDITIONAL REQUIREMENTS.

ITEM 507 - 12" AND 14" CAST-IN-PLACE REINFORCED CONCRETE PILES, AS PER PLAN

PILE WALL THICKNESS: THE RESPONSIBILITY OF CHOOSING AND PROVIDING A SATISFACTORY PILE WALL THICKNESS FOR THIS PROJECT SHALL BE BORNE BY THE CONTRACTOR EXCEPT THAT THE PILE WALL THICKNESS SHALL NOT BE LESS THAN 0.240 INCHES. IF A PILE WALL THICKNESS GREATER THAN 0.240 INCHES IS NECESSARY TO RESIST THE PILE INSTALLATION DRIVING STRESS, THE CONTRACTOR SHALL MAKE THIS DETERMINATION AND SHALL FURNISH A PILE WITH AN ACCEPTABLE WALL THICKNESS. IF MONOTUBE PILES ARE USED, THE MINIMUM WALL THICKNESS SHALL BE 0.173 INCHES.

PILE HAMMER: THE PILE HAMMER USED TO INSTALL THE PILES SHALL HAVE A STATE'S ENERGY RATING OF NOT LESS THAN 21,000 FOOT-POUNDS. THIS REQUIREMENT DOES NOT RELIEVE THE CONTRACTOR FROM 108.05 WHICH STATES THAT THE CONTRACTOR IS TO PROVIDE SUFFICIENT EQUIPMENT FOR PROSECUTING THE REQUIRED WORK. REFER TO "ODOT'S MANUAL OF PROCEDURES FOR STRUCTURES" TO OBTAIN THE STATE'S ENERGY RATING.

PILE DESIGN LOADS (SAFE BEARING CAPACITY): THE DESIGN LOAD FOR THE SOUTH ABUTMENT PILES IS 41 TONS PER PILE AND THE DESIGN LOAD FOR THE PIER PILES IS 68 TONS PER PILE.

ITEM 513 - STRUCTURAL STEEL, A588 AISC CATEGORY III, AS PER PLAN

A588 STEEL IS TO BE LEFT UNPAINTED. THE OUTSIDE SURFACES AND BOTTOM SURFACES OF THE BOTTOM FLANGES OF THE NEW GIRDER SHALL BE ABRASIVELY BLAST CLEANED TO GRADE SA2 IN THE FABRICATION SHOP. SEE CMS 513.221 FOR FINAL FIELD CLEANING REQUIREMENTS. PAYMENT SHALL BE INCLUDED IN ITEM 513.

THE WEIGHT OF THE ASTM A 36 STEEL CURB PLATE ON THE BRIDGE SUPERSTRUCTURE AS WELL AS THE INCIDENTAL STUDS, SUPPORT ANGLES AND SPLICE PLATES ARE INCLUDED IN THE ESTIMATED QUANTITY OF ITEM 513 FOR PAYMENT. CURB PLATES ON THE BACKWALL ARE INCLUDED WITH THE STRUCTURAL EXPANSION JOINT STEEL OF ITEM 516.

ITEM 514 - FIELD PAINTING OF NEW STEEL, SYSTEM IZEU

PARTIAL PAINTING OF A588 STEEL: A 10 FOOT LENGTH FROM THE ENDS OF THE NEW GIRDER ADJACENT TO ABUTMENTS AND ALL NEW CROSS FRAMES AND OTHER NEW A588 STEEL WITHIN THESE LIMITS SHALL BE PAINTED. PAINT SHALL BE SYSTEM IZEU. THE PRIME COAT SHALL BE 708.17. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO.595A-20045 OR 20059 (THE COLOR OF WEATHERING STEEL).

THE SURFACES OF THE WIDENED PORTIONS OF THE STEEL EXPANSION JOINTS AND THE CURB PLATES ON THE BRIDGE SUPERSTRUCTURE AND BACKWALLS SHALL ALSO BE PAINTED. THE SHOP PRIME COAT SHALL BE 708.17. THE TOP COAT COLOR SHALL BE FEDERAL STANDARD NO 595A-16440 (GRAY).

SEE THE PROPOSAL NOTE FOR ADDITIONAL REQUIREMENTS.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS AND LABOR NECESSARY TO FABRICATE, ASSEMBLE, CONSTRUCT, PRIME PAINT, AND INSTALL THE STRUCTURAL EXPANSION JOINTS FOR THE WIDENED WEST SIDEWALK. FIELD SPlicing OF THE SAME TYPE PREFORMED ELASTOMERIC COMPRESSION SEAL TO THE EXISTING SEAL IS INCLUDED.

THE REMOVAL OF PORTIONS OF THE EXISTING STRUCTURAL EXPANSION JOINTS IS TO BE INCLUDED IN ITEM 202 FOR PAYMENT. FIELD MEASUREMENTS OF EXISTING STEEL WILL BE REQUIRED PRIOR TO FABRICATION OF THE JOINTS TO ENSURE THEIR PROPER FIT.

THE FINISHED STEEL ASSEMBLIES SHALL RECEIVE A SHOP PRIME COAT MEETING THE REQUIREMENTS OF 708.17.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT PRICE FOR THE LINEAR FEET MEASURED HORIZONTALLY ALONG THE JOINT CENTERLINE FROM THE GUTTER LINE TO THE ENDS OF THE JOINTS.

ITEM 516 - BEARING DEVICE, MISC.: EXPANSION WITH BRONZE PLATE

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS AND LABOR NECESSARY TO FABRICATE, ASSEMBLE, CONSTRUCT, PRIME PAINT, AND INSTALL THE EXPANSION BEARINGS AT THE ABUTMENTS IN ACCORDANCE WITH 516.05, SUPPLEMENTAL SPECIFICATION 927, AND THE NOTES AND DETAILS IN THESE PLANS.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT PRICE PER EACH BEARING DEVICE.

ITEM 608 - WALKWAY, MISC.: BRIDGE APPROACH

THIS ITEM SHALL CONSIST OF CONSTRUCTING A CONCRETE WALK FROM THE NORTH ABUTMENT TO THE TRANSIT STATION HEADHOUSE WELCOME MAT, IN REASONABLY CLOSE CONFORMITY WITH LINES GRADES AND DIMENSIONS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER.

MATERIALS SHALL BE IN ACCORDANCE WITH 608.02, WITH THE WELDED STEEL WIRE FABRIC MEETING THE REQUIREMENTS OF 709.10.

CONSTRUCTION OF THE WALKWAY SHALL BE IN ACCORDANCE WITH 608.03 AND THESE PLANS.

THE WALKWAY WILL BE MEASURED BY THE SQUARE FOOT OF FINISHED SURFACE COMPLETE IN PLACE.

THE ACCEPTED QUANTITY OF WALKWAY WILL BE PAID FOR AT THE CONTRACT PRICE PER SQUARE FOOT OF ITEM 608 - WALKWAY, MISC.: BRIDGE APPROACH. BACKFILL, BASE COURSE MATERIAL, WIRE FABRIC, EXPANSION JOINT MATERIAL, AND OTHER RELATED MISCELLANEOUS ITEMS WILL NOT BE PAID FOR SEPARATELY, BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF:

ITEM	UNIT	DESCRIPTION
608	SQUARE FEET	WALKWAY, MISC.: BRIDGE APPROACH

ABBREVIATIONS

ABUT.	ABUTMENT
APPR.	APPROACH
BOTT.	BOTTOM
BRG.	BEARING
CL. OR CLR.	CLEAR
CONC.	CONCRETE
CONN.	CONNECTION
EL. OR ELEV.	ELEVATION
EXIST.	EXISTING
LT.	LEFT
PERF.	PERFORATED
PL.	PLATE
PROP.	PROPOSED
R.	RADIUS
REINF.	REINFORCED
REQ'D.	REQUIRED
SER.	SERIES
SPA.	SPACES
STA.	STATION
TYP.	TYPICAL
C.J.	CONSTRUCTION JOINT
E.F.	EACH FACE
F.F.	FAR FACE
F.O.	FIBER OPTIC
N.F.	NEAR FACE
B.O.S.	BOTTOM OF SLAB
C.S.P.	CORRUGATED STEEL PIPE
L.L.O.	LONG LEG OUTSTANDING
L.M.C.	LATEX MODIFIED CONCRETE
T.O.S.	TOP OF SLAB
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
C.I.P.R.C.P.	CAST IN PLACE REINFORCED CONCRETE PILE

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STRUCTURE GENERAL NOTES
EAST 9TH STREET
OVER CONRAIL

CUY - E. 9TH ST.

7A

URS CONSULTANTS
564 WHITE POND DRIVE
AKRON, OHIO 44320-1100

URS

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	LIGHT-ING	M.O.T.	A.P.P. DRWG. NO.
MAINTENANCE OF TRAFFIC							
614	11000	LUMP	LUMP	MAINTAINING TRAFFIC		LUMP	
SPECIAL	-----	5	DAY	SUSPEND WORK FOR A DAY		5	
614	11100	100	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR		100	
614	20300	0.2	MILE	TEMPORARY LANE LINE, CLASS I, 740.05, TYPE C		0.2	
614	21300	0.2	MILE	TEMPORARY CENTER LINE, CLASS I, 740.05, TYPE C		0.2	
622	40020	150	LIN FT	PORTABLE CONCRETE BARRIER, 32"*		150	
622	40040	208	LIN FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED *		208	
BRIDGE LIGHTING							
625	-----	2	EACH	LIGHT POLE DESIGN STREET LIGHT	2		
625	-----	2	EACH	LUMINAIRE, CUTOFF, TYPE III, 400 WATT, METAL HALIDE, 713.11, 240 VOLT WITH PHOTOCELL, AS PER PLAN AND SPECIFICATION	2		4
625	-----	8	EACH	LIGHT POLE ANCHOR BOLTS, AS PER PLAN	8		4
625	23400	152	LIN FT	NO.10 AWG. POLE AND BRACKET CABLE	152		
625	25403	1430	LIN FT	CONDUIT, 2", 713.07, AS PER PLAN, SCHEDULE 40 TYPE EB	1430		4
625	-----	2	EACH	POLYMER CONCRETE PULL BOX	2		
625	01500	6	EACH	CABLE SPLICING KIT	6		
SPECIAL	-----	LUMP	LUMP	MAINTAIN EXISTING LIGHTING	LUMP		
SPECIAL	-----	1	EACH	DISCONNECT EXISTING CIRCUIT	1		
625	23200	1600	LIN.FT.	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	1600		

* INDICATES (SEE PROPOSAL NOTE)

QUANTITY CALCULATIONS BY

M.O.T.: CALC. EWK 10/96
CHK'D DSB 10/96

LIGHTING : CALC. GTC 10/96
CHK'D ER 10/96

NOTES

- ① FOR MAINTENANCE OF TRAFFIC NOTES & PLANS, SEE SHEET 2 & 3.
- ② FOR LIGHTING & TRAFFIC CONDUIT DETAILS, SEE SHEET 4.

LIGHTING GENERAL NOTES

ITEM SPECIAL - MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF ANY EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF THE CITY, THE MAINTAINING AGENCY (C.P.P.), AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF THE EXISTING LIGHTING SHALL BE MADE BY THE CITY'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE CITY, THE MAINTAINING AGENCY, AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED-DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED-DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENTS.

SHOULD THE CONTRACTOR DESIRE THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL THEN BE RESPONSIBLE FOR ADEQUATE TEMPORARY LIGHTING OF THAT PORTION OF THE EXISTING ROADWAY AFFECTED BY THE REMOVAL OF THE EXISTING LIGHTING.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR (4) SETS OF THE TEMPORARY LIGHTING PLAN TO THE DIRECTOR FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATION OF POLES, LENGTH OF BRACKET ARMS, STYLE OF LUMINAIRES, MOUNTING HEIGHT, WIRING METHODS, AND OTHER PERTINENT INFORMATION, THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 5 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT FOR TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 27 FT. AND MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FT. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENT AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL STATE, AND CITY SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL, AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL - MAINTAINING EXISTING LIGHTING, SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS, AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

FINAL INSPECTION

A FINAL INSPECTION OF THE CONDUIT SYSTEM SHALL BE MADE BY THE CLEVELAND PUBLIC POWER COMPANY PRIOR TO FINAL ACCEPTANCE. ALL CONDUITS SHALL BE BRUSHED AND MANDRELLED. A PULL STRING (JET LINE) RATED 200 LB. MINIMUM SHALL BE PLACED IN EACH CONDUIT. CONDUIT WHICH DOES NOT TERMINATE IN A MANHOLE, PULL BOX OR HANDHOLE SHALL BE CAPPED WITH A PVC CAP OR PLUG. THIS WORK SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE 625 CONDUIT ITEM.

ITEM SPECIAL - DISCONNECT EXISTING CIRCUIT

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF AN EXISTING LIGHTING CIRCUIT AT A PULL BOX OR A LIGHT POLE.

CONNECTION AT A PULL BOX SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL SPLICE KITS. ANY CABLE THAT IS TO BE ABANDONED SHALL BE TERMINATED IN A MANNER SUCH THAT NO CABLE IS LEFT REMAINING IN THE PULL BOX.

CONNECTION AT A LIGHT SHALL INVOLVE THE REMOVAL OF THE PART OF CABLE THAT IS TO BE ABANDONED FROM THE POLE. THOSE ENDS OF THE CONNECTOR KITS FROM WHICH ABANDONED CABLE IS REMOVED SHALL BE PLUGGED AND TAPED.

ANY CABLE THAT IS TO BE REUSED IN A PULL BOX OR LIGHT POLE SHALL BE CUT IN A MANNER SO THAT THERE IS SUFFICIENT LENGTH OF CABLE LEFT FOR RECONNECTION. CABLE SPLICE KITS AND CONNECTOR KITS WILL BE PAID FOR RESPECTIVELY UNDER EACH ITEM 625.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM SPECIAL "DISCONNECT EXISTING CIRCUIT" AND SHALL BE FULL COMPENSATION INCLUDING ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK.

DESIGNED BY: MUM
DATE: 1/7/96
DRAWN BY: FFF
DATE: 1/7/96
CHECKED BY: ESQUJANZ
DATE: 7/19/00

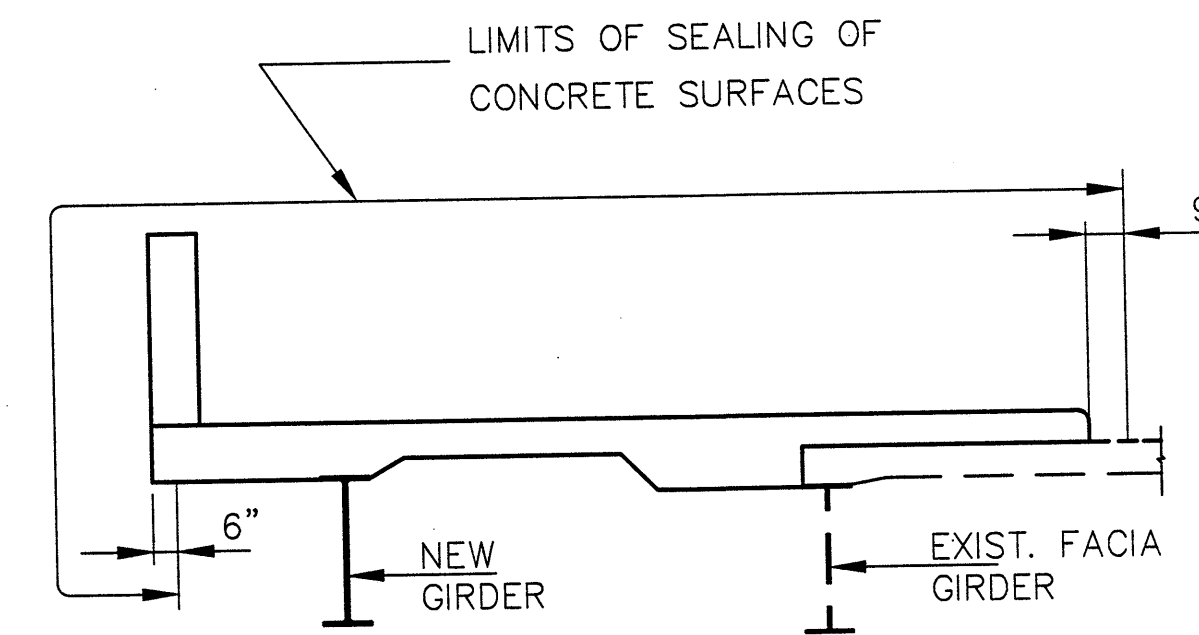
URS CONSULTANTS
 564 WHITE POND DRIVE
 AKRON, OHIO 44320-1100
URS
 DATE: 1/7/96
 REVIEWED: 7/19/00
 DRAWN: FFF
 CHECKED: GTC
 ESTIMATED QUANTITIES
 EAST 9TH STREET
 OVER CONRAIL
 CUY-E.9th ST.
 08

ESTIMATED QUANTITIES

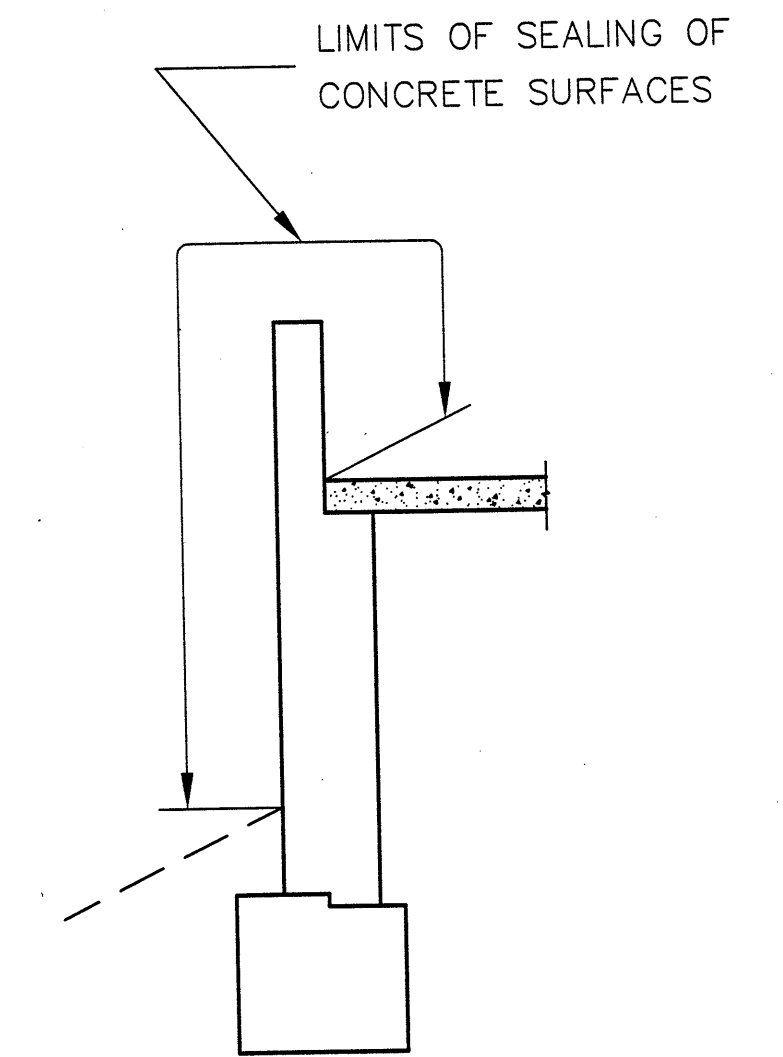
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT	PIER	GEN.	APP DRWG. NO.
STRUCTURE									
SPECIAL	10000300	LUMP	LUMP	PREMIUM ON RAILROADS' PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE. *				LUMP	
201	23000	1	EACH	TREE OR STUMP REMOVED, 30" SIZE				LUMP	7, 7A
202	11201	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				LUMP	
503	11100	LUMP	LUMP	COFFERDAMS, CRIBS AND SHEETING				LUMP	
503	21101	165	CU.YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN		50	115		7A
504	11101	1250	SQ.FT.	STEEL SHEET PILING LEFT IN PLACE (MINIMUM SECTION MODULUS OF 28 CU. IN. PER FOOT OF WALL), AS PER PLAN			1250		7A
505	11100	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
506	11100	LUMP	LUMP	STATIC LOAD TEST, 12" Ø PILE		LUMP			
506	11100	LUMP	LUMP	STATIC LOAD TEST, 14" Ø PILE			LUMP		
507	21101	460	LIN.FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, AS PER PLAN		460			7A
507	41101	555	LIN.FT.	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, AS PER PLAN			555		7A
509	15824	36556	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60	28,469	3578	4309	200	
510	10000	38	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		38			
511	31504	189	CU.YD.	CLASS S CONCRETE, SUPERSTRUCTURE	189				
511	41500	33	CU.YD.	CLASS C CONCRETE, PIER ABOVE FOOTINGS			33		
511	44100	37	CU.YD.	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING		37			
511	46500	25	CU.YD.	CLASS C CONCRETE, FOOTING		12	13		
511	81200	LUMP	LUMP	CONCRETE, MISC.: CLASS C, FOR RETAINING WALL 'C'				LUMP	
512	44400	6	SQ.YD.	TYPE B WATERPROOFING		6			
SPECIAL	51267502	844	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY) *	699	79	66		
513	12301	52807	POUND	STRUCTURAL STEEL, A588 AISC CATEGORY III, AS PER PLAN	52807				7A
513	20000	429	EACH	WELDED STUD SHEAR CONNECTOR	429				
514	00620	665	SQ.FT.	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU *	665				
516	10501	39	LIN.FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN *	39				7A
516	13600	33	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER		33			
516	46000	1	EACH	BEARING DEVICE, BOLSTER *			1		
516	46900	2	EACH	BEARING DEVICE, MISC.: EXPANSION WITH BRONZE PLATE *		2			
518	21200	24	CU.YD.	POROUS BACKFILL WITH FILTER FABRIC		24			
518	41100	8	LIN.FT.	6" PERFORATED HELICAL CORRUGATED STEEL PIPE, 707.01 *		8			
518	41200	14	LIN.FT.	6" NON-PERFORATED HELICAL CORRUGATED STEEL PIPE, INCLUDING SPECIALS, 707.01 *		14			
523	11100	6	PIER	DYNAMIC LOAD TEST		3	3		
SPECIAL	53000200	LUMP	LUMP	STRUCTURE, MISC.: PROTECTION OF GORTA CATENARY SYSTEM				LUMP	
SPECIAL	53000200	LUMP	LUMP	STRUCTURE, MISC.: STRUCTURAL SURVEY AND MONITORING OF VIBRATIONS *				LUMP	
601	20000	112	SQ.YD.	CRUSHED AGGREGATE SLOPE PROTECTION		112			
607	XXXX	LUMP	LUMP	ORNAMENTAL FENCE, AS PER PLAN				LUMP	21A
608	15001	230	SQ.FT.	8" CONCRETE WALK, AS PER PLAN		230			22
608	98000	71	SQ.FT.	WALKWAY, MISC.: BRIDGE APPROACH		71			
619	15010	LUMP	LUMP	FIELD OFFICE, TYPE B				LUMP	
623	10000	LUMP	LUMP	CONSTRUCTION LAYOUT STAKES				LUMP	
624	10000	LUMP	LUMP	MOBILIZATION				LUMP	

* INDICATES (SEE PROPOSAL NOTE)

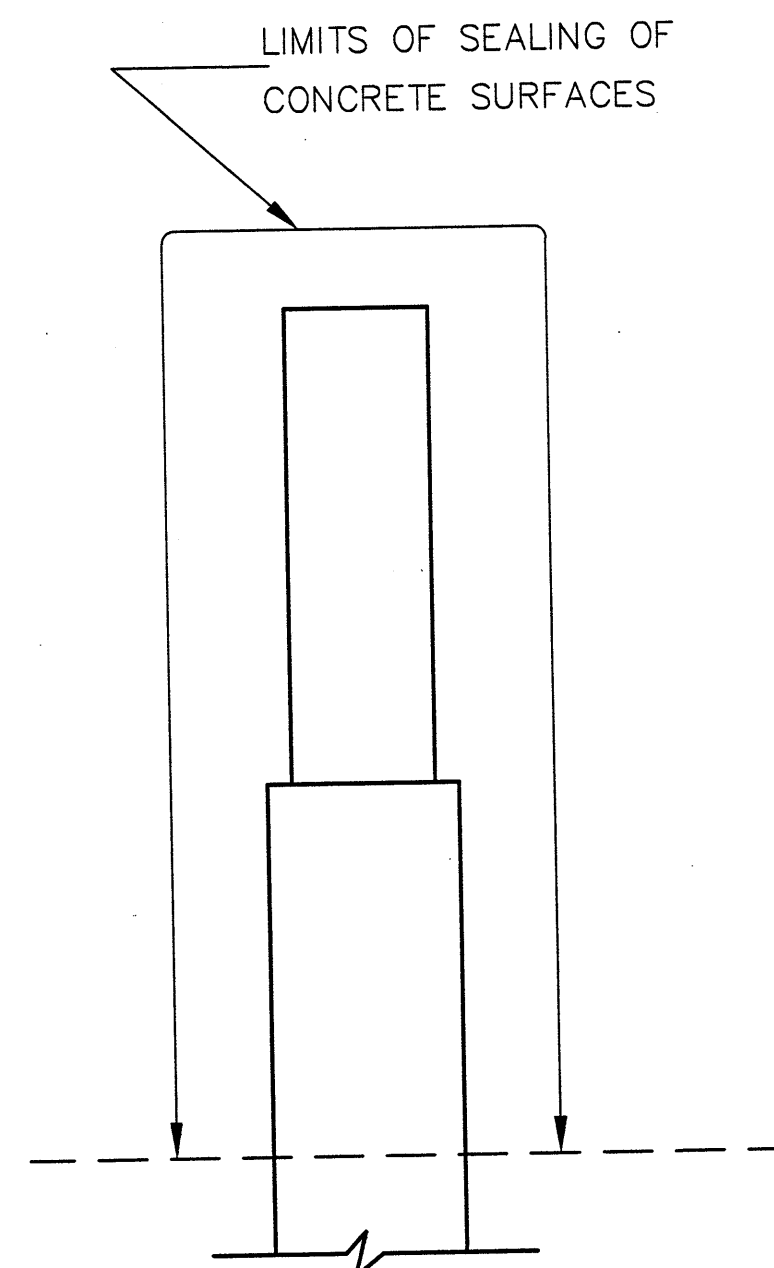
QUANTITY CALCULATIONS BY:
STRUCTURE : CALC. MJM / GTC 10/96
CHK'D. GTC / BKL 10/96



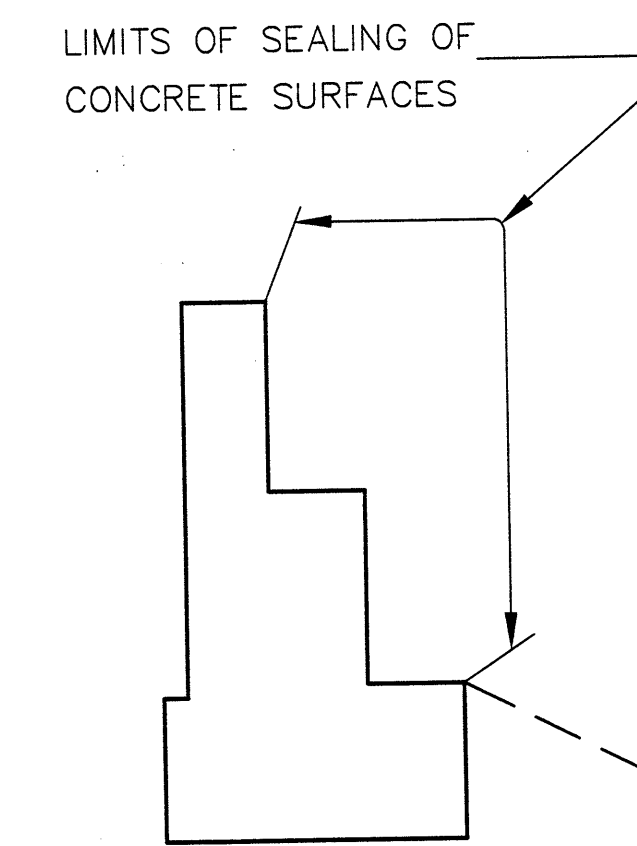
SUPERSTRUCTURE



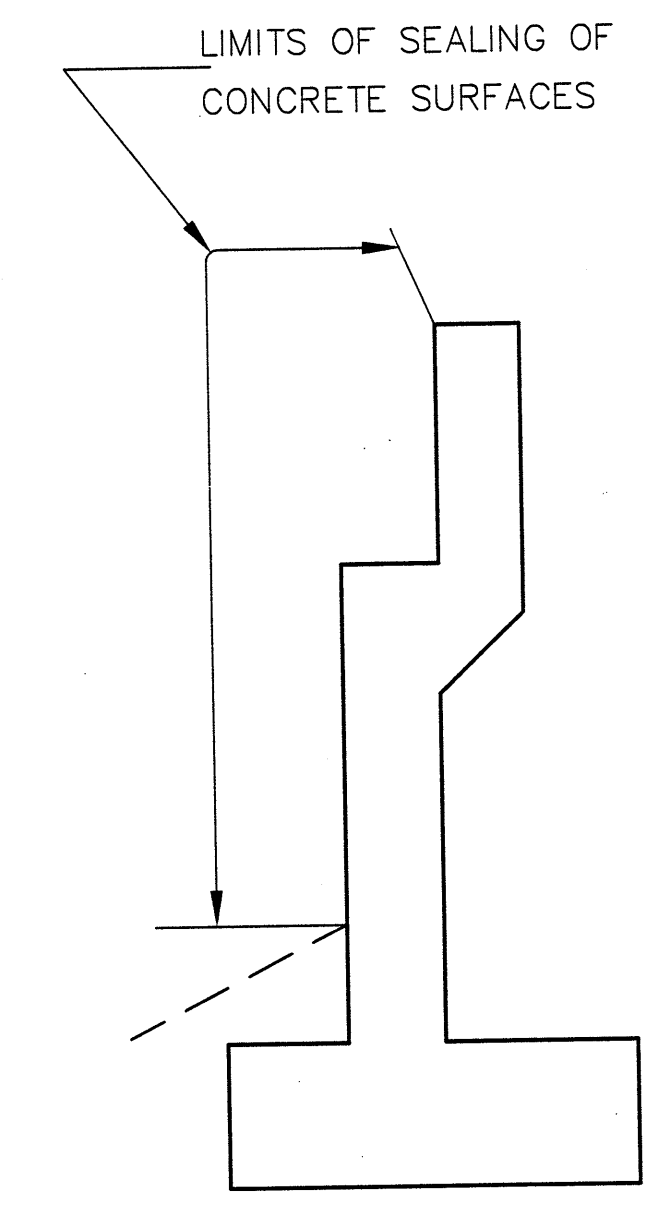
WINGWALL



PIER



NORTH ABUTMENT



SOUTH ABUTMENT

LIMITS OF SEALING TREATMENT DIAGRAMS

(EPOXY SEALER SHALL BE TINTED TO MATCH EXISTING CONCRETE)

CHECKED BY: _____ DATE: _____
DRAWN BY: FFF REVISIONS BY: _____ DATE: 1/7/96
CAD FILE NAME: 7019700 - ESQUAN

URS CONSULTANTS
564 WHITE POND DRIVE
AKRON, OHIO 44320-1100

URS

DATE: _____
REVIEWED: _____
DRAWN: FFF
CHECKED: GTC
STRUCTURE FILE NUMBER: 1870041

ESTIMATED QUANTITIES
EAST 9TH STREET
OVER CONRAIL

CUY-E.9th ST.

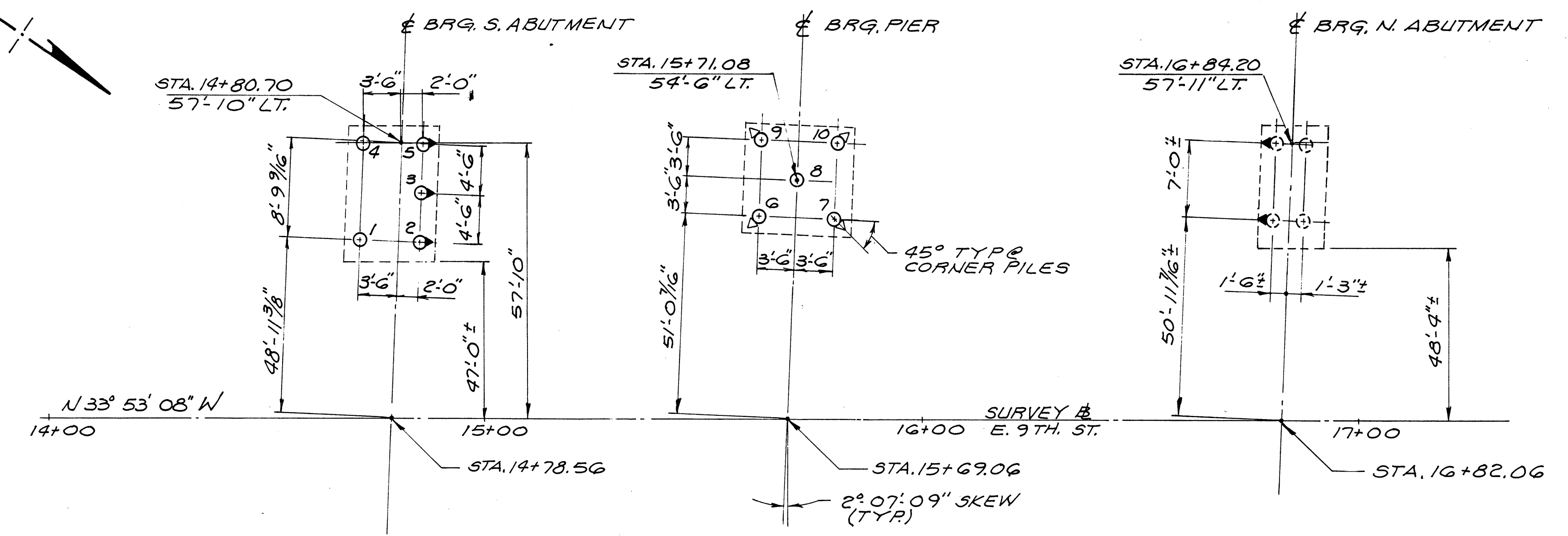
9

LEGEND

- DENOTES EXISTING CAST-IN-PLACE REINFORCED CONCRETE PILE WITH NO BATTER.
- DENOTES PROPOSED CAST-IN-PLACE REINFORCED CONCRETE PILE WITH NO BATTER.
- ◐ DENOTES EXISTING CAST-IN-PLACE REINFORCED CONCRETE PILE ON A 1:4 BATTER IN THE DIRECTION SHOWN.
- ◑ DENOTES PROPOSED CAST-IN-PLACE REINFORCED CONCRETE PILE ON A 1:4 BATTER IN THE DIRECTION SHOWN.
- ◒ DENOTES PROPOSED CAST-IN-PLACE REINFORCED CONCRETE PILE ON A 1:8 BATTER IN THE DIRECTION SHOWN.

NOTES

1. ALL ABUTMENT PILES SHALL BE 12" C.I.P.R.C.P.
2. ALL PIER PILES SHALL BE 14" C.I.P.R.C.P.
3. SEE SITE PLAN FOR ADDITIONAL PILE DATA.
4. SEE THE GENERAL NOTES FOR "ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN" AND "ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN".

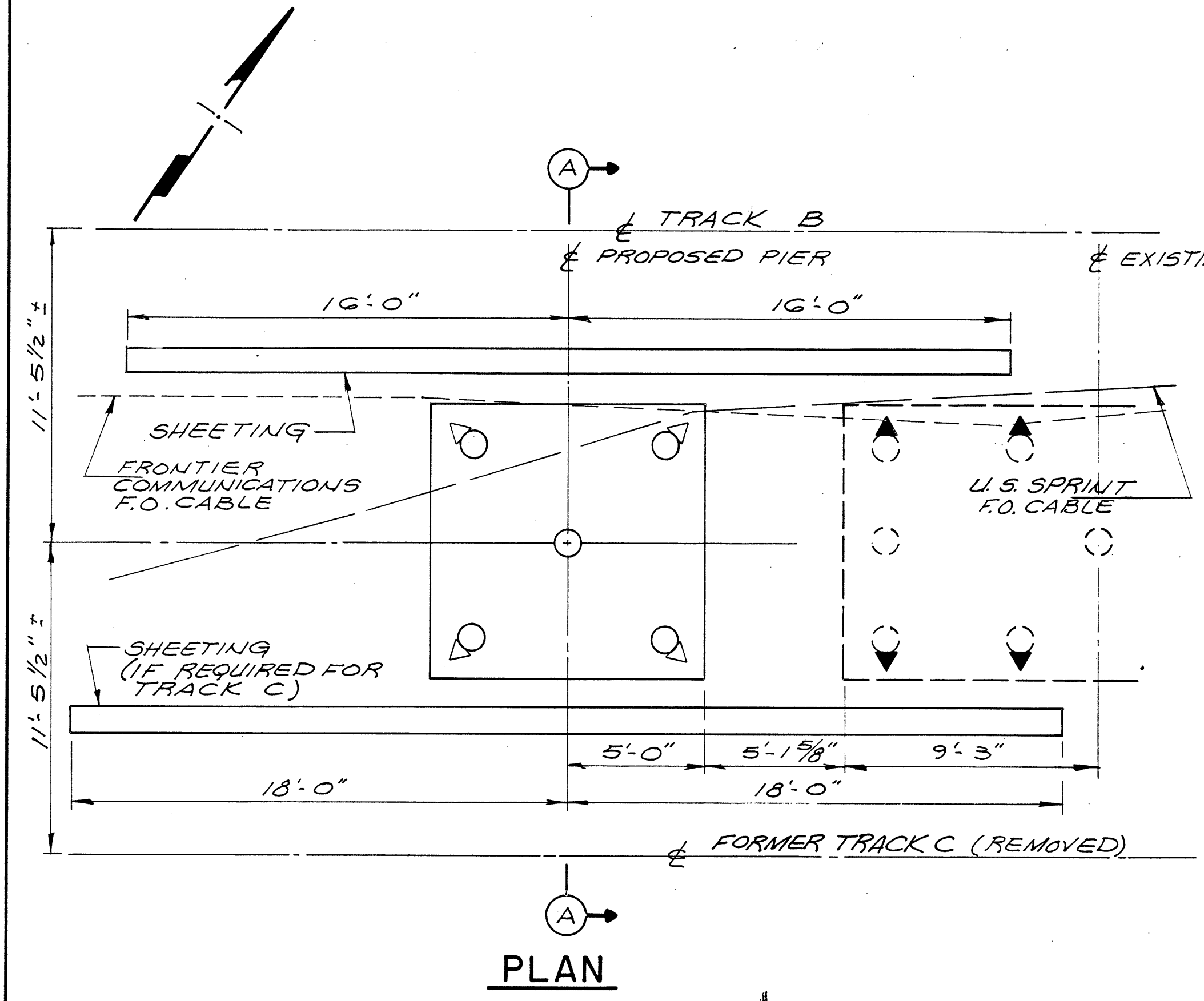


PARTIAL PILING PLAN

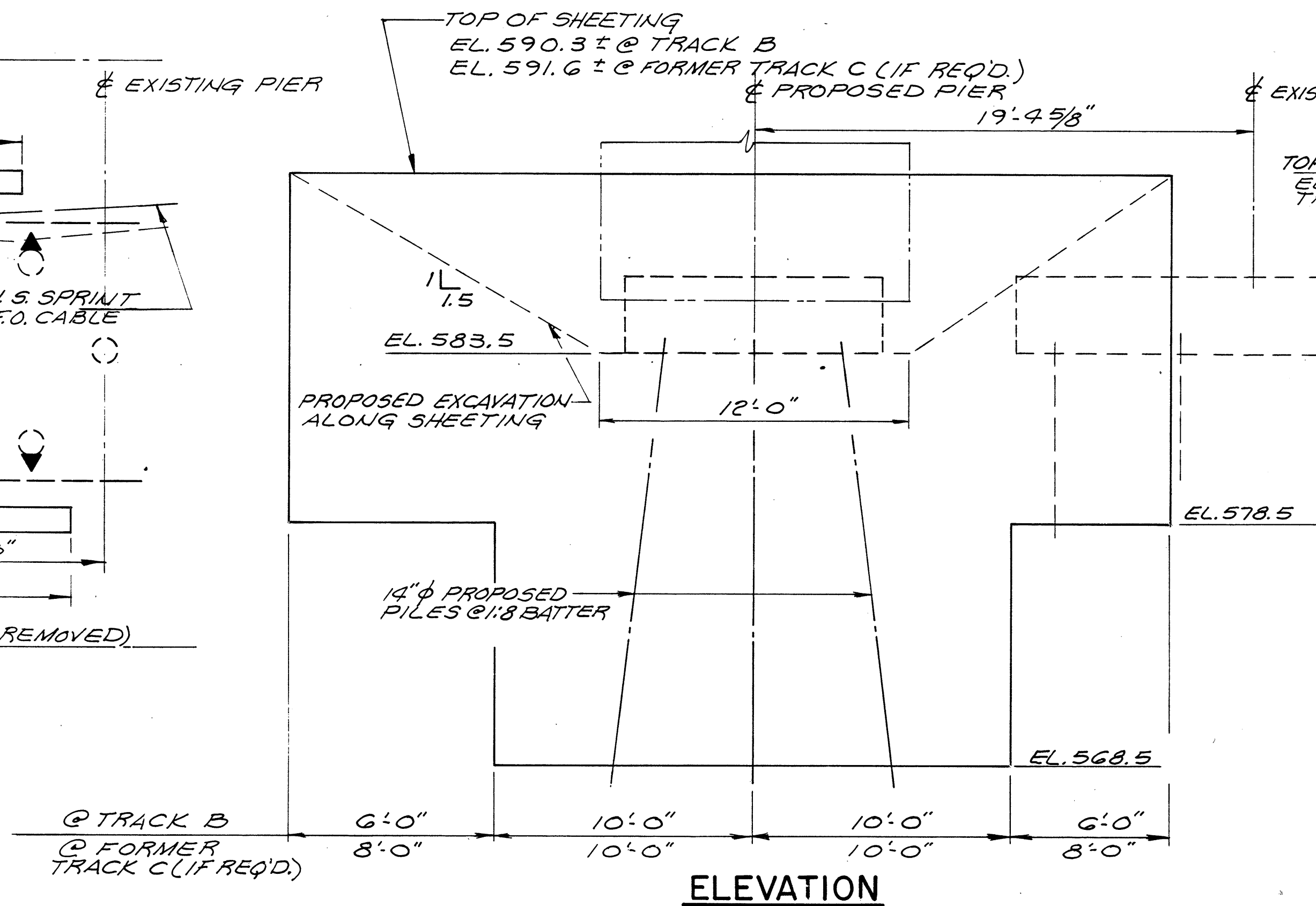
MINIMUM PILE TIP ELEVATIONS ARE AS FOLLOWS :

SUBSTRUCTURE	PILES	TIP ELEV.
S. ABUT.	1 THRU 5	517.5
PIER	6 THRU 10	474.5

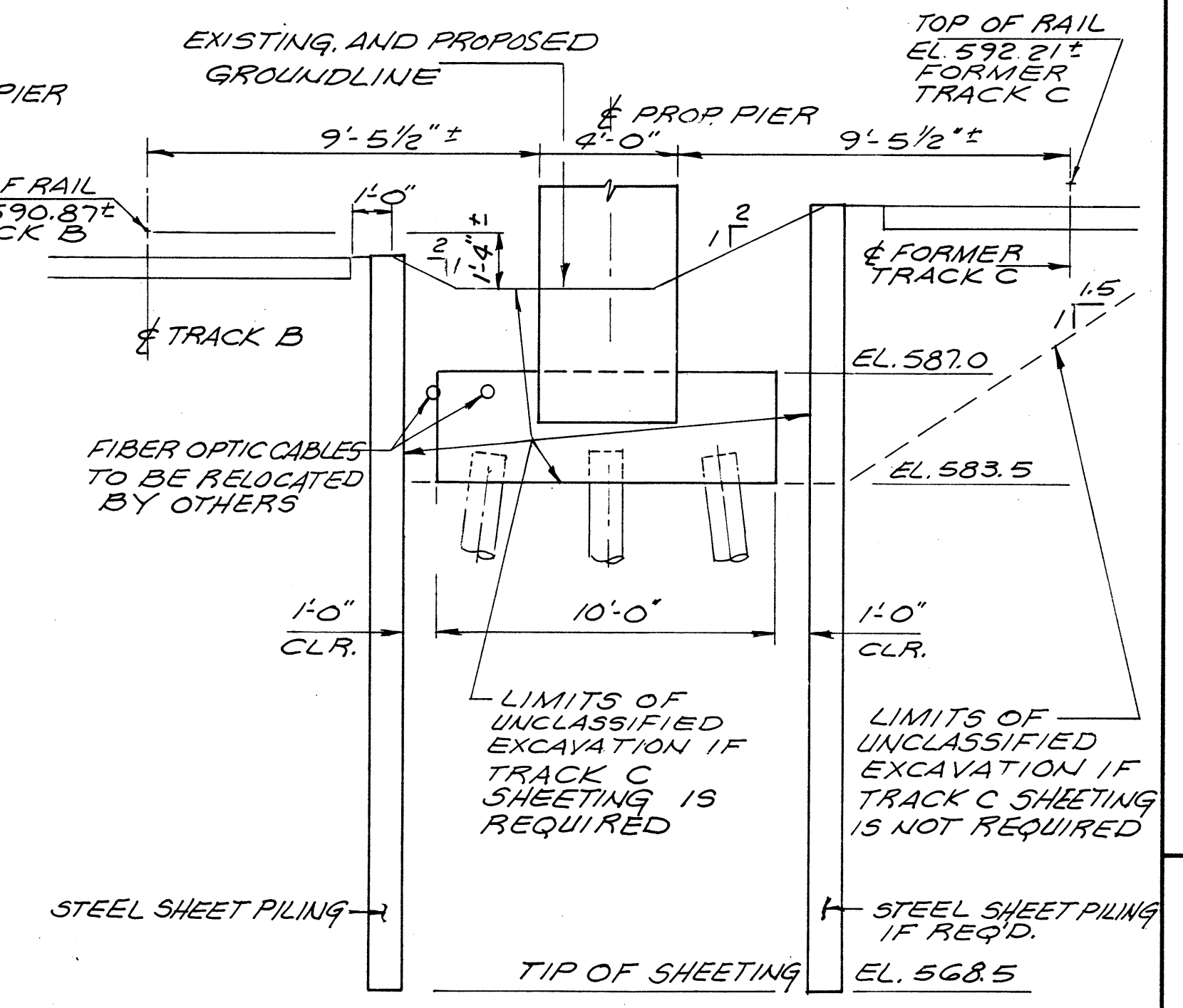
NOTE: PILES FOR THE NORTH ABUTMENT WIDENING HAVE BEEN INSTALLED.



PLAN

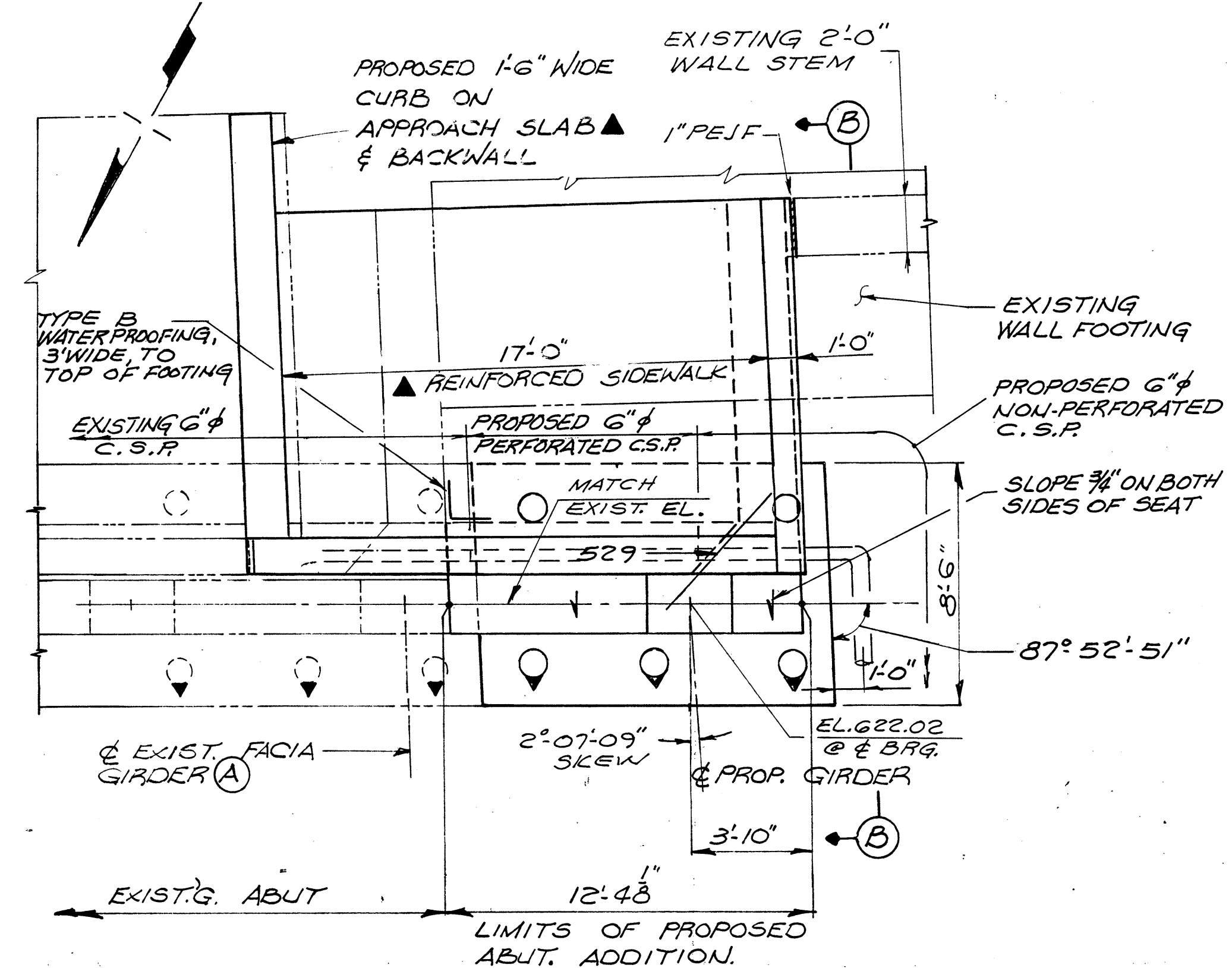


ELEVATION

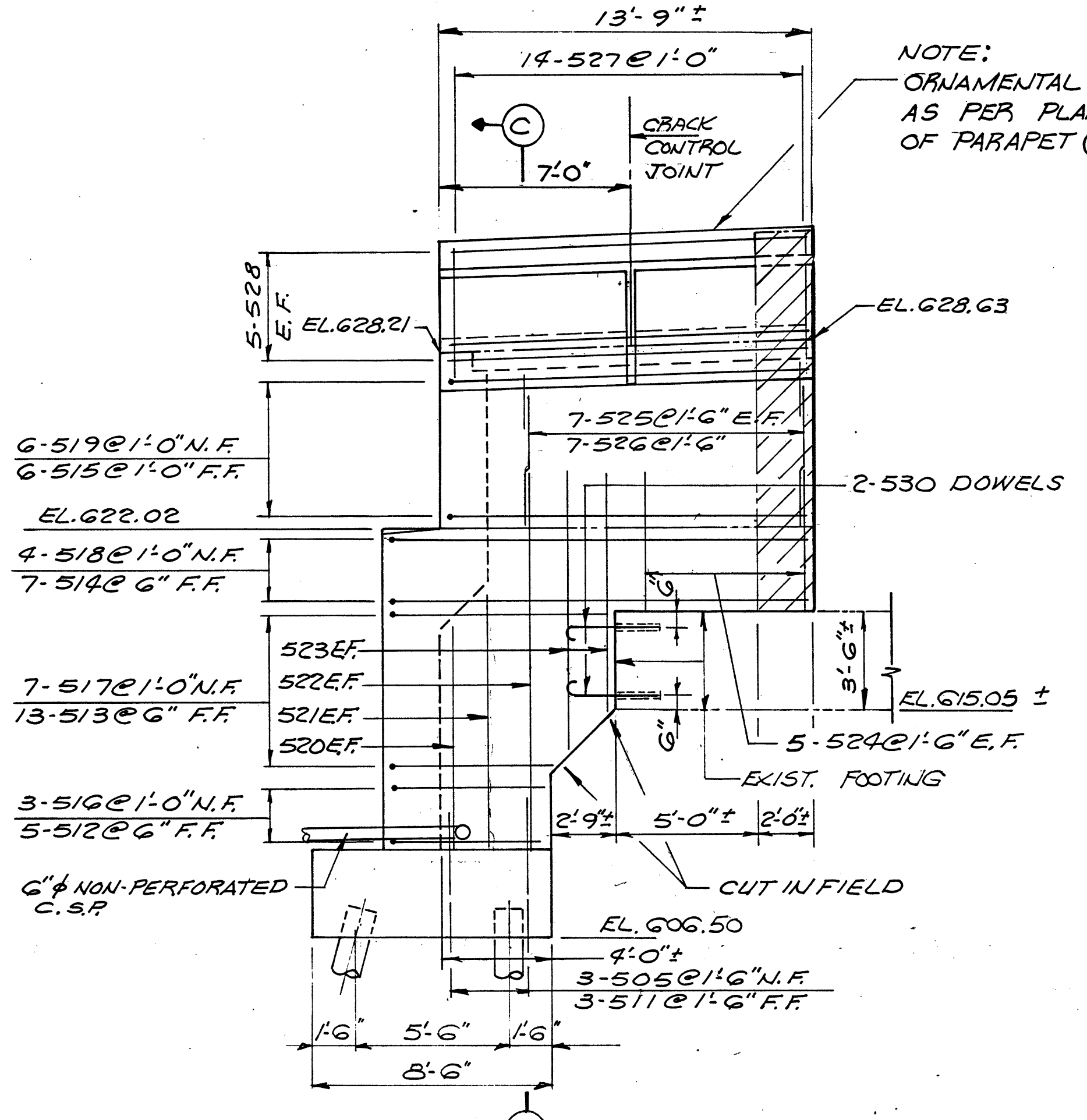


SECTION A-A

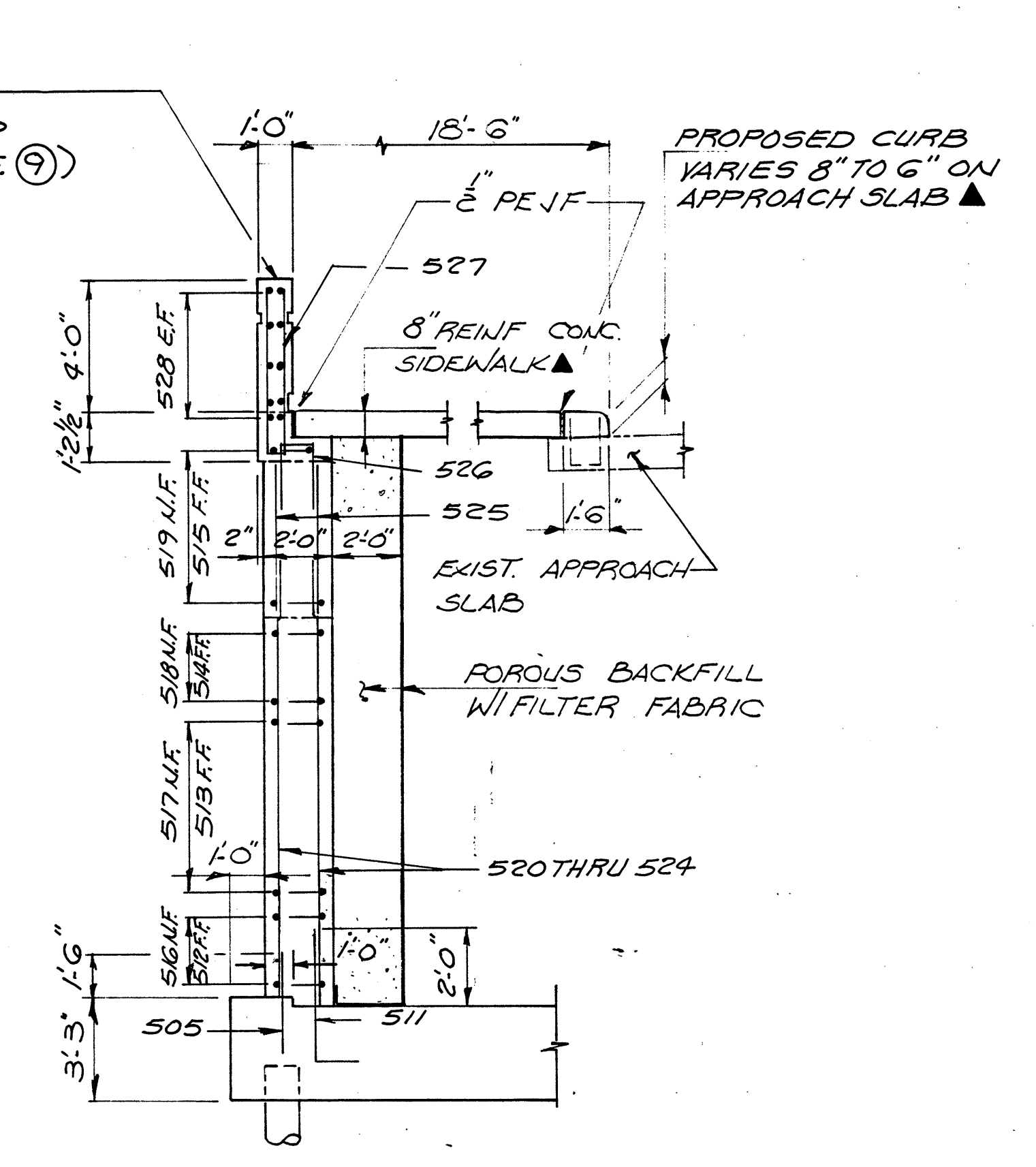
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DATE:	DATE:
DRAWN BY:	REVISED BY:
DATE:	DATE:
CAD FILE NAME: 7019700 - BORDER	



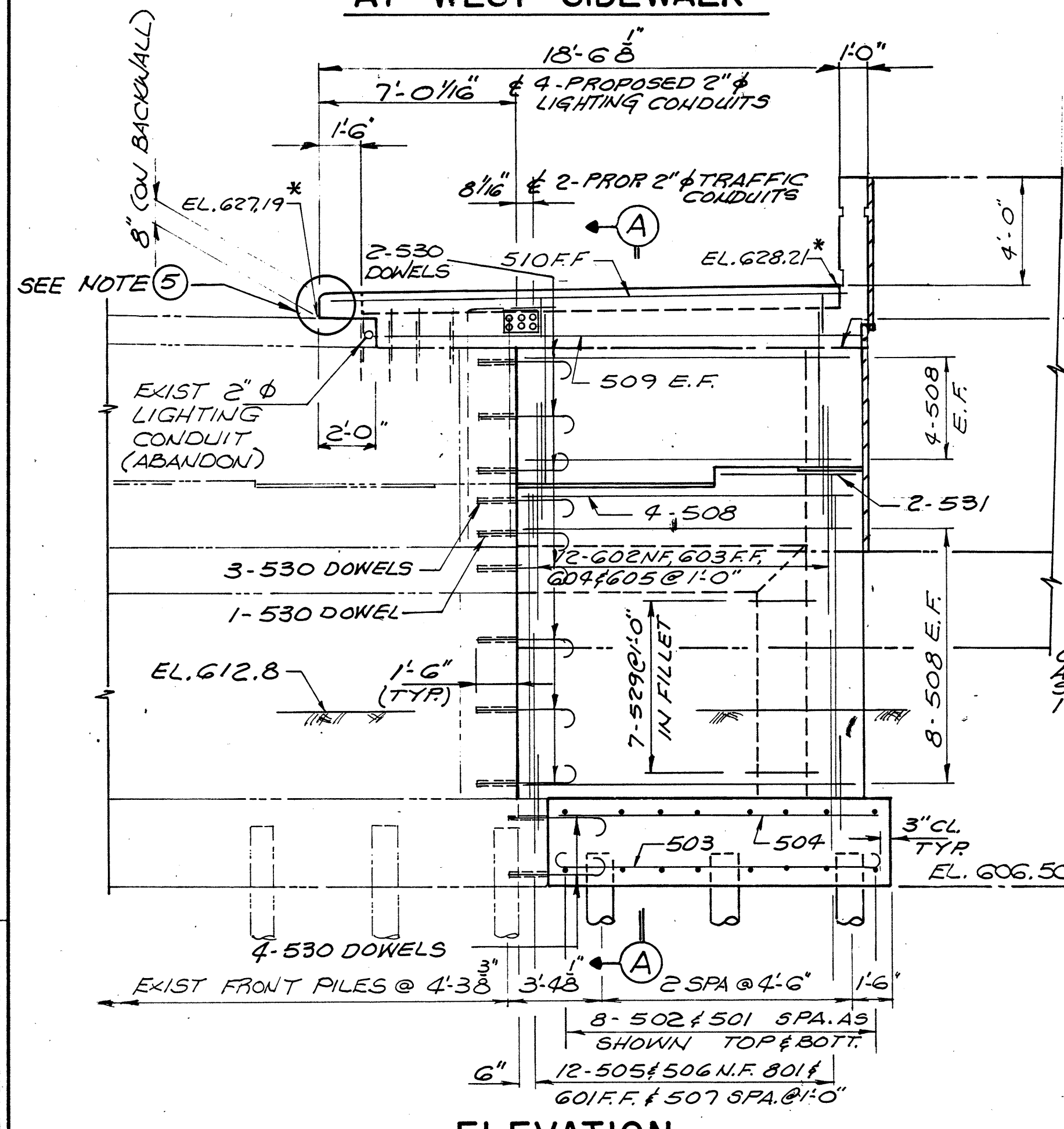
PLAN - SOUTH ABUTMENT ADDITION AT WEST SIDEWALK



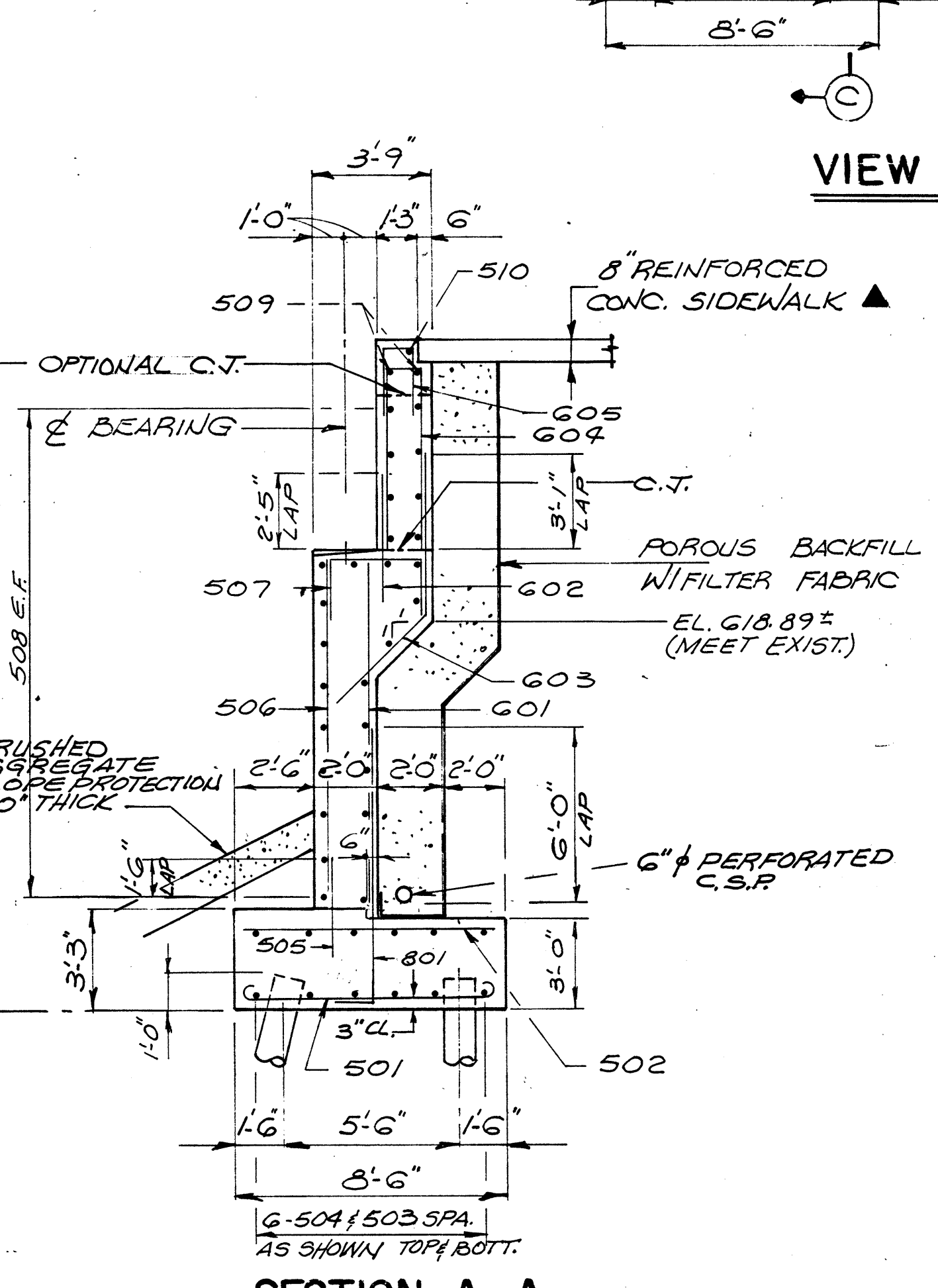
VIEW B-B



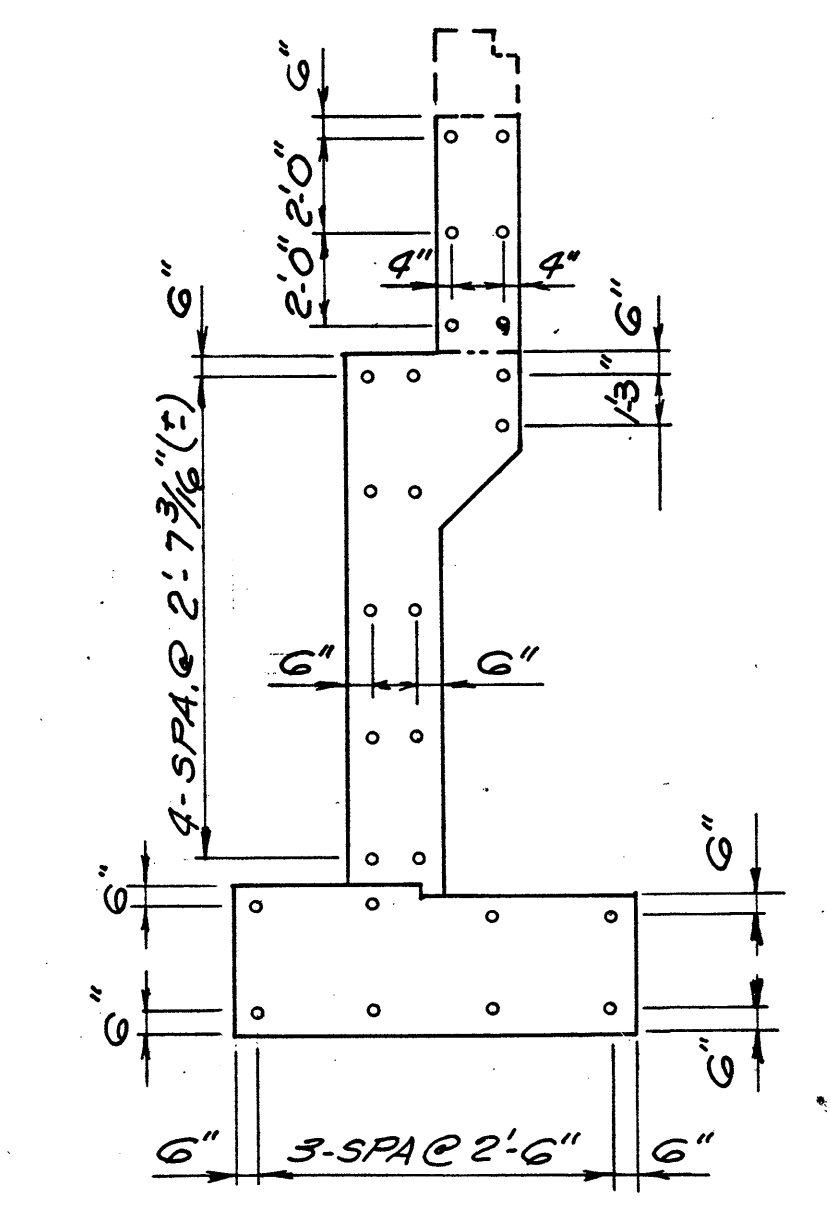
VIEW C-C



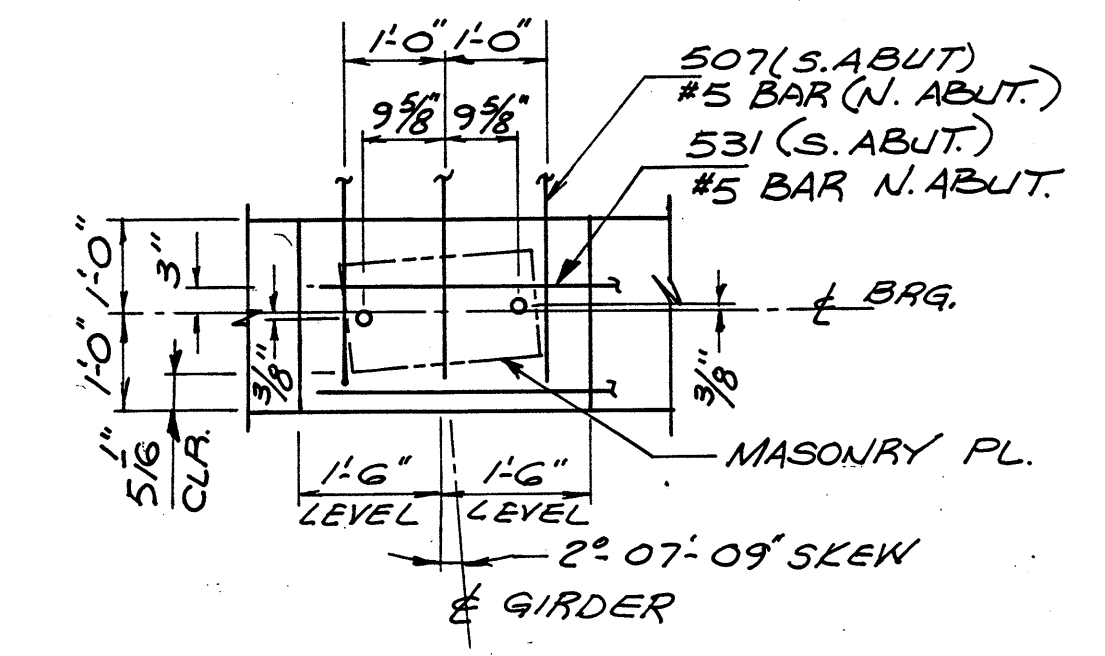
ELEVATION



SECTION A-A



DOWEL HOLE LAYOUT



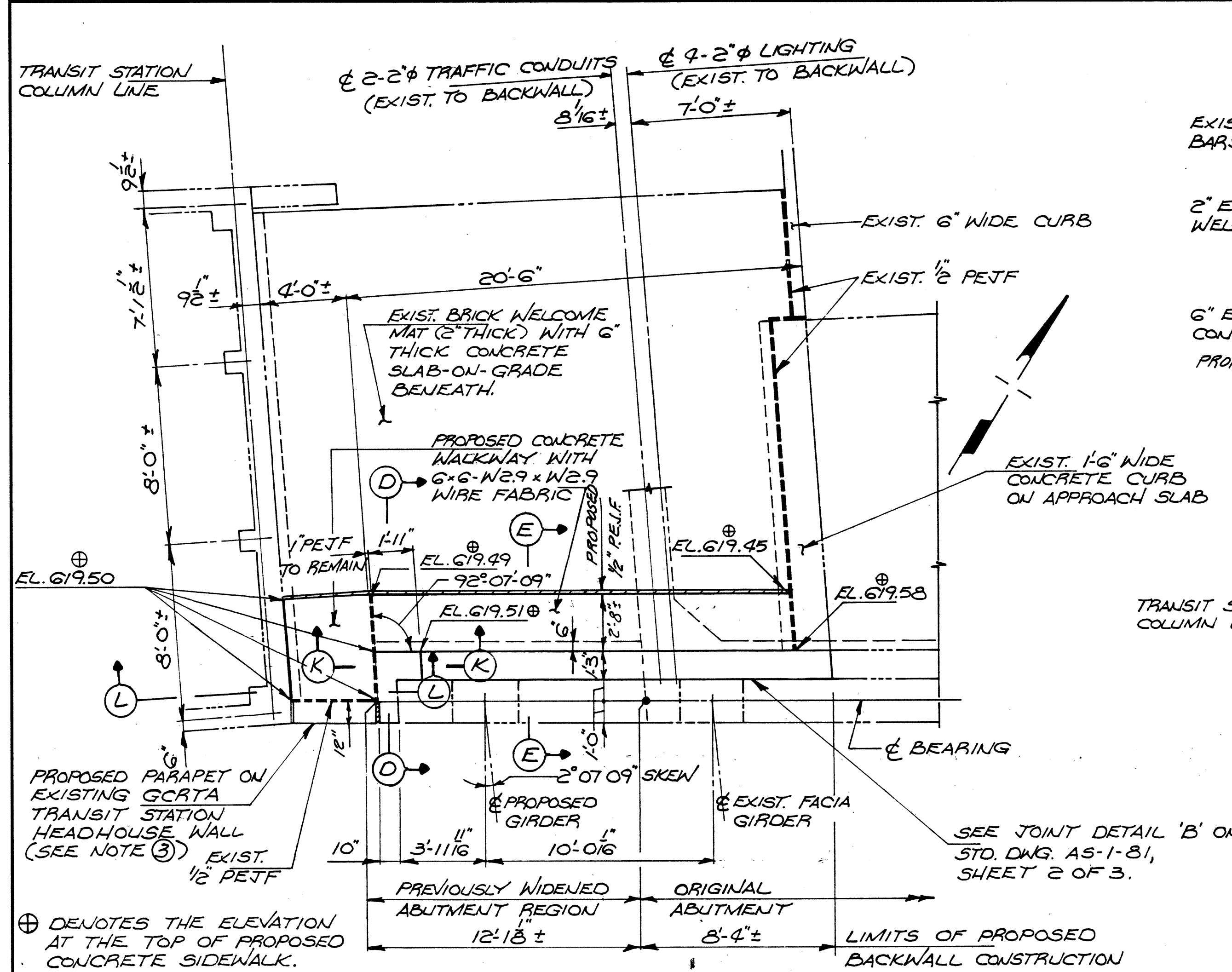
BEARING ANCHOR PLAN (EXPANSION BEARING @ ABUTMENTS)

NOTES

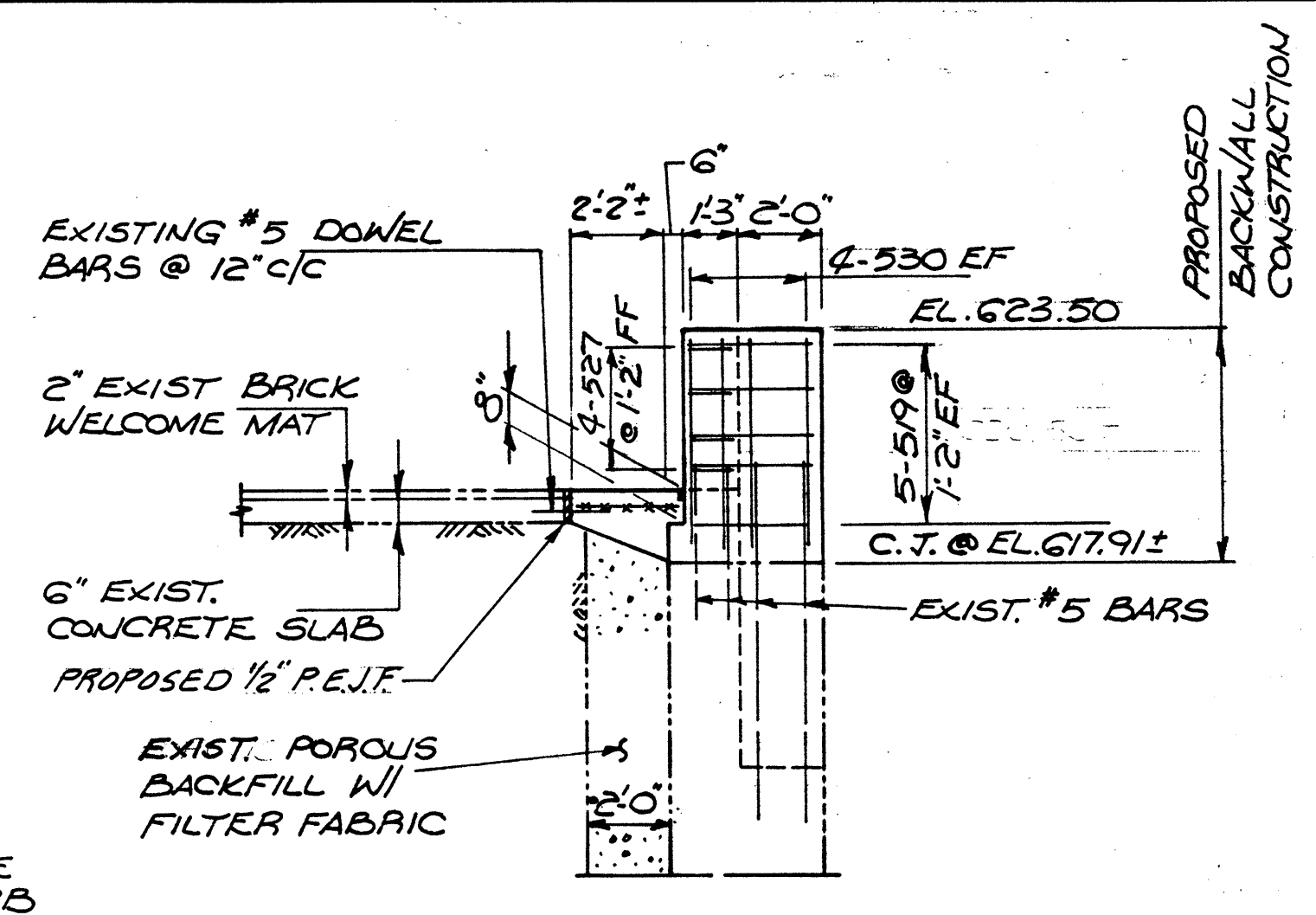
- ① THE PREFIX 'EA' SHALL BE ADDED TO ALL REINFORCING BARS IN THE SOUTH ABUTMENT.
- ② REINFORCEMENT AT UTILITY OPENINGS SHALL BE FIELD CUT AS REQUIRED.
- ③ BRIDGE SEAT REINFORCING: REINFORCING STEEL IN VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRESETTING OF BEARING ANCHORS.
- ④ FOR PILING PLAN SEE SHEET 12.
- ⑤ FOR CURB PLATE DETAIL ON BACKWALL AND STRUCTURAL EXPANSION JOINT DETAILS, SEE SHEETS 20 & 21.
- ⑥ FOR BEARING DETAILS AT ABUTMENTS, SEE SHEET 19.
- ⑦ FOR ADDITIONAL CONDUIT DETAILS THROUGH ABUTMENT BACKWALL SEE SHEET 4.
- ⑧ POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND Laterally TO THE END OF THE WINGWALLS.
- ⑨ FOR PARAPET AND FENCE DETAILS, SEE SHEET 21A.

DESIGNED BY:	DATE:	CHECKED BY:	DATE:
DRAWN BY:	DATE:	REVISION BY:	DATE:
CAD FILE NAME:	7019700 - BORDER		

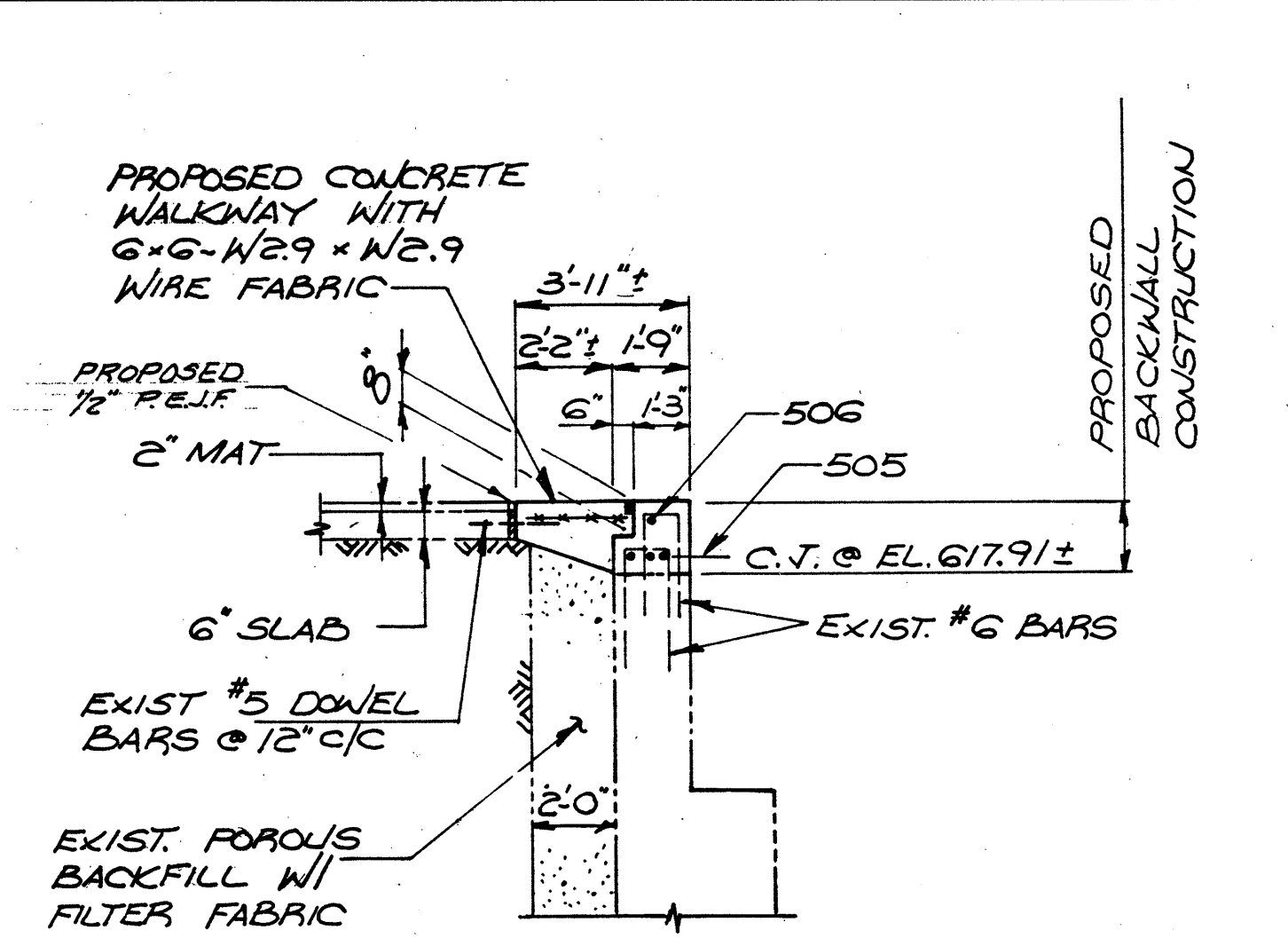
* ELEVATION @ FACE OF BACKWALL
▲ FOR REINFORCED SIDEWALK & CURB ON APPROACH SLAB DETAILS, SEE SHEET 22.



PLAN-NORTH ABUTMENT BACKWALL ADDITION AT WEST SIDEWALK

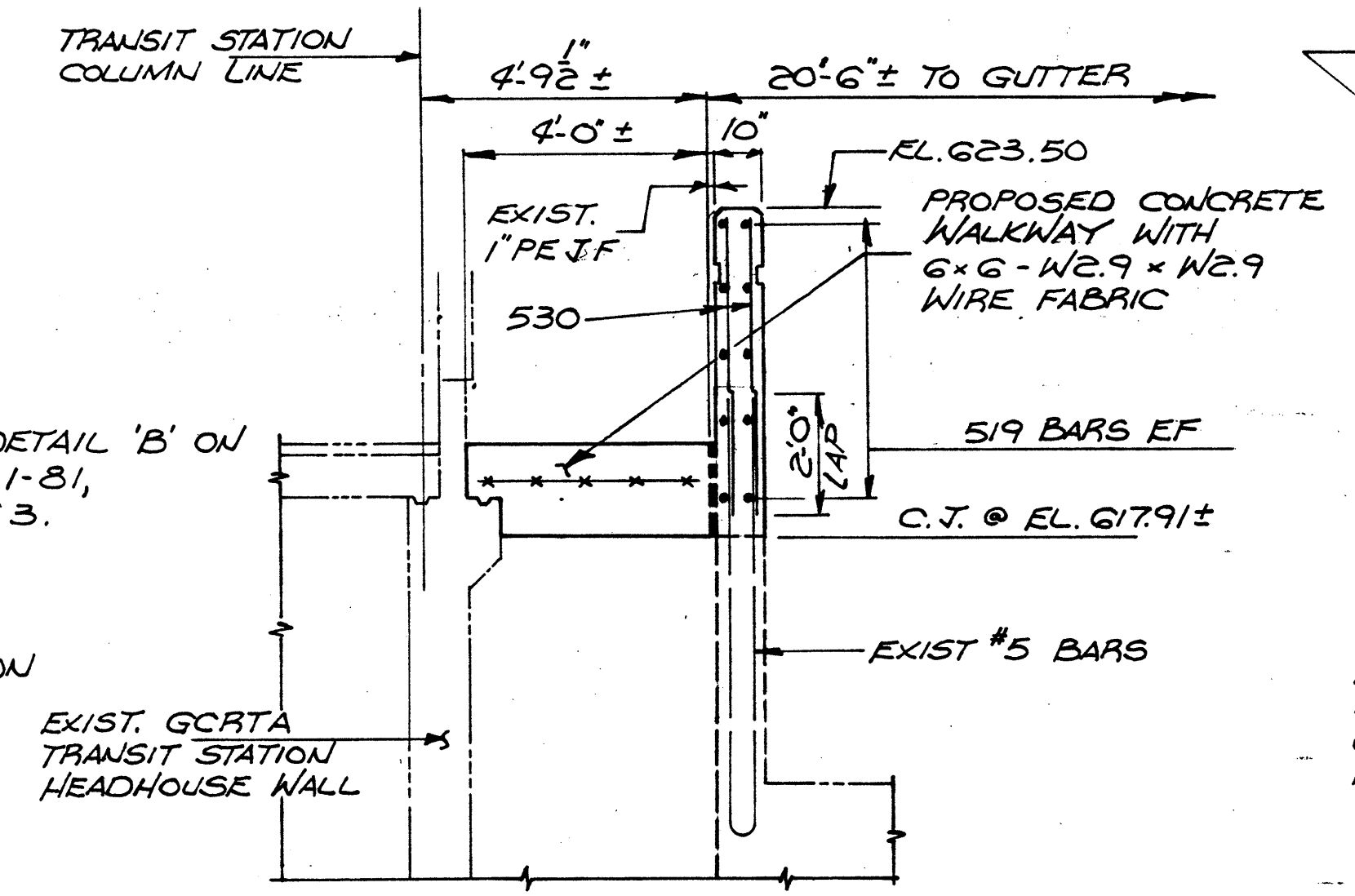


SECTION D-D

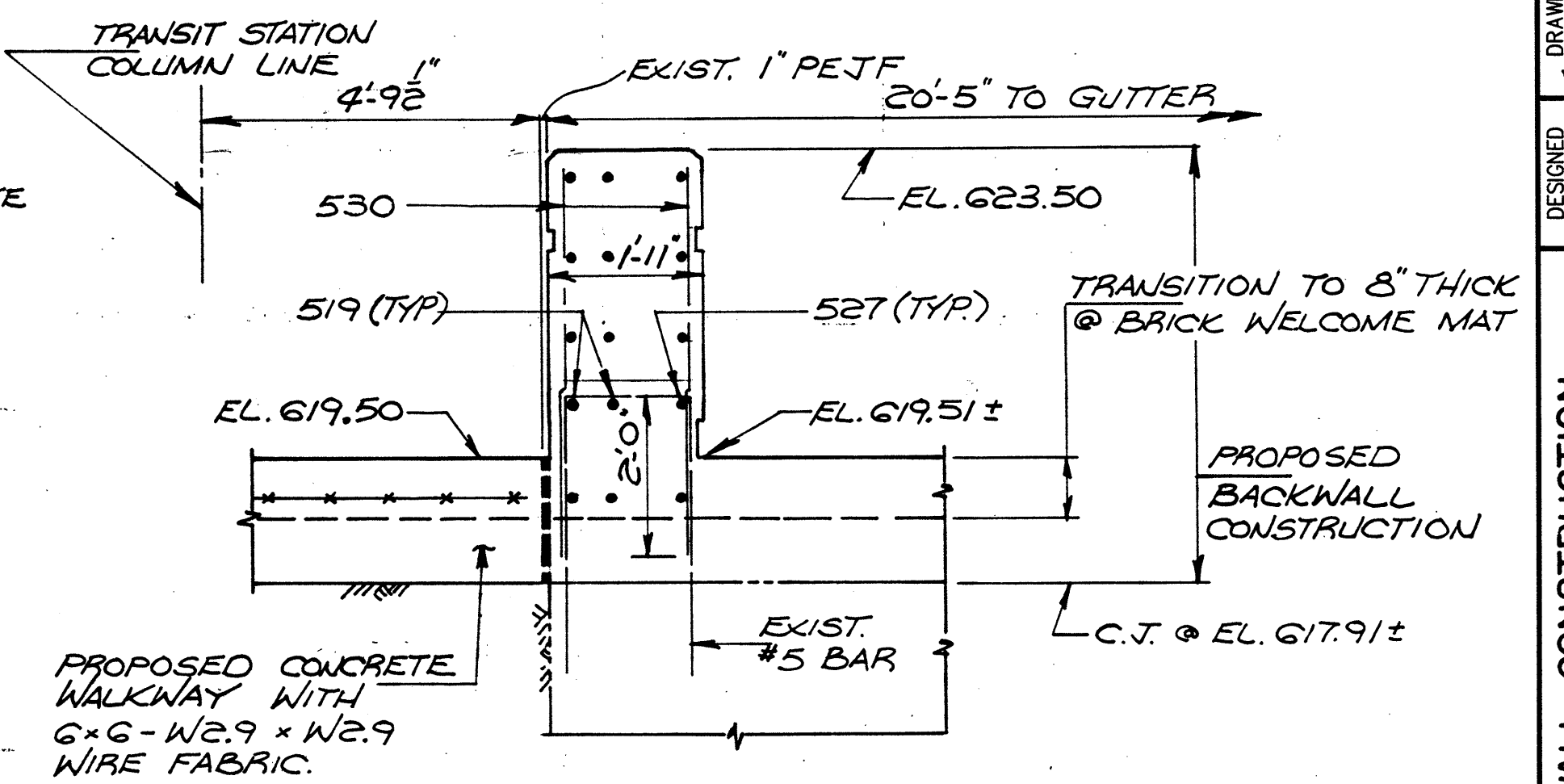


SECTION E-E

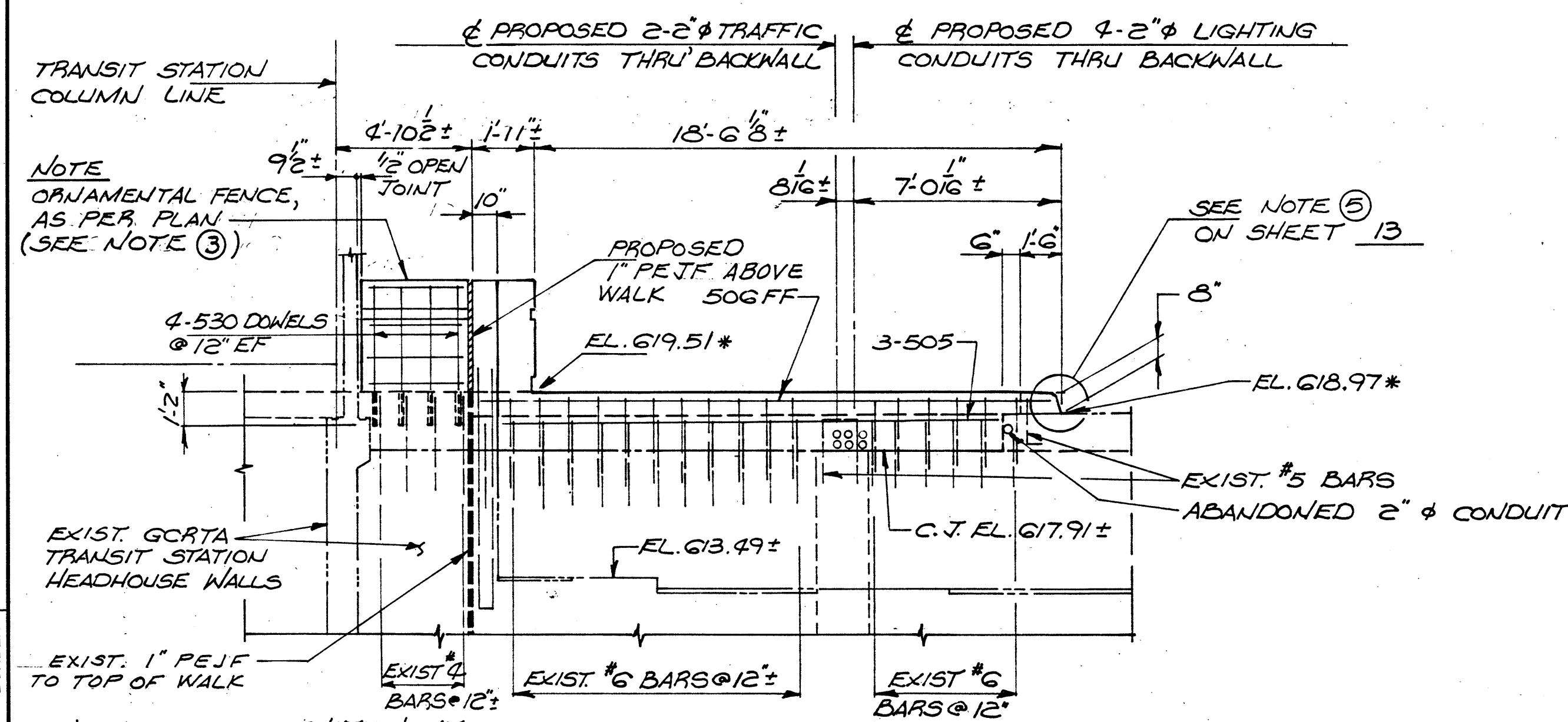
NOTE: PROPOSED STEEL END DAMS ARE NOT SHOWN FOR CLARITY



SECTION L-L



SECTION K-K

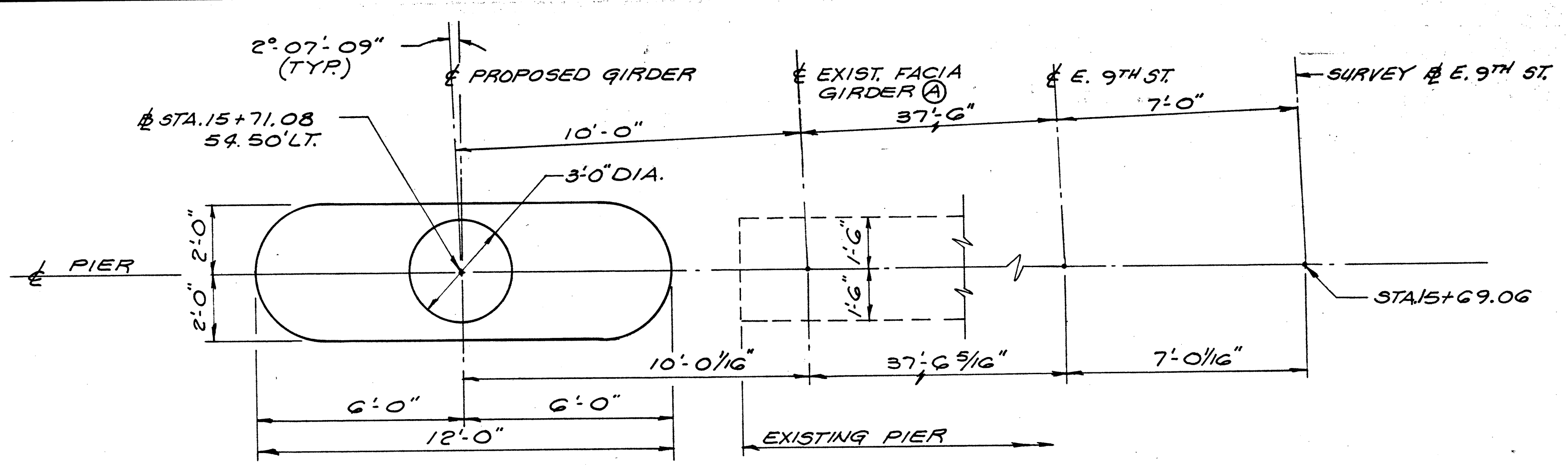


ELEVATION

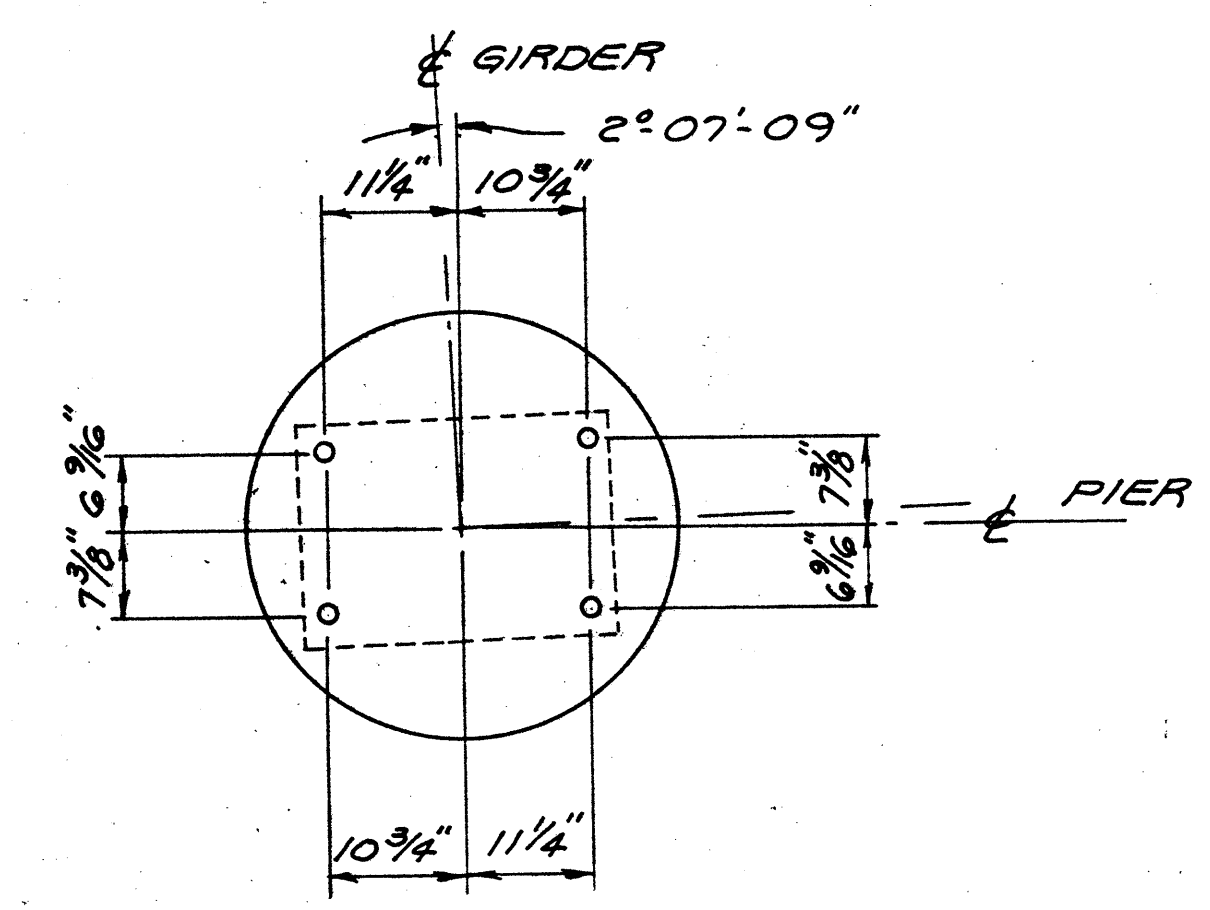
EXISTING AND PROPOSED STEEL END DAMS ARE NOT SHOWN FOR CLARITY.

