APPROVED BY CITY OF MARION OFFICIALS	
Frank Williams	6-10-65
MAYOR	DATE
Tom Taylor	6-10-65
CITY ENGINEER	DATE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	U-636 (10)	

1/22

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

MAR.-23-11.05, MAR.-23D-0.87
MAR.-4-11.67, MAR.-4D-0.68

GRADE *SEPARATIONS*
WITH THE
NEW YORK CENTRAL RAILROAD COMPANY
AND
ERIE LACKAWANNA RAILROAD COMPANY
CITY OF MARION , MARION COUNTY

U-636(10)

MARION COUNTY
MAR-23-11.05
MAR-23D-0.87
MAR-4-11.67
MAR-4D-0.68

Proj 33(66)
K-8

L&D Office Copy

CONVENTIONAL SIGNS

State Line
County Line
Township Line
Section Line
Center Line
Corporation Line
Fence Line
Railroad
Utility Poles
Trees or Shrubs (to remain)
Trees or Stumps (to be removed)
Right of Way and Property Line (existing)
Right of Way
Temporary Right of Way

INDEX OF SHEETS

LINE DATA

STATE STREET

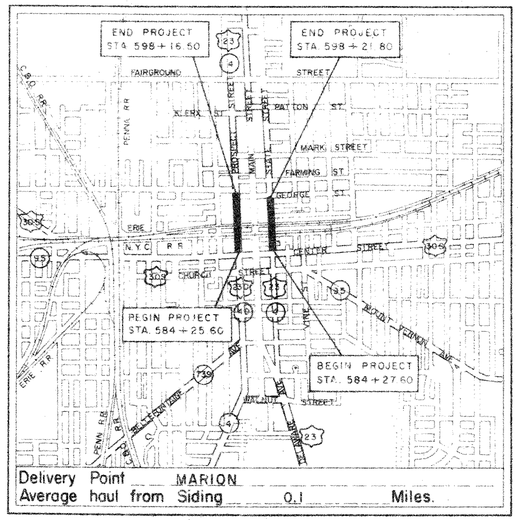
Begin Project	Sta. 584+27.60
End Project	Sta. 598+21.80
Net Length of Project	1,394.20 Lin. Ft.
Begin Work	Sta. 580+35
End Work	Sta. 600+01.30
Net Length of Work	1,966.30 Lin. Ft.

PROSPECT STREET

Begin Project	Sta. 584+23.60
End Project	Sta. 598+16.50
Net Length of Project	1,390.90 Lin. Ft.
Begin Work	Sta. 584+19
End Work	Sta. 601+45
Net Length of Work	1,726.00 Lin. Ft.

STATE & PROSPECT STREETS

Net Length of Project	2,785.10 Lin. Ft. or 0.527 Mi.
Net Length of Work	3,692.30 Lin. Ft. or 0.699 Mi.



LOCATION MAP

SCALE OF MILES

1/4 1/2 3/4 1 2

Portion to be Improved
Future Construction
State Roads
Other Roads

SCALE

SCALE OF PLANS IN FEET

Plans
Profile: Horizontal
Profile: Vertical
Cross Sections

20 0 20 40
5 0 5 10

★ *NOTE: See Sheet No. 7 for lists of 1963 Standard Drawings and Supplemental Specifications and the 1965 Standard Drawings and Supplemental Specifications which have superseded them.*

★ SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-1	6-1-65	MC-6	6-1-65	BR-1-65(1) 2-1-65
BP-2	6-1-65	CB-3	6-1-65	AS-1-54 8-10-65
BP-3	6-1-65	CB-3A	6-1-65	CB-6 6-1-65
BP-4	6-1-65	MH-1	6-1-65	
BP-5	6-1-65	MH-1A	6-1-65	
BP-6	6-1-65	F-1	6-1-65	
BP-7	1-1-66	L-1	6-1-65	
MC-2	6-1-65	FACI-1	6-1-65	
MC-3	6-1-65	FACI-2	6-1-65	

★ SUPPLEMENTAL SPECIFICATIONS

808	7-14-65
816	8-6-65
823	4-22-65

1965 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Highways, including changes and supplemental specifications listed in the proposal shall govern this improvement.

The right of way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will require the closing of the highway to traffic and that detours will be provided as indicated on the plans.

Approved Frank M. Williams
Date 7-1-65 Division Deputy Director

Approved C.H. Abbrater
Date 1-6-66 Engineer of Bridges

Approved R.N. Ricketts
Date 1-13-66 Engineer of Location and Design

Approved P.E. Shultz
Date 1-18-66 Deputy Director of Design and Construction

Approved T.H. Bovard
Date 1-25-66 Deputy Director of Right-of-Way

Approved E.W. Wilson
Date 1-25-66 Deputy Director of Planning and Programming

Approved
Date First Assistant Director

Approved P.E. Moshier
Date 1-25-66 Director of Highway

06592

Plans prepared by BARRETT ASSOCIATED ENGINEERS Ltd.
W. Warren Jones P.E. 18210 June 9, 1965
1500 West First Avenue Columbus 12, Ohio

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED:

DIVISION ENGINEER DATE

FILE NO. MAR-23-11.05, MAR-23D-0.87, MAR-4-11.67, MAR-4D-0.68

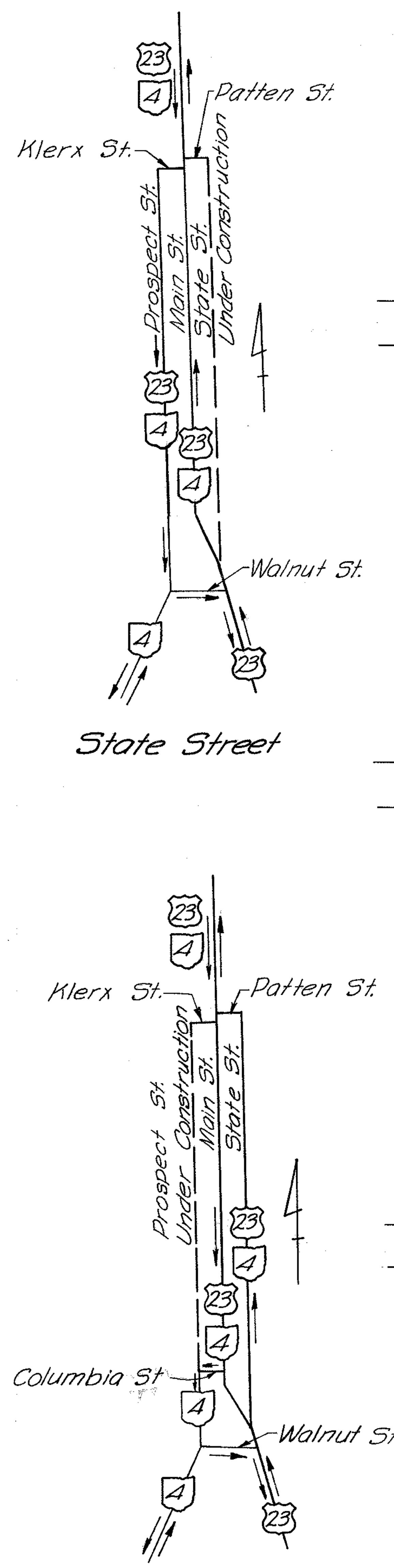
SCHEMATIC PLAN

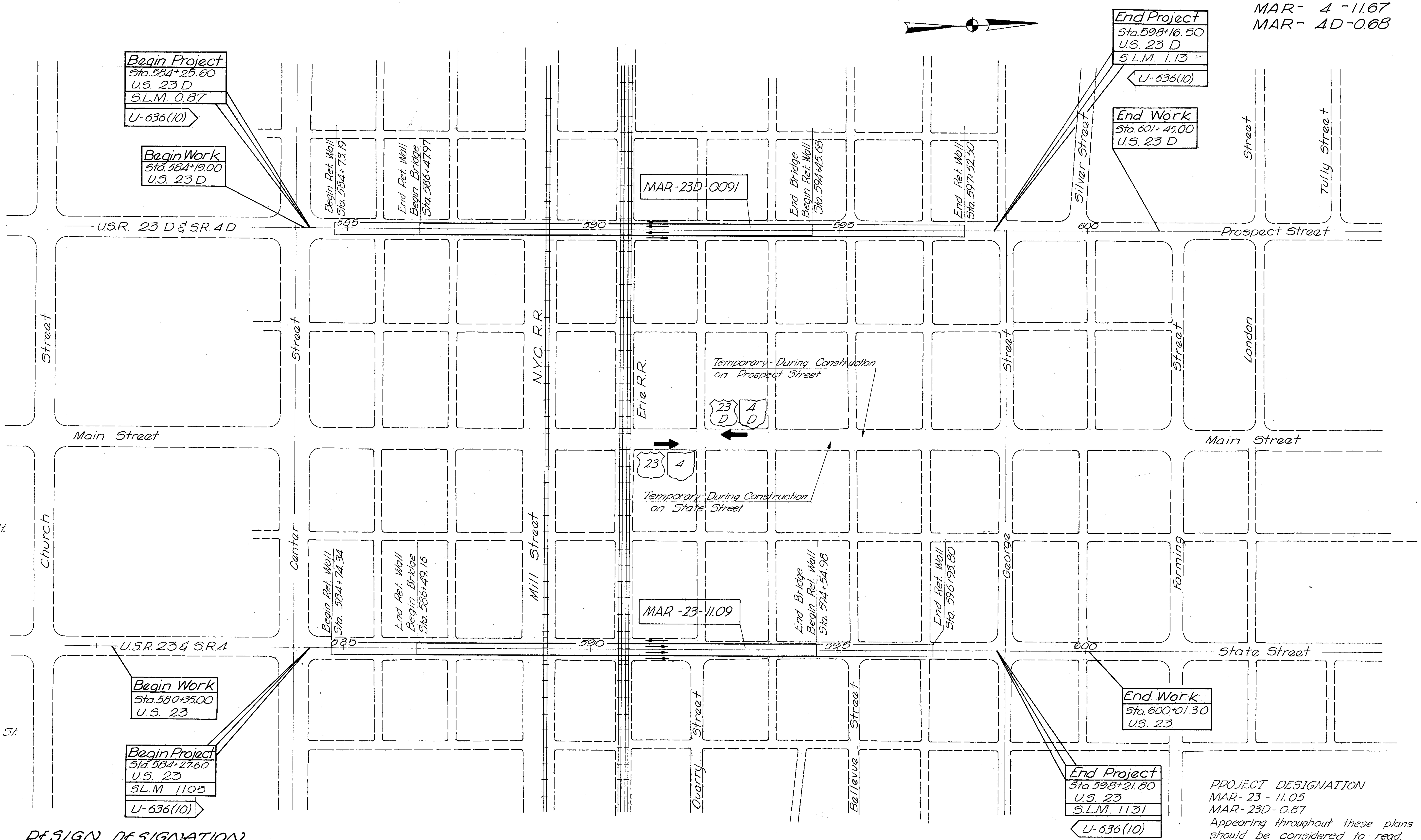
U-636(10)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAR-23-11.05
MAR-23D-0.87
MAR-4-11.67
MAR-4D-0.68

TRAFFIC PATTERN





Begin Project
Sta. 584+25.60
U.S. 23 D
S.L.M. 0.87
U-636(10)
Begin Work
Sta. 584+19.00
U.S. 23 D
Begin Ret. Wall
Sta. 584+73.19
End Ret. Wall
Begin Bridge
Sta. 586+47.97
MAR-23D-0091
End Bridge
Begin Ret. Wall
Sta. 594+45.68
End Ret. Wall
Sta. 597+52.50
End Project
Sta. 598+16.50
U.S. 23 D
S.L.M. 1.13
U-636(10)
End Work
Sta. 601+45.00
U.S. 23 D
U.S.R. 23 D & S.R. 4 D
Prospect Street
Silver Street
Street
Tully Street
Church Street
Center Street
N.Y.C. R.R.
Mill Street
Erie R.R.
Temporary - During Construction
on Prospect Street
Temporary - During Construction
on State Street
George Street
Forming Street
London Street
Main Street
Begin Ret. Wall
Sta. 584+74.34
End Ret. Wall
Begin Bridge
Sta. 586+49.16
MAR-23-11.09
End Bridge
Begin Ret. Wall
Sta. 594+54.98
End Ret. Wall
Sta. 596+93.80
U.S.R. 23 & S.R. 4
State Street
Begin Work
Sta. 580+35.00
U.S. 23
Begin Project
Sta. 584+27.60
U.S. 23
S.L.M. 11.05
U-636(10)
Quarry Street
Bellevue Street
End Work
Sta. 600+01.30
U.S. 23
End Project
Sta. 598+21.80
U.S. 23
S.L.M. 11.31
U-636(10)

DESIGN DESIGNATION

CURRENT A.D.T.	9,570
DESIGN YEAR A.D.T.	17,700
D.H.V.	2,125
D.	
T.	2,830
V.	35
DESIGN YEAR	1982

PROJECT DESIGNATION
MAR-23-11.05
MAR-23D-0.87
Appearing throughout these plans should be considered to read.
MAR-23-11.05
MAR-23D-0.87
MAR-4-11.67
MAR-4D-0.68

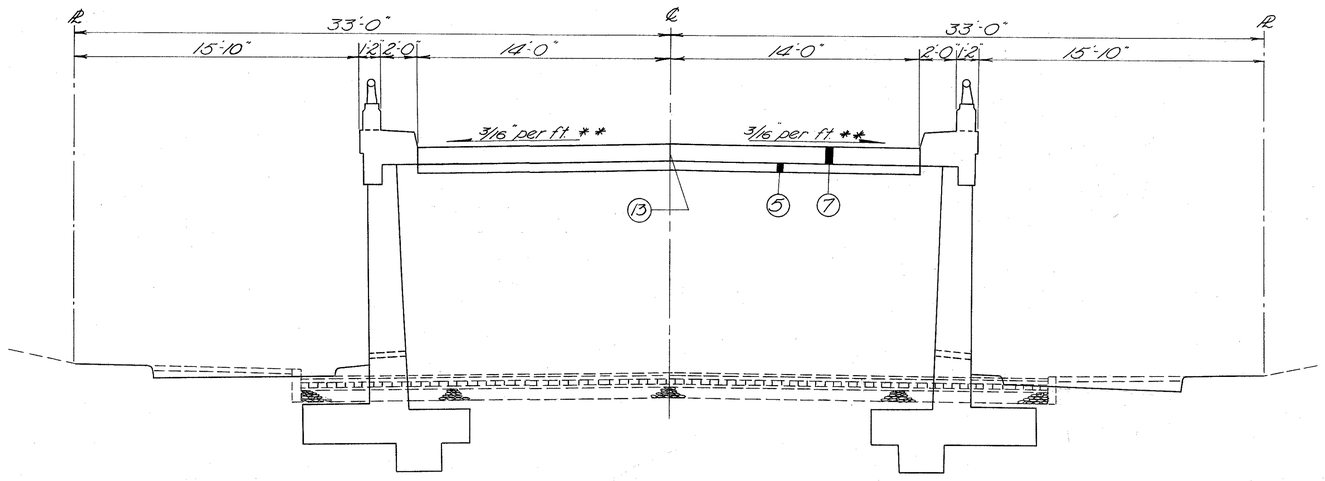
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

3/122

MAR-23-11.05
MAR-23-D-0.87

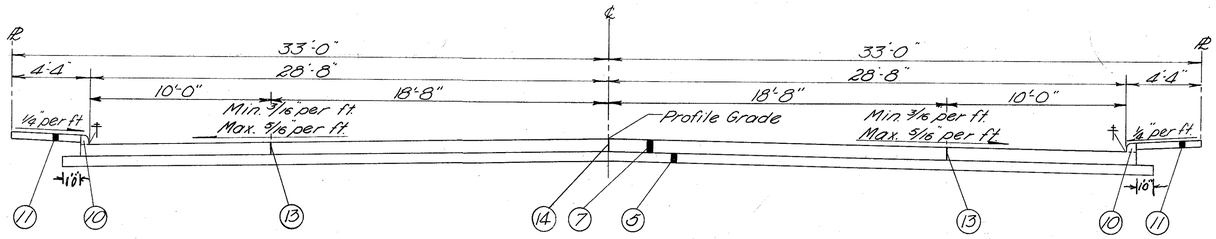
TYPICAL SECTIONS

TYPE T-71



STATE STREET
Sta 584+74.11 to Sta 586+24.16
Sta 594+79.98 to Sta 596+94.03

PROSPECT STREET
Sta 584+50.00 to Sta 586+22.97 ◐
Sta 594+70.68 to Sta 597+52.73



PROSPECT STREET
Sta 584+25.60 to Sta 584+50.00 ◐

◐ T-71 As Per Plan
See Sheets No. 113

LEGEND

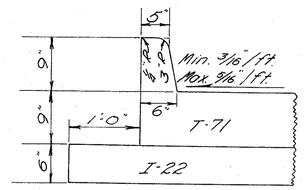
EXISTING

(A) 3 1/2" Brick.
(B) Sand Cushion.
(C) 3" Asphaltic Concrete Surface Course.
(D) Stone Curb (To be Removed).
(E) Sidewalk.
(F) Macadam.

PROPOSED

* (1) T-35 1 1/2" Asphaltic Concrete Surface Course Type C (70-85)
* (2) B-35 1 3/4" Min. Thickness Asphaltic Concrete Leveling Course (70-85)
(3) T-30 Bituminous Tack Coat Sec. M-5.2, RC-1 or RC-2, or Sec. M-5.5, MS-2 or RS-1 as Per Sec. T-30.02 Applied at the Rate of 0.10 Gal. per sq yd.
(4) B-70 9" Portland Cement Concrete Base Course
(5) I-22 6" Subbase, Grading C or D (Unless Otherwise Shown)
(6) B-35 Asphaltic Concrete Preleveling Course (70-85) 0" Min. Thickness (See Note in Proposal)
(7) T-71 9" Reinforced Portland Cement Concrete Pavement
(8) I-12 Concrete Curb, Standard Type 2-B
(9) I-12 Concrete Curb, Modified Type 2-B
(10) I-12 Concrete Curb, Modified Type 2-A
(11) I-13 4" Concrete Sidewalk
(12) L-10 Sodding
(13) Standard Longitudinal Joint
(14) Standard Longitudinal Key Joint, Without Tie Bars

NOTES:
* Thicknesses Shown are "Designed" Thicknesses as Described in Sections T-35.01 and B-35.01.
‡ See Cross Sections for Elevations.
Proposed Sidewalk Width is 3'-10" or to Outer edge of Existing Sidewalk.
For Details Not Shown See Standard Drawing T-35
** Unless Otherwise Shown on Cross Sections.



Modified Type 2A Curb

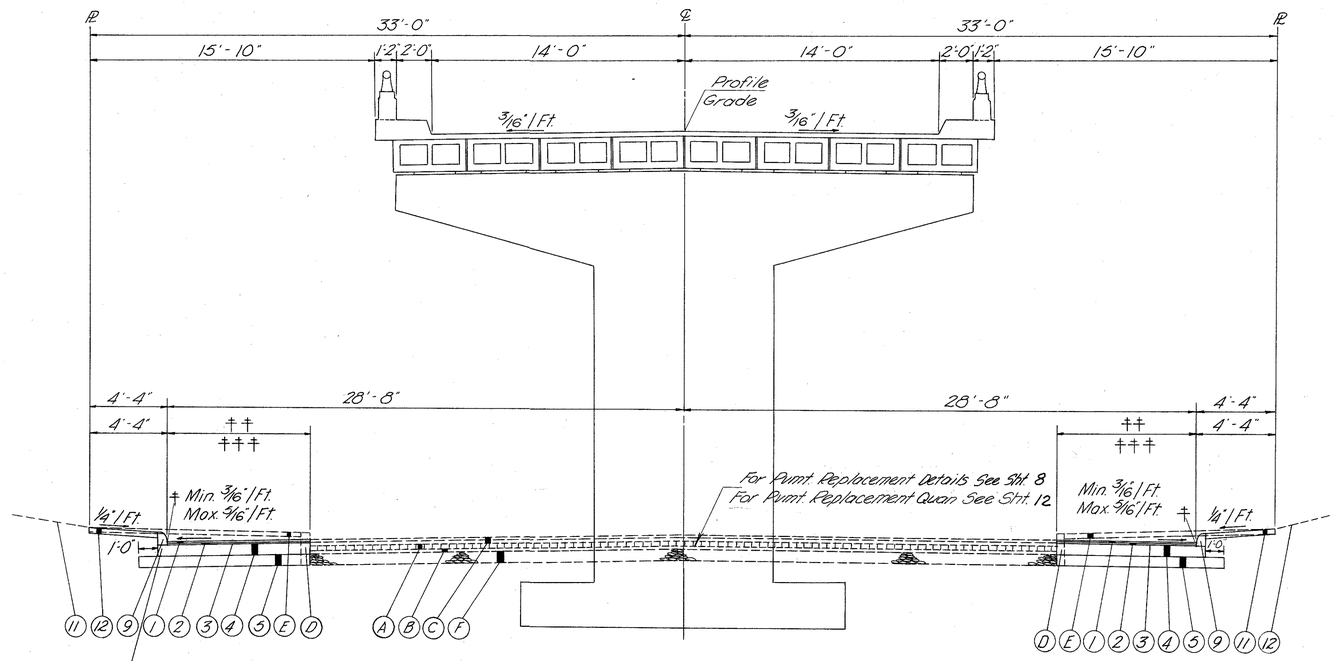
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

4/122

MAR-23-11.05
MAR-23D-0.87

TYPICAL SECTIONS

TYPE T-35



State Street - (8)
Sta 589+33.83 to
Sta 590+50.87

STATE STREET
Sta 586+52.38 to Sta 594+51.76
Sta 598+00 to Sta 598+21.8 (Without Bridge)

PROSPECT STREET
Sta 586+51.23 to Sta 594+42.46
Sta 597+90 to Sta 598+16.50 (Without Bridge)

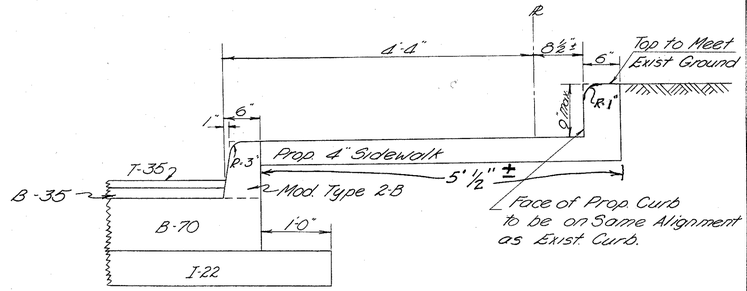
++ STATE STREET

	5'-2"		
Sta 586+51.88	to	Sta 592+04.6	(Rt)
	5'-8"		
Sta 586+51.88	to	Sta 592+15.1	(Lt)
	10'-5"		
Sta 592+04.6	to	Sta 594+52.26	(Rt)
Sta 592+15.1	to	Sta 594+52.26	(Lt)

+++ PROSPECT STREET

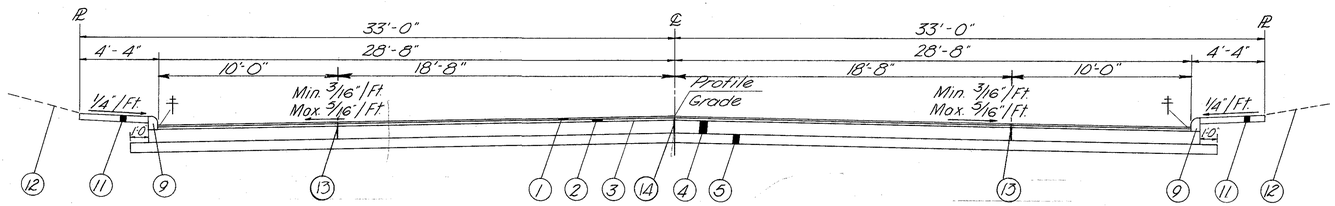
	7'-8"		
Sta 586+50.73	to	Sta 592+14.6	(Rt)
Sta 586+50.73	to	Sta 590+75.62	(Lt)
	9'-8"		
Sta 592+14.6	to	Sta 594+42.96	(Rt)
Sta 590+75.62	to	Sta 594+42.96	(Lt)
Sta 597+90.	to	Sta 598+16.5	(Rt & Lt)

Other Widths Shown on Cross-Sections.



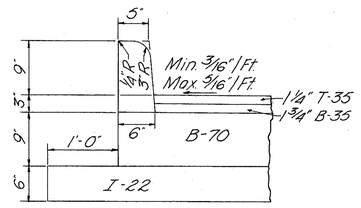
STATE STREET
SIDEWALK AND CURB
Sta 595+46.7 to Sta 596+59.7 (Rt.)

ITEM I-13, 4" SIDEWALK, AS PER PLAN



STATE STREET
Sta 584+27.60 to Sta 584+74.11
Sta 596+94.03 to Sta 597+30

PROSPECT STREET
Sta 597+52.73 to Sta 597+90.00



Modified Type 2B Curb

NOTES:
For Legend See Sheet No. 3
For Notes See Sheet No. 3

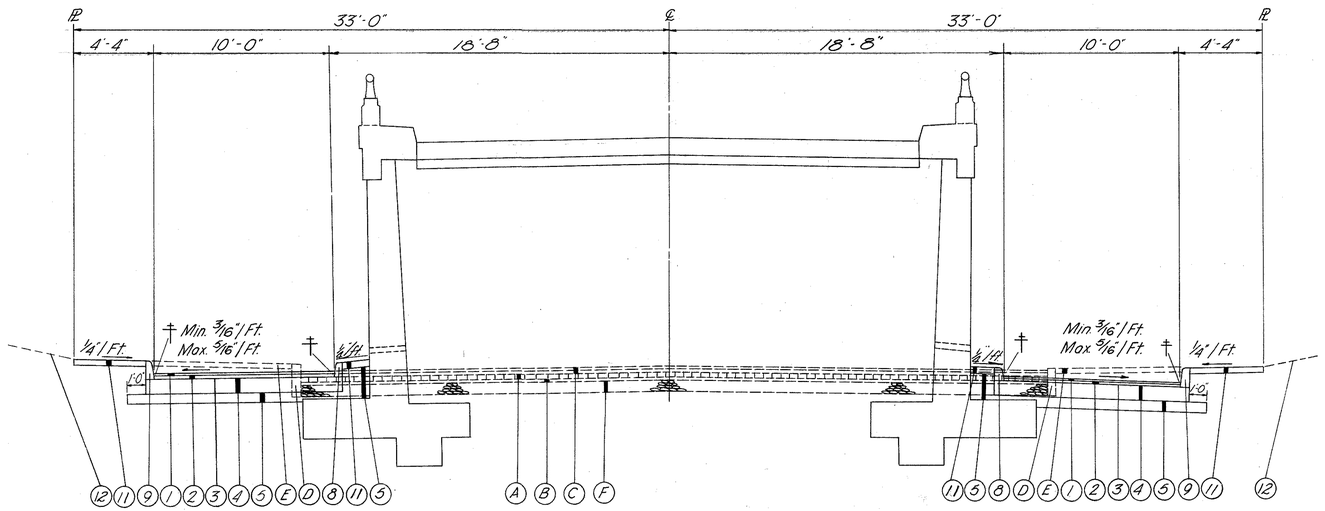
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

5
122

MAR-23-11.05
MAR-23D-0.87

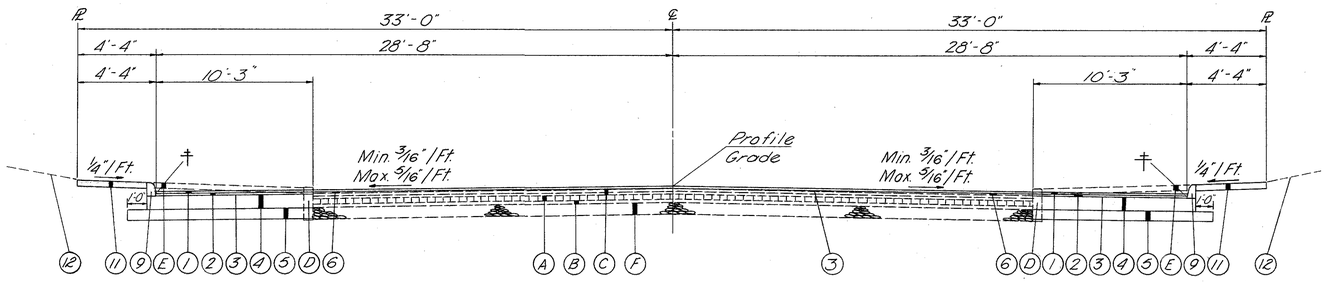
TYPICAL SECTIONS

TYPE T-35



STATE STREET
Sta 584+74.11 to Sta 586+52.38
Sta 594+51.76 to Sta 596+94.03

PROSPECT STREET
Sta 584+50.00 to Sta 584+72.96 (Without Retaining Wall)
Sta 584+72.96 to Sta 586+51.23
Sta 594+42.46 to Sta 597+52.73



STATE STREET
Sta 597+30 to Sta 598+00

NOTES:
For Modified Type 2B Curb
See Sheet No. 4
For Legend See Sheet No. 3
For Notes See Sheet No. 3

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

6
122

MAR-23-11.05
MAR-23D-0.87

GENERAL NOTES

DESIGN SPEED:

THE GEOMETRICS OF THIS PROJECT HAVE BEEN PLANNED FOR A DESIGN SPEED OF 35 MILES PER HOUR.

ELEVATION DATUM:

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

FIELD OFFICE:

The Contractor shall, in addition to the requirements of 105.152 provide a suitable field office having a minimum of 300 Sq. ft. of floor space. The Contractor shall have a telephone installed and maintained in this field office during the construction of this project. The Contractor shall also provide and maintain sanitary provisions as per 107.06. All the above is included in the lump sum price bid for field Office.

STREET AND ROAD SIGNS:

CITY OWNED STREET AND ROAD SIGNS WILL BE RELOCATED BY THE CITY. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK IN AREAS WHERE CITY STREET AND ROAD SIGNS EXIST.

REPLACEMENT:

THE CONTRACTOR WILL BE REQUIRED TO REPLACE, AT HIS OWN EXPENSE, ALL SIDEWALK, PAVEMENT, CURB AND GUTTER, CASTINGS OR ANY ITEMS THAT ARE TO REMAIN IN PLACE, OUTSIDE OR INSIDE THE WORK LIMITS SHOWN ON THE PLANS, THAT MAY BE DAMAGED BY HIS OPERATIONS OR EQUIPMENT DURING THE CONSTRUCTION OF THIS PROJECT.

OBSTRUCTIONS ADJACENT TO PAVEMENT:

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, IN CERTAIN LOCATIONS, LIGHT STANDARDS, AND UTILITY POLES ARE ADJACENT TO THE CURB AND PAVEMENT.

REMOVALS:

ALL ITEMS MARKED FOR REMOVAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF BY HIM, UNLESS OTHERWISE SPECIFIED ON THESE PLANS.

COVER AND UNDERGROUND UTILITIES:

IT IS INTENDED THAT ALL UNDERGROUND UTILITIES RELOCATED AS A PART OF THIS PROJECT SHALL HAVE THE FOLLOWING MINIMUM COVER FROM THE TOP OF PIPE TO THE BOTTOM OF THE PROPOSED SUBBASE:

STEEL OR CAST IRON PIPES 6 INCHES
VITRIFIED, CONCRETE OR TRANSITE PIPE - 18 INCHES

THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE INTENDED CLEARANCE MAY NOT BE OBTAINABLE FOR ALL UTILITY RELOCATIONS AND MAY, IN CERTAIN CASES, BE WAIVED TO PREVENT UNDUE INTERRUPTION TO EXISTING FACILITIES LEFT IN PLACE. PROTECTION AND ENCASEMENT WORK DEEMED NECESSARY IN THESE SITUATIONS WILL BE PERFORMED BY THE UTILITIES INVOLVED, BUT, NOTHING HEREIN STATED SHALL BE CONSTRUED TO RELEASE THE CONTRACTOR FROM THE RESPONSIBILITIES SET FORTH IN 107.12 AND THE CONTRACTOR SHALL EXERCISE DUE CAUTION IN ALL WORK ADJACENT TO EITHER EXISTING OR PROPOSED UTILITIES.

UNDERGROUND UTILITIES:

THE STATE OF OHIO WILL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS. THEY ARE SHOWN AS NEARLY CORRECT AS THE AVAILABLE INFORMATION PERMITS. THE EXACT DEPTH AND LOCATION OF THE UNDERGROUND UTILITIES WHERE PROPOSED STRUCTURES AND STORM SEWERS ARE TO BE PLACED, SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO THE INSTALLATION OF SUCH ITEMS. ADJUSTMENT OF FLOW LINES OF PROPOSED CATCH BASINS, MANHOLES AND STORM SEWERS MAY BE MADE WITH THE APPROVAL OF THE ENGINEER.

PAYMENT FOR EXTRA OPERATIONS INVOLVED IN LOCATING EXISTING UTILITIES, INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEM. SHALL BE

UTILITIES:

THE CONTRACTOR SHALL NOTIFY AT LEAST TWO WORKING DAYS BEFORE BREAKING GROUND ALL PUBLIC OR PRIVATE UTILITIES HAVING WIRE, POLES, PIPE, CONDUITS, MANHOLES OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION, INCLUDING ALL STRUCTURES WHICH ARE AFFECTED AND NOT SHOWN ON THESE PLANS. ANY OR ALL WORK REQUIRED FOR PUBLIC OR PRIVATE UTILITIES, INCLUDING ADJUSTMENT OR RELOCATION OF VALVES AND METERS, WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS, UNLESS OTHERWISE NOTED ON THESE PLANS.

ADJUSTMENT OF EXISTING MANHOLES:

EXISTING STORM, SANITARY, AND COMBINED STORM AND SANITARY SEWER MANHOLES WILL BE ADJUSTED TO GRADE BY THE CONTRACTOR, AND ALL WORK INCIDENTAL TO THEIR ADJUSTMENT SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 604 MANHOLES ADJUSTED TO GRADE.

CONNECTIONS TO EXISTING PIPES:

AT PLACES WHERE THE PLANS PROVIDE FOR PROPOSED PIPE TO BE CONNECTED TO EXISTING PIPES, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE, BEFORE HE STARTS TO LAY THE PROPOSED PIPE. PAYMENT FOR THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEM

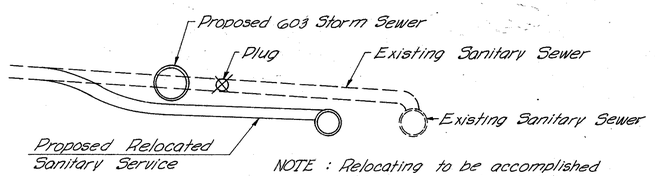
CATCH BASIN GRATE ELEVATIONS AND TOP OF MANHOLE ELEVATIONS:

WHEREVER MANHOLES OR CATCH BASINS ARE PROPOSED TO BE CONSTRUCTED IN SALVAGE PAVEMENT AREAS WHERE THERE IS NO WIDENING, THE TOP OF THE PROPOSED MANHOLE SHALL BE PLACED FLUSH WITH THE EXISTING PAVEMENT SURFACE, AND THE FLOW LINE OF THE GRATE OF THE PROPOSED CATCH BASIN SHALL MATCH AS CLOSELY AS POSSIBLE THE PROPOSED FLOW LINE AT THE FACE OF THE EXISTING CURB. ANY DEVIATION OF THE ABOVE METHOD OF DETERMINATION OF TOP AND FLOW LINE ELEVATIONS SHALL BE AS DIRECTED BY THE ENGINEER.

HOUSE SEWER DRAINS:

ALL EXISTING HOUSE DRAINS, WHICH INCLUDES SANITARY, OR OTHER SIMILAR HOUSE DRAINS WHICH ARE NOW IN USE, AND ARE DISTURBED BECAUSE OF THE HIGHWAY IMPROVEMENTS, SHALL BE REPLACED BY THE CONTRACTOR. IF THE EXISTING SEWER IS TO BE ABANDONED, THEN A SATISFACTORY HOUSE CONNECTION SHALL BE PROVIDED TO THE NEW SEWER. THIS CONNECTION SHALL BE INSTALLED ONLY WHERE A LIKE FACILITY IS IN EXISTENCE. ALL THE ABOVE WORK, EXCEPT PLUGGING, SHALL BE INCLUDED WITH AND PAID FOR AT THE UNIT PRICE BID FOR THE RESPECTIVE CONDUIT ITEMS FURNISHED & PLACED. PLUGGING SHALL BE BY MEANS OF A PRECAST CONCRETE OR VITRIFIED STOPPER, AND PAYMENT THEREFOR IS INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.

RELOCATED SANITARY SERVICE



FOR THE PIPES AND PIPE SPECIALS REQUIRED FOR THE ABOVE ADJUSTMENTS, THE FOLLOWING QUANTITIES OF TYPE B CONDUITS HAVE BEEN INCLUDED IN THE GENERAL SUMMARY, SEE SHEET NO. 9 TO BE USED AS DIRECTED BY THE ENGINEER.

Type B Conduits

100% CITY PARTICIPATION

ITEM 603 4" Conduit, Type B with Cl. B bedding, 706.08	200 LIN. FT.
ITEM 603 6" Conduit, Type B with Cl. B bedding, 706.08	200 LIN. FT.
ITEM 603 8" Conduit, Type B with Cl. B bedding 706.08	200 LIN. FT.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED UNLESS APPROVED BY THE PROJECT ENGINEER.

PRIVATE SEWER TAPS:

THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY EXISTING OR NEW PRIVATE DRAINAGE TO THE NEW HIGHWAY DRAINAGE SYSTEM WHEN SUCH PRIVATE DRAINS CARRY EFFLUENT OR DRAINAGE FROM LEACHING BED OUTLETS, CELLAR DRAINS OR POLLUTED WATER OF ANY KIND. CONNECTIONS MAY BE MADE TO THE EXISTING OR NEW HIGHWAY DRAINAGE SYSTEM WHEN THE WATER CARRIED TO THE PROJECT DRAINAGE SYSTEM DOES NOT COME WITHIN THE CATEGORY OUTLINED ABOVE. ACCEPTABLE WATER INCLUDES FLOW FROM ROOF DRAINS, FIELD DRAINS AND ENCLOSED NATURAL DRAINAGE SOURCES WHICH WOULD REACH THE ROAD THROUGH NATURAL CHANNELS IF SUCH WATER WAS NOT CONDUCTED ARTIFICIALLY.

SEALING OF PIPE JOINTS:

WHERE CONNECTIONS ARE MADE BETWEEN RIGID AND FLEXIBLE PIPE SECTIONS OR BETWEEN PIPE SECTIONS OF DIFFERENT KIND OR TYPE OF END FABRICATION, WHETHER REQUIRED BY THE PLANS, ARISING FROM PERMISSIBLE USE OF OPTIONAL MATERIALS, OR ENCOUNTERED IN CONNECTION TO EXISTING FACILITIES THE JOINT SHALL BE SEALED

SEALING OF PIPE JOINTS CONT'D.:

BY MEANS OF A CLASS "E" CONCRETE COLLAR HAVING A MINIMUM THICKNESS OF 6 INCHES AND A MINIMUM LENGTH OF 12 INCHES. PAYMENT FOR SEALING AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEM.

REMOVAL OF EXISTING PIPE:

THE REMOVAL OF ALL EXISTING PIPE DRAINS WITHIN THE LIMITS OF PROPOSED EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

HOUSEWALKS REPLACEMENT:

THE EXISTING SMALL SLABS OF HOUSEWALKS THAT ARE REMOVED BECAUSE OF CURB REPLACEMENT OR MAIN SIDEWALK REPLACEMENT, SHALL BE REPLACED IN ACCORDANCE WITH ITEM 608 Concrete WALKS AS DIRECTED BY THE ENGINEER. AN ESTIMATED AMOUNT OF 200 S. F. OF ITEM 608, 4" CONCRETE WALKS HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

PAYMENT FOR HOUSEWALK AND STEP REMOVAL:

ALL HOUSEWALK AND STEP REMOVAL WITHIN THE LIMITS OF THE ROADWAY EXCAVATION SHALL BE PAID FOR UNDER 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.

ESTIMATED QUANTITIES:

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED, "AS DIRECTED BY THE ENGINEER," SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ITEM 407 TACK COAT

ALTHOUGH THIS ITEM HAS BEEN ESTIMATED FOR USE ON THE ENTIRE EXISTING BITUMINOUS PAVEMENT AREA TO BE RESURFACED, IT SHALL BE USED ONLY ON DRY OR CHECKED PAVEMENT AREAS WHERE SPECIFICALLY DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE ON FINAL MEASUREMENT.

BASE REPLACEMENT:

WHERE TRENCHING FOR PROPOSED SEWER CONSTRUCTION REQUIRES THE REMOVAL OF EXISTING PAVEMENT WHICH WOULD OTHERWISE BE SALVAGED, THE PAVEMENT SHALL BE REPLACED WITH 9 INCH, B-70 AND 6 INCH, I-22. THE AREA TO BE REMOVED AND REPLACED SHALL EXTEND FOR A MINIMUM DISTANCE OF 12 INCHES BEYOND THE UNDISTURBED SIDE OF THE TRENCH. HOWEVER, THE MAXIMUM WIDTH OF BASE REPLACEMENT THAT WILL BE ALLOWED FOR PIPES 24 INCHES OR LESS IN DIAMETER, IS THE PIPE DIAMETER PLUS 4 FEET

AN ESTIMATED AMOUNT OF 120 SQUARE YARDS OF ITEM B-70 9" PORTLAND CEMENT CONCRETE BASE COURSE, AND 20 CUBIC YARDS OF I-22 SUBBASE, HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER. SEE DETAIL ON SHEET 8.

COMPRESSION JOINTS:

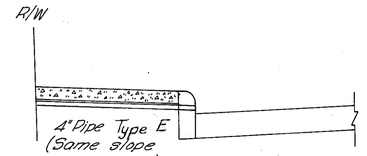
ALL SANITARY SEWERS SHALL HAVE COMPRESSION JOINTS IN ACCORDANCE WITH SECTION 603.06 OF THE SPECIFICATIONS.

ROOF DRAIN CONNECTIONS:

ROOF DRAIN CONNECTIONS BETWEEN THE RIGHT-OF-WAY LINE AND FACE OF CURBS SHALL BE INSTALLED AT LOCATIONS DETERMINED BY THE ENGINEER IN ACCORDANCE WITH THE DETAIL SHOWN BELOW.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR MAKING THE NECESSARY CONNECTIONS:

4" Conduit, Type E 100 LIN. FT.



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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GENERAL NOTES

SODDING AND PROTECTING:

QUANTITIES FOR SODDING, ITEM 660 ARE CALCULATED FOR SOIL AREAS BETWEEN PROPOSED SIDEWALKS AND PROPOSED TEMPORARY OR PERMANENT RIGHT-OF-LINES, WHICHEVER IS THE OUTERMOST.

659 COMMERCIAL FERTILIZER:

ALL AREAS TO BE SODDED UNDER ITEM 659 SHALL HAVE COMMERCIAL FERTILIZER (12-12-12) APPLIED AT THE RATE OF TWENTY (20) POUNDS PER 1,000 SQ. FT.

PROTECTION OF TREES:

THE CONTRACTOR SHALL TAKE ALL THE NECESSARY PRECAUTIONS TO PROTECT ALL TREES, WITHIN AND ADJACENT TO THE WORK LIMITS, FROM DAMAGE.

REMOVAL OF TREES AND STUMPS:

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.
THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZE	TREES	STUMPS
18"	25	1
30"	12	5
48"	2	1
60"	0	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING.

CONSTRUCTION LAYOUT STAKES:

SEE NOTE IN PROPOSAL DESCRIBING THE WORK INCLUDED IN THIS LUMP SUM PAY ITEM.

DRIVEWAY LOCATION:

THE LOCATION OF DRIVEWAYS MAY BE ADJUSTED BY THE ENGINEER PROVIDING THERE ARE NO CHANGES IN DRIVE QUANTITIES.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS:

THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE FEDERAL AID CONSTRUCTION SIGNS AT EACH OF THE FOLLOWING LOCATIONS:

1. STA. 601, U.S. ROUTE 23 D, PROSPECT STREET
2. STA. 583, U.S. ROUTE 23, STATE STREET

SIGN DETAILS SHALL BE AS SPECIFIED ON STANDARD DRAWING FAC I-1, CODE N-54 (2) - 96 (3) AND THE SIGNS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD DRAWING FAC I-2. ADDITIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH NOTES IN THE PROPOSAL.

SPECIAL SODDING AREA PREPARATIONS:

THE SODDING AREA PREPARATIONS DESCRIBED IN PARAGRAPH ONE OF SECTION ~~660.04~~ OF THE SPECIFICATIONS, SHALL BE CONSIDERED PARTICULARLY APPLICABLE TO THIS ENTIRE PROJECT.

MAINTENANCE OF SEWER FLOWS:

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONSSO AS TO MAINTAIN AT ALL TIMES SEWER FLOWS THROUGH EXISTING FACILITIES TO REMAIN IN PLACE, AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PLACED INTO USE. PAYMENT FOR ANY ADDITIONAL COSTS INVOLVED IN MAINTAINING THESE FLOWS BY PUMPING OR BY ANY OTHER MEANS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE RESPECTIVE ITEMS OF 603 CONDUIT

UTILITY OWNERS:

GAS LINES	OHIO FUEL GAS COMPANY 99 NORTH FRONT STREET COLUMBUS, OHIO 43215
POWER LINES	OHIO EDISON COMPANY 1040 SOUTH PROSPECT STREET MARION, OHIO
TELEPHONE LINES	GENERAL TELEPHONE COMPANY MARION, OHIO
WATER LINES	THE MARION WATER COMPANY 195 EAST CENTER STREET MARION, OHIO
SANITARY LINES	CITY OF MARION DEPARTMENT OF PUBLIC SERVICE MARION, OHIO

CROWN AT RAILROAD CROSSINGS:

THE CROWN SHALL BE WORKED OUT OF THE PAVEMENT ON EACH SIDE OF THE RAILROAD CROSSING BEGINNING 50 FEET FROM THE CROSSING BY RAISING THE EDGE OF THE PAVEMENT TO MEET THE RAIL ELEVATION.

BLOCKING UP BASEMENT WINDOWS:

A QUANTITY OF 2 CUBIC YARDS OF ITEM I-2, MASONRY, HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR BLOCKING UP EXISTING BASEMENT WINDOWS WHICH MAY BE ENCOUNTERED IN FOUNDATION WALLS BELOW THE SIDEWALK LEVEL. THIS QUANTITY WILL SPECIFICALLY PROVIDE FOR ENCLOSING WITH CONCRETE BLOCKS THOSE WINDOW OPENINGS BELOW SIDEWALK LEVEL ON THE RIGHT BETWEEN STATION 584 + 40 AND STATION 585 + 70 ON PROSPECT STREET, AS WELL AS ANY ADDITIONAL WINDOW OPENINGS IN BASEMENT FOUNDATIONS WHICH ARE NOT KNOWN AT THIS TIME.

SPECIFICATIONS

ALL ITEMS APPEARING THROUGHOUT THE PLANS REFERRING TO THE 1963 CONSTRUCTION AND MATERIAL SPECIFICATIONS ARE TO BE USED FOR REFERENCE PURPOSES ONLY. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 1965 CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CROSS REFERENCES TO THE 1965 SPECIFICATIONS ARE SHOWN ON THE GENERAL SUMMARY SHEET NO. 10R.

STANDARD DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
1963	1965	1963	1965	1963	1965
G-7.07	MC-3	I-8 CB Nº3	CB-3	S-101	808
T-35	BP-5	I-8 CB Nº3A	CB-3A	I-129	816
DR-1	BP-6	I-8 MH Nº1	MH-1	—	825
FACI-1	FACI-1	I-8 MH Nº1A	MH-1A		
FACI-2	FACI-2	BT-70-71	BP-1		
L-1	L-1	BT-71-R	BP-2		
L-3	—	TJ	BP-4		
L-3A	—	LJ Nº1	BP-3		
RI-2	MC-2	F-1	F-1		
I-1	MC-4	I-12	BP-7		
I-8CB NºG	CB-6	I-21-23	MC-6		

TRAFFIC NOTES

SEQUENCE OF OPERATIONS:

THE CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE OF HIS OPERATIONS TO THE ENGINEER AND OBTAIN HIS WRITTEN APPROVAL BEFORE BEGINNING ANY OF THE WORK INVOLVED ON THIS PROJECT.

STATE STREET SHALL BE COMPLETE AND OPEN TO TRAFFIC BEFORE WORK IS COMMENCED ON PROSPECT STREET.

MAINTAINING PEDESTRIAN TRAFFIC:

PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AT ALL INTERSECTIONS WHEREVER POSSIBLE. PEDESTRIAN ACCESS SHALL BE AVAILABLE TO ALL PROPERTIES FRONTING ON THIS IMPROVEMENT AT ALL TIMES.

MAINTAINING TRAFFIC:

A. THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS TO KEEP TRAFFIC INCONVENIENCE TO A MINIMUM.

B. TRAFFIC SHALL BE MAINTAINED ON INTERSECTING STREETS DURING CONSTRUCTION WHEREVER POSSIBLE. IF IT IS FOUND NECESSARY TO CLOSE AN INTERSECTING STREET OR ALLEY DURING THE CONSTRUCTION PERIOD, A WRITTEN PERMIT MUST BE OBTAINED FROM THE CITY, AND THE CITY WILL PROVIDE ANY NECESSARY DETOURS, BARRICADES AND SIGNS.

C. DURING THE CONSTRUCTION OF STATE STREET, LOCAL TRAFFIC SHALL BE MAINTAINED ONE-LANE, ONE-WAY NORTH AT ALL TIMES IN ACCORDANCE WITH THE PROVISIONS OF SECTION 104.04 DURING THIS TIME THE CITY WILL MAINTAIN ALL U.S. ROUTE 23 NB AND S.R. 4 NB TRAFFIC ON MAIN STREET. ALL U.S. ROUTE 23 SB AND S.R. 4SB TRAFFIC WILL CONTINUE ON PROSPECT STREET WITHOUT ANY INTERFERENCE BY THE CONTRACTOR.

D. DURING THE CONSTRUCTION OF PROSPECT STREET, LOCAL TRAFFIC SHALL BE MAINTAINED ONE-LANE, ONE-WAY SOUTH AT ALL TIMES IN ACCORDANCE WITH THE PROVISIONS OF SECTION 104.04 DURING THIS TIME THE CITY WILL MAINTAIN ALL U.S. ROUTE 23 SB AND S.R. 4 SB TRAFFIC ON MAIN STREET. ALL U.S. ROUTE 23, NB AND S.R. 4 NB TRAFFIC WILL BE RETURNED TO THE COMPLETED STATE STREET BRIDGE WITHOUT ANY INTERFERENCE BY THE CONTRACTOR. (S.R. 4 S.B. TRAFFIC WILL USE COLUMBIA ST FOR ONE BLOCK AS SHOWN ON THE SCHEMATIC PLAN.)

E. 4 TONS OF CALCIUM CHLORIDE, ITEM 616 AND 200 CUBIC YARDS OF TRAFFIC COMPACTED SURFACE , ITEM 410 HAS BEEN SET UP IN THE GENERAL SUMMARY TO MAINTAIN TRAFFIC DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER.

F. DURING CONSTRUCTION OF THE PROPOSED BRIDGES OVER PROSPECT STREET, STATE STREET, THE NEW YORK CENTRAL RAILROAD AND THE ERIE RAILROAD, THE CONTRACTOR SHALL SAFEGUARD THE TRAVELING PUBLIC AND THE RAILROAD BY PROVIDING PLATFORMS, NETS, OR OTHER SUITABLE PROTECTION TO THE TRAVELED LANES AND WALKWAYS. PAYMENT FOR THIS PROTECTION SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

LIGHTS AND SIGNS AT ADJACENT ROAD INTERSECTIONS:

THE CONTRACTOR SHALL IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 ON THIS PROJECT PERFORM THE FOLLOWING:

PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS AND LIGHTS AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO THROUGH TRAFFIC:

1. STATE STREET JUST NORTH OF CENTER STREET.
2. STATE STREET JUST SOUTH OF GEORGE STREET.
3. PROSPECT STREET JUST NORTH OF CENTER STREET.
4. PROSPECT STREET JUST SOUTH OF GEORGE STREET.

SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING LIGHTS, SIGNS, AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "ITEM 614 MAINTAINING TRAFFIC."

QUANTITY DESIGNATION

ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY (1963 SPECIFICATIONS) FROM THE VARIOUS PARTS OF THE PLAN AS IDENTIFIED UNDER THE 1963 SPECIFICATIONS. AN ADDITIONAL SHEET CALLED "GENERAL SUMMARY (1965 SPECIFICATIONS)" HAS BEEN INCLUDED IN THESE PLANS TO SHOW THE QUANTITY TOTALS IN ACCORDANCE WITH THE 1965 SPECIFICATIONS.

TYPICAL DETAILS

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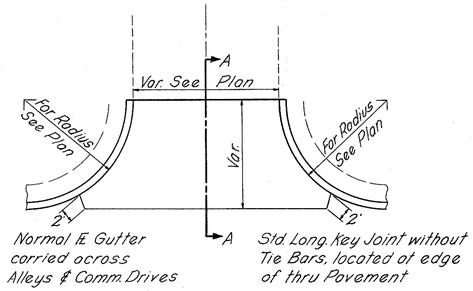
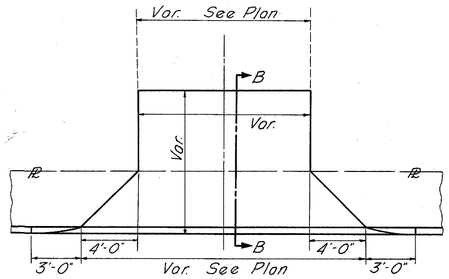
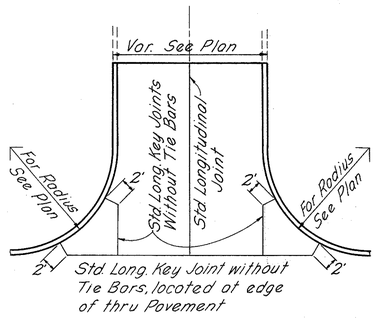


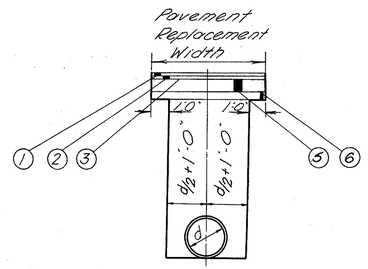
TYPICAL ALLEY & COMMERICAL DRIVE DETAIL



TYPICAL DRIVE DETAIL



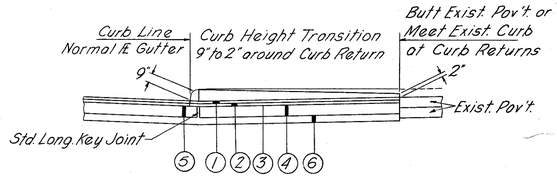
TYPICAL JOINT DETAIL FOR ITEM B-70 USED ON STREET & ALLEY APPROACHES



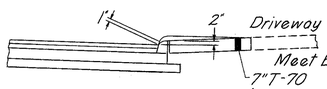
PAVEMENT REPLACEMENT DETAIL

LEGEND

1. T-35 1¼" Aspholtic Conc. Surface Course Type C (70-85)
2. B-35 1¾" Min. Thickness Aspholtic Conc. Leveling Course (70-85)
3. T-30 Bit. Tack Coat Sec. M-52, RC-1 or RC-2, or Sec. M-5.5, MS-2, or RS-1 as per Sec. T-30.02 applied at the rate of 0.10 gal. per sq. yd
4. B-70 8" Portland Cement Conc. Base Course
5. B-70 9" Portland Cement Conc. Base Course
6. I-22 6" Subbase Grading C or D

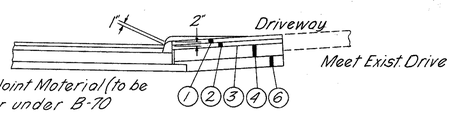


SECTION A-A



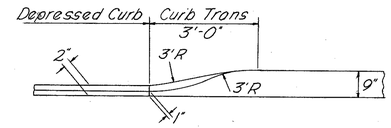
½" Exp. Joint Material (to be paid for under Item T-70

SECTION B-B PRIVATE DRIVE

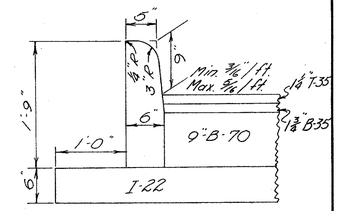


½" Exp. Joint Material (to be paid for under B-70

SECTION B-B COMMERICAL DRIVE

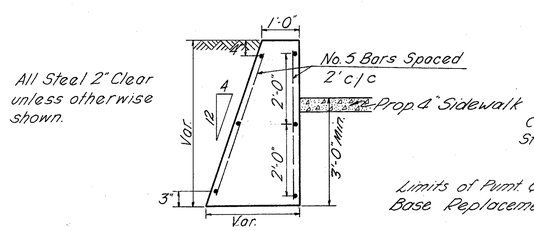


DETAIL OF CURB TRANSITION



Modified Type 6 Curb

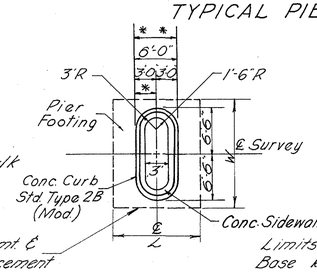
RETAINING WALL TYPICAL



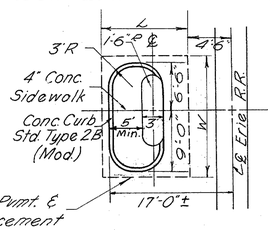
For Retaining Wall Location See Sheets No. 14, 38 & 39

For Retaining Wall Details See Sheets No. 18 & 40

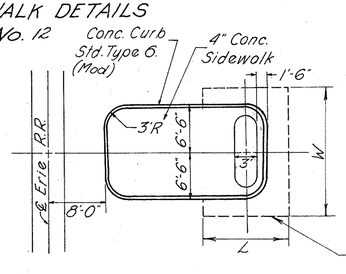
TYPICAL PIER PROTECTIVE CURB & SIDEWALK DETAILS
For Est. Quan. See Sheet No. 12



State St. & Prospect St.
Pier No. 2, 4, 6, 7, 10, 12, 13, 14 & 15

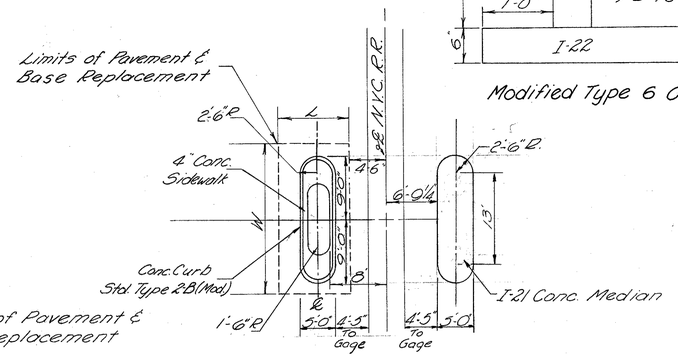


State St. & Prospect St.
Pier No. 8



State St. & Prospect St.
Pier No. 9

Prospect St. Pier No. 1, 3, & 11
State St. Pier No. 1, 3, & 11
** = 10'-0"
* = 7'-0"



State St. & Prospect St.
Pier No. 5

TYPICAL DETAILS

GENERAL SUMMARY

1963 SPECIFICATIONS

TYPE CODE 7221
⊗ TYPE CODE Y005

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ITEM NO.	NORMAL PARTICIPATION														100% CITY PARTICIPATION								PARTICIPATION					DESCRIPTION	Reference Number
	6	7	11	12		14	15	16	17	31		36	37	38	39	6	14	15		36	37	113	ITEM	NORMAL	100% CITY Y060	PROJECT TOTAL	UNIT		
																												ROADWAY	1
																													2
E-1				2757																			E-1	2757		2757 ✓	Cu. Yds.	Roadway Excavation, Method B, as per plan	3
E-1			8775																				E-1	8775		8775 ✓	Sq. Yds.	Compacted Subgrade	4
																													5
																													6
E-A				1819																			E-A	1819		1819 ✓	Cu. Yds.	Borrow	7
E-B			1622.4			306.0	303.8	433.3	96.7			271.8	529.3	306.6	91.1								E-B	3961		3961 ✓	Sq. Yds.	Removal and Disposal of Existing Pavement	8
E-B				4838					49														E-B	4887		4887 ✓	Lin. Ft.	Removal and Disposal of Existing Curb	9
E-B				33295					185														E-B	33,480		33,480 ✓	Sq. Ft.	Removal and Disposal of Existing Sidewalk	10
																													11
																													12
E-9		Lump																					E-9	Lump		Lump	Lump	Removal of Trees and Stumps	13
E-11				31																			E-11	31		31	M.Gals.	Water	14
																													15
Special												Lump											Special	Lump		Lump	Lump	Galvanized Flush Floor Hatch and Frame	16
I-2		2								7		1											I-2	10		10.	Cu. Yds.	Masonry, as per plan	17
																													18
																													19
L-9				0.16																			L-9	0.16		0.16	ton	⊗ Commercial Fertilizer (12-12-12)	20
L-10				1725																			L-10	1725		1725	Sq. Yds	⊗ Sodding	21
																													22
																													23
I-13		200.0		3308.4		215.1.0	266.5.0	205.8.1	191.8.4			180.0.7	174.1.0	225.0.0	154.0.4								I-13	19,708		19,708 ✓	Sq. Ft.	4" Concrete Sidewalks	24
I-13								34.1	30.1														I-13	642		642 ✓	Sq. Ft.	4" Concrete Sidewalks, as per plan	25
I-13						9								26	33								I-13	68		68 ✓	Lin. Ft.	Concrete Steps, as per plan	26
																													27
I-A		4																					I-A	4		4 ✓	Tons	Calcium Chloride for Dust Control	28
T-10		200																					T-10	200		200 ✓	Cu. Yds.	Traffic Compacted Surface Course, for maintaining traffic	29
																													30
S-1						95								22.2	18.1								S-1	49.8		49.8 ✓	Cu. Yds.	Concrete for Structures, Class "E"	31
S-A						378								775	627								S-A	1780		1780 ✓	Lbs.	Reinforcing Steel	32
S-22						Lump				Lump		Lump		Lump	Lump								S-22	Lump		Lump ✓	Lump	Removal of Portions of Existing Structures	33
																													34
																													35
																												DRAINAGE	36
																													37
I-1																200							I-1		200	200 ✓	Lin. Ft.	4" Pipe Class B-1 Sec. M-6.8(b) (Sanitary) with compression Joint	38
I-1																200							I-1		200	200 ✓	Lin. Ft.	6" Pipe Class B-1 Sec. M-6.8(b) (Sanitary) with compression Joint	39
I-1																200		768	110		775	100	I-1		1953	1953 ✓	Lin. Ft.	8" Pipe Class B-1 Sec M-6.8(b) (Sanitary) with compression Joint	40
																													41
I-1						40	32	78				40	34	66									I-1	290		290 ✓	Lin. Ft.	8" Pipe Class B-1 Sec. M-6.6(b) or Sec. M-6.8(b)	42
																													43
I-1						291	125	52	72			176	22	71	229								I-1	1038		1038 ✓	Lin. Ft.	12" Pipe Class B-1	44
I-1							115	80	59				57	57	49								I-1	417		417 ✓	Lin. Ft.	15" Pipe Class B-1	45
																													46
I-1							40																I-1	40		40 ✓	Lin. Ft.	15" Pipe Class B-1 Sec. M-6.6(d) Under Railroad, as per plan	47
I-1													56										I-1	56		56 ✓	Lin. Ft.	18" Pipe Class B-1 Sec. M-6.6(d) Under Railroad, as per plan	48
I-1									156														I-1	156		156 ✓	Lin. Ft.	24" Pipe Class B-1, Sec. M-6.6(b) or Sec. M-6.8(b)	49
I-1						62		117					121	176									I-1	475		475 ✓	Lin. Ft.	18" Pipe Class B-1	50
I-1						155		197															I-1	352		352 ✓	Lin. Ft.	21" Pipe Class B-1	51
I-1						146		150	100			381	65	165	245								I-1	1252		1252 ✓	Lin. Ft.	24" Pipe Class B-1	52
	100																						I-1	100		100 ✓	Lin. Ft.	4" Pipe Class H-2	53
I-5						2	2	4				2	2	4									I-5	16		16 ✓	Each	8" Pipe Specials Class B-1 Sec. M-6.6(b) or Sec. M-6.8(b)	54
I-5																30							I-5		30	30 ✓	Each	8" Pipe Specials Class B-1 Sec. M-6.8(b) (Sanitary) with compression Joint	55
I-5						1																	I-5	1		1 ✓	Each	21" Pipe Special Class B-1	56
I-5												1											I-5	1		1 ✓	Each	24" Pipe Special Class B-1	57
																													58
I-5														1									I-5	1		1 ✓	Each	12" Pipe Special Class B-1	59
																													60
													1										I-8	1		1 ✓	Each	Standard No. 6 Catch Basin	61
I-8							3	3	2			2	3		2								I-8	15		15 ✓	Each	Standard No. 3 Catch Basins	62
I-8						7	2	5	4			4		4	4								I-8	30		30 ✓	Each	Standard No. 3-A Catch Basins	63
I-8						3	1	1	1			4	1					6	2		6	2	I-8	11	16	27 ✓	Each	Standard No. 1 Manholes	64
I-8							1						1										I-8	2		2 ✓	Each	Manholes Adjusted to Grade	65
																													66
I-16								2				1	1		1								I-16	5		5 ✓	Each	Manholes Abandoned	67
I-16						2	4	8	2			2	3	4	3								I-16	28		28 ✓	Each	Catch Basins Abandoned	68
																													69
																													70

GENERAL SUMMARY TYPE CODE 7221

1963 SPECIFICATIONS

MAR-23-11.05
MAR-23D-0.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

ITEM NO.	Normal Participation 6	7	11	12	14	15	16	17	31	36	37	38	39	113	100% City Participation 6	14	15	36	37	113	Participation ITEM	NORMAL	100% CITY	PROJECT TOTAL	UNIT	DESCRIPTION	Reference Number
																										PAVEMENT	71
																											72
B-35			310.8	263	10.4	17.3	18.4	6.0		10.5	16.3	13.0	5.0								B-35	434		434	Cu. Yds.	Asphaltic Concrete Leveling Course (70-85)	73
B-70					183.9	302.5	357.3	77.3		192.7	282.1	225.6	53.6								B-70	1675		1675	Sq. Yds.	8" Portland Cement Concrete Base Course	74
B-70	120.0		6293.0	567.8	30.6	57.0	24.4	43.7		23.3	50.2	43.3	40.7								B-70	7294		7294	Sq. Yds.	9" Portland Cement Concrete Base Course	75
S-4														7120						7190	S-4	7120	7190	14310	Lbs.	Reinf. Steel for Prefabricated Bar or Rod Mats, as per plan	76
I-7					78		78			78		78									I-7	312		312	Sq. Yds.	Reinforced Concrete Approach Slabs (T=13")	77
I-22	20.0		1786.0	94.7	48.8	61.3	77.6	21.3		49.2	55.0	58.3	15.8								I-22	2288		2288	Cu. Yds.	Subbase Grading C or D, as per plan	78
																											79
T-30			631.0	59.7	21.5	35.8	37.9	10.4		21.7	33.4	26.7	9.9								T-30	888		888	Gals.	BITUMINOUS TACK COAT SEC. M5.5, MS-2 or RS-1 or SEC. M5.2, RC-1, RC2 as per Sec. T-30.02	80
T-35			228.8	20.3	7.5	12.3	13.2	4.6		7.5	11.6	9.3	2.9								T-35	318		318	Cu. Yds.	Asphaltic Concrete Surface Course, Type C (70-85)	81
T-70												12									T-70	12		12	Sq. Yds.	7" Portland Cement Concrete Pavement	82
T-71			2010																		T-71	2010		2010	Sq. Yds.	9" Reinforced Portland Cement Concrete Pavement	83
T-71			686																		T-71	686		686	Sq. Yds.	9" Reinforced Portland Cement Concrete Pavement, as per plan	84
																											85
I-21					35.8	9.6					9.6										I-21	55		55	Sq. Yds.	Std. Portland Cement Concrete Median Pavement, as per plan	86
I-23				25																	I-23	25		25	Each	Precast White Portland Cement Concrete Traffic Dividers	87
																											88
I-12										46											I-12	46		46	lin. ft.	Standard Type 2-A Concrete Curb, Modified as per plan	89
I-12				1960		120		39													I-12	2119		2119	lin. ft.	Standard Type 2-B Concrete Curb	90
I-12				963.1	596.3	634.2	846.1	634.5		587.8	668.4	823.2	462.4								I-12	6216		6216	lin. ft.	Standard Type 2-B Concrete Curb, Modified as per plan	91
I-12				134																	I-12	134		134	lin. ft.	Standard Type 6 Concrete Curb, Modified as per plan	92
																											93
S-25																				lump	S-25		lump	lump	lump	Roadway and Deck Heating as per plan	94
																											95
																											96
																					For Estimated Quantities See Sheet No. 59					**Basement Reconstruction**	97
																											98
																											99
																											100
																					For Estimated Quantities See Sheet No. 106					Lighting	101
																					For Estimated Quantities See Sheet No. 108					Traffic Control Devices	102
																											103
																											104
																					For Estimated Quantities See Sheet No. 83					Retaining Walls	105
																											106
																											107
																											108
																										STRUCTURES OVER 20 FOOT SPAN	109
																											110
																					For Estimated Quantities See Sheet No. 74					MAR-23-11.09 State Street	111
																					For Estimated Quantities See Sheet No. 96					MAR-23D-0.091 Prospect Street	112
																											113
																											114
																											115
	Lump																					Lump		Lump	Lump	Field Office	116
		lump																				Lump		Lump	Lump	Construction Layout Stakes	117
I-3		lump																			I-3	Lump		Lump	Lump	Maintaining Traffic	118
																											119
																											120
																											121
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GENERAL SUMMARY

1965 SPECIFICATIONS

Type Code 7221
⊗ Type Code Y005
Δ Type Code Y060

MAR-23-11.05
MAR-23D-0.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

10-A
12.2

Reference No. From Sheet No. 9	Item	Participation Normal	Participation 100% City	Project Total	Unit	Description
1						ROADWAY
2						
3	203	2757		2757	Cu. Yds.	Excavation Including Embankment Construction, as per plan
4	203	8775		8775	Sq. Yds.	Subgrade Preparation
5						
6						
7	203	1819		1819	Cu. Yds.	Borrow
8	202	3961		3961	Sq. Yds.	Existing Pavement Removed & Disposed of
9	202	4887		4887	Lin. Ft.	Existing Curb Removed & Disposed of
10	202	33,480		33,480	Sq. Ft.	Existing Sidewalk Removed & Disposed of
11						
12						
13	201	Lump Sum		Lump Sum	Lump Sum	Clearing and Grubbing
14	203	31		31	M Gal.	Water
15						
16	Special	Lump Sum		Lump Sum	Lump Sum	Galvanized Flush Floor Hatch and Frame
17	602	10		10	Cu. Yds.	Masonry, as per plan
18						
19						
20	659	0.16		0.16	Ton	⊗ Commerical Fertilizer (12-12-12)
21	660	1725		1725	Sq. Yds.	⊗ Sodding
22						
23						
24	608	19,708		19,708	Sq. Ft.	4" Concrete Walk
25	608	642		642	Sq. Ft.	4" Concrete Walk, as per plan
26	608	68		68	Lin. Ft.	Concrete Steps, as per plan
27						
28	616	4		4	Tons	Calcium Chloride
29	410	200		200	Cu. Yds.	Traffic Compacted Surface, Type "A" or "B"
30						
31	511	498		498	Cu. Yds.	Class "E" Concrete, for Structures
32	509	1780		1780	Lbs.	Reinforcing Steel
33	202	Lump Sum		Lump Sum	Lump Sum	Portions of Existing Structures Removed
34						
35						
36						DRAINAGE
37						
38	603		200	200	Lin. Ft.	Δ 4" Conduit, Type "B" 706.08 (Sanitary) with Compression Joints, with Class B Bedding
39	603		200	200	Lin. Ft.	Δ 6" Conduit, Type "B" 706.08 (Sanitary) with Compression Joints, with Class B Bedding
40	603		1953	1953	Lin. Ft.	Δ 8" Conduit, Type "B" 706.08 (Sanitary) with Compression Joints, with Class B Bedding
41						
42	603	290		290	Lin. Ft.	8" Conduit, Type "B" 706.02 Class V or 706.08 with Class B Bedding
43						
44	603	1038		1038	Lin. Ft.	12" Conduit, Type "B" With Class "B" Bedding
45	603	417		417	Lin. Ft.	15" Conduit, Type "B" With Class "B" Bedding
46						
47	603	40		40	Lin. Ft.	15" Conduit, Type "B", 706.02 Class V with Class B Bedding, Under Railroad, As per plan
48	603	56		56	Lin. Ft.	18" Conduit, Type "B", 706.02 Class V, with Class B Bedding, Under Railroad, As per plan
49	603	156		156	Lin. Ft.	24" Conduit, Type "B", 706.02 Class III or 706.08, with Class B Bedding
50	603	475		475	Lin. Ft.	18" Conduit, Type "B" With Class "B" Bedding
51	603	352		352	Lin. Ft.	21" Conduit, Type "B" With Class "B" Bedding
52	603	1252		1252	Lin. Ft.	24" Conduit, Type "B" With Class "B" Bedding
53	603	100		100	Lin. Ft.	4" Conduit, Type "E"
54						Included in Item 603
55						Included in Item 603
56						Included in Item 603
57						Included in Item 603
58						
59						Included in Item 603
60						
61	604	1		1	Each	Standard No. 6 Catch Basin
62	604	15		15	Each	Standard No. 3 Catch Basins
63	604	30		30	Each	Standard No. 3-A Catch Basins
64	604	11	16 Δ	27	Each	Standard No. 1 Manholes
65	604	2		2	Each	Manholes Adjusted to Grade
66						
67	202	5		5	Each	Manholes Removed
68	202	28		28	Each	Catch Basins Removed
69						
70						

Reference No. From Sheet No. 10	Item	Participation Normal	Participation 100% City	Project Total	Unit	Description
71						PAVEMENT
72						
73	402	434		434	Cu. Yds.	Asphalt Concrete (70-85)
74	305	1675		1675	Sq. Yds.	8" Portland Cement Concrete Base
75	305	7294		7294	Sq. Yds.	9" Portland Cement Concrete Base
76	509	7120	7190	14,310	Lbs.	Prefabricated Bar or Rod Mats as per plan
77	611	312		312	Sq. Yds.	Reinforced Concrete Approach Slabs (T=13")
78	310	2288		2288	Cu. Yds.	Subbase Grading Cor D
79						
80	407	888		888	Gal.	Tack Coat: 702.04 MS-2 or RS-1; or 702.02 RC-70 or RC-250
81	404	318		318	Cu. Yds.	Asphalt Concrete (70-85)
82	452	12		12	Sq. Yds.	7" Plain Portland Cement Concrete Pavement
83	451	2010		2010	Sq. Yds.	9" Reinforced Portland Cement Concrete Pavement
84	451	686		686	Sq. Yds.	9" Reinforced Portland Cement Concrete Pavement as per plan
85						
86	612	55		55	Sq. Yds.	Concrete Median, Standard Mod. as per plan
87	613	25		25	Each	Traffic Dividers
88						
89	609	46		46	Lin. Ft.	Concrete Curb Standard Type "2-A" Mod., as per plan
90	609	2119		2119	Lin. Ft.	Concrete Curb Standard Type "2-B"
91	609	6216		6216	Lin. Ft.	Concrete Curb Standard Type "2-B", Mod., as per plan
92	609	134		134	Lin. Ft.	Concrete Curb Standard Type "6"
93						
94	625		Lump Sum	Lump Sum	Lump Sum	Roadway and Deck Heating, as per plan
95						
96						
97						Basement Reconstruction, For Estimated Quantities See Sheet No. 59
98						
99						
100						
101						Lighting For Estimated Quantities See Sheet No. 106
102						Traffic Control Devices, For Estimated Quantities See Sheet No. 108
103						
104						
105						Retaining Walls, For Estimated Quantities See Sheet No. 83
106						
107						
108						
109						
110						STRUCTURES OVER 20 FOOT SPAN
111						MAR-23-11.09 State St., For Estimated Quantities See Sheet No. 74
112						MAR-23D-0091 Prospect St., For Estimated Quantities See Sheet No. 96
113						
114						
115						
116		Lump Sum		Lump Sum	Lump Sum	Field Office
117		Lump Sum		Lump Sum	Lump Sum	Construction Layout Stakes
118	614	Lump Sum		Lump Sum	Lump Sum	Maintaining Traffic
119						
120						
121						
122						
123						
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FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

11/22

MAR-23-11.05
MAR-23D-0.87

PAVEMENT CALCULATIONS

T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

STATE STREET

STA. 584 + 74.11 TO STA. 586 + 24.16	(BETWEEN RETAINING WALLS) 4201.4 ÷ 9	=	466.8	SQ. YDS.
STA. 594 + 79.98 TO STA. 596 + 94.03	(BETWEEN RETAINING WALLS) 5993.4 ÷ 9	=	665.9	SQ. YDS.

PROSPECT STREET

STA. 594 + 70.68 TO STA. 597 + 52.73	(BETWEEN RETAINING WALLS) 7897.4 ÷ 9	=	877.5	SQ. YDS.
TOTAL		=	2,010.2	SQ. YDS.
TO GENERAL SUMMARY		=	2,010.0	SQ. YDS.

T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN

PROSPECT STREET

STA. 584 + 25.60 TO STA. 586 + 22.97	(BETWEEN RETAINING WALLS) 6176.6 ÷ 9	=	686.3	SQ. YDS.
TO GENERAL SUMMARY		=	686	SQ. YDS.

T-35 ASPHALTIC CONCRETE SURFACE COURSE, TYPE C (70-85)

STATE STREET

STA. 584 + 27.6 TO STA. 584 + 74.11	2900 X 1.25 ÷ 324	=	11.20	CU. YDS.
STA. 584 + 74.11 TO STA. 586 + 51.88	3555.4 X 1.25 ÷ 324	=	13.72	CU. YDS.
STA. 586 + 51.88 TO STA. 589 + 03.33	3976.2 X 1.25 ÷ 324	=	15.34	CU. YDS.
STA. 589 + 12.33 TO STA. 590 + 54.07	1587.4 X 1.25 ÷ 324	=	6.12	CU. YDS.
STA. 590 + 76.28 TO STA. 592 + 04.60	(RT. SIDE) 718.6 X 1.25 ÷ 324	=	2.77	CU. YDS.
STA. 592 + 04.60 TO STA. 594 + 52.26	(RT. SIDE) 2575.7 X 1.25 ÷ 324	=	9.94	CU. YDS.
STA. 590 + 76.28 TO STA. 592 + 15.10	(LT. SIDE) 777.3 X 1.25 ÷ 324	=	3.00	CU. YDS.
STA. 592 + 15.10 TO STA. 594 + 52.26	(LT. SIDE) 2490.2 X 1.25 ÷ 324	=	9.61	CU. YDS.
STA. 594 + 52.26 TO STA. 596 + 94.03	4835.4 X 1.25 ÷ 324	=	18.67	CU. YDS.
STA. 596 + 94.03 TO STA. 598 + 00	5922 X 1.25 ÷ 324	=	22.85	CU. YDS.
STA. 598 + 00 TO STA. 598 + 21.80	(ADD FOR FEATHER AREA)	=	8.00	CU. YDS.
STA. 598 + 50.30 TO STA. 600 + 01.30	(RT. SIDE) 900 X 1.25 ÷ 324	=	3.47	CU. YDS.

PROSPECT STREET

STA. 584 + 50 TO STA. 586 + 50.73	4014.6 X 1.25 ÷ 324	=	15.48	CU. YDS.
STA. 586 + 50.73 TO STA. 589 + 02.30	3874.6 X 1.25 ÷ 324	=	14.95	CU. YDS.
STA. 589 + 11.30 TO STA. 590 + 52.40	2102.4 X 1.25 ÷ 324	=	8.11	CU. YDS.
STA. 590 + 75.62 TO STA. 592 + 14.60	(RT. SIDE) 1070.1 X 1.25 ÷ 324	=	4.13	CU. YDS.
STA. 592 + 14.60 TO STA. 594 + 42.96	(RT. SIDE) 2215.1 X 1.25 ÷ 324	=	8.55	CU. YDS.
STA. 590 + 75.62 TO STA. 594 + 42.96	(LT. SIDE) 3563.2 X 1.25 ÷ 324	=	13.75	CU. YDS.
STA. 594 + 42.96 TO STA. 597 + 52.73	3097.7 X 1.25 ÷ 324	=	23.90	CU. YDS.
STA. 597 + 52.73 TO STA. 598 + 16.50	2900 X 1.24 ÷ 324	=	11.19	CU. YDS.
STA. 597 + 90 TO STA. 598 + 19.2	(ADD FOR FEATHER AREA)	=	4.06	CU. YDS.
TOTAL		=	228.81	CU. YDS.
TO GENERAL SUMMARY		=	228.8	CU. YDS.

B-35 ASPHALTIC CONCRETE LEVELING COURSE, (70-85)

STATE STREET

STA. 584 + 27.6 TO STA. 594 + 74.11	2900 X 1.75 ÷ 324	=	15.70	CU. YDS.
STA. 584 + 74.11 TO STA. 586 + 51.88	3555.4 X 1.75 ÷ 324	=	19.21	CU. YDS.
STA. 586 + 51.88 TO STA. 589 + 03.33	3976.2 X 1.75 ÷ 324	=	21.48	CU. YDS.
STA. 589 + 12.33 TO STA. 590 + 54.07	1587.4 X 1.75 ÷ 324	=	8.57	CU. YDS.
STA. 590 + 76.28 TO STA. 592 + 04.60	(RT. SIDE) 718.6 X 1.75 ÷ 324	=	3.88	CU. YDS.
STA. 592 + 04.60 TO STA. 594 + 52.26	(RT. SIDE) 2575.7 X 1.75 ÷ 324	=	13.92	CU. YDS.
STA. 590 + 76.28 TO STA. 592 + 15.10	(LT. SIDE) 777.3 X 1.75 ÷ 324	=	4.20	CU. YDS.
STA. 592 + 15.10 TO STA. 594 + 52.26	(LT. SIDE) 2490.2 X 1.75 ÷ 324	=	13.45	CU. YDS.
STA. 594 + 52.26 TO STA. 596 + 94.03	4835.4 X 1.75 ÷ 324	=	26.16	CU. YDS.
STA. 596 + 94.03 TO STA. 598 + 00	5922.1 X 1.75 ÷ 324	=	32.00	CU. YDS.
STA. 598 + 00 TO STA. 598 + 21.80	(ADD FOR FEATHER AREA)	=	6.10	CU. YDS.
STA. 598 + 50.30 TO STA. 600 + 01.30	(RT. SIDE) 900 X 1.75 ÷ 324	=	4.86	CU. YDS.

PROSPECT STREET

STA. 584 + 50 TO STA. 586 + 50.73	4014.6 X 1.75 ÷ 324	=	21.68	CU. YDS.
STA. 586 + 50.73 TO STA. 589 + 02.30	3874.6 X 1.75 ÷ 324	=	20.93	CU. YDS.
STA. 589 + 11.30 TO STA. 590 + 52.40	2102.4 X 1.75 ÷ 324	=	11.35	CU. YDS.
STA. 590 + 75.62 TO STA. 592 + 14.60	(RT. SIDE) 1070.1 X 1.75 ÷ 324	=	5.78	CU. YDS.
STA. 592 + 14.60 TO STA. 594 + 42.96	(RT. SIDE) 2215.1 X 1.75 ÷ 324	=	11.97	CU. YDS.
STA. 590 + 75.62 TO STA. 594 + 42.96	(LT. SIDE) 3563.2 X 1.75 ÷ 324	=	19.25	CU. YDS.
STA. 594 + 42.96 TO STA. 597 + 52.73	3097.7 X 1.75 ÷ 324	=	33.46	CU. YDS.
STA. 597 + 52.73 TO STA. 598 + 16.50	2900 X 1.75 ÷ 324	=	15.67	CU. YDS.
STA. 597 + 90 TO STA. 598 + 19.2	(ADD FOR FEATHER AREA)	=	1.21	CU. YDS.
TOTAL		=	310.83	CU. YDS.
TO GENERAL SUMMARY		=	310.8	CU. YDS.

B-70 9" PORTLAND CEMENT CONCRETE BASE COURSE

STATE STREET

STA. 584 + 27.6 TO STA. 584 + 74.11	2960 ÷ 9	=	328.9	SQ. YDS.
STA. 584 + 74.11 TO STA. 586 + 51.88	3911 ÷ 9	=	434.6	SQ. YDS.
STA. 586 + 51.88 TO STA. 589 + 03.33	4228 ÷ 9	=	469.8	SQ. YDS.
STA. 589 + 12.33 TO STA. 590 + 54.07	1729.2 ÷ 9	=	192.0	SQ. YDS.
STA. 590 + 76.28 TO STA. 592 + 04.60	(RT. SIDE) 782.8 ÷ 9	=	87.0	SQ. YDS.
STA. 592 + 04.60 TO STA. 594 + 52.26	(RT. SIDE) 2609.6 ÷ 9	=	290.0	SQ. YDS.
STA. 590 + 76.28 TO STA. 592 + 15.10	(LT. SIDE) 846.7 ÷ 9	=	94.1	SQ. YDS.
STA. 592 + 15.10 TO STA. 594 + 52.26	(LT. SIDE) 2608.8 ÷ 9	=	289.9	SQ. YDS.
STA. 594 + 52.26 TO STA. 596 + 94.03	5319 ÷ 9	=	591.0	SQ. YDS.
STA. 596 + 94.03 TO STA. 598 + 00	3466.6 ÷ 9	=	385.2	SQ. YDS.
STA. 598 + 00 TO STA. 598 + 21.8	696 ÷ 9	=	77.3	SQ. YDS.
STA. 598 + 50.3 TO STA. 600 + 01.3	(RT. SIDE) 980 ÷ 9	=	108.9	SQ. YDS.

PROSPECT STREET

STA. 584 + 50 TO STA. 586 + 50.73	(RT. SIDE) 2208 ÷ 9	=	245.3	SQ. YDS.
STA. 585 + 68 TO STA. 586 + 50.73	(LT. SIDE) 910 ÷ 9	=	101.1	SQ. YDS.
STA. 586 + 50.73 TO STA. 589 + 02.30	4126.2 ÷ 9	=	458.5	SQ. YDS.
STA. 589 + 11.30 TO STA. 590 + 52.40	2243.5 ÷ 9	=	249.3	SQ. YDS.
STA. 590 + 75.62 TO STA. 592 + 14.60	(RT. SIDE) 1139.5 ÷ 9	=	126.6	SQ. YDS.
STA. 592 + 14.60 TO STA. 594 + 42.96	(RT. SIDE) 2329.3 ÷ 9	=	258.8	SQ. YDS.
STA. 590 + 75.62 TO STA. 594 + 42.96	(LT. SIDE) 3746.9 ÷ 9	=	416.3	SQ. YDS.
STA. 594 + 42.96 TO STA. 597 + 52.73	6815.0 ÷ 9	=	757.2	SQ. YDS.
STA. 597 + 52.73 TO STA. 598 + 16.50	2977.5 ÷ 9	=	330.8	SQ. YDS.
TOTAL		=	6,292.6	SQ. YDS.
TO GENERAL SUMMARY		=	6,293	SQ. YDS.

I-22 6" SUBBASE, GRADING C OR D

STATE STREET

STA. 584 + 27.60 TO STA. 584 + 74.11	3083.4 ÷ 54	=	57.1	CU. YDS.
STA. 584 + 74.11 TO STA. 586 + 24.16	(BETWEEN RETAINING WALLS) 4201.4 ÷ 54	=	77.8	CU. YDS.
STA. 584 + 74.11 TO STA. 586 + 51.88	5956.2 ÷ 54	=	110.3	CU. YDS.
STA. 586 + 51.88 TO STA. 589 + 03.33	4708.8 ÷ 54	=	87.2	CU. YDS.
STA. 589 + 12.33 TO STA. 590 + 54.07	2014.2 ÷ 54	=	37.3	CU. YDS.
STA. 590 + 76.28 TO STA. 592 + 04.60	(RT. SIDE) 912.6 ÷ 54	=	16.9	CU. YDS.
STA. 592 + 04.60 TO STA. 594 + 52.26	(RT. SIDE) 2948.4 ÷ 54	=	54.6	CU. YDS.
STA. 590 + 76.28 TO STA. 592 + 15.10	(LT. SIDE) 988.2 ÷ 54	=	18.3	CU. YDS.
STA. 592 + 15.10 TO STA. 594 + 52.26	(LT. SIDE) 2845.8 ÷ 54	=	52.7	CU. YDS.
STA. 594 + 52.26 TO STA. 596 + 94.03	8100 ÷ 54	=	150.0	CU. YDS.
STA. 596 + 94.03 TO STA. 598 + 00	3838.5 ÷ 54	=	71.1	CU. YDS.
STA. 598 + 00 TO STA. 598 + 21.80	766.8 ÷ 54	=	14.2	CU. YDS.
STA. 598 + 50.30 TO STA. 600 + 01.30	(RT. SIDE) 1139.4 ÷ 54	=	21.1	CU. YDS.
STA. 594 + 79.98 TO STA. 596 + 94.03	(BETWEEN RETAINING WALLS) 5993.4 ÷ 54	=	111.0	CU. YDS.

PROSPECT STREET

STA. 584 + 25.60 TO STA. 584 + 31.51	400 ÷ 54	=	7.4	CU. YDS.
STA. 584 + 31.50 TO STA. 584 + 72.96	1577.5 ÷ 54	=	29.2	CU. YDS.
STA. 584 + 72.96 TO STA. 586 + 22.97	(BETWEEN RETAINING WALLS) 4200.3 ÷ 54	=	77.8	CU. YDS.
STA. 584 + 50 TO STA. 586 + 50.73	(Rt. SIDE) 3358.8 ÷ 54	=	62.2	CU. YDS.
STA. 584 + 31.50 TO STA. 586 + 50.73	(LT. SIDE) 2921.4 ÷ 54	=	54.1	CU. YDS.
STA. 586 + 50.73 TO STA. 589 + 02.30	4627.8 ÷ 54	=	85.7	CU. YDS.
STA. 589 + 11.30 TO STA. 590 + 52.40	2521.8 ÷ 54	=	46.7	CU. YDS.
STA. 590 + 75.62 TO STA. 592 + 14.60	(RT. SIDE) 1279.8 ÷ 54	=	23.7	CU. YDS.
STA. 592 + 14.60 TO STA. 594 + 42.96	(RT. SIDE) 2554.2 ÷ 54	=	47.3	CU. YDS.
STA. 590 + 75.62 TO STA. 594 + 42.96	(LT. SIDE) 4114.8 ÷ 54	=	76.2	CU. YDS.
STA. 594 + 42.96 TO STA. 597 + 52.73	10368.0 ÷ 54	=	192.0	CU. YDS.
STA. 597 + 52.73 TO STA. 598 + 16.50	3132.0 ÷ 54	=	58.0	CU. YDS.
STA. 594 + 70.68 TO STA. 597 + 52.73	(BETWEEN RETAINING WALLS) 7897.4 ÷ 54	=	146.2	CU. YDS.
TOTAL		=	1,786.1	CU. YDS.
TO GENERAL SUMMARY		=	1,786.0	CU. YDS.

T-30 BITUMINOUS TACK COAT

STATE STREET

STA. 584 + 27.6 TO STA. 584 + 74.11	2900 X 0.10 ÷ 9	=	32.2	GALS.
STA. 584 + 74.11 TO STA. 586 + 51.88	3555.4 X 0.10 ÷ 9	=	39.5	GALS.
STA. 586 + 51.88 TO STA. 589 + 03.33	1988.1 X 0.10 ÷ 9	=	44.2	GALS.
STA. 589 + 12.33 TO STA. 590 + 54.07	1587.4 X 0.10 ÷ 9	=	17.6	GALS.
STA. 590 + 76.28 TO STA. 592 + 04.60	(RT. SIDE) 718.6 X 0.10 ÷ 9	=	8.0	GALS.
STA. 592 + 04.60 TO STA. 594 + 52.26	(RT. SIDE) 2575.7 X 0.10 ÷ 9	=	28.6	GALS.
STA. 590 + 76.28 TO STA. 592 + 15.10	(LT. SIDE) 777.3 X 0.10 ÷ 9	=	8.6	GALS.
STA. 592 + 15.10 TO STA. 594 + 52.26	(LT. SIDE) 2490.2 X 0.10 ÷ 9	=	27.7	GALS.
STA. 594 + 52.26 TO STA. 596 + 94.03	4835.4 X 0.10 ÷ 9	=	53.7	GALS.
STA. 596 + 94.03 TO STA. 598 + 00	5922 X 0.10 ÷ 9	=	65.8	GALS.
STA. 598 + 00 TO STA. 598 + 21.80	660 X 0.10 ÷ 9	=	7.3	GALS.
STA. 598 + 50.30 TO STA. 600 + 01.30	(RT. SIDE) 900 X 0.10 ÷ 9	=	10.0	GALS.

T-30 BITUMINOUS TACK COAT CONTINUED

PROSPECT STREET

STA. 584 + 50 TO STA. 586 + 50.73	4014.6 X 0.10 ÷ 9	=	44.6	GALS.
STA. 586 + 50.73 TO STA. 589 + 02.30	3874.6 X 0.10 ÷ 9	=	43.1	GALS.
STA. 589 + 11.30 TO STA. 590 + 52.40	2102.4 X 0.10 ÷ 9	=	23.4	GALS.
STA. 590 + 75.62 TO STA. 592 + 14.60	(RT. SIDE) 1070.1 X 0.10 ÷ 9	=	11.9	GALS.
STA. 592 + 14.60 TO STA. 594 + 42.96	(RT. SIDE) 2215 X 0.10 ÷ 9	=	24.6	GALS.
STA. 590 + 75.62 TO STA. 594 + 42.96	(LT. SIDE) 3563.2 X 0.10 ÷ 9	=	39.6	GALS.
STA. 594 + 42.96 TO STA. 597 + 52.73	6195.4 X 0.10 ÷ 9	=	68.8	GALS.
STA. 597 + 52.73 TO STA. 598 + 16.50	2900 X 0.10 ÷ 9	=	32.2	GALS.
TOTAL		=	631.4	GALS.
TO GENERAL SUMMARY		=	631	GALS.

E-1 COMPACTED SUBGRADE

STATE STREET

STA. 584 + 74.11 TO STA. 586 + 48.71	(BETWEEN RETAINING WALLS) 4888.8 ÷ 9	=	543.2	SQ. YDS.
STA. 584 + 27.6 TO STA. 584 + 74.11	2900 ÷ 9	=	322.2	SQ. YDS.
STA. 584 + 74.11 TO STA. 586 + 51.88	3555.4 ÷ 9	=	395.0	SQ. YDS.
STA. 586 + 51.88 TO STA. 589 + 03.33	3976.2 ÷ 9	=	441.8	SQ. YDS.
STA. 589 + 12.33 TO STA. 590 + 54.07	1587.4 ÷ 9	=	176.4	SQ. YDS.
STA. 590 + 76.28 TO STA. 592 + 04.60	(RT. SIDE) 718.6 ÷ 9	=	79.8	SQ. YDS.
STA. 592 + 04.60 TO STA. 594 + 52.26	(RT. SIDE) 2575.7 ÷ 9	=	286.2	SQ. YDS.
STA. 590 + 76.28 TO STA. 592 + 15.10	(LT. SIDE) 777.3 ÷ 9	=	86.4	SQ. YDS.
STA. 592 + 15.10 TO STA. 594 + 52.26	(LT. SIDE) 2490.2 ÷ 9	=	276.7	SQ. YDS.
STA. 594 + 52.26 TO STA. 596 + 94.03	4835.4 ÷ 9	=	537.3	SQ. YDS.
STA. 596 + 94.03 TO STA. 598 + 00	5922 ÷ 9	=	658.0	SQ. YDS.
STA. 598 + 00 TO STA. 598 + 21.8	(EXCLUDE FEATHER AREA) 660 ÷ 9	=	73.3	SQ. YDS.
STA. 596 + 50.30 TO STA. 600 + 01.30	(RT. SIDE) 900 ÷ 9	=	100.0	SQ. YDS.
STA. 594 + 55.43 TO STA. 596 + 94.03	(BETWEEN RETAINING WALLS) 6680.8 ÷ 9	=	742.3	SQ. YDS.
ADD FOR SIDE STREETS AND ALLEYS			756.0	SQ. YDS.

PROSPECT STREET

STA. 584 + 25.60 TO STA. 586 + 47.56	(BETWEEN RETAINING WALL) 6865 ÷ 9	=	762.8	SQ. YDS.
STA. 584 + 50 TO STA. 586 + 50.73	4014.6 ÷ 9	=	446.1	SQ. YDS.
STA. 586 + 50.73 TO STA. 589 + 02.30	3874.6 ÷ 9	=	430.5	SQ. YDS.
STA. 589 + 11.30 TO STA. 590 + 52.40	2102.4 ÷ 9	=	233.6	SQ. YDS.
STA. 590 + 75.62 TO STA. 592 + 14.60	(RT. SIDE) 1070.1 ÷ 9	=	118.9	SQ. YDS.
STA. 592 + 14.60 TO STA. 594 + 42.96	(RT. SIDE) 2215.1 ÷ 9	=	246.1	SQ. YDS.
STA. 590 + 75.62 TO STA. 594 + 42.96	(LT. SIDE) 3563.2 ÷ 9	=	395.9	SQ. YDS.
STA. 594 + 42.96 TO STA. 597 + 52.73	3097.7 ÷ 9	=	344.2	SQ. YDS.
STA. 597 + 52.73 TO STA. 598 + 16.50	2900 ÷ 9	=	322.2	SQ. YDS.
STA. 594 + 71.13 TO STA. 597 + 52.73	(BETWEEN RETAINING WALLS) 7884.8 ÷ 9	=	876.1	SQ. YDS.
ADD FOR SIDE STREETS AND ALLEYS	5302 ÷ 9	=	589.1	SQ. YDS.
TOTAL		=	8,724.9	SQ. YDS.
TO GENERAL SUMMARY		=	8,775.0	SQ. YDS.

E-8 PAVEMENT REMOVAL

STATE STREET

STA. 584 + 27.6 TO STA. 585 + 00	2914 ÷ 9	=	323.8	SQ. YDS.
STA. 584 + 73.11 TO STA. 584 + 82.34	9.23 X 11 ÷ 9	=	11.3	SQ. YDS.
STA. 584 + 82.34 TO STA. 585 + 14.34	32 X 9 ÷ 9	=	32.0	SQ. YDS.
STA. 585 + 14.34 TO STA. 585 + 78.34	64 X 7 ÷ 9	=	49.8	SQ. YDS.
STA. 585 + 78.34 TO STA. 586 + 55.38	77 X 5 ÷ 9	=	42.8	SQ. YDS.
STA. 596 + 50 TO STA. 597 + 30	2604 ÷ 9	=	289.3	SQ. YDS.

PROSPECT STREET

STA. 584 + 25.6 TO STA. 585 + 10	(CENTER) 3153 ÷ 9	=	350.3	SQ. YDS.
STA. 584 + 73.19 TO STA. 585 + 13.19	(RT. AND LT. SIDE) 260 ÷ 9	=	28.9	SQ. YDS.
STA. 585 + 13.19 TO STA. 585 + 77.19	(RT. AND LT. SIDE) 166 ÷ 9	=	18.4	SQ. YDS.
STA. 595 + 16.50 TO STA. 595 + 80.50	(RT. SIDE) 64 ÷ 9	=	7.1	SQ. YDS.
STA. 595 + 80.50 TO STA. 596 + 44.50	(RT. SIDE) 128 ÷ 9	=	14.2	SQ. YDS.
STA. 596 + 44.50 TO STA. 597 + 53.73	(RT. AND LT. SIDE) 350 ÷ 9	=	38.9	SQ. YDS.
STA. 596 + 75 TO STA. 597 + 90	(CENTER) 3740 ÷ 9	=	415.6	SQ. YDS.
TOTAL		=	1,622.4	SQ. YDS.
TO GENERAL SUMMARY		=	1,622.4	SQ. YDS.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

12
12.2

MAR-23-11.05
MAR-23D-0.87

PAVEMENT CALCULATIONS

STATE STREET
PAVEMENT AND BASE REPLACEMENT, CURB AND SIDEWALK QUANTITIES

Pier or Abutment	Replacement Area Dimensions Piers W	L	T-35 1 1/4" Asphaltic Concrete Surface Course	B-35 1 3/4" Asphaltic Concrete Level Course	B-70 9" Port. Cement Concrete Base Course	I-22 6" Subbase	T-30 Bitum. Tack Coat	I-12 Concrete Curb Std. Type 2-B (Mod.)	I-12 Concrete Curb Std. Type 2-B	I-12 Concrete Curb Std. Type 6 (Mod.)	I-13 4" Conc. Sidewalk	Ref. Sheet
			Cu. Yds.	Cu. Yds.	Sq. Yds.	Cu. Yds.	Gals.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Ft.	
Rear Abut.			0.51	0.71	14.6	2.4	1.5		393.0		391.0	12
Pier #1	17.0	11.0	0.45	0.43	8.8	1.4	1.3	40.8			64.5	14
#2	15.0	10.0	0.31	0.43	8.9	1.5	0.9	32.8			26.6	14
#3	18.5	12.0	0.59	0.62	12.7	2.8	1.7	40.8			64.5	14
#4	15.0	10.0	0.31	0.43	8.9	1.5	0.9	32.8			26.6	15
#5	21.0	10.0	0.68	0.75	17.3	3.0	2.0	41.7			36.5	15
#6	15.0	10.0	0.31	0.43	8.9	1.5	0.9	32.8			26.6	15
#7	18.5	12.0	0.59	0.82	16.9	2.8	1.7	32.8			26.6	15
#8	17.0	13.5	0.57	0.80	16.4	2.7	1.7	29.1			65.4	15
#9	18.5	12.0	0.42	0.59	12.1	2.0	1.2			67	232.1	15
#10	15.0	10.0	0.31	0.43	8.9	1.5	0.9	32.8			26.6	15
#11	18.5	12.0	0.59	0.62	12.7	2.0	1.7	40.8			64.5	16
#12	15.0	10.0	0.31	0.43	8.9	1.5	0.9	32.8			26.6	16
#13	17.0	11.0	0.45	0.63	13.0	2.2	1.3	32.8			26.6	16
#14	14.0	9.0	0.22	0.31	6.2	1.0	0.6	32.8			26.6	16
Pier #15	15.0	11.0	0.37	0.52	10.6	1.8	1.1	32.8			26.6	16
Forwd. Abut.			0.51	0.71	14.6	2.4	1.5		520.0		516.0	16
Sub-Totals			7.50	9.66	200.4	33.2	21.8	488.4	913.0	67	1673.9	

PROSPECT STREET
PAVEMENT AND BASE REPLACEMENT, CURB AND SIDEWALK QUANTITIES

Pier or Abutment	Replacement Area Dimensions Piers W	L	T-35 1 1/4" Asphaltic Concrete Surface Course	B-35 1 3/4" Asphaltic Concrete Level Course	B-70 9" Port. Cement Concrete Base Course	I-22 6" Subbase	T-30 Bitum. Tack Coat	I-12 Concrete Curb Std. Type 2-B (Mod.)	I-12 Concrete Curb Std. Type 2-B	I-12 Concrete Curb Std. Type 6 (Mod.)	I-13 4" Conc. Sidewalk	Ref. Sheet
			Cu. Yds.	Cu. Yds.	Sq. Yds.	Cu. Yds.	Gals.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Ft.	
Rear Abut.			0.44	0.62	12.6	2.1	1.3		393.0		391.0	36
Pier #1	20.0	14.0	0.81	1.14	23.3	3.9	2.3	32.8			26.6	36
#2	20.0	11.0	0.58	0.81	16.7	2.8	1.7	32.8			26.6	36
#3	20.0	14.0	0.81	1.14	23.3	3.9	2.3	32.8			26.6	36
#4	20.0	11.0	0.58	0.81	16.7	2.8	1.7	32.8			26.6	37
#5	26.0	10.5	0.91	1.07	24.0	4.1	2.6	42.1			36.8	37
#6	20.0	11.0	0.58	0.81	16.7	2.8	1.7	32.8			26.6	37
#7	20.0	17.0	1.04	1.46	30.0	5.0	3.0	32.8			26.6	37
#8	20.0	13.5	0.72	1.01	20.9	3.5	2.9	39.0			83.4	37
#9	20.0	17.0	0.88	1.23	25.2	4.2	2.5			67	232.1	37
#10	20.0	11.0	0.58	0.81	16.7	2.8	1.7	32.8			26.6	37
#11	20.0	17.0	1.04	1.46	30.0	5.0	3.0	32.8			26.6	37
#12	20.0	11.0	0.58	0.81	16.7	2.8	1.7	32.8			26.6	38
#13	20.0	14.0	0.81	1.14	23.3	3.9	2.3	32.8			26.6	38
#14	20.0	11.0	0.58	0.81	16.7	2.8	1.7	32.8			26.6	38
Pier #15	20.0	14.0	0.81	1.14	23.3	3.9	2.3	32.8			26.6	38
Forward Abut.			0.44	0.62	12.6	2.1	1.3		654.0		652.0	38
Sub-Totals			12.19	15.75	348.7	58.1	36.0	472.7	1047.0	67	1714.5	
From Sub-Total Above			7.50	9.66	200.4	33.2	21.8	488.4	913.0	67	1673.9	
From Sub-Total Below			0.65	0.91	18.7	3.1	1.9					
Total - To General Summary			20.3	26.3	567.8	94.7	59.7	961.1	1960.0	134	3388.4	

PAVEMENT AND BASE REPLACEMENT FOR 8" BRIDGE STORM SEWER OUTLET PIPES

Street and Pier No.	T-35 1 1/4" Asphaltic Concrete Surface Course	B-35 1 3/4" Asphaltic Concrete Leveling Course	B-70 9" Port. Cement Concrete Base Course	I-22 6" Subbase	T-30 Bitum. Tack Coat
	Cu. Yds.	Cu. Yds.	Sq. Yds.	Cu. Yds.	Gals.
State #4	0.21	0.29	6.0	1.0	0.6
State #12	0.13	0.18	3.7	0.6	0.4
Prospect #4	0.17	0.24	5.0	0.8	0.5
Prospect #12	0.14	0.20	4.0	0.7	0.4
Sub-Total	0.65	0.91	18.7	3.1	1.9

STATE STREET
SIDEWALK AND CURB REMOVAL

Station to Station	E-8 Sidewalk Removal Sq. Ft.	E-8 Curb Removal Lin. Ft.
584 + 00 to 588 + 00	5,300.0	585.0
588 + 00 to 592 + 00	5,310.0	650.0
592 + 00 to 596 + 00	3,916.0	780.0
596 + 00 to 600 + 00	3,010.0	650.0
Sub-Total	17,536.0	2,665.0

PROSPECT STREET
SIDEWALK AND CURB REMOVAL

Station to Station	E-8 Sidewalk Removal Sq. Ft.	E-8 Curb Removal Lin. Ft.
584 + 00 to 588 + 00	7,131.0	670.0
588 + 00 to 592 + 00	3,220.0	363.0
592 + 00 to 596 + 00	3,250.0	718.0
596 + 00 to 600 + 00	2,158.0	422.0
Sub-Total	15,759.0	2,173.0
From Sub-Total Above	17,536.0	2,665.0
Total - To General Summary	33,295.0	4,838.0

Summary of Earthwork	Excavation Cu. Yds.	Embankment Cu. Yds.	L-10 Sodding Sq. Yds.
State Street	1,480	2,110	675
Deduct for Item E-8	- 190		
Sub-Total	1,290	2,110	675
Prospect Street	1,842	1,869	1,050
Deduct for Item E-8	- 375		
Sub-Total	1,467	1,869	1,050
From Sub-Total Above	1,290	2,110	675
E-1 Excavation (Total)	2,757		
Total Embankment		3,979	
Embankment + 15%		4,576	
Total Excav. Available		2,757	
E-4 Borrow (Total)		1,819	
L-10 Sodding (Total)			1,725

ITEM E-11 WATER

Volume from Earthwork Table
Embankment = 3,979 X 5 Gals - 1000 = 19.9 M. Gal.
Volume from General Summary
I-22 Subbase = 2,287 X 5 Gals - 1000 = 11.4 M. Gal.
Total = 31.3 M. Gal.
TO GENERAL SUMMARY = 31 M. Gal.

