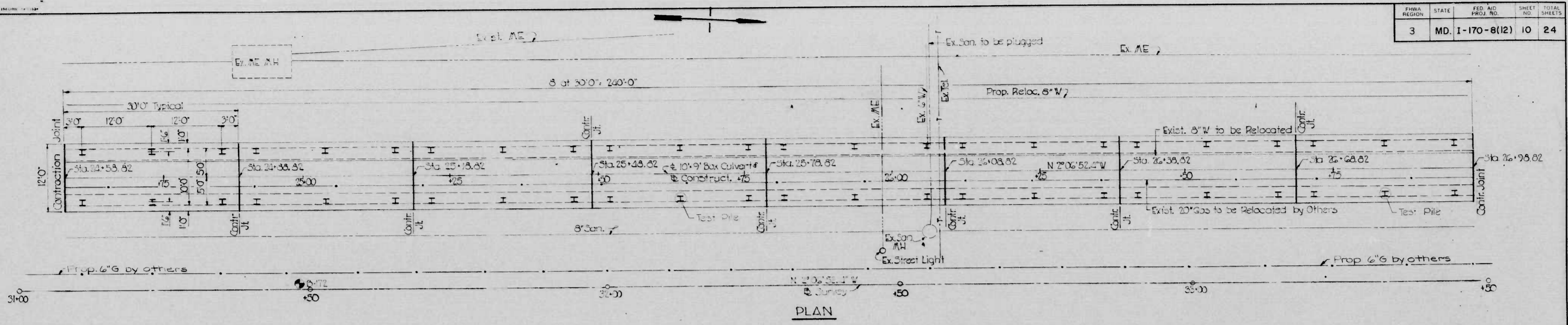
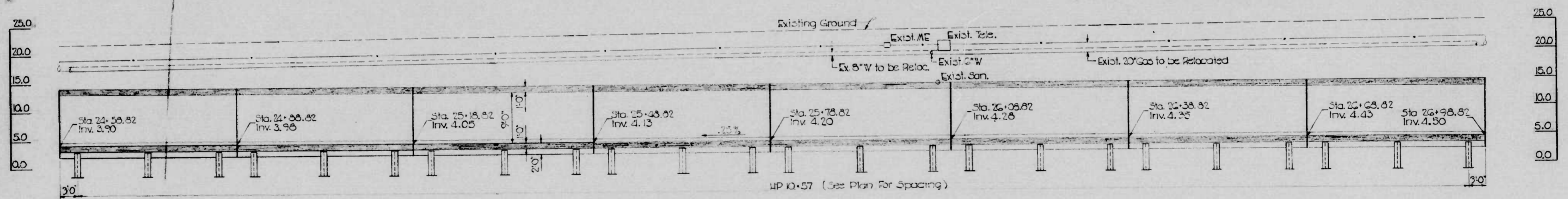


FED. REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	10	24



PLAN



HP 10-57 (See Plan for Spacing)

PROFILE

CROSS REFERENCE NOTES:

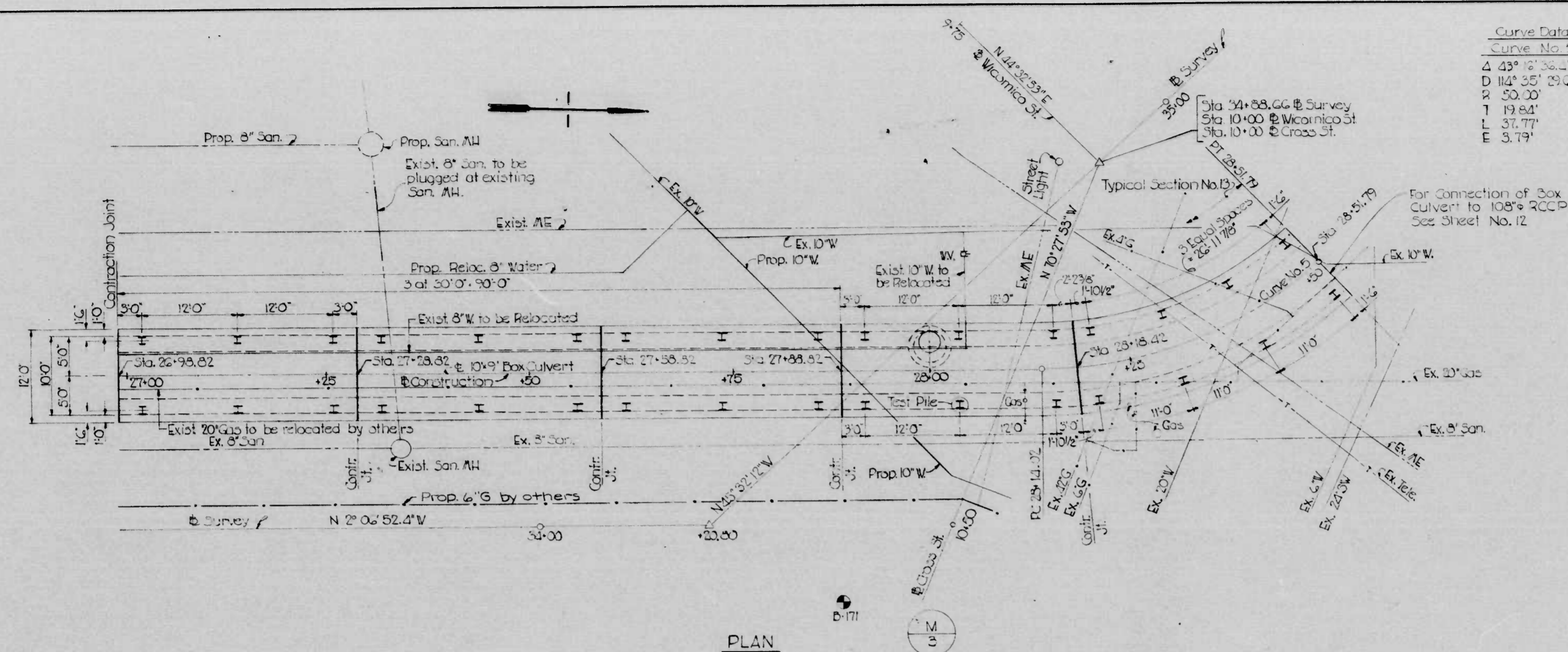
1. For Base Line of Box Culvert Stationing Data See Sheet No. 5
2. For Typical Box Culvert Sections See Sheet No. 12
3. For Boring Data See Sheet No. 23
4. For General Notes See Sheet No. 7

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET BOX CULVERT PLAN AND PROFILE	DRAWN BY: L.S. TRACED BY: R.V. F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-11-815 BALTO. CITY NO. 2286
	DES. BY: M.K.K. CHK. BY: J.S.	SHEET NO. 10 OF 24	
SCALE: 1/8"=1'-0"		DATE: OCTOBER 1974	

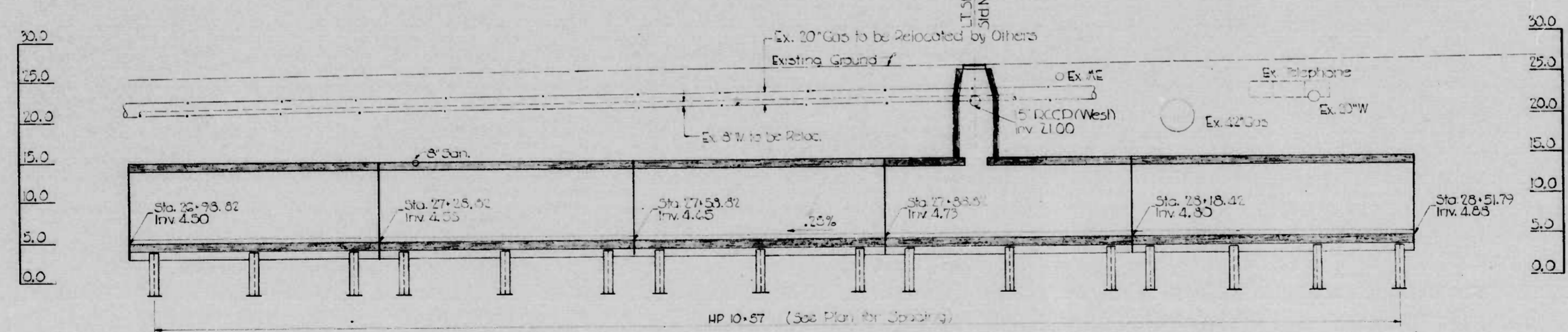
FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	11	24

Curve Data
Curve No. 5

Δ	43° 12' 38.1"
D	114° 35' 29.6"
R	50.00'
T	19.84'
L	37.77'
E	3.79'