- NOTES**
- THE PREFIX '2EA' SHALL BE ADDED TO ALL PROPOSED REINFORCING BAR MARKS IN THE NORTH ABUTMENT.
 - FOR BEARING ANCHOR PLAN AND ADDITIONAL ABUTMENT NOTES SEE SHEET 13.
 - FOR PARAPET AND FENCE DETAILS, SEE SHEET 21A.

CHECKED BY:	DATE:	REVISION BY:	DATE:
DRAWN BY:	DATE:	REVISION BY:	DATE:
CAD FILE NAME: 7019700 - BORDER			

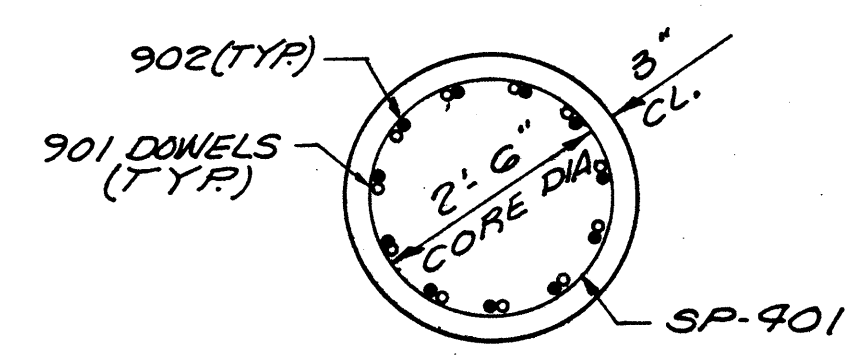


PLAN

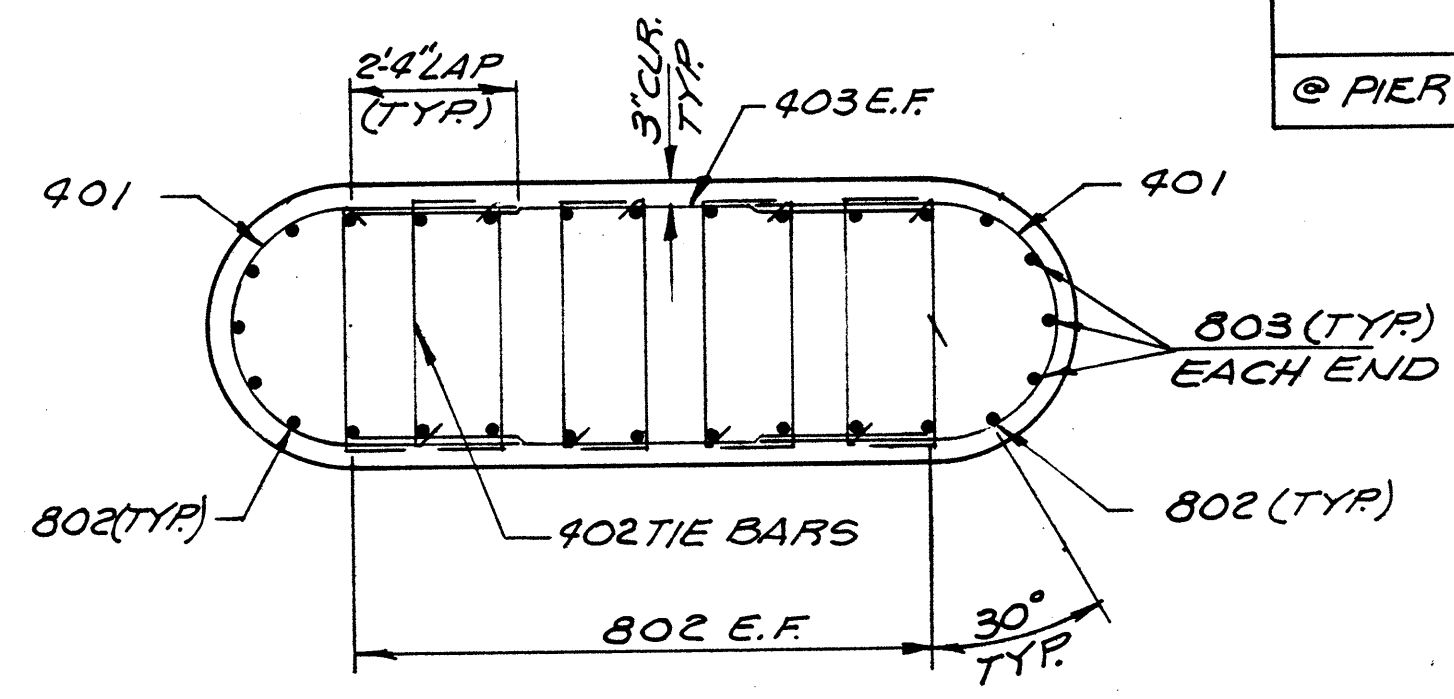


BEARING ORIENTATION AT PIER
(FOR F-400 BEARING)

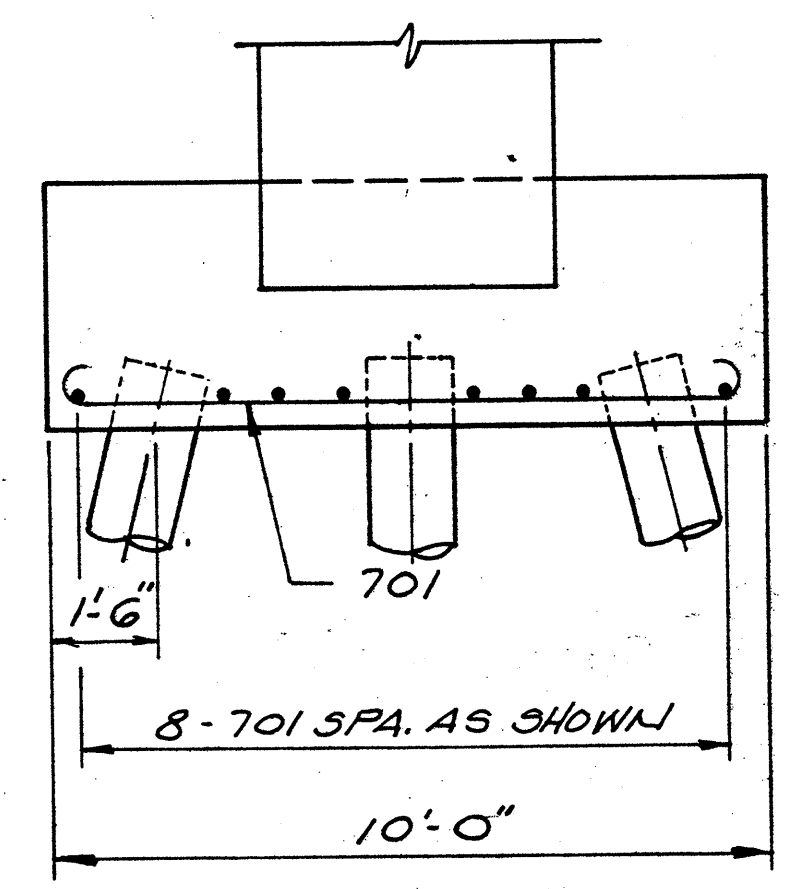
LOCATION	BEARING DESIGN LOADS			BEARING CAPACITY
	DEAD	LIVE+IMPACT	TOTAL	
@ PIER	281.4K	100.9K	382.3K	400K



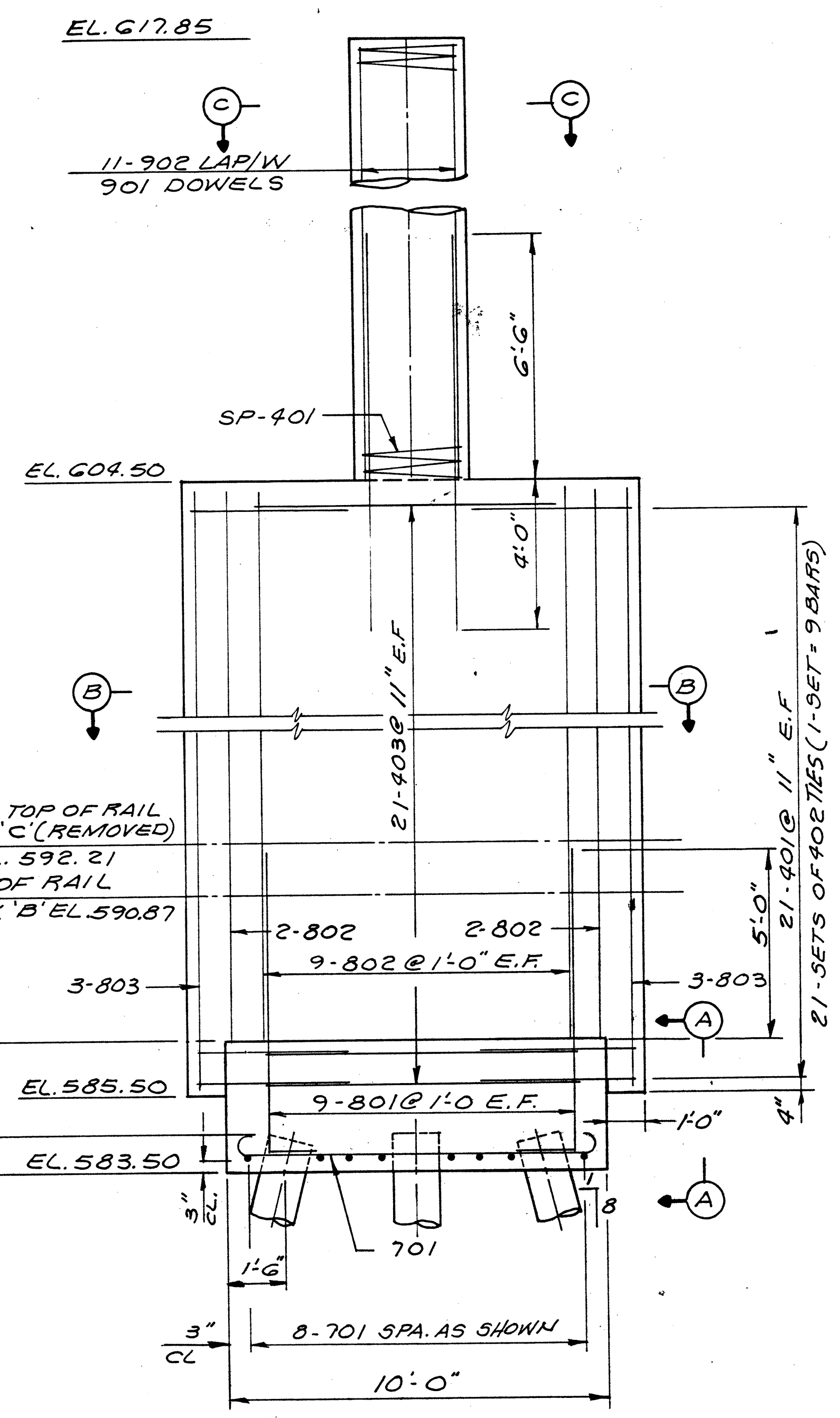
SECTION C-C



SECTION B-B



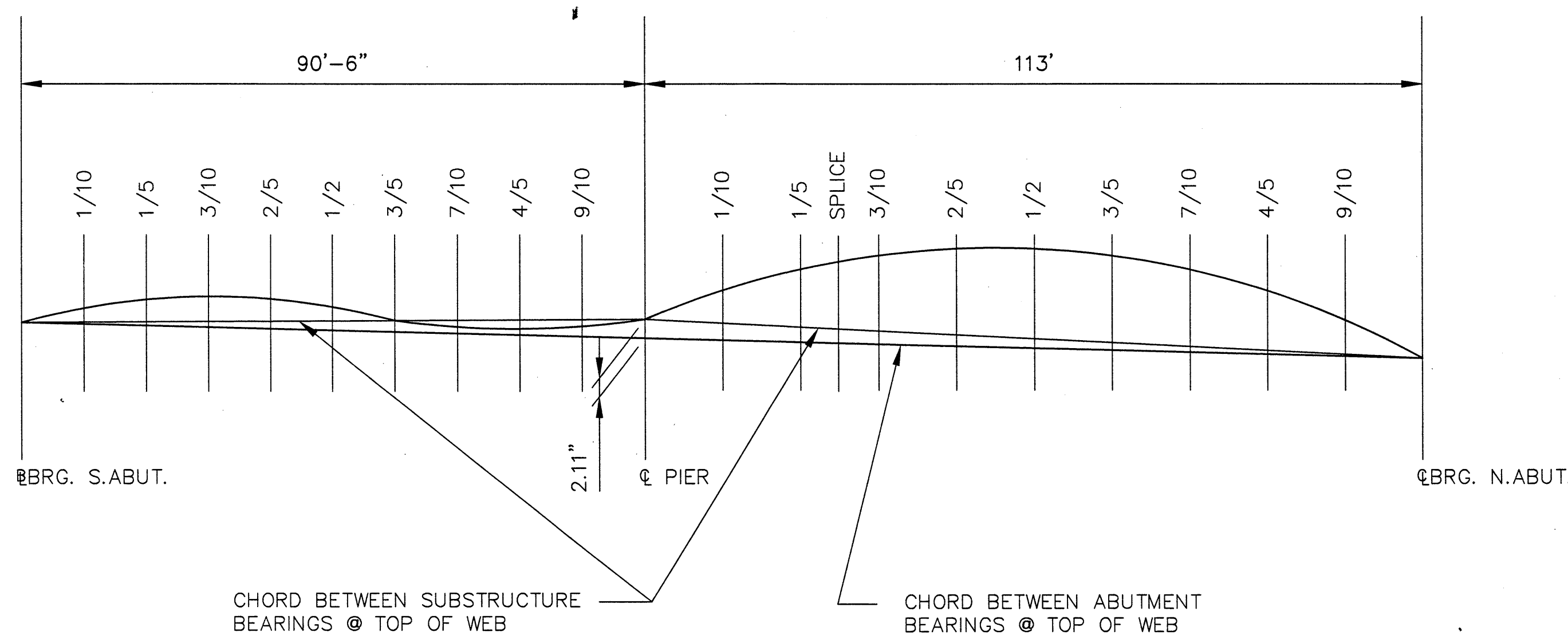
SECTION A-A



ELEVATION

- NOTES**
- THE PREFIX 'EP' SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE PIER.
 - BRIDGE SEAT REINFORCING: REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
 - FOR BEARING DETAIL AT PIER SEE STANDARD DRAWING FB-1-82
 - FOR PILING PLAN AND PIER SHEETING DETAILS, SEE SHEET 12.

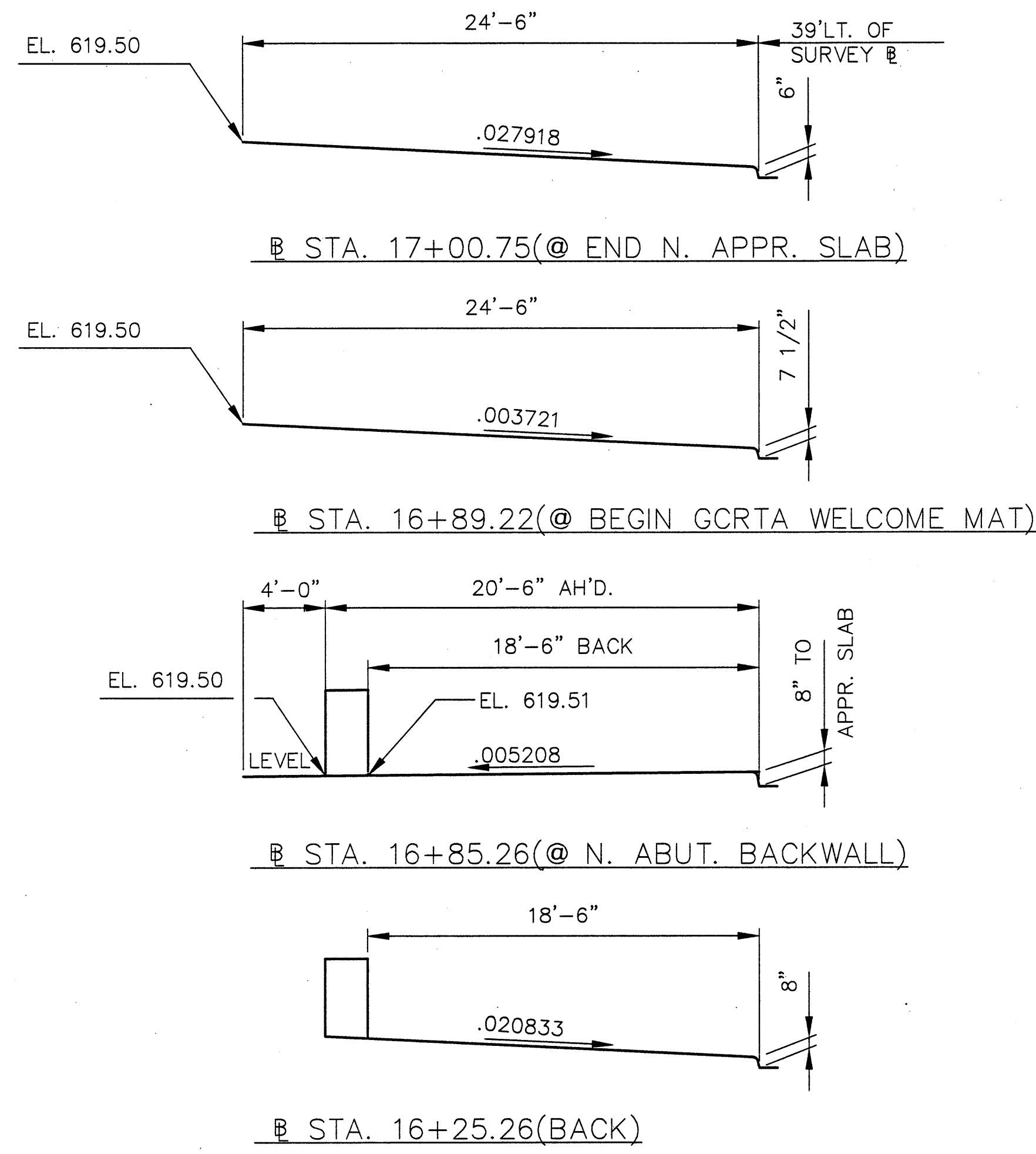
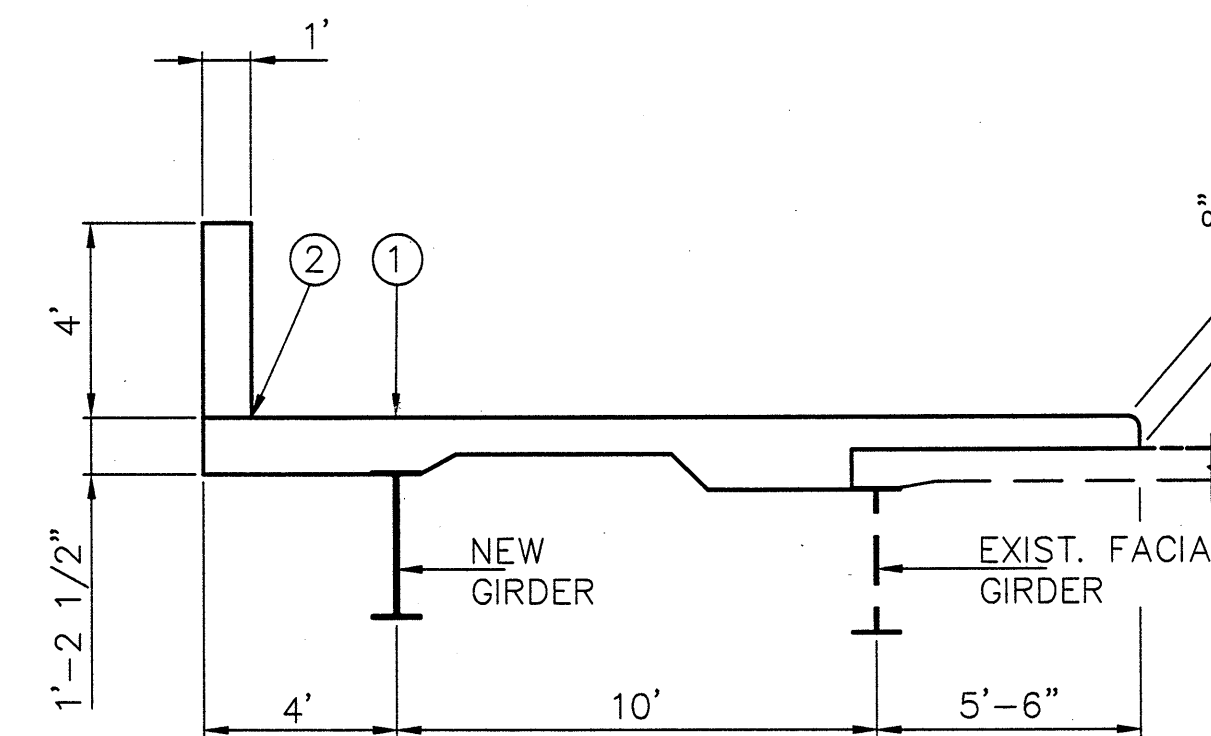
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DATE:	DATE:
DRAWN BY:	REVISD BY:
DATE:	DATE:
CAD FILE NAME: 7019700 - BORDER	



CAMBER DIAGRAM - NEW GIRDER

DEFLECTION & CAMBER TABLE				
NEW GIRDER				
LOCATION	a	b	c	d
☉ BRG.S.ABUT.	-	-	-	-
1/10	0.01	0.22	-	0.23
1/5	0.02	0.38	-	0.40
3/10	0.03	0.45	-	0.48
2/5	0.02	0.43	-	0.45
1/2	0.00	0.32	-	0.32
3/5	-0.01	0.15	-	0.14
7/10	-0.03	0.00	-	-0.03
4/5	-0.03	-0.09	-	-0.12
9/10	-0.02	-0.11	-	-0.13
☉ PIER	-	-	-	-
1/10	0.07	0.37	0.48	0.92
1/5	0.17	0.90	0.95	2.02
SPLICE	0.22	1.24	1.23	2.69
3/10	0.26	1.49	1.42	3.17
2/5	0.35	2.03	1.90	4.28
1/2	0.41	2.39	2.19	4.99
3/5	0.42	2.48	1.75	4.65
7/10	0.37	2.26	1.31	3.94
4/5	0.28	1.74	0.87	2.89
9/10	0.16	0.96	0.44	1.56
☉ BRG.N.ABUT.	-	-	-	-

a = CAMBER DUE TO WEIGHT OF STEEL
 b = CAMBER DUE TO REMAINING DEADLOAD
 c = ADJUSTMENT REQUIRED FOR CROSS-SLOPE TRANSITION
 d = TOTAL REQUIRED CAMBER = a+b+c
 A POSITIVE VALUE DENOTES DIMENSION ABOVE CHORD BETWEEN SUBSTRUCTURE BEARINGS.
 CAMBERS ARE GIVEN IN DECIMALS OF AN INCH.



SCREED ELEVATIONS		
LOCATION	①	②
☉ BRG.S.ABUT.	628.12	628.17
1/10	627.77	627.83
1/5	627.42	627.48
3/10	627.07	627.13
2/5	626.70	626.76
1/2	626.33	626.39
3/5	625.96	626.02
7/10	625.58	625.64
4/5	625.21	625.27
9/10	624.85	624.91
☉ PIER	624.50	624.55
1/10	624.08	624.13
1/5	623.67	623.73
SPLICE	623.43	-
3/10	623.26	623.32
2/5	622.86	622.92
1/2	622.42	622.47
3/5	621.90	621.94
7/10	621.35	621.38
4/5	620.78	620.79
9/10	620.19	620.18
☉ BRG.N.ABUT.	619.58	619.56

THE SCREED ELEVATIONS SHOWN ARE TOP OF CONCRETE SLAB ELEVATIONS WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE.

WEST SIDEWALK & CURB TRANSITION STATIONS

DESIGNED BY:	CHECKED BY:
DATE:	DATE:
DRAWN BY: FFF	REVISOR BY:
DATE: 1/3/96	DATE:
CAD FILE NAME: 7019700 - CAMBER	

NOTES

1. DECK SLAB DEPTH: THE DISTANCE SHOWN FROM THE TOP OF THE DECK SLAB TO THE BOTTOM OF THE TOP FLANGE IS THE THEORETICAL DESIGN DIMENSION INCLUDING THE DESIGN HAUNCH THICKNESS OF 2 INCHES. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, MINUS THE DESIGN HAUNCH THICKNESS, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 511.18.
2. A HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 AND 12 INCHES.
3. ADD PREFIX "ES" TO ALL REINFORCING BARS IN SUPERSTRUCTURE DECK SLAB AND PARAPET.
4. REINFORCEMENT AT JUNCTION BOXES SHALL BE FIELD CUT AS REQUIRED.
5. FOR CURB PLATE DETAILS ON BRIDGE AND EXPANSION JOINT DETAILS, SEE SHEETS 20 AND 21.
6. SEE "CONCRETE PARAPETS" NOTE IN THE STRUCTURAL GENERAL NOTES FOR SAWING AND SEALING CRACK CONTROL JOINTS.
7. FOR ADDITIONAL CONDUIT AND LIGHTING DETAILS, SEE SHEET 4.
8. FOR SECTION P-P AND ADDITIONAL PARAPET AND ORNAMENTAL FENCE DETAILS SEE SHEET 21A.

URS

DATE: _____
 REVIEWED: _____
 STRUCTURE FILE NUMBER: 187004/1

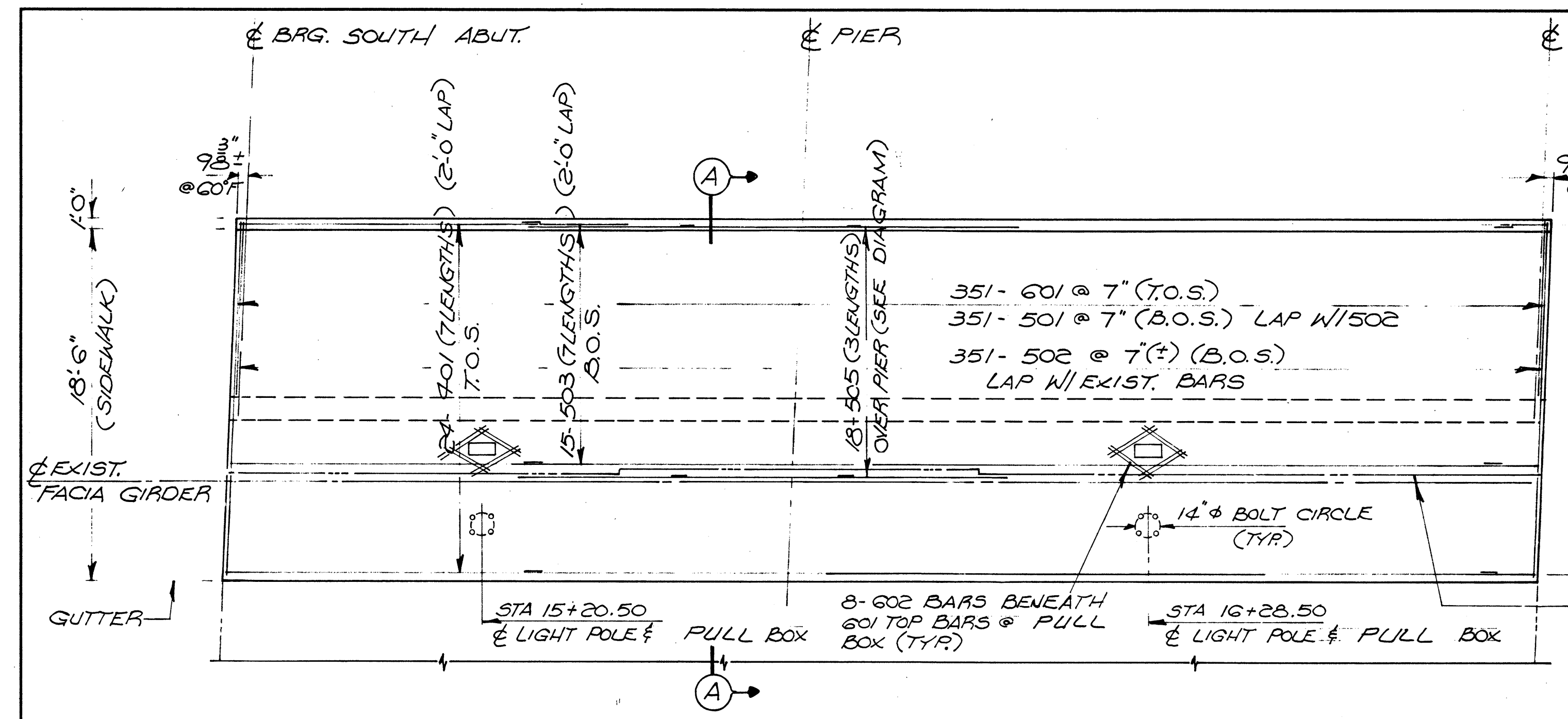
DRAWN: JAW
 REVISION: _____

DESIGNED: GTC
 CHECKED: MJM

SUPERSTRUCTURE DETAILS
 EAST 9TH STREET
 OVER CONRAIL

CUY. E. 9TH ST.

18



SIDEWALK SLAB PLAN

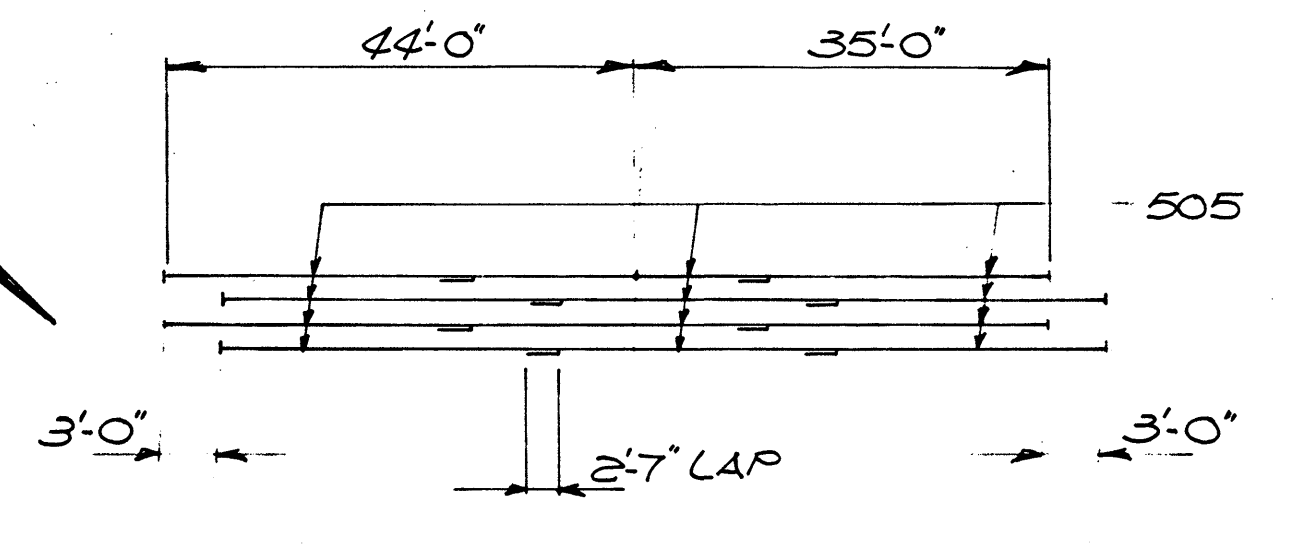
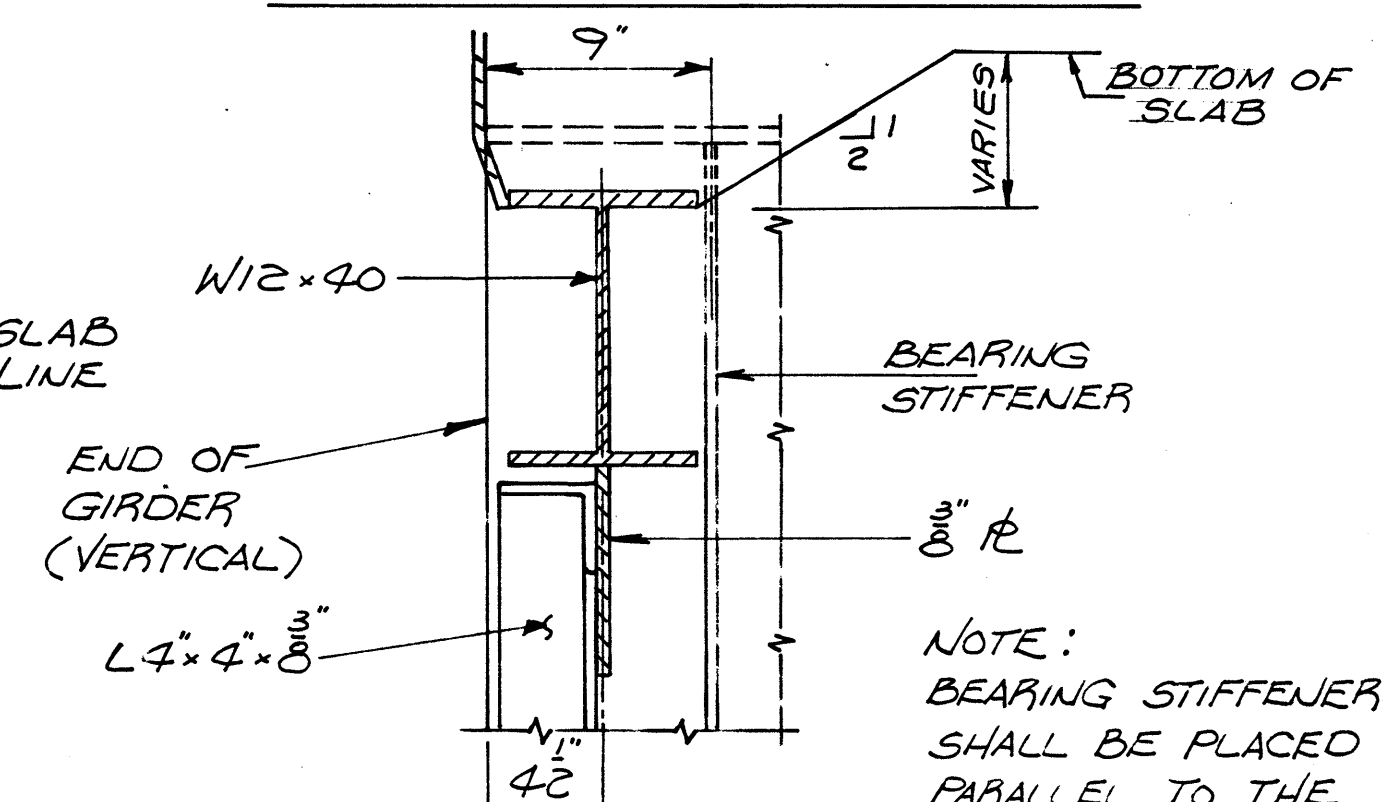
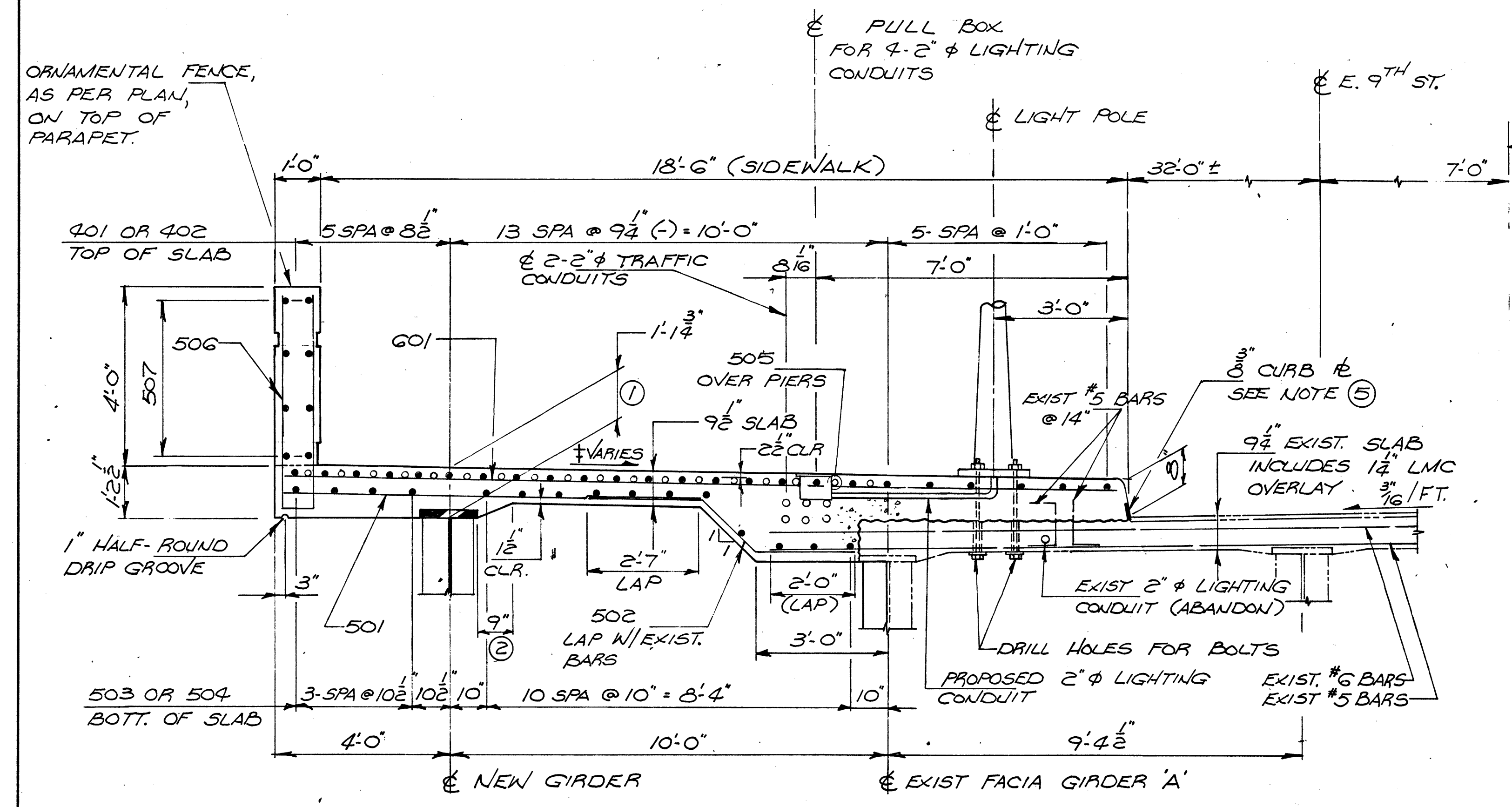


DIAGRAM SHOWING STAGGER OF ADDITIONAL BARS OVER PIER

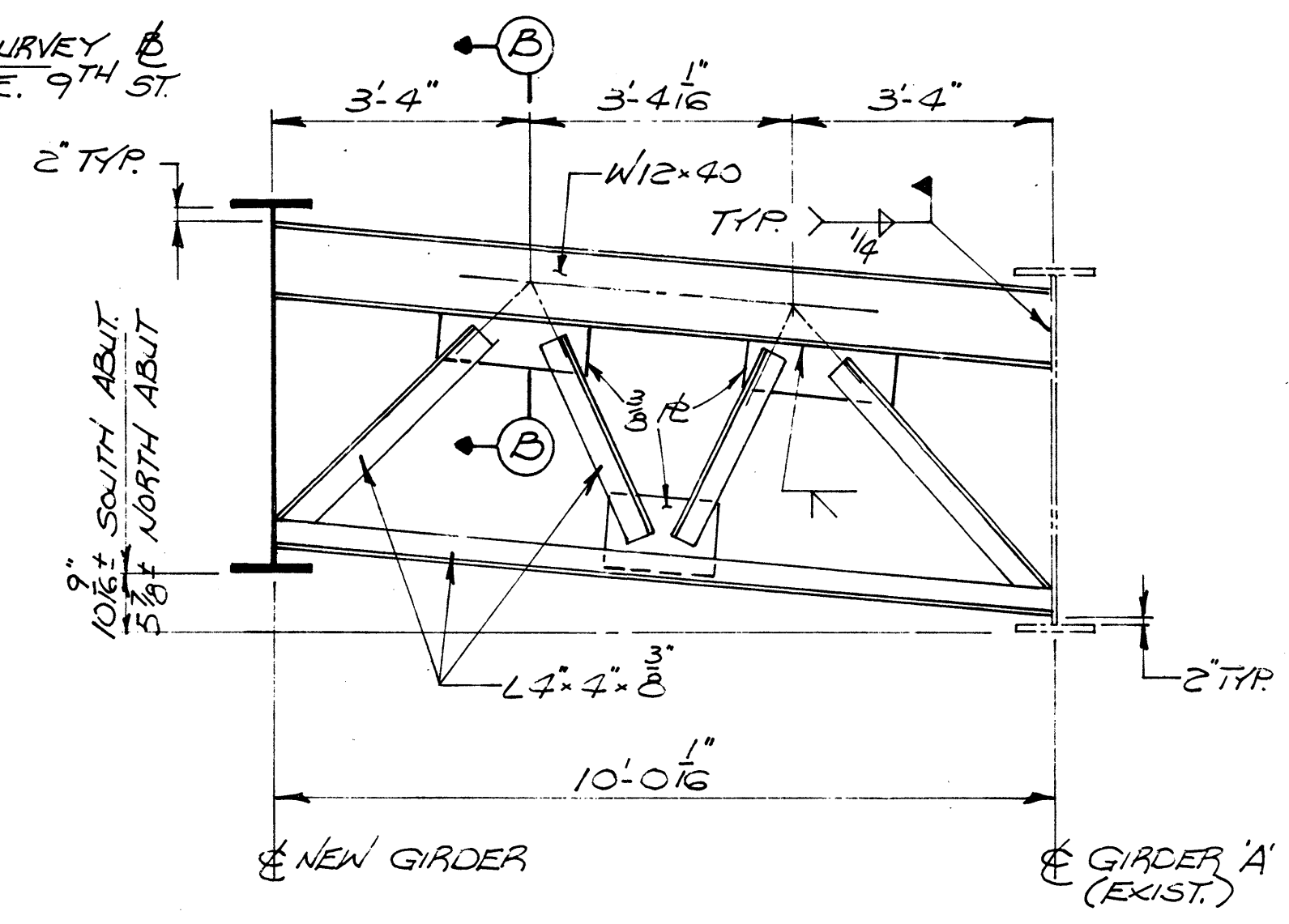


SECTION B-B

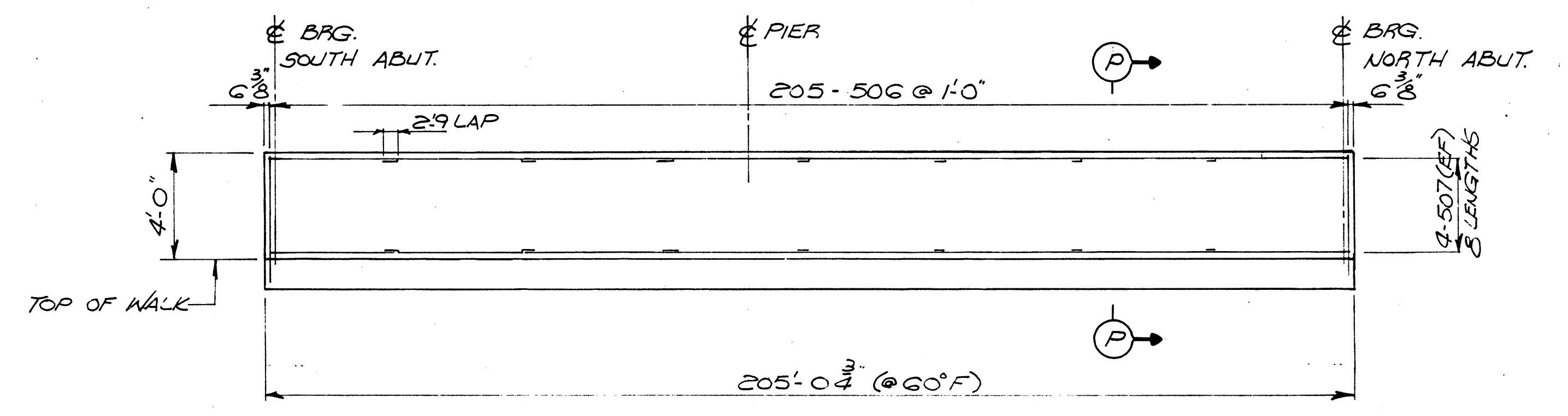


SECTION A-A

† FOR SIDEWALK CROSS-SLOPE TRANSITIONS SEE SHEET 17.



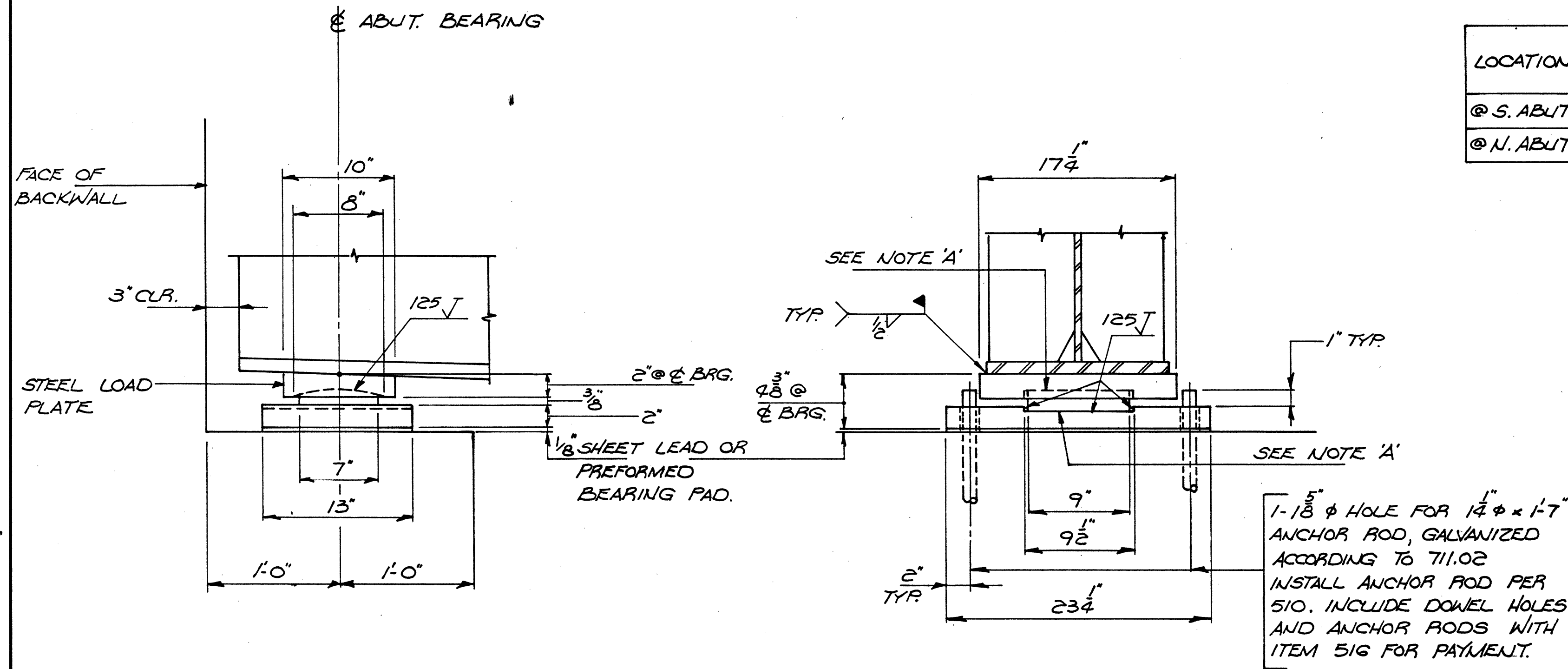
END CROSSFRAME DETAIL
 (FOR ADDITIONAL DETAILS SEE STD DWG 5D-1-69)



PARAPET ELEVATION
 (SEE NOTE 8.)

DESIGNED BY: JTB	CHECKED BY:
DATE: 7/95	DATE:
DRAWN BY: JAN	REVISION BY:
DATE: 7/12/95	DATE:
CAD FILE NAME:	

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DATE:	DATE:
DRAWN BY:	REVISD BY:
DATE:	DATE:
CAD FILE NAME: 7019700 - BORDER	

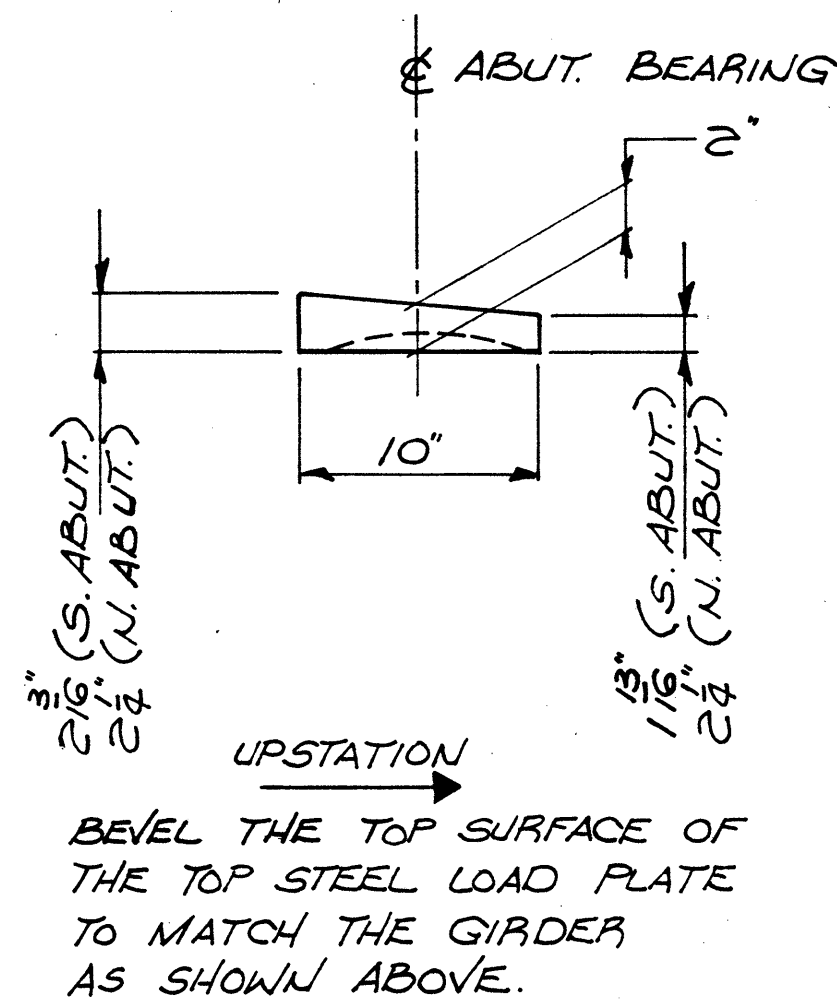


LOCATION	BEARING DESIGN LOADS			BEARING CAPACITY
	DEAD	LIVE+IMPACT	TOTAL	
@ S. ABUT.	55.6 ^K	59.2 ^K	114.8 ^K	150 ^K
@ N. ABUT.	86.9 ^K	60.4 ^K	147.3 ^K	150 ^K

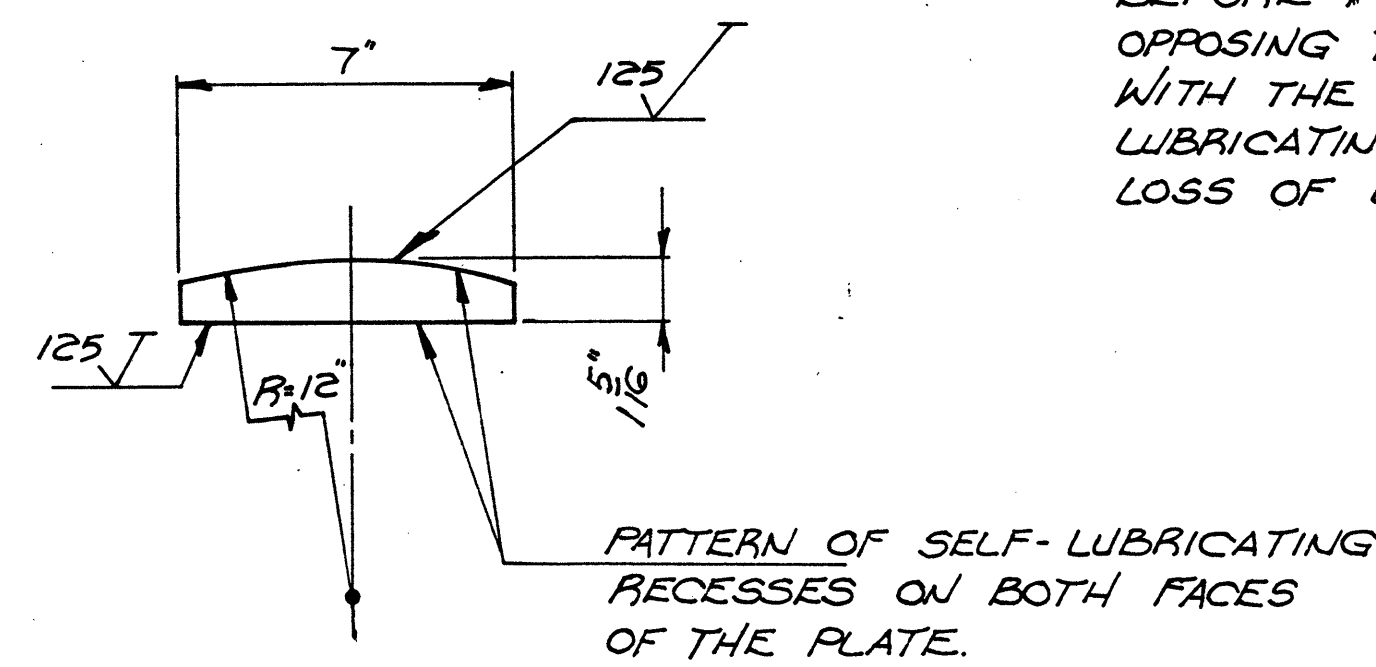
NOTES

- STEEL PLATES: THE TOP STEEL LOAD PLATE AND BOTTOM STEEL MASOURY PLATE SHALL BE A588 STEEL AND SHALL RECEIVE A SHOP PRIME COAT MEETING THE REQUIREMENTS OF TOB.17. CARE SHALL BE TAKEN TO INSURE THAT THE BRONZE PLATE AND THE OPPOSING SURFACES OF THE STEEL PLATES ARE NOT PAINTED.
- SELF-LUBRICATING BRONZE BEARING PLATES REFER TO SUPPLEMENTAL SPECIFICATION 927 FOR REQUIREMENTS.
- SURFACE FINISH: SURFACES FINISHES SHOWN ON THESE DETAILS SHALL BE A MINIMUM. A 500 MICRO INCH OR SMOOTHER SHALL BE USED WHERE NOT OTHERWISE NOTED.
- BEARING ANCHOR RODS: AT THE OPTION OF THE CONTRACTOR, THE BEARING ANCHOR RODS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST-IN-PLACE, AT THE SOUTH ABUTMENT.
- FOR BEARING ANCHOR PLAN SEE SHEET 13.

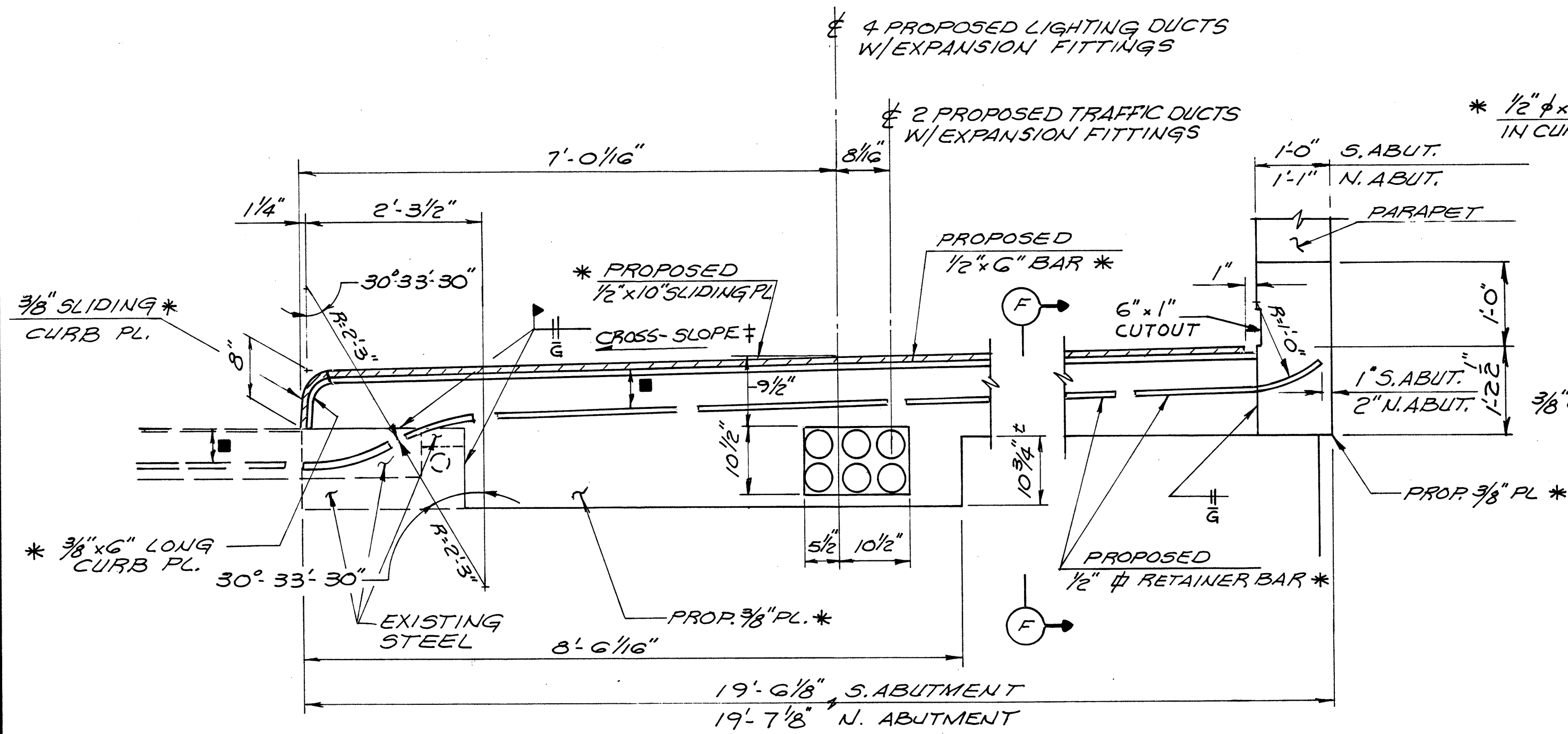
NOTE 'A'
BEFORE FINAL ASSEMBLY COAT THE SURFACES OPPOSING THE SELF-LUBRICATING BRONZE PLATE WITH THE SAME LUBRICANT AS USED IN THE LUBRICATING RECESSES TO MINIMIZE INITIAL LOSS OF LUBRICANT FROM RECESSES.



TOP LOAD PLATE DETAIL



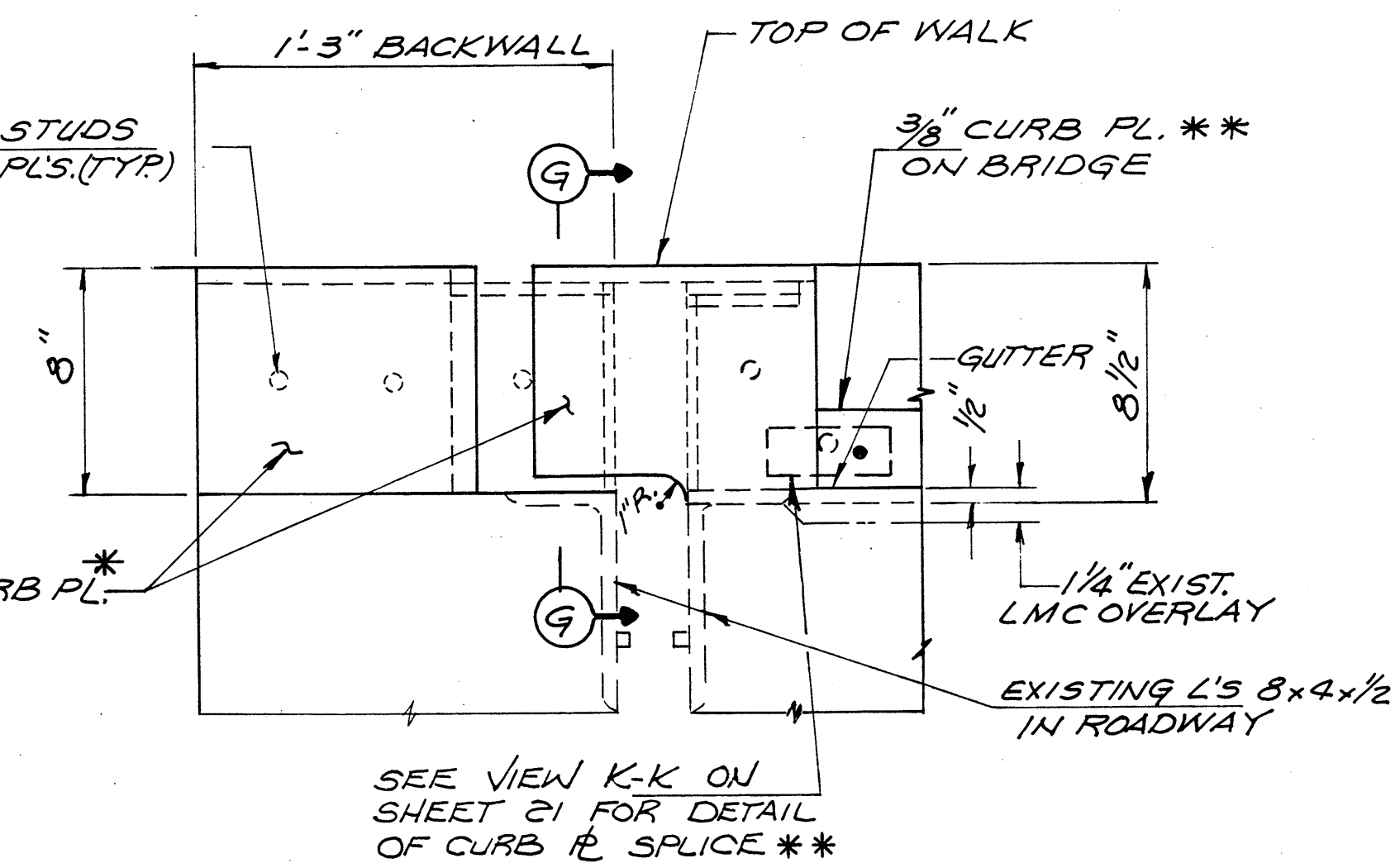
SELF-LUBRICATING BRONZE PLATE DETAIL



SECTION D-D

PROPOSED BACKWALL END DAM @ S. ABUTMENT
(OPPOSITE HAND @ N. ABUTMENT)

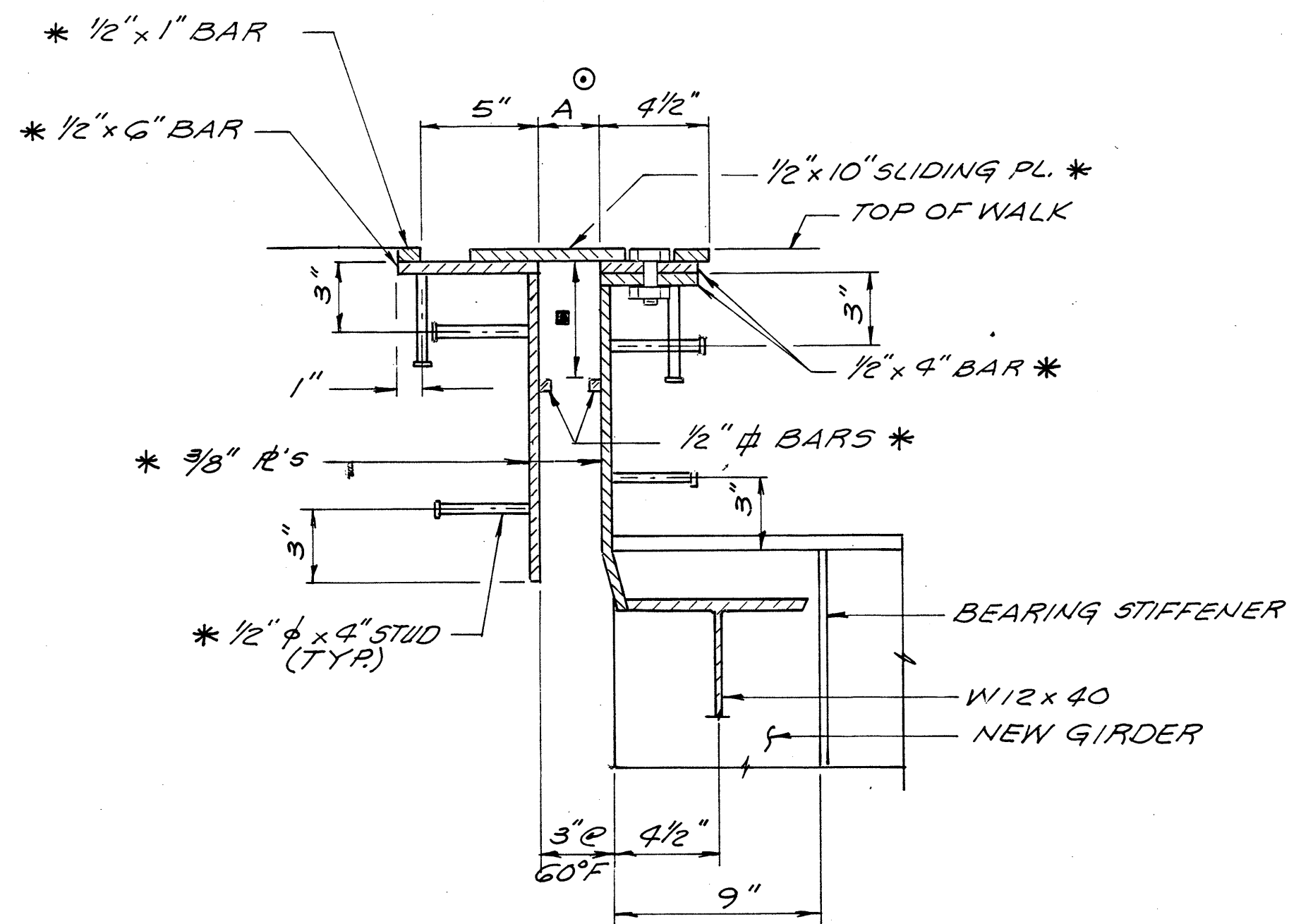
† FOR END DAM CROSS-SLOPE
SEE SHEET 21.



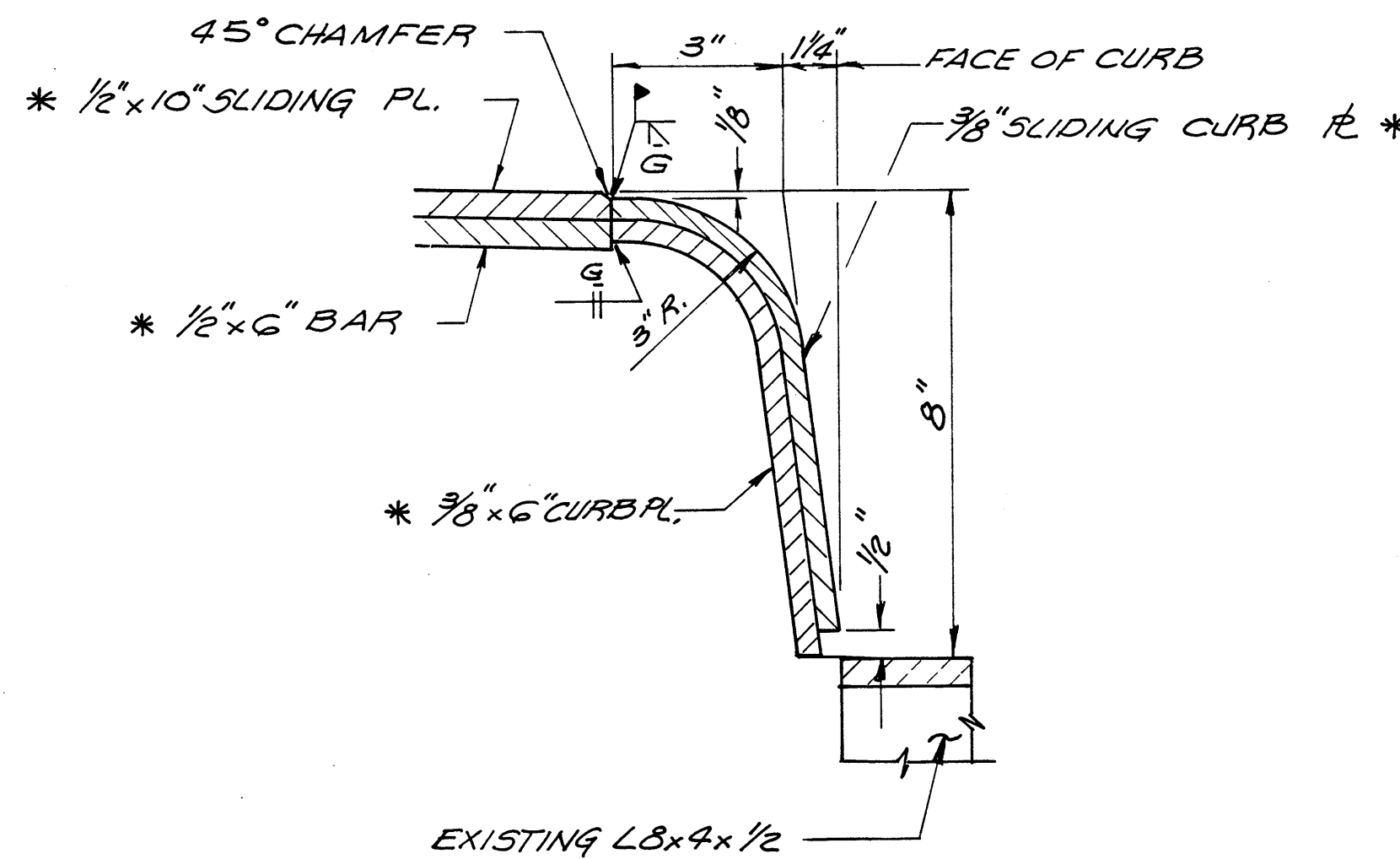
ELEVATION VIEW @ CURB

NOTES

- *DENOTES ASTM A36 STEEL AND MISCELLANEOUS PARTS TO BE INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN FOR PAYMENT.
- **DENOTES ASTM A36 STEEL AND MISCELLANEOUS PARTS TO BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, A588 AISC CATEGORY III, AS PER PLAN FOR PAYMENT.
- THE ELASTOMERIC COMPRESSION JOINT SEAL FOR THE WIDENING SHALL BE THE SAME AS THE EXISTING 4" UNCOMPRESSED WIDTH SEAL, AND SHALL BE FIELD SPLICED TO THE EXISTING SEAL BY A METHOD APPROVED BY THE ENGINEER TO FORM A WATERTIGHT SPLICE.
- THE FINISHED STEEL ASSEMBLY OF THE STRUCTURAL EXPANSION JOINT SHALL BE PAINTED PER ITEM 514 - FIELD PAINTING OF NEW STEEL, SYSTEM 1ZEL.
- FOR SUPERSTRUCTURE END DAM AND CURB PLATE DETAILS, SEE SHEET 21.
- SEE STANDARD DRAWING EXJ-2-81 FOR ADDITIONAL WELDING, DETAILS, AND NOTES.



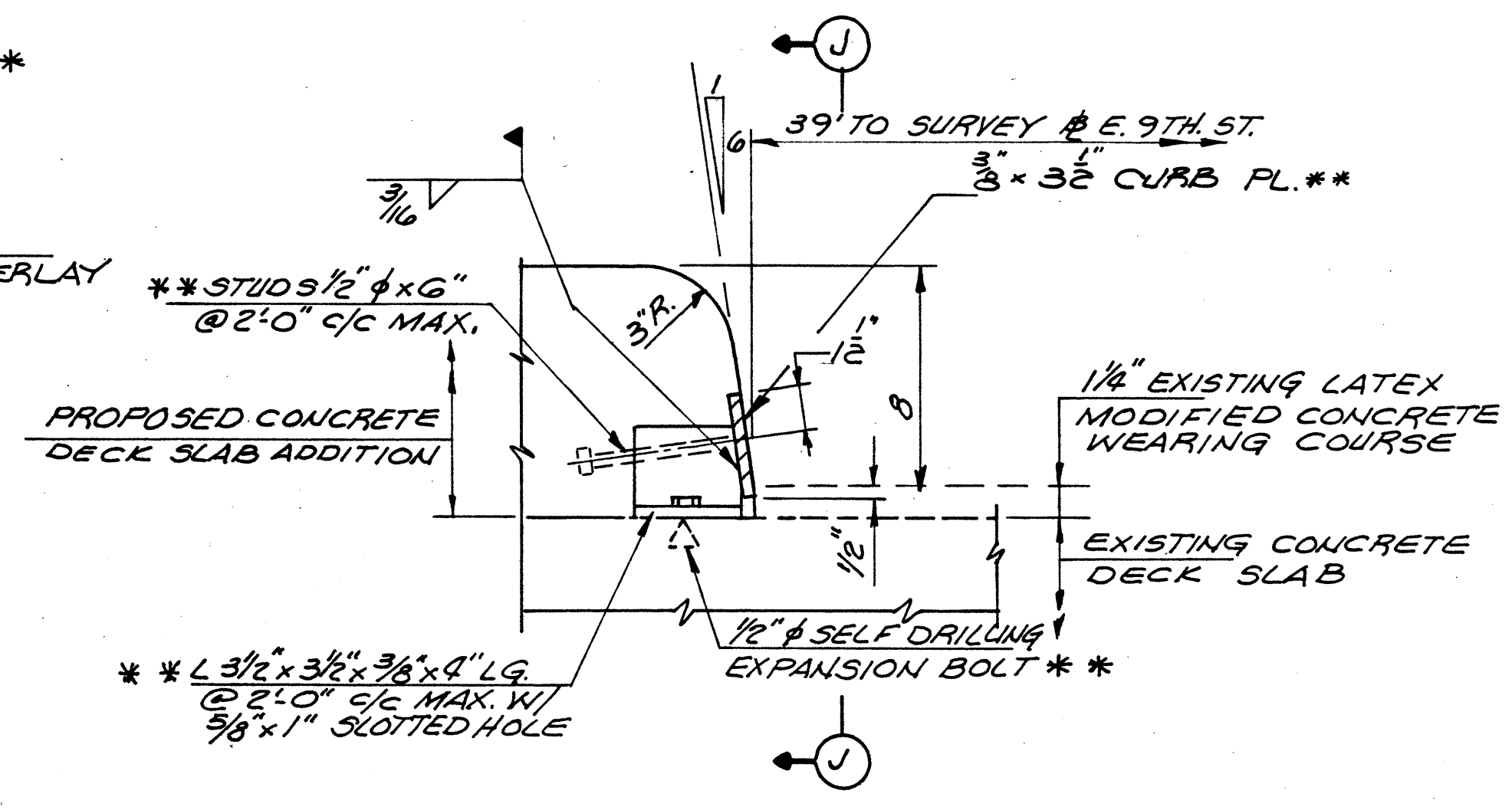
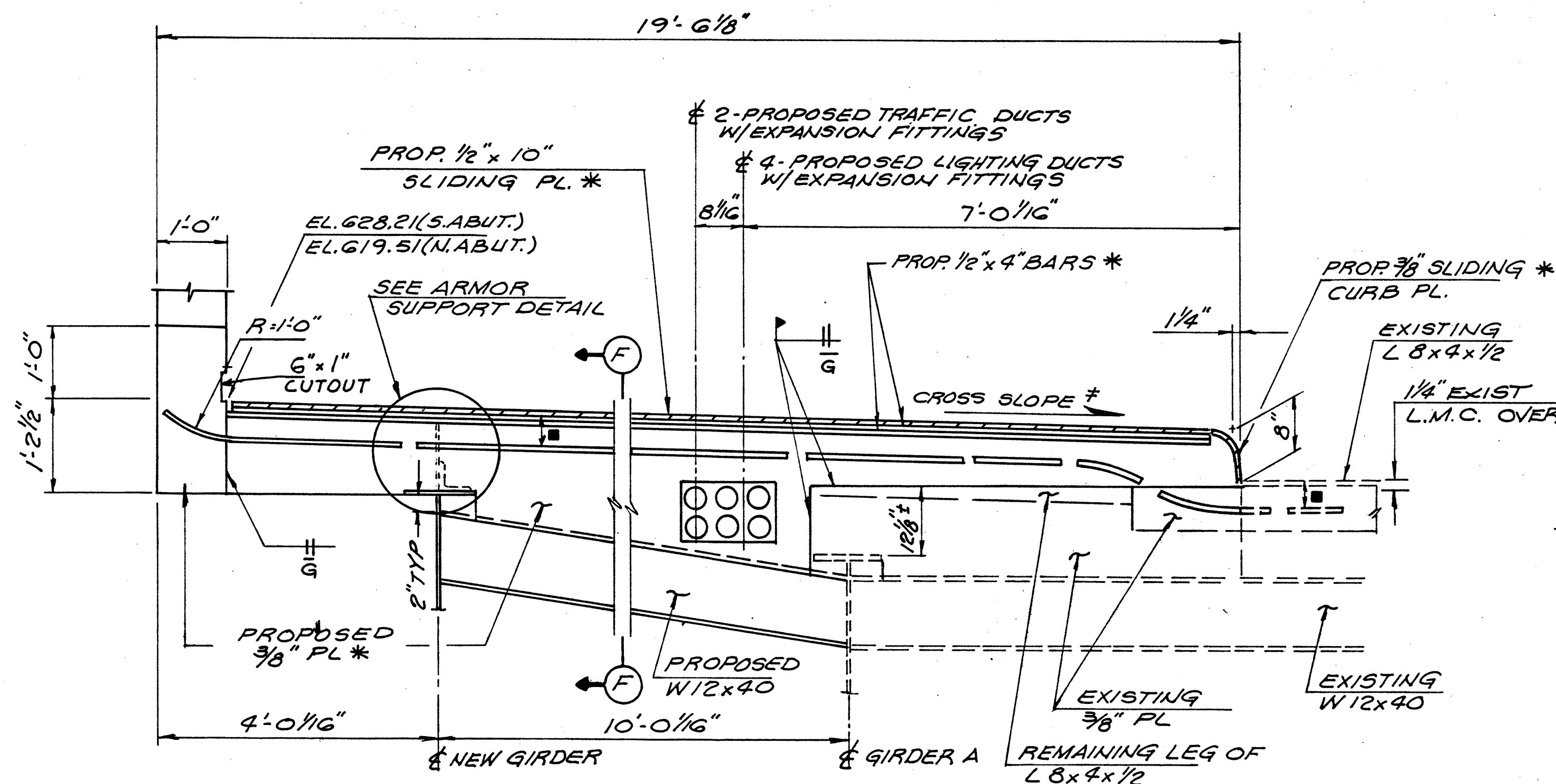
SECTION F-F



SECTION G-G

- DENOTES COMPRESSION SEAL HEIGHT + 1"
- A0 DENOTES COMPRESSION SEAL OPENING TO MATCH EXISTING OPENING

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DATE:	DATE:
CAD FILE NAME: 7019700 - BORDER	



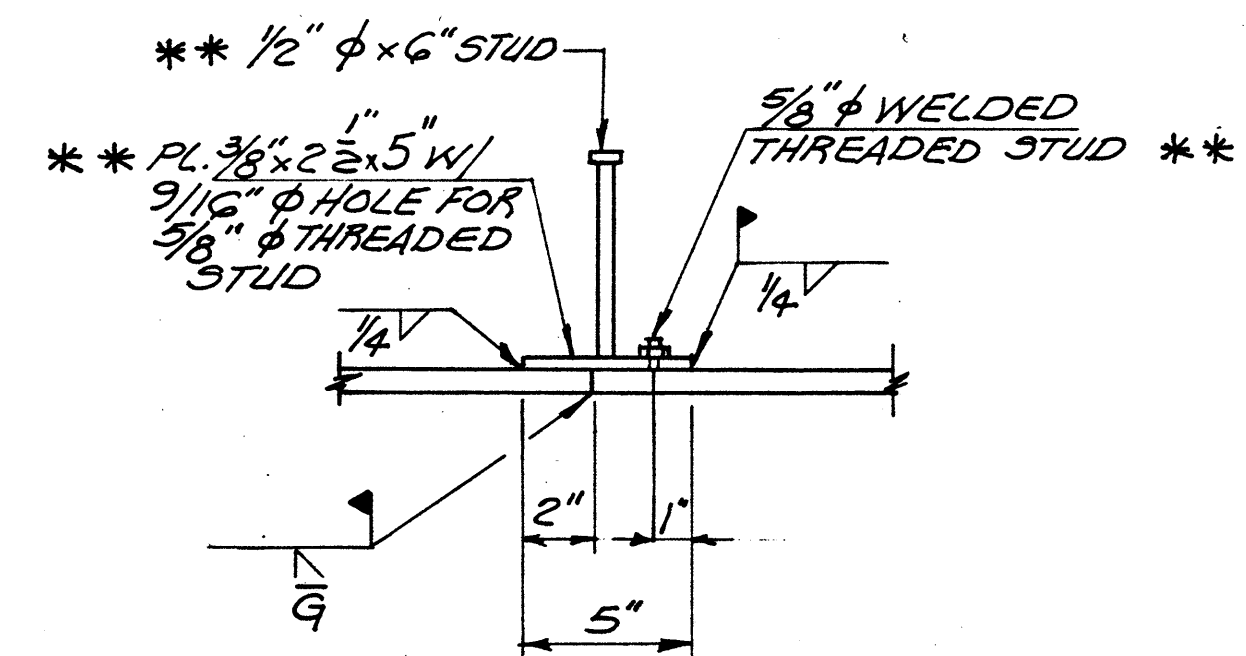
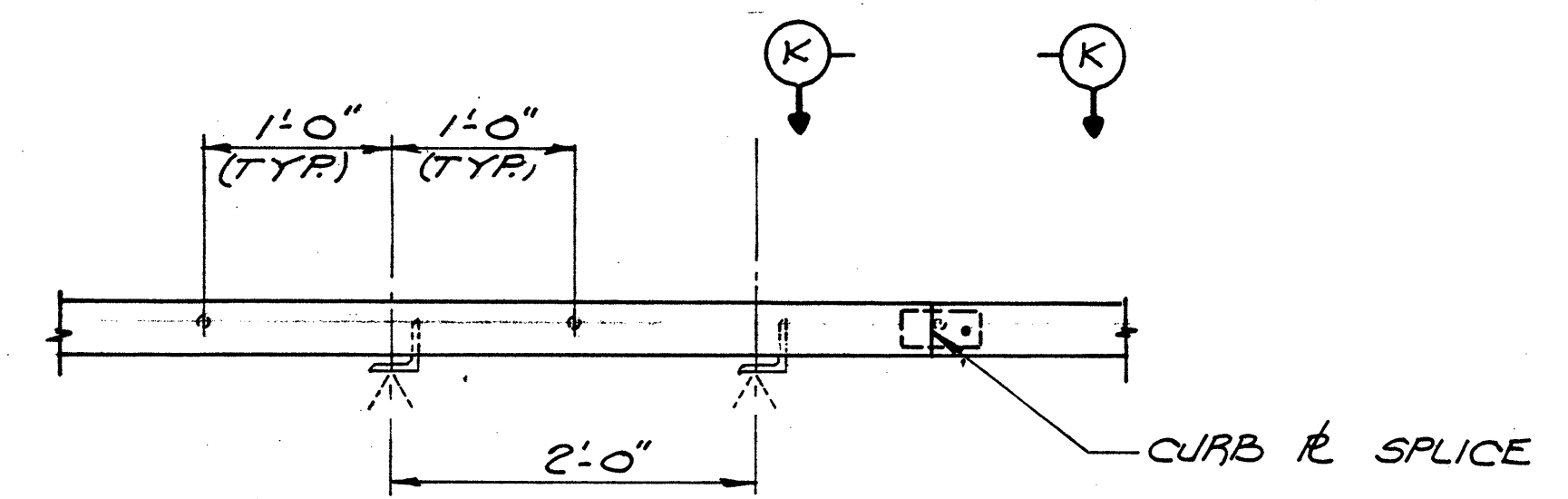
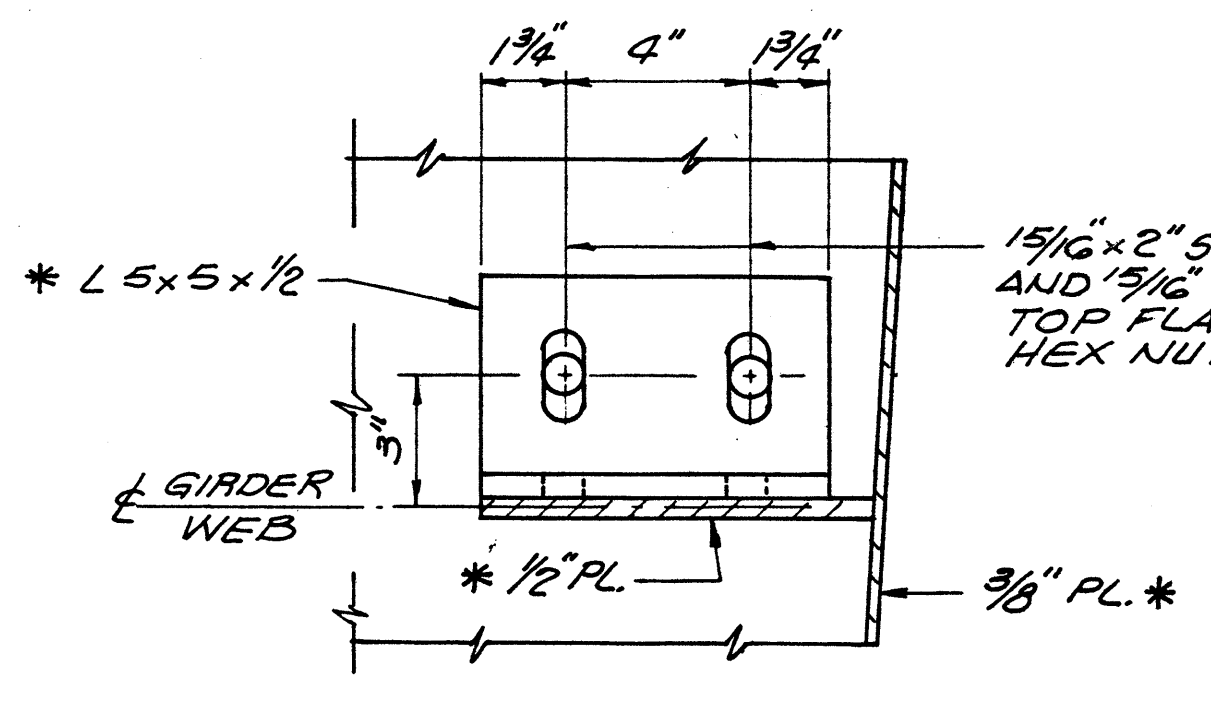
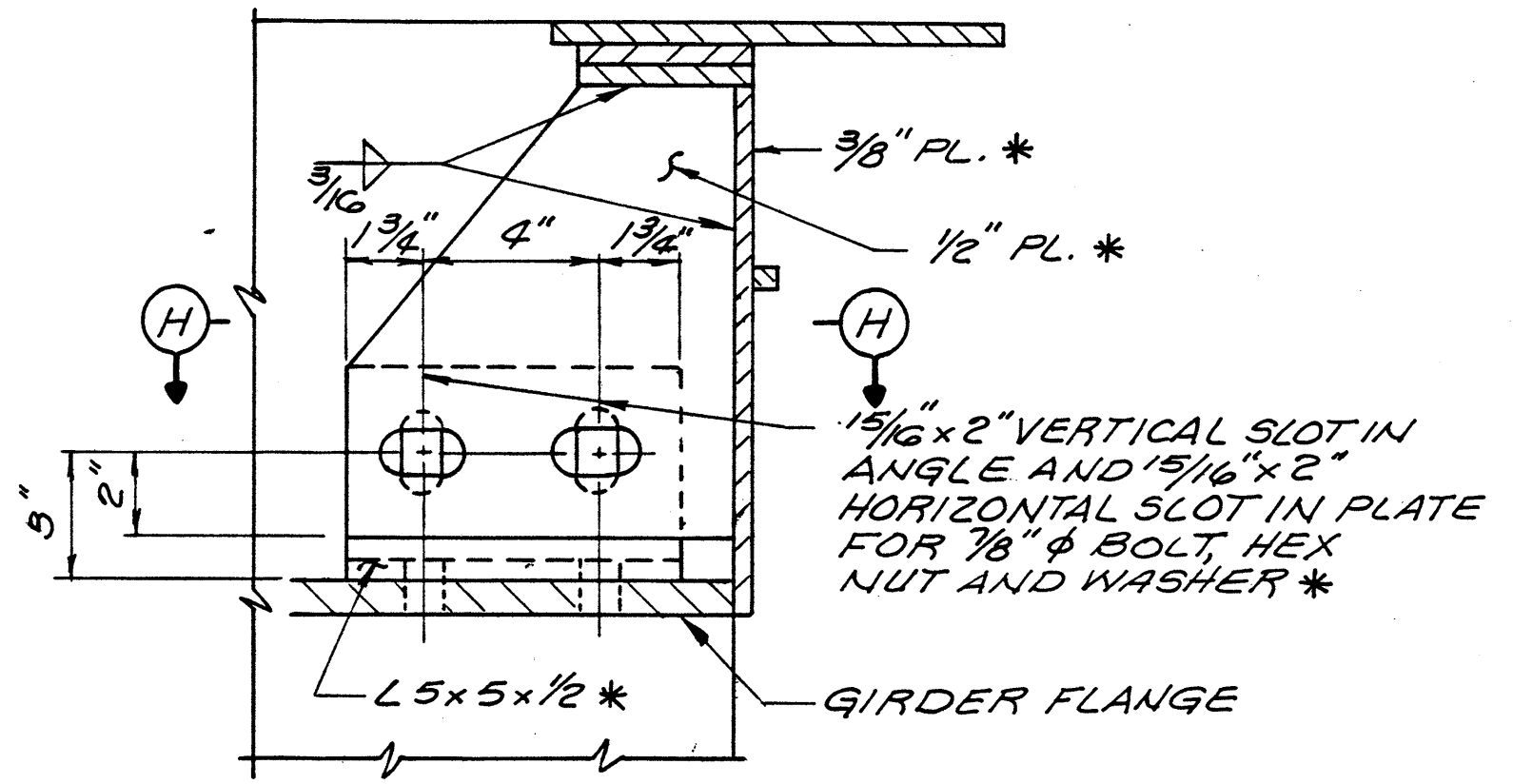
SECTION E-E

‡ END DAM CROSS-SLOPE:
 .0189% TO CURB (S. ABUT.)
 .0070% TO CURB (N. ABUT.)

PROPOSED SUPERSTRUCTURE END DAM @ S. ABUTMENT
 (OPPOSITE HAND @ N. ABUTMENT)

■ DENOTES COMPRESSION SEAL HEIGHT +1"

CURB PLATE DETAIL ON BRIDGE



ARMOR SUPPORT DETAIL AT NEW GIRDER

VIEW J-J

VIEW K-K

NOTES

① FOR * AND ** NOTES, SECTION F-F AND ADDITIONAL DETAILS AND NOTES SEE SHEET 20.

DESIGNED BY:	CHECKED BY:
DATE:	DATE:
DRAWN BY:	REVISION BY:
DATE:	DATE:
CAD FILE NAME: 7019700 - BORDER	

NOTES

- ① FOR SUPERSTRUCTURE PARAPET REINFORCING SEE SHEET 18.
- ② FOR PARAPET DETAILS AT ABUTMENTS SEE SHEETS 13 AND 14.
- ③ APPROXIMATE LENGTH OF THE FENCE IS 222'-3". REFER TO THE DETAIL SPECIFICATION IN THE PROPOSAL BOOK FOR ITEM 607 - ORNAMENTAL FENCE, AS PER PLAN (LUMP SUM).