ITEM L-9 COMMERCIAL FERTILIZER (12-12-12)

Application rate = 20 lbs. / 1000 Sq. Ft.
9 X 1725 X 0.02 - 2000 = 0.16 Tons
TO GENERAL SUMMARY = 0.16 Tons

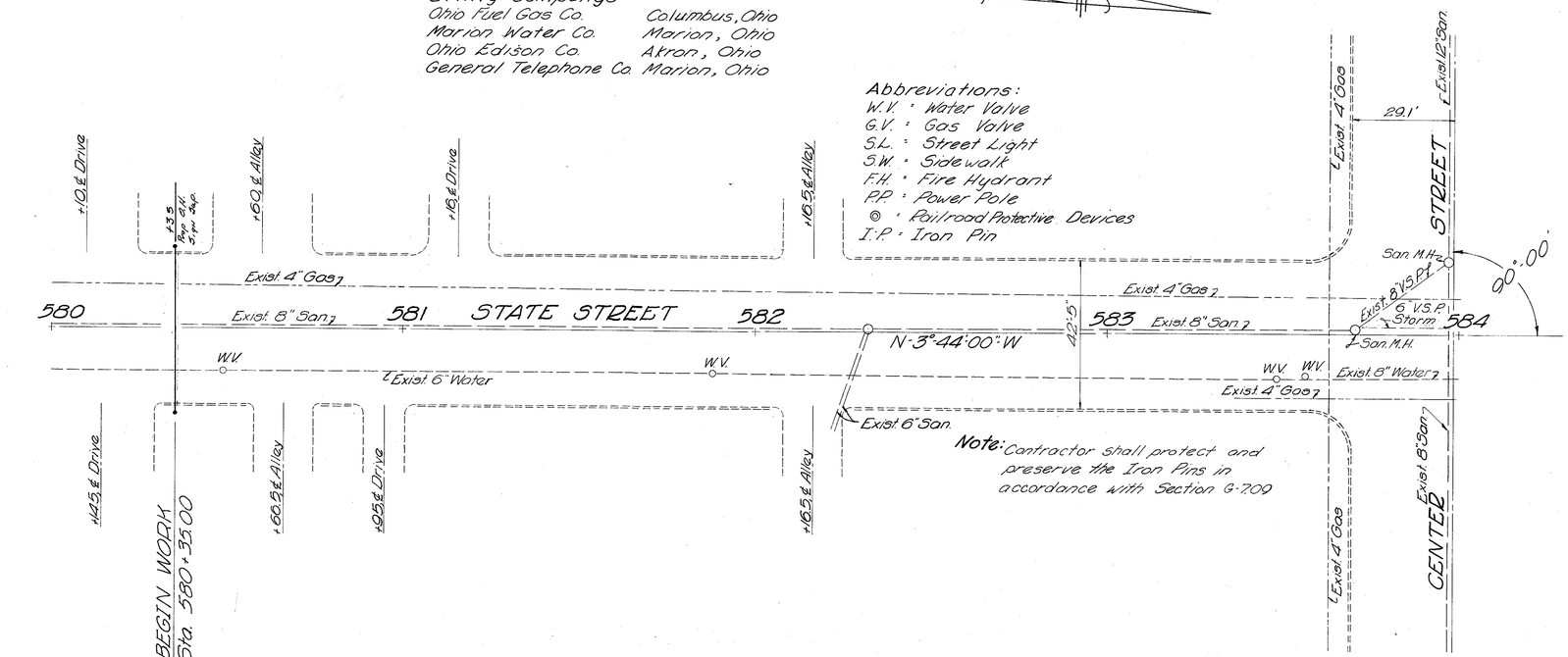
I-23 PRECAST WHITE PORTLAND CEMENT CONCRETE TRAFFIC DIVIDERS

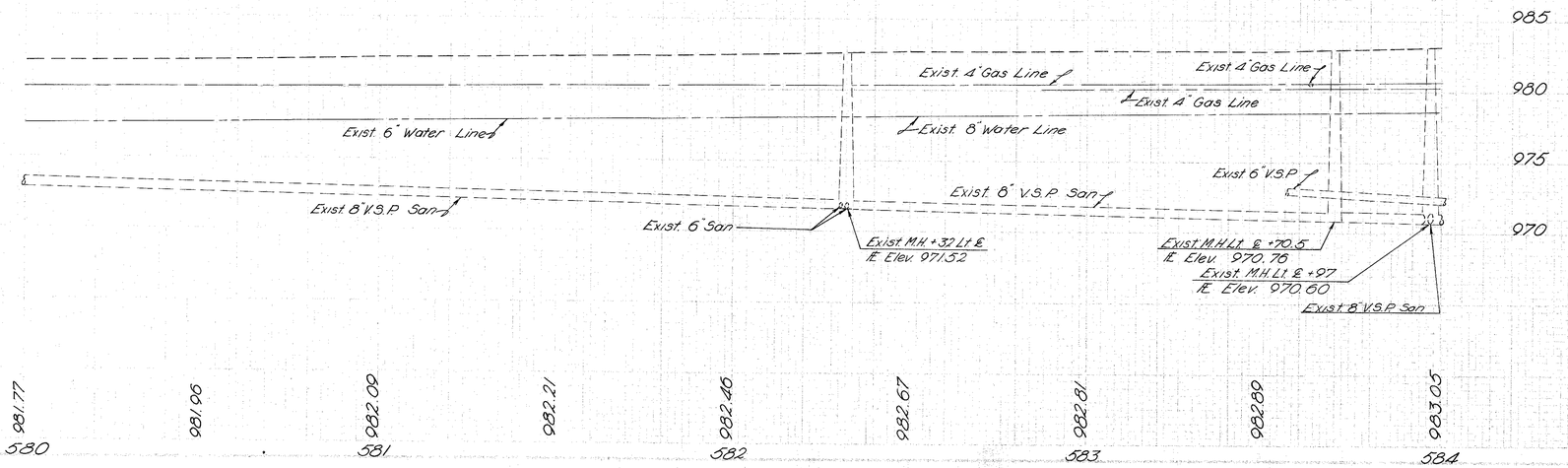
State Street Total = 18
Prospect Street Total = 7
Total = 25
TO GENERAL SUMMARY = 25 Each

MAR.-23- 11.05
MAR.-23 D-0.87

Utility Companys
Ohio Fuel Gas Co. Columbus, Ohio
Marion Water Co. Marion, Ohio
Ohio Edison Co. Akron, Ohio
General Telephone Co. Marion, Ohio

Abbreviations:
W.V. : Water Valve
G.V. : Gas Valve
S.L. : Street Light
S.W. : Sidewalk
F.H. : Fire Hydrant
P.P. : Power Pole
◎ : Railroad Protective Devices
I.P. : Iron Pin





STATE STREET - ST. 580+00.4 - ST. 584+00.0

U-636(10)

MAR-23-11.05
MAR-23D-087

14
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City of Marion Will Remove Parking Meters Upon Request of Contractor.

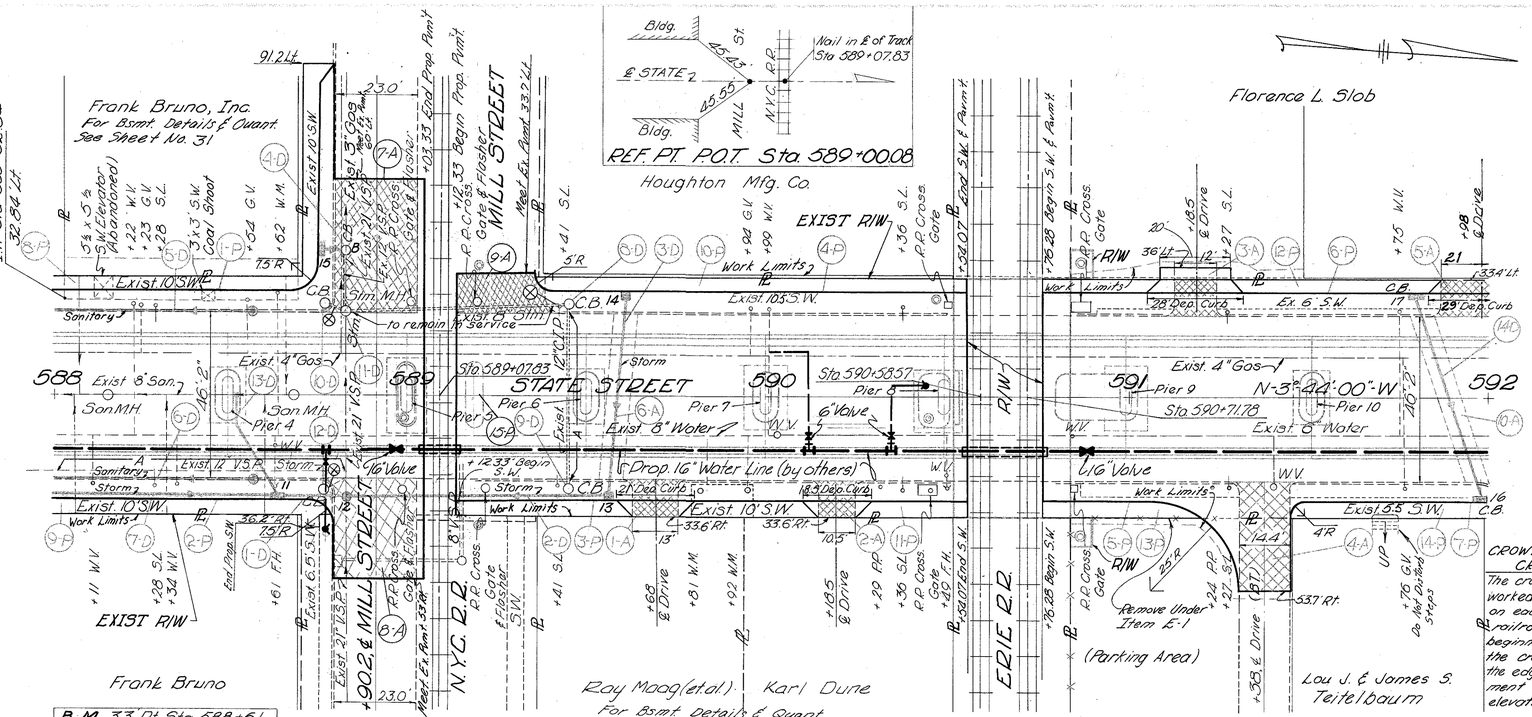
Note: 16" Water Line between Sta. 586+40 Lt. and Sta. 586+82 Rt. to be installed by others in conjunction with construction of Pier #1 and Abutment Foundation.
Profile of Prop. Water Line is top of pipe.

Ref. No.	Station to Station	Side	S-1 Concrete for Struct. Cu. Yds.	S-4 Reinf. Steel lbs.	S-22 Remov. of Part of Ex. Structure Lump	I-13 Concrete Steps as per plan Lin. Ft.
S-1	585+70	Rt			Lump	
S-2	585+90 to 586+16	Rt.	9.5	378	Lump	9
Totals			9.5	378	Lump	9

ESTIMATED QUANTITIES

Ref. No.	Station to Station	Side	I-12 Conc. Curb Type 2-B Mod. Lin. Ft.	I-13 4" Conc. Sidewalk Sq. Ft.	I-16 Catch Basins Aband. Each	I-8 Catch B. Std. No 3-A Each	I-8 Manholes Std. No 1 Each	I-1 Class B-1 8" Sec. M-6.6(b) or M-6.8(b) Lin. Ft.	I-1 Class B-1 12" Lin. Ft.	I-1 Class B-1 18" Lin. Ft.	I-1 Class B-1 21" Lin. Ft.	I-1 Class B-1 24" Lin. Ft.	T-35 1¼" Asph. Conc. Surf. C. Cu. Yds.	B-35 1¾" Asph. Conc. Level. & Course Cu. Yds.	B-70 8" Port. C. Conc. Base Sq. Yds.	I-22 6" Sub-base Cu. Yds.	T-30 Bitum. Tack Coat Gals.	E-8 Pvmt. Rem. Sq. Yds.	I-5 8" Pipe Spec. Cl. B-1 M-6.6(b) or M-6.8(b) 45° Bd. Each	I-5 8" Pipe Spec. Cl. B-1 M-6.6(b) or M-6.8(b) 15° Bd. Each	I-7 13" Reinf. Conc. Appr. Slab Sq. Yds.	I-21 Conc. Median as per plan Sq. Yds.	B-70 9" Port. C. Conc. Base Course Sq. Yds.	I-5 21"x8" Cl. B-1 Tee Each	100% City Participation I-8 Std. No 1 Manholes Each	100% City Participation I-1 8" Cl. B-1 Sec. M-6.8(b) Sanitary Lin. Ft.	
1-D	584+20 to 584+40	Rt.					1					26															32
2-D	584+40 to 584+45	Rt.				1			8																		32
3-D	584+40 to 585+60	Rt.				1						120															32
4-D	585+60 to 587+15	Rt.				1					155																32
5-D	587+15 to 587+43	Lt. & Rt.				1				62																	32
6-D	585+20 to 585+55	Lt.				1	1		135																		32
7-D	584+20 to 584+63	Lt. & Rt.				2			73																		32
8-D	584+25 to 588+00	Lt.																							3	384	
9-D	584+25 to 588+00	Rt.																							3	384	
10-D	587+35 to 588+00	Rt.					1		75																		32
11-D	584+26	Rt.			1																						
12-D	587+39	Rt.			1																						
13-D	586+50.7	Lt. & Rt.						40											1	1				1			32
1-A	585+79	Lt.											1.15	1.61	33.6	5.7	3.3	38.9									
2-A	585+79	Rt.											1.25	1.75	36.2	6.1	3.6	39.8									
3-A	587+28	Lt.											0.30	0.42	8.0	1.1	0.9	20.0									
4-A	587+28	Rt.											0.76	1.06	22.0	3.7	2.2	32.2									
5-A	587+91	Lt.											0.33	0.46	9.6	1.6	1.0	17.8									
6-A	584+27 to 584+39	Rt.											1.40	1.96	40.3	6.7	4.0	53.3									
7-A	584+58 to 584+93	Rt.											0.60	0.84	17.1	2.9	1.7	53.3									
8-A	585+27 to 585+65	Rt.											0.60	0.84	17.1	2.9	1.7	50.7									
9-A	587+15 to 587+43	Lt. & Rt.											1.06	1.48		5.1	3.1						30.6				
10-A	586+24.16 to 586+49.16	Lt. & Rt.														13.0					77.8						
1-P	584+27.6 to 585+10.7	Lt.	158.6																								
2-P	584+37.76 to 584+58.53	Rt.																				12.4					
3-P	584+93.23 to 585+23.30	Rt.																				14.4					
4-P	585+58.3 to 585+70.5	Rt.																				9.0					
5-P	585+87.2 to 587+19.8	Lt.	148.1																								
6-P	585+87.5 to 587+19.6	Rt.	150.3																								
7-P	587+36.2 to 588+00	Lt.	66.0																								
8-P	587+36.4 to 588+00	Rt.	73.3																								
9-P	584+27 to 585+65.8	Lt.		591.6																							
10-P																											
11-P	585+92.5 to 587+19.6	Rt.		611.8																							
12-P	585+87.2 to 587+19.7	Lt.		510.8																							
13-P	587+36.2 to 588+00	Lt.		173.9																							
14-P	587+36.4 to 588+00	Rt.		262.9																							
Totals			596.3	2151.0	2	7	3	40	291	62	155	146	7.45 7.5	10.42 10.4	183.9	48.8	21.5	306.0	1	1	77.8 78	35.8	30.6	1	6	768	

STATE STREET STA. 584+00 to STA. 588+00



MAR.-23-11.05
MAR.-23D-0.87

B.M. 33' Rt. Sta. 588+61
Chiseld □ on N.E. Corner
1st Step Res. Bldg. No. 161
Elev. 980.17

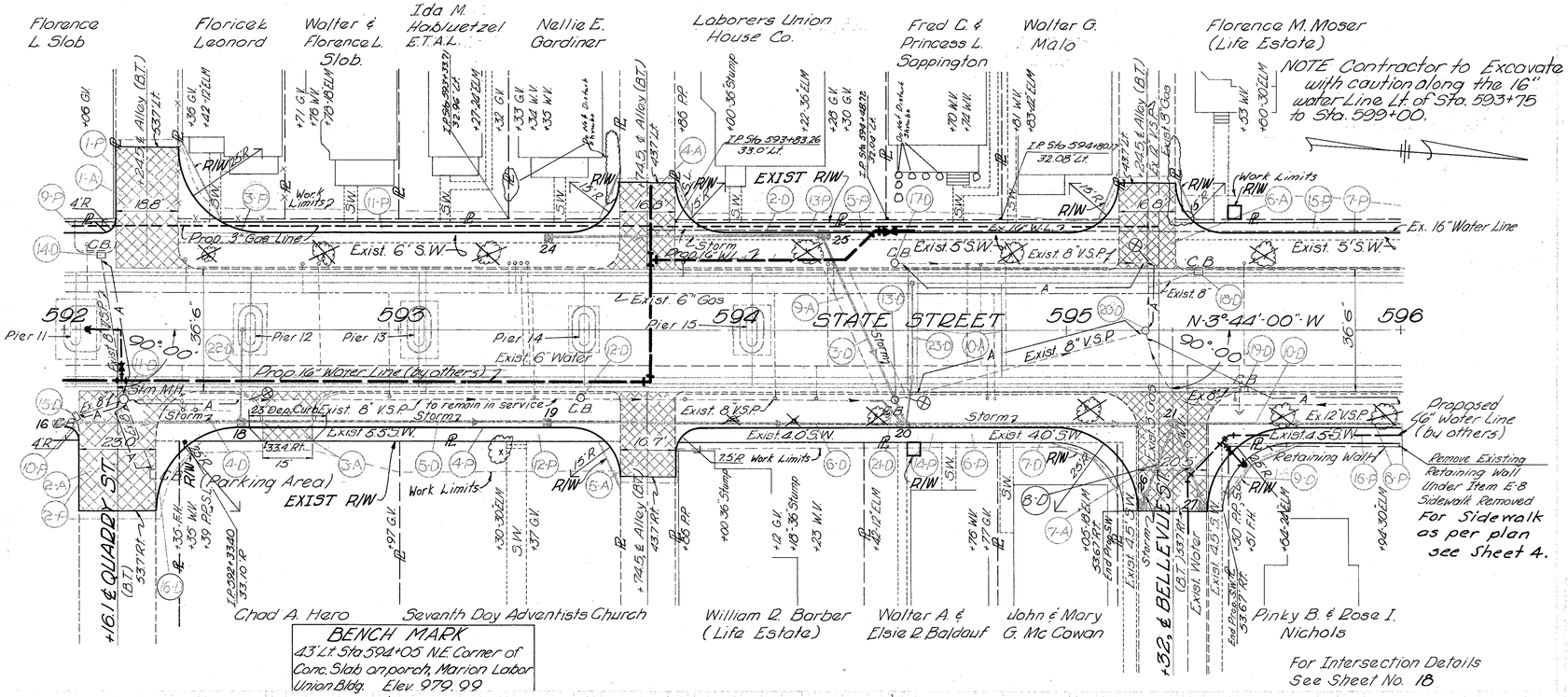
BRIDGE No. MAR-23-1109
TYPE - Prestressed Composite Box Beam Bridge W/Conc. Deck & Substructure
SPANS - (Approx. Lengths) 8@50'0" 4@52'0" 48'0"
DESIGN LOADING - S-20-60
ROADWAY - 28'-0" W/2'-0" Safety Curb
SKEW - None
WEARING SURFACE - 1" Monolithic
ALIGNMENT - Tangent
APPROACH SLABS - A 51 - 54 (25' Long)
RAILING - Conc. Parapet W/Alum. Railing & Post (Type 1)

CROWN AT RAILROAD CROSSING
The crown shall be worked out of the pvmt. on each side of the railroad crossing beginning 50 ft. from the crossing by raising the edge of the pavement to meet the rail elevation.

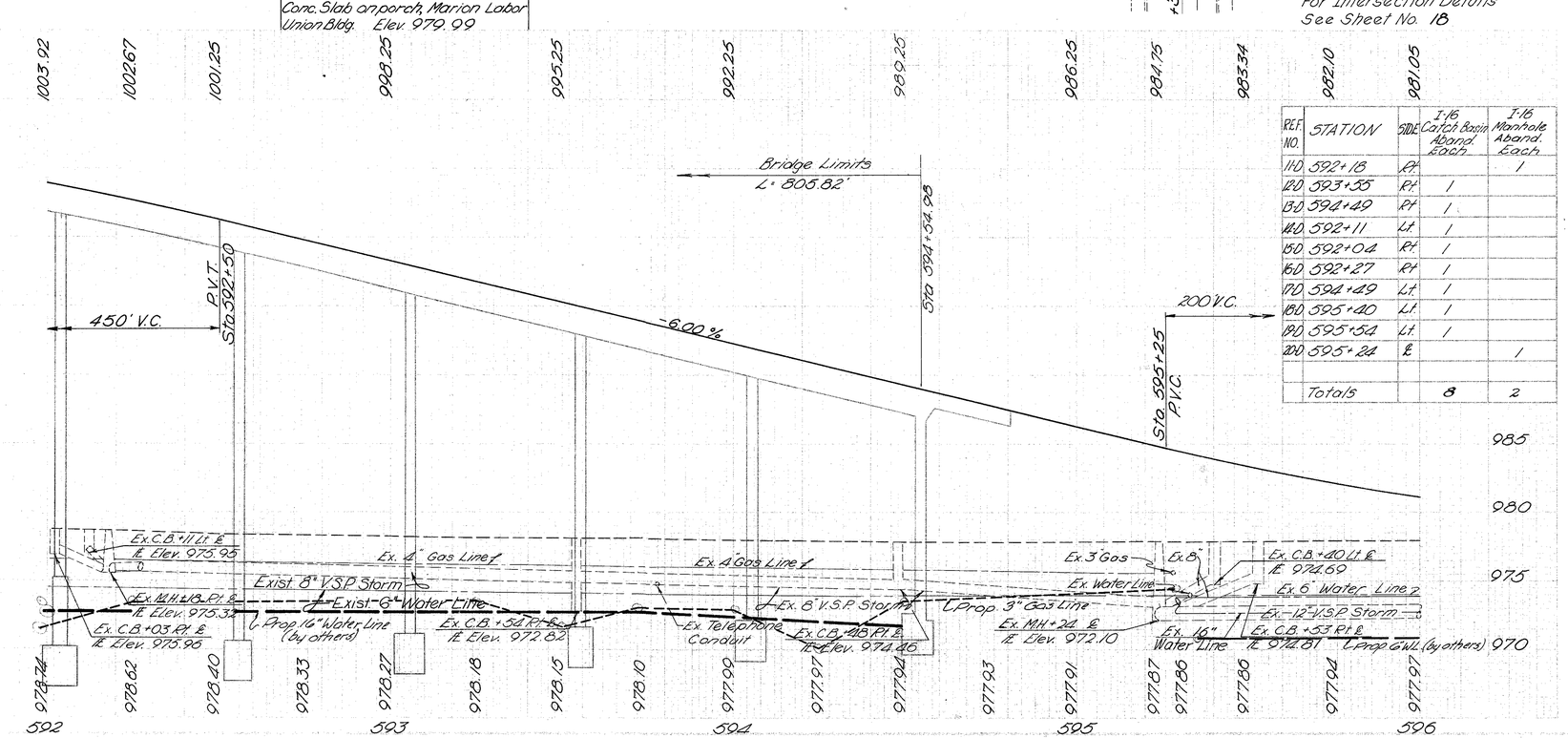
ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	I-12 Conc. Curb Type 2-B Mod. Lin. Ft.	I-13 4" Conc. Sidewalk Sq. Ft.	I-1 Class B-1 12" Lin. Ft.	I-1 Class B-1 15" Lin. Ft.	I-8 Catch Basins Std. No. 3 Each	I-8 Catch Basins Std. No. 3A Each	Manholes Std. No. 1 Each	I-12 Conc. Curb Std. Type 2-B Lin. Ft.	T-35 1¼" Asph. Conc. Surf. Course Cu. Yds.	B-35 1¾" Asph. Conc. Level Course Cu. Yds.	B-70 8" Port. C. Conc. Base Course Sq. Yds.	I-22 6" Subbase Cu. Yds.	T-30 Bitum. Tack Coat Gals.	E-8 Pvmt. Remov. Sq. Yds.	B-70 9" Port. C. Conc. Base Course Sq. Yds.	I-21 Port. Cement Conc. Median Sq. Yds.	I-5 8" Cl. B-1 Sec. M-6.6(b) or M-6.8(b) 30° Bd. Each	I-5 8" Cl. B-1 Sec. M-6.6(b) or M-6.8(b) 45° Bd. Each	I-1 8" Cl. B-1 M-6.6(b) or 6.8(b) Lin. Ft.	I-1 15" Under R.R. Cl. B-1 M-6.6(d) Lin. Ft.	I-16 Catch Basins Aband. Each	I-8 Manhole Adjust to Grade Each	100% City Participation I-1 8" Cl. B-1 Sec. M-6.8(b) Sanitary Lin. Ft.	100% City Participation I-8 Std. No. 1 MH. Each	SEE SHEET NO.
1-D	588+60 to 588+81	Rt.				21			1																		32
2-D	588+81 to 589+55	Rt.				34		1														40					32
3-D	589+55 to 589+60	Lt. & Rt.			58			1																			32
4-D	588+73.83 to 588+81	Lt.			7		1																				32
5-D	588+00 to 588+55	Lt.																							55	1	
6-D	588+00 to 588+55	Rt.																							55	1	
7-D	588+00 to 588+60	Rt.			60		1																				32
8-D	589+44	Lt.																					1				
9-D	589+44	Rt.																					1				
10-D	588+75	Lt.																					1				
11-D	588+81	Lt.																						1			32
12-D	588+75	Rt.																					1				
13-D	588+50.4 to 588+60	Rt.																	1	1	32						32
14-D	591+80 to 591+98	Lt. & Rt.				60	1																				
1-A	589+68	Rt.									0.31	0.43	8.9	1.5	0.9	15.0											
2-A	590+18.5	Rt.									0.26	0.37	7.6	1.3	0.8	12.2											
3-A	591+18.5	Lt.									0.63	0.88	18.1	3.0	1.8	13.9											
4-A	591+38	Rt.									1.92	2.69	57.4	10.3	5.5	48.9											
5-A	591+98	Lt.									0.33	0.46	9.6	1.6	1.0	18.3											
6-A	589+55 to 589+60	Lt. & Rt.									0.89	1.25		4.3	2.6		25.6										
7-A	588+90.2	Lt.									4.05	5.67	118.4	20.3	11.7	94.6											
8-A	588+90.2	Rt.									2.42	3.39	69.7	11.6	7.0	71.6											
9-A	589+19	Lt.									0.45	0.62	12.8	2.2	1.3	29.3											
10-A	591+80 to 591+98	Lt. & Rt.									1.03	1.53		5.2	3.2		31.4										
1-P	588+00 to 588+78	Lt.	135.2																								
2-P	588+00 to 588+78	Rt.	97.0																								
3-P	589+17.8 to	Rt.	138.2																								
4-P	589+33.8 to 590+50.57	Lt.								120																	
5-P	590+79.8 to 591+30.8	Rt.	65.4																								
6-P	590+79.8 to 592+00	Lt.	120.3																								
7-P	591+45.2 to 592+00	Rt.	78.1																								
8-P	588+00 to 588+78	Lt.		585.8																							
9-P	588+00 to 588+78	Rt.		316.0																							
10-P	589+33.83 to 590+50.57	Lt.		591.6																							
11-P	589+15.83 to 590+50.57	Rt.		454.3																							
12-P	590+79.78 to 592+00	Lt.		374.7																							
13-P	590+79.78 to 591+20.8	Rt.		136.8																							
14-P	591+45.2 to 592+00	Rt.		205.8																							
15-P	589+17.33	Lt. & Rt.																9.6									
			634.2	2665.0	125	115	3	2	1	120	12.3	17.3	302.5	61.3	35.8	303.8	57.0	9.6	1	1	32	40	4	1	110	2	

STATE STREET STA 588+00 to STA 592+00



REF. NO.	STATION	SIDE	I-16 Catch Basin Aband. Each	I-16 Manhole Aband. Each
11-D	592+18	Rt.		1
12-D	593+55	Rt.	1	
13-D	594+49	Rt.	1	
14-D	592+11	Lt.	1	
15-D	592+04	Rt.	1	
16-D	592+27	Rt.	1	
17-D	594+49	Lt.	1	
18-D	595+40	Lt.	1	
19-D	595+54	Lt.	1	
20-D	595+24	¢		1
	Totals		8	2



REF. NO.	STATION TO STATION	SIDE	I-12 Conc. Curb Type 2-B Mod. Lin. Ft.	I-13 4" Conc. Sidewalk Sq. Ft.	I-1 Class B-1 12" Lin. Ft.	I-1 Class B-1 15" Lin. Ft.	I-1 Class B-1 18" Lin. Ft.	I-1 Class B-1 21" Lin. Ft.	I-1 Class B-1 24" Lin. Ft.	I-5 8" Cl. B-1 M-6.6(b) 45° Bd. Each (or M-6.8(b))	I-1 8" Cl. B-1 Sec. M-6.6(b) Lin. Ft.	I-7 13" Reinf. Appro. Slabs Sq. Yds.	B-70 9" C. Conc. Base C. Sq. Yds.	T-35 1¼" Asph. Conc. S.C. Cu. Yds.	B-35 ¾" Asph. Conc. L.C. Cu. Yds.	B-70 8" Port. C. Conc. Base C. Sq. Yds.	I-22 6" Subbase Cu. Yds.	T-30 Bitum. Tack Coat Gals.	I-5 8" Pipe Spec. M-6.6(b) 15° Bd. Each or M-6.8(b)	I-13 S.W. as per Plan Sq. Ft.	I-8 Catch Basins Std. No. 3 Each	I-8 Catch Basins Std. No. 3A Each	I-8 Manholes Std. No. 1 Each	E-8 Pavm't. Removal Sq. Yds.	I-16 Catch Basins Abandon. Each	I-16 Manhole Abandon. Each	SEE SHEET NO.
																											33
2-D	593+45 to 594+25	Lt.				80																1					33
3-D	594+25 to 594+50	Rt. & Lt.					62														1						33
4-D	591+98 to 592+53	Rt.					55														1						33
5-D	592+53 to 593+45	Rt.						92														1					33
6-D	593+45 to 594+50	Rt.						105														1					33
7-D	594+50 to 595+32	Rt.							82												1						33
8-D	595+22 to 595+32	Rt.			26																	1					33
9-D	595+32 to 595+42	Rt.			26																	1					33
10-D	595+32 to 596+00	Rt.							68														1				33
11-D	20 D (See Item I-16 in Seperate Box Above)																								8	2	
21-D	594+43 to 594+50	Rt.								1	10																33
22-D	592+53.7	Rt.								1	28																33
23-D	594+53.4	Lt. & Rt.								1	40								1								33
1-A	592+24.5	Lt.												2.34	3.28	68.6	11.8	6.8						76.1			
2-A	592+16.1	Rt.												2.75	3.85	80.0	13.6	7.9						93.9			
3-A	592+67	Rt.												0.31	0.43	9.1	1.5	0.9						28.9			
4-A	593+74.5	Lt.												1.34	1.88	38.8	6.5	3.9						52.2			
5-A	593+74.5	Rt.												1.20	1.68	34.8	5.9	3.4						47.2			
6-A	595+24.5	Lt.												1.34	1.88	38.8	6.5	3.9						48.0			
7-A	595+32	Rt.												3.01	4.21	87.2	14.7	8.7						87.0			
9-A	594+25 to 594+50	Lt. & Rt.											24.4	0.85	1.19		4.1	2.4									
10-A	594+54.98 to 594+79.98	Lt. & Rt.										77.8					13.0										
1-P	592+00 to 592+15.1	Lt.	38.4																								
2-P	592+00 to 592+04.6	Rt.	27.9																								
3-P	592+33.9 to 593+66.1	Lt.	155.1																								
4-P	592+27.6 to 593+66.2	Rt.	161.5																								
5-P	593+82.9 to 595+16.1	Lt.	150.4																								
6-P	593+82.9 to 595+21.8	Rt.	165.0																								
7-P	595+32.9 to 596+00	Lt.	75.7																								
8-P	595+42.3 to 596+00	Rt.	72.1																								
9-P	592+00 to 592+15.1	Lt.		38.2																							
10-P	592+00 to 592+04.6	Rt.		14.9																							
11-P	592+44.91 to 593+61.1	Lt.		411.2																							
12-P	592+38.6 to 593+66.1	Rt.		364.8																							
13-P	593+87.9 to 595+11.1	Lt.		445.4																							
14-P	593+82.9 to 595+11.7	Rt.		459.0																							
15-P	595+37.9 to 596+00	Lt.		224.6																							
16-P	595+46.7 to 596+00	Rt.																									
			846.1	2058.1	52	80	117	197	150	3	78	77.8 78	24.4	13.2	18.4	357.3	77.6	37.9	1	341 341	3	5	1	433.3	8	2	

STATE STREET STA. 592+00 to STA. 596+00

NOTE: Contractor to Excavate with Caution along the 16" water Line on the Left. Water Line to be Relocated by Owners, if in conflict with the proposed Catch Basin at Sta. 597+07 Lt.

P.K. in P.P. for Traffic Lights
℄ George St.
℄ STATE ST.
P.K. in P.P. #18
P.K. in P.P. for Traffic Light
REF. Pt. P.O.T. Sta. 598+36.20

The adjoining 1000 ft. of State St. beyond the end of this project is a continuation of its tangent alignment and a predominantly level profile.

BENCH MARK
33' Rt. Sta. 598+75 S.W. Corner of 1st Step to Res. #296
Elev. 979.32

For Intersection Details See Sheet No. 18

ESTIMATED QUANTITIES

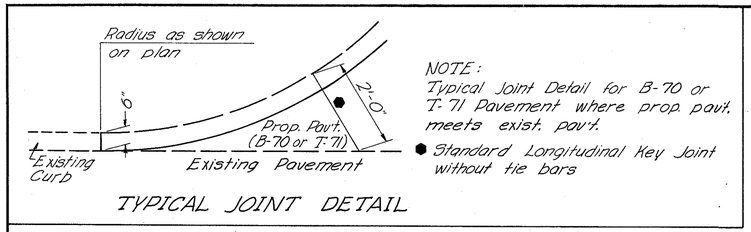
REF. NO.	STATION TO STATION	SIDE	I-12 Conc. Curb Type 2-B Mod. Lin. Ft.	I-13 4" Conc. Sidewalk Sq. Ft.	I-1 Class B-1 12" Lin. Ft.	I-1 Class B-1 15" Lin. Ft.	I-1 Class B-1 24" Lin. Ft.		I-16 Catch Basins Abond. Each	B-70 9" Port. C. Conc. Base C. Sq. Yds.	I-13 4" Conc. Sidewalk as per plan Sq. Ft.	T-35 1½" Asph. Conc. S.C. Cu. Yds.	B-35 ½/3" Asph. Conc. L.C. Cu. Yds.	B-70 8" Port. C. Conc. Base C. Sq. Yds.	I-22 6" Sub-base Cu. Yds.	T-30 Bitum. Tack Coat Sq. Yds.	E-8 Pvmt. Remov. Sq. Yds.	E-8 Sidewalk Remov. Sq. Ft.	E-8 Curb Rem. Lin. Ft.	I-8 Catch Basins Std. No3 Each	I-8 Catch Basins Std. No3A Each	Manholes Std. No1 Each	I-12 Conc. Curb Type 2B Lin. Ft.	
1-D	596+00 to 597+00	Rt.					100	6.6(6) or 6.8(6)																34
2-D	597+07	Lt.				14														1				34
3-D	597+07	Lt.&Rt.				29															1			34
4-D	597+00 to 597+07	Rt.				16															1			34
5-D	597+00 to 598+20	Rt.						120												1				34
6-D	598+20 to 598+25	Rt.			32																1			34
7-D	598+20 to 598+39	Lt.&Rt.						36														1		34
8-D	598+20 to 598+30	Rt.			10																			34
9-D	598+45 to 598+75	Rt.			30																1			34
10-D	598+26	Rt.							1															
11-D	598+67.5	Rt.							1															
1-A	596+72	Lt.										1.34	1.88	38.8	6.5	3.9	48.9							
2-A	596+72	Rt.										1.33	1.86	38.5	6.4	3.8	47.8							
3-A	598+20 to 598+30	Lt.&Rt.								26.7		0.93	1.30		4.4	2.7								
1-P	596+00 to 596+63.6	Lt.	72.2																					
2-P	596+00 to 596+63.7	Rt.	72.3																					
3-P	596+80.4 to 598+21.8	Lt.	164.3																					
4-P	596+80.3 to 598+25.1	Rt.	167.7																					
5-P	596+00 to 596+58.6	Lt.		211.3																				
6-P	596+00 to 596+59.7	Rt.									301													
7-P	596+85 to 598+21.8	Lt.		566.8																				
8-P	596+84.1 to 598+14.1	Rt.		586.9																				
9-P	598+54 to 599+50	Rt.		418.4																				
10-P	598+50 to 600+01.3	Rt.	158.0																					
11-P	598+50.6 to 598+75.6	Lt.		130						17.0		1.00	0.96		4.0			185	49				39	
			634.5	1913.4	72	59	100	156	2	43.7	301	4.6	6.0	77.3	21.3	10.4	96.7	185	49	2	4	1	39	

STATE STREET STA. 596+00 to STA. 600+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

18/122

MAR.-23-11.05
MAR.-23D-087

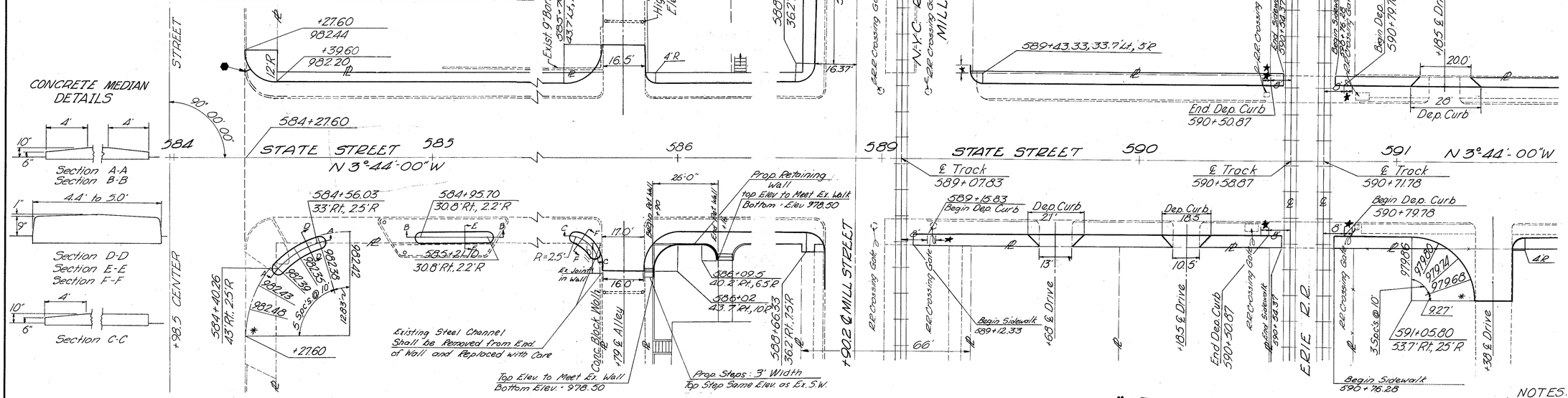


NOTE:
Typical Joint Detail for B-70 or T-71 Pavement where prop. pavt. meets exist. pav't.

● Standard Longitudinal Key Joint without tie bars

TYPICAL JOINT DETAIL

CONCRETE MEDIAN DETAILS

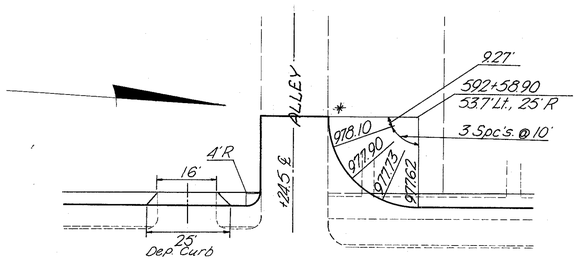


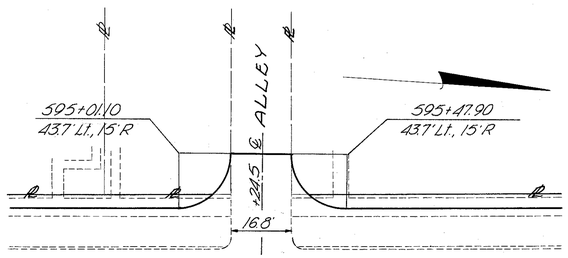
"STATE STREET AT CENTER STREET"

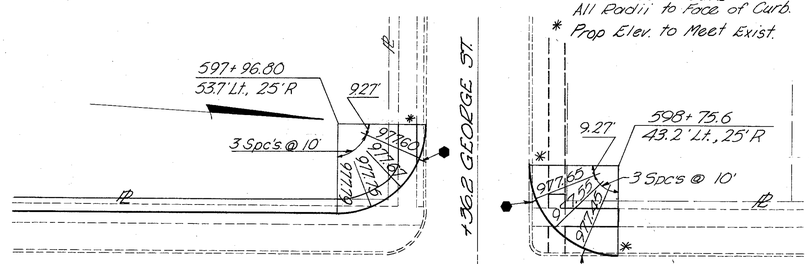
For Retaining Wall & Steps Details See Sht. No. 8 & 40
For Retaining Wall & Steps Quantities See Sht. No. 14
For Additional Elevs. on Retaining Wall See Cross Sections Sheet No. 20

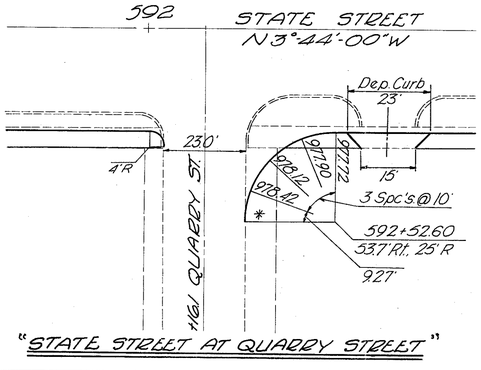
"STATE STREET AT MILL STREET"

NOTES:
★ 3' Transition from 9" Curb to 2" Curb
★★ 3' Transition from 6" Curb to 2" Curb
All Radii to face of Curb.
* Prop Elev. to Meet Exist.

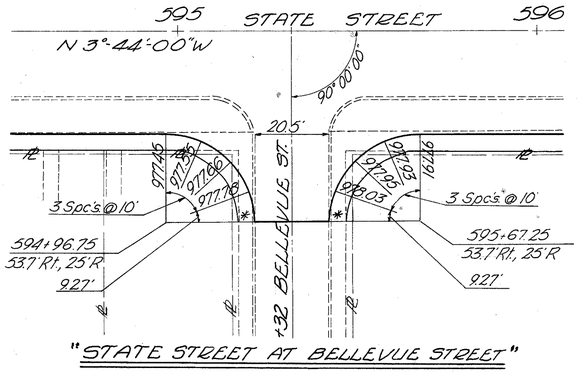




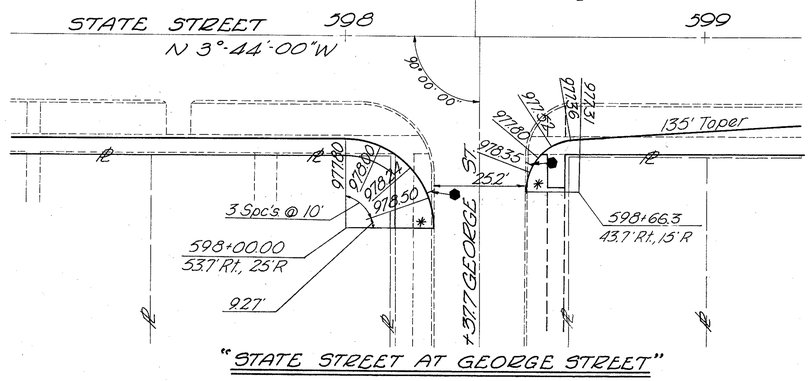




"STATE STREET AT QUARRY STREET"

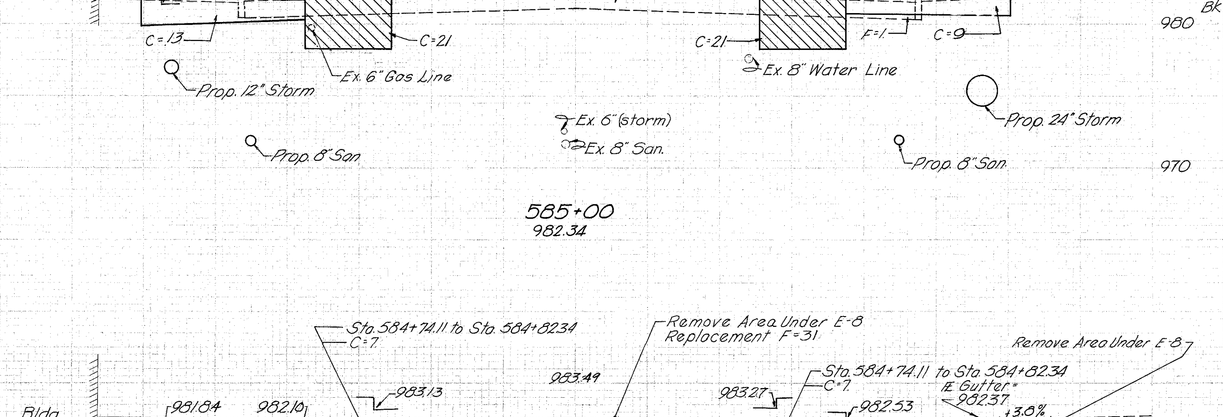


"STATE STREET AT BELLEVUE STREET"

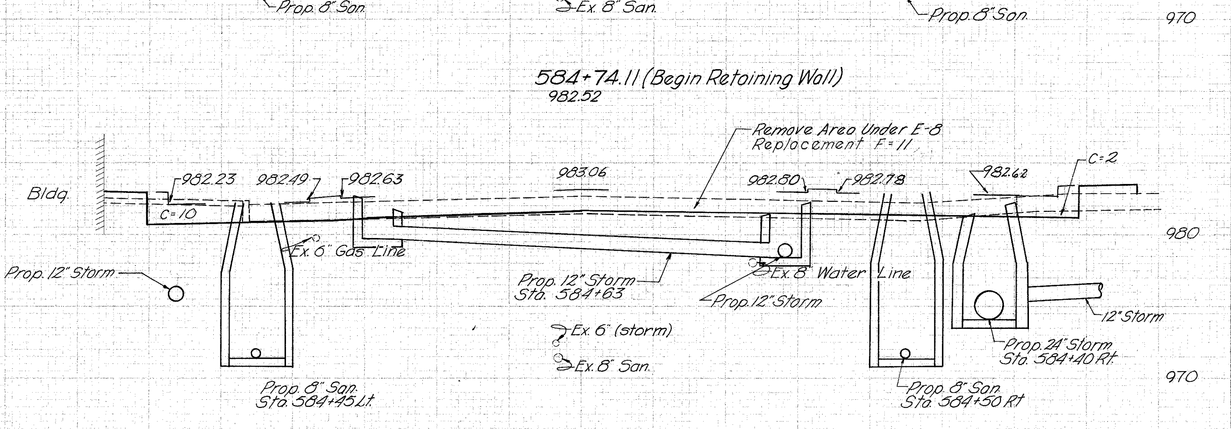


"STATE STREET AT GEORGE STREET"

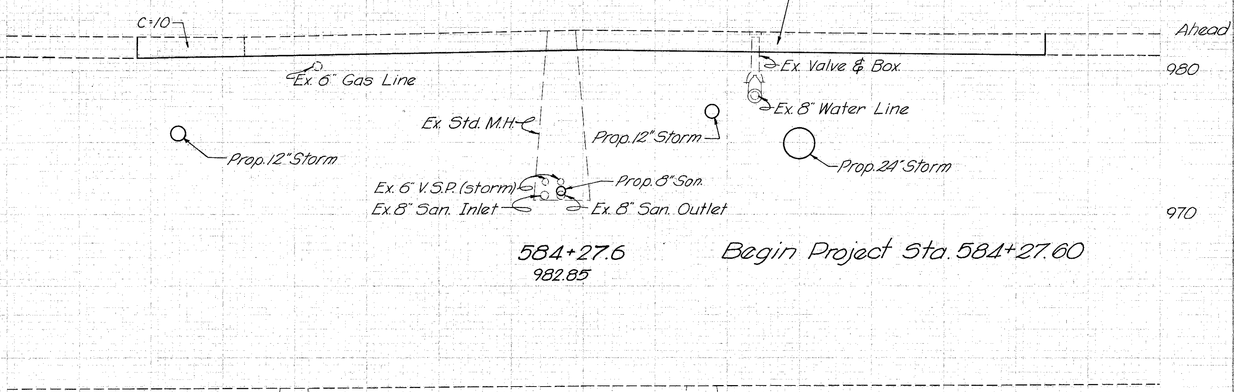
INTERSECTION DETAILS "STATE STREET"



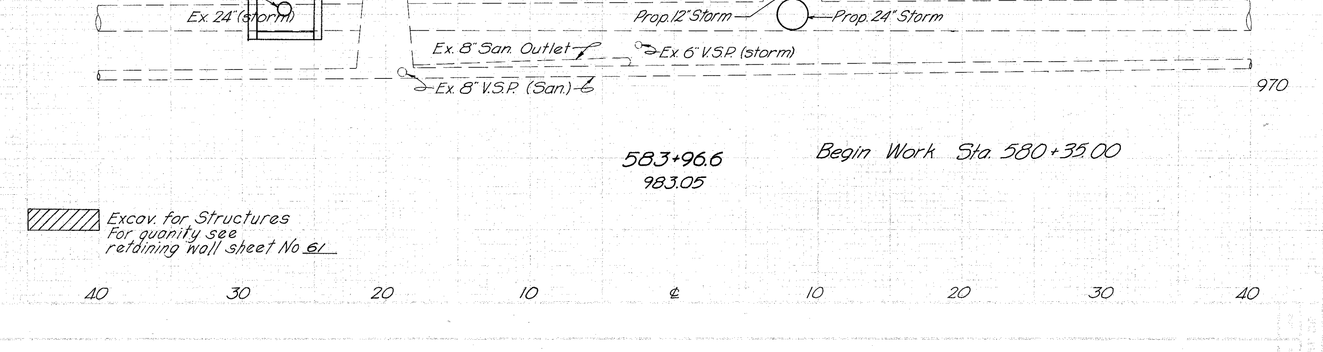
585+00
982.34



584+74.11 (Begin Retaining Wall)
982.52



584+51
982.72



584+27.6
982.85

Begin Project Sta. 584+27.60

583+96.6
983.05

Begin Work Sta. 580+35.00

Excav. for Structures
For quanity see
retaining wall sheet No. 61

40 30 20 10 ℄ 10 20 30 40

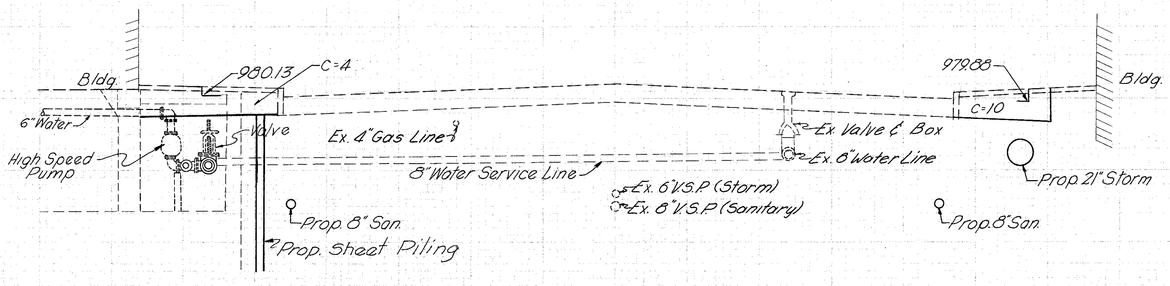
	END AREA		VOL.	
	CUT	FILL	CUT	FILL
			21	35
Ah		19		
	22			
Bk		53		
			19	44
	17	39		
			12	21
	12	11		
			10	5
Ahead	10	0		

STATE STREET Sta. 583+96.6 to Sta. 585+00

MAR.-23-11.05
MAR.-23D-0.87

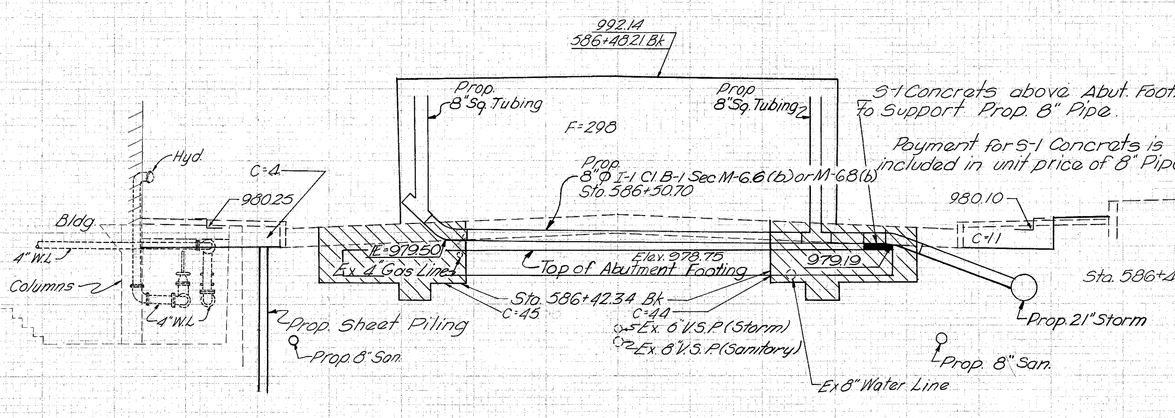
MAR.-23-11.05
MAR.-23D-0.87

STATE STREET Sta. 585+25 to Sta. 586+00

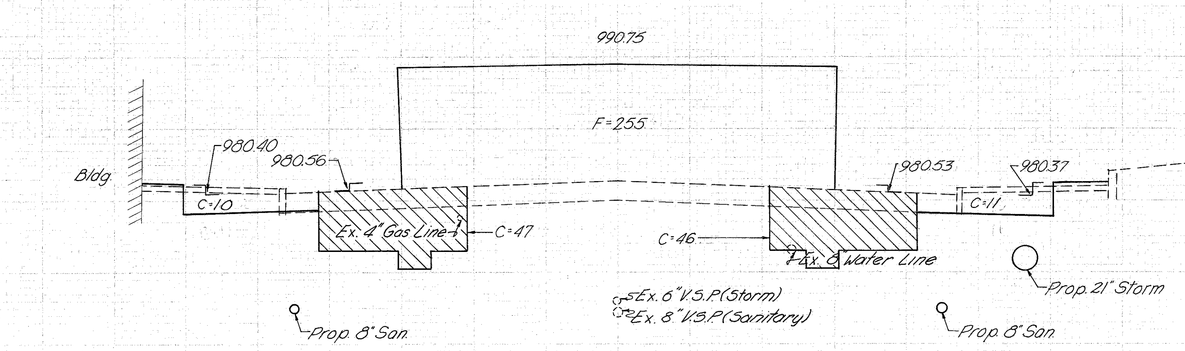


586+75
981.00

For Details Brush-Moore Newspaper Inc. Basement Plan See Sheet No 59



586+50
981.23



586+25
981.41

Excav. for Structures for quantity see retaining wall sheet No. 61

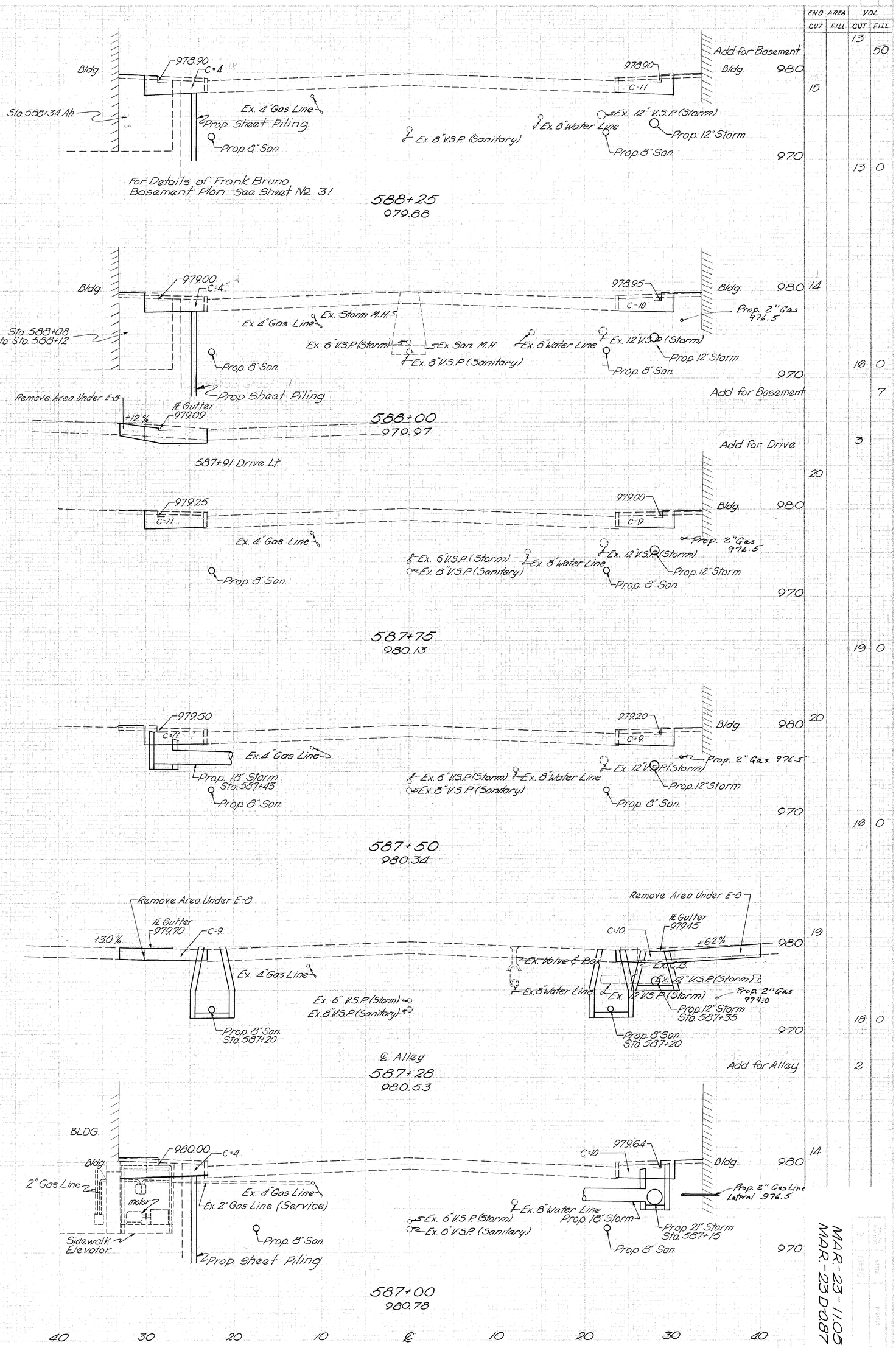
40 30 20 10 ℄ 10 20 30 40

	END AREA		VOL.	
	CUT	FILL	CUT	FILL
			13	0
	14			
			13	0
	15			
			17	256
	21	255		

990 980 970 990 980 970 990 980 970

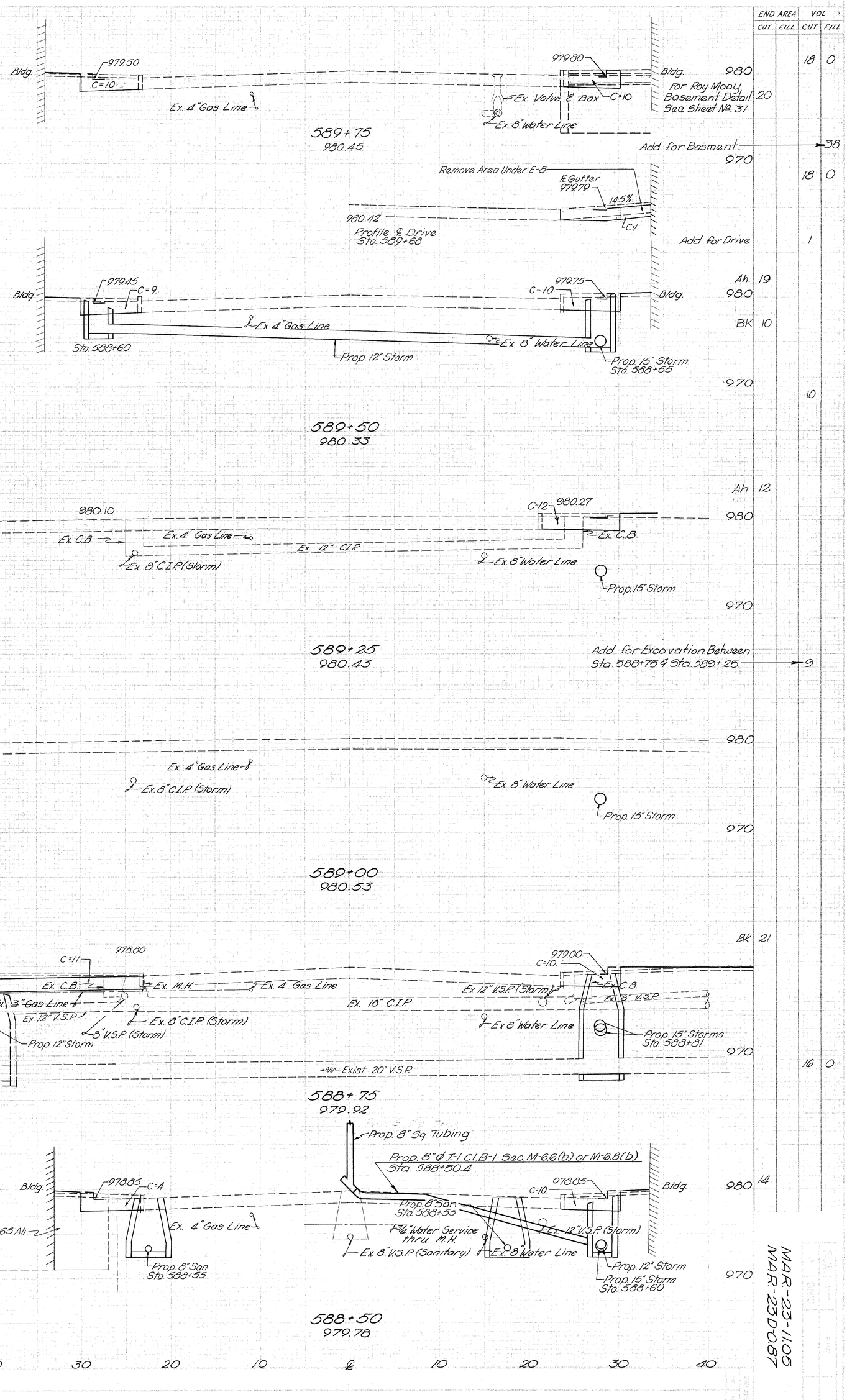
STATE STREET Sta. 586+25 to Sta. 586+75

MAR-23-1105
MAR-23D-087



STATE STREET Sta. 587+00 to Sta. 588+25

MAR-23-1105
MAR.-23D087



MAR-23-1105
MAR-23D087

STATE STREET Sta. 588+25 to Sta. 588+75

END AREA		VOL.	
CUT	FILL	CUT	FILL
		20	0
22		2	
		20	0
		1	
21			
		15	0
15			
		17	0
18			
	1		

MAR.-23-11.05
MAR.-23D-087

24
122

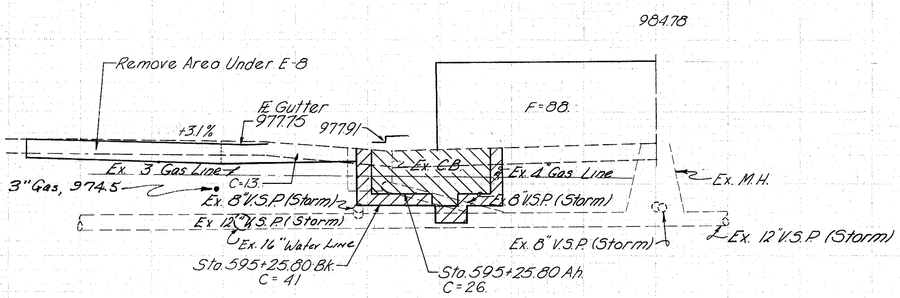
Add for Drive
980
970905
C=11
Ex. 6" Water Line
Ex. Valve & Box
591+25
97983
970
Add for Drive
Ahead 21
980
970960
C=10
Ex. 6" Water Line
970
980
981.10
Ex. Valve & Box
Ex. 6" Water Line
980.75
Ex. 4" Gas Line
970
Back 15
980
Bldg.
980.60
C=8
Ex. 6" Water Line
590+71.78
981.03
Ex. 4" Gas Line
Bldg
980.35
C=7
970
980
Bldg.
979.90
C=9
Ex. 6" Water Line
590+50
980.89
Ex. 4" Gas Line
Bldg
979.70
C=9
970
18
980
Bldg.
Add for Drive
979.85
C=9
Ex. Valve & Box
Ex. 6" Water Line
590+25
980.53
Ex. 4" Gas Line
Bldg
979.65
C=9
970
980
Remove Area Under E-8
E Gutter
979.84
+16%
C=2
590+00
980.47
980.46
℄ Drive
Sta. 590+85
℄
Ex. 4" Gas Line
970910
C=11
Remove Area Under E-8
E Gutter
979.25
+80%
990.00
591+18.5
℄ Drive
970960
C=11
591+00
980.47
Ex. 4" Gas Line

0
10
20
30
40

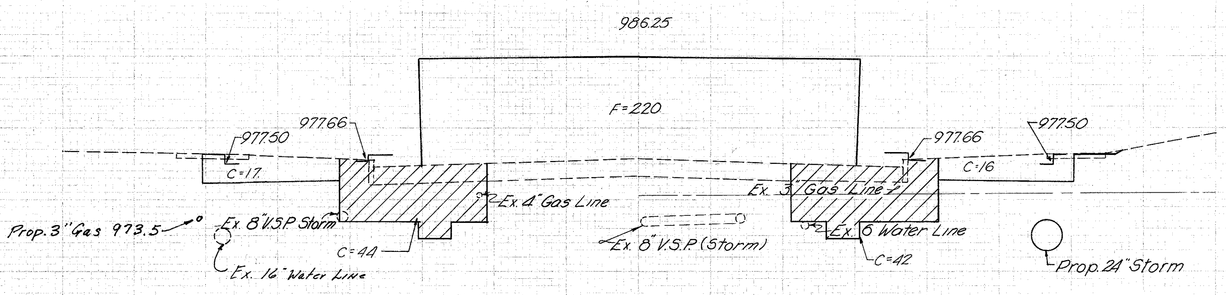
MAR.-23-11.05
MAR.-23D-0.87

STATE STREET Sta 591+50 to Sta 592+75

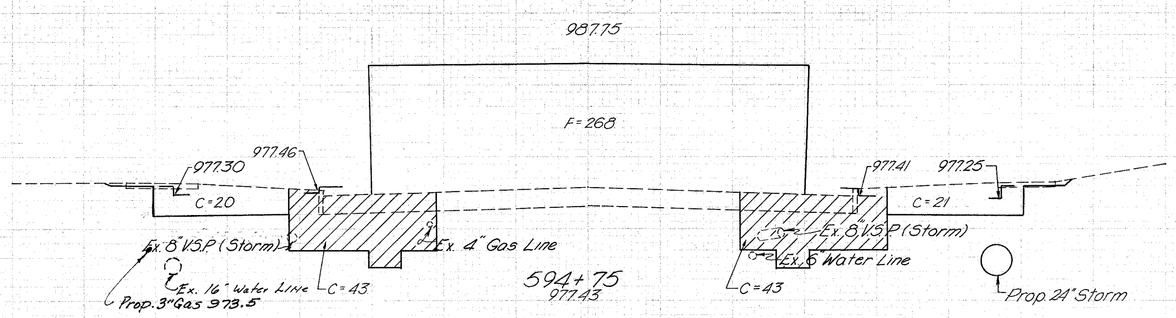
STATE STREET Sta 593+00 to Sta 594+25

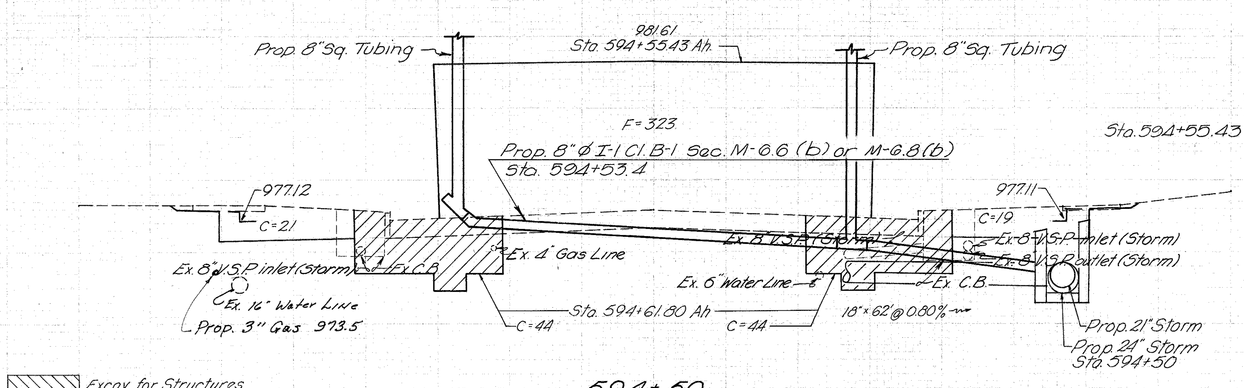


595+24.5
977.87
℄ Alley



595+00
977.91





Excav. for Structures for quanity see retaining wall sheet No. 61

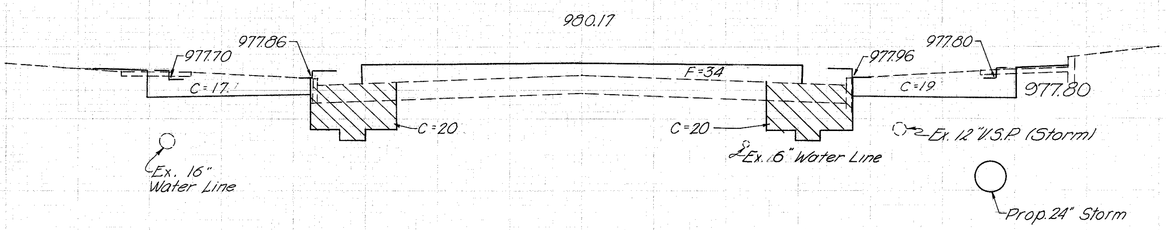
594+50
977.94

40 30 20 10 ℄ 10 20 30 40

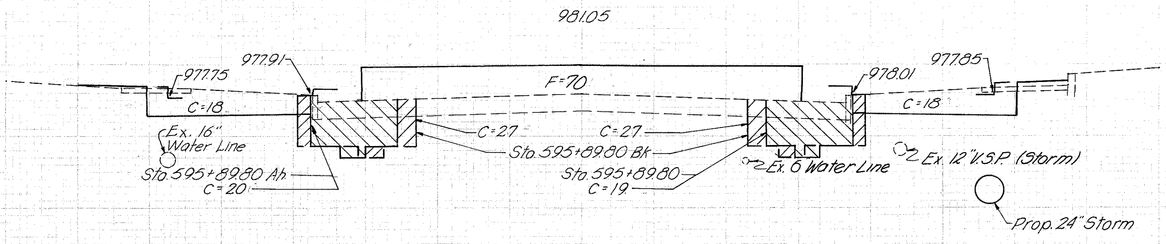
	END AREA CUT	END AREA FILL	VOL. CUT	VOL. FILL
			16	103
Add for Alley			2	
990				
980				
Lt	13	88		
Add for Alley			3	
970				
			14	90
990				
Ah Rt.	16	110		
Ah Lt.	17	110		
980				
BK	33	220		
970				
990				
			34	226
980				
970				
980				
	41	268		
970				
			38	203
Sta. 594+55.43 Ah.		323		
980	40			
970				

MAR-23-11.05
MAR-23-0.87

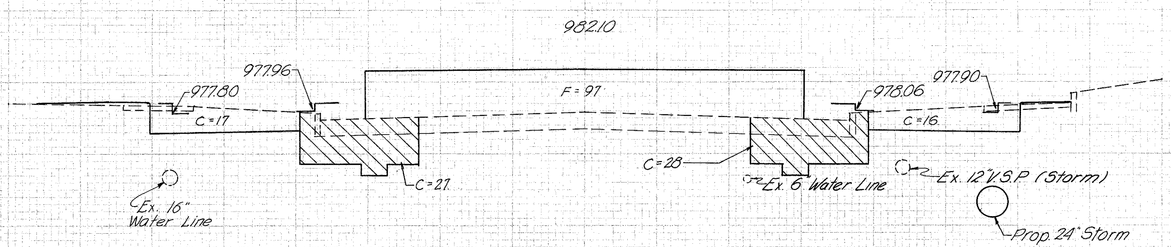
STATE STREET Sta. 592+50 to Sta. 595+45



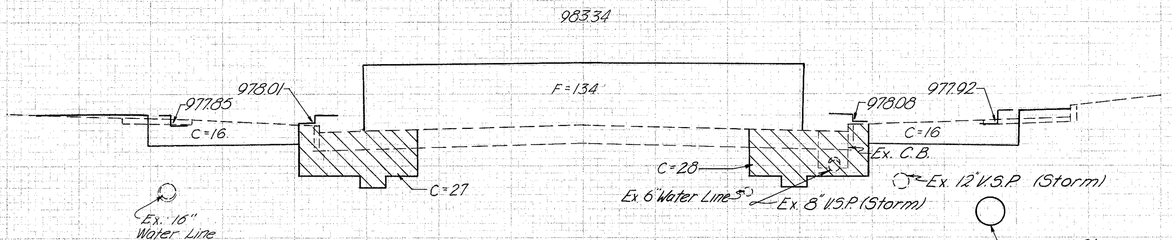
596+25
978.02



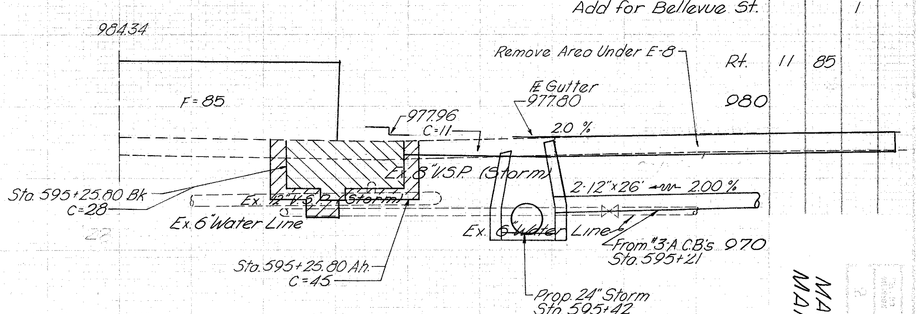
596+00
977.97



595+75
977.94



595+50
977.86



℄ Bellevue St.

595+32
977.86

Excav. for Structures for quantity see retaining wall sheet No. 61

40 30 20 10 ℄ 10 20 30 40

	END AREA CUT	END AREA FILL	VOL CUT	VOL FILL
			34	36
	36	34		
			33	48
	36	70		
			32	77
	33	97		
			30	107
Ah	32	134		
Bk Lt.	16	67		
Bk Rt.	16	67		
Lt			14	73
Rt			9	51
Add for Bellevue St.				1
Rt.	11	85		

MAR.-23-1105
MAR.-23D-087

STATE STREET Sta. 585+32 to Sta. 596+25

STATE STREET Sta. 596+50 to Sta. 597+75

END AREA	VOL.
CUT / FILL	CUT / FILL
0	0
9	0
25	0
60	0
11	0
14	0

MAR.-23-11.05
MAR.-23D-0.87

End Work Sta. 600+02.00

600+00.3
977.90

599+50
978.04

599+00
978.08

598+50.3
978.28

598+36.2
978.34

End Project Sta. 598+21.80

598+00
978.20

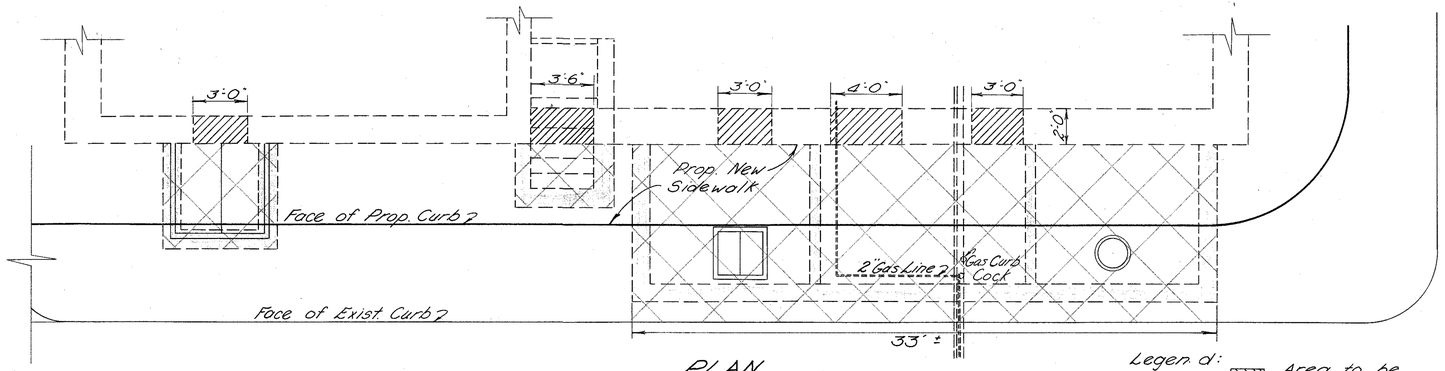
Ex. 6" Water Line
Ex. 6" Storm
Ex. 8" Sanitary
Ex. 12" Storm
977.19
977.31
C=10
Ex. 12" Storm
Ex. 6" Storm
Ex. 8" Sanitary
97733
C=17
Ex. 6" Water Line
Prop. 12" Storm
Sta 598+75
Ex. 6" Storm
Ex. 8" Sanitary
Ah C=37
Ah 37
598+50.3
Ex. 6" Water Line
Exist. 12" Storm
Exist. 6" Storm
Ex. 8" Sanitary
97850
Ex. M.H.
Ex. Valve & Box
Ex. 6" Water Line
Ex. 12" V.S.P (Storm)
Prop. 12" Storm
Ex. 12" V.S.P San
Ex. 8" V.S.P Sanitary Sewer)
Ex. 6" V.S.P (Storm)
Sta 598+21.8
Sta 598+25.1
BK LH 8
BK RH 9
960
LT
RT
Ah LT 19
Ah RT 20
980
BK 39
97780
C=20
Ex. CB
Ex. Valve & Box
-W- 6.00% 12"1.32'
Ex 8" V.S.P (Storm)
970
Prop. 12" Storm
Prop. 24" Storm
Sta. 598+20
-W- 2.90% 24"1.36'
Ex. 6" Water Line
Exist for Exist. 12" V.S.P. Storm
Ex. M.H.
Ex. 16" Water Line
Ex. 2/12C.P (Storm)
Prop. 24" Storm
-W- 2.90% 24"1.36'
Ex. 36" Brick (Storm Sewer)
Exist M.H. Sta. 598+39
97780
C=19
Ex. 6" Gas Line
Ex. 16" Water Line

STATE STREET Sta 598+00 to Sta 598+36.2

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

31
122

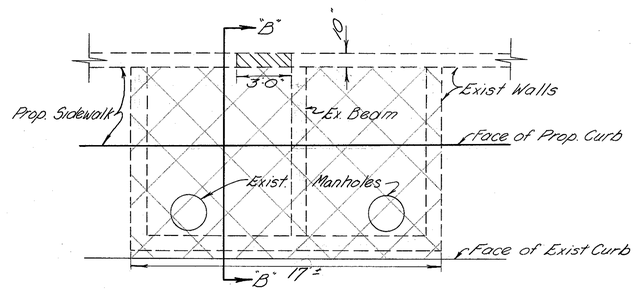
MAR-23-11.05
MAR-23-D-0.87



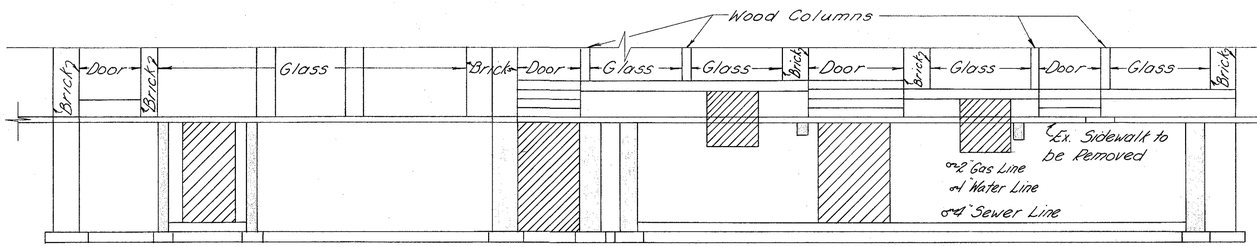
PLAN

Legend:

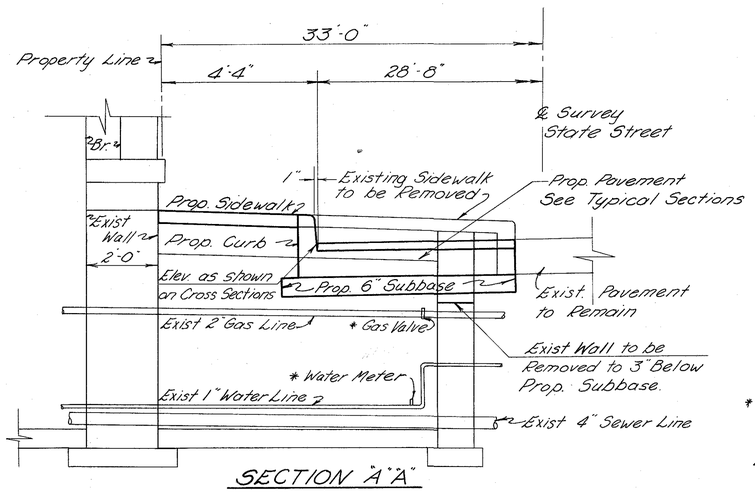
- Area to be Blocked up.
- Exist. Walls and Beams to be Removed to 3" Below Prop. Subbase.
- Limits of Curb and Sidewalk Removal, Remaining Quantities Carried on Line Sheets.



PLAN



Elevation



SECTION "A"-"A"

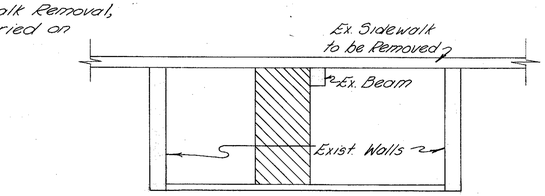
Notes: All Cavities Under Proposed Sidewalk and Pavement are to be filled with E-1. For E-1 Quantities See Cross Sections.

All Quantities for Proposed Sidewalk, Pavement and Subbase are Carried on Line Sheets or Pavement Calculations.

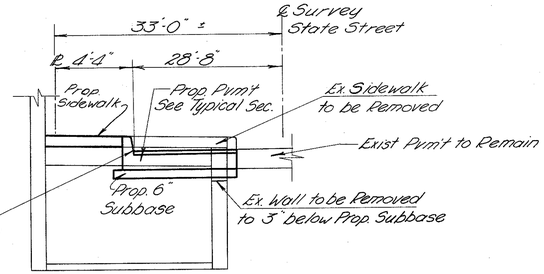
Removal of Portions of Existing Structure Includes Removal of Existing Sidewalk, Curb, Beams, and Portions of Existing Walls.

* Notify Gas and Water Companies to Permit their Relocation of Valves and Meters Prior to Backfilling the Vault Area.

FRANK BRUNO INC. BASEMENT PLAN
STATE ST. Sta. 588+04± to Sta 588+70±Lt.



ELEVATION



SECTION "B"-"B"

RAY MAAG BASEMEMT PLAN
STATE ST. Sta 589+93.5± to Sta. 590+10.5±Rt.

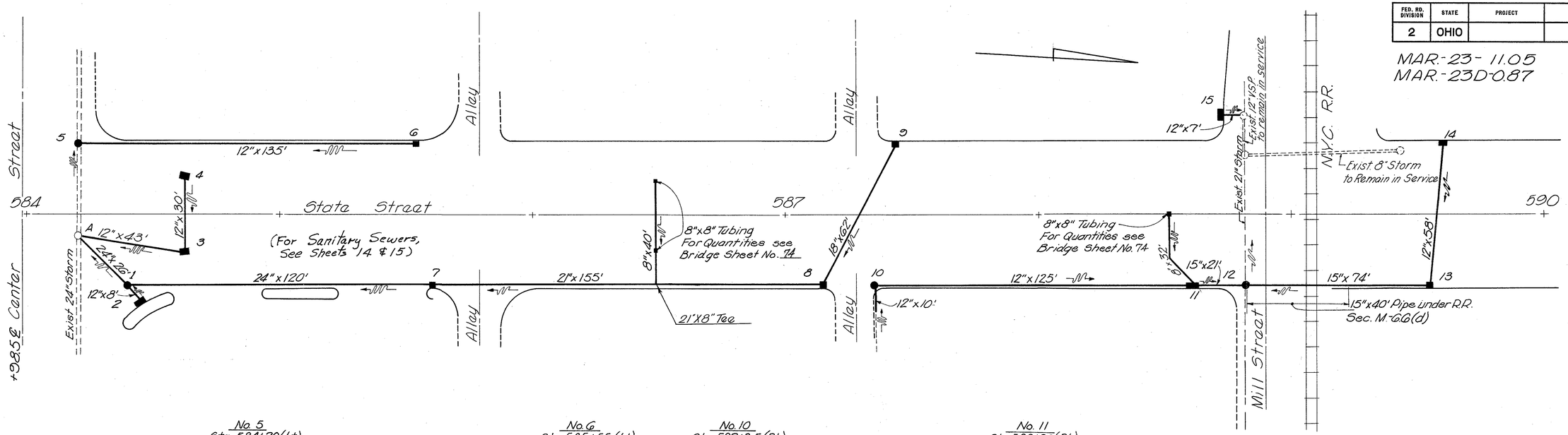
ESTIMATED QUANTITIES			
Item	Total	Unit	Discription
FRANK BRUNO INC.			
I-2	6	Cu. Yds.	Masonry (As per Plan)
5-22	Lump		Removal of Portions of Exist. Structure
RAY MAAG			
I-2	1	Cu. Yds.	Masonry (As per Plan)
5-22	Lump		Removal of Portions of Exist. Structure

FRANK BRUNO INC. & RAY MAAG BASEMENT PLANS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

32/122

MAR.-23-11.05
MAR.-23D-0.87



No. 5
Sta. 584+20 (Lt)
No. 1 M.H.
T/C = 982.45
IE 12" I-1 = 974.86
IE 24" Exist I-1 = 973.60

No. 6
Sta. 585+55 (Lt)
No. 3-A C.B.
IE Grate = 980.69
IE 12" I-1 = 977.50

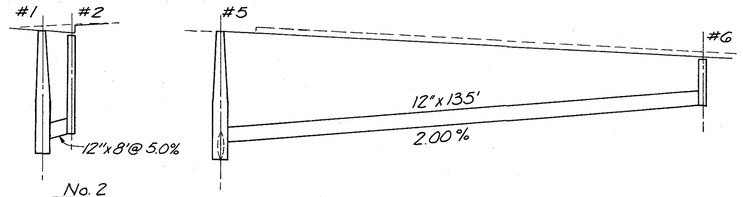
No. 10
Sta. 587+35 (Rt.)
No. 1 M.H.
T/C = 979.35
IE 12" I-1 = 975.50

No. 11
Sta. 588+60 (Rt.)
No. 3 C.B.
IE Grate = 978.67
IE 12" I-1 = 973.08
IE 15" I-1 = 972.83

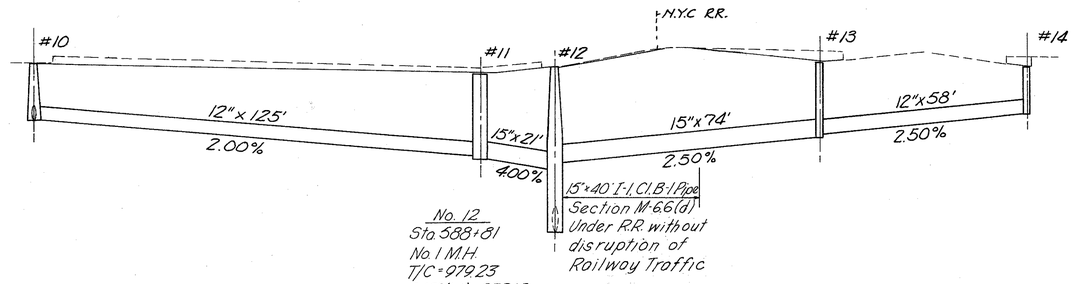
No. 13
Sta. 589+55 (Rt)
No. 3-A C.B.
IE Grate = 979.58
IE 12" I-1 = 974.60
IE 15" I-1 = 974.35

No. 14
Sta. 589+60 (Lt)
No. 3-A C.B.
IE Grate = 979.27
IE 12" I-1 = 976.00

985
980
975
970



No. 2
Sta. 584+45 (34.5 Rt)
No. 3-A C.B.
IE Grate = 982.18
IE 12" I-1 = 975.37



No. 12
Sta. 588+81
No. 1 M.H.
T/C = 979.23
IE 15" (Lt.) = 972.15
IE 15" (Rt.) = 972.58

No. 4
Sta. 584+63 (Lt.)
No. 3-A C.B.
IE Grate = 982.80
IE 12" I-1 = 979.70

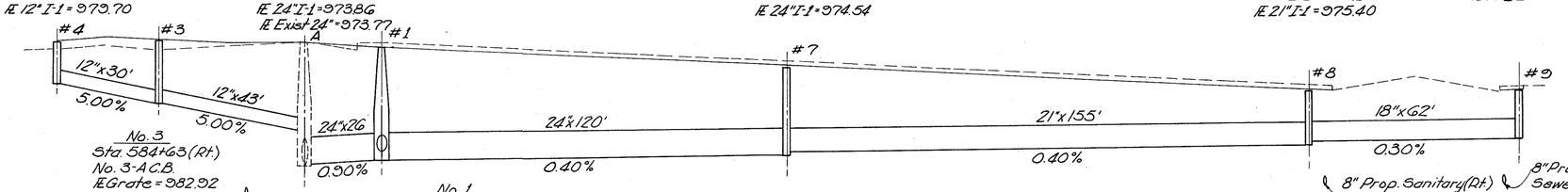
A
Sta. 584+20 (Rt.)
Exist. M.H.
T/C = 982.83
IE 12" I-1 = 976.30
IE 24" I-1 = 973.86
IE Exist 24" = 973.77

No. 7
Sta. 585+60 (Rt.)
No. 3-A C.B.
IE Grate = 981.07
IE 21" I-1 = 974.79
IE 24" I-1 = 974.54

No. 8
Sta. 587+15 (Rt.)
No. 3-A C.B.
IE Grate = 979.35
IE 18" I-1 = 975.65
IE 21" I-1 = 975.40

No. 9
Sta. 587+43 (Lt.)
No. 3-A C.B.
IE Grate = 979.40
IE 18" I-1 = 975.83

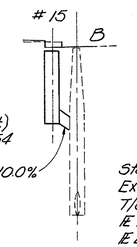
No. 15
Sta. 588+73.8 (39' Lt)
No. 3 C.B.
IE Grate = 978.63
IE 12" I-1 = 973.50



No. 3
Sta. 584+63 (Rt.)
No. 3-A C.B.
IE Grate = 982.92
IE 12" I-1 = 978.30

8" Prop. Sanitary (Rt) Sewer IE Elev. 971.30

No. 1
Sta. 584+40 (Rt.)
No. 1 M.H.
T/C = 982.46
IE 24" I-1 = 974.07
IE 12" I-1 = 975.07



B
Sta. 588+81 (Lt.)
Exist M.H.
T/C = 978.86
IE 12" I-1 = 973.00
IE Exist 21" I-1 = 967.12

State Street - Storm Sewer Profile

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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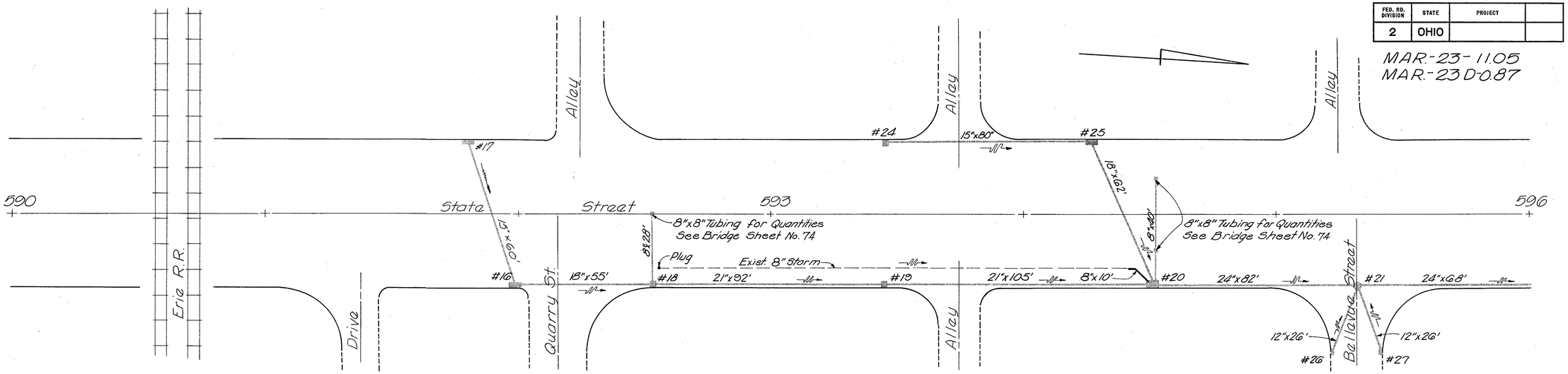
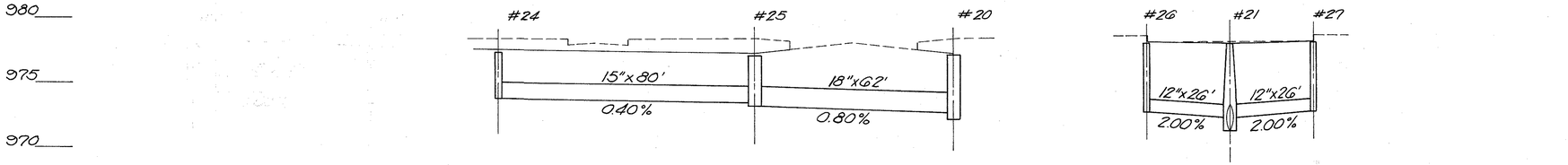


No. 24
Sta. 593+45 (Lt.)
No. 3-A C.B.
IE Grate = 977.16
IE 15"I-1 = 973.60

No. 25
Sta. 594+25 (Lt.)
No. 3 C.B.
IE Grate = 976.91
IE 15"I-1 = 973.29
IE 18"I-1 = 973.04

No. 26
Sta. 595+22 (52' Rt.)
No. 3-A C.B.
IE Grate = 977.78
IE 12"I-1 = 972.58

No. 27
Sta. 595+42 (52' Rt.)
No. 3-A C.B.
IE Grate = 977.88
IE 12"I-1 = 972.58



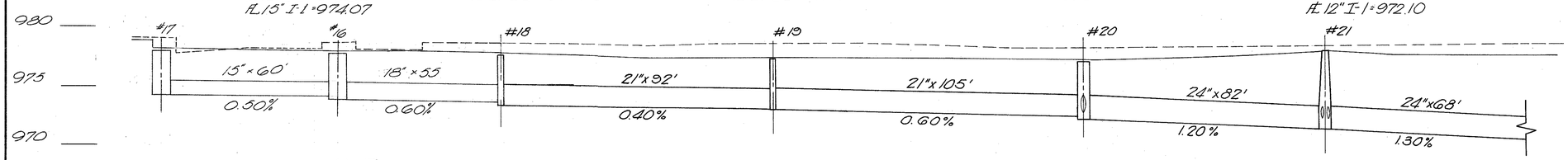
No. 16
Sta. 591+98 (Rt.)
No. 3 C.B.
IE Grate = 977.68
IE 18"I-1 = 973.82
IE 15"I-1 = 974.07

No. 18
Sta. 592+53 (Rt.)
No. 3-A C.B.
IE Grate = 977.53
IE 18"I-1 = 973.52
IE 21"I-1 = 973.29

No. 19
Sta. 593+45 (Rt.)
No. 3-A C.B.
IE Grate = 977.18
IE 21"I-1 = 972.98

No. 20
Sta. 594+50 (Rt.)
No. 3 C.B.
IE Grate = 976.95
IE 18"I-1 = 972.56
IE 21"I-1 = 972.31
IE 24"I-1 = 972.06

No. 21
Sta. 595+32 (Rt.)
No. 1 M.H.
T/C = 977.83
IE 24"I-1 = 971.10
IE 12"I-1 = 972.10



No. 17
Sta. 591+80 (Lt.)
No. 3 C.B.
IE Grate = 977.90
IE 15"I-1 = 974.35

Sta. to Sta. at = Storm Sewer Profile

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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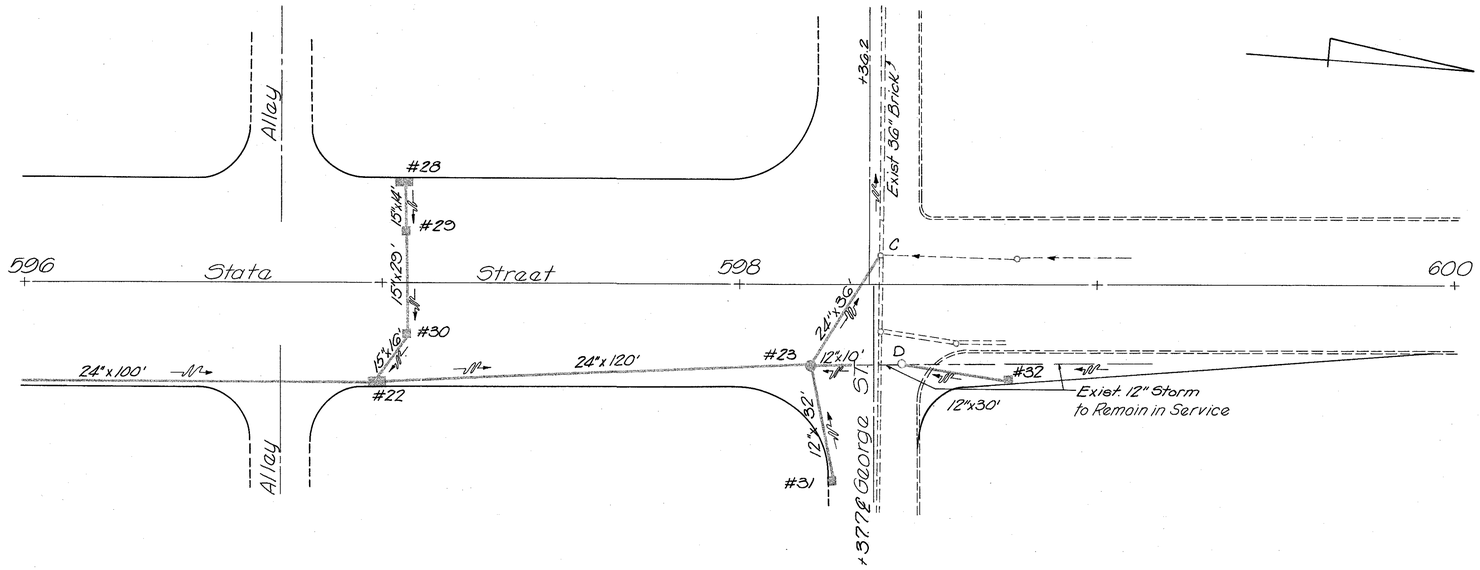
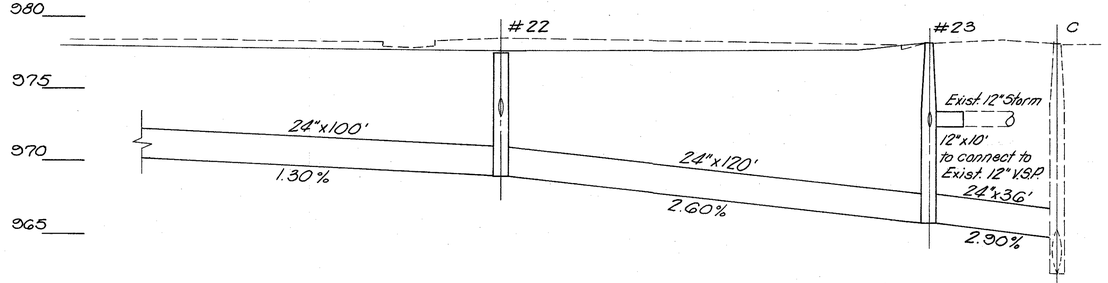


No. 22
Sta. 597+00(Rt.)
No. 3 C.B.
I.E. Grate = 977.47
I.E. 15"I-1 = 973.00
I.E. 24"I-1 = 968.95

No. 23
Sta. 598+20(Rt.)
No. 1 M.H.
T/C = 978.25
I.E. 12"I-1 = 972.50
I.E. 24"I-1 = 965.88

C
Sta. 598+39(Lt.)
Exist. M.H.
T/C = 978.17
I.E. 24"I-1 = 964.95
I.E. 36" Brick Storm = 962.43



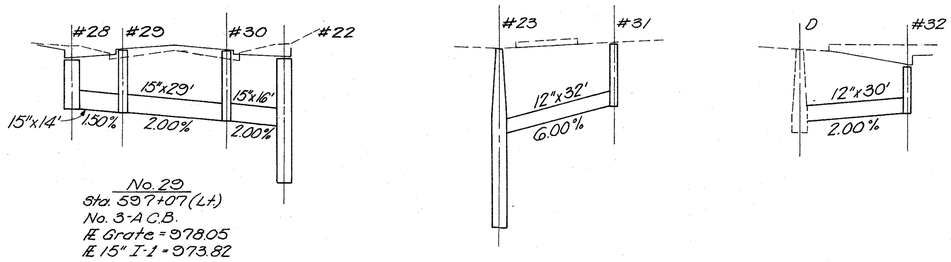
No. 28
Sta. 597+07(Lt.)
No. 3 C.B.
I.E. Grate = 977.38
I.E. 15"I-1 = 974.00

No. 30
Sta. 597+07(Rt.)
No. 3-A C.B.
I.E. Grate = 978.05
I.E. 15"I-1 = 973.28

No. 31
Sta. 598+25(52' Rt.)
No. 3-A C.B.
I.E. Grate = 978.61
I.E. 12"I-1 = 974.31

D
Sta. 598+45(Rt.)
Exist. M.H.
T/C = 978.23
I.E. 12"I-1 = 973.56

No. 32
Sta. 598+75(Rt.)
No. 3-A C.B.
I.E. Grate = 977.03
I.E. 12"I-1 = 973.30



No. 29
Sta. 597+07(Lt.)
No. 3-A C.B.
I.E. Grate = 978.05
I.E. 15" I-1 = 973.82

State Street - Storm Sewer Profile

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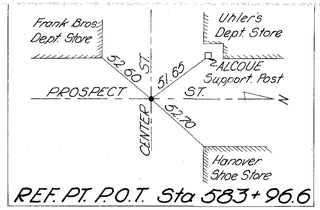
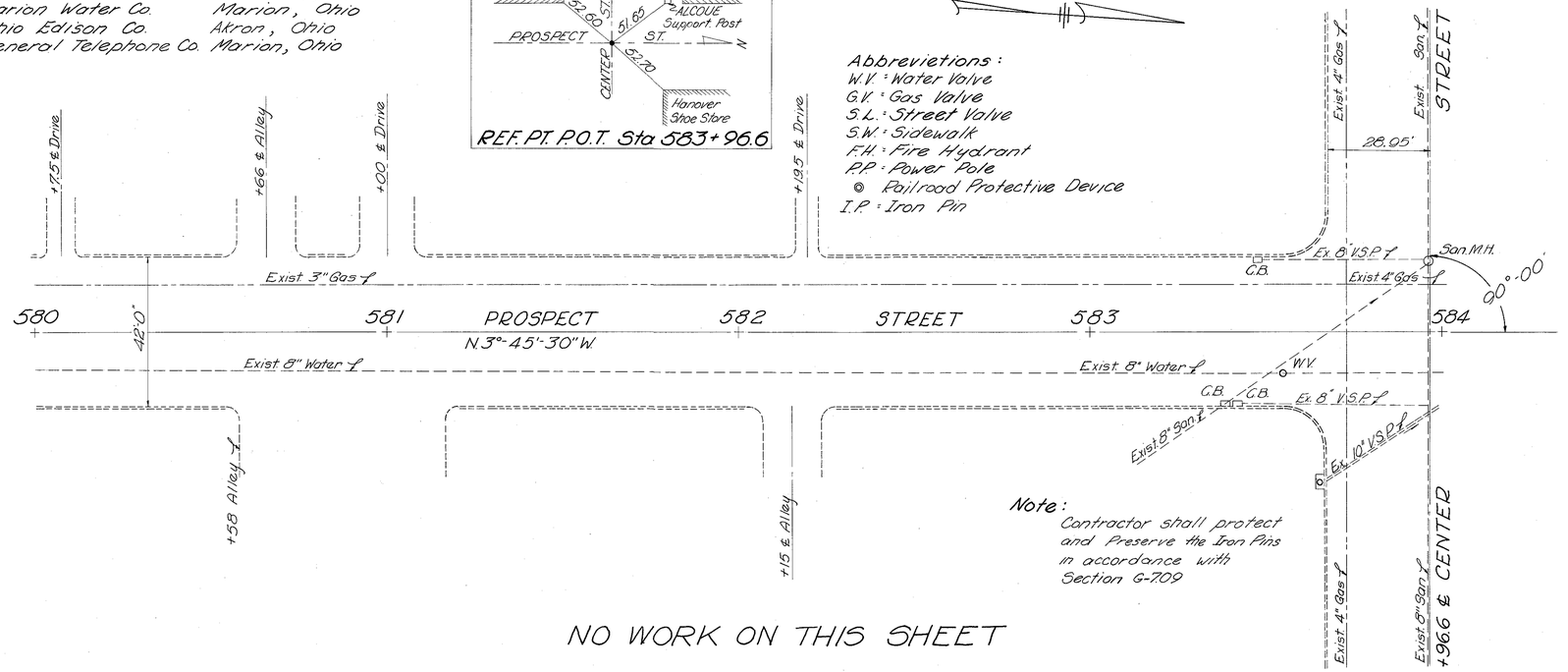
Utility Companys:

Ohio Fuel Gas Co.	Columbus, Ohio
Marion Water Co.	Marion, Ohio
Ohio Edison Co.	Akron, Ohio
General Telephone Co.	Marion, Ohio

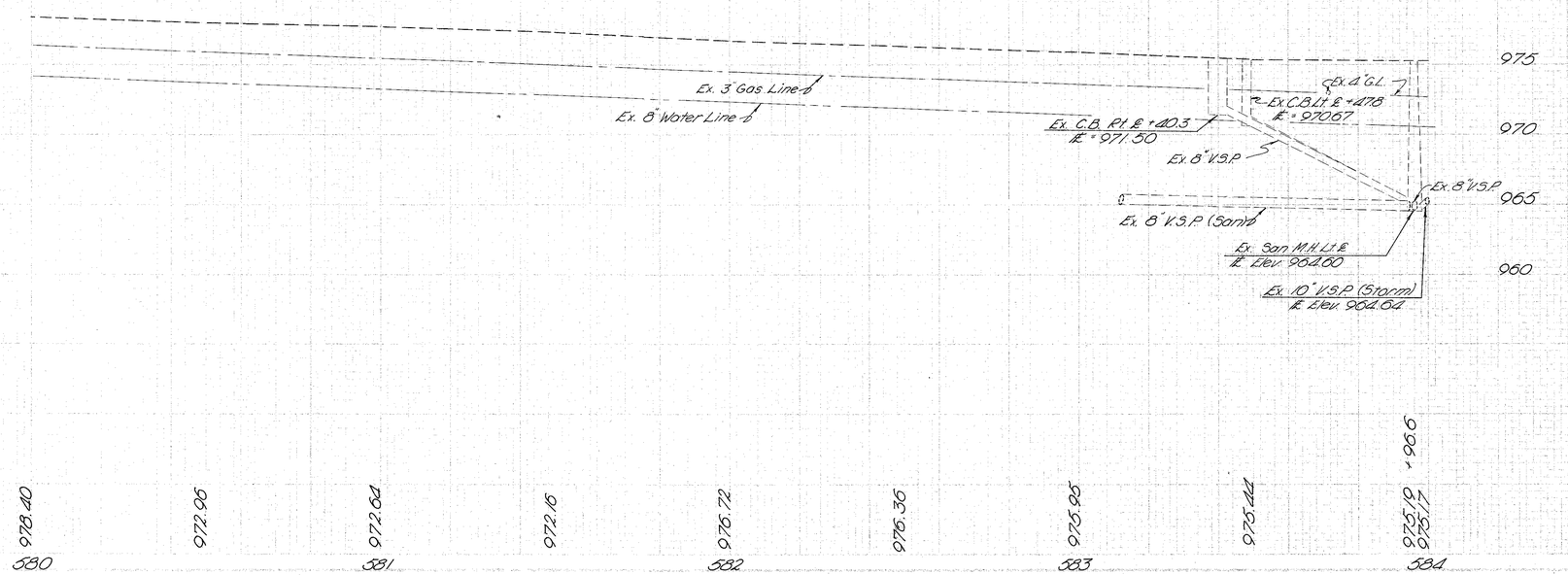


Abbrevietions:
W.V. = Water Valve
G.V. = Gas Valve
S.L. = Street Valve
S.W. = Sidewalk
F.H. = Fire Hydrant
P.P. = Power Pole
◎ Railroad Protective Device
I.P. = Iron Pin



Note:
Contractor shall protect and Preserve the Iron Pins in accordance with Section G-709

NO WORK ON THIS SHEET



PROSPECT STREET STA 580+00 to STA 584+00

MAR.-23-11.05
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City of Marion Will Remove Parking Meters Upon Request of Contractor.

For Typical Section Adjoining Pavement See Sheet No. 5

B.M. 33'Rt. ℄ Sta 585+50
Chiseld □ on Step to Dept. Store Ser. Entrance
Elev. 976.79

Note: Profile of Prop. Water Line is top of Pipe.