PLAN

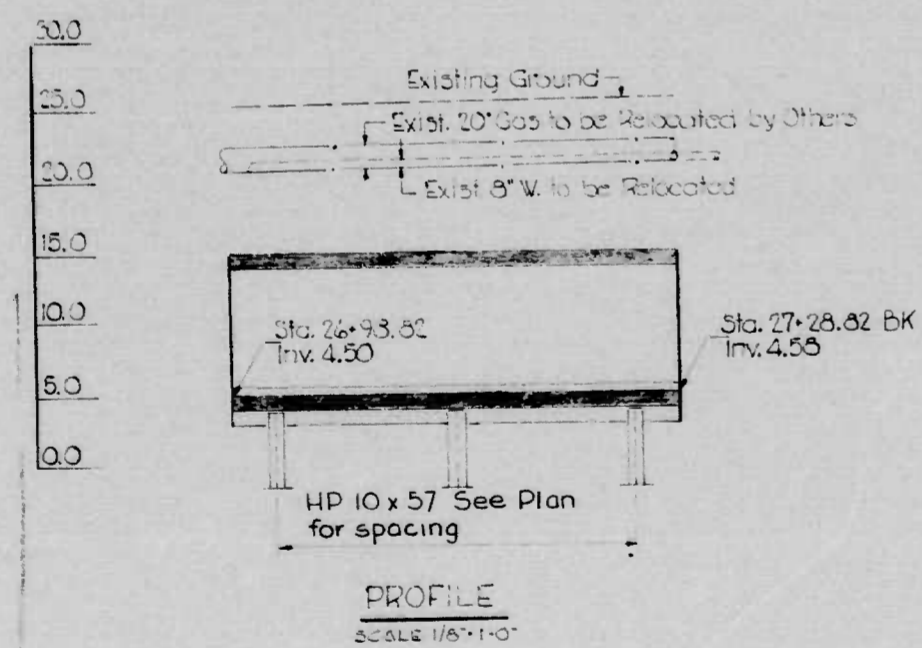
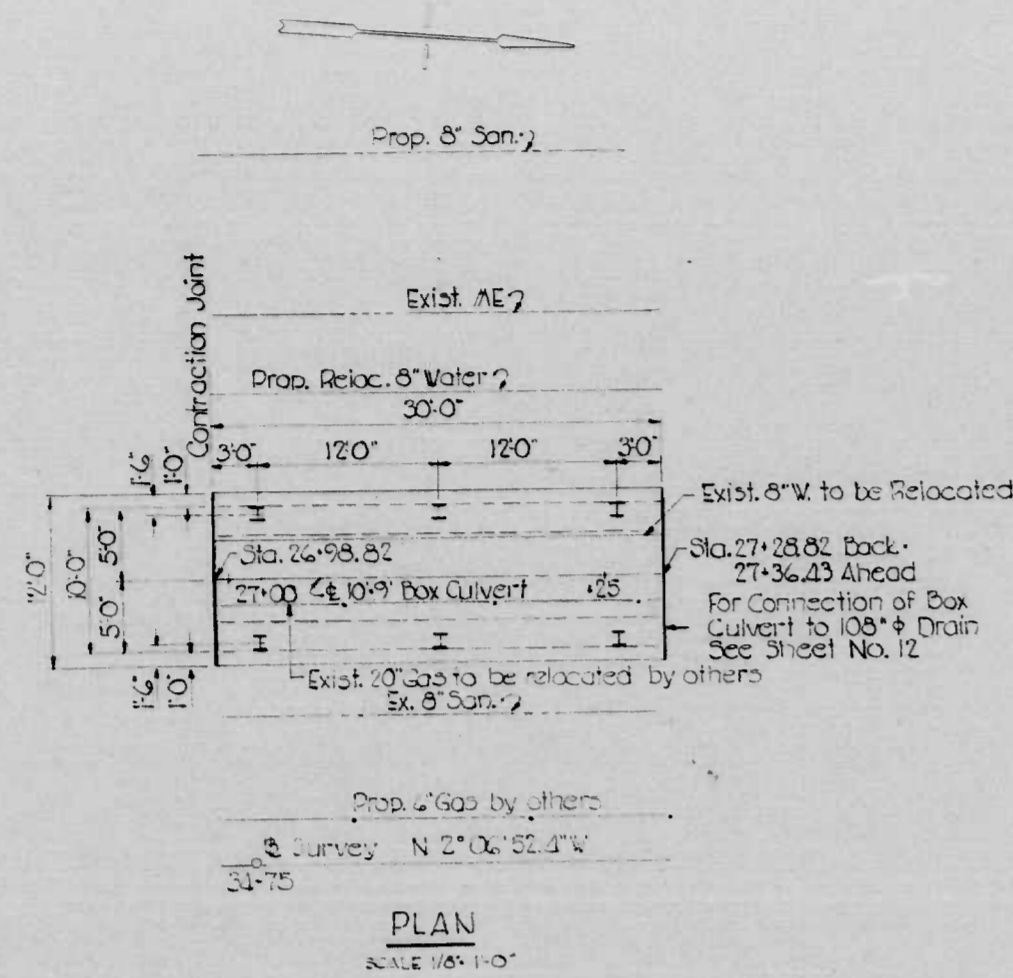