URS

PROJECT NO. 1870041

DESIGNER JWW

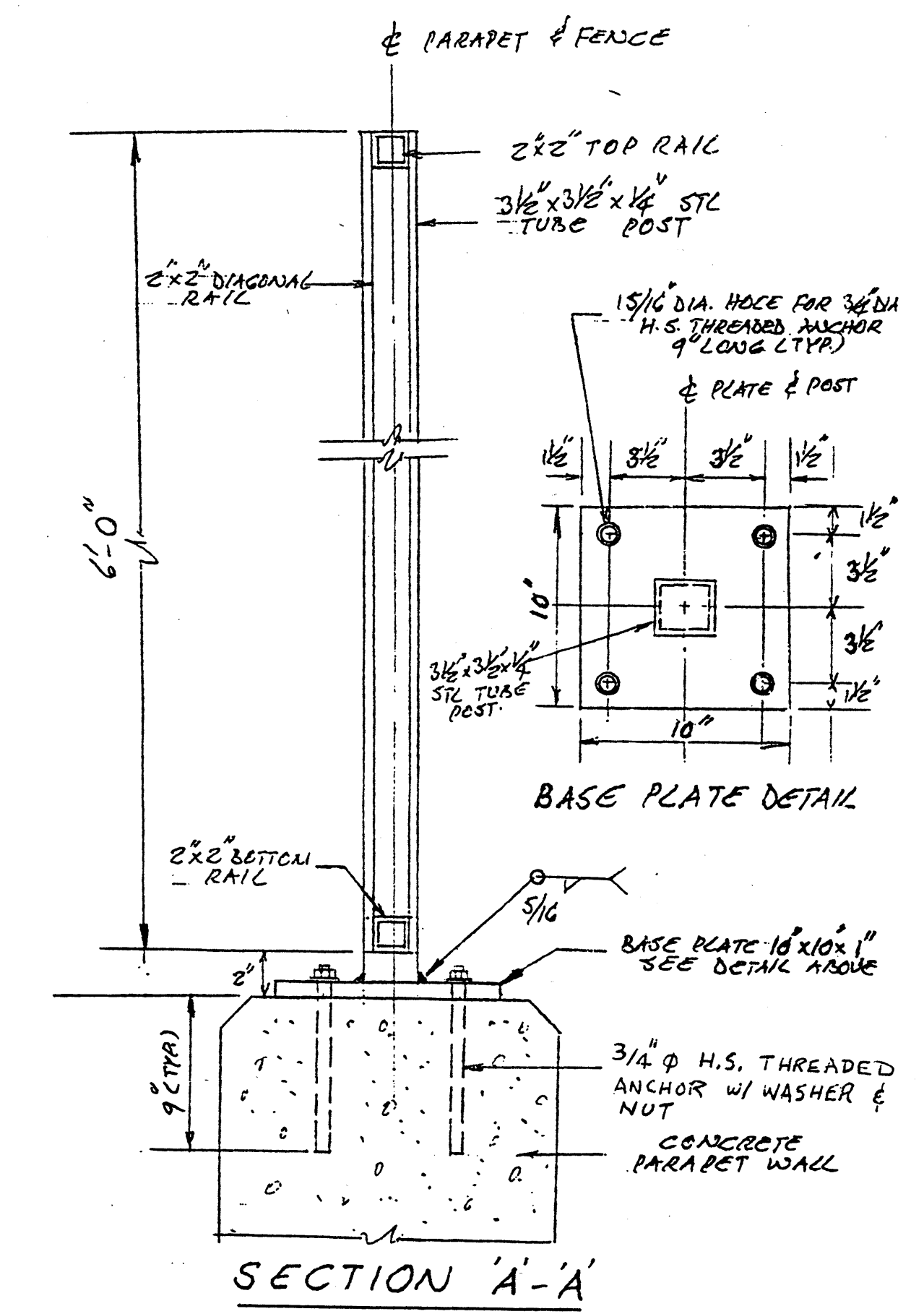
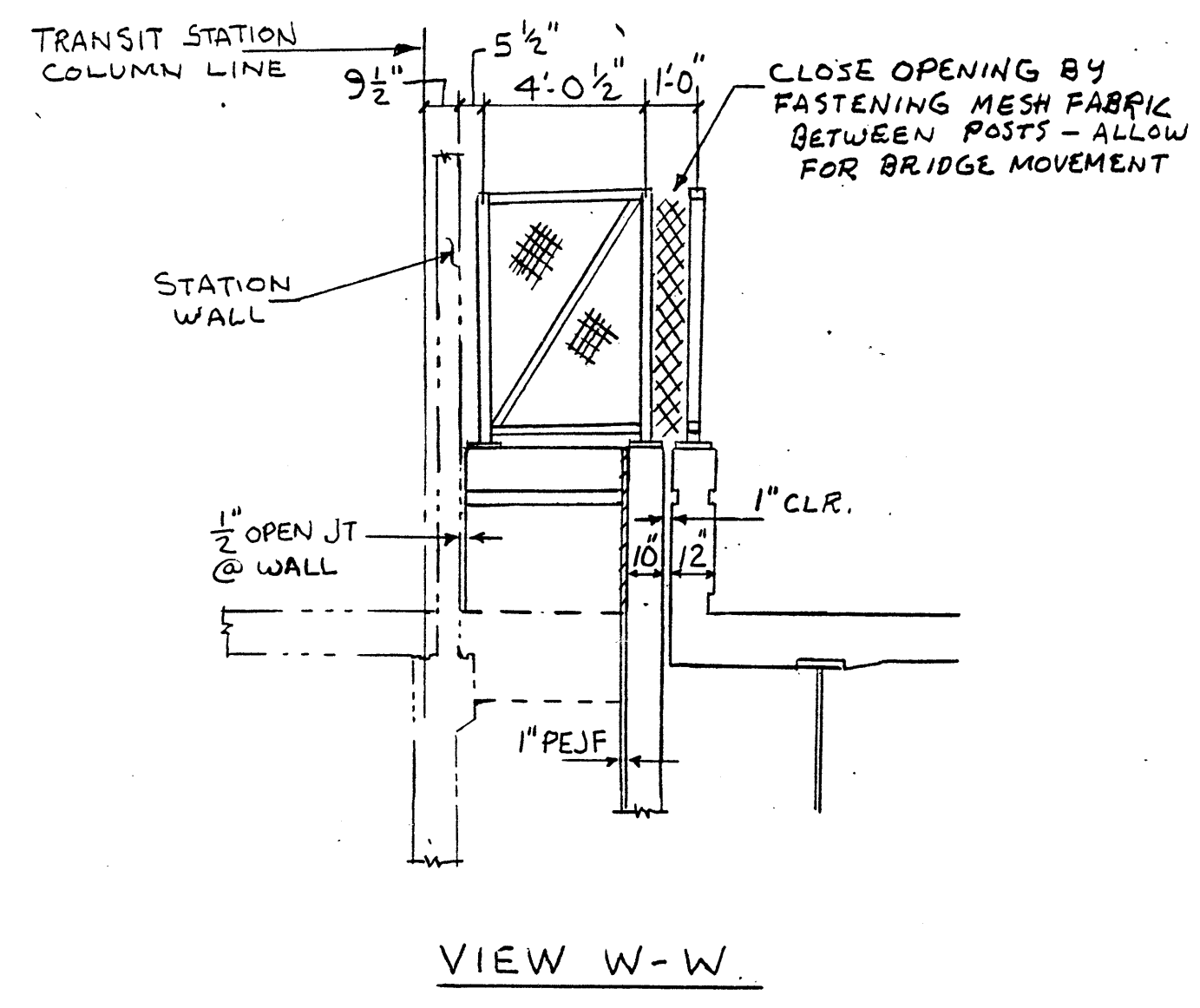
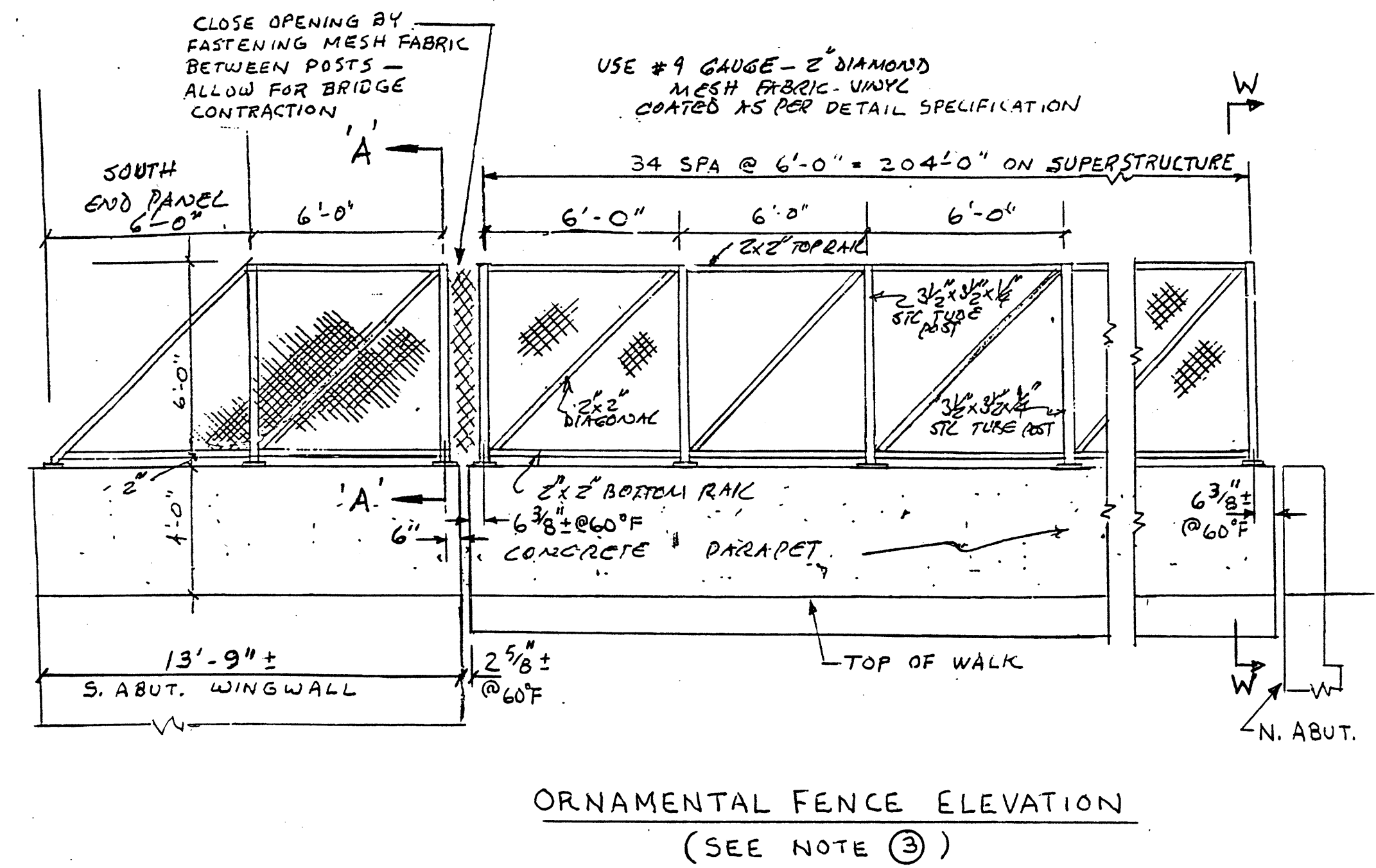
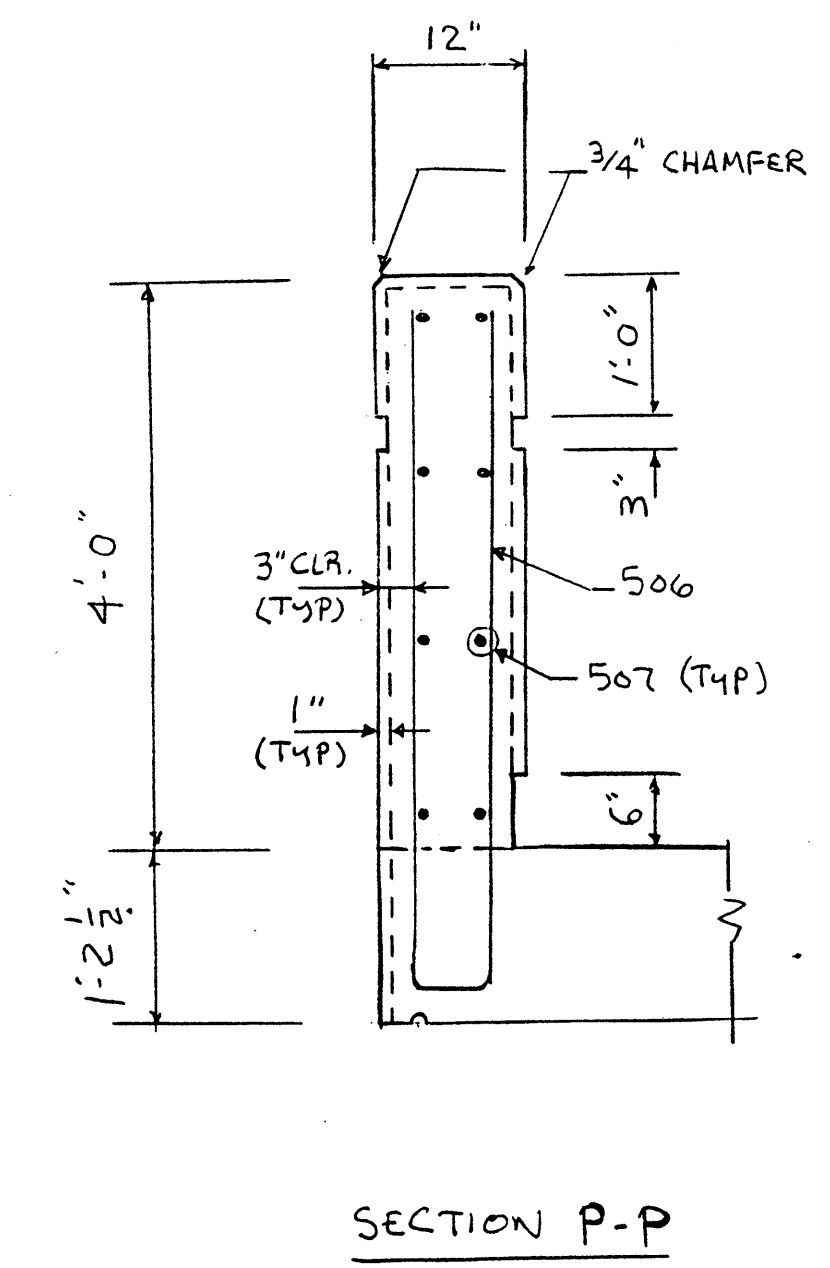
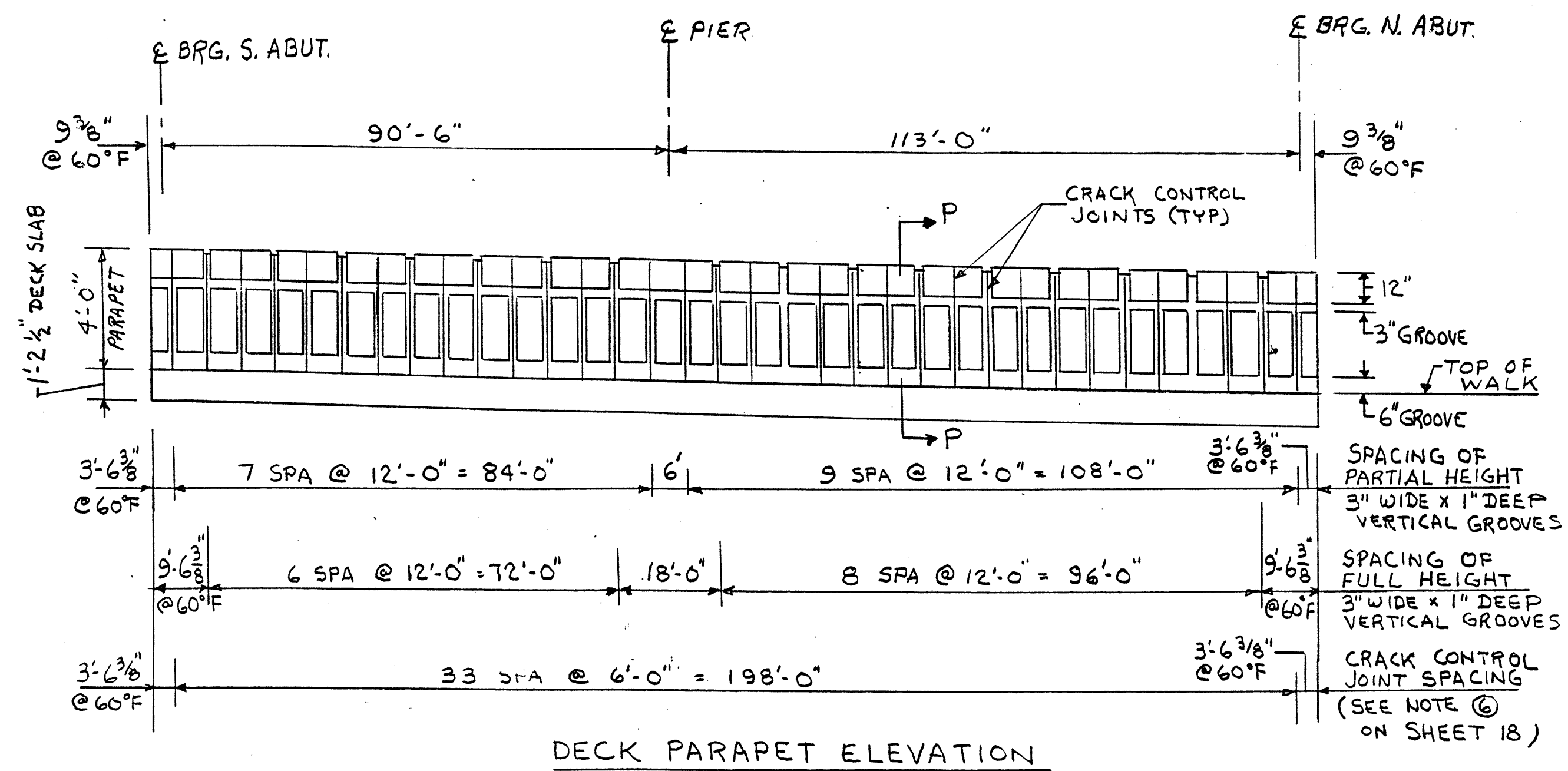
BY GTC

DATE M/TM

PARAPET & FENCE DETAILS
EAST 9TH STREET
OVER CONRAIL

CUY-E. 9TH. ST.

2/A



DESIGNED BY
DATE
DRAWN BY
DATE
CHECKED BY
DATE
RELEASED BY
DATE
CAD FILE NAME 2019/00 HORRER

DESIGNED BY:	CHECKED BY:
DATE:	DATE:
DRAWN BY:	REVISD BY:
DATE:	DATE:
CAD FILE NAME: 7019700 - BORDER	

NOTES

- ① THE PREFIX "E" SHALL BE ADDED TO REINFORCING BARS IN THE SOUTH APPROACH WALK.
- ② CONCRETE FOR THE CURB ON THE SOUTH APPROACH SLAB, REINFORCING STEEL IN THE SIDEWALK AND CURB AND EXPANSION JOINT MATERIALS BETWEEN SIDEWALK AND CURB OR WALL WILL NOT BE PAID FOR SEPARATELY, BUT THE COST THERE OF SHALL BE INCLUDED IN THE SQUARE FOOT COST OF ITEM 608 - 8" CONCRETE WALK, AS PER PLAN.

URS CONSULTANTS
564 WHITE POND DRIVE
AKRON, OHIO 44320-1100

URS

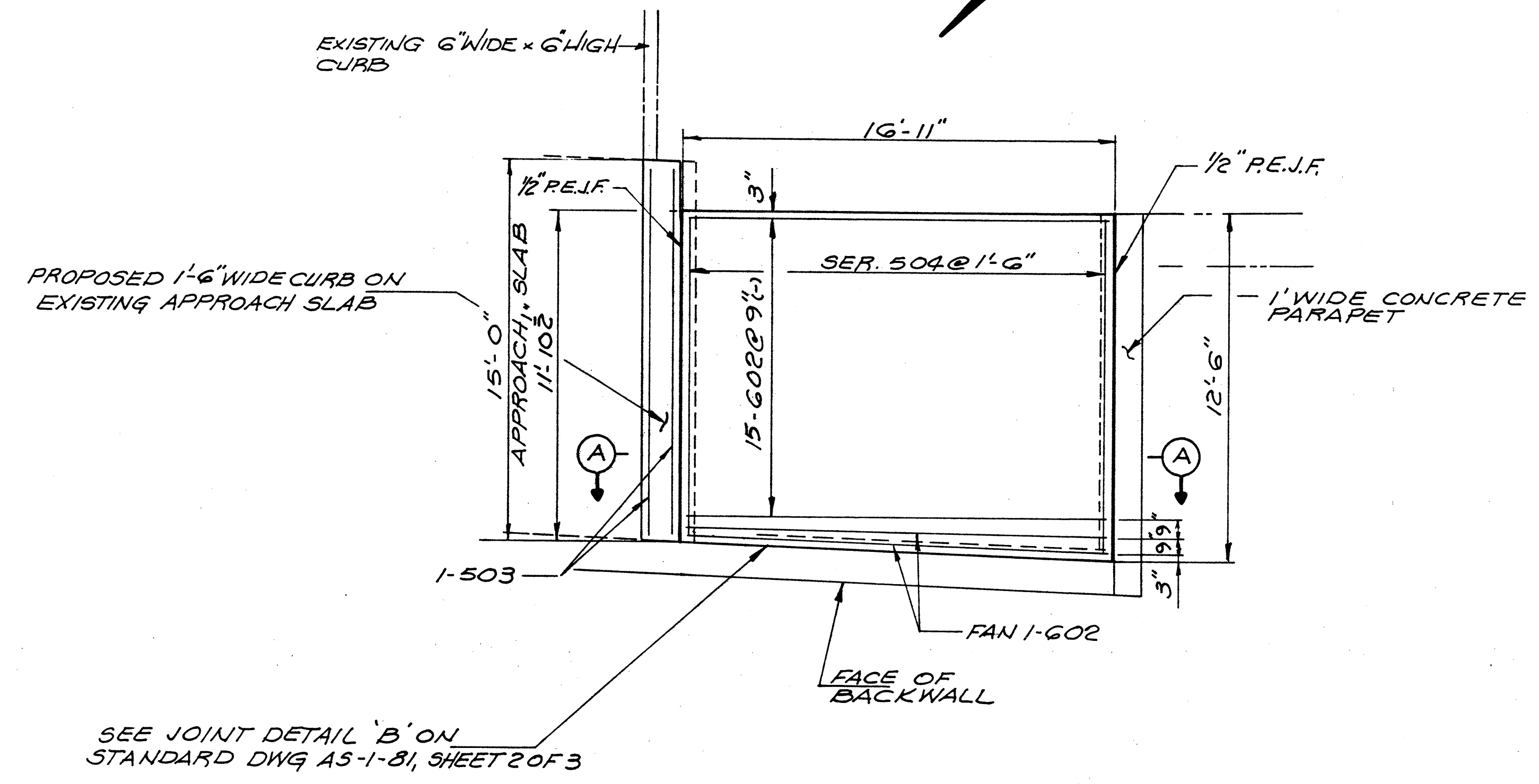
DATE: 2/12/06
REVIEWED: [Signature]
STRUCTURE FILE NUMBER: 1870041

DRAWN: FFF
CHECKED: GTC
DESIGNED: MJM

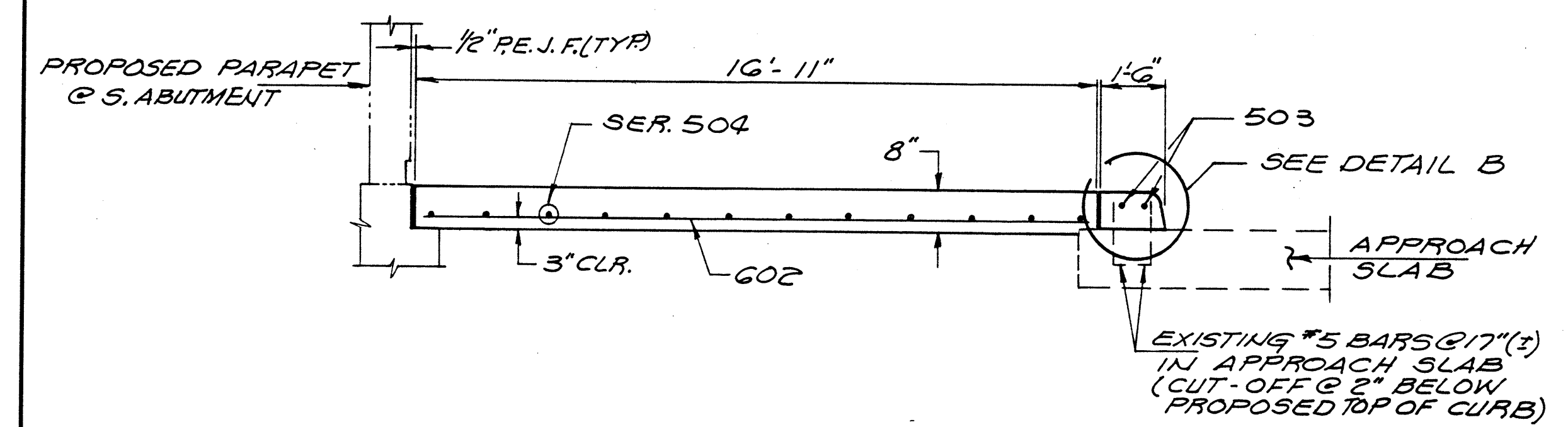
SOUTH SIDEWALK APPROACH DETAILS
EAST 9TH STREET
OVER CONRAIL

CUY - E. 9TH. ST.

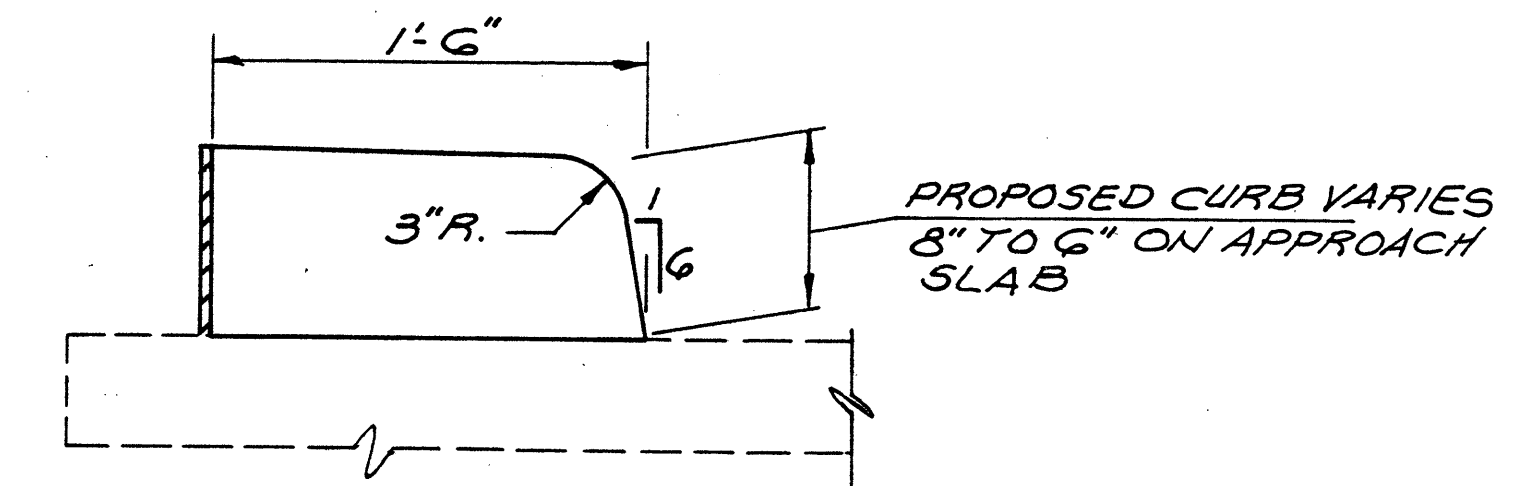
22



SOUTH ABUTMENT SIDEWALK APPROACH SLAB PLAN



SECTION A-A



DETAIL B

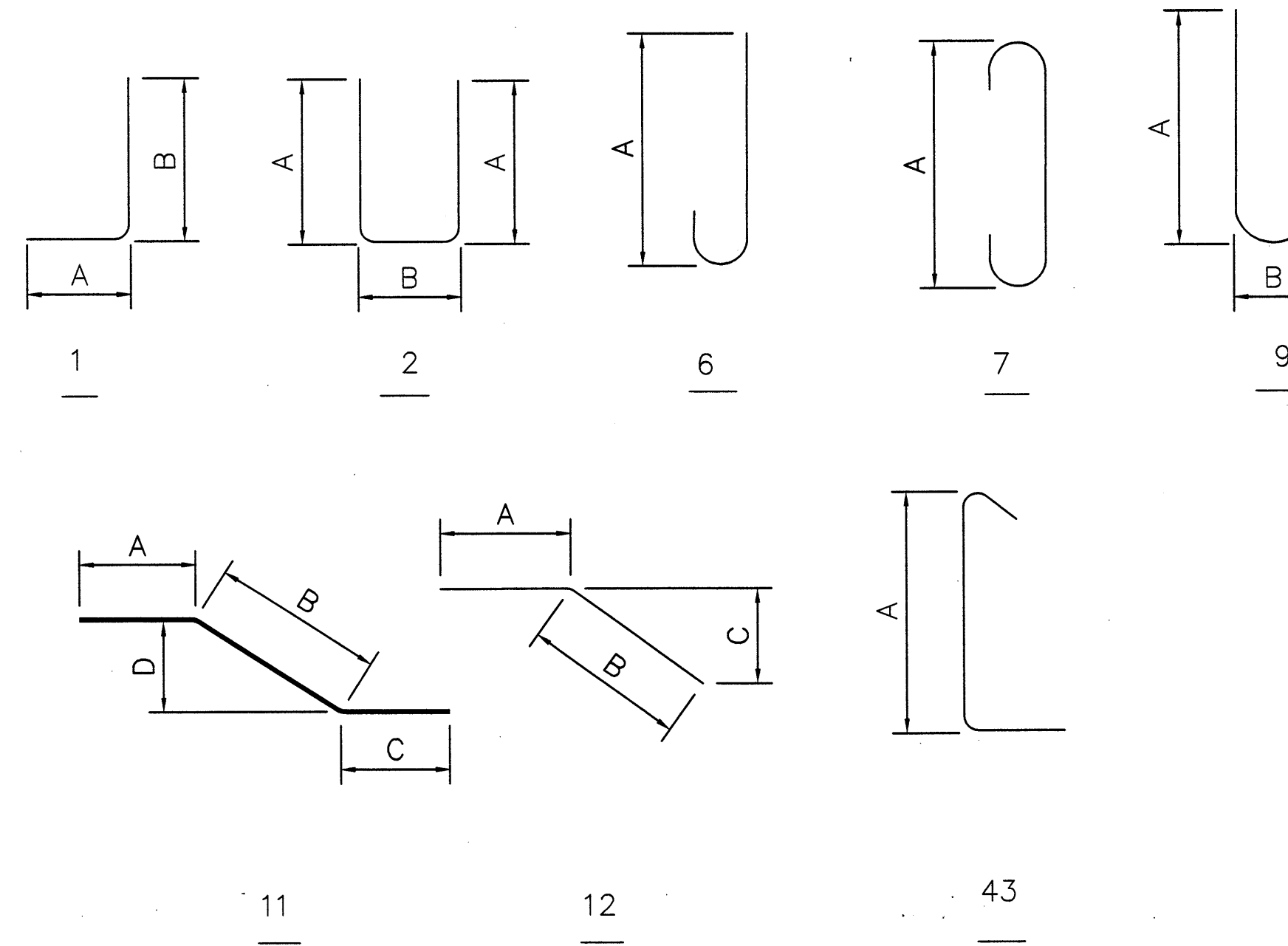
DESIGNED BY: _____
 DATE: _____
 DRAWN BY: FFF
 DATE: _____
 CAD FILE NAME: 7019700 - BARBE2

REINFORCING SCHEDULE

MARK	No. REQD.	LGTH.	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
SUPERSTRUCTURE									
ES 401	168	30-0	0 ST						3367
ES 402	24	8-9	9 ST						140
ES 501	351	9-7	7 ST						3508
ES 502	351	6-4	11	2-7	1-9	2-0	1-3		2319
ES 503	105	30-0	0 ST						3285
ES 504	15	8-9	9 ST						137
ES 505	54	28-1	1 ST						1582
ES 506	205	9-9	2	4-9	0-6				2085
ES 507	64	28-0	0 ST						1869
ES 601	351	19-2	2 ST						10105
ES 602	16	3-0	0 ST						72
TOTAL SUPERSTRUCTURE -									28469
SOUTH SIDEWALK APPROACH									
E 503	2	14-6	6 ST						30
SERIES	1-SET	11-4							3
OF	OF 12-	TO	ST					0-0--	146
E 504	12 BAR	12-0							4
E 602	17	16-6	6 ST						421
*TOTAL S. SIDEWALK -									597

* TO BE INCLUDED IN ITEM 608 - 8" CONCRETE WALK, AS PER PLAN FOR PAYMENT.

BAR TYPE DIAGRAMS



ITEM 509
 EPOXY COATED REINFORCING STEEL,
 GRADE 60

ABUTMENT	3578
PIER	4309
SUPERSTRUCTURE	28469
TOTAL	36356

URS CONSULTANTS
 564 WHITE POND DRIVE
 AKRON, OHIO 44320-1100



REVIEWED DATE
 STRUCTURE FILE NUMBER
 1870041

DRAWN FFF
 CHECKED MJM

REINFORCING SCHEDULE
 EAST 9TH STREET
 OVER CONRAIL

CUY - E. 9TH ST.

ITEM SPECIAL - PRECAST CONCRETE BOLLARD WITH CAP

THIS ITEM INCLUDES THE FURNISHING, PLACEMENT AND ANCHORAGE OF PRECAST CONCRETE BOLLARDS AT LOCATIONS AND IN THE MANNER SHOWN ON THE DRAWINGS WITH EMBEDDED HOOKS REQUIRED TO ATTACH CHAINS. ALSO INCLUDED UNDER THIS ITEM ARE THE STEEL REINFORCEMENTS AS SHOWN IN THE DRAWINGS. THE CONCRETE FOR THIS WORK SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4000 POUNDS PER SQUARE INCH AND WILL BE IN ACCORDANCE WITH ITEM 511 - CONCRETE FOR STRUCTURES AND APPLICABLE SECTIONS OF ITEM 515. SMOOTHNESS AND APPEARANCE OF CONCRETE PRODUCED WILL BE EQUIVALENT TO THAT PRODUCED BY THE PLYWOOD CONCRETE FORM PANELS. STEEL FORMS FOR BOLLARDS MAY HAVE TWO VERTICAL SEAMS AT OPPOSITE MID-POINTS. SURFACE SHALL BE FREE OF HONEYCOMB AND WASHOUT. CONTRACTOR SHALL SUBMIT METHODS AND FORM MATERIALS FOR APPROVAL PRIOR TO MANUFACTURE. CONTRACTOR SHALL MANUFACTURE ONE UNIT FOR ENGINEER'S APPROVAL OF FINISHED PRODUCT PRIOR TO FINAL MANUFACTURE.

PAYMENT FOR THIS ITEM SHALL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM - "PRECAST CONCRETE BOLLARD WITH CAP".

ITEM SPECIAL - PRECAST CONCRETE CAP

THIS ITEM INCLUDES THE FURNISHING, PLACEMENT AND ANCHORAGE OF PRECAST CAP AND SPECIAL CAP UNITS FOR BENDS AT LOCATIONS AND TO THE LIMITS SHOWN ON THE DRAWINGS. ALSO INCLUDED UNDER THIS ITEM ARE THE STEEL REINFORCEMENTS AS SHOWN IN THE DRAWINGS. THE CONCRETE FOR THIS WORK SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4000 POUNDS PER SQUARE INCH AND WILL BE IN ACCORDANCE WITH ITEM 511 - CONCRETE FOR STRUCTURE AND APPLICABLE SECTIONS OF ITEM 515. FINISH SHALL BE SMOOTH, DENSE SURFACE FREE OF HONEYCOMB AND WASHOUT. CONTRACTOR SHALL SUBMIT METHODS AND FORM MATERIALS FOR APPROVAL PRIOR TO MANUFACTURE. CONTRACTOR SHALL MANUFACTURE ONE UNIT FOR ENGINEER'S APPROVAL OF FINISHED PRODUCT PRIOR TO FINAL MANUFACTURE.

PAYMENT FOR THIS ITEM SHALL BE AT THE CONTRACT PRICE PER EACH SQUARE FOOT FOR ITEM - "PRECAST CONCRETE CAP".

ITEM SPECIAL - 2 1/4" STOCK ANCHOR CHAIN

THIS ITEM INCLUDES FURNISHING AND INSTALLATION OF BARRIER CHAIN, HOOKS, PAINTING AND ANY OTHER MISCELLANEOUS ITEMS NECESSARY FOR COMPLETE INSTALLATION OF BARRIER CHAINS BETWEEN PRECAST CONCRETE BOLLARDS. PAYMENT WILL BE MADE AT CONTRACT UNIT PRICE PER LINEAR FOOT. THIS COST INCLUDES THE PROVIDING OF HOOKS, BARRIER CHAINS AND ATTACHMENTS WITH RESPECT TO MATERIALS AND SHAPE SHALL MATCH EXISTING CHAIN AND ATTACHMENTS OF ADJACENT COMPLETED WORK AND SHOULD BE APPROVED BY THE ENGINEER. CONTRACTOR SHALL SUBMIT TO THE ENGINEER DETAILED DRAWINGS INDICATING MATERIAL THICKNESS, TYPE, GRADE AND CLASS DIMENSIONS AND CONSTRUCTION DETAILS. DRAWINGS SHALL INCLUDE CATALOG CUTS, ERECTION DETAILS, MANUFACTURER'S DESCRIPTIVE DATA AND INSTALLATION INSTRUCTIONS AND TEMPLATES.

ANY COMPONENT PART OF FABRICATED ITEMS OMITTED ON CONTRACT DRAWINGS SHALL BE DETAILED BY FABRICATOR ON THE DETAIL DRAWINGS.

CHAIN AND HOOKS SHALL BE SANDBLASTED IN ACCORDANCE WITH ODOT 514.06 AND PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF FINISH PAINT. THE PRIME COAT OF PAINT SPECIFIED SHALL BE APPLIED AS SOON AS POSSIBLE AFTER SANDBLASTING OF SURFACES. PRIOR TO APPLYING FINISH COATS OF PAINT ON SHOP AND SOLVENT-CLEANED AND TOUCHED UP WITH THE SAME TYPE OF PAINT USED FOR THE SHOP COAT. ALL PAINT COATS SHALL BE APPLIED IN SUCH MANNER AS TO PRODUCE AN EVEN, CONTINUOUS FILM OF UNIFORM THICKNESS. EDGES, CORNERS CREVICES, SEAMS, JOINTS, WELDS, AND OTHER SURFACE IRREGULARITIES SHALL RECEIVE SPECIAL ATTENTION TO INSURE THAT THEY RECEIVE AN ADEQUATE THICKNESS OF PAINT. SUFFICIENT TIME SHALL ELAPSE BETWEEN SUCCESSIVE COATS TO PERMIT PROPER DRYING. AT THE TIME OF APPLICATION, PAINT SHALL SHOW NO SIGNS OF HARD SETTLING, EXCESSIVE SKIMMING, LIVERING OR OTHER DETERIORATION. PAINT SHALL BE THOROUGHLY STIRRED, STRAINED, AND KEPT AT A UNIFORM CONSISTENCY DURING APPLICATIONS. PAINTS OF DIFFERENT MANUFACTURER'S SHALL NOT BE MIXED TOGETHER. WHERE NECESSARY, TO SUIT CONDITIONS OF SURFACE, TEMPERATURE, WEATHER, AND METHOD OF APPLICATION, PAINT MAY BE THINNED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS. THE THREE (3) COAT PAINT SYSTEM SPECIFIED SHALL BE APPLIED SO THAT THE DRY FILM THICKNESS OF THE THREE COATS AT ANY POINT SHALL BE NOT LESS THAN 4.0 MILS WITH THE PRIMER HAVING A MINIMUM DRY FILM THICKNESS OF 1.5 MILS.

ITEM 511 - CLASS C CONCRETE FOOTING, AS PER PLAN

IN ADDITION TO ALL THE PROVISIONS OF SECTION 511, THIS ITEM SHALL INCLUDE PROVIDING DOWEL HOLES, DOWELS, GROUT, FERRULE LOOP INSERTS, REINFORCEMENT AND ALL THE LABOR PERTAINING TO THE ABOVE ITEMS.

ITEM 201 - TREE OR STUMP REMOVAL 18" SIZE, AS PER PLAN

UNDER THIS ITEM ALL THE EXISTING GRATING, CONCRETE CURBING AND OTHER DRIP IRRIGATION SYSTEMS SHALL BE REMOVED. ALL OTHER PROVISIONS OF SECTION 201 SHALL APPLY.

ITEM 511 - CONC. MISC. UNDERWATER

THIS ITEM CONSISTS OF PUMPING CONCRETE WITH A MIXTURE WHICH HAS

CAPACITY TO RESIST TO WASHOUT OF CEMENT AND FINES WHILE IMPEDING THE EXTERNAL BLENDING OF WATER INTO THE MATERIAL INCLUDING PROVIDING ALL LABOR MATERIALS AND HOLES. THE TREATED CONCRETE SHALL BE PUMPED INTO THE VOIDS AS SHOWN IN THE DRAWINGS. THE ADMIXTURE RHEOMACT UN450 LIQUID ANTIWASHOUT ADMIXTURE MANUFACTURED BY MASTER BUILDERS OR EQUIVALENT MAY BE USED. ALL THE PROVISIONS OF SECTION 511 SHALL APPLY FOR THIS ITEM OF WORK.

PAYMENT SHALL BE THE NUMBER OF CUBIC YARDS OF CONCRETE PUMPED IN AS DIRECTED BY THE ENGINEER INCLUDING COST OF PROVIDING DRILLED HOLES NECESSARY TO PUMP CONCRETE. THIS ITEM MAY NOT BE PERFORMED FOR SOME REASON AN ESTIMATED QUANTITY OF 80 CUBIC YARDS HAS BEEN PROVIDED.

ITEM 202 - STRUCTURE REMOVED AS PER PLAN

ALL REMOVAL ITEMS THAT WERE CALLED ON THE PLANS AS "TO BE REMOVED", SHALL BE INCLUDED UNDER THIS ITEM UNLESS THEY ARE PAID SEPARATELY ELSEWHERE.

ITEM SPECIAL - WOOD FENDER

THIS ITEM INCLUDES ALL MATERIALS INCLUDING HOLES GALVANIZED STEEL SLEEVE, BOLTS, WASHERS, NUTS AND LABOR NECESSARY TO PROVIDE 12" x 12" MIXED OAK CREOSOTED IN PLACES SHOWN ON THE PLANS. THIS ITEM SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 521 - BRIDGE TIMBER.

GENERAL

THE CONTRACTOR IS TO PROVIDE ACCESS OF PUBLIC TO MATHER AT ALL TIMES DURING CONSTRUCTION BY PROVIDING A PEDESTRIAN WALK OF 5 FEET WIDE USING EXISTING OR NEW SOLID SURFACE. THE UTILITY PIPES (WATER, GAS, SANITARY) THAT SERVES THE MATHER SUPPORTED ON THE SIDE OF PIER SHALL BE KEPT IN TACT, IF NECESSARY RELOCATING IF IT IS IN THE WAY OF CONSTRUCTION.

ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN

ALL PROVISIONS OF ITEM 504 SHEET PILING LEFT IN PLACE SHALL APPLY. THE FOLLOWING ADDITIONAL PROVISIONS ALSO APPLY:

1.1 GENERAL

DUE TO THE CLOSE PROXIMITY OF THE BURKE LAKEFRONT AIRPORT, FOR AIR TRAFFIC SAFETY, THE EQUIPMENT USED TO INSTALL THE SHEET PILING CAN NOT BE ALLOWED TO EXTEND MORE THAN 81 FEET ABOVE THE TOP OF THE PIER ELEVATION OF 577.77. THE TOP OF THE PILE DRIVING EQUIPMENT SHALL BE OBSTRUCTION MARKED AND LIGHTED PER FAA ADVISORY CIRCULAR AC 70/7460-1J, "OBSTRUCTION MARKING AND LIGHTING", CHAPTERS 3, 4, 5 AND 13.

THE SHEET PILING SHALL BE SPLICED AS REQUIRED IN ORDER TO MEET THE MAXIMUM HEIGHT OF EQUIPMENT LIMITATION NOTED ABOVE. SHEET PILING, WHICH REQUIRES SPLICING, SHALL BE SUPPLIED IN FULL LENGTH, CUT AS REQUIRED, PIECES MATCH MARKED AND THEN REJOINED BY THE USE OF FISH PLATES. THE FISH PLATE SPLICES SHALL BE DESIGNED TO DEVELOP 125% OF THE FULL STRENGTH OF THE SHEET PILING BEING SPLICED AND SHALL BE STAGGERED SO AS NOT BE LOCATED AT THE SAME ELEVATION FOR ADJACENT SHEET PILES.

THE COST OF THE ABOVE MODIFICATION INCLUDING SPECIAL EQUIPMENT, OBSTRUCTION MARKING, LIGHTING, SPLICING THE SHEET PILES AND ALL INCIDENTALS SHALL BE INCLUDED IN THE UNIT COST BID PER SQUARE FOOT OF ITEM 504, STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN.

1.2 MEASUREMENT

SHEET PILING WILL BE MEASURED FOR PAYMENT ON A SQUARE FOOT BASIS, ACCEPTABLY DRIVEN AS DETERMINED FROM THE LENGTHS OF PILES DRIVEN BELOW THE CUT-OFF ELEVATIONS. LENGTHS OF PILING SHALL BE MEASURED TO THE NEAREST TENTH OF A FOOT.

1.3 PAYMENT

PAYMENT FOR STEEL SHEET PILING IN PLACE BELOW CUT OFF ELEVATION WILL BE MADE AT THE APPLICABLE UNIT PRICE PER SQUARE FOOT FOR THE PAY ITEM "STEEL SHEET PILING LEFT IN PLACE AS PER PLAN." THE APPLICABLE CONTRACT UNIT PRICE PER SQUARE FOOT FOR THE STEEL SHEET PILING SHALL INCLUDE ALL COSTS OF FURNISHING, DRIVING, AND CUTTING HOLES, PULLING, BOLTING SPECIAL PILE TO EXISTING PZ 40 SHEET PILE FOR CONNECTION TO EXISTING WALL AND SPLICING THE PILES AS REQUIRED, WALERS, TIE RODS AND TURN BUCKLES AND ALL OTHER MATERIAL AND WORK INCIDENTAL THERETO.

1.3.1 SPLICES

NO SEPERATE PAYMENT SHALL BE MADE FOR WELDED PILE SPLICES REQUIRED TO EXTEND PILES TO THE REQUIRED CUT-OFF ELEVATION AFTER BEING DRIVEN.

1.3.2 INCIDENTALS

- A. PAYMENT FOR SHEET PILING INCLUDES FABRICATING AND INSTALLING WALE ASSEMBLIES, INCLUDING SPLICES, PLATES, BOLTS, NUTS, WASHERS, AND OTHER MISCELLANEOUS METAL ITEMS NECESSARY FOR A COMPLETE INSTALLATION.
- B. PAYMENT FOR SHEET PILING INCLUDES FABRICATION AND INSTALLATION OF CORNER BRACES, INCLUDING BOLTS, NUTS, WASHERS, WELDED CONNECTIONS AND OTHER MISCELLANEOUS METAL ITEMS NECESSARY FOR A COMPLETE INSTALLATION.
- C. PAYMENT FOR SHEET PILING INCLUDES FABRICATION AND INSTALLATION OF THREADED BARS, NUTS, PLATES, TURNBUCKLES AND OTHER MISCELLANEOUS METAL ITEMS NECESSARY FOR COMPLETE TIE ROD ASSEMBLY INSTALLATION.

1.3.3 PULLED PILES

PILES WHICH ARE DIRECTED TO BE PULLED FOR INSPECTION AND FOUND TO BE IN GOOD CONDITION WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR FURNISHING AND DRIVING THE PILE IN ITS ORIGINAL POSITION PLUS FIFTY PERCENT (50%) OF THIS AMOUNT FOR THE COST OF PULLING. SUCH PULLED PILES WHEN REINSTALLED WILL BE PAID FOR AT FIFTY PERCENT (50%) OF THE APPLICABLE CONTRACT UNIT PRICE FOR STEEL SHEET PILING FOR THE PORTION OF THE PILE REDRIVEN BELOW CUT-OFF ELEVATION. THIS PRICE CONSTITUTES PAYMENT FOR REDRIVING ONLY; THE COST OF FURNISHING, INITIAL DRIVING AND PULLING THE PILES WILL BE PAID FOR AS SPECIFIED ABOVE. WHEN PILES ARE PULLED AND FOUND TO BE DAMAGED, NO PAYMENT WILL BE MADE FOR ORIGINALLY FURNISHING AND DRIVING SUCH PILES, NOR FOR THE OPERATION OF PULLING. PILES REPLACING DAMAGED PILES WILL BE PAID FOR AT THE APPLICABLE CONTRACT UNIT PRICES FOR THE LENGTHS PLACED BELOW CUT-OFF ELEVATION.

1.4 SUBMITTALS

PILE DRIVING WORK PLAN

THE CONTRACTOR SHALL SUBMIT A PILE DRIVING PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING ANY PILE DRIVING. THE PLAN SHALL SHOW THE LOCATION(S) WHERE PILE DRIVING SHALL START AND THE DIRECTION IN WHICH PILES SHALL BE DRIVEN FROM THAT LOCATION(S). ANY ADDITIONAL SPECIAL PILES REQUIRED DUE TO A PILE DRIVING PLAN OTHER THAN THE ONES ASSUMED ON THE DRAWING SHALL BE FURNISHED AT DRIVEN AT THE CONTRACTOR'S EXPENSE. FURTHERMORE, IF SPECIAL PILES REQUIRE DIMENSIONS DIFFERENT THAN SHOWN ON THE CONTRACT DRAWINGS, THEY SHALL BE PROVIDED AT NO CHANGE IN THE CONTRACT UNIT PRICE.

CONSTRUCTION EQUIPMENT

THE CONTRACTOR SHALL SUBMIT COMPLETE DESCRIPTIONS OF PILE DRIVING EQUIPMENT, INCLUDING HAMMERS, EXTRACTORS, PROTECTION CAPS, AND OTHER APPURTENANCES AS WELL AS MAKE, MODEL AND AGE TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK. HAMMER SHALL BE STEAM, AIR OR DIESEL DROP, SINGLE-ACTING, DOUBLE-ACTING, DIFFERENTIAL-ACTING OR VIBRATORY TYPE. THE DRIVING ENERGY OF THE HAMMERS SHALL BE BETWEEN 8,750 AND 16,000 FOOT-POUNDS, OR AS RECOMMENDED BY THE MANUFACTURER FOR THE PILING WEIGHTS AND SUBSURFACE MATERIALS TO BE ENCOUNTERED. THE HIGHEST ELEVATION OF THE TOP OF PILE DRIVING EQUIPMENT SHALL BE RESTRICTED BY THE ENGINEER.

STEEL SHEET PILING

SHOP DRAWINGS FOR THE WORK COVERED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. SHOP DRAWINGS FOR SHEET PILING, INCLUDING FABRICATED SECTIONS, SHALL SHOW COMPLETE DIMENSION AND DETAILS OF PILING, WALES CORNER BRACES AND TIE RODS AND SHALL SHOW THE DRIVING SEQUENCE AND LOCATION OF EACH PILING. THE DRAWING SHALL ALSO INCLUDE DETAILS AND DIMENSIONS OF TEMPLATES AND OTHER TEMPORARY GUIDE STRUCTURES FOR INSTALLING THE PILING AND SHALL PROVIDE DETAILS OF THE METHOD OF HANDLING TO PREVENT PERMANENT DEFLECTIONS, DISTORTION, OR DAMAGE TO THE INTERLOCKS.

WELDER QUALIFICATIONS

THE CONTRACTOR SHALL SUBMIT CERTIFICATION, BY NAME, FOR ALL WELDERS HE WILL USE ON THE JOB, THAT EACH WELDER HAS SUCCESSFULLY PASSED THE PRESCRIBED AMERICAN WELDING SOCIETY TESTS, GIVING THE DATES OF THE TESTS AND THE NAME AND LOCATION OF THE BUREAU ADMINISTERING EACH TEST.

STEEL SHEET PILE MILL REPORTS

THE CONTRACTOR SHALL FURNISH TWO (2) CERTIFIED COPIES OF ALL MILL REPORTS COVERING THE CHEMICAL AND PHYSICAL PROPERTIES OF THE STEEL SHEET PILE, WALES AND TIE ROD MATERIAL USED THE WORK UNDER THIS SECTION OF THE SPECIFICATIONS AND THE MILL IDENTIFICATION MARK.

CALCULATED
R.L.
CHECKED
K.P.

GENERAL NOTES
EAST 9th. STREET PIER

EAST 9th. ST. PIER

INSPECTION REPORTS

A COPY OF THE RECORDS OF INSPECTION, AS WELL AS RECORDS OF ANY CORRECTIVE ACTION TAKEN, SHALL BE FURNISHED TO THE ENGINEER.

SHEET PILE DRIVING REPORTS

UNDER THE DIRECTION OF THE ENGINEER'S REPRESENTATIVE, THE CONTRACTOR SHALL RECORD THE PENETRATION OF EACH PILE, IF DRIVEN SINGLY, OR EACH GROUP OF PILES, IF MULTIPLE SHEETS ARE DRIVEN AT ONE TIME. THE RECORD SHALL INCLUDE THE CHARACTERISTICS OF THE PILE; TYPE AND MANUFACTURE OF THE DRIVING EQUIPMENT; WHEN AN IMPACT HAMMER IS USED, THE BLOW COUNT PER FOOT OF PENETRATION, EXCEPT FOR THE LAST FOOT FOR WHICH THE BLOW COUNT PER INCH SHALL BE RECORDED; THE RATE OF PENETRATION WHEN A VIBRATORY HAMMER IS USED; LOCATION OF THE PILE OR PILES IN THE STRUCTURE; ELEVATION OF EXISTING GRADE AND DEPTH OF PENETRATION; LOCATION OF PILE SPLICES; AND OTHER PERTINENT DATA. THE DRIVING RECORDS SHALL BE FURNISHED EACH DAY WITH THE RECORDS OF INSPECTION.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 SHEET PILING

SHEET PILING SHALL BE HOT ROLLED, STEEL SECTIONS CONFORMING TO ASTM A 328, AND COMPOSED OF STEEL CONFORMING TO GRADE ASTM A 328 OR ASTM A 572, GRADE 50 OR 60. SHEET PILING SHALL BE OF THE TYPE SPECIFIED AND SHOWN AND SHALL HAVE A NOMINAL WEB THICKNESS NOT LESS THAN THAT SPECIFIED HEREIN. THE INTERLOCKS OF SHEET PILING SHALL BE REASONABLY FREE-SLIDING, PROVIDE A SWING ANGLE SUITABLE FOR THE INTENDED INSTALLATION BUT NOT LESS THAN FIVE (5) DEGREES WHEN THREADED, AND SHALL MAINTAIN CONTINUOUS INTERLOCKING WHEN INSTALLED. SHEET PILING SHALL BE PROVIDED WITH TWO (2) STANDARD PULLING HOLES, EACH LOCATED APPROXIMATELY 6 INCHES FROM THE ENDS OF THE PILE, UNLESS OTHERWISE SHOWN OR DIRECTED.

PROPERTIES OF SECTION

TYPE OF SECTION	ASTM GRADE	NOMINAL WEB THICKNESS (IN.)	SECTION MODULUS PER LIN. FT OF WALL (IN. 3)	WEIGHT PER SQ. FT. OF WALL (LBS)
PZ40	A572 60	0.600	60.7	40.0
PZ27	A328 50	0.375	30.2	27.0

2.1.2 APPURTENANT METAL MATERIALS

METAL PLATES, SHAPES, BOLTS, NUTS AND OTHER APPURTENANT FABRICATION AND INSTALLATION MATERIALS SHALL CONFORM TO MANUFACTURER'S STANDARDS, TO THE REQUIREMENTS SPECIFIED IN THE RESPECTIVE SHEET PILING STANDARDS.

2.1.3 WELDING ELECTRODES

WELDING ELECTRODES SHALL CONFORM TO THE REQUIREMENTS OF AWS A5.1 CLASS E70. ELECTRODES FOR WELDING STEEL SHEET PILING SHALL BE LOW-HYDROGEN ELECTRODES. TIE RODS AND WALES SHALL CONFORM TO ASTM A36 BOLTS ASTM A 325.

2.2.2 BOLTED CONNECTIONS

BOLTED CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF AISC S 326 AND AISC S329. THE BOLTS SHALL BE 7/8 INCH DIAMETER SPACED THREE (3) INCHES MAXIMUM FOR THREE (3) FEET AT THE OP AND TWO (2) FEET AT THE BOTTOM OF PILING AND SIX (6) INCHES MAXIMUM FOR THE REMAINDER OF THE LENGTH.

2.3 TEST, INSPECTIONS AND VERIFICATIONS

SHEET PILING AND APPURTENANT MATERIALS SHALL BE TEST AND CERTIFIED BY THE MANUFACTURER TO MEET THE SPECIFIED CHEMICAL, MECHANICAL AND SECTION PROPERTY REQUIREMENTS PRIOR TO DELIVERY TO THE SITE. TESTING OF SHEET PILING FOR MECHANICAL PROPERTIES SHALL BE PERFORMED AFTER THE COMPLETION OF ALL ROLLING AND FORMING OPERATIONS.

2.4 DELIVERY AND STORAGE

MATERIALS DELIVERED TO THE SITE SHALL BE IN A NEW UNDAMAGED CONDITION AND SHALL BE ACCOMPANIED BY CERTIFIED TEST REPORTS. THE MANUFACTURER'S LOGO AND MILL IDENTIFICATION MARK SHALL BE STAMPED ON EACH UNSPLICED SHEET PILING AT A MINIMUM OF TWO (2) LOCATIONS. SHEET PILING SHALL BE STORED AND HANDLED IN THE MANNER RECOMMENDED BY THE MANUFACTURER TO PREVENT DEFLECTION, DISTORTION, OR DAMAGE TO INTERLOCKS. STORAGE OF SHEET PILING SHALL ALSO FACILITATE REQUIRED INSPECTION ACTIVITIES.

PART 3 EXECUTION

3.1 SEQUENCE OF CONSTRUCTION

THE ORDER OF WORK FOR THE CONSTRUCTION OF THE SHEET PILE WALLS IS AS FOLLOWS:

- A. REMOVAL OF EXISTING STRUCTURES AND APPURTENANCES.
- B. EXCAVATION OF MATERIALS TO REQUIRED LINES AND GRADES.
- C. ATTACHMENT OF SPECIAL PILE TO EXISTING SHEET PILE WALL AT EAST END OF FRONT WALL.
- D. DRIVING OF FRONT AND ANCHOR SHEET PILE WALLS.
- E. INSTALLATION OF TIE ROD AND WALE SYSTEM.
- F. PLACEMENT AND GRADING OF UNDERLAYER STONE UTILIZED AS

TOE PROTECTION.

3.2 SHEET PILING

3.2.1 PLACING

PILES SHALL BE CAREFULLY LOCATED AS SHOWN ON THE DRAWINGS AND DRIVEN IN A PLUMB POSITION, EACH PILE INTERLOCKED WITH ADJOINING PILES FOR ITS ENTIRE LENGTH SO AS TO FORM A CONTINUOUS DIAPHRAGM THROUGHOUT THE LENGTH OF EACH WALL. OUT-OF-PLUMBNESS SHALL NOT EXCEED 1/8 INCH PER FOOT IN ANY DIRECTION AROUND THE VERTICAL AXIS OF THE PILE. THE CONTRACTOR SHALL PLACE ALL PILES AS TRUE TO LINES AS PRACTICABLE AND SHALL PROVIDE SUITABLE TEMPORARY WALE OR TEMPLATE AND GUIDE STRUCTURES TO INSURE THAT THE PILES ARE DRIVEN IN CORRECT ALIGNMENT. AT LEAST TWO TEMPLATES SHALL BE USED IN PLACING EACH PILING AND THE MAXIMUM SPACING OF TEMPLATES SHALL NOT EXCEED 20 FEET. INTERLOCKS OF Z-TYPE PILES SHALL BE PLACED AND DRIVEN WITH THE BALL END LEADING IN THE DIRECTION OF THE DRIVING.

3.2.2 DRIVING

PILES SHALL BE DRIVEN IN SUCH A MANNER AS NOT TO SUBJECT THE PILES TO DAMAGE AND TO INSURE PROPER INTERLOCKING THROUGHOUT THE LENGTH OF THE PILES. PILE HAMMERS SHALL BE OF THE SIZE AND TYPES REQUIRED TO DRIVE PILING TO THE REQUIRED PENETRATION WITHOUT DAMAGE TO THE PILE. THE PILE HAMMERS SHALL BE MAINTAINED IN PROPER ALIGNMENT DURING DRIVING OPERATIONS BY THE USE OF SUITABLE LEADS OR BY GUIDES ATTACHED TO THE HAMMER. CAUTION SHALL BE TAKEN IN THE SUSTAINED USE OF VIBRATORY HAMMERS WHEN A HARD DRIVING CONDITION IS ENCOUNTERED TO AVOID INTERLOCK MELT OR DAMAGES. THE USE OF VIBRATORY HAMMERS SHOULD BE DISCONTINUED AND IMPACT HAMMERS EMPLOYED WHEN THE PENETRATION RATE DUE TO VIBRATORY LOADING IS ONE FOOT OR LESS PER MINUTE. A PROTECTING CAP SHALL BE EMPLOYED IN DRIVING TO PREVENT DAMAGE TO THE TOPS OF PILES. PILING SHALL BE DRIVEN WITHOUT THE AID OF AIR OR WATER JET. ADEQUATE PRECAUTIONS SHALL BE TAKEN TO INSURE THAT PILES ARE DRIVEN PLUMB. IF, ANY TIME, THE FORWARD OR LEADING EDGE OF THE PILING WALL IS FOUND TO BE OUT OF PLUMB IN THE PLANE OF THE WALL, THE PILES ALREADY ASSEMBLED AND PARTLY DRIVEN SHALL BE DRIVEN TO FULL DEPTH, AND THE CONTRACTOR SHALL PROVIDE AND DRIVE TAPERED PILES TO INTERLOCK WITH THE OUT OF PLUMB LEADING EDGE OR TAKE CORRECTIVE MEASURES TO INSURE THE PLUMBNESS OF THE SUCCEEDING PILES. THE MAXIMUM PERMISSIBLE TAPER FOR ANY TAPERED PILING SHALL BE 1/8 INCH PER FOOT OF LENGTH. THE HORIZONTAL ALIGNMENT OF THE STEEL SHEET PILE WALL SHALL BE WITHIN TWO (2) INCHES OF THE REQUIRED LOCATION AFTER COMPLETION OF DRIVING AND AFTER ASSEMBLY AND TIGHTENING OF WALES. THE PILES IN EACH RUN OF PILING SHALL BE DRIVEN ALTERNATELY IN INCREMENTS OF DEPTH TO THE REQUIRED DEPTH, AND NO PILES SHALL BE DRIVEN TO A LOWER ELEVATION THAN THOSE BEHIND IT IN THE SAME RUN EXCEPT WHEN THE PILE BEHIND IT CANNOT BE DRIVEN DEEPER. IF THE PILE NEXT TO THE ONE BEING DRIVEN TENDS TO FOLLOW BELOW FINAL ELEVATION, IT MAY BE PINNED TO THE NEXT ADJACENT PILE. ALL PILES SHALL BE DRIVEN TO THE DEPTHS SHOWN ON THE DRAWINGS AND SHALL EXTEND TO THE ELEVATIONS INDICATED FOR THE TOPS OF THE PILES. SHOULD BOULDERS OR OTHER OBSTRUCTIONS RENDER IT IMPRACTICABLE TO DRIVE A PILE TO THE SPECIFIED PENETRATION, OR IF SOIL CONDITIONS ARE ENCOUNTERED WHICH ARE RESULTING IN DAMAGE TO THE PILING BY ATTEMPTING TO DRIVE IT TO THE REQUIRED ELEVATION, THE CONTRACTOR SHALL THEREUPON NOTIFY THE

ENGINEER AT THE SITE AND REQUEST DIRECTION. THE ENGINEER WILL DETERMINE ANY CHANGES IN DESIGN OR ALIGNMENT OF THE PILE STRUCTURE THAT MAY BE NECESSARY TO INSURE THE ADEQUACY AND STABILITY OF THE STRUCTURE. UPON NOTIFICATION OF THE ENGINEER'S FINDINGS AND DETERMINATION, THE CONTRACTOR SHALL PROCEED WITH THE WORK IN ACCORDANCE WITH THE ENGINEER'S DIRECTIVE. PAYMENT FOR THE ADDITIONAL COST OF ANY REQUIRED CHANGES WILL BE MADE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CONTRACT CLAUSES. PILES DRIVEN OUT OF INTERLOCK WITH ADJACENT PILES OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED WITH OTHER PILES AND THE REMOVING AND RETRIEVING SHALL BE AT THE CONTRACTOR'S EXPENSE. AFTER DRIVING, THE PILES SHALL BE CUT OFF TO THE REQUIRED TOP ELEVATION AS SHOWN ON THE DRAWINGS AND THE EDGES DRESSED REASONABLY SMOOTH. THE TOPS OF THE PILES SHALL ALL BE AT THE REQUIRED ELEVATION AFTER CUTTING OFF. A TOLERANCE OF ONE (1) INCH ABOVE THE INDICATED TOP ELEVATION WILL BE PERMITTED. PILES SHALL NOT BE DRIVEN WITH 100 FEET OF CONCRETE LESS THAN SEVEN (7) DAYS OLD.

3.2.3 CUTTING AND SPLICING PILES

PILES ENCOUNTERING OBSTRUCTIONS AND EXTENDING ABOVE GRADE IN EXCESS OF THE SPECIFIED TOLERANCE MAY BE CUT OFF TO THE REQUIRED GRADE AND LEFT IN PLACE WHEN ALLOWED IN WRITING BY THE ENGINEER. PILES DRIVEN BELOW THE ELEVATIONS INDICATED FOR THE TOP OF PILES AND PILES WHICH BECAUSE OF DAMAGED HEADS HAVE BEEN CUT OFF TO PERMIT FURTHER DRIVING AND ARE THEN TOO SHORT TO REACH THE REQUIRED TOP ELEVATION, SHALL BE EXTENDED TO THE REQUIRED TOP ELEVATION BY WELDING AN ADDITIONAL LENGTH, WHEN DIRECTED, WITHOUT COST TO THE CITY. THE CONTRACTOR SHALL TRIM THE TOPS OF PILES EXCESSIVELY BATTERED DURING DRIVING, WHEN DIRECTED TO DO SO, AT NO COST TO THE CITY. UPON COMPLETION OF PILE DRIVING, PILING TOPS EXTENDING ABOVE THE REQUIRED TOP ELEVATION SHALL BE CUT OFF AT THE REQUIRED ELEVATION AND THE EDGES MADE SMOOTH. CUT-OFFS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. THE CONTRACTOR MAY CUT HOLES IN THE PILES FOR BOLTS, RODS, DRAINS, OR OTHER UTILITIES AT LOCATIONS AND OF SIZE SHOWN ON THE DRAWING OR AS DIRECTED. HOLES SHALL BE REASONABLY SMOOTH AND PROPER SIZE OF THE ITEMS TO BE INSERTED. ALL CUTTING SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER. A STRAIGHT EDGE SHALL BE USED IN CUTS MADE BY BURNING TO AVOID ABRUPT NICKS. BOLT HOLES IN STEEL PILING SHALL BE DRILLED OR MAY BE BURNED AND REAMED BY APPROVED METHODS WHICH WILL NOT DAMAGE THE SURROUNDING METAL. SHOULD SPLICING OF PILES BE NECESSARY, THE SPLICE SHALL BE MADE BY AN APPROVED BUTT WELD, MAKING FULL PENETRATION OF THE PILE SECTION, OR AS OTHERWISE DIRECTED OR APPROVED BY THE ENGINEER. PILING ADJOINING SPLICED PILING SHALL BE FULL LENGTH UNLESS OTHERWISE APPROVED. SPLICES IN ADJOINING PILES, IF ALLOWED, SHALL BE A MINIMUM OF TWO (2) FEET APART VERTICALLY. PILING SHALL BE SPLICED TOGETHER WITH CONCENTRIC ALIGNMENT OF THE INTERLOCKS SO THAT THERE ARE NO DISCONTINUITIES, DIPS OR CAMBER AT THE ABUTTING INTERLOCKS. SPLICED PILING SHALL BE FREE SLIDING AND ABLE TO OBTAIN THE MAXIMUM SWING WITH CONTIGUOUS PILING.

3.2.4 PULLING AND REDRIVING

THE ENGINEER MAY REQUIRE THE CONTRACTOR TO PULL SELECTED PILES AFTER DRIVING FOR TEST AND INSPECTION, TO DETERMINE THE CONDITION OF THE PILES. PULLING AND REDRIVING OF EXISTING PILE, AFTER DISCONNECTION FROM WALE, WILL BE NECESSARY FOR BOLTING OF SPECIAL PILE TO EXISTING PILE. AFTER DRIVING BOTH CONNECTED PILES, PILE SHALL BE RECONNECTED TO EXISTING WALE. RECONNECTION SHALL BE EQUAL TO ORIGINAL CONNECTION. THE METHOD OF PULLING SHALL BE IN ACCORDANCE WITH THE APPROVED WORK PLAN. ANY CONTRACTOR INSTALLED PILE SO PULLED AND FOUND TO BE DAMAGED TO SUCH EXTENT AS WOULD IMPAIR ITS USEFULNESS IN THE STRUCTURE, AS DETERMINED BY THE ENGINEER, SHALL BE REMOVED FROM THE WORK, AND THE CONTRACTOR SHALL FURNISH AND DRIVE ANOTHER PILE TO REPLACE THE DAMAGED PILE. PILES PULLED AND FOUND TO BE IN A SATISFACTORY CONDITION SHOULD BE REDRIVEN.

3.2.5 BOLTING

ALL BOLTS SHALL BE INSTALLED AT THE PROPER LOCATION AND SET STRAIGHT AND SQUARE WITH CONNECTING MEMBERS. PLAIN WASHERS SHALL BE PROVIDED UNDER NUTS AND BOLTS EXCEPT WHERE BEVELED WASHERS ARE REQUIRED. UNTIL FINAL ACCEPTANCE OF THE COMPLETED WORK, THE CONTRACTOR WILL BE REQUIRED TO CHECK, STRAIGHTEN AND TIGHTEN BOLTS IN ANY PART OF THE STRUCTURES. NUTS AND BOLTS SHALL BE DRAWN UP TIGHT AND THREADS OF BOLTS SHALL BE TACK WELDED.

3.2.6 WELDING

WELDED CONNECTIONS SHALL BE AS INDICATED ON THE DRAWINGS, SPECIFIED OR AS SPECIFICALLY AUTHORIZED BY THE ENGINEER. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.1. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS WHO HAVE PASSED SUCCESSFULLY THE QUALIFICATIONS TEST OF THE AMERICAN WELDING SOCIETY. WELDING SHALL BE DONE BY THE MOST MODERN METHODS AND PROCEDURES. WELDING PROCEDURES AS TO DIRECTION, LENGTH, NUMBER AND SEQUENCE OF BEADS SHALL BE PLANNED CAREFULLY SO AS TO BE SUITABLE FOR USE WITH THE PARENT METAL AT EACH WELD. ELECTRODES SHALL BE RECEIVED ON THE JOB IN UNBROKE PACKAGES BEARING THE MANUFACTURERS LABEL.

3.2.7 INSPECTION OF DRIVEN PILING

THE CONTRACTOR SHALL INSPECT THE INTERLOCKS OF THE PORTION OF DRIVEN PILING THAT EXTEND ABOVE GROUND. PILING FOUND TO BE OUT OF INTERLOCK SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

DESIGNED BY: XXX	CHECKED BY: DSB
DATE: 1/11/06	DATE: 07/28/06
DRAWN BY: MM	REVISED BY: ELP
DATE: 2/15/06	DATE: 07/28/06
CAD FILE NAME: 7009/007/PIER/PIER1.DWG	

CALCULATED
R.L.
CHECKED
K.P.

GENERAL NOTES
EAST 9th. STREET PIER
X

EAST 9th. ST. PIER

CALCULATED
R.L.
CHECKED
K.P.

GENERAL NOTES
EAST 9th. STREET PIER
X

EAST 9th. ST. PIER

3.3 CESSATION OF WORK

WHENEVER THE WORK IS EXPECTED TO BE DISCONTINUED FOR PERIODS EXCEEDING TWO (2) CALENDAR DAYS, THE CONTRACTOR, BEFORE CLOSING DOWN OPERATIONS, SHALL PROTECT ALL THE EXPOSED PARTIALLY COMPLETED WORK AGAINST DAMAGE. THE CONTRACTOR'S PLAN FOR SUCH PROTECTIVE WORK SHALL BE INCLUDED IN THE REQUIRED PROJECT WORK PLAN.

3.4 CONTRACTOR QUALITY CONTROL

THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A QUALITY CONTROL SYSTEM FOR ALL OPERATIONS PERFORMED UNDER THIS SECTION TO ASSURE COMPLIANCE WITH CONTRACT REQUIREMENTS AND MAINTAIN RECORDS OF ITS QUALITY CONTROL FOR ALL OPERATIONS PERFORMED, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

- A. QUALITY OF MATERIALS.
- B. TESTING.
- C. PLACEMENT AND SUPPORT OF PILING: LOCATIONS, HORIZONTAL AND VERTICAL ALIGNMENT, SPLICING, WELDING, ELEVATIONS AND INTERLOCKS.
- D. ADEQUACY OF PROTECTION AGAINST DAMAGE FOR PARTIALLY COMPLETED WORK.
- E. OBSERVANCES OF SAFETY REGULATIONS.
- F. THE CONTRACTOR SHALL SUBMIT TO THE CITY, FOR RECORD, ONE COPY OF THE PILE DRIVING LOG FOR EACH PILE DRIVEN.

ITEM 625 - CONDUIT, TYPE EB, AS PER PLAN

CONDUIT AND FITTINGS SHALL BE POLYVINYL CHLORIDE CONDUIT, TYPE EB 120 OR EQUAL, AS PER 713.07 OF THE SPECIFICATIONS. CONDUIT SHALL BE ENCASED WITH A MINIMUM 3-IN. ENVELOPE OF CLASS C CONCRETE (499 OF THE SPECIFICATIONS). LABOR AND MATERIAL FOR PROVIDING CONCRETE ENCASEMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 625 - CONDUIT, TYPE EB, AS PER PLAN. ALL OTHER PORTIONS OF SECTION 625 OF THE SPECIFICATIONS SHALL APPLY.

FINAL INSPECTION

A FINAL INSPECTION OF THE CONDUIT SYSTEM SHALL BE MADE BY THE CLEVELAND PUBLIC POWER COMPANY PRIOR TO FINAL ACCEPTANCE. ALL CONDUITS SHALL BE BRUSHED AND MANDRELLED. A PULL STRING (JET LINE) RATED 200 LB. MINIMUM SHALL BE PLACED IN EACH CONDUIT. CONDUIT WHICH DOES NOT TERMINATE IN A MANHOLE, PULL BOX OR HANDHOLE SHALL BE CAPPED WITH A PVC CAP OR PLUG. THIS WORK SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE 625 CONDUIT ITEM.

ITEM SPECIAL - DISCONNECT EXISTING CIRCUIT

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF AN EXISTING LIGHTING CIRCUIT AT A PULL BOX OR A LIGHT POLE.

CONNECTION AT A PULL BOX SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL SPLICE KITS. ANY CABLE THAT IS TO BE ABANDONED SHALL BE TERMINATED IN A MANNER SUCH THAT NO CABLE IS LEFT REMAINING IN THE PULL BOX.

CONNECTION AT A LIGHT SHALL INVOLVE THE REMOVAL OF THE PART OF CABLE THAT IS TO BE ABANDONED FROM THE POLE. THOSE ENDS OF THE CONNECTOR KITS FROM WHICH ABANDONED CABLE IS REMOVED SHALL BE PLUGGED AND TAPED.

ANY CABLE THAT IS TO BE REUSED IN A PULL BOX OR LIGHT POLE SHALL BE CUT IN A MANNER SO THAT THERE IS SUFFICIENT LENGTH OF CABLE LEFT FOR RECONNECTION. CABLE SPLICE KITS AND CONNECTOR KITS WILL BE PAID FOR RESPECTIVELY UNDER EACH ITEM 625.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM SPECIAL "DISCONNECT EXISTING CIRCUIT" AND SHALL BE FULL COMPENSATION INCLUDING ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK.

ITEM 202 - BENCH REMOVED, AS PER PLAN

BENCHES REMOVED UNDER THIS ITEM SHALL BE CAREFULLY REMOVED AND DELIVERED TO FRIENDS OF SHAKER SQUARE 13125 SHAKER SQUARE (MS. BARBARA SZAIBEL (216)751-9204. MATREIALS AND INCIDENTALS REQUIRED FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 202 - LIGHT POLE AND LUMINAIRE, AS PER PLAN

LIGHT POLES AND LUMINAIRES REMOVED UNDER THIS ITEM SHALL BE CAREFULLY REMOVED AND DELIVERED TO FREINDS OF SHAKER SQUARE 13125 SHAKER SQUARE (MS. BARBARA SZAIBEL (216)751-9204. MATREIALS AND INCIDENTALS REQUIRED FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 451 - 10" REINFORCED CONCRETE PAVEMENT, AS PER PLAN

SURFACE SMOOTHNESS SPECIFIED IN 451.12 SHALL BE AS SPECIFIED IN 305.01(e). ALL OTHER PROVISIONS OF 451 SHALL APPLY.

WEEP HOLES AND GEOTEXTILE FABRIC SHALL BE PROVIDED AS DETAILED ON SHEET. THICKENED PAVEMENT EDGE SHALL BE PROVIDED WHEN PAVEMENT ABUTS CONCRETE HEADER AS DETAILED ON SHEET.

THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 451 - 10" REINFORCED CONCRETE PAVEMENT, AS PER PLAN AND SHALL BE FULL COMPENSATION FOR ALL LABOR AND MATERIALS REQUIRED.

ITEM 304 - AGGREGATE BASE, AS PER PLAN NO. 1

MATERIAL FOR THIS ITEM SHALL BE LIMITED CRUSHED LIMESTONE, CRUSHED STONE, OR CRUSHED GRAVEL FREE OF CLAY ORGANIC MATERIAL OR OTHER DELETERIOUS MATERIAL AND SHALL BE 100% CRUSHED WITH FINES. THE GRADATION SHALL BE AS PER SECTION 703 OF THE SPECIFICATIONS FOR #68 AGGREGATE ALL OTHER PROVISIONS OF SECTION 304 SHALL APPLY.

ITEM 304 - AGGREGATE BASE, AS PER PLAN NO. 2

MATERIAL FOR THIS ITEM SHALL BE LIMITED TO CRUSHED LIMESTONE. ALL OTHER PROVISIONS OF SECTION 304 SHALL APPLY.

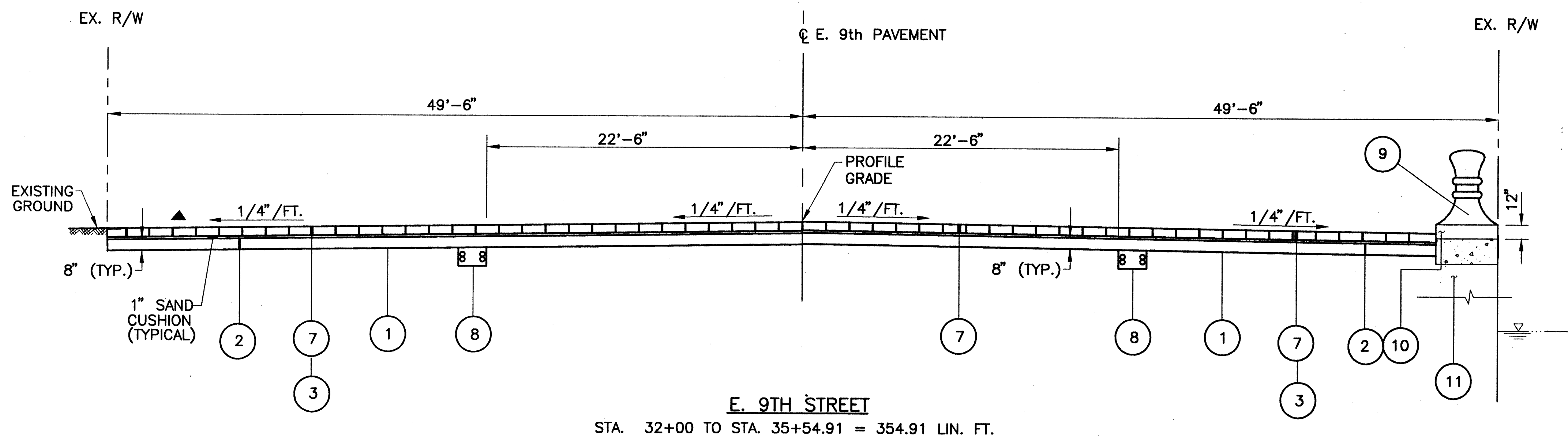
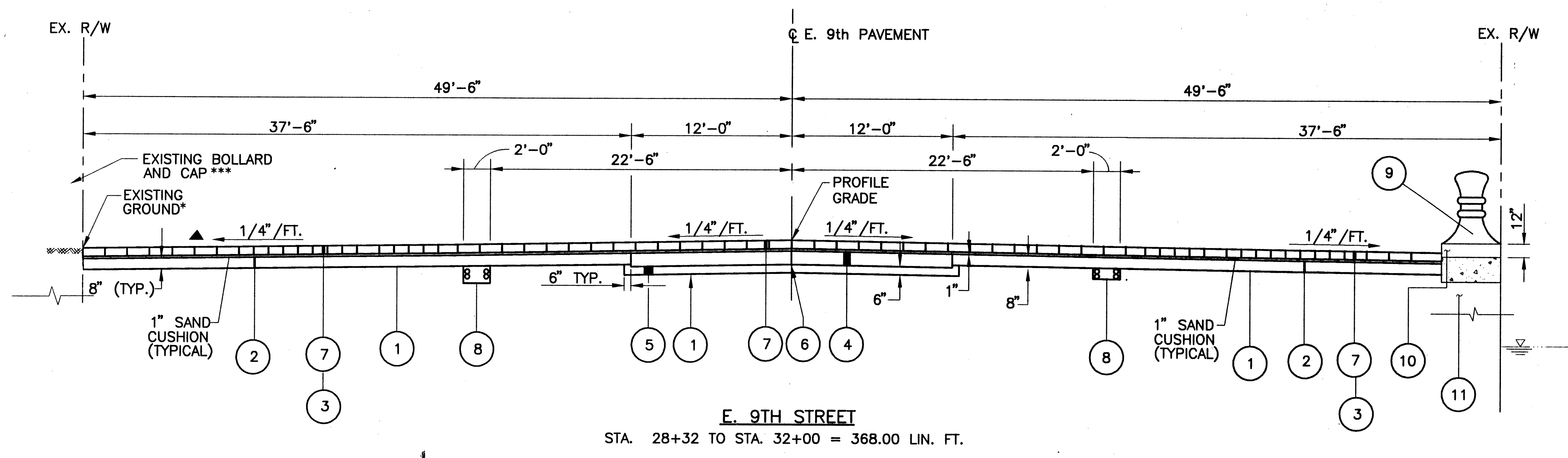
STREETSCAPE

ITEM SPECIAL - TREE GRATES

THE CONTRACTOR SHALL INSTALL METAL TREE GRATES WITH A ONE PIECE FRAME, AND A CAST IN PLACE CONCRETE CURB AS DETAILED ON SHEET. CONCRETE CURBING SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT ITEM 609.04.

PAYMENT FOR THE ABOVE SHALL BE MADE UNDER THE CONTRACT UNIT PRICE BID FOR ITEMS SPECIAL, TREE GRATES.

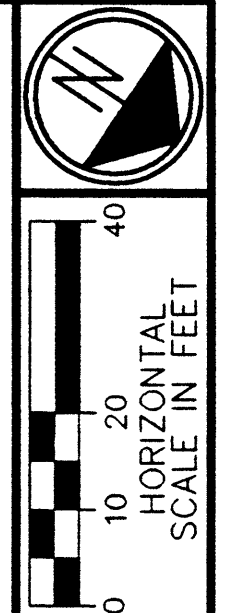
DESIGNED BY: XXX CHECKED BY: OSB
DATE: 1/17/98 DATE: 1/17/98
DRAWN BY: MM REVISED BY: EJK
DATE: 2/18/98 DATE: 10/25/98
CAD FILE NAME: 20182007/PIER/GRD01E1



- LEGEND**
- 1 203 - SUBGRADE COMPACTION
 - 2 304 - AGGREGATE BASE, AS PER PLAN No. 1
 - 3 202 - PAVEMENT
 - 4 451 - 10" REINFORCED CONCRETE PAVT., A.P.P. (SEE SHEET _____)
 - 5 304 - AGGREGATE BASE, AS PER PLAN No. 2
 - 6 LONGITUDINAL JOINT
 - 7 SPECIAL - CONCRETE PAVERS W/1" SAND SETTING BED 703.03 (SEE SHEET _____)
 - 8 625 - 2" CONDUIT, 713.07, CONCRETE ENCASED, AS PER PLAN (SEE SHEET _____)
 - 9 SPECIAL - PRECAST CONCRETE BOLLARDS WITH CAP, AS PER PLAN
 - 10 SPECIAL - PRECAST CONCRETE CAP UNIT WITH TWO SCORE LINES, AS PER PLAN
 - 11 EXISTING STRUCTURE

* NO EXISTING GROUND FROM STA. 28+42 TO STA. 31+20
 ** EXISTING STRUCTURE FROM STA. 28+34 TO STA. 34+90(±)
 *** EXISTING BOLLARD & CAP FROM STA. 28+42 TO STA. 31+20
 ▲ NOMINAL SLOPE, VARY TO MEET EXISTING GROUND OR EXISTING TOP OF PRECAST BOLLARD CAP ELEVATION

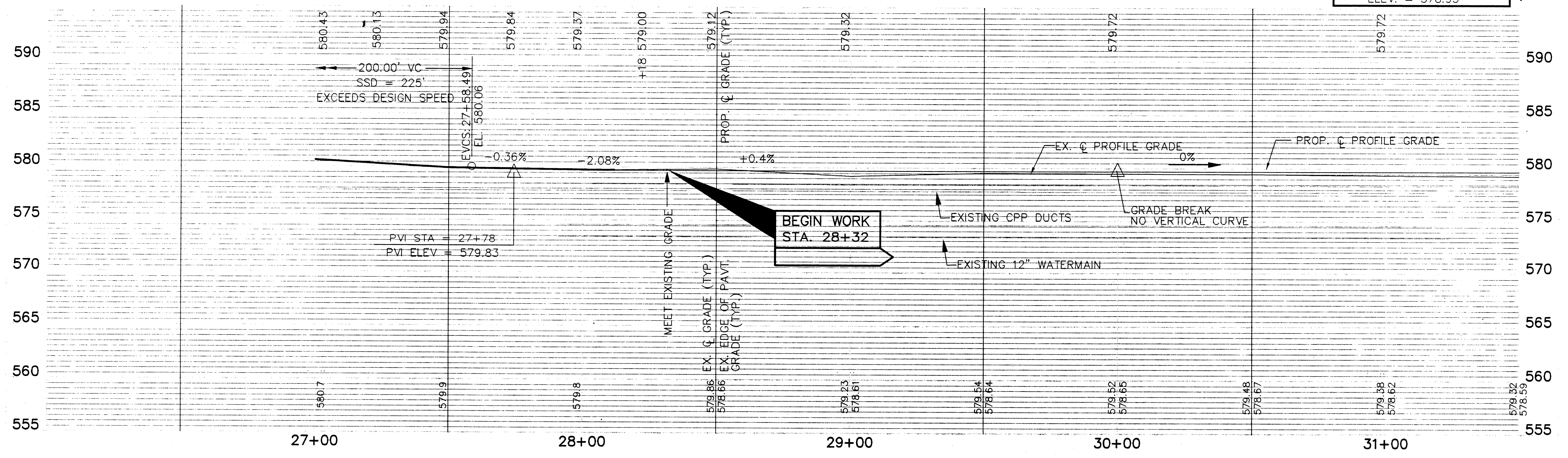
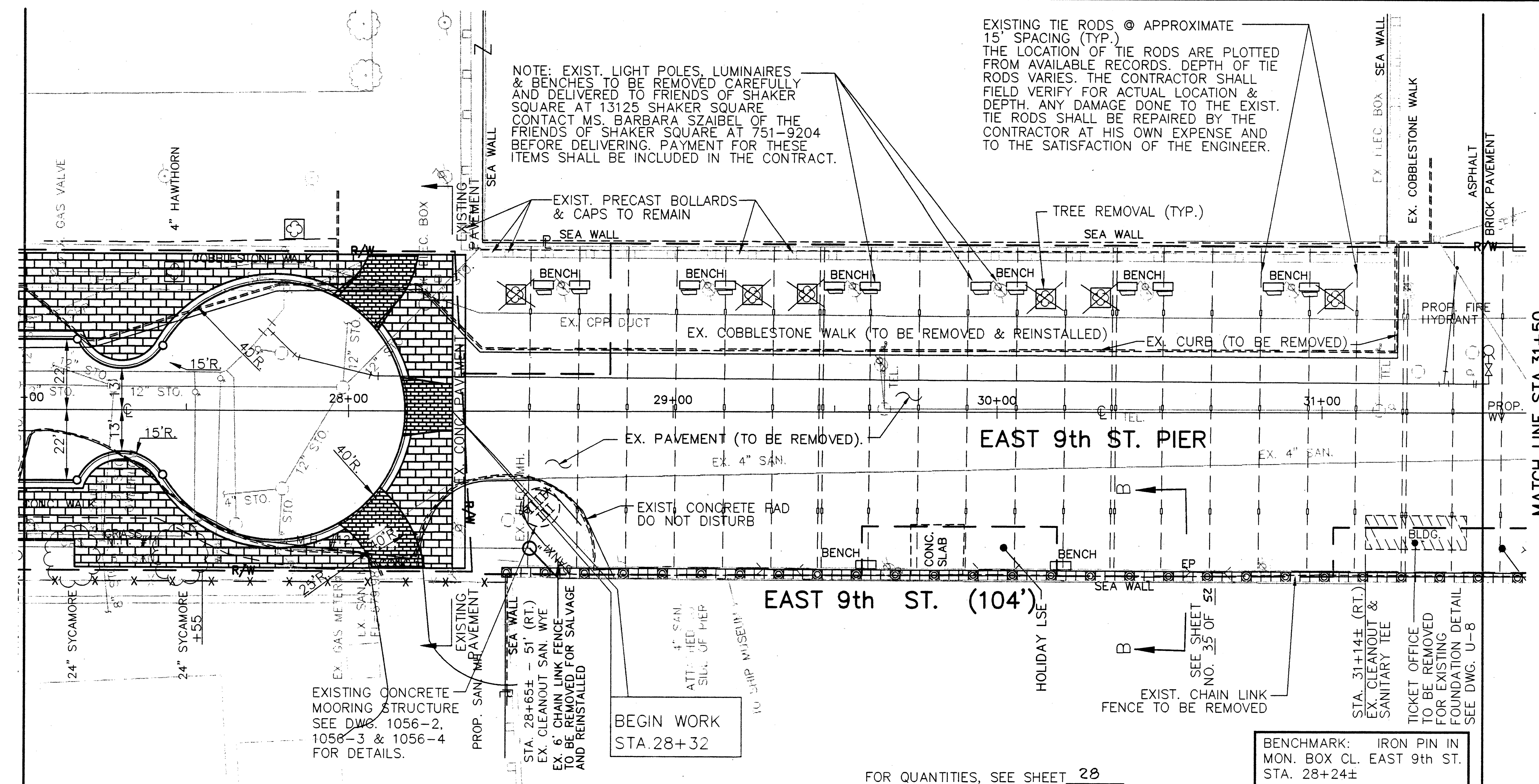
DESIGNED BY: XX CHECKED BY:
 DATE: X/XX/XX DATE:
 DRAWN BY: R.L. REVISED BY: XX
 DATE: 6/14/96 DATE: X/XX/XX
 CAD FILE NAME: 7019700-ESHT5



CALCULATED
 M.M. 8/95
 CHECKED
 R.P. 8/95

PLAN AND PROFILE — E.9th STREET
 STA.27+00 TO STA.31+50

CUY—EAST 9th STREET

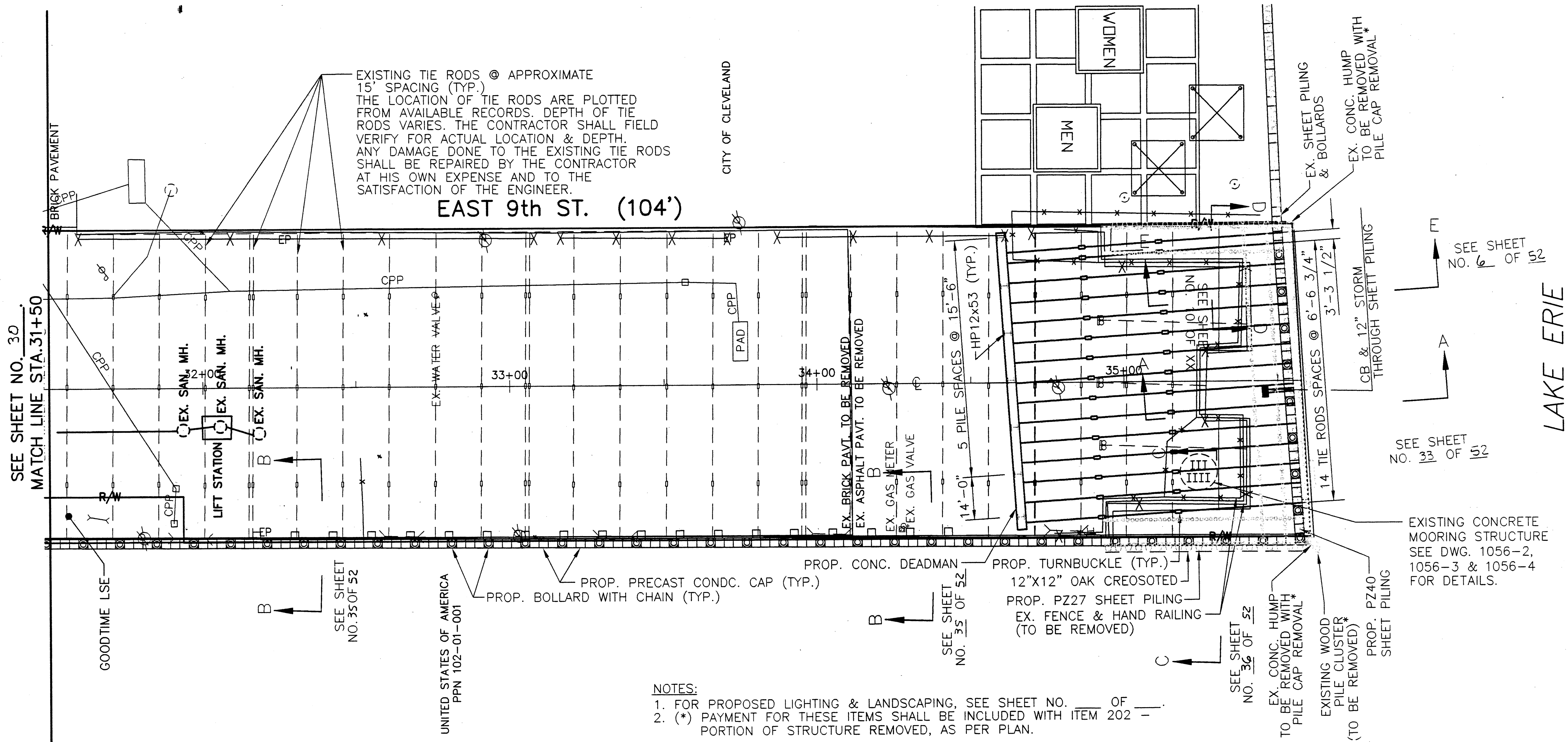
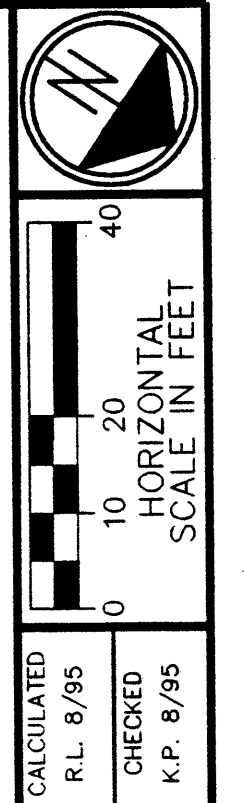


BENCHMARK: IRON PIN IN
 MON. BOX CL. EAST 9th ST.
 STA. 28+24±
 ELEV. = 578.93

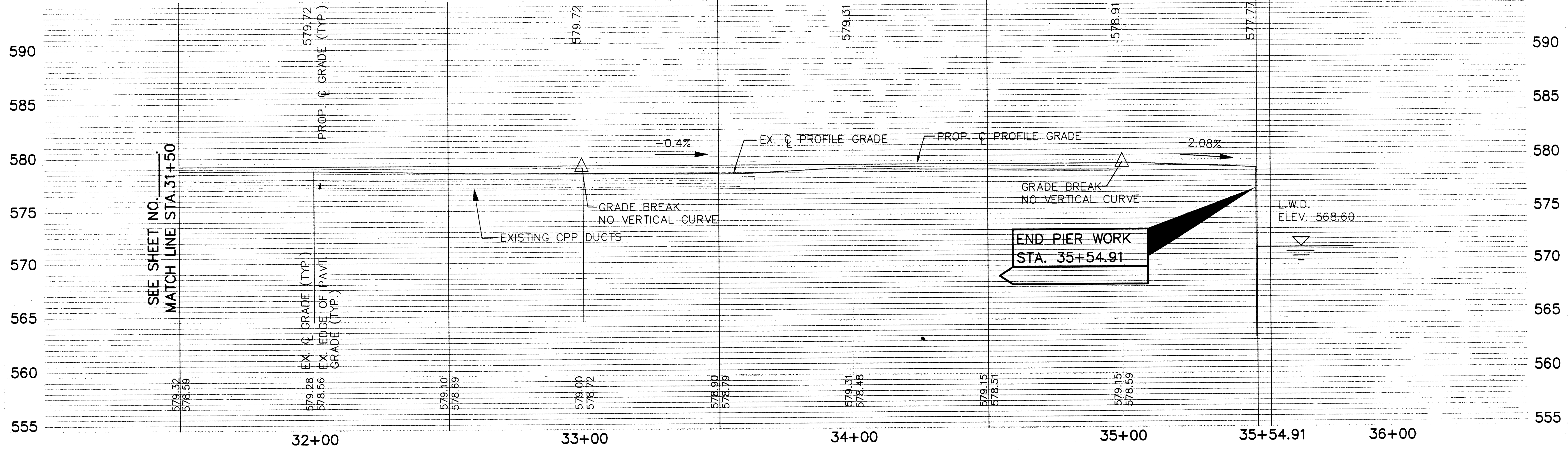
FOR QUANTITIES, SEE SHEET 28

MATCH LINE STA.31+50
 SEE SHEET NO. 31

DESIGNED BY: XX CHECKED BY:
 DATE: X/XX/XX DATE:
 DRAWN BY: RL REVISED BY:
 DATE: 6/14/96 DATE:
 CAD FILE NAME: 7019700-EGSHT6



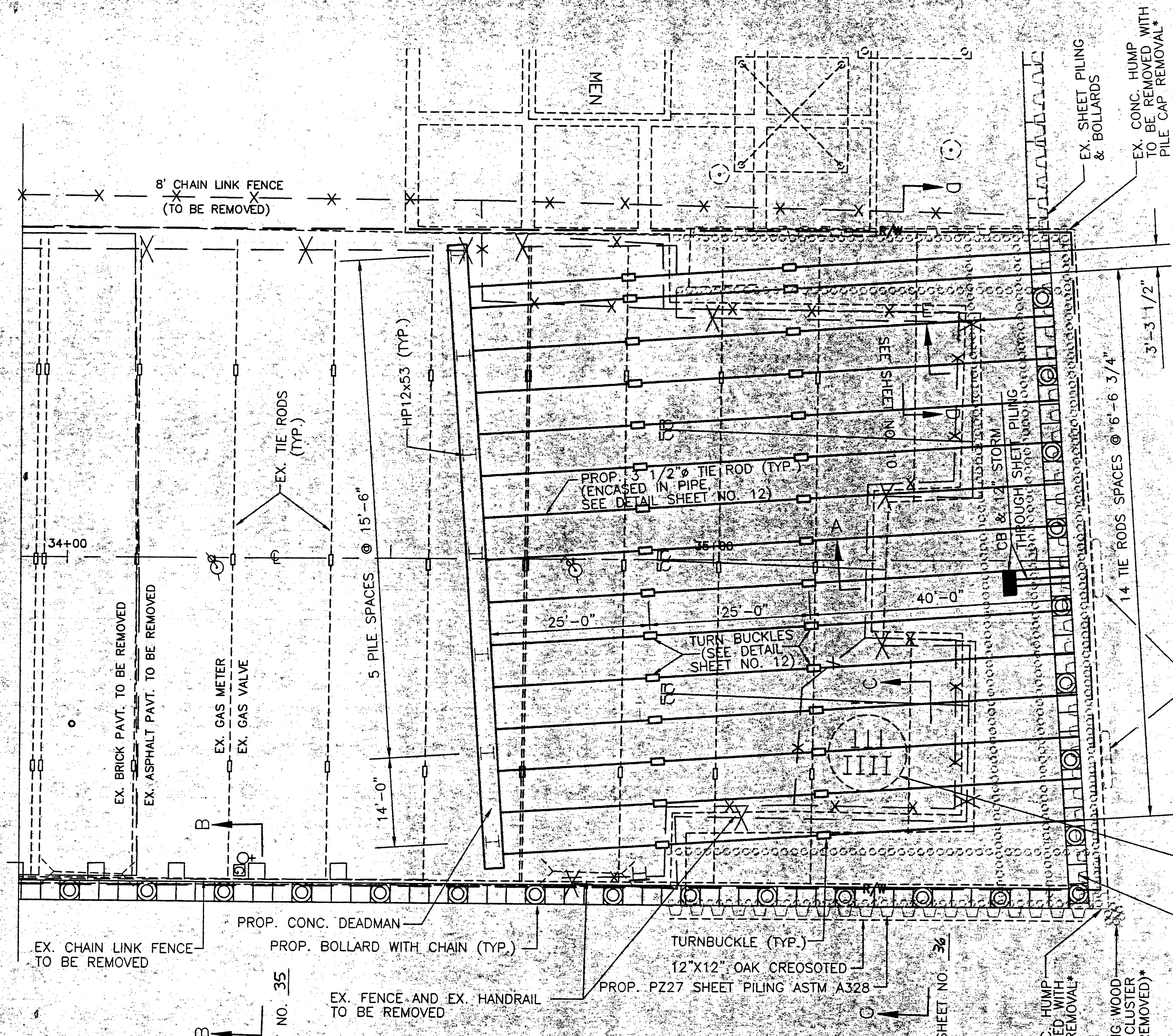
- NOTES:
 1. FOR PROPOSED LIGHTING & LANDSCAPING, SEE SHEET NO. OF
 2. (*) PAYMENT FOR THESE ITEMS SHALL BE INCLUDED WITH ITEM 202 - PORTION OF STRUCTURE REMOVED, AS PER PLAN.