For Intersection Details See Sheet No. 40

LEGEND
⧓ Valve
← Fire Hydrant
⊗ Pipe to be Plugged
—A— Pipe to be Abandoned
▨ E-8 Pavement Removal

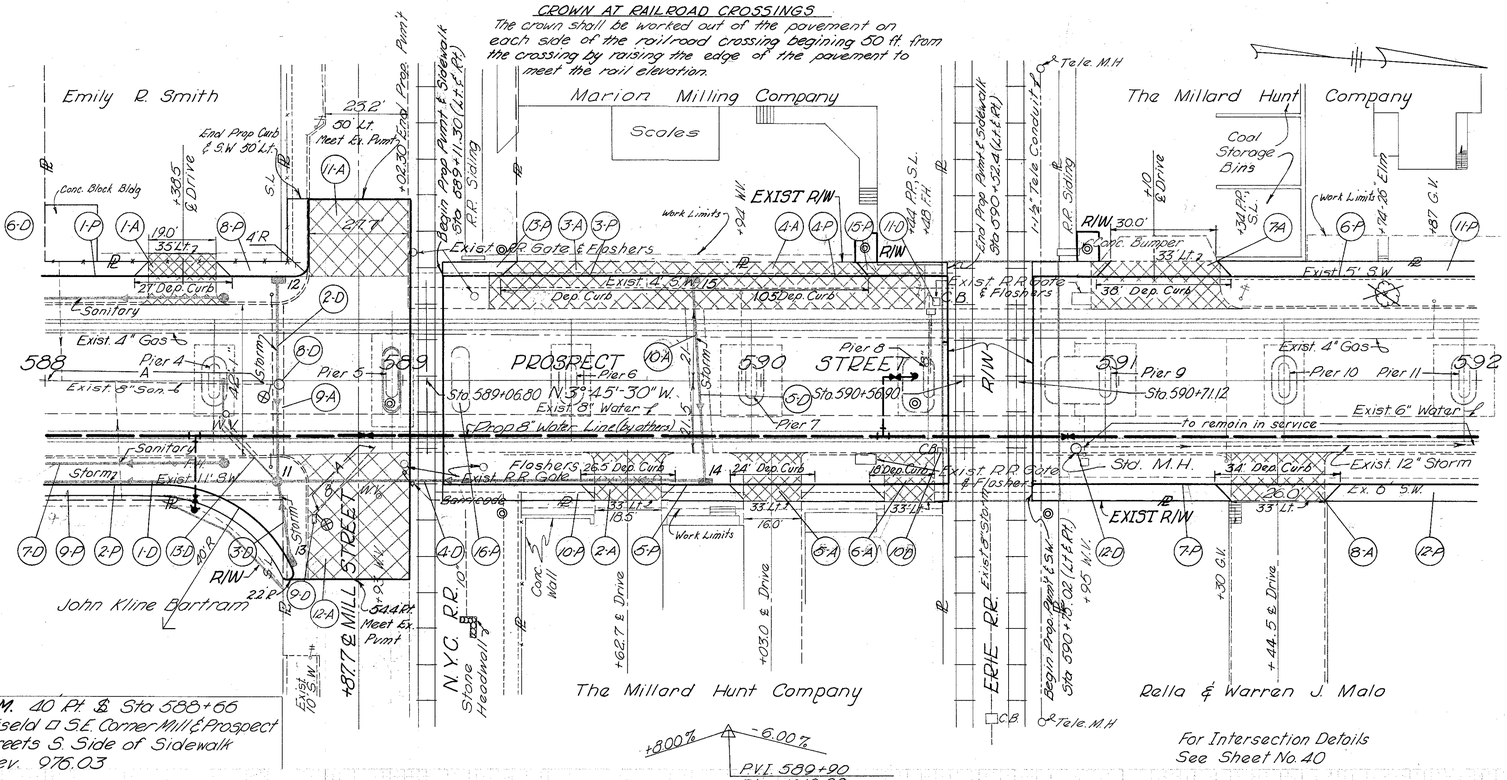
Ref. No.	Station to Station	Side	I-2 Masonry as per plan	S-22 Rem. Part of Exist. Structure	Special Gal. Flush Floor Hatch & Frame
			Cu. Yds.	Lump	Lump
S-1	584+86	Rt.	1	Lump	Lump

Note: This item shall include all materials, labor, equipment and incidentals required to construct a completed hatch as per details on sheet no. 40

ESTIMATED QUANTITIES

Ref. No.	Station to Station	Side	I-12 Conc. Curb Type 2-B Mod.	I-13 4" Conc. Sidewalk	I-1 Class B-1 12"	I-1 Class B-1 24"	I-8 Catch Basins Std. No. 3	I-8 Catch Basins Std. No. 3-A	I-8 Manholes Std. No. 1	T-35 1¼" Asph. Conc. Surf. Course	B-35 1¾" Asph. Conc. Level Course	B-70 8" Port. C. Conc. Base Course	I-22 6" Subbase	T-30 Bitum. Tack Coat	I-12 Conc. Curb Type 2-A Mod.	E-8 Pavmt. Remvl.	I-5 Cl. B-1 8" M-6.6(b) 45° Bd. or M-6.8(b)	I-5 Cl. B-1 8" M-6.6(b) 90° Bd. or M-6.8(b)	I-5 Cl. B-1 24"x8" Tee	I-7 13" Reinf. Conc. Approach Slabs As Per Plan	I-16 Manholes Abandon	I-16 Catch Basins Abandon	I-1 8" Cl. B-1 Sec. M-6.6(b) or M-6.8(b)	B-70 9" Port. C. Conc. Base Course	100% City Participation I-8 Std. No. 1 Manholes	100% City Participation I-1 8" Cl. B-1 M-6.8(b)	See Sheet No.
			Lin. Ft.	Sq. Ft.	Lin. Ft.	Lin. Ft.	Each	Each	Each	Cu. Yds.	Cu. Yds.	Sq. Yds.	Cu. Yds.	Gals.	Lin. Ft.	Sq. Yds.	Each	Each	Each	Sq. Yds.	Each	Each	Lin. Ft.	Sq. Yds.	Each	Lin. Ft.	
1-D	584+19 to 588+00	Rt.				381	1	1	2																		56
2-D	584+19 to 584+25	Lt.			6		1		1																		56
3-D	585+95 to 586+60	Lt.			65			1																			56
4-D	586+60	Lt. & Rt.			63				1																		56
5-D	584+63	Lt. & Rt.			29			1																			56
6-D	584+45 to 584+63	Rt.			23			1																			56
7-D	584+24 to 584+35	Lt.																								20	
8-D	584+24 to 584+35	Rt.																								25	
9-D	584+35 to 585+70	Lt.																							1	135	
10-D	584+35 to 584+70	Rt.																							1	135	
11-D	585+70 to 587+10	Lt.																							1	140	
12-D	585+70 to 587+10	Rt.																							1	140	
13-D	587+10 to 588+00	Lt.																							1	90	
14-D	587+10 to 588+00	Rt.																							1	90	
15-D	586+09	Lt.																			1						
16-D	584+46	Rt.																				1					
17-D	584+47	Lt.																				1					
18-D	586+49.6	Lt. & Rt.															1	1	1				40				56
1-A	585+78	Lt.								0.31	0.43	8.1	1.1	0.9		23.3											
2-A	585+78	Rt.								2.14	3.00	62.8	10.9	6.2		61.7											
3-A	586+23.5	Lt.								0.31	0.43	8.9	1.5	0.9		21.0											
4-A	586+29	Rt.								0.40	0.56	11.5	1.9	1.2		23.3											
5-A	586+85	Lt.								0.45	0.63	13.1	2.2	1.3		33.0											
6-A	586+78	Rt.								0.40	0.56	11.5	1.9	1.2		23.3											
7-A	587+26	Lt.								1.35	1.89	38.9	6.5	3.9		44.1											
8-A	587+26	Rt.								1.32	1.85	37.9	6.3	3.8		42.1											
9-A	586+60	Lt. & Rt.								0.81	1.13		3.9	2.3										23.3			
10-A	586+22.97 to 586+47.97	Lt. & Rt.											13.0							77.8							
1-P	584+25.6 to 584+31.5	Lt.													15												
2-P	584+25 to 585+69.7	Rt.	142.9												31												
3-P	585+86.4 to 587+17.5	Lt.	142.0																								
4-P	585+86.4 to 587+17.5	Rt.	154.3																								
5-P	587+34.4 to 588+00	Lt.	74.2																								
6-P	587+34.2 to 588+00	Rt.	74.4																								
7-P	584+25.6 to 585+31.5	Lt.		65.0																							
8-P	584+25 to 585+69.7	Rt.		663.3																							
9-P	585+86.4 to 587+12.5	Lt.		319.9																							
10-P	585+98 to 587+13	Rt.		275.8																							
11-P	587+39.4 to 588+00	Lt.		220.8																							
12-P	587+39.2 to 588+00	Rt.		221.9																							
			587.8	1800.7	176	381	2	4	4	7.49 7.5	10.48 10.5	192.7	49.2	21.7	46	271.8	1	1	1	77.8 78	1	2	40	23.3	6	775	

PROSPECT STREET - STA 584+00 to STA 588+00



CROWN AT RAILROAD CROSSINGS
The crown shall be worked out of the pavement on each side of the railroad crossing begining 50 ft. from the crossing by raising the edge of the pavement to meet the rail elevation.

B.M. 40 Rt. ℄ Sta 588+66
Chiseld □ S.E. Corner Mill & Prospect
Streets S. Side of Sidewalk
Elev. 976.03

For Intersection Details
See Sheet No. 40

BRIDGE No. MAR-23D-0091

TYPE - Prestressed Composite Box Beam Bridge W/Conc. Deck & Substructure.
SPANS: 16 @ Approximate 50'-0"
DESIGN LOADING: S 20-60
ROADWAY: 28'-0" W/2'-0" Safety Curbs
SKEW: None
WEARING SURFACE: 1" Monolithic
ALIGNMENT: Tangent
APPROACH SLABS: A-S-1-54 (25' long)
RAILING: Concrete Parpet W/Aluminum Railing & Posts (Type 1)

Prospect Street
Sta. 588+50 22.67' Lt. & Rt.
No. 1 M.H.
T/C = 974.90 Lt.
T/C = 975.62 Rt.
I.E. 8" I-1 = 967.00 Lt. & Rt.

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	I-12 Conc. Curb Type 2-B Mod. Lin. Ft.	I-13 4" Conc. Sidewalk Sq. Ft.	I-1 8" Cl. B-1 M-6.6(b) or M-6.8(b) Lin. Ft.	I-1 Class B-1 12" Lin. Ft.	I-1 Class B-1 15" Lin. Ft.	I-1 Class B-1 18" Lin. Ft.	I-1 Class B-1 24" Lin. Ft.	I-5 8" B-1 M-6.6(b) or M-6.8(b) 45° Bd. Each	I-21 Conc. Median Pavmt Sq. Yds.	E-8 Pavmt Remov. Sq. Yds.	T-35 1¼" Asph Conc. S.C. Cu. Yds.	B-35 1¾" Asph Conc. L.C. Cu. Yds.	B-70 8" Port. Cement Conc. B.C. Sq. Yds.	I-22 6" Subbase Cu. Yds.	T-30 Bitum Tack Coat Gals.	I-8 Catch Basin #6 Each	I-8 Manhole Ajusted to Grade Each	I-16 C.B. Aband Each	I-16 M.H. Aband Each	I-8 Catch Basins Std. No. 3 Each	I-8 Manholes Std. No. 1 Each	I-1 18" Cl. B-1 Pipe Under Railroad M-6.6(d) Lin. Ft.	B-70 9" Port. C. Conc. Base Course Sq. Yds.	100% City Participation I-8 Manholes Std. No. 1 Each	100% City Participation I-1 8" Cl. B-1 M-6.8(b) Lin. Ft.	SEE SHEET NO.
1-D	588+00 to 588+65	Rt.							65																			56
2-D	588+65	Rt. & Lt.					57															1						56
3-D	588+65 to 588+69	Rt.				22																1						56
4-D	588+65 to 589+85	Rt.						64														1		56				56
5-D	589+80 to 589+85	Rt. & Lt.						57										1										56
6-D	588+00 to 588+50	Lt.																								1	50	
7-D	588+00 to 588+50	Rt.																								1	50	
8-D	588+65	Rt.																			1							
9-D	588+75	Rt.																		1								
10-D	590+51	Rt.																		1								
11-D	590+49	Lt.																		1								
12-D	590+88	Rt.																	1									
13-D	588+50.4 to 588+65	Rt.			34					2																		56
1-A	588+38.5	Lt.										30.6	0.49	0.69	14.1	2.4	1.4											
2-A	589+62.7	Rt.										24.7	0.33	0.46	9.5	1.6	1.0											
3-A	589+50	Lt.										86.7	0.63	0.74	15.2	2.5	1.5											
4-A	590+10	Lt.										86.7	0.53	0.74	15.2	2.5	1.5											
5-A	590+03	Rt.										22.2	0.29	0.41	8.4	1.4	0.8											
6-A	590+41	Rt.										19.1	0.24	0.34	6.8	1.1	0.7											
7-A	591+10	Lt.										47.8	0.50	0.90	14.3	2.4	1.4											
8-A	591+44.5	Rt.										35.6	0.44	0.62	12.7	2.1	1.3											
9-A	588+65	Lt. & Rt.											0.85	1.19		4.1	2.5								24.5			
10-A	589+80 to 589+85	Lt. & Rt.											0.89	1.25		4.3	2.6								25.7			
11-A	588+87.7	Lt.										65.3	2.34	3.28	66.9	11.1	6.7											
12-A	588+87.7	Rt.										110.6	4.17	5.83	119.0	19.5	12.0											
1-P	588+00 to 588+72.9	Lt.	93.5																									
2-P	588+00 + 588+69.0	Rt.	84.5																									
3-P	589+14.8 to 589+70	Lt.	55.2																									
4-P	589+90 to 590+48.9	Rt.	58.9																									
5-P	589+14.8 to 590+48.9	Lt.	134.5																									
6-P	590+79.12 to 592+00	Lt.	120.9																									
7-P	590+79.12 to 592+00	Rt.	120.9																									
8-P	588+00 to 588+73.9	Lt.		260.0																								
9-P	588+00 to 588+67	Rt.		293.7																								
10-P	589+11.3 to 590+48.9	Rt.		313.9																								
11-P	590+75.62 to 592+00	Lt.		343.4																								
12-P	590+75.62 to 592+00	Rt.		358.6																								
13-P	589+11.3 to 589+34	Lt.		78.7																								
15-P	590+26 to 590+52.4	Lt.		92.7																								
16-P	589+16.3	Lt. & Rt.									9.6																	
			668.4	1741.0	34	22	57	121	65	2	9.6	529.3	11.60	16.25 16.3	282.1	55.0	33.4	1	1	3	1	3	1	56	50.2	2	100	

PROSPECT STREET STA 588+00 to STA 592+00

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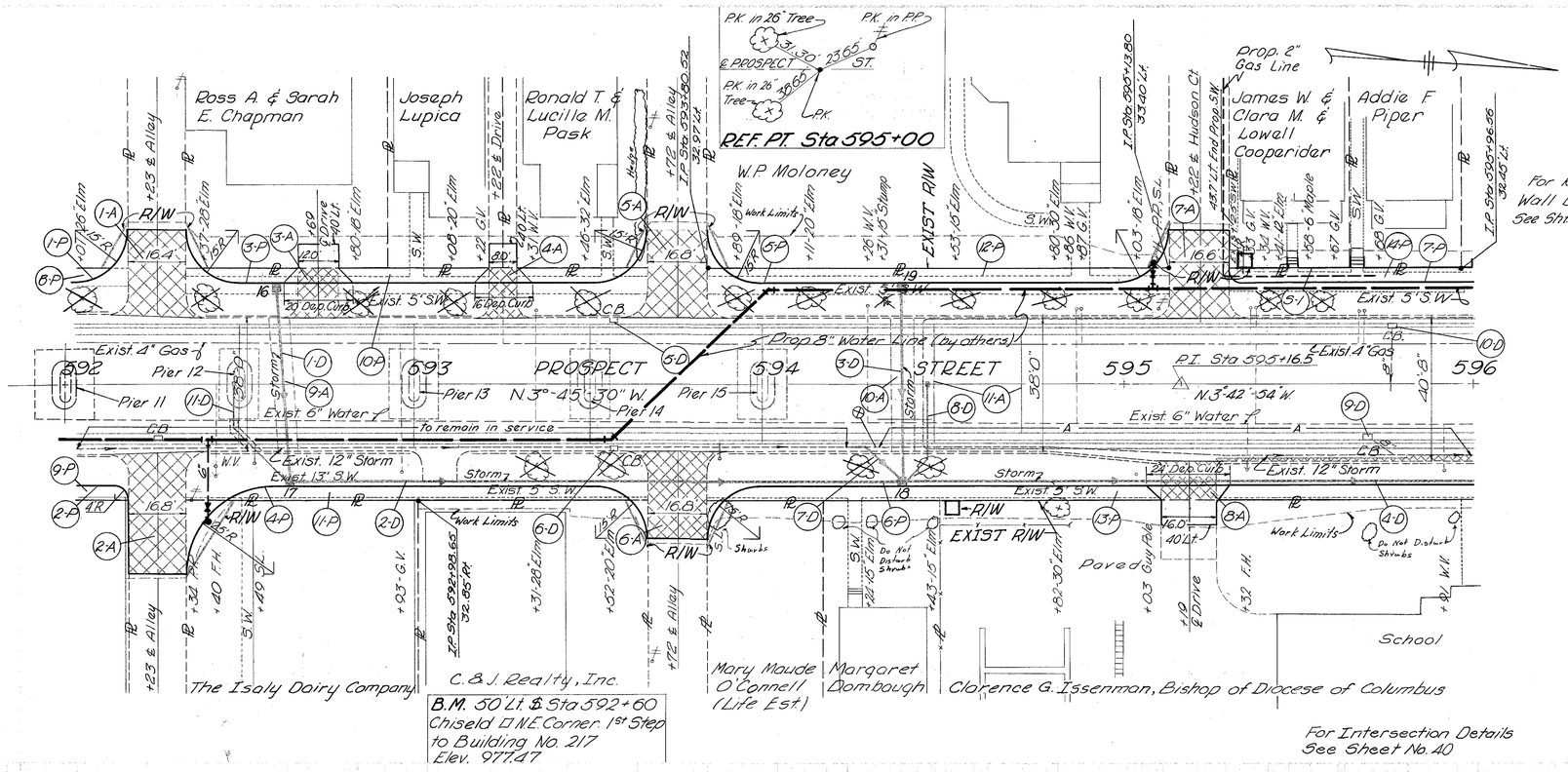
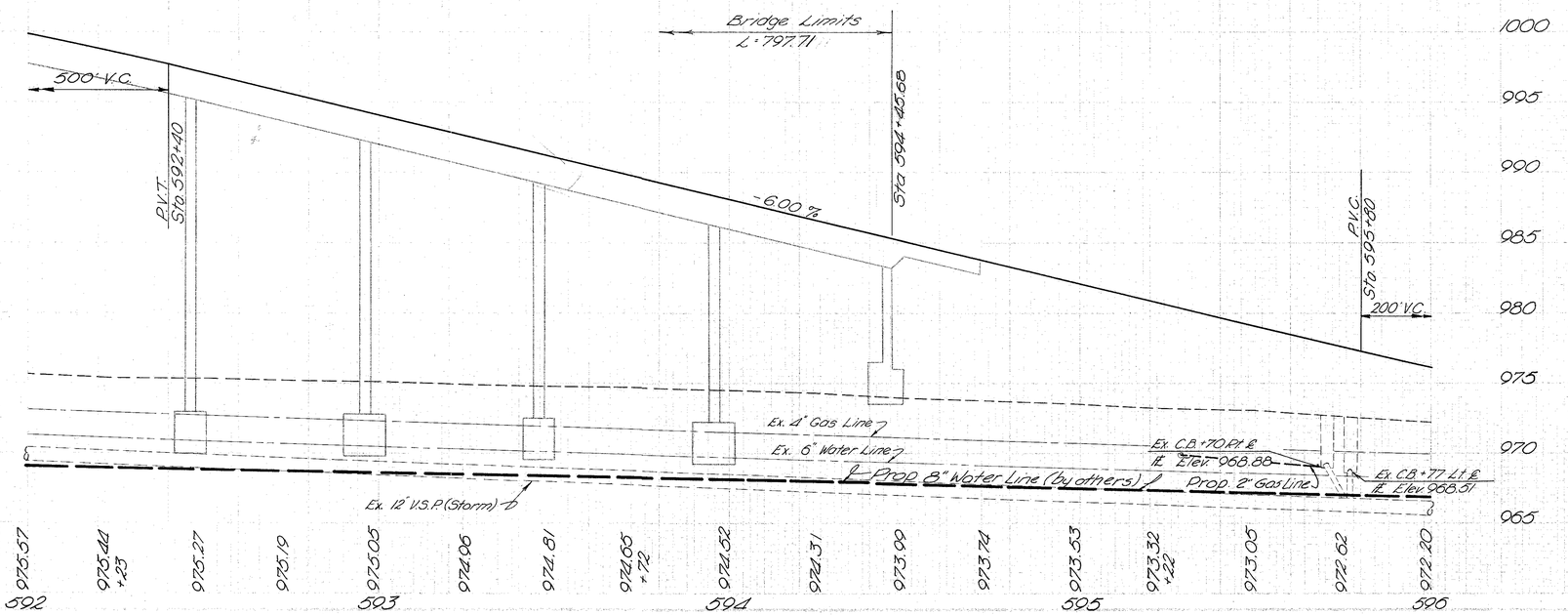




PROSPECT STREET STA 592+00 to STA 596+00

ESTIMATED QUANTITIES

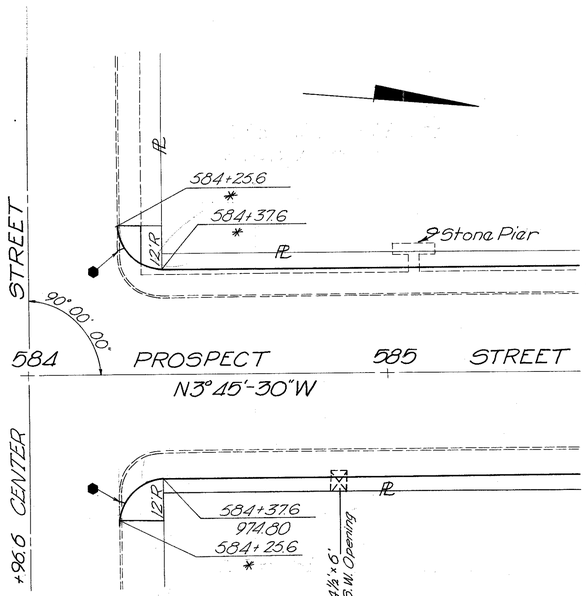
	Station to Station	Side	I-12 Conc. Curb Type 2B Mod. Lin.Ft.	I-13 4" Conc. Sidewalk Sq.Ft.	I-1 Class B-1 12" Lin.Ft.	I-1 Class B-1 15" Lin.Ft.	I-1 Class B-1 24" Lin.Ft.	I-8 Catch Basins Std. No3 Each	I-8 Catch Basins Std. No3A Each	I-16 Catch Basins Aband. Each	I-16 M.H. Aband. Each	S-1 Conc. for Struct. Cu.Yds	S-4 Reinf. Steel lbs	I-13 Conc. Steps as per plan Lin.Ft.	B-70 9" Port. C.Conc. Base Course Sq.Yds.	E-8 Pavmt. Remov. Sq.Yds.	S-22 Removal of Port. of Exist Struct. Lump	T-35 1¼" Asph. Conc. S.C. Cu.Yds.	B-35 1¾" Asph. Conc. L.C. Cu.Yds.	B-70 8" Port. C.Conc. Base C. Sq.Yds.	I-22 6" Subbase Cu.Yds.	T-30 Bitum. Tack Coat Gals.	Sheet No.
1-D	596+00 to 596+20	Rt.					20		1														58
2-D	596+20 to 597+97	Rt.					177	1															58
3-D	596+20 to 598+00	Lt.			180				1														58
4-D	598+00 to 598+39	Lt.&Rt.				49		1															58
5-D	597+97 to 598+39	Rt.					48																58
6-D	597+63	Lt.&Rt.			29				1														58
7-D	597+63 to 597+84	Rt.			20				1		1												58
8-D	598+22	Rt.								1													
9-D	597+98	Lt.								1													
10-D	597+95	Rt.								1													
1-A	596+70	Lt.														46.7		1.33	1.86	38.4	6.4	3.8	
2-A	596+66	Rt.														13.3		0.23	0.33	6.8	1.2	0.7	
3-A	597+64	Lt.														31.1		0.29	0.41	8.4	1.4	0.8	
4-A	598+00 to 598+39	Lt.													17.5			0.61	0.86		2.9	1.8	
5-A	597+97 to 598+39	Rt.													23.2			0.44	1.54		3.9	2.8	
1-P	596+00 to 596+61.7	Lt.	70.3																				
2-P	596+78.3 to 598+17	Lt.	155.9																				
3-P	596+00 to 598+21.9	Rt.	236.2																				
4-P	596+00 to 596+57.9	Lt.		255.0																			
5-P	596+00 to 598+19	Rt.		817.2																			
6-P	596+82.5 to 598+12.5	Lt.		468.2																			
S-1	596+00 to 596+58	Lt.										18.1	627	33			Lump						
			462.4	1540.4	229	49	245	2	4	3	1	18.1	627	33	40.7	91.1	Lump	2.9	5.0	53.6	15.8	9.9	

PROSPECT STREET STA. 596+00 to STA. 600+00

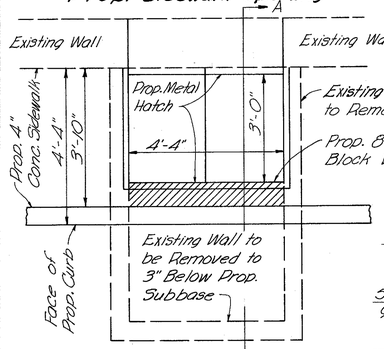
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

40/122

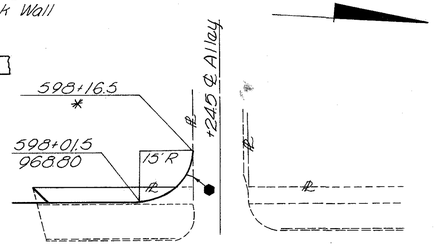
MAR.-23-11.05
MAR.-23 D-0.87

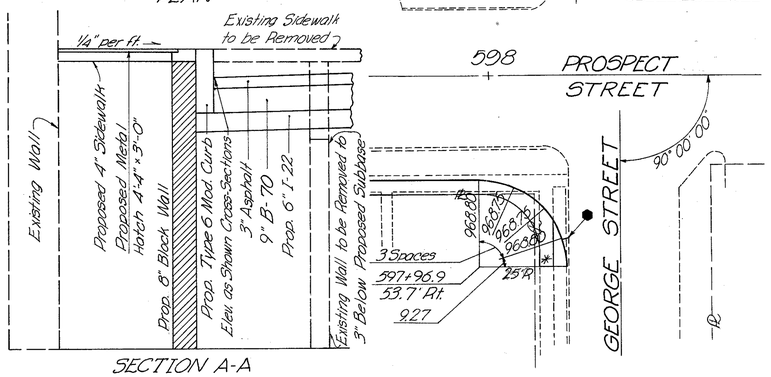


Prop. Sidewalk Opening



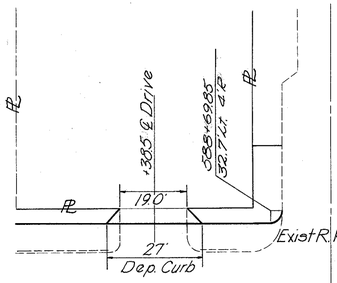
PLAN

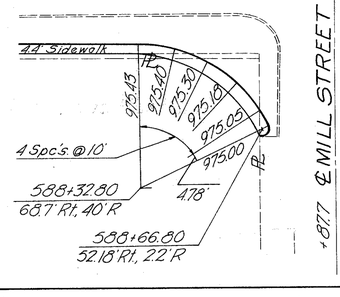


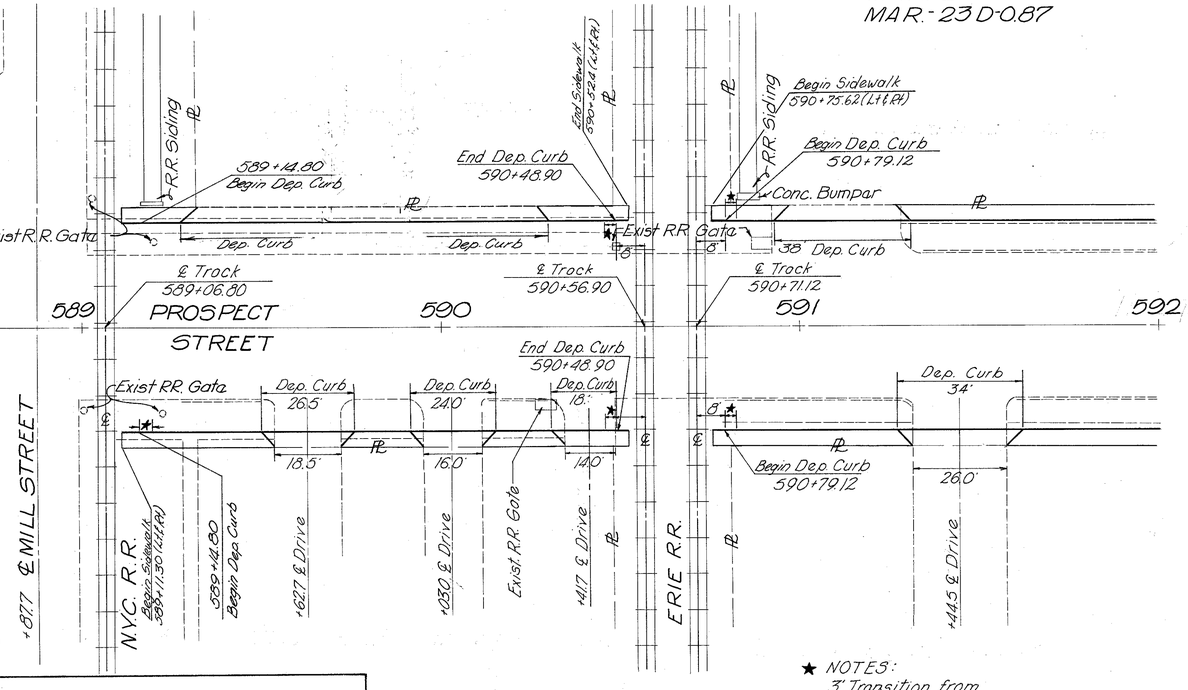


SECTION A-A

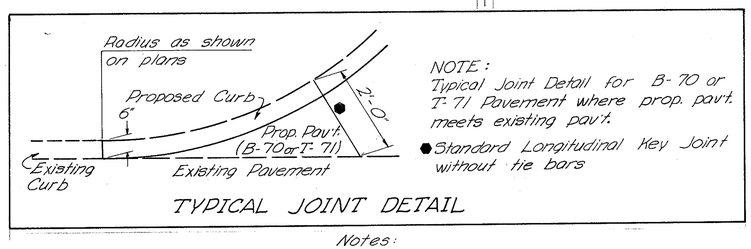
NOTE: Provide & install flush floor hatch 4'-4" x 3'-0" Special Galvanized metal manufactured by Babcock Davis Assoc. Inc. or Bilco Co. or approved equal. See Sheet No. 36. for Est. Quantities.







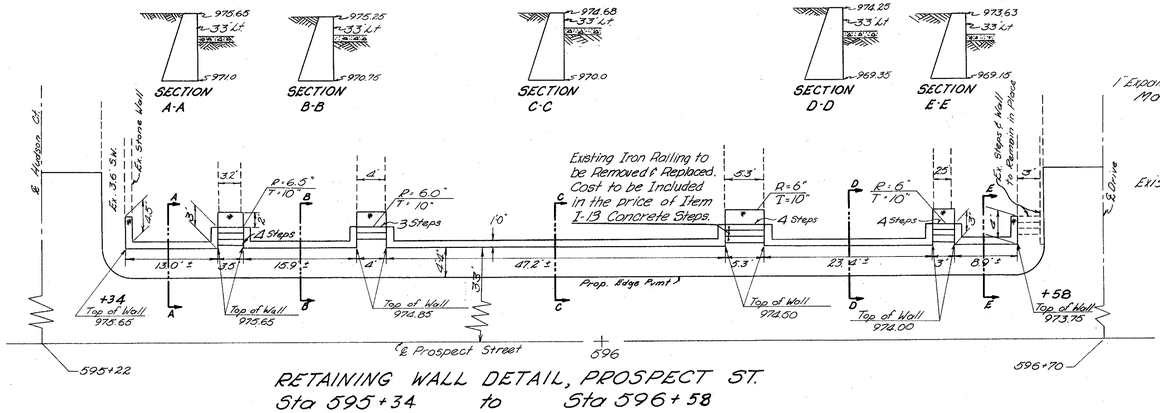
★ NOTES:
3" Transition from 9" Curb to 2" Curb
* Prop. Elev. to Meet Exist.



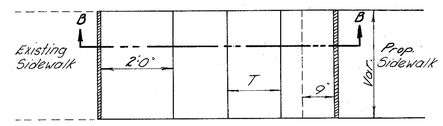
NOTE:
Typical Joint Detail for B-70 or T-71 Pavement where prop. pavt. meets existing pavt.
● Standard Longitudinal Key Joint without tie bars

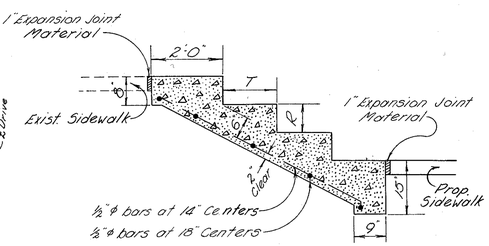
TYPICAL JOINT DETAIL

Notes:
For Retaining Wall Typical See Sheet No. 8
* Meet Existing



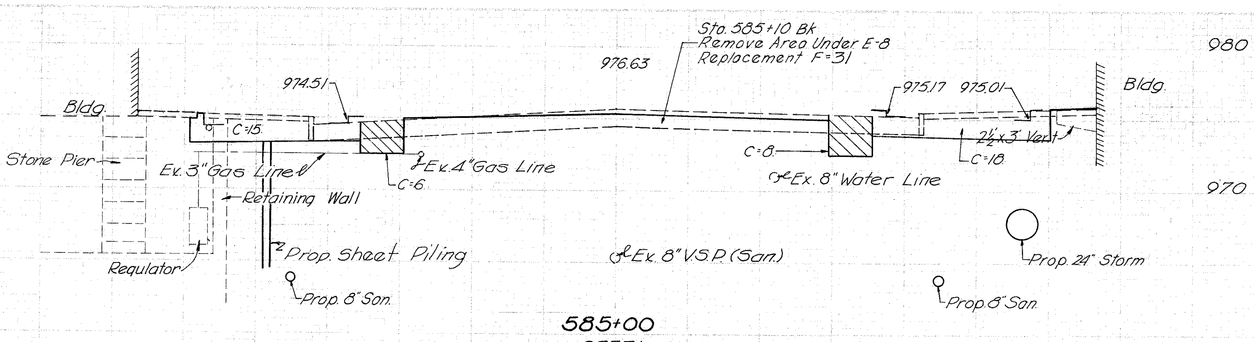
RETAINING WALL DETAIL, PROSPECT ST.
Sta 595+34 to Sta 596+58

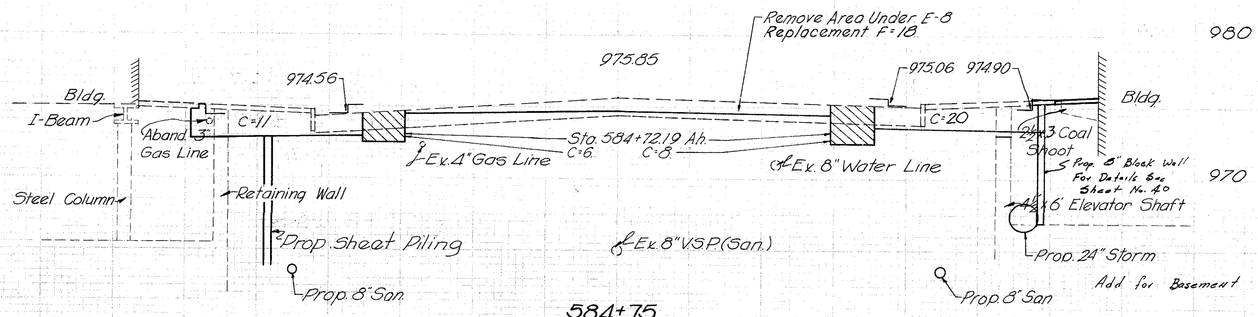




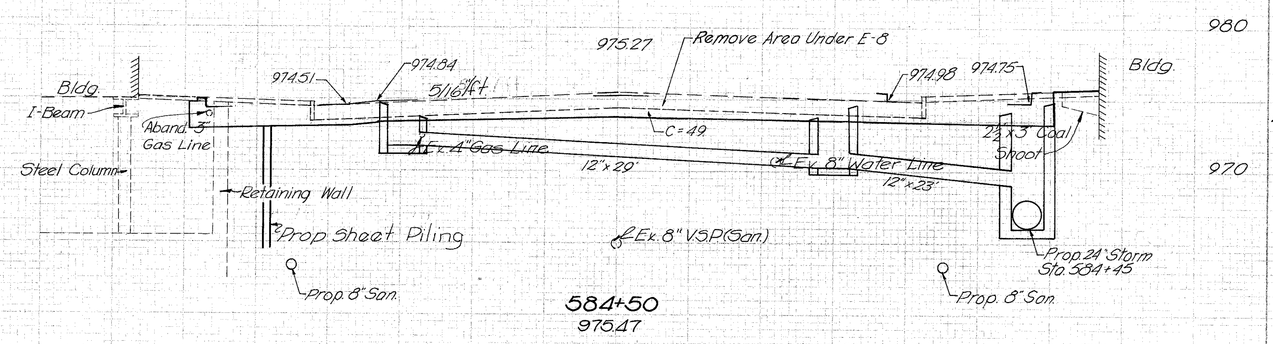
Section B-B
CONCRETE STEPS DETAIL

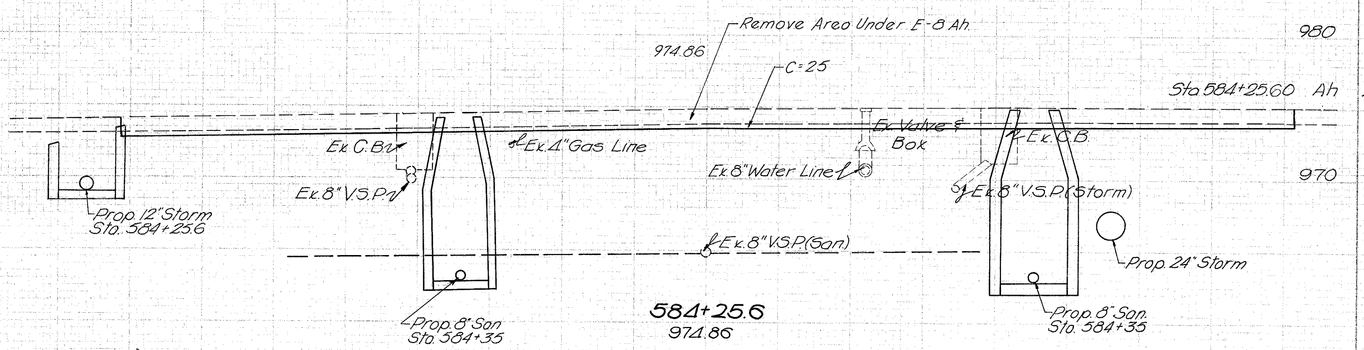
WALL & INTERSECTION DETAILS PROSPECT STREET



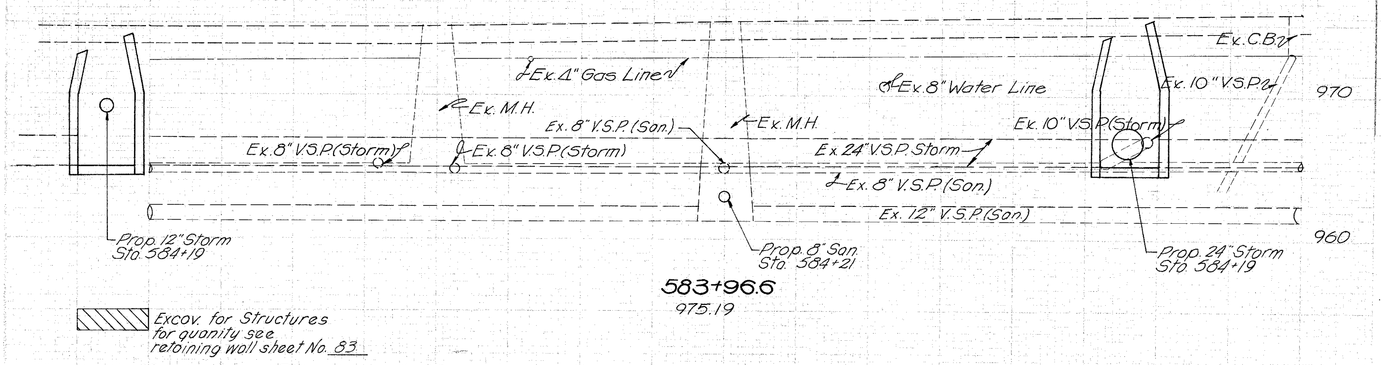


For Uller Phillips Basement
Details see Sheet No. 60.





Begin Project Sta. 584+25.60
Begin Work Sta. 584+19.00

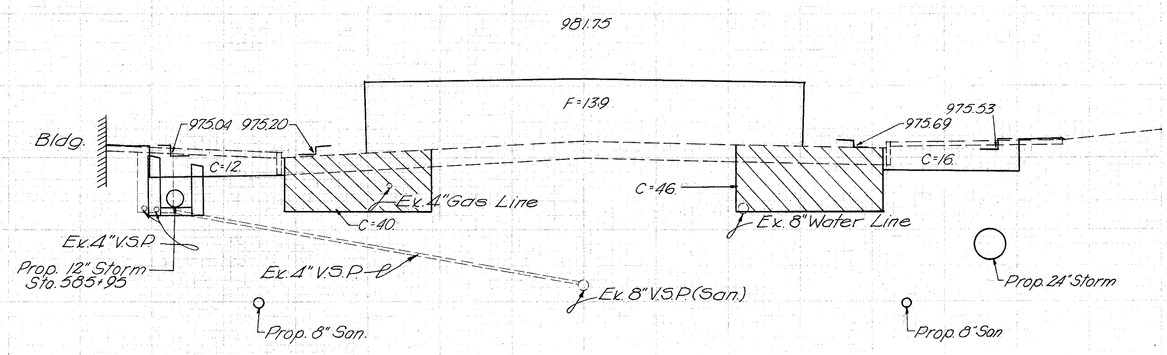


Excav for Structures
for quantity see
retaining wall sheet No. 83

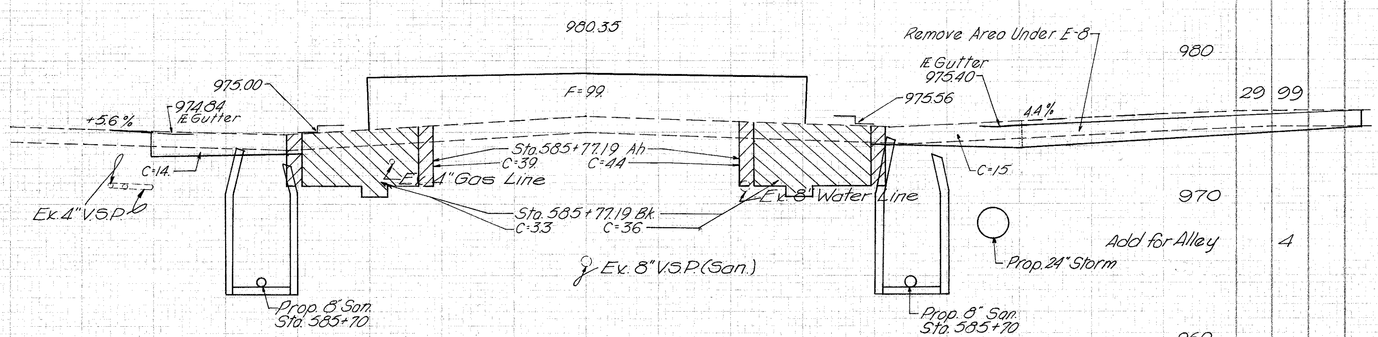
40 30 20 10 0 10 20 30 40

	END AREA		VOL.	
	CUT	FILL	CUT	FILL
			30	25
	33	31		
			30	20
			1	
			37	7
	49	0		
			33	0
Sta. 584+25.60 Ah	25	0		

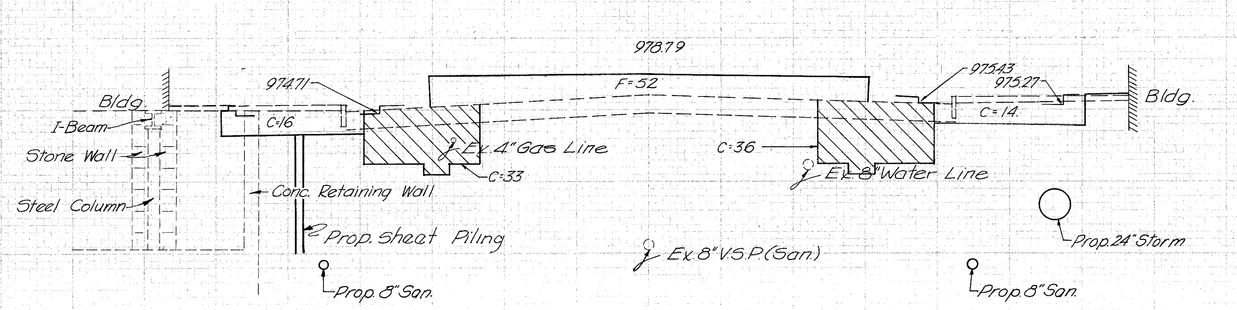
MAR-23-11 05
MAR-23 D087



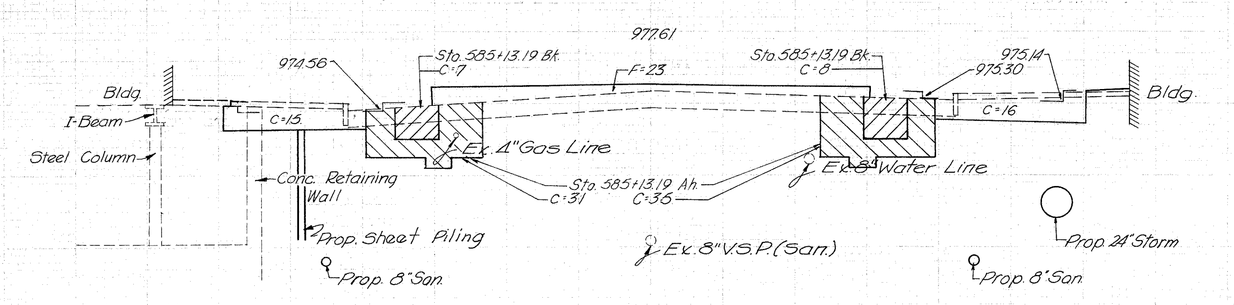
586+00
976.16



585+78
976.11
℄ Alley



585+50
976.02



585+25
975.87

Excav. for Structures for quanity see retaining wall sheet No. 83

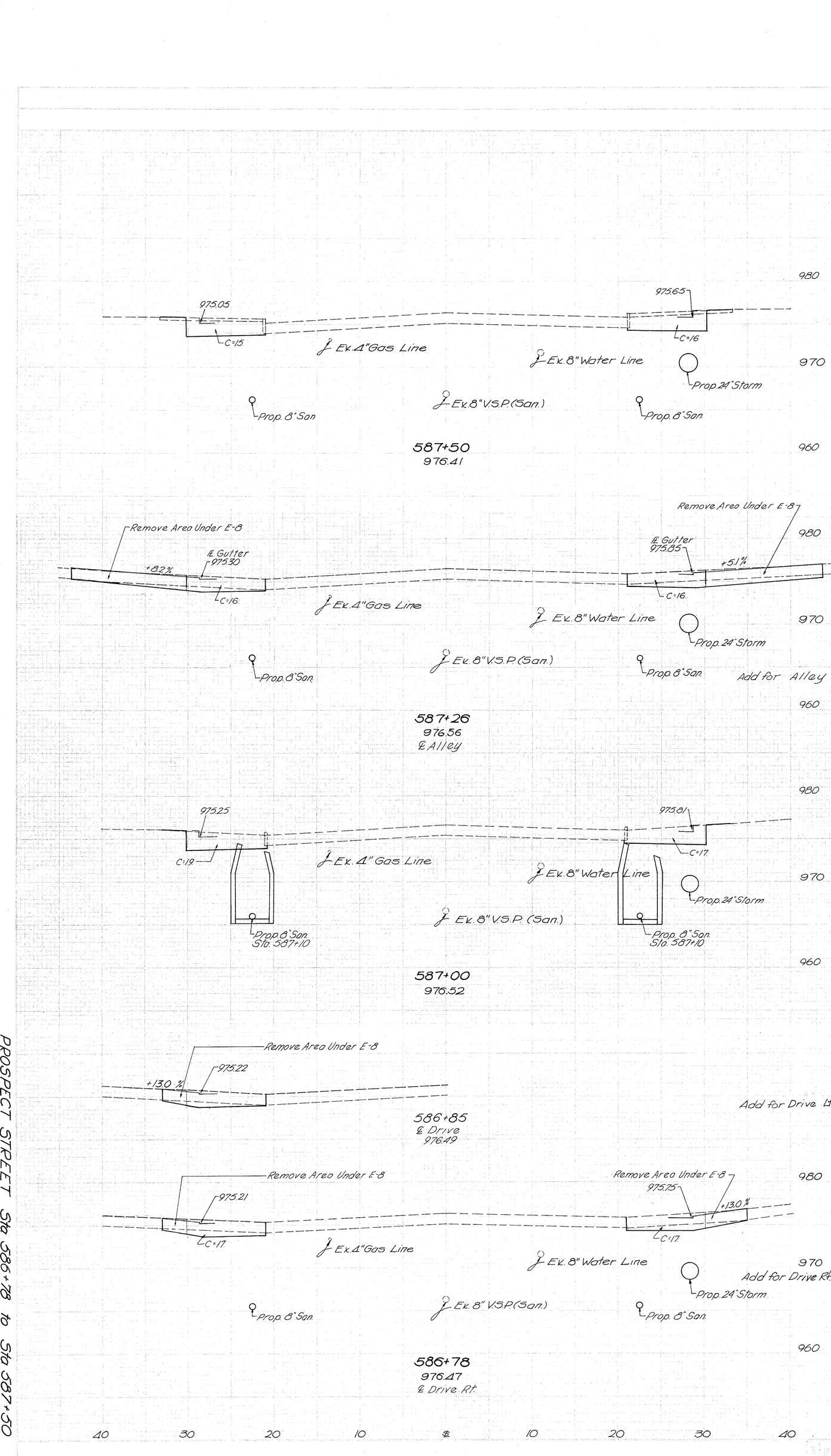
40 30 20 10 0 10 20 30 40

	END AREA		VOL.	
	CUT	FILL	CUT	FILL
			32	183
		28		139
			23	97
		29		99
		4		
			31	78
		30		52
			28	35
		31		23

PROJECT STA. 585+21 to STA. 586+00

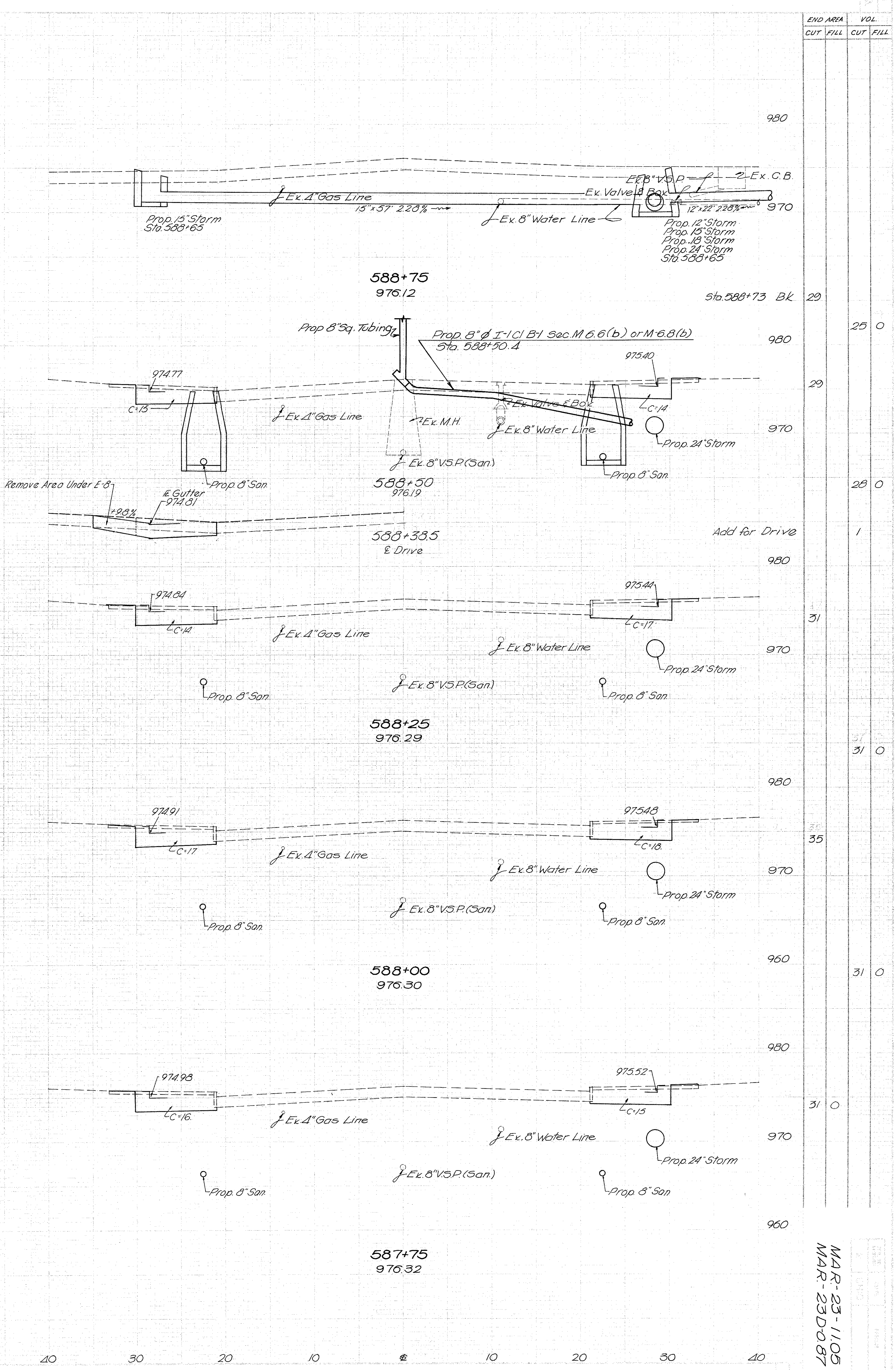
MAR-23-11:05
MAR-23-0:07

PROSPECT STREET Sta 586+29 to Sta 586+75



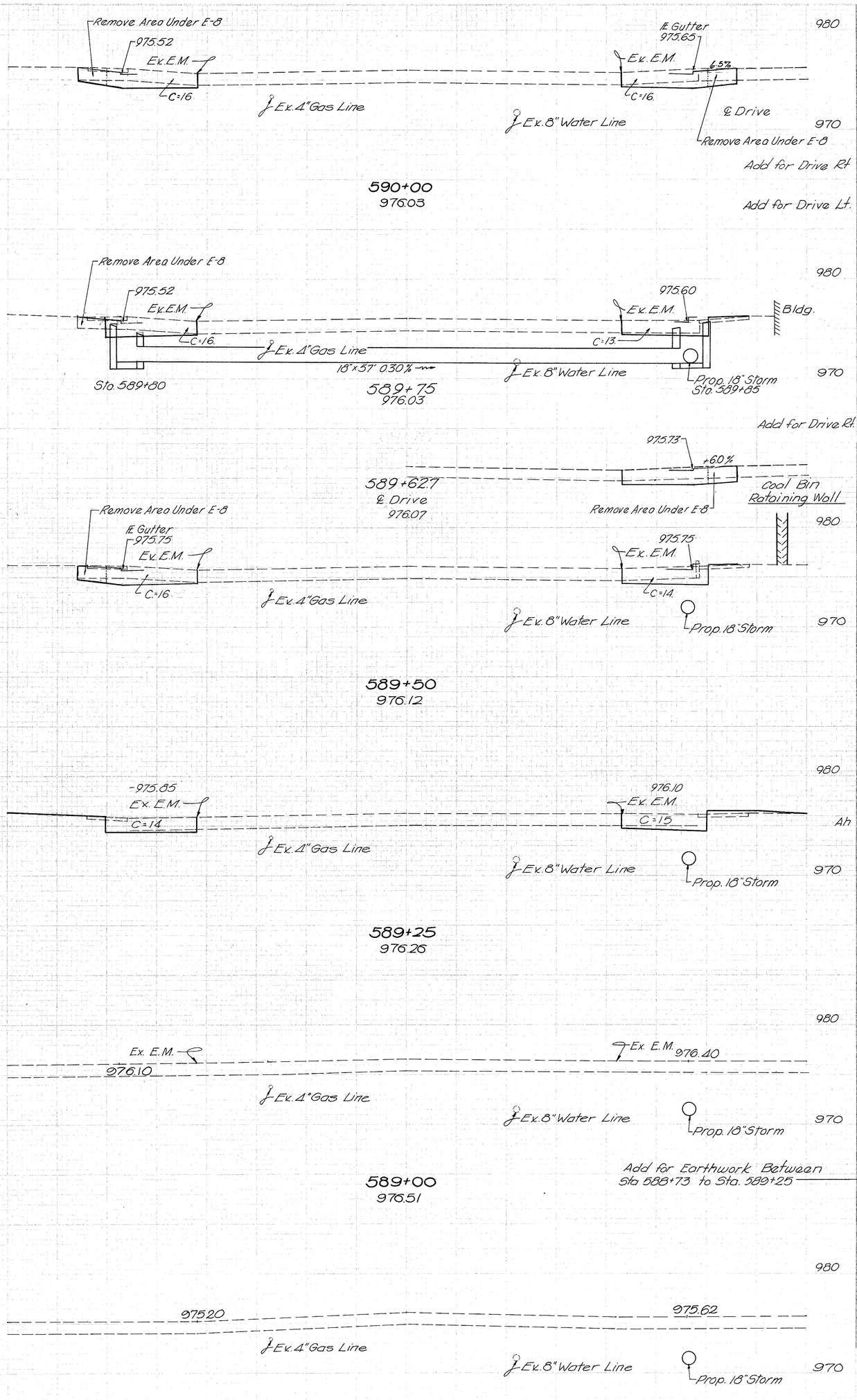
PROSPECT STREET Sta 586+78 to Sta 587+50

MAR-23-11:05
MAR.-23'0.87



MAR-23-11.05
MAR-23D-0.87

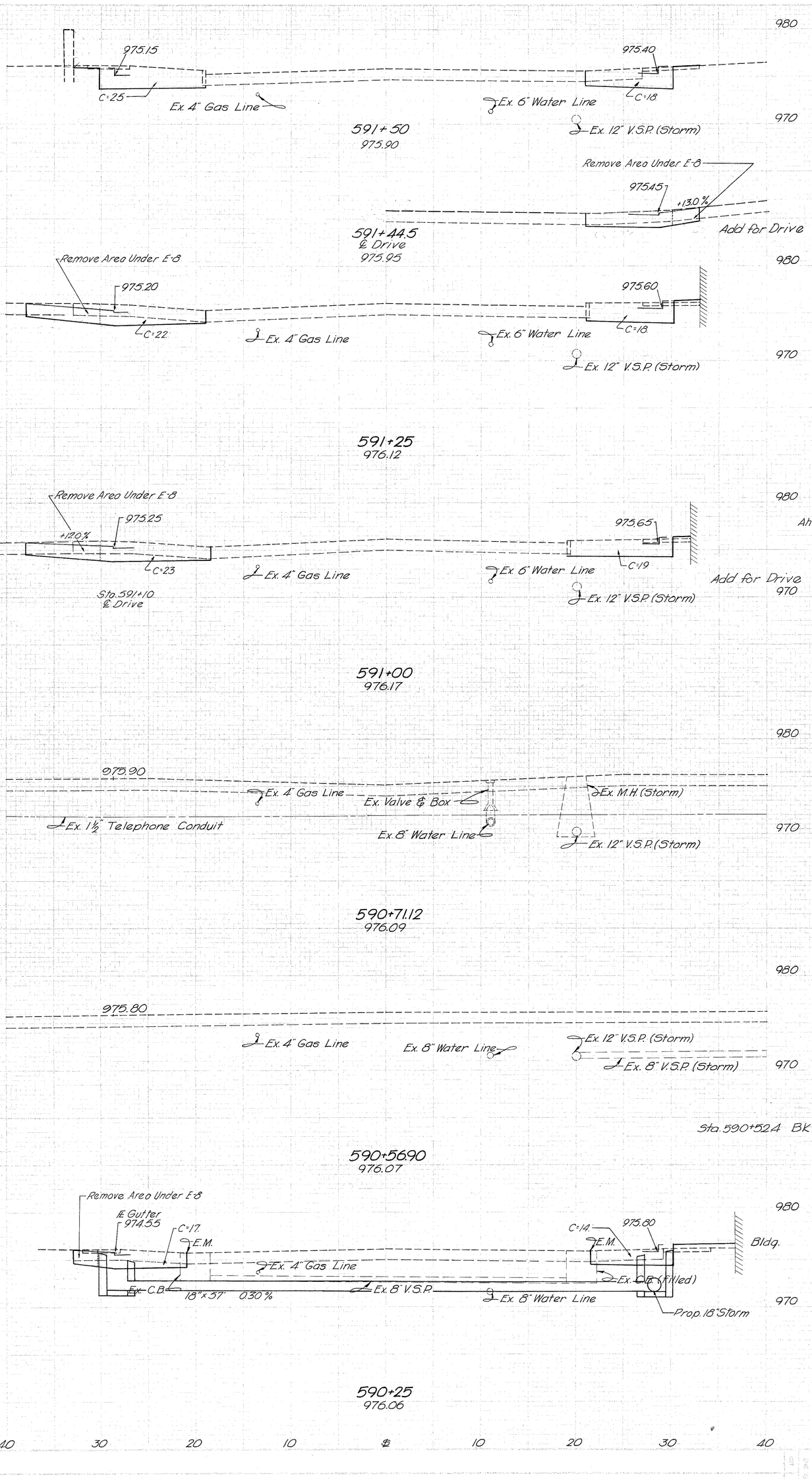
PROSPECT STREET Sta.587+75 to Sta.588+75



	END AREA		VOL.	
	CUT	FILL	CUT	FILL
			29	0
	32			
Add for Drive Rt			1	
Add for Drive Lt.			5	
			28	0
	29			
			27	0
Add for Drive Rt.			1	
	30	0		
			27	0
	Ah	29	0	
Add for Earthwork Between Sta 588+73 to Sta. 589+25			16	

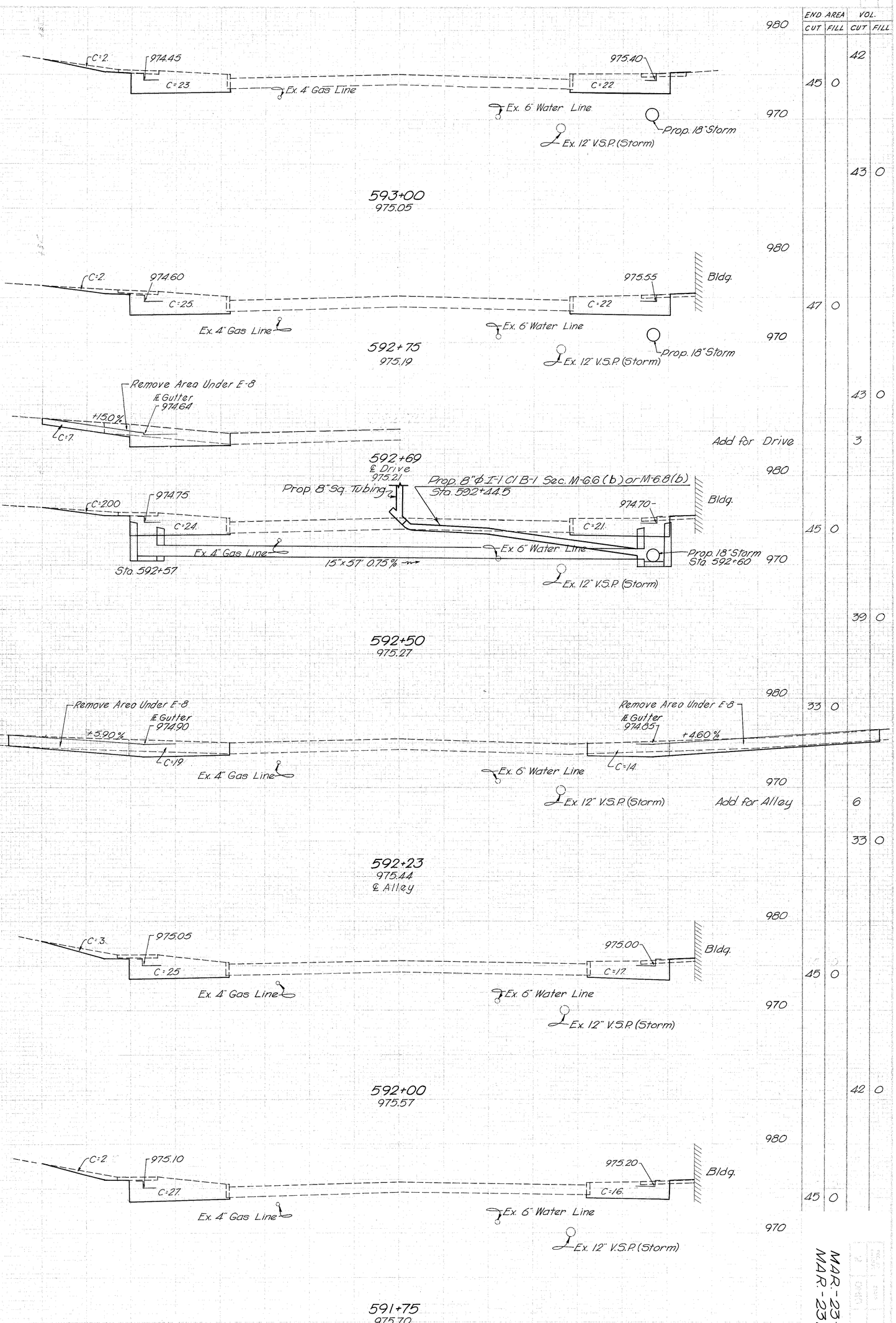
PROJECT STREET Sta. 588+87.7 to Sta. 590+00

MAR-23-1105
MAR-23D087



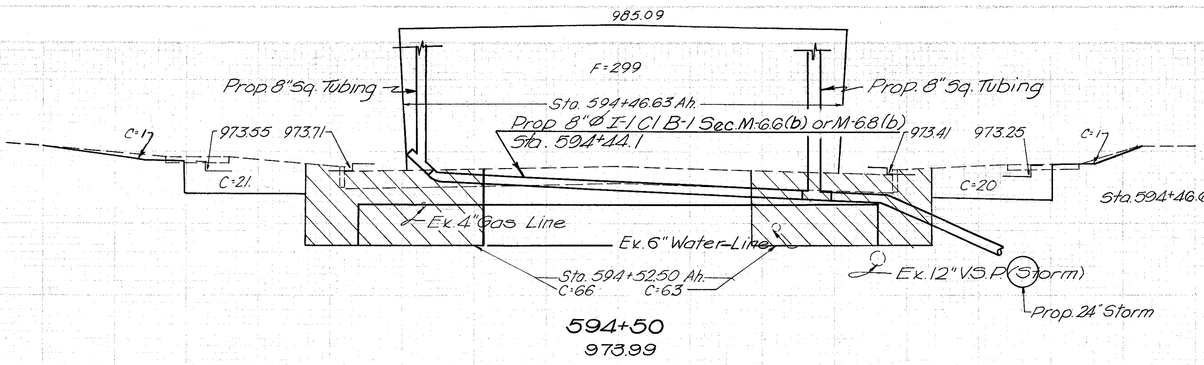
PROJECT STREET Sta. 590+25 to Sta. 591+50

MAR-23-1105
MAR-23-0.87

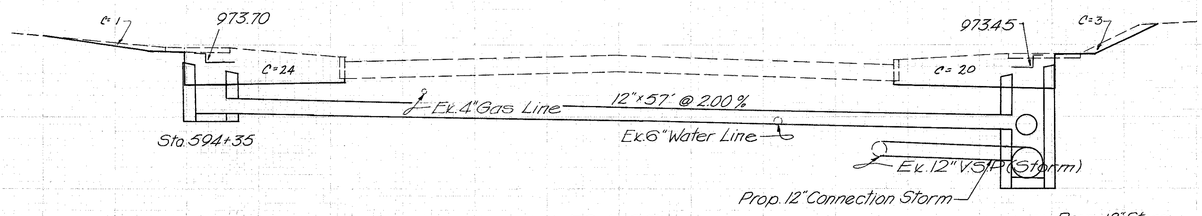


PROSPECT STREET Sta. 592+25 to Sta. 593+00

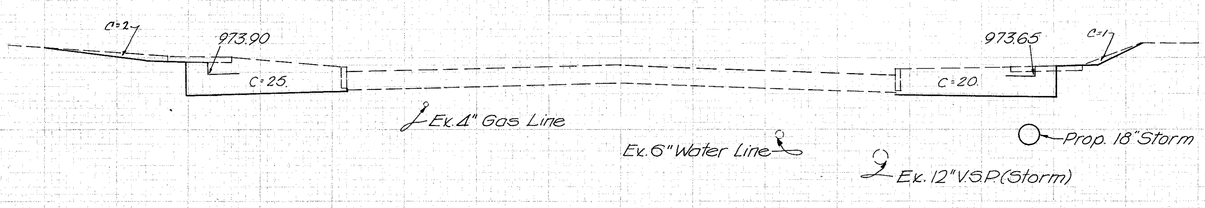
MAR-23-1105
MAR-23D-087



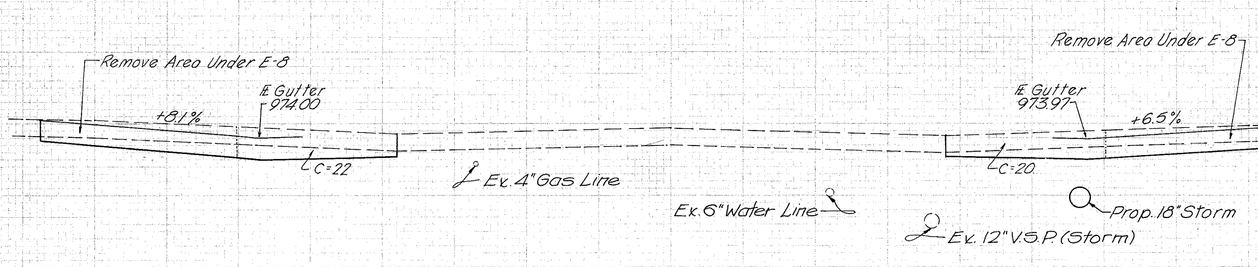
594+50
973.99



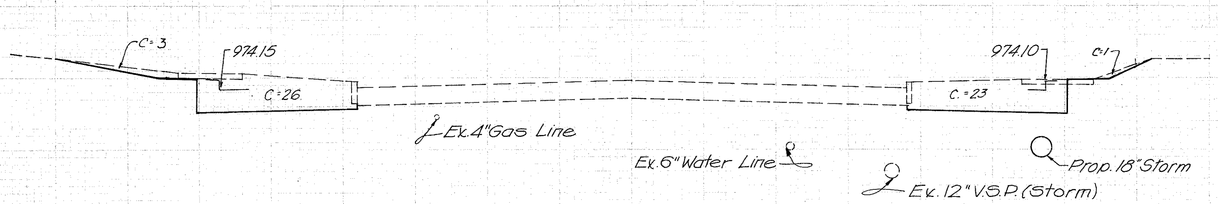
594+25
974.31



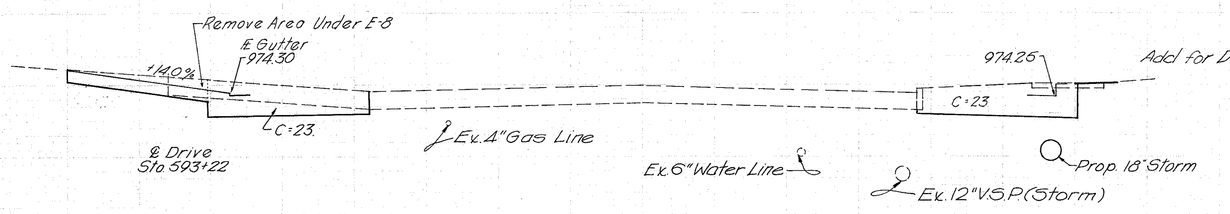
594+00
974.52



593+72
974.65
℄ Alley



593+50
974.81



593+25
974.96

	END AREA		VOL.	
	CUT	FILL	CUT	FILL
594+50	43		38	293
Sta. 594+46.63 Ah		299		
594+25	48	0	42	0
Sta. 594+35				
594+00	48	0	44	0
593+72	42	0	47	0
Add for Alley			10	
593+50	53	0	39	0
593+25	46	0	46	0
Add for Drive Lt.			2	

40 30 20 10 ℄ 10 20 30 40

PROSPECT STREET Sta 593+25 to Sta 594+50

MAR.-23-1105
MAR.-23D.87

VOL.		END AREA	
CUT	FILL	CUT	FILL
27	178		
2			
1			
		28	189
	109	26	
		36	225
	176	29	
		41	250
	47	7	
		39	258

MAR.-23-11.05
MAR.-23 D-0.87

50
122

Add for Drive Rt.
Add for Alley Lt

595+22
973.32
℄ Alley

595+00
973.53

594+80
973.74

594+75
973.74

980.89 F=189 980 970 960

980.09 F=225 980 970 960

983.29 F=250 980 970 960

983.59 F=250 980 970 960

Remove Area Under E-8

℄ Gutter 972.70

93%

℄ Drive Sta 595+19

C=15

Prop. 24" Storm

Ex. 12" V.S.P. (Storm)

Ex. 6" Gas Line

Ex. 6" Water Line

Sta 595+16.50 Rt. C=31

Sta 595+16.50 Rt. C=37

Sta 595+16.50 Bk. C=37

℄ Gutter 973.27

+50%

C=13

Remove Area Under E-8

Prop. 2" Gas Line Ahead El. 970.0

Ex. 4" Gas Line

97345

97285

97301

97317

97321

97335

97351

97344

97360

97336

97345

C=17

C=18

C=19

C=20

C=27

C=35

C=36

C=37

C=38

C=57

C=60

C=62

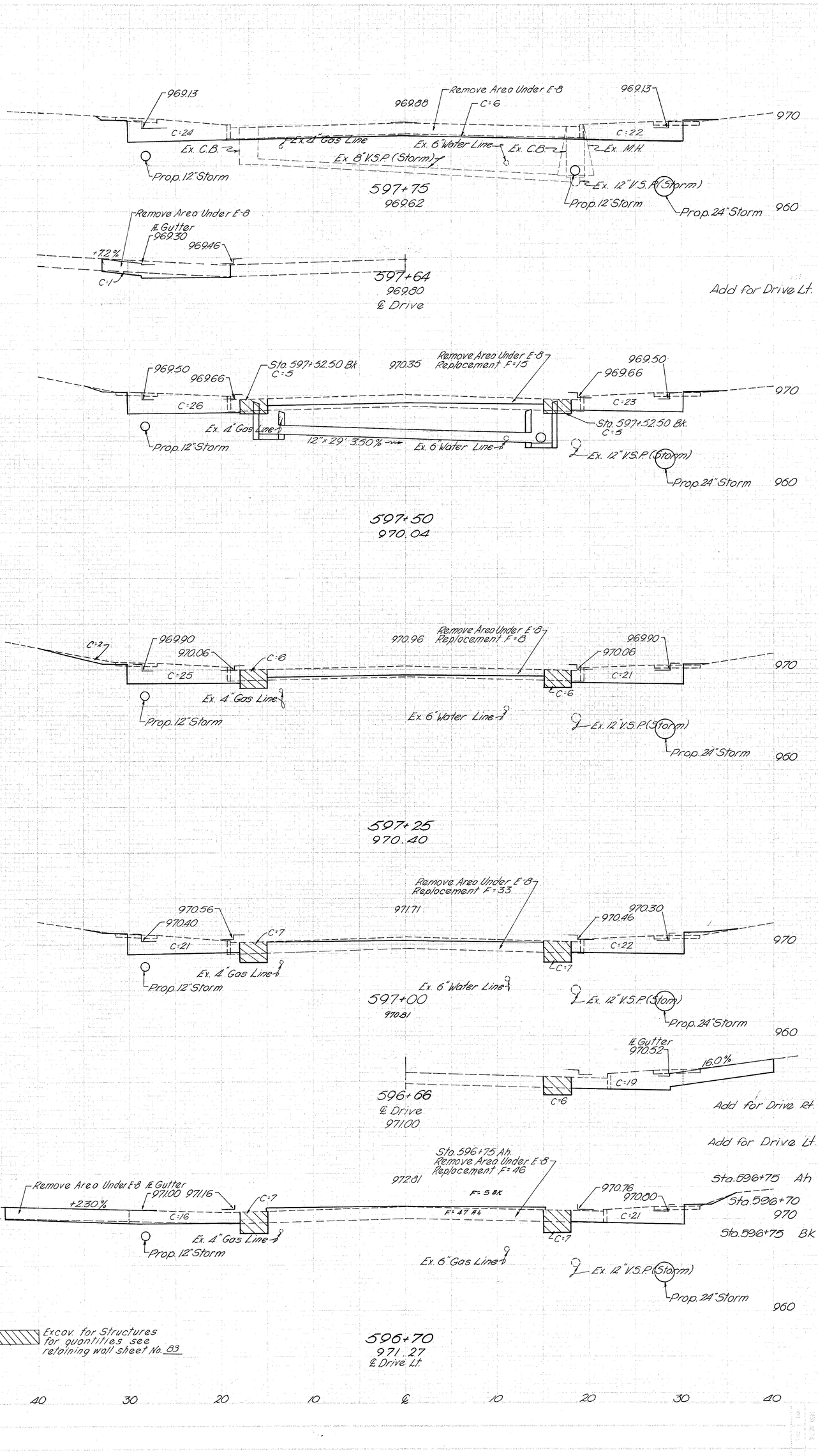
Excav. for Structures for quantity see retaining wall sheet No. 83

10 20 30 40

PROSPECT STREET Sta 594+75 to Sta 595+22

MAR-23-1105
MAR.-23 D087

PROSPECT STREET Sta 595+50 to Sta 596+50

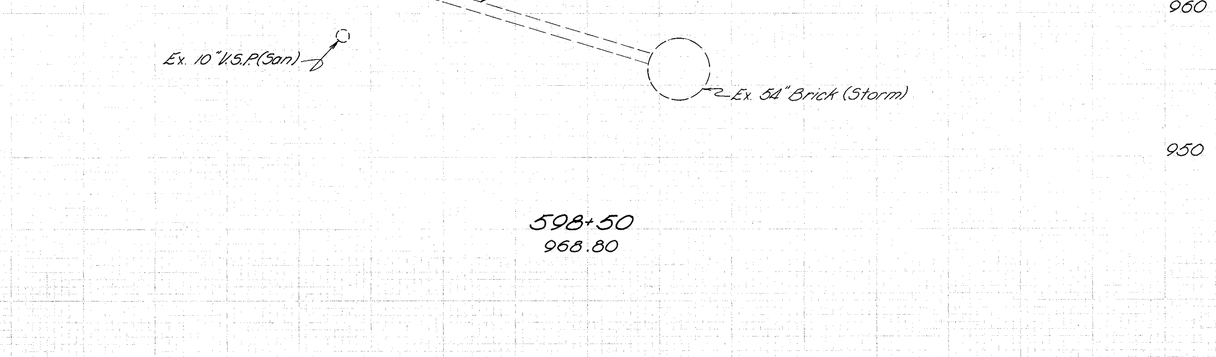


	END AREA		VOL	
	CUT	FILL	CUT	FILL
			38	0
	46	0		
			44	7
Add for Drive Lt.			1	
	49	15		
			45	11
	48	8		
			42	19
	43	33		
			44	37
Add for Drive Rt.			3	
Add for Drive Lt.			2	
Sta. 596+75 Ah		47		
Sta. 596+70	37			
Sta. 596+75 Bk		5		

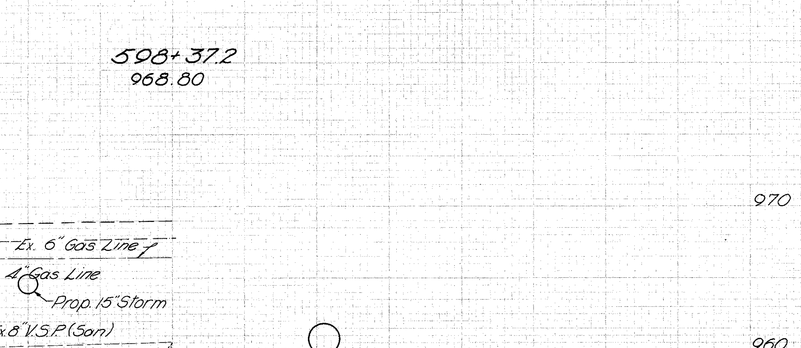
PROSPECT STREET Sta. 596+70 to Sta. 597+75

MAR-23-11.05
MAR-23D.87

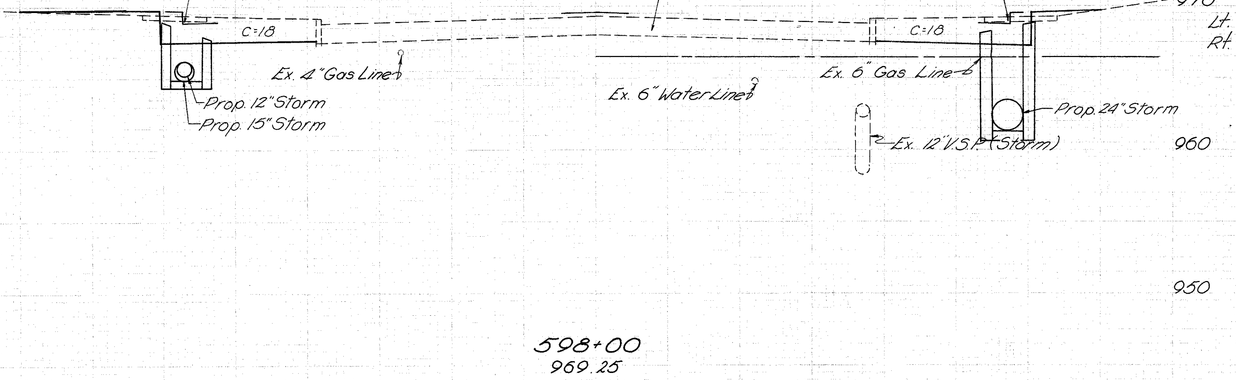
	END AREA		VOL.	
	CUT	FILL	CUT	FILL



598+50
968.80



598+37.2
968.80



End Earthwork Sta. 598+16.5	Lt.	18	0
End Earthwork Sta 598+23	Rt.	18	0

598+24.5
969.01

	Lt.		11	0
	Rt.		15	0

End Project Sta. 598+16.50

	Lt.	18	0
	Rt.	18	0

950

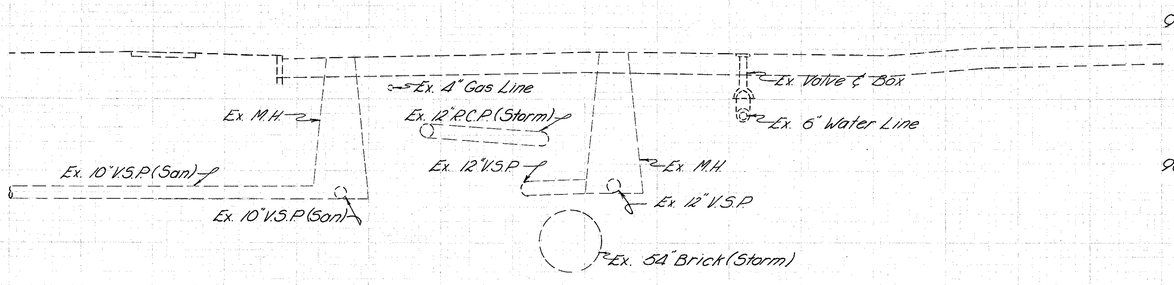
598+00
969.25

40 30 20 10 ℄ 10 20 30 40

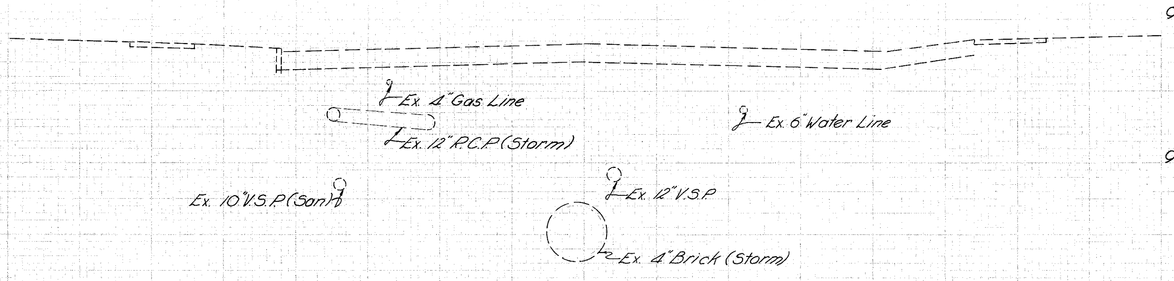
MAR-23-1105
MAR.-23'0.87

PROJECT STREET Sta. 598+00 to Sta. 598+50

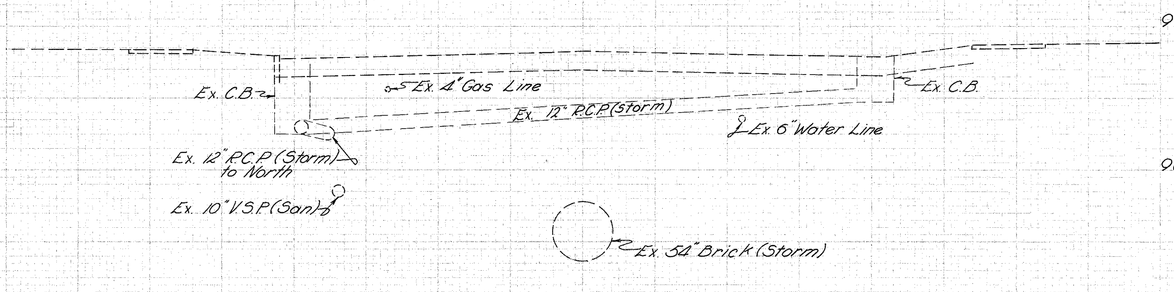
END AREA		VOL.	
CUT	FILL	CUT	FILL



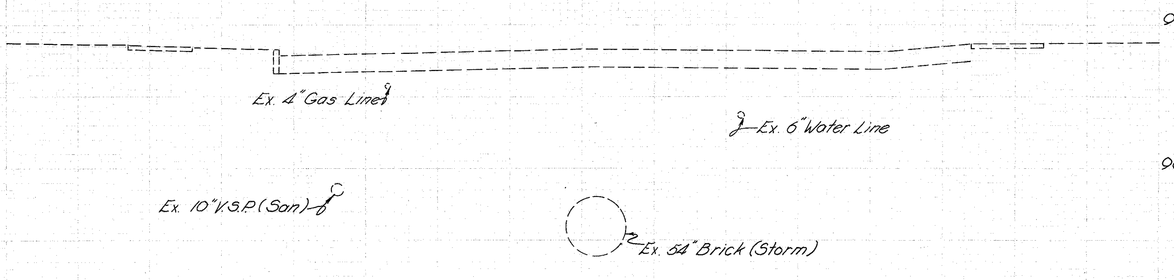
599+50
968.44



599+25
968.29



599+00
968.33



598+75
968.36

40 30 20 10 ℄ 10 20 30 40

PROPOSED STREET STA. 598+75 & STA. 599+50

MAR-23-1105
MAR-23-0.87

54
122

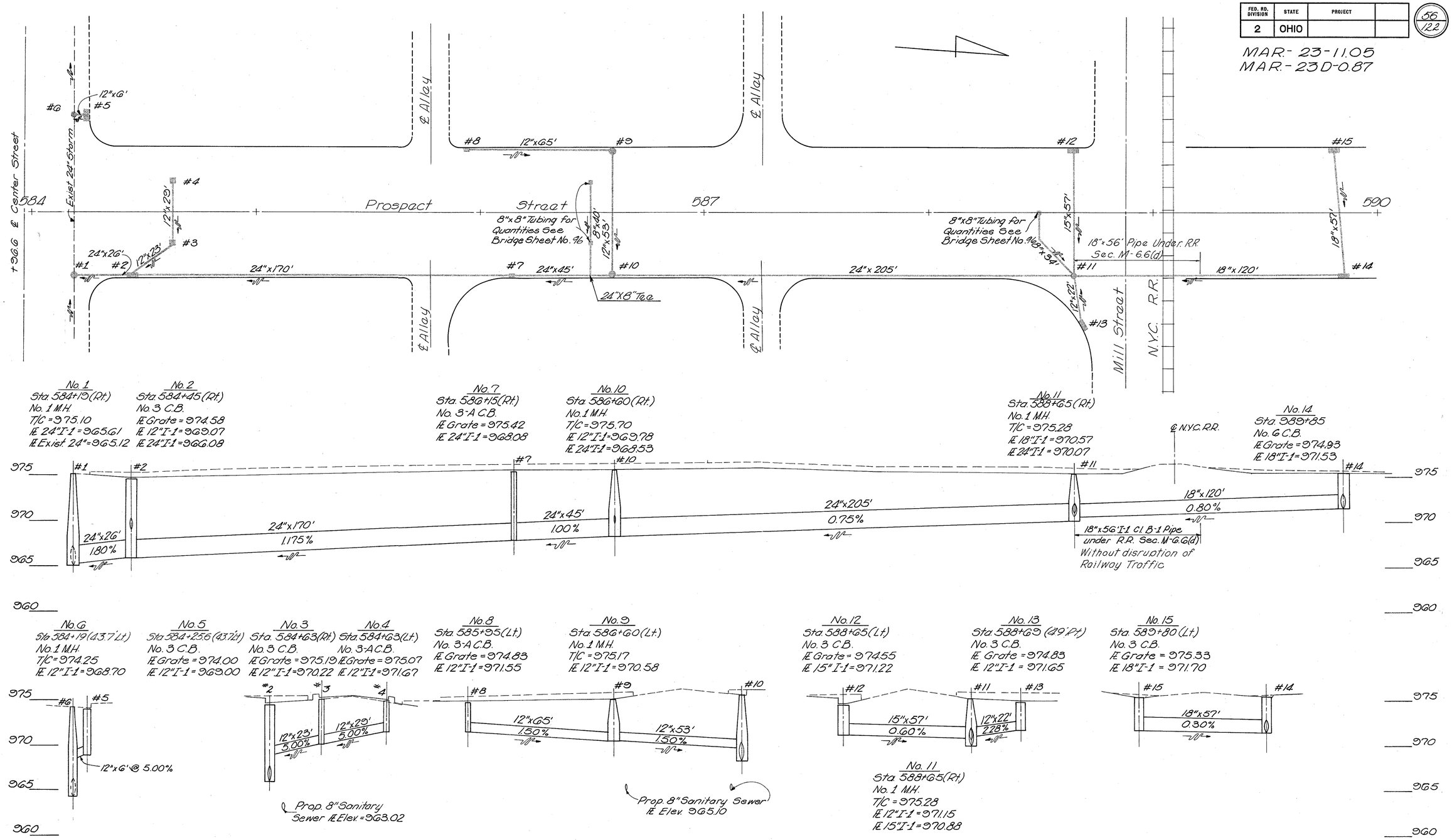
MAR.-23- 11.05
MAR.-23D-0.87

PROSPECT STREET Sta. 599+81.5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

56
122

MAR.-23-11.05
MAR.-23D-0.87

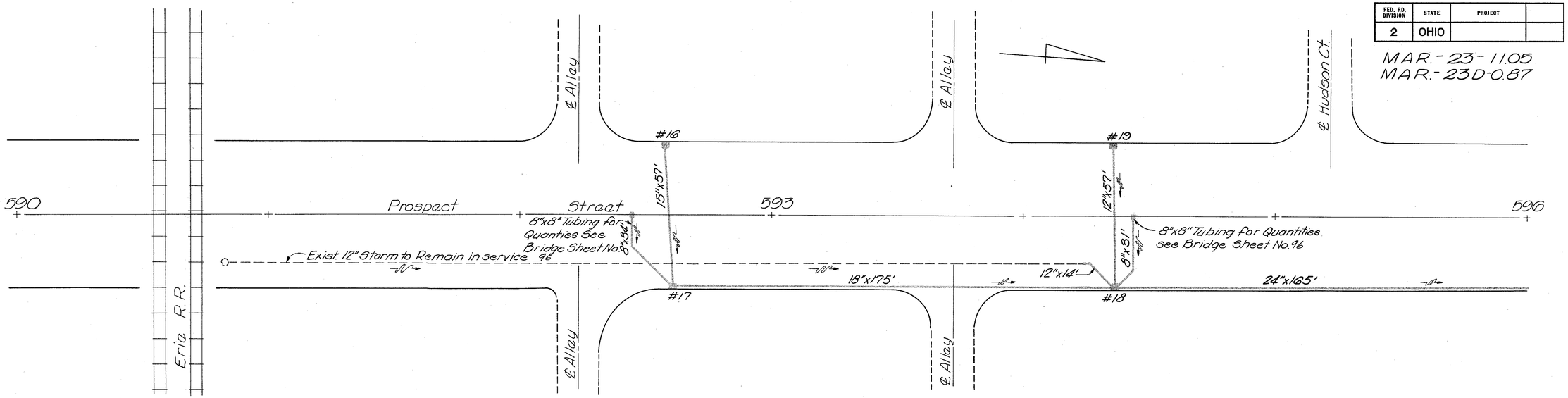


Prospect Street - Storm Sewer Profile

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

57
122

MAR.-23-11.05
MAR.-23D-0.87

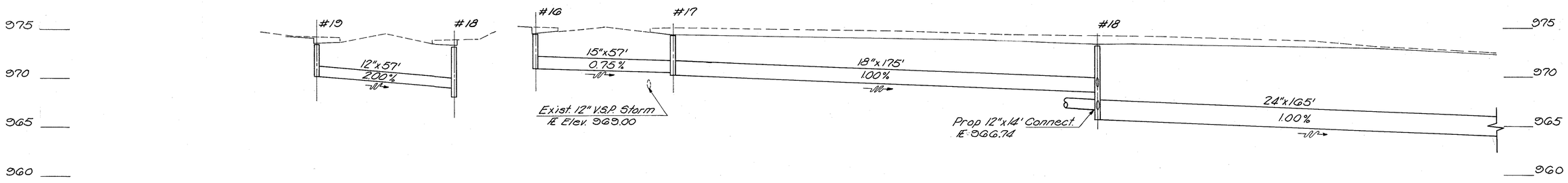


No. 19
Sta. 594+35(Lt)
No. 3-A C.B.
℄ Grate = 973.45
℄ 12"I-1 = 970.20

No. 16
Sta. 592+57(Lt)
No. 3-A C.B.
℄ Grate = 974.53
℄ 15"I-1 = 971.00

No. 17
Sta. 592+60(Rt)
No. 3-A C.B.
℄ Grate = 974.45
℄ 15"I-1 = 970.57
℄ 18"I-1 = 970.32

No. 18
Sta. 594+35
No. 3-A C.B.
℄ Grate = 973.23
℄ 12"I-1 = 969.07
℄ 18"I-1 = 968.57
℄ 24"I-1 = 965.74

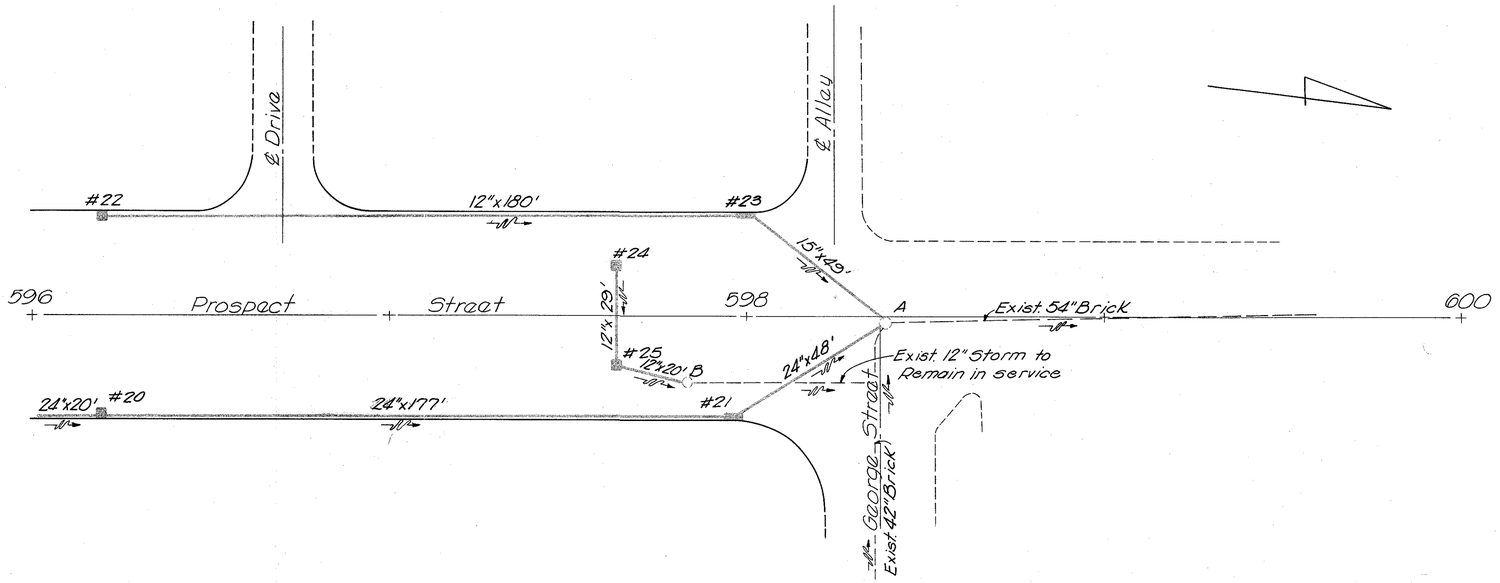


Proposed Street - Storm Sewer Profile

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

58
12.2

MAR.-23- 11.05
MAR.-23D-0.87



No. 20
Sta. 596+20(Rt)
No. 3-A C.B.
℄ Grate = 971.43
℄ 24" I-1 = 963.89

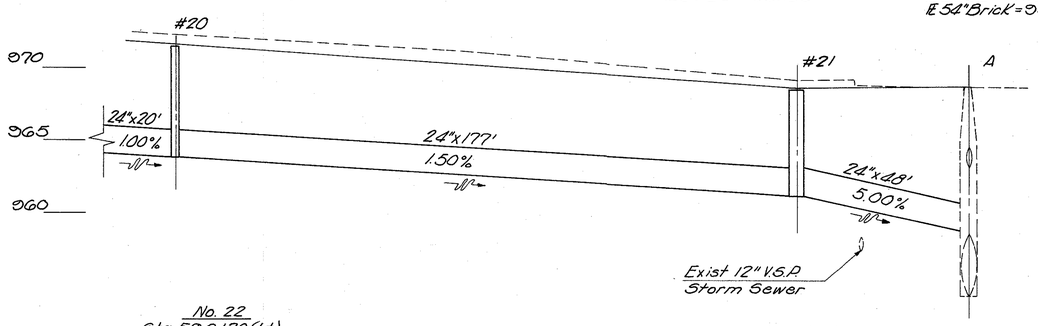
No. 21
Sta. 597+97(Rt)
No. 3 C.B.
℄ Grate = 968.58
℄ 24" I-1 = 961.23

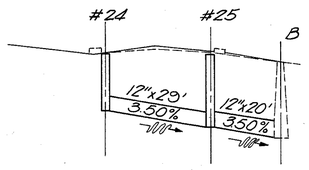
A
Sta. 598+39(Rt)
Exist. M.H.
T/C = 968.53
℄ 15" I-1 = 963.38
℄ 24" I-1 = 958.83
℄ 54" Brick = 954.23

No. 24
Sta. 597+63(Lt)
No. 3-A C.B.
℄ Grate = 969.60
℄ 12" I-1 = 965.67

B
Sta. 597+84(Rt)
Exist. M.H.
T/C = 969.04
℄ 12" I-1 = 963.96

975
970
965
960

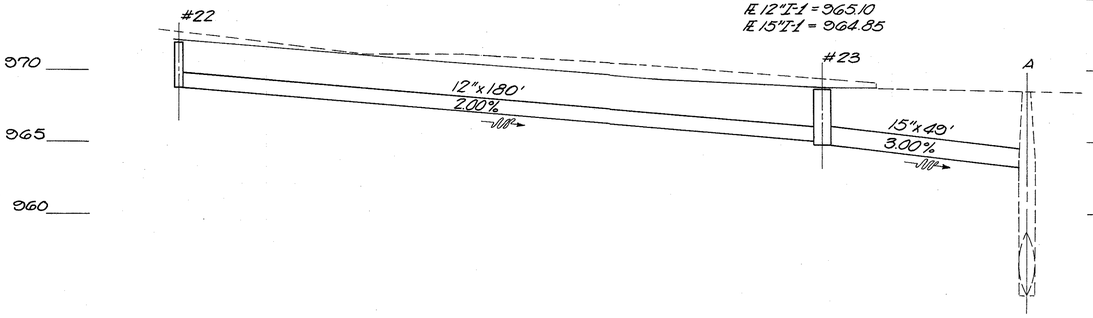




No. 25
Sta. 597+63(Rt)
No. 3-A C.B.
℄ Grate = 969.60
℄ 12" I-1 = 964.66

No. 22
Sta. 596+20(Lt)
No. 3-A C.B.
℄ Grate = 971.83
℄ 12 I-1 = 968.70

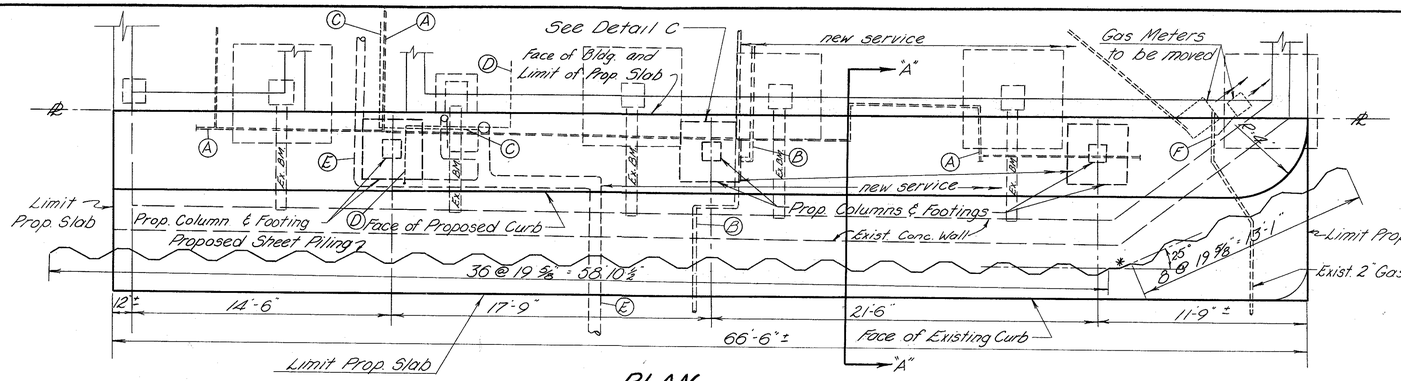
No. 23
Sta. 598+00(Lt)
No. 3 C.B.
℄ Grate = 968.63
℄ 12" I-1 = 965.10
℄ 15" I-1 = 964.85



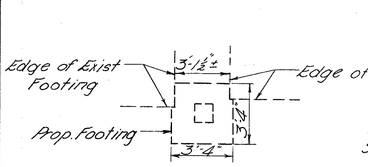
Prospect Street - Storm Sewer Profile

FED. RD. DIVISION	STATE	PROJECT		59/122
2	OHIO			

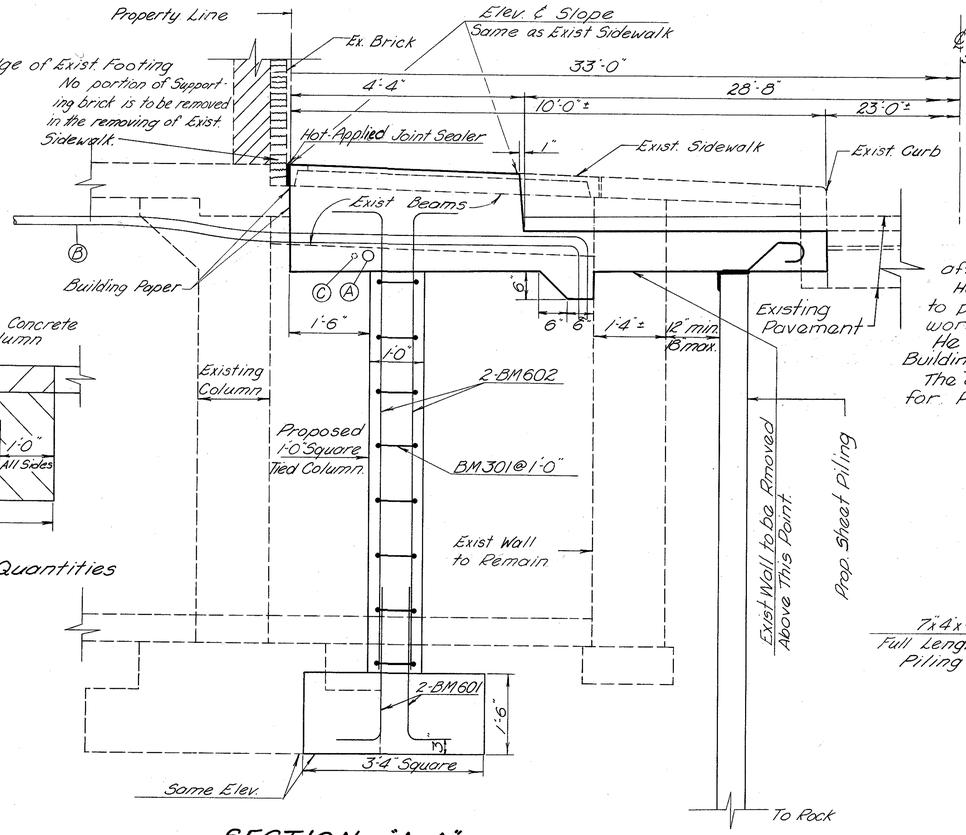
MAR-23-11.05
MAR-23D-0.87



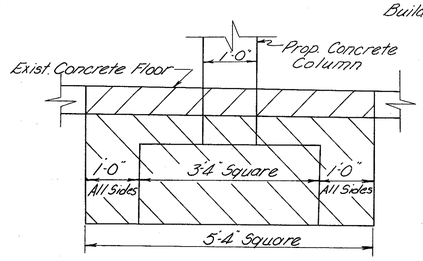
PLAN



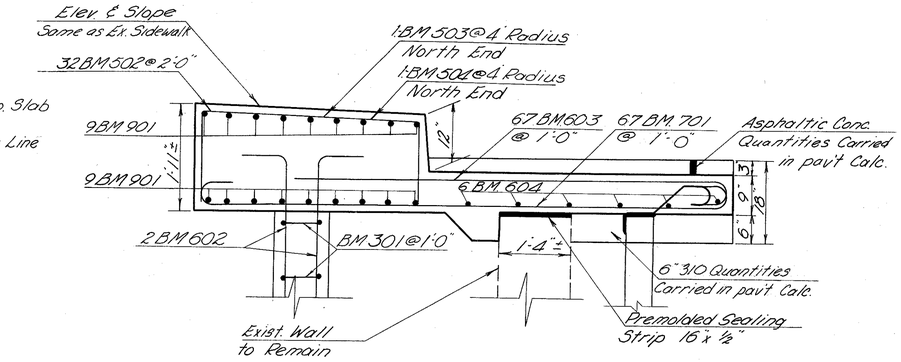
Detail C



SECTION "A-A"



Typical 503 Excavation Quantities



Detail A
Proposed Sidewalk, Curb & Pavement

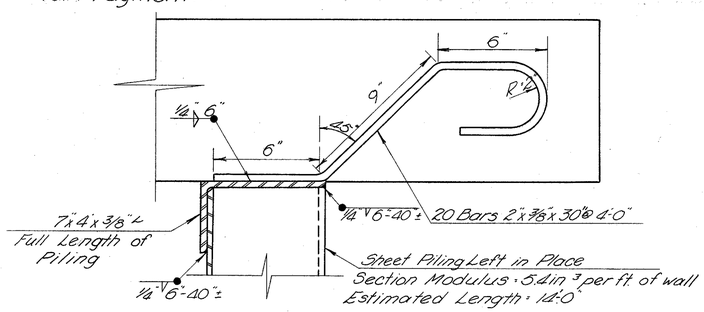
Notes: Reinforcing Steel is 1½ inches clear except where otherwise shown. Removal of Portions of Existing Structure includes removal of existing sidewalk and curb, beams, and portions of existing wall.

NOTES: (Also Applies, to Sheet No. 60)

The Contractor shall be responsible for protection of the building and its contents as these are affected by his operation and shall use the necessary precautions to prevent damage or injury thereto. He shall provide and maintain such temporary enclosures, barriers or barricades as may be necessary to protect the building and its contents from weather, dust, debris or other hazards as may attend the work.

He shall provide shoring adequate to support the remaining existing sidewalk at this Uhler-Phillips Building and prevent damage to it and the building.

The above shall be considered included in Item 202 Portions of Existing Structures Removed for Payment.

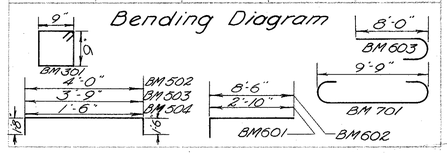


Detail B
Proposed Sheet Piling & Structural Steel

REINFORCING STEEL LIST

Mark	No.	Length	Shape	Weight
BM 301	24	3'-10"	Bt.	35
BM 502	32	6'-11"	Bt.	231
BM 503	1	6'-8"	Bt.	7
BM 504	1	4'-5"	Bt.	5
BM 601	12	3'-6"	Bt.	63
BM 602	12	9'-2"	Bt.	165
BM 603	67	8'-8"	Bt.	872
BM 604	12	34'-0"	Str.	613
BM 701	67	11'-5"	Bt.	1563
BM 901	36	34'-6"	Str.	4223

Bending Diagram



Code 7221

BASEMENT RECONSTRUCTION

GRAND TOTAL	SHEET 60	ESTIMATED QUANTITIES			
Normal		Item	Total	Unit	Description
8	0	503	8	Cu. Yds.	Excav. for Structure
4051	3024	*504	1027	Sq. Ft.	Steel Sheet Piling Left In Place, As Per Plan
1.9	0	511	1.9	Cu. Yds.	Class "E" Concrete Footings
83.3	50.4	511	32.9	Cu. Yds.	Class "C" Concrete Above Footings
73	0	512	73	Lin. Ft.	Premolded Sealing Strip As Per Plan
208	142	516	66	Lin. Ft.	Hot Applied Joint Sealer, ... 705.01
14,849	7072	509	7777	Lbs.	Reinforcing Steel
3472	2347	513	1125	Lbs.	Structural Steel
Lump	Lump	202	Lump	Lump	Portions of Existing Structures Removed.
		* Includes Quantities for Sheet Piling at Corner.			

LEGEND

(A) Sprinkler Line, 1½" and 2" (to be lowered, by others)

(B) 2" Main Water Service (to be removed, replaced by new service from north wall, by others)

(C) 1" Water Line (to be lowered, by others)

(D) Electric Control Conduit (to be lowered, by others)

(E) Main Sprinkler Service 4½" and 8" Lines (main system to remain in place, service line to be removed and replaced by new service from north wall, by others)

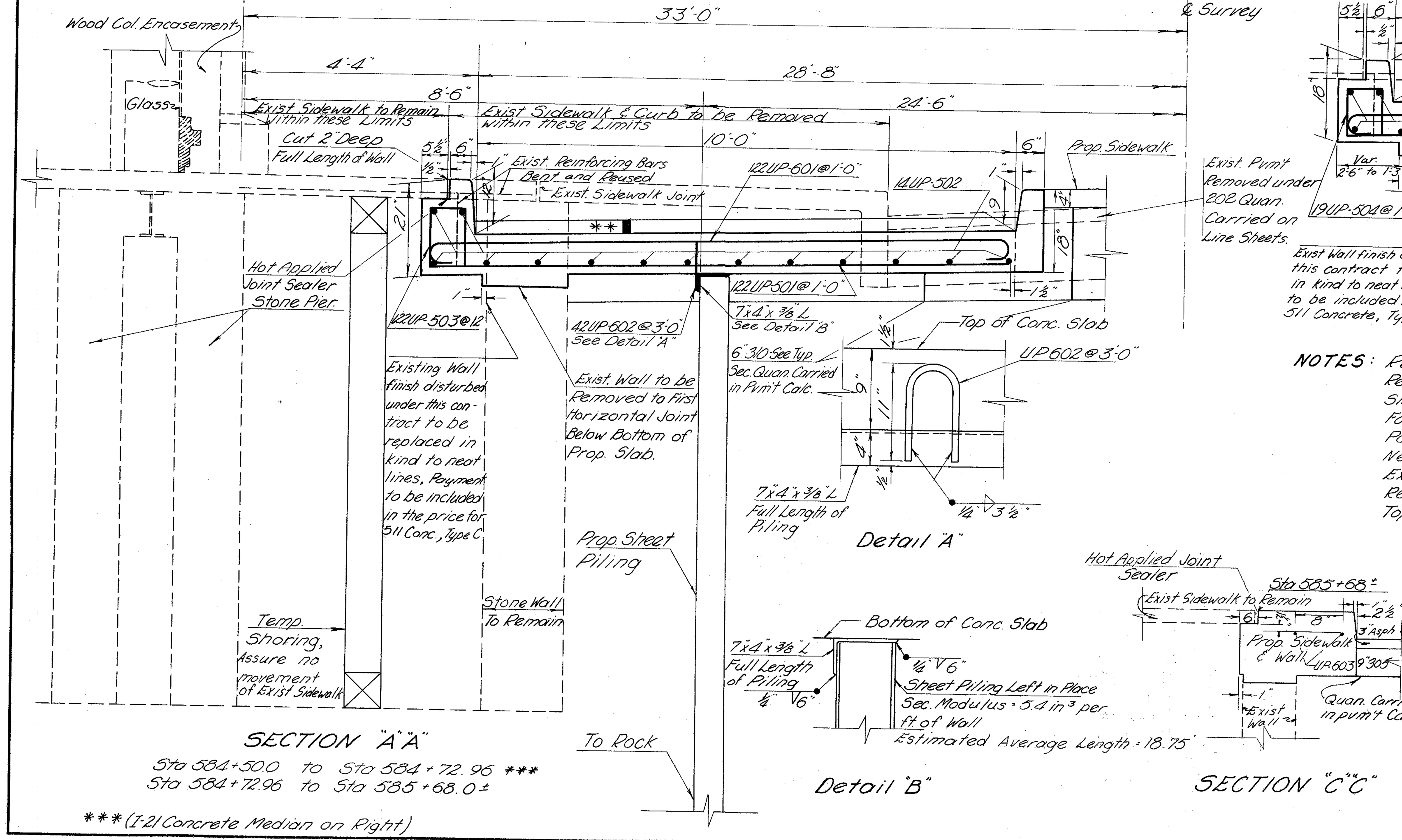
(F) Gas Service (temporary service during construction, new service to be installed after construction, meters to be located outside of vault space. (By others)

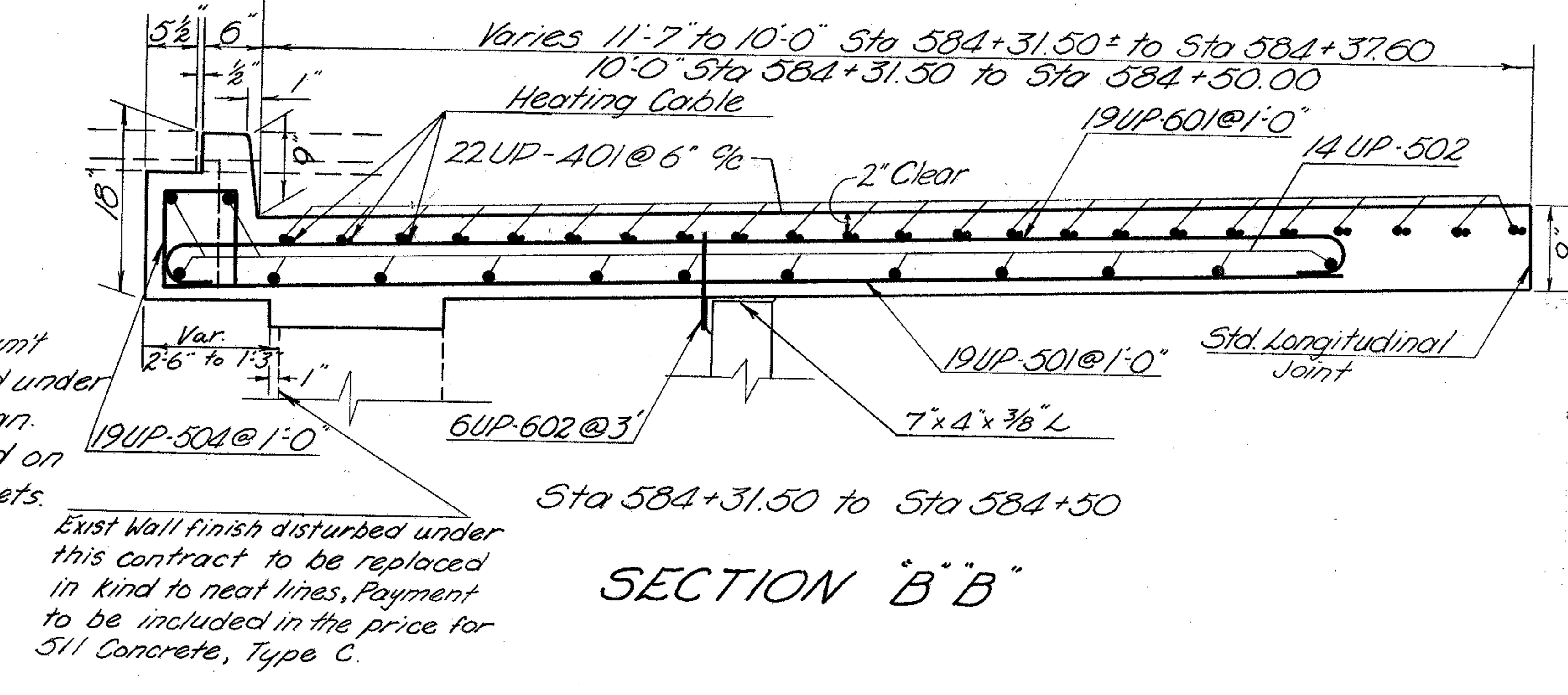
STATE STREET Sta 586+53± to Sta 587+19.50±

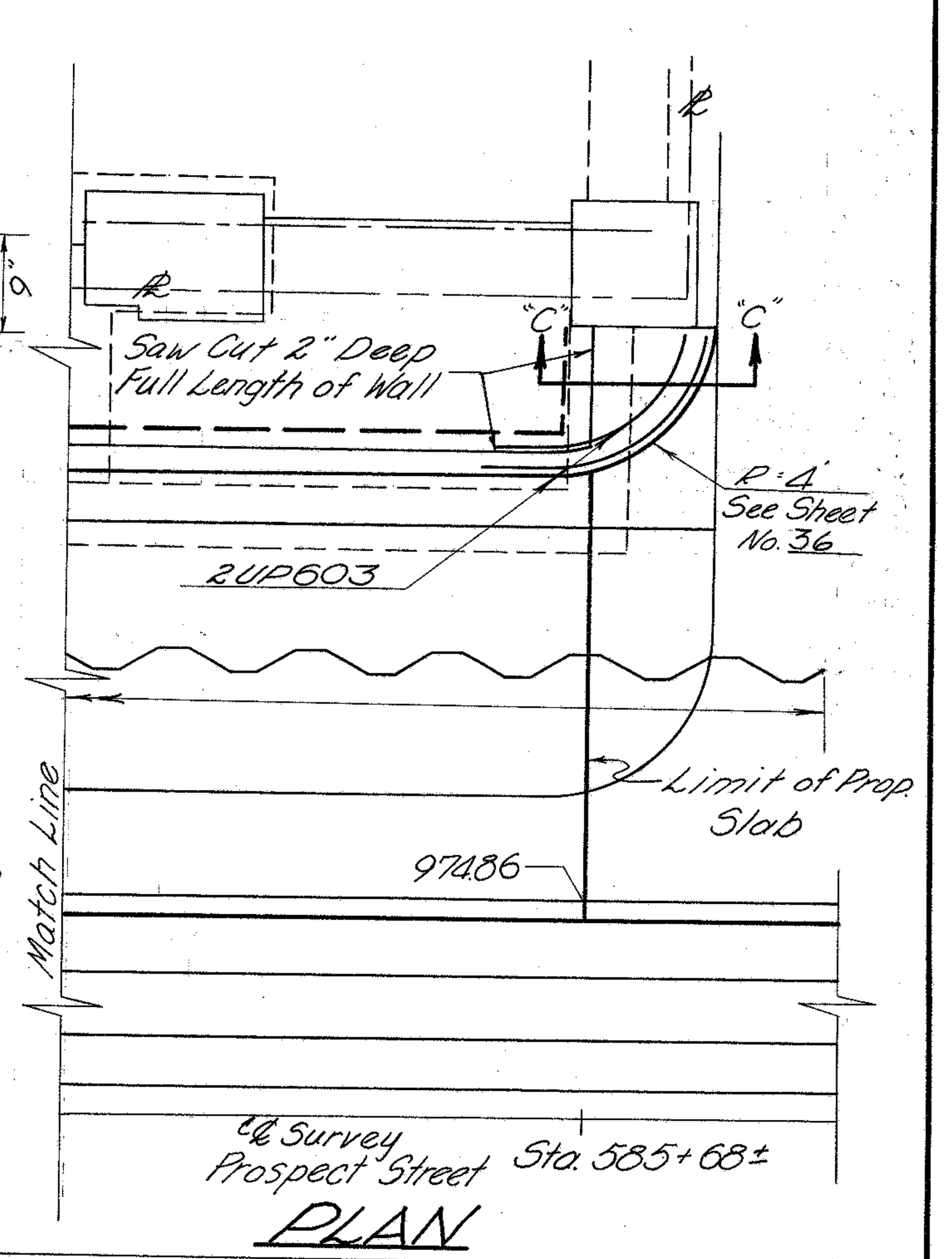
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

60/122

MAR-23-11.05
MAR-23-D-087







NOTES: Reinforcing Steel is 1½ inches clear except where otherwise shown.
Removal of Portions of Existing Structure Includes Removal of Existing Sidewalk & Curb and Portions of Existing Wall.
For Heating Cable Details See Sheet No. 113
Portions of Sidewalk to Remain over Basement Area to have Neat Lines by use of 2" Saw Cut and to Remain Intact by Exercise of Extreme Care in Removing Those Portions to be Removed.
Top of Prop. Left Curb to Meet Profile of Existing Sidewalk.

See Sheet No. 59 for Additional Notes.

ESTIMATED QUANTITIES

Item	Total	Unit	Description
*503	3024	Sq. Ft.	Steel Sheet Piling Left in Place, **As Per Plan**
511	50.4	Cu. Yds.	Class "C" Concrete
516	142	Lin. Ft.	Hot Applied Joint Sealer Sec. 705.01
509	7072	Lbs	Reinforcing Steel
513	2347	Lbs	Structural Steel
202	Lump	Lump	Portions of Exist. Structures Removed

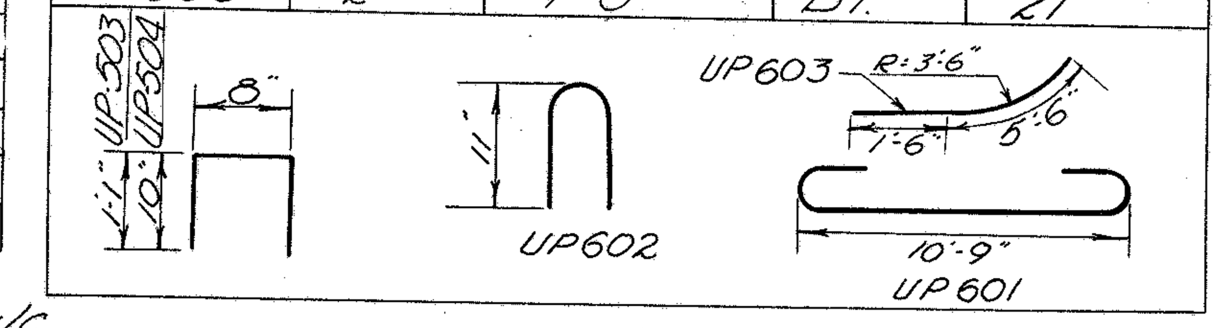
* Min. Section Modulus of 5.4 in³ per ft. of Wall
Includes Quantities for Sheet Piling at Corners

Quantities to Sheet 59

** Asphalt Concrete Quantities Carried in Pvmt. Calc.

REINFORCING STEEL LIST

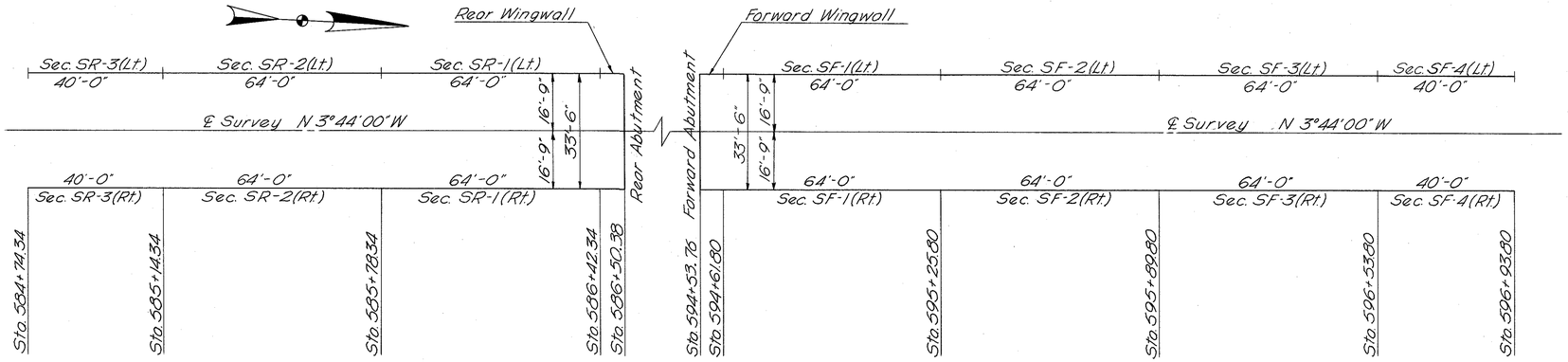
Mark	No.	Length	Shape	Weight
UP 401	22	19'-0"	Str.	280
UP 501	141	10'-9"	Str.	1581
UP 502	56	36'-3"	Str.	2117
UP 503	122	2'-7"	Bt.	329
UP 504	19	2'-1"	Bt.	41
UP 601	141	12'-1"	Bt.	2559
UP 602	48	2'-0"	Bt.	144
UP 603	2	7'-0"	Bt.	21



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

61
122

MAR-23-11.05
MAR-23D-0.87

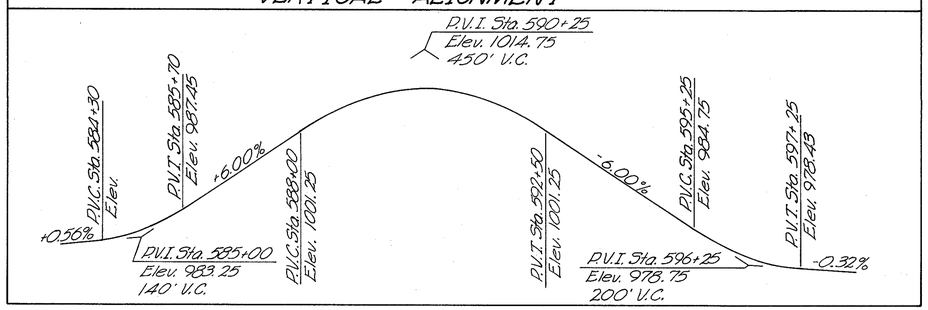


STATE STREET RETAINING WALL SCHEMATIC

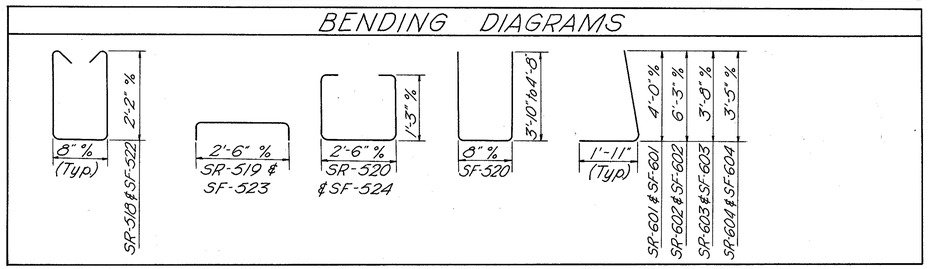
RETAINING WALL & FOOTING STEEL - STATE ST.

REAR WALL Sec. SR-1, SR-2 & SR-3 (Lt. & Rt.)					FORWARD WALL Sec. SF-1, SF-2, SF-3 & SF-4 (Lt. & Rt.)				
Mark	No.	Length	Shape	Weight	Mark	No	Length	Shape	Weight
SR-501	2 Sets or 12 Ea.	——	Str.	255	SF-501	2 Sets or 12 Ea.	——	Str.	296
Increments of 2" from 9'-3" to 11'-1"					Increments of 2" from 10'-11" to 12'-9"				
SR-502	2 Sets or 12 Ea.	——	Str.	261	SF-502	2 Sets or 12 Ea.	——	Str.	302
Increments of 2" from 9'-6" to 11'-4"					Increments of 2" from 11'-2" to 13'-0"				
SR-503	138	31'-8"	Str.	4558	SF-503	180	31'-8"	Str.	5945
SR-504	32	32'-7"	Str.	1088	SF-504	44	32'-7"	Str.	1495
SR-505	16	37'-10"	Str.	631	SF-505	8	37'-10"	Str.	316
SR-506	56	10'-0"	Str.	584	SF-506	74	10'-0"	Str.	772
SR-507	2 Sets or 12 Ea.	——	Str.	303	SF-507	2 Sets or 12 Ea.	——	Str.	246
Increments of 2" from 11'-2" to 13'-0"					Increments of 2" from 9'-0" to 10'-10"				
SR-508	2 Sets or 12 Ea.	——	Str.	309	SF-508	2 Sets or 12 Ea.	——	Str.	252
Increments of 2" from 11'-5" to 13'-3"					Increments of 2" from 9'-3" to 11'-1"				
SR-509	156	5'-0"	Str.	814	SF-509	156	5'-0"	Str.	814
SR-510	2 Sets or 12 Ea.	——	Str.	154	SF-510	2 Sets or 12 Ea.	——	Str.	190
Increments of 1½" from 5'-6" to 6'-10"					Increments of 2" from 6'-8" to 8'-6"				
SR-511	2 Sets or 12 Ea.	——	Str.	161	SF-511	2 Sets or 12 Ea.	——	Str.	196
Increments of 1½" from 5'-9" to 7'-1"					Increments of 2" from 6'-11" to 8'-9"				
SR-512	2 Sets or 12 Ea.	——	Str.	194	SF-512	4	20'-0"	Str.	83
Increments of 2" from 6'-10" to 8'-8"					SF-513	2 Sets or 12 Ea.	——	Str.	148
SR-513	2 Sets or 12 Ea.	——	Str.	200	Increments of 1⅜ from 5'-2" to 6'-8"				
Increments of 2" from 7'-1" to 8'-11"					SF-514	2 Sets or 12 Ea.	——	Str.	154
SR-514	84	3'-10"	Str.	336	Increments of 1⅜ from 5'-5" to 6'-11"				
SR-515	2 Sets or 12 Ea.	——	Str.	105	SF-515	84	3'-10"	Str.	336
Increments of 1" from 3'-9" to 4'-8"					SF-516	2 Sets or 12 Ea.	——	Str.	121
SR-516	2 Sets or 12 Ea.	——	Str.	112	Increments of 1¼ from 4'-3" to 5'-5"				
Increments of 1" from 4'-0" to 4'-11"					SF-517	2 Sets or 12 Ea.	——	Str.	127
SR-517	22	39'-8"	Str.	910	Increments of 1¼ from 4'-6" to 5'-8"				
SR-518	230	5'-7"	Bt.	1339	SF-518	2 Sets or 12 Ea.	——	Str.	93
SR-519	228	3'-6"	Bt.	832	Increments of 1" from 3'-3" to 4'-2"				
SR-520	228	5'-9"	Bt.	1367	SF-519	2 Sets or 12 Ea.	——	Str.	99
SR-521	2	38'-6"	Str.	80	Increments of 1" from 3'-6" to 4'-5"				
SR-522	16	3'-9"	Str.	63	SF-520	2 Sets or 26 Ea.	——	Bt.	484
					Increments of ¾" from 8'-1" to 9'-9"				
SR-601	48	5'-9"	Bt.	415	SF-521	22	39'-8"	Str.	910
SR-602	44	8'-0"	Bt.	529	SF-522	31	5'-7"	Bt.	18
SR-603	92	5'-5"	Bt.	749	SF-523	316	3'-6"	Bt.	1154
SR-604	46	5'-2"	Bt.	357	SF-524	316	5'-9"	Bt.	1895
					SF-525	2	38'-6"	Str.	80
					SF-601	48	5'-9"	Bt.	415
					SF-602	44	8'-0"	Bt.	529
					SF-603	92	5'-5"	Bt.	749
					SF-604	92	5'-2"	Bt.	714

VERTICAL ALIGNMENT



BENDING DIAGRAMS



NOTES

DESIGN SPECIFICATIONS :
This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions thereof.

DESIGN LOADING - S20-60 :
Concrete Class 'E' - Basic unit stress 1133 P.S.I.
Reinforcing Steel - A.S.T.M. A15, A16, A160, Deformed Intermediate or Hard Grade - Basic unit stress 20,000 P.S.I.

RETAINING WALL BEARING PRESSURE :
Rear wall footings are designed for a maximum bearing pressure of 2 tons per sq. ft. ; and forward wall footings are designed for a maximum bearing pressure of 2 tons per sq. ft.

BAR SIZE IS INDICATED IN THE BAR MARK:
The first digit where three digits are used indicates the bar size number. For example 501 is a No. 5 bar and 601 is a No. 6 bar. SR and SF as a part of the bar mark indicates Location in the State St. rear and forward walls respectively.

203 EMBANKMENT :
203 embankment quantities are carried in the roadway quantities.

REINFORCING STEEL :
Reinforcing wall steel shall not extend through the contraction or expansion joints.

FOOTING KEYS :
The key for footings on soil shall be placed in a carefully made trench **against** undisturbed earth.

For location of lighting Junction Boxes See Sheet No. 105

ESTIMATED RETAINING WALL QUANTITIES - STATE STREET

Item	Total	Unit	Description	Rear Wall	For. Wall
503	901	Cu.Yds.	Unclassified Excavation for Structures	450	451
518	49	Lin.Ft.	8" Pipe Sec. 707.01	23	26
518	544	Lin.Ft.	8" Pipe Perforated Sec. 707.06 with Porous Backfill	208	336
612	36	Sq.Yds.	Concrete Median, Std. Modified as per plan	17	19
512	1	Sq.Yds.	Waterproofing Type "B"	0	1
511	411	Cu.Yds.	Class 'E' Concrete Footings	196	215
511	464	Cu.Yds.	Class 'E' Concrete Walls	212	252
512	125	Lin.Ft.	Premolded Sealing Strip	58	67
509	37,473	Lbs.	Reinforcing Steel	16,706	20,767
516	50	Sq.Ft.	1" Preformed Expansion Joint Filler	17	33
516	526	Sq.Ft.	½" Preformed Expansion Joint Filler	215	311
516	127	Sq.Ft.	¼" Gray Sponge Rubber, Preformed Expansion Joint Filler meeting the requirements of Sec. 705.03 Type I	51	76
517	800	Lin.Ft.	Railing, Aluminum Rail and Supports and Concrete Parapet, **Type 1.**	336	464
507	0	Lin.Ft.	Steel H Piles, 10 BP 42	0	0
518	142	Cu.Yds.	Porous Backfill	69	73
			For Lighting Quantities See Sheet No. 106		

Quantities to Sheet 83

RAILING BARS

Mark	No	Length	Shape	Weight
R-501	80	31'-8"	Str.	——
R-503	8	4'-2"	Bt.	——
R-504	8	5'-4"	Bt.	——
R-505	16	39'-6"	Str.	——

REPLACEMENT BARS

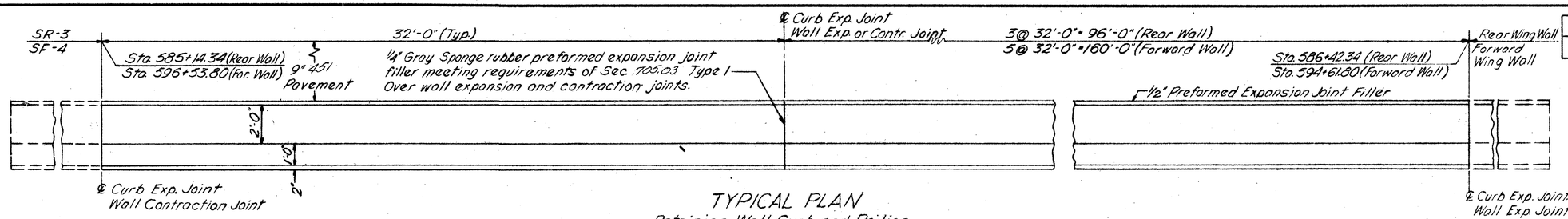
Mark	No	Length	Shape	Weight
RE-601	1	5'-11"	Bt.	——
RE-501	2	5'-7"	Str.	——

STATE STREET
Retaining Wall Layout
Notes and Estimated Quantities
Marion County
Sta. 584+74.34 to Sta. 586+42.34 (Rear Wall)
Sta. 594+61.80 to Sta. 596+93.80 (Forward Wall)

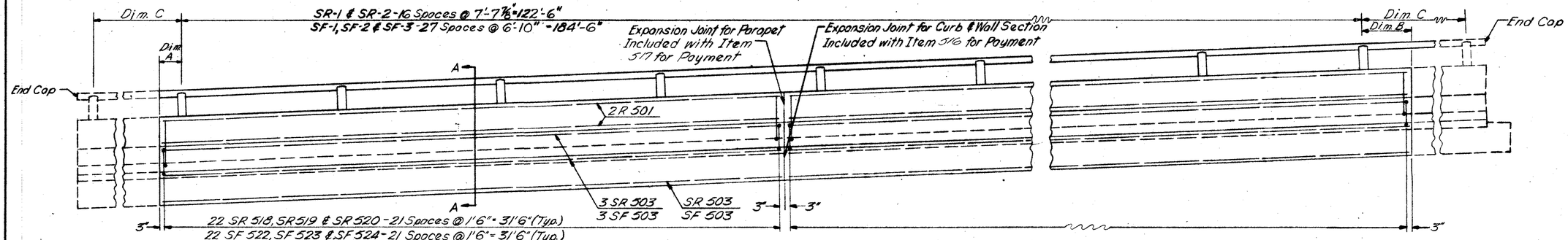
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

62
122

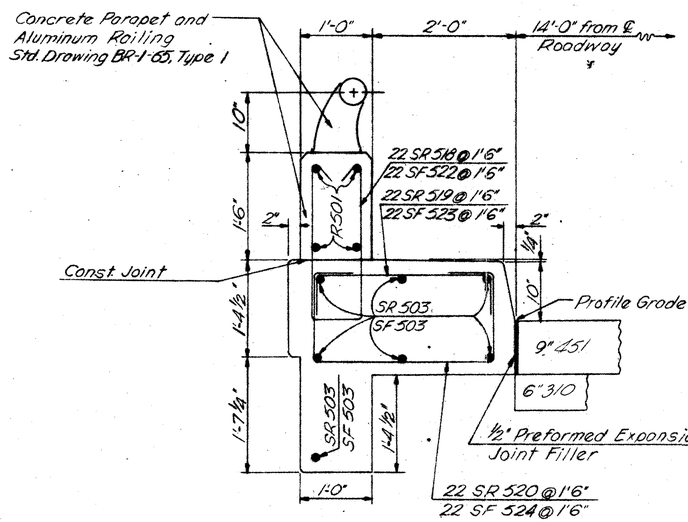
MAR-23-11.05
MAR-23D-0.87



TYPICAL PLAN
Retaining Wall Curb and Railing
Sec. SR-1 & SR-2
Sec. SF-1, SF-2 & SF-3

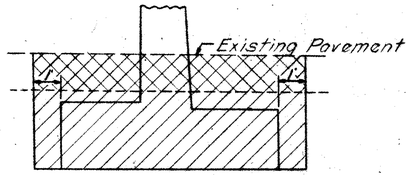


TYPICAL ELEVATION
Retaining Wall Curb and Railing
Sec. SR-1 & SR-2
Sec. SF-1, SF-2 & SF-3

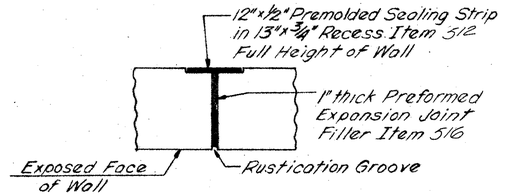


SECTION A-A

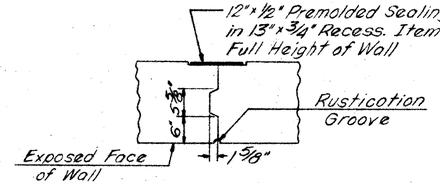
TABLE OF DIMENSIONS		
No.	Rear Wall	Forward Wall
A	3'-6 3/8"	6'-4 1/4"
B	1'-11 5/8"	1'-1 5/8"
C	7'-7 1/8"	6'-10"



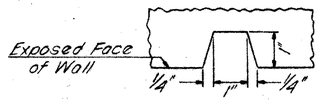
Typical 503 Excavation Quantity



EXPANSION JOINT



CONTRACTION JOINT



RUSTICATION GROOVE

NOTES

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Schematic Plan see Sheet No. 61

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

State Street
Retaining Wall Curb and Railing
Retaining Wall Miscellaneous Details

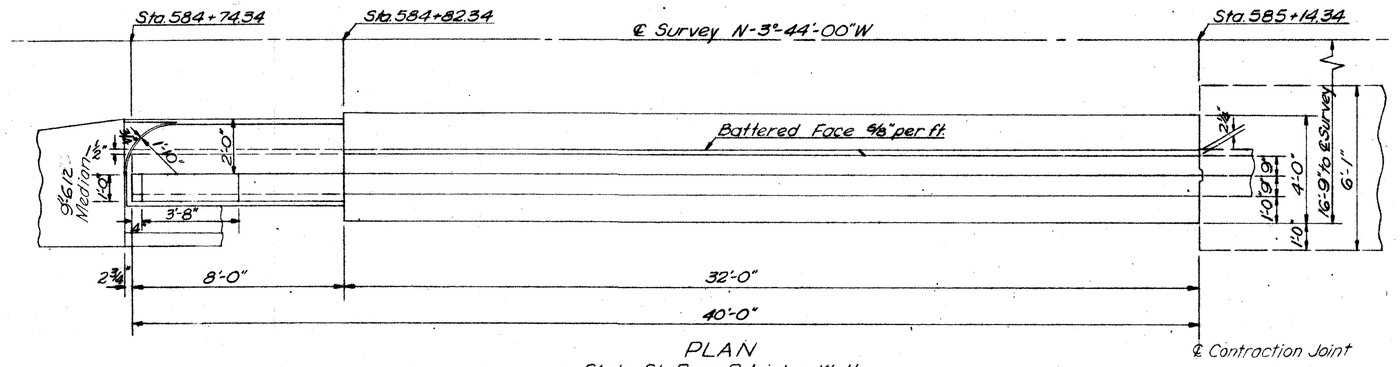
Marion County
Sta. 585+14.34 to Sta. 586+42.34 (Rear Wall)
Sta. 594+61.80 to Sta. 596+53.80 (Forward Wall)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PB	DFJ		DFJ	WJ	6-11-65	

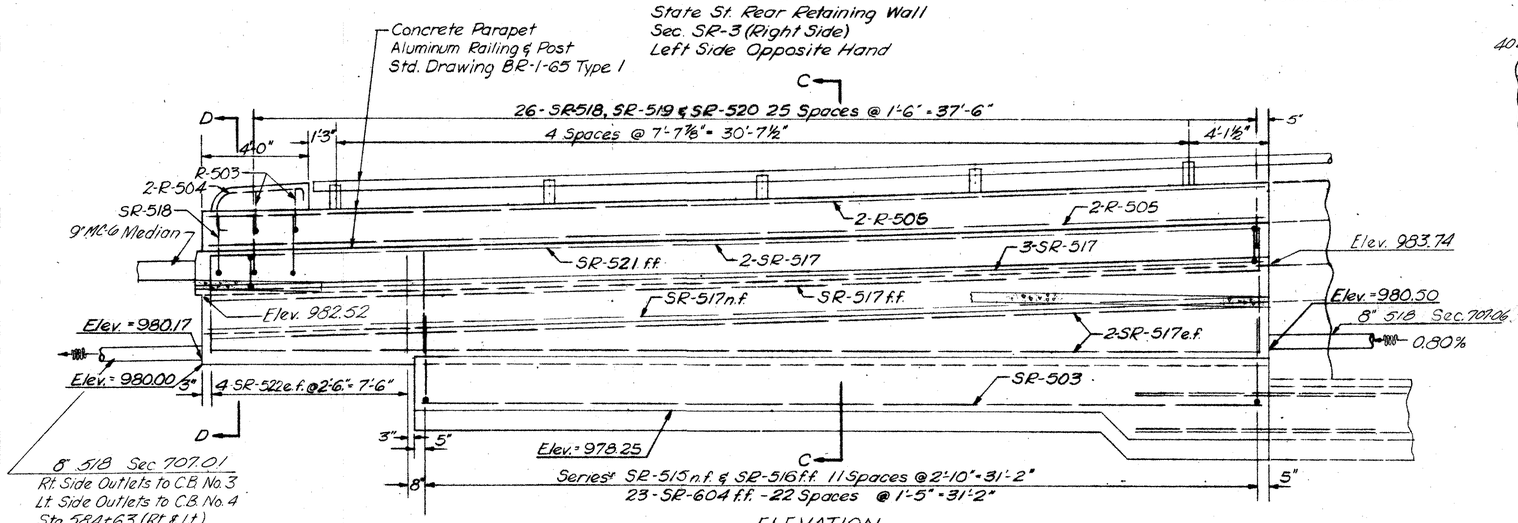
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

63
122

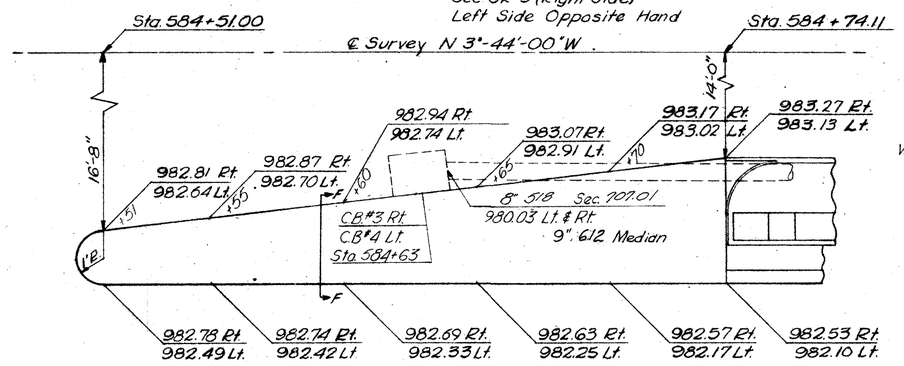
MAR-23-11.05
MAR-23D-0.87



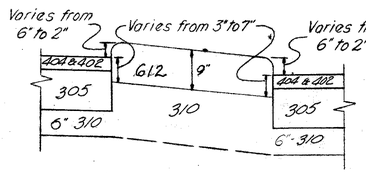
PLAN
State St. Rear Retaining Wall
Sec. SR-3 (Right Side)
Left Side Opposite Hand



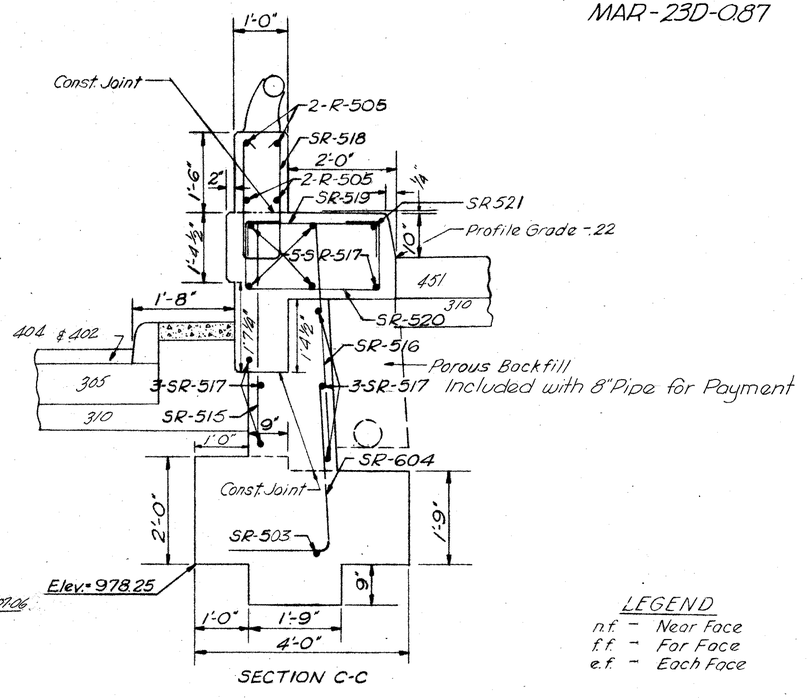
ELEVATION
State St. Rear Retaining Wall
Sec. SR-3 (Right Side)
Left Side Opposite Hand



PLAN
State Street Median Modified as per plan
Left & Right Side
Sta 584+50 to Sta 584+74.34
Left Side Opposite Hand



SECTION F-F



SECTION C-C

LEGEND
n.f. – Near Face
f.f. – For Face
e.f. – Each Face

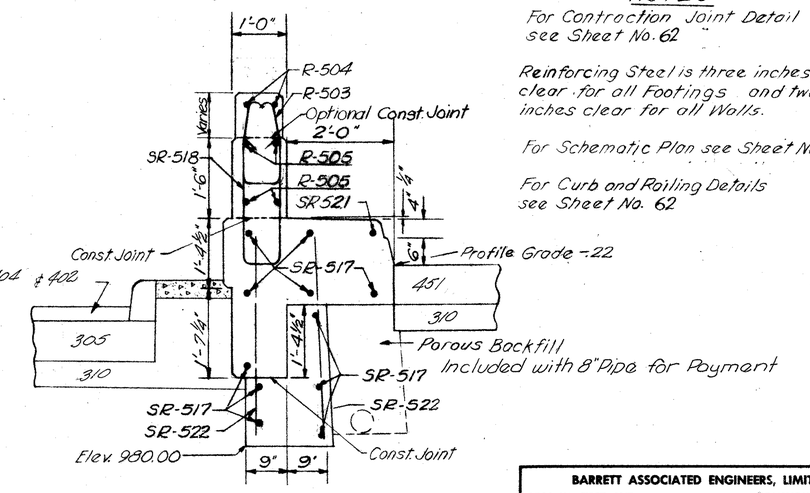
NOTES

For Contraction Joint Detail see Sheet No. 62

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Schematic Plan see Sheet No. 61

For Curb and Railing Details see Sheet No. 62



SECTION D-D

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

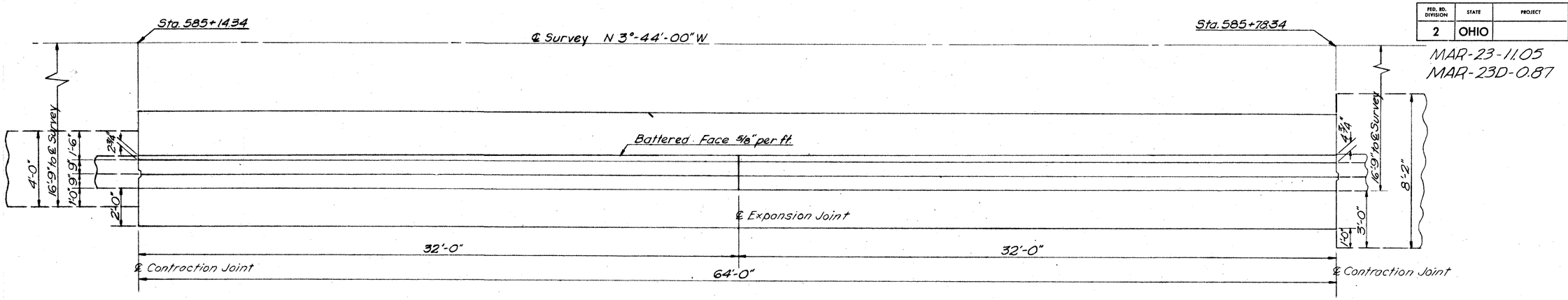
State Street
Rear Retaining Wall
Sec. SR-3 & 612 Median (Lt. & Rt.)

Marion County - US 23
Sta. 584+50 to Sta. 585+14.34

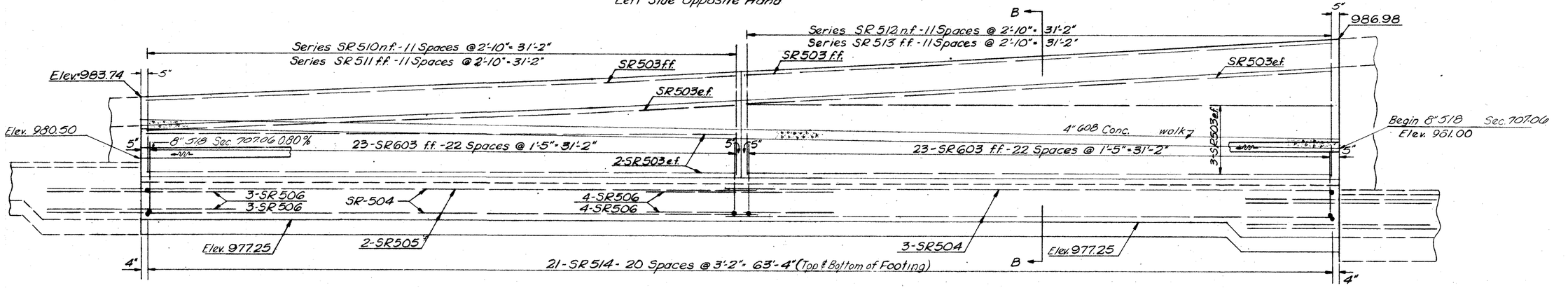
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.	D.F.J.		D.F.J.	W.J.	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

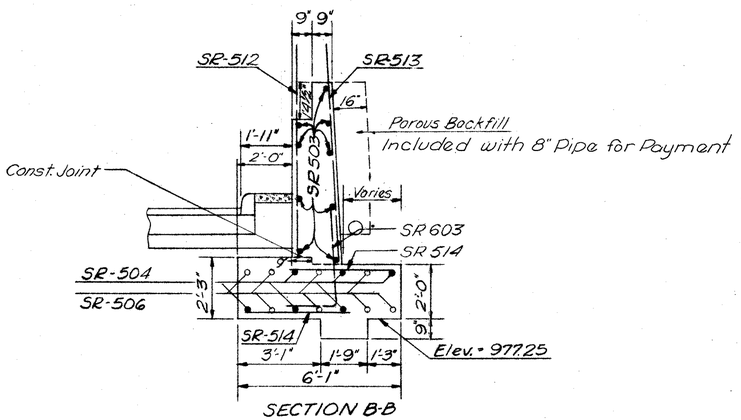
64
122



PLAN
State St. Rear Retaining Wall
Sec. SR-2 (Right Side)
Left Side Opposite Hand



ELEVATION
State St. Rear Retaining Wall
Sec. SR-2 (Right Side)
Left Side Opposite Hand



SECTION B-B

LEGEND
n.f. - Near Face
f.f. - For Face
e.f. - Each Face

NOTES

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Schematic Plan see Sheet No. 61

For Curb and Railing Detail see Sheet No. 62

Vertical Rustication Grooves @ 4' c/c spaced 4'-0" from ends of wall.

For Contraction and Expansion Joint Details see Sheet No. 62

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

State Street
Rear Retaining Wall
Section SR-2 (Lt & Rt)

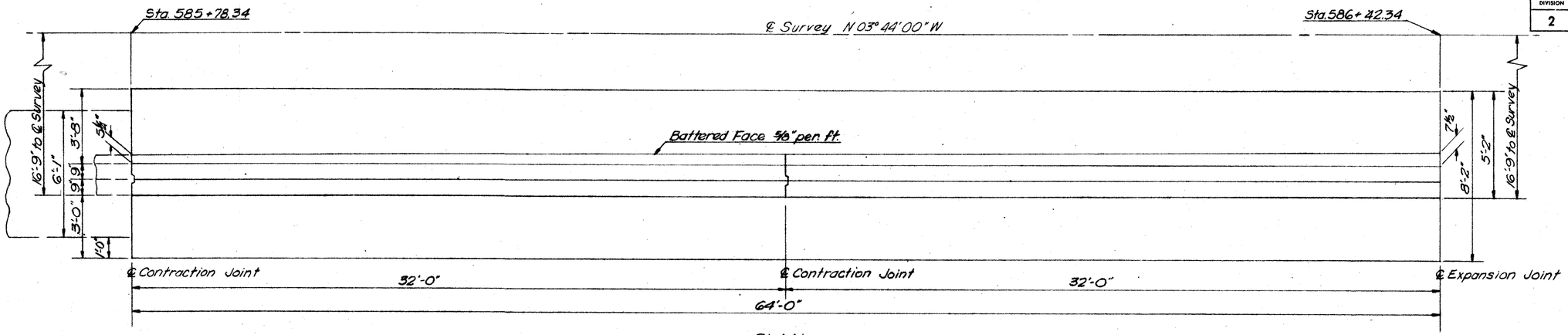
Marion County - US-23
Sta. 585+14.34 to Sta. 585+78.34

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DFJ.		DFJ.	WJ	6-11-65	

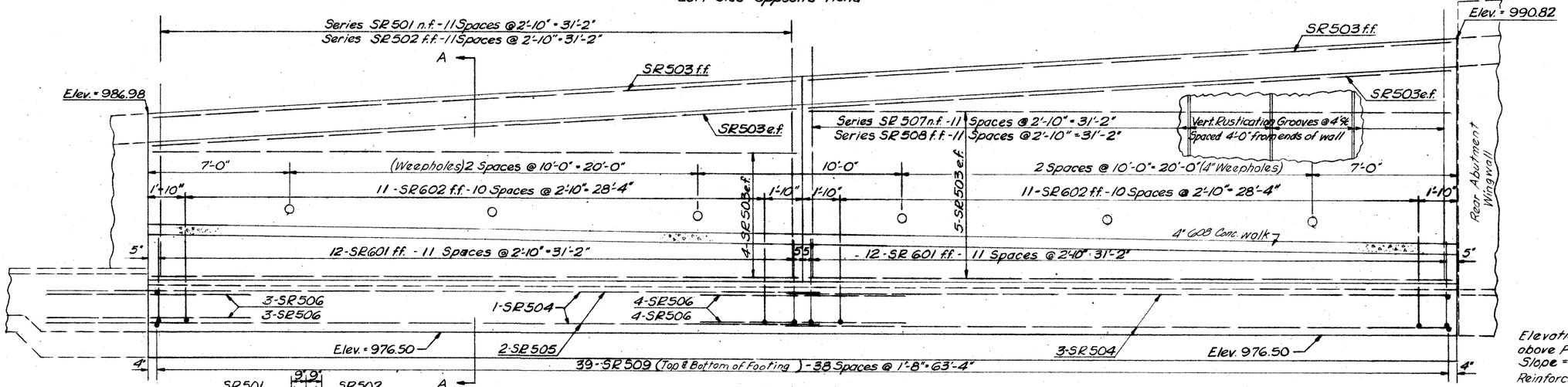
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

65
122

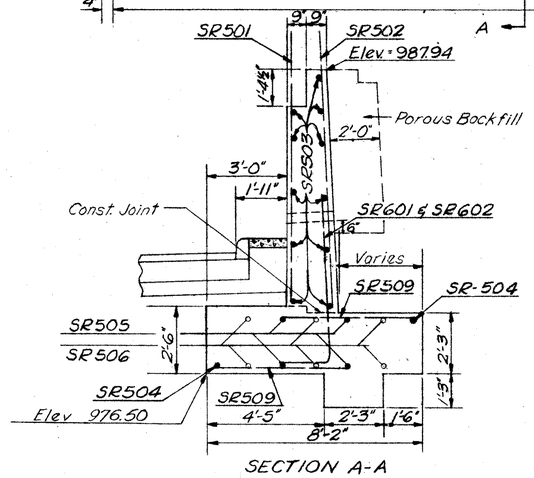
MAR-23-11.05
MAR-23D-0.87



PLAN
State St. Rear Retaining Wall
Sec SR-1 (Right Side)
Left Side Opposite Hand



ELEVATION
State St. Rear Retaining Wall
Sec. SR-1 (Rt. Side)
Left Side Opposite Hand



SECTION A-A

LEGEND
n.f. - Near Face
f.f. - Far Face
e.f. - Each Face

NOTES

Elevation of 4"ϕ Weepholes is 6" to 12" above Proposed 4" 608 Conc. walk
Slope = 3/4" per Ft.
Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Schematic Plan see Sheet No. 61

For Curb and Railing Details see Sheet No. 62

For Contraction and Expansion Joints Details see Sheet No. 62

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

State Street
Rear Retaining Wall
Section SR-1 (Lt. & Rt.)

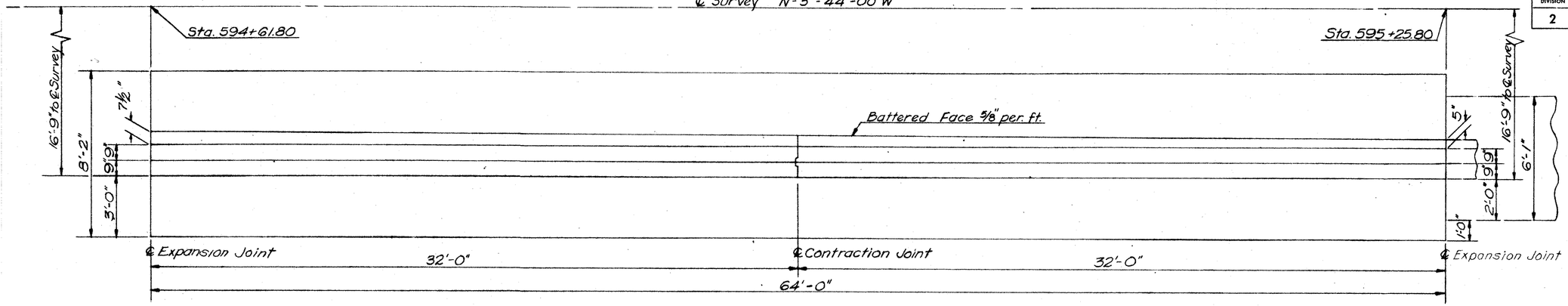
Marion County - US 23
Sta. 585+78.34 to Sta. 586+42.34

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DRJ		DRJ	WJ	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

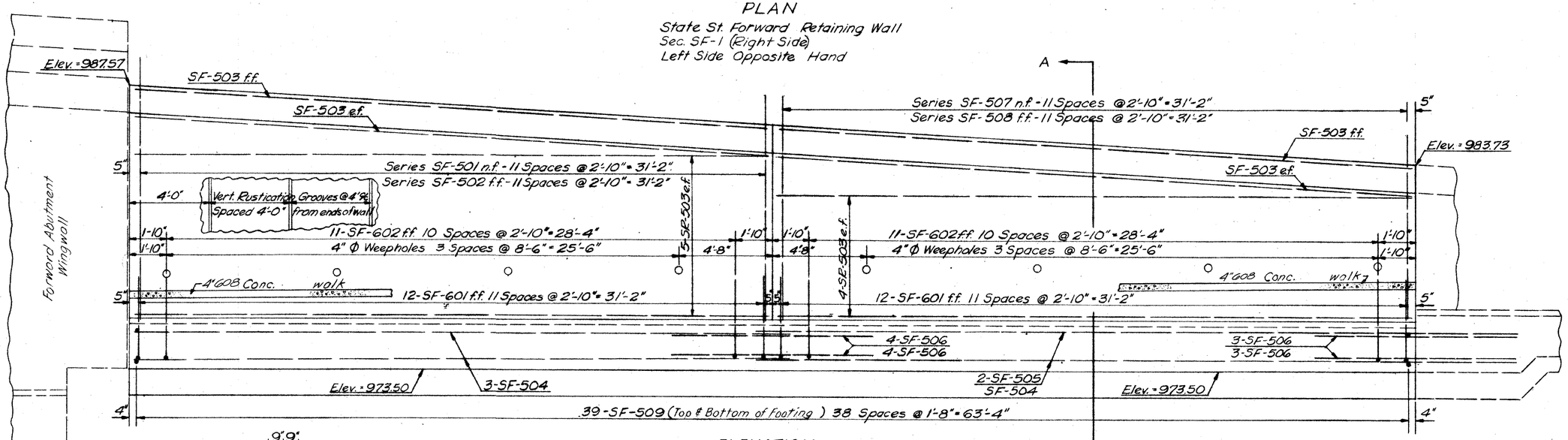
66
122

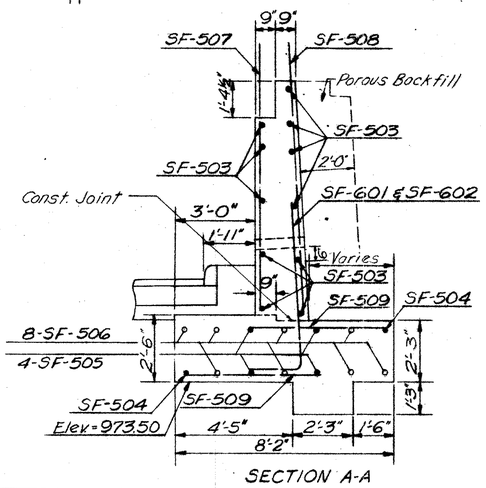
MAR-23-11.05
MAR-23D-0.87



PLAN

State St. Forward Retaining Wall
Sec. SF-1 (Right Side)
Left Side Opposite Hand





SECTION A-A

ELEVATION

State St. Forward Retaining Wall
Sec. SF-1 (Right Side)
Left Side Opposite Hand

NOTES

Elevation of 4" ⌀ Weepholes is 6" to 12" above Proposed 4" 608 Conc. walk. Slope = ¼" per Ft.

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Schematic Plan see Sheet No. 61

For Curb and Railing Details see Sheet No. 62

For Contraction and Expansion Joints Details see Sheet No. 62

LEGEND

n.f. - Near Face
f.f. - For Face
e.f. - Each Face

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

State Street
Forward Retaining Wall
Sec. SF-1 (Lt. & Rt.)

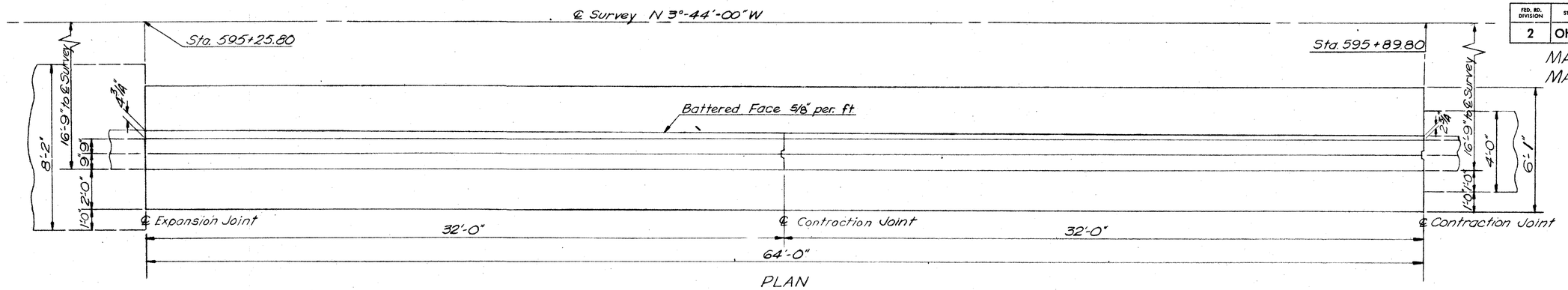
Marion County - US.-23
Sta. 594+61.80 to Sta. 595+25.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DFJ		DFJ	WJ	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

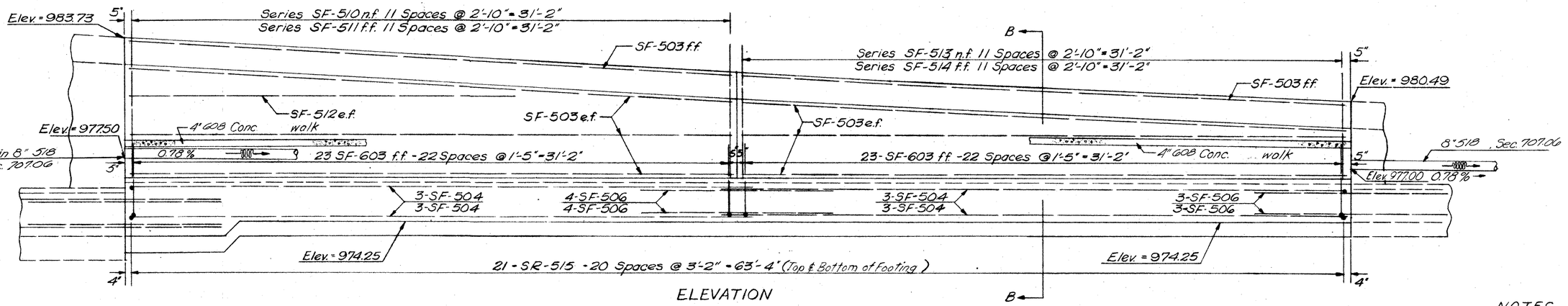
67
12.2

MAR-23-11.05
MAR-23D-087



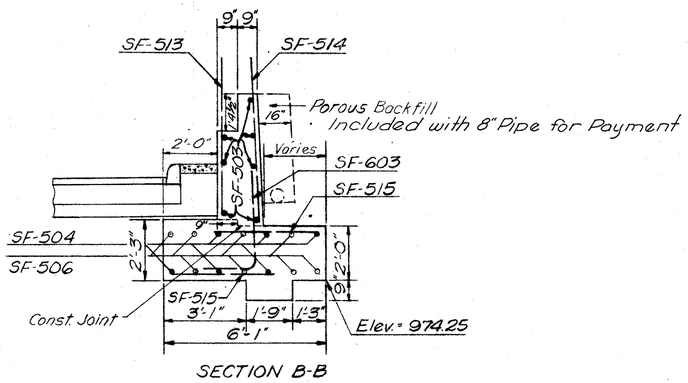
PLAN

State St. Forward Retaining Wall
Sec. SF-2 (Right Side)
Left Side Opposite Hand



ELEVATION

State St. Forward Retaining Wall
Sec. SF-2 (Right Side)
Left Side Opposite Hand



SECTION B-B

NOTES

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Schematic Plan see Sheet No. 61

For Curb and Railing Details see Sheet No. 62

For Contraction and Expansion Joint Details see Sheet No. 62

LEGEND

n.f. - Near Face
f.f. - Far Face
e.f. - Each Face

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

State Street
Forward Retaining Wall
Section SF-2 (Lt. & Rt.)

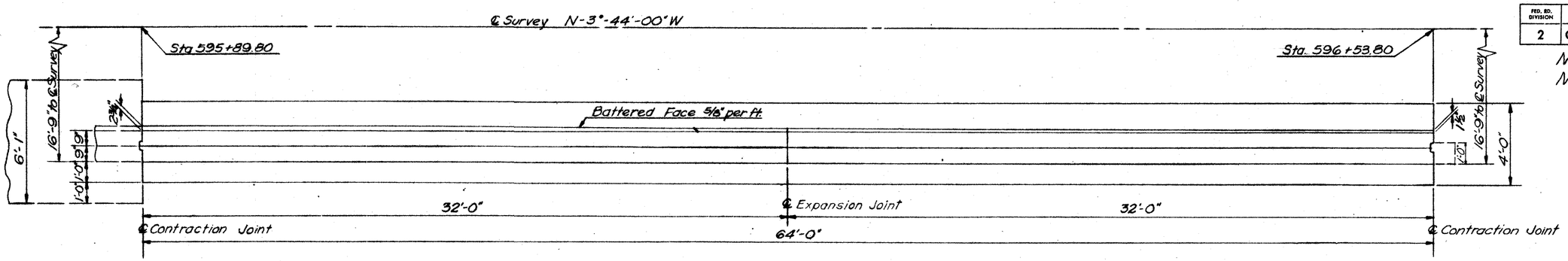
Marion County - US-23
Sta. 595+25.80 to Sta. 595+89.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DFJ		DFJ	WJ	6-11-65	

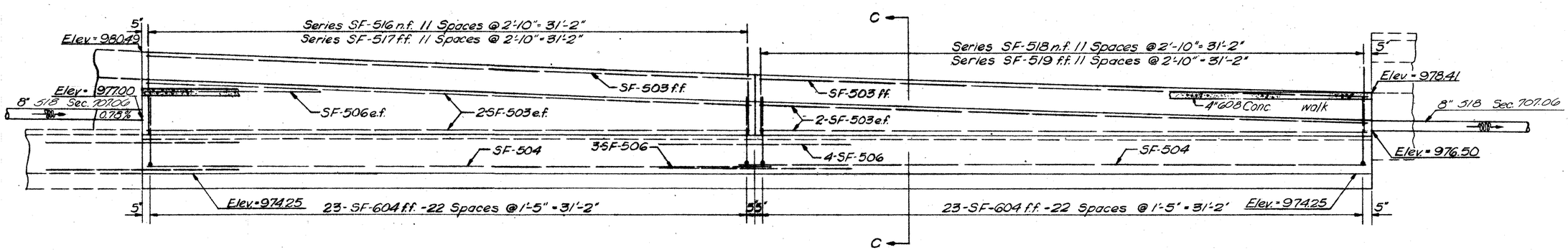
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

68
122

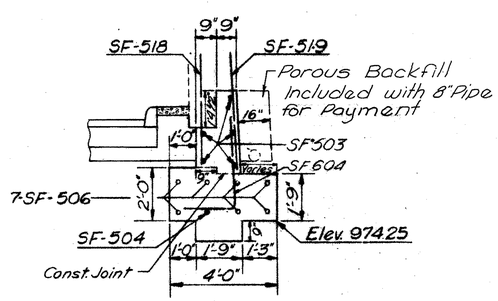
MAR-23-11.05
MAR-23D-0.87



PLAN
State St. Forward Retaining Wall
Sec. SF-3 (Right Side)
Left Side Opposite Hand



ELEVATION
State St. Forward Retaining Wall
Sec. SF-3 (Right Side)
Left Side Opposite Hand



SECTION C-C

NOTES

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Schematic Plan see Sheet No. 61

For Curb and Railing Details see Sheet No. 62

For Contraction and Expansion Joint Details see Sheet No. 62

LEGEND

n.f. - Near Face
f.f. - For Face
e.f. - Each Face

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

State Street
Forward Retaining Wall
Section SF-3 (Lt. & Rt.)

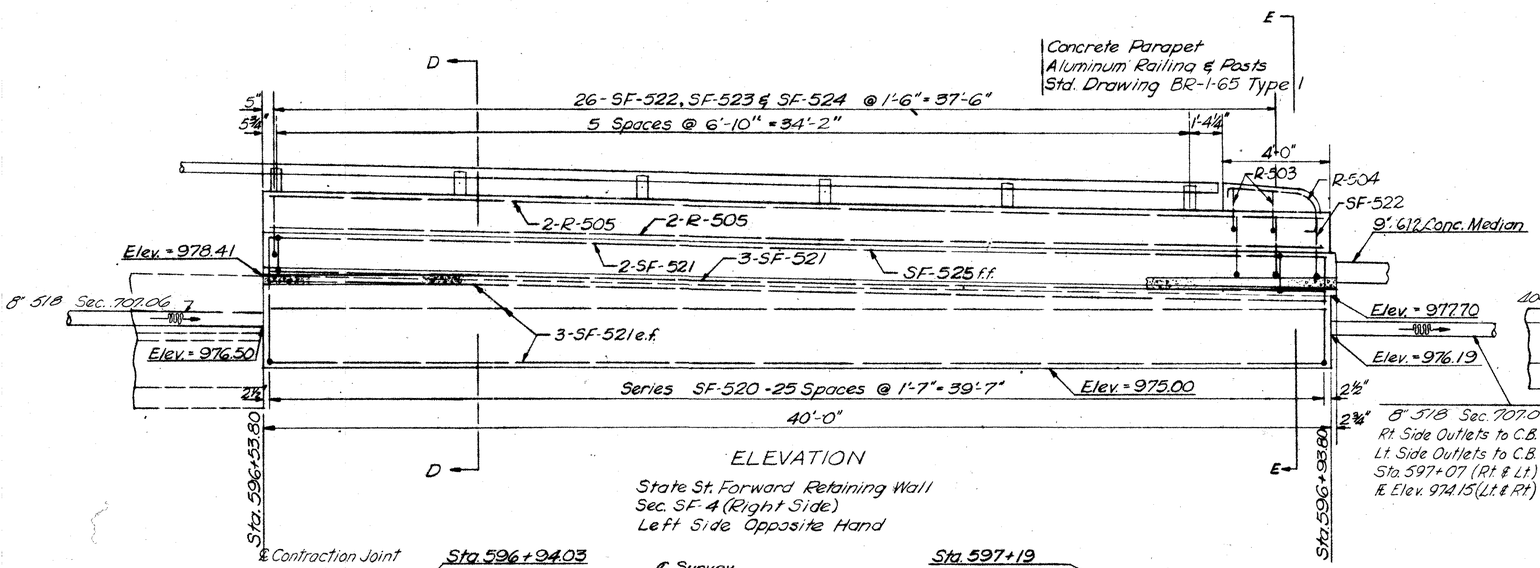
Marion County - US. 23
Sta. 595+89.80 to Sta 596+53.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DFJ		DFJ	WJ	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

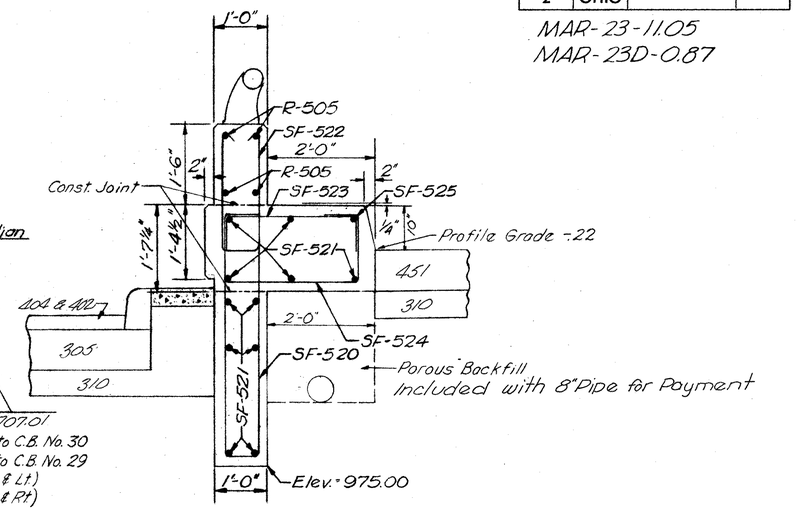
69
122

MAR-23-11.05
MAR-23D-0.87

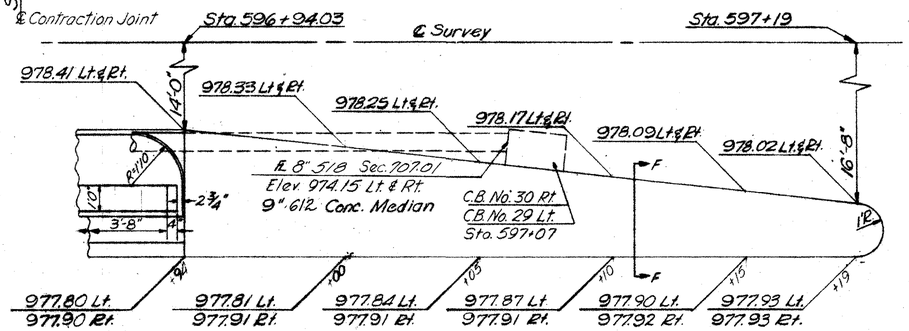


ELEVATION

State St. Forward Retaining Wall
Sec. SF-4 (Right Side)
Left Side Opposite Hand

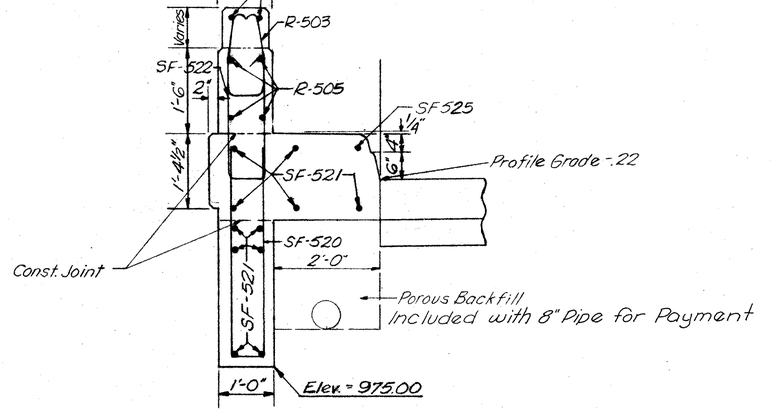


SECTION D-D



PLAN

State St. 612" Conc. Median (Forward) Modified as per plan
Left & Right Side
Sta. 596+94.03 to Sta. 597+20
Left Side Opposite Hand



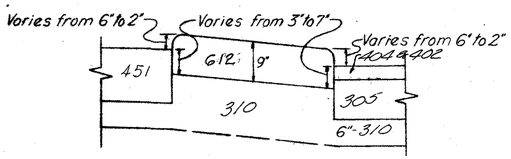
SECTION E-E

NOTES

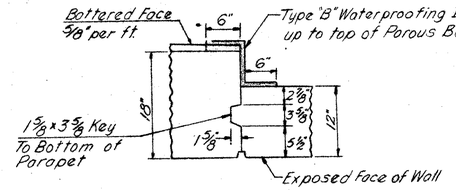
Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Schematic Plan see Sheet No. 61

For Curb and Railing Details see Sheet No. 62



SECTION F-F



CONTRACTION JOINT

LEGEND

n.f. - Near Face
f.f. - For Face
e.f. - Each Face

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

State Street
Forward Retaining Wall
Section SF-4 & 612 Median (Lt. & Rt.)

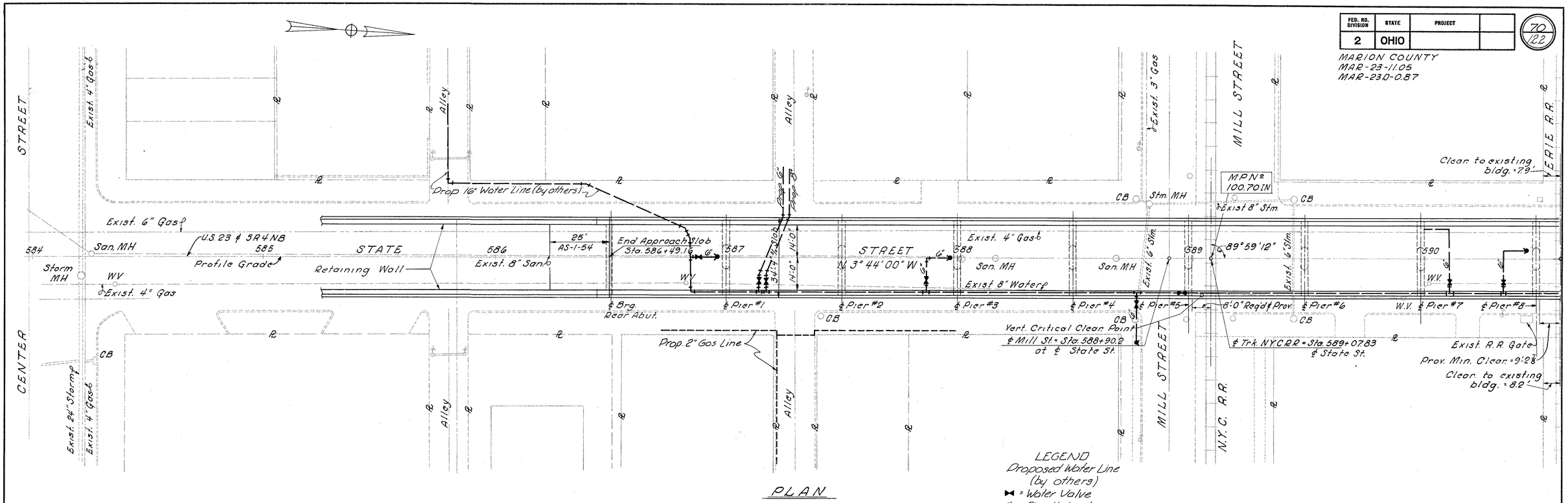
Marion County - US-23
Sta. 596+53.80 to Sta. 597+20

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.	D.F.J.		D.F.J.	WJ	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

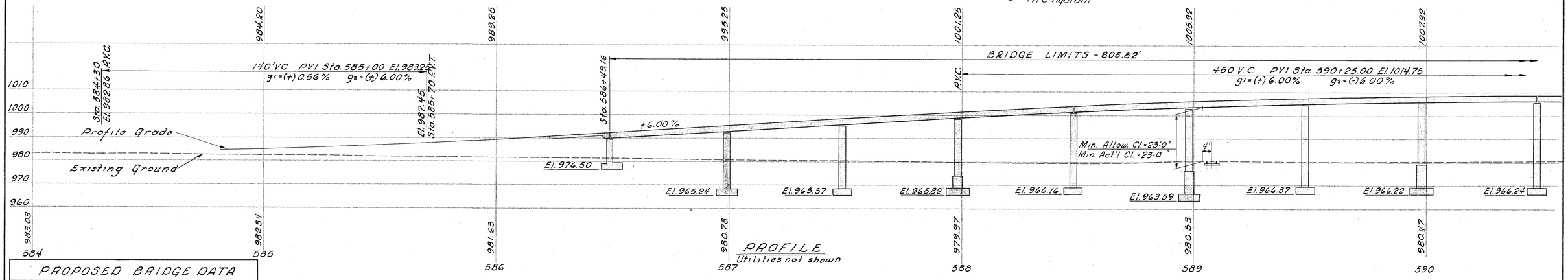
70
122

MARION COUNTY
MAR-23-11.05
MAR-230-0.87



PLAN

LEGEND
Proposed Water Line (by others)
⋈ = Water Valve
◖ = Fire Hydrant



PROFILE
Utilities not shown

PROPOSED BRIDGE DATA

TYPE: Prestressed Composite Box Beam Bridge w/Conc. Deck & Substructure
SPANS: (Approx. lengths) 8 @ 50'-0" 4 @ 52'-0" 4 @ 50'-0"
DESIGN LOADING: S 20-60
SKEW: None
ROADWAY: 28'-0" w/2'-0" Safety Curbs
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-54 (25' long)
RAILING: Bridge Railing, Type 1

ALIGNMENT: Tangent

BENCH MARK	BENCH MARK
Chiseled ª on Northeast corner of 1st step Res. Bldg. #161 El. 980.17	Chisel ª on Northwest corner State and Center, 325 ft. left ℄ Sta. 584+39 El. 982.53

1982 ADT = 17,700

BARRETT ASSOCIATED ENGINEERS, LTD.
1500 W. FIRST AVE. COLUMBUS 12, OHIO

SITE PLAN
BRIDGE Nº MAR-23-11.09
STATE STREET
OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD MARION COUNTY

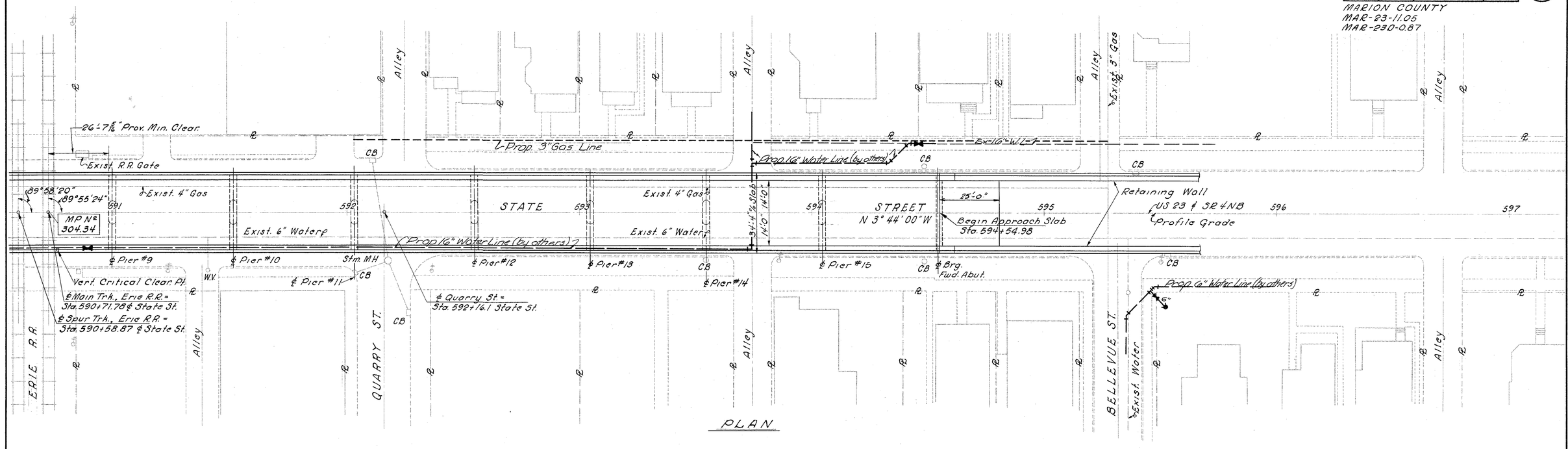
Sta. 586+49.16 to Sta. 594+54.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	K.J.B.		D.L.M.	WJF	6-11-65	

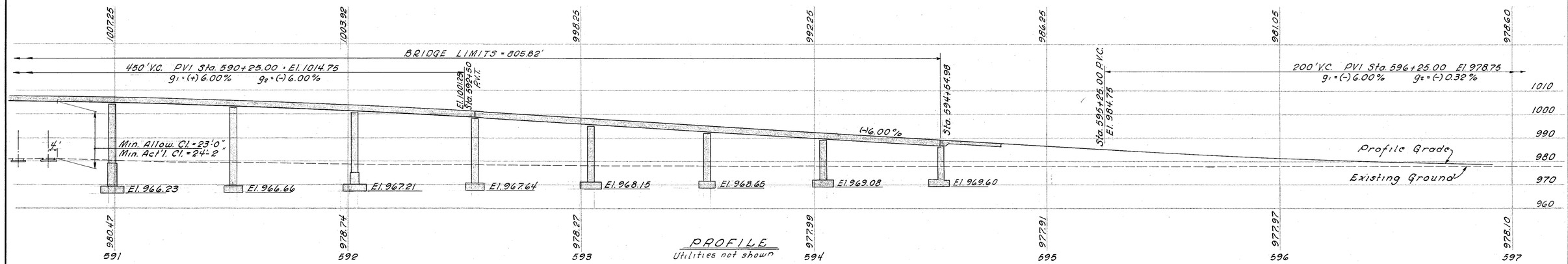
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

71/122

MARION COUNTY
MAR-23-11.05
MAR-230-0.87



PLAN



PROFILE
Utilities not shown

MICROFILMED
FEB 05 1985

BENCH MARK
Northeast corner of concrete slab on porch in front of Marion Labor Union Bldg. #235
El. 979.99

BARRETT ASSOCIATED ENGINEERS, LTD.
1500 W. FIRST AVE. COLUMBUS 12, OHIO

SITE PLAN
BRIDGE Nº MAR-23-11.09
STATE STREET
OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY

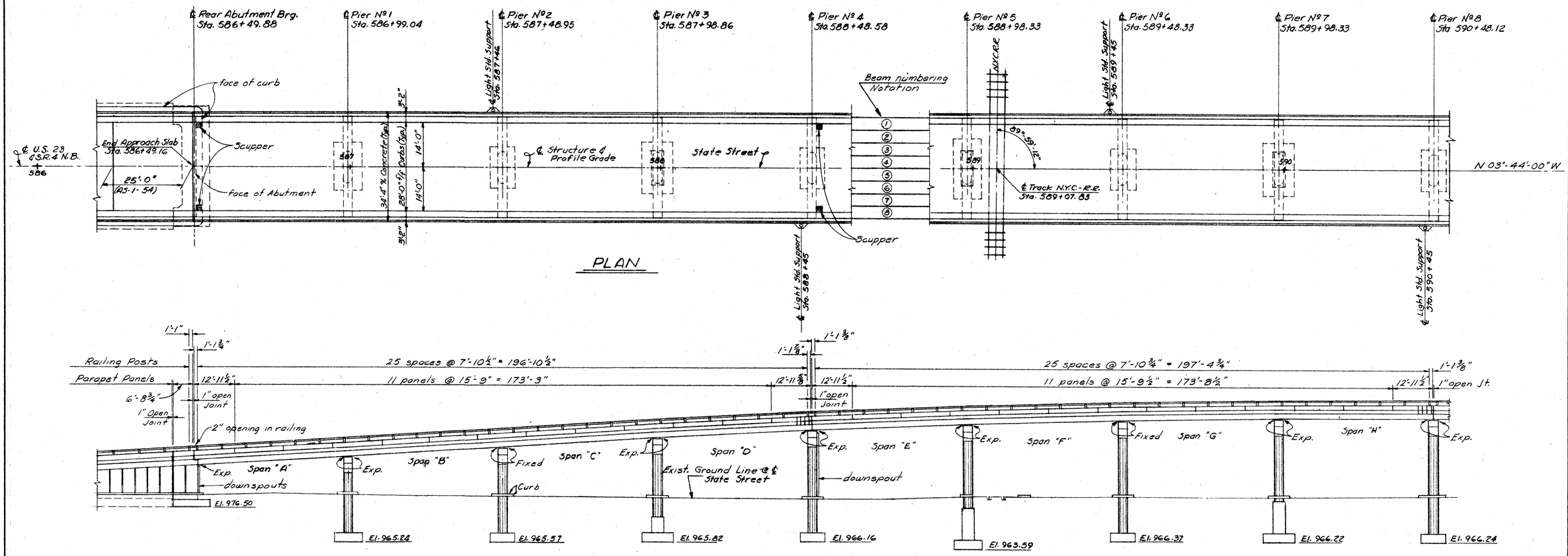
Sta. 586+49.16 to Sta. 594+54.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	K.J.B.		D.L.M.	W.J.	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

72
12.2

MARION COUNTY
MAR.-23-11.05
MAR.-23D 0.87



GENERAL NOTES:

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS BR-1-65 DATED 2-1-65, SHEET NO. 1 OF 2, AS-1-54 REVISED 8-10-65
AND TO SUPPLEMENTAL SPECIFICATION 808 DATED 7-14-65,
825 dated 4-22-65

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 9-1-57, TOGETHER WITH CURRENT REVISIONS THEREOF.

DESIGN LOADING - S20-60

CONCRETE CLASS "C"	- BASIC UNIT STRESS 1,333 P.S.I.
CONCRETE CLASS "E"	- BASIC UNIT STRESS 1,133 P.S.I.
REINFORCING STEEL	- A.S.T.M. A15, A16, A160, A408, DEFORMED
INTERMEDIATE OR HARD GRADE	- BASIC UNIT STRESS, 20,000 P.S.I.

FOOTINGS: THE FORWARD ABUTMENT AND THE PIERS, EXCEPT PIER NO. 5, SHALL EXTEND A MINIMUM OF 3" INTO UNDISTURBED ROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER. PIER NO. 5 SHALL EXTEND 3'-0" INTO UNDISTURBED ROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

FOUNDATION BEARING PRESSURE: REAR ABUTMENT FOOTING IS DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 1.8 TONS PER SQ. FT.; PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 8.0 TONS PER SQ. FT.; AND FORWARD ABUTMENT FOOTING IS DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2.7 TONS PER SQ. FT.

ELEVATION

MACHINE FINISH: THE CONCRETE BRIDGE DECK SHALL BE FINISHED BY THE USE OF A FINISHING MACHINE.

UTILITY LINES: ALL EXPENSES INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

MAINTENANCE AND PROTECTION OF TRAFFIC: FOR A DETAILED DESCRIPTION OF THESE REQUIREMENTS THE CONTRACTOR SHALL REFER TO "TRAFFIC NOTES" IN THE ROADWAY PLANS.

CONSTRUCTION CLEARANCES: THE FOLLOWING CONSTRUCTION CLEARANCES SHALL BE MAINTAINED AT ALL TIMES:
NEW YORK CENTRAL RAILROAD: —— 20 FT. VERTICALLY ABOVE THE TOP OF THE RAILROAD RAILS AND 7 FT. HORIZONTALLY FROM THE CENTER OF TRACKS.
ERIE-LACKAWANNA RAILROAD: —— 21 FT. VERTICALLY ABOVE THE TOP OF THE RAILROAD RAILS AND 6 FT. HORIZONTALLY FROM THE CENTER OF TRACKS.

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 CO-OPERATE WITH THE RAILROAD IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION SHALL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

SHEETING AND BRACING: BEFORE CONSTRUCTION IS STARTED, THIRTEEN SETS OF PRINTS SHOWING DETAILS OF THE SHEETING AND BRACING TO BE USED FOR EXCAVATION ADJACENT TO THE RAILROAD TRACKS SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL BY THE DEPARTMENT OF HIGHWAYS AND BY THE RAILROAD COMPANIES. SPECIAL CARE SHALL BE TAKEN AT SOUTH SIDE OF NEW YORK CENTRAL RAILROAD TO CLEAR PIER FOOTINGS. The sheeting in this area shall be cut-off below top of rail and a temporary handrail and walk shall be provided at the seven foot clearance line.

ALIGNING RAILROAD TRACKS: AFTER THE CONTRACTOR HAS COMPLETED ALL EXCAVATION AND BACKFILL ADJACENT TO THE RAILROAD TRACKS IN COMPLIANCE WITH SECTION 503.04 AND 503.09 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, SUBJECT TO THE SUPERVISION OF THE RAILROAD COMPANY, NOTHING IN SECTION 503.04, 503.09 OR 108.04 OF THE SPECIFICATIONS SHALL BE CONSTRUED TO HOLD THE CONTRACTOR LIABLE FOR ALIGNING AND RESURFACING THE RAILROAD TRACKS.

TRANSVERSE TIE RODS SHALL BE PROVIDED THROUGH THE DIAPHRAGMS IN THE POSITIONS INDICATED. EACH TIE SHALL BE EQUIVALENT TO A 1" DIAMETER MILD STEEL ROD, AS PER SECTION 711.01, TIGHTENED TO 18,000 POUNDS. TENSION MAY BE APPLIED BY A TORQUE OF APPROXIMATELY 300 FOOT POUNDS WITH THE THREADS LUBRICATED.

MORTARING OF SHEAR KEYS: AFTER TRANSVERSE TIE RODS HAVE BEEN PLACED AND TIGHTENED, SHEAR KEYS BETWEEN THE BEAMS SHALL BE FILLED WITH LOW-SLUMP NON-SHRINKING PORTLAND CEMENT MORTAR. MORTAR SHALL BE TAMPED INTO THE KEYWAYS IN A MANNER THAT INSURES COMPLETE AND SOLID FILLING.

COMPOSITE SLAB CONCRETE SHALL BE CLASS "C".

CLEANING PRIOR TO PLACEMENT OF COMPOSITE SLAB: BEFORE PLACEMENT OF THE SLAB CONCRETE, THE TOPS OF THE BEAMS SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATTER. THE SURFACE SHALL BE FLUSHED WITH CLEAR WATER AND SHALL BE WET, WITHOUT FREE WATER, WHEN THE CONCRETE IS PLACED.

GALVANIZING: ALL SCUPPERS, DOWNSPOUTS, RODS, NUTS, AND WASHERS SHALL BE GALVANIZED AS PER SECTION 711.02 UNLESS OTHERWISE SPECIFIED.

FOR LOCATION OF LUMINAIRES ATTACHED TO PIERS, AND LOCATION OF JUNCTION BOXES AND CONDUIT SEE SHEETS No. 104 and 105

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

GENERAL PLAN, FRAMING PLAN & GENERAL NOTES

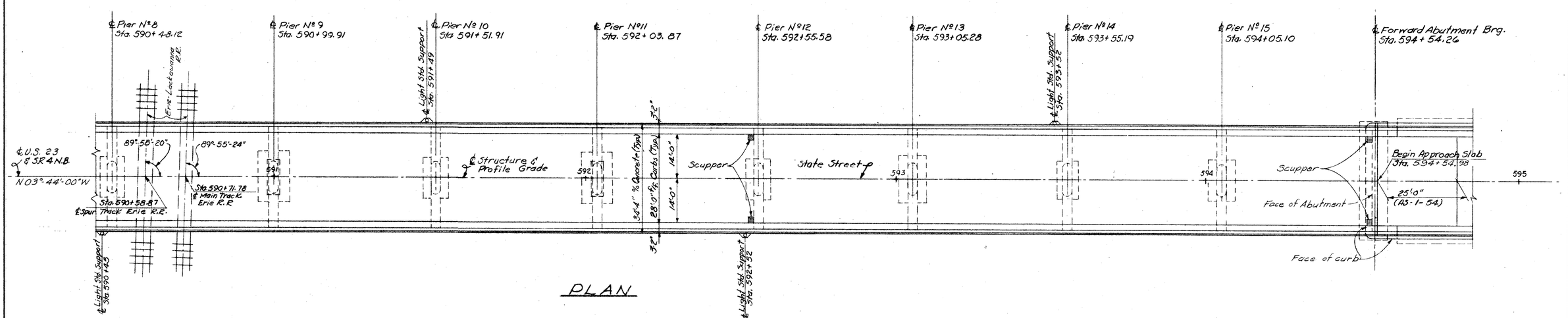
STATE STREET ~ BRIDGE Nº MAR-23-11.09
OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
Marion County
Sta. 586+49.16 to Sta. 594+54.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	R.H.B.		D.L.M.	Wf.	6-11-65	

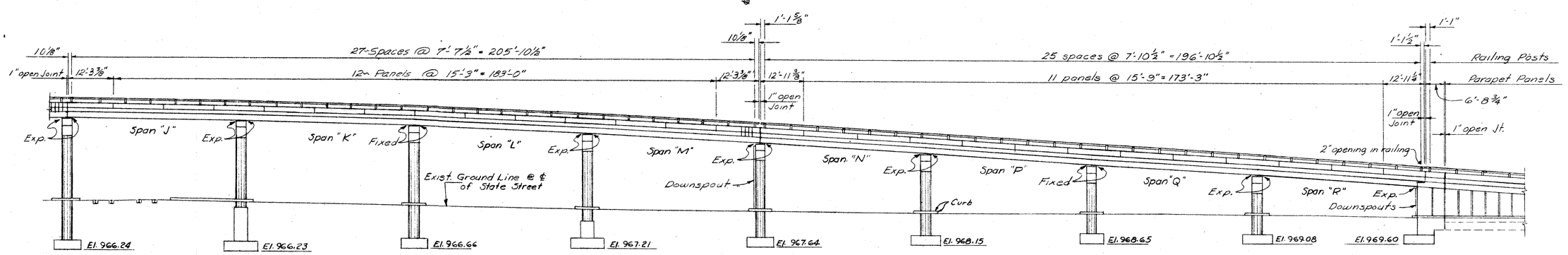
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

73
122

MARION COUNTY
MAR.-23-11.05
MAR.-23D-0.87



PLAN



ELEVATION

GENERAL NOTES: (CONT.)

COMPOSITE CONCRETE SLAB REINFORCEMENT SHALL BE MESH FABRIC AS PER STANDARD CONSTRUCTION DRAWING BP-2 DATED 6-1-65, EXCEPT AS NOTED BELOW. NO. 00 WIRES SHALL BE PLACED TRANSVERSE TO THE BEAMS. MESH SHALL BE LAID ON TOP OF THE PROJECTING BEAM STIRRUPS AND SHALL BE LAPPED 10" MINIMUM FOR NO. 00 WIRES AND 7" FOR NO. 4 WIRES. PAYMENT FOR MESH SHALL BE AS A SEPARATE ITEM.

DECK PLACING PROCEDURE: IN PLACING THE COMPOSITE SLAB CONCRETE, CONSTRUCTION JOINTS WILL BE PERMITTED, NORMAL TO THE CENTERLINE OF STRUCTURE AND NEAR THE MIDDLE OF ANY SPAN. BECAUSE OF THE FLOW OF CURING WATER FROM THE SURFACE OF PREVIOUSLY - PLACED SLAB CONCRETE, THE SEQUENCE OF POURS SHALL BE UPGRADE, STARTING AT THE LOWEST ENDS.

SLAB THICKNESS: THE THICKNESS OF COMPOSITE CONCRETE SLAB SHALL BE ADJUSTED TO MAINTAIN THE SLAB SURFACE AT PROFILE GRADE, ALLOWANCE BEING MADE FOR ¼" ACTUAL CAMBER IN THE BEAMS AT THE TIME THE SLAB IS PLACED AND FOR THE ANTICIPATED DEFLECTION DUE TO THE WEIGHT OF THE SLAB. MINIMUM SLAB THICKNESS SHALL BE 3 1/2" PLUS 1" MONOLITHIC WEARING SURFACE.

LAMINATED ELASTOMERIC BEARINGS

GENERAL: IN ADDITION TO THE REQUIREMENTS OF SECTION 711.23, ELASTOMERIC BEARINGS SHALL BE SUBJECT TO THE FOLLOWING REQUIREMENTS.

SAMPLE TESTING: THE BOND BETWEEN THE ELASTOMER AND THE METAL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D429, METHOD B. ADHESION AS DETERMINED IN THE TEST SHALL NOT BE LESS THAN 40#/INCH.

BEARING TEST: THE STRESS-STRAIN RELATIONSHIP OF FULL SIZE BEARINGS SHALL BE DETERMINED BY TESTING ONE BEARING OF EACH SIZE AT ROOM TEMPERATURE. THE PROCEDURES TO BE FOLLOWED AND THE RESULTS OF THE TESTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

1. BEARING SHALL BE AXIALLY LOADED TO A COMPRESSIVE STRESS OF 800 PSI. MEASURED COMPRESSIVE STRAIN SHALL NOT EXCEED 6½ AND 10 UNDER COMPRESSIVE STRESSES OF 500 PSI AND 800 PSI RESPECTIVELY.
2. BEARING SHALL BE AXIALLY LOADED WITH A COMPRESSIVE STRESS OF 200 PSI. THE BEARING SHALL THEN BE SHEARED HORIZONTALLY TO 25% SHEAR STRAIN. FINAL SHEAR STRESS RECORDED AT 25% STRAIN SHALL NOT EXCEED 35 PSI.
3. DURATION OF EACH TEST SHALL NOT EXCEED 1 HOUR. STRESS AND STRAIN MEASUREMENTS SHALL BE BASED ON THE FOLLOWING:
   A = SINGLE SURFACE AREA OF AN INTERNAL METAL LAMINA, INCHES ^{2}
   T = TOTAL THICKNESS OF ELASTOMER, INCHES
   Dx = MEASURED COMPRESSIVE DEFLECTION, INCHES
   Dy = MEASURED HORIZONTAL DEFLECTION, INCHES
   COMPRESSIVE STRESS, PSI = AXIAL LOAD, LBS/A
   SHEAR STRESS, PSI = SHEAR FORCE, LBS./A
   COMPRESSIVE STRAIN, % = 100 Dx/T
   SHEAR STRAIN, % = 100 Dy/T
4. BEARING TEST REPORT SHALL CONSIST OF STRESS STRAIN CURVES OF EACH TEST WITH THE TEMPERATURE AND TIME DURATION OF THE TEST NOTED.

MATERIALS: ALL MATERIAL SHALL BE NEW, WITH NO RECLAIMED MATERIAL INCORPORATED IN THE FINISHED BEARINGS.

CONSTRUCTION: ELASTOMERIC BEARINGS SHALL CONFORM TO THE REQUIREMENTS OF THE CLASS DESIGNATED AS RMA-A3-F3-T.063, IN THE RUBBER HANDBOOK, SECOND EDITION 1963, BY THE RUBBER MANUFACTURERS ASSOCIATION, INC. IN BRIEF, THE ABOVE CLASSIFICATIONS SPECIFY, COMMERCIAL TOLERANCES, AVERAGE SURFACE FINISH, AND NORMAL TRIM TOLERANCES. THE LAMINAE DIMENSIONS SHALL NOT VARY TO THE EXTENT THAT THE SHAPE FACTOR CHANGES MORE THAN ± 0.5. THERE SHALL BE A MINIMUM 1/8 INCH EDGE SEAL, INTEGRAL WITH THE BEARING, OVER ALL INTERNAL PLATES.

CERTIFICATION: THE CONTRACTOR SHALL FURNISH TO THE DIRECTOR CERTIFIED COPIES OF THE BEARING MANUFACTURER'S TEST REPORTS AND A CERTIFICATION BY THE BEARING MANUFACTURER THAT THE BEARINGS FURNISHED CONFORM TO ALL THE REQUIREMENTS SHOWN ON THE PLANS AND AS STIPULATED HEREIN.

SAMPLING: IN ADDITION TO THE ABOVE TEST AND CERTIFICATIONS, THE CONTRACTOR SHALL FURNISH TWO ADDITIONAL FULL SIZE BEARINGS. THESE BEARINGS SHALL BE FURNISHED (IN LIEU OF THE 6" X 6" SAMPLE REQUIRED BY THE SPECIFICATIONS) FOR COMPLETE DESTRUCTIVE TESTING AND THEY WILL NOT BE RETURNED FOR INCORPORATION IN THE WORK.

PACKAGING: THE BEARINGS SHALL BE PACKAGED OR CRATED IN SUCH MANNER THAT THEY WILL NOT BECOME DAMAGED WHILE BEING HANDLED, TRANSPORTED OR STORED. ANY BEARING DAMAGED BEFORE INCORPORATION INTO THE WORK SHALL BE REPLACED BY THE CONTRACTOR, AT HIS EXPENSE.

VERIFICATION: THE STATE RESERVES THE RIGHT TO PERFORM SUCH TESTS AS ARE DEEMED NECESSARY TO INSURE THAT FURNISHED MATERIAL CONFORMS TO PRESCRIBED REQUIREMENTS.

For roadway and deck heating details see Sheets 10A, 113 & 114.

FOR LOCATION OF LUMINAIRES ATTACHED TO PIERS, AND LOCATION OF JUNCTION BOXES AND CONDUIT SEE SHEETS No. 104 and 105

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

GENERAL PLAN, FRAMING PLAN & GENERAL NOTES
BRIDGE Nº MAR-23-1109
STATE STREET
OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY
Sta. 586+49.16 to Sta. 594+54.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	R.H.B.		D.L.M.	W.J.	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

74 / 122

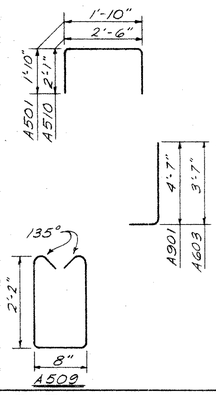
MARION COUNTY
MAR-23-11.05
MAR-23D - 0.87

REINFORCING STEEL LIST

REAR ABUTMENT

Mark	No.	Length	Shape	Weight
A901	29	5'-7"	Bt.	551
A902	15	11'-1"	Str.	565
A903	14	7'-0"	Str.	333
A701	29	8'-8"	Str.	514
A702	14	11'-8"	Str.	334
A601	~ DELETED ~			
A602	18	12'-11"	Str.	349
A603	18	4'-3"	Bt.	115
A604	12	7'-0"	Str.	126
A501	15	5'-3"	Bt.	82
A502	15	10'-10"	Str.	169
A503	~ DELETED ~			
A504	15	33'-2"	"	519
A505	18	3'-11"	"	74
A506	9	37'-8"	"	354
A507	8	6'-11"	"	58
A508	12	5'-8"	Str.	71
A509	10	5'-7"	Bt.	58
A510	16	6'-5"	Bt.	107
A511	12	6'-4"	Str.	79
A512	24	7'-8"	"	192
A513	8	12'-3"	"	102
A514	2	12'-5"	"	26
A515	4	2'-9"	Str.	11

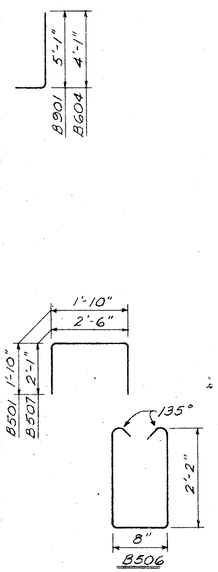
Bending Diagrams



FORWARD ABUTMENT

Mark	No.	Length	Shape	Weight
B901	43	6'-1"	Bt.	889
B902	15	14'-3"	Str.	727
B903	14	10'-3"	"	488
B904	14	5'-6"	Str.	262
B701	42	8'-8"	Str.	744
B601	~ DELETED ~			
B602	4	14'-3"	Str.	86
B603	10	16'-1"	Str.	242
B604	10	4'-9"	Bt.	71
B605	18	7'-8"	Str.	207
B606	2	4'-8"	"	14
B607	16	7'-0"	Str.	168
B501	15	5'-3"	Bt.	82
B502	15	14'-0"	Str.	219
B503	26	3'-11"	"	106
B504	~ DELETED ~			
B505	17	33'-2"	Str.	588
B506	10	5'-7"	Bt.	58
B507	16	6'-5"	Bt.	107
B508	12	6'-4"	Str.	79
B509	4	13'-11"	"	58
B510	4	15'-6"	"	65
B511	9	37'-8"	"	354
B512	4	2'-9"	"	11
B513	2	15'-7"	"	33
B514	2	4'-8"	"	10
B515	14	7'-8"	Str.	112

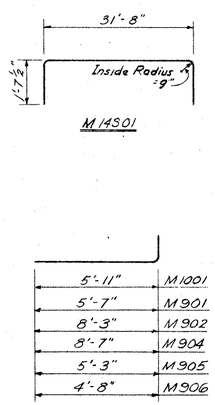
Bending Diagrams



PIERS

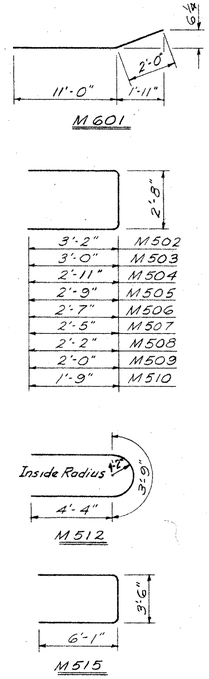
Mark	No.	Length	Shape	Weight
M14S01	30	34'-1"	Bt.	7822
M14S02	30	30'-8"	Str.	7038
M14S03	84	31'-8"	Str.	20349
M1101	210	6'-0"	Str.	6694
M1102	80	7'-6"	"	3188
M1103	60	12'-6"	"	3985
M1104	70	17'-6"	"	6508
M1105	12	31'-8"	Str.	2019
M1001	84	7'-0"	Bt.	2530
M1002	32	6'-9"	Str.	929
M1003	24	11'-6"	"	1188
M1004	28	15'-0"	Str.	1807
M901	130	6'-7"	Bt.	2910
M902	48	9'-3"	Bt.	1510
M903	102	9'-10"	Str.	3410
M904	68	9'-7"	Bt.	2216
M905	168	6'-3"	"	3570
M906	28	5'-8"	Bt.	539
M801	74	8'-8"	Str.	1712
M802	28	10'-2"	"	760
M803	14	7'-3"	"	271
M804	14	15'-7"	"	583
M805	104	9'-8"	"	2684
M806	10	18'-8"	"	498
M807	28	10'-0"	"	748
M808	14	8'-9"	"	327
M809	14	9'-3"	"	346
M810	14	8'-1"	"	302
M811	28	6'-6"	"	486
M812	28	9'-0"	"	673
M813	28	14'-7"	"	1090
M814	28	17'-1"	Str.	1277

Bending Diagrams



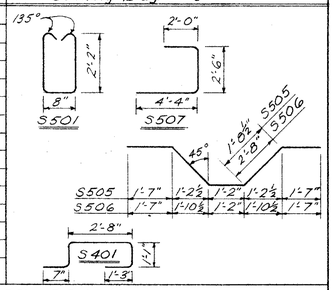
Mark	No.	Length	Shape	Weight
M701	22	8'-8"	Str.	390
M601	60	13'-0"	Bt.	1172
M602	24	14'-8"	Str.	529
M603	48	16'-2"	"	1166
M604	28	18'-7"	"	782
M605	14	17'-9"	"	373
M606	42	19'-3"	"	1214
M607	14	19'-0"	Str.	400
M501	30	10'-0"	Str.	313
M502	270	8'-9"	Bt.	2464
M503	60	8'-5"	"	527
M504	60	8'-3"	"	516
M505	60	7'-11"	"	495
M506	60	7'-7"	"	475
M507	60	7'-3"	"	454
M508	60	6'-9"	"	422
M509	60	6'-5"	"	402
M510	60	5'-11"	Bt.	370
M511	30	24'-6"	Str.	767
M512	370	12'-5"	Bt.	4792
M513	90	12'-8"	Str.	1189
M514	45	8'-8"	Str.	407
M515	52	15'-5"	Bt.	836
M516	138	7'-8"	Str.	1103
M517	18	6'-8"	"	125
M518	9	11'-8"	Str.	110

Bending Diagrams



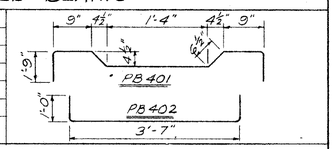
SUPERSTRUCTURE

Mark	No.	Length	Shape	Weight	Bending Diagrams
S1001	90	25'-0"	Str.	9682	
S1002	30	29'-0"	Str.	3744	
S801	824	22'-0"	Str.	48402	
S501	1182	5'-7"	Bt.	6883	
S502	36	34'-7"	Str.	1299	
S503	64	28'-2"	"	1880	
S504	48	38'-8"	Str.	1936	
S505	14	7'-9"	Bt.	113	
S506	14	9'-8"	"	141	
S507	28	8'-7"	Bt.	251	
S401	1074	6'-2"	Bt.	4424	



PRESTRESSED BEAMS

PB401	6464	7'-2"	Bt.	—
PB402	1536	5'-4"	Bt.	—
PB403	576	50'-5"	Str.	—
PB404	192	52'-5"	Str.	—



RAILING

R501	16	6'-4"	Str.	—
R502	96	14'-11"	"	—
R503	264	15'-5"	"	—
R504	16	11'-11"	"	—
R505	48	12'-7"	Str.	—

Note: Railing bars R501 thru R505 are included with the railing for payment.

SPECIAL (#6 DOWELS)

#6 dowels	256	2'-0"	Str.	769

SUPERSTRUCTURE

ITEM	Area (Sq. Ft.)	Lbs/sq. ft.	Pounds
Mesh Fabric	30,530	0.72	21,980

REPLACEMENT BARS

Mark	No.	Length	Shape	Bending Diagram
RE14S01	2	8'-3"	Str.	See S401 for Bend - RE401
RE1101	2	7'-6"	"	
RE1001	1	7'-2"	"	
RE901	1	6'-10"	"	
RE801	4	6'-6"	"	
RE701	1	6'-2"	"	
RE601	1	5'-11"	"	
RE501	2	5'-7"	Str.	
RE401	1	6'-2"	Bt.	

ESTIMATED QUANTITIES

Item	Quantity	Unit	Description	Abut's.	Piers	Superstr.	General
503	Lump	Lump Sum	Cofferdams, Cribs and Sheeting				Lump
503	1472	Cu. Yds.	Unclassified Excavation for Structures	207	1265		
503	38	Cu. Yds.	Rock Excavation for Structures	3	35		
511	587	Cu. Yds.	Class "C" Concrete, Superstructure			587	
511	631	Cu. Yds.	Class "C" Concrete, Piers above Footings		631		
511	99	Cu. Yds.	Class "E" Concrete, Abutments above Footings	99			
511	277	Cu. Yds.	Class "E" Concrete, Footings	63	214		
512	43	Lin. Ft.	Premolded Sealing Strip	43			
509	201,855	Lbs.	Reinforcing Steel	10,569	111,762	78,755	769
516	492	Sq. Ft.	1" Preformed Exp. Joint Filler (Type I) incl. Joint Sealer	119		373	
517	1,637.93	Lin. Ft.	Bridge Railing, Type 1	26.92		1,611.01	
510	256	Each	Dowel Holes (Including Filling of Holes in Beam)				256
625	—	—	Bridge Lighting (See Sheet No. 106)				
518	50	Cu. Yds.	Porous Backfill	50			
518	8	Each	Scuppers			8	
518	138	Lin. Ft.	8" x 8" x ¼" (A-36) Struct. Tubing (Hot-dipped Galvanized) including Clip Angles, Plugs & 8" ϕ Std. Steel Pipe	43	95		
808	587	Each	Water-reducing, set-retarding Admixture			587	
515	96	Each	Prestressed Concrete Composite Box Beams (Beam I)			96	
515	32	Each	Prestressed Concrete Composite Box Beams (Beam II)			32	
825	3,510	sq. yd.	Concrete surface treatment				3,510
516	512	Each	Elastomeric Bearing Pads (Three-ply Laminated)				512
516	180	Lin. Ft.	6" Neoprene Waterstop (Dumbell Type)			180	
509	21,980	Lbs.	Mesh Fabric (709.10)			21,980	

* AASHO Specs. M-153

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A701 IS A NO. 7 SIZE BAR, AND M1001 IS A NO. 10 SIZE BAR.