PLAN AND PROFILE - E.9th STREET
 STA.31+50 TO STA.35+24

CUY-EAST 9th STREET

DESIGNED BY: XXX
 DATE: X/X/XX
 DRAWN BY: R.L.
 DATE: 6/12/96
 CAD FILE NAME: DEADMAN.DWG



SEE SHEET NO. 33

SEE SHEET NO. 33

LAKE ERIE

EXISTING CONCRETE MOORING STRUCTURE
 SEE DWG. 1056-2,
 1056-3 & 1056-4
 FOR DETAILS.

PROPOSED SHEET PILING DETAILS

SHEET PILING DESIGNATION	ASTM	MINIMUM SECTION MODULUS (in.3/ft of wall)	ALLOWABLE BENDING MOMENT (Kips ft/ft of wall)
PZ27	A 328 GR50	30.2	64
PZ40	A 572 GR60	60.7	197

EX. CONC. HUMP TO BE REMOVED WITH PILE CAP REMOVAL*

EXISTING WOOD PILE CLUSTER (TO BE REMOVED)*

PROP. PZ40 (ASTM A572 GRADE 60) SHEET PILING

SEE SHEET NO. 35

SEE SHEET NO. 36

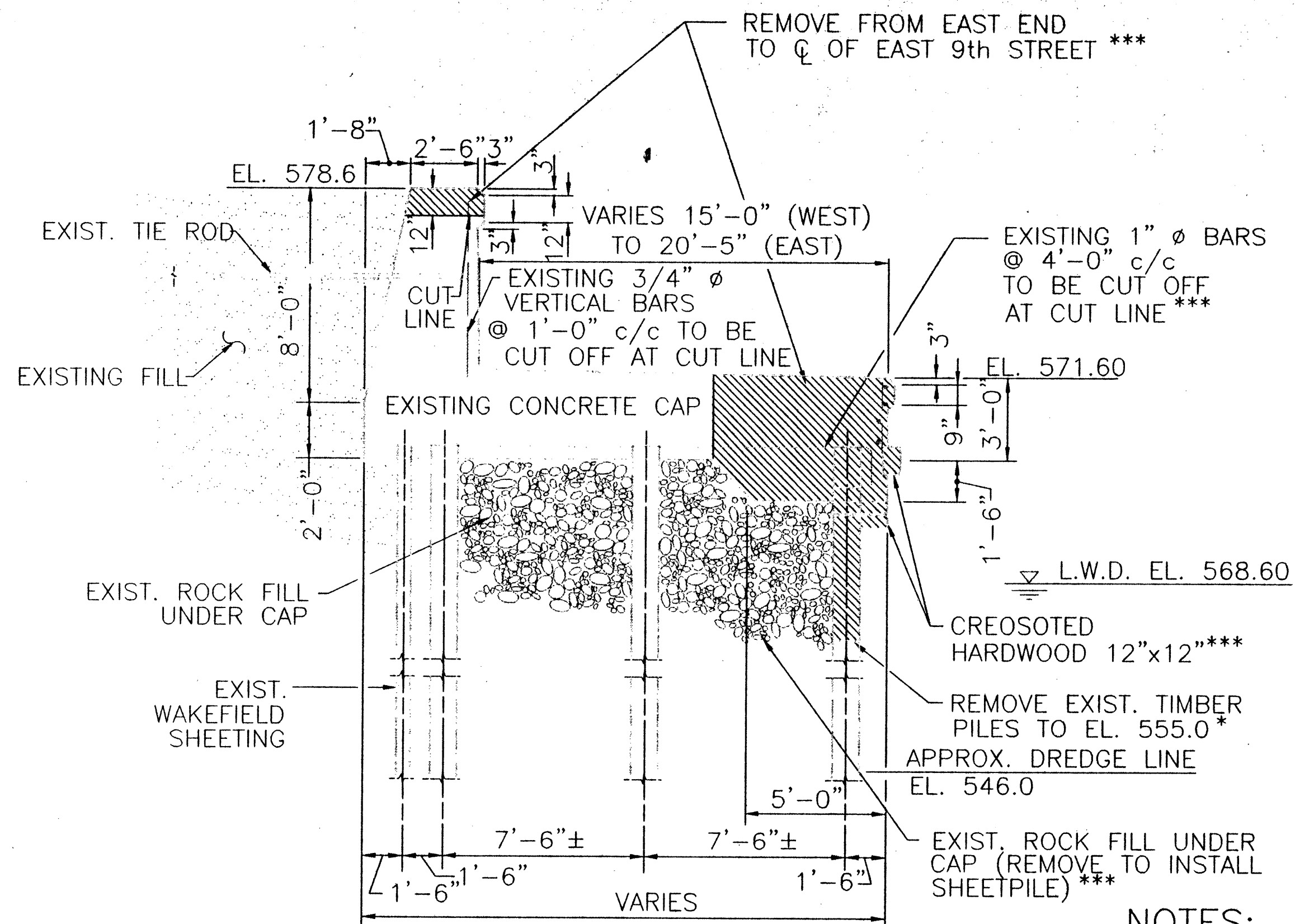
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 DATE: 6/12/96
 DRAWN BY: M.M. REVISIONS: X
 DATE: 8/95
 R.C.T. STRUCTURE FILE NUMBER: X
 DESIGN AGENCY: RALPH C. TYLER P.E., P.S., INC.
 2143 FAIRHILL ROAD
 CLEVELAND, OHIO 44106

PROPOSED NORTHEAST SIDE PLAN
 EAST 9th. STREET PIER X

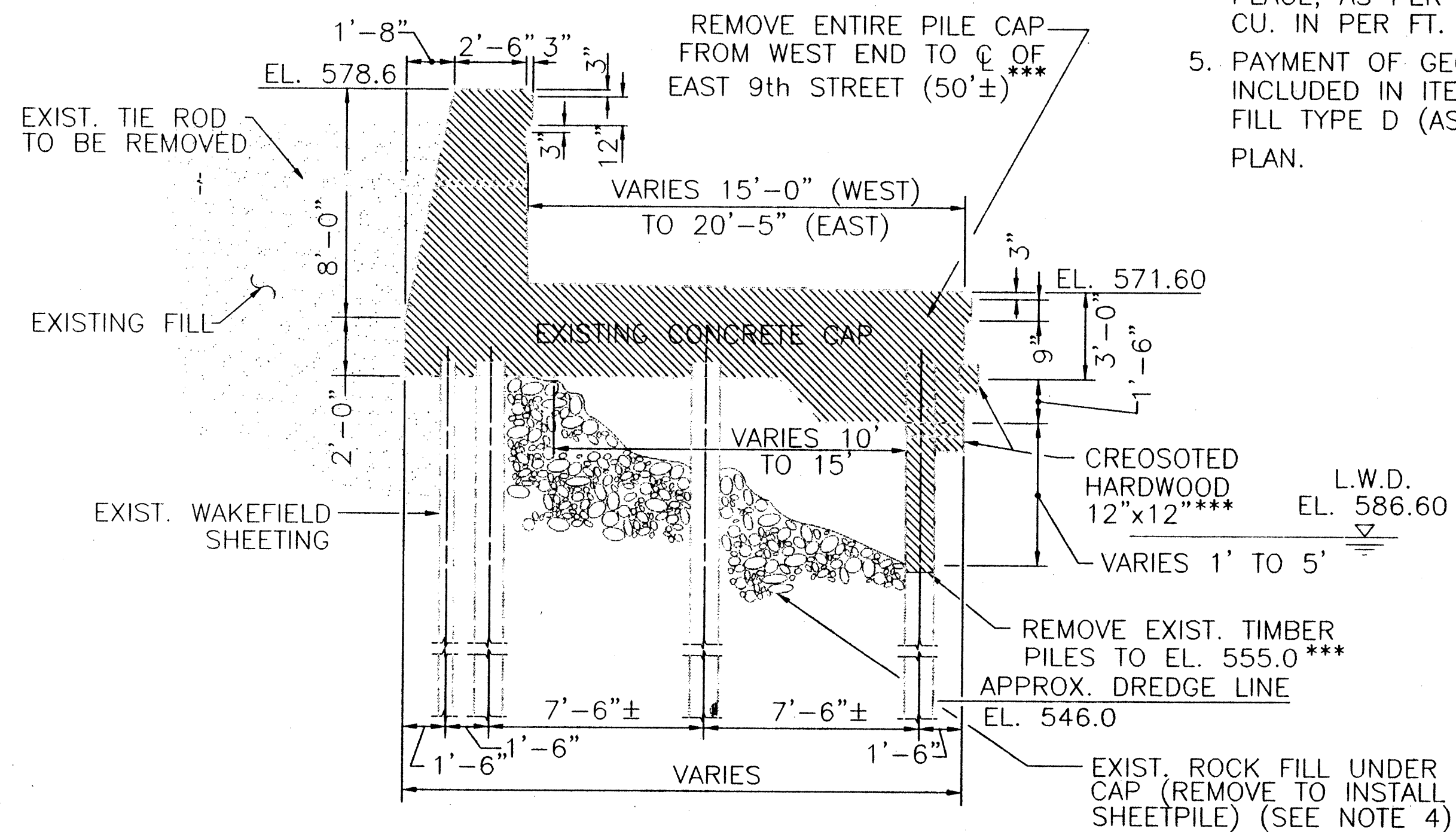
CUY-EAST 9th. ST. PIER

32

*PAYMENT FOR THESE ITEMS SHALL BE INCLUDED WITH ITEM 202- PORTION OF STRUCTURE REMOVED, AS PER PLAN.

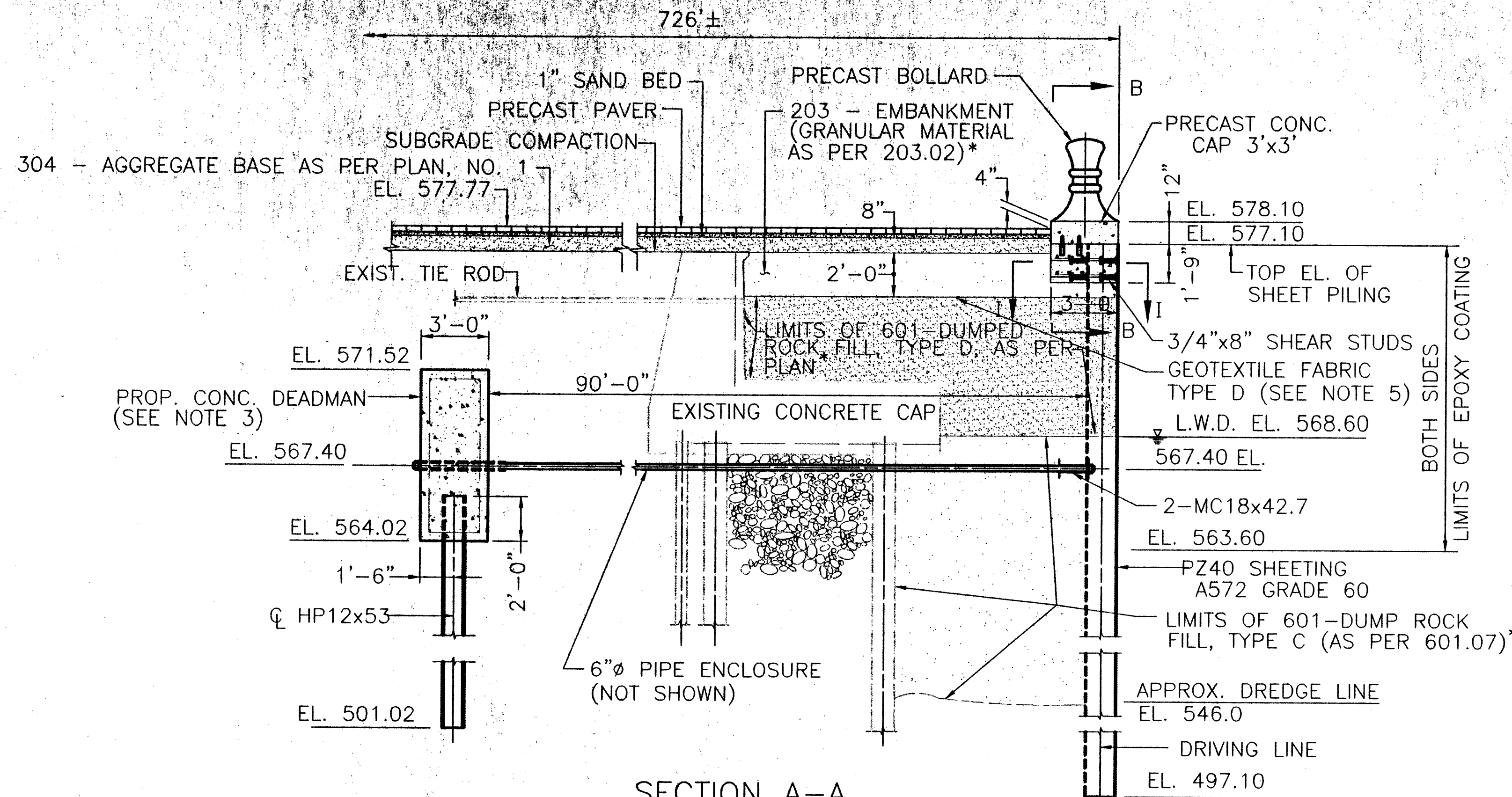


SECTION A-A
EXISTING NORTH SIDE STRUCTURE
 FROM EAST END TO CL OF EAST 9th STREET (50'±)



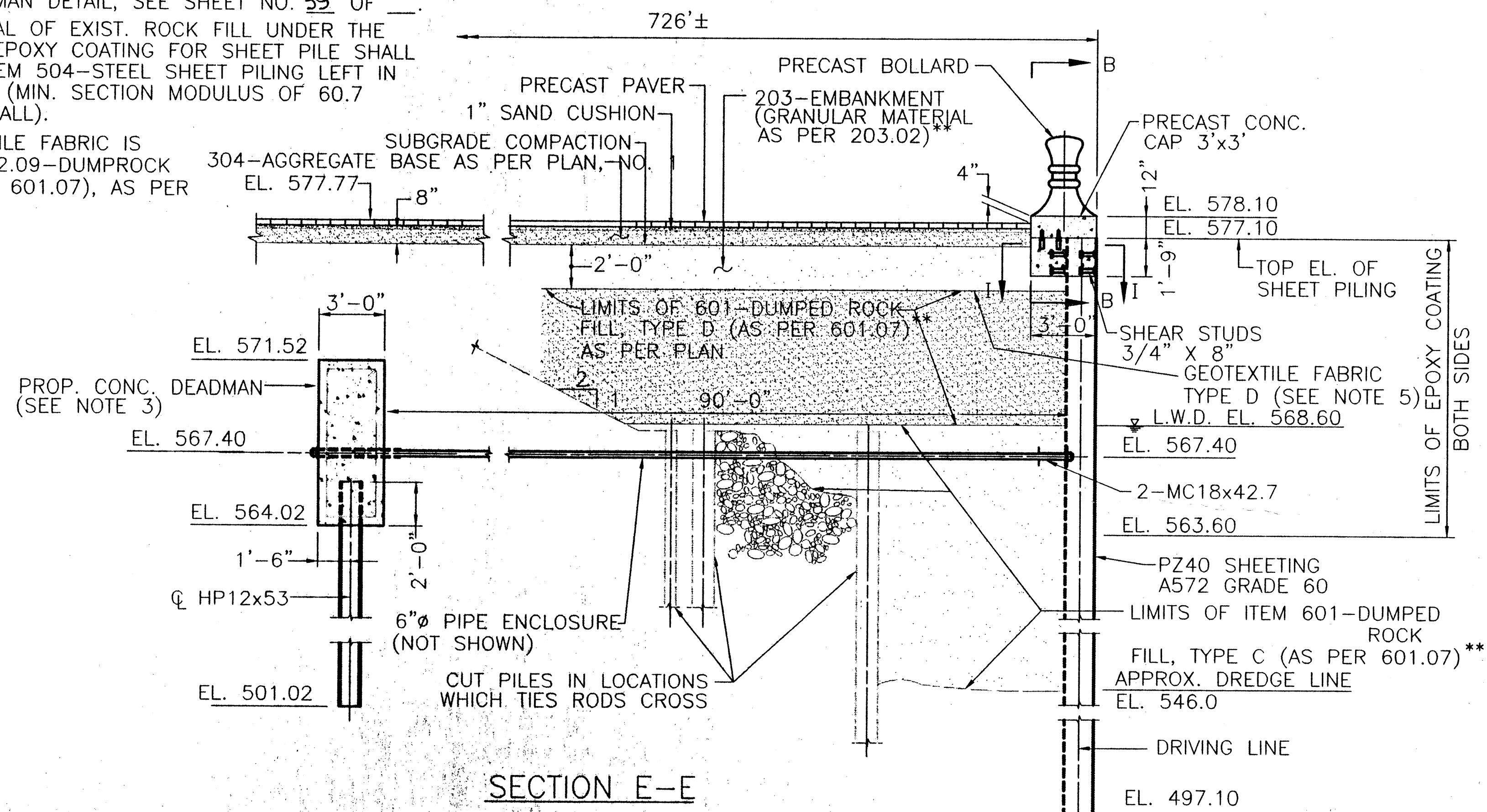
SECTION E-E
EXISTING NORTH SIDE STRUCTURE
 FROM WEST END TO CL OF EAST 9th STREET (50'±)

(*** PAYMENT FOR THESE ITEMS SHALL BE INCLUDED WITH ITEM 202- PORTION OF STRUCTURE REMOVED, AS PER PLAN)



SECTION A-A
PROPOSED NORTH (FRONT) SIDE STRUCTURE
 FROM EAST END TO CL OF EAST 9th STREET (50'±)

(* FILL MATERIAL FROM STA. 35+25.00 TO STA. 35+54.00±)



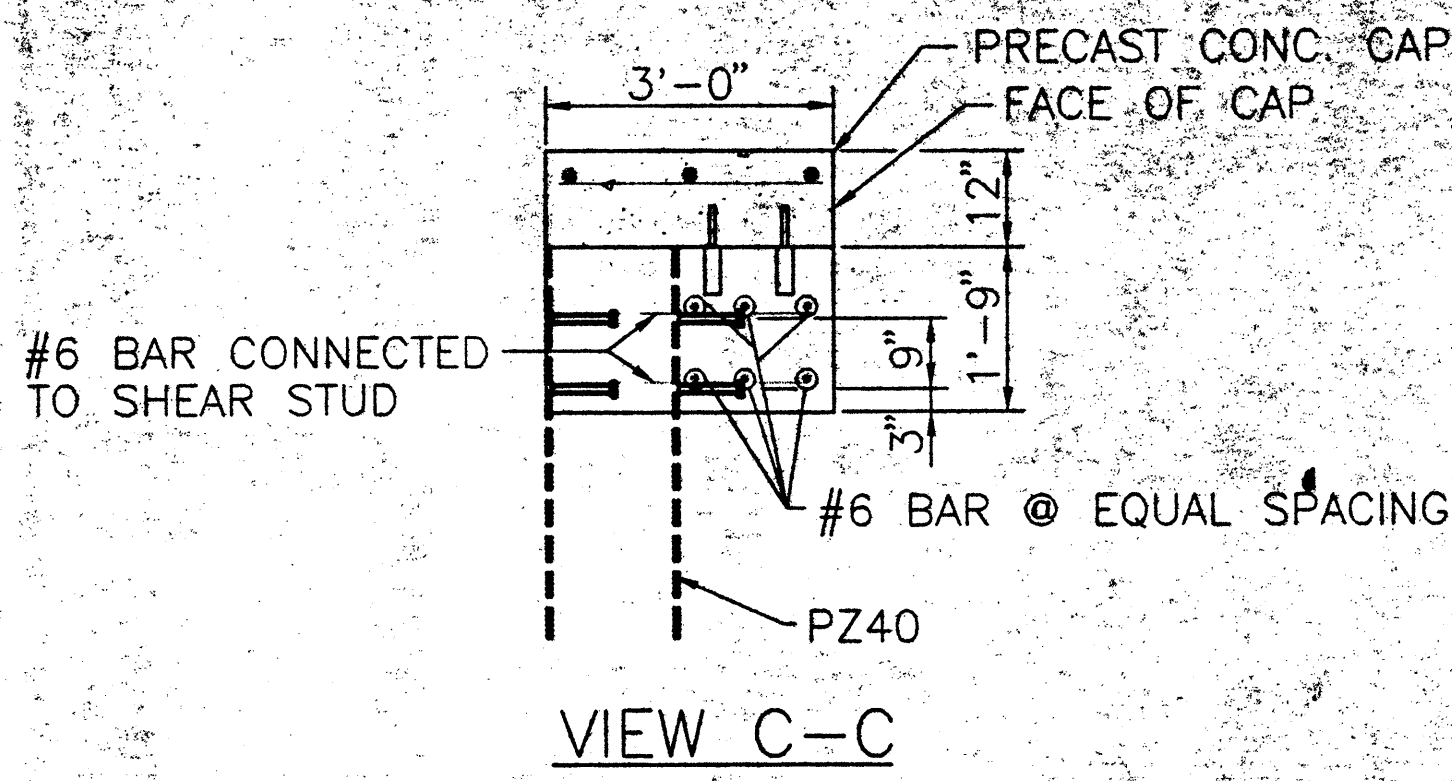
SECTION E-E
PROPOSED NORTH (FRONT) SIDE STRUCTURE
 FROM WEST END TO CL OF EAST 9th STREET (50'±)

(** FILL MATERIAL FROM STA. 35+38.00 TO STA. 35+54.00±)

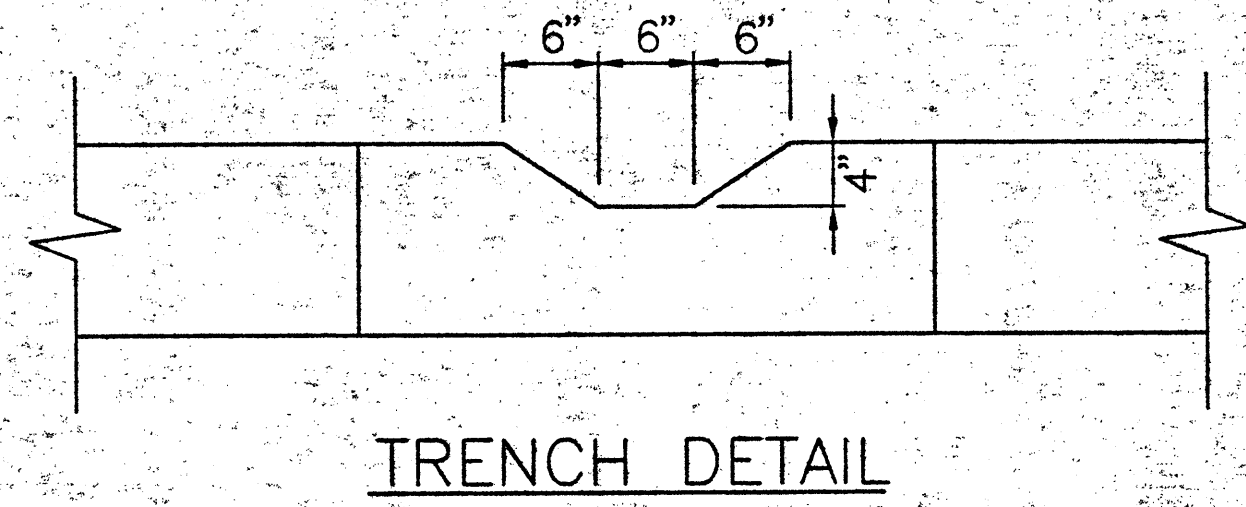
NOTES:

1. PORTION OF STRUCTURE TO BE REMOVED.
2. FOR VIEW B-B AND I-I, SEE SHEET NO. 34 OF _____
3. FOR CONCRETE DEADMAN DETAIL, SEE SHEET NO. 39 OF _____
4. PAYMENT FOR REMOVAL OF EXIST. ROCK FILL UNDER THE CONCRETE CAP AND EPOXY COATING FOR SHEET PILE SHALL BE INCLUDED WITH ITEM 504-STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN (MIN. SECTION MODULUS OF 60.7 CU. IN PER FT. OF WALL).
5. PAYMENT OF GEOTEXTILE FABRIC IS INCLUDED IN ITEM 712.09-DUMPROCK FILL TYPE D (AS PER 601.07), AS PER PLAN.

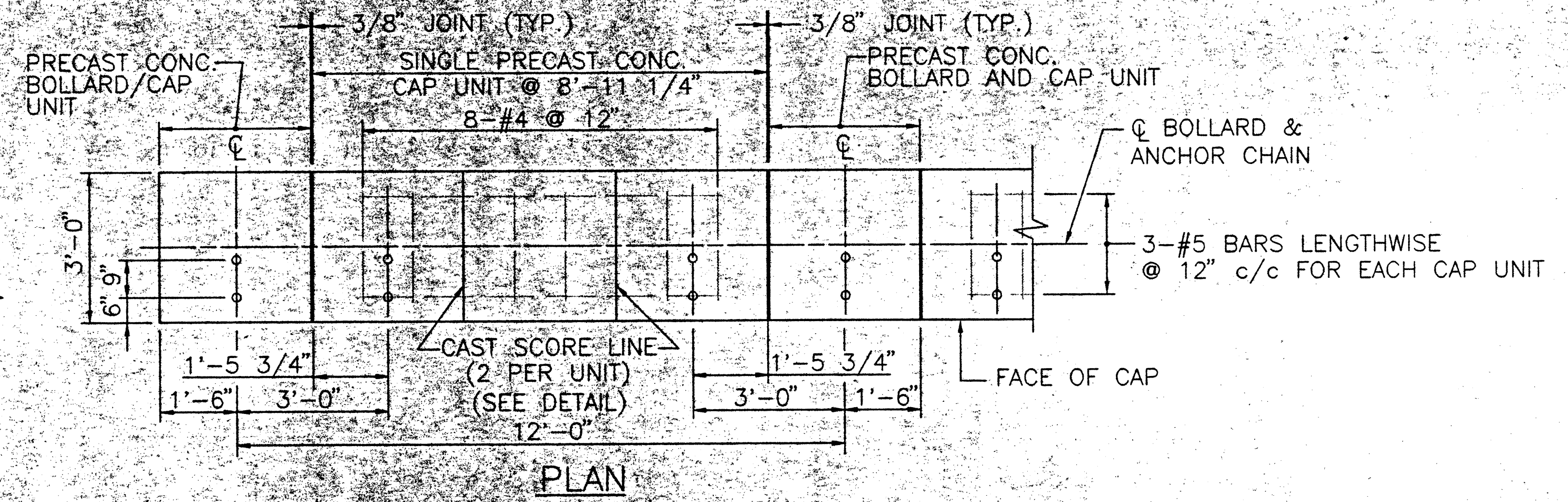
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DATE: X.X.XX	DATE:
DRAWN BY: R.L.	REVISIONS BY:
DATE: 6/12/08	DATE:
CAD FILE NAME: DETAIL.DWG	



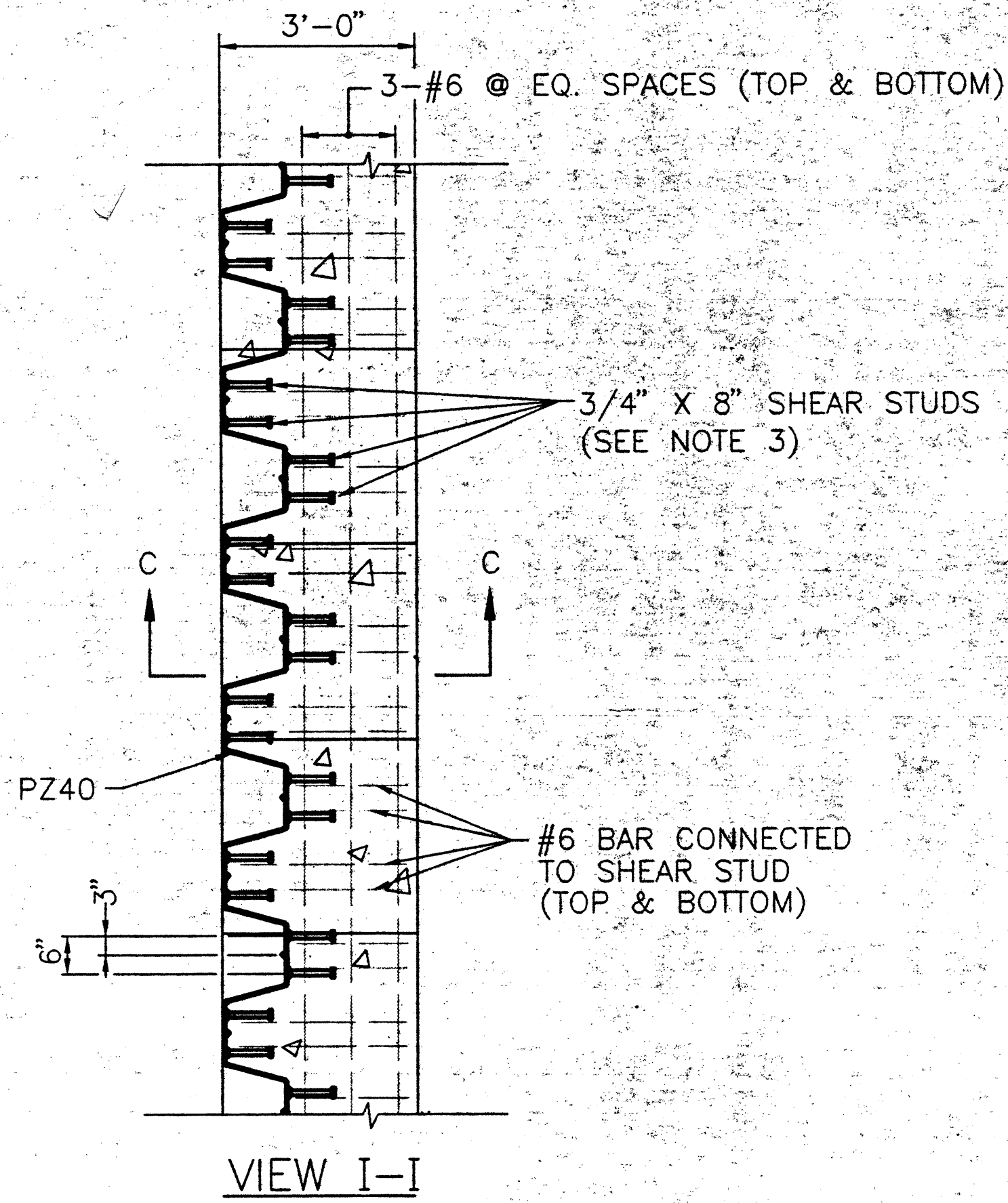
VIEW C-C



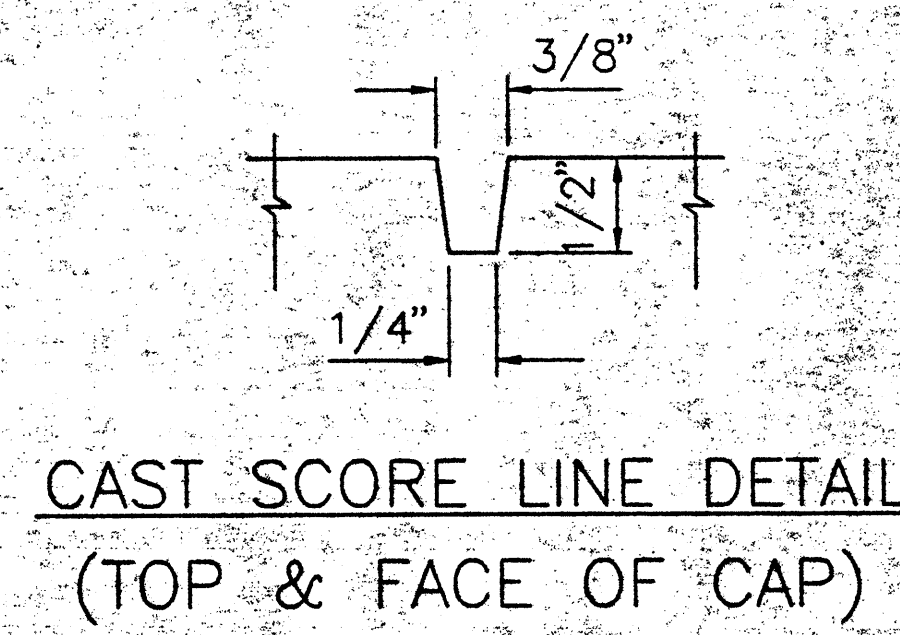
TRENCH DETAIL



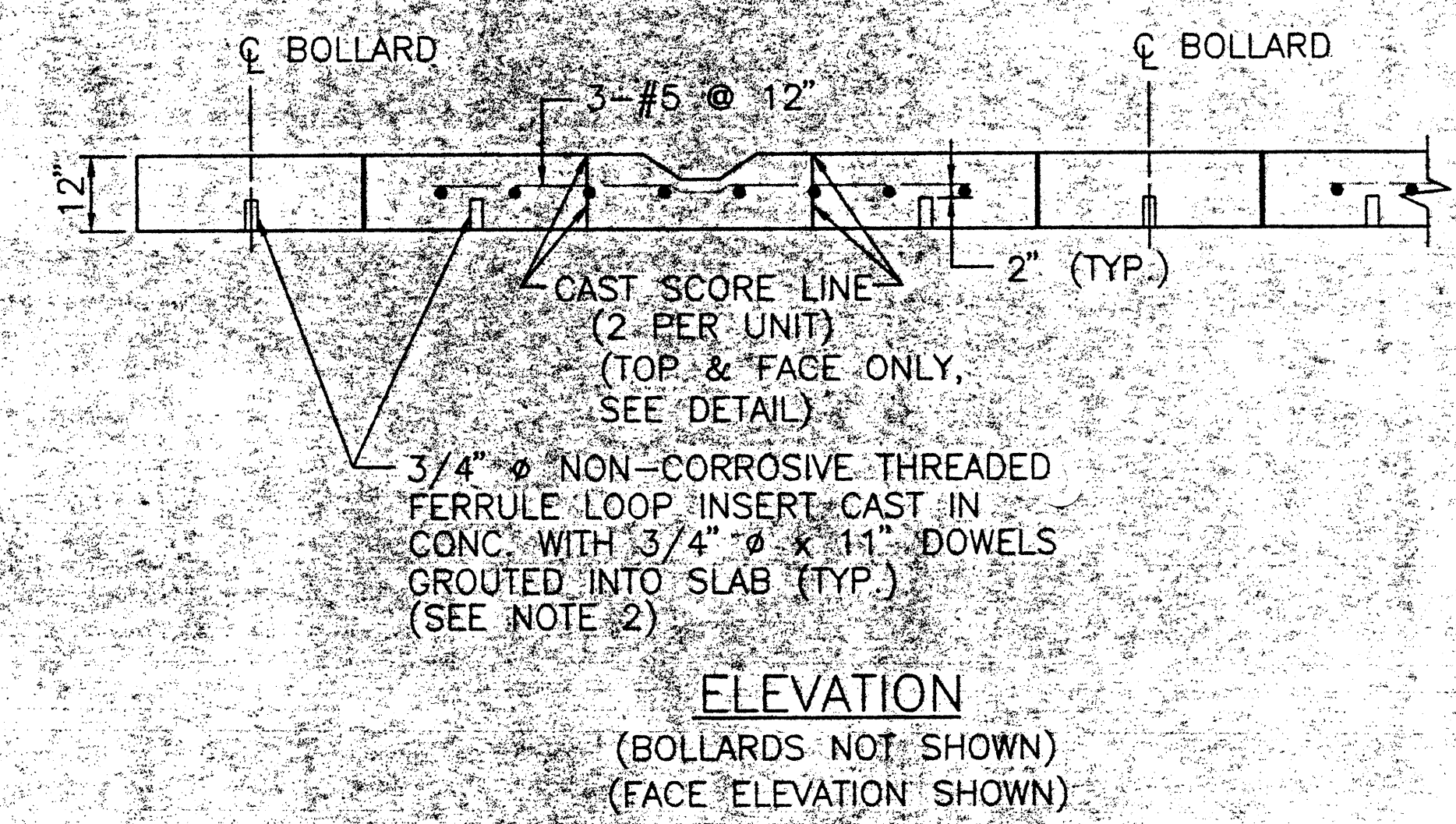
PLAN



VIEW I-I

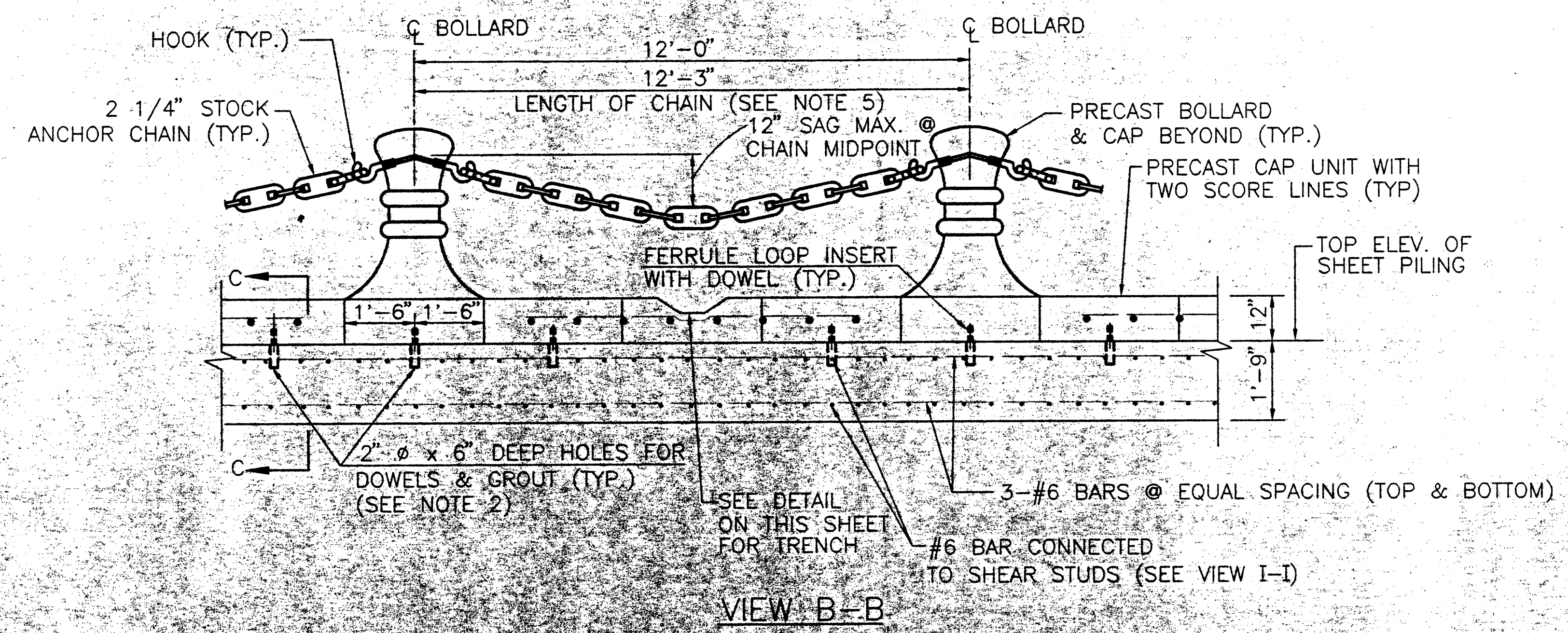


CAST SCORE LINE DETAIL
(TOP & FACE OF CAP)



ELEVATION

(BOLLARDS NOT SHOWN)
(FACE ELEVATION SHOWN)

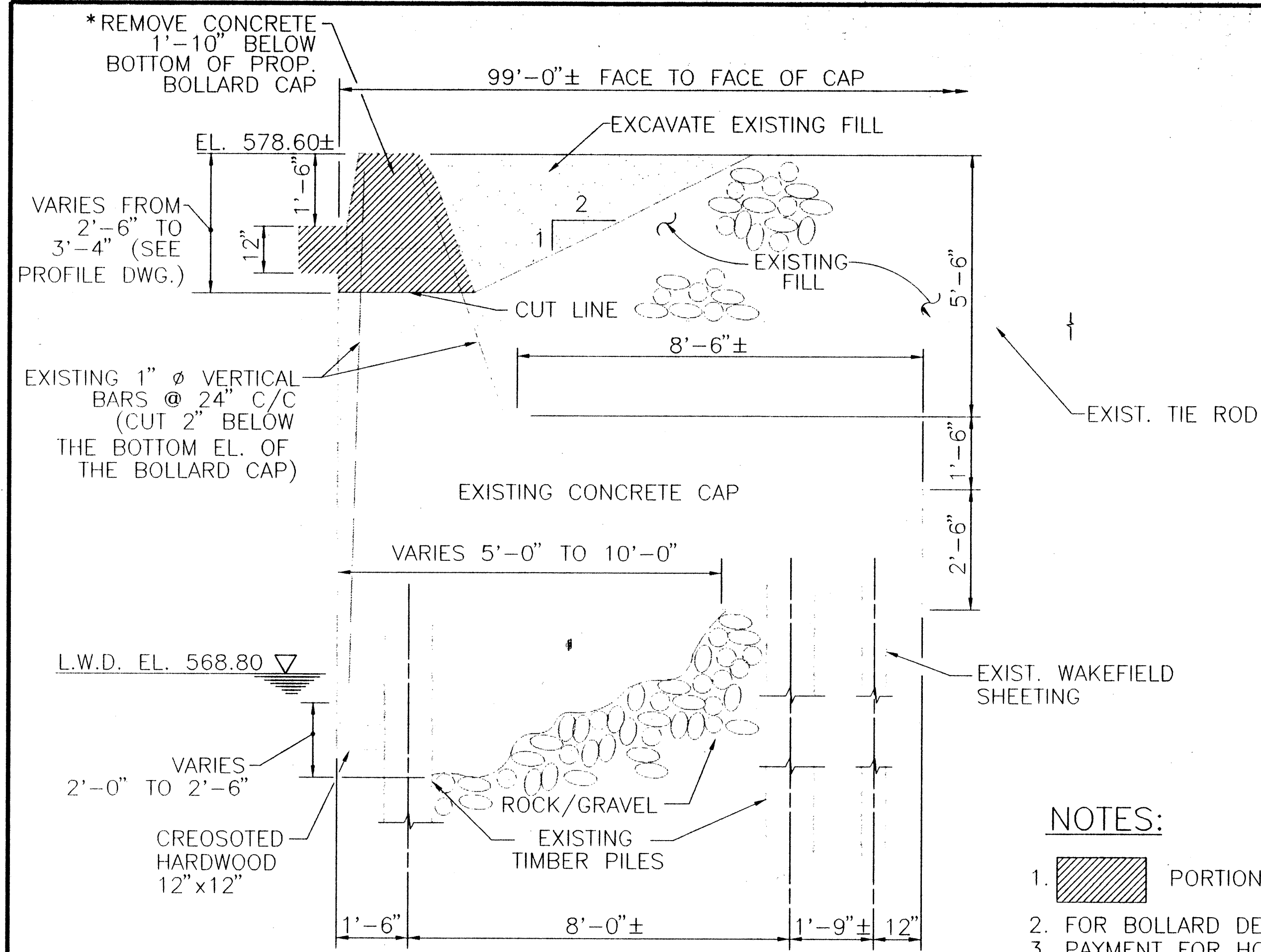


VIEW B-B

NOTES:

1. FOR BOLLARD DETAILS SEE SHEET NO. 38 OF _____
2. PAYMENT FOR HOLES, DOWELS, GROUT, FERRULE LOOP INSERT, REINFORCEMENT AND ALL LABOR SHALL BE INCLUDED WITH ITEM 511 - CLASS C CONCRETE, FOOTING, AS PER PLAN.
3. PAYMENT FOR SHEAR STUDS, ACCESSORIES, AND ALL LABOR SHALL BE INCLUDED IN ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN (MIN. SECTION MODULUS OF 60.7 CU. IN. PER FT. OF WALL).
4. THESE NOTES APPLY TO ALL WALL CAP DETAILS: ALL CORNERS TO BE SQUARE (90°). FINISH SHALL BE SMOOTH DENSE SURFACE, FREE OF HONEYCOMB AND WASHOUT. APPLY LIGHT SAND BLAST FINISH TO TOP AND FACE ELEVATION. CONTRACTOR SHALL SUBMIT METHODS AND FORM MATERIALS FOR APPROVAL PRIOR TO MANUFACTURE. CONTRACTOR SHALL MANUFACTURE ONE UNIT FOR ENGINEER APPROVAL OF FINISH PRODUCT PRIOR TO FINAL MANUFACTURE.
5. PAYMENT FOR HOOK SHALL BE INCLUDED WITH ITEM SPECIAL - 2 1/4" STOCK ANCHOR CHAIN

DESIGNED BY: B-SXX	CHECKED BY:
DATE: X/7/XX	DATE:
DRAWN BY: R.L.	REVISION BY:
DATE: 6/12/95	DATE:
CAD FILE NAME: DETAIL2.DWG	



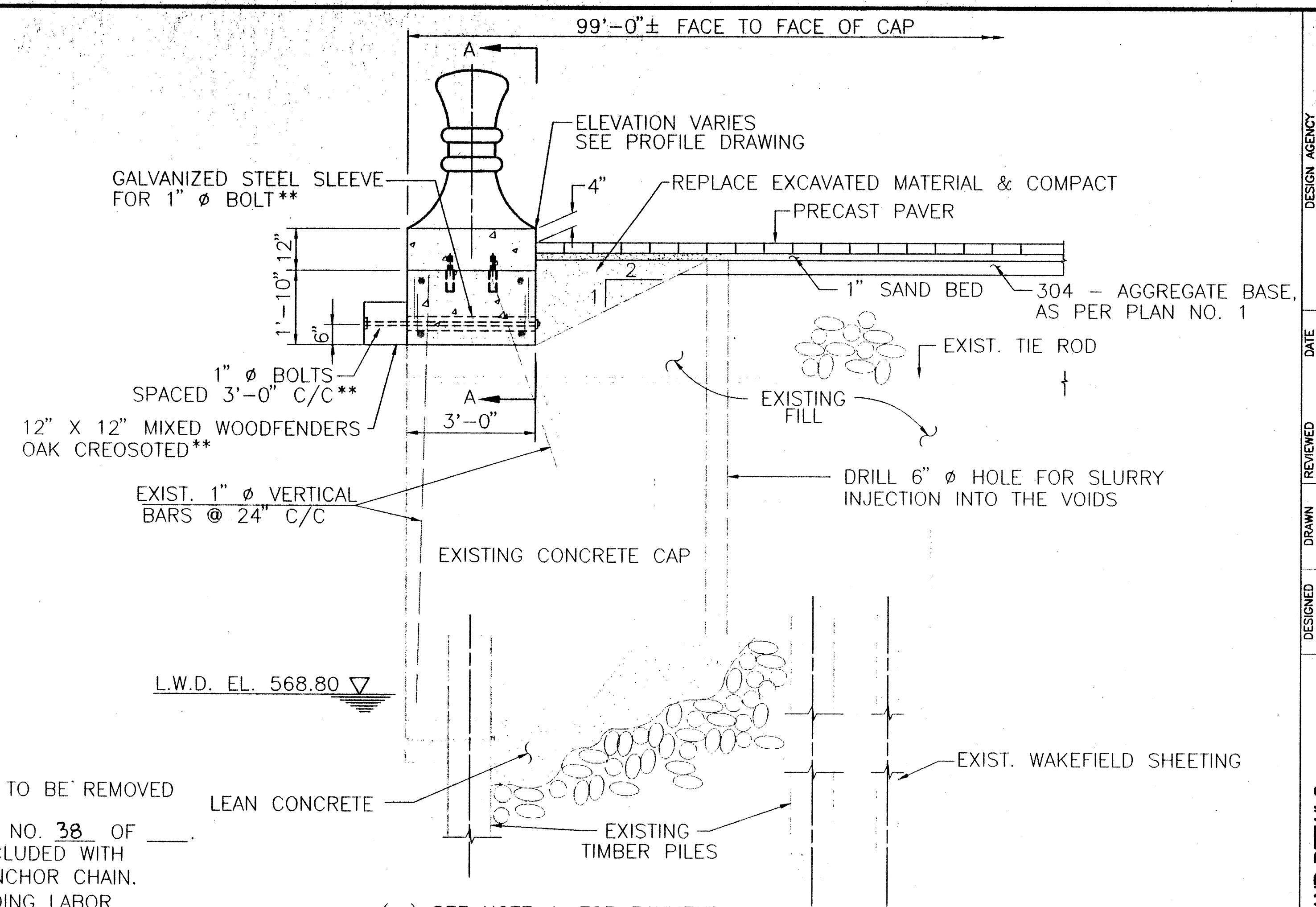
SECTION B-B

EXISTING SOUTHEAST SIDE STRUCTURE

*PAYMENTS FOR THESE CLAIMS SHALL BE INCLUDED WITH ITEM 202-PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. PORTION OF CSTRUCTURE TO BE REMOVED
2. FOR BOLLARD DETAILS, SEE SHEET NO. 38 OF ____.
3. PAYMENT FOR HOOK SHALL BE INCLUDED WITH ITEM SPECIAL - 2 1/4" STOCK ANCHOR CHAIN.
4. PAYMENT FOR THESE ITEMS INCLUDING LABOR SHALL BE INCLUDED WITH ITEM 511 - CLASS C CONCRETE, FOOTING, AS PER PLAN.

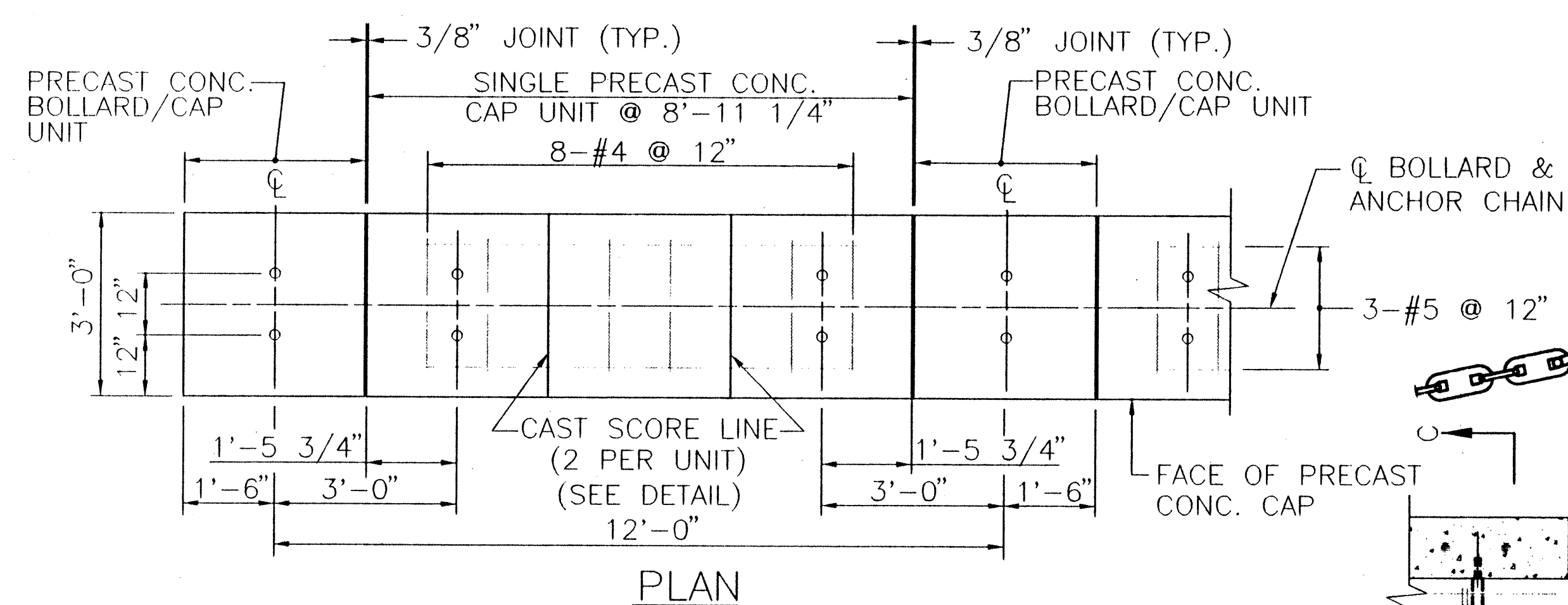


SECTION B-B

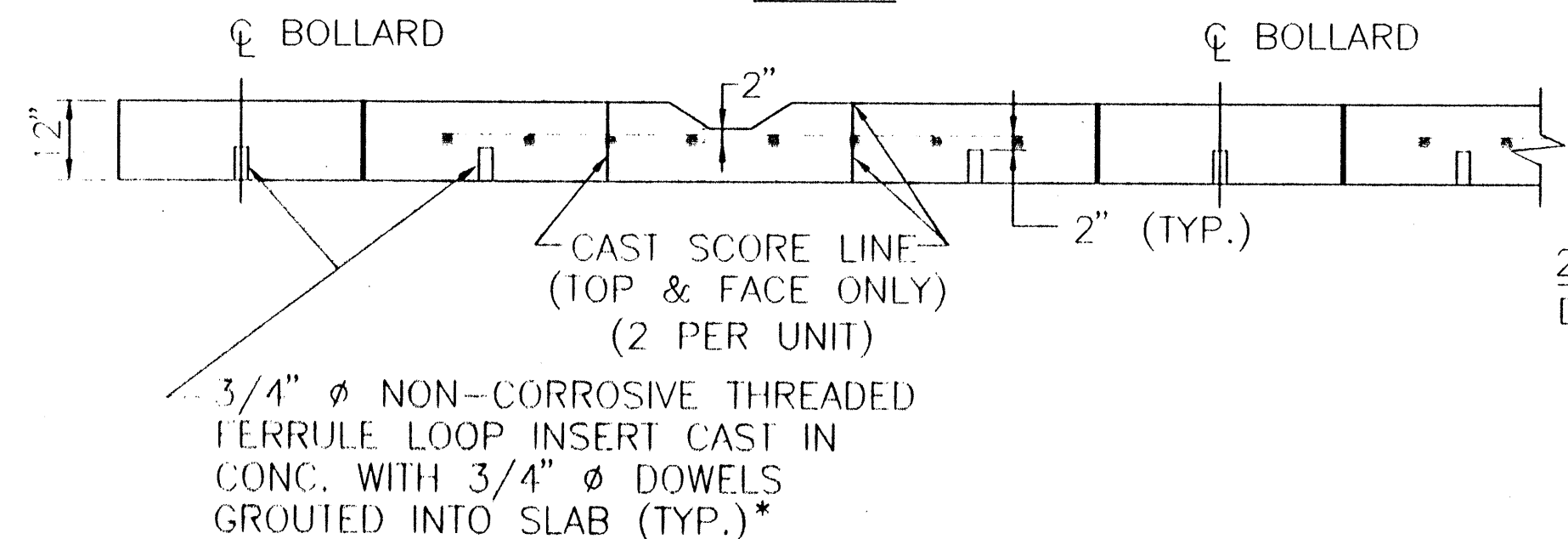
PROPOSED SOUTHEAST SIDE STRUCTURE

STA. 28+48.00 TO STA. 34+90.00

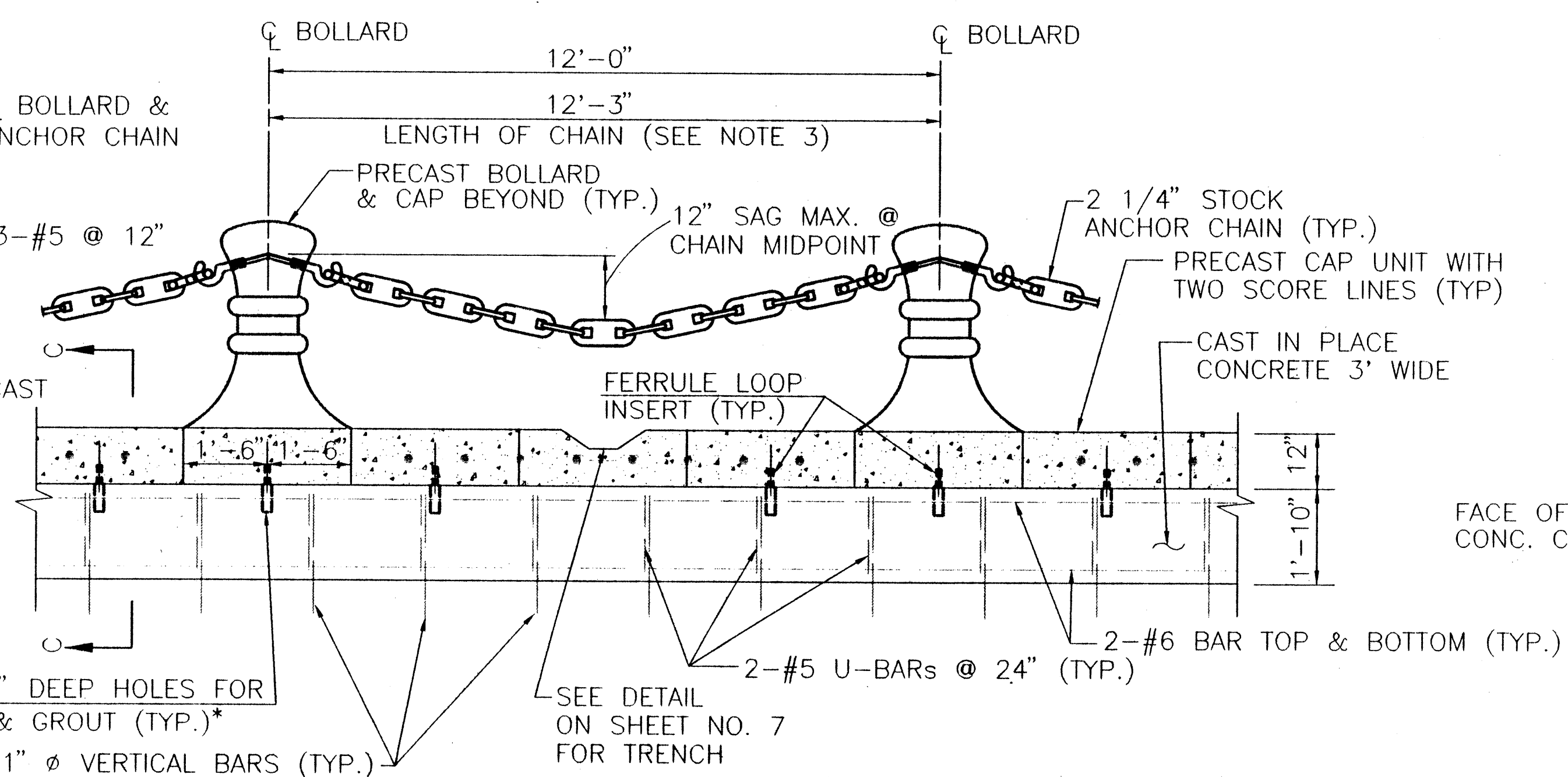
(**) SEE NOTE 4, FOR PAYMENT



PLAN



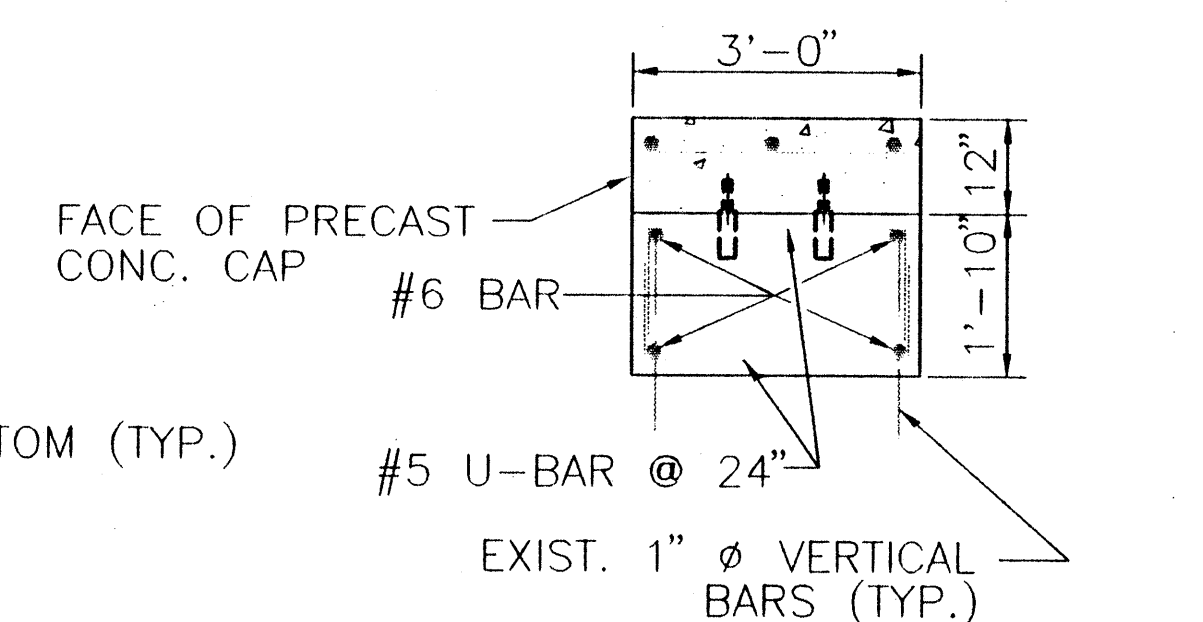
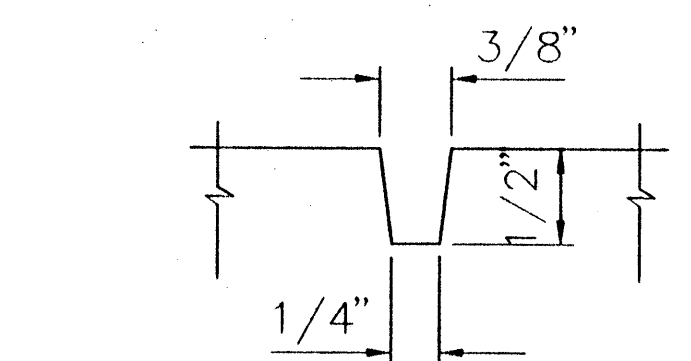
ELEVATION
(BOLLARDS NOT SHOWN)



SECTION A-A


* SEE NOTE 2, SHEET NO. 34 OF ____, FOR PAYMENT.

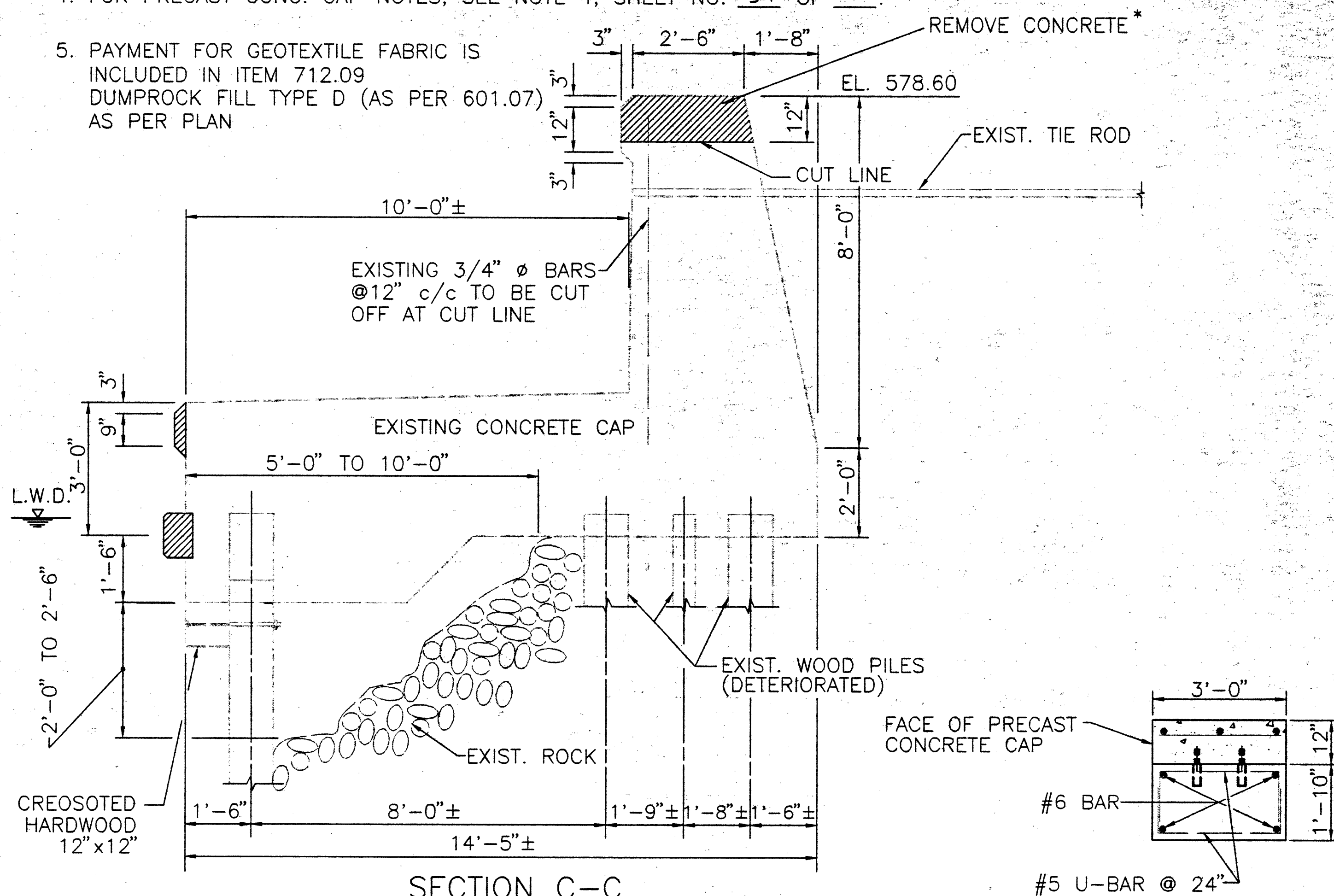
CAST SCORE LINE DETAIL
(TOP & FACE OF CAP)



SECTION C-C
SECTION AWAY FROM BOLLARD

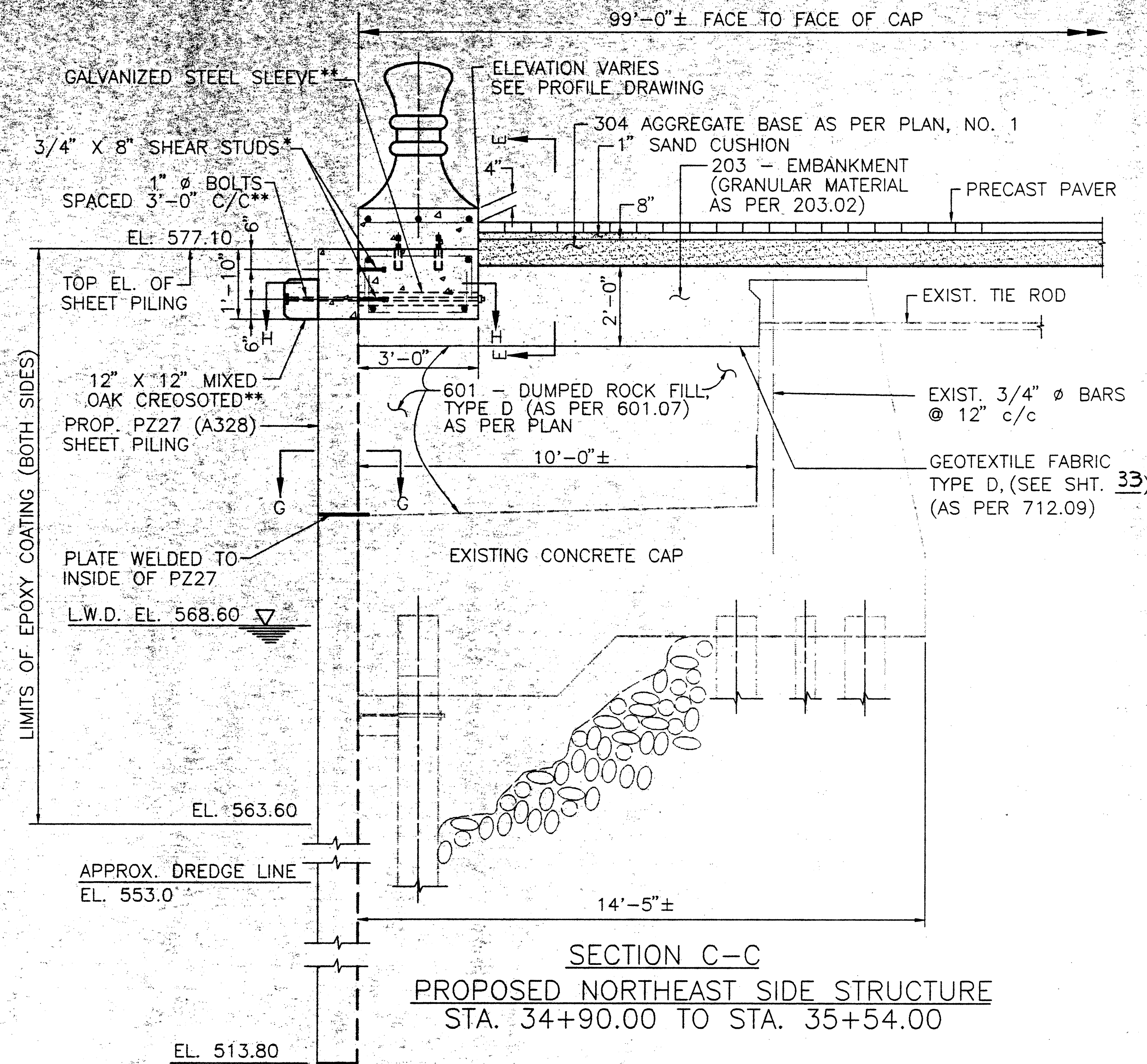
NOTES:

1.  PORTION OF STRUCTURE TO BE REMOVED
2. FOR BOLLARD DETAILS, SEE SHEET NO. 38 OF _____
3. FOR PLAN & ELEVATION OF PRECAST CONC. CAP, SEE SHEET NO. 35 OF _____
4. FOR PRECAST CONC. CAP NOTES, SEE NOTE 4, SHEET NO. 34 OF _____
5. PAYMENT FOR GEOTEXTILE FABRIC IS INCLUDED IN ITEM 712.09
DUMPROCK FILL TYPE D (AS PER 601.07)
AS PER PLAN



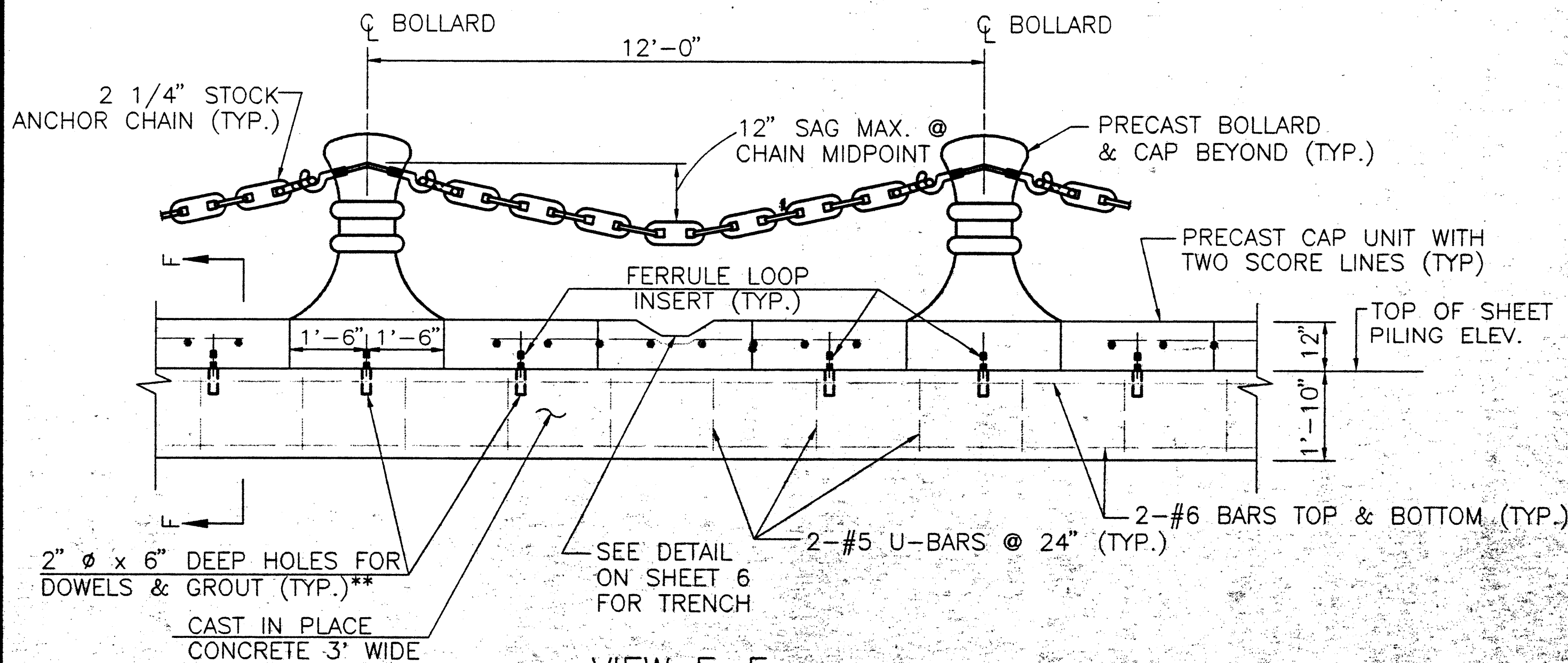
**SECTION C-C
EXISTING NORTHEAST SIDE STRUCTURE**

*PAYMENT FOR THESE ITEMS SHALL BE INCLUDED WITH ITEM 202--PORTIONS OF STRUCTURE REMOVED AS PER PLAN



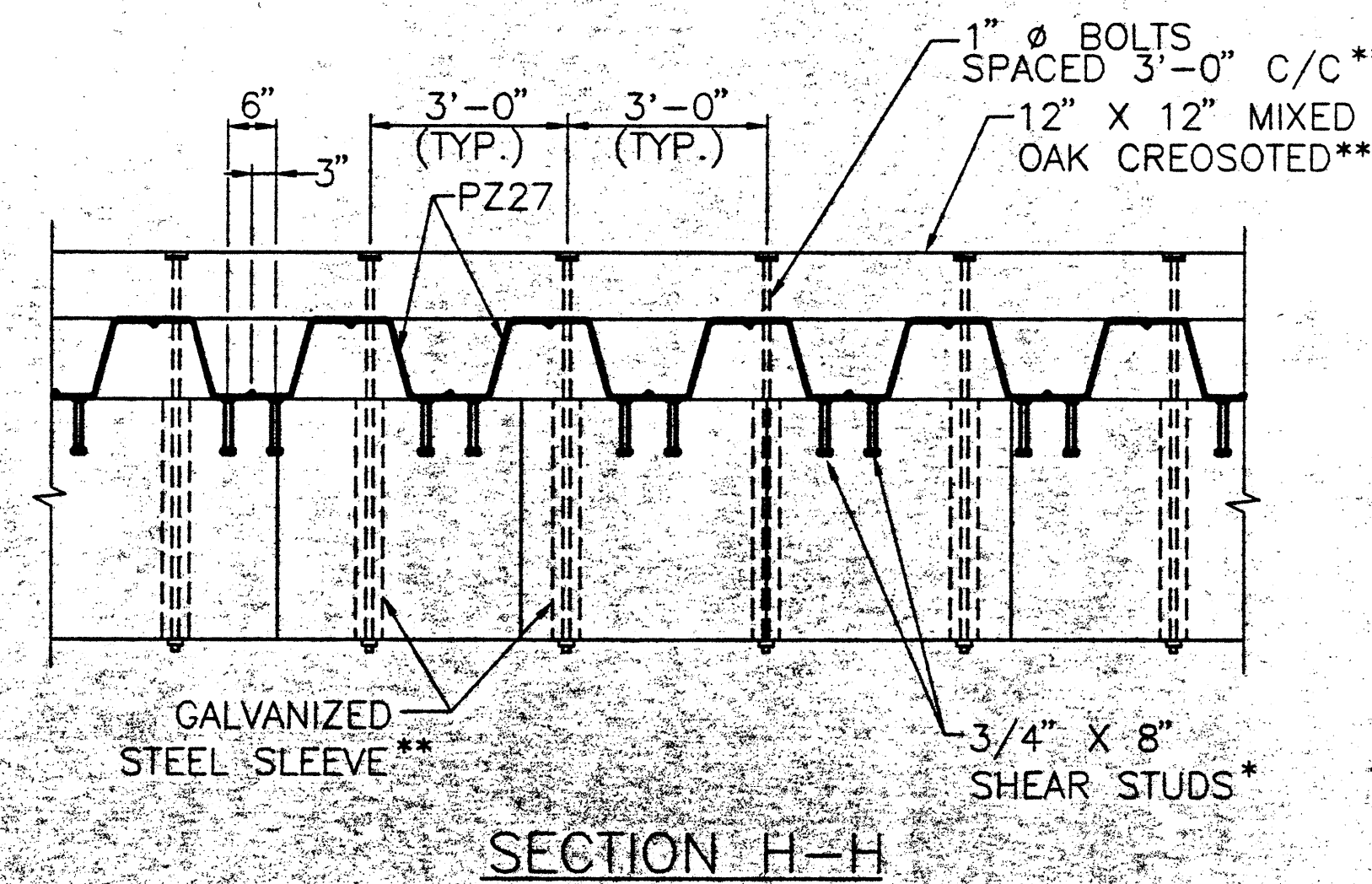
**SECTION C-C
PROPOSED NORTHEAST SIDE STRUCTURE
STA. 34+90.00 TO STA. 35+54.00**

**SECTION F-F
SECTION AWAY FROM BOLLARD**



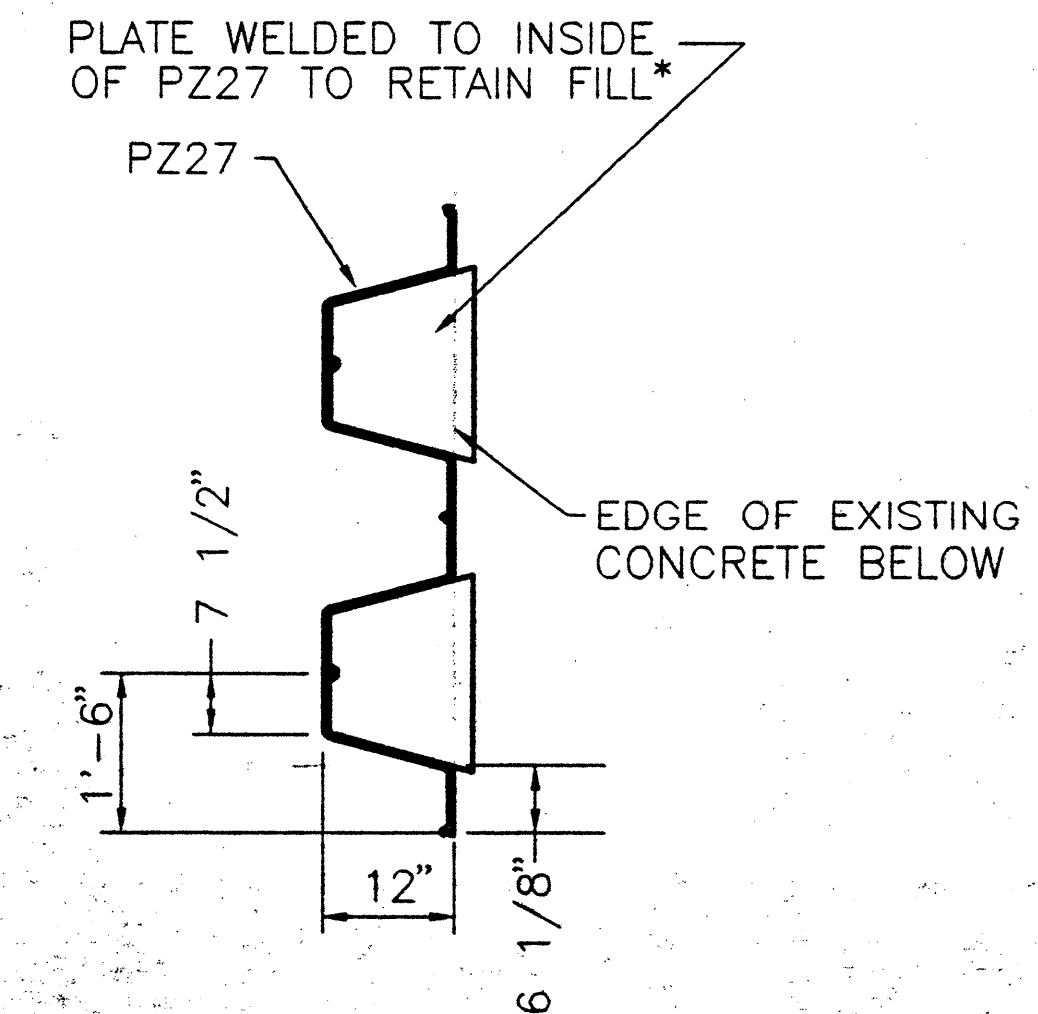
VIEW E-E

** FOR PAYMENT SEE NOTE 2, SHEET NO. 34, AND NOTE 4, SHEET NO. 35 OF _____



SECTION H-H

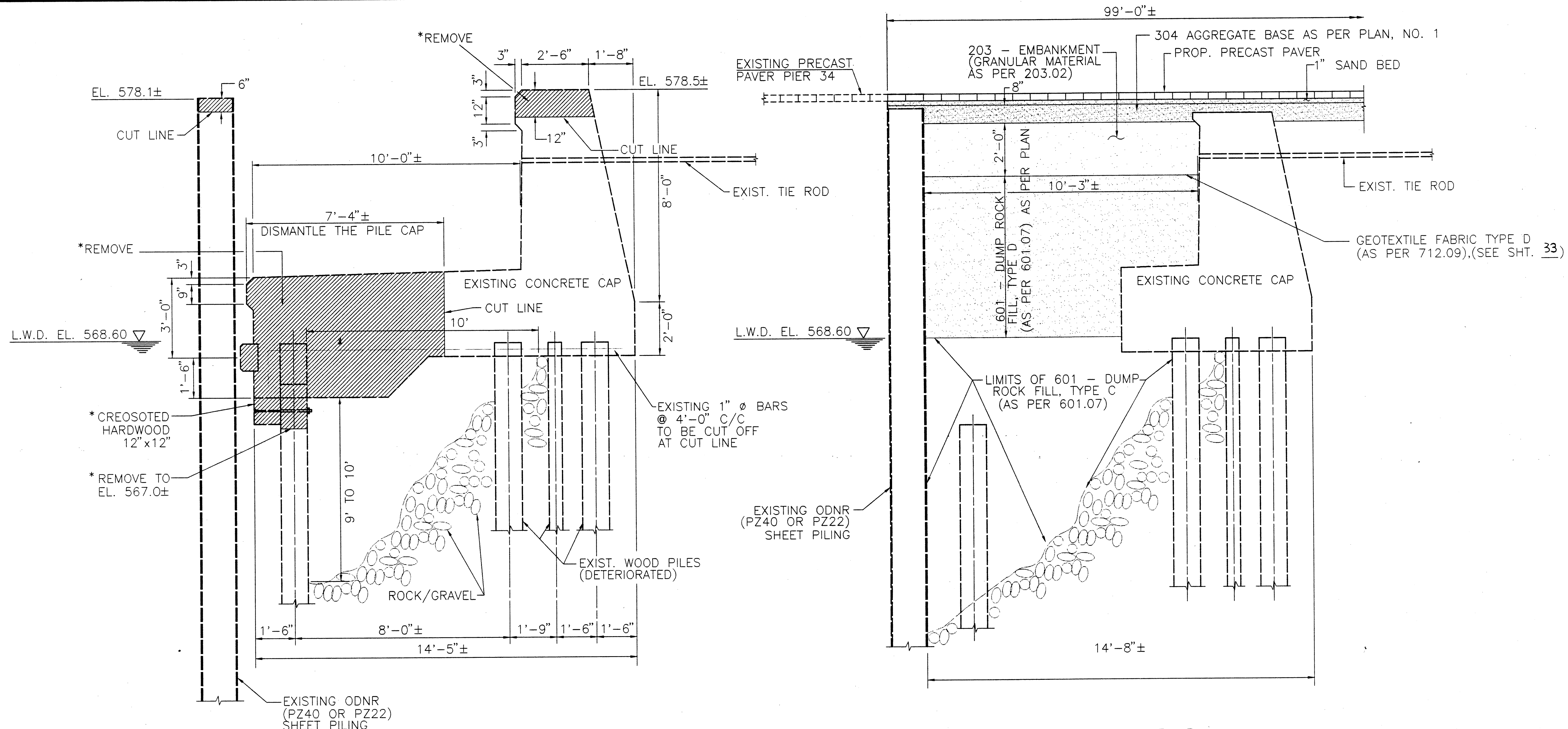
* PAYMENT FOR THESE ITEMS SHALL BE INCLUDED IN ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN (MIN. SECTION MODULUS OF 30.2 CU. IN. PER FT. OF WALL)



SECTION G-G

DESIGNED BY: XXX	CHECKED BY: E.C.
DATE: X/X/XX	DATE: X/X/XX
DRAWN BY: R.L.	REVISION BY:
DATE: 8/12/96	DATE:
CAD FILE NAME: DETAIL4.DWG	

DESIGN AGENCY: RALPH C. TYLER P.E., P.S., INC.
 2143 FAIRHILL ROAD
 CLEVELAND, OHIO 44106
 DATE: 8/95
 R.C.T. STRUCTURE FILE NUMBER: X
 DRAWN: M.M. REVISION: X
 CHECKED: R.L. K.P.
PROPOSED NORTHEAST SIDE STRUCTURE AND DETAILS
 EAST 9th. STREET PIER
 4 / X
36



SECTION D-D
EXISTING NORTHWEST SIDE STRUCTURE

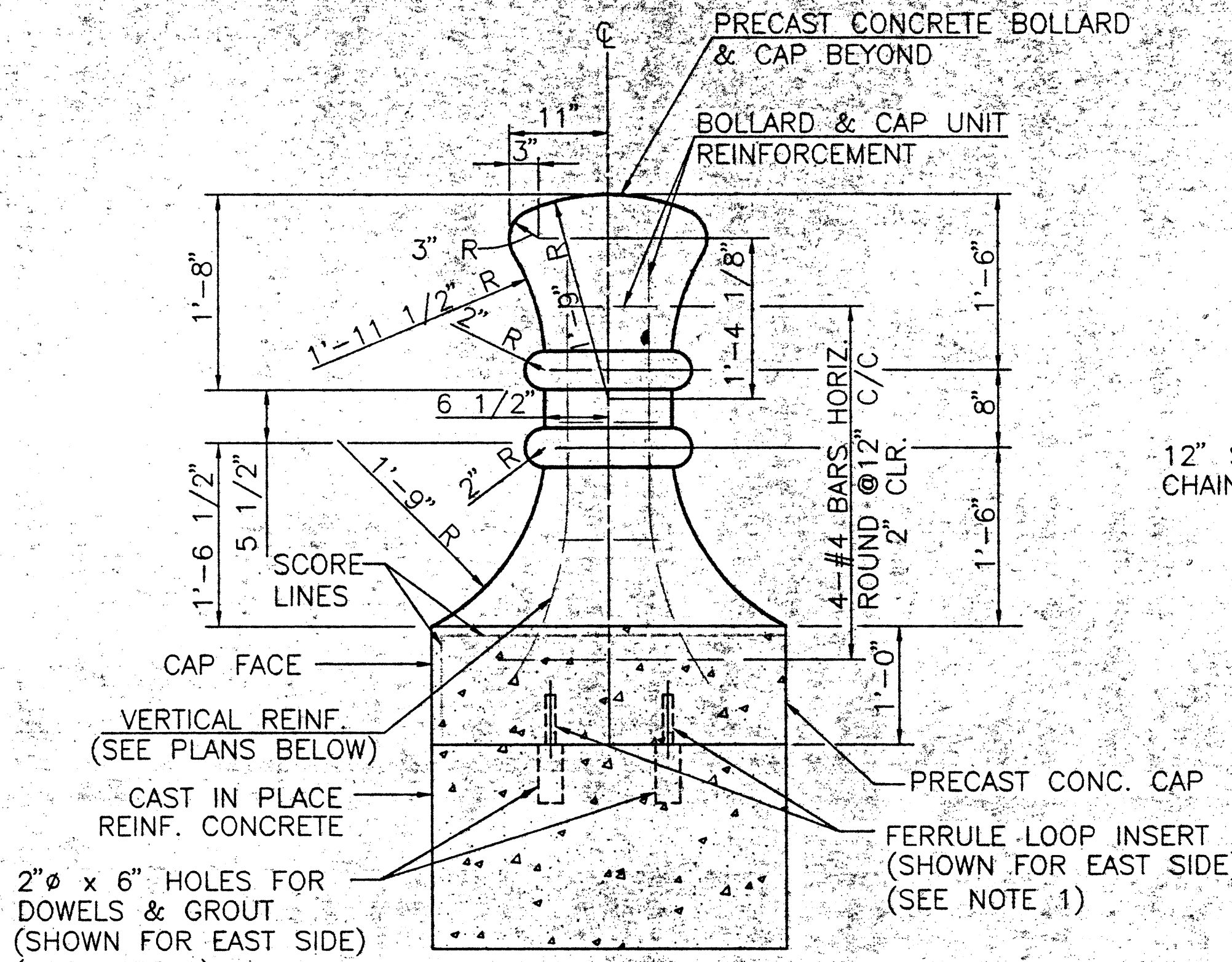
SECTION D-D
PROPOSED NORTHWEST SIDE STRUCTURE
STA. 34+90.00 TO STA. 35+54.00

* PAYMENT FOR THESE ITEMS SHALL BE INCLUDED WITH ITEM 202
-PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

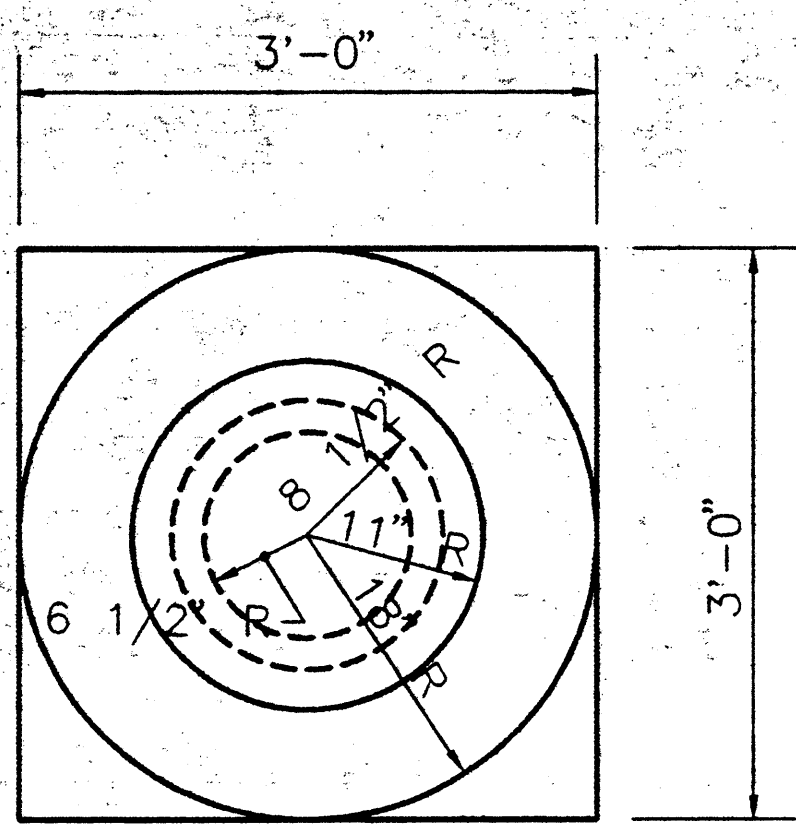
NOTE:

1. PORTION OF STRUCTURE TO BE REMOVED
2. PAYMENT FOR GEOTEXTILE FABRIC IS INCLUDED IN ITEM 712.09
DUMPROCK FILL, TYPE D (AS PER 601.07), AS PER PLAN

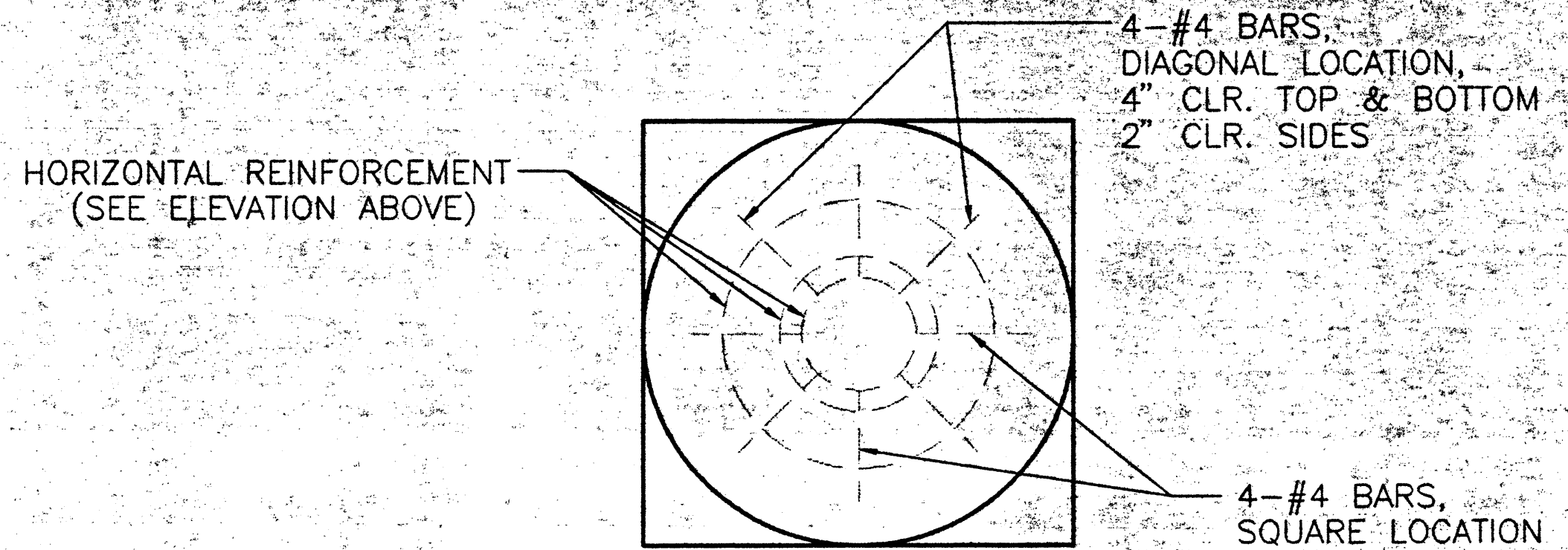
PROPOSED NORTHWEST SIDE STRUCTURE AND DETAILS EAST 9th. STREET PIER X	CUY-EAST 9th. ST. PIER 5 / X <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px; text-align: center; margin: 0 auto;">37</div>	DESIGN AGENCY RALPH C. TYLER P.E., P.S., INC. 2143 FAIRHILL ROAD CLEVELAND, OHIO 44106 DATE 8/95 R.C.T. STRUCTURE FILE NUMBER X REVIEWED R.L. REVISION X DESIGNED R.L. CHECKED K.P.
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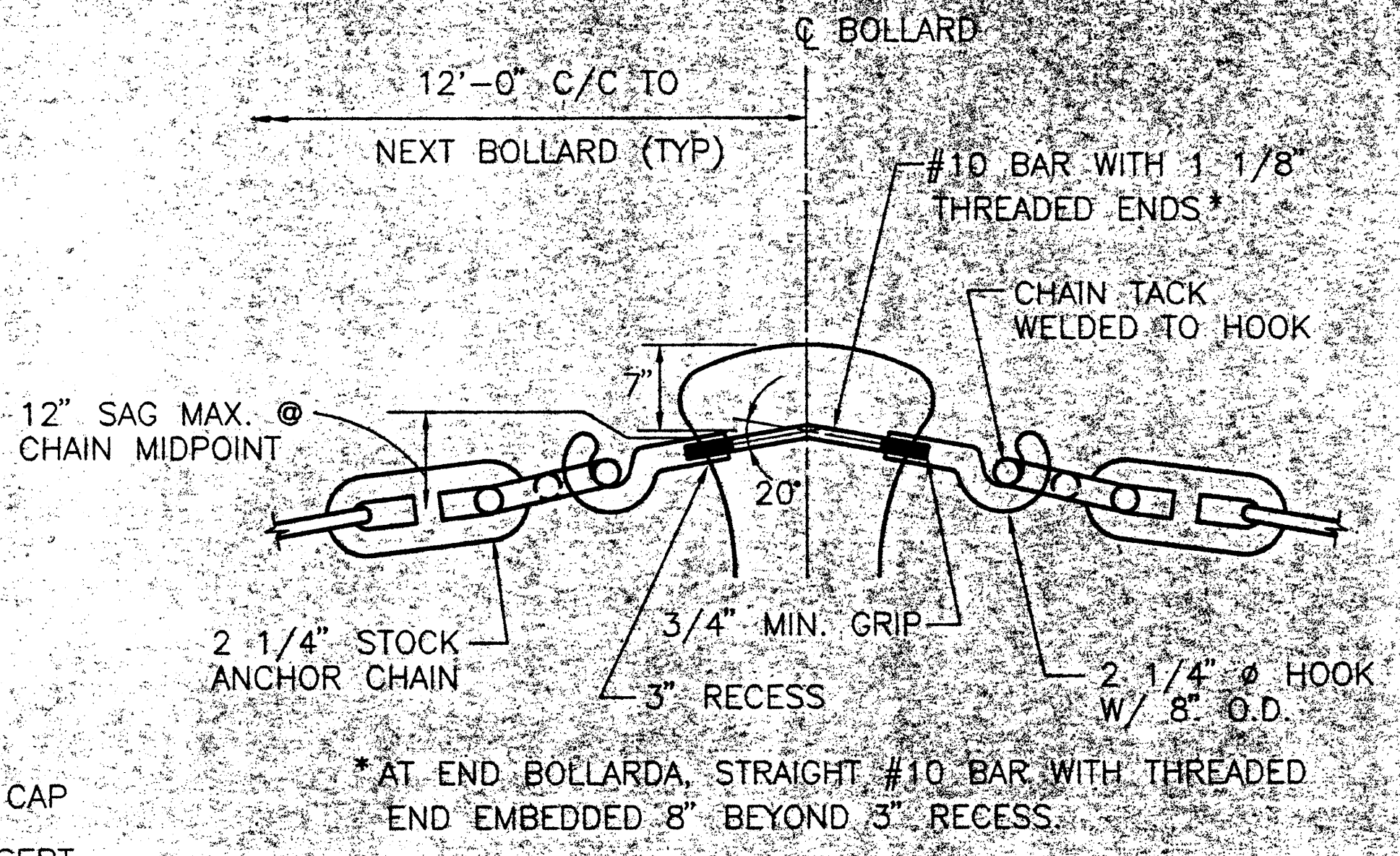
**ELEVATION
BOLLARD & CAP**
SCALE: 1" = 1'-0"



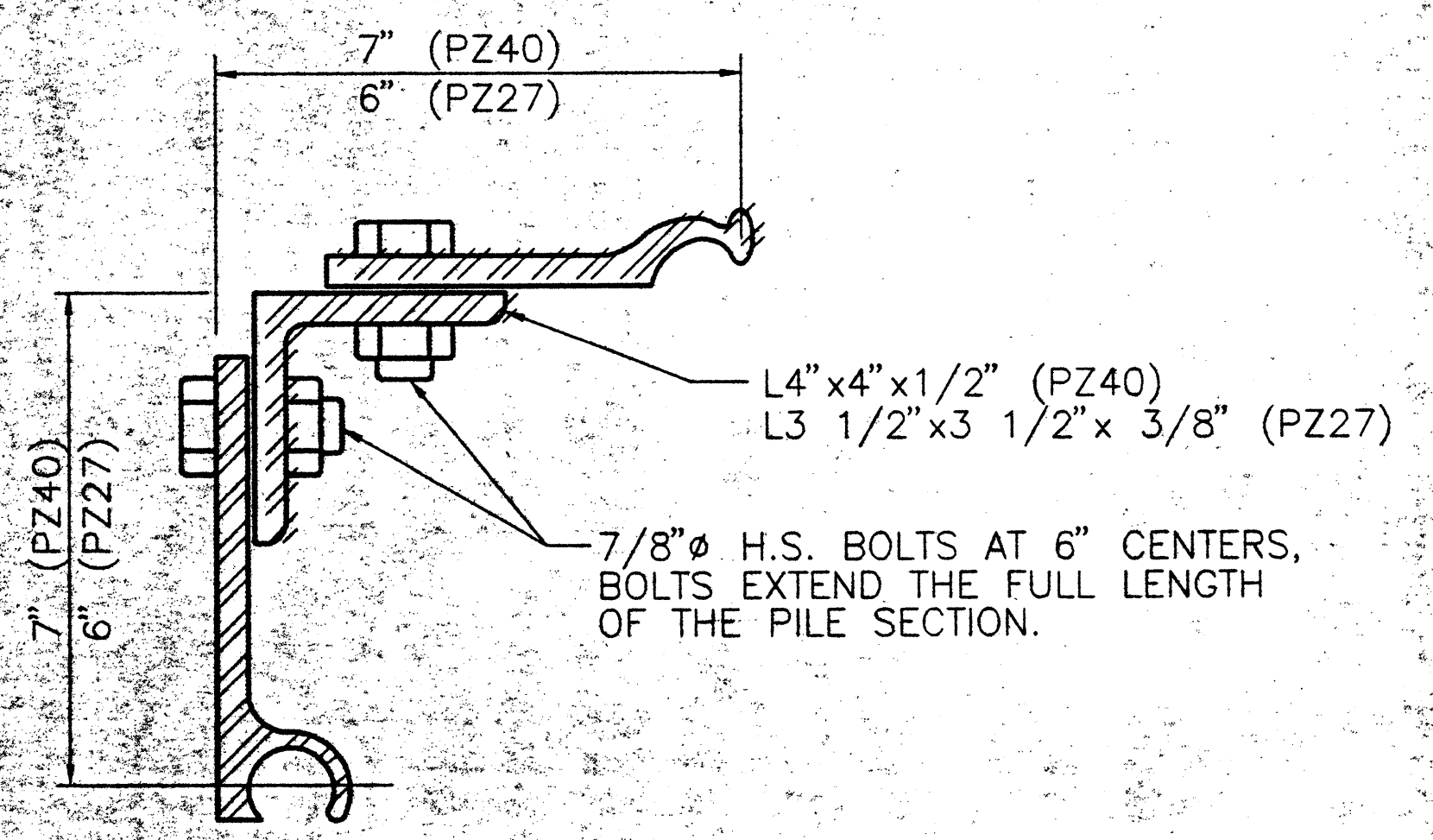
**PLAN
BOLLARD & CAP**
SCALE: 1" = 1'-0"



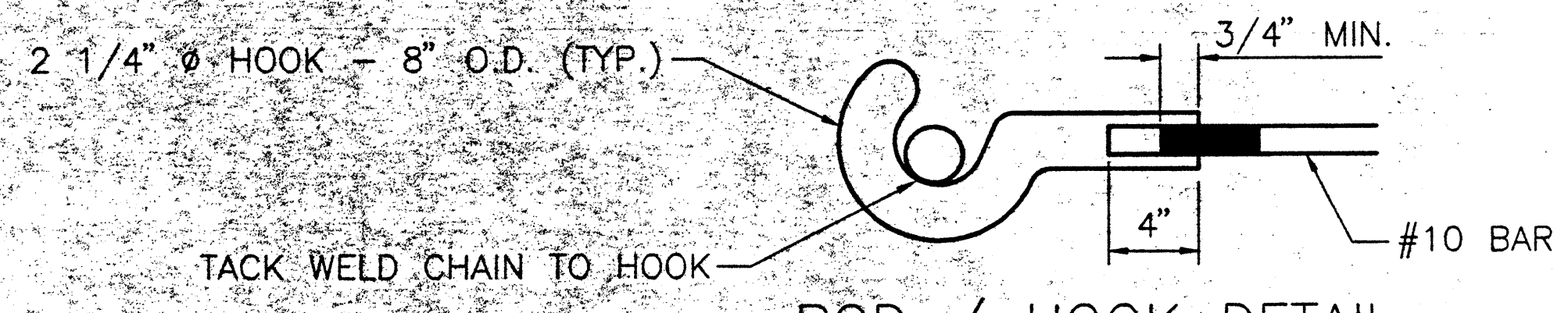
**PLAN
REINFORCEMENT
BOLLARD & CAP**
SCALE: 1" = 1'-0"



BOLLARD/CHAIN DETAIL
SCALE: 1" = 1'-0"



**DETAIL "A"
FABRICATED CORNER CONNECTION**
N.T.S.



ROD / HOOK DETAIL
N.T.S.

NOTES:
1. FOR PLANS, LOCATIONS, AND DIMENSIONS OF FERRULE LOOP INSERTS, HOLES FOR GROUT & DOWELS, SEE SHEET NO. 39,40 AND 41. PAYMENT FOR THESE ITEMS SHALL BE INCLUDED WITH ITEM 511 - CLASS C CONCRETE, FOOTING, AS PER PLAN.

DESIGNED BY: XXX	CHECKED BY:
DATE: X/X/XX	DATE:
DRAWN BY: R.L.	REVISED BY:
DATE: 5/12/95	DATE:
CAD FILE NAME:	DETAILS.DWG

DESIGN AGENCY: RALPH C. TYLER P.E., P.S., INC.
2143 FAIRHILL ROAD, CLEVELAND, OHIO 44106

DATE: 6/95

REVIEWED: R.C.T. STRUCTURE FILE NUMBER: X

DRAWN: R.L. REVISED: X

DESIGNED: R.L. CHECKED: K.P.

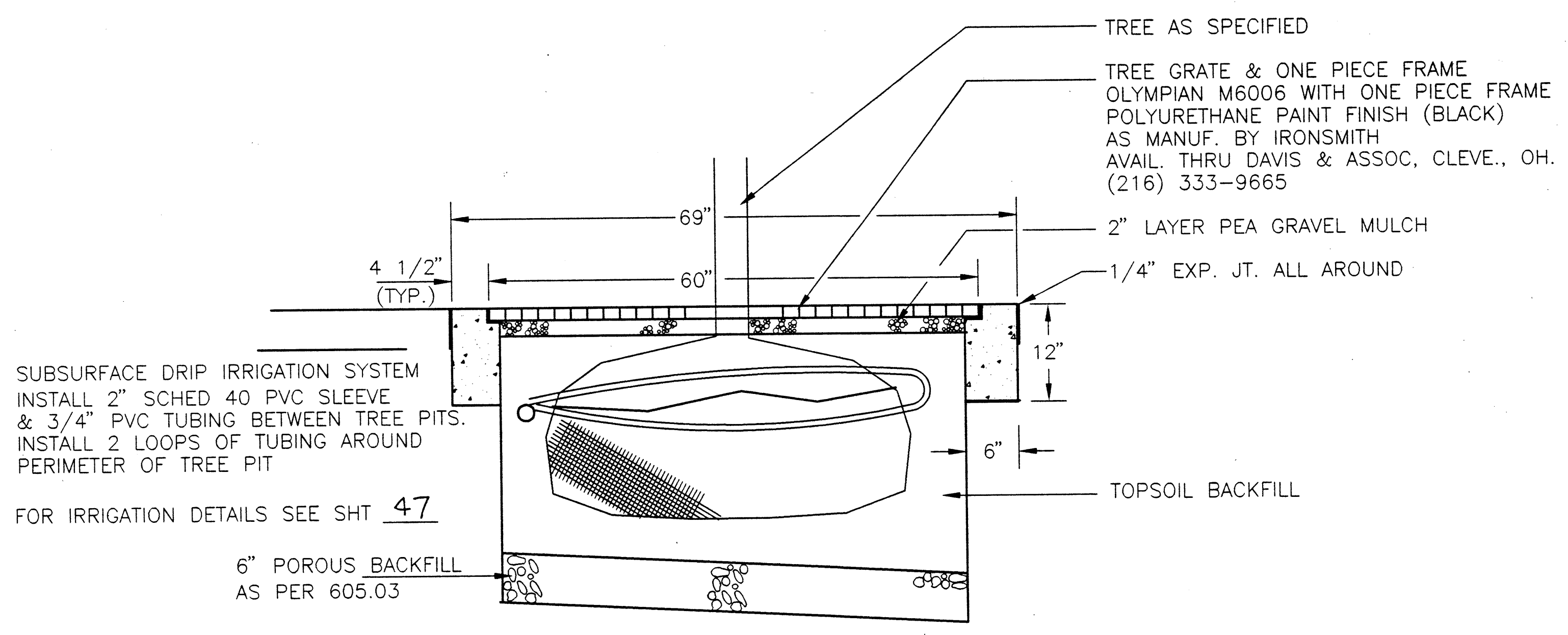
SHEET FILE WALL + BOLLARD DETAILS

EAST 9th STREET PIER

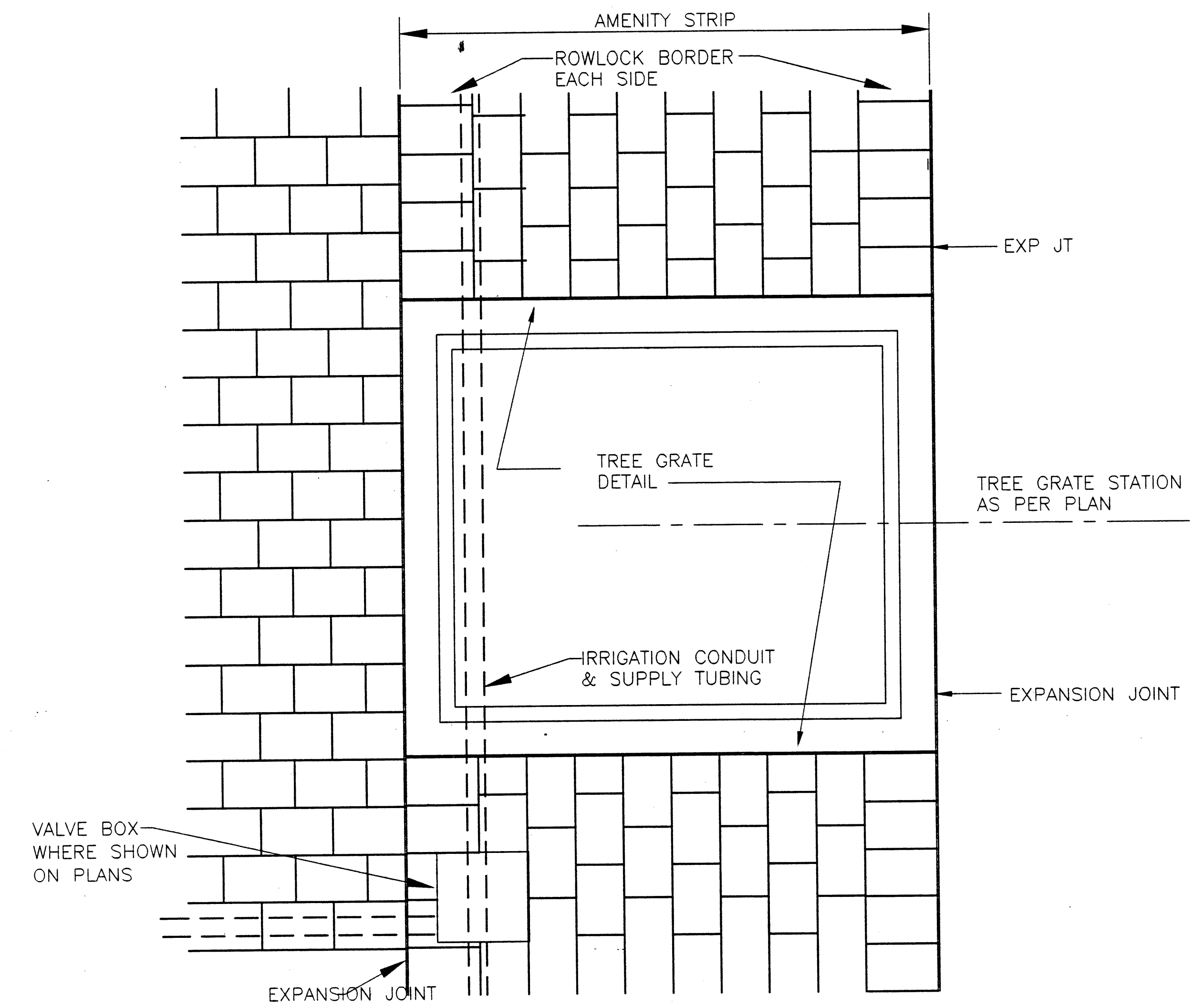
CUY-EAST 9th ST. PIER

6 / X

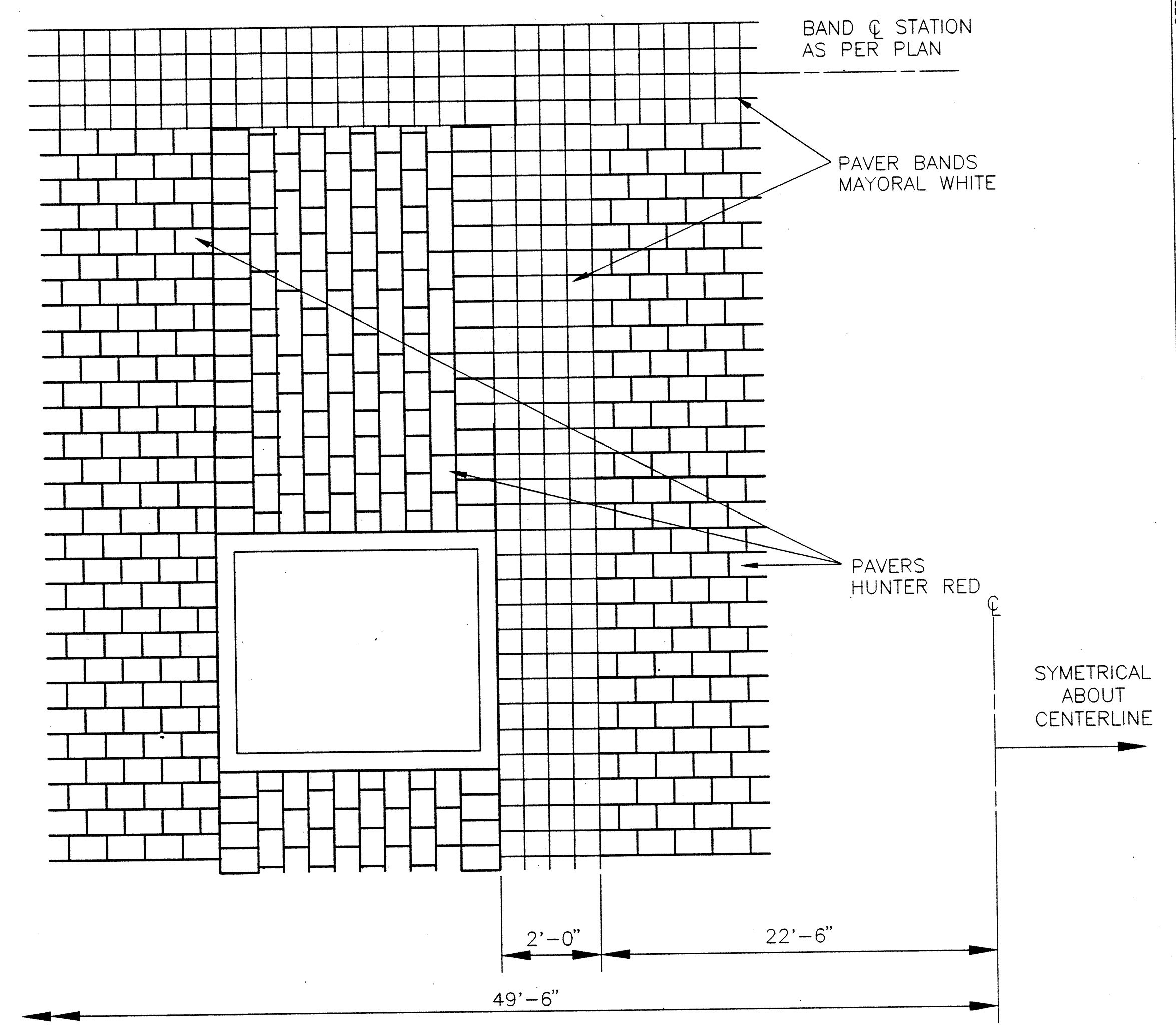
36



TREE GRATE DETAIL



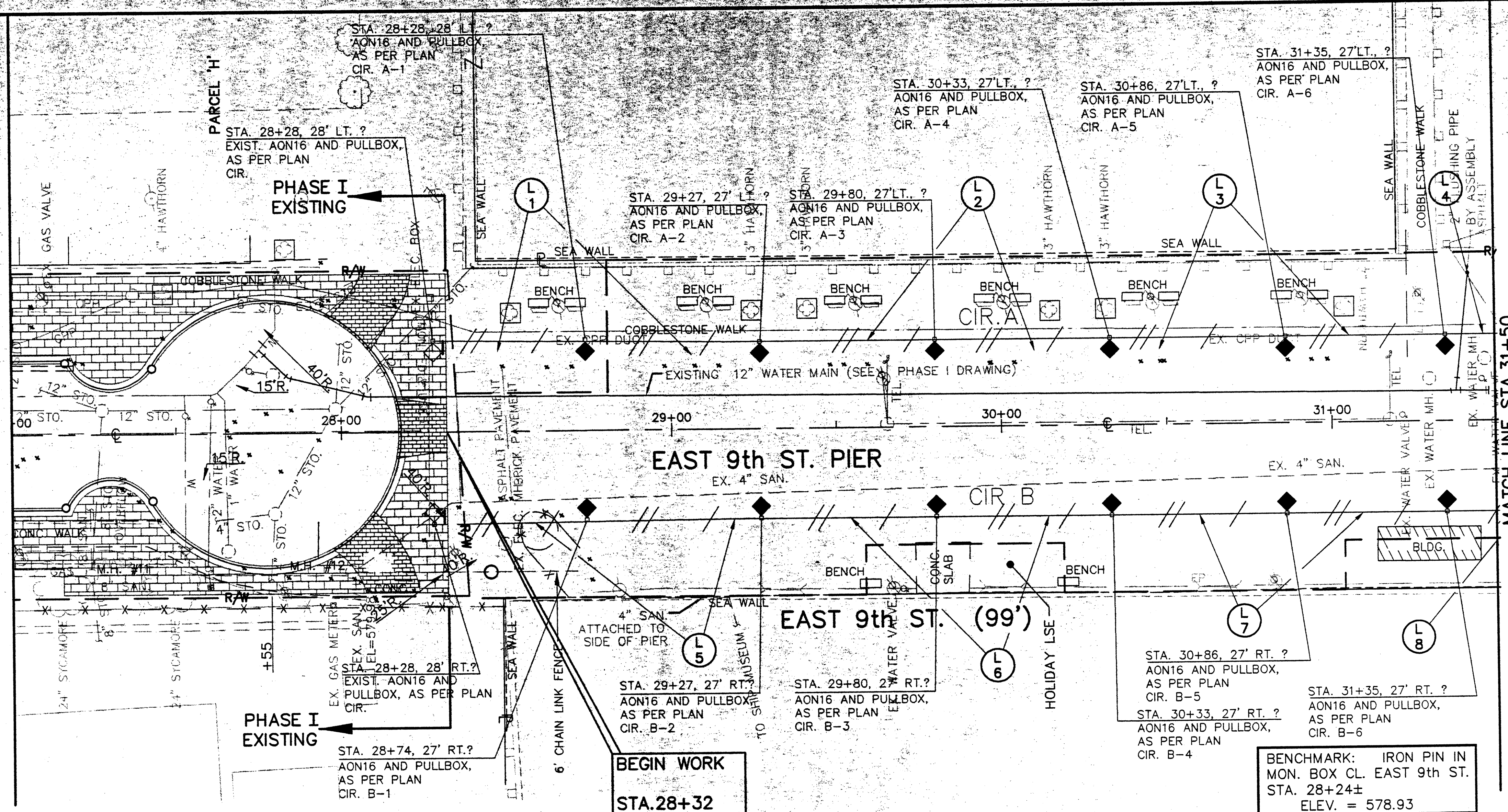
TYPICAL AMENITY STRIP
STA. 28+32 TO STA. 31+20



TYPICAL PAVING PATTERN
STA. 28+32 TO STA. 35+54.91
NOTE: TREES GRATES TO STATION 31+20 (±) ONLY

LEGEND

- ◆ - LUMINAIRE POST TOP TYPE V, 100 W. METAL HALIDE, 16 FOOT MOUNTING HEIGHT W/ PULLBOX, AS PER PLAN.
- CONDUIT, 2", 713.07, TYPE EB, AS PER PLAN
- /// - NO. OF CABLES IN CONDUIT



MATCH LINE STA. 31+50
SEE SHEET NO. _____

CALCULATED M.M. 8/95
CHECKED K.P. 8/95

PLAN AND PROFILE - E.9th STREET
STA.27+00 TO STA.31+50

CUY-EAST 9th STREET

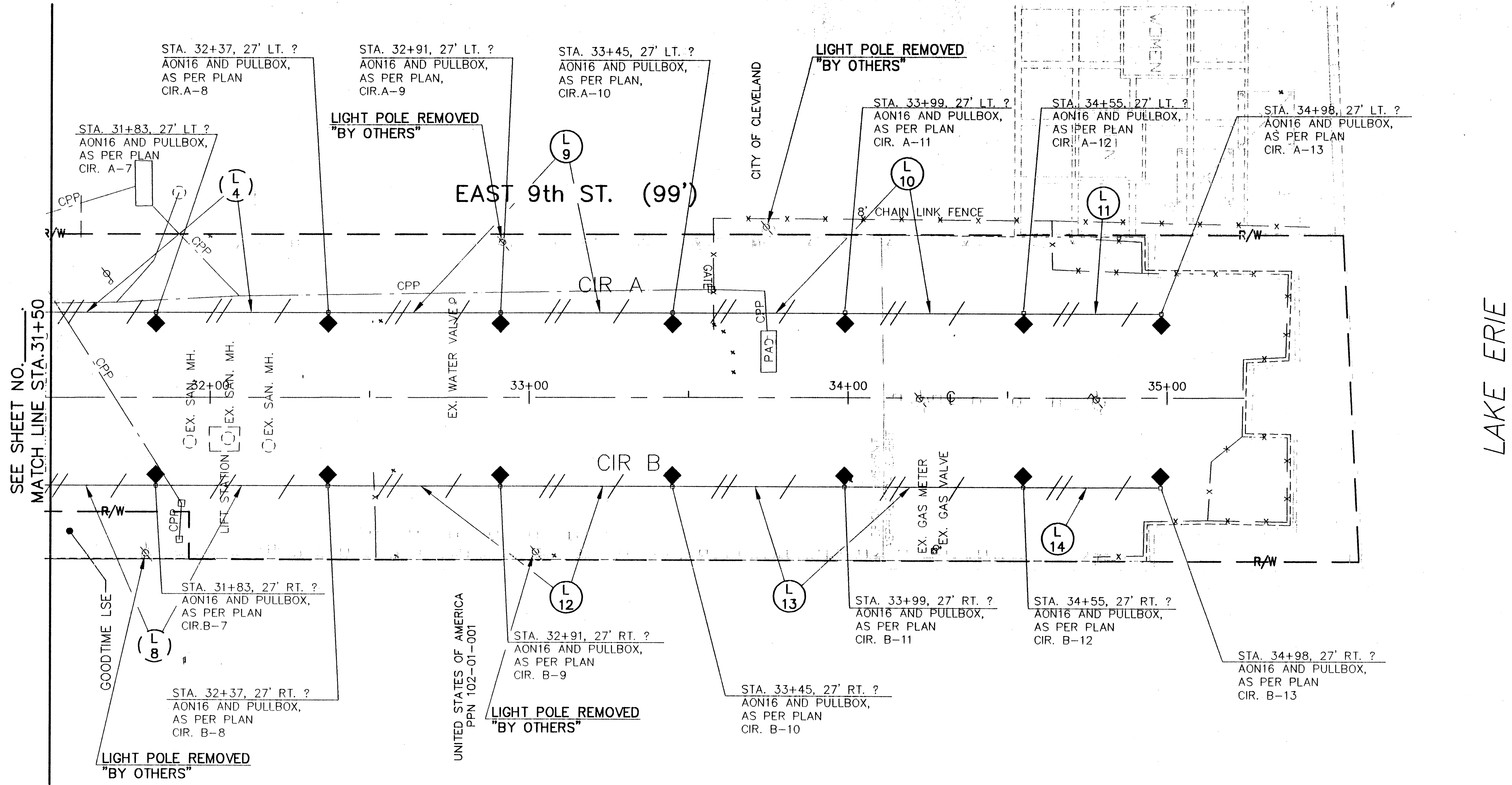
ESTIMATED QUANTITIES

* - ENHANCEMENT FUNDS

REFERENCE No.	LOCATION STATION TO STATION	SIDE	ITEM NUMBERS										
			625										
			LIGHT POLE, DESIGN AON16, AS PER PLAN	LIGHT POLE FOUNDATION, 24" x 4'-9" DEEP	LUMINAIRE, POST TOP, TYPE V, 100 W. METAL HALIDE, 713.11, 240 VOLTS W/PHOTOCELL	GROUND ROD	PULL BOX, POLYMER-CONCRETE	TRENCH, 24" DEEP	CONDUIT, 2", 713.07, TYPE EB, AS PER PLAN	NO.4 AWG. 5000V. DISTRIBUTION CABLE	NO.10 AWG POLE AND BRACKET CABLE	CONNECTOR KIT, TYPE II	CABLE SPLICING KIT
EACH	EACH	EACH	EACH	EACH	LF.	LF.	LF.	LF.	EACH	EACH			
L1	28+28 TO 29+27	LT	2	2	2	2	2	99	198	327	64	2	6
L2	29+27 TO 30+33	LT	2	2	2	2	2	106	212	348	64	2	6
L3	30+33 TO 31+35	LT	2	2	2	2	2	102	204	336	64	2	6
L4	31+35 TO 32+37	LT	2	2	2	2	2	102	204	336	64	2	6
L5	28+28 TO 29+27	RT	2	2	2	2	2	99	198	327	64	2	6
L6	29+27 TO 30+33	RT	2	2	2	2	2	106	212	348	64	2	6
L7	30+33 TO 31+35	RT	2	2	2	2	2	102	204	336	64	2	6
L8	31+35 TO 32+37	RT	2	2	2	2	2	102	204	336	64	2	6
TOTAL			16	16	16	16	16	818	1636	2694	384	16	48

DESIGNED BY: DSB
DATE: 6/20/94
DRAWN BY: T.K.I.
DATE: 6/22/94
CHECKED BY: T.K.I.
DATE: 10/25/96
CAD FILE NAME: 7019700-E9SH75

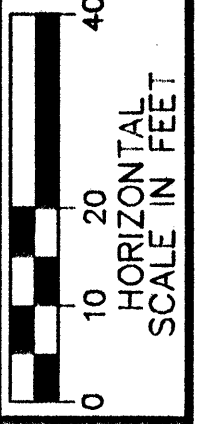
DESIGNED BY: DSB | CHECKED BY:
 DATE: 6/20/94 | DATE:
 DRAWN BY: T.K.I. | REVISED BY: T.K.I.
 DATE: 6/22/94 | DATE: 10/25/96
 CAD FILE NAME: 7019700-EGSH16



ESTIMATED QUANTITIES

* - ENHANCEMENT FUNDS

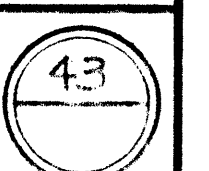
REFERENCE No.	LOCATION STATION TO STATION	SIDE	ITEM NUMBERS 625										
			LIGHT POLE, DESIGN AON16, AS PER PLAN	LIGHT POLE FOUNDATION, 24" X 4'-9" DEEP	LUMINAIRE, POST TOP, TYPE V, 100 W. METAL HALIDE 713.TI, 240 VOLTS W/PHOTOCCELL	GROUND ROD	C.P.P. PULL BOX, POLYMER-CONCRETE	TRENCH, 24" DEEP	CONDUIT, 2", 713.07, TYPE EB, AS PER PLAN	NO.4 AWG, 5000V, DISTRIBUTION CABLE	NO.10 AWG POLE AND BRACKET CABLE	CONNECTOR KIT, TYPE II	CABLE SPLICING KIT
			EACH	EACH	EACH	EACH	EACH	LF.	LF.	LF.	LF.	EACH	EACH
L-9	32+37 TO 33+45	LT	2	2	2	2	2	108	216	354	64	2	6
L-10	33+45 TO 34+55	LT	2	2	2	2	2	110	220	360	64	2	6
L-11	34+55 TO 34+98	LT	2	2	2	2	2	43	86	159	32	1	3
L-12	32+37 TO 33+45	RT	2	2	2	2	2	108	216	354	64	2	6
L-13	33+45 TO 34+55	RT	2	2	2	2	2	110	220	360	64	2	6
L-14	34+55 TO 34+98	RT	2	2	2	2	2	43	86	159	32	1	3
TOTAL			10	10	10	10	10	522	1044	4200	320	10	30

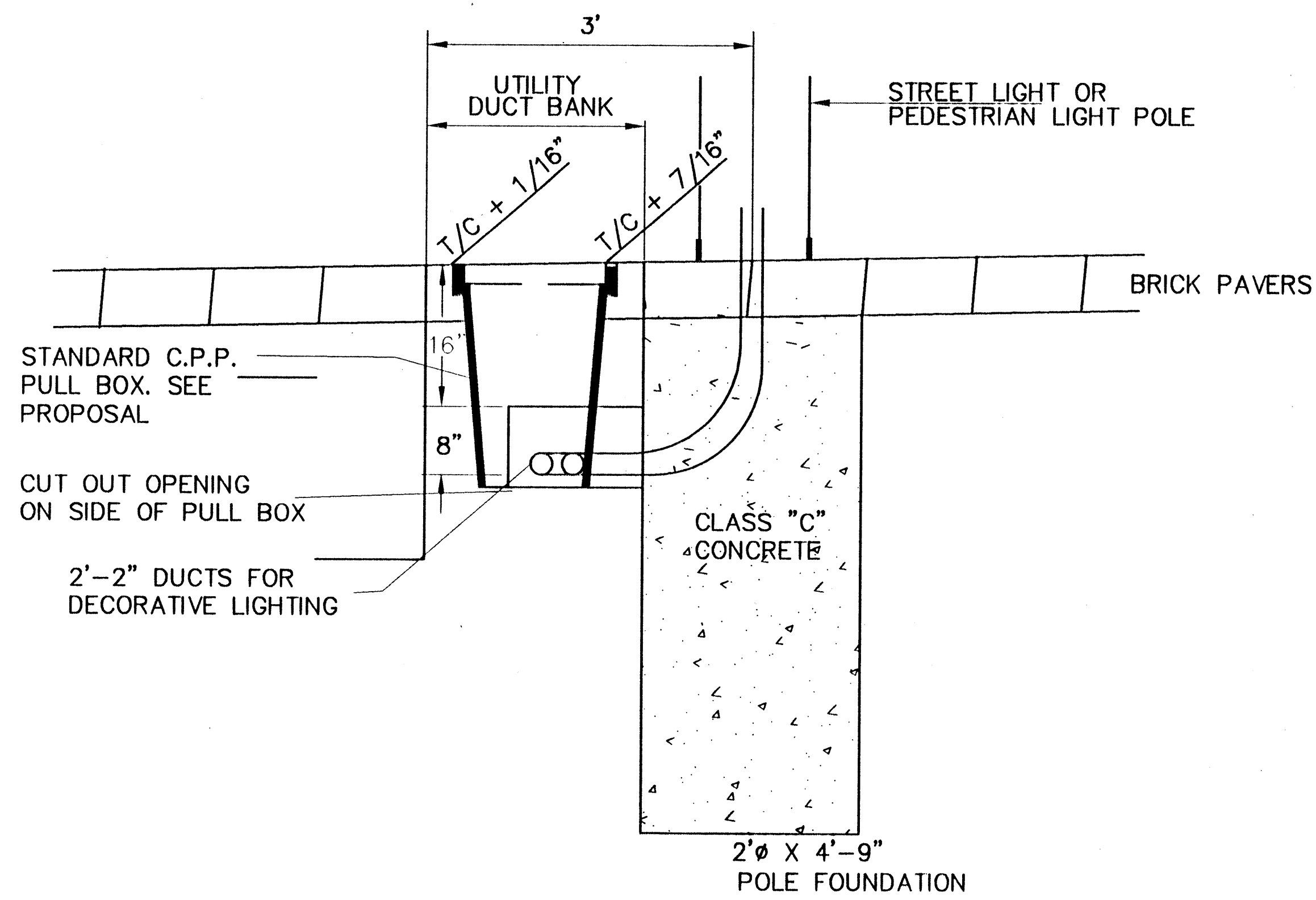


CALCULATED
R.L. 8/95
CHECKED
K.P. 8/95

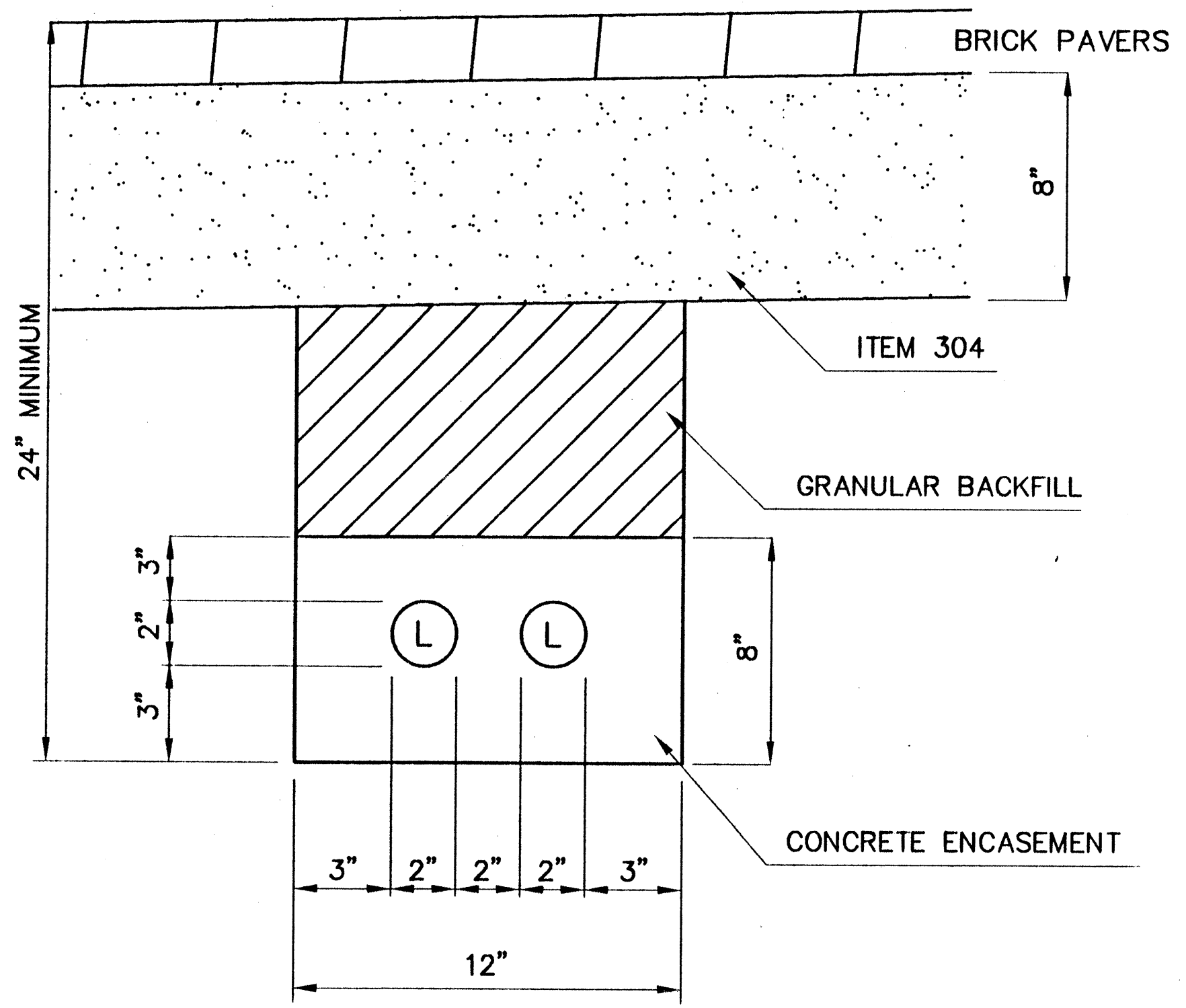
PLAN AND PROFILE - E.9th STREET
 STA.31+50 TO STA.35+24

CUY-EAST 9th STREET





PULL BOX INSTALLATION



SECTION "B-B"

DUCT BANK DETAIL UNDER EXISTING PAVEMENT

NOTE:

CLEVELAND PUBLIC POWER TO HAVE MINIMUM 24" COVER FOR CONCRETE ENCASEMENT ONLY.

PVC TO BE CONCRETE ENCASED 3" TO THE OUTSIDE OF THE DUCT BEAM AND 2" BETWEEN PVC CONDUIT.

SPACERS TO BE INSTALLED IN FULL LENGTHS OF CONDUIT RUN A MINIMUM OF FIVE FEET APART FOR CONCRETE ENCASEMENT ONLY.

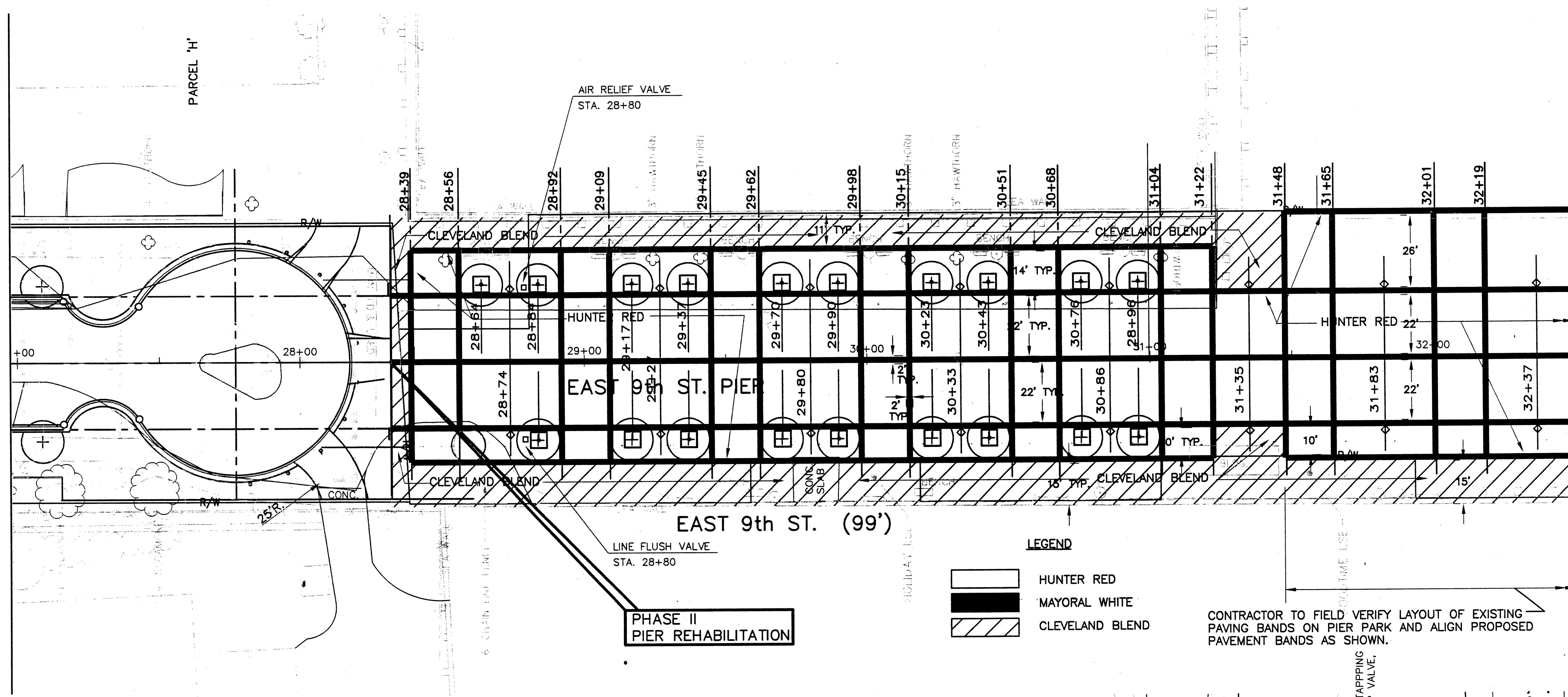
LEGEND:

Ⓛ ITEM 625, CONDUIT, 713.07, 2", TYPE EB, AS PER PLAN (FOR LIGHTING)

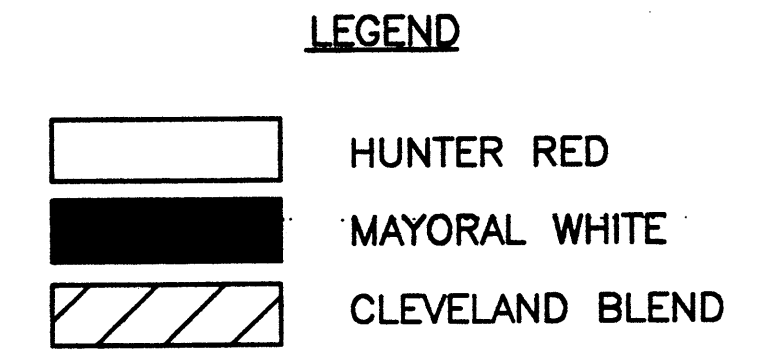
DESIGNED BY: EDR	CHECKED BY:
DATE: 11/1/94	DATE:
DRAWN BY: T.K.I.	REVISED BY: JAM
DATE: 11/14/94	DATE: 05/28/96
CAD FILE NAME: 7019700-LTDET2	

DESIGNED BY: DSB
 DATE: 6/20/94
 DRAWN BY: T.K.I.
 DATE: 6/22/94
 CHECKED BY: NEL
 DATE: 7/31/96
 CAD FILE NAME: 7019700-STSCAPES

REFERENCE No.	STATION TO STATION	SIDE	ITEM NUMBERS						
			FOR INFORMATION ONLY			605	SPECIAL		663
			HUNTER RED S.F.	MAYORAL WHITE S.F.	CLEVELAND BLEND S.F.	TREE GRATE EA.	IRRIGATION SYSTEM LUMP	DECIDUOUS SHADE TREE 3 1/2" - 4" CALIPER EA.	
	STA. 28+64 TO STA. 28+96	LT./RT.					19	LUMP	19
	STA. 21+30	LT.							
	STA. 31+55	LT.							
	STA. 28+32 TO STA. 32+50		28148	6316	10255				
	TOTAL *		28148	6316	10225		19	LUMP	19



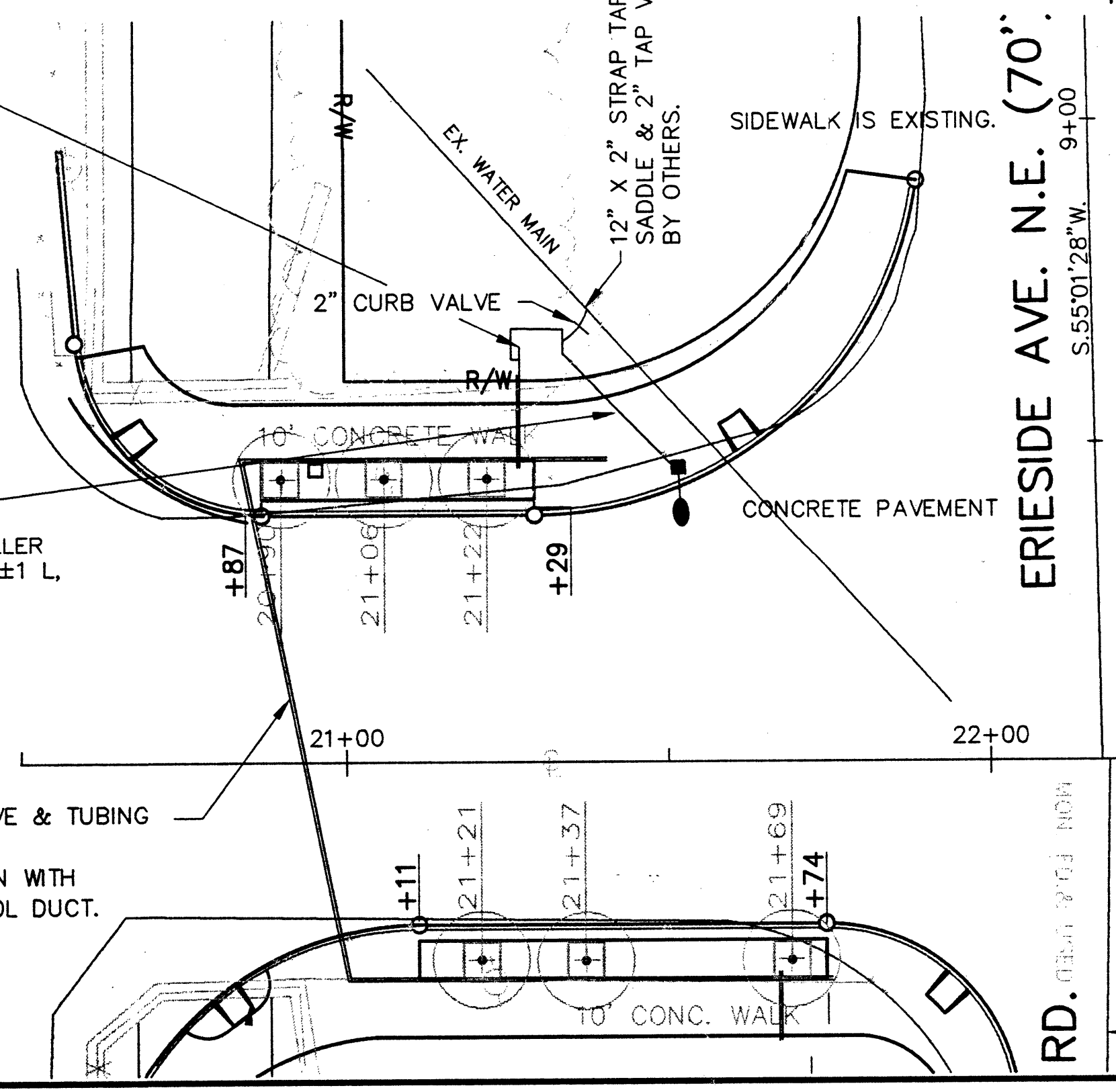
**PHASE II
PIER REHABILITATION**



CONTRACTOR TO FIELD VERIFY LAYOUT OF EXISTING PAVING BANDS ON PIER PARK AND ALIGN PROPOSED PAVEMENT BANDS AS SHOWN.

STA. 21+30, 60' LEFT
 INSTALL 2" METER IN VAULT, INCLUDING BACKFLOW PREVENTOR AND 'TORO VISION II' CONTROLLER AS PER SPECIFICATION. THE CONTROLLER SHALL BE MOUNTED ON THE INSIDE WALL OF THE VAULT, BY OTHERS.

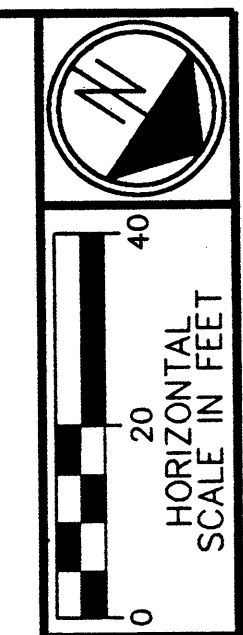
120 VOLT - SINGLE PHASE ELECTRIC WIRING CONNECTION IN 2" PVC CONDUIT TO CONTROLLER FROM PULL BOX AT STA. 21+60±1 L, BY OTHERS.



FOR NOTES, SEE SHEET _____

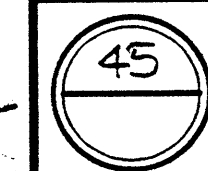
* TOTAL AREA FOR INFORMATION ONLY

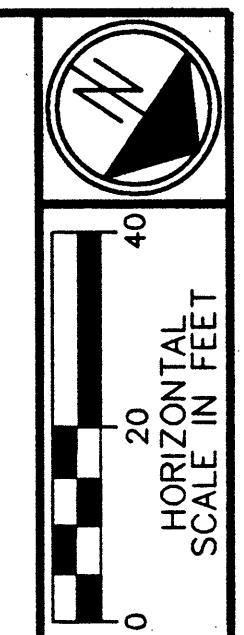
SEE SHEET NO. _____
 MATCH LINE STA. 32+50



STREETSCAPE PLAN - E.9th STREET
 STA. 27+00 TO STA. 32+50

CUY-EAST 9th STREET

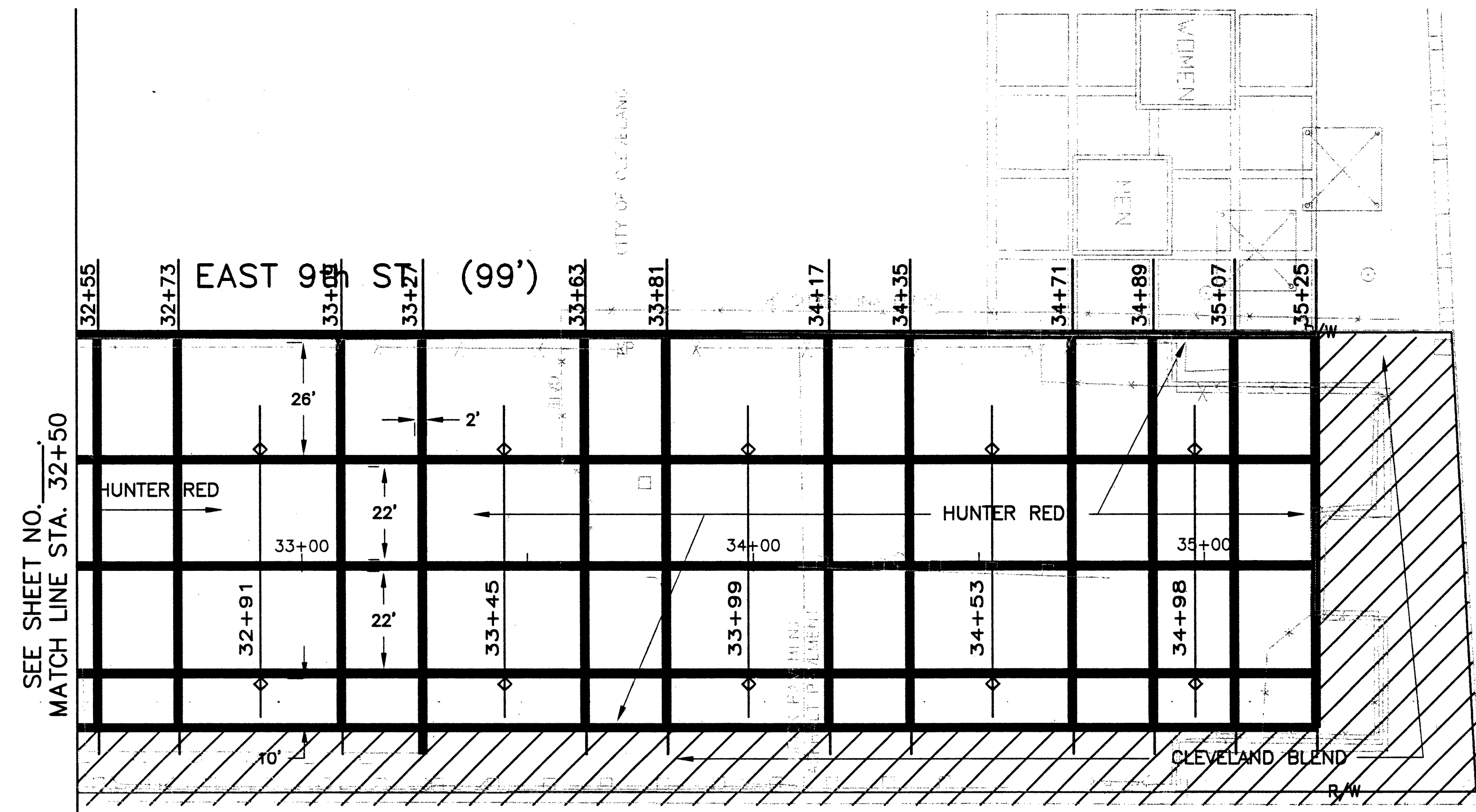




CALCULATED
CHECKED

STREETSCAPE PLAN - E.9th STREET
STA. 32+50 TO STA. 35+00

CUY-EAST 9th STREET



LAKE ERIE

SEE SHEET NO. _____
MATCH LINE STA. 32+50

CONTRACTOR TO FIELD VERIFY LAYOUT OF EXISTING PAVING BANDS ON PIER PARK AND ALIGN PROPOSED PAVEMENT BANDS AS SHOWN.

ITEM SPECIAL - IRRIGATION SYSTEM

THE CONTRACTOR SHALL INSTALL AND UNDERGROUND DRIP IRRIGATION ACCORDING TO THE PLANS AND SPECIFICATIONS PROVIDED.

THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S DATA SHEETS FOR ALL MATERIALS TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

THE CONTRACTOR SHALL INSTALL A TWO INCH (2") SCHEDULE 40 PVC SLEEVE WITH A MINIMUM COVER OF TWELVE INCHES (12") BELOW FINISH GRADE. SEPARATE SLEEVES FOR WATER SUPPLY TUBING AND ELECTRICAL WIRING SHALL BE INSTALLED WHERE INDICATED FOR FUTURE CONNECTIONS. COORDINATE SLEEVE INSTALLATION WITH PAVING AND/OR TRAFFIC CONTROL CONDUIT INSTALLATION AS REQUIRED.

PROVIDE A SUBSURFACE DRIP IRRIGATION SYSTEM, AS SPECIFIED ON THE PLANS AT EACH TREE PIT BY INSTALLING TWO LOOPS OF IRRIGATION TUBING AROUND THE PERIMETER OF EACH TREE PIT. SLEEVES AND TUBING TO BE STUBBED AND CAPPED AT THE RIGHT OF WAY LINE WHERE SHOWN ON THE PLANS.

INSTALL A CONTROL VALVE ASSEMBLY AS SPECIFIED IN A CONTROL VALVE BOX, WHERE SHOWN ON THE PLANS AND STUB AT THE RIGHT OF WAY LINE WHERE SHOWN ON THE PLANS.

INSTALL AN AIR RELIEF VALVE IN A VALVE BOX WHERE SHOWN ON THE PLANS. INSTALL A LINE FLUSHING VALVE IN A VALVE BOX WHERE SHOWN ON THE PLANS. INSTALL AND TEST IRRIGATION SYSTEM AS PER MANUFACTURER'S SPECIFICATIONS.

PAYMENT FOR THE ABOVE SHALL BE MADE ON A LUMP SUM BASIS.

ITEM SPECIAL - IRRIGATION CONNECTION VAULT - BY OTHERS

THE CONTRACTOR SHALL PROVIDE MATERIALS AND LABOR FOR THE INSTALLATION OF A NEW UNDERGROUND IRRIGATION CONNECTION VAULT, NEW WATER AND ELECTRIC SERVICE CONNECTIONS TO THE VAULT, NEW STUBBED IRRIGATION CONNECTIONS, AND NEW WATER CONNECTIONS TO THE IRRIGATION SYSTEM. THE CONTRACTOR SHALL PROVIDE A COMPLETE AND WORKING IRRIGATION CONNECTION VAULT SYSTEM.

THE CONTRACTOR SHALL INSTALL A NEW 2 INCH WATER SERVICE CONNECTION FROM THE EXISTING 12 INCH WATER MAIN, INCLUDING A 12" X 2" TAP VALVE AND 2" CURB VALVE, TO THE IRRIGATION CONTROL VAULT.

THE CONTRACTOR SHALL INSTALL A NEW 120 V, SINGLE PHASE, ELECTRICAL SERVICE CONNECTION IN A 2 INCH PVC CONDUIT FROM A PULL BOX LOCATED IN THE LIGHT POLE BASE TO THE IRRIGATION CONTROL VAULT.

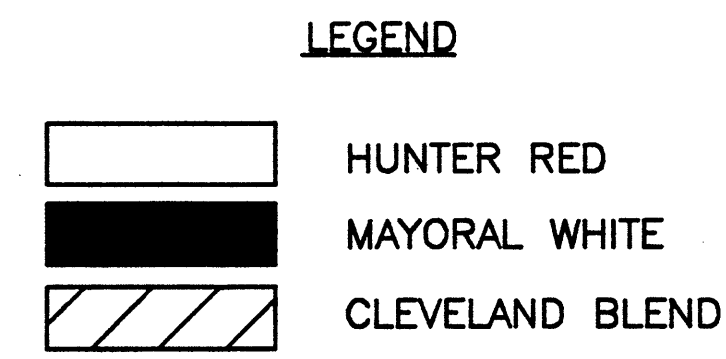
THE CONNECTION VAULT SHALL BE PRECAST CONCRETE, CAPABLE OF SUPPORTING AASHTO H20 TRAFFIC LOADING. INSTALL VAULTS OUTSIDE R/W, ONE NEAR STATION 21+30L, ONE NEAR STATION 31+55L, IN LOCATIONS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF EACH CONTROL VAULT, ALL PIPING, WATER METER, BACKFLOW PREVENTER, IRRIGATION EQUIPMENT, ELECTRICAL CONNECTIONS, AND APPURTENANCES TO THE ENGINEER FOR APPROVAL. THE CONNECTION VAULT, WATER METER AND BACKFLOW PREVENTER ASSEMBLIES SHALL BE IN CONFORMANCE WITH CITY OF CLEVELAND WATER DEPARTMENT STANDARDS.

THE CONTRACTOR SHALL PROVIDE SLEEVED CONNECTIONS FROM THE VAULT TO THE DRIP IRRIGATION SYSTEM, AND SLEEVED AND STUBBED CONDUITS FOR BOTH WATER AND ELECTRICAL WIRING CONNECTIONS TO FUTURE IRRIGATED AREAS AS INDICATED.

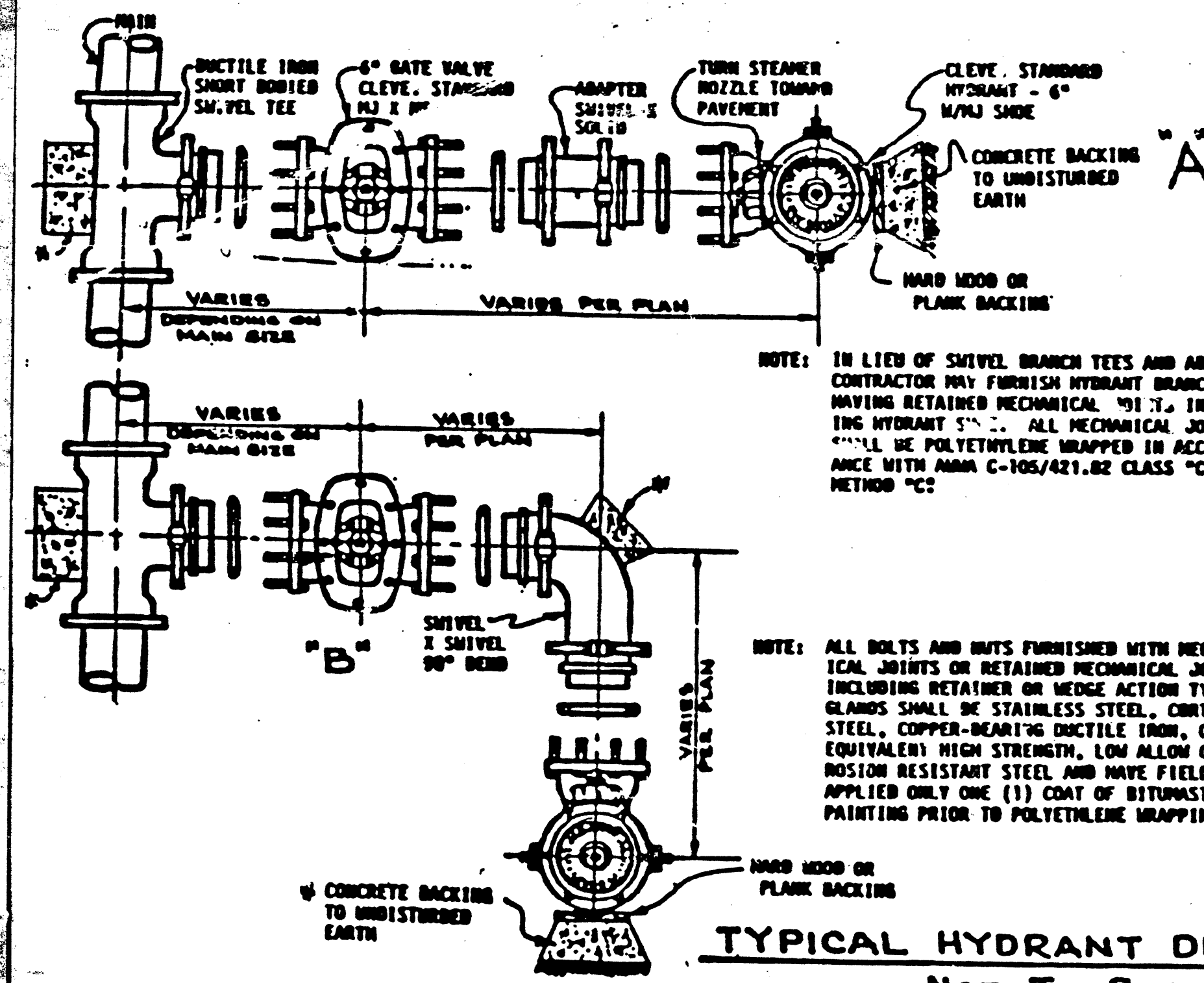
PAYMENT FOR THE ABOVE SHALL BE MADE UNDER THE CONTRACT UNIT PRICE BID FOR ITEM SPECIAL, IRRIGATION CONNECTION VAULT.

LOCATION		ITEM NUMBERS			
REFERENCE No.	STATION TO STATION	SIDE	FOR INFORMATION ONLY		
			HUNTER RED	MAYORAL WHITE	CLEVELAND BLEND
			S.F.	S.F.	S.F.
	STA. 32+50 TO STA. 35+25	LT/RT	20900	4594	7205
TOTAL *			20900	4594	7205

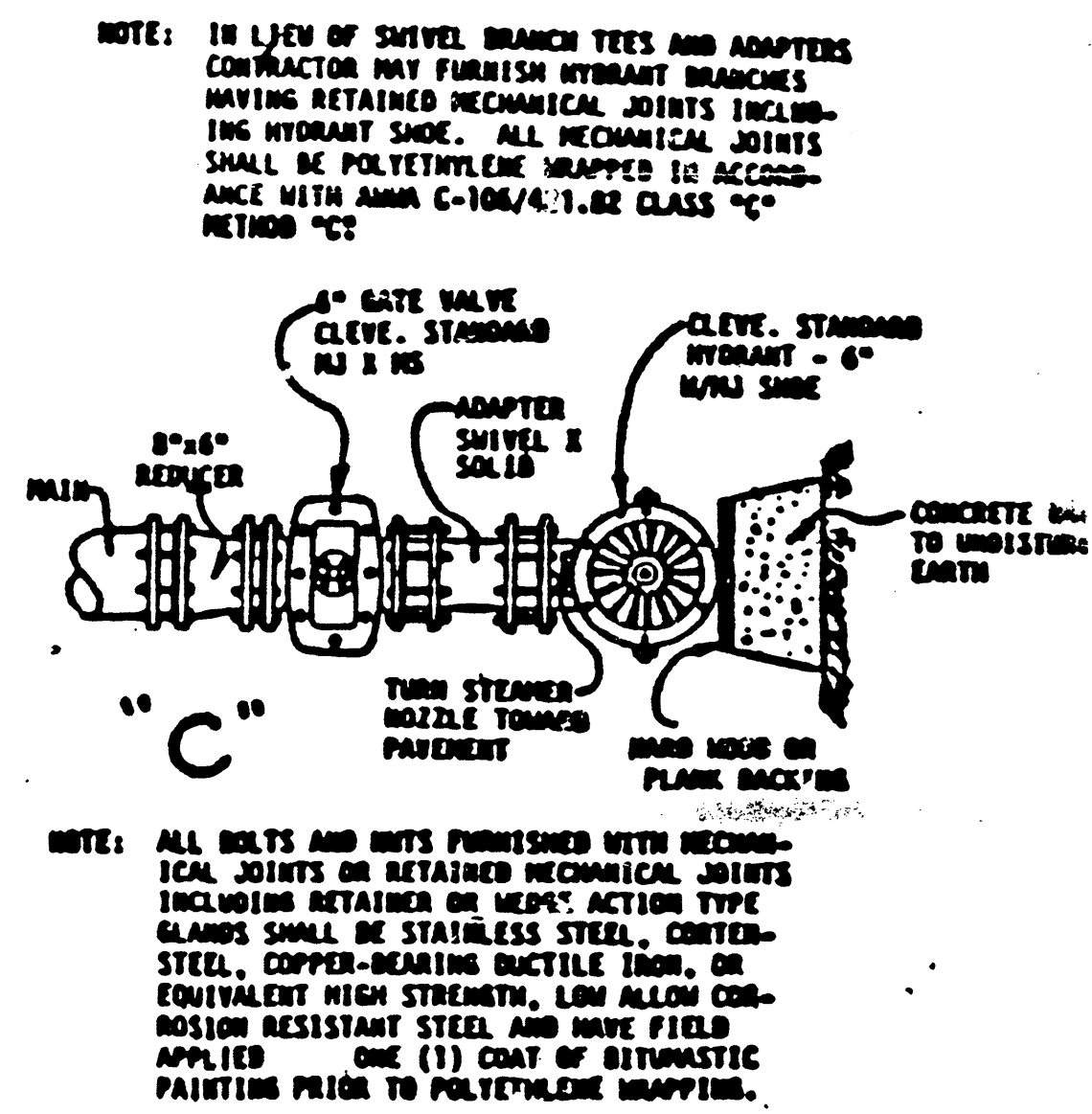


DESIGNED BY: DSB
DATE: 6/20/94
DRAWN BY: I.K.L.
DATE: 6/22/94
CAD FILE NAME: 7019700-STSCAPE7

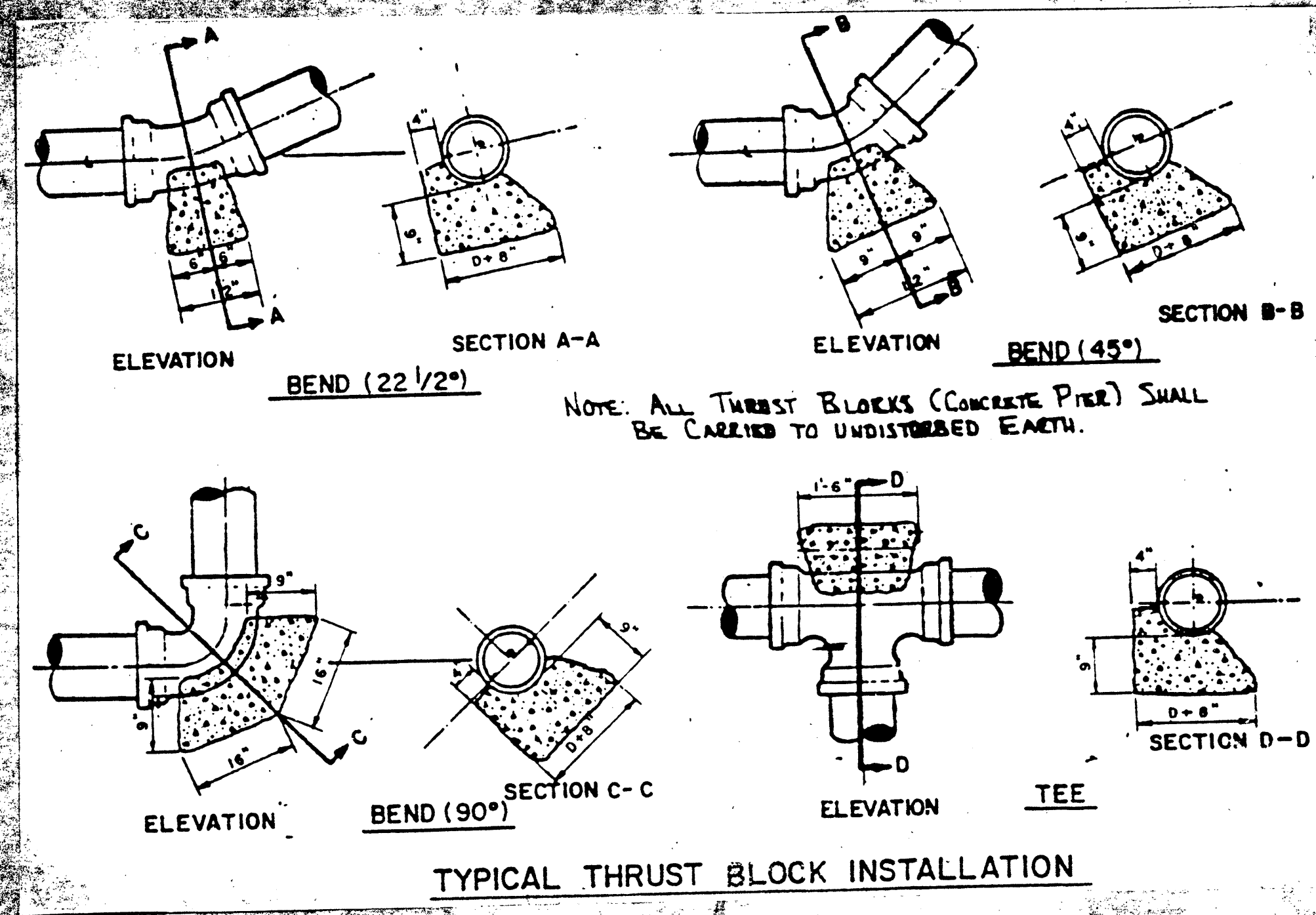
* TOTAL AREA FOR INFORMATION ONLY



TYPICAL HYDRANT DETAILS
NOT TO SCALE



NOTE: ALL BOLTS AND NUTS FURNISHED WITH MECHANICAL JOINTS OR RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE STAINLESS STEEL, CORTEN STEEL, COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOW CORROSION RESISTANT STEEL AND HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING PRIOR TO POLYETHYLENE WRAPPING.



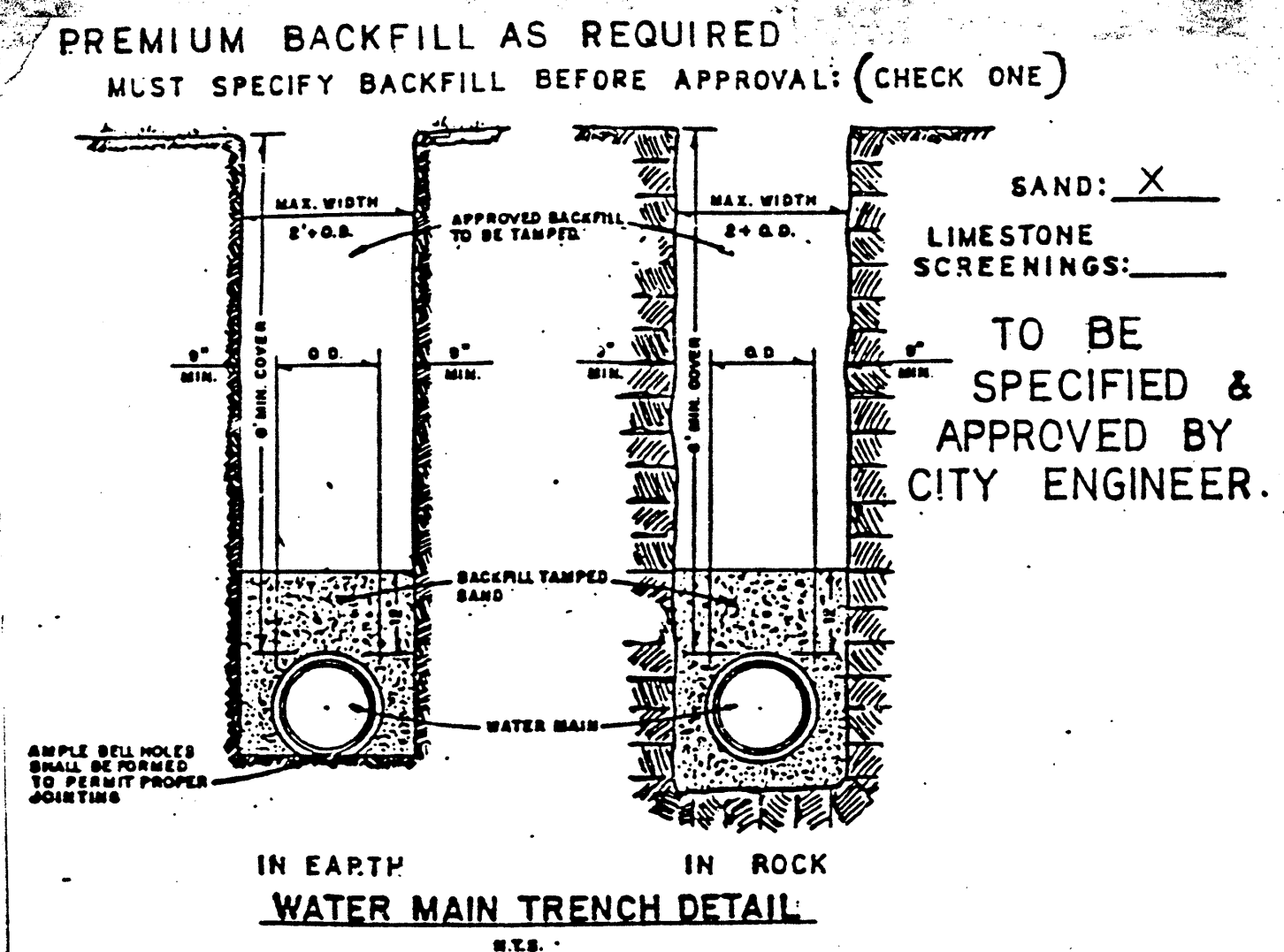
TYPICAL THRUST BLOCK INSTALLATION

NOTE: IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS, THE CONTRACTOR MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-105/421.82 CLASS "C" METHOD "C".

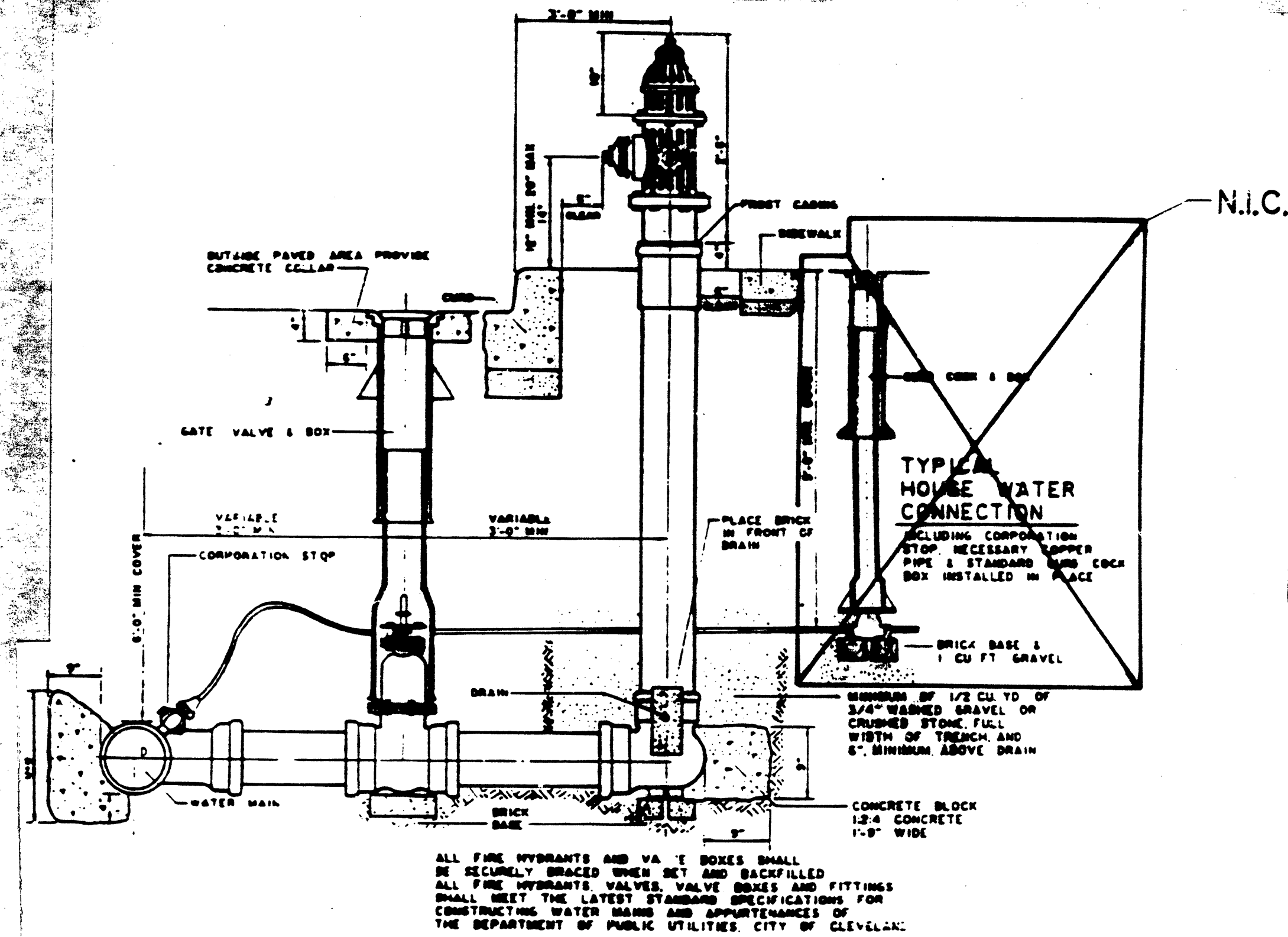
NOTE: ALL BOLTS AND NUTS FURNISHED WITH MECHANICAL JOINTS OR RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE STAINLESS STEEL, CORTEN STEEL, COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH LOW ALLOW CORROSION RESISTANT STEEL AND HAVE FIELD APPLIED ONLY ONE (1) COAT OF BITUMASTIC PAINTING PRIOR TO POLYETHYLENE WRAPPING.

NOTE: IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTOR MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-106/421.82 CLASS "C" METHOD "C".

NOTE: ALL BOLTS AND NUTS FURNISHED WITH MECHANICAL JOINTS OR RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE STAINLESS STEEL, CORTEN STEEL, COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALL CORROSION RESISTANT STEEL AND HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING PRIOR TO POLYETHYLENE WRAPPING.

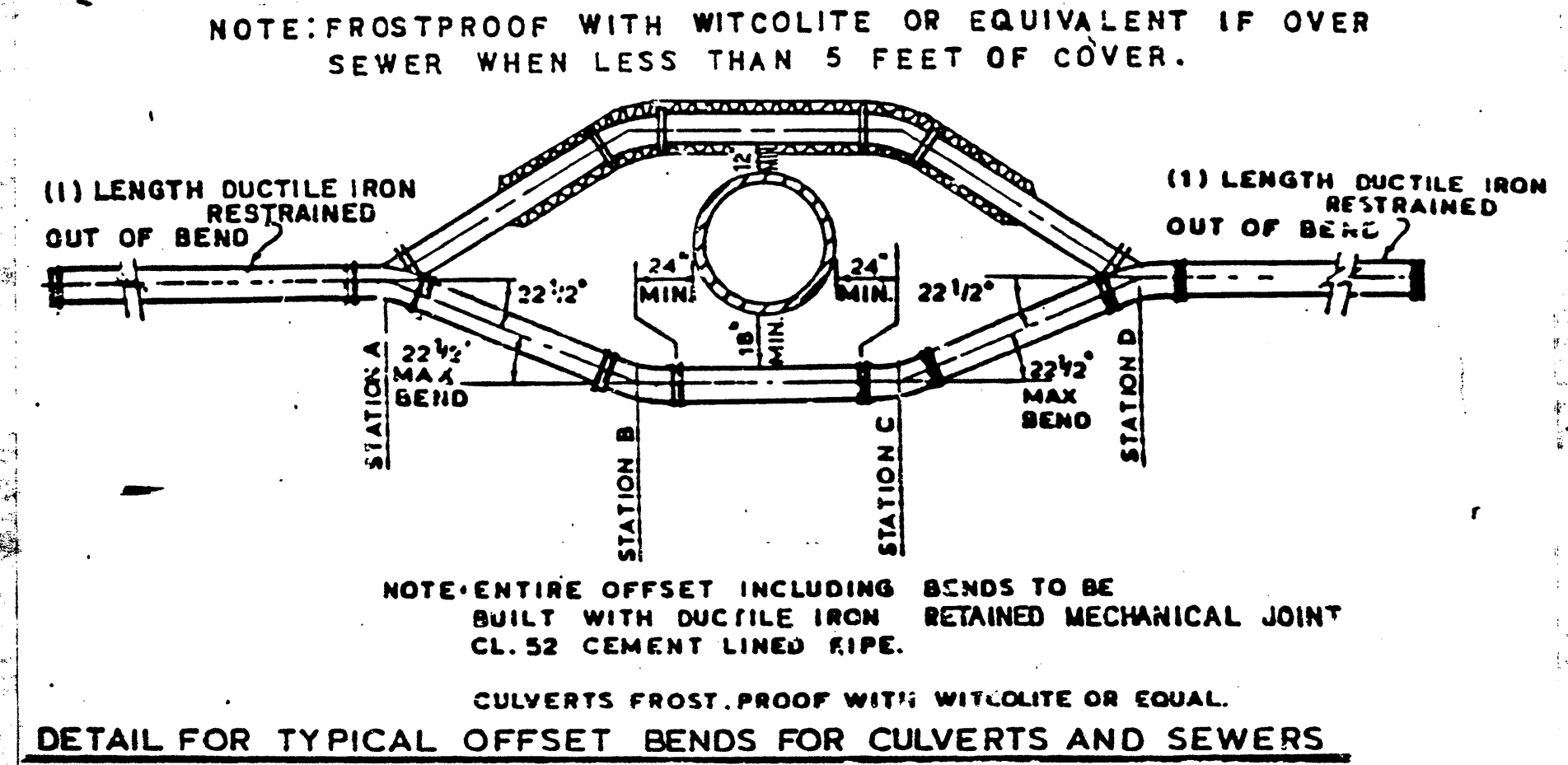


WATER MAIN TRENCH DETAIL



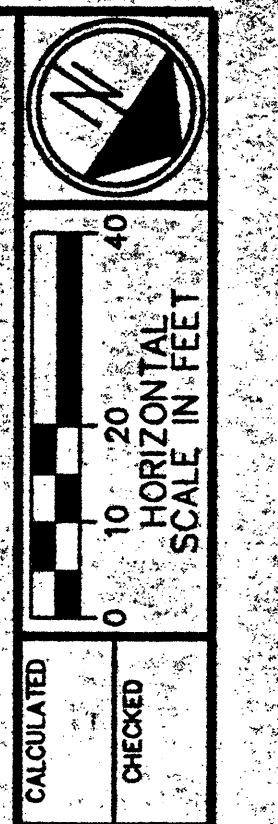
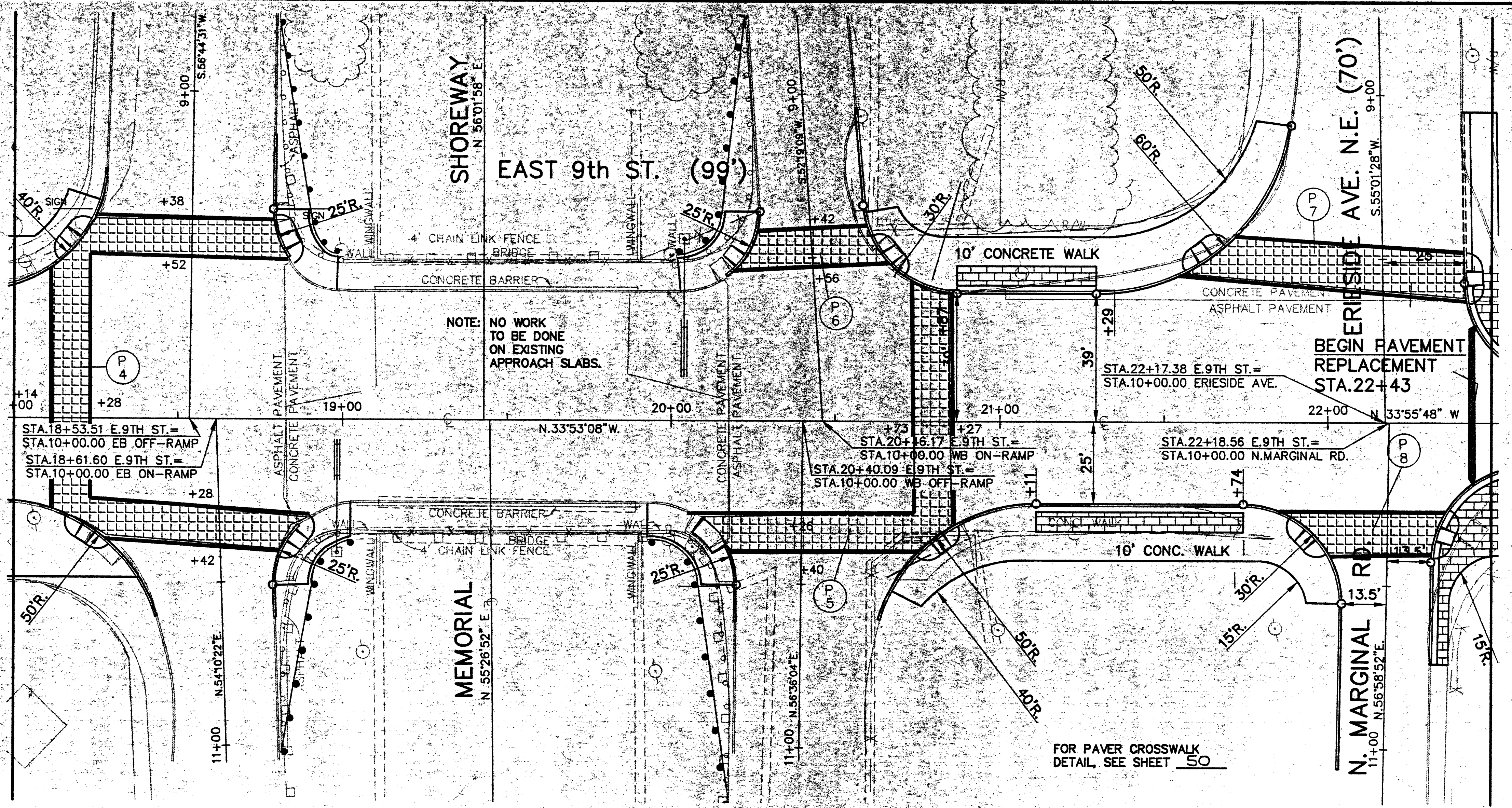
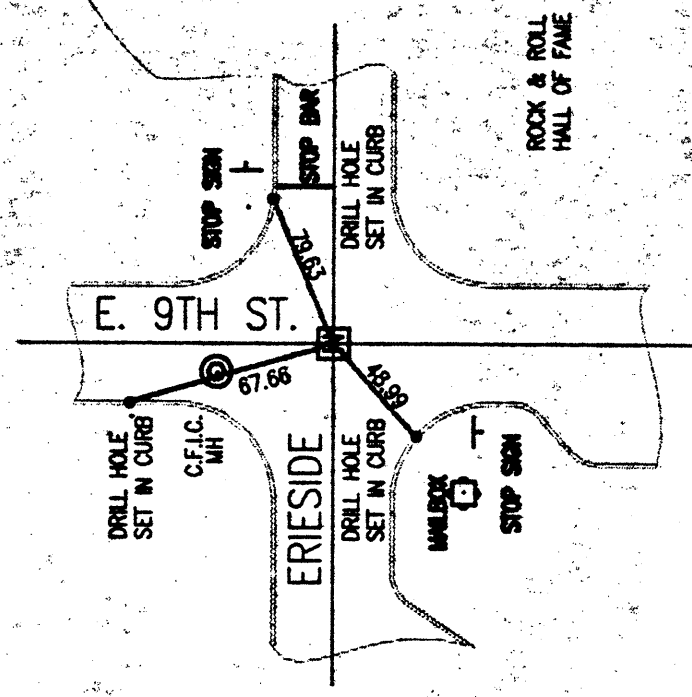
TYPICAL 6" FIRE HYDRANT ASSEMBLY INSTALLATION

ALL FIRE HYDRANTS AND VALVE BOXES SHALL BE SECURELY BRACED WHEN SET AND BACKFILLED. ALL FIRE HYDRANTS VALVES, VALVE BOXES AND FITTINGS SHALL MEET THE LATEST STANDARD SPECIFICATIONS FOR CONSTRUCTING WATER MAINS AND APPURTENANCES OF THE DEPARTMENT OF PUBLIC UTILITIES, CITY OF CLEVELAND.