REINFORCING BARS NO. 14S SHALL BE OF INTERMEDIATE OR HARD GRADE CONFORMING TO A.S.T.M. A408.

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

REINFORCING STEEL LIST AND ESTIMATED QUANTITIES
BRIDGE NO. MAR-23-1109 ~ STATE STREET OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
Marion County
Sta. 586+49.16 to Sta. 594+54.98

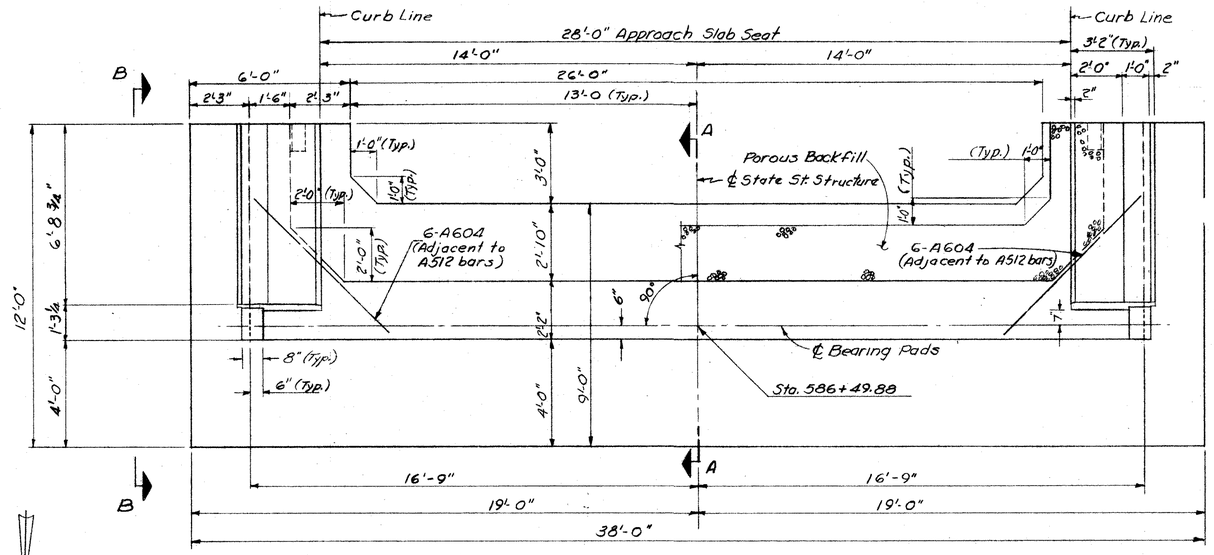
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	RWT		D.L.M.	[illegible]	6-11-65	

HILLS CO.—10-5155—500—3-64

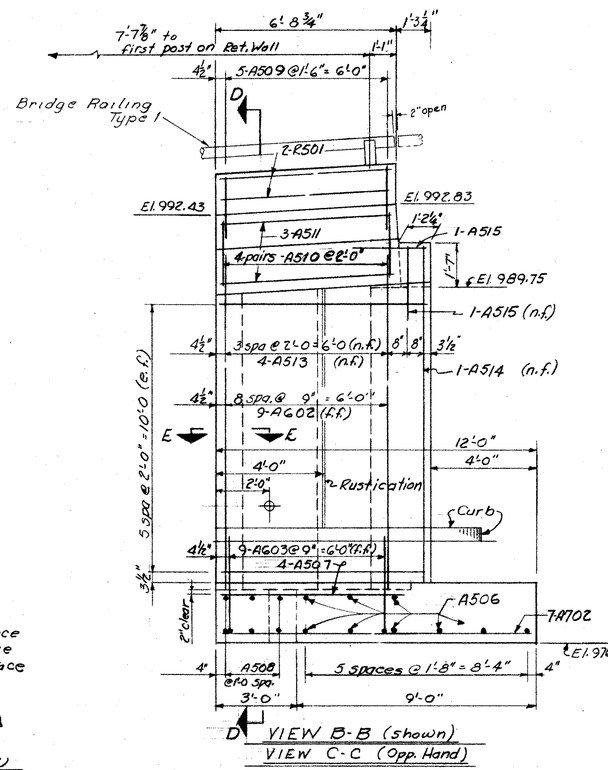
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

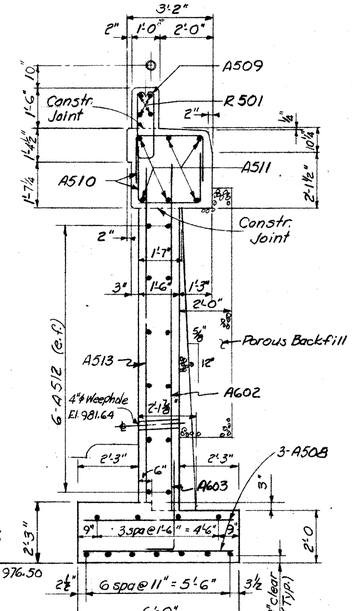
75
122

MARION COUNTY
MAR. -23-11.05
MAR-23 D-0.87



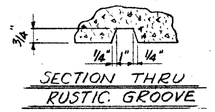
PLAN



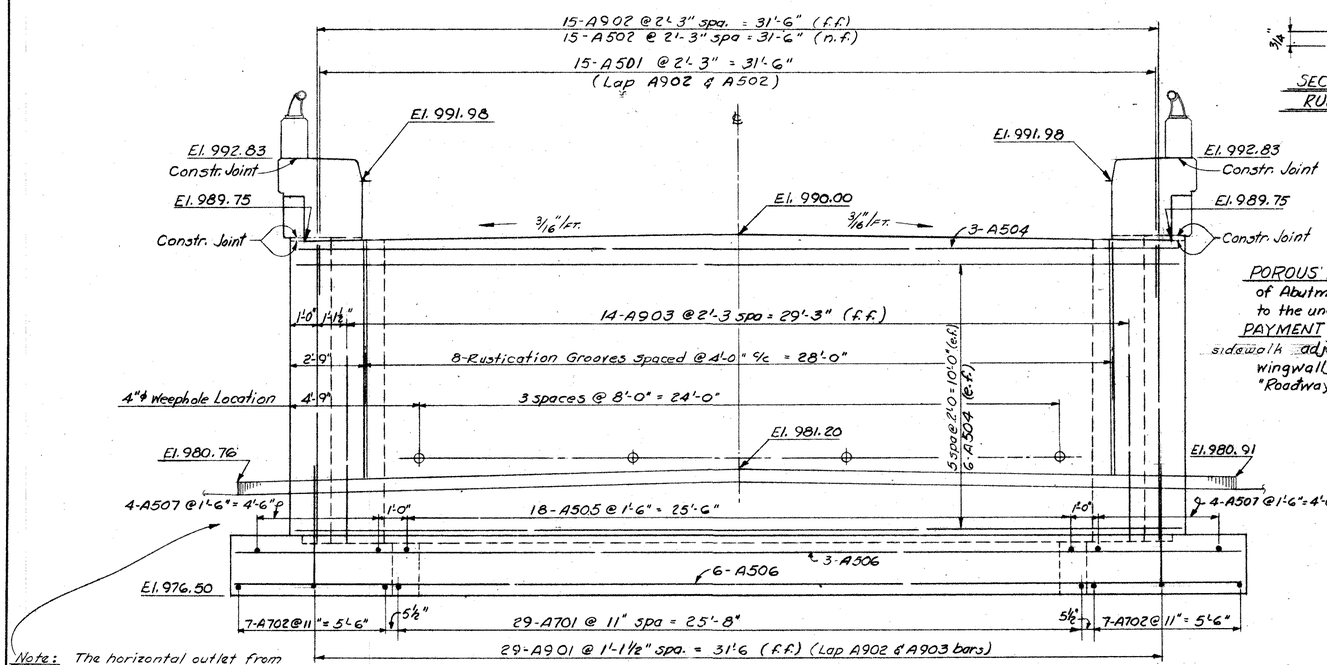


SECTION D-D

LEGEND
n.f. = near face
f.f. = far face
c.f. = each face



SECTION THRU RUSTIC. GROOVE

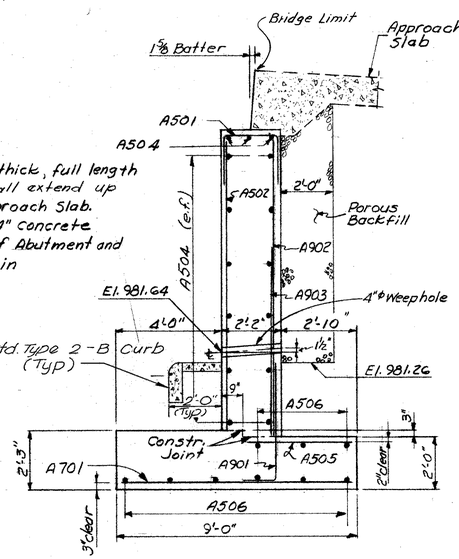


Note: The horizontal outlet from the downspout is to be encased in concrete beginning at 1'0" inside the edge of ftg. and ending at 4'-0" outside the edge of ftg. This pipe does not meet the min. req'd. cover.

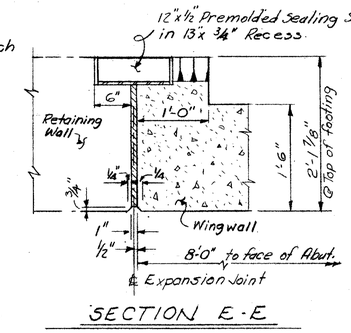
ELEVATION

POROUS BACKFILL, 2 foot thick, full length of Abutment and Wings shall extend up to the underside of the Approach Slab.

PAYMENT for the curb and 4" concrete sidewalk adjacent to the face of Abutment and wingwalls will be carried in "Roadway Quantities."



SECTION A-A



SECTION E-E

BEAM SEATS: special care shall be taken in placing reinforcing steel in the vicinity of the beam seats so as to avoid interference with the drilling of the dowel rod holes.

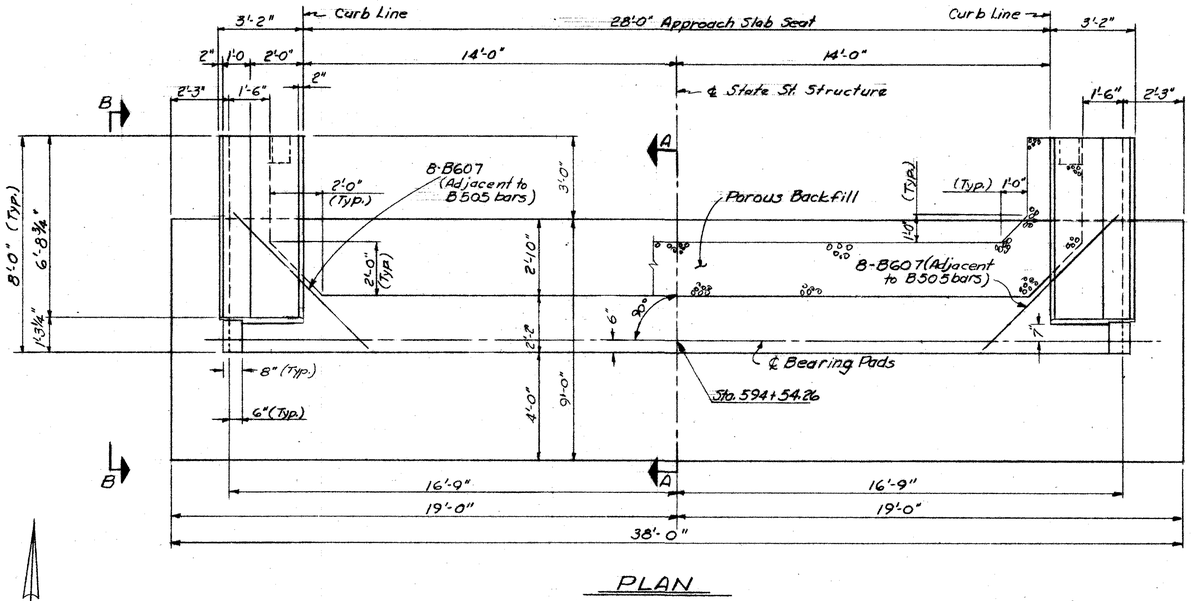
MICROFILMED
FEB 05 1965

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

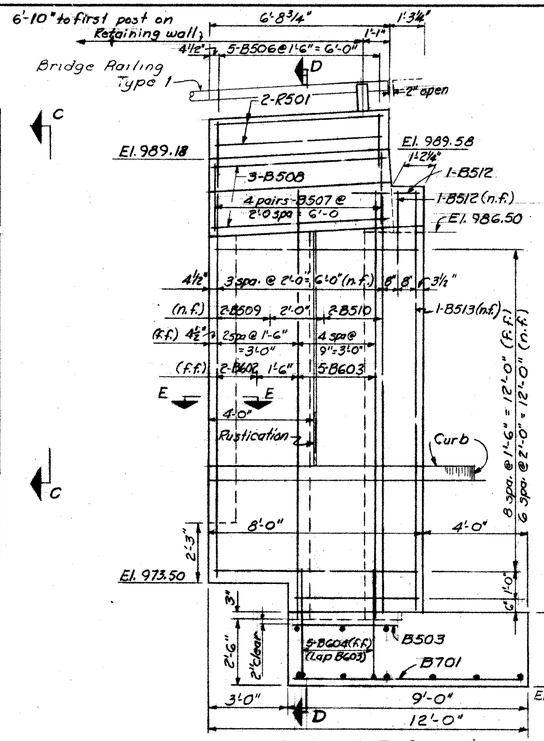
REAR ABUTMENT DETAILS
BRIDGE Nº MAR.-23-1109
STATE STREET
OVER NEW YORK CENTRAL RAIL ROAD AND ERIE LACKAWANNA RAIL ROAD
MARION COUNTY
Sta. 586+49.16 to Sta. 594+54.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWT	R.H.B.		D.L.M.	W.J.	6-11-65	

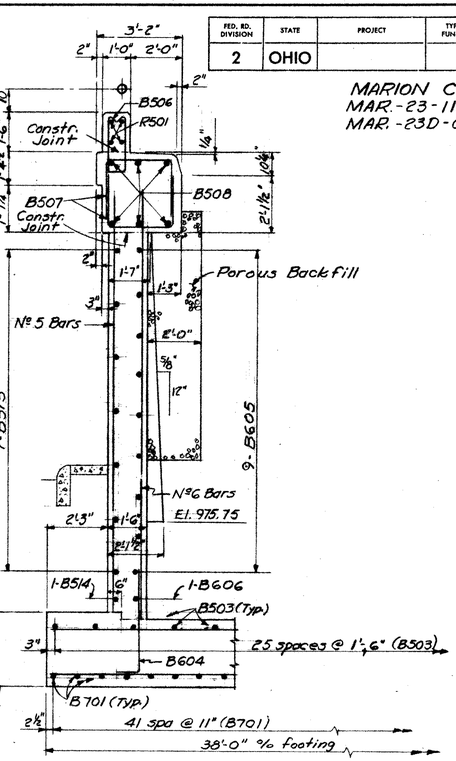
HILLS CO.—49-5155—500—3/64



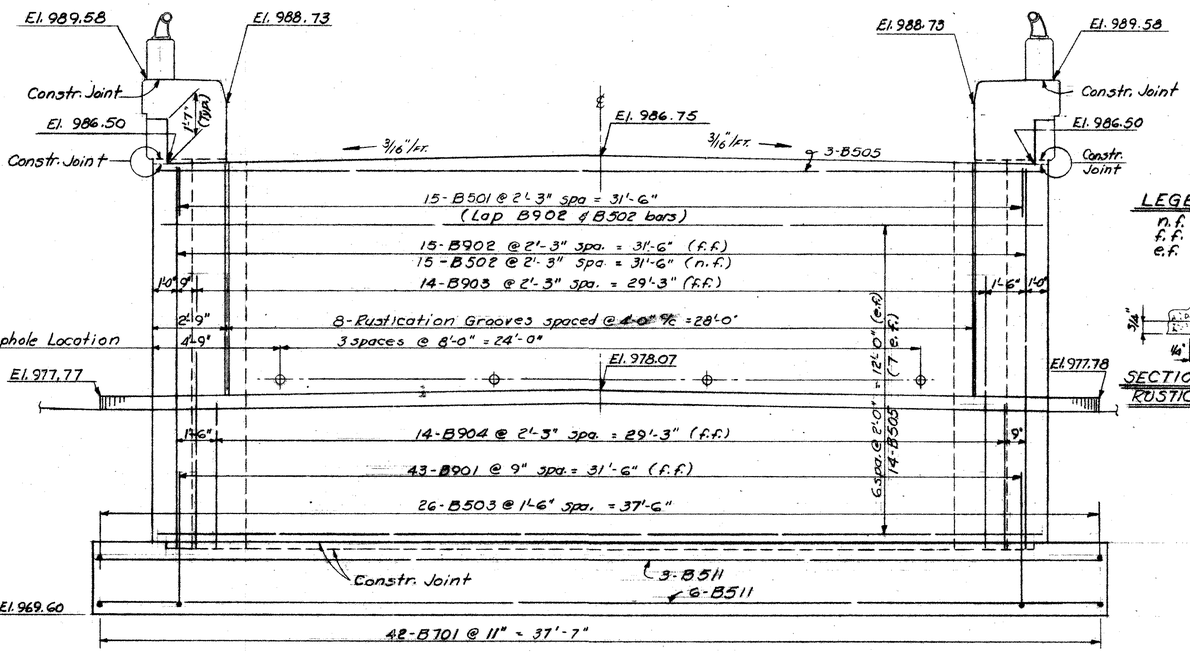
PLAN



VIEW B-B (Shown)
VIEW C-C (opp. Hand)



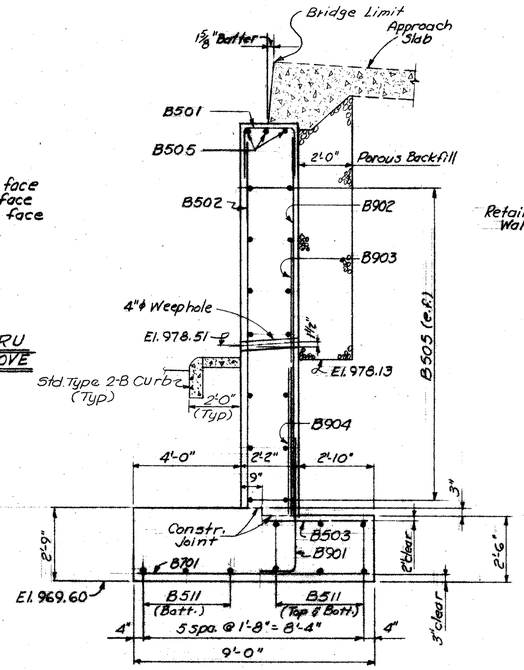
SECTION D-D



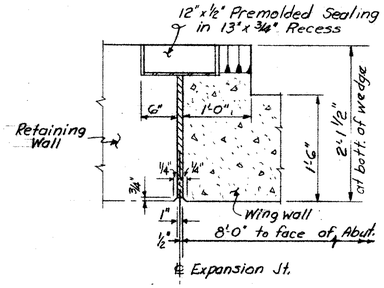
ELEVATION

LEGEND
n.f. = near face
f.f. = far face
e.f. = each face

SECTION THRU RUSTIC. GROOVE



SECTION A-A



SECTION E-E

NOTE:
See Rear Abutment, Sheet № 75 for Notes.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

76
122

MARION COUNTY
MAR.-23-11.05
MAR.-23D-0.87

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

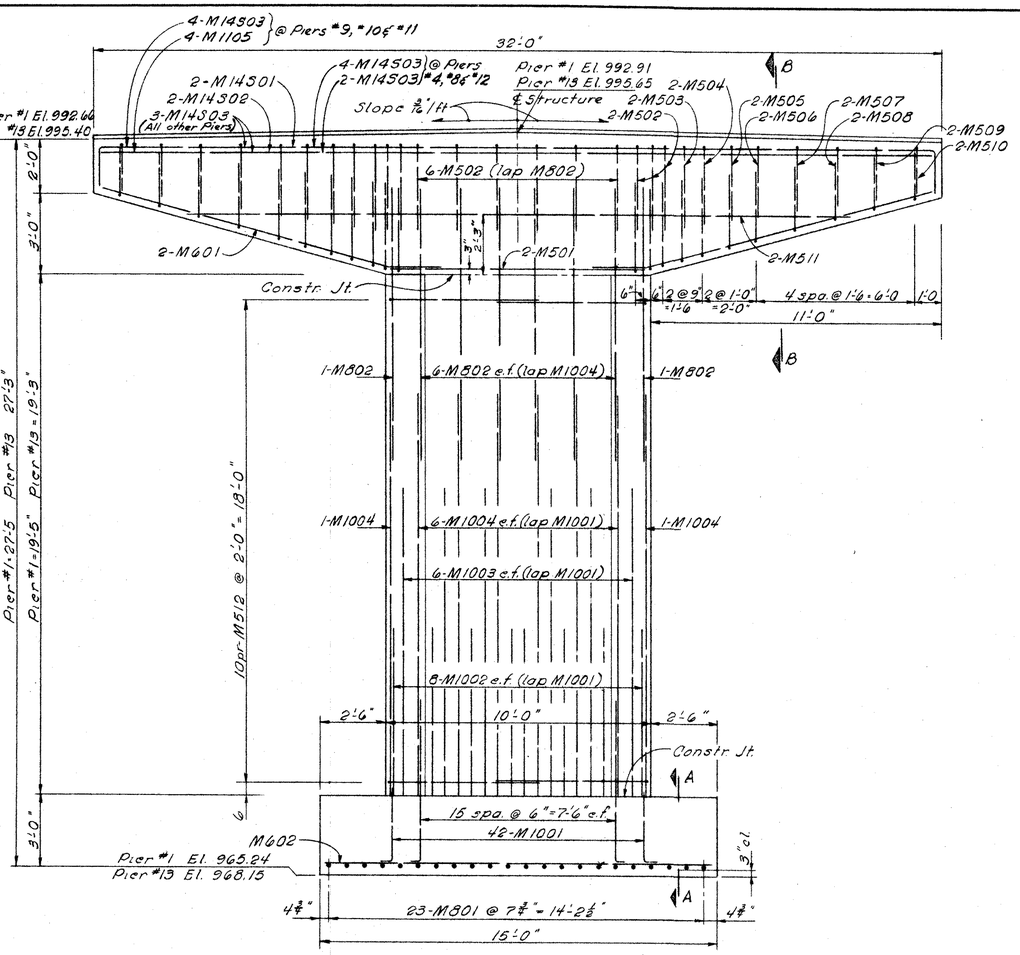
FORWARD ABUTMENT DETAILS
BRIDGE № MAR.-23-1109
STATE STREET
OVER NEW YORK CENTRAL RAIL ROAD
AND ERIE LACKAWANNA RAILROAD
MARION COUNTY
Sta. 586+49.16 to Sta. 594+54.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWT	R.H.B.		D.L.M.	WJ	6-11-68	

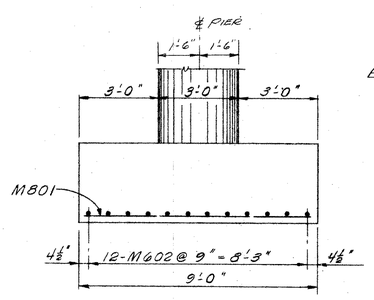
PED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

77
122

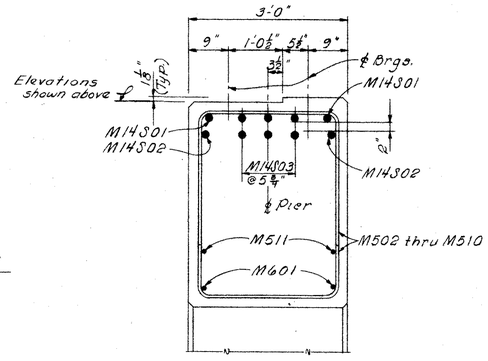
MARION COUNTY
MAR-23-11.05
MAR-23D-0.87



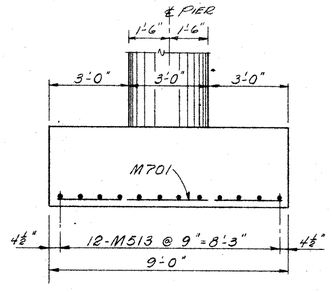
ELEVATION ~ PIER #1 & #13
(Pier #1, looking ahead, Pier #13, looking rearward)



SECTION A-A

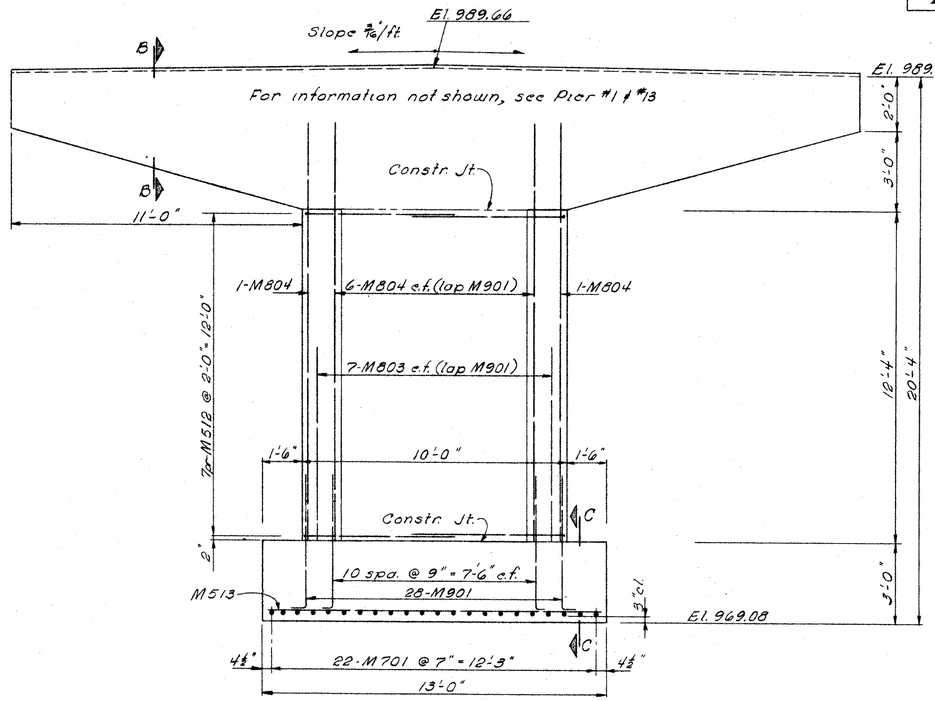


SECTION B-B

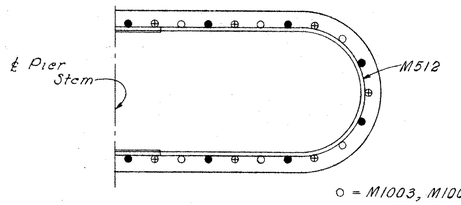


SECTION C-C

BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BEAM SEATS SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF THE DOWEL ROD HOLES.



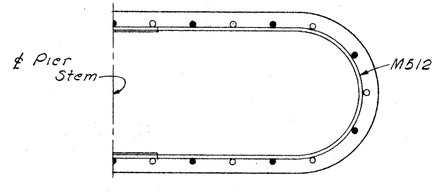
ELEVATION ~ PIER #15
(Looking ahead)



○ = M1003, M1001
● = M1002, M1001
⊕ = M802, M1004 & M1001

STEM HALF-SECTION ~ PIER #1 & #13

℄ PIER STATIONS	
Pier	Station
#1	586+99.04
#13	593+05.28
#15	594+05.10



○ = M804 & M901
● = M803 & M901

STEM HALF-SECTION ~ PIER #15

MICROFILMED
FEB 05 1965

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

DETAILS ~ PIERS #1, #13 & #15
BRIDGE Nº MAR-23-1109
STATE STREET
OVER NEW YORK CENTRAL RAILROAD
AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY
Sta. 586+49.16 to Sta. 594+54.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	K.F.B.		HM	WJ	6-11-65	

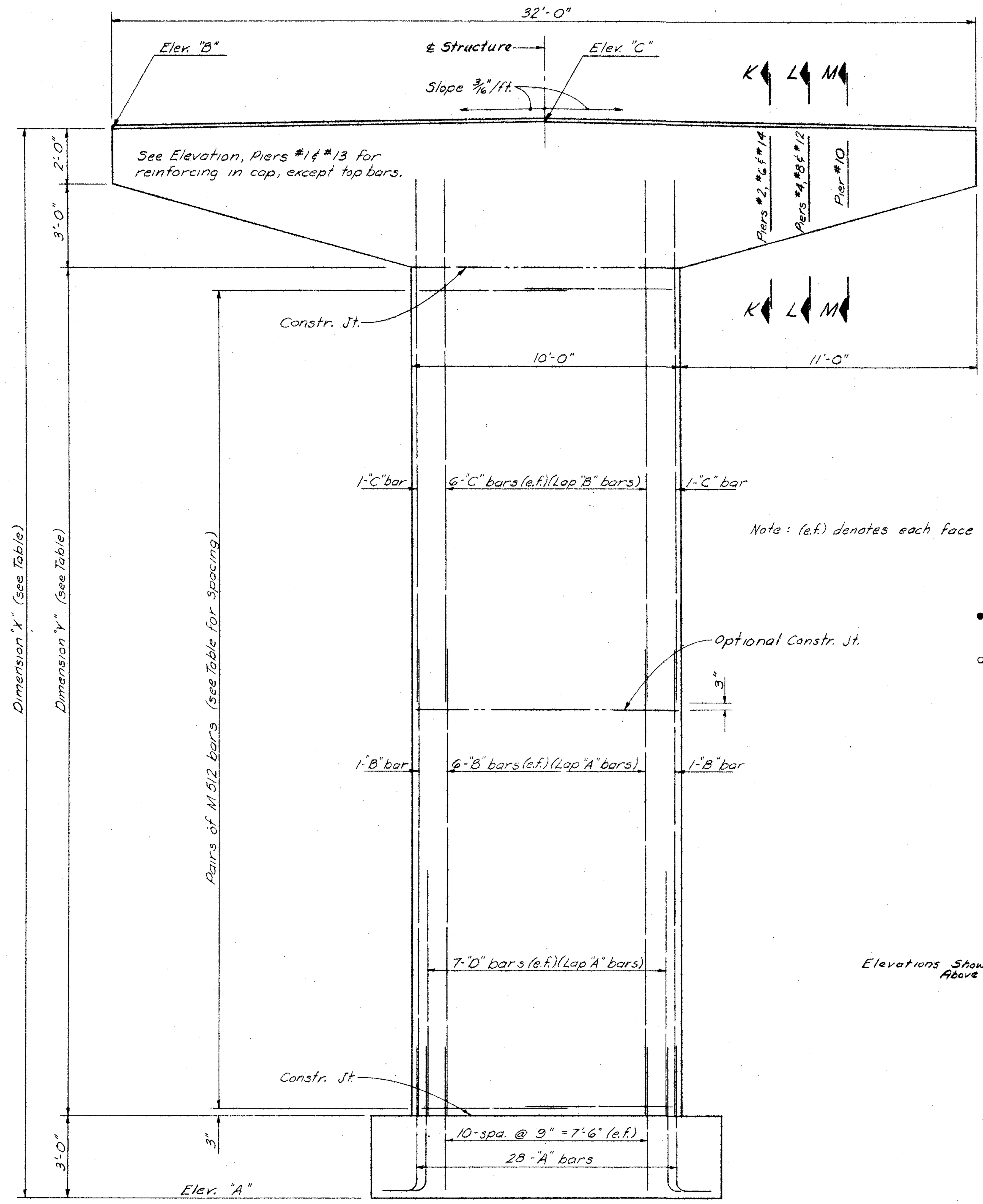
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

78/122

MARION COUNTY
MAR - 23 - 11.05
MAR - 23D-0.87

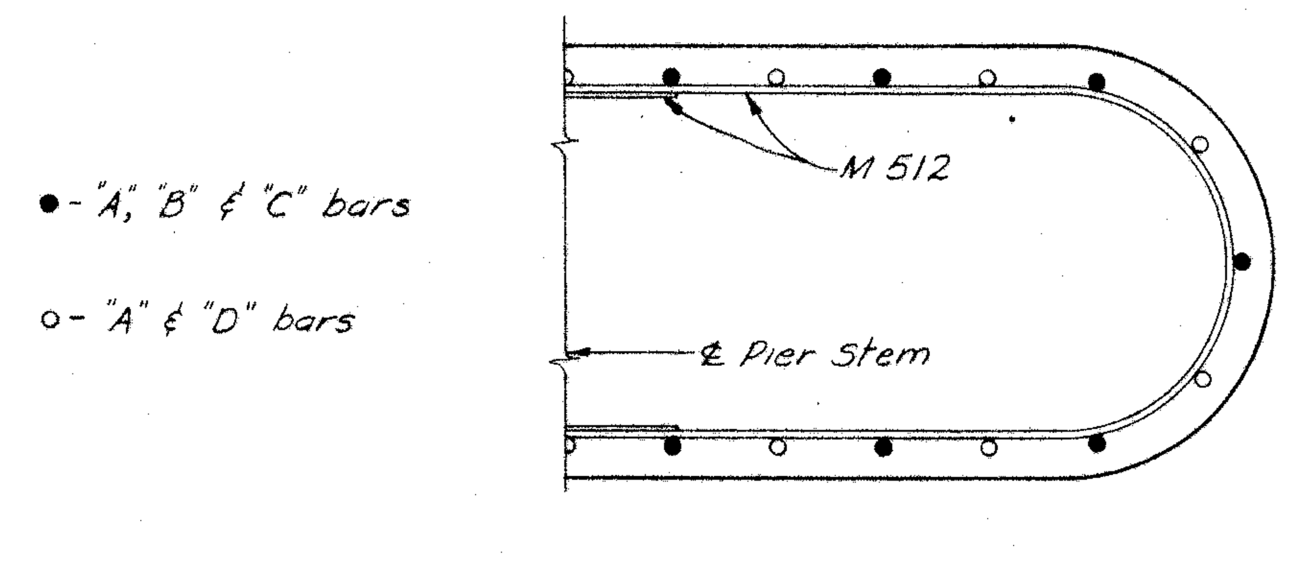
TABLE OF ELEVATIONS, DIMENSIONS, & REINFORCING STEEL

Pier	Elev. "A"	Elev. "B"	Elev. "C"	Dim. "X"	Dim. "Y"	"A" bars	"B" bars	"C" bars	"D" bars	M 512 bar spacing
#2	965.57	995.65	995.90	30'-1"	22'-1"	M905	M801	M604	—	11-spa. @ 1'-11" = 21'-1"
#4	966.16	1001.33	1001.58	35'-2"	27'-2"	M905	M813	M605	M811	13-spa. @ 2'-0" = 26'-0"
#6	966.37	1004.70	1004.95	38'-4"	30'-4"	M905	M814	M604	M812	15-spa. @ 1'-11" = 28'-9"
#8	966.24	1005.41	1005.66	39'-2"	31'-2"	M905	M814	M606	M812	15-spa. @ 2'-0" = 30'-0"
#10	966.66	1003.33	1003.58	36'-8"	28'-8"	M905	M813	M606	M811	14-spa. @ 2'-0" = 28'-0"
#12	967.64	998.39	998.64	30'-9"	22'-9"	M905	M801	M606	—	11-spa. @ 2'-0" = 22'-0"
#14	968.65	992.40	992.65	23'-9"	15'-9"	M906	M607	—	—	8-spa. @ 1'-11" = 15'-4"

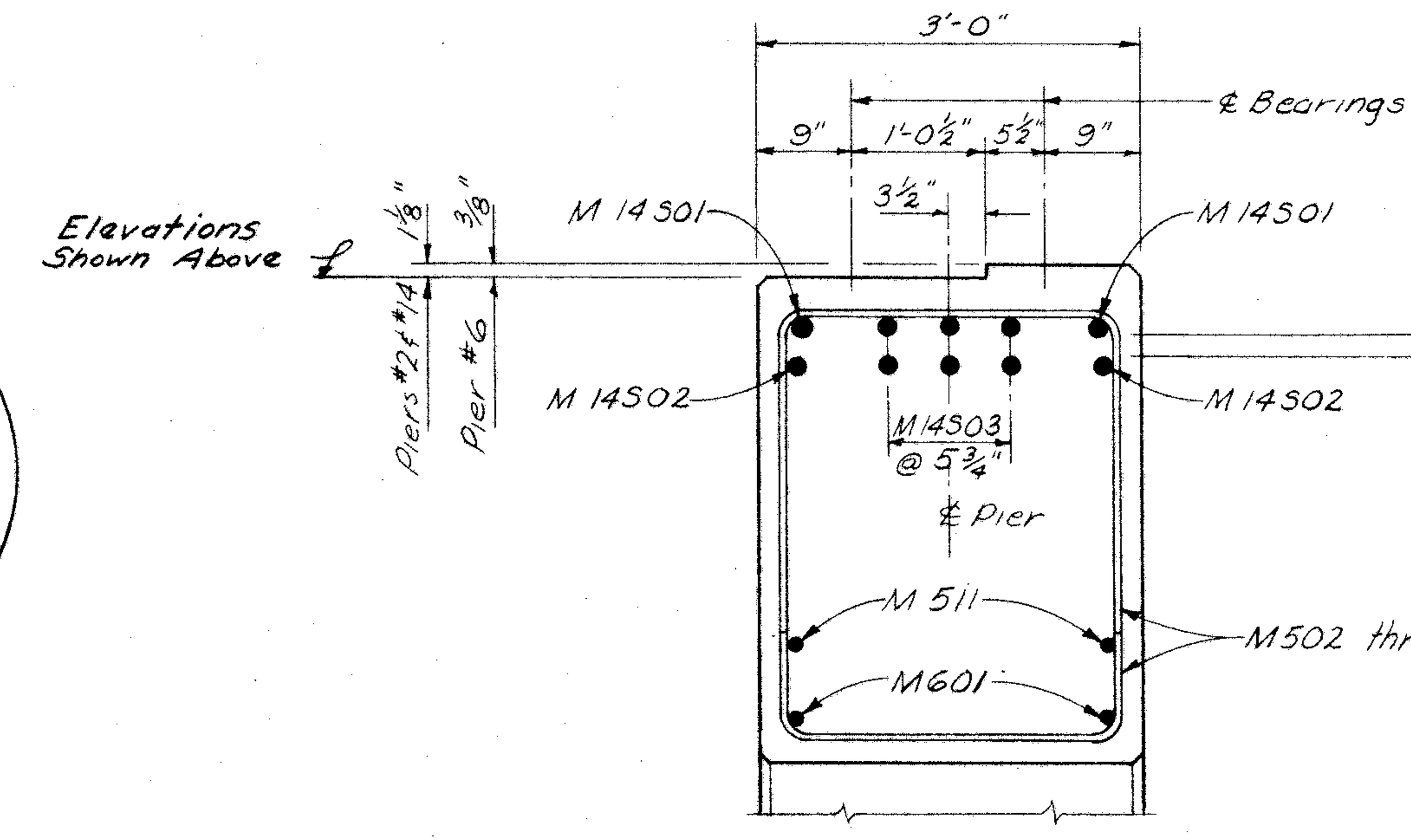


ELEVATION ~ PIERS #2, #4, #6, #8, #10, #12 & #14

Piers #2, #4, #6 & #8 Looking Forward; Piers #10, #12 & #14 Looking Rearward



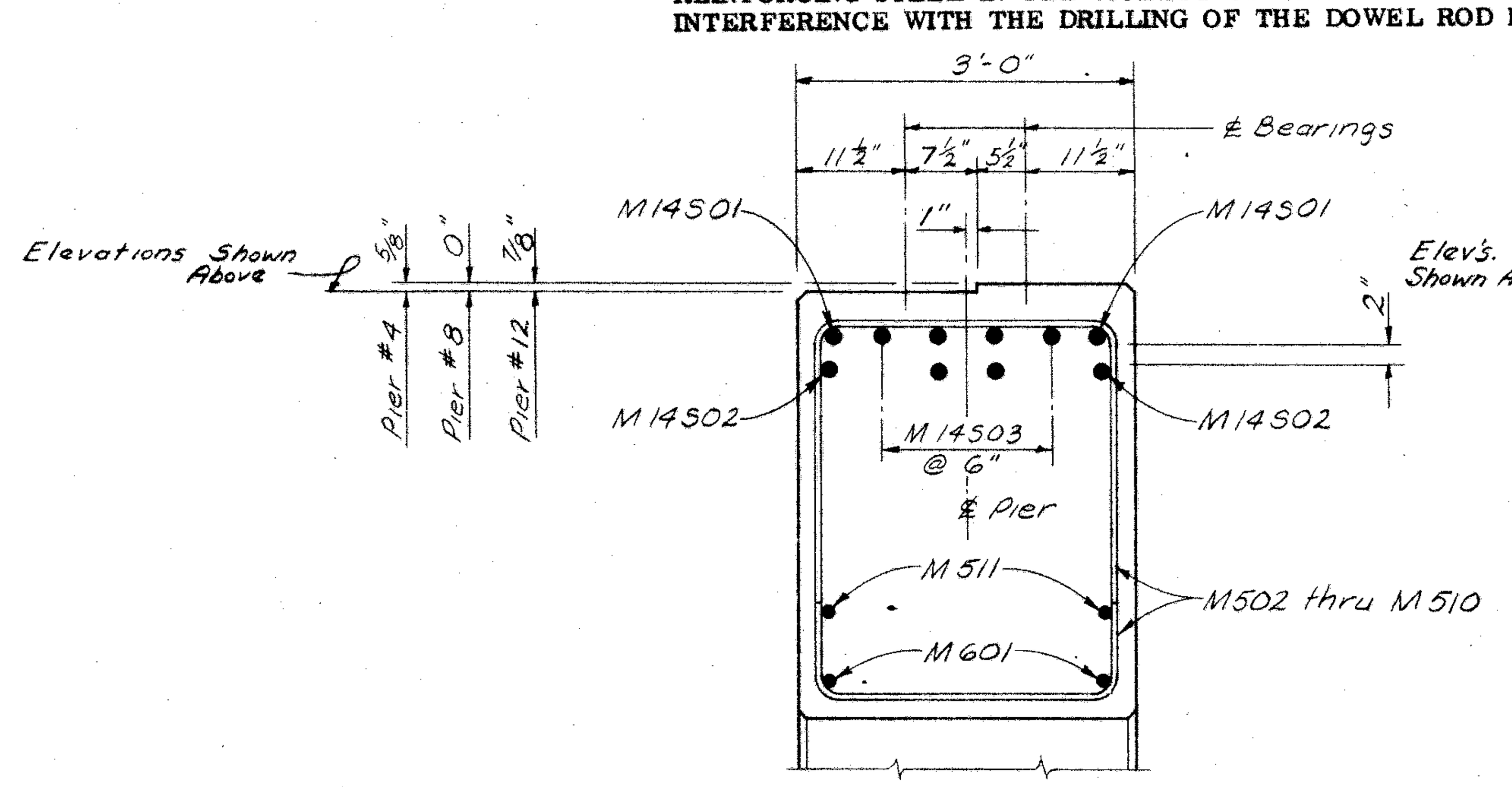
STEM HALF-SECTION



SECTION K-K

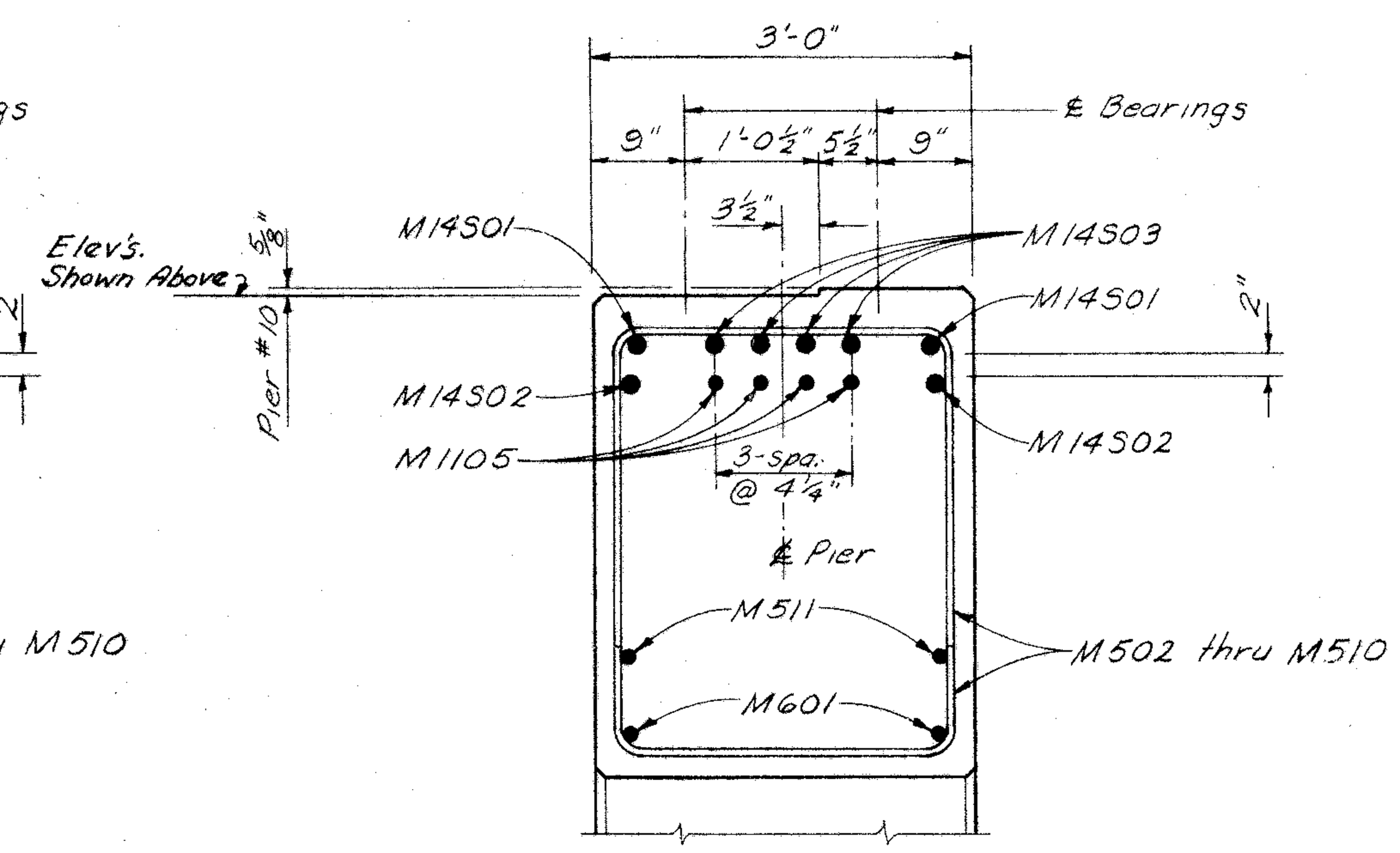
Piers #2, #6 & #14

BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BEAM SEATS SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF THE DOWEL ROD HOLES.



SECTION L-L

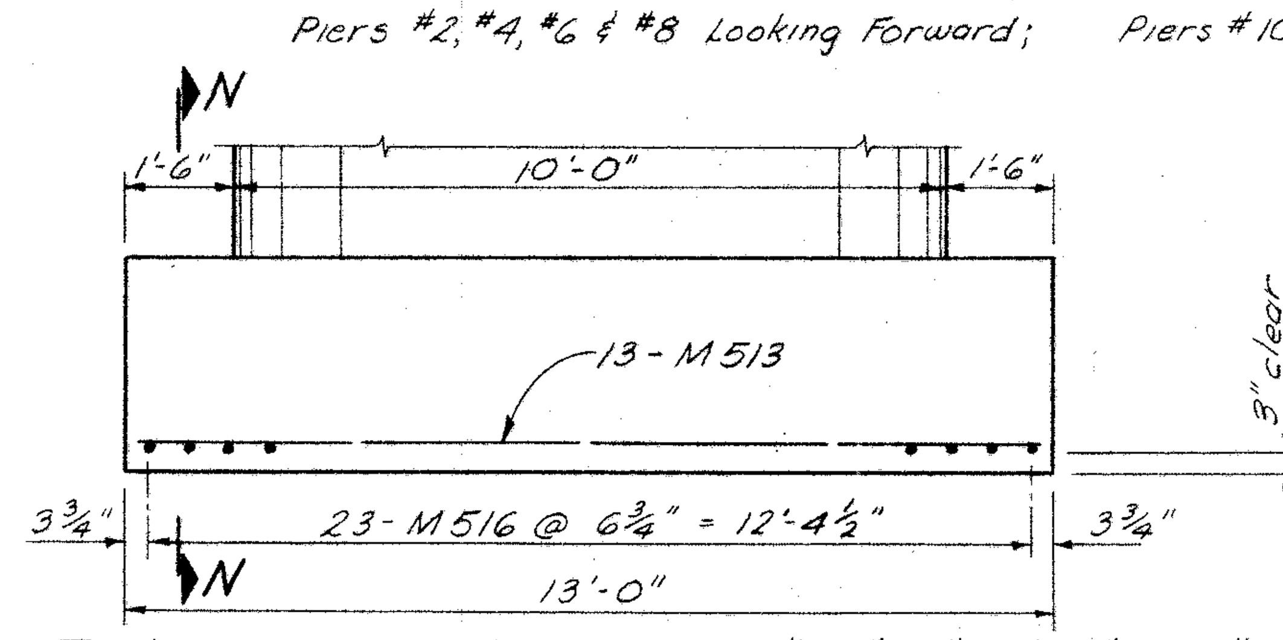
Piers #4, #8 & #12



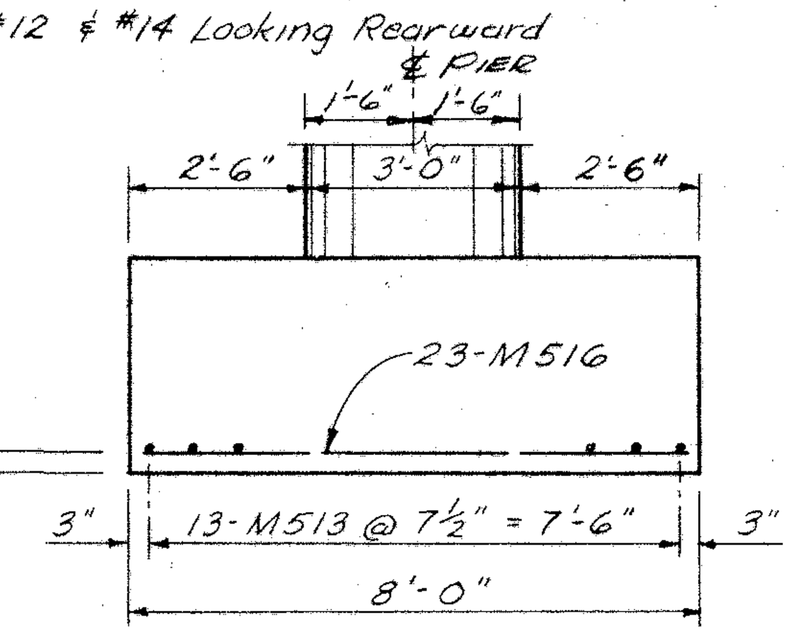
SECTION M-M

Pier #10

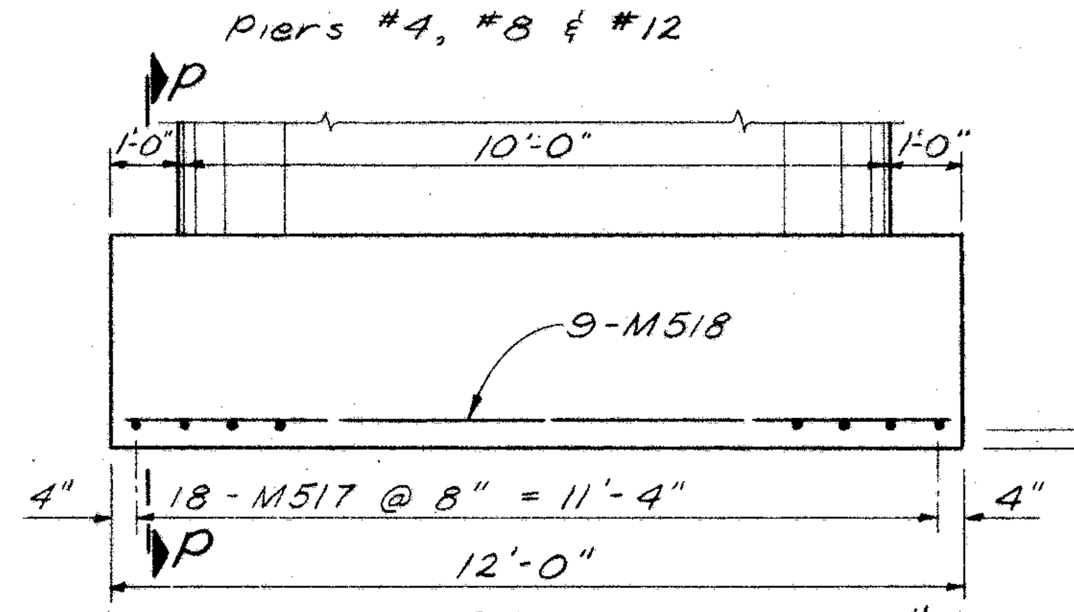
℄ PIER STATIONS	
Pier	Station
#2	587+48.95
#4	588+48.58
#6	589+48.33
#8	590+48.12
#10	591+51.91
#12	592+55.58
#14	593+55.19



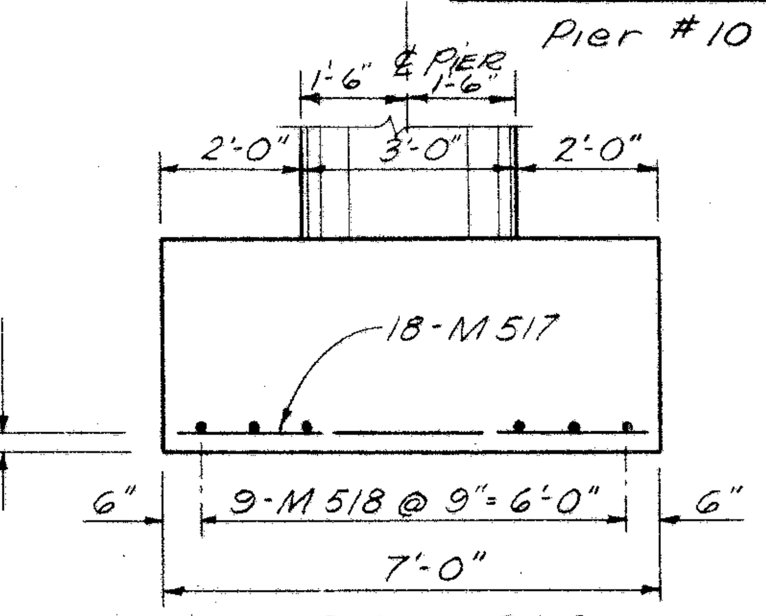
FOOTING ELEVATION ~ PIERS #2, #4, #6, #8, #10 & #12



SECTION N-N



FOOTING ELEVATION ~ PIER #14



SECTION P-P

MICROFILMED
FEB 05 1965

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

PIER DETAILS

PIERS #2, #4, #6, #8, #10, #12 & #14
BRIDGE NO. MAR-23-1109, STATE STREET
OVER NEW YORK CENTRAL RAILROAD
AND ERIE - LACKAWANNA RAILROAD
Marion County
Sta. 586+49.16 to Sta. 594+54.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	RWT		HM	W.J.	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

79/122

MARION COUNTY
MAR-23-11.05
MAR-23D-0.87

Pier #5 - El. 1003.34
Pier #7 - El. 1005.39
Pier #9 - El. 1004.73

32'-0" Typ.

Pier #5 - El. 1003.59
Pier #7 - El. 1005.64
Pier #9 - El. 1004.98

℄ Structure

3/16"/ft.

3/16"/ft.

J or H

J or H

Pier #5 ℄ #7-1-M807
Pier #9 - 1-M808

6-M807 c.f. (lap M1104)
6-M808 c.f. (lap M1104)

1-M807
1-M808

Constr. Jt.

G

11'-0"

10'-0"

2'-0"

3'-0"

Pier #5 - 39'-9" Pier #7 - 39'-2" Pier #9 - 38'-6"

Pier #5 - 21'-9" Pier #7 - 21'-2" Pier #9 - 20'-6"

11 pr.-M512 @ 2'-0" = 20'-0"

1-M1104

6-M1104 c.f. (lap M1101)

1-M1104

6-M1103 c.f. (lap M1101)

8-M1102 c.f. (lap M1101)

1-M1101

20-M1101 c.f.

1-M1101

3"

4"

4"

Constr. Jt.

G

15 spa @ 6½" = 7'-6" c.f.

2pr-M512 @ 2'-0"

6pr-M515 @ 1'-10" = 9'-2"

10'-0"

3-M903

14-M903 c.f. (lap M901)

3-M903

2-M902

6-M902 c.f.

2-M902

Constr. Jt.

5"

3'-0"

3-M901

14-M901 c.f.

3-M901

19 spa @ 6¾" = 10'-3¾" c.f.

Pier #5 - El. 963.59 Pier #7 - El 966.22
Pier #9 - El. 966.23

ELEVATION ~ PIER #5, #7 and #9

(Pier #5, looking ahead; Pier #7 & #9 looking rearward)

Pier #3
Pier #5
Pier #7
Pier #9
Pier #11

3'-0"

9" 1'-08" 5¾" 9"

3¾"

℄ Brgs.

M14S01

M14S01
M14S02

M14S03 @ 5¾"

2"

M14S02

℄ Pier

M502 to M510

M601

Elevations Shown

SECTION H-H

Pier #9
Pier #11

3'-0"

9" 1'-08" 5¾" 9"

3¾"

℄ Brgs.

M14S03
M14S01

M14S01
M14S02
M1105

3 spa. @ 4"

2"

M14S02

℄ Pier

M502 to M510

M601

SECTION J-J

Sec. J-J for Piers 9 & 11
Sec. H-H for Piers 3, 5 & 7

See Pier Details, sht. no. 78 for typical cantilever reinf.

BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BEAM SEATS SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF THE DOWEL ROD HOLES.

M515

℄ Pier Stem

Rad. 1'-6" Typ.

M512

○ - M902
● - M903, M901

○ - M1103, M1101
● - M1102, M1101
⊕ - M1104, M1101 and M807 or M808

SECTION G-G

M512

M515

℄ Pier Stem

● - M904

○ - M1103, M1101
● - M1102, M1101
⊕ - M1104, M1101 and M810 or M809

℄ PIER STATIONS	
Pier	Station
#3	587+98.86
#5	588+98.33
#7	589+98.33
#9	590+99.91
#11	592+03.87

SECTION F-F

Pier #3 - El. 998.90
Pier #11 - El. 1001.46

3/16"/ft.

3/16"/ft.

J or H

J or H

Pier #3 - El. 998.65
Pier #11 - El. 1001.21

℄ Structure

Pier #3 - 1-M810
Pier #11 - 1-M809

6-M810 c.f. (lap M1104)
6-M809 c.f. (lap M1104)

1-M810
1-M809

Constr. Jt.

F

10'-0"

11'-0"

2'-0"

3'-0"

Pier #3 - 10 pr.-M512 @ 2'-0" = 18'-0"

Pier #11 - 11 pr.-M512 @ 2'-0" = 20'-0"

Pier #3 - 19'-10" Pier #11 - 21'-0"

Pier #3 - 32'-10" Pier #11 - 34'-0"

1-M1104

6-M1104 c.f. (lap M1101)

1-M1104

6-M1103 c.f. (lap M1101)

8-M1102 c.f. (lap M1101)

1-M1101

20-M1101 c.f.

1-M1101

4"

4"

Constr. Jt.

F

3"

3"

15 spa. @ 6" = 7'-6" c.f.

3-M904

14-M904 @ 9½" = 10'-3½" c.f.

3-M904

4 pr.-M515 @ 1'-6"

2pr.-M512 @ 2'-0"

Constr. Jt.

5'-0"

3'-0"

Pier #3 - El. 965.82
Pier #11 - El. 967.21

ELEVATION ~ PIERS #3 and #11

(Pier #3, looking ahead; Pier #11, looking rearward)

SEE "LIGHTING PLAN" FOR LOCATION OF CONDUIT AND JUNCTION BOXES AT PIER NO. 11.

MICROFILMED
FEB 05 1985

2'-0" 2'-0"

℄ PIER

3'-0" 4'-0" 3'-0"

M805

5" 12-M603 @ 10" = 9'-2" 5"

10'-0"

SECTION D-D

2'-9" 11'-0" 2'-9"

D

M603

D

5¼" 26-M805 @ 7⅞" = 15'-7⅞" 5¼"

16'-6"

FOOTING ~ PIER #3, #7, #9, #11

℄ PIER

2'-0" 2'-0"

2'-6" 4'-0" 2'-6"

M514

4½" 10-M806 @ 11" = 8'-3" 4½"

9'-0"

SECTION E-E

4'-0" 11'-0" 4'-0"

E

M806

E

4" 45-M514 @ 5" = 18'-4" 4"

19'-0"

FOOTING ~ PIER #5

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

DETAILS ~ PIERS #3, #5, #7, #9 & #11
BRIDGE Nº MAR-23-1109
STATE STREET
OVER NEW YORK CENTRAL RAILROAD
AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY
Sta. 586+49.16 to Sta. 594+54.98

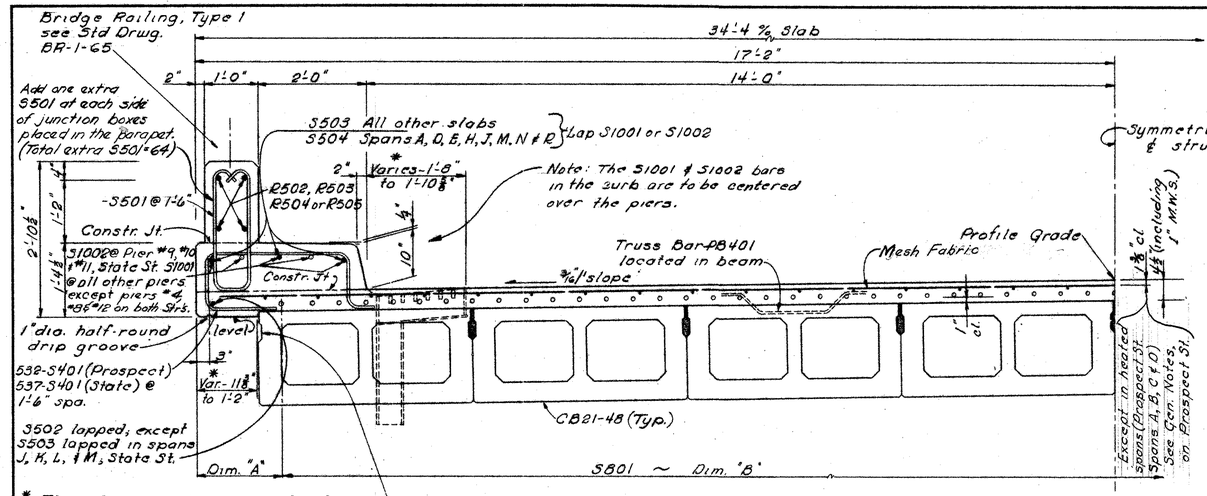
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	K.F.B.		HM	[illegible]	6-11-65	

HILLS CO. - 10-5135 - 500 - 3-64

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

80
122

MARION COUNTY
MAR-23-11.05
MAR.-23D-0.87



* This dimension may vary due to a tolerance of ¾" allowed between precast units.

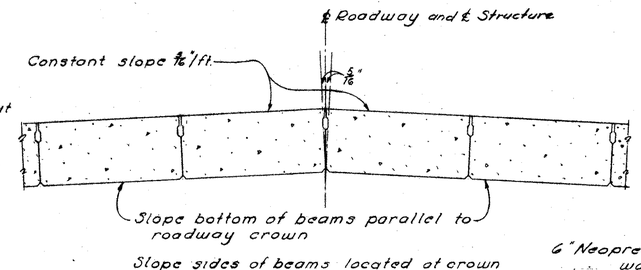
Shear Keys on exterior face of outside beams may at the option of the contractor, be eliminated.

State Street, Piers #1, #3, #5, #7, #10, #13 & #15. Prospect Street, Piers #1, #3, #5, #7, #9, #11, #13 & #15. } Dim. "A" = 1'-7" ~ Dim. "B" = 68 spa. @ 5½" = 31'-2"

State Street, Piers #2, #6, #14. Prospect Street, Piers #2, #6, #10, #14. } Dim. "A" = 1'-8" ~ Dim. "B" = 62 spa. @ 6" = 31'-0"

State Street, Piers #9 & #11 } Dim. "A" = 1'-6⅝" ~ Dim. "B" = 75 spa. @ 5" = 31'-3"

TRANSVERSE HALF-SECTION



NORMAL CROWN AND TREATMENT AT ℄ ROADWAY

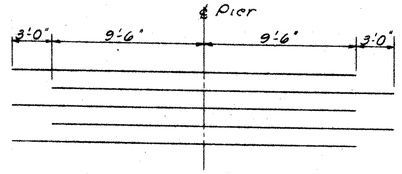
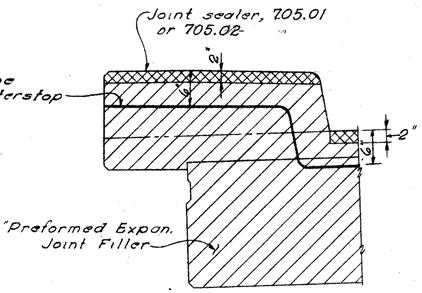
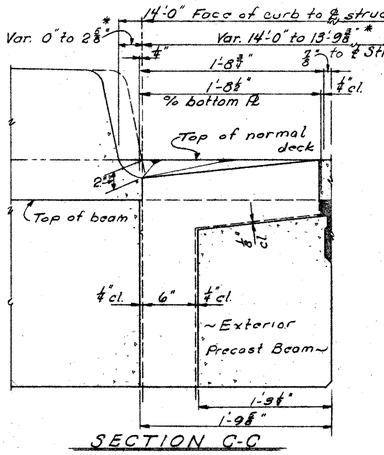


DIAGRAM SHOWING STAGGER OF S801 BARS OVER PIERS



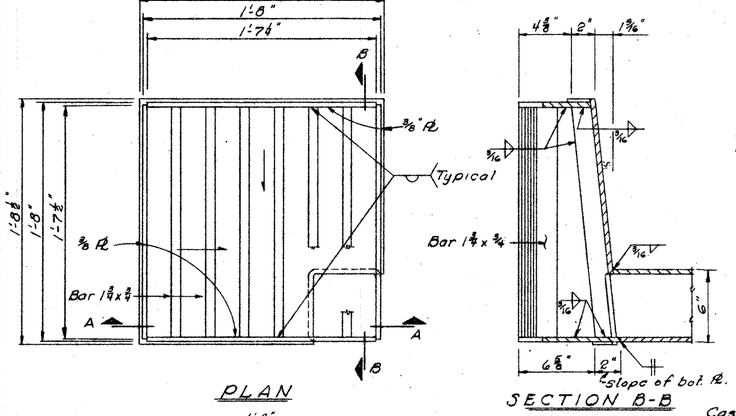
EXPANSION JOINT @ ABUTS & PIERS



SECTION C-C

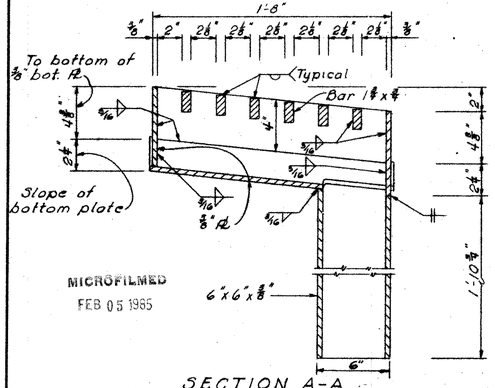
NEOPRENE DECK JOINT (WATERSTOP) SHALL BE AS PER THE FOLLOWING SPECIFICATIONS:

MINIMUM TENSILE STRENGTH	- 2500 LB./SQ. IN.
MINIMUM ELONGATION AT BREAK	- 425%
COMPRESSION SET METHOD B 22 HOURS @ 70° CENTIGRADE	- 30% MAXIMUM
WATER ABSORPTION TWO DAYS @ 70° CENTIGRADE	- 10% MAXIMUM
SPECIFIC GRAVITY	- 1.3± 0.03
SHORE DUROMETER	- 60±5
TENSILE STRENGTH AFTER OXYGEN PRESSURE TESTS	- 80%



PLAN

SECTION B-B

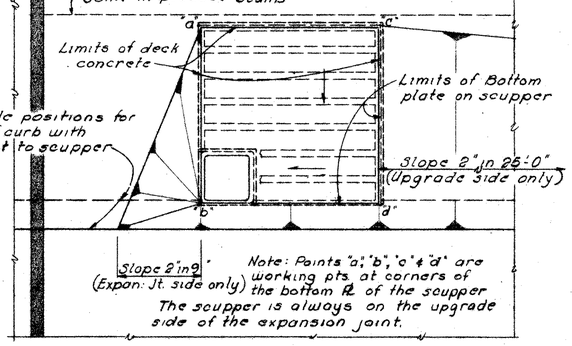


SECTION A-A

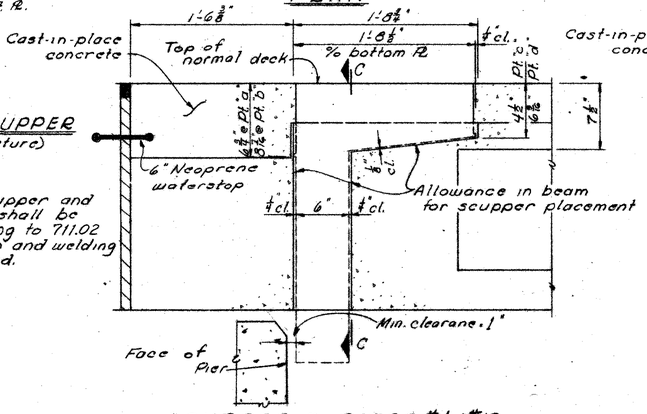
TYPICAL SCUPPER

(@ req'd per structure)

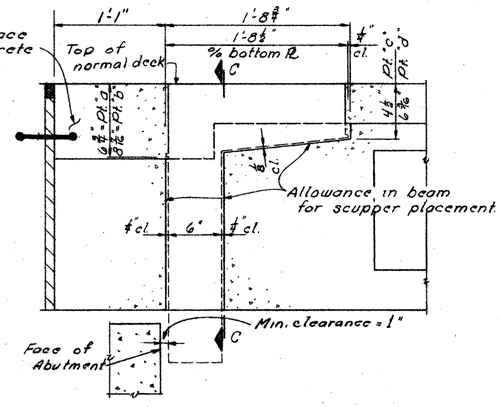
Note: The entire scupper and downspout system shall be galvanized according to 711.02 after all fabrication and welding have been completed.



PLAN



SCUPPER @ PIERS #4 & #12



SCUPPER @ ABUTMENTS

For additional notes, see Gen. Plan.

Procedure: A voided area as shown, is to be formed when the beam is cast. After the beams are in final position and prior to placing the deck concrete the scupper is to be positioned such that the clearances req'd for normal deck movement are maintained.

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

SUPERSTRUCTURE DETAILS
BRIDGE Nº MAR-23-1109
AND BRIDGE Nº MAR-23D-0091
OVER NEW YORK CENTRAL RAILROAD
AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	K.J.B.		D.L.M.	Awf.	6-11-65	

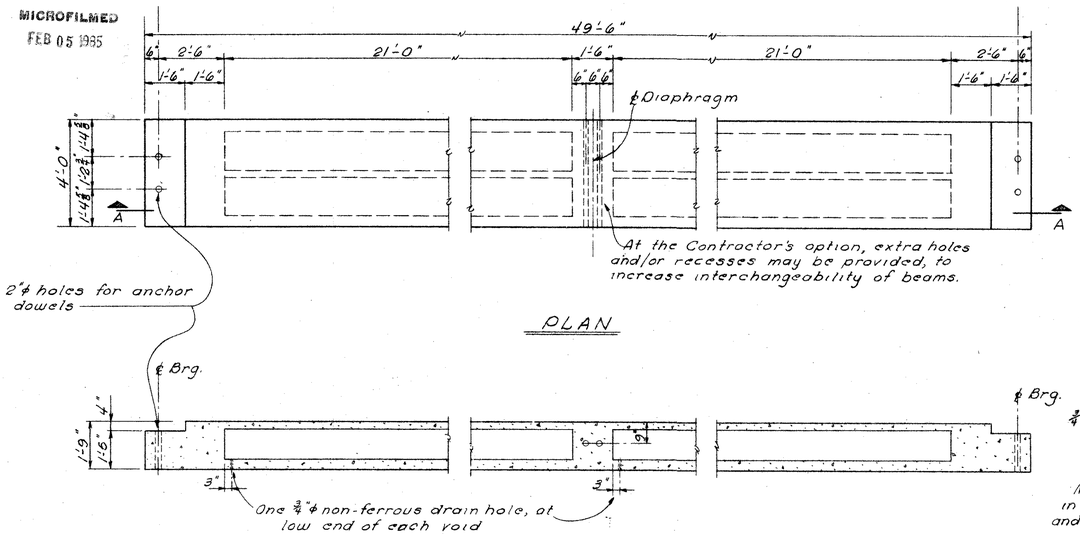
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

81/122

MARION COUNTY
MAR-23-11.05
MAR-23D-0.87

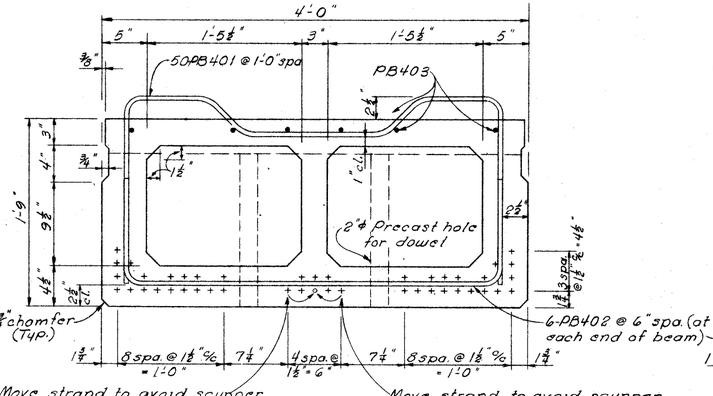
NOTE: Prestressing strands are 3/8" uncoated seven wire stress-relieved strand with an initial tension of 14,000 pounds per strand.

* For additional information on scuppers, see sheet no. 80

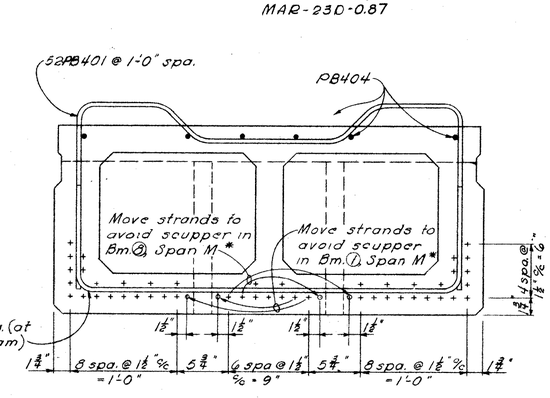


PLAN

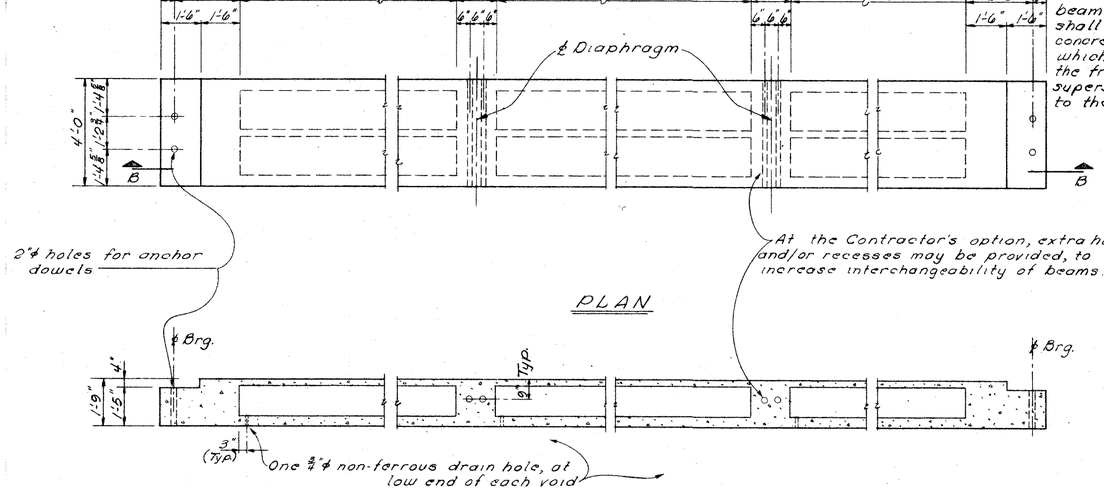
BEAM I ~ SECTION A-A
224 Req'd (All spans excl. spans J, K, L & M on State St.)



(Looking Upstation) ~ BEAM I
43 Strands

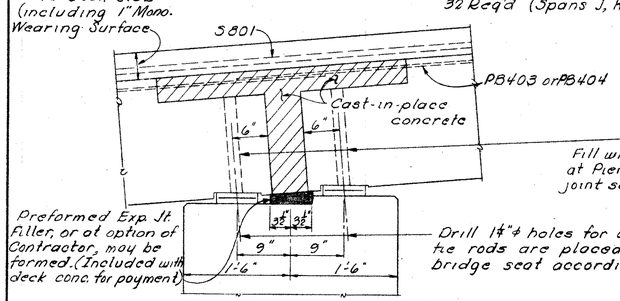


BEAM II ~ (Looking Upstation)
47 Strands

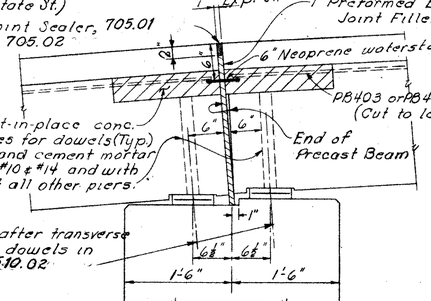


PLAN

BEAM II ~ SECTION B-B
32 Req'd (Spans J, K, L & M-State St.)

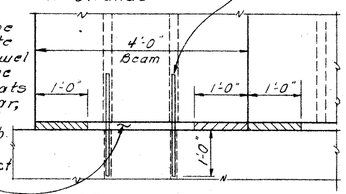


PIERS #1, #2, #3, #5, #6, #7, #9, #10, #11, #13, #14 & #15

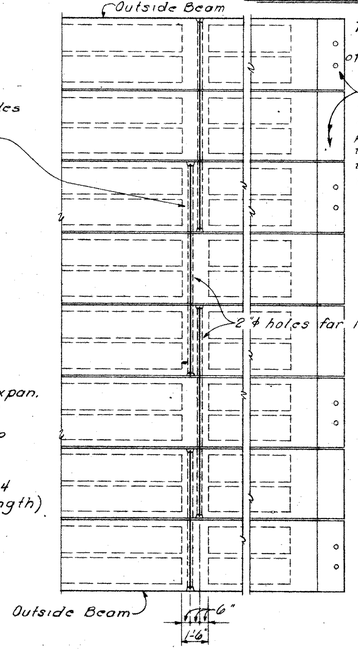


PIERS #4, #8 & #12

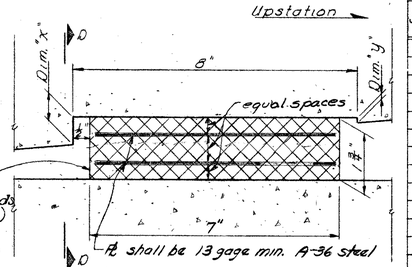
Upon completion of the placing of deck concrete and the filling of the dowel holes the area between the beams and the bridge seats shall be free of all mortar, concrete or other material which will interfere with the free movement of the superstructure with respect to the substructure.



SECTION D-D



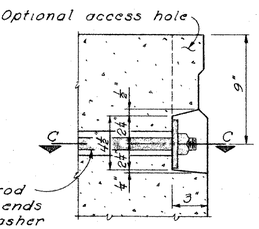
TYPICAL ANCHOR DOWEL AND TIE ROD LAYOUT



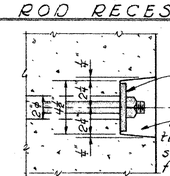
BEARING PAD AND NOTCH DETAIL

BEARING PAD NOTCH

SPAN	STATE ST. Dim. "x"	STATE ST. Dim. "y"	PROSPECT ST. Dim. "x"	PROSPECT ST. Dim. "y"
A	5/8	1/8	3/4	1/8
B	5/8	1/8	3/4	1/8
C	5/8	1/8	11/16	1/8
D	9/16	1/8	9/16	1/8
E	7/16	1/8	7/16	1/8
F	5/16	1/8	3/8	1/8
G	1/4	1/8	1/4	1/8
H	0	0	0	0
J	1/8	1/4	1/8	1/4
K	1/8	5/16	1/8	5/16
L	1/8	7/16	1/8	7/16
M	1/8	9/16	1/8	9/16
N	1/8	5/8	1/8	5/8
P	1/8	5/8	1/8	5/8
Q	1/8	5/8	1/8	5/8
R	1/8	5/8	1/8	5/8



TIE ROD RECESS



SECTION C-C

ACCESS HOLES shall be provided as required to permit placement of washers and nuts. If the Contractor elects to thread beams over rods projecting from beams previously placed, access holes will not be required. When used, holes shall be same shape as recesses as shown in Section C-C.

Holes for 1"ϕ steel tie rods may, at the option of the Contractor, be 2½"ϕ.

TIE RODS may have either cut or rolled threads. If rolled threads are used, minimum diameter of rod at root of thread shall be 0.838".

For additional notes, see General Plan.

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

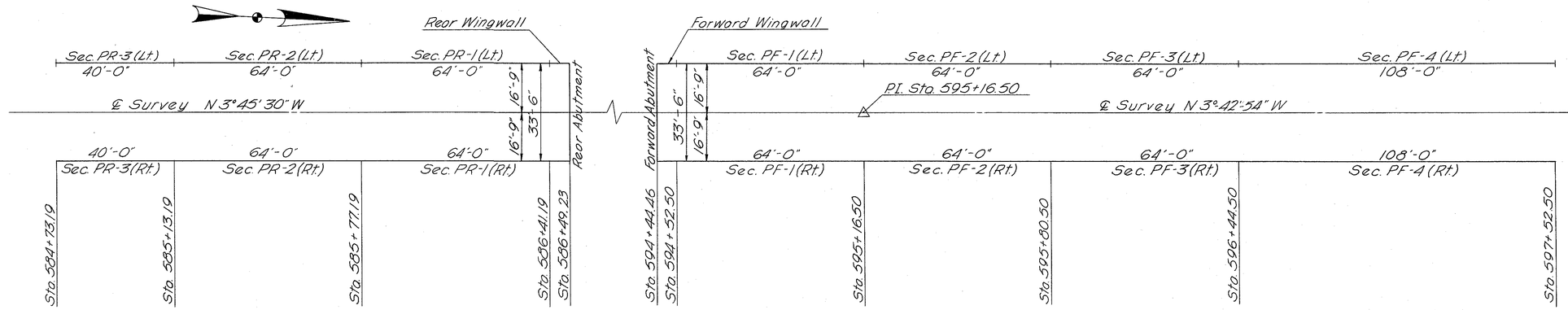
BEAM DETAILS
BRIDGE Nº MAR-23-1109
AND BRIDGE Nº MAR-23D-0091
OVER NEW YORK CENTRAL RAILROAD
AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	K.J.B.		D.L.M.	Wf	6/1/65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

83
122

MAR-23-11.05
MAR-23D-0.87



PROSPECT STREET RETAINING WALL SCHEMATIC

RETAINING WALL & FOOTING STEEL-PROSPECT ST.

REAR WALL Sec. PR-1, PR-2 & PR-3 (Lt. & Rt.)					FORWARD WALL Sec. PF-1, PF-2, PF-3 & PF-4 (Lt. & Rt.)				
Mark	No.	Length	Shape	Weight	Mark	No.	Length	Shape	Weight
PR-501	2 Sets of 12 Eo.	——	Str.	197	PF-501	2 Sets of 12 Eo.	——	Str.	325
Increments of 2¼" from 6'-10" to 8'-11"					Increments of 2" from 13'-11" to 12'-1"				
PR-502	2 Sets of 12 Eo.	——	Str.	203	PF-502	2 Sets of 12 Eo.	——	Str.	332
Increments of 2¼" from 7'-1" to 9'-2"					Increments of 2" from 14'-2" to 12'-4"				
PR-503	112	31'-8"	Str.	3700	PF-503	188	31'-8"	Str.	6209
PR-504	8	20'-0"	Str.	167	PF-504	16	15'-0"	Str.	250
PR-505	52	10'-0"	Str.	542	PF-505	40	32'-7"	Str.	1359
PR-506	28	32'-7"	Str.	952	PF-506	106	10'-0"	Str.	1106
PR-507	2 Sets of 12 Eo.	——	Str.	253	PF-507	2 Sets of 12 Eo.	——	Str.	277
Increments of 2 5/8" from 8'-11" to 11'-4"					Increments of 2" from 12'-0" to 10'-2"				
PR-508	2 Sets of 12 Eo.	——	Str.	260	PF-508	2 Sets of 12 Eo.	——	Str.	284
Increments of 2 5/8" from 9'-2" to 11'-7"					Increments of 2" from 12'-3" to 10'-5"				
PR-509	2 Sets of 12 Eo.	——	Str.	116	PF-509	2 Sets of 12 Eo.	——	Str.	248
Increments of 1½" from 3'-11" to 5'-4"					Increments of 2" from 10'-10" to 9'-0"				
PR-510	2 Sets of 12 Eo.	——	Str.	122	PF-510	2 Sets of 12 Eo.	——	Str.	254
Increments of 1½" from 4'-2" to 5'-7"					Increments of 2" from 11'-1" to 9'-3"				
PR-511	2 Sets of 12 Eo.	——	Str.	155	PF-511	20	37'-10"	Str.	789
Increments of 1⅞ from 5'-4" to 7'-1"					PF-512	2 Sets of 12 Eo.	——	Str.	200
PR-512	2 Sets of 12 Eo.	——	Str.	162	Increments of 2" from 8'-11" to 7'-1"				
Increments of 1⅞ from 5'-7" to 7'-4"					PF-513	2 Sets of 12 Eo.	——	Str.	207
PR-513	84	3'-10"	Str.	336	Increments of 2" from 9'-2" to 7'-4"				
PR-514	12	37'-10"	Str.	474	PF-514	2 Sets of 12 Eo.	——	Str.	173
PR-515	2 Sets of 24 Eo.	——	Bt.	475	Increments of 2" from 7'-10" to 6'-0"				
Increments of 1¼" from 7'-5" to 10'-1"					PF-515	2 Sets of 12 Eo.	——	Str.	179
PR-516	18	39'-8"	Str.	745	Increments of 2" from 8'-1" to 6'-3"				
PR-517	2	38'-6"	Str.	80	PF-516	2 Sets of 12 Eo.	——	Str.	130
PR-518	4	20'-0"	Str.	83	Increments of 1¾ from 6'-0" to 4'-5"				
PR-519	230	5'-7"	Bt.	1339	PF-517	2 Sets of 12 Eo.	——	Str.	137
PR-520	228	5'-6"	Bt.	832	Increments of 1¾ from 6'-3" to 4'-8"				
PR-521	228	5'-9"	Bt.	1367	PF-518	84	3'-10"	Str.	336
PR-601	184	5'-6"	Bt.	1520	PF-519	408	5'-7"	Bt.	2376
PR-602	88	9'-0"	Bt.	1190	PF-520	406	3'-6"	Bt.	1482
					PF-521	406	5'-9"	Bt.	2435
					PF-522	2	33'-8"	Str.	70
					PF-523	2 Sets of 24 Eo.	——	Bt.	517
					Increments of 1½" from 8'-11" to 11'-9"				
					PF-524	2 Sets of 24 Eo.	——	Bt.	388
					Increments of 1¼" from 6'-7" to 8'-11"				
					PF-525	2 Sets of 24 Eo.	——	Bt.	330
					Increments of 1" from 5'-7" to 7'-7"				
					PF-526	62	35'-8"	Str.	2306
					PF-601	88	9'-3"	Bt.	1223
					PF-602	276	5'-7"	Bt.	2315
					PF-603	88	9'-0"	Bt.	1190
					PF-701	128	11'-7"	Bt.	3031

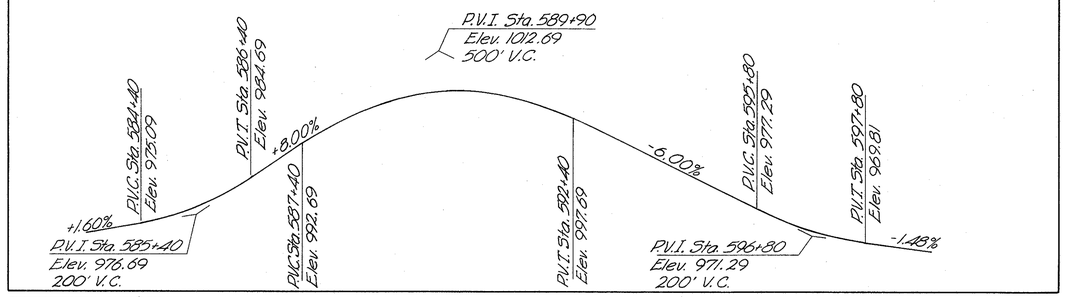
RAILING BARS

Mark	No.	Length	Shape	Weight
R-501	80	31'-8"	Str.	——
R-502	24	35'-8"	Str.	——
R-503	8	4'-2"	Bt.	——
R-504	8	5'-4"	Bt.	——
R-505	8	35'-6"	Str.	——

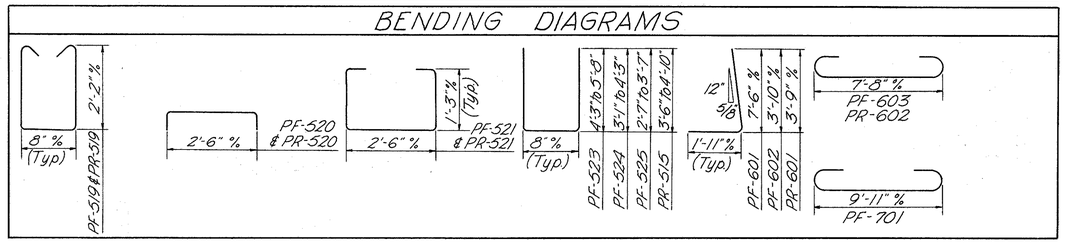
REPLACEMENT BARS

Mark	No.	Length	Shape	Weight
RE-701	1	11'-7"	Bt.	——
RE-601	1	5'-11"	Bt.	——
RE-501	2	5'-7"	Str.	——

VERTICAL ALIGNMENT



BENDING DIAGRAMS



Code 7221

ESTIMATED RETAINING WALL QUANTITIES - PROSPECT STREET

Item	Pros. St. Total	Unit	Description	Rear Wall	For. Wall	STATE STREET Sh. 61	GRAND TOTAL
503	1092	Cu. Yds.	Unclassified Excavation for structures	386	706	901	1993
518	43	Lin. Ft.	8" Pipe Type A, 707.01	20	23	49	92
518	552	Lin. Ft.	8" Pipe Perforated 707.06, with Porous Backfill	208	344	544	1096
612	33	Sq. Yds.	Concrete Median, Standard: , Modified as per plan	17	16	36	69
512	2	Sq. Yds.	Waterproofing Type "B"	1	1	1	3
511	451	Cu. Yds.	Class "E" Concrete, Footings	159	292	411	862
511	503	Cu. Yds.	Class "E" Concrete, Walls	171	332	464	967
512	131	Lin. Ft.	Premolded Sealing Strip	43	88	125	256
509	45,728	Lbs.	Reinforcing Steel	15,270	30,458	37,473	83,201
516	64	Sq. Ft.	1" Preformed Expansion Joint Filler	12	52	50	114
516	628	Sq. Ft.	½" Preformed Expansion Joint Filler	215	413	526	1154
516	152	Sq. Ft.	¼" Gray Sponge Rubber, Preformed Expansion Joint Filler, Sec. 705.03 Type I	51	101	127	279
517	936	Lin. Ft.	Railing, Aluminum Rail and Supports and Concrete Parapet Type I	336	600	800	1736
507	1502	Lin. Ft.	Steel H Piles, 10 BP 42	462	1040	0	1502
518	168	Cu. Yds.	Porous Backfill	49	119	142	310
			For Lighting Quantities See Sheet No. 106				

NOTES

DESIGN SPECIFICATIONS:
This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

DESIGN LOADING - S20-60:
Concrete Class "E" - Basic unit stress 1133 P.S.I.
Reinforcing Steel - A.S.T.M. A15, A16, A160 Deformed Intermediate or Hard Grade - Basic unit stress, 20,000 P.S.I.

RETAINING WALL BEARING PRESSURE:
Rear wall section PR-3 and PR-2 footings are designed for a maximum bearing pressure of 1 ton per sq. ft.; and forward wall, section PF-3 and PF-4 footings are designed for a maximum bearing pressure of 1 ton per sq. ft.

PILES:
Piles shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with rock. If the length of penetration is approximately equal to the depth of rock according to the bridge foundation report, the firm contact shall be considered as attained when the capacity according to the formula in section 507.05 is not less than the following value for a pile hammer of the indicated energy rating:
49 tons per pile using a 11,000 ft. lb. hammer
43 tons per pile using a 15,000 ft. lb. or greater hammer.
If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 32 tons per pile.

BAR SIZE IS INDICATED IN THE BAR MARK:
The first digit where three digits are used indicates the bar size number. For example, 501 is a No. 5 bar and 601 is a No. 6 bar. PR and PF as a part of the bar mark indicates location in the Prospect Street rear and forward walls respectively.

203 EMBANKMENT:
203 embankment quantities are carried in the roadway quantities.

REINFORCING STEEL:
Reinforcing wall steel shall not extend through the contraction or expansion joints.

FOOTING KEYS:
The keys for footings on soil shall be placed in a carefully made trench against undisturbed earth.

For location of Lighting Junction Boxes See Sheet No. 106

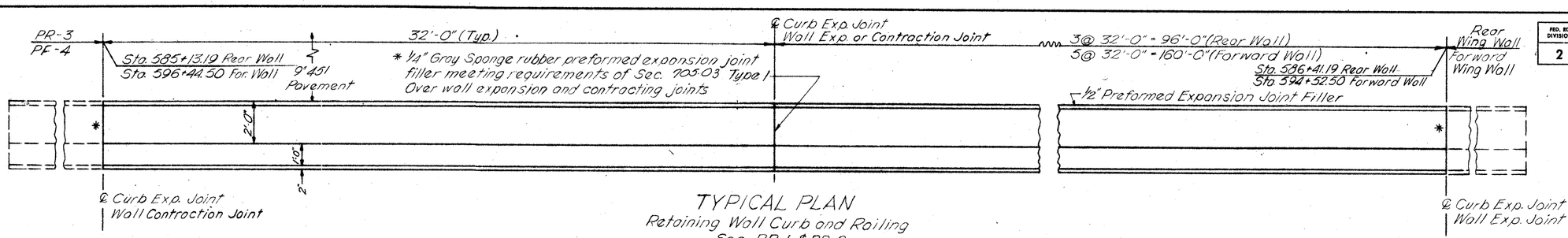
PROSPECT STREET
Retaining Wall
Notes and Estimated Quantities

Marion County
Sta. 584+73.19 to Sta. 586+41.19 (Rear Wall)
Sta. 594+52.50 to Sta. 597+52.50 (Forward Wall)

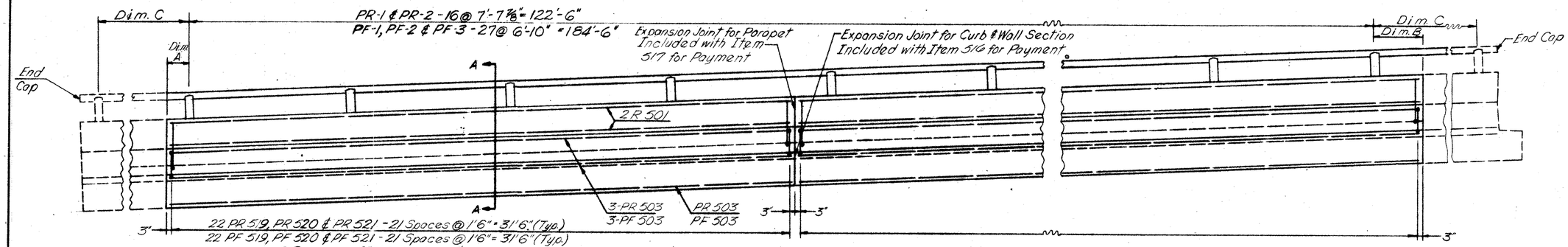
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

84
122

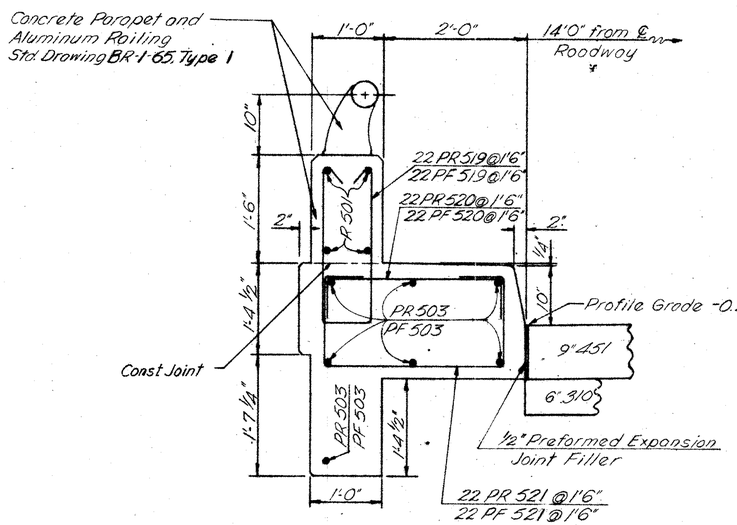
MAR-23-11.05
MAR-23D-087



TYPICAL PLAN
Retaining Wall Curb and Railing
Sec. PR-1 & PR-2
Sec. PF-1, PF-2 & PF-3

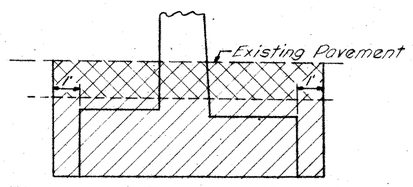


TYPICAL ELEVATION
Retaining Wall Curb and Railing
Sec. PR-1 & PR-2
Sec. PF-1, RF-2 & PF-3

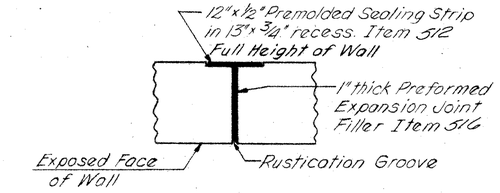


SECTION A-A

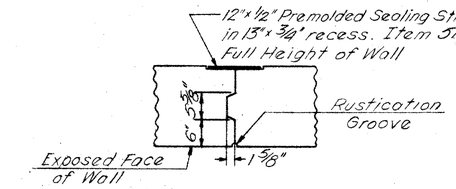
TABLE OF DIMENSIONS		
No	Rear Wall	Forward Wall
A	3-5½"	6'-4¼"
B	2'-0½"	1'-1¾"
C	7'-7⅞"	6'-10"



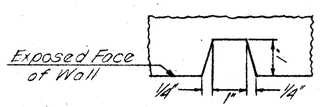
Typical 503 Excavation Quantity



EXPANSION JOINT



CONTRACTION JOINT



RUSTICATION GROOVE

NOTES

Reinforcing Steel is three inches clear for all footings and two inches clear for all Walls

For Schematic Plan see Sheet No. 83

LEGEND

n.f. - Near Face
f.f. - Far Face
e.f - Each Face

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

Prospect Street
Retaining Wall Curb and Railing
Retaining Wall Miscellanous Details

Marion County
Sta. 585+13.19 to Sta. 586+41.19 Rear Wall
Sta. 594+52.50 to Sta. 596+44.50 Forward Wall

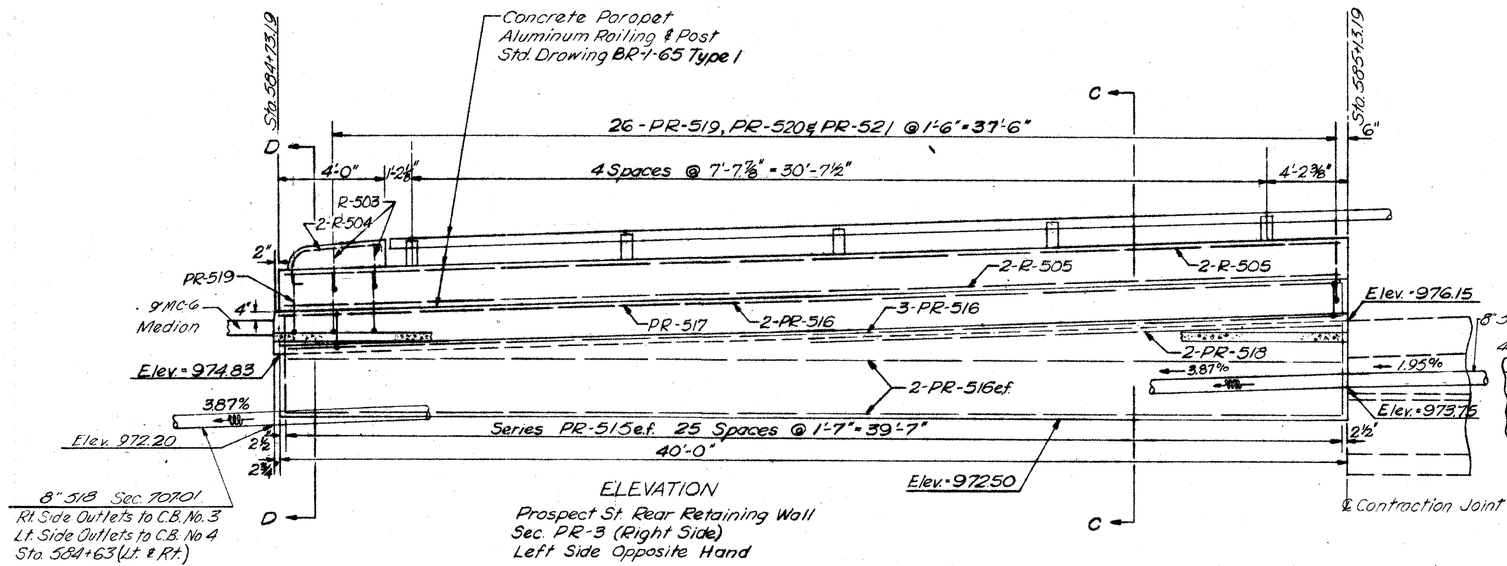
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DFJ		DFJ	WJ	6-11-65	

HILLS CO.—10-5155—500—3-64

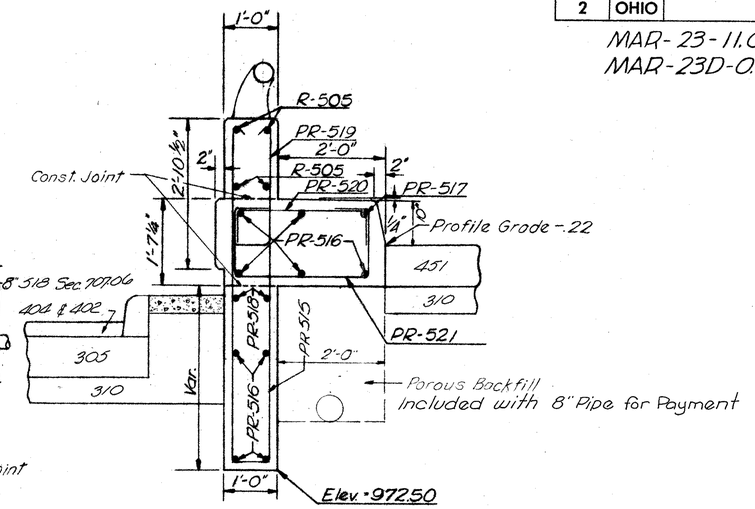
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

55
122

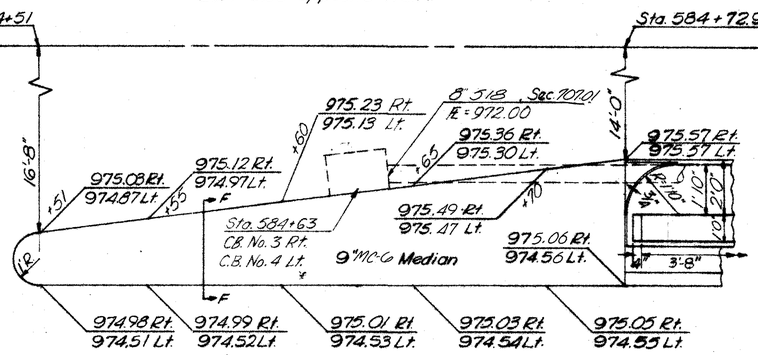
MAR-23-11.05
MAR-23D-0.87



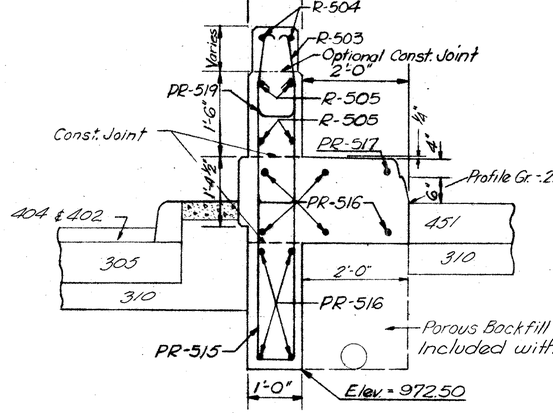
ELEVATION
Prospect St. Rear Retaining Wall
Sec. PR-3 (Right Side)
Left Side Opposite Hand



SECTION C-C



PLAN
Prospect St. MC-6 Median, Modified as per plan
Left & Right Side
Sta. 584+50 to Sta. 584+79.19
Left Side Opposite Hand



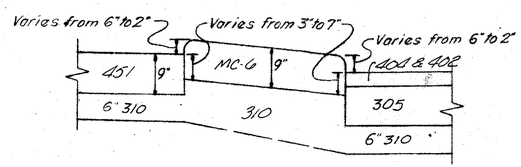
SECTION D-D

NOTES

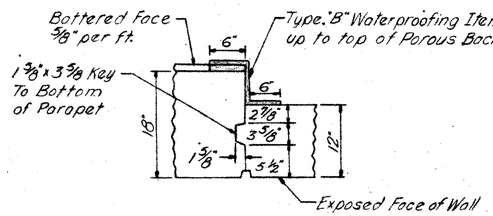
Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Schematic Plan see Sheet No. 83

For Curb and Railing Details see Sheet No. 84



SECTION F-F



CONTRACTION JOINT

LEGEND
n.f. - Near Face
f.f. - For Face
e.f. - Each Face

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

Prospect Street
Rear Retaining Wall
Sec. PR-3 & MC-6 Median (Lt. & Rt.)

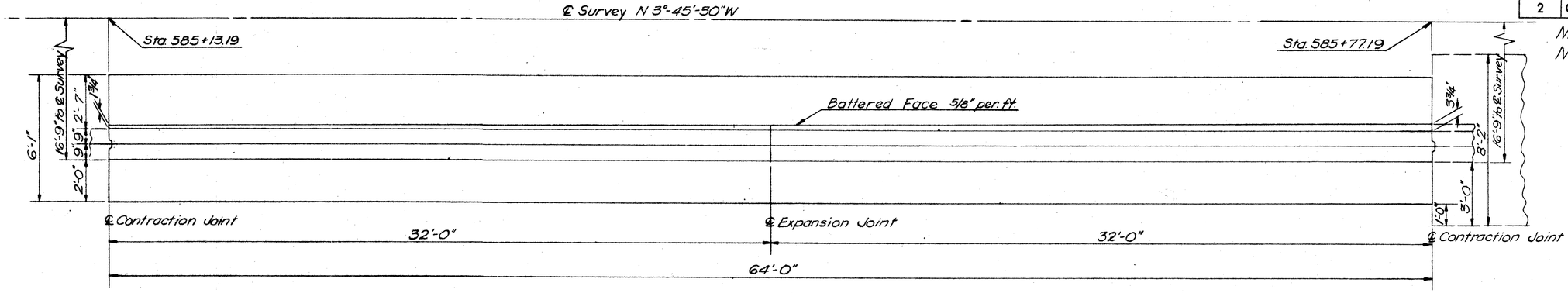
Marion County - US. 23
Sta 584+50 to Sta 585+13.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DFJ		DFJ	WJ	6-1165	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

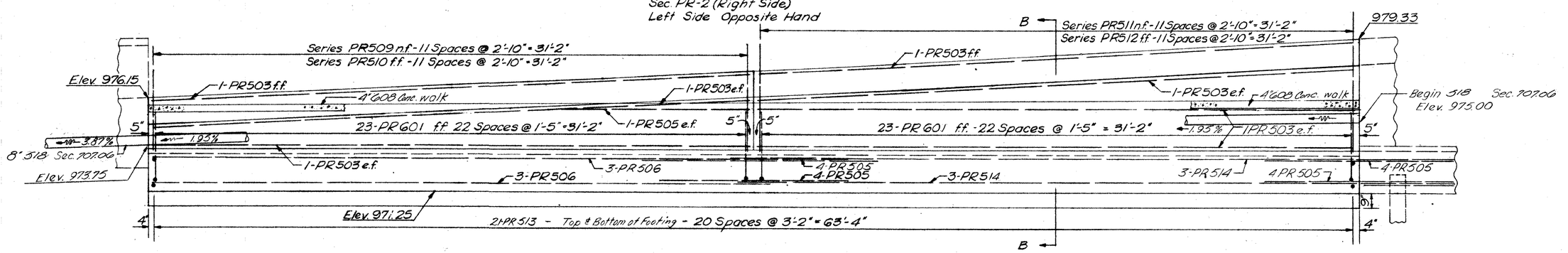
86
122

MAR - 23 - 11.05
MAR - 23D - 0.87



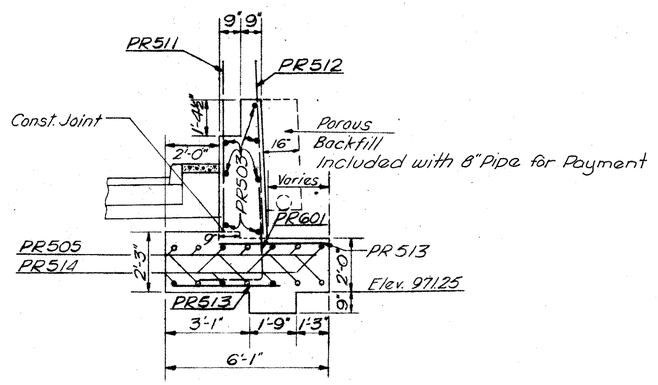
PLAN

Prospect St. Rear Retaining Wall
Sec. PR-2 (Right Side)
Left Side Opposite Hand



ELEVATION

Prospect St. Rear Retaining Wall
Sec PR-2 (Right Side)
Left Side Opposite Hand



SECTION B-B

NOTES

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls

For Schematic Plan see Sheet No. 83

For Curb and Railing Details see Sheet No. 84

Vertical Rusticotion Grooves @ 4' c/c spaced 4'-0" from ends of wall.

For Contraction and Expansion Joint Details see Sheet No. 84

LEGEND

n.f. - Near Face
f.f. - For Face
e.f. - Each Face

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

Prospect Street
Rear Retaining Wall
Section PR-2 (Lt. & Rt.)

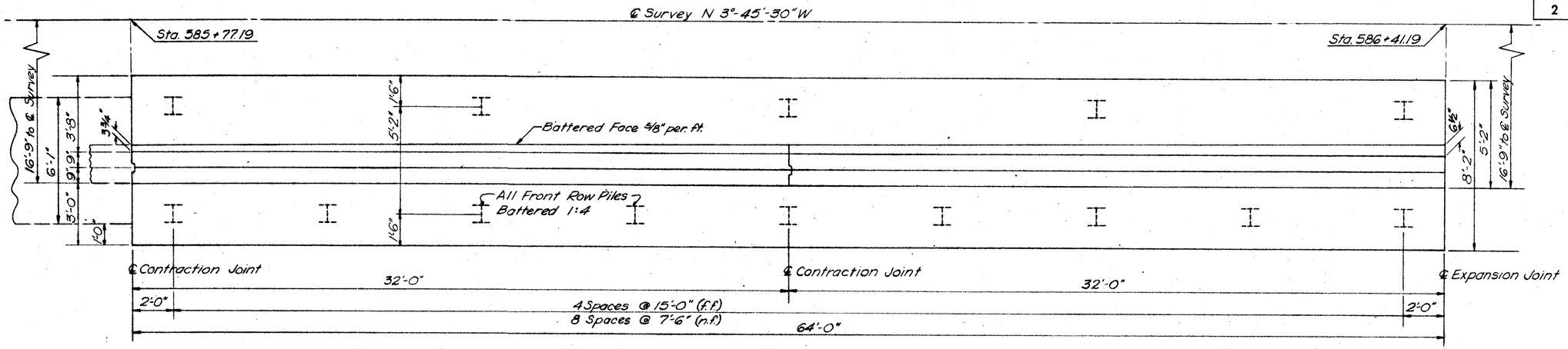
Marion County - US 23
Sta. 585+13.19 to Sta. 585+77.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DFJ		DFJ	WJ	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

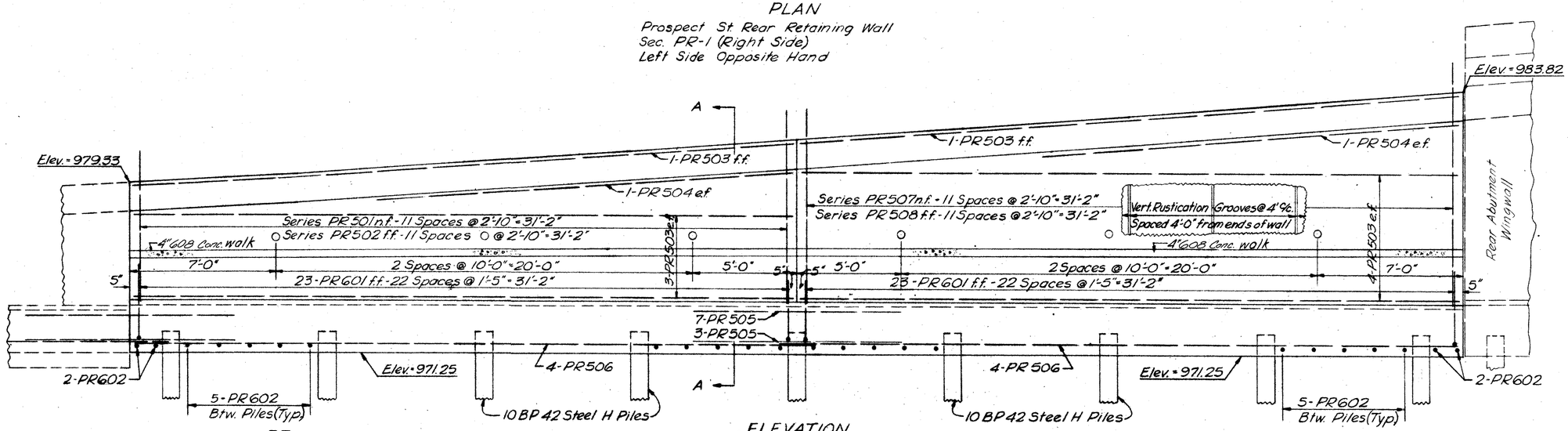
87
12.2

MAR-23-11.05
MAR-23D-0.87



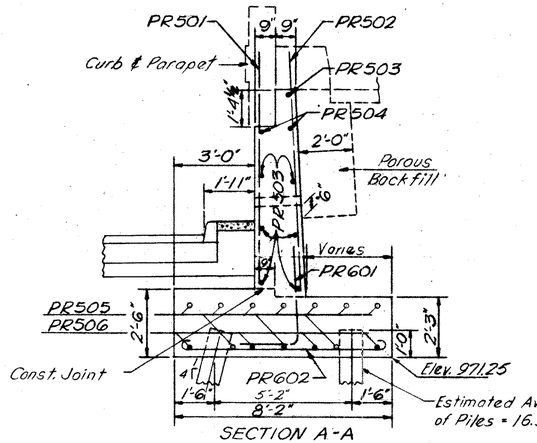
PLAN

Prospect St Rear Retaining Wall
Sec. PR-1 (Right Side)
Left Side Opposite Hand



. ELEVATION

Prospect St. Rear Retaining Wall
Sec. PR-1 (Right Side)
Left Side Opposite Hand



SECTION A-A

NOTES

Elevation of 4"Ø Weepholes is 6" to 12" above Proposed 4" ℄ 608 Conc. walk. Slope ¾" per Ft.

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Wall

For Schemotic Plan see Sheet No. 83

For Curb and Railing Details see Sheet No. 84

For Contraction and Expansion Joint Details see Sheet No. 84

LEGEND

n.f. - Near Face
f.f. - For Face
e.f. - Each Face

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

Prospect Street
Rear Retaining Wall
Section PR-1 (Lt. & Rt)

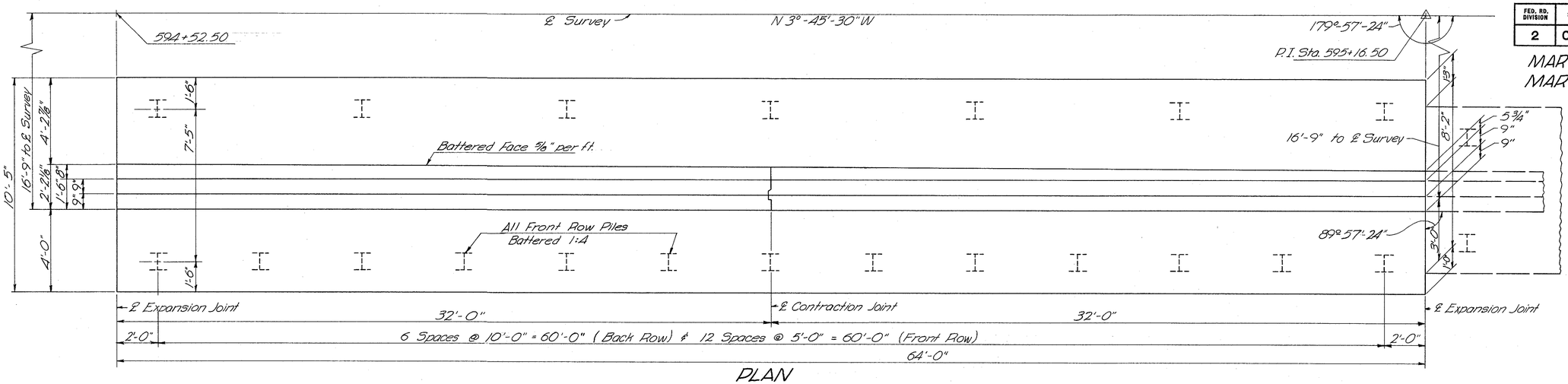
Marion County - US 23
Sta. 585+77.19 to Sta. 586+41.19

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DFJ		DFJ	wj	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

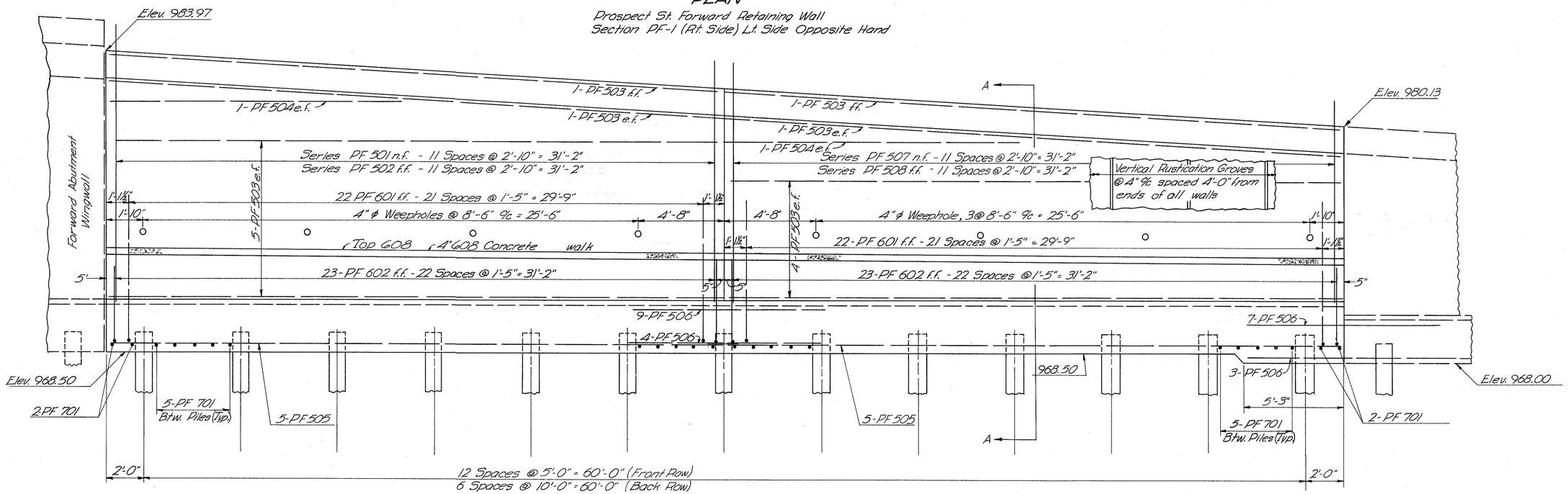
88
12.2

MAR-23-11.05
MAR-23D-0.87



PLAN

Prospect St. Forward Retaining Wall
Section PF-1 (Rt. Side) Lt. Side Opposite Hand



ELEVATION

Prospect St. Forward Retaining Wall
Section PF-1 (Rt. Side) Lt. Side Opposite Hand

LEGEND

n.f. Near Face
f.f. Far Face
e.f. Each Face

NOTES

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Section A-A See Sheet No. 89

For Schematic Plan See Sheet No. 83

For Curb and Railing Details See Sheet No. 84

Elevation of 4" Weepholes is 6" to 12" above 4" 608 Conc. walk. Slope = ¾" per ft.

For Contraction and Expansion Joints Details See Sheet No. 84

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

PROSPECT STREET
Forward Retaining Wall
Section PF-1 (Lt. & Rt.)

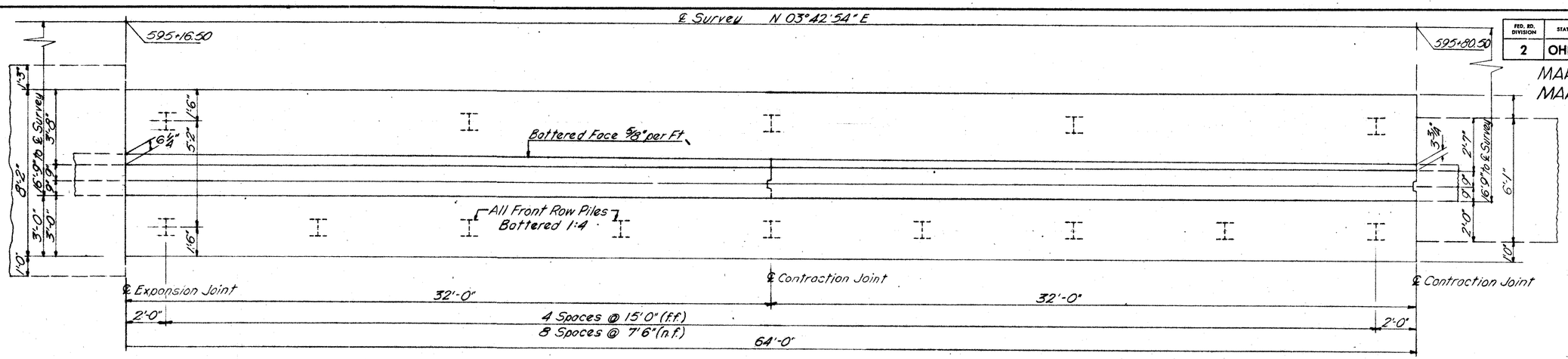
Marion County - U.S. 23
Sta. 594+52.50 to Sta. 595+16.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.B.	R.B.	C.D.	D.F.J.	W.J. 6-11-65	

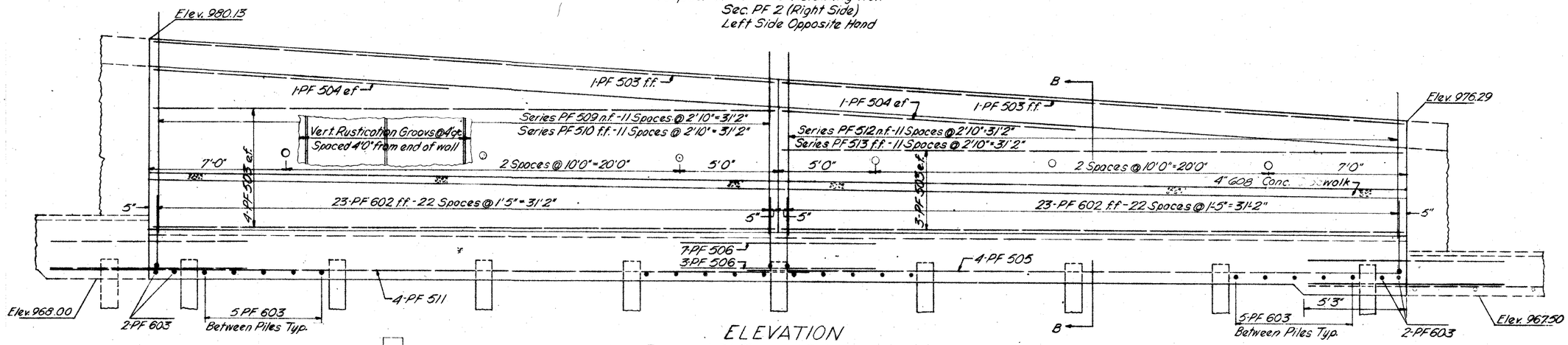
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

89
12.2

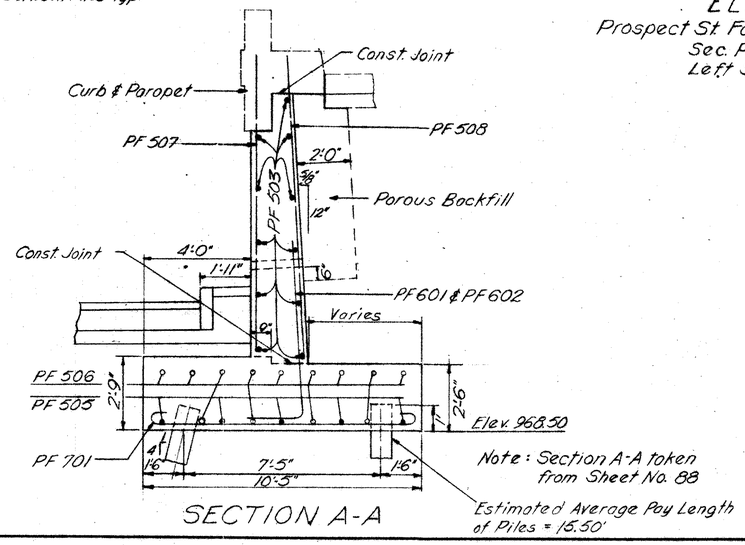
MAR-23-11.05
MAR-23D-0.87



PLAN
Prospect St. Forward Retaining Wall
Sec. PF 2 (Right Side)
Left Side Opposite Hand



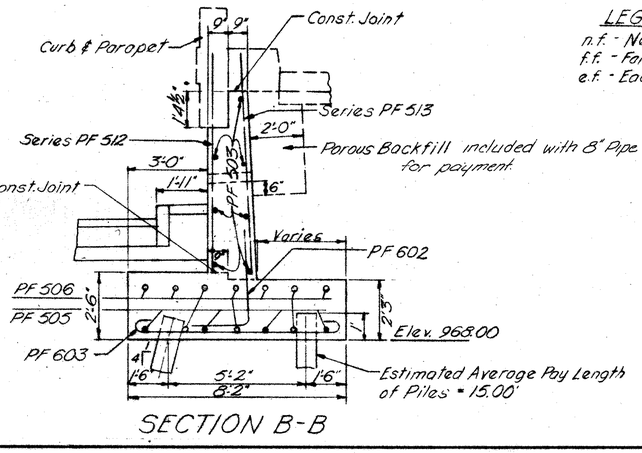
ELEVATION
Prospect St. Forward Retaining Wall
Sec. PF-2 (Right Side)
Left Side Opposite Hand



Note: Section A-A taken from Sheet No. 88

Estimated Average Pay Length of Piles = 15.50'

SECTION A-A



Estimated Average Pay Length of Piles = 15.00'

SECTION B-B

LEGEND
n.f. - Near Face
f.f. - Far. Face
e.f. - Each Face

NOTES

Elevation of 4"Ø Weepholes is 6" to 12" above proposed 4" 608 Conc. walk. Slope = ¾" per Ft.

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Curb and Railing Details see Sheet No. 84

For Schematic Plan see Sheet No. 83

For Contraction and Expansion Joints Details see Sheet No. 84

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

Prospect Street
Forward Retaining Wall
Section PF-2 (Lt. & Rt.)

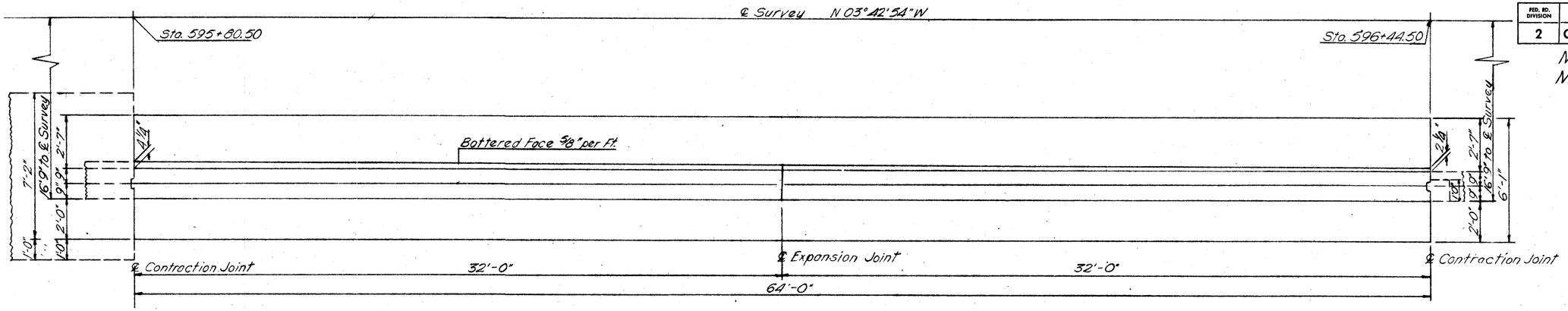
Marion County - US 23
Sta. 595+16.50 to Sta. 595+80.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	DFJ.		DFJ.	WJ	6-11-65	

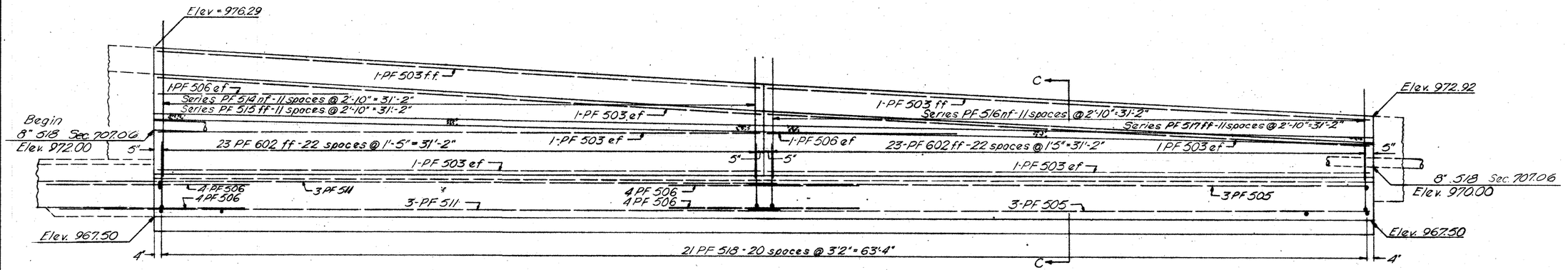
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

90
122

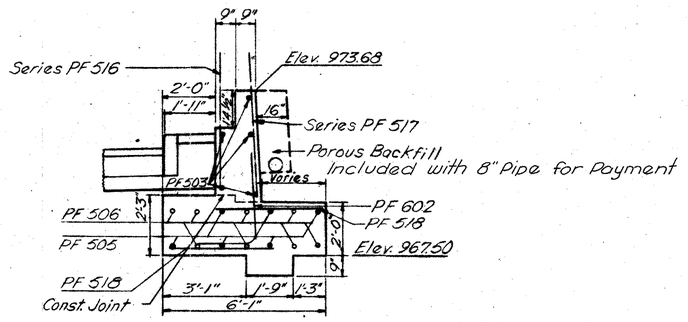
MAR-23-11.05
MAR-23D-0.87



PLAN
Prospect St. Forward Retaining Wall
Section PF-3 (Right Side)
Left Side Opposite Hand



ELEVATION
Prospect St. Forward Retaining Wall
Section PF-3 (Right Side)
Left Side Opposite Hand



SECTION C-C

LEGEND
n.f. - Near Face
f.f. - For Face
e.f. - Each Face

NOTES

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

For Curb and Railing Details see Sheet No. 84

For Schematic Plan see Sheet No. 83

For Contraction and Expansion Joints Details see Sheet No. 84

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

Prospect Street
Forward Retaining Wall
Section PF-3 (Lt & Rt.)

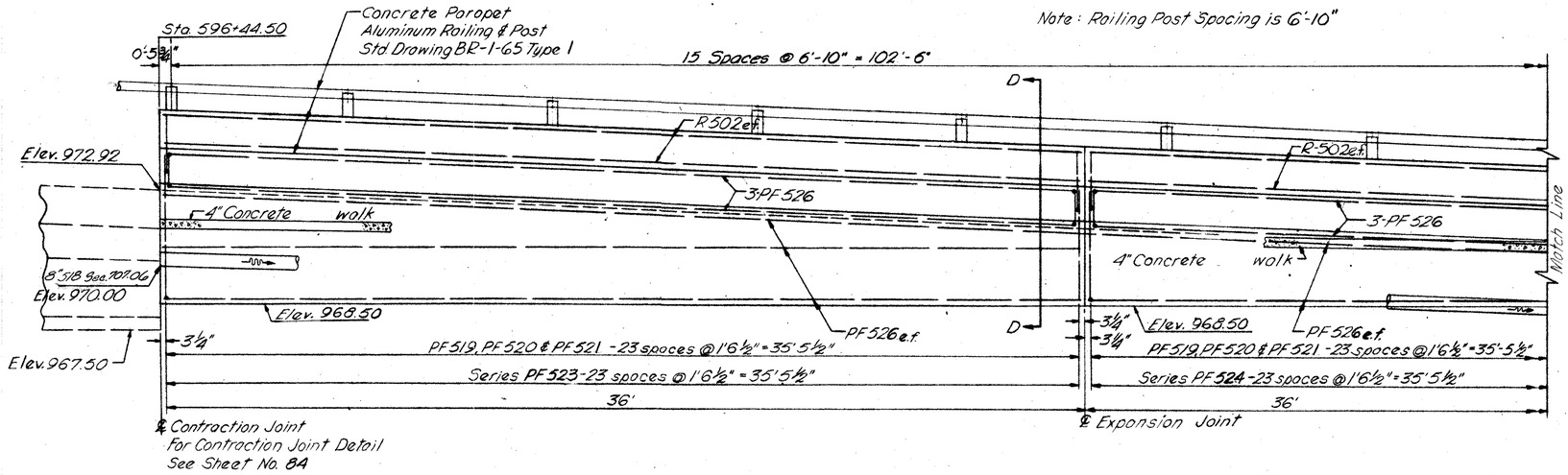
Marion County US-23
Sta. 595+80.50 to Sta. 596+44.50

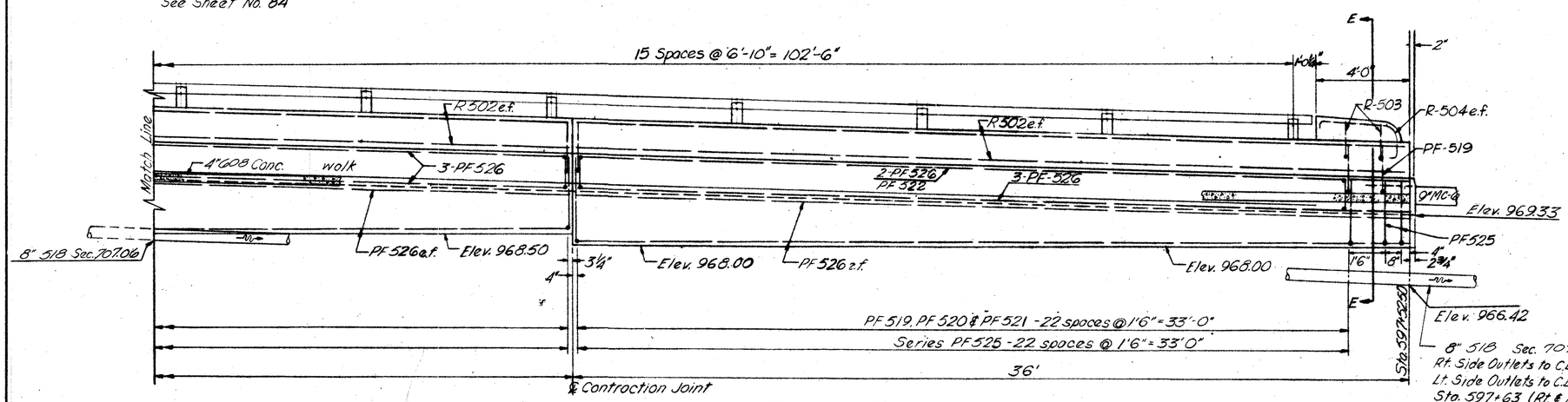
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EB	D.F.J.		D.F.J.	WJ	6-11-65	

HILLS CO.—10-5155—500—1-64

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

91
12.2





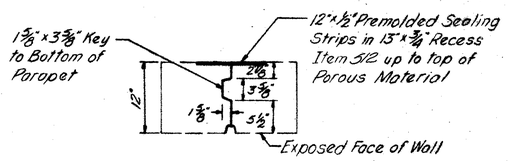
ELEVATION
Prospect St. Forward Retaining Wall
Section PF-4 (Right Side)
Left Side Opposite Hand

LEGEND
n.f. - Near Face
f.f. - For Face
e.f. - Each Face

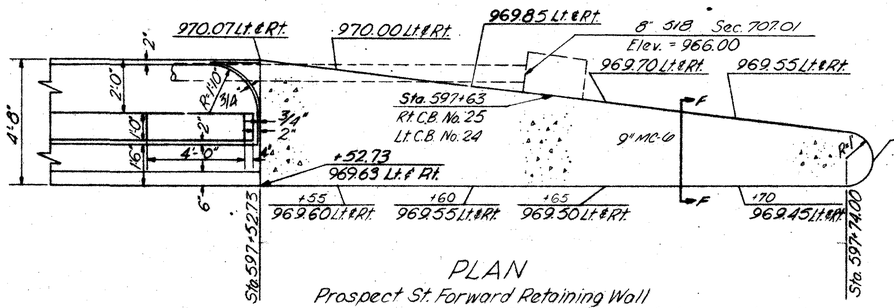
NOTES
For Expansion Joint Detail see Sheet No. 8A

Reinforcing Steel is three inches clear for all Footings and two inches clear for all Walls.

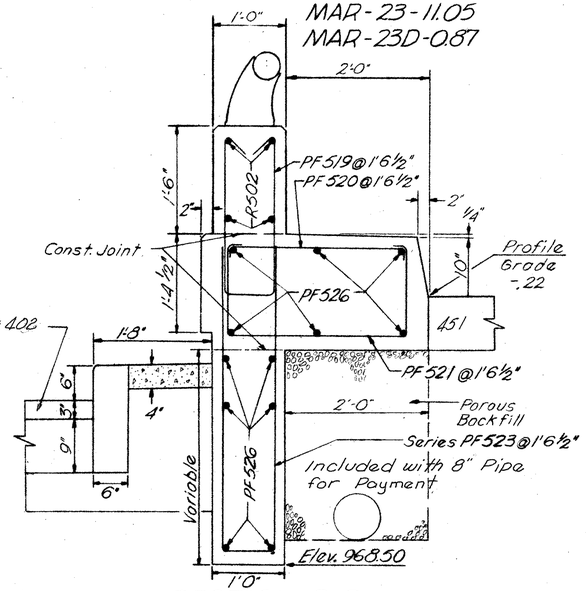
For Schematic Plan see Sheet No. 83



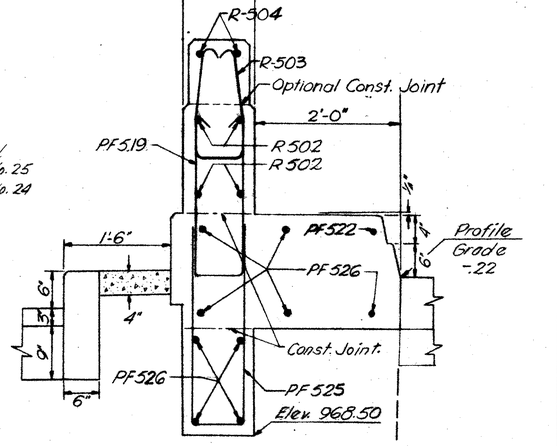
CONTRACTION JOINT
STA. 597+16.50



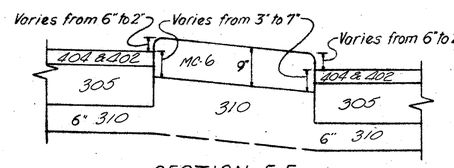
PLAN
Prospect St. Forward Retaining Wall
9" MC-6 Median (Right Side) Modified as per plan
Left Side Opposite Hand



SECTION D-D
Forward Retaining Wall



SECTION E-E
Forward Retaining Wall



SECTION F-F

BARRETT ASSOCIATED ENGINEERS, LIMITED	
1500 W. FIRST AVE.	COLUMBUS 12, OHIO

Prospect Street
Forward Retaining Wall
Section PF-4 & 9" MC-6 Median (Lt. & Rt.)

Marion County - US 23
Sta. 596+44.50 to Sta. 597+75

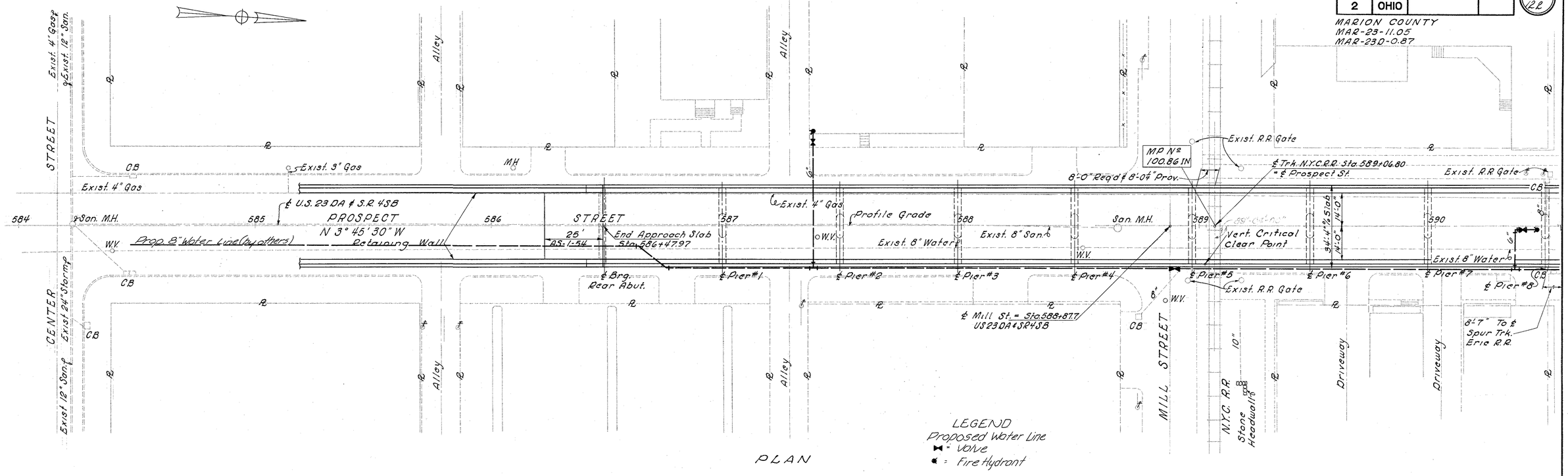
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.	D.F.J.		D.F.J.	wf	6-11-65	

HILLS CO—10-5135—500—3-64

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

92
122

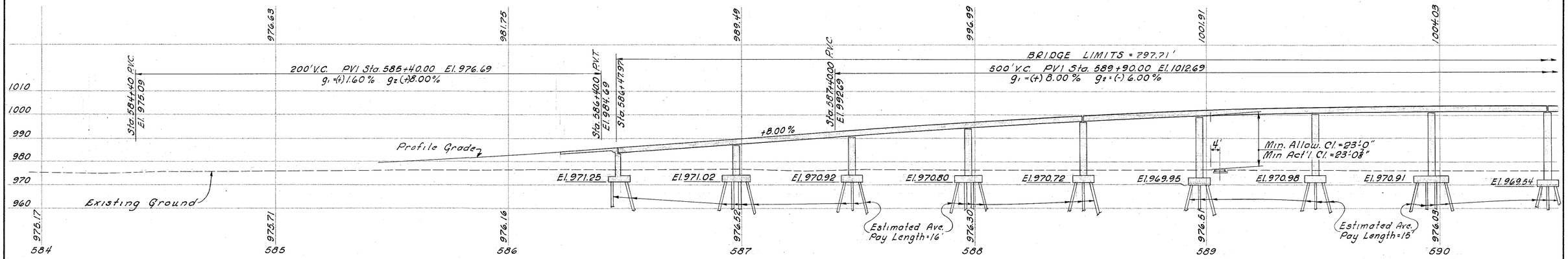
MARION COUNTY
MAR-23-11.05
MAR-23D-0.87



LEGEND

Proposed Water Line
⋈ = Valve
● = Fire Hydrant

PLAN



PROFILE
Utilities not shown

PROPOSED BRIDGE DATA

TYPE: Prestressed Composite Box Beam Bridge w/ Conc. Deck and Substructure
SPAN: 16 @ Approximate 50'-0"
DESIGN: LOADING: S 20-60
SKEW: None
ROADWAY: 28'-0" w/ 2'-0" Safety Curbs
WEARING SURFACE: 1" Monolithic
APPROACH SLAB: AS-1-54 (25' long)
RAILING: Bridge Railing, Type 1

ALIGNMENT: Tangent

1982 ADT 17,700

BENCH MARK	BENCH MARK
Chiseled □ on step to Dept. store, service entrance 33' rt. ℄ Sta. 585+50 El. 976.79	Chiseled □ S.E. Corner Mill St. and Prospect St., S. side of sidewalk. 40' rt. Sta. 588+66 El. 976.03

BARRETT ASSOCIATED ENGINEERS, LTD.
1500 W. FIRST AVE. COLUMBUS 12, OHIO

SITE PLAN
BRIDGE Nº MAR-23D-0091
PROSPECT STREET
OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY

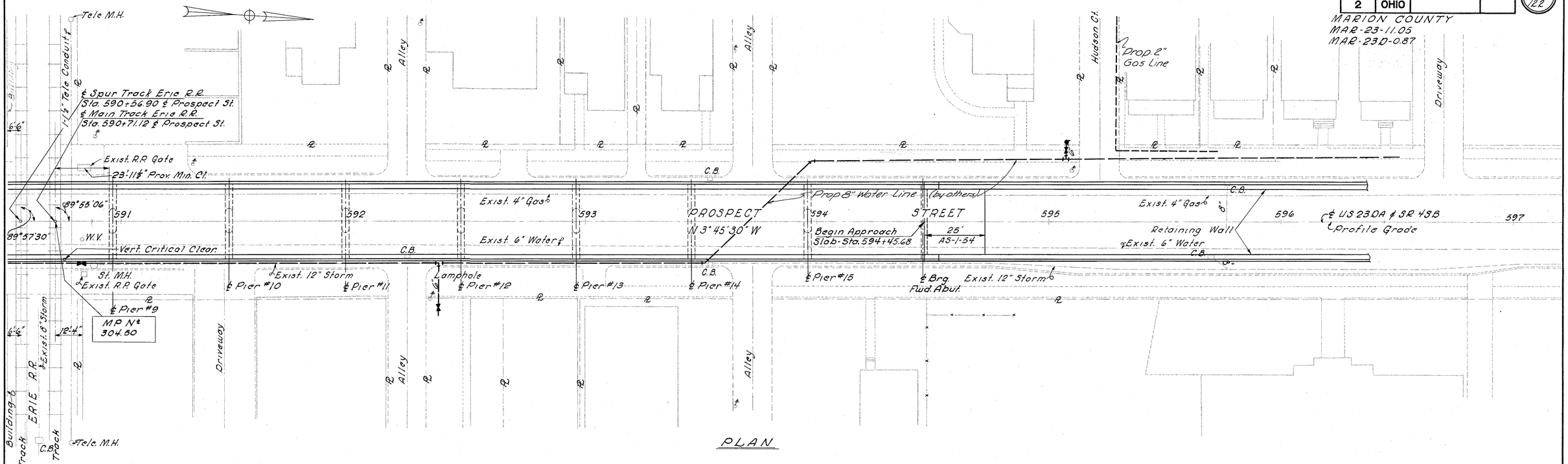
Sta. 586+47.97 to Sta. 594+46.68

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	KFB		D.L.M.	Wsf.	6-11-65	

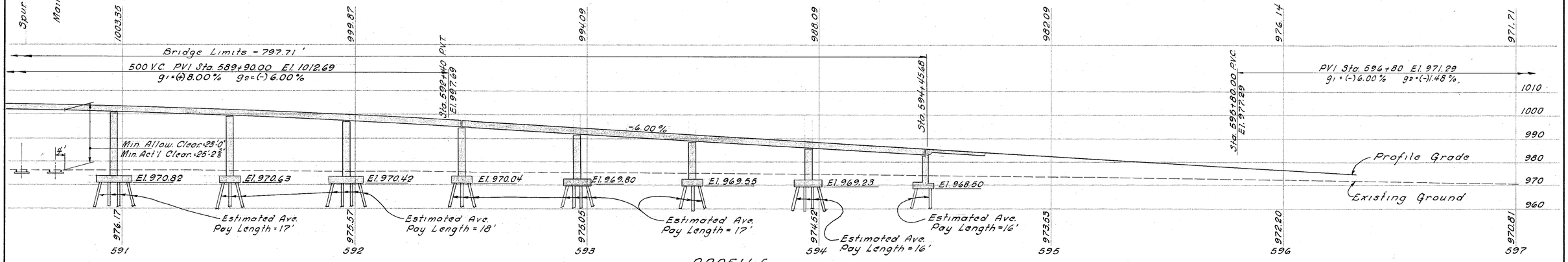
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

93
122

MARION COUNTY
MAR-23-11.05
MAR-23D-0.87



PLAN



PROFILE
Utilities not shown

BENCH MARK	BENCH MARK
Chiseled ▫ N.E. corner 1st step to bldg. Nº 217 50' lt. ℄ Sta. 592+60 El. 977.48	Chiseled ▫ N.W. 1st step to St. Mary's School. 34' rt. Sta. 596+10 El. 972.76

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SITE PLAN
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PROSPECT STREET
OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY

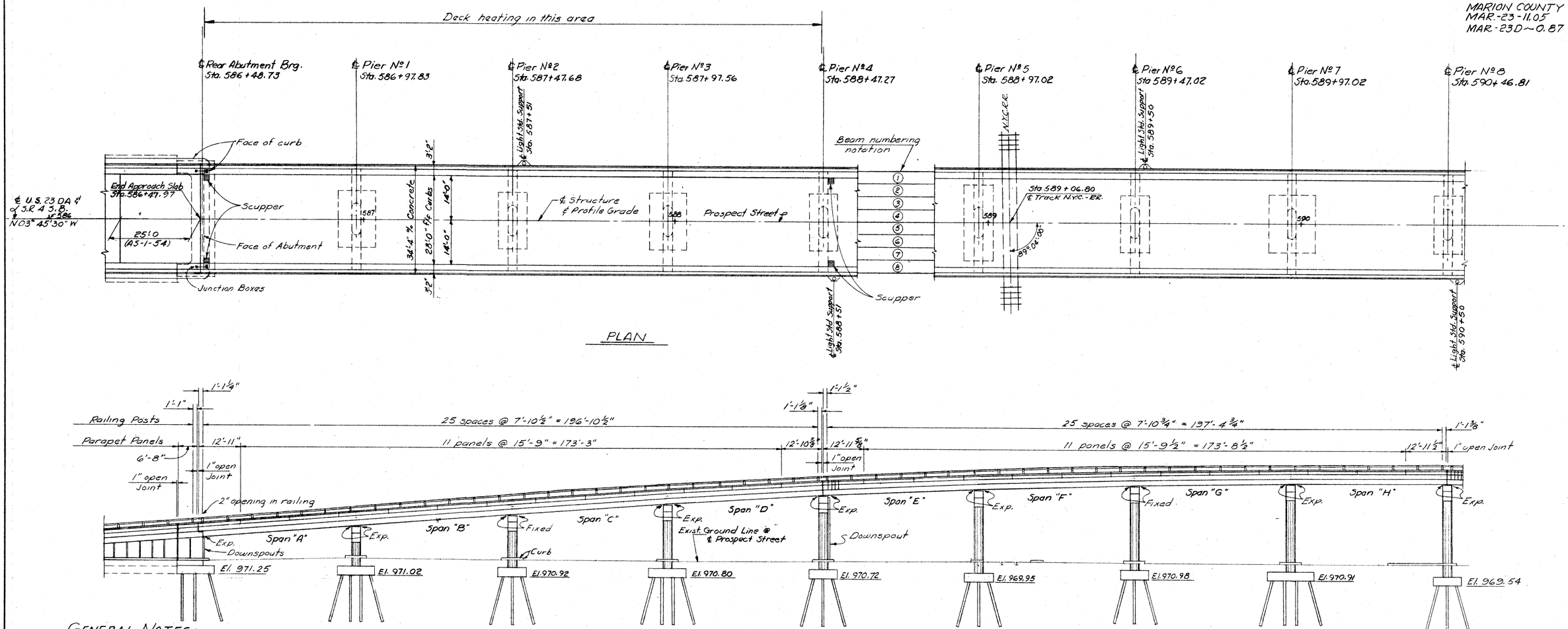
Sta. 586+47.97 to Sta. 594+45.68

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.L.M.	K.F.B.		D.L.M.	Rec. 6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

94
122

MARION COUNTY
MAR.-23-11.05
MAR.-23D-0.87



PLAN

ELEVATION

GENERAL NOTES:

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS BR-1-65 DATED 2-1-65, SHEET NO. 1 OF 2, AS-1-54 REVISED 8-10-65 AND TO SUPPLEMENTAL SPECIFICATION 808 DATED 7-13-65, 825 dated 4-22-65

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 9-1-57, TOGETHER WITH CURRENT REVISIONS THEREOF.

DESIGN LOADING - S20-60

CONCRETE CLASS "C"	- BASIC UNIT STRESS 1,333 P.S.I.
CONCRETE CLASS "E"	- BASIC UNIT STRESS 1,133 P.S.I.
REINFORCING STEEL	- A.S.T.M. A15, A16, A160, A408, DEFORMED
INTERMEDIATE OR HARD GRADE	- BASIC UNIT STRESS, 20,000 P.S.I.

PILES SHALL BE DRIVEN WITH A HAMMER OF NOT LESS THAN 11,000 FT. LBS. PER BLOW TO FIRM CONTACT WITH ROCK. IF THE LENGTH OF PENETRATION IS APPROXIMATELY EQUAL TO THE DEPTH OF ROCK ACCORDING TO THE BRIDGE FOUNDATION REPORT, THE FIRM CONTACT SHALL BE CONSIDERED AS ATTAINED WHEN THE CAPACITY ACCORDING TO THE FORMULA IN SECTION 507.05 IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING:

49 TONS PER PILE USING A 11,000 FT. LB. HAMMER
43 TONS PER PILE USING A 15,000 FT. LB. OR GREATER HAMMER

IF THE ENERGY RATING OF THE HAMMER IS BETWEEN THE RATINGS AS SHOWN ABOVE, THE REQUIRED FORMULA CAPACITY SHALL BE DETERMINED BY INTERPOLATION. THE DESIGN LOAD IS 32 TONS PER PILE.

MACHINE FINISH: THE CONCRETE BRIDGE DECK SHALL BE FINISHED BY THE USE OF A FINISHING MACHINE.

UTILITY LINES: ALL EXPENSES INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

MAINTENANCE AND PROTECTION OF TRAFFIC: FOR A DETAILED DESCRIPTION OF THESE REQUIREMENTS THE CONTRACTOR SHALL REFER TO "TRAFFIC NOTES" IN THE ROADWAY PLANS.

CONSTRUCTION CLEARANCES: THE FOLLOWING CONSTRUCTION CLEARANCES SHALL BE MAINTAINED AT ALL TIMES:
NEW YORK CENTRAL RAILROAD: —— 20 FT. VERTICALLY ABOVE THE TOP OF THE RAILROAD RAILS AND 7 FT. HORIZONTALLY FROM THE CENTER OF TRACKS.
ERIE-LACKAWANNA RAILROAD: —— 21 FT. VERTICALLY ABOVE THE TOP OF THE RAILROAD RAILS AND 6 FT. HORIZONTALLY FROM THE CENTER OF TRACKS.

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 CO-OPERATE WITH THE RAILROAD IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION SHALL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

SHEETING AND BRACING: BEFORE CONSTRUCTION IS STARTED, THIRTEEN SETS OF PRINTS SHOWING DETAILS OF THE SHEETING AND BRACING TO BE USED FOR EXCAVATION ADJACENT TO THE RAILROAD TRACKS SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL BY THE DEPARTMENT OF HIGHWAYS AND BY THE RAILROAD COMPANIES. SPECIAL CARE SHALL BE TAKEN AT SOUTH SIDE OF NEW YORK CENTRAL RAILROAD TO CLEAR PIER FOOTINGS. The sheeting in this area shall be cut-off below top of rail and a temporary handrail and walk shall be provided at the seven foot clearance line.

ALIGNING RAILROAD TRACKS: AFTER THE CONTRACTOR HAS COMPLETED ALL EXCAVATION AND BACKFILL ADJACENT TO THE RAILROAD TRACKS IN COMPLIANCE WITH SECTION 503.04 AND 503.09 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, SUBJECT TO THE SUPERVISION OF THE RAILROAD COMPANY, NOTHING IN SECTION 503.04, 503.09 OR 108.04 OF THE SPECIFICATIONS SHALL BE CONSTRUED TO HOLD THE CONTRACTOR LIABLE FOR ALIGNING AND RESURFACING THE RAILROAD TRACKS.

TRANSVERSE TIE RODS SHALL BE PROVIDED THROUGH THE DIAPHRAGMS IN THE POSITIONS INDICATED. EACH TIE SHALL BE EQUIVALENT TO A 1" DIAMETER MILD STEEL ROD, AS PER SECTION 711.01 TIGHTENED TO 18,000 POUNDS. TENSION MAY BE APPLIED BY A TORQUE OF APPROXIMATELY 300 FOOT POUNDS WITH THE THREADS LUBRICATED.

MORTARING OF SHEAR KEYS: AFTER TRANSVERSE TIE RODS HAVE BEEN PLACED AND TIGHTENED, SHEAR KEYS BETWEEN THE BEAMS SHALL BE FILLED WITH LOW-SLUMP NON-SHRINKING PORTLAND CEMENT MORTAR. MORTAR SHALL BE TAMPED INTO THE KEYWAYS IN A MANNER THAT INSURES COMPLETE AND SOLID FILLING.

COMPOSITE SLAB CONCRETE SHALL BE CLASS "C".

CLEANING PRIOR TO PLACEMENT OF COMPOSITE SLAB: BEFORE PLACEMENT OF THE SLAB CONCRETE, THE TOPS OF THE BEAMS SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATTER. THE SURFACE SHALL BE FLUSHED WITH CLEAR WATER AND SHALL BE WET, WITHOUT FREE WATER, WHEN THE CONCRETE IS PLACED.

GALVANIZING: ALL SCUPPERS, DOWNSPOUTS, RODS, NUTS, AND WASHERS SHALL BE GALVANIZED AS PER SECTION 711.02 UNLESS OTHERWISE SPECIFIED.

FOR ROADWAY AND DECK HEATING DETAILS SEE SHEETS No. 113 and 114 and 10A

FOR LOCATION OF LUMINAIRES ATTACHED TO PIERS, AND LOCATION OF JUNCTION BOXES AND CONDUIT SEE SHEETS No. 104 and 106

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

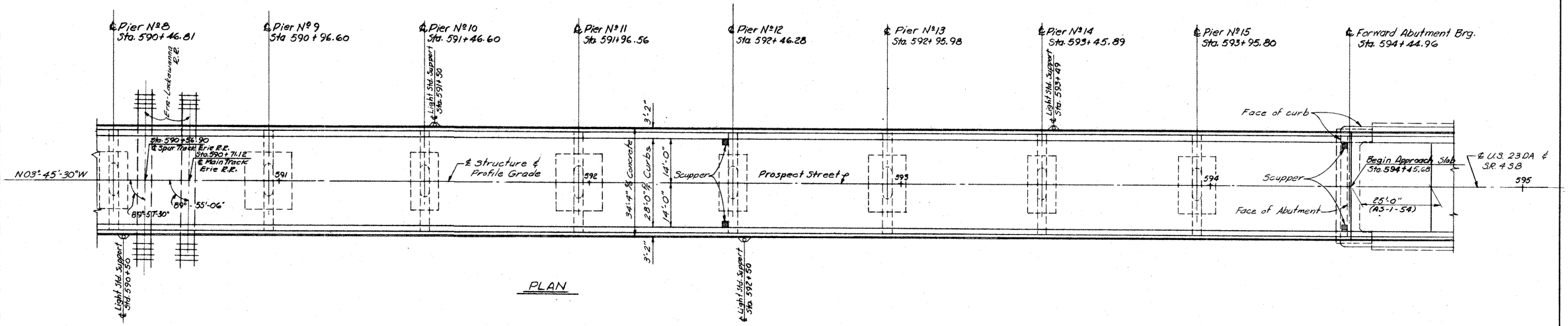
GENERAL PLAN, FRAMING PLAN AND GENERAL NOTES
BRIDGE No MAR-23D-0091
PROSPECT STREET
OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY
Sta. 586+47.97 to Sta. 594+45.68

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	R.H.B.		D.L.M.	Insp	6-11-65	

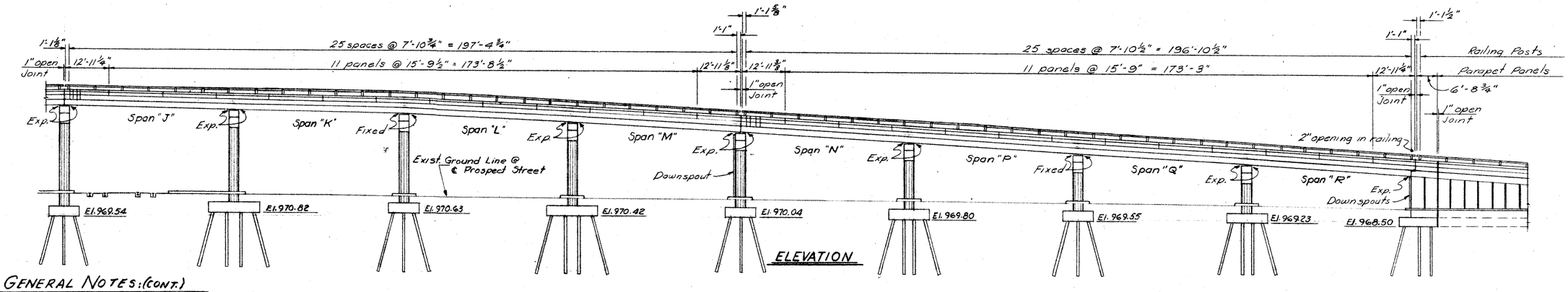
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

95
122

MARION COUNTY
MAR.-23-11.05
MAR.-23D-0.87



PLAN



ELEVATION

GENERAL NOTES: (CONT.)

COMPOSITE CONCRETE SLAB REINFORCEMENT SHALL BE MESH FABRIC AS PER STANDARD CONSTRUCTION DRAWING BP-2 DATED 6-1-65, EXCEPT AS NOTED BELOW. NO. 00 WIRES SHALL BE PLACED TRANSVERSE TO THE BEAMS. MESH SHALL BE LAID ON TOP OF THE PROJECTING BEAM STIRRUPS AND SHALL BE LAPPED 10" MINIMUM FOR NO. 00 WIRES AND 7" FOR NO. 4 WIRES. PAYMENT FOR MESH SHALL BE AS A SEPARATE ITEM.

DECK PLACING PROCEDURE: IN PLACING THE COMPOSITE SLAB CONCRETE, CONSTRUCTION JOINTS WILL BE PERMITTED, NORMAL TO THE CENTERLINE OF STRUCTURE AND NEAR THE MIDDLE OF ANY SPAN. BECAUSE OF THE FLOW OF CURING WATER FROM THE SURFACE OF PREVIOUSLY - PLACED SLAB CONCRETE, THE SEQUENCE OF POURS SHALL BE UPGRADE, STARTING AT THE LOWEST ENDS.

SLAB THICKNESS: THE THICKNESS OF COMPOSITE CONCRETE SLAB SHALL BE ADJUSTED TO MAINTAIN THE SLAB SURFACE AT PROFILE GRADE, ALLOWANCE BEING MADE FOR ¼ ACTUAL CAMBER IN THE BEAMS AT THE TIME THE SLAB IS PLACED AND FOR THE ANTICIPATED DEFLECTION DUE TO THE WEIGHT OF THE SLAB. MINIMUM SLAB THICKNESS SHALL BE 3 1/2" PLUS 1" MONOLITHIC WEARING SURFACE.

MESH FABRIC SHALL NOT BE USED IN SPANS "A", "B", "C", AND "D". THE SLAB REINFORCEMENT IN THESE SPANS SHALL CONSIST OF PREFABRICATED MATS CONFORMING TO SECTION 709.09 "BAR OR ROD MATS". NO. 4 BARS AT TWELVE INCHES SHALL BE PLACED TRANSVERSE TO THE BEAMS AND NO. 4 BARS AT SIX INCHES SHALL BE PARALLEL TO THE BEAMS. THE EXTENDED ENDS OF BARS IN THE MATS SHALL BE LAPPED 15 INCHES AT EDGE SPLICES AND END SPLICES. LONGITUDINAL BARS (AT 6" C/C) SHALL BE PLACED ON TOP, MAINTAINING A MINIMUM OF 1 1/2 INCHES CLEARANCE TO THE UPPER DECK SURFACE. PAYMENT FOR "BAR OR ROD MATS" SHALL BE AS A SEPARATE ITEM.

MICROFILMED
FEB 05 1985

LAMINATED ELASTOMERIC BEARINGS

GENERAL: IN ADDITION TO THE REQUIREMENTS OF SECTION 711.23, ELASTOMERIC BEARINGS SHALL BE SUBJECT TO THE FOLLOWING REQUIREMENTS.

SAMPLE TESTING: THE BOND BETWEEN THE ELASTOMER AND THE METAL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D429, METHOD B. ADHESION AS DETERMINED IN THE TEST SHALL NOT BE LESS THAN 40#S/INCH.

BEARING TEST: THE STRESS-STRAIN RELATIONSHIP OF FULL SIZE BEARINGS SHALL BE DETERMINED BY TESTING ONE BEARING OF EACH SIZE AT ROOM TEMPERATURE. THE PROCEDURES TO BE FOLLOWED AND THE RESULTS OF THE TESTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

1. BEARING SHALL BE AXIALLY LOADED TO A COMPRESSIVE STRESS OF 800 PSI. MEASURED COMPRESSIVE STRAIN SHALL NOT EXCEED ' 6½ AND ' 10 UNDER COMPRESSIVE STRESSES OF 500 PSI AND 800 PSI RESPECTIVELY.
2. BEARING SHALL BE AXIALLY LOADED WITH A COMPRESSIVE STRESS OF 200 PSI. THE BEARING SHALL THEN BE SHEARED HORIZONTALLY TO 25% SHEAR STRAIN. FINAL SHEAR STRESS RECORDED AT 25% STRAIN SHALL NOT EXCEED 35 PSI.
3. DURATION OF EACH TEST SHALL NOT EXCEED 1 HOUR. STRESS AND STRAIN MEASUREMENTS SHALL BE BASED ON THE FOLLOWING:
   A = SINGLE SURFACE AREA OF AN INTERNAL METAL LAMINA, INCHES ^{2}
   T = TOTAL THICKNESS OF ELASTOMER, INCHES
   Dx = MEASURED COMPRESSIVE DEFLECTION, INCHES
   Dy = MEASURED HORIZONTAL DEFLECTION, INCHES
   COMPRESSIVE STRESS, PSI = AXIAL LOAD, LBS/A
   SHEAR STRESS, PSI = SHEAR FORCE, LBS./A
   COMPRESSIVE STRAIN, % = 100 Dx/T
   SHEAR STRAIN, % = 100 Dy/T
4. BEARING TEST REPORT SHALL CONSIST OF STRESS STRAIN CURVES OF EACH TEST WITH THE TEMPERATURE AND TIME DURATION OF THE TEST NOTED.

MATERIALS: ALL MATERIAL SHALL BE NEW, WITH NO RECLAIMED MATERIAL INCORPORATED IN THE FINISHED BEARINGS.

CONSTRUCTION: ELASTOMERIC BEARINGS SHALL CONFORM TO THE REQUIREMENTS OF THE CLASS DESIGNATED AS RMA-A3-F3-T.063, IN THE RUBBER HANDBOOK, SECOND EDITION 1963, BY THE RUBBER MANUFACTURERS ASSOCIATION, INC. IN BRIEF, THE ABOVE CLASSIFICATIONS SPECIFY, COMMERCIAL TOLERANCES, AVERAGE SURFACE FINISH, AND NORMAL TRIM TOLERANCES. THE LAMINAE DIMENSIONS SHALL NOT VARY TO THE EXTENT THAT THE SHAPE FACTOR CHANGES MORE THAN ± 0.5. THERE SHALL BE A MINIMUM 1/8 INCH EDGE SEAL, INTEGRAL WITH THE BEARING, OVER ALL INTERNAL PLATES.

CERTIFICATION: THE CONTRACTOR SHALL FURNISH TO THE DIRECTOR CERTIFIED COPIES OF THE BEARING MANUFACTURER'S TEST REPORTS AND A CERTIFICATION BY THE BEARING MANUFACTURER THAT THE BEARINGS FURNISHED CONFORM TO ALL THE REQUIREMENTS SHOWN ON THE PLANS AND AS STIPULATED HEREIN.

SAMPLING: IN ADDITION TO THE ABOVE TEST AND CERTIFICATIONS, THE CONTRACTOR SHALL FURNISH TWO ADDITIONAL FULL SIZE BEARINGS. THESE BEARINGS SHALL BE FURNISHED (IN LIEU OF THE 6" X 6" SAMPLE REQUIRED BY THE SPECIFICATIONS) FOR COMPLETE DESTRUCTIVE TESTING AND THEY WILL NOT BE RETURNED FOR INCORPORATION IN THE WORK.

PACKAGING: THE BEARINGS SHALL BE PACKAGED OR CRATED IN SUCH MANNER THAT THEY WILL NOT BECOME DAMAGED WHILE BEING HANDLED, TRANSPORTED OR STORED. ANY BEARING DAMAGED BEFORE INCORPORATION INTO THE WORK SHALL BE REPLACED BY THE CONTRACTOR, AT HIS EXPENSE.

VERIFICATION: THE STATE RESERVES THE RIGHT TO PERFORM SUCH TESTS AS ARE DEEMED NECESSARY TO INSURE THAT FURNISHED MATERIAL CONFORMS TO PRESCRIBED REQUIREMENTS.

FOR LOCATION OF LUMINAIRES ATTACHED TO PIERS, AND LOCATION OF JUNCTION BOXES AND CONDUIT SEE SHEETS No. 104 and 106

BARRETT ASSOCIATED ENGINEERS, LIMITED
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GENERAL PLAN, FRAMING PLAN & GENERAL NOTES
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MARION COUNTY
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DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	R.H.B.		D.L.M.	W.J.	6-11-65	

HILLS CO.—10-5155—500—3-64

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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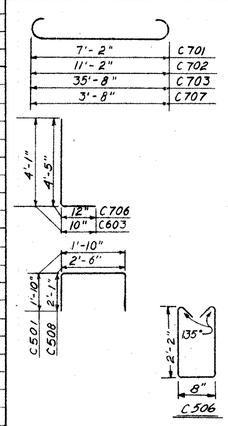
MARION COUNTY
MAR-23-11.05
MAR-23 D-087

REINFORCING STEEL LIST

REAR ABUTMENT

Mark	No.	Length	Shape	Weight
C701	26	8'-10"	Bnt.	469
C702	10	12'-10"	Bnt.	262
C703	5	37'-4"	Bnt.	382
C704	19	9'-0"	Str.	350
C705	18	6'-10"	Str.	251
C706	37	5'-3"	Bnt.	397
C707	6	5'-4"	Bnt.	65
C601	~DELETED~			
C602	18	10'-10"	Str.	293
C603	18	4'-9"	Bnt.	128
C604	10	7'-0"	Str.	105
C501	19	5'-3"	Bnt.	104
C502	19	8'-9"	Str.	173
C503	~DELETED~			
C504	13	33'-2"	Str.	450
C505	6	2'-9"	Str.	17
C506	10	5'-7"	Bnt.	58
C507	12	6'-4"	Str.	79
C508	16	6'-5"	Bnt.	107
C509	8	10'-3"	Str.	86
C510	20	7'-8"	Str.	160

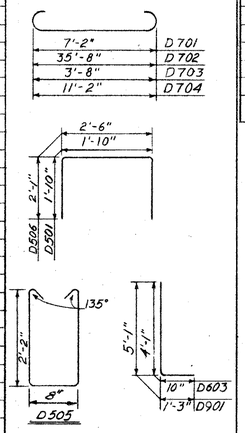
Bending Diagram



FORWARD ABUTMENT

Mark	No.	Length	Shape	Weight
D901	33	6'-1"	Bnt.	683
D902	17	11'-9"	Str.	679
D903	16	6'-10"	Str.	372
D701	26	8'-10"	Bnt.	469
D702	5	37'-4"	Bnt.	382
D703	6	5'-4"	Bnt.	65
D704	10	12'-10"	Bnt.	262
D601	~DELETED~			
D602	18	13'-6"	Str.	365
D603	18	4'-9"	Bnt.	128
D604	12	7'-0"	Str.	126
D501	17	5'-3"	Bnt.	93
D502	17	11'-6"	Str.	204
D503	~DELETED~			
D504	15	33'-2"	Str.	519
D505	10	5'-7"	Bnt.	58
D506	16	6'-5"	Bnt.	107
D507	12	6'-4"	Str.	79
D508	8	13'-0"	Str.	108
D509	2	13'-1"	Str.	27
D510	24	7'-8"	Str.	192
D511	4	2'-9"	Str.	11

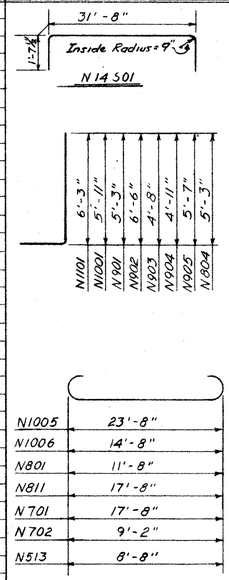
Bending Diagram



PIERS

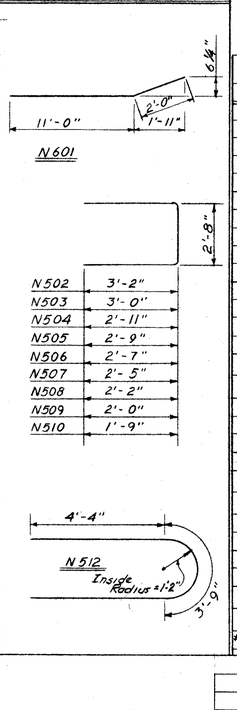
Mark	No.	Length	Shape	Weight
N14S01	30	34'-1"	Bnt.	7822
N14S02	30	30'-8"	Str.	7038
N14S03	90	31'-8"	Str.	21803
N1101	126	7'-5"	Bnt.	4965
N1102	48	7'-6"	Str.	1913
N1103	36	12'-6"	Str.	2391
N1104	42	17'-6"	Str.	3905
N1001	42	7'-0"	Bnt.	1265
N1002	16	6'-9"	Str.	465
N1003	12	11'-6"	Str.	594
N1004	14	15'-0"	Str.	904
N1005	14	26'-6"	Bnt.	1596
N1006	72	17'-6"	Bnt.	5422
N901	84	6'-3"	Bnt.	1785
N902	28	7'-6"	Bnt.	714
N903	56	5'-8"	Bnt.	1079
N904	56	5'-11"	Bnt.	1127
N905	28	6'-7"	Bnt.	627
N906	14	10'-0"	Str.	476
N801	80	13'-10"	Bnt.	2955
N802	28	11'-0"	Str.	822
N803	14	11'-10"	Str.	442
N804	84	6'-2"	Bnt.	1383
N805	32	6'-0"	Str.	513
N806	38	10'-4"	Str.	1048
N807	14	18'-9"	Str.	701
N808	14	17'-3"	Str.	645
N809	28	9'-10"	Str.	735
N810	28	7'-8"	Str.	573
N811	24	19'-10"	Bnt.	1271

Bending Diagram



Mark	No.	Length	Shape	Weight
N701	174	19'-4"	Bnt.	6876
N702	30	10'-10"	Bnt.	664
N703	14	21'-8"	Str.	620
N704	14	20'-0"	Str.	572
N601	60	13'-0"	Bnt.	1172
N602	28	15'-1"	Str.	634
N603	42	19'-3"	Str.	1214
N501	30	10'-0"	Str.	313
N502	270	8'-9"	Bnt.	2464
N503	60	8'-5"	Bnt.	527
N504	60	8'-3"	Bnt.	516
N505	60	7'-11"	Bnt.	495
N506	60	7'-7"	Bnt.	475
N507	60	7'-3"	Bnt.	454
N508	60	6'-9"	Bnt.	422
N509	60	6'-5"	Bnt.	402
N510	60	5'-11"	Bnt.	370
N511	30	24'-6"	Str.	767
N512	278	12'-5"	Bnt.	3600
N513	183	9'-10"	Bnt.	1877

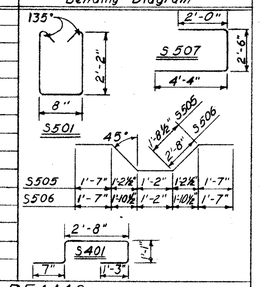
Bending Diagram



SUPERSTRUCTURE

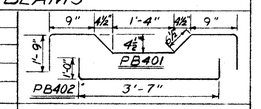
Mark	No.	Length	Shape	Weight
S1001	120	25'-0"	Str.	12,909
S801	804	22'-0"	Str.	47,227
S501	1160	5'-7"	Bnt.	6,755
S502	48	34-7"	Str.	1,731
S503	48	28'-2"	Str.	1,410
S504	48	38'-8"	Str.	1,936
S505	14	7'-9"	Bnt.	113
S506	14	9'-8"	Bnt.	141
S507	28	8'-7"	Bnt.	251
S401	1064	6'-2"	Bnt.	4383

Bending Diagram



PRESTRESSED BEAMS

PB401	6400	7'-2"	Bnt.	——
PB402	1536	5'-4"	Bnt.	——
PB403	768	50'-5"	Str.	——



RAILING

R501	16	6'-4"	Str.	——
R503	352	16'-1"	Str.	——
R505	64	12'-7"	Str.	——

Note: Railing bars R501, R503 and R505 are included with the railing for payment.

SPECIAL (#6 DOWELS)

#6 dowels	256	2'-0"	Str.	769

SUPERSTRUCTURE

ITEM	Area (Sq. Ft.)	Lbs/sq. ft.	Pounds
Mesh Fabric	22,460	0.72	16,170
Bar or Rod Mats	7,970	1.77	14,110

REPLACEMENT BARS

Mark	No.	Length	Shape	Bending Diagram
RE14S01	2	8'-3"	Str.	See S401 for Bend RE 401
RE 1101	1	7'-6"	Str.	
RE 1001	2	7'-2"	Str.	
RE 901	1	6'-10"	Str.	
RE 801	3	6'-6"	Str.	
RE 701	1	6'-2"	Str.	
RE 601	1	5'-11"	Str.	
RE 501	2	5'-7"	Str.	
RE 401	1	6'-2"	Bnt.	

*AASHO Spec. M-153

ESTIMATED QUANTITIES.

Item	Quantity	Unit	Description	Abut's	Piers	Superstr.	General
503	Lump	Lump Sum	Cofferdams, Cribs, and Sheeting				Lump
503	941	Cu. Yds.	Unclassified Excavation for Structures	151	790		
511	581	Cu. Yds.	Class "C" Concrete, Superstructure			581	
511	486	Cu. Yds.	Class "C" Concrete, Piers above footings		486		
511	83	Cu. Yds.	Class "E" Concrete, Abutments above footings	83			
511	397	Cu. Yds.	Class "E" Concrete, Footings	60	337		
512	41	Lin. Ft.	Premolded Sealing Strip	41			
509	187,903	Lbs.	Reinforcing Steel	8865	101,413	76,856	769
516	480	Sq. Ft.	1" Preformed Exp. Joint Filler* (Type I) Including Joint Sealer	107		373	
517	1,621.61	Lin. Ft.	Bridge Railing, Type 1	26.79		1594.82	
505	Lump	Lump Sum	First Test Pile				Lump
507	5410	Lin. Ft.	Steel Piles, 10BP42	460	4950		
510	256	Each	Dowel Holes (Including filling of holes in beam)				256
625	——	——	Bridge Lighting (See Sheet No. 106)				
518	44	Cu. Yds.	Porous Backfill	44			
518	8	Each	Scuppers			8	
518	132	Lin. Ft.	8" x 8" x ½" (A-36) Struct. Tubing (Hot-Dipped Galvanized) including clip-angles, Plugs, & 8" ϕ Std. Steel Pipe.	38	94		
808	581	Each	Water-reducing, set-retarding admixture			581	
515	128	Each	Prestressed Concrete Composite Box Beams (Beam I)			128	
825	3,475	sq. yd.	Concrete surface treatment				3,475
516	512	Each	Elastomeric Bearing Pads (Three-Ply Laminated)				512
516	180	Lin. Ft.	6" Neoprene Waterstop (Dumbell Type)			180	
509	16,170	Lbs.	Mesh Fabric (709.10)			16,170	
509	14,110	Lbs.	Prefabricated Bar or Rod Mats (709.09) *.			14,110	

*8,720 lbs. of this quantity is to be paid 100% by the City of Marion

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A701 IS A NO. 7 SIZE BAR, AND M1001 IS A NO. 10 SIZE BAR.

REINFORCING BARS NO. 14S SHALL BE OF INTERMEDIATE OR HARD GRADE CONFORMING TO A.S.T.M. A408.

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

REINFORCING STEEL LIST AND ESTIMATED QUANTITIES

BRIDGE Nos. MAR-23D-0091, PROSPECT ST. over NEW YORK CENTRAL RAILROAD and ERIE-LACKAWANNA RAILROAD
Marion County
Sta. 586+47.97 to Sta. 594+45.68

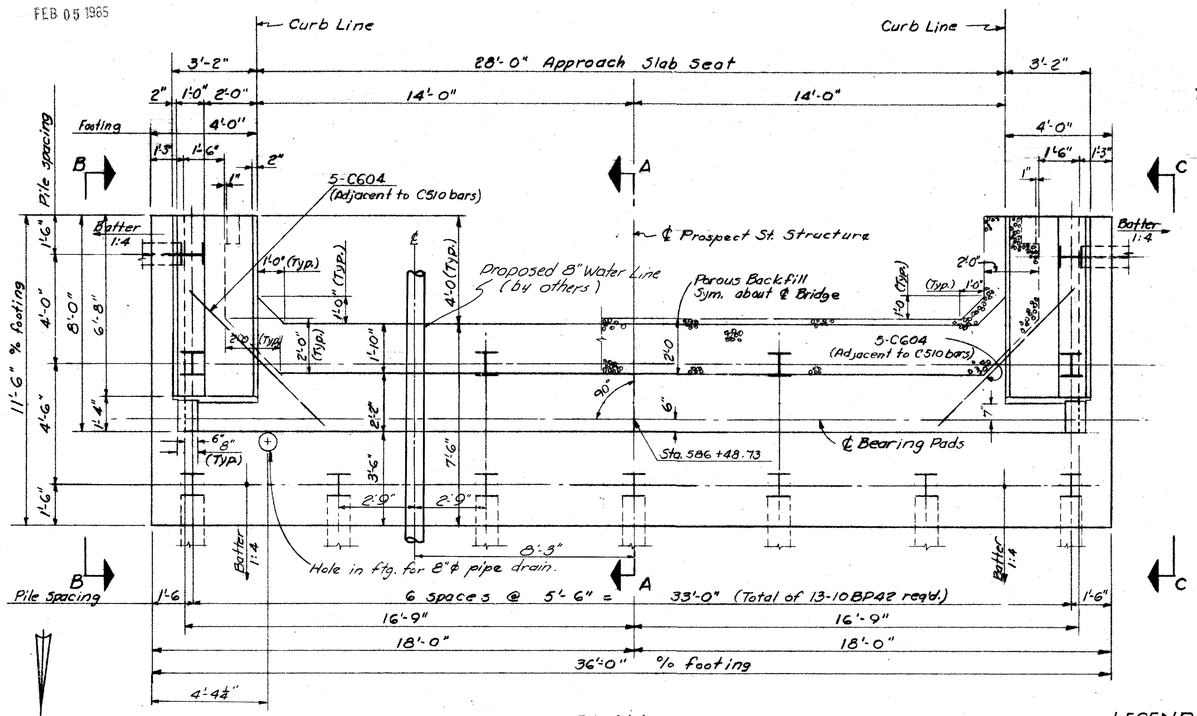
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.M.	NHH		D.L.M.	Wsj	6-11-65	

HILLS CO.—10-5155—500—3-64

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

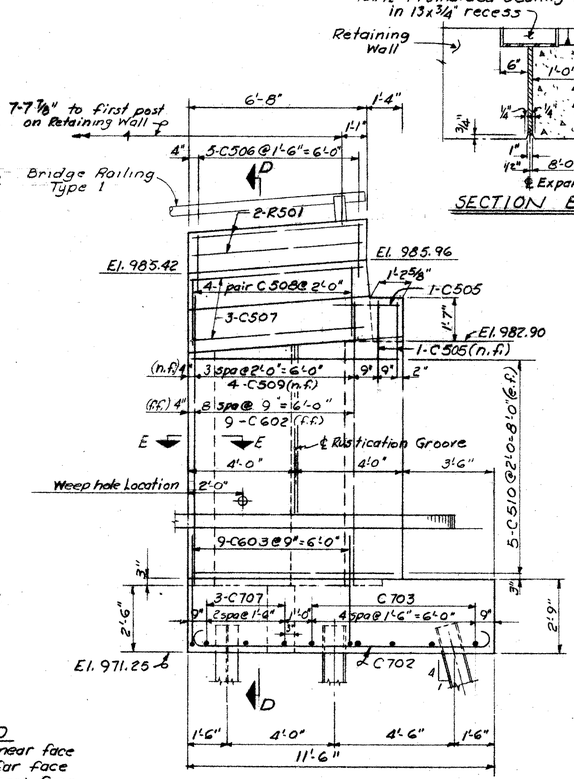
97
122

MARION COUNTY
MAR.-23-11.05
MAR.-23D-0.87

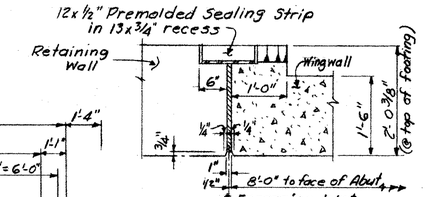


PLAN

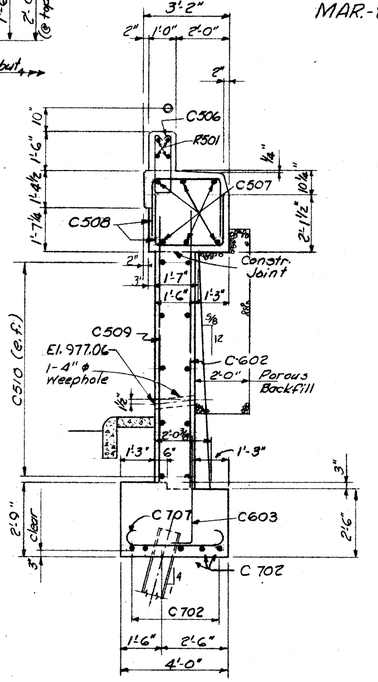
LEGEND
n.f. = near face
f.f. = far face
e.f. = each face



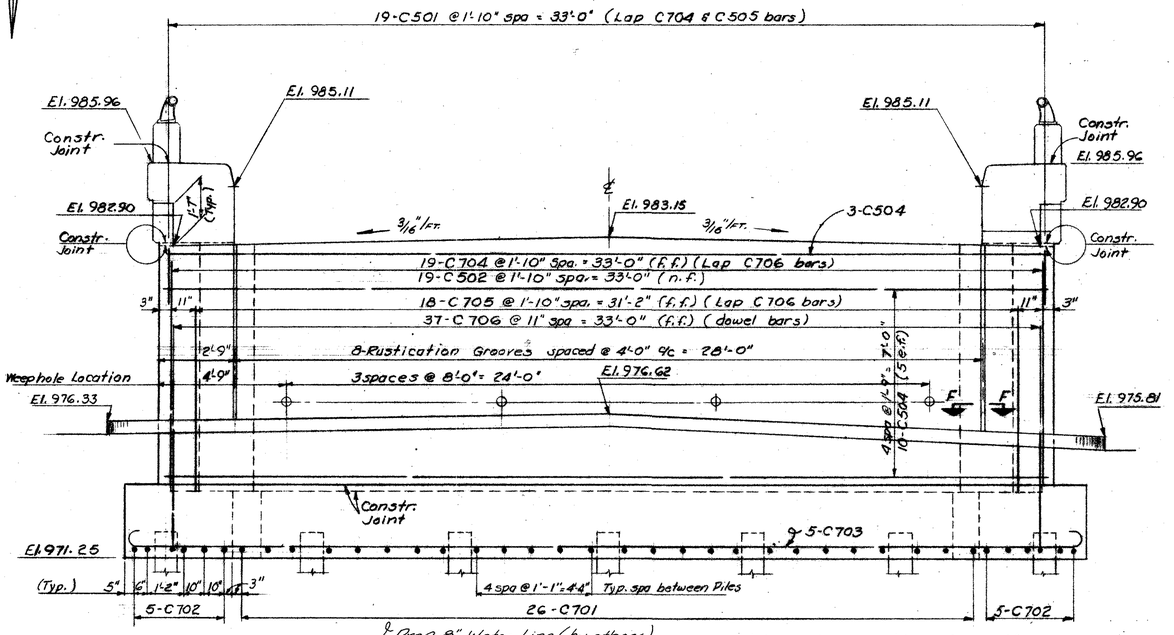
VIEW B-B (Shown)
VIEW C-C (opp Hand)



SECTION E-E



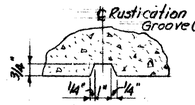
SECTION D-D



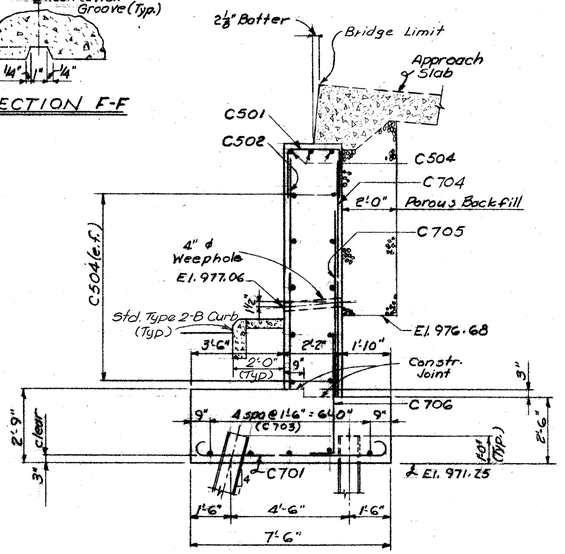
Prop. 8" Water Line (by others)

ELEVATION

Note: For conduit and junction box details see Sheet No. 107



SECTION F-F



SECTION A-A

POROUS BACKFILL, 2 foot thick, full length of of Abutment and wings and shall extend up to the underside of the Approach Slab.

BEAM SEATS: Special car shall be taken in placing reinforcing steel in the vicinity of the beam seats so as to avoid interference with the drilling of the dowel rod holes.

PAYMENT for the curb and 4" concrete sidewalk adjacent to the face of Abutment and Wingwalls will be carried in "Roadway Quantities".

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

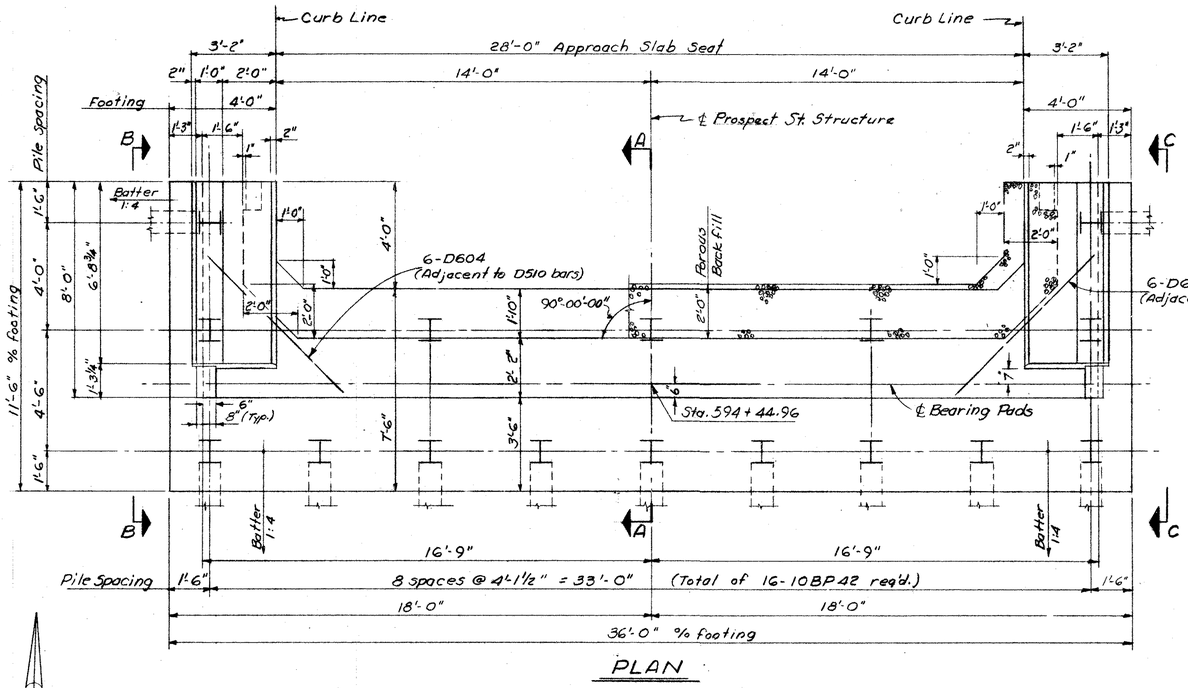
REAR ABUTMENT DETAILS
BRIDGE No. MAR-23D-0091
PROSPECT STREET
OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY
Sta. 586+47.97 to Sta. 594+45.68

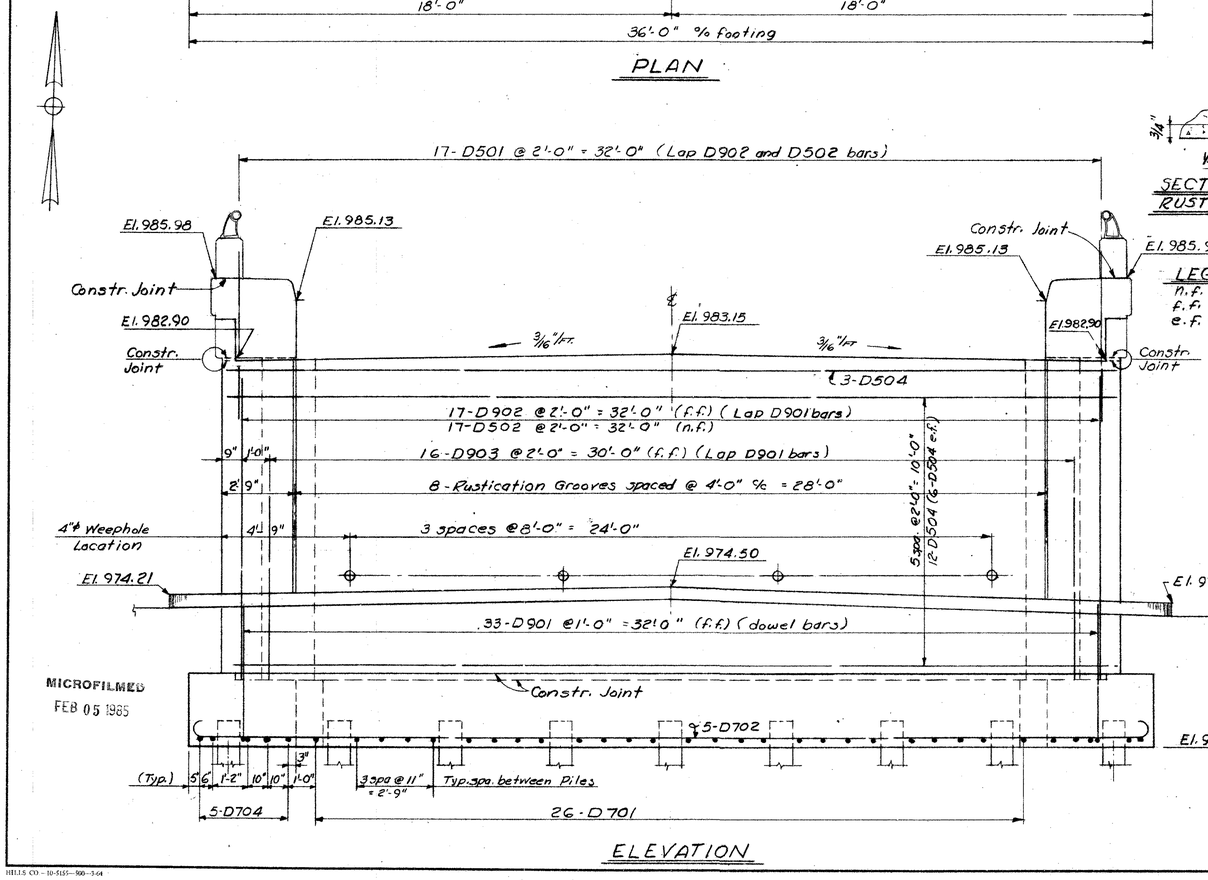
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWT	R.H.B.		D.L.M.	WJJ	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

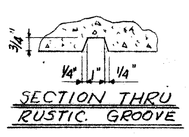
93
122

MARION COUNTY
MAR.-23-11.05
MAR-23D-0.87



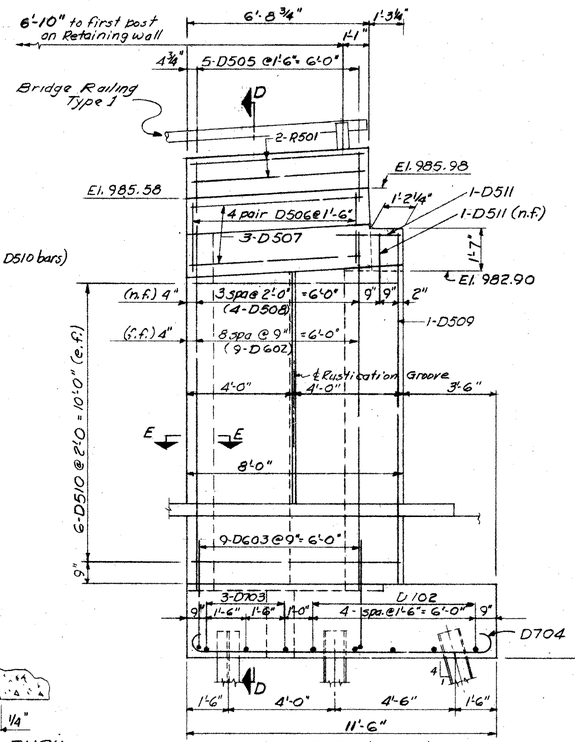


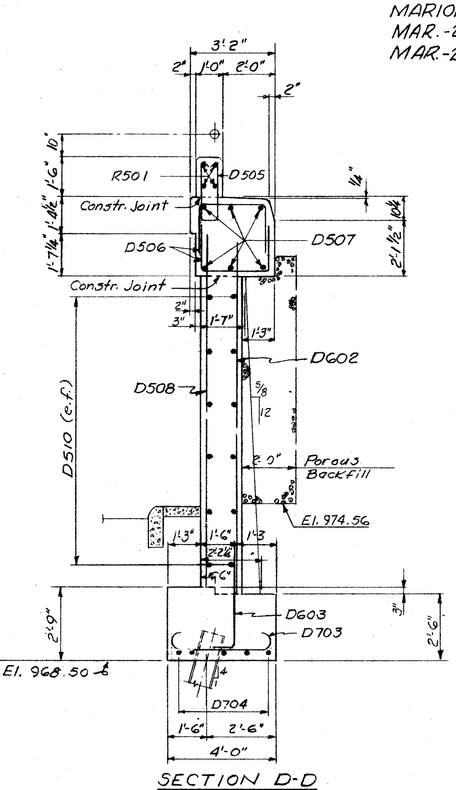
ELEVATION



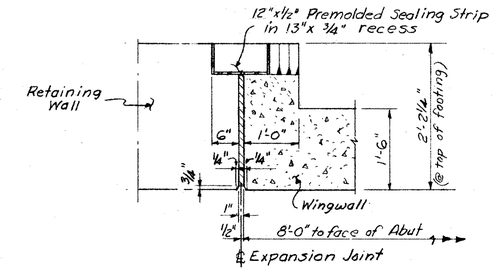
SECTION THRU RUSTIC. GROOVE

LEGEND
n.f. = near face
f.f. = far face
e.f. = each face

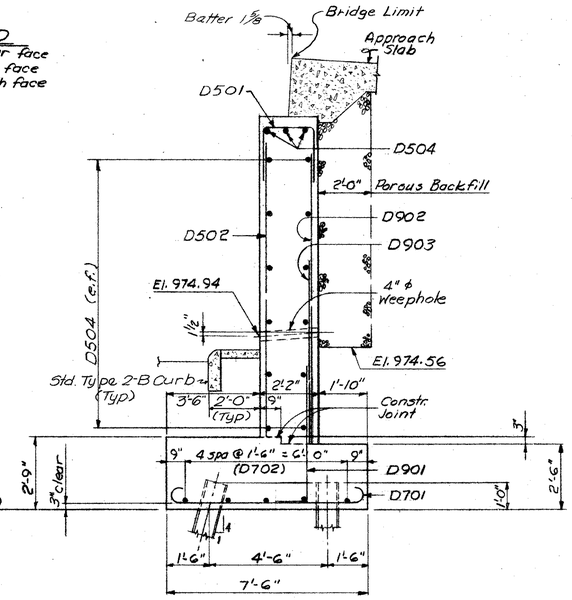




SECTION D-D



SECTION E-E



SECTION A-A

NOTE
For Notes see Rear Abutment Sheet No 97

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

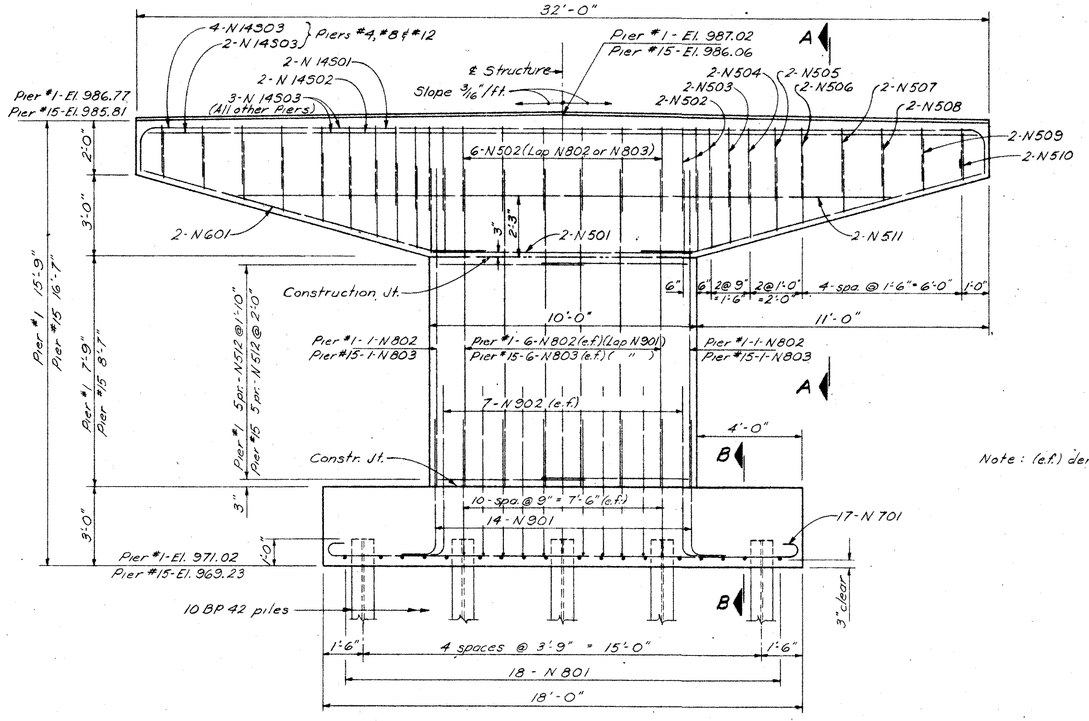
FORWARD ABUTMENT DETAILS
BRIDGE No MAR-23D-0091
PROSPECT STREET
OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
MARION COUNTY
Sta. 586+47.97 to Sta. 594+95.68

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWT	R.H.B		D.L.M.	[illegible]	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

99
122

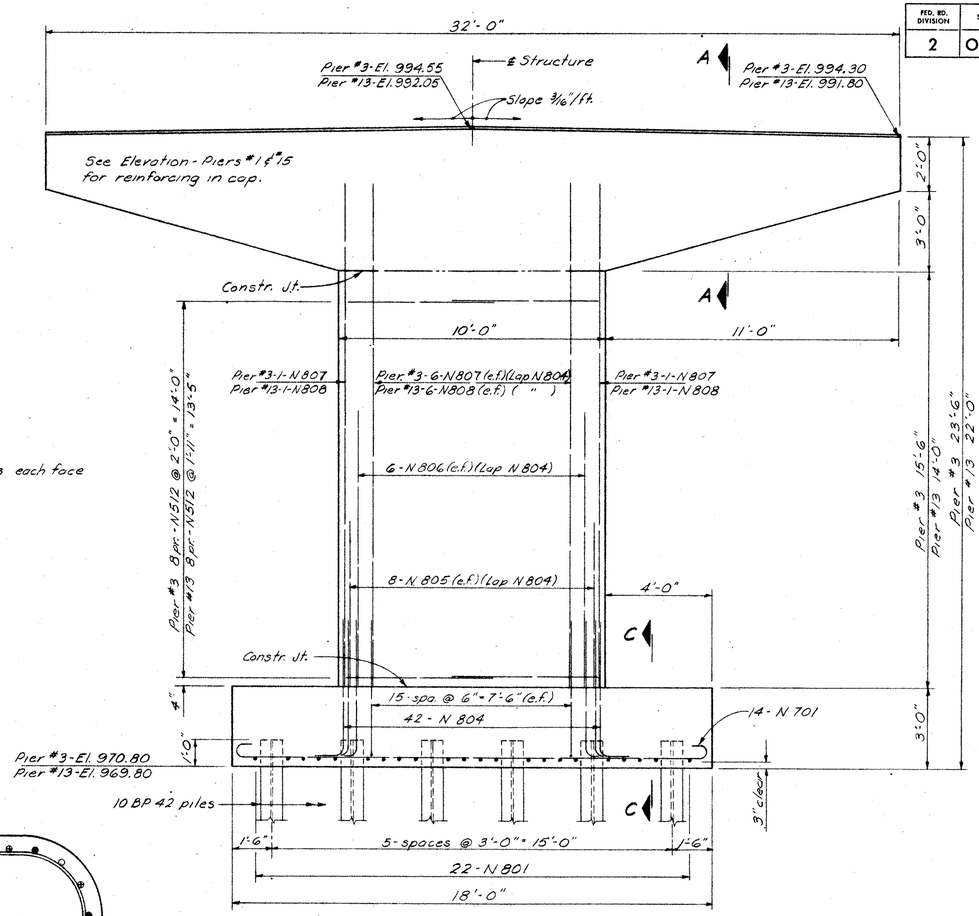
MARION COUNTY
MAR-23-11.05
MAR-23D-0.87



ELEVATION ~ PIERS #1 & #15

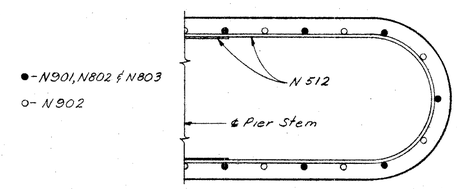
Pier #1, Looking Ahead ; Pier #15, Looking Rearward

Note : (e.f.) denotes each face

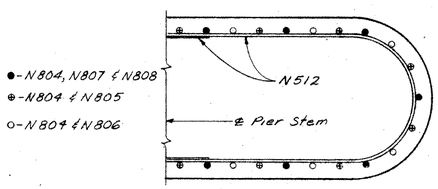


ELEVATION ~ PIERS #3 & #13

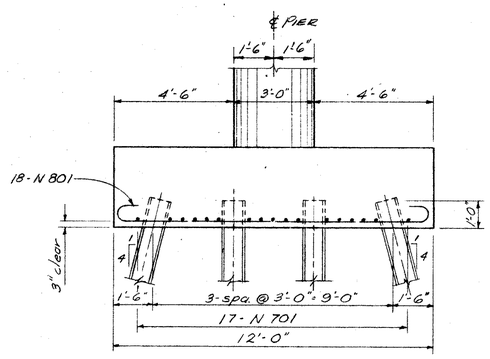
Pier #3 Looking Ahead ; Pier #13 Looking Rearward



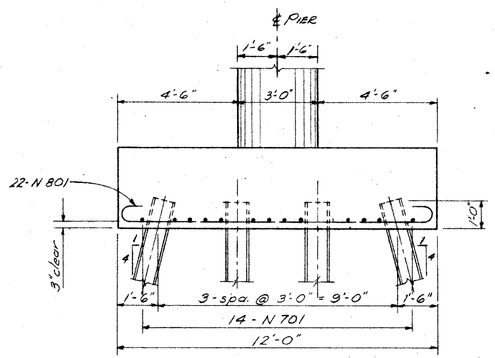
STEM HALF-SECTION ~ PIERS #1 & #15



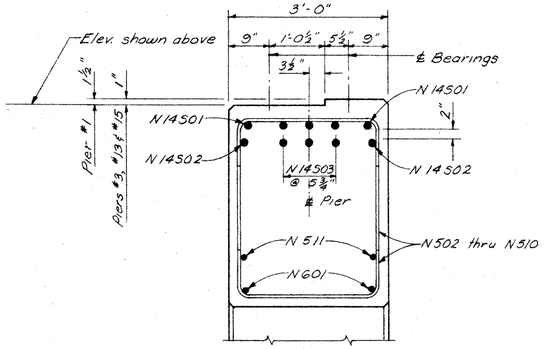
STEM HALF-SECTION ~ PIERS #3 & #13



SECTION B-B



SECTION C-C



SECTION A-A

BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BEAM SEATS SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF THE DOWEL ROD HOLES.

℄ PIER STATIONS	
Pier	Station
#1	586+97.83
#3	587+97.56
#13	592+95.98
#15	593+95.80

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

PIER DETAILS
PIERS #1, #3, #13 & #15

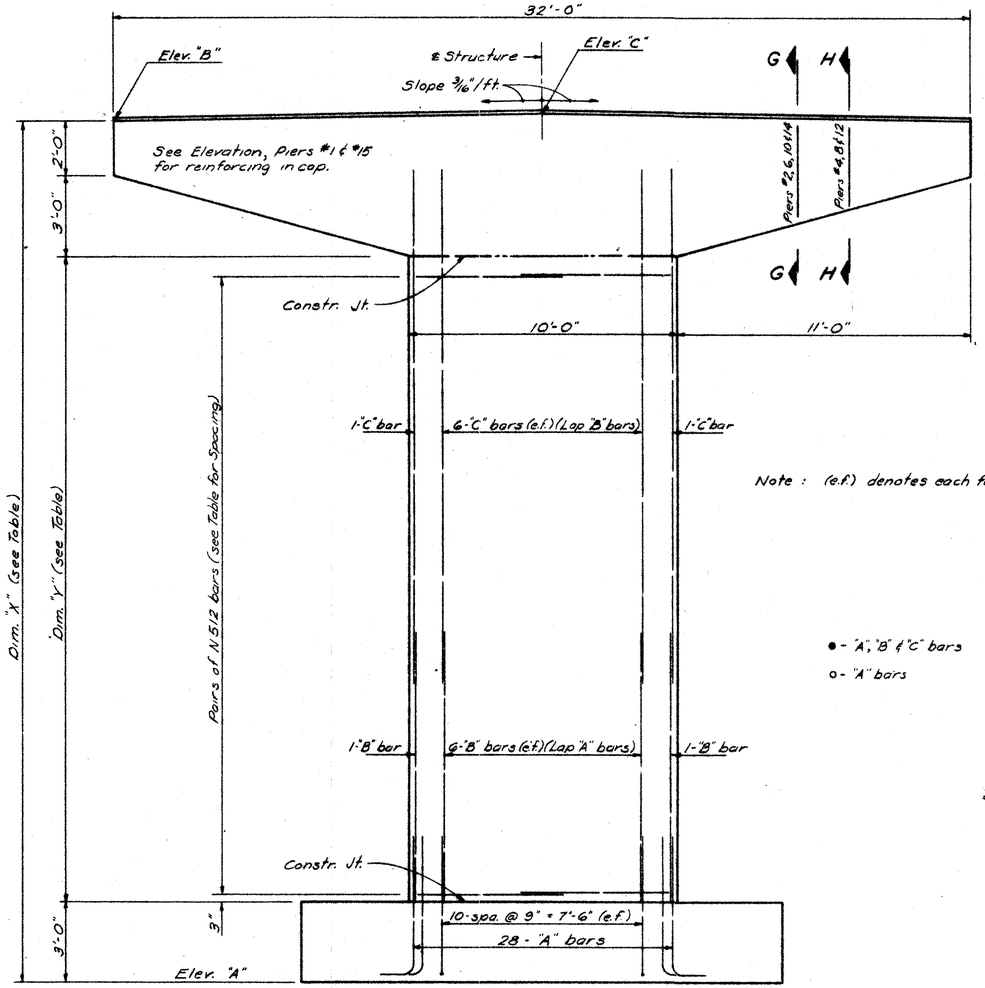
BRIDGE NOS. MAR-23D-0091 ~ PROSPECT STREET OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
Marion County
Sta. 586+47.97 to Sta. 594+45.68

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	RWT		HM	Insp. 6-11-65		

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

100
122

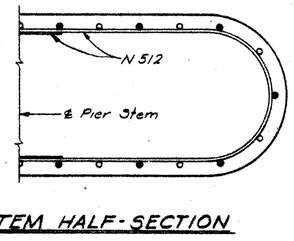
MARION COUNTY
MAR-23-11.05
MAR-23D-0.87



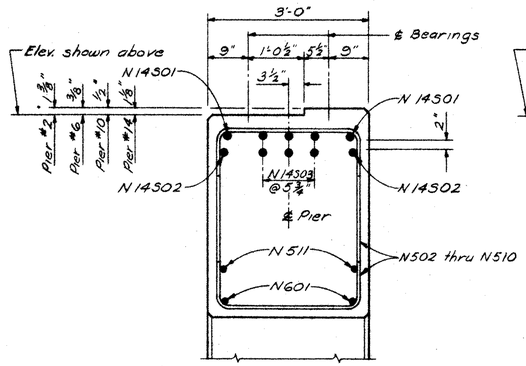
ELEVATION ~ PIERS #2, #4, #6, #8, #10, #12 & #14

Piers #2, #4, #6 & #8 Looking Ahead ; Piers #10, #12 & #14 Looking Rearward

TABLE OF ELEVATIONS, DIMENSIONS & REINFORCING STEEL									
Pier	Elev. "A"	Elev. "B"	Elev. "C"	Dim. "X"	Dim. "Y"	"A" bars	"B" bars	"C" bars	N 512 bar spacing
#2	970.92	990.75	991.00	19'-10"	11'-10"	N 903	N 602	—	6 spa. @ 1'-10" = 11'-0"
#4	970.72	997.14	997.39	26'-5"	18'-5"	N 904	N 703	—	9 spa. @ 2'-0" = 18'-0"
#6	970.98	1000.73	1000.98	29'-9"	21'-9"	N 901	N 810	N 603	11 spa. @ 1'-11" = 21'-1"
#8	969.54	1001.54	1001.79	32'-0"	24'-0"	N 905	N 906	N 603	12 spa. @ 1'-11" = 23'-0"
#10	970.63	999.55	999.80	28'-11"	20'-11"	N 901	N 810	N 603	10 spa. @ 2'-0" = 20'-0"
#12	970.04	994.79	995.04	24'-9"	16'-9"	N 904	N 704	—	8 spa. @ 2'-0" = 16'-0"
#14	969.55	988.80	989.05	19'-3"	11'-3"	N 903	N 602	—	5 spa. @ 2'-0" = 10'-0"

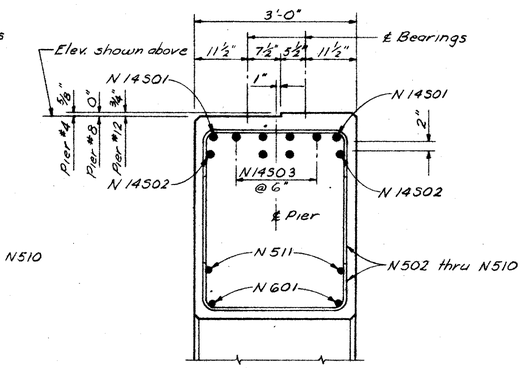


STEM HALF-SECTION



SECTION G-G

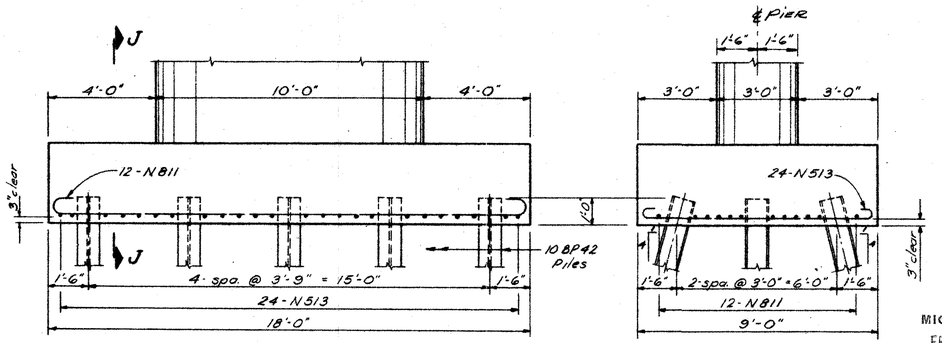
Piers #2, #6, #10 & #14



SECTION H-H

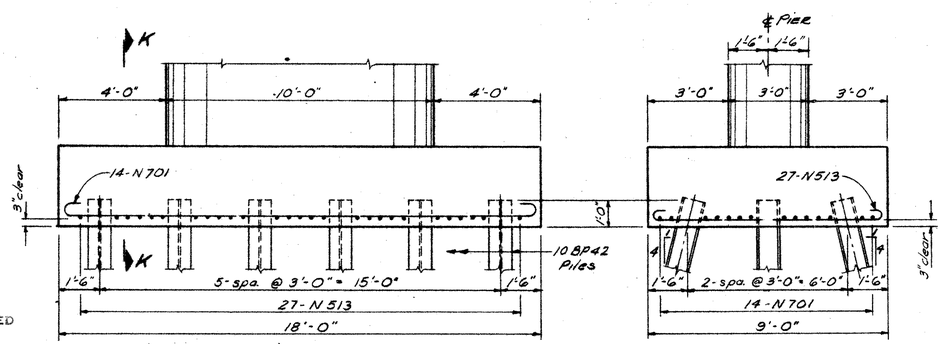
Piers #4, #8, & #12

BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BEAM SEATS SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF THE DOWEL ROD HOLES.