DETAIL FOR TYPICAL OFFSET BENDS FOR CULVERTS AND SEWERS

CALCULATED
 CHECKED
 DETAILS
 CUY - EAST 9th STREET
 48



PLAN AND PROFILE - E. 9th STREET
STA. 18+00 TO STA. 22+50

CUY-EAST 9th STREET

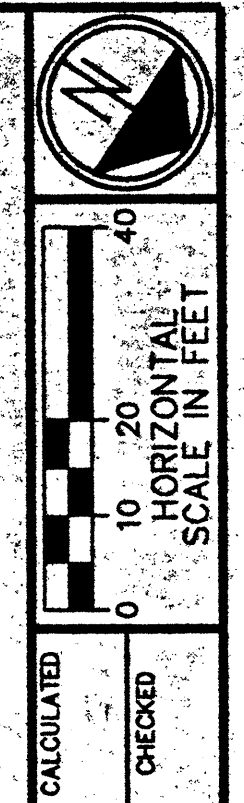
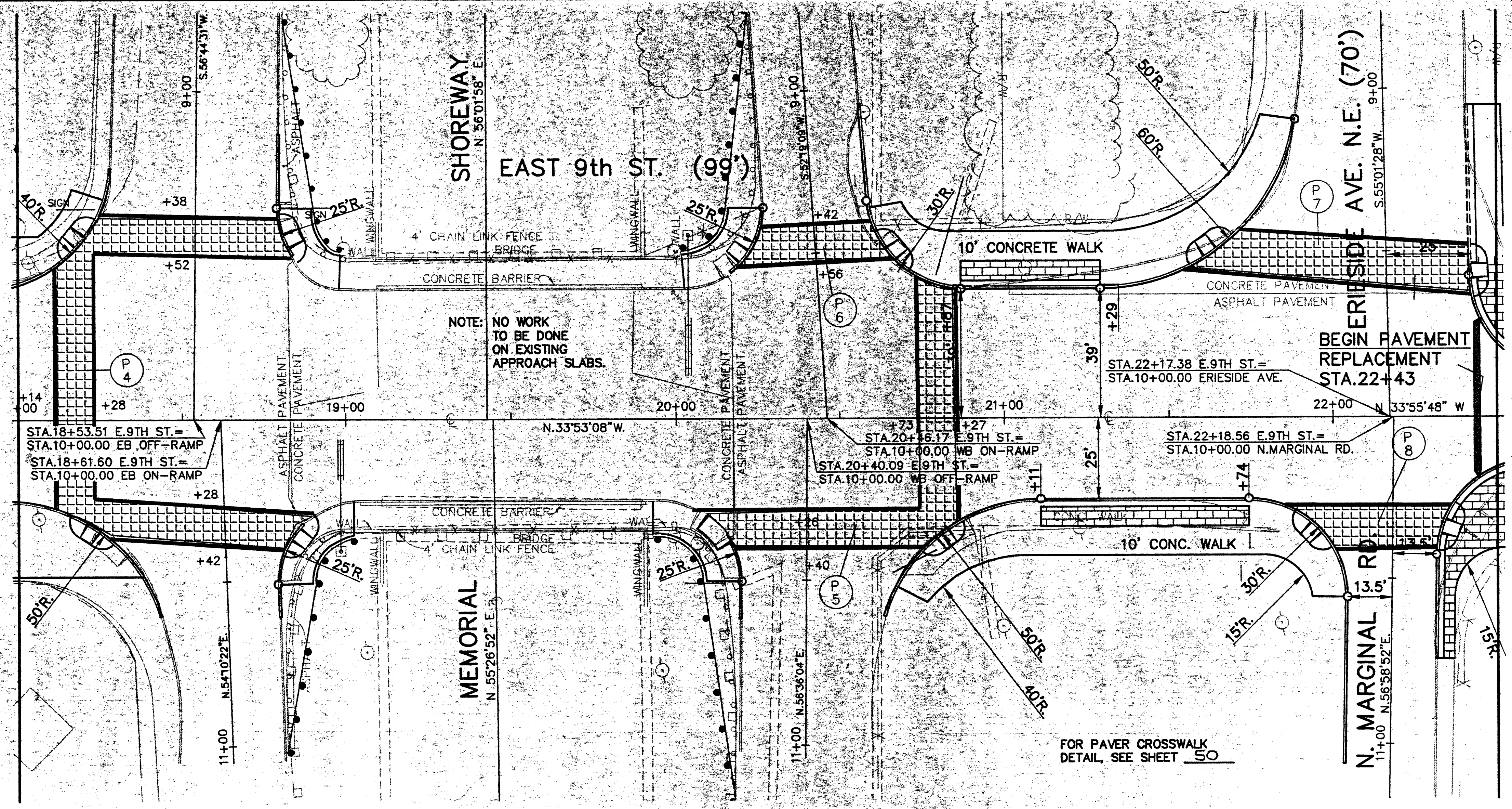
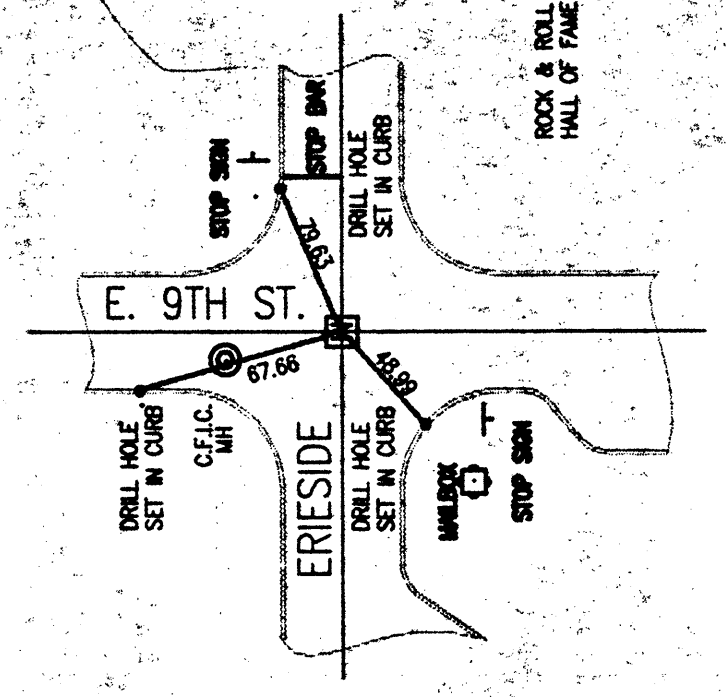
QUANTITY SUBSUMMARY

SHEET No.	REFERENCE No.	LOCATION	STATION TO STATION	SIDE	ITEM NUMBERS									
					SPEC									
					451	304	202							
					CONCRETE PAVERS W/ 1" SAND SETTING BED	10" REINFORCED CONCRETE PAV. A.P.P.	CONCRETE HEADER	AGGREGATE BASE, AS PER PLAN No. 2	PAVEMENT REMOVED					
					S.F.	S.Y.	LF	C.Y.	S.Y.					
	P-4		18+14 TO 18+88 E. 9th	LT/RT	3050	339	372	57	422					
	P-5		20+17 TO 20+87 E. 9TH	LT/RT	1370	153	255	25	209					
	P-6		9+42 TO 9+56 WB. ON-RAMP	LT/RT	400	45	86	8	64					
	P-7		9+47 TO 9+61 ERIESIDE	LT/RT	800	89	258	15	146					
	P-8		10+26 TO 10+40 N. MARGINAL	LT/RT	360	40	79	7	58					
			TOTAL		5980	666	1050	112	899					

DESIGNED BY: USB
DATE: 6/20/94
DRAWN BY: T.K.I.
DATE: 6/22/94
CAD FILE NAME: 7019700-ERSHT3

CHECKED BY:
DATE:
REVISIONS BY: T.K.I.
DATE: 12/08/94

DESIGNED BY: DSB
 DATE: 6/20/94
 DRAWN BY: T.K.L.
 DATE: 6/22/94
 CAD FILE NAME: 7019700-E9SHT3

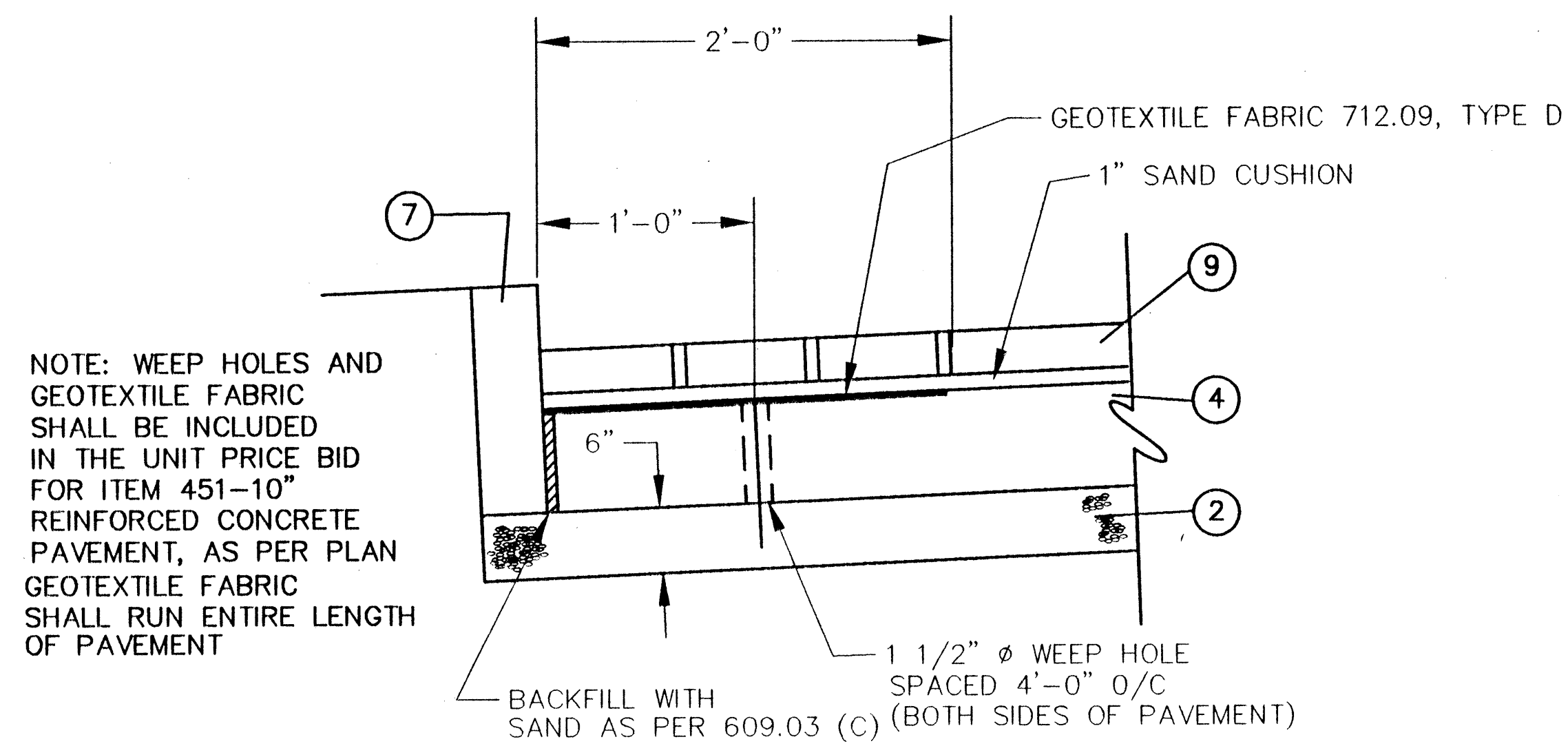


PLAN AND PROFILE - E.9th STREET
 STA.18+00 TO STA.22+50

CUY-EAST 9th STREET

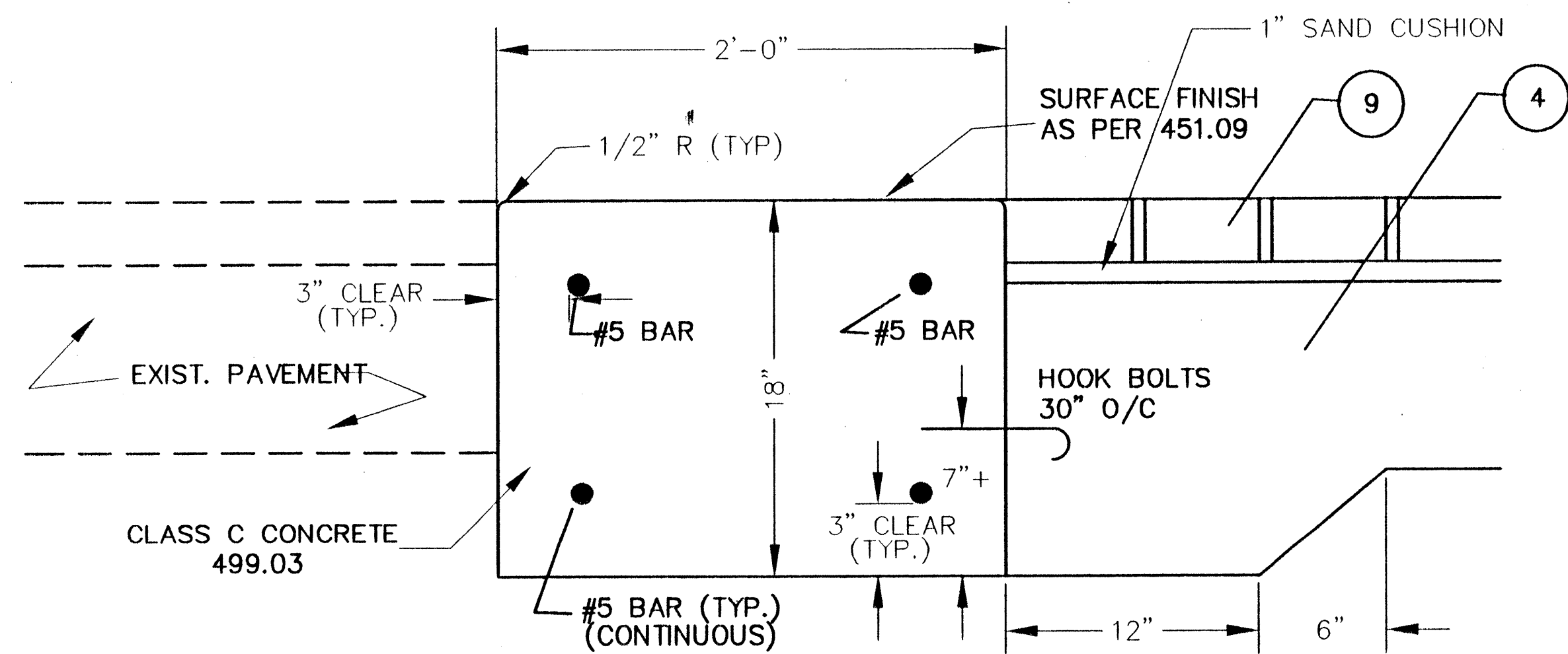
				QUANTITY SUBSUMMARY					
				ITEM NUMBERS					
LOCATION				SPEC 451	SPEC 304	202			
SHEET No.	REFERENCE No.	STATION TO STATION	SIDE	CONCRETE PAVERS W/ 1" SAND SETTING BED 703.03	10" REINFORCED CONCRETE PAY. A.P.P.	CONCRETE HEADER	AGGEGATE BASE, AS PER PLAN No. 2	PAVEMENT REMOVED	
				S.F.	S.Y.	LF	C.Y.	S.Y.	
P-4		18+14 TO 18+88 E. 9th	LT/RT	3050	339	372	57	422	
P-5		20+17 TO 20+87 E. 9th	LT/RT	1370	153	255	25	209	
P-6		9+42 TO 9+56 WB. ON-RAMP	LT/RT	400	45	86	8	64	
P-7		9+47 TO 9+61 ERIESIDE	LT/RT	800	89	258	15	146	
P-8		10+26 TO 10+40 N. MARGINAL	LT/RT	360	40	79	7	58	
TOTAL				5980	666	1050	112	899	

FOR PAVER CROSSWALK
 DETAIL, SEE SHEET 50

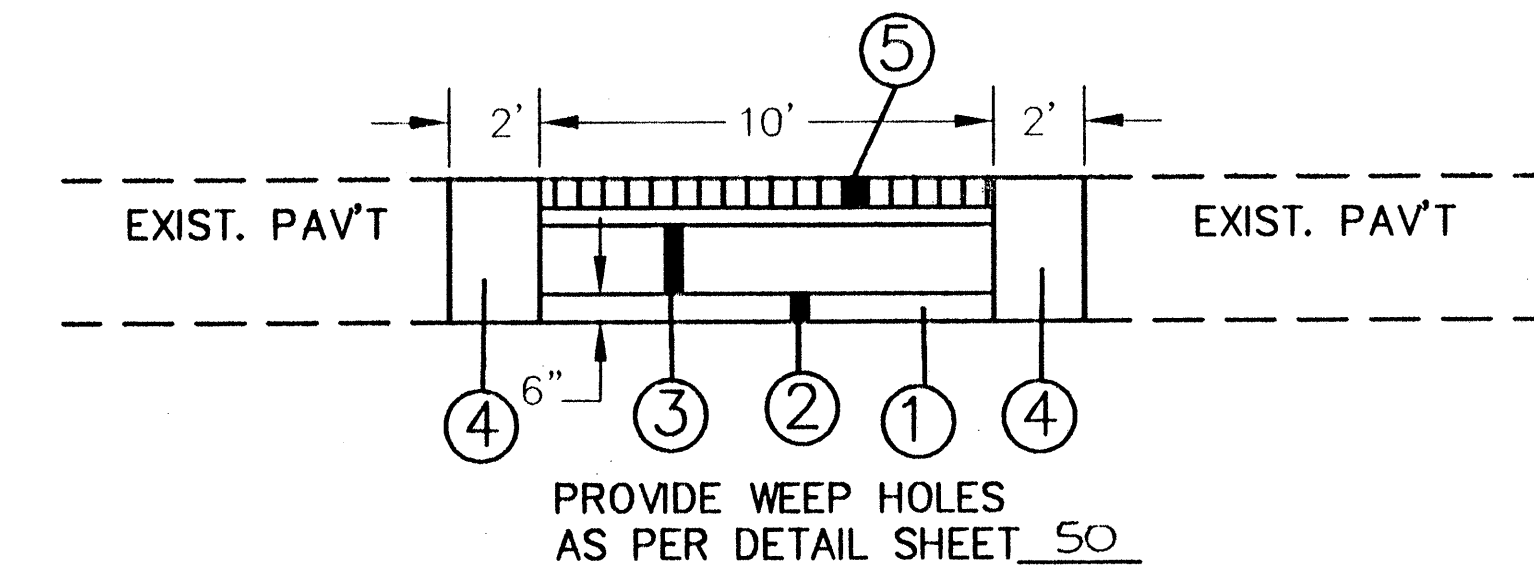
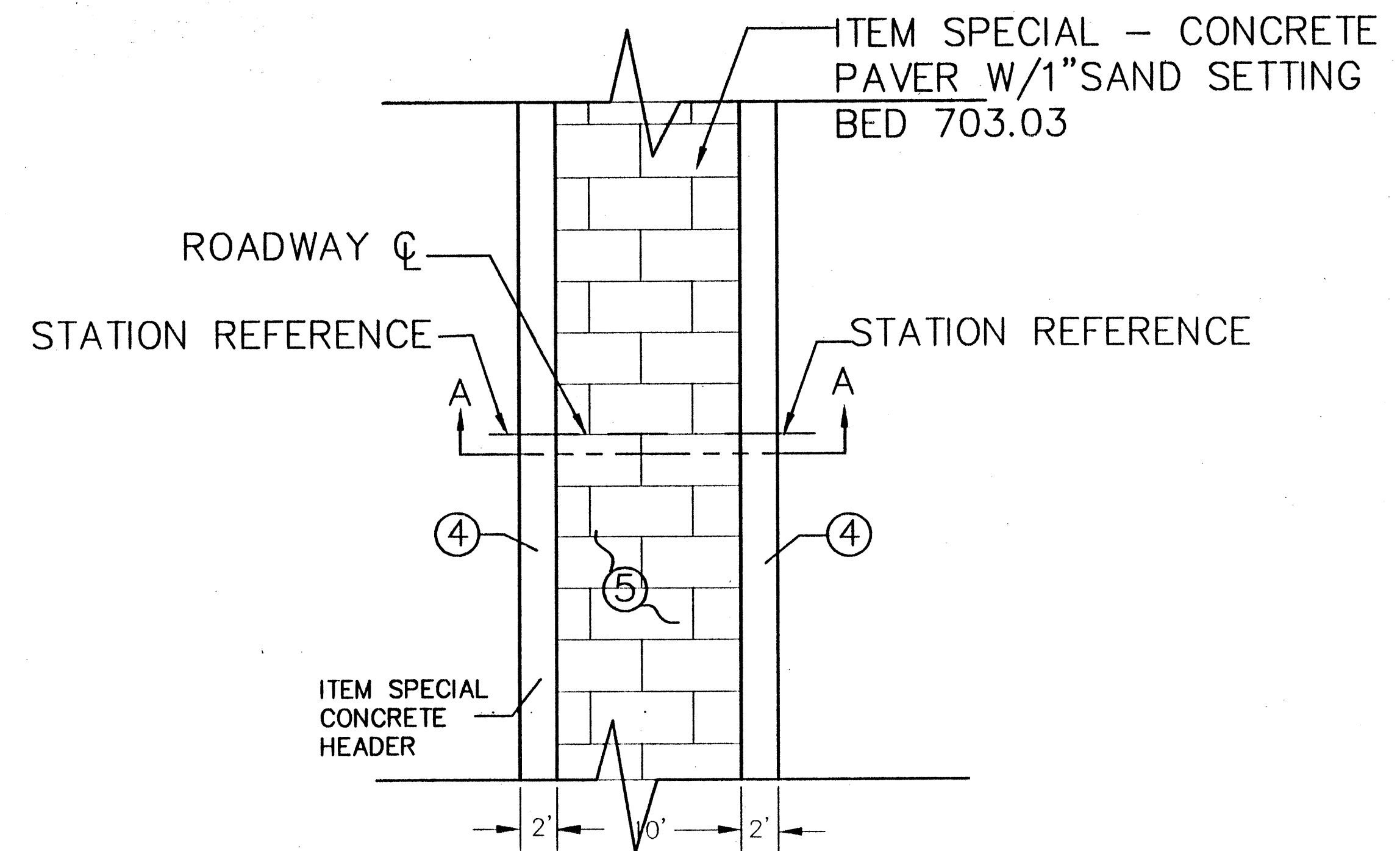


NOTE: WEEP HOLES AND GEOTEXTILE FABRIC SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 451-10" REINFORCED CONCRETE PAVEMENT, AS PER PLAN GEOTEXTILE FABRIC SHALL RUN ENTIRE LENGTH OF PAVEMENT

ITEM SPECIAL - CONCRETE PAVERS
(IN ROADWAY)
N.T.S.



ITEM SPECIAL - CONCRETE HEADER
N.T.S.



SECTION A-A

PAVER CROSSWALK DETAIL

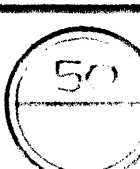
- ① 203 - SUBGRADE COMPACTION
- ② 304 - AGGREGATE BASE, AS PER PLAN No. 2
- ③ 451 - 10" REINFORCED CONCRETE PAVEMENT
- ④ SPECIAL - CONCRETE HEADER (SEE SHEET 50)
- ⑤ SPECIAL - CONCRETE PAVERS W/ 1" SAND SETTING BED 703.03

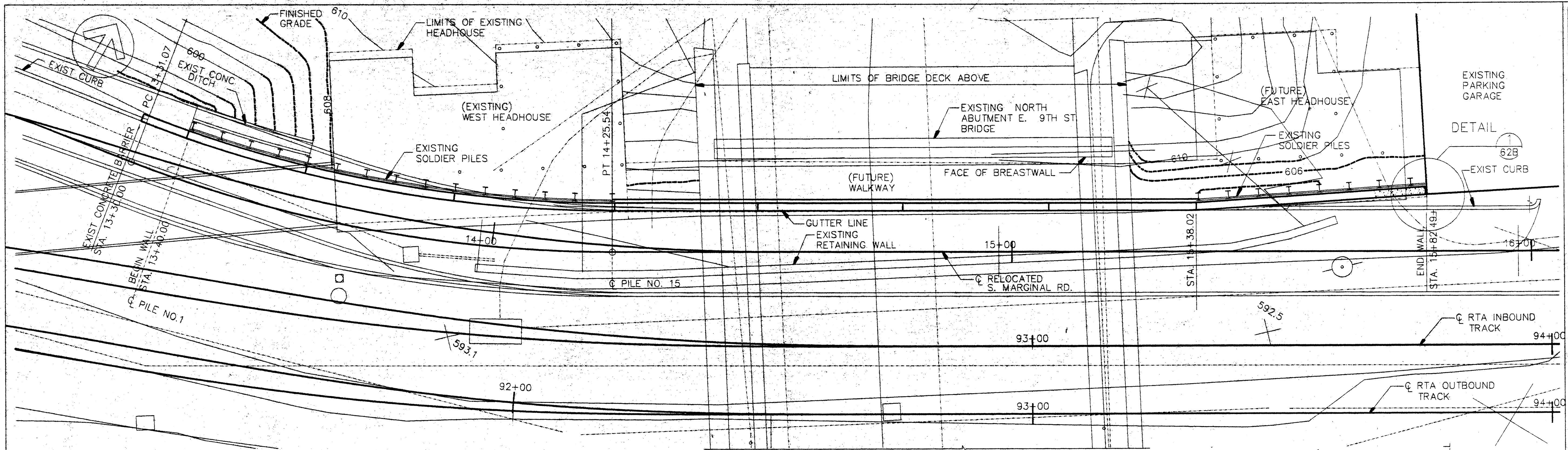
DESIGNED BY: DSB	CHECKED BY:
DATE: 6/20/94	DATE:
DRAWN BY: T.K.I.	REVISED BY:
DATE: 6/22/94	DATE:
CAD FILE NAME: 7019700-DETAIL1	

SEE DUCT BANK DETAIL, SHEET _____

DETAIL SHEET

CUY - EAST 9TH ST.





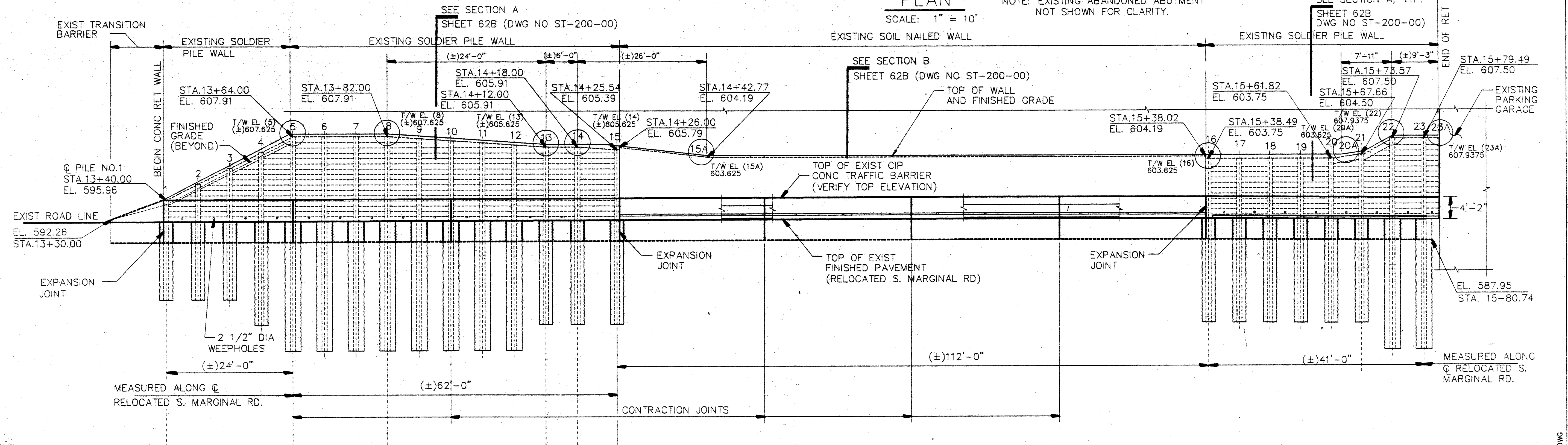
PLAN

SCALE: 1" = 10'

NOTE: EXISTING ABANDONED ABUTMENT NOT SHOWN FOR CLARITY.

SEE SECTION A, TYP. SHEET 62B (DWG NO ST-200-00)

SEE SECTION B, TYP. SHEET 62B (DWG NO ST-200-00)



DEVELOPED ELEVATION

SCALE: 1" = 10'

NOTE: WALL STATIONING IS FROM Q RELOCATED S. MARGINAL RD.

(EXISTING) SOLDIER PILE DATA

PILE NO.	PILE TYPE	ENCASEMENT LENGTH, L	ENCASEMENT DIA.
5 - 12, 22 - 23	W27x178	25'-0"	36"
4, 13 - 15, 16 - 21	W18x106	20'-0"	30"
1, 2, 3	W16x57	15'-0"	30"

NOTES:

- FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING STRUCTURES PRIOR TO START OF CONSTRUCTION.
- PRIOR TO CONSTRUCTION, REVIEW DRAWINGS OF EXISTING AND ABANDONED STRUCTURES FOR LOCATION.
- THE BARRIER FOUNDATION WITHIN THE LIMITS OF SOIL NAILED WALL IS DESIGNED TO SUPPORT THE C.I.P. CONCRETE FINISH WALL AND A MAXIMUM VERTICAL LOAD OF 1300 LBS (UNFACTORED) FROM THE FUTURE (WALKWAY) ABOVE. THE PART SOIL NAILED WALL, THE SOLDIER PILE WALLS AND THE CIP CONCRETE FINISH WALLS ARE NOT DESIGNED FOR ANY VERTICAL LOAD FROM THE EXISTING (WEST) AND FUTURE (EAST) HEADHOUSES.
- DESIGN UNIT STRESSES
C.I.P. CONCRETE $f'_c = 4000$ psi
REINFORCING STEEL $f_y = 60000$ psi
- FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.

REVISIONS:

NO.	DATE	DESCRIPTION

DRAWN: _____
CHECKED: _____
APPROVED: _____
DATE: _____
JOB NO: _____

PARSONS BRINCKERHOFF OHIO, INC.
CONSULTING ENGINEERS

Sasaki Associates Inc. Urban Design
Robert P. Madison International Inc.
Architecture

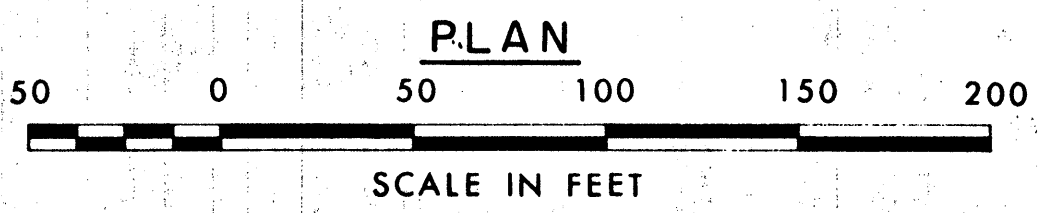
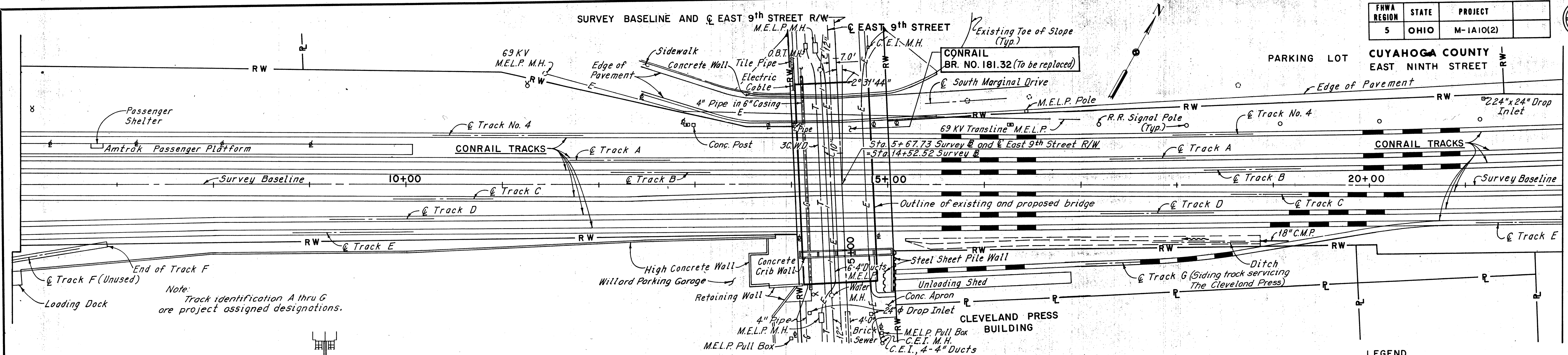
RTA
GREATER CLEVELAND
REGIONAL TRANSIT
AUTHORITY

LAKEFRONT LINE SECTION
EAST 9TH STREET BRIDGE
RETAINING WALL
PLAN AND ELEVATION

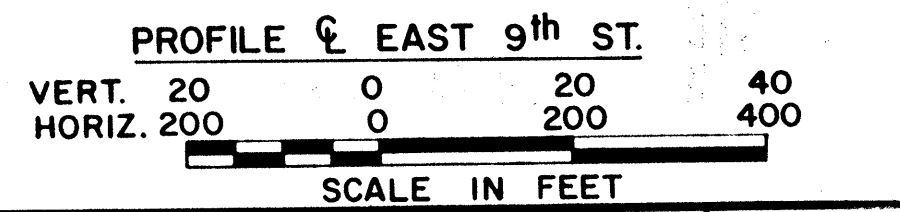
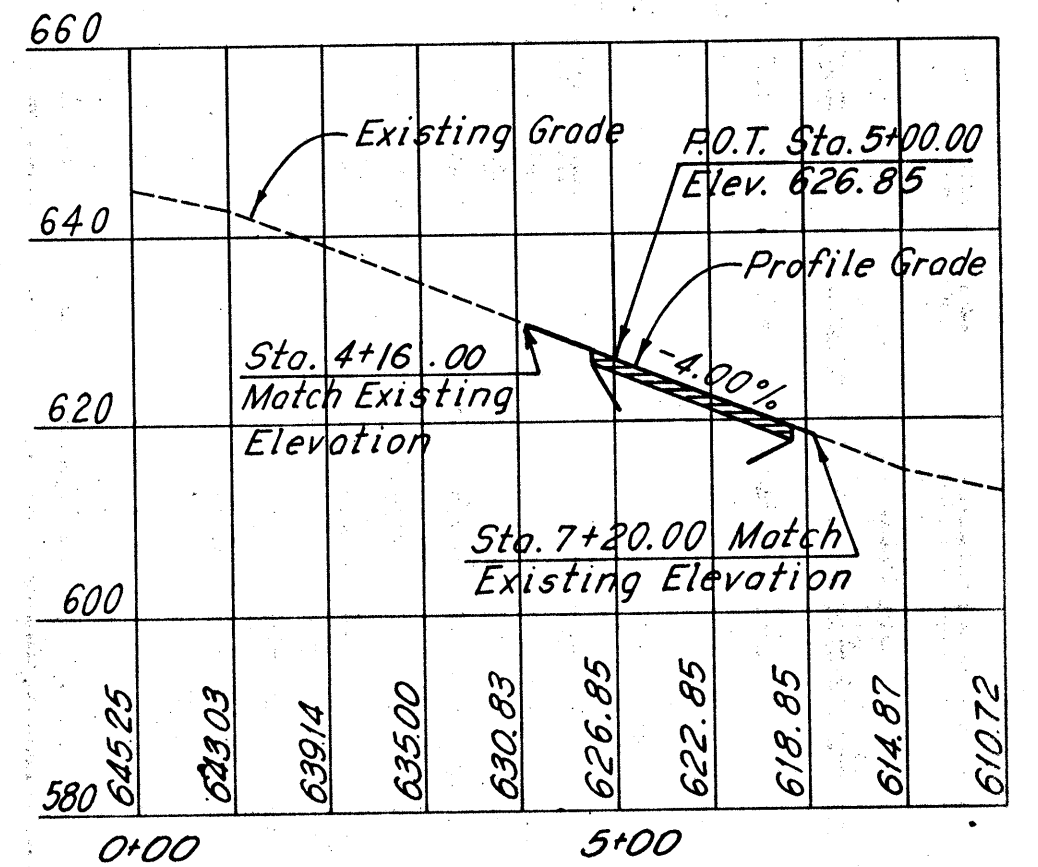
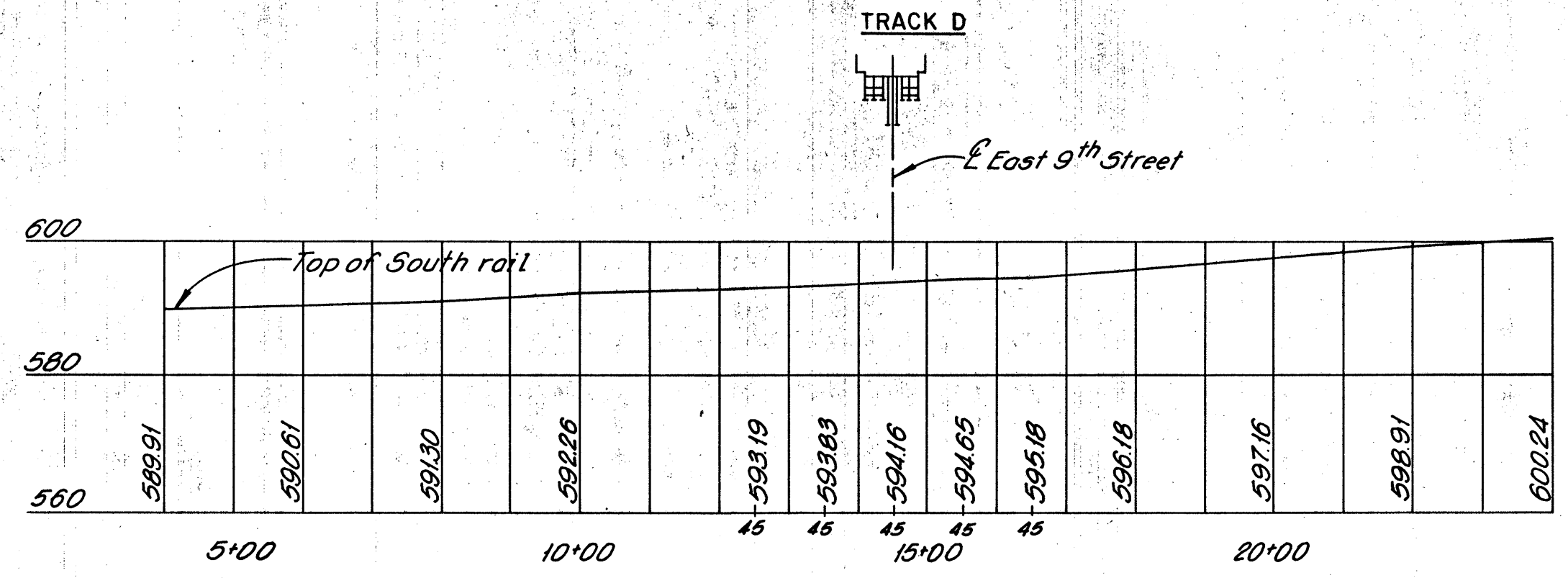
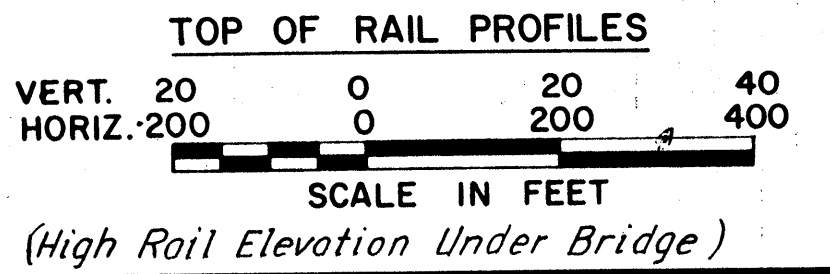
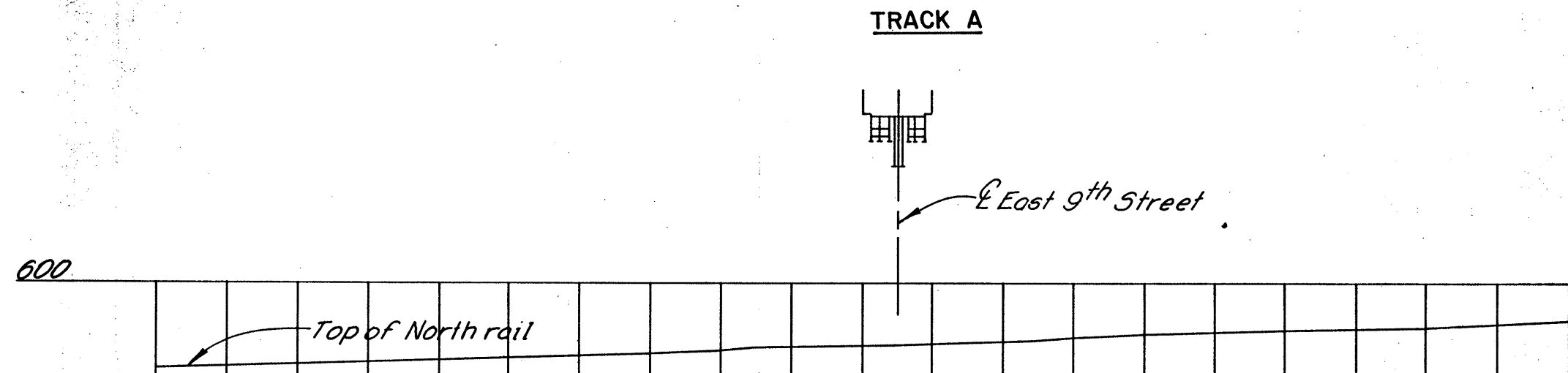
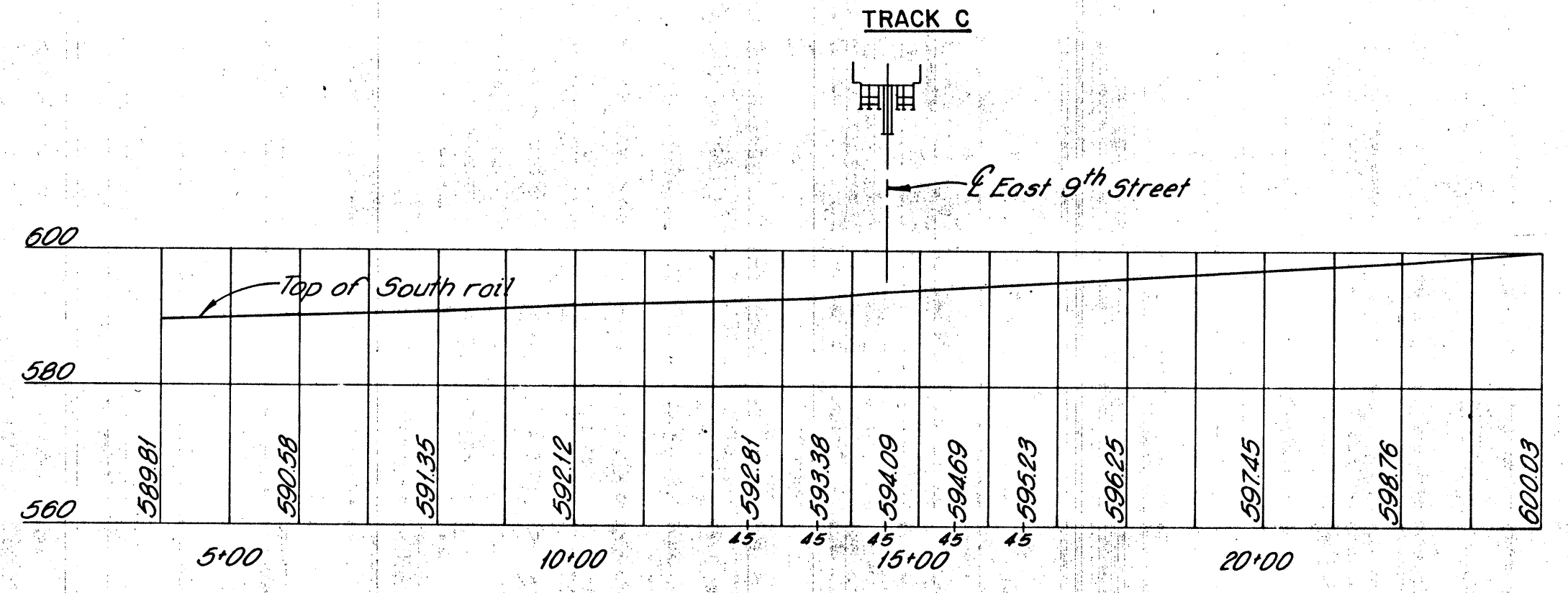
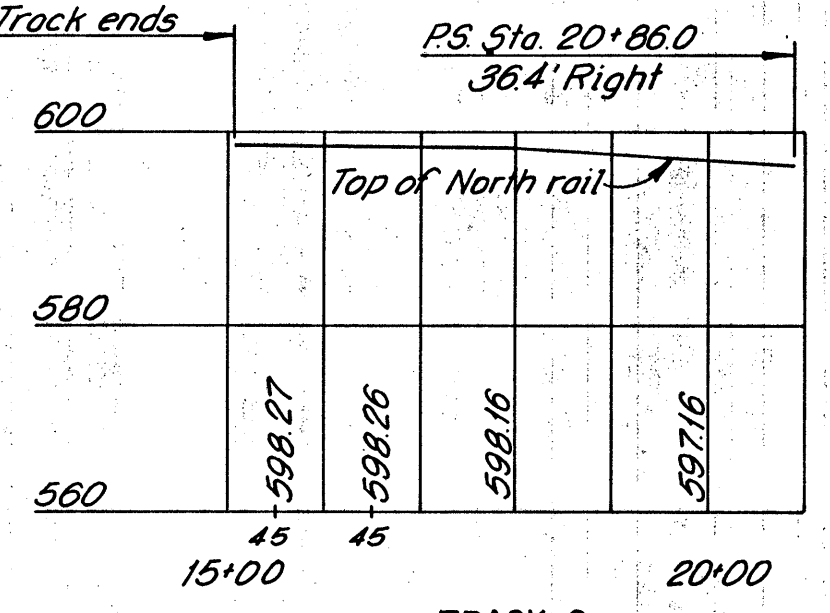
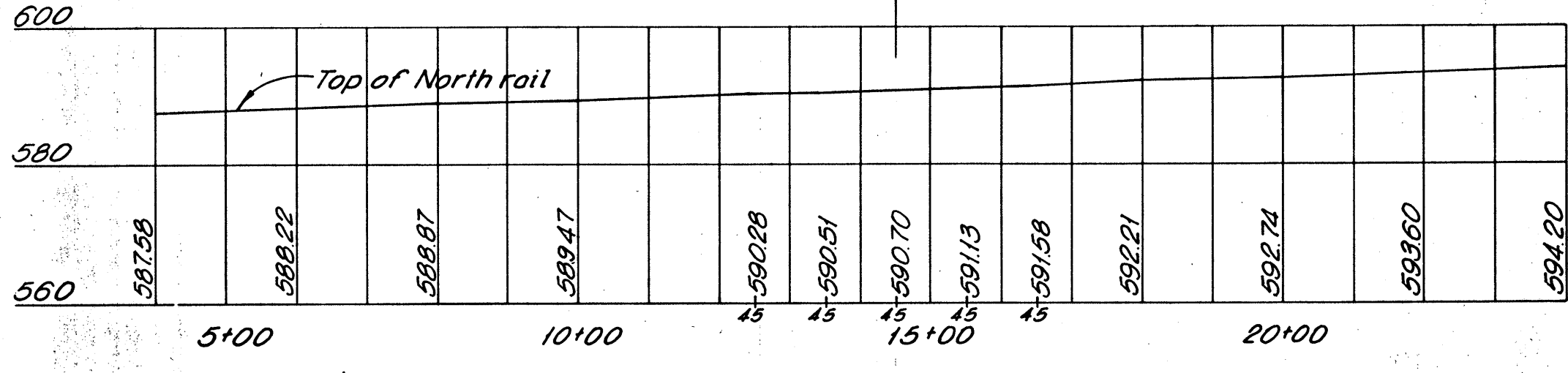
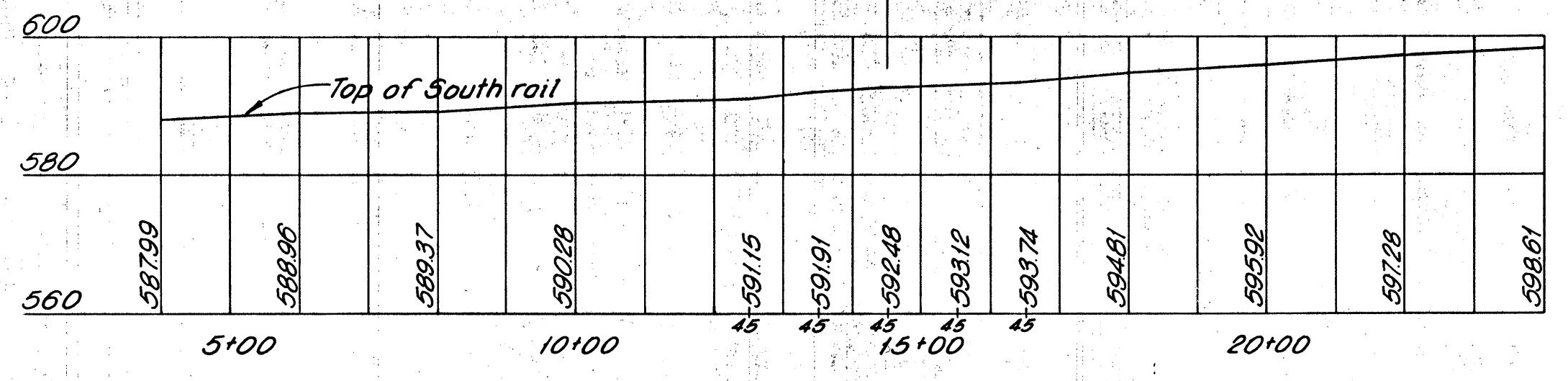
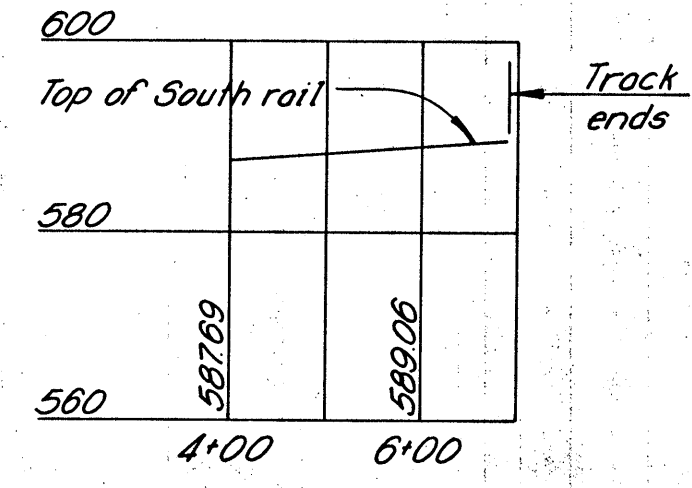
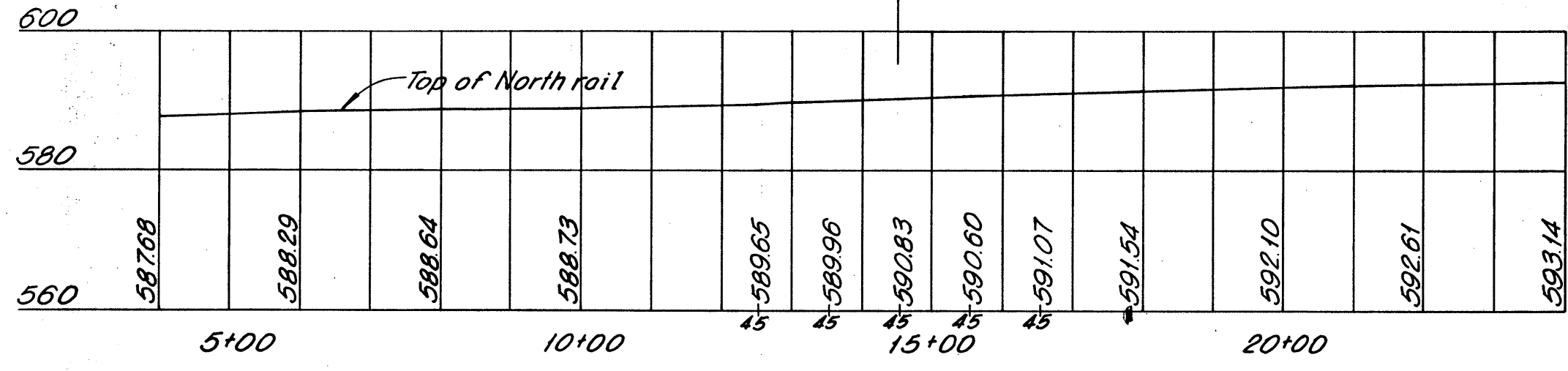
RTA BID PAC
32 "E"
DRAWING No.
ST-100-00

SHEET 62A

PLOT SCALE: 1" = 10'
PLOT DATE: 10/22/08



- LEGEND**
- P — Property Line
 - RW — Right of Way Line
 - Centerline
 - Railroad
 - Water Line
 - E — Electric Power Line
 - T — Ohio Bell Telephone Company Line
 - G — Gas Line
 - — Manhole (Existing)
 - ⊙ — Light Pole
 - ⊠ — R. R. Signal Box
 - ⊙ — R. R. Signal Pole
 - Ditch
 - M.E.L.P. Municipal Electric Light and Power
 - C.E.I. Cleveland Electric Illuminating Co.
 - C.W.D. Creosoted Wood Duct

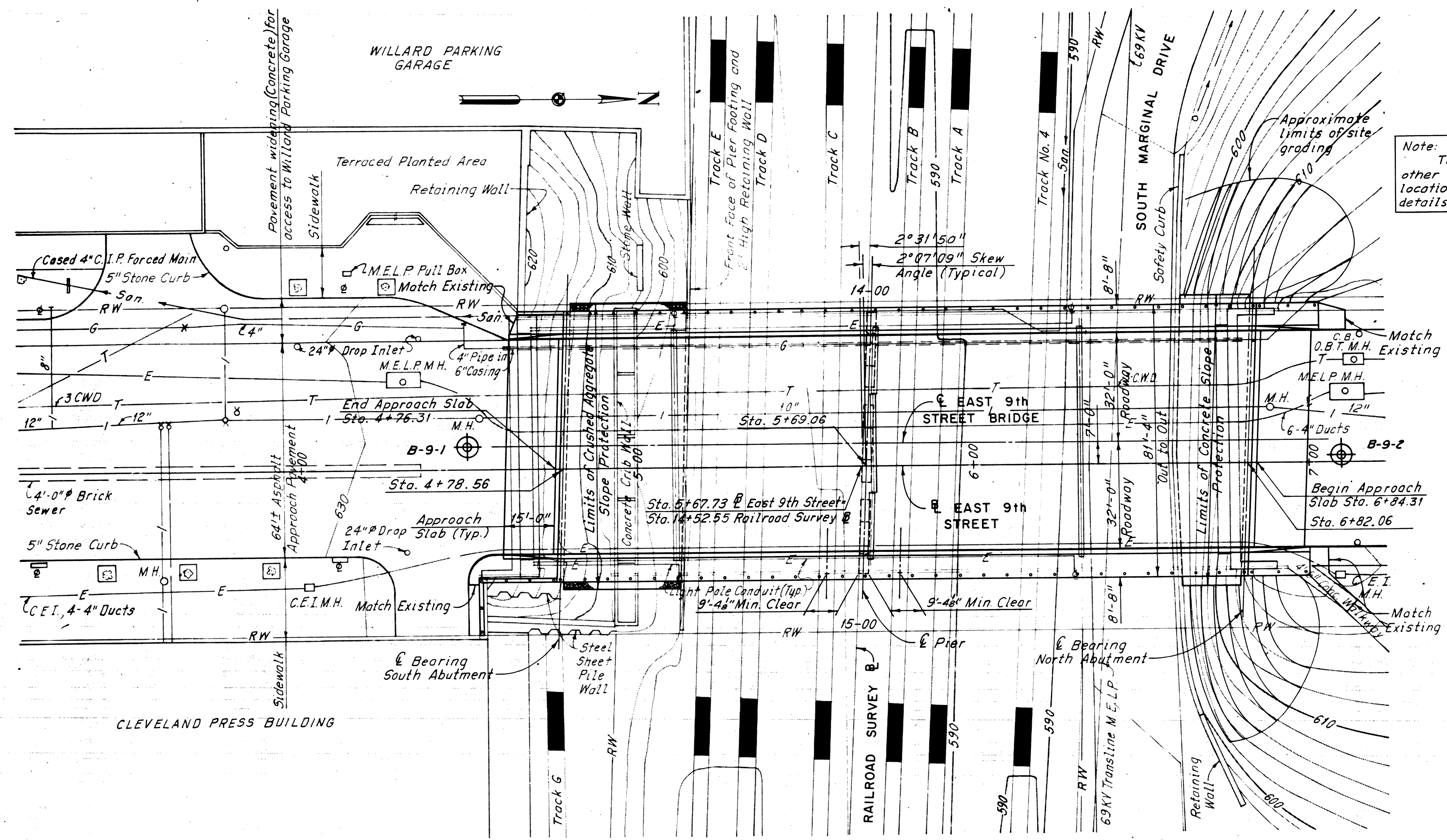


HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS CLEVELAND **HNTB**

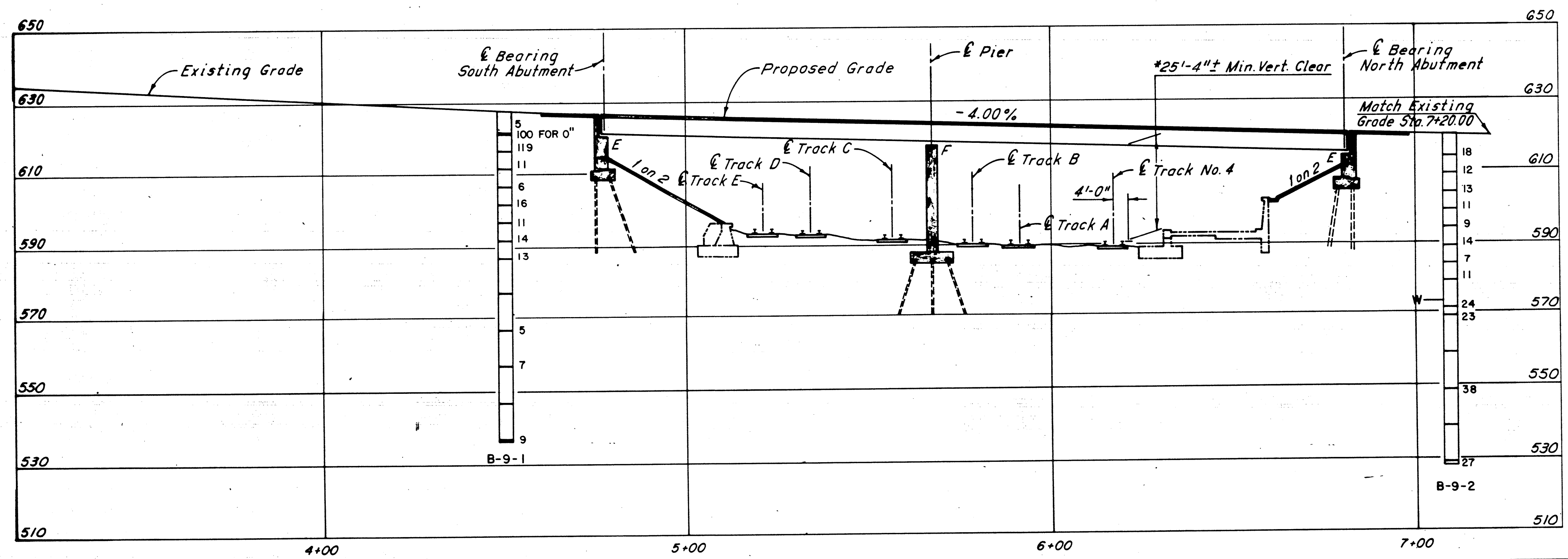
GENERAL PLAN AND PROFILES
EAST 9th STREET OVER CONRAIL
CITY OF CLEVELAND BR. NO. 1.013

CLEVELAND	CUYAHOGA COUNTY	OHIO
DRAWN E.S.	TRACED C.P. & T.D.W.	CHECKED C.A.B.
DATE 12-1-80	DATE 12-5-80	DATE 6-22-81
	REVIEWED C.A.B.	REVISOR DATE 7-8-81

SHEET 5 OF 16



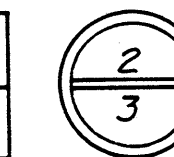
Note: The information shown in the plan view, other than the substructure units and borings locations, is not guaranteed to be accurate. For details see Roadway Plans.



Note: Subsurface information shown on this drawing was obtained solely for use in establishing design controls for the project. The accuracy of this information is not guaranteed and is not to be construed as part of the plans governing construction of the project.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS CLEVELAND		HNTB
STRUCTURE FOUNDATION INVESTIGATION		
EAST 9th STREET OVER CONRAIL		
CITY OF CLEVELAND BR. NO. 1:013		
SCALE: AS SHOWN		
CLEVELAND CUYAHOGA COUNTY		OHIO
DRAWN CGL	TRACED WAD	CHECKED WAD
DATE 4-1-81	DATE 4-10-81	DATE 4-12-81
REVIEWED GDJ	REVISOR	SHEET

FHWA REGION	STATE	PROJECT	
5	OHIO		



CUYAHOGA COUNTY

Geology of the Site

The structure site is located in the Eastern Lake Section of the Central Lowlands Physiographic Province. The terrain is relatively flat, rising gradually to the southeast in a series of steps formed by beach ridges. Deep glacial lake deposits consisting of clay silt and fine sand overlies shale bedrock. Bedrock was not encountered during the exploration program. A review of geologic literature indicates Devonian Age Chagrin Shale may be encountered at depths of from 150 feet to 200 feet ±.

Exploration

The exploration consisted of two drive-press sample borings, B-9-1 and B-9-2 made March 3 and 6, 1981. Drive rod soundings were not taken.

Investigational Findings

The borings disclosed 30 to 50 feet of silty to clayey sand with trace of gravel, cinders, and bricks (Miscellaneous Fill), overlying medium to stiff silty clay with silt seams. The borings were terminated at 91.5 foot depths, Elevations 537.2± and 527.3±, without encountering bedrock. Chagrin shale of Devonian Age is estimated to be at a depth of 150 to 200 feet below the surface.

Ground water was encountered in Boring B-9-2 at a depth of 46.5 feet, elevation 572.3±. Boring B-9-1 was reported as dry to a depth of 40.0 feet, elevation 578.8±, where casing and rotary drilling methods were started. The depth of water after casing removal in Boring B-9-1 was 42.2 feet, elevation 586.5± and 46.5 feet, elevation 572.3± in Boring B-9-2.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- Top of Rock

- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken
- Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" 10,000 lbs.
- Resistance "R" 10,000 lbs.
- Z Indicates Final Measurement of Penetration, in Inches.
- W Indicates Free Water Elevation
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone
- Boulders or Cobbles

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot, depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R," in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highway, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

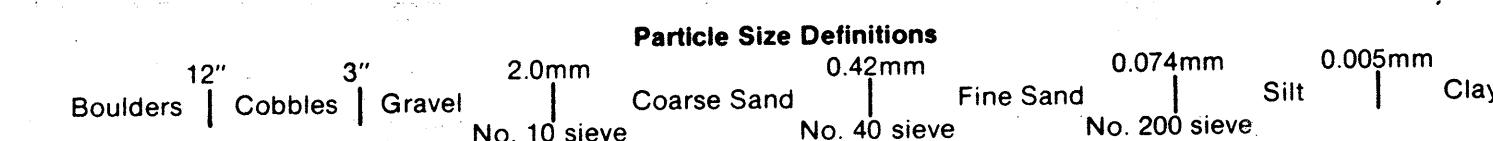
Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1 1/4" I.D. sampler, at 2 1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1 1/4" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.



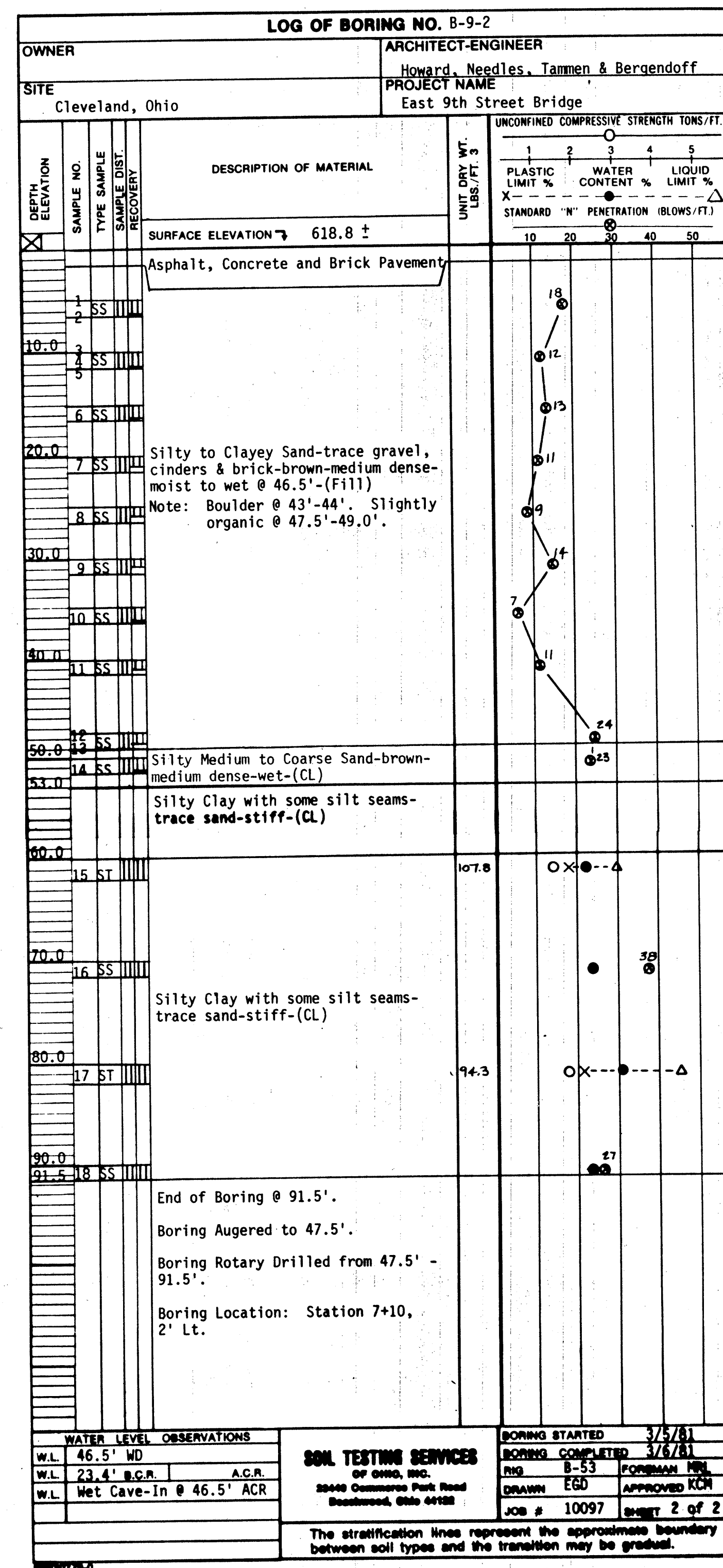
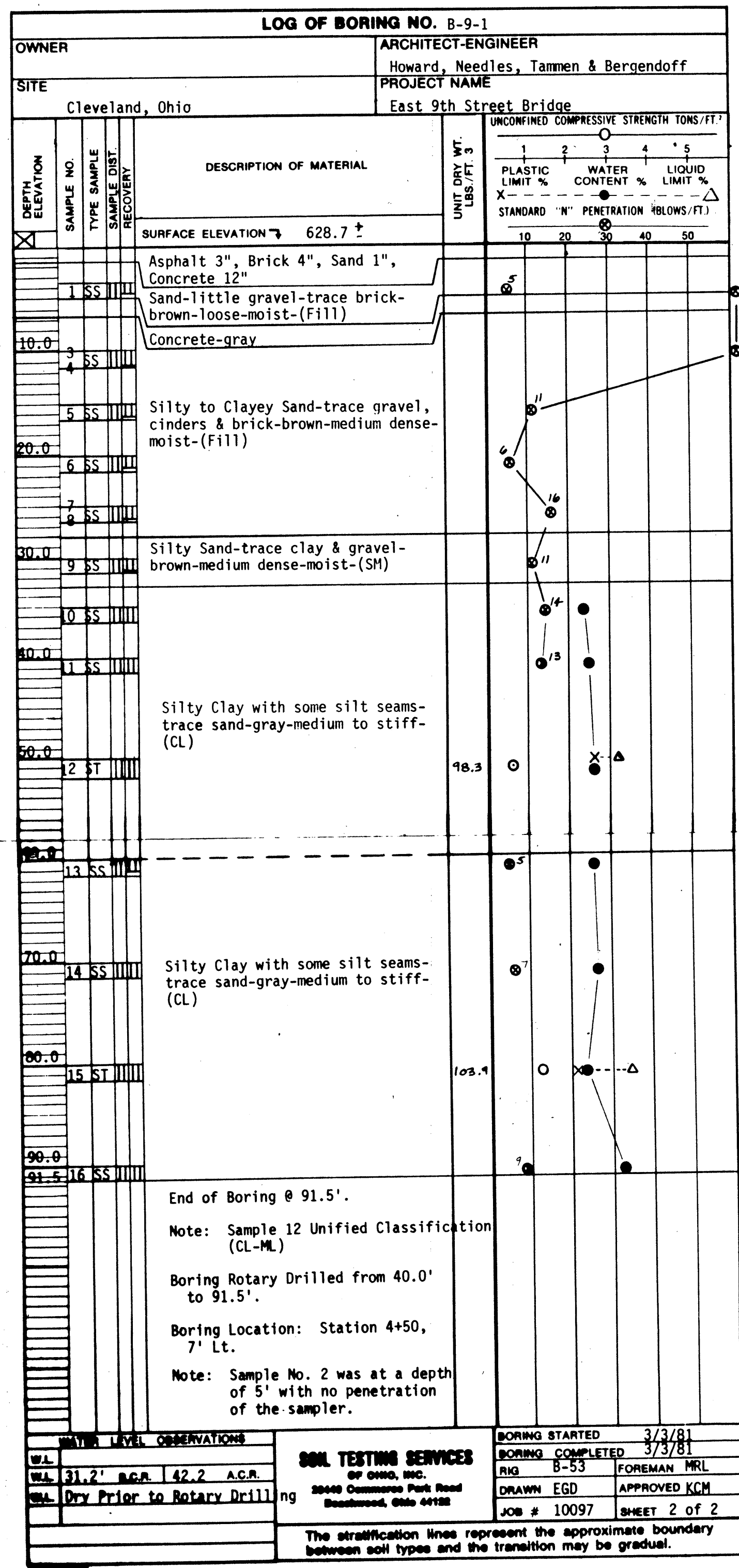
NOTE:
Subsurface information shown on this drawing was obtained solely for use in establishing design controls for the project. The accuracy of this information is not guaranteed and it is not to be construed as part of the plans governing construction of the project.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS CLEVELAND **HNTB**

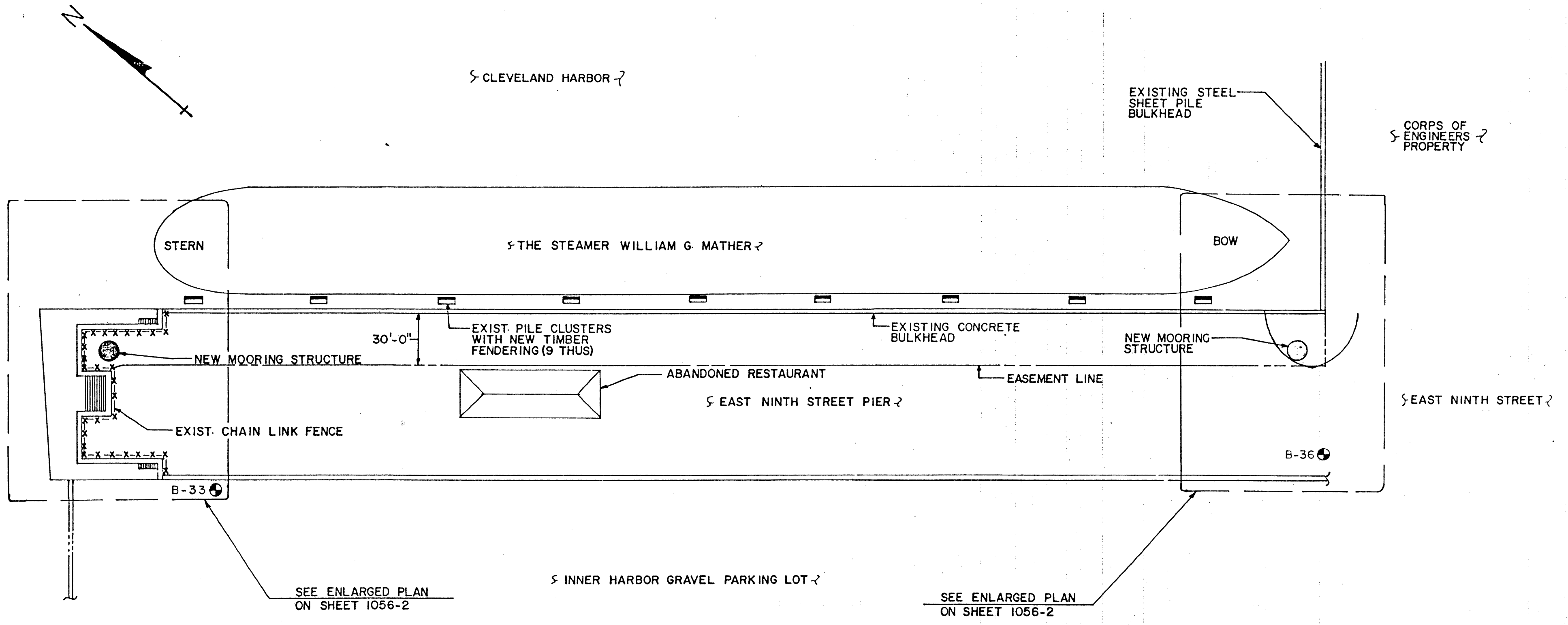
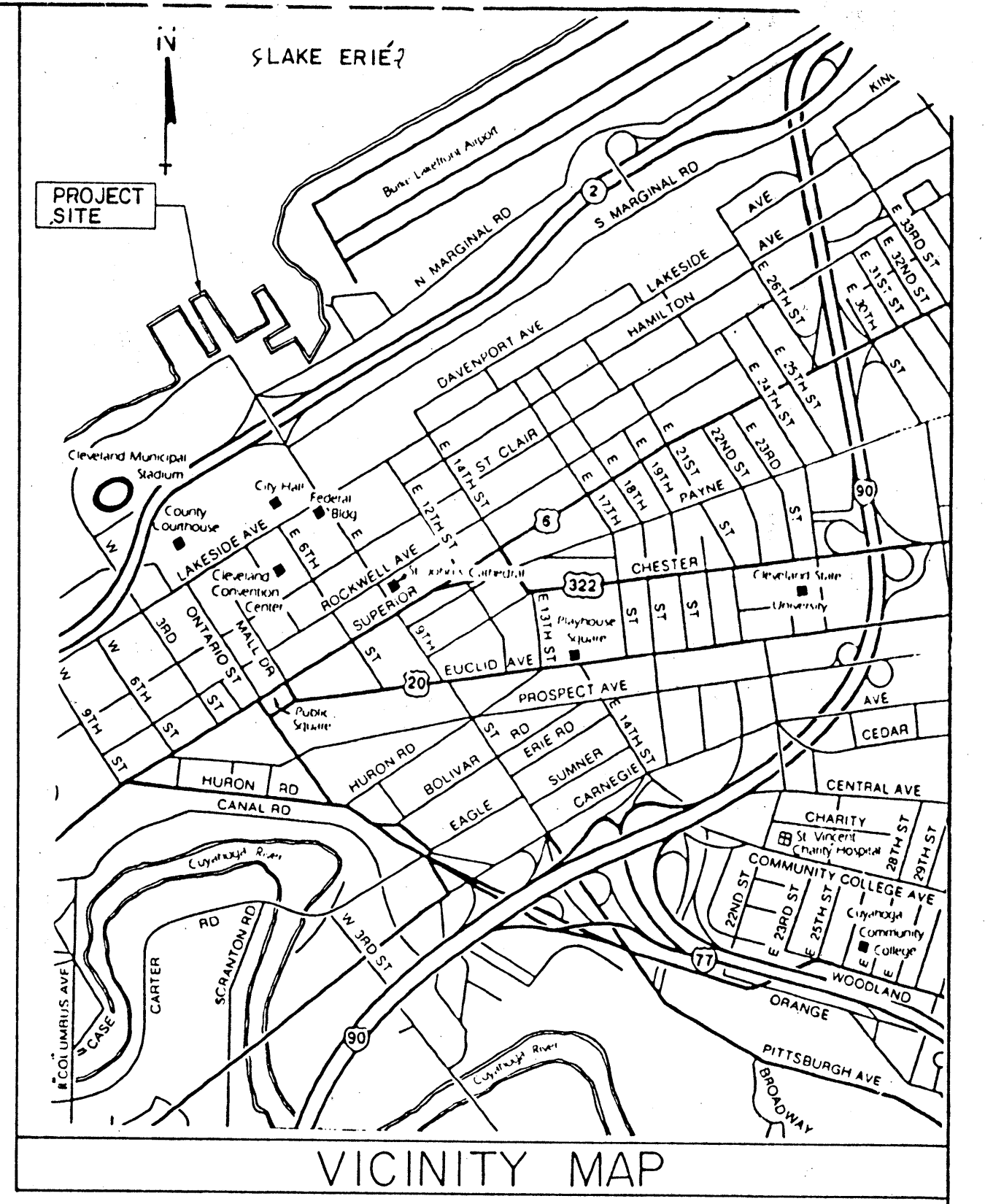
STRUCTURE FOUNDATION INVESTIGATION
EAST 9th STREET OVER CONRAIL
CITY OF CLEVELAND BR. NO. 1:013

SCALE: AS SHOWN
CLEVELAND CUYAHOGA COUNTY OHIO

DRAWN CGL	CHECKED WAD	REVIEWED GDJ	REVISIONS
DATE 4-2-81	DATE 4-10-81	DATE 4-12-81	SHEET



NEW MOORING STRUCTURES FOR THE STEAMER WILLIAM G. MATHER

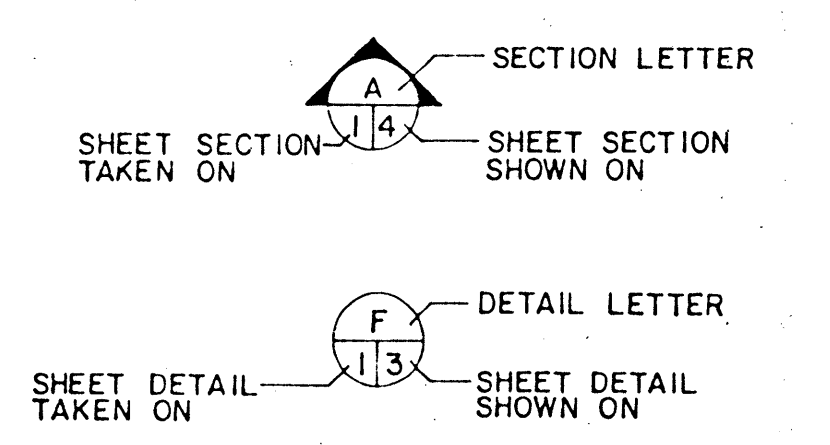


SITE PLAN
SCALE: 1"=40'-0"

DRAWING LIST

NO.	TITLE
1056-1	TITLE SHEET/SITE PLAN
1056-2	ENLARGED PARTIAL PLANS
1056-3	SECTIONS & DETAILS
1056-4	SECTIONS & DETAILS

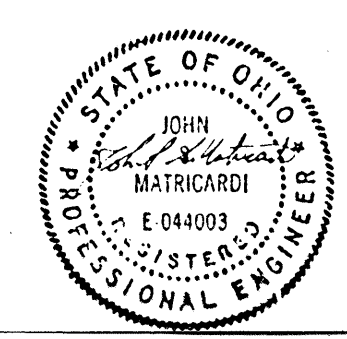
SYMBOL LEGEND



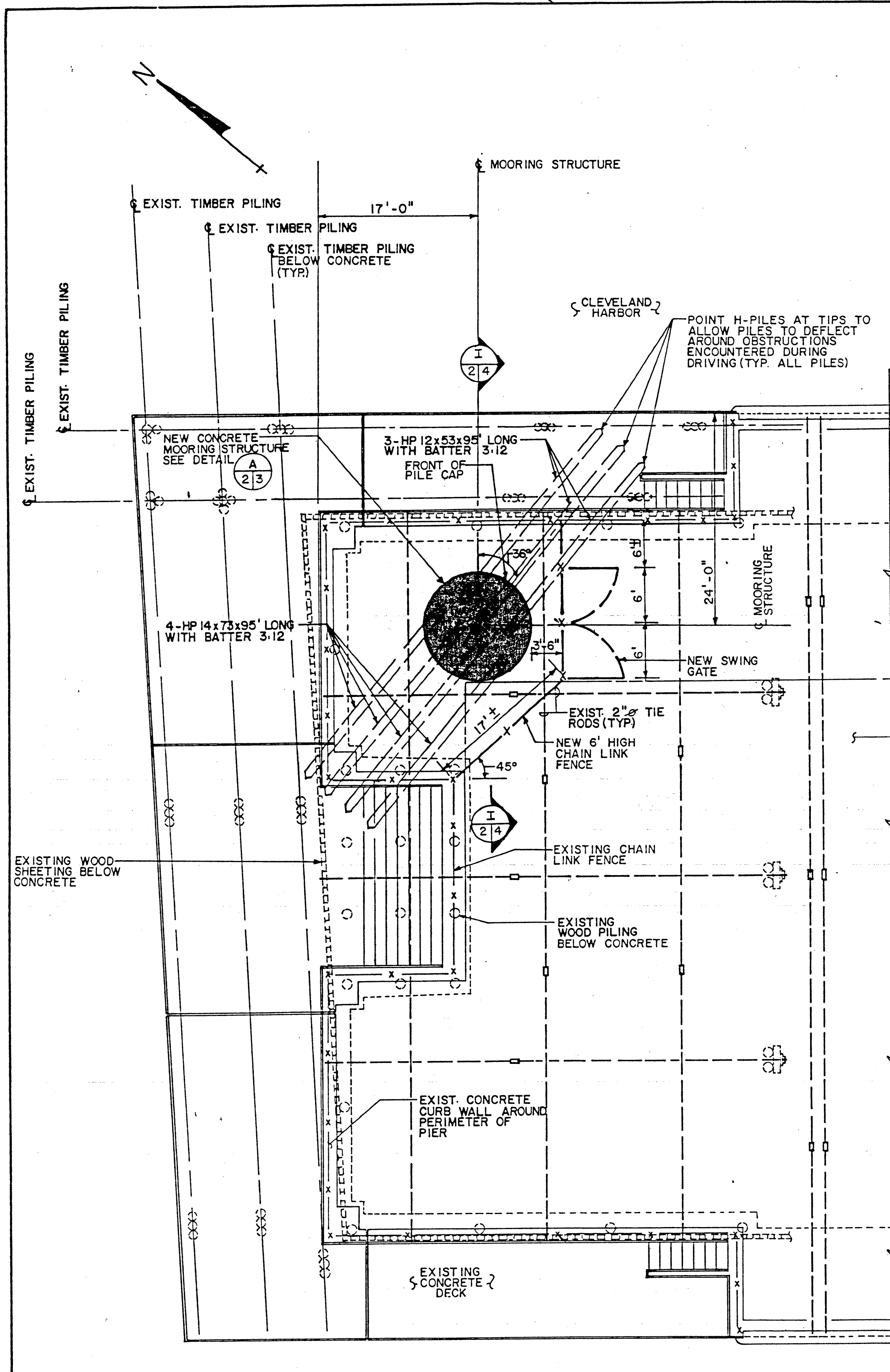
LEGEND

- STM — EXISTING STORM SEWER
- E — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER LINE
- SAN — EXISTING SANITARY SEWER
- OE — EXISTING OVERHEAD ELECTRIC LINE
- T — EXISTING TELEPHONE LINE
- x — x — EXISTING CHAIN LINK FENCE
- x — x — NEW CHAIN LINK FENCE
- B-33 Ⓞ SOIL BORING LOCATION

FOR INFORMATION ONLY

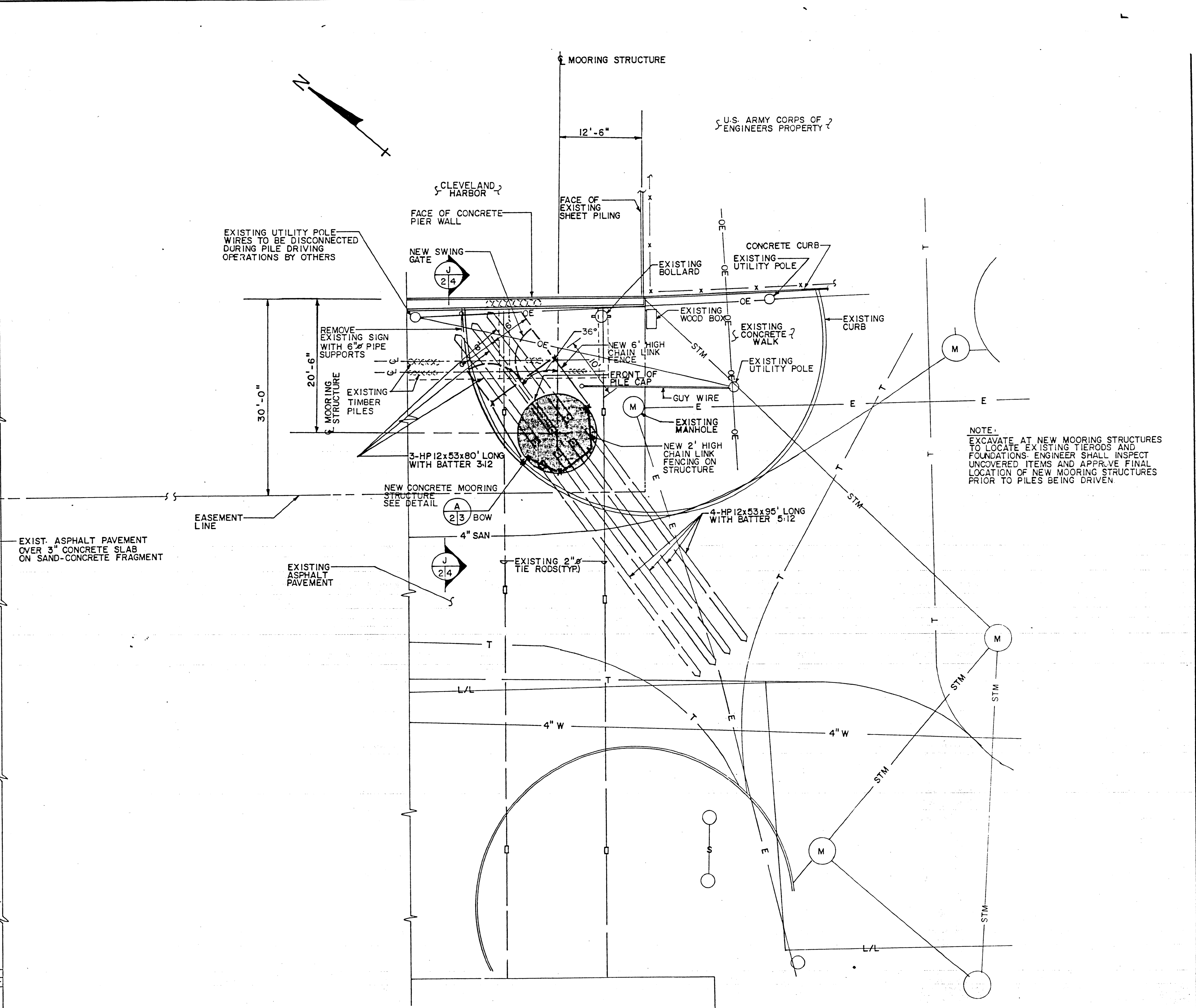


MATRIX ENGINEERING, INC.
 17010 MADISON AVE. LAKEWOOD, OHIO 44107
 SCALE: 1"=40'-0"
 DATE: 1/19/90
 DRAWN BY: J.J.C.
 CHECKED BY: J.J.C.
NEW MOORING STRUCTURES FOR THE STEAMER WILLIAM G. MATHER
 TITLE SHEET/SITE PLAN 1056-1



ENLARGED PARTIAL PLAN AT NORTH END OF EAST NINTH STREET PIER

SCALE: 1/8"=1'-0"
(STERN)



ENLARGED PARTIAL PLAN AT SOUTH END OF EAST NINTH STREET PIER

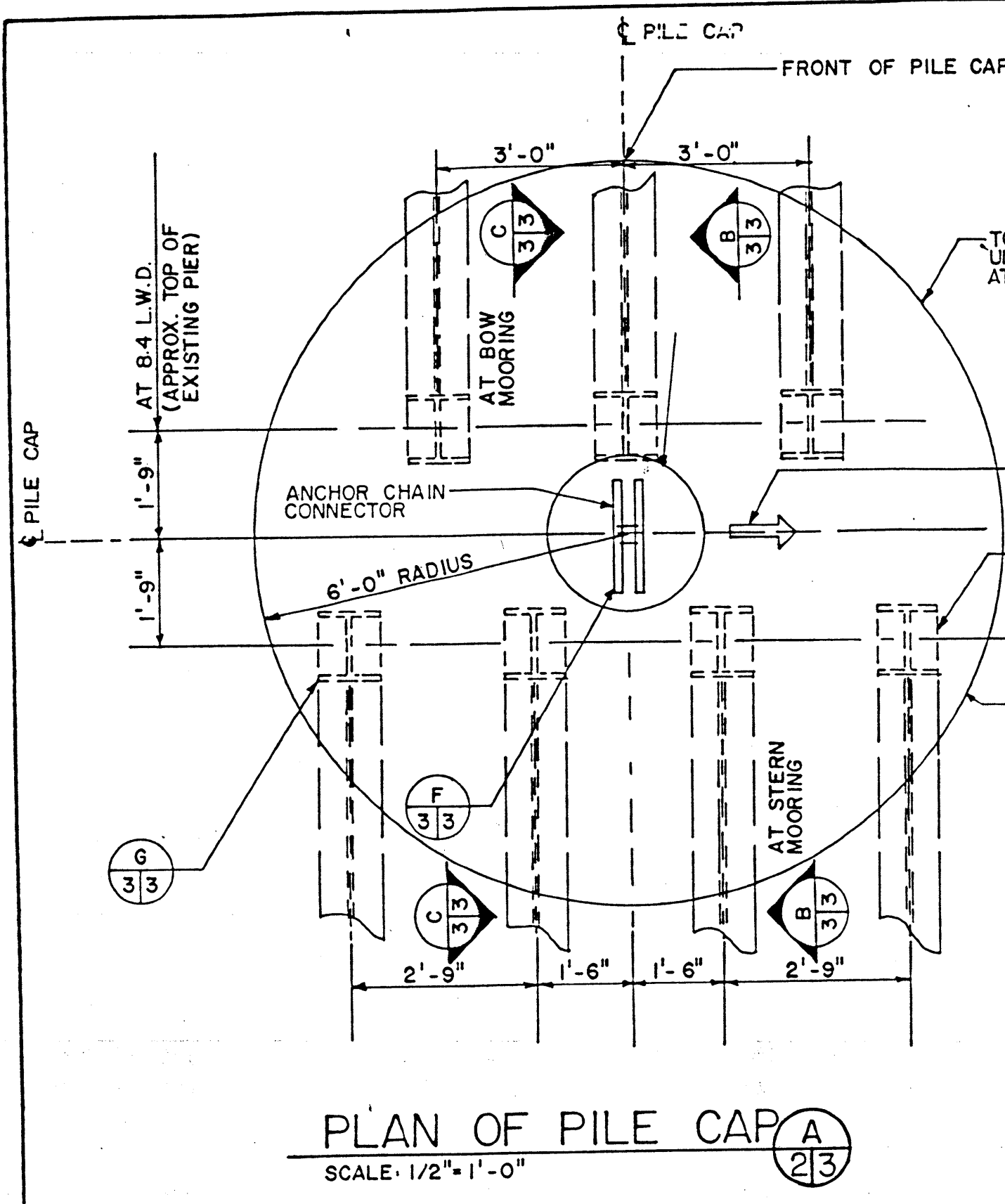
SCALE: 1/8"=1'-0"
(BOW)

FOR INFORMATION ONLY

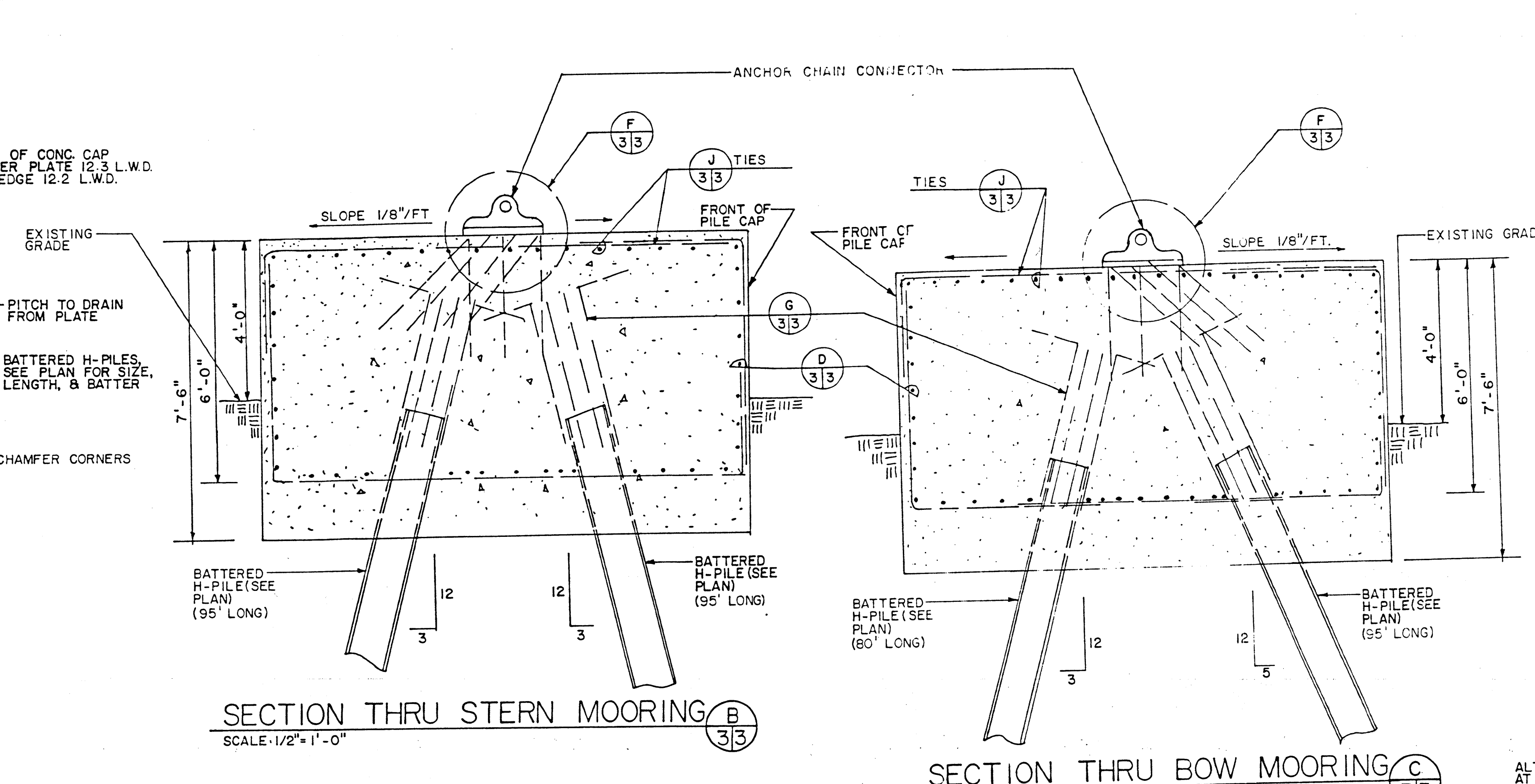
NOTE:
EXCAVATE AT NEW MOORING STRUCTURES TO LOCATE EXISTING TIE RODS AND FOUNDATIONS. ENGINEER SHALL INSPECT UNCOVERED ITEMS AND APPROVE FINAL LOCATION OF NEW MOORING STRUCTURES PRIOR TO PILES BEING DRIVEN.