FOOTING ELEVATION ~ PIERS #2 & #14

SECTION J-J



FOOTING ELEVATION ~ PIERS #4, #6, #8, #10 & #12

SECTION K-K

℄ PIER STATIONS	
Pier	Station
#2	587+47.68
#4	588+47.27
#6	589+47.02
#8	590+46.81
#10	591+46.60
#12	592+46.28
#14	593+45.89

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

PIER DETAILS

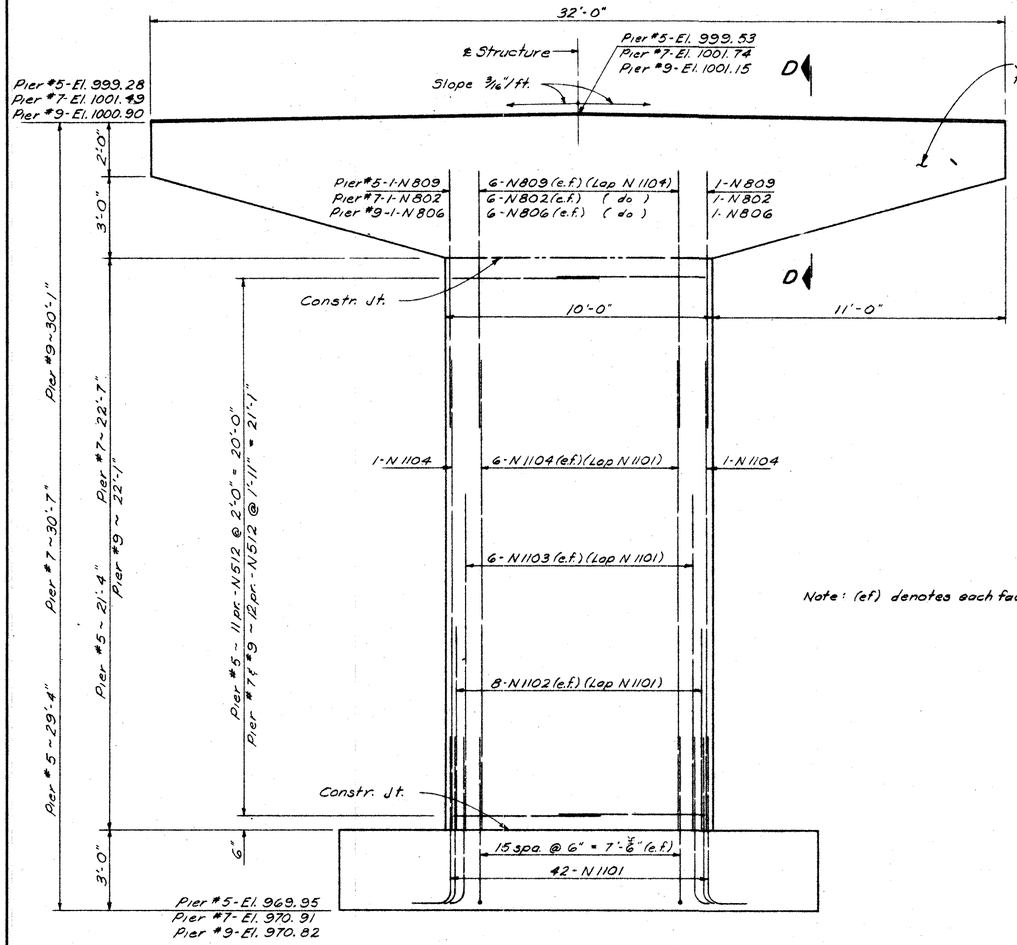
PIERS #2, #4, #6, #8, #10, #12 & #14
BRIDGE NO. MAR-23D-0091, PROSPECT ST.
OVER NEW YORK CENTRAL RAILROAD
AND ERIE-LACKAWANNA RAILROAD
Marion County
Sta. 586+47.97 to Sta. 594+45.68

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	RWT		HM	WJ	6-11-65	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

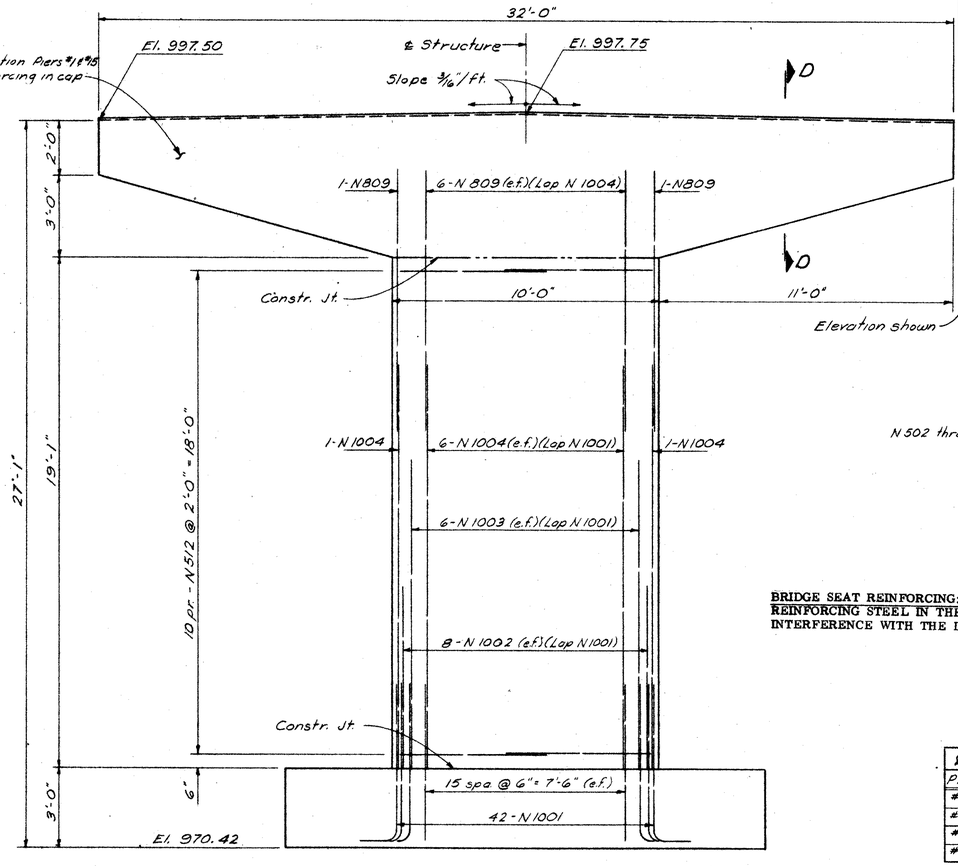
101
122

MARION COUNTY
MAR-23-11.05
MAR-230-0.87

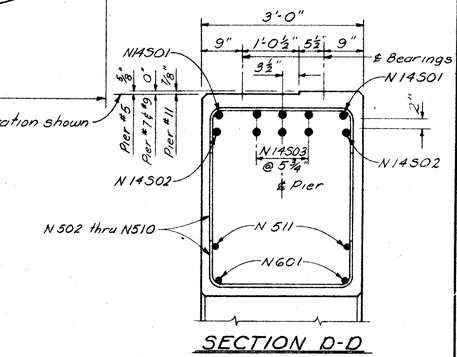


ELEVATION ~ PIERS #5, #7 & #9

Note: (ef) denotes each face



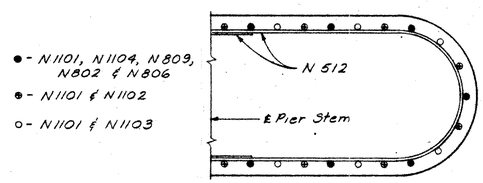
ELEVATION ~ PIER #11



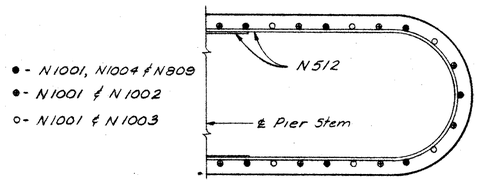
SECTION D-D

BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BEAM SEATS SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF THE DOWEL ROD HOLES.

℄ PIER STATIONS	
Pier	Station
#5	588+97.02
#7	589+97.02
#9	590+96.60
#11	591+96.56

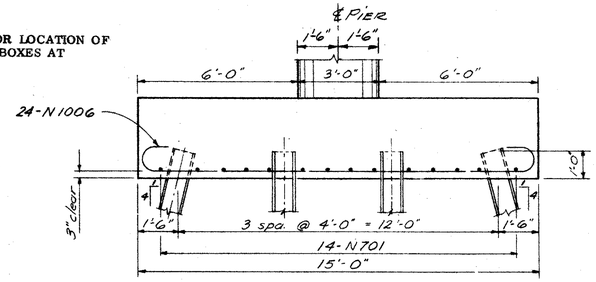


STEM HALF-SECTION ~ PIERS #5, #7 & #9

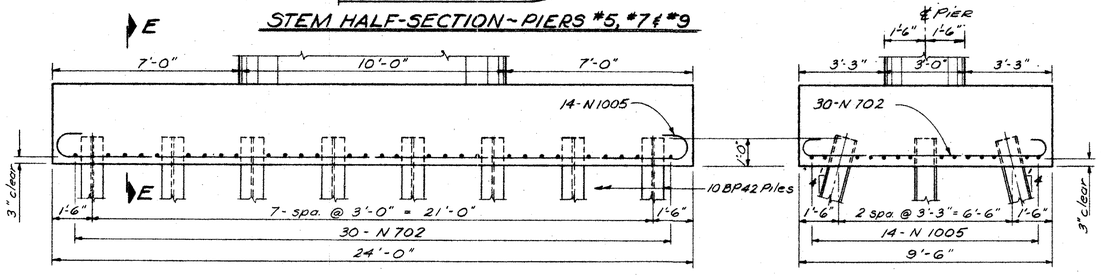


STEM HALF-SECTION ~ PIER #11

SEE "LIGHTING PLAN" FOR LOCATION OF CONDUIT AND JUNCTION BOXES AT PIER NO. 11.

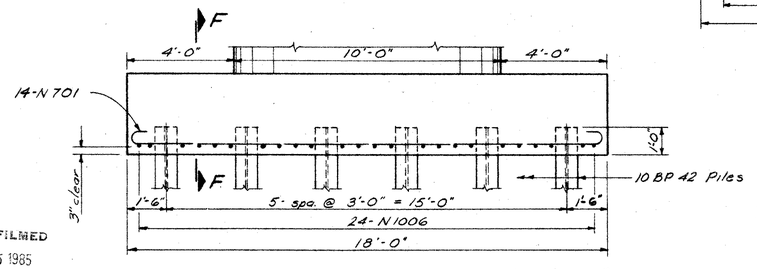


SECTION F-F



FOOTING ELEVATION ~ PIER #5

SECTION E-E



FOOTING ELEVATION ~ PIERS #7, #9 & #11

MICROFILMED
FEB 05 1985

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

PIER DETAILS
PIERS #5, #7, #9 & #11

BRIDGE NO. MAR-230-0091 ~ PROSPECT STREET OVER NEW YORK CENTRAL RAILROAD AND ERIE-LACKAWANNA RAILROAD
Marion County
Sta. 586+47.97 to Sta. 594+45.68

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	RWT		HM	Rvf	6-11-65	

HILLS CO.—10-5155—500—3-64

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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MAR-23-11.05
MAR-23D-0.87

LIGHTING NOTES

LAMPS

LAMPS TO BE FURNISHED FOR MERCURY-VAPOR LUMINAIRES SHALL BE MERCURY-VAPOR TYPE, 250 WATT, 10500 LUMENS, ASA CODE NO. H37-5K8 WITH CLEAR BT-28 BULB.

LAMPS TO BE FURNISHED FOR FLUORESCENT LUMINAIRES SHALL BE F72T12/CW/HO TYPE.

LUMINAIRES

MERCURY-VAPOR LUMINAIRES SHALL BE MOUNTED 30'-0" (+6") ABOVE THE CENTERLINE ELEVATION OF THE PROPOSED PAVEMENT AND/OR STRUCTURE. THEY SHALL BE ADJUSTED VERTICALLY AND HORIZONTALLY TO PROVIDE THE REQUIRED MOUNTING HEIGHT AND SPECIFIED ALIGNMENT WITH THE ROADWAY.

THE LUMINAIRE SHALL BE G.E. M400, WESTINGHOUSE OV-25 OR LINE MATERAL UNISTYLE 400 OR APPROVED EQUAL SUITABLE FOR USE ON 240 VOLT MULTIPLE CIRCUITS. IT SHALL CONSIST OF A CAST ALUMINUM HOUSING AND REFRACTOR HOLDER, A HINGED REFRACTOR HOLDER, A DETACHABLE REFLECTOR WITH GASKETING BETWEEN REFLECTOR AND REFRACTOR HOLDER AND THE SOCKET ENTRY. IT SHALL BE CAPABLE OF PRODUCING IES TYPE III DISTRIBUTION WITH A ASA CODE NO. H37-5K8 CLEAR MERCURY LAMP AND A HEAT RESISTANT GLASS REFRACTOR.

THE LUMINAIRE SHALL HAVE AN INTERNAL BALLAST OF THE REGULATED OUTPUT TYPE CAPABLE OF OPERATING FROM A MULTIPLE 240 VOLT, SINGLE PHASE, GROUNDED CIRCUIT. THE BALLAST SHALL BE PREWIRED TO THE LAMP SOCKET AND TERMINAL BOARD. THE BALLAST SHALL PROVIDE REGULATION WITH ±2% VARIATION IN LAMP WATTS WITH A ±13% VARIATION IN INPUT VOLTAGE.

FLUORESCENT LUMINAIRES SHALL BE SUITABLE FOR USE ON 240 VOLT MULTIPLE CIRCUITS. THE LUMINAIRES SHALL BE DESIGNED FOR 2 HIGH OUTPUT FLUORESCENT LAMPS AND HAVE A WATERTIGHT CONSTRUCTION. IT SHALL CONSIST OF AN EXTRUDED ALUMINUM HOUSING WITH CAST ALUMINUM END SECTIONS WELDED IN PLACE, A ONE PIECE CLEAR, RIBBED ACRYLIC PLASTIC REFRACTOR, ATTACHED TO THE HOUSING ON HINGES AND CLOSED BY LATCHES WHICH PERMIT EASY REMOVAL OF THE REFRACTOR, A SPECULAR REFLECTOR, COMPRESSIBLE SOCKETS, INTERNALLY BALLASTED WITH PREWIRED TERMINAL BOARD, A 3/4" CONDUIT OPENING IN HOUSING ENDS AND CAPABLE OF ACCEPTING F72T12/CW/HO FLUORESCENT LAMPS, AND WITH SHOCK ABSORBING SUSPENSION.

THE CONTRACTOR SHALL PROVIDE THE DIRECTOR WITH 6 COPIES OF ALL DATA NORMALLY SUPPLIED BY THE MANUFACTURER WITH EACH TYPE OF LUMINAIRE, PLUS ANY ADDITIONAL BALLAST WIRING DIAGRAMS, SOCKET ADJUSTMENT INSTRUCTIONS AND PARTS BULLETINS NECESSARY FOR THE SUCCESSFUL MAINTENANCE OF THAT PARTICULAR LUMINAIRE. EACH PIECE OF SUCH INFORMATION SHALL BE IDENTIFIED BY LABELING WITH THE PROJECT NUMBER AND YEAR.

LIGHTING STANDARD FOUNDATIONS

EXCAVATION FOR FOUNDATIONS SHALL BE COMPLETED AS NEARLY AS PRACTICABLE TO THE DIMENSIONS SHOWN FOR THE FOUNDATIONS. CONCRETE SHALL BE CLASS C AND FORMS WILL NOT BE REQUIRED FOR PORTIONS OF FOUNDATIONS EXTENDING MORE THAN 6 INCHES BELOW THE GROUND LINE UNLESS THE SOIL DOES NOT HAVE SUFFICIENT STABILITY TO STAY IN PLACE DURING THE PLACING OF CONCRETE.

REINFORCING STEEL SHALL BE PLACED AS SPECIFIED.

LIGHT STANDARD ANCHOR BOLTS SHALL BE INSTALLED IN THE FOUNDATIONS IN STRICT CONFORMANCE WITH APPROVED SHOP DRAWINGS AND ANCHOR BOLT SETTING TEMPLATES. THE TOPS OF FOUNDATIONS SHALL BE FINISHED SMOOTH AND LEVEL.

AFTER FORMS HAVE BEEN REMOVED, EXCAVATED SPACES AROUND THE FOUNDATIONS SHALL BE BACKFILLED WITH SUITABLE MATERIAL PLACED AND TAMPED IN THIN LAYERS.

GROUNDING

GROUNDING OF ELECTRICAL EQUIPMENT SHALL BE ACCOMPLISHED BY SOLID FURNISHING AND INSTALLING ONE OR MORE 1 INCH DIAMETER BY 10 FOOT MINIMUM LENGTH ~~WROUGHT~~ IRON RODS WITH DRIVING ~~S~~ POINTS, TO PROVIDE A MAXIMUM RESISTANCE OF 25 OHMS FOR GROUNDING OF EACH LIGHTING STANDARD AND SERVICE POLE.

ONE ROD SHALL BE DRIVEN IN THE BOTTOM OF THE DUCT TRENCH APPROXIMATELY ONE FOOT FROM THE POLE OR FOUNDATION. THE TOP OF THE ROD SHALL EXTEND APPROXIMATELY 4 INCHES TO 6 INCHES ABOVE THE BOTTOM OF THE TRENCH TO FACILITATE EXOTHERMIC WELDING OF THE INSULATED GROUND WIRE TO THE ROD. IF THE REQUIRED 25 OHM RESISTANCE IS NOT OBTAINED BY THE USE OF A SINGLE 10 FOOT LENGTH GROUND ROD, THE ORIGINAL ROD SHALL BE EXTENDED AND DRIVEN FURTHER INTO THE GROUND AND/OR ADDITIONAL DEEP DRIVEN SECTIONAL RODS EMPLOYED, DRIVEN 10 FEET APART, TO OBTAIN THE SPECIFIED RESISTANCE. ADDITIONAL RODS SHALL BE CONNECTED EITHER IN PARALLEL OR IN SERIES TO THE ORIGINAL ROD, USING NO. 1/0 AWG 7 STRAND SOFT ANNEALED 600 VOLT INSULATED COPPER CABLE. CABLES CONNECTING THE ADDITIONAL GROUND RODS SHALL BE ~~PROTECTED BY FURNISHING AND INSTALLING EITHER A 2" X 6" TREATED WOOD BOARD OR A 4" X 6"~~ CLASS C CONCRETE SLAB, APPROXIMATELY 4 INCHES ABOVE THE CABLE.

PULL BOXES — Standard 713.07 - Circular Concrete Pull Box and Cover.

~~PULL BOXES FOR~~ CONDUIT CROSSOVERS SHALL BE 18" ~~CLASS II, 7060 STEEL REINFORCED CONCRETE PIPE, MODIFIED AS DETAILED.~~ PULL BOX COVERS SHALL BE ~~PRECAST, STEEL REINFORCED~~, CONCRETE, CLASS C, USING AIR-ENTRAINED ~~PORTLAND CEMENT~~ 707.01 AND USING NO. 4 SIZE COARSE AGGREGATE. ~~TWO (2) GALVANIZED STEEL LIFTING EYES, RECESSED FLUSH WITH THE TOP OF THE COVER, SHALL BE~~ PROVIDED IN EACH PULL BOX COVER.

PAYMENT FOR PULL BOXES SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PULL BOX INSTALLED AND ACCEPTED, WHICH PRICE SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIAL, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

GROUNDING OF STRUCTURES AND RETAINING WALLS

CONDUITS AT STRUCTURE LIGHTING STANDARD FOUNDATIONS AND JUNCTION BOXES SHALL BE FURNISHED WITH GROUNDING BUSHINGS AND SHALL BE GROUNDED TO THE CIRCUIT GROUND WIRE TO COMPLETE THE GROUND AT THE FIRST LIGHTING STANDARD OR PULL BOX BEYOND THE STRUCTURE.

CONDUITS WITHIN THE RETAINING WALLS SHALL BE GROUNDED IN A SIMILAR MANNER.

EACH GROUND SHALL PROVIDE A MAXIMUM RESISTANCE OF 25 OHMS.

CONDUIT

CONDUIT OF THE SIZE SPECIFIED SHALL BE INSTALLED AT LOCATIONS DESIGNATED BY THE PLANS OR AS DIRECTED.

UNDERGROUND CONDUITS ARE TO BE ENCASED IN CONCRETE, THE CONCRETE ENCASEMENT SHALL BE CLASS E AND SHALL HAVE A MINIMUM THICKNESS OF 3 INCHES.

BENDS IN CONDUIT SHALL BE USED ONLY WHEN ABSOLUTELY NECESSARY. THE TOTAL BENDING BETWEEN ADJACENT JUNCTION BOXES AND/OR PULL BOXES SHALL NOT EXCEED 180 DEGREES AND THE TOTAL BENDING BETWEEN ADJACENT LIGHT STANDARDS SHALL NOT EXCEED 270 DEGREES. THE RADIUS OF ANY FIELD BEND SHALL BE NOT LESS THAN 12 TIMES THE INTERNAL DIAMETER OF THE CONDUIT. BENDS IN CONDUIT SHALL BE SO MADE THAT THE PROTECTIVE COVERING WILL NOT BE INJURED AND THE INTERNAL DIAMETER AT THE BEND WILL NOT BE REDUCED.

ALL RIGID FERROUS METAL CONDUIT, AND FITTINGS AND APPURTENANCES THERETO, SHALL BE GALVANIZED INSIDE AND OUTSIDE. THEY SHALL BE OF SUCH SIZE THAT THE WIRES CAN BE EASILY DRAWN INTO THE CONDUIT WITHOUT EXCESSIVE PULL. ALL CUT ENDS OF METALLIC CONDUIT SHALL BE REAMED TO REMOVE ROUGH EDGES. CUT THREADS SHALL BE PAINTED WITH A ZINC RICH BASE PAINT IN SUCH A MANNER THAT THERE WILL BE NO UNPROTECTED SURFACES AND THE JOINT WILL BE WATERTIGHT. ALL CONDUIT ON A STRUCTURE SHALL BE SECURELY FASTENED OR BUILT INTO THE STRUCTURE AND PROPERLY DRAINED USING A T COUPLING AT THE LOW POINT OF EACH CONCRETE ENCASED RUN, UNLESS THE CONDUIT IS SLOPED TO DRAIN INTO JUNCTION BOXES. IN THE LATTER CASE, JUNCTION BOXES SHALL BE PROVIDED WITH DRAINS. EXPANSION FITTINGS SHALL BE PROVIDED AT ALL EXPANSION JOINTS ON STRUCTURES, AND THEY SHALL BE PROVIDED WITH SUITABLE COPPER JUMPERS TO ASSURE ELECTRICAL CONTINUITY OF THE GROUNDING SYSTEM.

ALL METALLIC CONDUIT SHALL HAVE ELECTRICAL CONTINUITY AND BE ADEQUATELY GROUNDED. THE ENDS SHALL BE FITTED WITH APPROVED BUSHINGS AND ALL BOXES, FITTINGS, EXPANSION JOINTS AND OTHER APPURTENANCES TO THE CONDUIT SHALL BE SO DESIGNED AND CONNECTED THAT ADEQUATE ELECTRICAL CONTINUITY FROM ONE CONDUIT TO ANOTHER WILL BE SECURED.

THE CONTRACTOR SHALL CHECK EACH CONDUIT RUN BY "RODDING" OR BY PUSHING A MANDREL THROUGH THE CONDUIT RUN. ANY OBSTRUCTIONS WHICH MAY DEVELOP IN THE CONDUIT SHALL BE REMOVED.

TERMINAL POINTS OF ALL CONDUITS CONTAINING CONDUCTOR WIRE OR CABLE, SHALL BE COMPLETELY SEALED IN AN APPROVED MANNER WITH A REMOVABLE SEALING COMPOUND WHICH IS COMPATIBLE WITH THE CABLE JACKET, THE INSULATION, AND THE CONDUIT MATERIAL.

CONDUIT SHALL CONFORM TO ASA SPECIFICATION C80.1 AND SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A 53. IN ADDITION, AN ENAMEL OR EQUIVALENT PROTECTIVE COATING CONFORMING TO ASA SPECIFICATION C 80.1 SHALL BE APPLIED TO THE INTERIOR SURFACE OF ALL CONDUIT. ALL EXPOSED CONDUIT SHALL FURTHER MEET THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 707.08

STRUCTURE JUNCTION BOXES

JUNCTION BOXES USED IN THE BRIDGE STRUCTURE AND RETAINING WALLS SHALL BE GRAY IRON CASTINGS ASTM A 48, HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 123. JUNCTION BOXES SHALL BE OF THE SIZE SPECIFIED AND HAVE A WALL THICKNESS SUCH THAT FIVE FULL THREADS OF THE CONDUIT SHALL ENGAGE THE THREADED HOLES IN THE BOX. BOSSES MAY BE EMPLOYED TO OBTAIN THE FIVE THREADS. BOXES SHALL BE PROVIDED WITH 3/4" RIGID GALVANIZED STEEL CONDUIT DRAINS.

WIRE AND CABLE - 625.14

WIRE AND CABLE INSTALLATION SHALL CONFORM TO THE ABOVE SPECIFICATIONS AND SHALL BE OF THE SIZES AND TYPES SHOWN HEREIN.

CIRCUIT CABLE SHALL BE SIZE NO. 6AWG, STRANDED, AND SHALL MEET THE REQUIREMENTS OF FAA SPECIFICATION L-824 FOR 600 V. TYPE A CABLE.

CABLE INSTALLED IN LIGHT STANDARDS AND BRACKET ARMS AND IN 3/4" CONDUIT FOR FLUORESCENT LUMINAIRES SHALL BE SIZE NO. 1 AWG, STRANDED, AND SHALL MEET THE REQUIREMENTS OF FAA SPECIFICATION L-824 FOR 600 V., TYPE A CABLE.

FIELD WRAPPED CABLE SPLICES SHALL NOT BE USED ON THIS PROJECT. WHERE CABLE CONNECTIONS ARE REQUIRED, THEY SHALL BE PERMITTED ONLY IN PULL BOXES, JUNCTION BOXES, OR WITHIN LIGHT STANDARDS AND SHALL BE ACCOMPLISHED BY APPROVED, FIELD APPLIED, WATERPROOF CONNECTOR KITS WHICH ARE CAPABLE OF BEING DISASSEMBLED WITHOUT DAMAGE TO EITHER CABLE OR CONNECTOR KIT. IN-LINE CONNECTOR KITS SHALL BE ~~ESNA~~ CONNECTOR KIT ~~STYLE 51 OR APPROVED~~ Type I ~~EQUAL~~. WHERE "Y" TYPE CABLE SPLICES ARE REQUIRED IN PULL BOXES, AN UNFUSED "Y" TYPE CONNECTOR KIT (~~ESNA~~ CONNECTOR KIT ~~STYLE 84 OR APPROVED EQUAL~~) SHALL BE EMPLOYED. Type IV, 713.15

CONNECTIONS BETWEEN CIRCUIT CABLE AND POLE AND BRACKET CABLE THAT OCCUR IN LIGHT STANDARDS OR JUNCTION BOXES SHALL EMPLOY FUSED AND UNFUSED "Y" TYPE CONNECTORS AND SHALL BE ~~ESNA~~ CONNECTOR KITS ~~STYLE 82 OR STYLE 83~~ AS APPLICABLE ~~OR APPROVED EQUAL~~. FUSES USED IN FUSABLE CONNECTOR KITS SHALL BE 600 VOLT, 6 AMP. MIDGET TYPE FUSES (SEE SCHEMATIC WIRING DIAGRAM). Type II or Type III, 713.15

THE CONTRACTOR SHALL FURNISH ALL NECESSARY EQUIPMENT AND DEMONSTRATE TO THE SATISFACTION OF THE ENGINEER THAT ALL CIRCUITS ARE FREE OF SHORT CIRCUITS AND UNSPECIFIED GROUNDS, AND ARE PROPERLY CONNECTED AND OPERABLE. SYSTEM AND EQUIPMENT GROUNDING SHALL BE TESTED BY APPROVED METHOD IN THE PRESENCE OF THE ENGINEER.

PAYMENT FOR WIRE AND CABLE SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAL FOOT FOR EACH SIZE AND TYPE OF CABLE FURNISHED AND INSTALLED, WHICH PRICE SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIALS, TESTING OF CIRCUIT, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

SERVICE POLE

THE CONTRACTOR SHALL FURNISH AND INSTALL SERVICE POLES AT THE APPROXIMATE LOCATIONS DESIGNATED IN THE PLANS. FINAL LOCATION OF SERVICE POLES SHALL BE DETERMINED IN THE FIELD SUBJECT TO APPROVAL BY THE ENGINEER AND THE POWER COMPANY.

POLES SHALL BE A.S. CLASS 4, 35'-0" SOUTHERN YELLOW PINE, FULL "PENTA" TREATED, 8 POUNDS PER CUBIC FOOT, A.W.P.A. SPECS.

POLES SHALL BE INSTALLED COMPLETE WITH ALL THE EQUIPMENT AND APPURTENANCES AS SHOWN ON THE TYPICAL SERVICE POLE DETAIL. SEE SHEET 104.

(A) FEEDER CABLE SHALL BE NO. 2 AWG STRANDED, AND SHALL BE SI 58006, OR EQUIVALENT AS BY ROME, PHELPS DODGE OKONITE OR APPROVED EQUAL.

(B) CONDUIT FOR FEEDER CABLE AND CIRCUIT CABLE SHALL BE 2" GALVANIZED STEEL CONDUIT.

(C) INSULATED GROUND WIRE SHALL BE NO. 6 AWG AND SHALL MEET THE REQUIREMENTS OF F.A.A. SPECIFICATION L-824, TYPE A 600 VOLTS. THE GROUND WIRE SHALL BE EXOTHERMIC WELDED TO A 1" X 10'-0" SOLID WROUGHT IRON GROUND ROD. WELD SHALL BE PAINTED WITH 2 COATS OF GLYPTAL INSULATING ENAMEL AND THE EXPOSED WIRE INSULATION TAPED.

(D) THE COMBINATION LIGHTING CONTACTOR AND SWITCH SHALL BE A 60 AMP, 240 VOLTS, 3 POLE COMBINATION FUSED SWITCH AND CONTACTOR. THE CONTACTOR SHALL HAVE A 120 V. 60 CYCLE COIL.

THE ENCLOSURE FOR THE COMBINATION LIGHTING CONTACTOR AND SWITCH SHALL BE NEMA 4, WATERTIGHT, AISA 302 OR 303 STAINLESS STEEL WITHOUT HUBS, HAVING 3 MOUNTING HOLES IN TOP MOUNTING FLANGE AND 3 MOUNTING SLOTS IN BOTTOM MOUNTING FLANGE. IT SHALL HAVE A FLANGE MOUNTED DISCONNECT OPERATOR CAPABLE OF BEING LOCKED IN EITHER POSITION AND SHALL HAVE A COVERLOCK MECHANISM. SPACE SHALL BE PROVIDED FOR KNOCK OUT FOR DIRECT WIRING INTO STRUCTURE.

THE COMBINATION LIGHTING CONTACTOR AND SWITCH SHALL BE SQUARE D COMPANY CLASS 8903 TYPE W 939 FA 610 B OR GENERAL ELECTRIC CO., COLUMBUS ELECTRIC WORKS OR APPROVED EQUAL
IN ADDITION TO ABOVE, A SELECTOR SWITCH FOR "HAND-OFF'AUTO" SHALL BE FIELD MOUNTED ON THE ENCLOSURE TO PROVIDE FOR PILOT CONTROL OF THE CIRCUIT.

(E) A PHOTO ELECTRIC CONTROLLED RELAY FOR ACTIVATING THE CONTACTOR COIL SHALL BE MOUNTED ON THE SERVICE POLE. THE PHOTOELECTRIC CONTROL SHALL BE A HERMETICALLY SEALED CADMIUM-SULPHIDE TYPE CONTROL, SUITABLE FOR USE ON A 120 VOLT CIRCUIT. WIRE USED FOR THE CONTROL CIRCUIT BETWEEN THE PHOTOELECTRIC CONTROL AND THE CONTACTOR COIL SHALL BE NO. 12 AWG STRANDED COPPER, RUBBER INSULATED, 600 VOLTS.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH SERVICE POLE FURNISHED AND INSTALLED, COMPLETE WITH ALL EQUIPMENT AND APPURTENANCES AS SHOWN IN THE DETAIL AND DESCRIBED ABOVE, WHICH PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIALS INCLUDING POLE, CONDUIT, FEEDER CABLE, COMBINATION CONTACTOR AND SWITCH, PHOTOELECTRIC CONTROL AND CONTROL CIRCUIT WIRE, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

BASIS OF PAYMENT OF ELECTRICAL EQUIPMENT

LUMINAIRES, LAMPS, LIGHT STANDARDS, JUNCTION BOXES, PULL BOXES AND CONNECTOR KITS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR EACH, OF THE RESPECTIVE ITEMS, WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR THE FURNISHING AND INSTALLING THE RESPECTIVE ITEMS, INCLUDING ALL LABOR, TOOLS, NECESSARY MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THESE ITEMS.

LIGHT STANDARD FOUNDATIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EACH, WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR THE FURNISHING AND PLACING OF CONCRETE, REINFORCING STEEL, ANCHOR BOLTS, 1/2 INCH EMT FOR GROUND WIRE, EXCAVATION, BACKFILL, DISPOSAL OF SURPLUS MATERIAL AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

CONDUIT SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF THE SIZE SPECIFIED, WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND INSTALLING ALL CONDUIT, FITTINGS AND APPURTENANCES, JOINTS, BENDS, GROUNDS AND CONCRETE ENCASEMENT WHERE SPECIFIED AND FOR ALL EXCAVATION, BACKFILL, DISPOSAL OF SURPLUS EXCAVATION, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

PAYMENT FOR GROUNDING SHALL BE INCLUDED IN THE RESPECTIVE ITEMS OF WORK REQUIRING GROUNDING. NO ADDITIONAL PAYMENT SHALL BE MADE FOR GROUNDING.

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LIGHTING NOTES (Cont'd.)

STEEL LIGHT STANDARDS – 713.01

THESE SPECIFICATIONS COVER MATERIALS AND MANUFACTURING METHODS TO BE USED IN THE FABRICATION OF STEEL LIGHT STANDARDS.

SHAFTS

(A) SHAFTS SHALL BE TAPERED STEEL TUBES OF 11 GAUGE AS SPECIFIED AND THE STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 P.S.I. AFTER ALL FABRICATING OPERATIONS HAVE BEEN COMPLETED.

(B) THERE SHALL BE ONLY ONE LONGITUDINAL, AUTOMATICALLY ELECTRICALLY WELDED JOINT AND NO TRANSVERSE JOINTS OR WELDS.

(C) THE SHAFT SHALL HAVE A CONTINUOUS TAPER OF APPROXIMATELY 0.14 INCHES PER FOOT, THE WELD SHALL BE FINISHED TO FORM A SMOOTH OUTSIDE SURFACE, THE WALL SHALL BE OF UNIFORM THICKNESS THROUGHOUT (INCLUDING THE WELD AREA) AND FREE FROM FLAT SPOTS.

(D) THE SHAFTS SHALL CONFORM TO THE MINIMUM REQUIREMENTS FOR DEFLECTION AND PERMANENT SET AS TABULATED FOR THE RESPECTIVE POLE SIZES ON THE PLANS. THE LOAD FOR DETERMINING DEFLECTION AND PERMANENT SET SHALL BE APPLIED 18 INCHES FROM THE TOP END OF THE POLE AND MEASUREMENTS SHALL BE TAKEN AT THIS POINT.

(E) FITTINGS SHALL BE AS DETAILED ON THE PLANS AND THE APPROVED SHOP DRAWINGS.

ANCHOR TYPE BASES

(A) ANCHOR BASES SHALL BE ONE PIECE CAST STEEL CONFORMING TO SECTION 713.01

(B) THE ANCHOR BASES SHALL BE SECURED TO THE LOWER END OF THE SHAFT BY TWO CONTINUOUS ELECTRIC ARC WELDS. THE BASE SHALL TELESCOPE THE SHAFT WITH ONE WELD AT THE LOWER END OF THE SHAFT AND THE OTHER WELD AT THE TOP OF THE BASE. THE TWO WELDS SHALL BE AT LEAST 1 1/2 INCHES APART AND THE WELDED CONNECTION SHALL DEVELOP THE FULL STRENGTH OF THE ADJACENT SHAFT SECTION.

TRANSFORMER TYPE BASES

(A) TRANSFORMER BASES MEETING THE DIMENSIONAL REQUIREMENTS OF THE PLANS AND APPROVED SHOP DRAWINGS SHALL HAVE SIDES MADE FROM NOT LESS THAN 7 U.S. STANDARD GAUGE HOT ROLLED, BASIC OPEN HEARTH, CARBON STEEL WITH A MINIMUM YIELD OF 30,000 P.S.I. AND A MINIMUM TENSILE STRENGTH OF 52,000 P.S.I. THE TOP AND BOTTOM PLATES SHALL BE 3/4 INCH OR 1 1/4 INCHES THICK AS SPECIFIED AND SHALL BE MADE FROM STEEL CONFORMING TO ASTM A 36.

(B) THE TRANSFORMER BASE SHALL BE FASTENED TO THE SHAFT ANCHOR BASE BY MEANS OF FOUR 1-INCH DIAMETER HEX HEAD MACHINE BOLTS AND NUTS CONFORMING TO ASTM A 307 AND GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ANCHOR BOLTS

(A) ANCHOR BOLTS CONFORMING TO THE DIMENSIONS SHOWN ON THE PLANS AND APPROVED SHOP DRAWINGS SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF ASTM A 307.

(B) THE THREADED ENDS OF THE ANCHOR BOLTS AND THE NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153, WITH GALVANIZING EXTENDING FROM 1 to 4 INCHES BEYOND THE THREADS.

BRACKET ARMS

(A) THE BRACKET ARM ASSEMBLY SHALL CONSIST OF AN UPPER AND LOWER MEMBER SECURELY JOINED BY MEANS OF A VERTICAL STRUT OR STRUTS. THE BRACKET ARMS SHALL BE MADE OF STEEL PIPE OF THE SIZE SPECIFIED AND CONFORMING TO ASTM A 53, SCHEDULE 40.

(B) BRACKET ARMS AND THEIR SHAFT ATTACHMENTS SECURELY ATTACHED TO A RIGID SUPPORT, IN THEIR NORMALLY USED POSITION, SHALL NOT EXCEED THE MAXIMUM DEFLECTIONS PERMITTED WHILE SUSTAINING APPLIED LOADS OF THE SIZE AND METHOD OF APPLICATION SHOWN AS FOLLOWS:

APPLIED LOAD AND DIRECTION OF PULL	POINT OF LOAD APPLICATION AND DEFLECTION MEASUREMENTS	MAXIMUM DEFLECTION
50 LBS. HORIZONTAL WITH SIMULTANEOUS 30 LBS. VERTICAL	3 INCHES FROM LUMINAIRE END	HORIZONTAL DEFLECTION - 5 PERCENT OF THE ARM LENGTH
100 LBS. VERTICAL	3 INCHES FROM LUMINAIRE END	VERTICAL DEFLECTION - 5 1/2* PER CENT OF THE ARM LENGTH.
250 LBS. VERTICAL	3 INCHES FROM LUMINAIRE END	NO COLLAPSE OR RUPTURE OF ANY PORTION OF THE LIGHT STANDARD ASSEMBLY.

* THE 5 1/2 PERCENT INCLUDES A MAXIMUM ALLOWANCE OF 1/2 OF 1 PERCENT OF THE ARM LENGTH FOR TESTING METHODS AND PERMANENT SET.

DEFLECTION AND PERMANENT SET DEFINED

(A) DEFLECTION IS THE TOTAL DISPLACEMENT OF THE SHAFT OR LUMINAIRE BRACKET ARM, AT THE POINT OF TEST LOAD APPLICATION, BETWEEN ITS INITIALLY UNLOADED AND LOADED POSITIONS.

(B) PERMANENT SET IS THE TOTAL DISPLACEMENT OF THE SHAFT AT THE POINT OF TEST LOAD APPLICATION BETWEEN ITS INITIALLY UNLOADED POSITION AND THE FINAL UNLOADED POSITION AFTER APPLICATION OF TEST LOADS.

WELDING

WELDERS AND WELDING OPERATORS SHALL BE PREQUALIFIED ACCORDING TO THE INSTRUCTIONS GIVEN IN "INSTRUCTIONS FROM THE LABORATORY, PRE-QUALIFICATION OF ELECTRIC ARC WELDERS AND WELDING OPERATORS." WELDING EQUIPMENT SHALL BE OF SUCH CAPACITY, DESIGN AND CONDITION AS TO PRODUCE FIRST CLASS WELDS. ALL SURFACES TO BE WELDED SHALL BE SMOOTH, UNIFORM AND FREE FROM FINS, TEARS, AND OTHER DEFECTS WHICH MIGHT ADVERSELY AFFECT THE QUALITY OF THE WELDS. SURFACES TO BE WELDED SHALL BE FREE FROM LOOSE SCALE, SLAG, RUST, MOISTURE, GREASE, PAINT AND OTHER FOREIGN MATERIAL. MILL SCALE SHALL BE REMOVED BY POWER BRUSHING, BLASTING OR GRINDING.

GALVANIZING

ALL STEEL STANDARDS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A 123.

TESTS

THE DIRECTOR MAY REQUIRE THE APPROVAL OF STANDARDS TO BE BASED ON COMPLETE TESTING, INCLUDING DESTRUCTIVE TESTING AT THE FACTORY PRIOR TO DELIVERY. DESTRUCTIVE TESTS SHALL BE SUPERVISED BY A REPRESENTATIVE OF THE DEPARTMENT AND SHALL BE PERFORMED ON STANDARDS SELECTED AT RANDOM FROM A LOT PRODUCED FOR THE DEPARTMENT. APPROVAL OF SUBSEQUENTLY PRODUCED STANDARDS WILL GENERALLY BE BASED ON DEPARTMENTAL EVALUATION OF MILL TESTS AND FACTORY CERTIFIED TEST RESULTS ON THE MATERIALS AND FABRICATED COMPONENTS.

CERTIFICATIONS

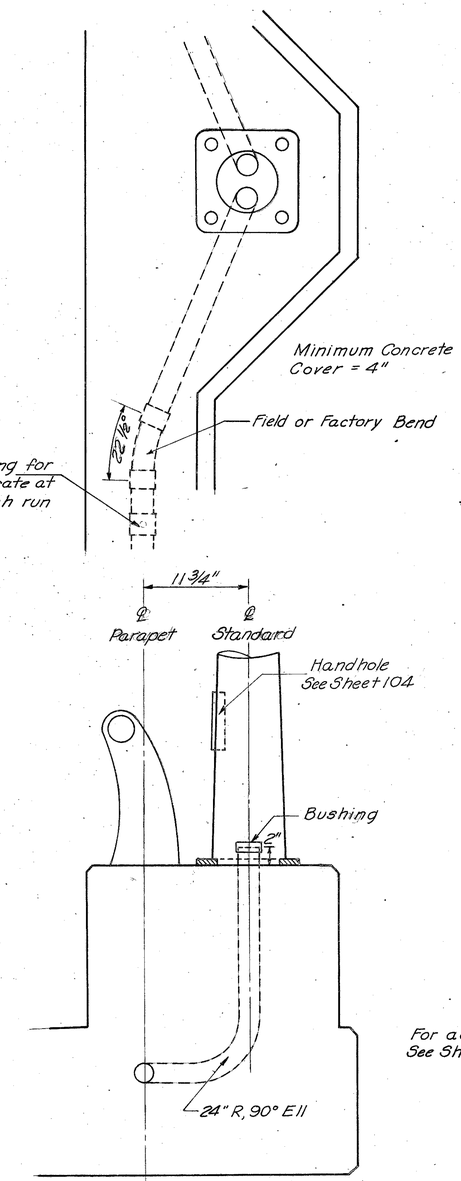
CERTIFIED COPIES IN TRIPLICATE OF THE CHEMICAL AND PHYSICAL PROPERTIES OF ALL MATERIALS INCORPORATED IN THE STANDARDS AND ACCESSORIES, OF THE TEST RESULTS OBTAINED FROM THE DEFLECTION AND PERMANENT SET TESTS REQUIRED BY THIS SPECIFICATION AND OF THE WELDER QUALIFICATION TESTS SHALL BE FURNISHED THE LABORATORY. CERTIFICATIONS ARE SWORN STATEMENTS MADE BY A PERSON HAVING LEGAL AUTHORITY TO ACT FOR THE COMPANY SUPPLYING THE MATERIALS, PERFORMING THE TESTS OR QUALIFYING THE WELDERS AND SHALL INCLUDE THE DEPARTMENT PROJECT NUMBER TO WHICH THEY PERTAIN.

STANDARDS OF THE SPECIFIED TYPE AND SIZES SHALL BE ERECTED UPON THE COMPLETED CONCRETE FOUNDATIONS AND PLUMBED OR ALIGNED BY USING METAL SHIMS. AFTER ERECTION EACH STANDARD SHALL BE ADEQUATELY GROUNDED.

AFTER ERECTION, GALVANIZED STANDARDS SHALL BE INSPECTED FOR DEFECTS IN THE GALVANIZED SURFACES. MINOR SCRATCHES SHALL BE GIVEN TWO COATS OF AN APPROVED ZINC RICH BASE PAINT. THE SECOND COAT SHALL NOT BE APPLIED UNTIL AFTER THE FIRST COAT HAS COMPLETELY DRIED. STANDARDS HAVING MAJOR SCRATCHES OR DEFECTS IN THE GALVANIZED SURFACES WILL NOT BE ACCEPTED.

MECHANICAL PROPERTIES FOR LIGHT STANDARDS

POLE DESIGNATION	SHAFT SIZE	ANCHOR BOLT Dia. Bolt Circle	ANCHOR BOLT Proj'n above ground	Bracket Arm Length	11 GAUGE POLE Elastic Defl. Plate Inches per 100 Lbs.	at 2/3 yield strength Load Lbs.	at 2/3 yield strength Total Defl. Inches	at 2/3 yield strength Perm. Set Inches	at yield stress Load Lbs.	at yield stress Total Defl. Inches	at yield stress Perm. Set Inches	Type of Base
11ABB245	8.0 × 4.57 × 24'-6"	11"	3 1/4"	8'-0"	1.64	629	10.80	.50	949	17.50	2.00	Anchor
11T15B25	8.5" × 5.00" × 25'-0"	17.25"	3 1/4"	15'-0"	1.43	698	10.48	.50	1047	16.97	2.00	Transf.
11T15B27TB	9.0" × 5.11" × 27'-9"	17.25"	3 1/2"	15'-0"	1.72	703	12.59	.50	1054	20.44	2.31	Transf.
11T15B30	10.0" × 5.80" × 30'-0"	17.25	3 1/4"	15'-0"	1.57	804	13.12	.50	1206	21.32	2.39	Transf.
11T15B	8.5 × 4.80 × 37'-0"	17.25	3 1/4"	15'-0"	1.64	461	24.00	.50	692	39.30	4.00	Transf.



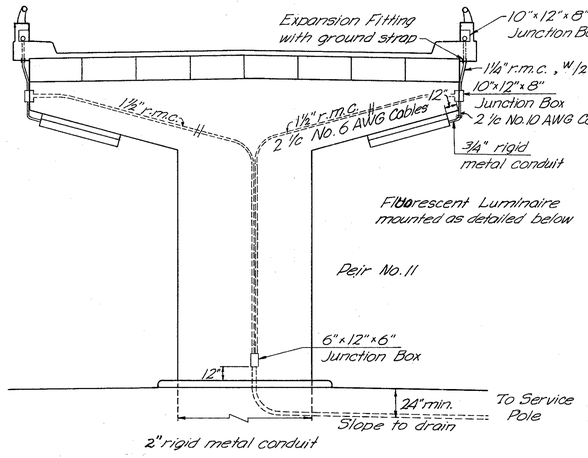
For additional details See Sheets 82 & 104.

STRUCTURE CONDUIT DETAILS

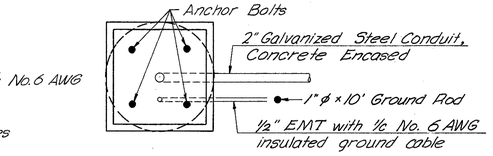
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

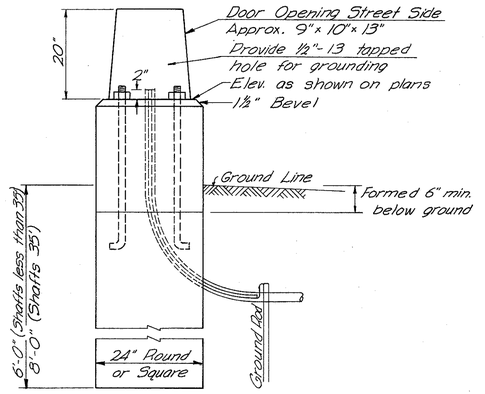
104/122

MAR - 23 - 11.05
MAR - 23D - 0.87

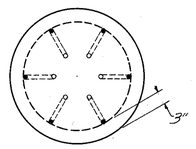


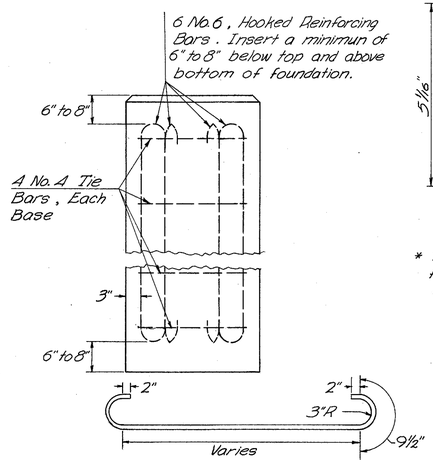
LIGHTING CIRCUIT CABLE ENTRANCE TO STRUCTURE



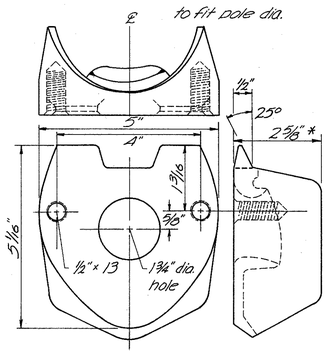


FOUNDATION DETAIL

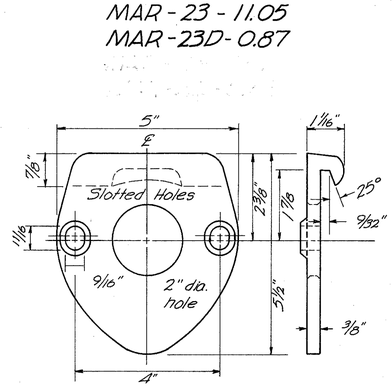




FOUNDATION REINFORCING BARS

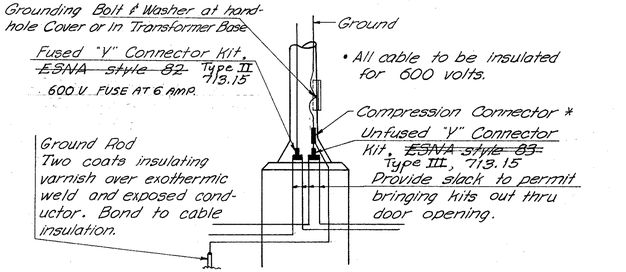


* Steel castings shall be modified to fit shaft diameter. (Dimensions given are to fit pole dia. 3.9" to 4.3")



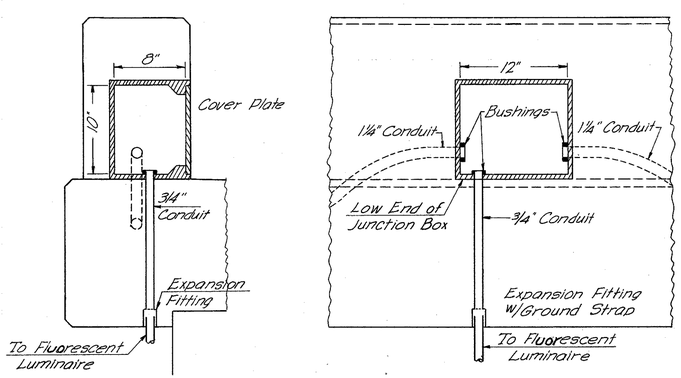
Pole Plates and Bracket Arm Plates shall have their principal dimensions such that the Bracket Arm Assemblies are interchangeable.

CAST STEEL POLE & BRACKET DETAILS

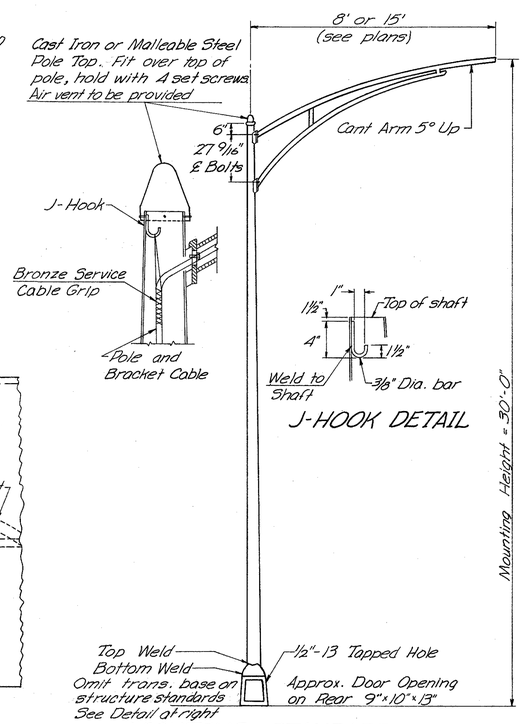


* For Standards on Structure, omit ground rod; See lighting notes
For Fluorescent Luminaires. Place connector kit inside junction box

ELECTRICAL WIRING AT LIGHT POLE

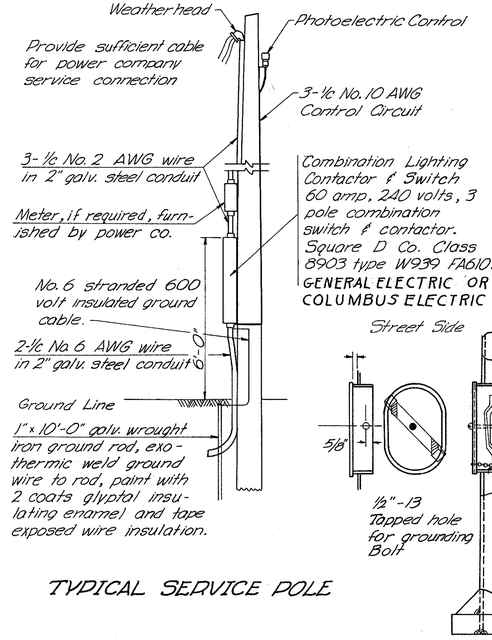


FLUORESCENT LUMINAIRE MOUNTING

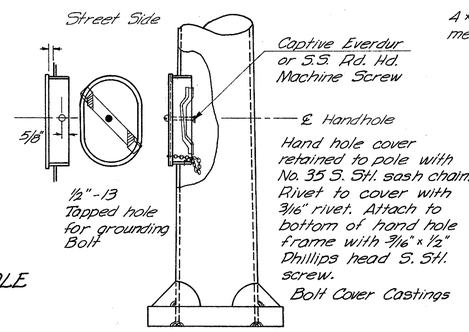


LIGHTING STANDARD

J-HOOK DETAIL

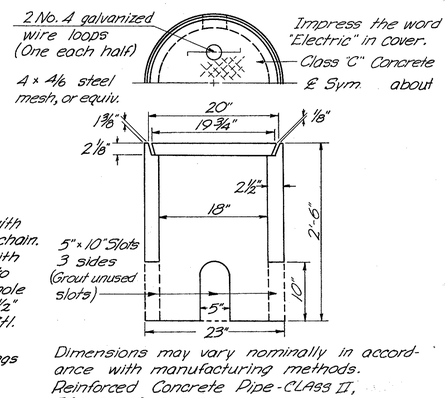


TYPICAL SERVICE POLE



HAND HOLE with COVER for STRUCTURE MOUNTED STANDARDS

JUNCTION BOX DETAILS



Dimensions may vary nominally in accordance with manufacturing methods. Reinforced Concrete Pipe - CLASS II, 706.02 MODIFIED.

PULL BOX DETAIL
Standard 713.07

LIGHTING DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

105
12.2

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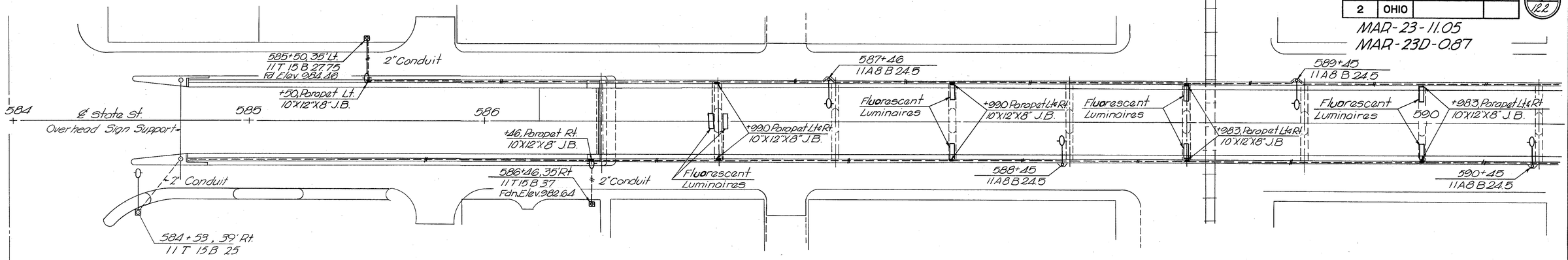

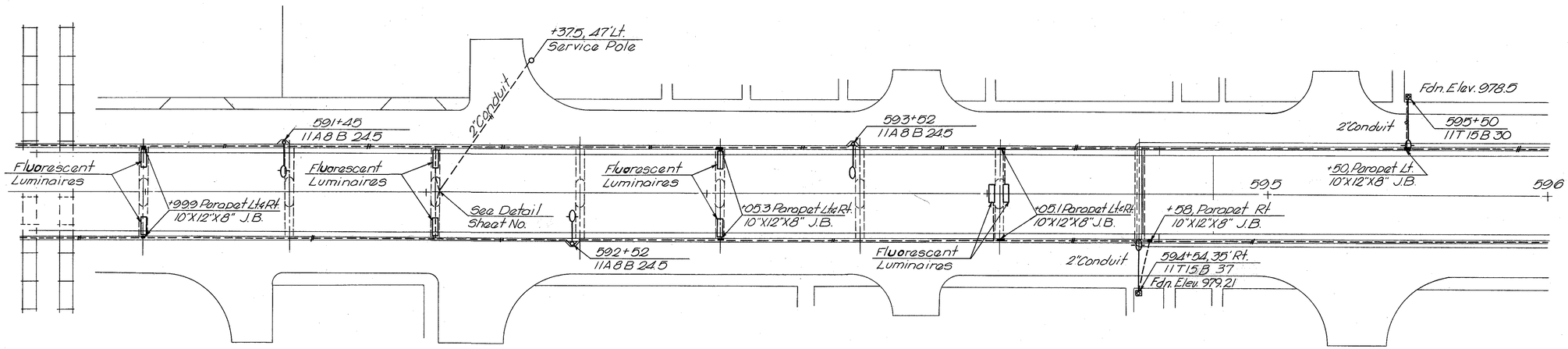

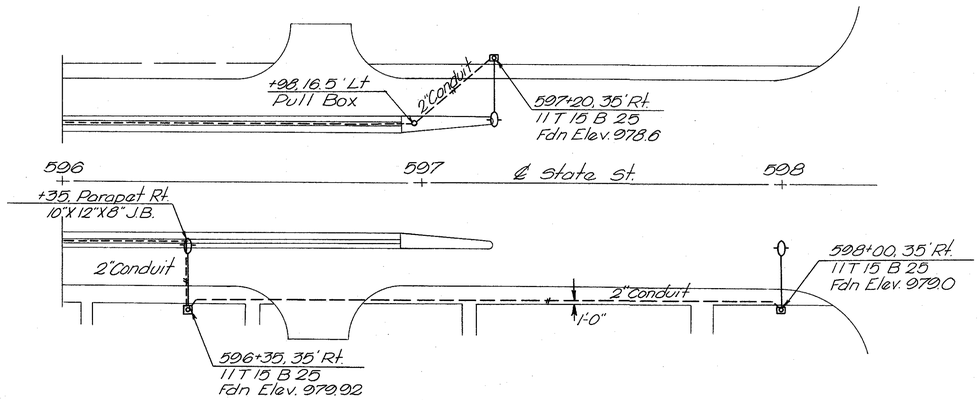

Note: Conduit in Structure and Retaining Walls shall be 1½" Conduit with the following exception:
1. Conduit from Junction Boxes to Fluorescent Luminaires shall be ¾".
2. Conduit from Retaining Wall Junctions Boxes to Ground Mounted Luminaire Standards and from Junction Box in Base of Pier No. 11 to Service Pole Shall be 2".

For Estimated Quantities, See Sheet No. 106

STATE STREET LIGHTING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

106
122

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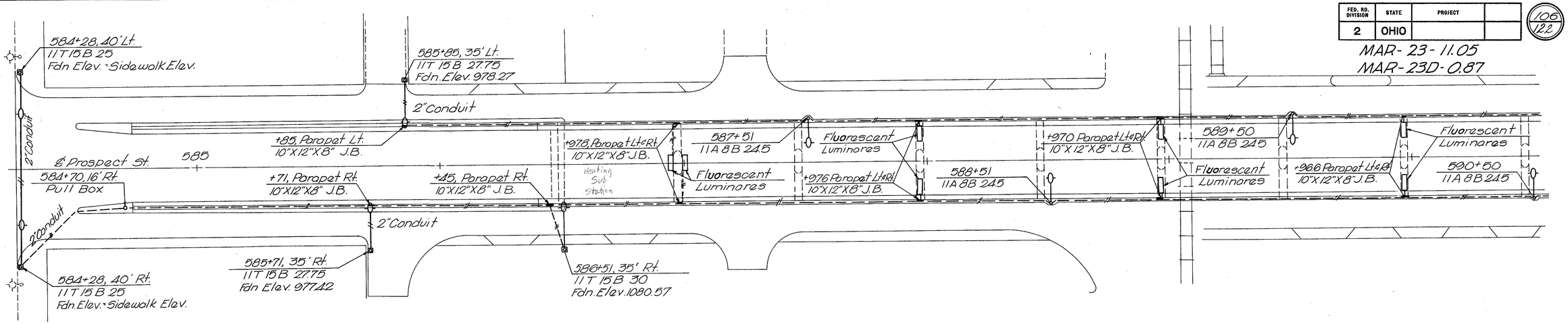

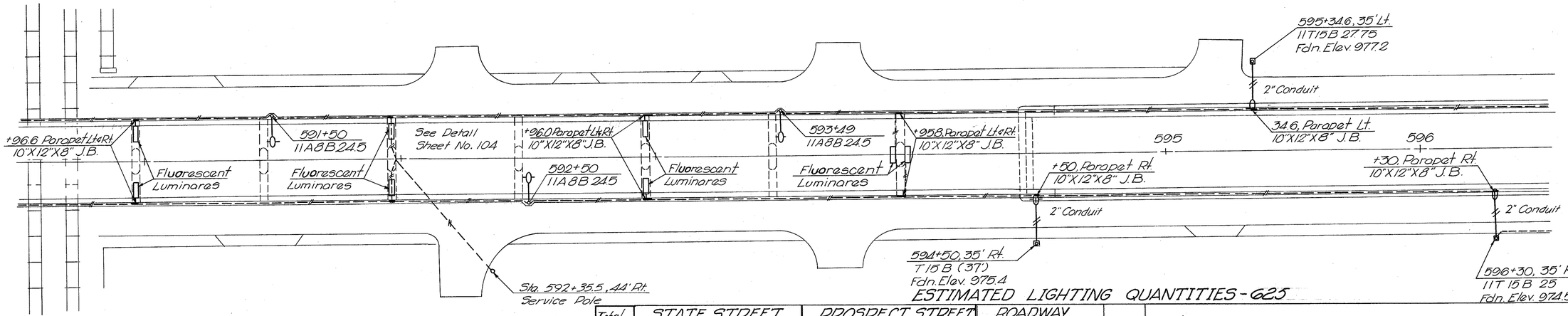

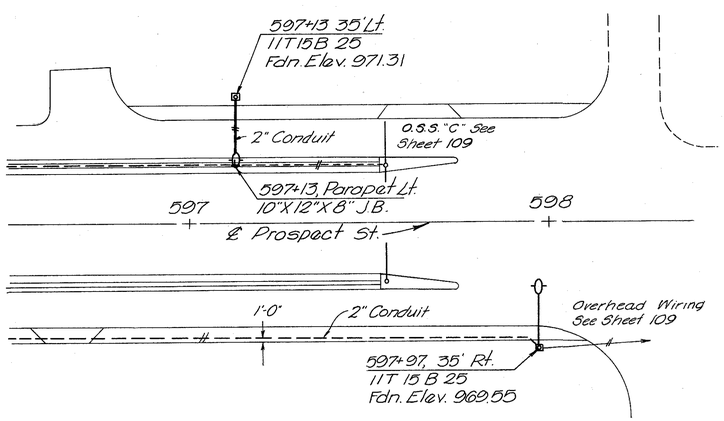

ESTIMATED LIGHTING QUANTITIES - 625

Total Retaining Walls	STATE STREET RETAINING WALLS Rear	Fwd.	Total	Structure	PROSPECT STREET RETAINING WALLS Rear	Fwd.	Total	Structure	ROADWAY STATE STREET	PROSPECT STREET	Roadway Total	UNIT	Code 7221 DESCRIPTION
				7				7				Each	Lighting Standard, 8' Bracket Arm, 24'-6" Shaft Anchor Base
									4	5	9	Each	Lighting Standard, 15' Bracket Arm, 25'-0" Shaft, Transformer Base
									1	3	4	Each	Lighting Standard, 15' Bracket Arm, 27'-9" Shaft, Transformer Base
									1	1	2	Each	Lighting Standard, 15' Bracket Arm, 30'-0" Shaft, Transformer Base
									2	1	3	Each	Lighting Standard, 15' Bracket Arm, 37'-0" Shaft, Transformer Base
									8	10	18	Each	Lighting Standard Foundation
				7				7	8	10	18	Each	Luminaire, 250 Watt Mercury Vapor, as per plan
				16				16				Each	Luminaire, 2 lamp fluorescent, as per plan
				7				7	8	10	18	Each	Lamps, 250 Watt Mercury Vapor, ASA Code H37-5KB
				32				32				Each	Lamps, Fluorescent, Type F72 T12/CW/HO
2		1	1		1		1					Each	Pull Box, Standard circular concrete
16	4	4	8		4	4	8					Each	Connector Kit, Type I
2	1		1	23		1	1	23	8	10	18	Each	Connector Kit, Type II
2	1		1	23		1	1	23	8	10	18	Each	Connector Kit, Type III
6		2	2	6	2	2	4	6				Each	Connector Kit, Type IV
				102				102				Lin. Ft.	Conduit, 3/4", Rigid Ferrous Metal, As per plan
1376	268	411	679	1700	226	471	697	1686				Lin. Ft.	Conduit, 1 1/2", Rigid Ferrous Metal, As per plan
68	21	13	34		14	20	34		415	536	951	Lin. Ft.	Conduit, 2", Rigid Ferrous Metal, As per plan
3168	628	918	1546	3920	540	1082	1622	3632	940	1192	2132	Lin. Ft.	No. 6 AWG Circuit Cable
				832				832	775	955	1730	Lin. Ft.	No. 10 AWG Pole & Bracket Cable
9	2	2	4	20	2	3	5	20				Each	Structure Junction Box 10" x 12" x 8"
				1				1				Each	Structure Junction Box 6" x 12" x 6"
									1	1	2	Each	Service Pole
													ALTERNATE BID ITEMS - (Other than Circular Cross Section)
				7				7				EA.	LIGHTING STANDARD, 8' BRACKET ARM, 24'-6" Shaft, Anchor Base.
									4	5	9	EA.	LIGHTING STANDARD, 15' BRACKET ARM, 25'-0" Shaft, Transformer Base.
									1	3	4	EA.	LIGHTING STANDARD, 15' BRACKET ARM, 27'-9" Shaft, Transformer Base.
									1	1	2	EA.	LIGHTING STANDARD, 15' BRACKET ARM, 30'-0" Shaft, Transformer Base.
									2	1	3	EA.	LIGHTING STANDARD, 15' BRACKET ARM, 37'-0" Shaft, Transformer Base.

Circular Cross Section

PROSPECT STREET LIGHTING PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

107
12.2

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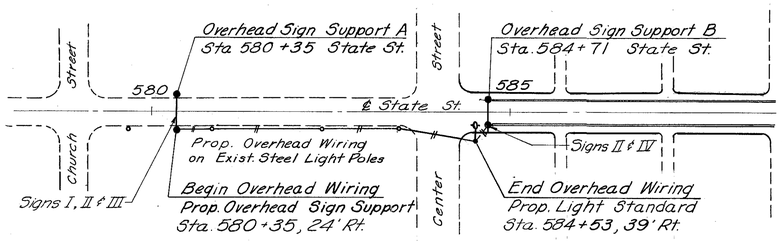
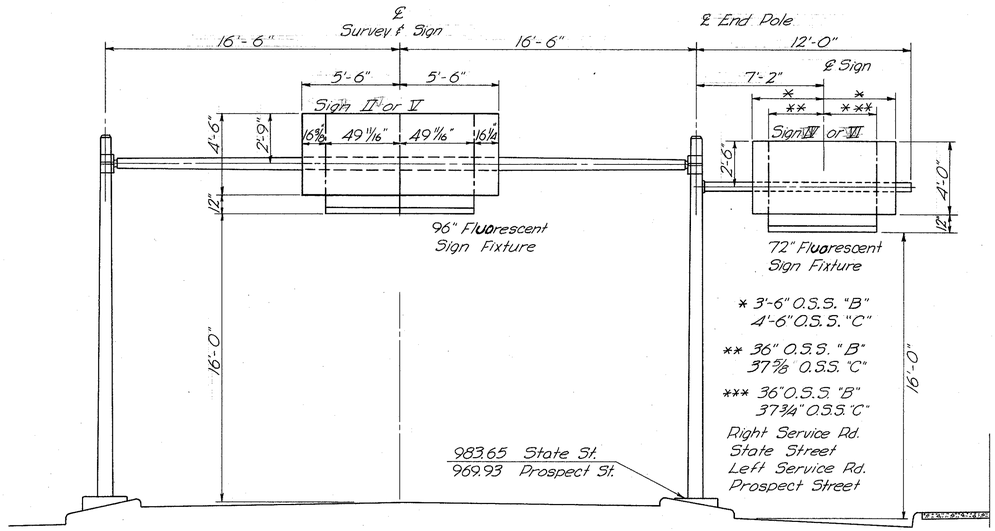
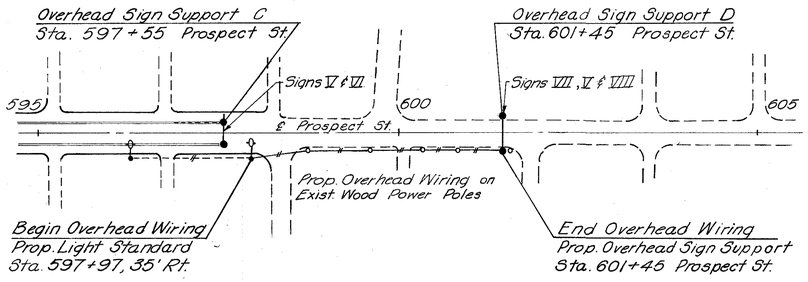


STATE ST. OVERHEAD SIGN SUPPORTS

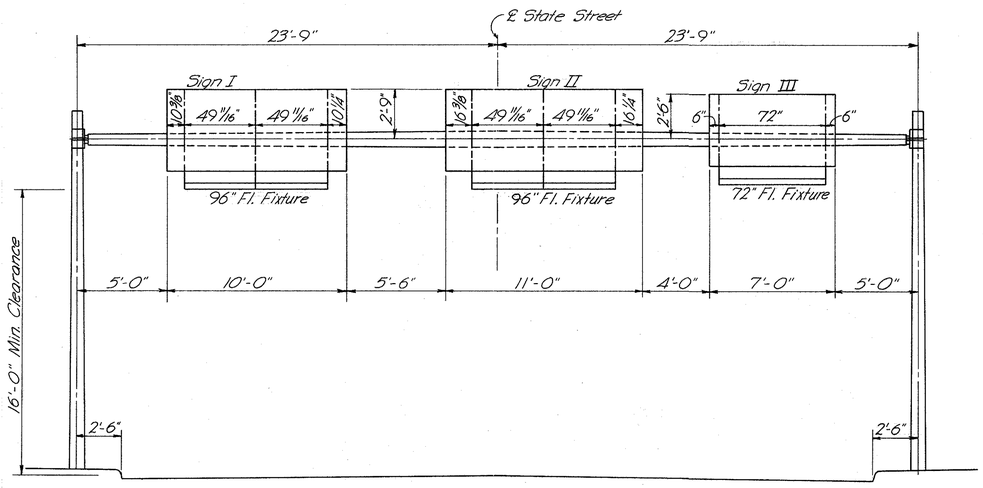
Note: For Lighting Circuit Details, See Sheet Nos. 105 & 106.



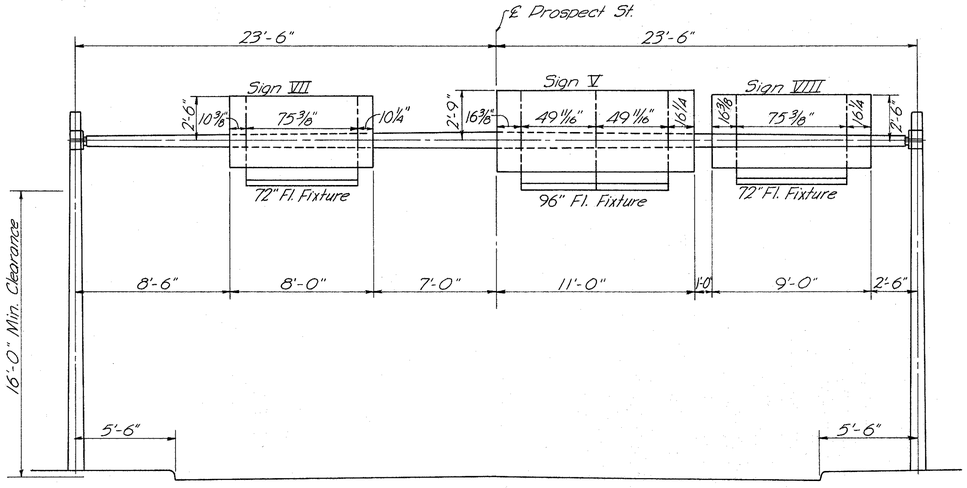
Overhead Sign Support B, Sta. 584+71 State St.
Overhead Sign Support C, Sta. 597+55 Prospect St.



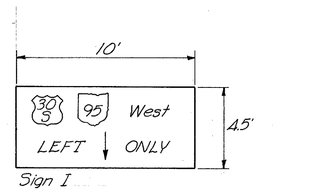
PROSPECT ST. OVERHEAD SIGN SUPPORTS



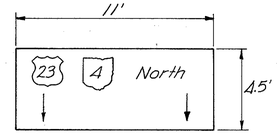
Overhead Sign Support A, Sta. 580+35 State St.



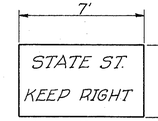
Overhead Sign Support D, Sta. 601+45 Prospect St.



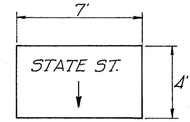
Sign I



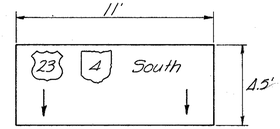
Sign II



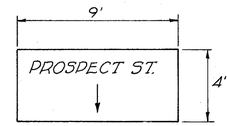
Sign III



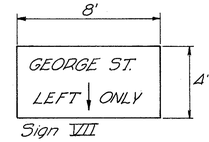
Sign IV



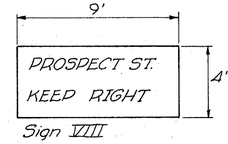
Sign V



Sign VI



Sign VII



Sign VIII

SIGNING DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

108
122

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MAR-23D-0.87

TRAFFIC CONTROL DEVICES
ESTIMATED QUANTITIES

2006 : 7221

DESCRIPTION	ITEM	UNIT	TOTAL	Sta. 601+45 Prospect St.	Sta. 597+55 to Sta. 601+45 Prospect St.	Sta. 597+55 Prospect St.	Sta. 584+71 State St.	Sta. 580+35 to Sta. 584+53 State St.	Sta. 580+35 State St.
Overhead Sign Support, as per plan, 47'-6" Span	816	Each	1						1
Overhead Sign Supp., as per plan, 33'-0" Span with 12'-0" Cantilevered Mastarm	"	Each	2						2
Overhead Sign Support, as per plan, 47'-0" Span	"	Each	1						3
Concrete Foundations for Sign Supports, as per plan	816	Cu.Yds.	14.4	3.6		3.6	3.6		36
72" Light Fixture with HO Lamp as per plan	G25	Each	5	2		1	1	1	1
96" Light Fixture with HO Lamp as per plan	"	Each	5	1		1	1	1	1
Type A Ballasts, as per plan	"	Each	10	3		2	2	1	2
Type II Transformers, as per plan	"	Each	2			1	1		1
Type III Transformers, as per plan	"	Each	2	1					1
Type V Switch and Switch Enclosure as per plan	"	Each	4	1		1	1	1	50
No.6 AWG Circuit Cable for Overhead Sign Supports, as per plan	"	Lin.Ft.	1842	50	776	25	25	9/6	50
Cable Connector Kit, Type II	"	Each	4	1		1	1	1	1
Cable Connector Kit, Type III	"	Each	4	1		1	1	1	1
Installation & Wiring of Electrical Equipment for Overhead Sign Supports, as per plan	G25	Lump	Lump	Lump	Lump	Lump	Lump	Lump	Lump
Wire Connection for Overhead Sign Support, as per plan	G25	Each	4	1		1	1	1	1
Ground Rod & Wire Connection for Overhead Sign Support, as per plan	G25	Each	4	1		1	1	1	1

ITEM 816 OVERHEAD SIGN SUPPORT, AS PER PLAN
All components of the overhead sign supports, 816 shall be steel hot dipped galvanized as detailed on sheet 109. All sign mounting brackets shall be centered on horizontal members of overhead supports.

Payment shall be made at the contract unit price for each 816 overhead sign support as per plan which price and payment shall be full compensation for furnishing and erecting overhead sign supports, including galvanizing, mounting brackets, fixture support arms, switch mounting brackets and all required accessories related thereto and for all materials, labor, equipment, tools and incidentals necessary to complete this item of work.

ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS, AS PER PLAN
Payment for this item shall be based on plan dimensions (or dimensions as modified by the Engineer) in lieu of plan quantities as specified in Supplemental Specification 816.

Payment for the reinforcing steel shall be included in the unit price bid for this item.

FIXTURE SUPPORT ARMS "G"
Cost of furnishing and installing the fixture support arms, "G", with mounting holes and hardware (see sheets 110 and 111) shall be included in the contract unit price bid for overhead sign supports, as per plan.

TRAFFIC SIGNS
The traffic signs detailed in these plans shall be furnished and erected by the City of Marion.

SWITCH MOUNTING BRACKETS

THE SWITCH ENCLOSURE MOUNTING BRACKETS AS DETAILED ON SHEET 112 SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

ITEM G25 ELECTRICAL EQUIPMENT (SIGNS), GENERAL

ALL ELECTRICAL EQUIPMENT AND WORK REQUIRED IN THE INSTALLATION OF SIGNS ON THIS PROJECT SHALL CONFORM TO THE GENERAL REQUIREMENTS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, CONSTRUCTION AND MATERIAL SPECIFICATIONS EXCEPT AS MODIFIED HEREIN.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH ITEM OF WORK OR COMPONENT PARTS HEREINAFTER DESCRIBED AND IN ACCORDANCE WITH G25.25

ITEM G25 LAMP FIXTURE WITH LAMP

THIS ITEM SHALL CONSIST OF FURNISHING ONLY THE LAMP FIXTURE AND LAMP OF THE SIZE AND TYPE REQUIRED AND IN ACCORDANCE WITH THE SPECIFICATIONS ON SHEET 111. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH SIZE AND TYPE LAMP FIXTURE WITH LAMP FURNISHED.

ITEM G25 BALLASTS

THIS ITEM SHALL CONSIST OF FURNISHING ONLY, THE BALLASTS OF THE TYPE REQUIRED AND IN ACCORDANCE WITH THE SPECIFICATIONS ON SHEET 111. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH TYPE BALLAST FURNISHED.

ITEM G25 TRANSFORMERS

THIS ITEM SHALL CONSIST OF FURNISHING ONLY, THE TRANSFORMERS OF THE TYPE REQUIRED AND IN ACCORDANCE WITH THE SPECIFICATIONS ON SHEET 112. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH TYPE TRANSFORMER FURNISHED.

ITEM G25 SWITCH AND SWITCH ENCLOSURE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING UPON THE OVERHEAD SIGN SUPPORTS, THE DISCONNECT SWITCHES AND SWITCH ENCLOSURES OF THE SIZE AND TYPE REQUIRED AND IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS ON SHEET 112. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH SIZE AND TYPE SWITCH AND SWITCH ENCLOSURE FURNISHED AND INSTALLED.

ITEM G25 GROUND ROD AND WIRE CONNECTION FOR OVERHEAD SIGN SUPPORT

This item of work shall consist of furnishing and installing ground rod and wire as detailed and specified on sheet 112.

Basis of payment for this item shall be at contract unit price per each, which shall include all labor, tools, materials and equipment required for the complete item of work.

ITEM G25 INSTALLATION AND WIRING OF ELECTRICAL EQUIPMENT FOR OVERHEAD SIGN SUPPORTS

THIS ITEM OF WORK SHALL INCLUDE THE INSTALLATION ONLY OF ALL LAMP FIXTURES WITH LAMPS, BALLASTS AND TRANSFORMERS AS REQUIRED FOR EACH SIGN SUPPORT AND SHALL INCLUDE THE FURNISHING AND INSTALLATION OF ALL WIRING, RIGID AND FLEXIBLE CONDUIT, FITTING, FASTENINGS, HARDWARE AND INCIDENTALS NECESSARY TO COMPLETELY ENERGIZE THE SIGN LIGHTING SYSTEMS FROM THE DISCONNECT SWITCH TO LAMP FIXTURES.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH SIGN SUPPORT FOR INSTALLATION AND WIRING OF ELECTRICAL EQUIPMENT FOR OVERHEAD SIGN SUPPORTS.

ITEM G25 WIRE AND CABLE

WIRE AND CABLE SHALL BE AS SPECIFIED UNDER HIGHWAY LIGHTING NOTES, SEE SHEET 102.

CABLE FROM CONNECTOR KITS TO THE DISCONNECT SWITCH SHALL MEET THE SPECIFICATIONS FOR DIRECT BURIAL CABLE. ALL WIRE AND CABLE USED IN ITEM G25 INSTALLATION AND WIRING OF ELECTRICAL EQUIPMENT FOR OVERHEAD SIGN SUPPORTS FROM THE DISCONNECT SWITCH TO LAMP FIXTURES SHALL MEET THE SPECIFICATIONS FOR POLE AND BRACKET CABLE.

Also to be included in the payment for No.6 AWG circuit cable for overhead sign supports shall be all insulators, brackets and other necessary materials to complete the required overhead wiring as shown on the plans and in accordance with the utility company's requirements.

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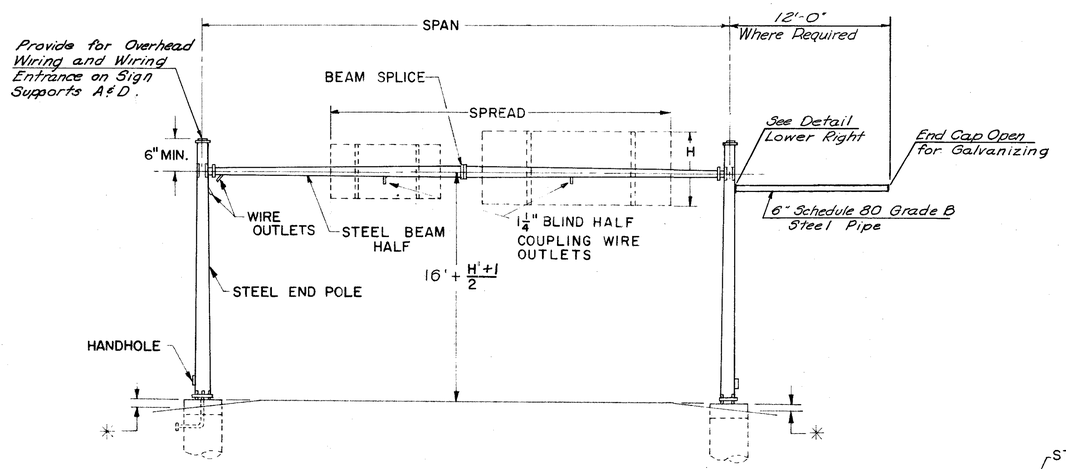
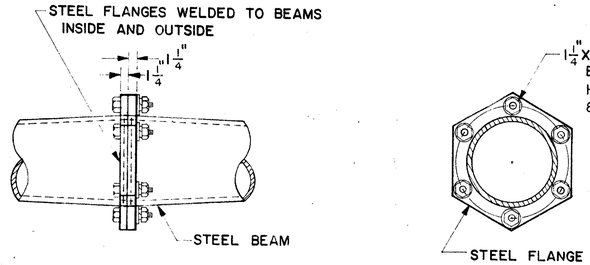
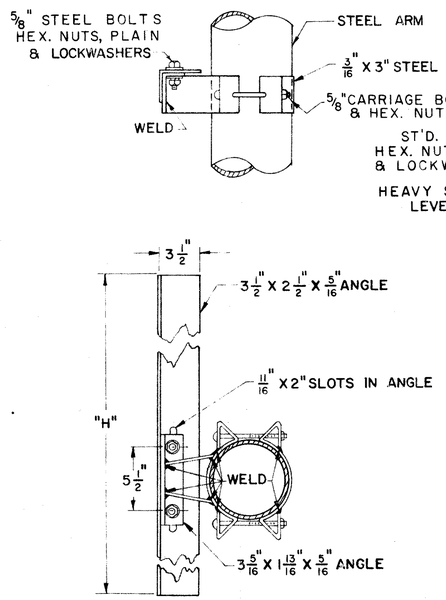
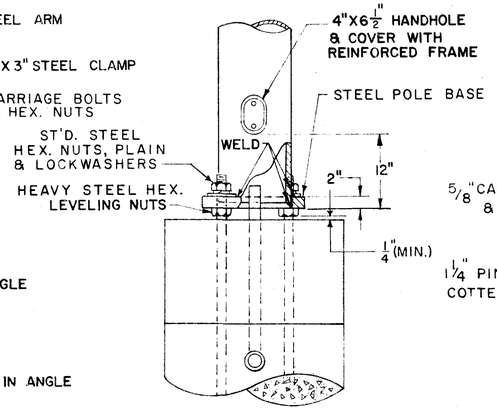
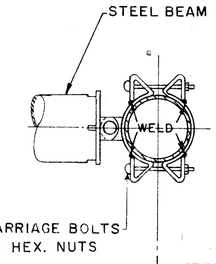


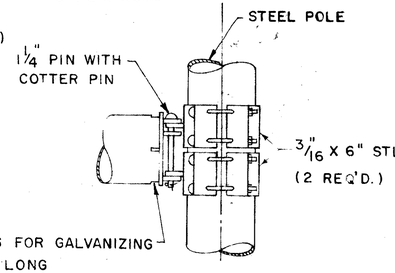


BEAM SPLICE DETAIL

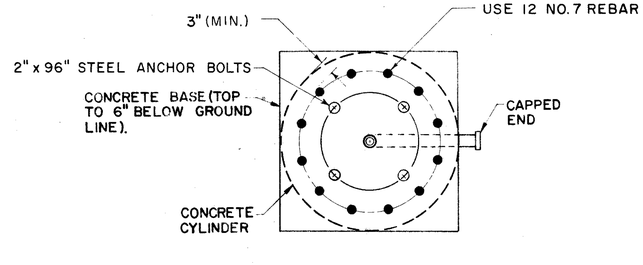


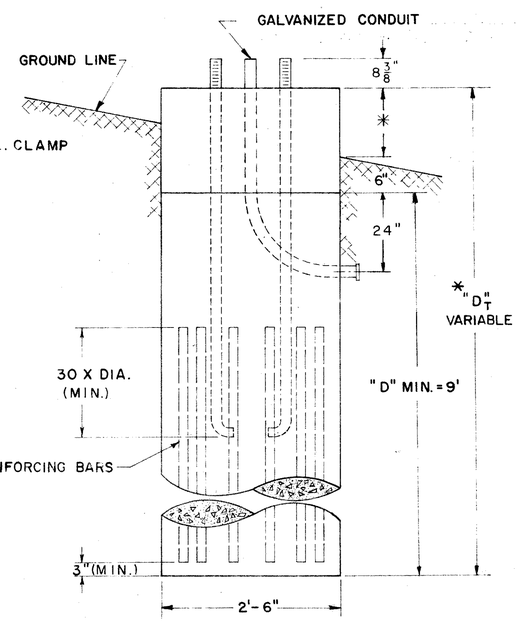




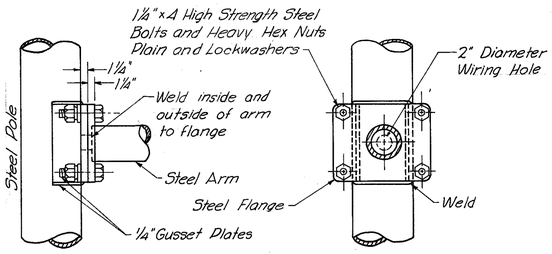


BEAM CLAMP DETAIL





FOUNDATION DETAIL



ARM ATTACHMENT

SIGN ATTACHMENT DETAIL

O'head Sign Supp.	Span	Beam Half	End Pole	Cantilevered Mastarm Pipe Size	Sign Mounting Brackets See Sheet 110
A	47'-6"	3ga. 10.5"x 7.26"x 23'-1½"	3ga. 10"x 7.2" x 20'	None	3 Ea. Type Y, ℓ = 5'-6" 3 Ea. Type Y, ℓ = 5'-6" 2 Ea. Type X, ℓ = 5'-0"
B	33'-0"	3ga. 9.5"x 7.28"x 15'-10½"	3ga. 10"x 7.2" x 20'	6"x 12' Sch. 80 Gr. B	3 Ea. Type Y, ℓ = 5'-6" 2 Ea. Type X, ℓ = 5'-0"
C	33'-0"	3ga. 9.5"x 7.28"x 15'-10½"	3ga. 10"x 7.2" x 20'	6"x 12' Sch. 80 Gr. B	3 Ea. Type Y, ℓ = 5'-6" 2 Ea. Type X, ℓ = 5'-0"
D	47'-0"	3ga. 10.5"x 7.3" x 22'-10½"	3ga. 10"x 7.2" x 20'	None	2 Ea. Type X, ℓ = 5'-0" 3 Ea. Type Y, ℓ = 5'-6" 2 Ea. Type X, ℓ = 5'-0"

NOTES

FABRICATION ALL PORTIONS OF THE SIGN SUPPORT, INCLUDING SIGN ATTACHMENTS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. DESIGNATIONS A-123 AND A-153. THE CONDUIT SHALL BE GALVANIZED IN ACCORDANCE WITH SEC. 625.13 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

* FOUNDATION – THE TOP ELEVATION OF FOUNDATIONS SHALL BE VARIED SO AS TO MAINTAIN A MINIMUM CLEARANCE OF 16' BETWEEN THE BOTTOM OF THE SIGN AND THE HIGHWAY CROWN.

** ERECTION – FOR SPANS LESS THAN MAX. LENGTH, THE LARGER DIA. OF BEAM HALVES IS HELD AND THE BEAM IS SHORTENED ON THE SMALLER DIA. END.

MATERIAL – STEEL POLE BASES AND FLANGES SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30 GRADE B.
HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A193 GRADE B 7.
AFTER FABRICATION, TAPERED POLES AND BEAM HALVES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

SOILS – THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY).
FOR POOR SOIL CONDITIONS INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL – REINFORCING STEEL AS SHOWN IN DETAIL SHALL BE INSTALLED WHEN "D" EXCEEDS THE ANCHOR BOLT LENGTH BY MORE THAN 3'.
THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR 56 B/G CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

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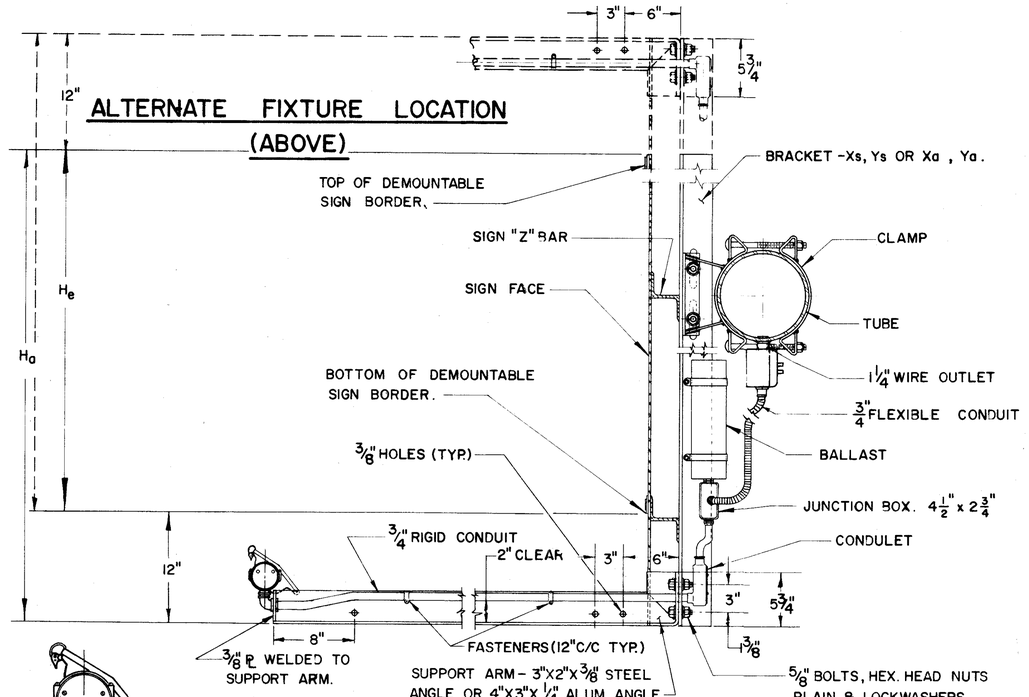
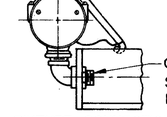
ALTERNATE FIXTURE LOCATION (ABOVE)



STANDARD FIXTURE LOCATION (BELOW)



FIXTURE CONNECTION WHERE WIRING CONDUIT IS NOT NEEDED.

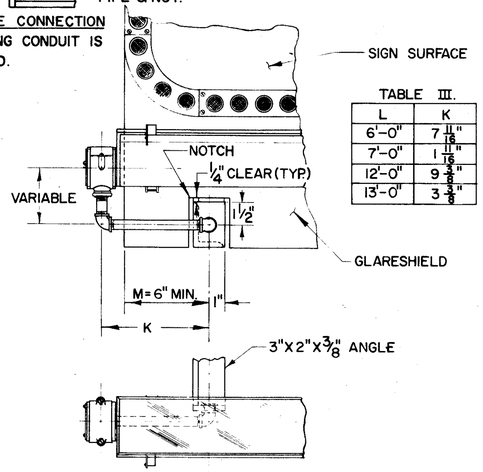
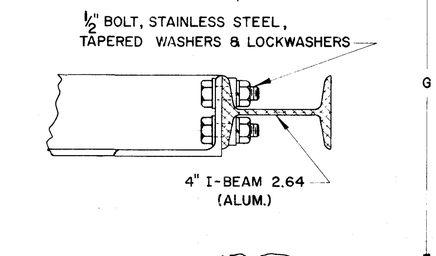


TABLE III.

L	K
6'-0"	7 11/16"
7'-0"	1 11/16"
12'-0"	9 3/16"
13'-0"	3 3/16"

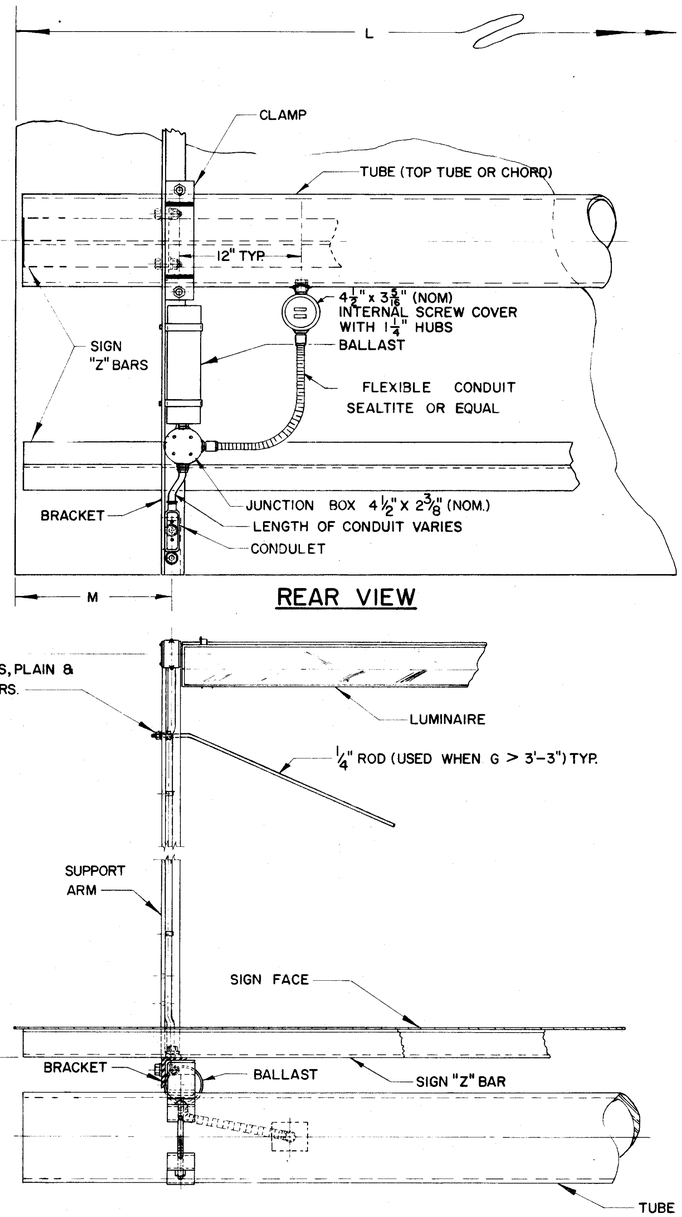
ALTERNATE FIXTURE CONNECTIONS FOR SIGN 6', 7', 12' & 13' IN LENGTH.

DETAIL A.



FOR SUPPORTS 7.2-7.6

DETAIL B.



REAR VIEW

TOP VIEW

FABRICATION — ALL STRUCTURAL COMPONENTS SHOWN ON THIS SHEET SHALL CONFORM TO SUPPLEMENT SPECIFICATIONS 55-8.16.

MATERIALS — THE MATERIALS USED IN THE COMPONENTS SHOWN ON THIS SHEET SHALL BE IN CONFORMANCE WITH THE MATERIALS USED IN THE SIGN SUPPORT.

TABLE I.

"L" SIGN LENGTH A	"L" SIGN LENGTH B	NUMBER OF FIXTURES 75⅜"	NUMBER OF FIXTURES 99⅜"	"M" EDGE DISTANCE A LT.	"M" EDGE DISTANCE A RT.	"M" EDGE DISTANCE B LT.	"M" EDGE DISTANCE B RT.	NO. BALLAST
6'-0"	7'-0"	1		6"	6"	6"	6"	1
8'-0"	9'-0"	1		10⅜"	10¼"	16⅜"	16¼"	1
10'-0"	11'-0"		1	10⅜"	10¼"	16⅜"	16¼"	1
12'-0"	13'-0"	2		6"	6	6	6	1
14'-0"	15'-0"	2		8⅝"	8⅝"	14⅝"	14⅝"	1
16'-0"	17'-0"	1	1	8⅝"	8⅝"	14⅝"	14⅝"	1
18'-0"	19'-0"		2	8⅝"	8⅝"	14⅝"	14⅝"	1
20'-0"	21'-0"	3		7"	6⅞"	13	12⅞"	2
22'-0"	23'-0"	2	1	7"	6⅞"	13	12⅞"	2
24'-0"	25'-0"	1	2	7"	6⅞"	13	12⅞"	2
26'-0"	27'-0"		3	7"	6⅞"	13	12⅞"	2

Sn= Nominal Fixture Length, 72" & 96" respectively.
Sa= Actual Fixture Length, for mounting purposes, 75⅜" and 99⅜" respectively. (Slight variation for different manufacturers.)
M= Distance from edge of sign to ℄ of notch, min. 6". When the length of the sign minus 1'-0" is less than the sum of the actual fixture lengths, an offset "K" is used. For additional details see detail A and table III.

TABLE II

MAX. BRACKET SPACING FOR EXTERNALLY ILLUMINATED SIGNS

ACTUAL SIGN HEIGHT "Ha"	SUPPORT TYPES: 9.12, 11.08, 13.2, 7.2 SINGLE TUBE DOUBLE TUBE LESS 36" C/C	9.24, 10.48, 12.24, 14.5, 15.8, 7.2 to 7.6 DOUBLE TUBE C/C 36"-42"	C/C 48"-54"	C/C 60"-72"
	MAXIMUM BRACKET SPACING			
to 5'-0"	6'-4" with X 8'-4" with Y	8'-4" with X	8'-4" with X	8'-4" with X
5'-6" to 8'-0"	6'-4" with Y	4'-2" with X 6'-4" with Y	6'-4" with X 8'-4" with Y	8'-4" with X
8'-6" to 10'-0"	3'-2" with X 4'-2" with Y	6'-4" with Y	6'-4" with Y	8'-4" with Y
10'-6" to 12'-0"	———	4'-2" with Y	6'-4" with Y	6'-4" with Y
12'-6" to 14'-0"	———	3'-2" with Y	3'-2" with Y	4'-2" with Y

Ha= ACTUAL SIGN HEIGHT
He= EFFECTIVE SIGN HEIGHT
BRACKET SIZE: Xs = 3½" X 2½" X 5/16" — L @ 6.1 LB. STEEL; Ys = 4" X 3⅛" X ¼" — Z @ 8.2 LB. STEEL } 9.12, 10.48, 11.08, 12.24, 14.5 & 15.8
Xa = 3" X 2 11/16" X ¼" — Z @ 2.33 LB. ALUM.; Ya = 4" X 2 2/32" X 3/16" — I @ 2.64 LB. ALUM. } 7.2 Thru 7.6

WHEN MAX. ALLOWABLE SPACING IS LESS THAN ACTUAL FIXTURE LENGTHS, Sa, ADDITIONAL STANDARD BRACKETS MUST BE FURNISHED, EQUAL IN HEIGHT TO "Ha".

SUPPORTS 7.2 THROUGH 7.6 SHALL HAVE AN ALUMINUM FIXTURE ARM, 4"X3"X¼" ANGLE. SEE DETAIL B. BOLTS AND ACCESSORIES SHALL BE STAINLESS STEEL.

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OHIO DEPARTMENT OF HIGHWAYS

STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS	EI-1	DATE 10-16-63 5-6-64 10-29-64

APPROVED Jack O Taylor
ENGINEER OF TRAFFIC

STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

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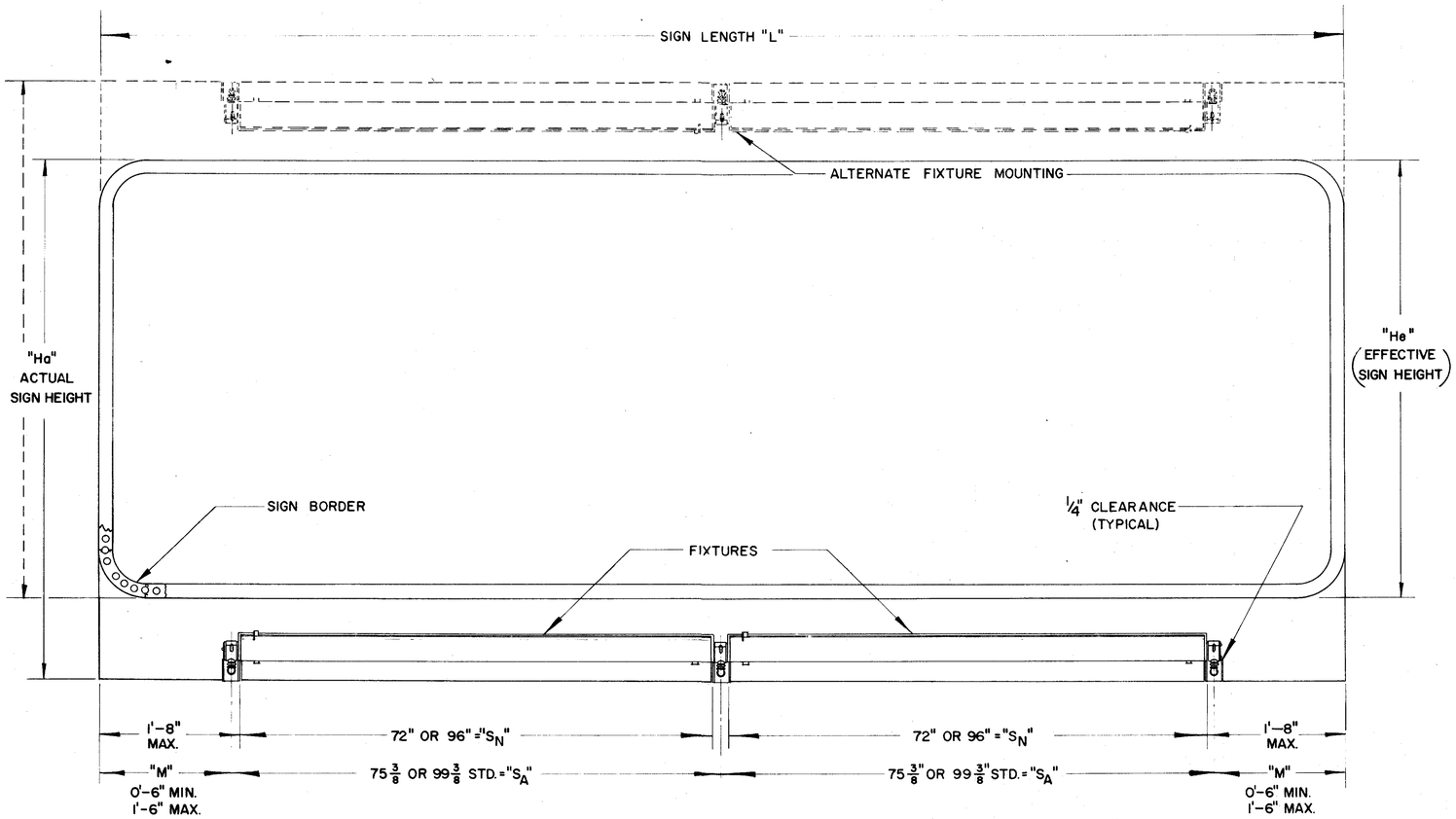

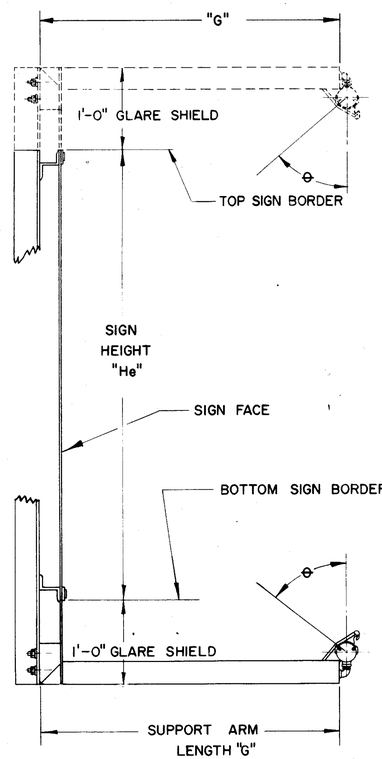

SIGN LIGHTING NOTES

SIGN ILLUMINATION

SIGN ILLUMINATION SHALL BE BY ATTACHED FLUORESCENT FIXTURES AS SHOWN ON ILLUMINATED SIGN DETAIL SHEETS.

LAMPS

LAMPS SHALL BE TYPE F72 OR F96-T12/CW/HO AS MANUFACTURED BY WESTINGHOUSE, GENERAL ELECTRIC OR APPROVED EQUAL FOR SIGNS TO A MAXIMUM HEIGHT OF 6'-6". LAMP TYPE SHALL BE F72 OR F96-T12/CW/SHO AS MANUFACTURED BY WESTINGHOUSE, F72 OR F96-PG17/CW AS MANUFACTURED BY GENERAL ELECTRIC OR APPROVED EQUAL FOR SIGNS THAT ARE 7'-0" OR GREATER IN HEIGHT.

LAMP FIXTURES

LIGHTING FIXTURES SHALL BE CONSTRUCTED OF CORROSION RESISTANT MATERIALS OR WITH HIGH QUALITY CORROSION RESISTANT FINISH. ALL FIXTURES SHALL BE SPECIFICALLY DESIGNED FOR OUTDOOR SIGN LIGHTING SERVICE. MAJOR COMPONENTS SHALL INCLUDE WEATHERPROOF CAST ALUMINUM MOUNTING HUBS DESIGNED TO SECURELY LOCK THE FIXTURES AT ANY ANGLE THROUGH 360 DEGREES. INDICATORS IN 10 DEGREE INCREMENTS SHALL BE STAMPED OR CAST INTO THE HUB TO FACILITATE PROPER AIMING OF THE FIXTURE. FINAL ADJUSTMENT OF FIXTURE SHALL BE DONE AT NIGHT UNDER THE PROJECT ENGINEER'S DIRECTION.