MATRIX ENGINEERING, INC.	
17010 MADISON AVE.	LAKEWOOD, OHIO 44107
SCALE: 1/8"=1'-0"	DATE: 1/19/90
NEW MOORING STRUCTURES FOR THE STEAMER WILLIAM G. MATHER	
ENLARGED PARTIAL PLANS	1056-2



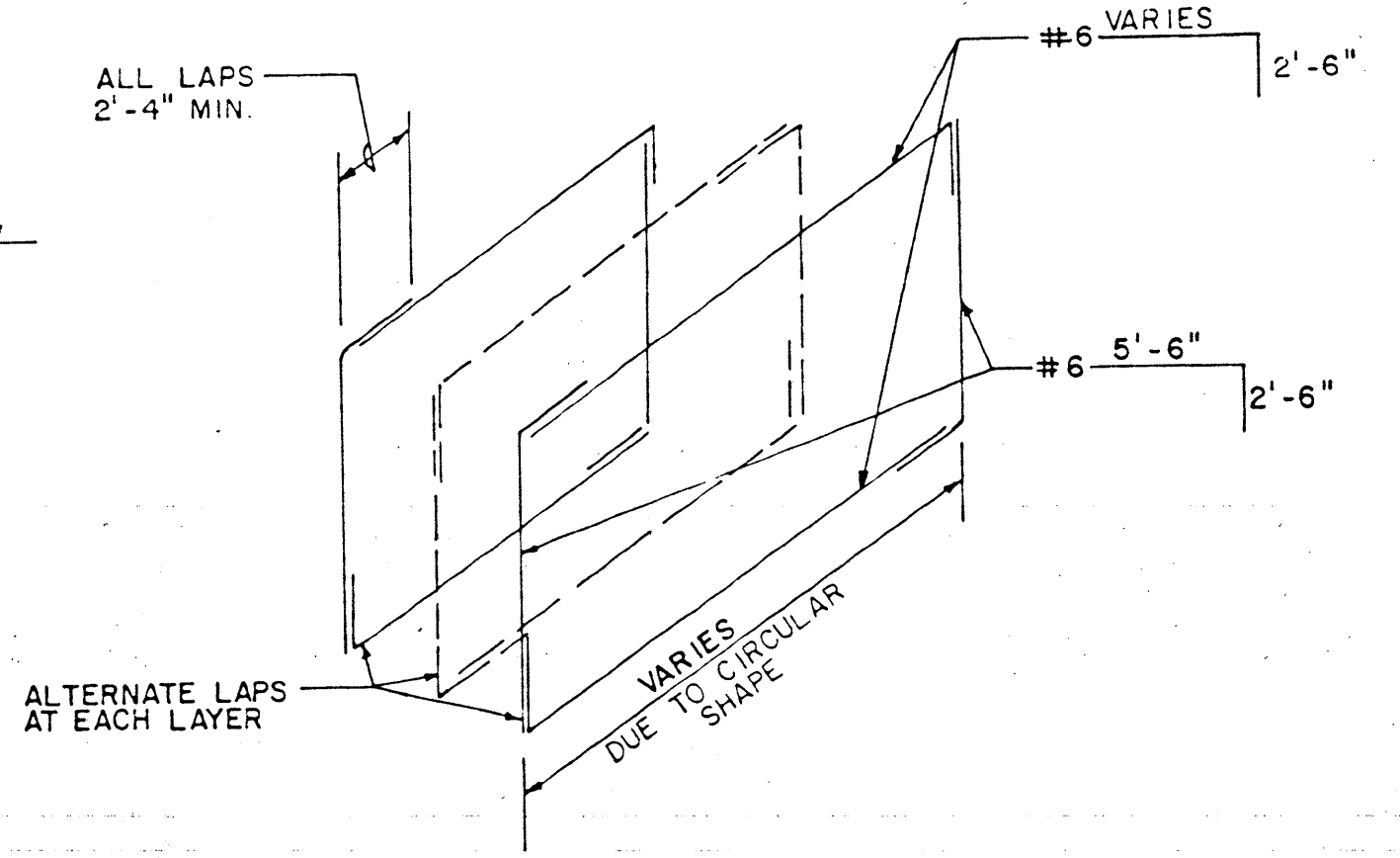
PLAN OF PILE CAP A
SCALE: 1/2" = 1'-0"



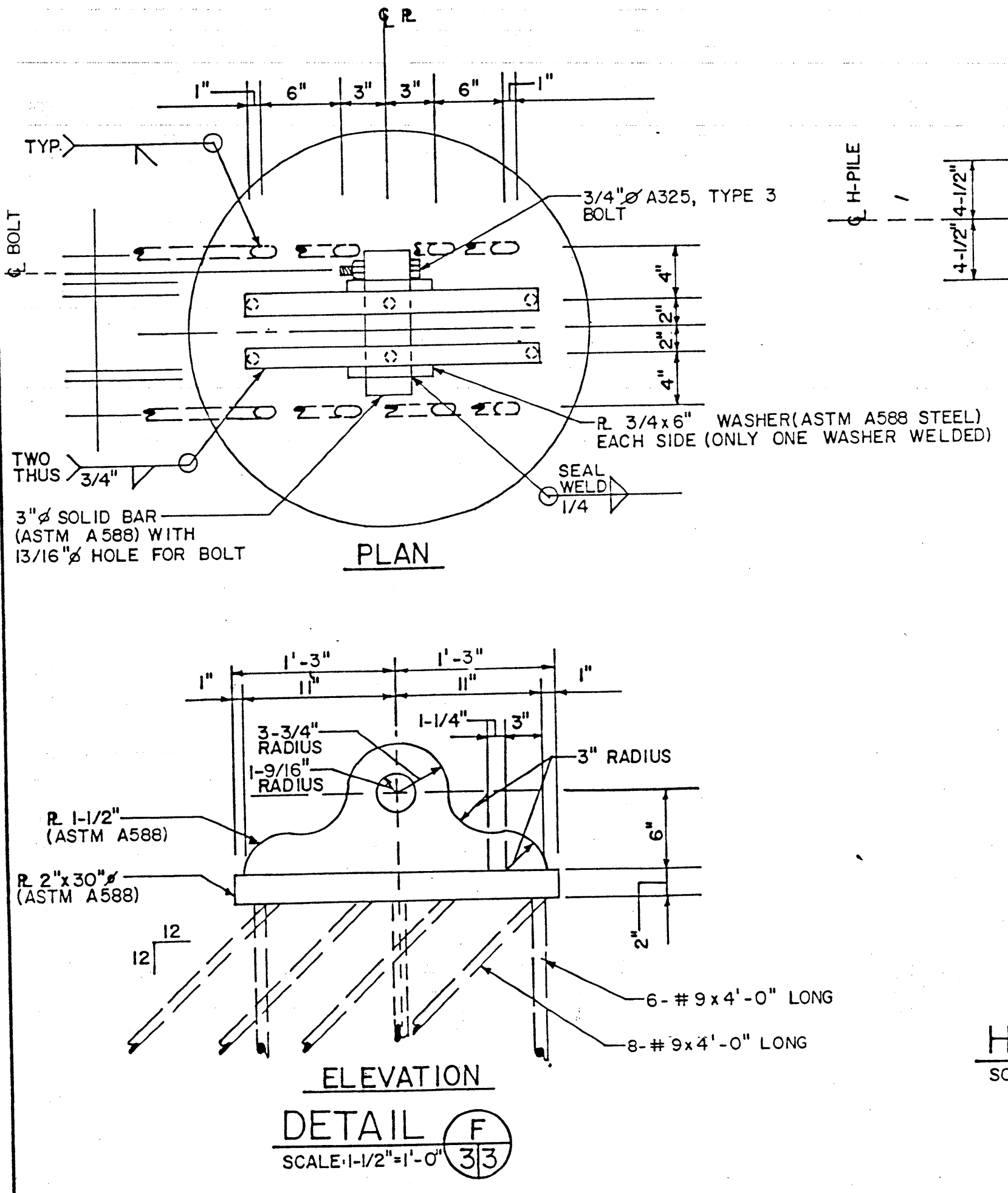
SECTION THRU STERN MOORING B
SCALE: 1/2" = 1'-0"

SECTION THRU BOW MOORING C
SCALE: 1/2" = 1'-0"

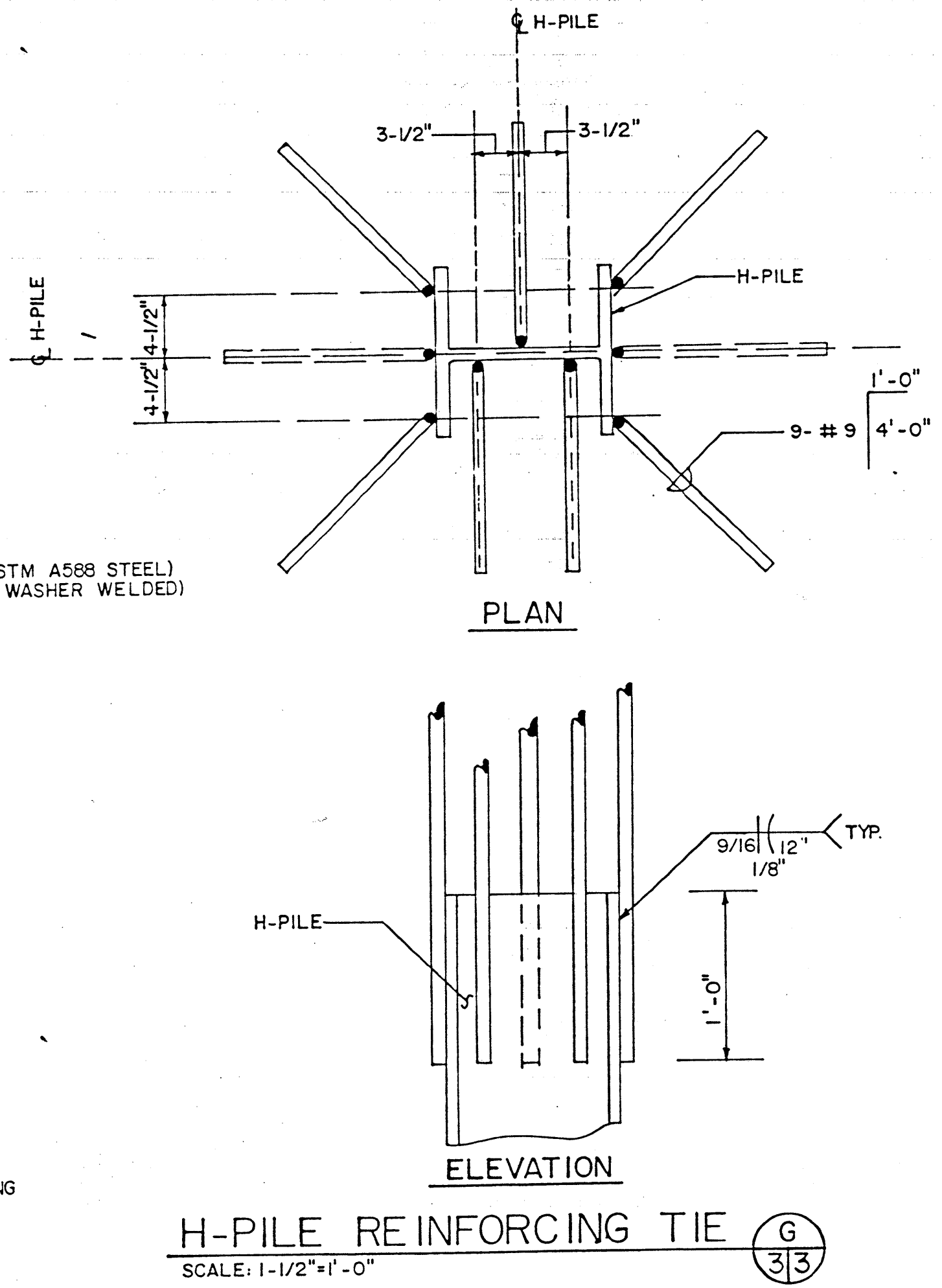
HORIZONTAL REINFORCING LAYOUT D
NO SCALE - PLAN VIEW



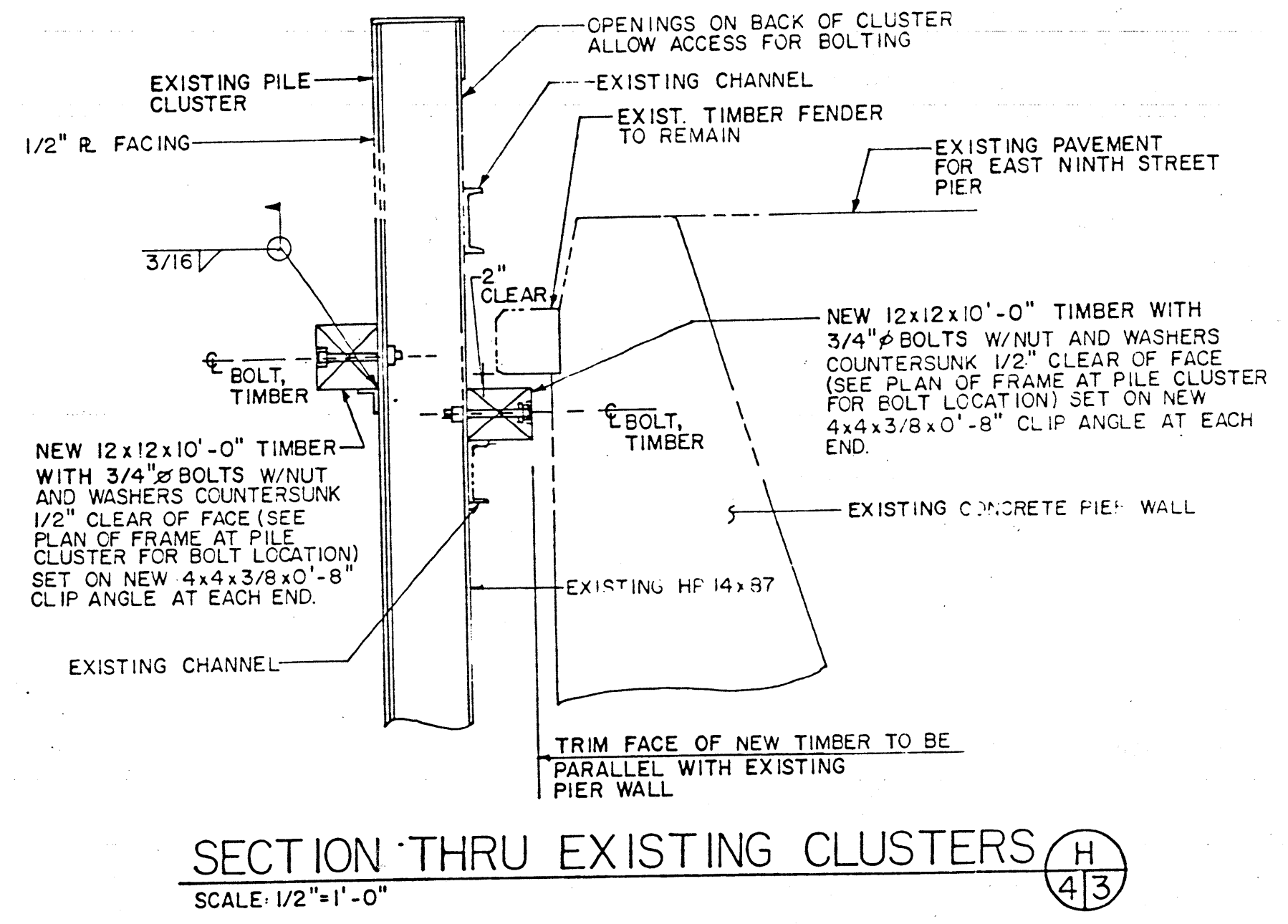
VERTICAL REINFORCING LAYOUT E
NO SCALE - 3-D VIEW



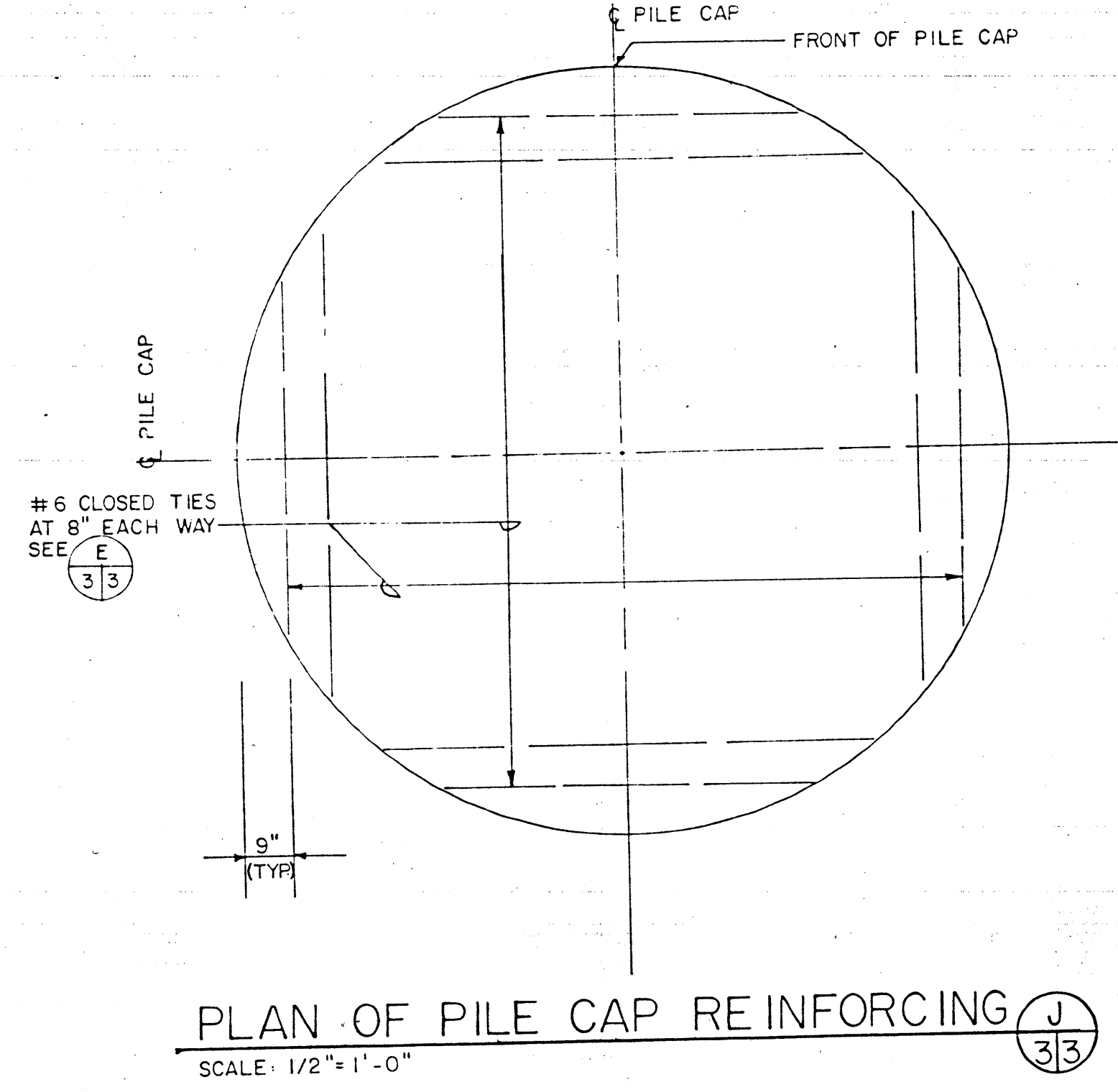
DETAIL F
SCALE: 1-1/2" = 1'-0"



H-PILE REINFORCING TIE G
SCALE: 1-1/2" = 1'-0"

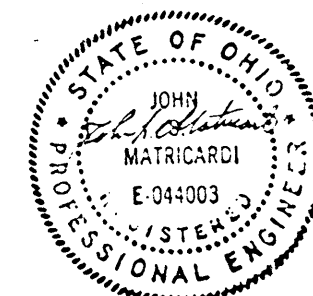


SECTION THRU EXISTING CLUSTERS H
SCALE: 1/2" = 1'-0"

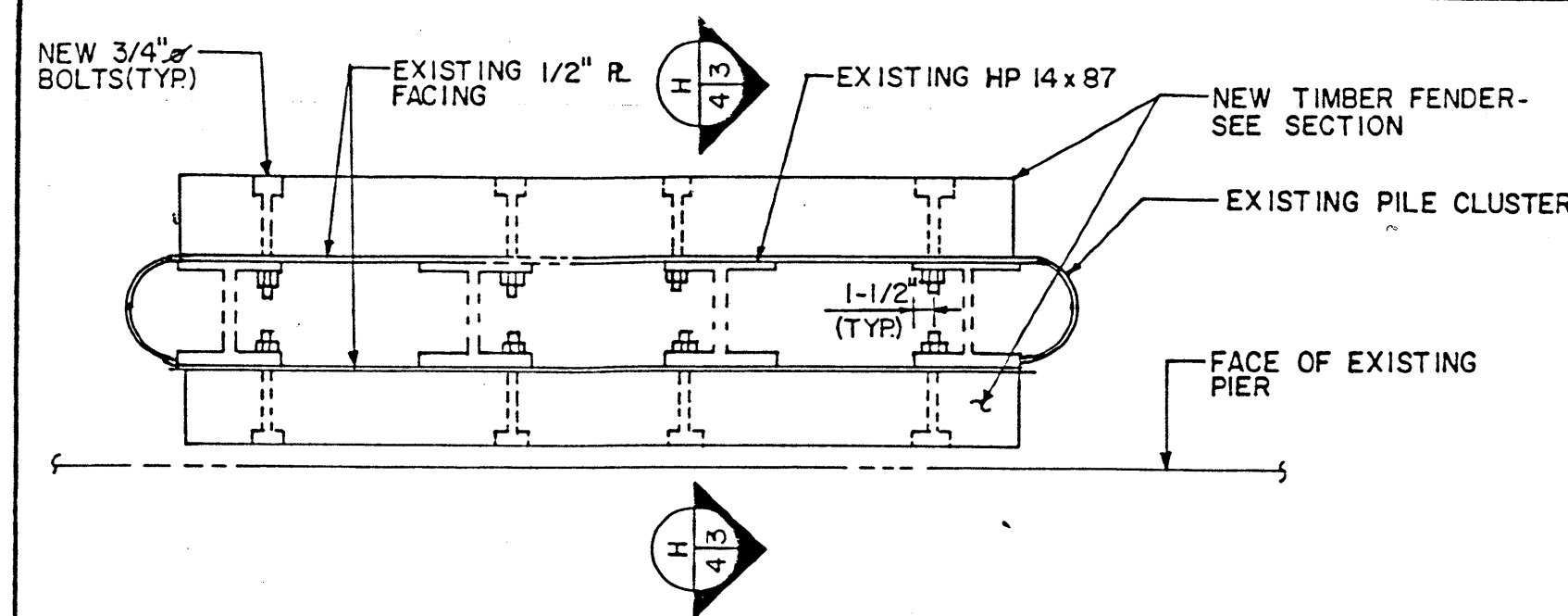


PLAN OF PILE CAP REINFORCING J
SCALE: 1/2" = 1'-0"

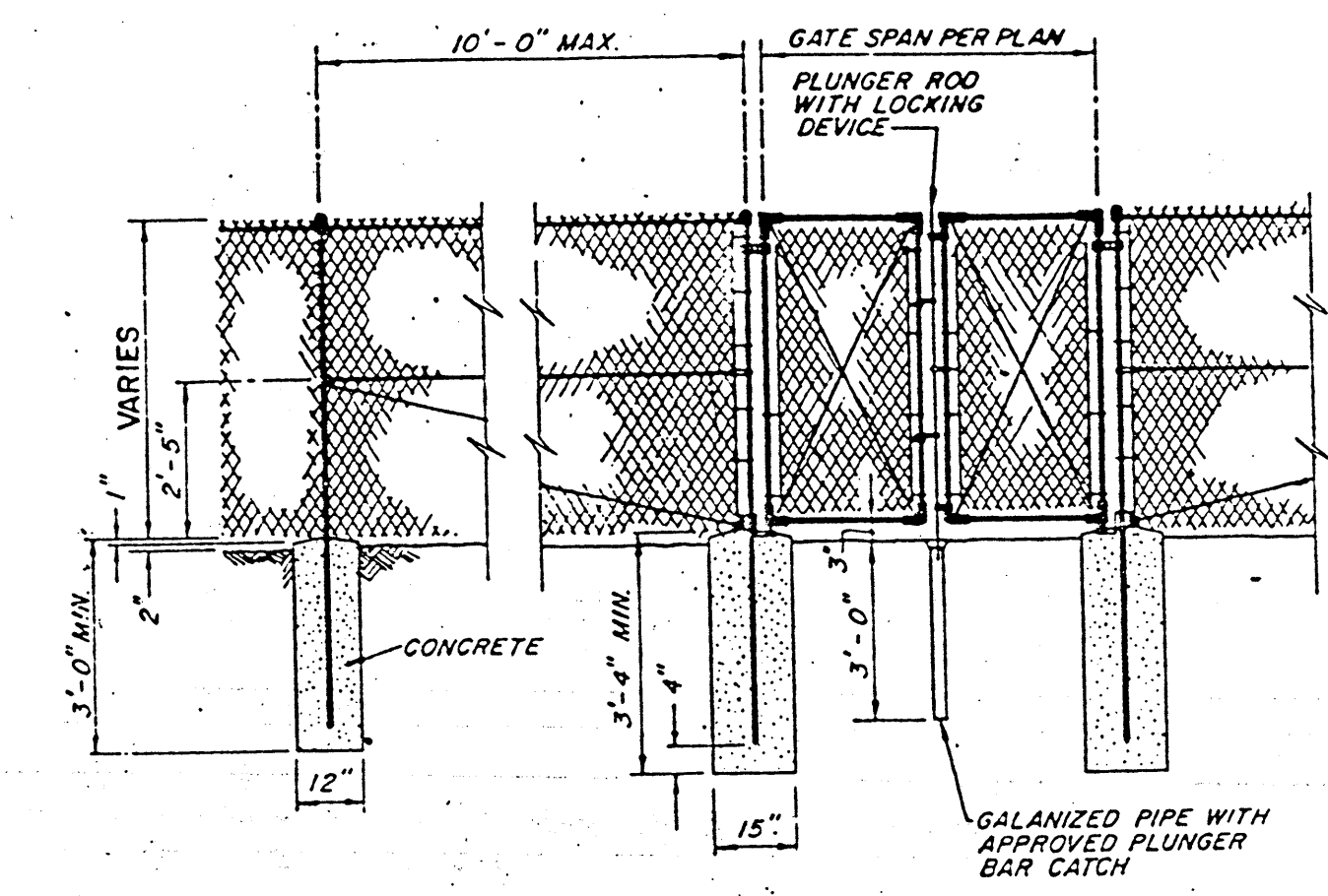
FOR INFORMATION ONLY



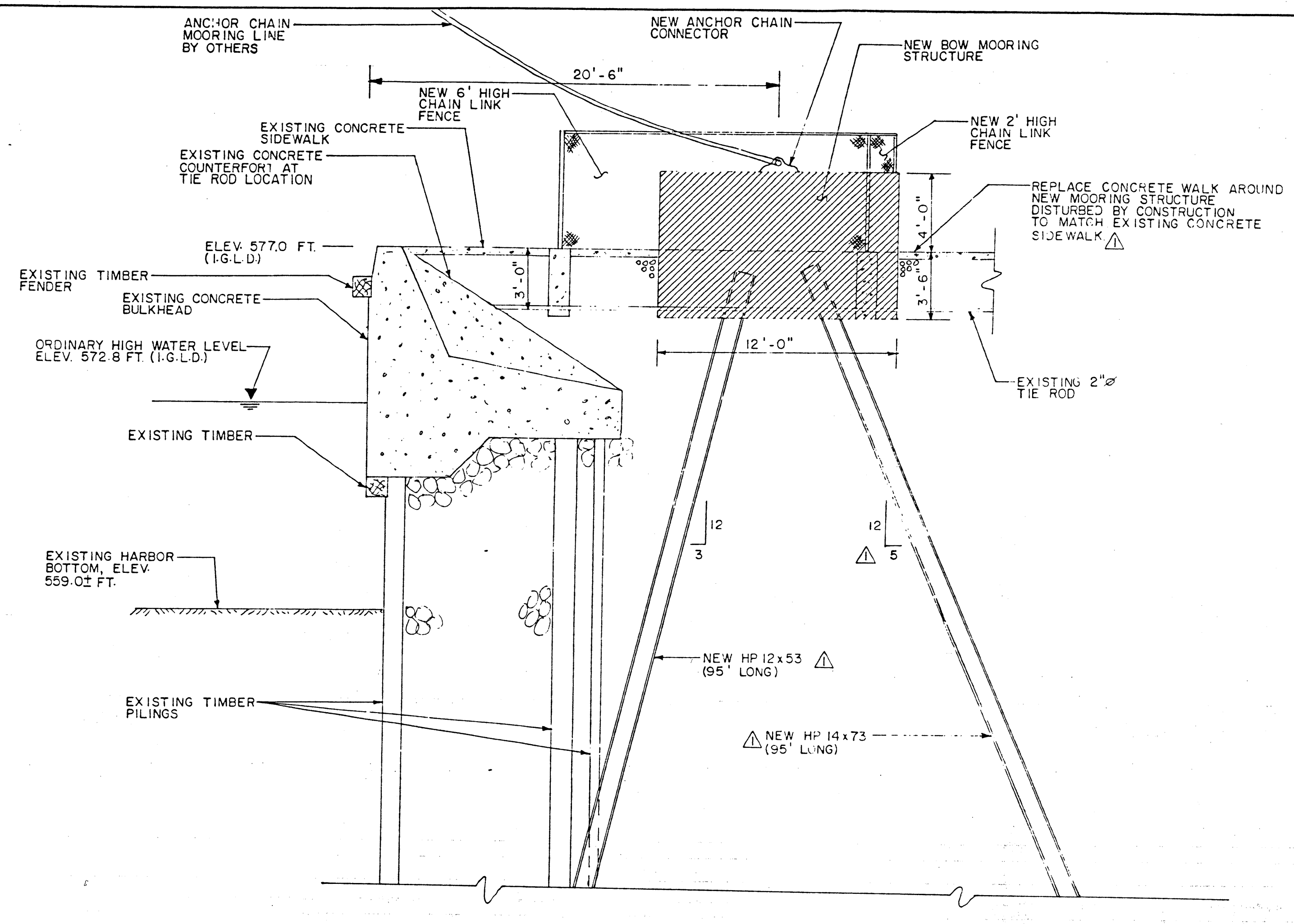
MATRIX ENGINEERING, INC.
17010 MADISON AVE. LAKEWOOD, OHIO 44107
AS NOTED
1/19/90
NEW MOORING STRUCTURES FOR THE STEAMER WILLIAM G. MATHER
SECTIONS & DETAILS
1056-3



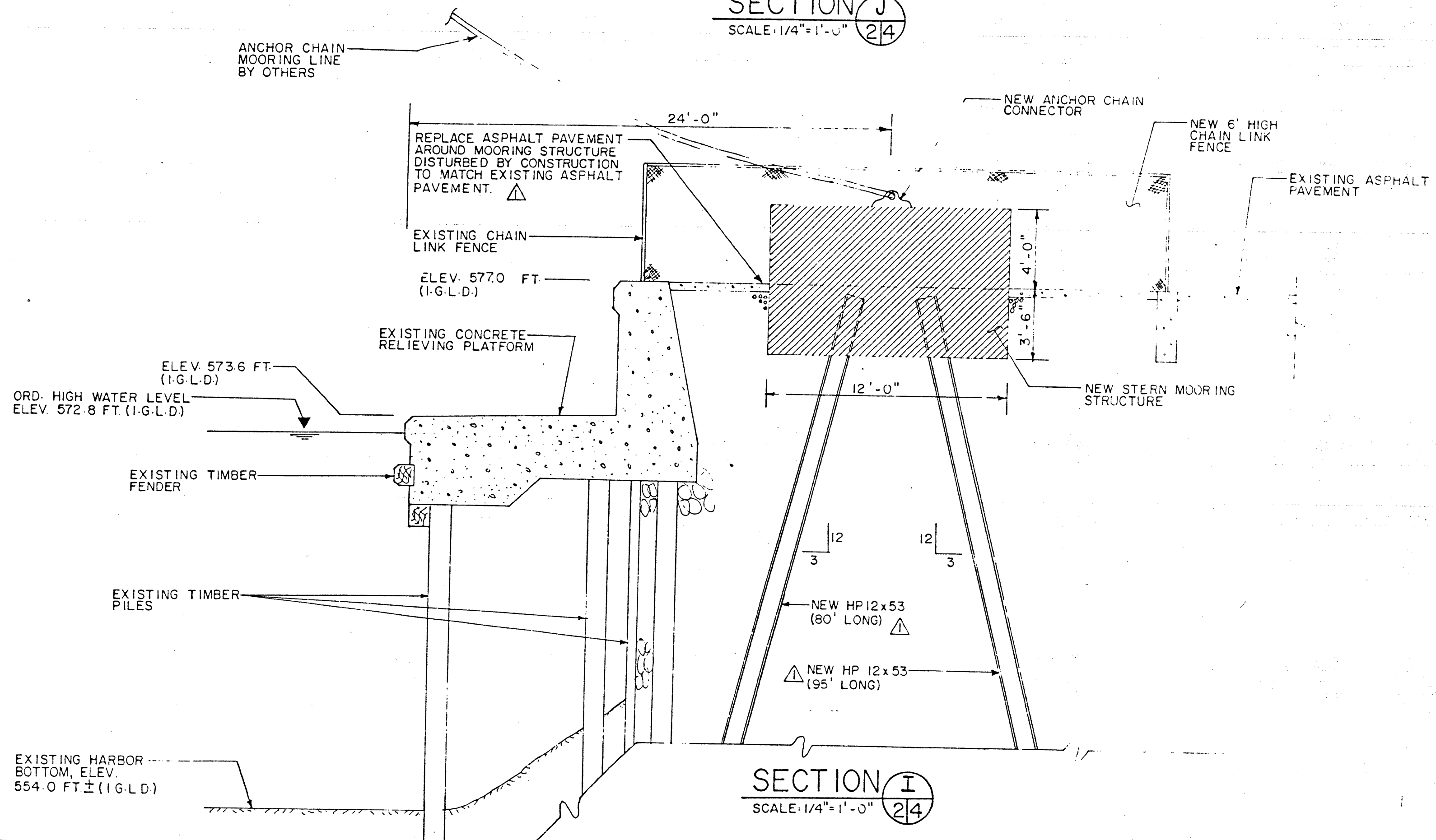
PLAN SHOWING FENDER ON PILE CLUSTER
SCALE: 1/2"=1'-0"



TYPICAL FENCE ASSEMBLY
NO. SCALE



SECTION J
SCALE: 1/4"=1'-0"

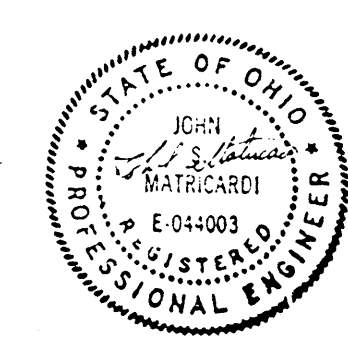


SECTION I
SCALE: 1/4"=1'-0"

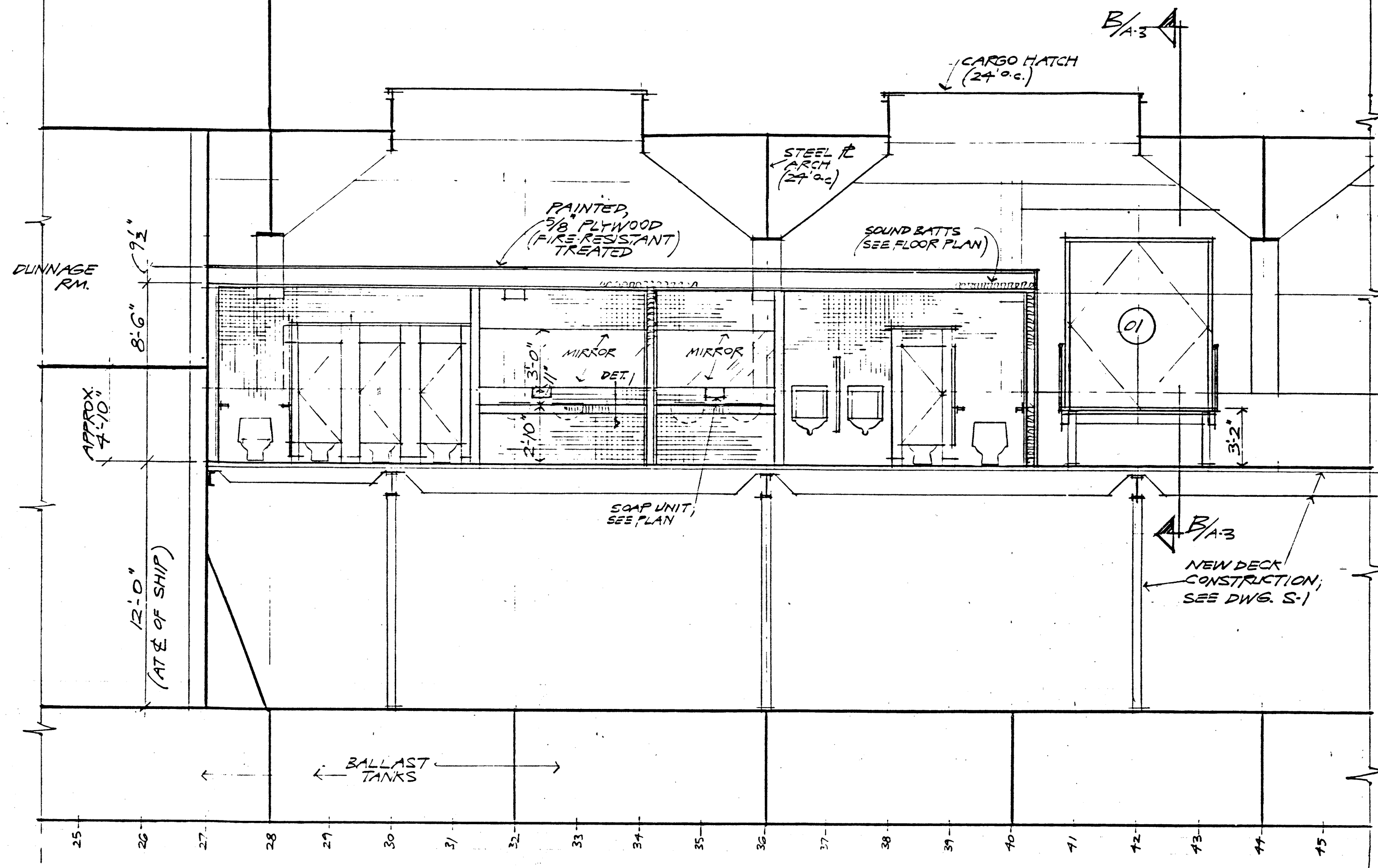
GENERAL NOTES

- A. DESIGN LIVE LOADS
Wind ----- ps 20 psf
- B. DESIGN STRESSES
Concrete (28 day strength) (Air entrained) ----- f'c = 4,000 psi
Reinforcing bars (ASTM A615 Grade 60) ----- fy = 60,000 psi
Structural steel (ASTM A36) ----- Fy = 36,000 psi
Anchor Chain Connector (ASTM A588) ----- Fy = 50,000 psi
- C. GENERAL
1. The Contractor shall verify all dimensions in the field prior to commencing work. The Engineer shall be notified of any discrepancies which may exist.
2. The Contractor shall furnish all necessary bracing required to properly construct the moorings.
3. Do not scale drawings.
4. Any discrepancies between the existing conditions and the drawings shall be brought to the attention of the Engineer.
5. Shop drawings must be checked and stamped by the Contractor prior to submission.
- D. FOUNDATIONS
1. Elevations are noted on the plans and details.
2. All footings must be supported on undisturbed soil capable of supporting design loads without appreciable settlement.
3. Existing foundations shown on drawings are approximate. Exact condition must be verified at time of construction.
4. Locate existing underground utilities in areas of construction. Coordinate with utility companies for any shut-off requirements of active lines.
- E. CONCRETE CONSTRUCTION
1. All concrete construction to be in accordance with the latest Building Code Requirements for Reinforced Concrete ACI-318 and ACI Detailing Manual.
2. Furnish bar supports where necessary during construction.
3. Welding of reinforcing bars is not permitted without permission of Engineer in writing except as noted on drawings.
- F. STEEL CONSTRUCTION
1. Steel detailing, fabrication, and erection shall conform to the latest AISC Specifications and Code of Standard Practice, and the AWS Structural Welding Code.
2. Welding electrodes shall be E70XX.
3. Shop drawings are required and shall note type of electrodes, size of all welds.
4. Painting - Provide one shop coat and one field coat of rust-inhibitive paint on all steel exposed to weather.
5. All shop and field welding shall be done by a recent certified welder.
6. All structural steel other than A36 shall have a positive method of identification. This identification shall be visible throughout fabrication and erection. Method of identification shall be clearly indicated on the shop drawings.
- G. INSPECTION
An approved independent testing laboratory shall provide inspection and testing services per ASTM E329. Reports of inspection and testing shall be sent to the Engineer. Such inspection and testing shall include:
1. Concrete: mix data, daily pour reports, cylinder tests, slump, entrained air tests, and temperature.
2. Foundations: bearing surface.
3. Welds shall be visually inspected prior to painting.

FOR INFORMATION ONLY



2/9/90 ADDENDUM # 1 CHANGES	
MATRIX ENGINEERING, INC.	
17010 MADISON AVE.	LAKEWOOD, OHIO 44107
AS NOTED	DATE: J.J.C.
1/19/90	DATE: J.J.C.
NEW MOORING STRUCTURES FOR THE STEAMER WILLIAM G. MATHER	
SECTIONS & DETAILS	
1056-4	



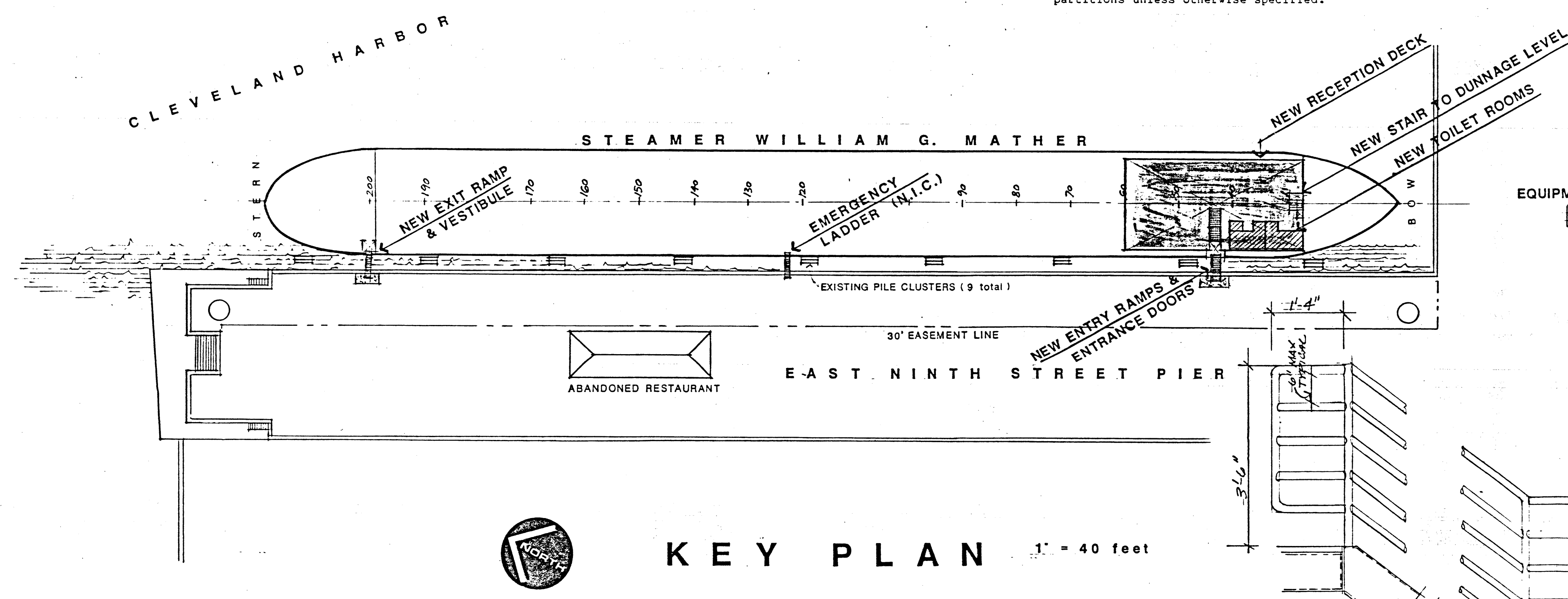
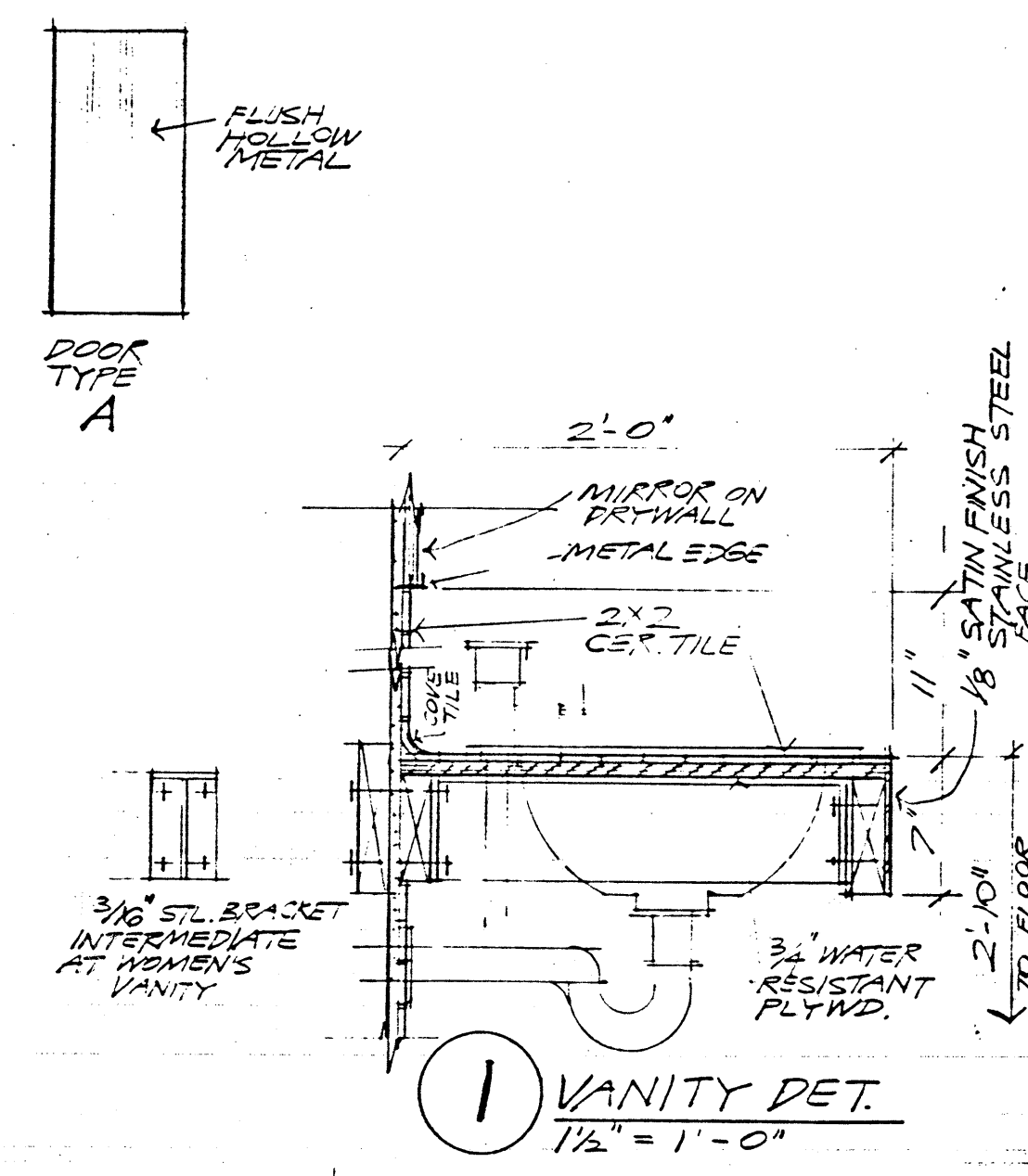
SECTION A - A 1/4" = 1'-0"
thru new deck & toilet rms.

NOTES:

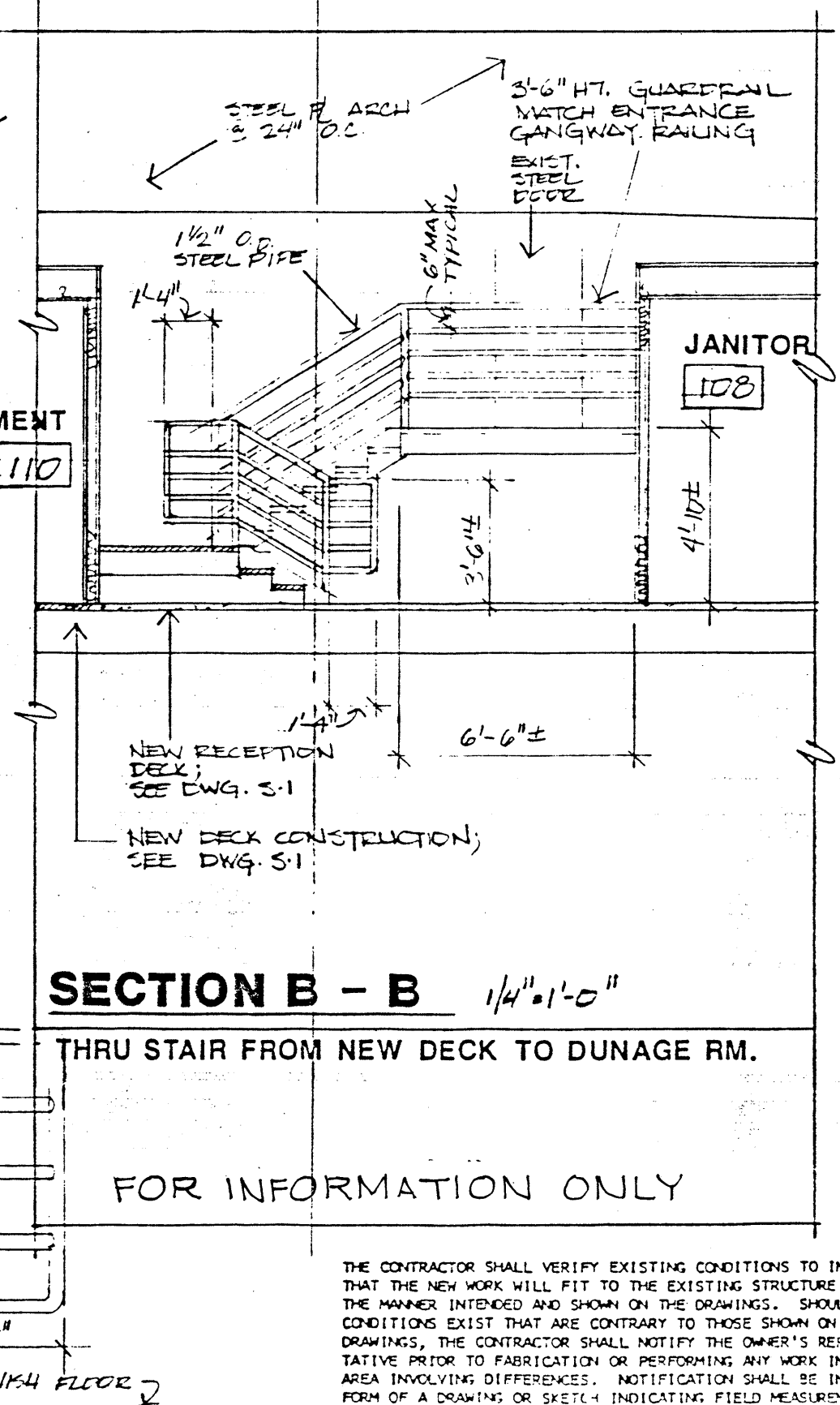
- 1) All drywall to be moisture resistant type, 5/8", U.S. GYPSUM "SHEETROCK W/R".
- 2) All metal studs to be galvanized.
- 3) Painting: Provide primer and one coat enamel finish on all exposed new drywall, plywood and metal.
- 4) Paint all hollow metal doors and frames.
- 5) Contractor must provide shop drawings for all stairs, ramps & misc. steel items.
- 6) Contractor to confirm slope of side tanks.
- 7) Contractor to provide all necessary door hardware & misc. hardware as required by code.
- 8) Provide vinyl base at all new painted drywall partitions unless otherwise specified.

ROOM FINISH SCHEDULE						
ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS	CEILING	REMARKS
101	RECEPTION DECK	EXPOSED CONCRETE	NONE	EXISTING STEEL X	EXISTING STEEL	VARIABLE * PAINT DRYWALL AT TOILET ROOMS,
102	JANITOR	EXPOSED CONCRETE	4" VINYL	DRYWALL (PAINT)	DRYWALL (PAINT)	8'-6"
103	VESTIBULE	2x2 CERAMIC TILE	2x2 C.T. COVE	DRYWALL (PAINT)	DRYWALL (PAINT)	8'-6"
104	MEN	2x2 CERAMIC TILE	2x2 C.T. COVE	2x2 CERAMIC TILE	DRYWALL (PAINT)	8'-6" SEE VANITY DET. 1 ON THIS SHEET
105	VESTIBULE	2x2 CERAMIC TILE	2x2 C.T. COVE	DRYWALL (PAINT)	DRYWALL (PAINT)	8'-6"
106	WOMEN	2x2 CERAMIC TILE	2x2 C.T. COVE	2x2 CERAMIC TILE	DRYWALL (PAINT)	8'-6" SEE VANITY DET. 1 ON THIS SHEET
107	APT. EXIT VESTIBULE	EXISTING STEEL		EXISTING STEEL	EXISTING STEEL	9'-10" EXISTING
108	JANITOR	EXPOSED CONCRETE	4" VINYL	DRYWALL (PAINT)	DRYWALL (PAINT)	8'-6"
109	THEATER	EXPOSED CONCRETE	NONE	DRYWALL (PAINT)		
110	EQUIPMENT	EXPOSED CONCRETE	4" VINYL	DRYWALL (PAINT)	DRYWALL (PAINT)	8'-6"

DOOR SCHEDULE					
DOOR NO.	DOOR SIZE	FRAME MAT'L.	DOOR TYPE	VANITY DET.	REMARKS
01	2'-0" x 3'-4" x 8'-0" x 1 3/4"	H.M.	A	1	DOORS TO BE FOAM INSULATED; PROVIDE PANIC HWK, HINGES, CLOSERS, HOLD OPEN, CYLINDER LOCKS, WEATHERSTRIP
02	2'-8" x 7'-0" x 1 3/4"	H.M.	A	2	
03	3'-0" x 7'-0" x 1 3/4"	H.M.	A	2	
04	3'-0" x 7'-0" x 1 3/4"	H.M.	A	2	
05	3'-0" x 7'-0" x 1 3/4"	H.M.	A	2	
06	3'-0" x 7'-0" x 1 3/4"	H.M.	A	2	
07	3'-0" x 6'-8" x 1 3/4"	H.M.	A	1	PROVIDE PANIC HWK, HINGES, CLOSER
08	3'-4" x 7'-3" x 1 3/4"	H.M.	A	1	EXISTING STEEL HATCH; REMOVE EXIST. 11" LHT. BULKHEAD & WELD 1/2" STEEL PL. TO DOOR BOT. SO DOOR WILL FULLY CLOSE OPENINGS.
09	2'-8" x 7'-0" x 1 3/4"	H.M.	A	2	
10	3'-0" x 7'-0" x 1 3/4"	H.M.	A	2	



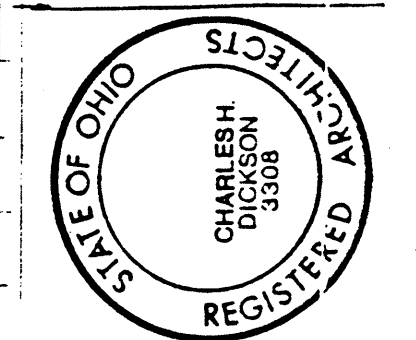
KEY PLAN 1" = 40 feet



SECTION B - B 1/4" = 1'-0"
THRU STAIR FROM NEW DECK TO DUNAGE RM.

FOR INFORMATION ONLY

THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS TO INSURE THAT THE NEW WORK WILL FIT TO THE EXISTING STRUCTURE IN THE MANNER INTENDED AND SHOWN ON THE DRAWINGS. SHOULD ANY CONDITIONS EXIST THAT ARE CONTRARY TO THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION OR PERFORMING ANY WORK IN THE AREA INVOLVING DIFFERENCES. NOTIFICATION SHALL BE IN THE FORM OF A DRAWING OR SKETCH INDICATING FIELD MEASUREMENTS AND NOTES RELATED TO THE AREA.



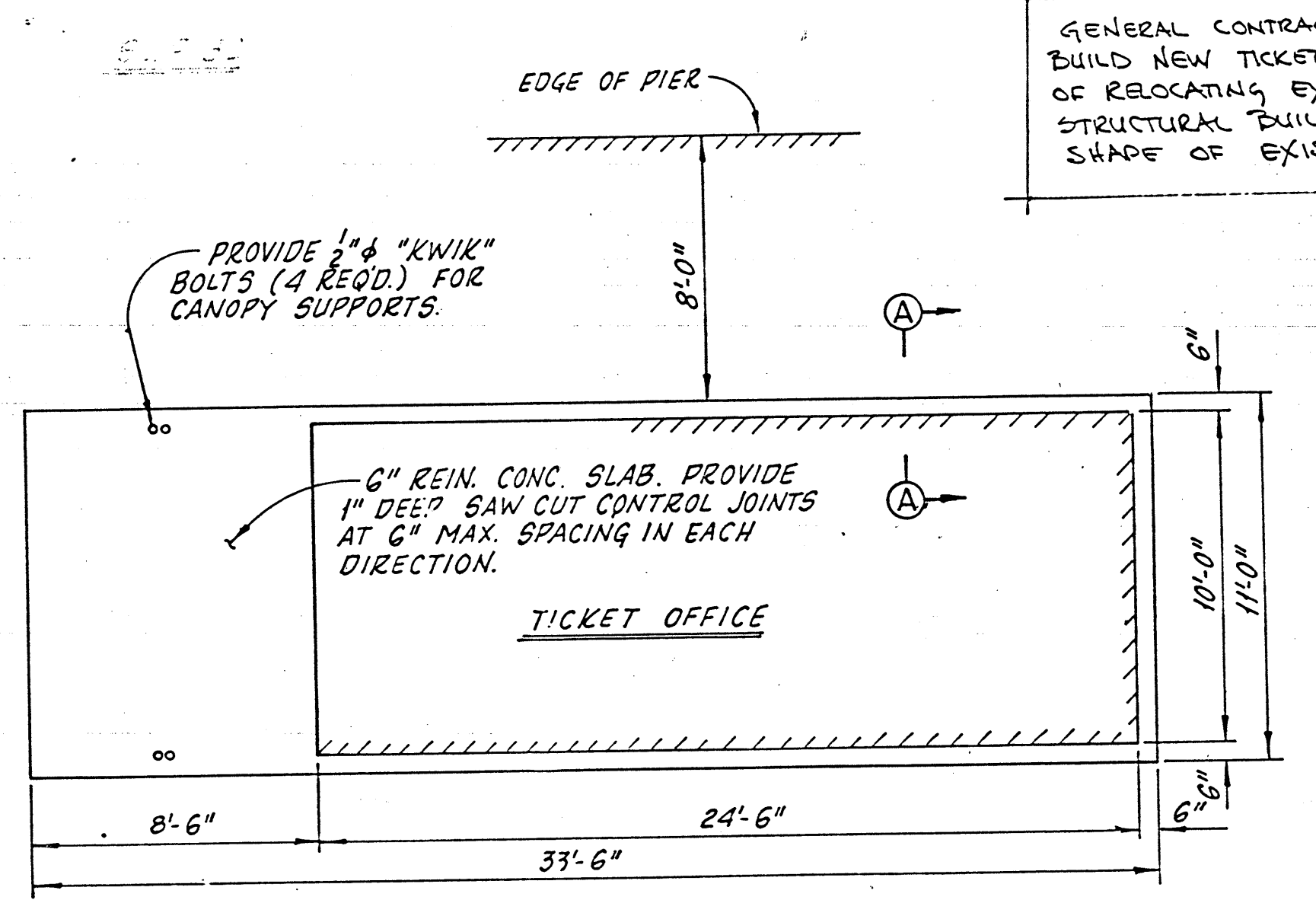
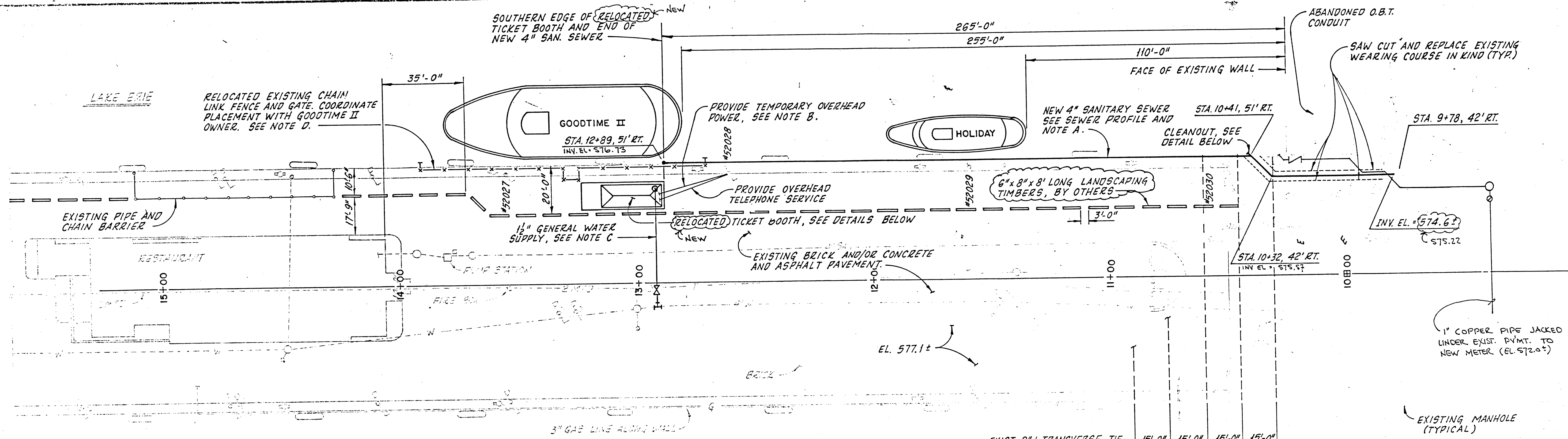
DICKSON ASSOCIATES INC.
ARCHITECTS
PLANNERS
2065 LEE RD. W. CLEVELAND, OH 44118
216-952-4206

STEAMER WILLIAM G. MATHER
new reception deck; toilet rooms; & public access
THE GREAT LAKES HISTORICAL SOCIETY

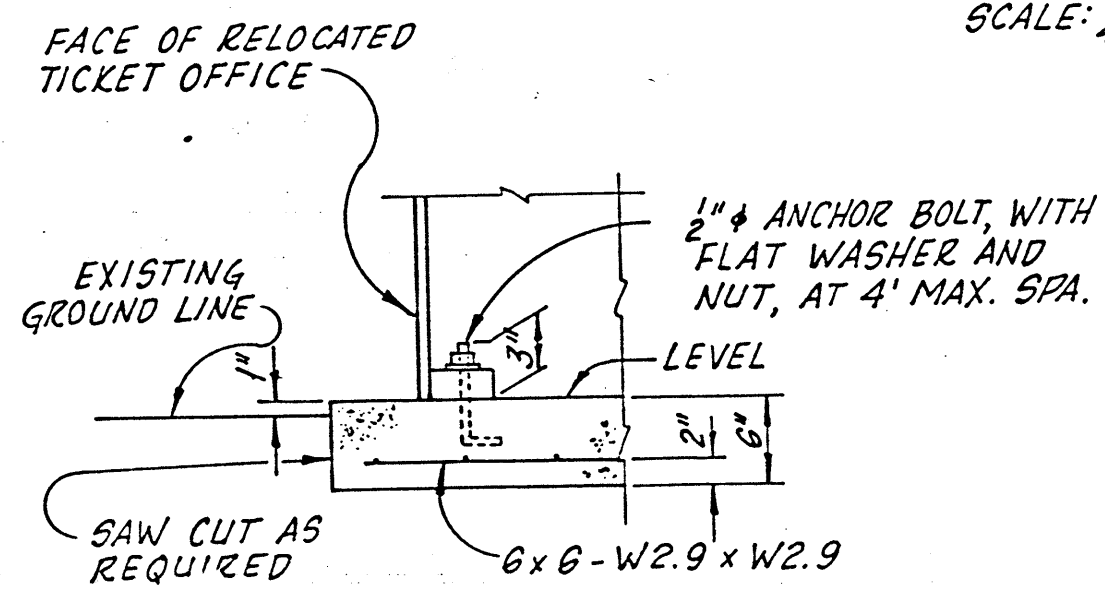
DATE: MAY 14, 1990

DRAWING NO.:

A-1



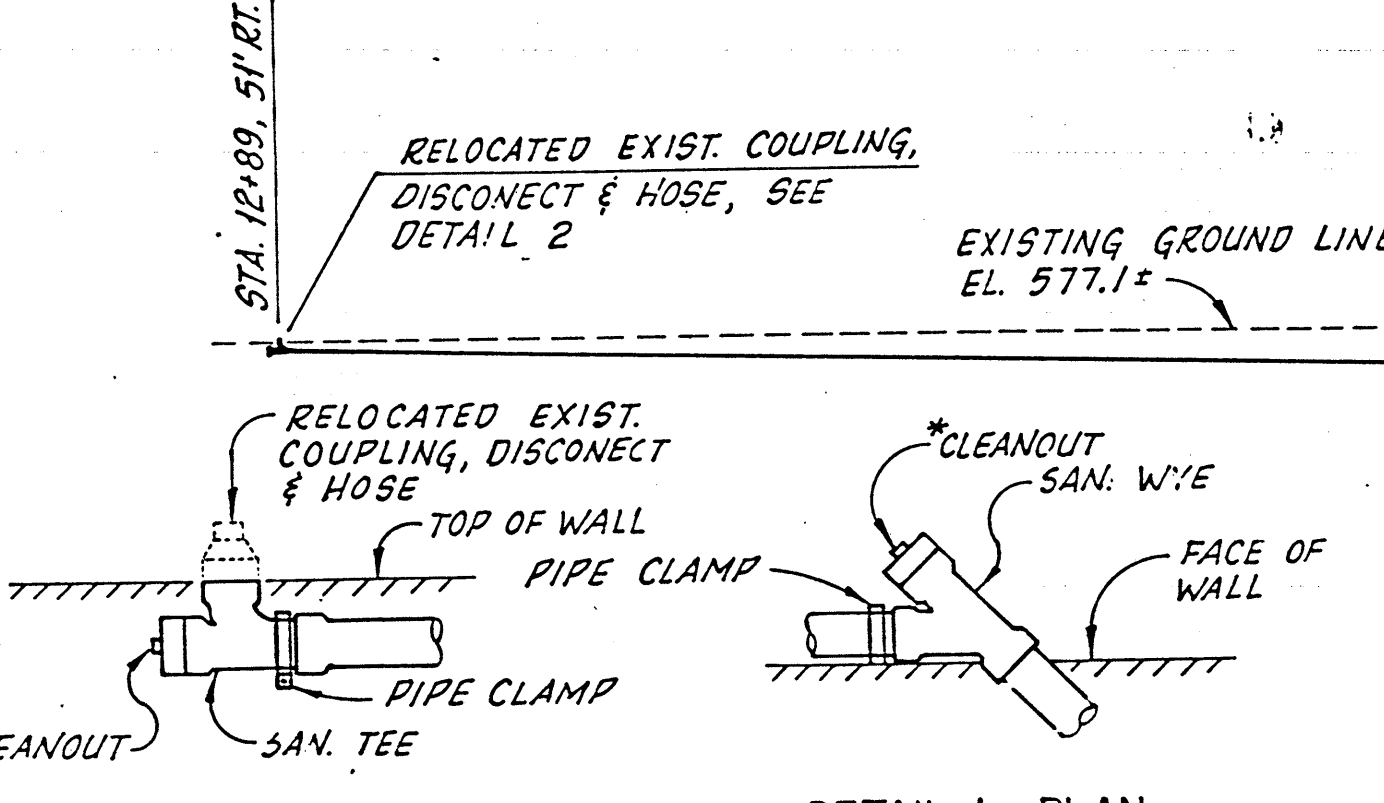
FOUNDATION PLAN
SCALE: 1"=1'-0"



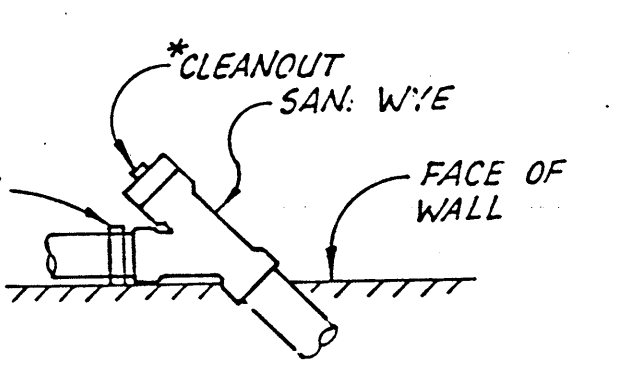
SECTION A-A
SCALE: 1"=1'-0"

GENERAL CONTRACTOR ELBETS TO BUILD NEW TICKET BOOTH IN LIEU OF RELOCATING EXISTING BOOTH. STRUCTURAL BUILT TO SIZE AND SHAPE OF EXISTING.

PLAN
SCALE: 1"=20'



DETAIL 2 - ELEVATION
NO SCALE



DETAIL 1 - PLAN
NO SCALE

NOTE: CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO EXCAVATING FOR THE PRESSURE SEWER.

PRESSURE SEWER PROFILE
SCALE: 1"=20' HORIZ., 1"=5' VERT.

*NOTE: CLEANOUTS SHALL BE STANDARD THREADED FERULES (TYLER NO. 2-115, OR EQUAL) WITH HIGH SQUARE HEAD BRASS CLEANOUT PLUGS (TYLER TYPE C, OR EQUAL)

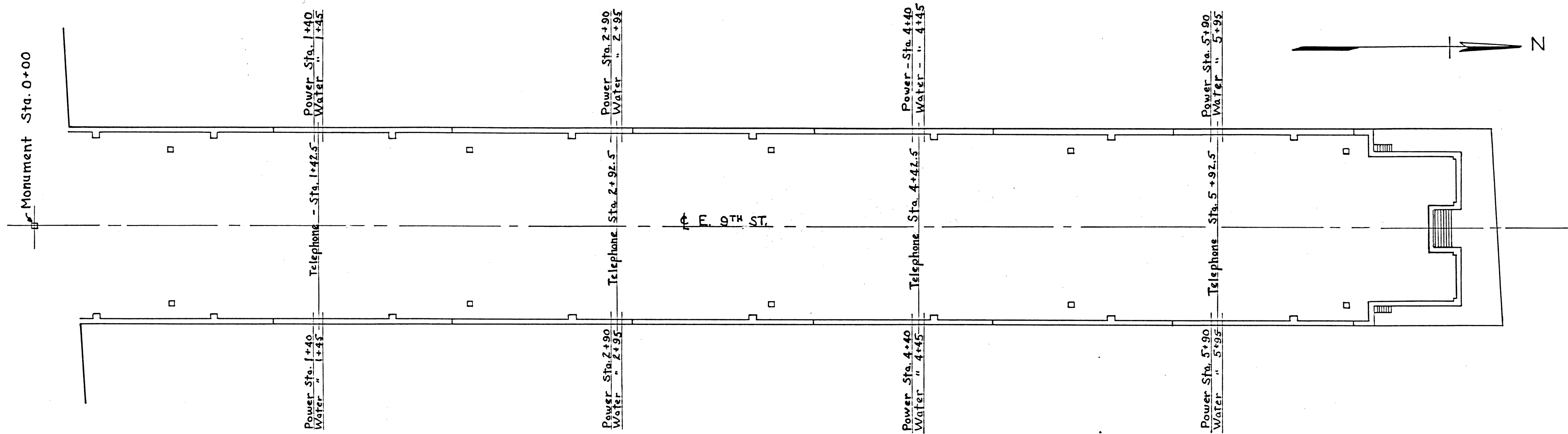
FOR INFORMATION ONLY

UNDERGROUND UTILITIES
TWO WORKING DAYS BEFORE YOU DIG
Call: 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

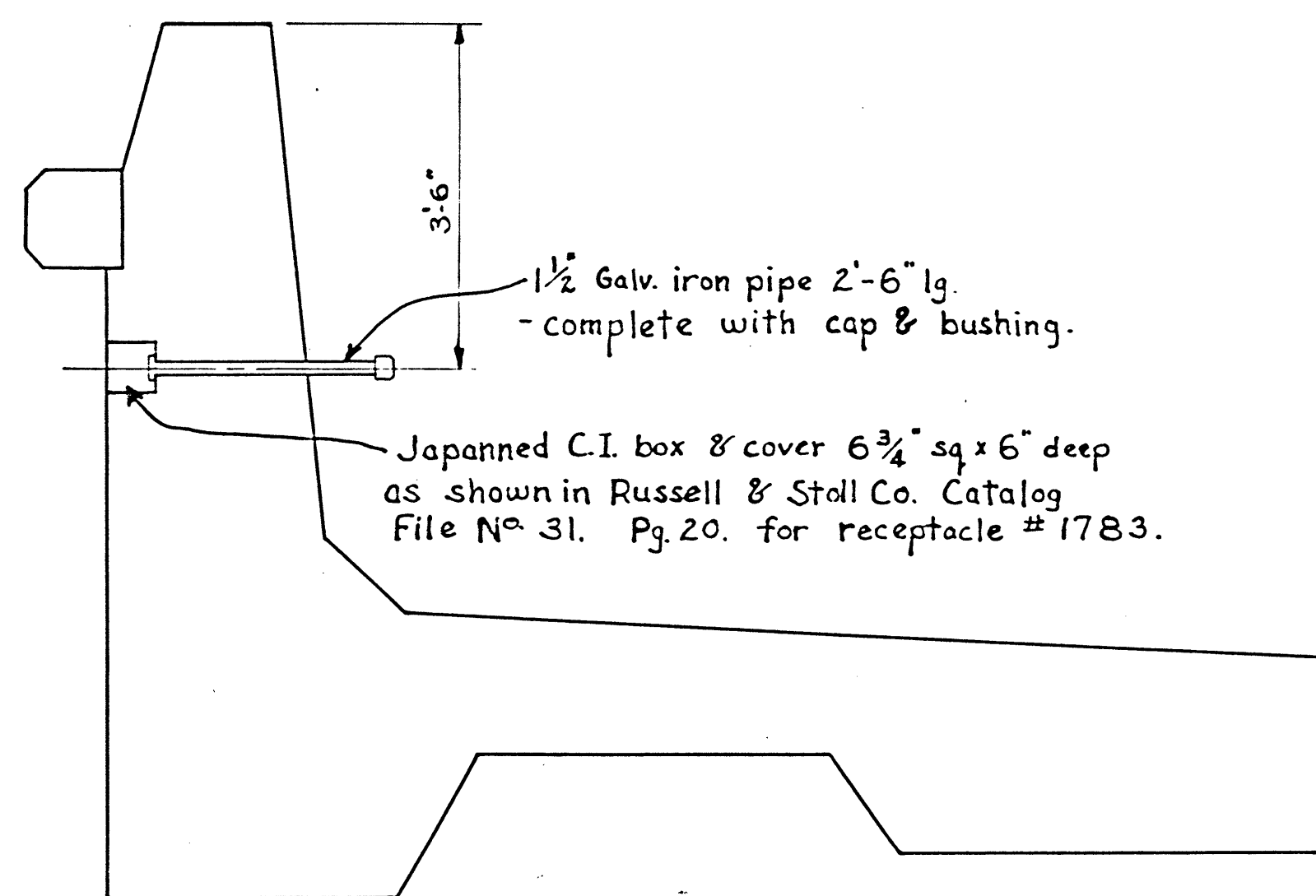
NOTE A: SANITARY SEWER SHALL BE 4-IN. DUCTILE IRON PIPE, CLASS 50. PIPING SHALL BE PLACED IN ACCORDANCE WITH SECTION 02730 OF THE SPECIFICATIONS. SANITARY SEWER SHALL BE PRESSURE TESTED TO 2.0 TIMES THE MAXIMUM OPERATING PRESSURE.
NOTE B: RELOCATE EXISTING FLEXIBLE HOSE AND QUICK DISCONNECT COUPLING TO NEW SYSTEM TO PROVIDE A FULLY OPERATIONAL SYSTEM.
NOTE C: PROVIDE GENERAL WATER SUPPLY, WITH STRAP SADDLE AND METER SETTINGS, IN ACCORDANCE WITH CITY OF CLEVELAND STANDARDS. PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM IN ACCORDANCE WITH ITEM NO. 02900-2. PIPING REQUIRED WITHIN THE RELOCATED TICKET OFFICE SHALL BE IN ACCORDANCE WITH ITEM NO. 02900-1.
NOTE D: RELOCATE EXISTING CHAIN LINK FENCE AND GATE PROVIDING ALL REQUIRED EXPANSION ANCHOR BOLTS SHALL BE REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM. FENCE RELOCATION SHALL BE IN ACCORDANCE WITH ITEM NO. 02900-1.
NOTE E: PROVIDE TEMPORARY POWER FROM EXISTING POWER POLES IN ACCORDANCE WITH ITEM 02900-2.
NOTE F: RELOCATE EXISTING ELECTRIC METER, FLOOD LAMP, WEATHER HEAD AND DISCONNECT FROM POLE NO. 66802 TO POLE NO. 52028. RELOCATION SHALL BE IN ACCORDANCE WITH ITEM 02900-1.
NOTE G: CONCRETE REPAIR SHALL BE IN ACCORDANCE WITH SECTION 03300 OF THE SPECIFICATIONS. EXCAVATION/REPAIRMENT SHALL BE IN ACCORDANCE WITH SECTION 02200 OF THE SPECIFICATIONS.

RELOCATE EXISTING FLEXIBLE HOSE AND QUICK DISCONNECT COUPLING TO NEW SYSTEM TO PROVIDE A FULLY OPERATIONAL SYSTEM.
NEW 4-IN. SANITARY SEWER SHALL BE IN ACCORDANCE WITH ITEM NO. 02900-2. RELOCATING EXISTING HOSE AND QUICK DISCONNECT SHALL BE IN ACCORDANCE WITH ITEM NO. 02900-1.
RELOCATE EXISTING ELECTRIC METER, FLOOD LAMP, WEATHER HEAD AND DISCONNECT FROM POLE NO. 66802 TO POLE NO. 52028. RELOCATION SHALL BE IN ACCORDANCE WITH ITEM 02900-1.
PROVIDE TEMPORARY POWER FROM EXISTING POWER POLES IN ACCORDANCE WITH ITEM 02900-2.

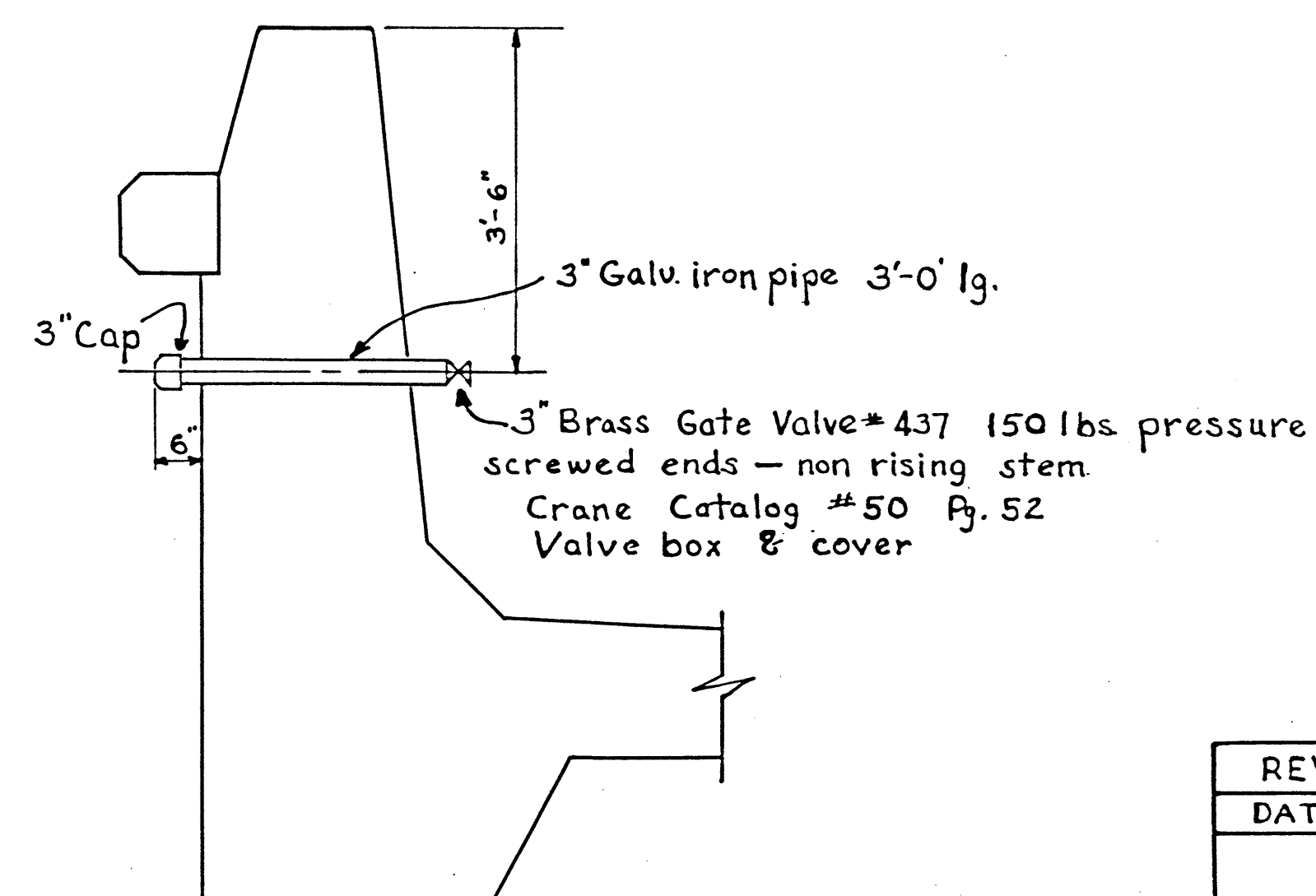
RELOCATE EXISTING FLEXIBLE HOSE AND QUICK DISCONNECT COUPLING TO NEW SYSTEM TO PROVIDE A FULLY OPERATIONAL SYSTEM.
NEW 4-IN. SANITARY SEWER SHALL BE IN ACCORDANCE WITH ITEM NO. 02900-2. RELOCATING EXISTING HOSE AND QUICK DISCONNECT SHALL BE IN ACCORDANCE WITH ITEM NO. 02900-1.
RELOCATE EXISTING ELECTRIC METER, FLOOD LAMP, WEATHER HEAD AND DISCONNECT FROM POLE NO. 66802 TO POLE NO. 52028. RELOCATION SHALL BE IN ACCORDANCE WITH ITEM 02900-1.
PROVIDE TEMPORARY POWER FROM EXISTING POWER POLES IN ACCORDANCE WITH ITEM 02900-2.



PLAN SHOWING LOCATION OF OUTLETS FOR POWER-TELEPHONE & WATER
Scale 1" = 40'



OUTLET FOR POWER & TELEPHONE
16 Req'd - Complete
Scale 1/2" = 1'-0"

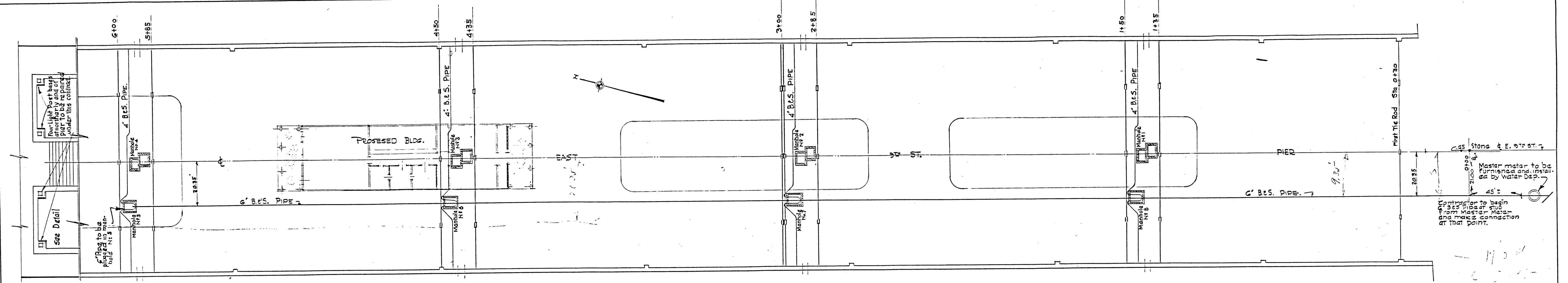


OUTLET FOR WATER
8 Req'd - Complete
Scale 1/2" = 1'-0"

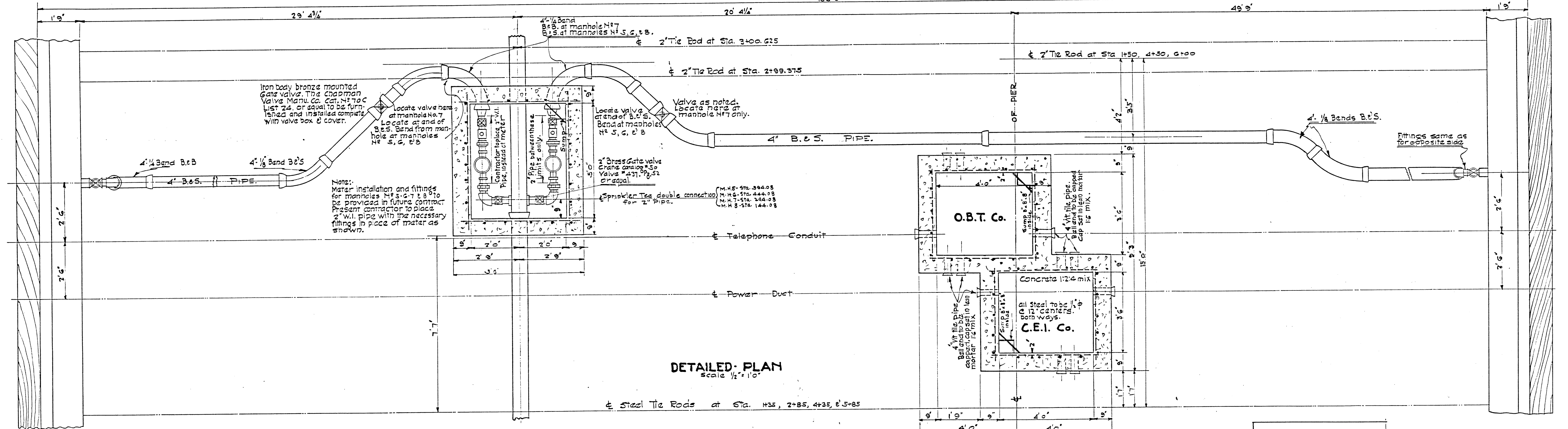
FOR INFORMATION ONLY

REVISIONS		CITY OF CLEVELAND DEPARTMENT OF PUBLIC SERVICE ENGINEERING DIVISION
DATE	BY	
		EAST 9 TH ST. PIER SERVICE OUTLETS FOR POWER-TELEPHONE & WATER
SCALE		Horz. 1" = 40' Draftsman L.W.M. Date 5-26-27
		Vert. As noted Checked _____ Date _____
		Det. As noted _____ Date 5/26-27
		John M. Heffelfinger Engineer
APPROVED _____		Chief Engineer _____
DRWG. No. 573		FILE No. S-17

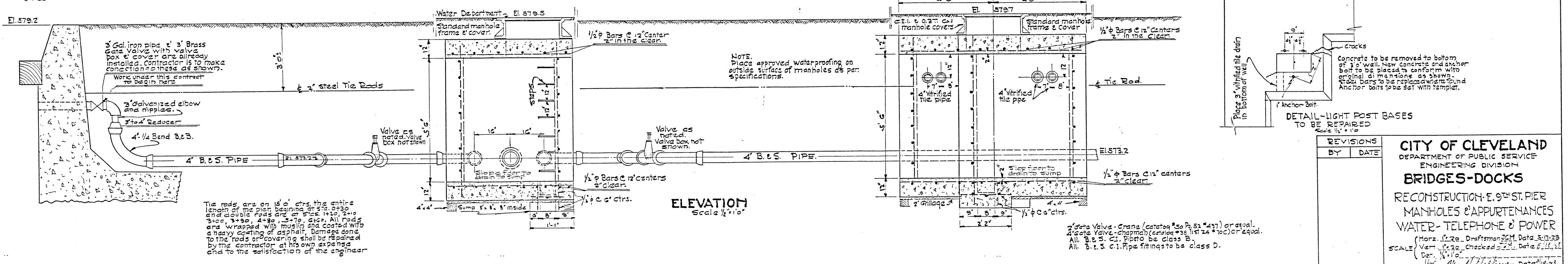
Traced From Original
Joseph Petric 6-26-61



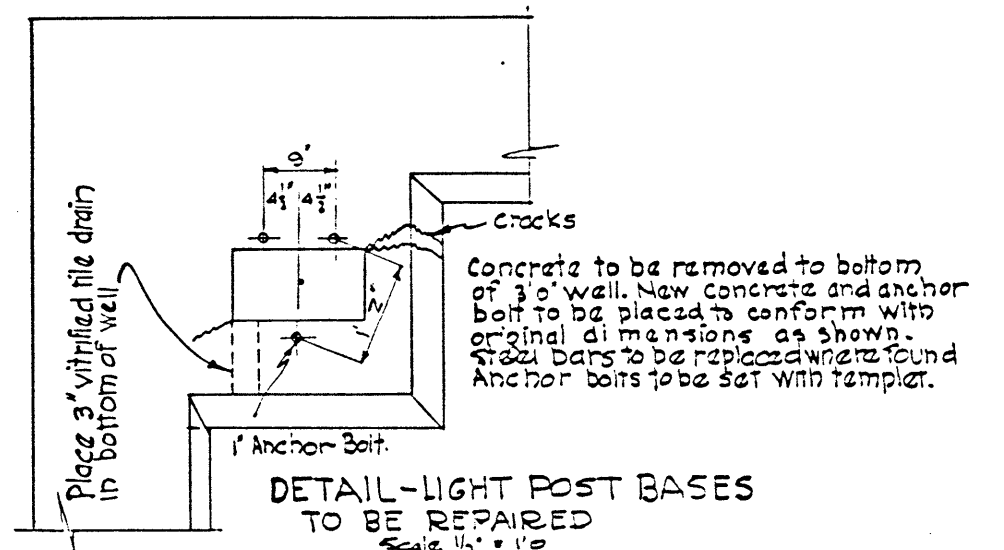
GENERAL PLAN
Scale: 1" = 20'



DETAILED PLAN
Scale: 1/2" = 10'



ELEVATION
Scale: 1/2" = 10'

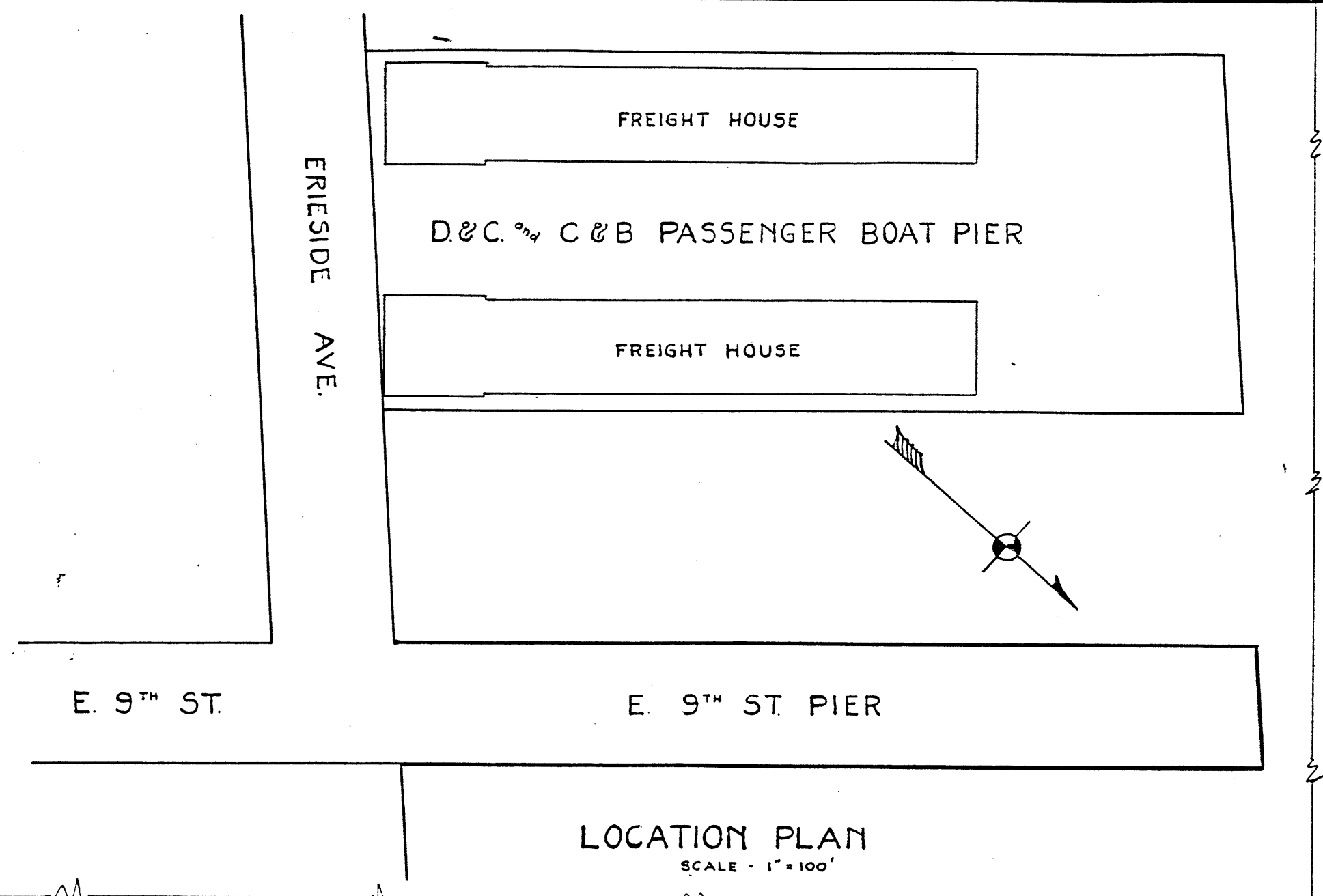


REVISIONS		CITY OF CLEVELAND DEPARTMENT OF PUBLIC SERVICE ENGINEERING DIVISION BRIDGES-DOCKS RECONSTRUCTION - E. 9th ST. PIER MANHOLES & APPURTENANCES WATER - TELEPHONE & POWER (Horz. 1/2" = 20' Draftsman JGM, Date 5-11-23 Vert. 1/2" = 20' Checked S.M., Date 5-11-23 Scale 1/2" = 10' By: <i>[Signature]</i> Engineer Date: 5-11-23 APPROVED: <i>[Signature]</i> Chief Engineer
BY	DATE	

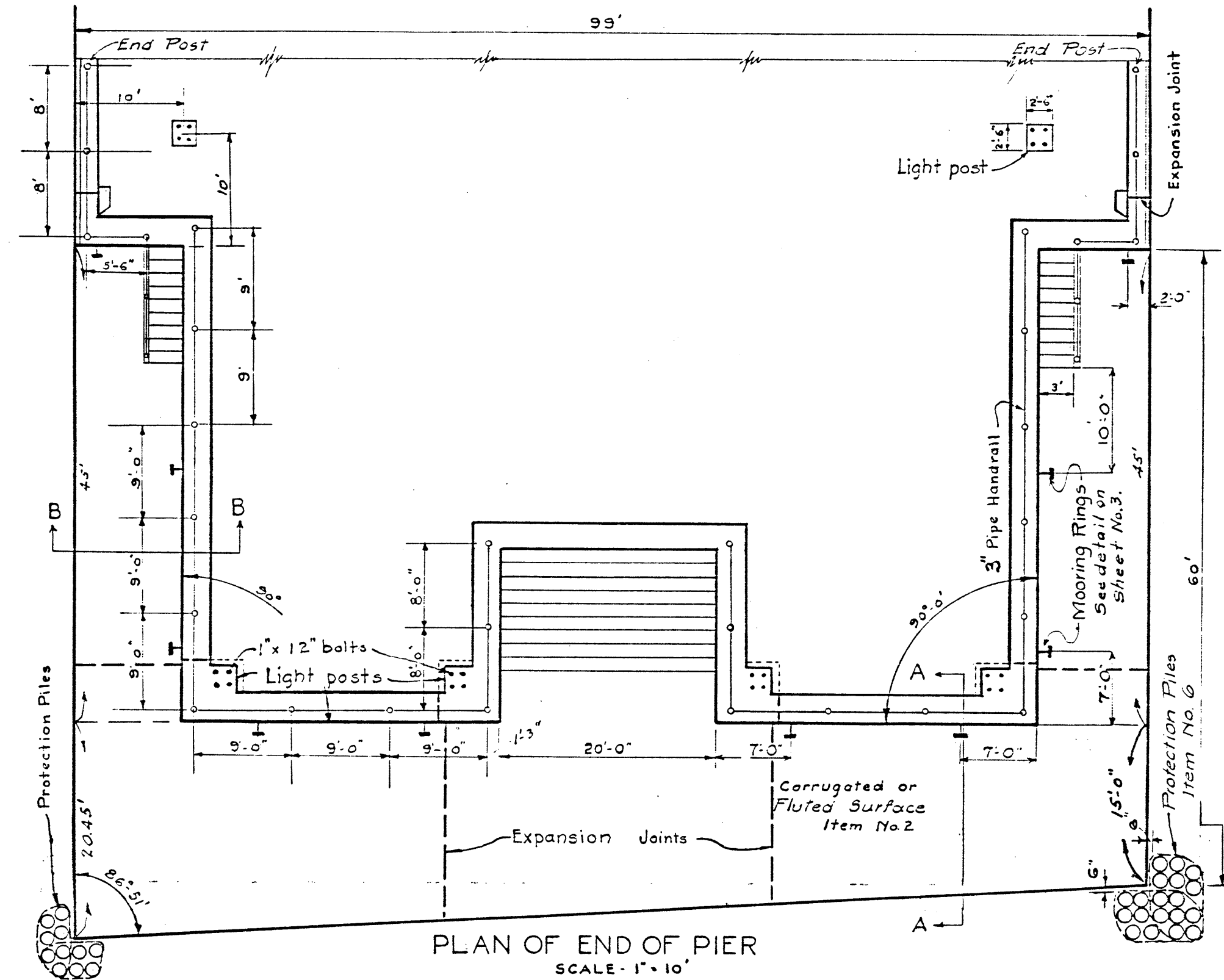
FOR INFORMATION ONLY

DRWS. NO. 630 FILE NO. 517

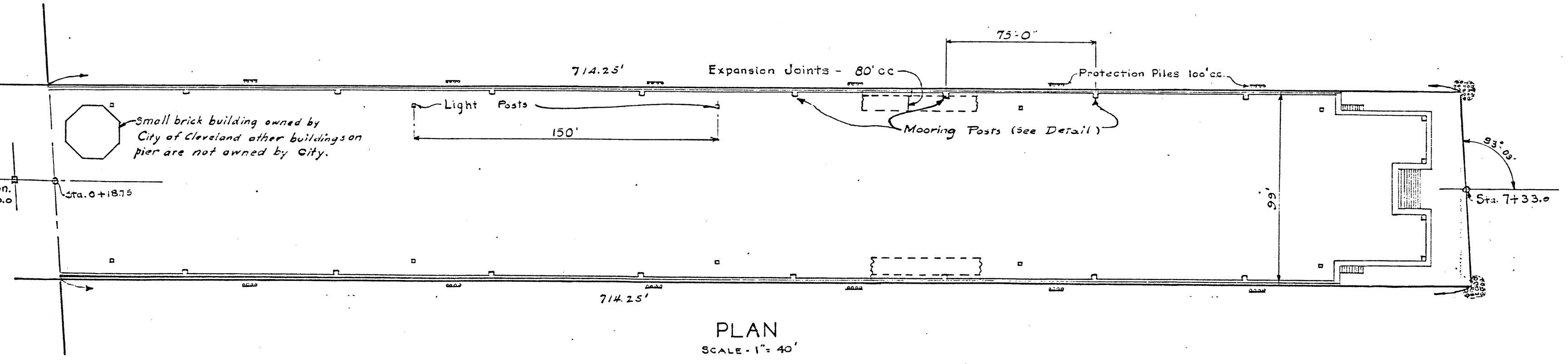
Tie rods are on 15' cts. the entire length of the pier beginning at Sta. 0+30 and double rods are at Sta. 1+50, 2+00, 4+80, 4+90, 5+70, 6+00. All rods are wrapped with muslin and coated with a heavy coating of asphalt. Damage done to the rods or covering shall be repaired by the contractor at his own expense and to the satisfaction of the engineer.



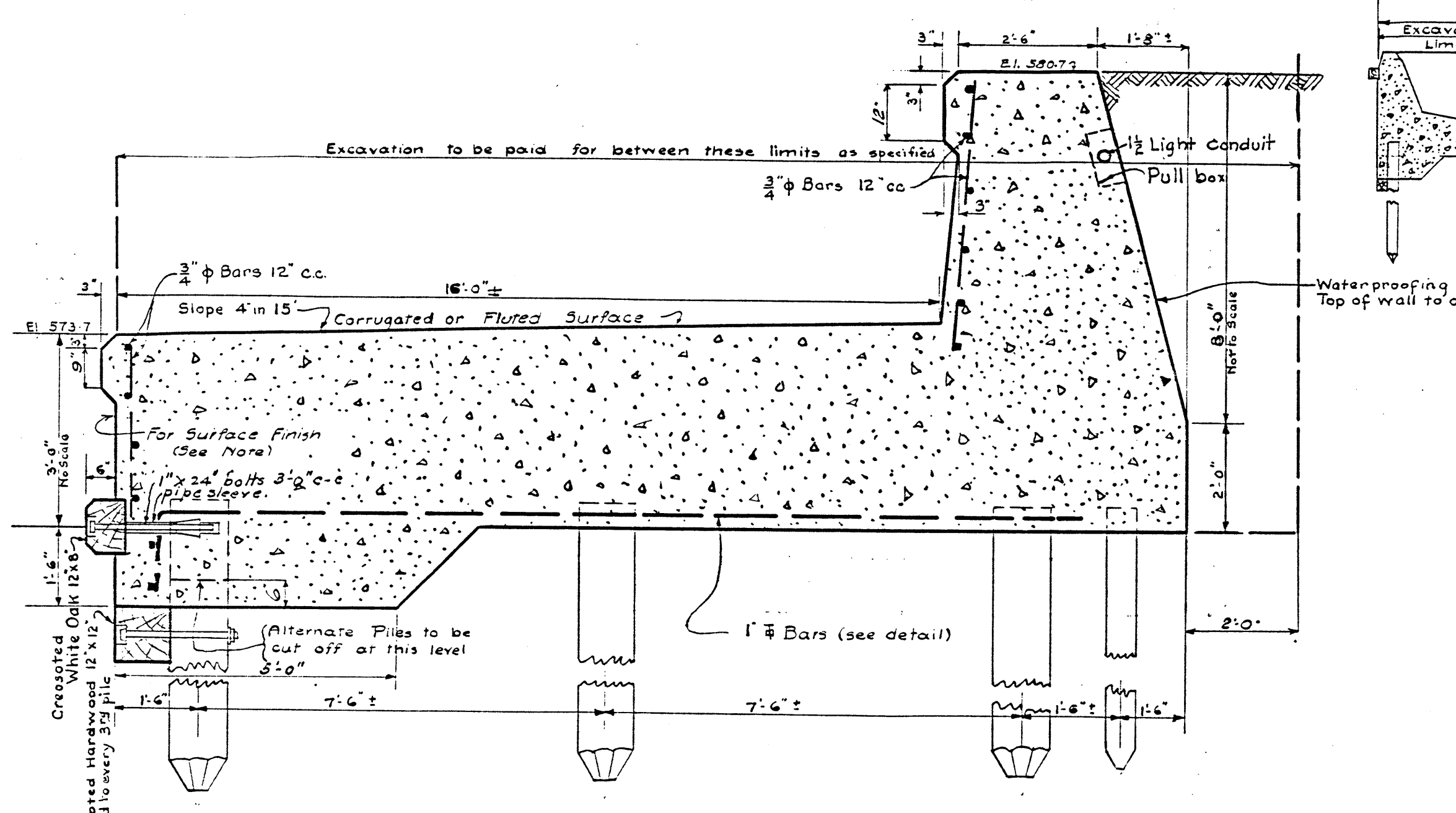
LOCATION PLAN
SCALE - 1" = 100'



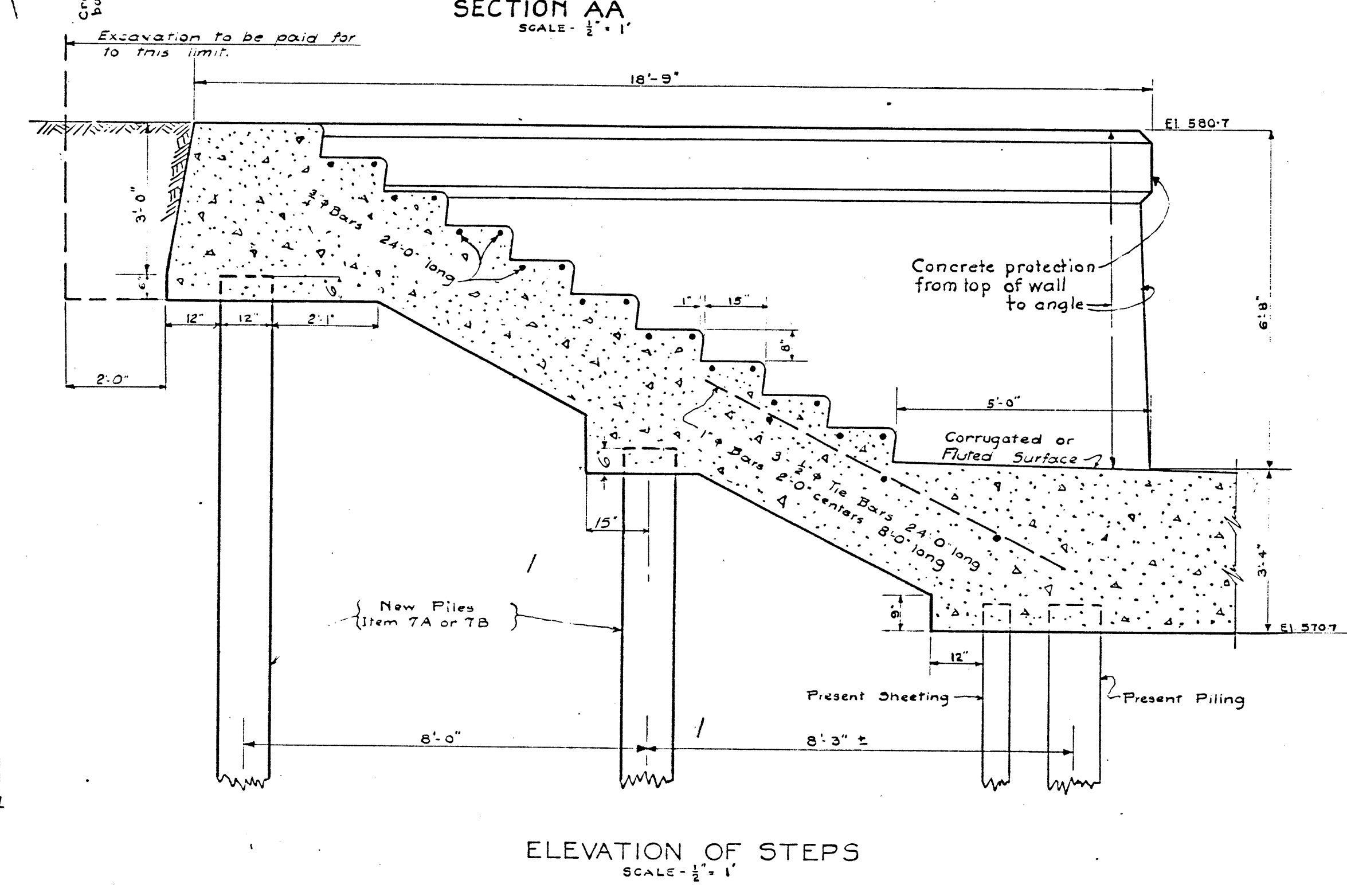
PLAN OF END OF PIER
SCALE - 1" = 10'



PLAN
SCALE - 1" = 40'

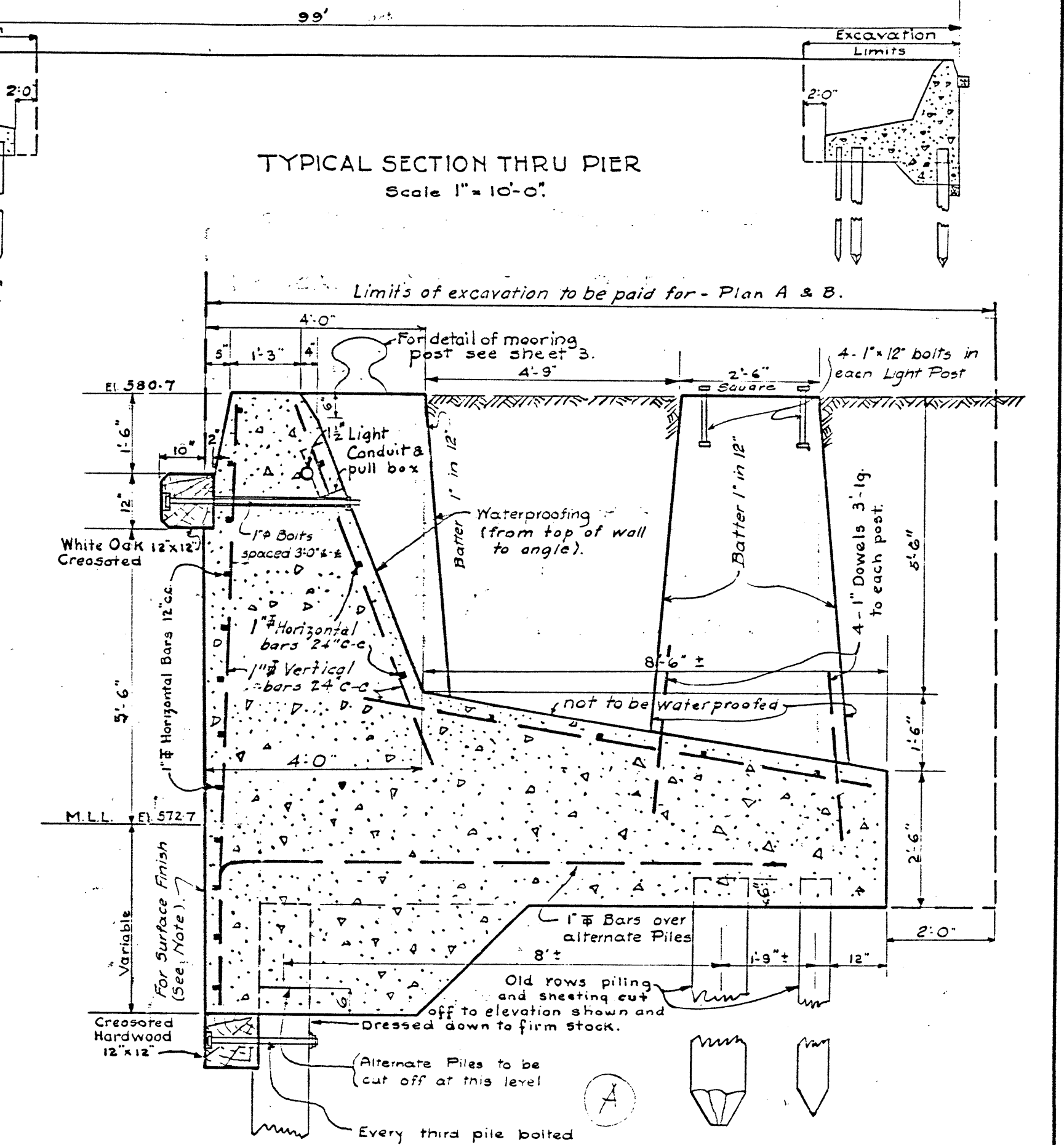


SECTION AA
SCALE - 1/2" = 1'



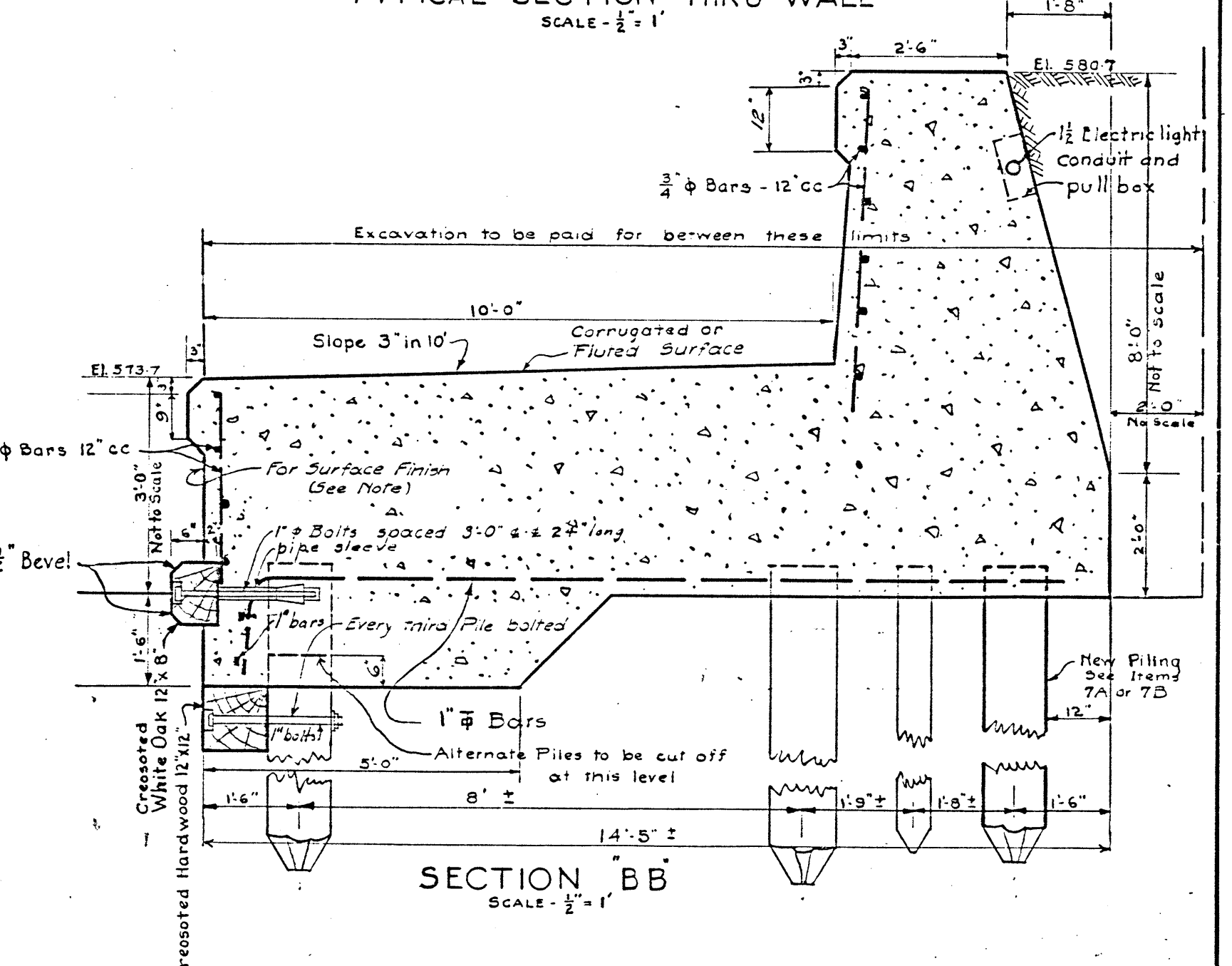
ELEVATION OF STEPS
SCALE - 1/2" = 1'

NOTE: Concrete protection and finish on face of bulkhead and wharf to be carried to water level under Plan A & C and to bottom of concrete under Plan B & D. Present piling to be cut off at elevations shown and dressed down to firm stock. Lighting conduit to be 1 1/2" inside diam. Pull-boxes to be located opposite each light post and at all angles. At construction joints extra steel required. 10-1" Bars 8'-0" lg. placed as directed by the Engineer.



TYPICAL SECTION THRU PIER
Scale 1" = 10'-0"

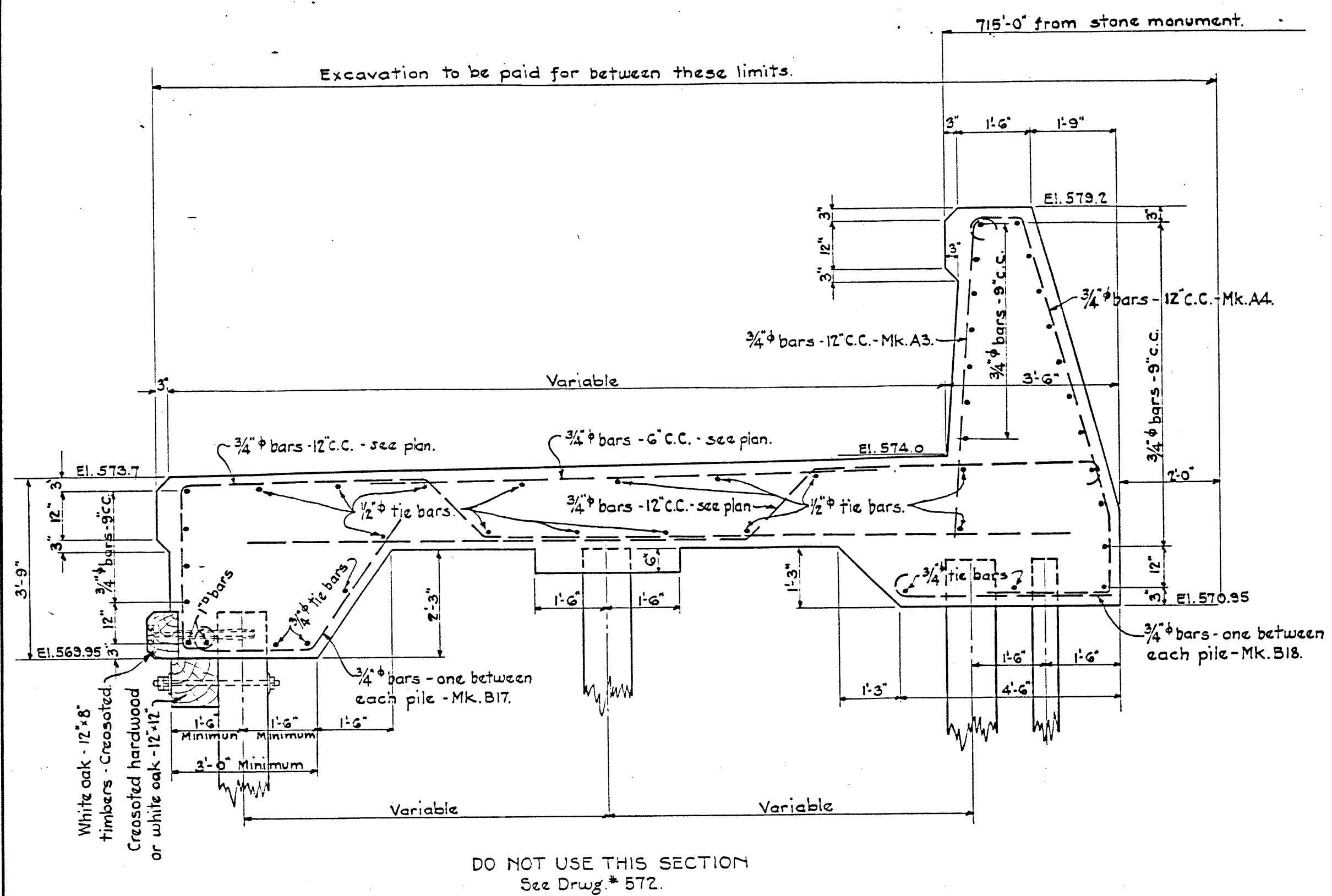
TYPICAL SECTION THRU WALL
SCALE - 1/2" = 1'



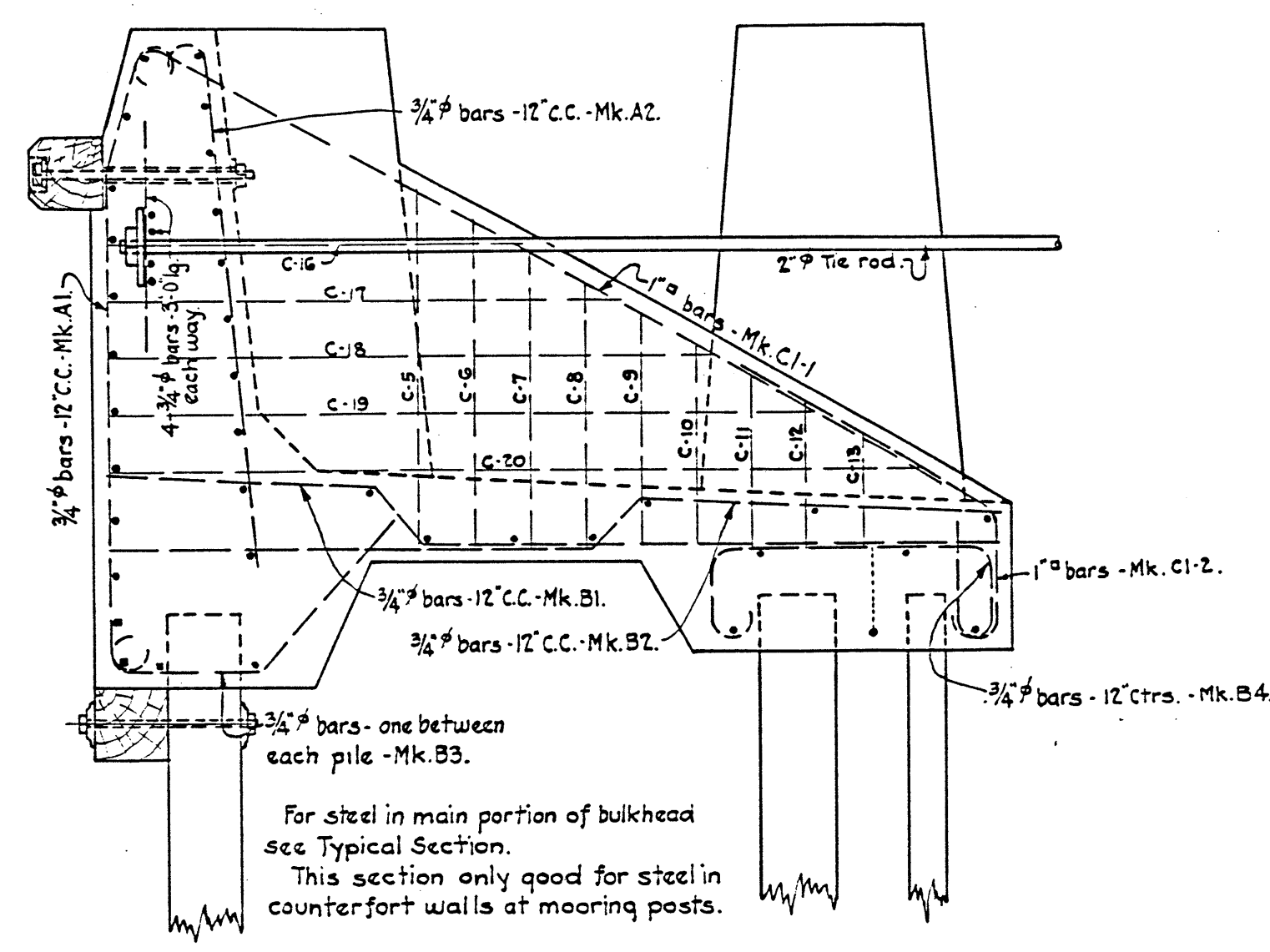
SECTION BB
SCALE - 1/2" = 1'

FOR INFORMATION ONLY

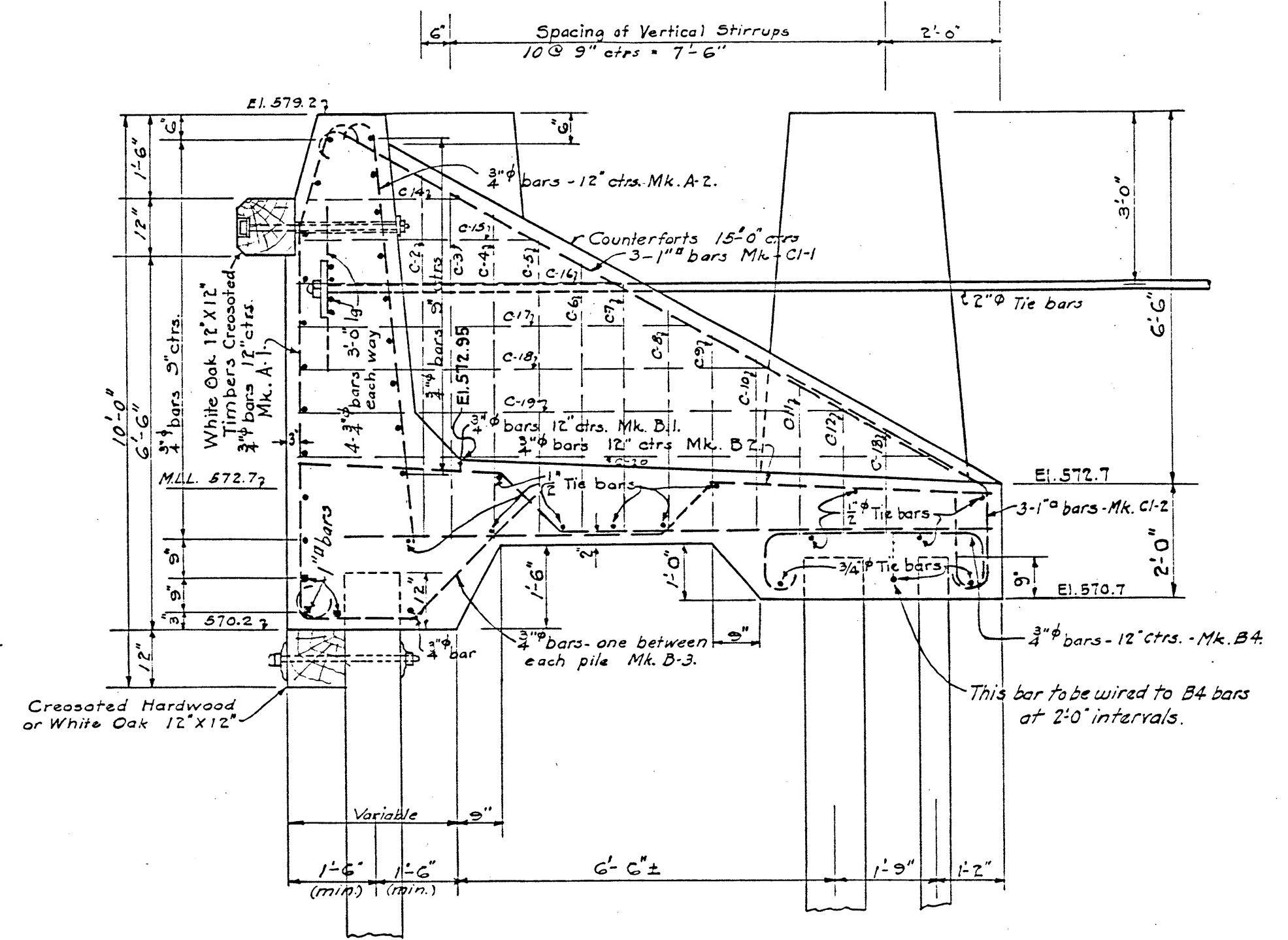
REVISIONS		CITY OF CLEVELAND	
DATE	BY	DEPARTMENT OF PUBLIC SERVICE	
		ENGINEERING DIVISION	
RECONSTRUCTION OF BULKHEADS			
WHARF & APPURTENANCES			
AT THE NORTHERLY END OF			
EAST 9TH STREET.			
PLANS A & B.			
SCALE	Horz. (as shown)	Draftsman	Date 2-15-27
		Checked	Date 2-17-27
		Det.	Date 2-17-27
APPROVED		Date 2-17-27	
DRWG No. 503		FILE No. S.17	



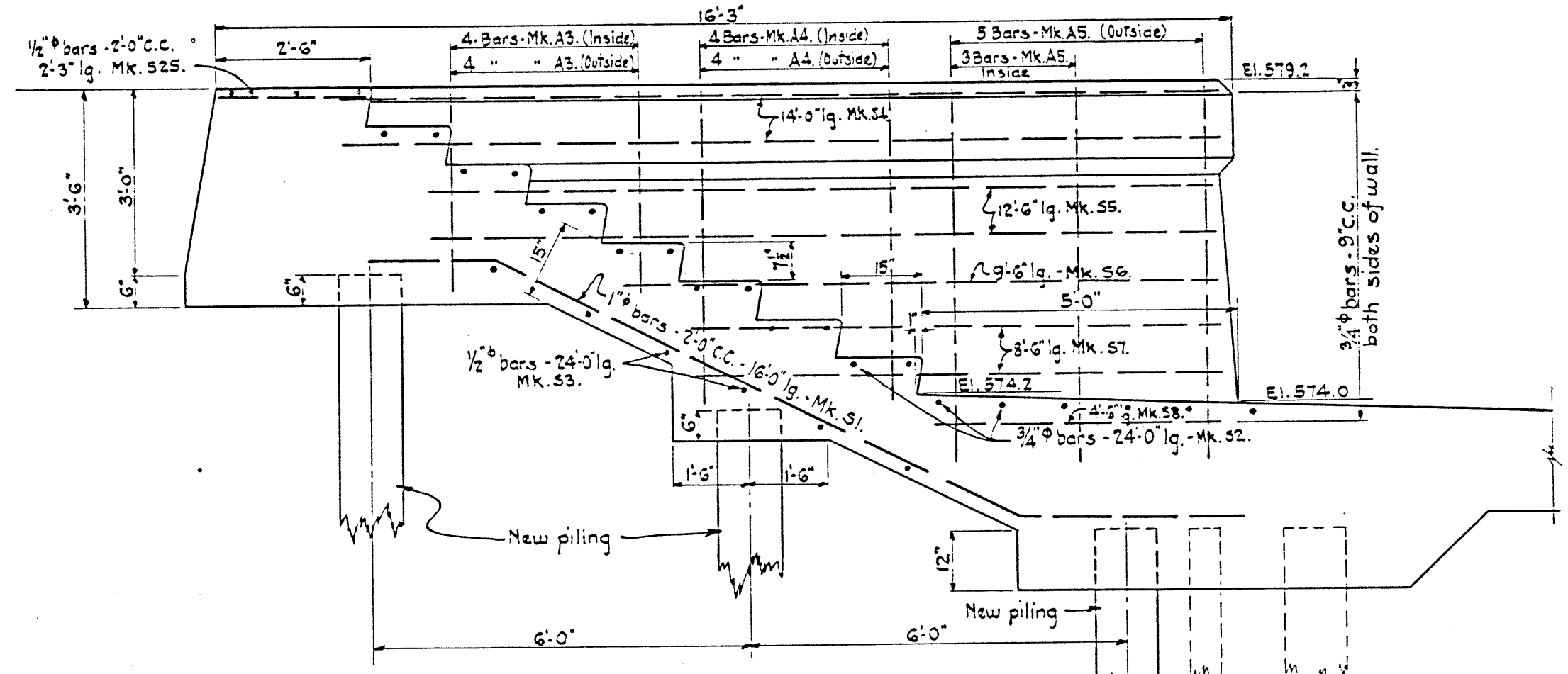
DO NOT USE THIS SECTION
See Drawg. # 572.



SECTION THRU BULKHEAD AT MOORING POST SHOWING ARR'GT. OF STEEL.



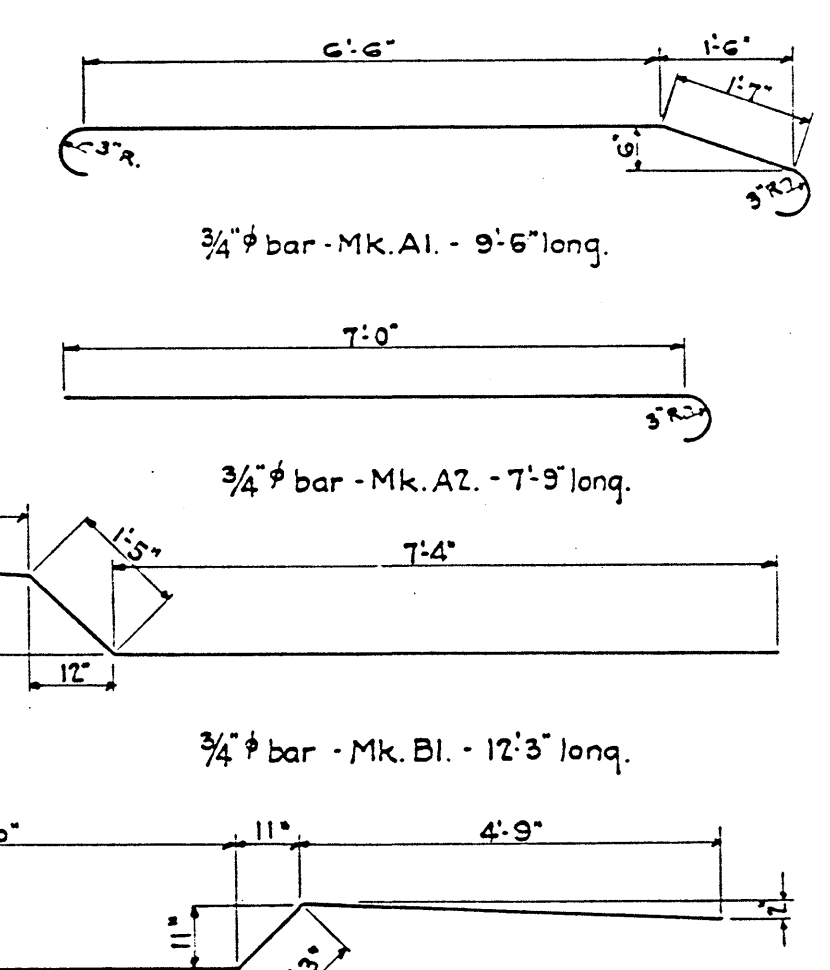
TYPICAL SECTION THRU BULKHEAD SHOWING ARR'GT. OF STEEL



SECTION THRU CENTER STAIRS SHOWING ARR'GT. OF STEEL.

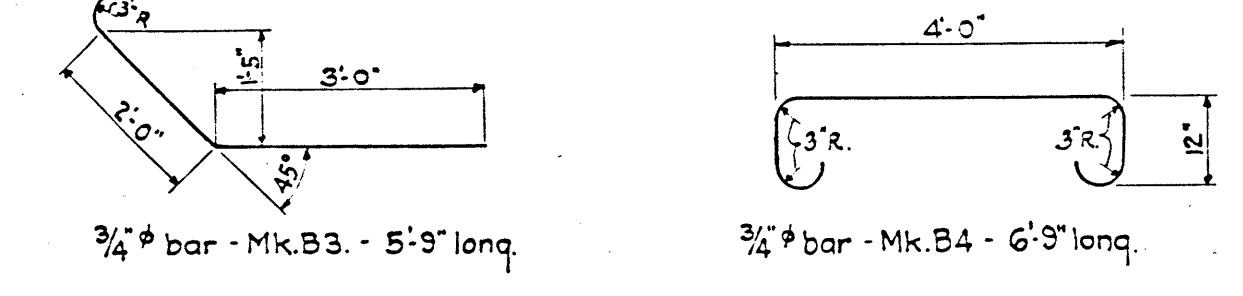
SCHEDULE OF STEEL IN COUNTERFORT AT EACH MOORING POST.

No. Reqd.	Mk.	Size	A	B	Length of bar
3	C1-1	1" dia			12'-9"
3	C1-2	"			8'-0"
1	C5	1/2" dia	5'-0"	3 1/2"	11'-6"
1	C6	"	4'-7"	4"	10'-9"
1	C7	"	4'-2"	3"	9'-9"
1	C8	"	3'-8"	3"	8'-9"
1	C9	"	3'-3"	3 1/2"	8'-0"
1	C10	"	2'-11"	3"	7'-3"
1	C11	"	2'-5"	3"	6'-3"
1	C12	"	2'-0"	3 1/2"	5'-6"
1	C13	"	1'-8"	3"	4'-9"
2	C16	"	5'-8"	7"	6'-3"
2	C17	"	7'-0"	9"	7'-9"
2	C18	"	8'-3"	9"	9'-0"
2	C19	"	9'-8"	7"	10'-3"
2	C20	"	11'-0"	9"	11'-9"



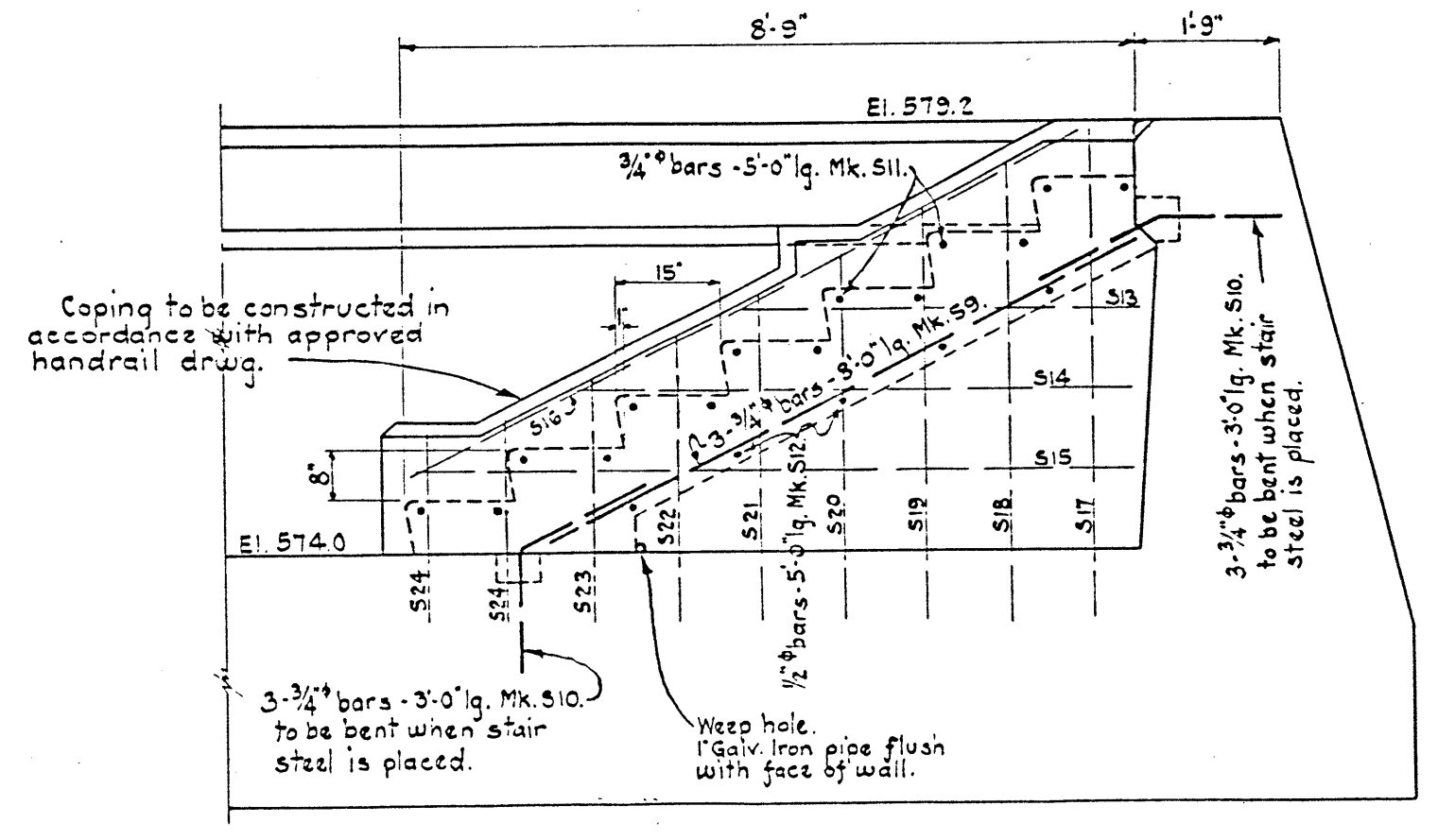
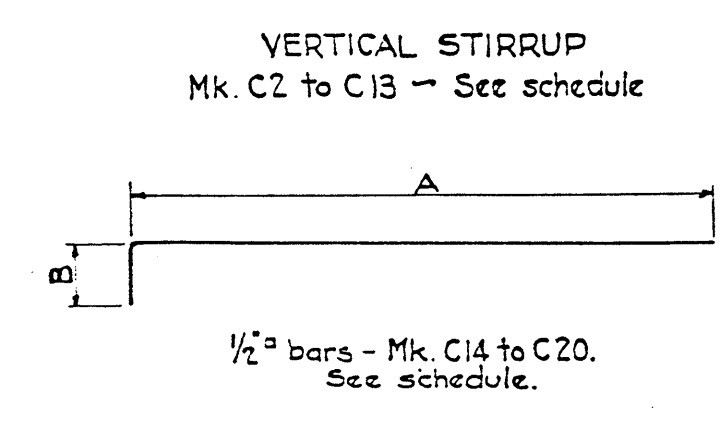
SCHEDULE OF STEEL IN EACH TYPICAL COUNTERFORT.

No. Reqd.	Mk.	Size	A	B	Length of bar
3	C1-1	1" dia			12'-9"
3	C1-2	"			8'-0"
1	C2	1/2" dia	6'-1"	3"	13'-9"
1	C3	"	5'-10"	4"	13'-3"
1	C4	"	5'-5"	3"	12'-3"
1	C5	"	5'-0"	3 1/2"	11'-6"
1	C6	"	4'-7"	4"	10'-9"
1	C7	"	4'-2"	3"	9'-9"
1	C8	"	3'-8"	3"	8'-9"
1	C9	"	3'-3"	3 1/2"	8'-0"
1	C10	"	2'-11"	3"	7'-3"
1	C11	"	2'-5"	3"	6'-3"
1	C12	"	2'-0"	3 1/2"	5'-6"
2	C15	"	1'-8"	3"	4'-9"
2	C16	"	4'-2"	9"	3'-6"
2	C17	"	4'-7"	9"	4'-3"
2	C18	"	5'-8"	7"	6'-3"
2	C19	"	7'-0"	9"	7'-9"
2	C20	"	8'-3"	9"	9'-0"
2	C21	"	9'-8"	7"	10'-3"
2	C22	"	11'-0"	9"	11'-9"



SCHEDULE OF ALL STEEL IN STAIRWAYS.

No. Reqd.	Mk.	Size	Length of bar
11	S1	1"	16'-0"
23	S2	3/4"	24'-0"
6	S3	1/2"	24'-0"
8	S4	3/4"	14'-0"
8	S5	"	12'-6"
4	S6	"	9'-9"
8	S7	"	8'-9"
4	S8	"	8'-9"
4	S9	"	8'-9"
10	S10	"	9'-0"
23	S11	"	5'-0"
10	S12	1/2"	5'-0"
4	S13	3/4"	5'-0"
4	S14	"	5'-0"
4	S15	"	5'-0"
4	S16	"	5'-0"
4	S17	"	5'-0"
4	S18	"	5'-0"
4	S19	"	5'-0"
4	S20	"	5'-0"
4	S21	"	5'-0"
4	S22	"	5'-0"
4	S23	"	5'-0"
4	S24	"	5'-0"
4	S25	"	5'-0"
4	S26	"	5'-0"
4	S27	"	5'-0"
4	S28	"	5'-0"
4	S29	"	5'-0"
4	S30	"	5'-0"
4	S31	"	5'-0"
4	S32	"	5'-0"
4	S33	"	5'-0"
4	S34	"	5'-0"
4	S35	"	5'-0"
4	S36	"	5'-0"
4	S37	"	5'-0"
4	S38	"	5'-0"
4	S39	"	5'-0"
4	S40	"	5'-0"
4	S41	"	5'-0"
4	S42	"	5'-0"
4	S43	"	5'-0"
4	S44	"	5'-0"
4	S45	"	5'-0"
4	S46	"	5'-0"
4	S47	"	5'-0"
4	S48	"	5'-0"
4	S49	"	5'-0"
4	S50	"	5'-0"
4	S51	"	5'-0"
4	S52	"	5'-0"
4	S53	"	5'-0"
4	S54	"	5'-0"
4	S55	"	5'-0"
4	S56	"	5'-0"
4	S57	"	5'-0"
4	S58	"	5'-0"
4	S59	"	5'-0"
4	S60	"	5'-0"
4	S61	"	5'-0"
4	S62	"	5'-0"
4	S63	"	5'-0"
4	S64	"	5'-0"
4	S65	"	5'-0"
4	S66	"	5'-0"
4	S67	"	5'-0"
4	S68	"	5'-0"
4	S69	"	5'-0"
4	S70	"	5'-0"
4	S71	"	5'-0"
4	S72	"	5'-0"
4	S73	"	5'-0"
4	S74	"	5'-0"
4	S75	"	5'-0"
4	S76	"	5'-0"
4	S77	"	5'-0"
4	S78	"	5'-0"
4	S79	"	5'-0"
4	S80	"	5'-0"
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4	S85	"	5'-0"
4	S86	"	5'-0"
4	S87	"	5'-0"
4	S88	"	5'-0"
4	S89	"	5'-0"
4	S90	"	5'-0"
4	S91	"	5'-0"
4	S92	"	5'-0"
4	S93	"	5'-0"
4	S94	"	5'-0"
4	S95	"	5'-0"
4	S96	"	5'-0"
4	S97	"	5'-0"
4	S98	"	5'-0"
4	S99	"	5'-0"
4	S100	"	5'-0"



ELEVATION OF SIDE STAIRS SHOWING ARR'GT. OF STEEL.

FOR INFORMATION ONLY

REVISIONS
DATE | BY

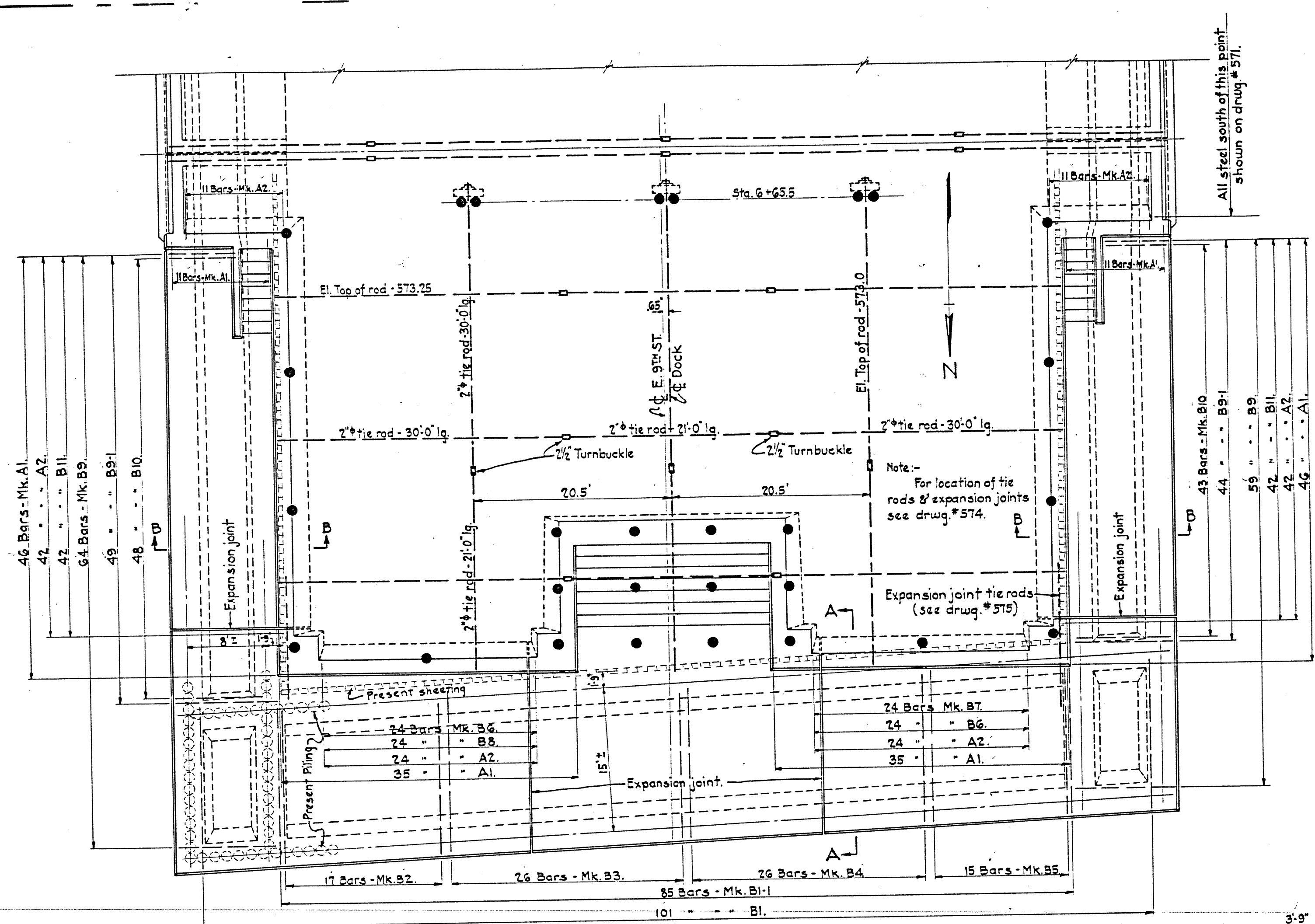
CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
ENGINEERING DIVISION

RECONSTRUCTION OF BULKHEADS
WHARF & APPURTENANCES
AT THE NORTHERLY END OF
EAST 9th STREET.
STEEL DETAILS.

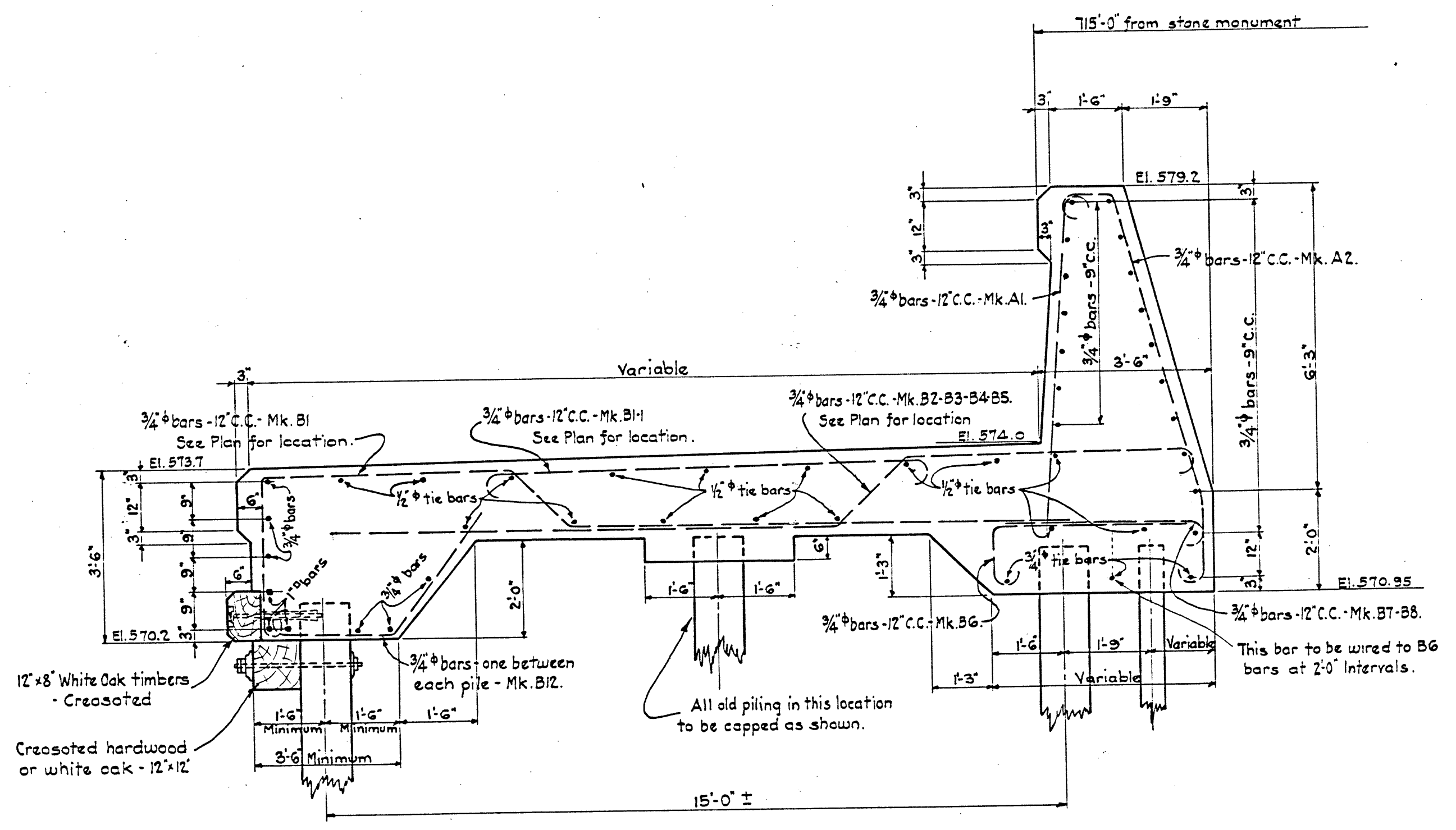
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Vert. 1/2" = 10' - checked - Date
Det. 1/2" = 10' -

APPROVED: [Signature] Date 5-7-27
[Signature] Date 5-7-27

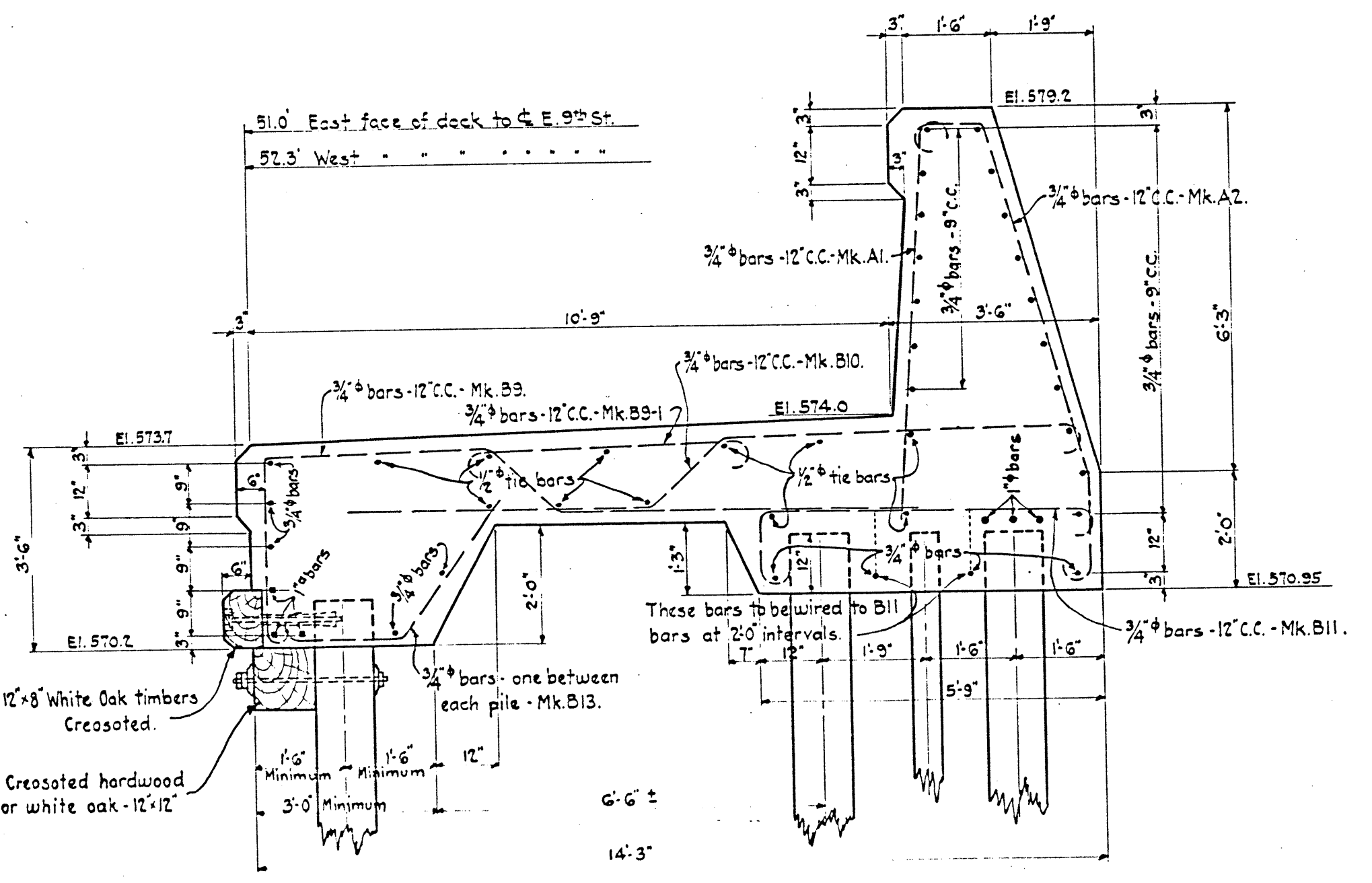
Working Drawg. # DRWG. NO. **571** FILE NO. **S-17**



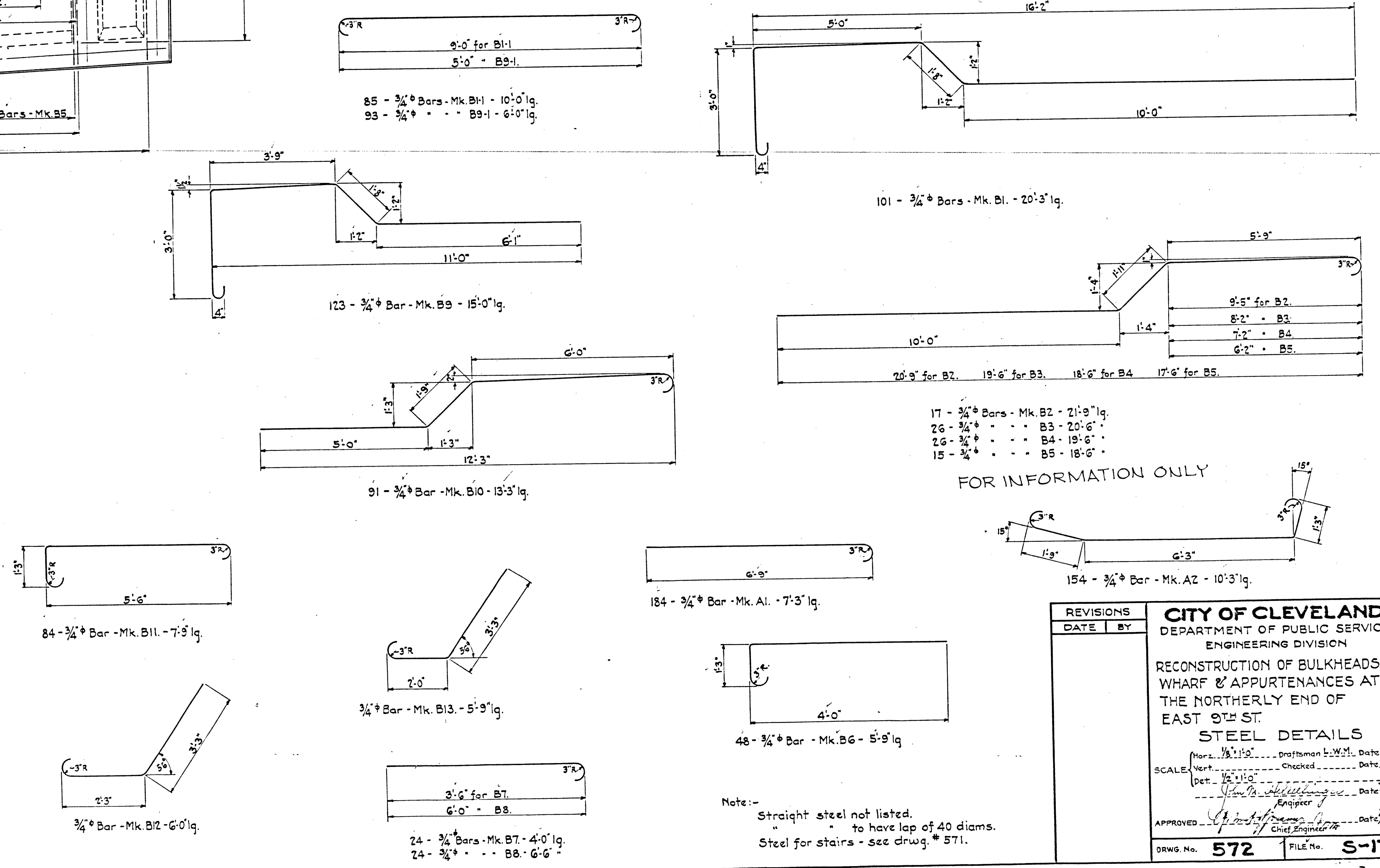
PLAN
Scale - 1/8" = 1'-0"



SECTION A-A.
SHOWING ARR'G'T. OF STEEL
Scale 1/2" = 1'-0"



SECTION B-B.
SHOWING ARR'G'T. OF STEEL
Scale 1/2" = 1'-0"



FOR INFORMATION ONLY

Note: -
Straight steel not listed.
to have lap of 40 diams.
Steel for stairs - see drwg. #571.

REVISIONS	DATE	BY

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
ENGINEERING DIVISION
RECONSTRUCTION OF BULKHEADS,
WHARF & APPURTENANCES AT
THE NORTHERLY END OF
EAST 9TH ST.
STEEL DETAILS

SCALE: Horiz. 1/8" = 1'-0" Draftsman: L. W. J. Date: 9-22-22
Vert. 1/4" = 1'-0" Checked: Date:
Det. Date:
Approved: Chief Engineer Date:
DRWG. No. **572** FILE No. **S-17**

INTRODUCTION

This report presents the results of a soil investigation conducted on CUY-East 9th Street in Cuyahoga County, Ohio.

The subsurface investigation was performed to determine the subsurface conditions and structural characteristics of the subsurface soil and its suitability to support the proposed construction.

This investigation was performed for design purposes only and that actual subsurface conditions might be different at the time of construction.

The original drawings and data may be inspected at future dates at Solar Testing Laboratories, Inc.

GEOLOGY

This site lies in the Lake Plains section of the Central Lowlands Physiographic Province. The topography of this area is relatively flat. The surficial deposits consist of interlayered fine sands, silts, and clays of lacustrine origin overlain by man made fill. Bedrock lies approximately 100 - 125 feet below the surface and consists of the Devonian Age Chagrin Shale.

FIELD INVESTIGATION

Four (4) soil borings with sampling were conducted at the proposed site between September 23 and 26, 1994, to determine the subsurface conditions. Sampling was conducted using a heavy, truck mounted continuous rotary drill equipped with hollow stems augers in boring B-1 and solid stem augers in the remaining borings.

LABORATORY TESTING

Moisture Content testing was performed in accordance with ASTM D-2216 on selected split-barrel samples to determine the in-place moisture content of the existing soils.

Representative portions of three (3) split-barrel samples were subjected to laboratory direct shear testing in accordance with ASTM D-3080 to determine the shear strength parameters of the soil.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

Test borings B-3 and B-4 were overlaid with two (2) to six (6) inches of asphalt and six (6) to eleven (11) inches of concrete. Below these materials and immediately at the surface in the remaining borings, fill materials predominately comprised of brown, gray and black sand with few layers of slag and/or cinder were encountered. The fill extended to elevations as low as 561± feet (test boring B-1).

Below the fill, loose to medium dense brown and gray sand and soft to very stiff gray and black silt and clay and combinations thereof, were encountered extending to termination depths of the borings in borings B-1 and B-4.

Water was encountered at elevations between 571± and 574± feet.

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON PLASTIC.

E. 9TH STREET

BORING NO.	STATION, OFFSET	DEPTH (ft.) FROM TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	UNCON. (psf)	DRY UNIT WEIGHT (pcf)	ODOT CLASS.	
B-1	35 + 00, 10' LT	0.5 - 2.0	Brown FINE SAND. (FILL)										11	
		2.5 - 4.0	Brown FINE SAND. (FILL)										9	
		5.0 - 6.5	Brown MEDIUM SAND. (FILL)										14	
		8.5 - 10.0	Gray MEDIUM SAND. (FILL)										18	
		13.5 - 15.0	Gray FINE SAND. (FILL)										21	
		18.5 - 20.0	Loose gray SILTY FINE SAND, interlayers of SILT.										27	
		23.5 - 25.0	Stiff dark gray SILT and CLAY.										24	
		28.5 - 30.0	Stiff dark gray SILT and CLAY.										41	
		33.5 - 35.0	Stiff gray SILTY CLAY.										28	
		38.5 - 40.0	Stiff gray SILTY CLAY.										25	
		43.5 - 45.0	Medium stiff gray SILTY CLAY.										29	
		48.5 - 50.0	Medium stiff gray SILTY CLAY.											
53.5 - 55.0	Stiff gray SILTY CLAY.													
58.5 - 60.0	Stiff gray SILT and CLAY.													
63.5 - 65.0	Very stiff gray SILT and CLAY.													
68.5 - 70.0	Medium dense gray with trace red SILT.													
73.5 - 75.0	Medium dense gray with trace red SILT. (FILL)													
78.5 - 80.0	Medium dense gray with trace red SILT. (FILL)													
B-2	32 + 50, 10' LT	0 - 1.5	Brown and gray SILTY SAND. (FILL)										8	
		3.5 - 5.0	Brown and gray SILTY SAND. (FILL)										13	
		5.0 - 6.5	Loose brown FINE SAND, interlayers of brownish-gray CLAYEY SILT. (POSSIBLE FILL) (SM-ML)										24	
		8.5 - 10.0	Very loose brown MEDIUM-COARSE SAND. (POSSIBLE FILL) (SP)										21	
		13.5 - 15.0	Very loose gray SAND. (POSSIBLE FILL) (SH)										20	
		18.5 - 20.0	Very soft black CLAYEY SILT. (POSSIBLE FILL) (ML)										34	
23.5 - 25.0	Medium dense gray MEDIUM SAND. (POSSIBLE FILL) (SP)										14			
28.5 - 30.0	Medium dense gray MEDIUM-FINE SAND. (POSSIBLE FILL) (SP)										17			

COMPONENT	SIZE	TERMS	RANGE
BOULDERS	Larger than 8"	Trace	0 - 10%
COBBLES	8" to 3"	Little	10 - 20%
GRAVEL	COARSE 3" to 3/4"	Some	20 - 35%
	FINE 3/4" to 2.0 mm (3/4" to #10 sieve)	And	35 - 50%
SAND	COARSE 2.0 mm to 0.42 mm (#10 to #40 sieve)		
	FINE 0.42 mm to 0.074 mm (#40 to #200 sieve)		
SILT	0.074 mm to 0.005 mm (#200 to .005 mm)		
CLAY	Smaller than .002 mm		

LEGEND

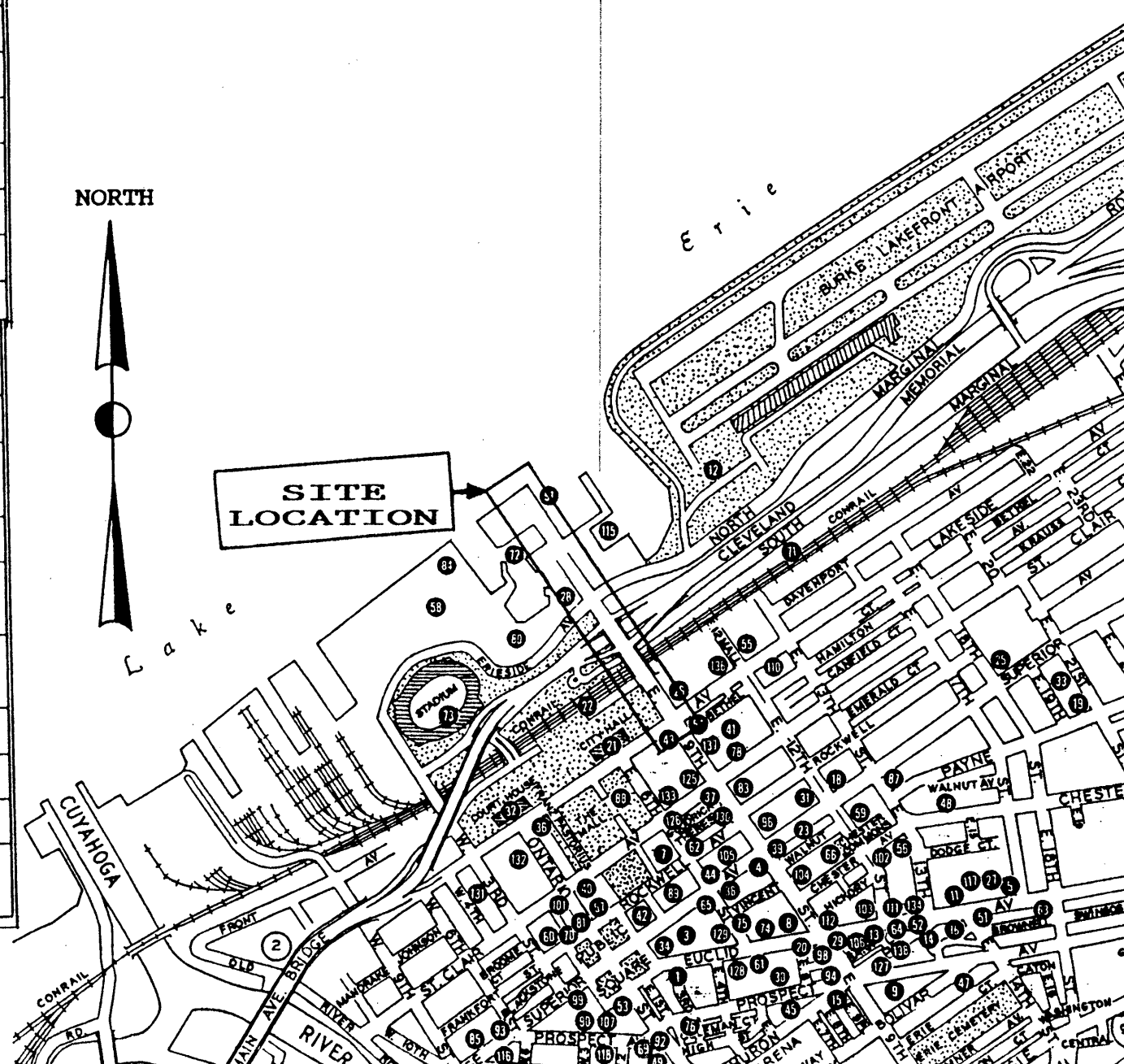
- TEST BORING LOCATION - PLAN VIEW
- TEST BORING PLOTTED TO VERTICAL SCALE ONLY - PROFILE
- X-Y-Z FIGURES BESIDE THE BORING LOG IN PROFILE INDICATE THE NUMBER OF BLOWS OF STANDARD PENETRATION TEST
 - X = NUMBER OF BLOWS FOR FIRST 6 INCHES
 - Y = NUMBER OF BLOWS FOR SECOND 6 INCHES
 - Z = NUMBER OF BLOWS FOR THIRD 6 INCHES
- TR TOP OF ROCK
- W WATER ON ENCOUNTER
- WATER ON COMPLETION
- XX FIGURE BESIDE THE BORING LOG IN PROFILE INDICATES THE MOISTURE CONTENT

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS	GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS	GRAVELS	GW Well-graded gravels and gravel sand mixtures, little or no fines
		GP Poorly-graded gravels and gravel-sand mixtures, little or no fines
		GM Silty gravels, gravel sand-silt mixtures
		GC Clayey gravels, gravel-sand clay mixtures
	SANDS	SW Well-graded sands and gravelly sands, little or no fines
		SP Poorly-graded sands and gravelly sands, little or no fines
		SM Silty sands, and-silt mixtures
		SC Clayey sand, sand-clay mixtures
FINE GRAINED SOILS	SILTS AND CLAYS	ML Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
		CL Inorganic clays of low to medium plasticity, gravelly clays, sand clays, silty clays, lean clays
		OL Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS	MH Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
		CH Inorganic clays of high plasticity, fat clays
		OH Organic clays of medium to high plasticity
HIGHLY ORGANIC SOILS	PT Peat, muck and other highly organic soils	

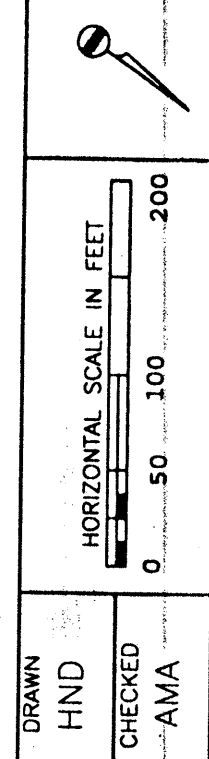
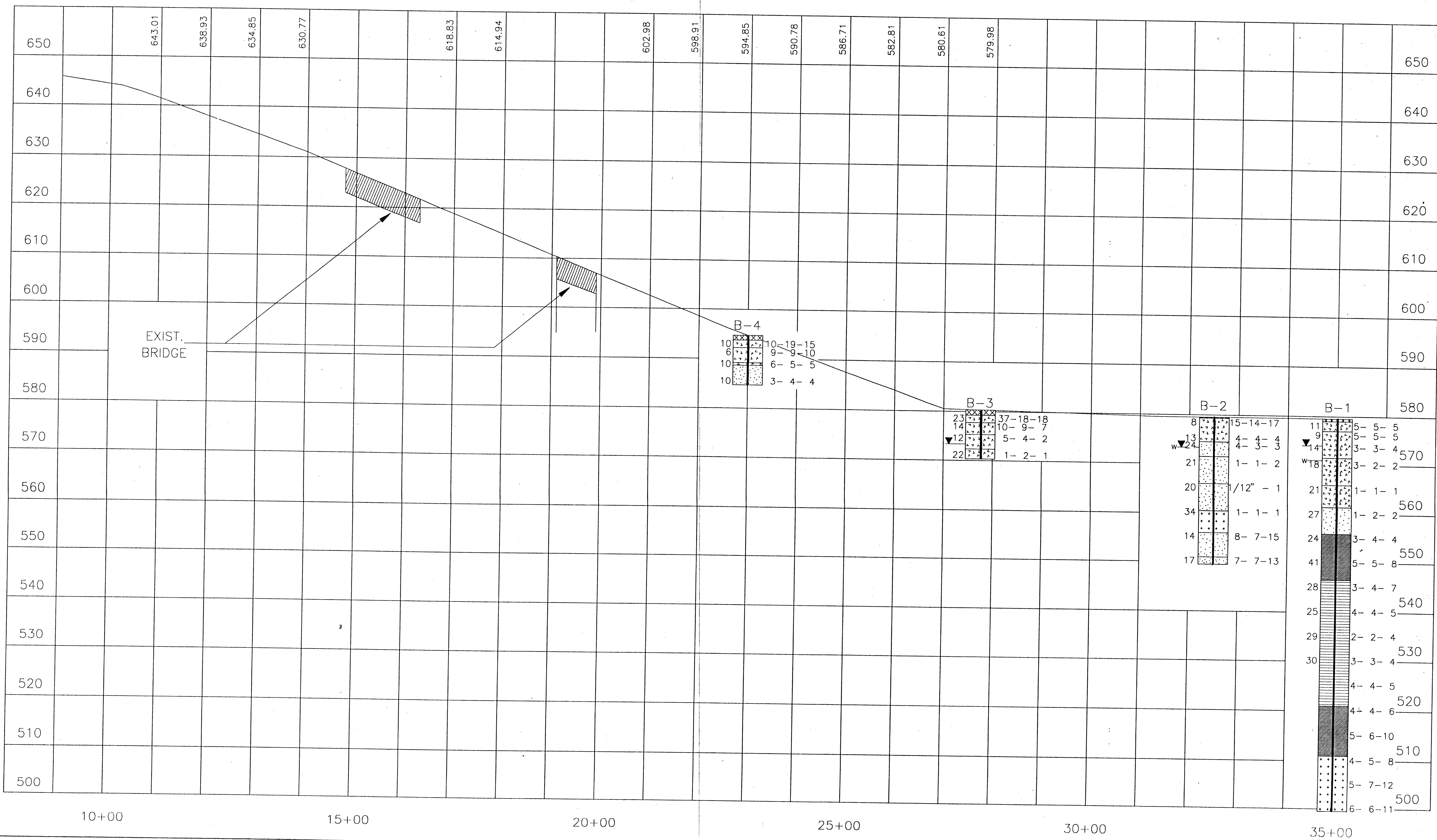
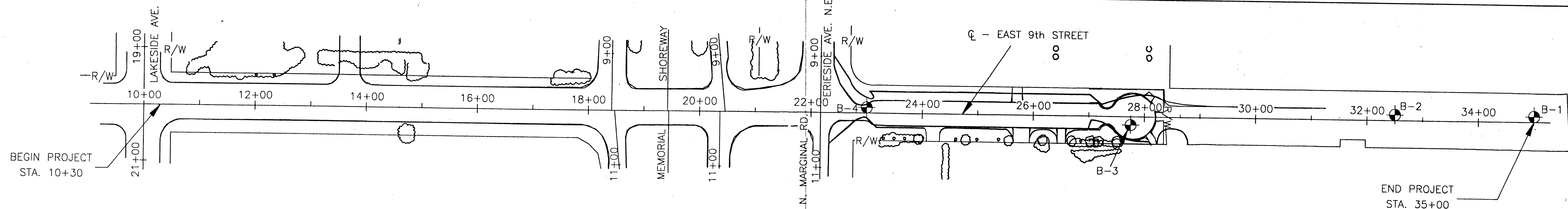
PROJECT INDEX					
STATIONS FROM	TO	PLAN VIEW SHEET	PROFILE SHEET	CUT MAXIMUM	FILL END MAXIMUM
E. 9TH STREET 10 + 30	35 + 00	1	1		

BORING NO.	STATION, OFFSET	DEPTH (ft.) FROM TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	UNCON. (psf)	DRY UNIT WEIGHT (pcf)	ODOT CLASS.	
B-3	27 + 75, 15' RT	1.1 - 2.6	Crushed SLAG. (FILL)										23	
		2.6 - 4.1	Brown SILTY FINE SAND & black crushed CINDER. (FILL)										14	
		5.0 - 6.5	Brown SAND and GRAVEL. (FILL)										12	
		8.5 - 10.0	Gray SILTY SAND. (FILL)										22	
B-4	23 + 00 10' LT	1.0 - 2.5	Brown and black SILTY FINE SAND. (FILL)										10	
		2.5 - 4.0	Brown FINE SAND. (FILL)										6	
		5.0 - 6.5	Black CINDER. (FILL)										10	
		8.5 - 10.0	Loose brown FINE SAND. (SM)										10	



LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 34 SAMPLES TESTED

SYMBOL	DESCRIPTION	Classification AASHTO	Classification UNIF.	% AGG.	% COARSE SAND	% FINE SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTIC INDEX	% WATER CONTENT	DRY UNIT WEIGHT (pcf)	NO SAMPLES TESTED
[Symbol]	Fine Sand	A-3									19		6
[Symbol]	Course and Fine Sand	A-3a									21		1
[Symbol]	Silt	A-4	A-4b								34		4
[Symbol]	Silt and Clay	A-6	A-6a								23		4
[Symbol]	Silty Clay	A-6	A-6b								28		5
[Symbol]	Random Fill										14		14
[Symbol]	Sod and/or Topsoil												
[Symbol]	Berm Material												



DRAWN: HND
CHECKED: AMA

PLAN AND PROFILE - E. 9th STREET
10+00 TO 35+00

CUY-EAST 9th STREET

LOG OF TEST BORING

SOLAR TESTING LABORATORIES, INC.										STL PROJECT NO:A94854x10										
PROJECT:East 9th St. CLIENT:City of Cleve.-Dept. of Public Services-Div. of Eng & Construction BORING: B-1										PROJECT:East 9th St. CLIENT:City of Cleve.-Dept. of Public Services-Div. of Eng & Construction BORING: B-1										
LOCATION:Sta. 35+00, 10' Lt., Cleveland, OH DATE STARTED:09-26-1994 DATE COMPLETED:09-26-1994										LOCATION:Sta. 35+00, 10' Lt., Cleveland, OH DATE STARTED:09-26-1994 DATE COMPLETED:09-26-1994										
DRILLING METHOD:Hollow Stem Auger										DRILLING METHOD:Hollow Stem Auger										
SURFACE ELEVATION:579 ±ft.										SURFACE ELEVATION:579 ±ft.										
WATER ENCOUNTER:571 ±ft.										WATER ENCOUNTER:571 ±ft.										
ELEV. COMPLETION:574 ±ft.										ELEV. COMPLETION:574 ±ft.										
DEPTH (ft.)	SAMPLE	TYPE	WATER	SOIL DESCRIPTION	SPLIT - BARREL PENETRATION blows/6 inch	PHYSICAL CHARACTERISTICS										SOIL CLASSIFICATION				
						AGG. %	COARSE SAND %	FINE SAND %	SILT %	CLAY %	LIQUID LIMIT %	PLASTICITY INDEX %	MOISTURE CONTENT %	UNCONF. COMP. STRENGTH (tsf)	DRY UNIT WEIGHT (pcf)					
1	SS			6" ASPHALT	5-5-5															
2	SS			Brown FINE SAND, little silt, trace sandstone fragments, brick. (Fill)	5-5-5															
3	SS			Brown MEDIUM SAND, trace silt, gravel, slag, few thin clay interlayers. (Fill)	3-3-4															
4	SS			Gray MEDIUM SAND, little silt, trace gravel, few silty clay interlayers. (Fill)	3-2-2															
5	SS			Gray FINE SAND, little silt, trace brick. (Fill)	1-1-1															
6	SS			Loose gray SILTY FINE SAND, interlayers of SILT with little sand and clay, trace organics. (SM-ML)	1-2-2															
7	SS				3-4-4															
8	SS			Stiff dark gray SILT and CLAY, little sand, trace organics, SAND interlayers, stratified. (SP-CL-ML)	5-5-8															
9	SS				3-4-7															
10	SS				4-4-5															
11	SS			Medium stiff to stiff gray SILTY CLAY, trace sand, stratified. (CL)	2-2-4															
12	SS				3-3-4															
13	SS				4-4-5															
14	SS				4-4-6															
15	SS			Stiff to very stiff gray SILT and CLAY, trace sand, Stratified. (CL-ML)	5-6-10															
16	SS				4-5-8															
17	SS			Medium dense gray with trace red SILT, some clay, little sand, few silty clay interlayers. (ML)	5-7-12															
18	SS				6-6-11															
				End of test hole at 80 ft.																

LOG OF TEST BORING

SOLAR TESTING LABORATORIES, INC.										STL PROJECT NO:A94854x10										
PROJECT:East 9th St. CLIENT:City of Cleve.-Dept. of Public Services-Div. of Eng & Construction BORING: B-2										PROJECT:East 9th St. CLIENT:City of Cleve.-Dept. of Public Services-Div. of Eng & Construction BORING: B-2										
LOCATION:Sta. 32+50, 10' Lt., Cleveland, OH DATE STARTED:09-23-1994 DATE COMPLETED:09-23-1994										LOCATION:Sta. 32+50, 10' Lt., Cleveland, OH DATE STARTED:09-23-1994 DATE COMPLETED:09-23-1994										
DRILLING METHOD:Solid Stem Auger										DRILLING METHOD:Solid Stem Auger										
SURFACE ELEVATION:579 ±ft.										SURFACE ELEVATION:579 ±ft.										
WATER ENCOUNTER:573 ±ft.										WATER ENCOUNTER:573 ±ft.										
ELEV. COMPLETION:573 ±ft.										ELEV. COMPLETION:573 ±ft.										
DEPTH (ft.)	SAMPLE	TYPE	WATER	SOIL DESCRIPTION	SPLIT - BARREL PENETRATION blows/6 inch	PHYSICAL CHARACTERISTICS										SOIL CLASSIFICATION				
						AGG. %	COARSE SAND %	FINE SAND %	SILT %	CLAY %	LIQUID LIMIT %	PLASTICITY INDEX %	MOISTURE CONTENT %	UNCONF. COMP. STRENGTH (tsf)	DRY UNIT WEIGHT (pcf)					
1	SS			2" GRAVEL	15-14-17															
2	SS			Brown and gray SILTY SAND, trace gravel, cinder, slag, brick, clay. (Fill)	4-4-4															
3	SS			Loose brown FINE SAND, little silt, interlayers of brownish-gray CLAYEY SILT with little sand. (Possible Fill)(SM-ML)	4-3-3															
4	SS			Very loose brown MEDIUM - COARSE SAND, trace silt. (Possible Fill)(SP)	1-1-2															
5	SS			Very loose gray SAND, little gravel, trace silt. (Possible Fill)(SW)	1/12"-1															
6	SS			Very soft black CLAYEY SILT, little sand, hydrocarbon odor. (Possible Fill)(ML)	1-1-1															
7	SS			Medium dense gray MEDIUM SAND, trace gravel, silt. (Possible Fill)(SP)	8-7-15															
8	SS			Medium dense gray MEDIUM-FINE SAND, trace gravel, silt, brick. (Possible Fill)(SP)	7-7-13															
				End of test hole at 30 ft.																

LOG OF TEST BORING

SOLAR TESTING LABORATORIES, INC.										STL PROJECT NO:A94854x10										
PROJECT:East 9th St. CLIENT:City of Cleve.-Dept. of Public Services-Div. of Eng & Construction BORING: B-3										PROJECT:East 9th St. CLIENT:City of Cleve.-Dept. of Public Services-Div. of Eng & Construction BORING: B-3										
LOCATION:Sta. 27+75, 15' Rt., Cleveland, OH DATE STARTED:09-23-1994 DATE COMPLETED:09-23-1994										LOCATION:Sta. 27+75, 15' Rt., Cleveland, OH DATE STARTED:09-23-1994 DATE COMPLETED:09-23-1994										
DRILLING METHOD:Solid Stem Auger										DRILLING METHOD:Solid Stem Auger										
SURFACE ELEVATION:580 ±ft.										SURFACE ELEVATION:580 ±ft.										
WATER ENCOUNTER:None										WATER ENCOUNTER:None										
ELEV. COMPLETION:573 ±ft.										ELEV. COMPLETION:573 ±ft.										
DEPTH (ft.)	SAMPLE	TYPE	WATER	SOIL DESCRIPTION	SPLIT - BARREL PENETRATION blows/6 inch	PHYSICAL CHARACTERISTICS										SOIL CLASSIFICATION				
						AGG. %	COARSE SAND %	FINE SAND %	SILT %	CLAY %	LIQUID LIMIT %	PLASTICITY INDEX %	MOISTURE CONTENT %	UNCONF. COMP. STRENGTH (tsf)	DRY UNIT WEIGHT (pcf)					
1	SS			2" ASPHALT, 11" CONCRETE	37-18-18															
2	SS			Crushed SLAG, few brick fragments. (Fill)	0-9-7															
3	SS			Brown SILTY FINE SAND, and black crushed CINDER, few brick fragments. (Fill)	5-4-2															
4	SS			Brown SAND and GRAVEL, little silt, trace cinder. (Fill)	1-2-1															
				Gray SILTY SAND, little gravel, trace brick. (Fill)																
				End of test hole at 10 ft.																

LOG OF TEST BORING

SOLAR TESTING LABORATORIES, INC.										STL PROJECT NO:A94854x10										
PROJECT:East 9th St. CLIENT:City of Cleve.-Dept. of Public Services-Div. of Eng & Construction BORING: B-4										PROJECT:East 9th St. CLIENT:City of Cleve.-Dept. of Public Services-Div. of Eng & Construction BORING: B-4										
LOCATION:Sta. 23+00, 10' Lt., Cleveland, OH DATE STARTED:09-23-1994 DATE COMPLETED:09-23-1994										LOCATION:Sta. 23+00, 10' Lt., Cleveland, OH DATE STARTED:09-23-1994 DATE COMPLETED:09-23-1994										
DRILLING METHOD:Solid Stem Auger										DRILLING METHOD:Solid Stem Auger										
SURFACE ELEVATION:595 ±ft.										SURFACE ELEVATION:595 ±ft.										
WATER ENCOUNTER:None										WATER ENCOUNTER:None										
ELEV. COMPLETION:None										ELEV. COMPLETION:None										
DEPTH (ft.)	SAMPLE	TYPE	WATER	SOIL DESCRIPTION	SPLIT - BARREL PENETRATION blows/6 inch	PHYSICAL CHARACTERISTICS										SOIL CLASSIFICATION				
						AGG. %	COARSE SAND %	FINE SAND %	SILT %	CLAY %	LIQUID LIMIT %	PLASTICITY INDEX %	MOISTURE CONTENT %	UNCONF. COMP. STRENGTH (tsf)	DRY UNIT WEIGHT (pcf)					
				6" ASPHALT, 6" CONCRETE																
1	SS			Brown and black SILTY FINE SAND, trace gravel, slag. (Fill)	10-19-15															
2	SS			Brown FINE SAND, little silt, gravel. (Fill)	9-9-10															
3	SS			Black CINDER. (Fill)	6-5-5															
4	SS			Loose brown FINE SAND, little silt, few thin clayey silt interlayers. (SM)	3-4-4															
				End of test hole at 10 ft.																