THE BODY DESIGN OF THE FIXTURE SHALL PROVIDE AN ASYMMETRIC SPECULAR ALZAK REFLECTOR TO GIVE A HIGH LEVEL OF UNIFORM ILLUMINATION AND SHALL PROVIDE A WIREWAY FROM END TO END. WHEN ADJACENT FIXTURES ARE WIRED TOGETHER THROUGH THE WIREWAY, WIRE BETWEEN FIXTURES SHALL BE ENTIRELY ENCLOSED.

EXTERIOR FINISH OF THE FIXTURE BODY SHALL BE INTERSTATE GREEN COLOR, HEAT RESISTANT BAKED ENAMEL AS #8950 UNIVERSAL PAINT AND VARNISH INC., OR APPROVED EQUAL. REFLECTOR, LAMP AND SOCKETS SHALL BE PROTECTED BY A HINGED DOOR OF CLEAR ACRYLIC PLASTIC WITH ALUMINUM OR STAINLESS STEEL FRAME AND NEOPRENE GASKETING.

BALLASTS

BALLASTS FOR FIXTURES SHALL BE WEATHER-PROOF OUTDOOR TYPE FOR A 120 VOLT 60 CYCLE SYSTEM AND SHALL PROVIDE LAMP STARTING AT AN AMBIENT TEMPERATURE OF -20°F. BALLASTS SHALL BE MOUNTED ON SIGN BRACKET ONLY. WIRING SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT THE SIGN MAY BE REMOVED WITHOUT DISTURBING THE ELECTRICAL WIRING.

EFFECTIVE SIGN HEIGHT "H"	SUPPORT ARM LENGTH "G"	APPROX. AIMING ANGLE ⊖
3'-0" to 5'-0"	2'-9"	25°
5'-0" to 6'-6"	3'-3"	25°
7'-0" to 10'-0"	4'-3"	17°
10'-6" to 13'-0"	5'-9"	23°

"L" SIGN LENGTH	NO. OF FIXTURES			He=3'-0" to 6'-6" LAMP=T12/cw/ho			He=7'-0" to 13'-0" LAMP=T12/cw/sho		
		72	96	BALLAST NO.	BALLAST TYPE	WATTAGE PER SIGN	BALLAST NO.	BALLAST TYPE	WATTAGE PER SIGN
6'-0" to 7'-0"		1		1	A	190	1	C	250
8'-0" to 9'-0"		1		1	A	190	1	C	250
10'-0" to 11'-0"			1	1	A	190	1	C	250
12'-0" to 13'-0"		2		1	B	250	1	D	425
14'-0" to 15'-0"		2		1	B	250	1	D	425
16'-0" to 17'-0"		1	1	1	B	250	1	D	425
18'-0" to 19'-0"			2	1	B	250	1	D	425
20'-0" to 21'-0"		3		2	A&B	440	2	C&D	675
22'-0" to 23'-0"		2	1	2	A&B	440	2	C&D	675
24'-0" to 25'-0"		1	2	2	A&B	440	2	C&D	675
26'-0" to 27'-0"			3	2	A&B	440	2	C&D	675

BALLASTS

TYPE	MANUFACTURERS		WATTAGE
	G.E.	JEFFERSON	
A	GG 3583	257-151	190
B	GG 3535	257-171	250
C	GG 3585	257-231	250
D	GG 3588	257-181	425

BALLASTS SHALL BE GENERAL ELECTRIC, JEFFERSON AS SPECIFIED ABOVE OR EQUAL.

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OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

EI-2

DATE
10-31-63
5-6-64
10-29-64

APPROVED Fred O Gaskie
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
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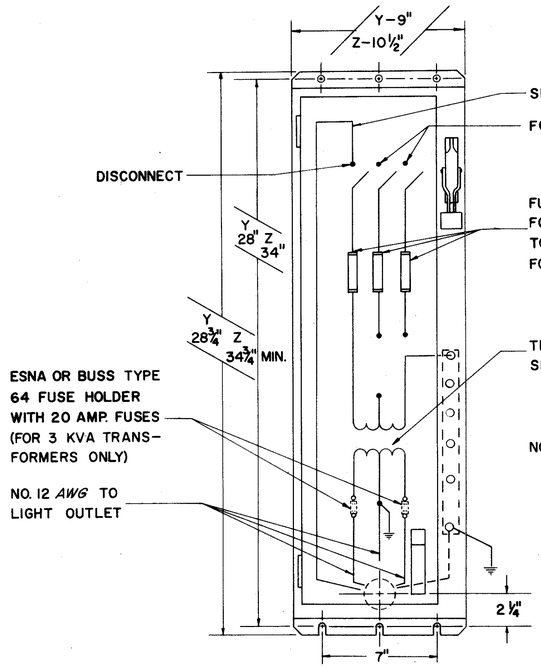
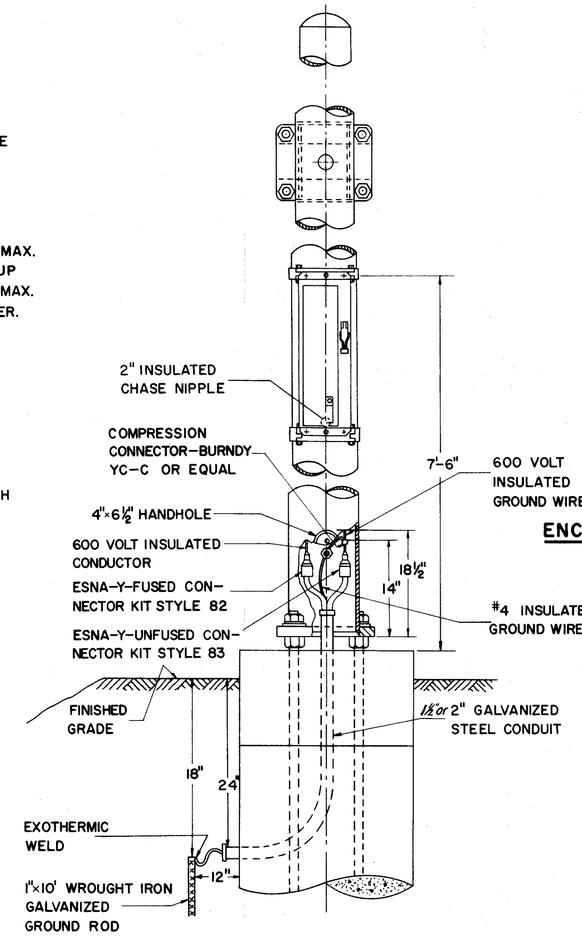
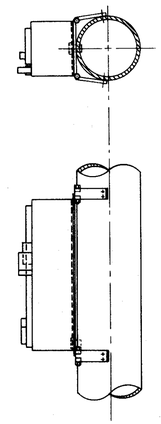


TYPICAL ENCLOSURE DETAIL

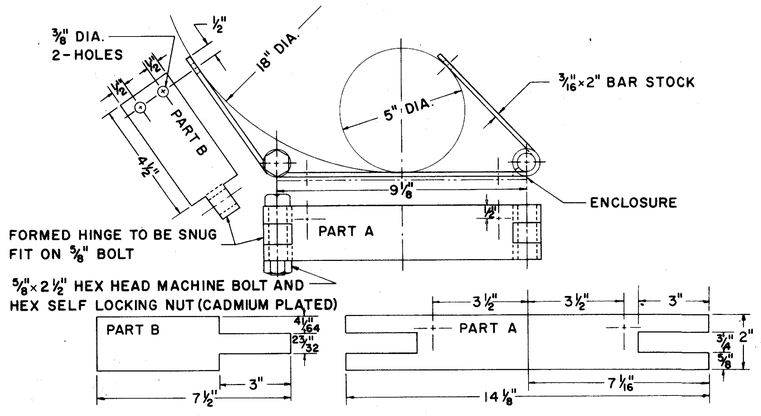
240 VOLT SIGN LIGHTING SERVICE



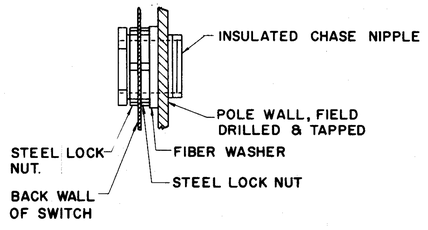
SIGN SUPPORT DETAIL FOR ILLUMINATED SIGNS



ENCLOSURE MOUNTING DETAIL



ENCLOSURE MOUNTING BRACKET



CHASE NIPPLE ASSEMBLY DETAIL

NOTES

GENERAL

DETAILS OF THIS SHEET SHALL APPLY TO EACH OVERHEAD SIGN STRUCTURE TO SUPPORT EXTERNALLY ILLUMINATED SIGNS.

SERVICE

ELECTRIC SERVICE SHALL ENTER THROUGH A 2" GALVANIZED RIGID STEEL CONDUIT INSTALLED IN STRUCTURE FOUNDATION AS PER DETAIL. SIGN SERVICE OR CIRCUITRY SHALL BE CONTROLLED AS REQUIRED BY THE SYSTEM DESIGN AT THE PRIMARY SOURCE.

SERVICE CONDUCTORS SHALL BE THE SIZE AND TYPE AS SPECIFIED.

COMBINATION SWITCH AND TRANSFORMER

(TYPE Y OR Z ENCLOSURE REQUIRED AS PER SCHEDULE ON THIS SHEET)

THIS COMBINATION SHALL BE A 30 OR 60 AMPERE 600 VOLT SWITCH WITH A .25 TO 3.0 KVA TRANSFORMER. THE COMBINATION AND ENCLOSURE SHALL BE AS SQUARE D CLASS 9421, COLUMBUS ELECTRIC WORKS CLASS 101, PANALS INCORPORATED-CLASS 9400, OR APPROVED EQUAL.

TRANSFORMER

THE TRANSFORMER SHALL BE DRY TYPE SINGLE FACE 240/480 VOLT PRIMARY 120/240 VOLT SECONDARY, THE TYPE AND CAPACITY AS SPECIFIED IN DETAILED SCHEDULE ON THIS SHEET.

ENCLOSURE

THE ENCLOSURE SHALL BE NEMA #4 WATER TIGHT .063 GAGE STAINLESS STEEL ASTA 302-303. A DISCONNECT HANDLE SHALL BE FLANGE MOUNTED AND CAPABLE OF BEING LOCKED IN EITHER POSITION. THE ENCLOSURE SHALL BE EQUIPPED WITH A DOOR LOCKING MECHANISM WITH A DEFEATER THAT NECESSITATES TWO HANDS TO OPERATE MECHANISM WITH THE SWITCH IN OFF POSITION. SPACE FOR A 2" INSULATED CHASE NIPPLE SHALL BE PROVIDED APPROXIMATELY 2 ¼" ABOVE THE CENTER LINE OF THE LOWER MOUNTING SLOT. THIS ENCLOSURE AND STRUCTURE SHALL BE FIELD DRILLED AND TAPPED FOR THE REQUIRED NIPPLE AS SHOWN ON THE DETAIL ON THIS SHEET.

THIS ENCLOSURE SHALL BE FLANGE MOUNTED ON BRACKETS WITH 5/16-18×¾" HEX HEAD CADMIUM PLATED MACHINE BOLTS. ENCLOSURES SHALL BE TYPE Y OR Z AS SPECIFIED AND DIMENSIONED ON THIS SHEET.

ENCLOSURE MOUNTING BRACKET

THE ENCLOSURE MOUNTING BRACKET SHALL BE FABRICATED THEN GALVANIZED BEFORE ASSEMBLY. THE BRACKET SHALL BE FIELD MOUNTED WITH 5/16" HEX HEAD SELF TAPPING CADMIUM PLATED SCREWS. THE SIGN SUPPORT SHALL BE FIELD DRILLED, AS PER DETAIL.

WIRE AND CABLE

ALL WIRE AND CABLE UP TO AND INCLUDING #4 SHALL COMPLY WITH FAA TYPE A SPECIFICATIONS. #2 OR LARGER WIRE OR CABLE SHALL BE G.E. 58006 OR ANACONDA AP-10711, OR EQUAL. ALL WIRE AND CABLE SHALL BE 600 VOLT.

GROUNDING

EACH SIGN SUPPORT OR STRUCTURE SHALL BE GROUNDED WITH A #4 RUBBER INSULATION AND NEOPRENE JACKETED CONDUCTOR. THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO THE SWITCH THEN TO THE COMPRESSION CONNECTOR IN THE SIGN SUPPORT THEN TO A 1"×10' GALVANIZED WROUGHT IRON GROUND ROD. GROUND CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO GROUND ROD AND THEN TAPED WITH PLASTIC ELECTRICAL TAPE AT EACH EXPOSED PORTION OF CONDUCTOR. THE WELDED CONNECTION AND TAPED PORTION SHALL BE PAINTED 2 COATS OF GLYPTAL INSULATING ENAMEL.

TRANSFORMERS

TYPE	MANUFACTURERS G.E.	MANUFACTURERS JEFFERSON	OUTPUT K.V.A.	SWITCH TRANSFORMER ENCLOSURE
I	9T51Y7	244-241	.25	Y
II	9T51Y8	244-251	.50	Y
III	9T51Y9	244-261	.75	Y
IV	9T51Y10	244-401	1.00	Z
V	9T51Y11	244-411	1.50	Z
VI	9T51Y12	244-421	2.00	Z
VII	9T51Y13	244-431	3.00	Z

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL SIGN SERVICE DETAILS
240 VOLT SYSTEM

ES-3A

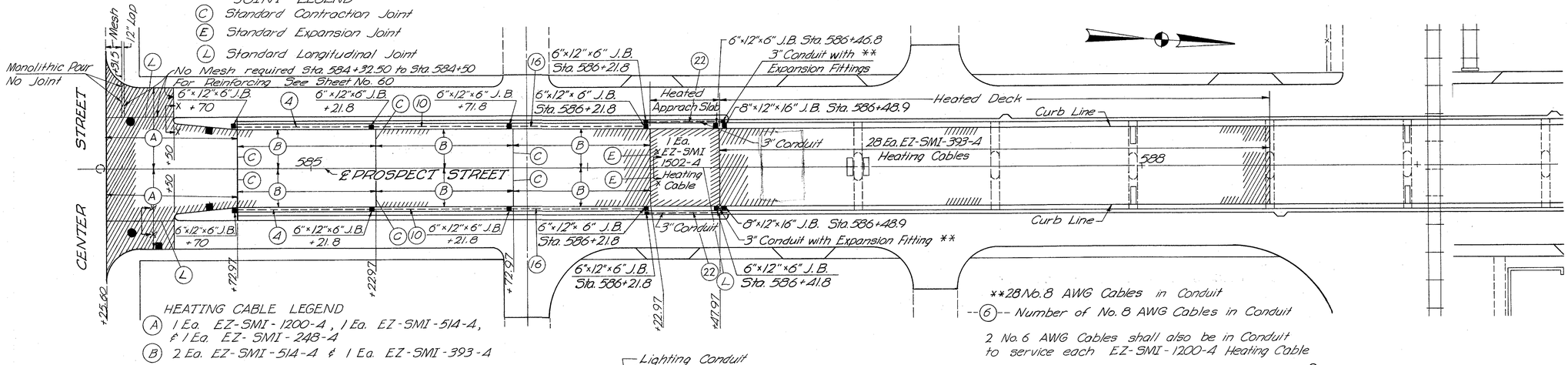
DATE 6-18-64

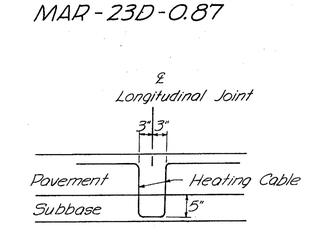
APPROVED _____
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

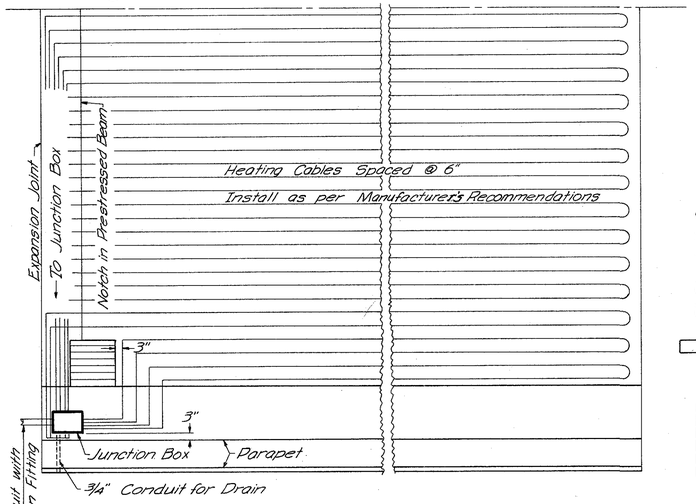
113
122

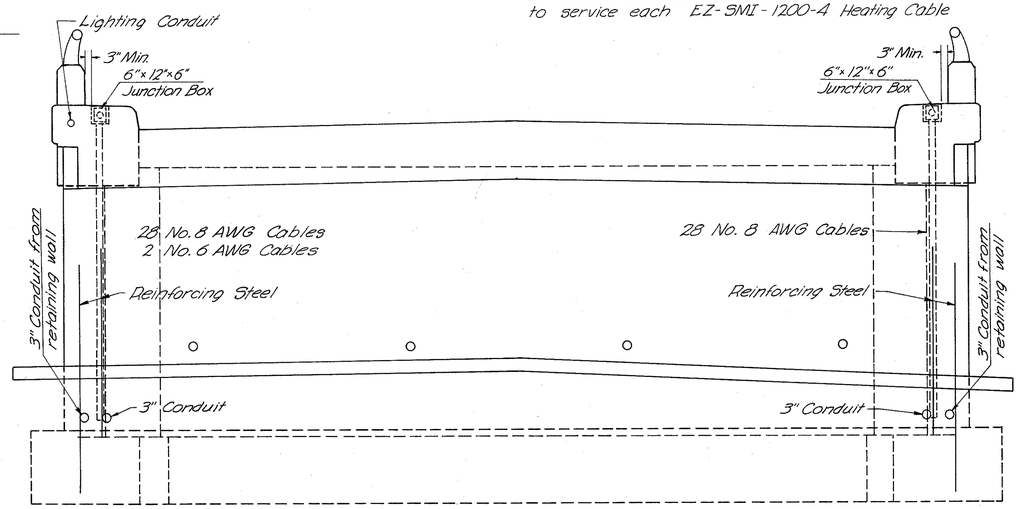
MAR-23-11.05
MAR-23D-0.87



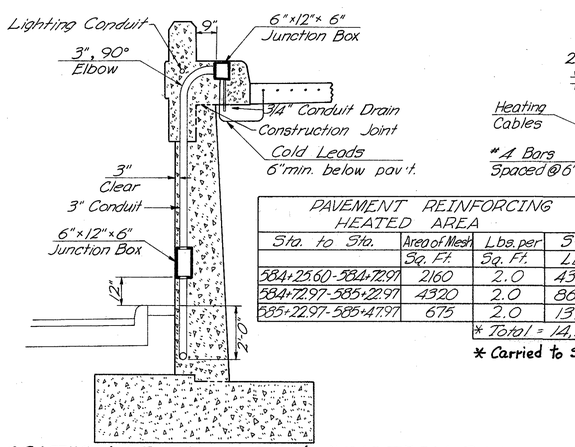


Detail of Heating Cable Crossing Longitudinal Joints SECTION X-X





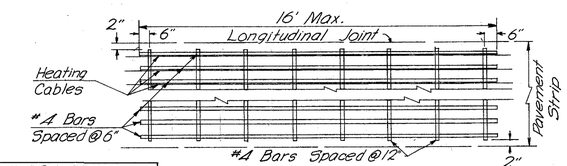
CONDUIT LOCATION AT REAR ABUTMENT

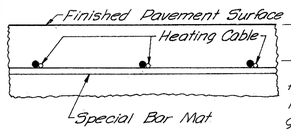


LOCATION OF CONDUIT & JUNCTION BOX IN RETAINING WALL

PAVEMENT REINFORCING HEATED AREA			
Sta. to Sta.	Area of Mesh Sq. Ft.	Lbs. per Sq. Ft.	S-A Lbs.
584+25.60-584+72.97	2160	2.0	4320
584+72.97-585+22.97	4320	2.0	8640
585+22.97-585+47.97	675	2.0	1350
		* Total =	14,310

* Carried to Sh. 10





2" Clear Sta. 584+25.60 to Sta. 586+47.97, for clearance and mesh on bridge see general note; see sheet no. 95

SPECIAL BAR MAT DETAIL

Pavement Reinforcing, Special Bar Mats:
Special Bar Mats shall be constructed in accordance with std. dwg. BP-2 except as modified left. Bar mats shall be installed so that the longitudinal bars will be nearer to the finished pavement surface than the transverse bars. Mats shall be placed 2" clear of the finished pavement surface. Heating cables shall be attached to the longitudinal bars according to manufacturers recommendations. Special Bar Mat to be used in 451 as per plan in lieu of pavement reinforcing as per Standard Drawing BP-2. Sp. Bar Mat in item 451 as per plan and item 611 Approach Slab to be paid for separately under Item 509 Prefabricated Bar or Rod Mats. (Special Bar Mats in 611 shall be in addition to normal reinforcing.) Special Bar Mats shall be used in the areas to be heated as described above, except in the pavement area left of Sta. 584+31.50 to Sta. 584+50 which forms a part of the Uhler-Phillips basement plan. (See Sheet No. 60). Heating cable in this area shall be attached to the reinforcing steel as detailed.

Heating Cables Crossing Longitudinal Joint:
At locations where heating cable crosses longitudinal joints, the heating cable shall be looped below the pavement as detailed above.

Heating Cable:
Heating cable used on this project shall be mineral insulated high conductivity copper conductors, complying with ASTM Spec. B4 or B5. Insulation shall be finely divided, highly compressed magnesium oxide powder encased in a seamless phosphorized copper tubing sheath. The cable shall be suitable for use on 480 volt circuits, and shall be single conductor M.I. Heating Cable (25 watts per lineal foot) as manufactured by the Easy Heat-Wirecraft Division of The Singer Company or approved equal. Approval of Heating Cable shall be received in writing from the City Engineer of the City of Marion prior to ordering and installation.

Installation of Heating Cable:
Heating cable shall be installed under the direct supervision of a representative of the manufacturer. The layout of the heating cable shall provide 43.2 watts per sq. ft. of heated area. The heated area shall be as outlined above. Slight adjustments will be permitted so that normally manufactured or stocked heating cables, meeting the aforementioned requirements may be used.

Circut Cable for Heating Cable Units:
Stranded copper cable meeting the requirements of the National Electrical Code for Type THW wire shall be used from the terminal points of the heating cable to the Transformer-Distribution Center, and shall be rated for use at 600 volts. Cable splices shall be performed in pull boxes or equipment cabinets. Splices shall be preformed with a pressure type connector and insulated with material compatible to the cable insulation.

Primary Service Cable:
The primary service cables shall be General Electric 31-58242 or approved equal and shall conform to IPCEA Spec. S-19-81 section 3.15. The primary service cables shall be enclosed in 3" conduit from point of termination on service pole to unit substation.

Primary Service Pole:
The contractor shall furnish & install a service pole in the area as shown on the plans. Final location shall be determined by the Engineer & the Utility Co. The pole shall be A.S.A. Class 4, 35'-0" southern yellow pine, full penta treated, 8lbs per cubic ft. The contractor shall install upon the pole 3" rigid metal conduit with weatherhead to enclose the primary service cables. Also installed on the service pole shall be any metering equipment furnished by the utility.

Heating Materials General:
All materials shall meet the requirements and specifications of Item 625 Electrical Equipment and as supplemented above or on sheets 102 & 103

ROADWAY & DECK HEATING DETAILS

ROADWAY & DECK HEATING (Cont'd.)

LOAD CENTER UNIT SUBSTATION

GENERAL

EACH LOAD CENTER UNIT SUBSTATION COVERED BY THESE SPECIFICATIONS SHALL BE DESIGNED, TESTED, AND ASSEMBLED IN ACCORDANCE WITH APPLICABLE STANDARDS OF NEMA, AIEE, AND ASA, AND SHALL BE COMPLETE FROM THE INCOMING-LINE TERMINATION TO THE OUTGOING FEEDER TERMINALS. THE CONTROL SIDE OF THE SWITCHGEAR AND THE NAMEPLATE SIDE OF THE TRANSFORMER SHALL BE THE FRONT OF THE SUBSTATION.

EACH SUBSTATION SHALL CONSIST OF THE FOLLOWING SECTIONS WHICH SHALL BE DESIGNED FOR CONNECTION AT THE INSTALLATION SITE:

INCOMING SECTION
TRANSFORMER SECTION
OUTGOING SECTION

LOAD CENTER UNIT SUBSTATION OUTDOOR

THE UNIT SUBSTATION WILL BE ARRANGED SO THAT WHEN FACING THE FRONT OF THE SUBSTATION, THE INCOMING SECTION WILL BE ON THE LEFT OF THE TRANSFORMER SECTION.

INCOMING-LINE SECTION OUTDOOR

INCOMING-LINE SECTION SHALL BE DESIGNED IN ACCORDANCE WITH INDUSTRY STANDARDS AND SHALL INCLUDE THE FOLLOWING:

1 - AIR INTERRUPTER SWITCH, WITH STORED-ENERGY OPERATING MECHANISM, 2-POSITION, OPEN-CLOSE, 5 KV, 600 AMPERES CONTINUOUS AND INTERRUPTING RATING, KEY INTERLOCKED WITH LOW VOLTAGE MAIN BREAKER.

1 - SET OF THREE POWER FUSES.

- NECESSARY CLAMP-TYPE TERMINALS FOR SINGLE FEED.

1 - SET OF COMPARTMENT HEATERS.

TRANSFORMING SECTION OIL-IMMERSED OUTDOOR

THE TRANSFORMING SECTION SHALL BE DESIGNED IN ACCORDANCE WITH INDUSTRY STANDARDS, AND SHALL INCLUDE THE FOLLOWING:

RATING
- SELF COOLED (FORCED-AIR-COOLED) - - - - - - - 750 KVA
- TEMPERATURE RISE - - - - - - - - - - - - - - - - - 65 C
- FREQUENCY - 60 CYCLES
- NUMBER OF PHASES - - - - - - - - - - - - - - - - - 3
- HIGH VOLTAGE DELTA-CONNECTED - - - - - - - - - 4160 VOLTS
- LOW VOLTAGE DELTA-CONNECTED - - - - - - - - - 480 VOLTS

IMPEDANCE - STANDARD
TAPS - 4 - 2 1/2%, 2 ABOVE AND 2 BELOW RATED HIGH VOLTAGE,
ACCESSORIES - STANDARD

OUTGOING SWITCHBOARD SECTION

SWITCHBOARD SHALL CONSIST OF VERTICAL STRUCTURES BOLTED TOGETHER TO FORM ONE SHEET METAL ENCLOSURE. IT SHALL BE PROVIDED WITH FRONT AND REAR CHANNELS. THE ENDS, TOP, AND REAR SHALL BE COVERED WITH REMOVABLE SCREW-ON STEEL PLATES. SWITCHBOARD SHALL INCLUDE ALL PROTECTIVE DEVICES AND EQUIPMENT AS LISTED WITH NECESSARY INTERCONNECTIONS, INSTRUMENTATION AND CONTROL WIRING, TERMINAL BLOCKS, AND MECHANICAL SOLDERLESS CONNECTORS FOR TERMINALS.

PROTECTIVE DEVICES SHALL HAVE INDIVIDUAL FRONT PLATES AND NECESSARY BUS CONNECTION STRAPS. DEVICES SHALL BE MODULAR SIZED AND SO ARRANGED AS TO BE INDIVIDUALLY REMOVABLE AND READILY INTERCHANGEABLE. EACH DEVICE SHALL BE PROVIDED WITH MEANS OF IDENTIFICATION.

BUS STRUCTURE SHALL BE ARRANGED TO PERMIT FUTURE EXTENSION. IT SHALL BE MOUNTED ON INSULATOR SUPPORTS OF HGH-IMPACT NON-TRACKING, HIGH-QUALITY INSULATING MATERIAL AND ADEQUATELY BRACED TO WITHSTAND THE MECHANICAL FORCES EXERTED DURING SHORT CIRCUIT CONDITIONS WHEN CONNECTED DIRECTLY TO A SOURCE HAVING A MAXIMUM OF 50,000 AMPERES RMS SYMMETRICAL AVAILABLE. BUS BARS SHALL BE SILVER-PLATED. BRANCH CIRCUIT BUSING SHALL CONNECT DIRECTLY TO THE BUS STRUCTURE. ALL BUSING SHALL BE ARRANGED SO AS NOT TO OBSTRUCT STRAIGHT-IN WIRING TO THE PROTECTIVE DEVICE.

SMALL WIRING, NECESSARY FUSE BLOCKS AND TERMINAL BLOCKS WITHIN EACH VERTICAL STRUCTURE SHALL BE FURNISHED WHEN REQUIRED.

ALL HARDWARE SHALL BE OF MEDIUM CARBON STEEL.

METAL SURFACES SHALL BE CHEMICALLY CLEANED AND TREATED. CHEMICAL TREATMENT SHALL PROVIDE A BOND BETWEEN PAINT AND METAL SURFACES TO HELP PREVENT ENTRANCE OF MOISTURE AND FORMATION OF RUST UNDER THE PAINT FILM. THE VERTICAL STRUCTURES SHALL BE FINISHED IN ASA #33 DARK-GREY.

SWITCHBOARD SHALL BE COMPLETELY ASSEMBLED AND WIRED AT THE FACTORY. RIGID INSPECTIONS BEFORE AND AFTER ASSEMBLY SHALL ASSURE CORRECTNESS OF DESIGN AND WORKMANSHIP. ALL GROUPS OF CONTROL WIRES LEAVING EQUIPMENT SHALL BE PROVIDED WITH TERMINAL BLOCKS WITH SUITABLE NUMBERING STRIPS.

ALL SWITCHBOARDS SHALL BE CAPABLE OF BEING ELECTRICALLY AND MECHANICALLY JOINED TOGETHER.

ALL SWITCHBOARDS SHALL BE PROVIDED WITH ADEQUATE LIFTING MEANS.

ALL SWITCHBOARDS SHALL BE CAPABLE OF BEING ROLLED OR MOVED INTO INSTALLATION POSITION AND BOLTED DIRECTLY TO FLOOR WITHOUT FLOOR SILLS.

A GROUND BUS SHALL BE FURNISHED SECURED TO EACH VERTICAL STRUCTURE AND SHALL EXTEND THE ENTIRE LENGTH OF THE SWITCHBOARD WHEN REQUIRED.

CONSTRUCTION SHALL BE OUTDOOR NEMA 3 WALK-IN.

RATINGS

THE DISTRIBUTION SWITCHBOARD SHALL BE ARRANGED FOR OPERATION ON CIRCUITS RATED AS FOLLOWS:

VOLTAGE - 480 VOLTS
FREQUENCY - 60 CYCLES
SERVICE - 3-PH, 3-W
NEUTRAL - NONE
BUS BAR STRUCTURE BRACED FOR SHORT CIRCUIT FAULTS OF 50,000 RMS AMPERES SYMMETRICAL
INCOMING FEEDER BY TRANSITION COMPARTMENT - CONNECTION TO TRANSFORMER

MAIN PROTECTIVE DEVICE

INCOMING LINE MOLDED-CASE CIRCUIT BREAKER, TYPE THKM, 1000 AMPERES, MANUALLY OPERATED, 65,000 (SYMMETRICAL) RMS AMPERES. KEY INTERLOCKED TO PRIMARY AIR SWITCH.

FEEDER BREAKERS

FEEDER BREAKERS SHALL CONSIST OF THEF CIRCUIT BREAKERS WITH NUMBER OF POLES AND TRIPS AS INDICATED BELOW.

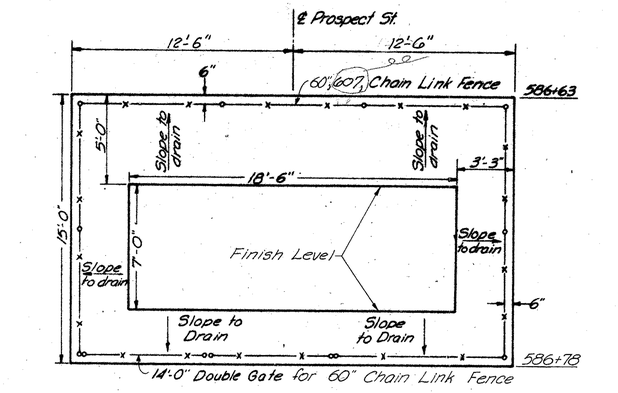
56 - 30 AMP 2 POLE
4 - 100 AMP 2 POLE

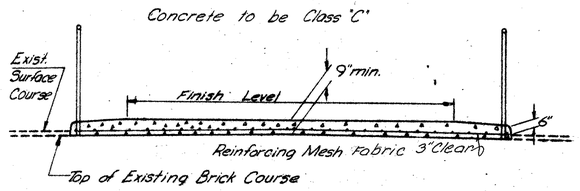
INSTRUMENTATION

INSTRUMENTATION SHALL CONSIST OF 1-VOLTMETER AND 1-AMMETER WITH TRANSFER SWITCHES. THREE CURRENT TRANSFORMERS AND ONE POTENTIAL TRANSFORMER WILL ALSO BE SUPPLIED AND FACTORY WIRED SO THAT VOLTAGE AND CURRENT ON EACH PHASE CAN BE READ.

LOAD CENTER UNIT SUBSTATION SHALL BE GENERAL ELECTRIC, OR APPROVED EQUAL. THE CONTRACTOR SHALL RECEIVE, PRIOR TO ORDERING THE LOAD CENTER UNIT SUBSTATION, WRITTEN APPROVAL FROM THE CITY ENGINEER, CITY OF MARION, OF THE SUBSTATION THE CONTRACTOR INTENDS TO FURNISH AND INSTALL.

METHOD OF PAYMENT, ROADWAY AND DECK HEATING - PAYMENT FOR ITEM 623 ROADWAY AND DECK HEATING SHALL BE MADE AT THE CONTRACT LUMP SUM PRICE, WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR PERFORMING ALL EXCAVATION AND BACKFILL, FURNISHING AND INSTALLING HEATING CABLES, PRIMARY SERVICE CABLES, CIRCUIT CABLES, CONDUIT, JUNCTION BOXES, REMOVAL OF EXISTING WEARING COURSES, SUBSTATION CONCRETE, (EXCLUDING PAVEMENT MATERIALS) SUBSTATION FENCING AND GATE, LOAD CENTER UNIT SUBSTATION COMPLETE, SERVICE POLE, GROUNDING OF THE SYSTEM, TESTING OF THE CIRCUITS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM ACCORDING TO THE PLANS, COMPLETED AND ACCEPTED.





Concrete Slab for Unit Substation

Notes: Remove existing Asphaltic Concrete Wearing Courses in area to be occupied by concrete slab. Substation anchoring as per manufacturers specifications.

AIR SWITCH	750 KVA TRANS-FORMER 4160 V. Prim. 480 V. Sec.	Main Protective Device	26-30a. Circuit Breakers	26-30a. Circuit Breakers
POWER FUSES		4-100 a. & 4-30a. C.B.		

UNIT SUBSTATION LAYOUT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

115 / 12.2

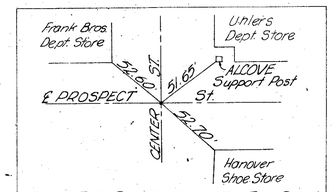
MAR.-23-11.05, MAR.-23D-0.87
MAR.-4-11.67, MAR.-4D-0.68

1 / 8

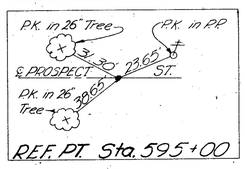
CENTER LINE SURVEY PLAT

MAR.-23-11.05, MAR.-23D-0.87
MAR.-4-11.67, MAR.-4D-0.68
MARION COUNTY
CITY OF MARION

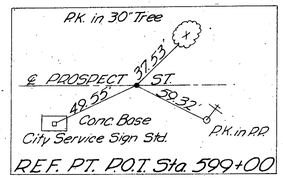
PROSPECT STREET



REF. PT. P.O.T. Sta. 583+96.6



REF. PT. Sta. 595+00



REF. PT. P.O.T. Sta. 599+00

Begin Project
Sta. 584+25.60
U.S. 23 D
S.L.M. 0.87

Original Town Plat
P.B. 1 Page 3

Baker's 3rd Addition
P.B. 1 Page 24

End Project
Sta. 598+16.50
U.S. 23 D
S.L.M. 1.13

PROSPECT ST. 66'

BEGIN ACQUISITION
Sta. 584+37.86

END ACQUISITION
Sta. 598+12.10

Sta. 589+06.80 ℄ Prospect St. =
M.P. Nº 100.86 In

Sta. 590+71.12 ℄ Prospect St. =
R.R. V.55 96+64.9

NYC. Railroad Co.

Erie Lackawanna Railroad Co.

Silver Street

Main St 82.5

Main St

Original Town Plat
P.B. 1 Page 3

Baker's 1st Addition
P.B. 1 Page 9

33.06' R/W

Bellevue Ave 33.3'

℄ George St 49.5'

Center St. 82.5'

Mill St.

BEGIN ACQUISITION
Sta. 584+38.76

STATE ST. 66'

END ACQUISITION
Sta. 598+13.00

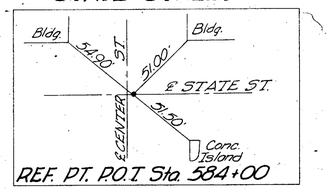
Sta. 589+07.83 State St. =
M.P. Nº 100.70 In

Sta. 590+71.78 State St. =
R.R. V.55. 88+17.3

Begin Project
Sta. 584+27.60
U.S. 23
S.L.M. 11.05

End Project
Sta. 598+21.80
U.S. 23
S.L.M. 11.31

STATE STREET



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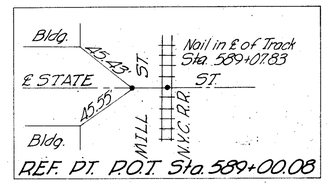

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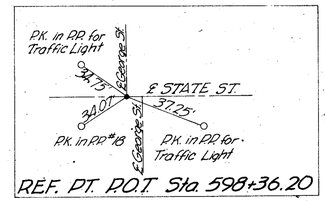


REF. PT. P.O.T. Sta. 598+36.20

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAY IN 1964 BY BARRETT ASSOCIATED ENGINEERS LIMITED
Dwight D. Stuckey DATE June 1, 1965

CENTER LINE SURVEY PLAT

JUN 3 1965

PROPERTY PLAN

MAR - 23 - 11.05 MAR - 23D - 0.87
MAR - 4 - 11.67 MAR - 4D - 0.68
CITY OF MARION MARION COUNTY
SEC. 22 TOWN 5S RANGE 15E

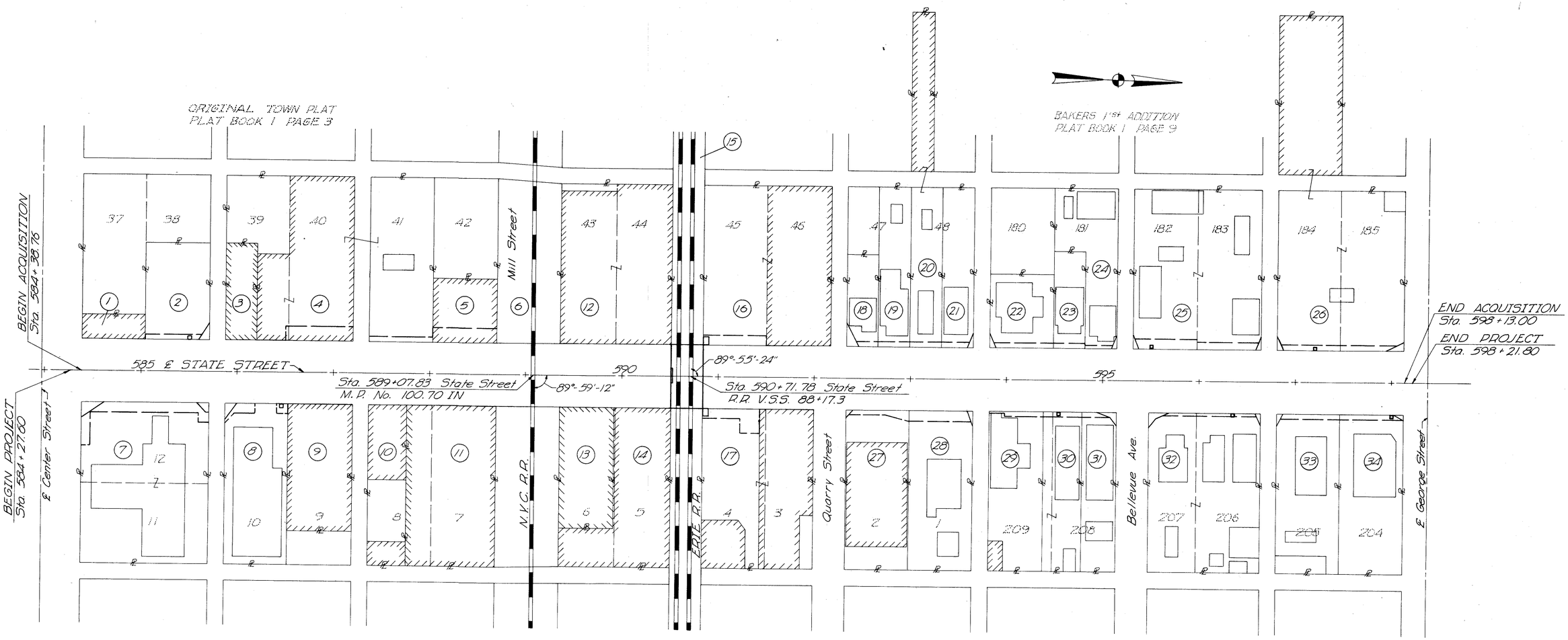
SCALE
0 100

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

116
122

2
8

MAR - 23 - 11.05
MAR - 23D - 0.87
MAR - 4 - 11.67
MAR - 4D - 0.68



Rev.	Date	Description

PROPERTY PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

117
122

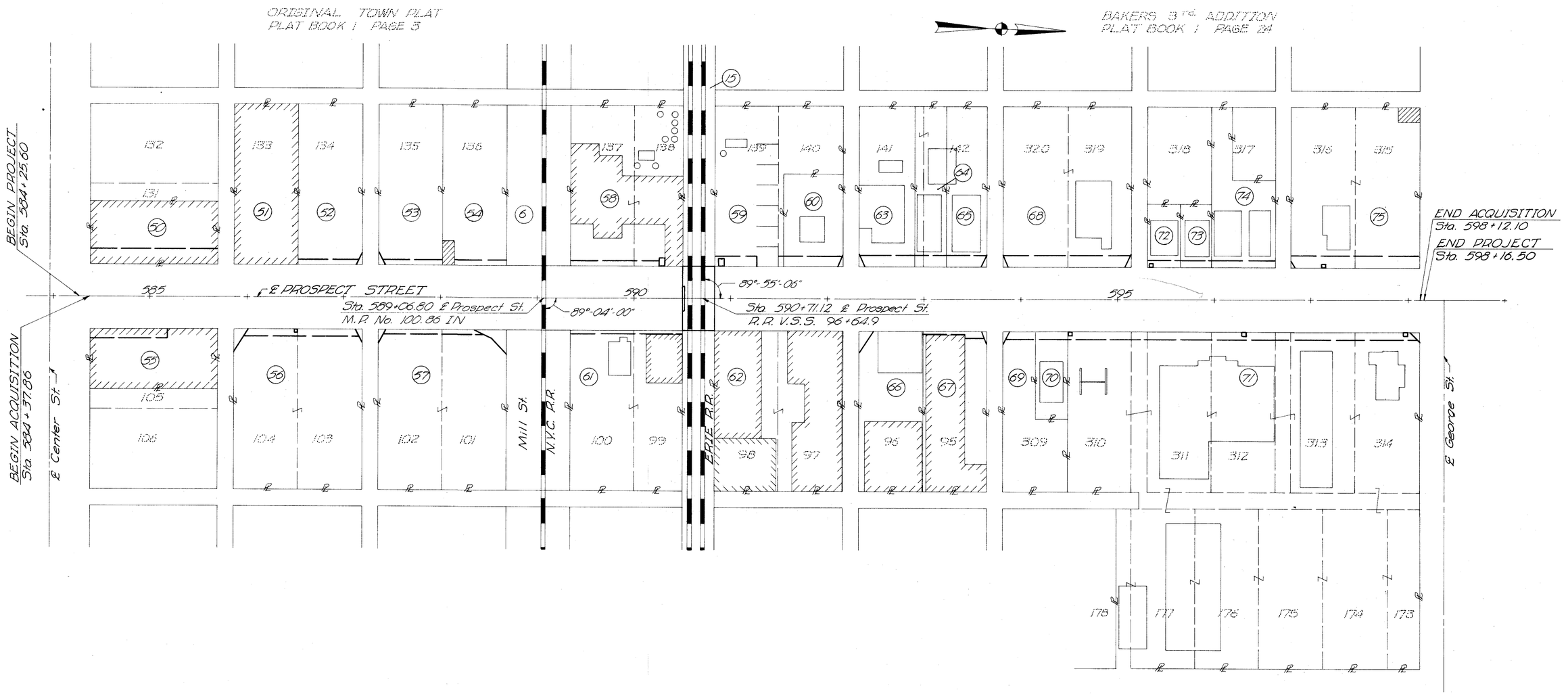
3
8

MAR- 23- 11.05
MAR-23D -0.87
MAR-4-11.67
MAR-4D-0.68

PROPERTY PLAN

MAR - 23 - 11.05 MAR - 23D - 0.87
MAR - 4 - 11.67 MAR - 4D - 0.68
CITY OF MARION MARION COUNTY
SEC. 22 TOWN 5S RANGE 15E

SCALE
0 100



Rev.	Date	Description

PROPERTY PLAN

NOTE:
No additional take required on all parcels indicated by plain numbers on detail sheets. Plain numbers used for identification only.

SUMMARY OF ADDITIONAL R/W REQUIRED

MAR-23-11.05
MAR-23D-0.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

118/122

4/8

PARCEL NO.	OWNER'S NAME	TYPE FUNDS	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA	TO BE ACQ'D LAND	TO BE ACQ'D BLD'S.	NET RESIDUE LEFT	NET RESIDUE RIGHT	SHEET NO.	Total Number of Owners State Street 26 REMARKS
	STATE STREET					SQ. FT.					
1	Howard R. Geer	U	395	110	1650.0					4	Original Town Plat Lot 37
2B	John Kline Bartram		296	303	6624.0	85.0		6523.0		4	Original Town Plat Lot 38
2A	John Kline Bartram		296	303		16.0				4	Original Town Plat Lot 38
2T	John Kline Bartram		296	303		272.7					Construct Sidewalk & Light Fixture
3	Emil J.E. Ackerman		212	499	3300.0					4	Original Town Plat Lot 39
✓ 4T	The Bush-Moore Newspapers Inc.		370	416	33654.0	1050.0		33654.0			Original Town Plat Lots 39, 40, & 41 D.B. 205 Pg. 389 & D.B. 326 Pg. 332 Fill S.W. Opening
✓ 4AT	The Bush-Moore Newspapers Inc.		350	168		331.2					" " " " " " " Build Sidewalk; Shape & Feather Driveway
5T	Frank Bruno Inc.		348	75	4371.8	993.60		4371.8		4	Original Town Plat Lot 42 Fill Sidewalk Opening
6B	N.Y.C. R.R.										
7B	The Pure Oil Company		373	283	21941.3	192.0			21681.8	4	Original Town Plat Lot 12 D.B. 233 Pg. 32 & D.B. 233 Pg. 364
7A	The Pure Oil Company		373	283		67.5					" " " " " " " " " " " " " "
7T	The Pure Oil Company		233	30		1512.9					Original Town Plat Lot 12 D.B. 233 Pg. 32 & D.B. 233 Pg. 364 Shape & Feather Drive
8B	Marion County Jail		1	19	10950.7	102.0			10832.7	4	Original Town Plat Lot 10
8A	Marion County Jail		1	19		16.0					Original Town Plat Lot 10
8T	Marion County Jail		1	19		318.0					Original Town Plat Lot 10 Rebuild Retaining Wall
8AT	Marion County Jail		1	19		104.0					Original Town Plat Lot 10 Construct Light Fixture
9	Martha L. Moore		312	206	8640.7					4	Original Town Plat Lot 9
10	Helen Sneckenberger		391	544	6636.8					4	Original Town Plat Lot 8
11	Frank Bruno		187	222	15264.6					4	Original Town Plat Lots 7 & 8 D.B. 218 Pg. 88
12	Houghton Mfg. Co.		151	292	19,136.7					4	Original Town Plat Lots 43 & 44
13	Ray Maag Et. Al.		248	191	7242.2					4	Original Town Plat Lot 6
14	Karl Dune		241	196	12239.7					4	Original Town Plat Lots 5 & 6
15B	Erie R.R. (See R/W Sheet No. 6)										
16A	Florence L. Slob		254	389	21859.2	48.0		21811.2		4	Original Town Plat Lots 45 & 46 D.B. 244 Pg. 190
16T	Florence L. Slob		254	389		602.0					" " " " " " Rebuild Drive; Shape & Feather Parking Lot
17A	Lou J. & James S. Teitelbaum		403	553	18172.0	48.0			18124.0	4	Original Town Plat Lots 3 & 4
17T	Lou J. & James S. Teitelbaum		403	553		897.0					" " " " " " " Construct Drive Connection
18A	Florice K. Leonard		371	515	3146.4	162.5		2983.9		4	Original Town Plat Lot 47
18T	Florice K. Leonard		371	515		107.1					" " " " " " Shape & Sod
19T	Walter & Florence L. Slob		332	413	5464.8	165.6		5464.8		4	Original Town Plat Lot 47 Shape & Sod
20T	Ida M. Habluetzel Et Al.		402	72	9088.2	165.0		9088.2		4	Original Town Plat Lot 48 Shape & Sod (5 Pt. Lot 49)
21A	Nellie E. Gardiner		256	44	5484.6	42.0		5442.6		4	Original Town Plat Lot 48
21T	Nellie E. Gardiner		256	44		141.6					" " " " " " Shape & Sod
✓ 22A	Marion Construction & General Labors Union House Co.		268	260	5034.2	42.0		4992.2		4	Bakers 1st Addition Lot 180
✓ 22T	Marion Construction & General Labors Union House Co.		268	260		306.6					" " " " " " Shape & Sod
23T	Fred C. & Princess L. Sappington		234	393	3300.0	165.0		3300.0		4	Bakers 1st Addition Lot 181 Shape & Sod
24A	Walter G. Malo		386	220	7629.6	42.0		7587.6		4	Bakers 1st Addition Lot 181
24T	Walter G. Malo		386	220		83.7					Bakers 1st Addition Lot 181 Shape & Sod
25C	Florence M. Moser (L.E.)		216	416	21859.2	42.0		21759.2		4 & 5	
✓ 25A	Florence M. Moser (L.E.)		216	416		16.0					Bakers 1st Addition Lots 182 & 183 D.B. 276 Pg. 154
✓ 25B	Florence M. Moser (L.E.)		216	416		42.0					" " " " " " " " " " " " " "
✓ 25T	Florence M. Moser (L.E.)		216	416		1034.9					" " " " " " " " " " " " Shape & Sod
26C	Harold G. Short		378	400	32,788.8	42.0		32645.3		5	Bakers 1st Addition Lots 184, 185 & 153
26A	Harold G. Short		378	400		16.0					" " " " " "
26B	Harold G. Short		378	400		89.5					" " " " " "
26T	Harold G. Short		378	400		553.2					" " " " " " Const. New Sidewalk; Shape & Feather Parking Lot
27A	Chad A. Hero		336	147	10942.9	28.0			10914.9	4	Original Town Plat Lot 2
27T	Chad A. Hero		336	147		382.1					" " " " " " Shape & Feather Parking Lot
28A	Seventh Day Adventists Church		149	212	10942.9	42.0			10900.9	4	Original Town Plat Lot 1
28T	Seventh Day Adventists Church		149	212		688.5					" " " " " " Shape & Sod
✓ 29T	William R. Barber (L.E.)		288	385	9273.0	236.0			9273.0	4	Bakers 1st Addition Lot 209 Shape & Sod
30A	Walter A. & Elsie R. Baldauf		363	61	6626.4	16.0			6610.4	4	Bakers 1st Addition Lots 208 & 209
30T	Walter A. & Elsie R. Baldauf		363	61		184.8					" " " " " " Shape & Sod
31A	Mary G. & John E. Mc Gowan		246	147	5959.8	99.0			5860.8	4	Bakers 1st Addition Lot 208
31T	Mary G. & John E. Mc Gowan		246	147		113.1					" " " " " " Shape & Sod
32C	Pinkey B. & Rose I. Nichols		236	572	19.097.1	122.5			18922.6	4 & 5	Bakers 1st Addition Lots 206 & 207 D.B. 327 Pg. 187 & D.B. 278 Pg. 384
32A	Pinkey B. & Rose I. Nichols		236	572		16.0					" " " " " " " " " " " " " "
32B	Pinkey B. & Rose I. Nichols		236	572		36.0					" " " " " " " " " " " " " "
32T	Pinkey B. & Rose I. Nichols		236	572		267.4					" " " " " " " " " " " " Shape & Sod
33A	Evelyn G. McKinstry		288	443	10929.6	36.0			10893.6	5	Bakers 1st Addition Lot 205
33T	Evelyn G. McKinstry		288	443		307.4					" " " " " " Shape & Sod
34B	Lydia Ralston		329	81-3	10929.6	25.0			10888.6	5	Bakers 1st Addition Lot 204
34A	Lydia Ralston		329	81-3		16.0					" " " " " "
34T	Lydia Ralston	U	329	81-3		290.2					" " " " " " Shape & Sod

All parcels on this sheet covered by "U" Type Funds

Rev.	Date	Description

SUMMARY OF ADDITIONAL R/W REQUIRED

MAR-23-11.05
MAR-23D-0.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

119/122

5/8

PARCEL NO.	OWNER'S NAME	TYPE FUNDS	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA	TO BE ACQ'D LAND	TO BE ACQ'D BLD'S	NET RESIDUE LEFT	NET RESIDUE RIGHT	SHEET NO.	Total Number of Owners Prospect Street = 24 REMARKS
	PROSPECT STREET					SQ. F.T.					
50T	The Uhler & Phillips Realty Co.	U	177	236	8627.3	1983.6				5	Original Town Plat Lot 131 W. Pt. Fill Sidewalk Openings
51	Leo T. & Mary Ellen Knight		288	167	10908.2					5	Original Town Plat Lot 133
52A	O.E. & Alvin H. Hamilton		212	2	10929.6	39.0		10890.6		5	Original Town Plat Lot 134
52T	O.E. & Alvin H. Hamilton		212	2		306.9					" " " " " Build Sidewalk, Shape & Feather Parking Lot
53A	Florence J. Guthery		237	378	10929.6	39.0		10890.6		5	Original Town Plat Lot 135
53T	Florence J. Guthery		237	378		306.9					" " " " " Build Sidewalk
54T	Emily R. Smith		306	377	10929.6	256.2				5	Original Town Plat Lot 136 Build Sidewalk & Driveway
55T	The Strelitz Realty Co.		388	565	8320.5	800.0				5	Original Town Plat Lot 106 Fill Sidewalk Openings
56C	The Jenkins Realty Co.		340	432	21859.2	161.0			21633.2	5	Original Town Plat Lot 103
56A	The Jenkins Realty Co.		340	432		16.0					" " " " "
56B	The Jenkins Realty Co.		339	177		49.0					Original Town Plat Lot 104
56T	The Jenkins Realty Co.					911.8					" " " " " Shape & Feather Parking Lot & Build Drives
57B	John Kline Bartram		296	271	21859.2	49.0			21465.2	5	Original Town Plat Lots 101 & 102
57A	John Kline Bartram		296	271		345.0					" " " " " "
57T	John Kline Bartram		296	271		486.4					" " " " " " Build Sidewalk, Shape & Feather Parking Lot
6A	N.Y.C. R.R.									1 (5)	
58A	Marion Milling Co.		384	7	19136.7	48.0		19088.7		5 & 6	Original Town Plat Lots 137 & 138
58T	Marion Milling Co.		384	7		459.9					" " " " " " Build Sidewalk
59A	The Millard Hunt Co.		171	286	16027.9	48.0		15979.9		6	Original Town Plat Lot 139
59T	The Millard Hunt Co.		231	204		414.6					Original Town Plat Lot 140 S. 5 Feet Build Driveway
60A	Alfred J. & Johanna Dietrich		399	237	5815.9	45.5		5770.4		6	Original Town Plat Lot 140 N. Pt.
60T	Alfred J. & Johanna Dietrich		399	237		569.1					" " " " " " " Shape, Feather & Sod Lawn
										5 & 6	
61T	The Millard Hunt Co.		194	32	19136.7	463.9					Original Town Plat Lots 100 & 99 D.B. 146 Pg. 500 Build Sidewalk & Driveway
62	Rello & Warren J. Malo		262	257	21859.2					6	Original Town Plat Lot 97
62	Rello & Warren J. Malo		389	493							Original Town Plat Lot 98
63A	Ross A. & Sarah E. Chapman		310	53	9570.0	39.0		9531.0		6	Original Town Plat Lot 141 S. Pt.
63T	Ross A. & Sarah E. Chapman		310	53		657.2					" " " " " " Build Drive & Shape, Feather, & Sod Lawn
64T	Joseph Lupica.		233	8	5362.5	390.0				6	Original Town Plat Lot 141 N. Pt. Build Drive & Shape, Feather, & Sod Lawn
65A	Ronald T. & Lucill M. Pask		287	277	6926.7	39.0		6887.7		6	Original Town Plat Lot 142 N. Pt.
65T	Ronald T. & Lucill M. Pask		287	277		465.0					" " " " " " " Build Drive & Shape, Feather, & Sod Lawn
66A	The Isaly Dairy Co.		150	121	10929.6	154.0			10775.6	6	Original Town Plat Lot 96
67A	C. & J. Realty Inc.		356	344	10929.6	39.0			10890.6	6	Original Town Plat Lot 95
67T	C. & J. Realty Inc.		356	344		260.7					" " " " " Build Sidewalk & Shape & Feather Parking Lot
68B	William P. Moloney		380	183	21859.2	39.0		21781.2		6	Baker's 3rd Addition Lots 319 & 320
68A	William P. Moloney		380	183		39.0					" " " " " "
68T	William P. Moloney		380	183		1512.2					" " " " " " Shape, Feather & Sod Lawn
69A	Mary Maude O'Connell (Life Estate)		226	4	7959.6	39.0			7920.6	6	Baker's 3rd Addition Lot 309
69T	Mary Maude O'Connell (Life Estate)					232.7					" " " " " Shape, Feather & Sod Lawn
70T	Margaret Dombaugh				2970.0	264.0				6	Baker's 3rd Addition Lot 309 Shape, Feather & Sod Lawn
71D	Clarence G. Issenmann, Bishop of Diocese of Columbus		354	318	117711.0	16.0			117613.0	6	Bakers 3rd Addition Lots 310, 311, 312, 313, & 314 Including two vacated alleys
71A	Clarence G. Issenmann, Bishop of Diocese of Columbus		354	318		16.0					" " " " " " " " " " " " " "
71B	Clarence G. Issenmann, Bishop of Diocese of Columbus					16.0					" " " " " " " " " " " " " "
71C	Clarence G. Issenmann, Bishop of Diocese of Columbus					50.0					" " " " " " " " " " " " " "
71T	Clarence G. Issenmann, Bishop of Diocese of Columbus					2818.6					" " " " " " " Shape, Feather & Sod Lawn
72A	James W., Clara M. & Lowell Cooperider		256	369	2225.6	16.0			2209.6	6	Charles R. Adams Subdivision of Lots 317 & 318. Lot 12074
72T	James W., Clara M. & Lowell Cooperider		256	369		223.7					" " " " " Rebuild Retaining Wall & Sod Lawn →
73T	Addie F. Piper		226	79	2080.0	224.0				6	Charles R. Adams Subdivision of Lots 317 & 318. Lot 12073 D.B. 202 Pg. 341 →
74T	Clara. & Philip C. Malo		219	582	7554.6	463.7				6	Bakers 3rd. Addition Lot 317 D.B. 249 Pg. 51 →
75B	Jay H. Maish Et. Al.		386	513-5	21859.2	17.5		21825.7		6	Baker's 3rd. Addition Lots 315 & 316
75A	Jay H. Maish Et. Al.					16.0					" " " " " "
75T	Jay H. Maish Et. Al.					1556.3					" " " " Shape, Feather & Sod Lawn
15A	Erie R.R. (See R/W Sheet No. 8)	U								6	

All parcels on this sheet covered by "U" Type Funds

Rev.	Date	Description

SUMMARY OF R/W REQUIRED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

120
122

6
8

MAR. - 23 - 11.05
MAR. - 23D - 0.87

Ohio Fuel Gas Co. — Columbus, Ohio
Marion Water Co. — Marion, Ohio
Ohio Edison Co. — Akron, Ohio
General Telephone Co. — Marion, Ohio

ORIGINAL TOWN PLAT
PLAT BOOK 1, PAGE 3

CITY OF MARION
SEC. 22, T5S, R15E

BEGIN PROJECT
STA. 584+2760

BEGIN ACQUISITION
Sta. 584+38.76

STREET

BEGIN WORK
STA. 580+3500

+985 ℄ CENTER

Parking Lot
John Kline Bortrom
(2/7) (2B)
T.B.A. 272.7 S.F. T.B.A. 85.0 S.F.

2 Sty. Brick
Howard P. Geer
(1)

(3/A) (2)
T.B.A. 160 S.F. +50 35 Lt.

High Voltage Elec. Tower

Exist 12" S.W.

Exist 10" S.W.

Exist 6" Gas

2 Sty. Brick
Emil J.E. Ackermon
(3)

2 Sty. Brick
The Brush-Moore Newspaper Inc.
(4/7) (4)
T.B.A. 1050.0 S.F.
5½ x 5½ S.W. Elevator Opening 70'

Exist. R/W

Work Limits

Exist 10" S.W.

Exist 4" Gas

Parking Lot
The Brush-Moore Newspaper Inc.
(4/AT)
T.B.A. 331.2 S.F.

High Voltage Elec. Pole

Exist 10" S.W.

3 Sty. Brick
Frank Bruno
(5/7) (5)
T.B.A. 993.6 S.F.

3½ x 5½ S.W. Elevator (Abandoned)

3 x 3 S.W. Coal Shoot

Exist 3" Gas

MILL STREET

N.Y.C. R.R.

AR Cross Gate & Flasher

(6B)

3 Sty. Brick
Houghton Mfg. Co.
(12)

Work Limits

Exist 11" S.W.

584 585 STATE STREET 586 589 590

N3°-44'-00"W

89°-59'-12"

Sta. 589+07.83 State
= M.P. No. 100.70 IN.

Exist 8" Water

Exist 4" Gas

Exist 8" Gas

Exist 10" S.W.

Sign

Shrubs

Work Limits

High Voltage Elec. Tower

Exist. R/W

Ex. Retaining Wall

Conc. S.W.

3 Iron Balcony, 2nd Floor

Elec. Pole

Work Limits

Exist. R/W

Exist 10" S.W.

AR Cross Gate & Flasher

Work Limits

Exist 10" S.W.

(7) The Pure Oil Company (7/7) (7B) (7/A)
T.B.A. 192.0 S.F. T.B.A. 1512.9 S.F. T.B.A. 67.5 S.F.

(8) Marion Co. Jail
2 Sty. Brick
(8/A) (8B)
T.B.A. 102.0 S.F. T.B.A. 16.0 S.F.

(8/7) (8/AT)
T.B.A. 318.0 S.F. T.B.A. 104.0 S.F.

(9) 3 Sty. Brick
Martha L. Moore

(10) 3 Sty. Brick
Helen Sneckenberger

(11) 3 Sty. Brick
Frank Bruno

(13) 1½ Sty. Brick
Ray Maag (et al)

NOTE: * Not to be disturbed

ORIGINAL TOWN PLAT
PLAT BOOK 1 PAGE 3

CITY OF MARION
SEC. 22, T5S, R15E

BAKER'S 1ST. ADDITION
PLAT 1 PAGE 9

(15 Aerial) T.B.A. 2182 S.F.

(15B) T.B.A. 275 S.F.

The Erie-Lackawana Railroad Co.			
Parcel Number	Easement Required	Total Area	Area of Overlap
15 Aerial	Aerial	2182 S.F.	Highway 275 S.F.
15B	Aerial	275 S.F.	
	Highway	275 S.F.	

3 Sty. Brick
Houghton Mfg. Co.
(12)

Parking Lot
(16) (16A) T.B.A. 48.0 S.F. (16/7) T.B.A. 602.0 S.F.

1½ Sty. Block
Florence L. Slob

1 Sty. Frame
F.L. Leonord
(18A) T.B.A. 162.5 S.F.
(18/7) (18) T.B.A. 107.1 S.F.

1½ Sty. Frame
W. & F.L. Slob
(19/7) (19) T.B.A. 165.6 S.F.

1 Sty. Frame
I.M. Hobluetzel
(20/7) (20) T.B.A. 165.0 S.F.

1½ Sty. Frame
E.A. & N.E. Gardiner
(21A) T.B.A. 42.0 S.F.
(21/7) (21) T.B.A. 141.6 S.F.

2 Sty. Frame
Laborers Union House Co.
(22/A) T.B.A. 42.0 S.F.
(22/7) (22) T.B.A. 306.6 S.F.

1½ Sty. Frame
F.C. & P.L. Sappington
(23/7) (23) T.B.A. 165.0 S.F.

1½ Sty. Frame
W.G. Molo
(24/A) T.B.A. 42.0 S.F.
(24/7) (24) T.B.A. 83.75 S.F.

1 Sty. Frame
F.M. Moser (life estate)
(25/6) T.B.A. 42.0 S.F.
(25/A) T.B.A. 16.0 S.F.
(25/7) (25) +50 35' Lt. T.B.A. 1034.9 S.F.

BELLEVUE ST.

Exist. R/W

Work Limits

Exist 5" S.W.

Exist 4" Gas

Exist 6" Water

Sta. 590+71.78 State St.
R.R. V.S.S. 16088+17.3

N3°-44'-00"W

STATE STREET

592 594 595 596

20" V.S.S. 16088+24.8 ±82
7.5" HWY Survey
590+51.30

N3°44'00"W

89°-55'-24"

R.R. Gate

Work Limits

N3°44'00"W

I Sty. Brick
Karl Dune
(14)

(17A) T.B.A. 48.0 S.F.

Parking Area
Lou J. & James S. Teitelbaum
(17) T.B.A. 897.0 S.F.

2 Sty. Brick

R.R. Protective Device

Exist 6" S.W.

Work Limits

3" x 11" Conc. Base for Sign

Parking Area
Chad A. Hero
(27A) T.B.A. 28.0 S.F.
(27/7) T.B.A. 382.1 S.F.

Seventh Day Adventists Church
(28/A) T.B.A. 42.0 S.F.
(28/7) T.B.A. 688.5 S.F.

(28)

Exist. R/W

Work Limits

(29) I Sty. Frame
W.R. Barber (life estate)
(29/7) T.B.A. 236.0 S.F.

(30) I Sty. Frame
W.A. & E.R. Baldauf
(30/A) T.B.A. 16.0 S.F.
(30/7) T.B.A. 184.8 S.F.

(31A) T.B.A. 99.0 S.F.
(31/7) T.B.A. 113.1 S.F.

(31) I Sty. Frame
John & M.G. Mc. Cowon

(32) I Sty. Frame
P.B. & R.I. Nichols
(32/A) T.B.A. 102.5 S.F. T.B.A. 267.4 S.F.

Rev	Date	Description
	8-16-65	Changes at Erie R.R.

STATE STREET RIGHT OF WAY Sta. 584 to Sta. 596

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

121
122

MAR-23-11.05
MAR-23D-0.87

7
8

CITY OF MARION
SEC. 22, T5S, R15E

BAKERS 1ST ADDITION
PLAT 1, PAGE 9

1 Sty. Frame
F.M. Moser (life estate)
183
25
25/A T.B.A. 103.49 S.F.
25/B T.B.A. 42.0 S.F.

Used Car Lot
Harold G. Short
184
26/C T.B.A. 42.0 S.F.
26
26/A T.B.A. 16.0 S.F.
28/B 185
T.B.A. 85.5 S.F.
26/T T.B.A. 553.2 S.F.

Work Limits
Shrubs
6" 14' 14" 7' 64.96' 7' 8"
R/W
132.48' Exist. 5' S.W.
6" 26" 15"
Exist. R/W
+20 35' Lt. R/W
+45 Pvt. St.
Work Limits R/W
5' 6' 5' 19'
132.48' Exist. 5' S.W.
82 Private S.L. +84 P.P.
109 P.P. +14 Private S.L.
Exist. 5' S.W.
Exist. 6" Gas

END ACQUISITION
Sta. 598+13.00
END PROJECT
STA. 598+21.8

596 STATE STREET 597 599 600
Exist. 6" Gas
Exist. 6" Water

15" 18" 15" 6" 24"
118.74' Exist. 6' S.W.
6' 12' Retaining Wall
Sign 3' 3' +39 35' Rt. R/W
S.W.
6' 66.24' 12' 12' 15' 28'
R/W R/W
82 P.P.
Work Limits
Exist. R/W
Exist. 5' S.W. 66.24' 10'
+20 35' Rt. Shrubs R/W
12' 15' 12' 40.74'
Exist. 5' S.W.
Stone Retaining Wall
36.24' 28'
Exist. 5' S.W.
Exist. 6" Gas
Exist. Water
+54 F.H.
Exist. 5' S.W.

205
206
204
32 2 Sty. Frame P.B. & R.I. Nichols
32/T T.B.A. 267.4 S.F.
32/A T.B.A. 16.0 S.F.
32/B T.B.A. 36 S.F.
33 2 Sty. Frame Evelyn G. Mc Kinstry
33/B T.B.A. 36.0 S.F.
33/T T.B.A. 307.4 S.F.
34 2 Sty. Frame Lydio Rolston
34/B T.B.A. 25.0 S.F.
34/A T.B.A. 16.0 S.F.
34/T T.B.A. 290.2 S.F.
35 2 Sty. Frame C.A. & D.M. Johns
36 2 Sty. Frame C.J. & M. Bode
37 2 Sty. Frame C.F. Lusch Jr.
Trees to Remain

END WORK
STA 600+02.00

CITY OF MARION
SEC. 22, T5S, R15E

ORIGINAL TOWN PLAT
PLAT BOOK 1 PAGE 3

BEGIN PROJECT
STA 584+25.60
STREET
BEGIN ACQUISITION
Sta. 584+37.86
Ex. 4" Gas?
BEGIN WORK
STA. 584+49.00
+966 ℄ CENTER

4 Sty. Brick
The Uhler & Phillips Realty Co.
131
50/T T.B.A. 1983.6 S.F.
50
+26 F.H. S.L.
Ex. 12' S.W.
+57 S.L.
15' Work Limits 15'
132.24'
Stone Wall

3 Sty. Brick
Leo T & Mary Ellen Knight
133
51
+97 S.L.
Existing R/W
Ex. 12' S.W.

City Parking Lot
O.E. & Alvin H. Hamilton
134
52/A T.B.A. 39.0 S.F.
52
52/T T.B.A. 306.9 S.F.
R/W
66.24'
5' 5' 13'

Private Parking Lot
Florence J. Guthery
135
53/A T.B.A. 39.0 S.F.
53
53/T T.B.A. 306.9 S.F.
141 F.H. +69 S.L.
R/W
66.24'
5' 5' 6'

Parking Lot
Emily R. Smith
136
54/T T.B.A. 256.2 S.F.
54
+65 S.L.
Conc. Block Bld.
Work Limits
66.24'
5' 5' 5'

Prospect St.
Ex. 4" Gas
584 585 PROSPECT STREET 586
Ex. 8" Water
N03°-45'-30"W

Ex. 12' S.W.
132.24'
10' 10' 80'
Work Limits
+26 S.L.
Ex. 12' S.W.
2"x3' S.W. opening
2"x4' S.W. opening
+75 S.L.
2"x3' S.W. opening
4"x6' S.W. Elevator
2"x3' S.W. Vent
2"x3' S.W. opening
High Voltage Tower
3 Sty. Brick
The Strelitz Realty Co.
55/T T.B.A. 800.0 S.F.
55

Ex. 12' S.W.
14' 132.48' 7'
23"
R/W
+92 F.H.
+97 S.L.
+51 35' Rt.
Existing R/W
R/W
104 103
56/A T.B.A. 161.0 S.F.
56/B T.B.A. 16.0 S.F.
56
56/T T.B.A. 911.8 S.F.
City Parking Lot
Jenkins Realty Co.
58/B T.B.A. 49.0 S.F.

Ex. 12' S.W.
Ex. 11' S.W.
Conc. 32.5%
7' 14' 132.48' 8' 14' 7'
+45 S.L.
+55 F.H.
Work Limits
Parking Meters and Bumpers
S20°-28'-10"W 21.93'
R/W
102 101
+75 S.L.
+69 S.L.
City Parking Lot
John Kline Bortrom
57/B T.B.A. 490 S.F.
57
57/T T.B.A. 486.45 S.F.
S43°-05'-21"W 21.93'
+65 S.L.
57/A T.B.A. 345.0 S.F.
N86°-14'-30"E
MILL STREET

6/A
Ex. RR Gate & Flashers
R.R. Siding
Ex. RR Gate & Flashers
Stone Headwall
N.Y.C. R.R.

2 Sty. Brick
Marion Milling Co.
137
58/A T.B.A. 48.0 S.F.
58
58/T T.B.A. 459.9 S.F.
5' 115.98' 5'
Ex. 4' S.W.
Sta. 589+00.80
M.P. No. 100.86
80°-59'-12"
590
Conc. Wall
115.98'
+34 S.L.
100
61
1 Sty. Brick
The Millord Hunt Co.
64/T T.B.A. 463.9 S.F.

Rev.	Date	Description

STATE STREET RIGHT OF WAY Sta. 596 to Sta. 600

PROSPECT STREET RIGHT OF WAY Sta. 584 to Sta. 590

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

122
122

8
8

MAR-23-11.05
MAR-23D-0.87

ORIGINAL TOWN PLAT
PLAT BOOK 1 PAGE 3

CITY OF MARION
SEC. 22, T5S, R15E

BAKER'S 3RD.
PLAT BOOK 1 PAGE 24

58 — 2 Sty. Brick, Marion Milling Co.
59 — The Millard Hunt Co.
60 — 2 Sty. Frame, Alfred & Johonno Dietrich
63 — 2 Sty. Stone, R.A. & S.E. Chapman
64 — 2 Sty. Frame, Joseph Lupico
65 — 2 Sty. Frame, R.T. & L.M. Pask
68 — W.P. Moloney
72 — Charles R Adams Subdn of Lot 317 & 318
73 — 2 Sty. Frame, A.F. Piper

15A Aerial — T.B.A. 2182 S.F.
15A — T.B.A. 38 S.F.
58 — T.B.A. 480 S.F.
58T — 138 — T.B.A. 4599 S.F.
59A — T.B.A. 480 S.F.
59T — T.B.A. 414.6 S.F.
60A — T.B.A. 455 S.F.
60T — T.B.A. 569.1 S.F.
63A — 141 — T.B.A. 390 S.F.
63T — T.B.A. 657.25 F.
64T — T.B.A. 390 S.F.
62T — T.B.A. 465.05 F.
68A — 320 — T.B.A. 390 S.F.
68T — T.B.A. 1512.2 S.F.
72A — T.B.A. 160 S.F.
72T — 120.74 Lot 120.73 — T.B.A. 223.7 S.F.
73 — T.B.A. 224 0 S.F.

R.R. Procective Device
R.R. Protective Device
Existing Retaining Wall
Cool Storage Bins
Conc. Burger
R.R. Siding
Ex. R.R. Gate & Flasher
Tele. M.H.
Ex. 4" Gas
Ex. 6" Water
Ex. 5' S.W.
Ex. 13' S.W.
Work Limits
Exist. R/W
Sign
Hedge
Shrubs
Ex. 4' S.W.
Ex. 6' S.W.

20' R.R. V.S.S. 16096+74.9 L.&N.
O.H.W.Y. Survey
590 + 50.40
590
Sta. 590+71.12 & Prospect St.
R.R. V.S.S. 16096+64.9
N3°45'30"W
N86°14'30"E
N89°55'06"
N03°42'54"W
P.I. +16.5
595
596
PROSPECT STREET

The Erie-Lackawanna Railroad Co.

Parcel Number	Easement Required	Total Area	Area of Overlap	Aerial
15A Aerial	Aerial	2182 S.F.	338 S.F.	
15A	Highway	38 S.F.		

61 — 1 Sty. Frame, The Millard Hunt Co. — T.B.A. 463.9 S.F.
62 — Rella & Warren J. Molo
66 — 1½ Sty. Brick, Isoly Dairy Co. — T.B.A. 154 0 S.F.
67 — 1 Sty. Brick, C & J. Realty Co — T.B.A. 39 0 S.F. — T.B.A. 260.7 S.F.
69 — Mary Maude O'Connell (life estate) — T.B.A. 39 0 S.F. — T.B.A. 232.7 S.F.
70 — 2 Sty. Frame, Margoret Dombaugh — T.B.A. 264 0 S.F.
71 — Clarence G Issenmonn, Bishop of Diocese of Col. — T.B.A. 16.0 S.F.
2½ Sty. Brick School

ERIE R.R.

Note: * Not to be disturbed

CITY OF MARION
SEC. 22, T5S, R15E

BAKER'S 3RD.
PLAT BOOK 1 PAGE 24

75 — 2 Sty. Frame, J.H.
75B — T.B.A. 17.5 S.F.
75A — Exist. R/W — T.B.A. 16.0 S.F.
75T — Parking Lot, Maish (et al) — T.B.A. 1556.3 S.F.
74 — 2-2 Sty. Frames, Phillip C. & Clora Mob
74T — T.B.A. 463.7 S.F.

Exist. Retaining Wall
Work Limits
Shrubs
Ex. 4' S.W.
Ex. 5' S.W.
Ex. 6" Water
Ex. 4" Gas
Ex. 6" Gas
Hedge
Ex. 4' S.W.
Ex. 6' S.W.
Ex. 6' Gas
Ex. 4' S.W.

Som & Hozel Bionchi
Forest A. & Romono W. Beech
Lottie Hull
END ACQUISITION
Sta. 598+12.10
END WORK
STA. 601+45.00
END PROJECT
STA. 598+16.50
Roy Reidenbough
Robert E. Young
GEORGE STREET

596 — 597 PROSPECT STREET N3°42'54"W — 598 — 599 — 600

312 — 2½ Sty. Brick School
313 — Exist. R/W — 2 Sty. Frame
314 — 2 Sty. Frame
71 — Clarence G. Issenmonn, Bishop of Diocese of Columbus

71A — T.B.A. 16.0 S.F.
71B — T.B.A. 16.0 S.F.
71 — T.B.A. 50.0 S.F.
71T — T.B.A. 2818.6 S.F.

Rev.	Date	Description
	8-16-65	Changes at Erie R.R.

PROSPECT STREET RIGHT OF WAY Sta. 590 to Sta. 600

MAR-23-11.05
MAR-23D-0.87

1/8

1/4

GEOLOGY OF THE SITE

The structure site is located on the flat, glaciated Mississippi Valley Plain, in an area where thin glacial drift overlies dolomite bedrock, of Devonian age.

EXPLORATION

The exploration consisted of four drive sample-core borings, made in August, 1962, and on August 31 and September 1, 1964.

INVESTIGATIONAL FINDINGS

The borings encountered stiff to very stiff silts and clays, and medium-dense to dense sands, silts and gravels to bedrock surface, encountered at 8 to 15-foot depths, elevations 970 to 965 feet. The borings were terminated at 14 to 40-foot depths, elevations 967 to 940 feet, in dolomite bedrock.

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
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows For Standard Penetration Test.
  X = Number of Blows for First 6 Inches.
  Y = Number of Blows for Second 6 Inches.
- 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 Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

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 Highways, 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 sub-surface 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., 1-3/8" 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., 1-3/8" 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 in two 6-inch increments, 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 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.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)	0.005mm	

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

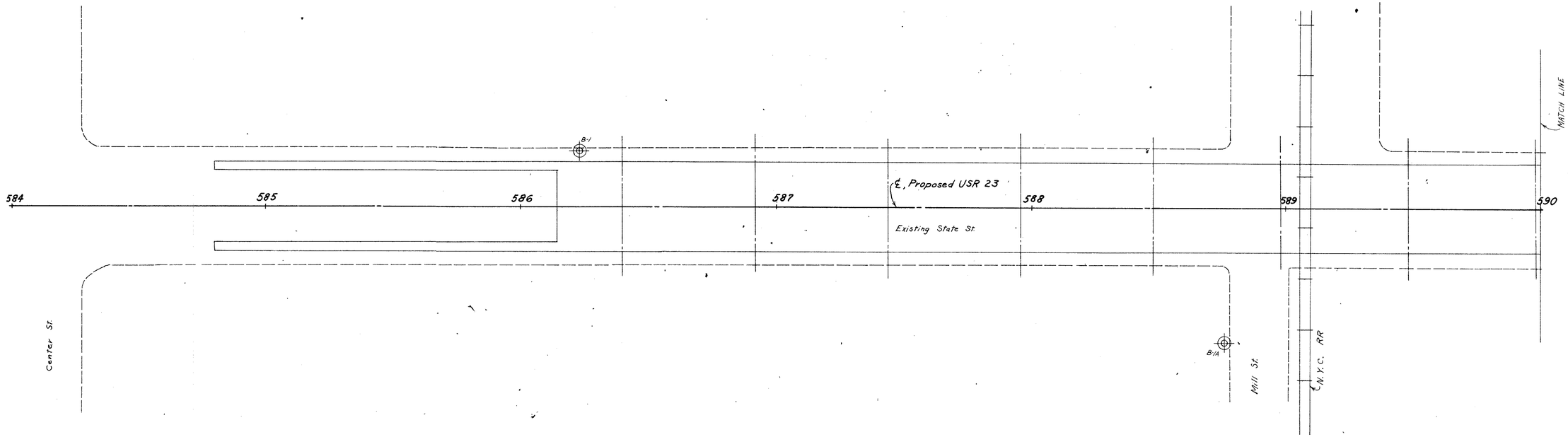
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. MAR-23 & 4 NB-
OVER N.Y.C. & E.L. RAILROADS
SEC. MAR-23 & 4 NB-(11.04) (11.65)

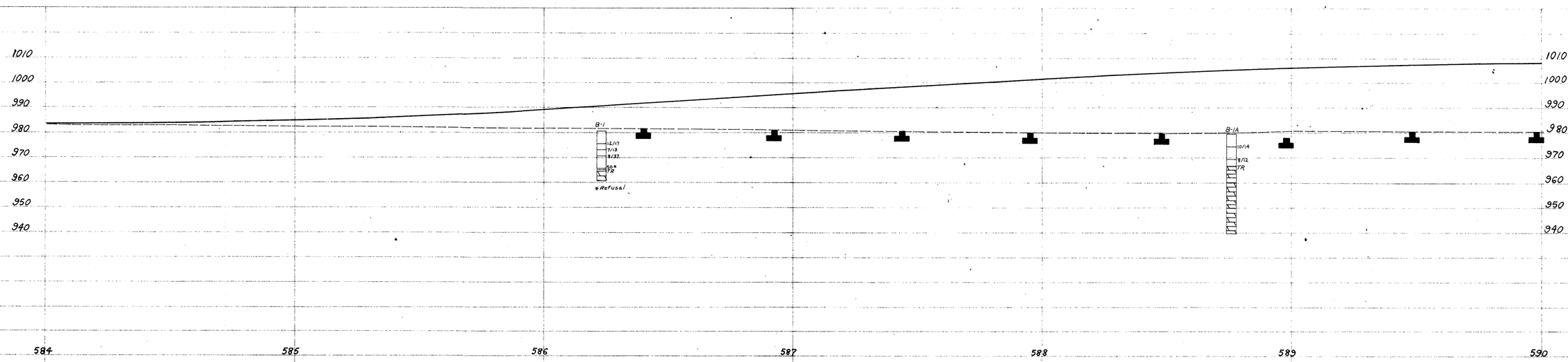
CHECKED BY	REVIEWED BY	DATE
R.H.P.	R.D.R.	10/2/64

MAR.-23-11.05
MAR.-23D-0.87

2/8

2/4





SCALE: 1"=20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. MAR-23 & 4 NB-
OVER N.Y.C. & E.L. RAILROADS
SEC. MAR-23 & 4 NB-(11.04) (11.65)

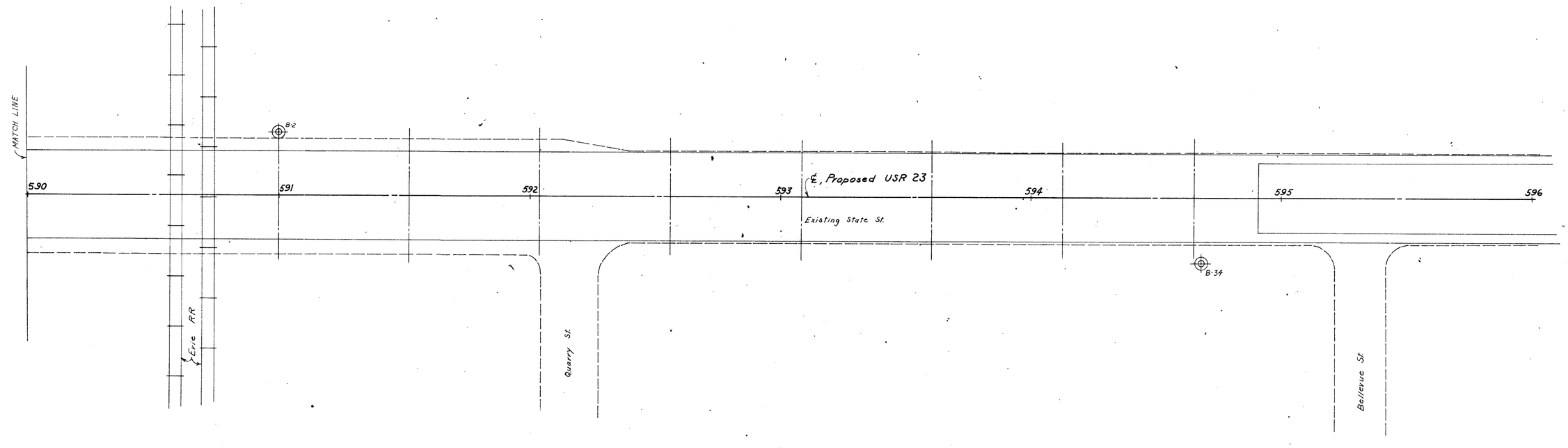
PLAN AND PROFILE

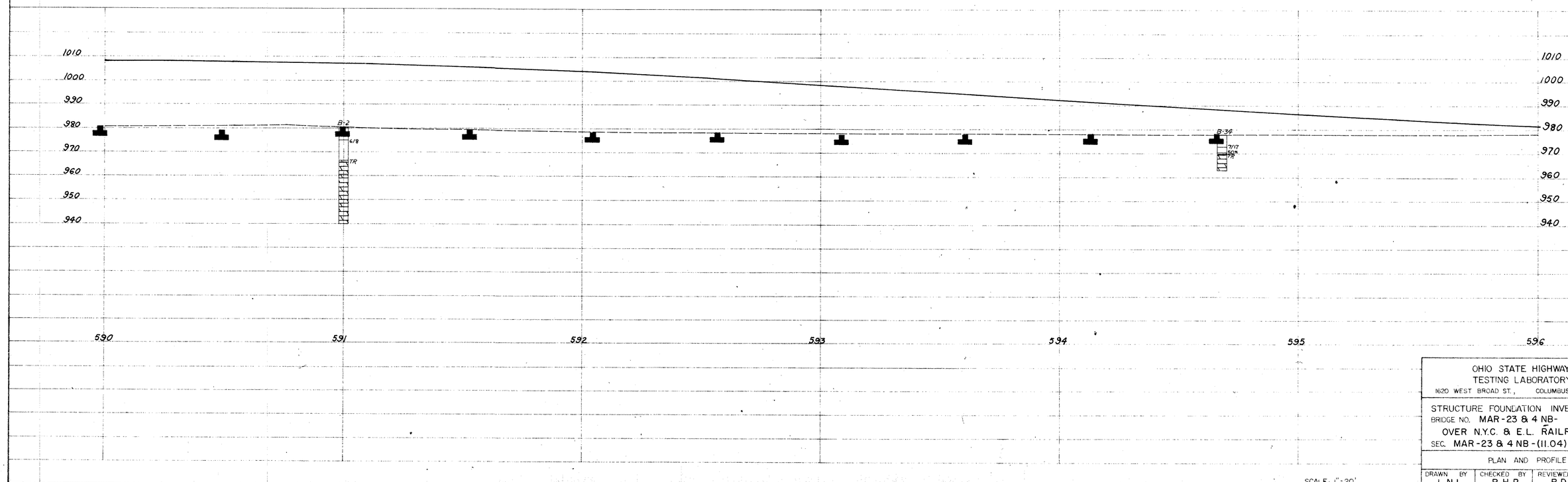
DRAWN BY	CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.H.P.	R.D.R.	10/2/64

MAR-23-1105
MAR-23D-0.87

3/8

3/4





SCALE: 1"=20'

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST., COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. MAR-23 & 4 NB-
OVER N.Y.C. & E.L. RAILROADS
SEC. MAR-23 & 4 NB-(11.04) (11.65)

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.H.P.	R.D.R.	10/2/64

MAR.-23-11.05
MAR.-23D-0.87

4/8

4/4

LOG OF BORING

Date Started 8-31-64 Sampler Type SS Dia. 1 3/8"
Date Completed 9-1-64 Casing: Length 15' Dia. 3 1/2"
Boring No. B-1 Station & Offset 586+23, 22' Lt (REAR ABUTMENT)
Water Elev. ____ Surface Elev. 980.6'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
980.6	0														
	2														
975.6	4														
	6	11/17			Brown and Gray Sandy Gravelly Silt	1	19	8	9	29	35	27	8	18	
973.1	8	7/13			Brown and Gray Clayey Silt	2	0	9	10	43	38	28	7	19	
970.6	10														
	12	8/37			Brown and Gray Gravelly Silt	3	38	9	1	11	41	22	6	8	
967.6	14														
965.3	16	50/4"			Gray Sandy Silt and Stone Fragments	4	V	I	S	U	A	L	NP	NP	9
		50/3"			TOP OF ROCK										
	18		4.5	0.0	Dolomite, gray, hard, slightly jointed. No core loss.										
960.6	20				BOTTOM OF BORING										

*REFUSAL

LOG OF BORING

Date Started 8-29-62 Sampler Type SS Dia. 1 3/8"
Date Completed 8-30-62 Casing: Length 13' Dia. 3 1/2"
Boring No. B-1A Station & Offset 588+76, 53' Rt (FIFTH PIER)
Water Elev. ____ Surface Elev. 979.6'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
979.6	0														
	2														
	4														
974.6	6	10/14			Brown Silt and Clay	1	18	5	8	31	38	35	14	22	
	8														
969.6	10	8/12			Brown Sandy Silt	2	40	8	12	22	18	28	8	21	
966.6	12														
	14		1.9	0.1	TOP OF ROCK										
	16														
	18		2.9	2.1											
	20														
	22				Dolomite, gray, hard, dense, badly broken to 22.0', broken below, vertically jointed at irregular intervals to 22.0'. Core loss 8%.											
	24														
	26		10.0	0.0											
	28														
	30														
	32														
	34		10.0	0.0											
	36														
	38														
939.6	40				BOTTOM OF BORING										

LOG OF BORING

Date Started 8-30-62 Sampler Type SS Dia. 1 3/8"
Date Completed 8-30-62 Casing Length 14' Dia. 3 1/2"
Boring No. B-2 Station & Offset 591+00, 25' Lt (NINTH PIER)
Water Elev. ____ Surface Elev. 980.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
980.0	0														
	2														
	4														
975.0	6	6/8			Brown Silt and Clay	1	40	9	10	19	22	33	14	23	
	8														
	10														
	12		1.8	4.2											
966.5	14				TOP OF ROCK										
	16														
	18		5.0	0.0											
	20														
	22				Dolomite, gray, hard, dense, broken, vertically jointed at irregular intervals to 18.0'. No core loss.											
	24		18.0	0.0											
	26														
	28														
	30														
	32														
	34		10.0	0.0											
	36														
	38														
940.0	40				BOTTOM OF BORING										

LOG OF BORING

Date Started 9-1-64 Sampler Type SS Dia. 1 3/8"
Date Completed 9-1-64 Casing: Length ____ Dia. ____
Boring No. B-3A Station & Offset 594+68, 26' Rt (FORWARD ABUTMENT)
Water Elev. ____ Surface Elev. 977.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	Pl.	W.C.	SHTL Class.
977.9	0														
	2														
	4														
972.9	6	7/17			Brown Sandy Clay	1	11	11	12	33	33	31	11	17	
970.4	8	50"(0.6')			TOP OF ROCK Brown Silt and Stone Fragments	2	80	7	3	-1	0-	NP	NP	19	
969.9	10		1.1	0.8											
	12				Dolomite, gray, hard, jointed and broken. Core loss 26%.										
	14		4.0	1.0											
962.9					BOTTOM OF BORING										

*REFUSAL

OHIO STATE HIGHWAY
TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. MAR-23 & 4 NB -
OVER N.Y.C. & E.L. RAILROADS
SEC. MAR-23 & 4 NB - (11.04) (1.65)

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
J.A.G.	R.C.	R.D.R.	10/26

MAR.-23-1105
MAR.-23D-0.87

5/8

4

GEOLOGY OF THE SITE

The structure site is located on the flat, glaciated Mississippi Valley Plain, in an area where relatively thin glacial drift overlies dolomite bedrock, of Devonian age.

EXPLORATION

The exploration consisted of eight drive sample-core borings, made in August, 1962, between August 26 and 28, 1964, and February 25 and March 1, 1965.

INVESTIGATIONAL FINDINGS

The borings encountered stiff to very stiff silts and clays, and loose to dense sands, silts and gravels to bedrock surface, encountered at 19 to 22-foot depths, elevations 957 to 954 feet. The borings were terminated at 25 to 40-foot depths, elevations 951 to 936 feet, in dolomite bedrock. Boring B-1-A encountered limestone boulders with mortar between 9 and 11 feet, elevations 966.1 and 964.1 feet.

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
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
  X = Number of Blows for First 6 inches.
  Y = Number of Blows for Second 6 inches.
- 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 Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Limestone Boulders with mortar
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

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 Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with post 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., 1-3/8" 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., 1-3/8" 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 in two 6-inch increments, 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.

Particle Size Definitions

Boulders	8"	Cobbles	3"	Gravel	2.0mm No. 10 sieve	Coarse Sand	0.42mm No. 40 sieve	Fine Sand	0.074mm No. 200 sieve	Silt	0.005mm	Clay

LOG OF BORING

Date Started 2-25-65 — Sampler Type SS — Dia. 1 3/8" — Water Elev. —
Date Completed 2-26-65 — Casing: Length — Dia. —
Boring No. B-1-A — Station & Offset 585+10, 26' Lt (RETAINING WALL) — Surface Elev. 975.1'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
975.1	0														
	2														
	4														
970.1	6	1/2			Brown Gravelly Sandy Silt	1	19	10	18	25	28	23	4	30	
966.1	8														
	10				Gray limestone boulders with mortar.										
964.1	12														
	14														
960.1	16	14/19			Gray Gravelly Sandy Silt	2	16	11	13	28	32	21	2	12	
	18														
	20														
954.1					TOP OF ROCK										
	22														
	24		3.8	1.2	Dolomite, gray, hard, jointed. Core loss 5%.										
950.1					BOTTOM OF BORING										

LOG OF BORING

Date Started 3-1-65 — Sampler Type SS — Dia. 1 3/8" — Water Elev. —
Date Completed 3-1-65 — Casing: Length 19' — Dia. 3 1/2"
Boring No. B-2-A — Station & Offset 585+60, 26' Lt (RETAINING WALL) — Surface Elev. 975.5'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
975.5	0														
	2														
	4														
970.5	6	6/7			Brown Clayey Silt	1	0	5	11	35	49	28	10	18	
	8														
965.5	10	7/11			Gray Clayey Silt	2	0	8	11	36	45	26	7	17	
	12														
	14														
960.5	16	37/28			Gray Silty Sandy Gravel	3	64	13	6	9	8	NP	NP	5	
956.5	18														
	20		1.7	0.3	TOP OF ROCK										
	22														
	24		4.8	0.2	Dolomite, brownish gray, argillaceous, hard, badly jointed and broken. Core loss 7%.										
949.5	26				BOTTOM OF BORING										

MICROFILMED
FEB 05 1965

REVISED 3/15/65

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

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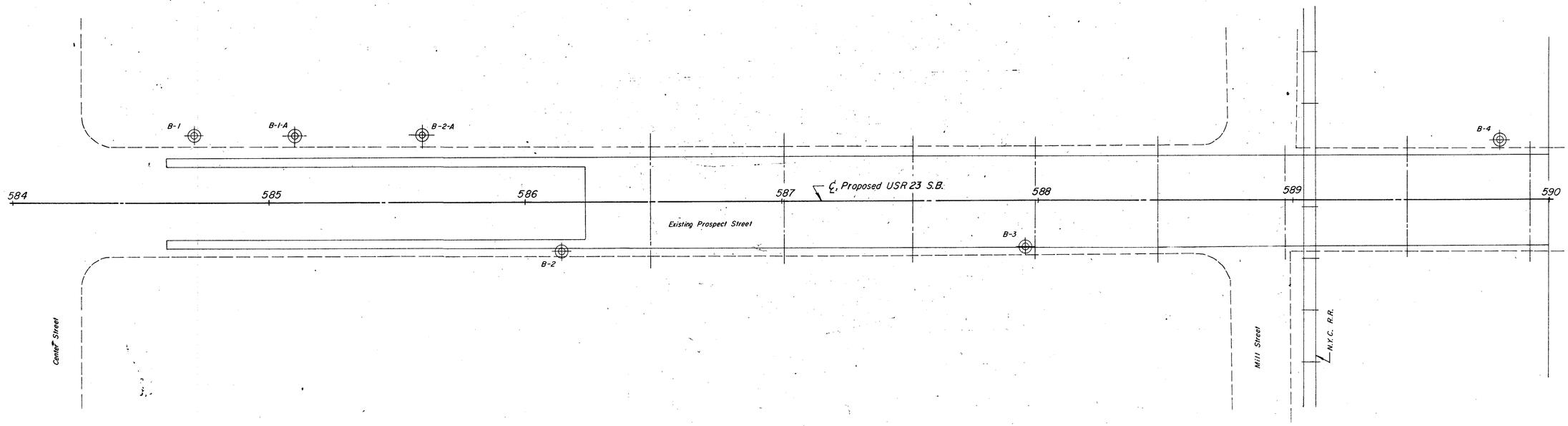
BRIDGE NO. MAR-23 DA & 4 SB-
OVER N.Y.C. & E.L. RAILROADS
SEC. MAR-23 DA & 4 SB-(0.85)(11.49)

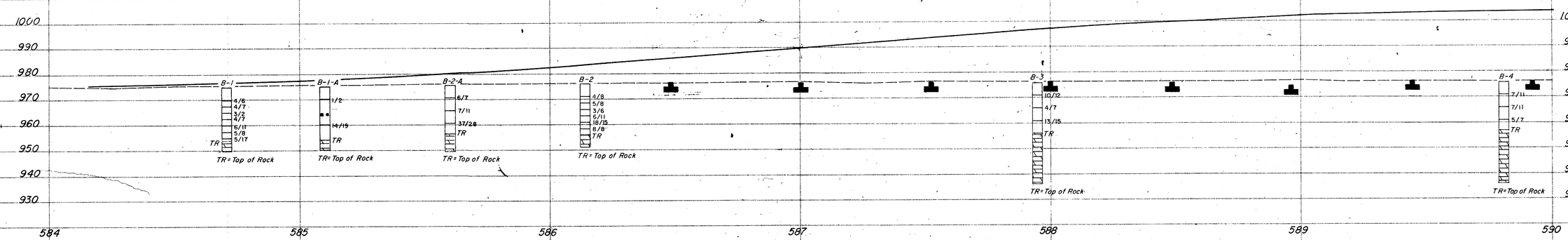
CHECKED BY	REVIEWED BY	DATE
R.H.P.	R.D.R.	9/29/65

MAR.-23-11.05
MAR-23D-0.87

6/8

2/4





REVISED 3/15/65

OHIO STATE HIGHWAY
TESTING LABORATORY
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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. MAR-23 DA & 4 SB-
OVER N.Y.C. & E.L. RAILROADS
SEC. MAR-23 DA & 4 SB - (0.85) (11.49)

PLAN AND PROFILE

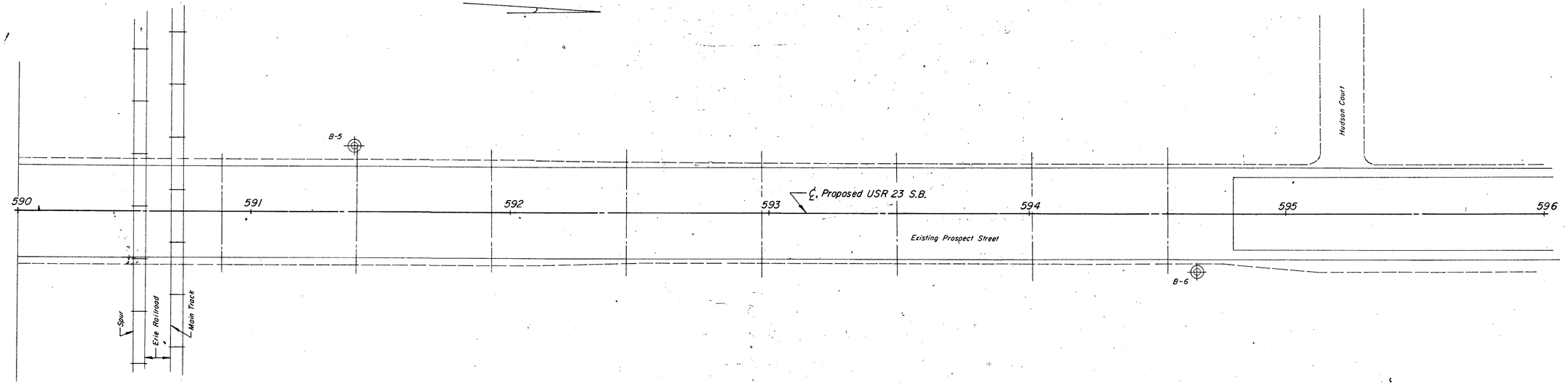
DRAWN BY	CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.H.P.	R.D.R.	9/29/64

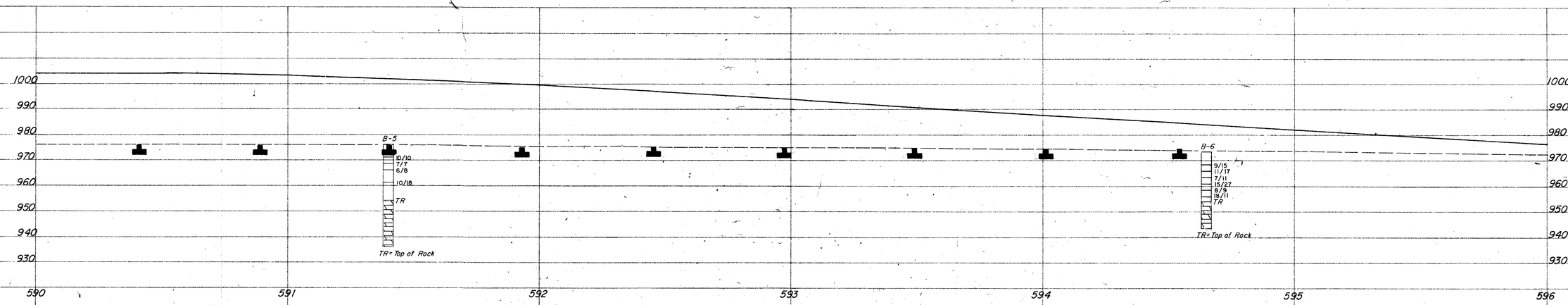
SCALE: 1"=20'

MAR-23-1105
MAR-23D-087

7/8

3/4





SCALE: 1"=20'

REVISED 3/15/65

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STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. MAR-23 DA & 4 SB -
OVER N.Y.C. & E.L. RAILROADS
SEC. MAR-23 DA & 4 SB-(0.85) (11.49)

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
L.N.L.	R.H.P.	R.D.R.	9/29/64

MAR-23-1105
MAR-23D-0.87

8/8

4/4

LOG OF BORING

Date Started [illegible] Date Completed [illegible] Boring No. B-1
Sampler Type SS Dia. 1 3/8" Casing: Length 20' Dia. 3 1/2"
Station & Offset [illegible]+71, 26' Rt (RETAINING WALL)
Water Elev. ___ Surface Elev. 974.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
974.9	0														
969.9	6	4/6			Mottled Brown and Gray Silty Clay	1	0	4	9	39	48	41	18	29	
967.4	8	4/7			Mottled Brown and Gray Silt and Clay	2	9	2	9	34	46	36	13	21	
964.9	10	3/8			Brown and Gray Sandy Silt	3	7	3	31	39	20	NP	NP	30	
962.4	12	4/7			Brown and Gray Gravelly Silt	4	21	8	7	35	29	26	8	18	
959.9	16	6/11			Gray Sandy Gravelly Silt	5	39	8	8	25	20	21	5	17	
957.4	18	5/8			Gray Sandy Gravelly Silt	6	26	8	12	34	20	20	3	13	
954.9 / 952.9	20	5/17			Gray Sandy Silt and Stone Fragments	7	V	I	S	U	A	L		14	
	22				TOP OF ROCK										
949.9	24		2.6	1.4	Dolomite, brown, hard, jointed and broken. Core loss 35%. BOTTOM OF BORING										

LOG OF BORING

Date Started [illegible] Date Completed [illegible] Boring No. B-2
Sampler Type SS Dia. 1 3/8" Casing: Length [illegible] Dia. 3 1/2"
Station & Offset [illegible], 19' Rt (RETAINING WALL)
Water Elev. ___ Surface Elev. 976.1

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
976.1	0														
971.1	6	4/8			Mottled Brown and Gray Sandy Clay	1	10	9	11	27	43	39	16	23	
968.6	8	5/8			Brown and Gray Gravelly Clay	2	22	4	6	32	36	32	13	17	
966.1	10	3/6			Brown Sandy Clay	3	11	12	21	23	33	30	14	27	
963.6	12	6/11			Gray Silty Gravelly Sand	4	30	24	11	14	21	25	8	24	
961.1	16	18/15			Gray Gravelly Silt	5	28	7	2	35	28	NP	NP	23	
958.6	18	8/8			No Sample Recovered - Boulder										
956.1	20				TOP OF ROCK										
951.1	24		4.9	0.1	Dolomite, brown, hard, jointed. Core loss 2%. BOTTOM OF BORING										

LOG OF BORING

Date Started 8-28-62 Date Completed 8-29-62 Boring No. B-3
Sampler Type SS Dia. 1 3/8" Casing: Length 20' Dia. 3 1/2"
Station & Offset 597+95, 18' Rt (THIRD PIER)
Water Elev. ___ Surface Elev. 976.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
976.0	0														
971.0	6	18/12			Mottled Brown and Gray Silt and Clay	1	0	5	12	45	38	31	11	16	A-6a
966.0	10	4/7			Grey Sandy Silt	2	21	7	7	39	26	25	5	20	A-4a
961.0	16	13/15			Brown Stone Fragments with Sand and Silt	3	57	7	7	16	13	22	3	31	A-2-4
956.0	20				TOP OF ROCK										
	26		9.4	0.6	Dolomite, brownish-gray, slightly arenaceous in part, hard, dense, broken. No core loss.										
	34		10.0	0.0											
936.0	40				BOTTOM OF BORING										

LOG OF BORING

Date Started 8-28-62 Date Completed 8-28-62 Boring No. B-4
Sampler Type SS Dia. 1 3/8" Casing: Length 19' Dia. 3 1/2"
Station & Offset 589+81, 23' Lt (SEVENTH PIER)
Water Elev. ___ Surface Elev. 975.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
975.9	0														
970.9	6	7/11			Brown and Gray Silt and Clay	1	24	5	9	33	29	28	11	16	A-6a
965.9	10	7/11			Gray Sandy Silt	2	24	7	10	29	30	23	5	19	A-4a
960.9	16	5/7			Gray Sandy Silt	3	19	10	12	32	27	24	6	12	A-4a
956.9	20				TOP OF ROCK										
	22		4.0	0.0	Dolomite, gray, arenaceous, hard, dense, badly broken to 26.8', broken below, vertically jointed at irregular intervals throughout. Core loss 5%.										
	30		10.0	0.0											
	38		6.0	0.0											
935.9	40				BOTTOM OF BORING										

LOG OF BORING

Date Started 8-24-62 Date Completed 8-27-62 Boring No. B-5
Sampler Type SS Dia. 1 3/8" Casing: Length [illegible] Dia. 3 1/2"
Station & Offset [illegible], 25' Rt ([illegible] PIER)
Water Elev. ___ Surface Elev. 976.1'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
976.1	0														
971.1	6	10/10			Brown Silt and Clay	1	28	5	9	29	29	37	14	20	A-6a
968.6	8	7/7			Gray Silt and Clay	2	26	6	8	32	28	28	11	16	A-6a
966.1	10	6/8			Gray Silt and Clay	3	15	7	9	36	33	31	11	19	A-6a
961.1	16	18/18			Brown and Gray Sandy Silt	4	31	10	13	24	22	25	5	18	A-4a
954.1	22				TOP OF ROCK										
	24		5.0	0.0	Dolomite, gray, hard, dense, broken, with small vertical joints at irregular intervals throughout. No core loss.										
	30		5.0	0.0											
	36		8.0	0.0											
	40				BOTTOM OF BORING										

LOG OF BORING

Date Started 8-26-64 Date Completed 8-27-64 Boring No. B-6
Sampler Type SS Dia. 1 3/8" Casing: Length 20' Dia. 3 1/2"
Station & Offset 594+65, 22' Rt (RETAINING WALL)
Water Elev. ___ Surface Elev. 973.5'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
973.5	0														
968.5	6	9/15			Brown Silty Sandy Gravel	1	V	I	S	U	A L	28	10	16	
966.0	8	11/17			Brown and Gray Sandy Clay	2	13	8	10	33	36	30	11	18	
963.5	10	7/11			Gray and Brown Sandy Gravelly Silt	3	21	9	9	34	27	26	7	15	
961.0	14	15/27			No Sample Recovered -										
958.5	16	8/9			Brown Sandy Gravelly Silt	4	31	11	11	29	18	22	3	14	
956.0	18	18/11			Brown Silty Sand and Stone Fragments	5	49	9	12	22	8	NP	NP	18	
954.0	20				TOP OF ROCK										
	24		5.5	0.0	Dolomite, brown, hard, jointed. Core loss 1%.										
	28		4.8	0.2											
943.5	30				BOTTOM OF BORING										

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