PROFILE

- CROSS REFERENCE NOTES:
1. For Base Line of Box Culvert Stationing Data See Sheet No. 3
 2. For Typical Box Culvert Sections See Sheet No. 12
 3. For Boring Data, See Sheet No. 22
 4. For General Notes See Sheet No. 7
 5. For Manhole Stack Details, See Sheet No. 13

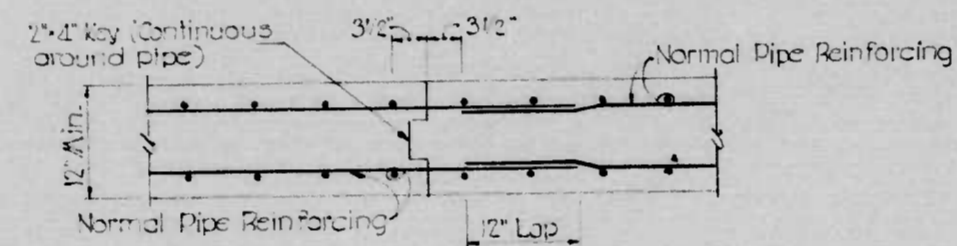
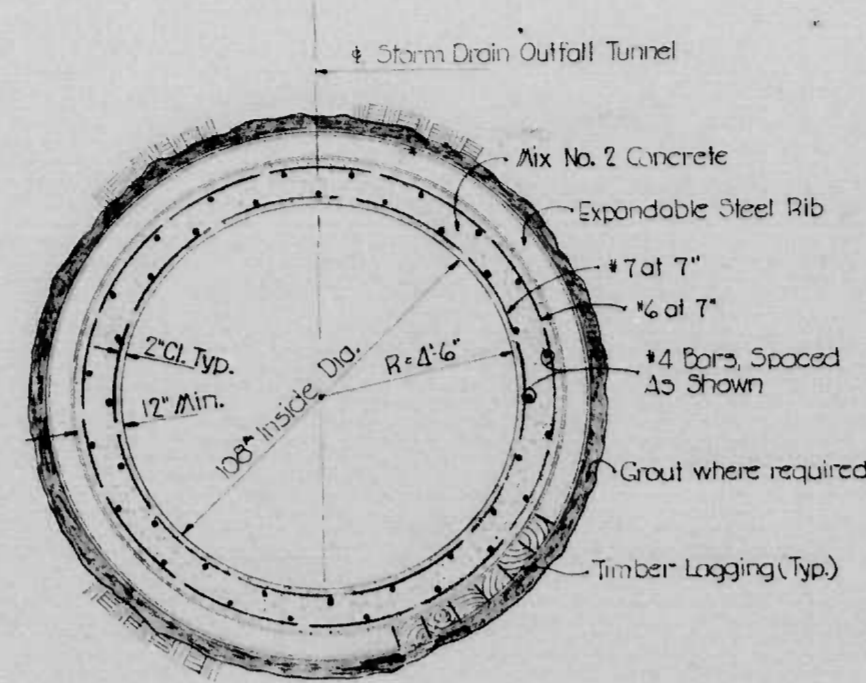
REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET BOX CULVERT PLAN AND PROFILE (ALT. A)	
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	DRAWN BY: I.S. TRACED BY: R.V.	DES. BY: M.K.K. CHK. BY: J.S.
		SCALE: 1/8" = 1'-0"	DATE: OCTOBER 1974
		F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-11-815 BALTO. CITY NO. 2286	SHEET NO. 11 OF 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	11A	24



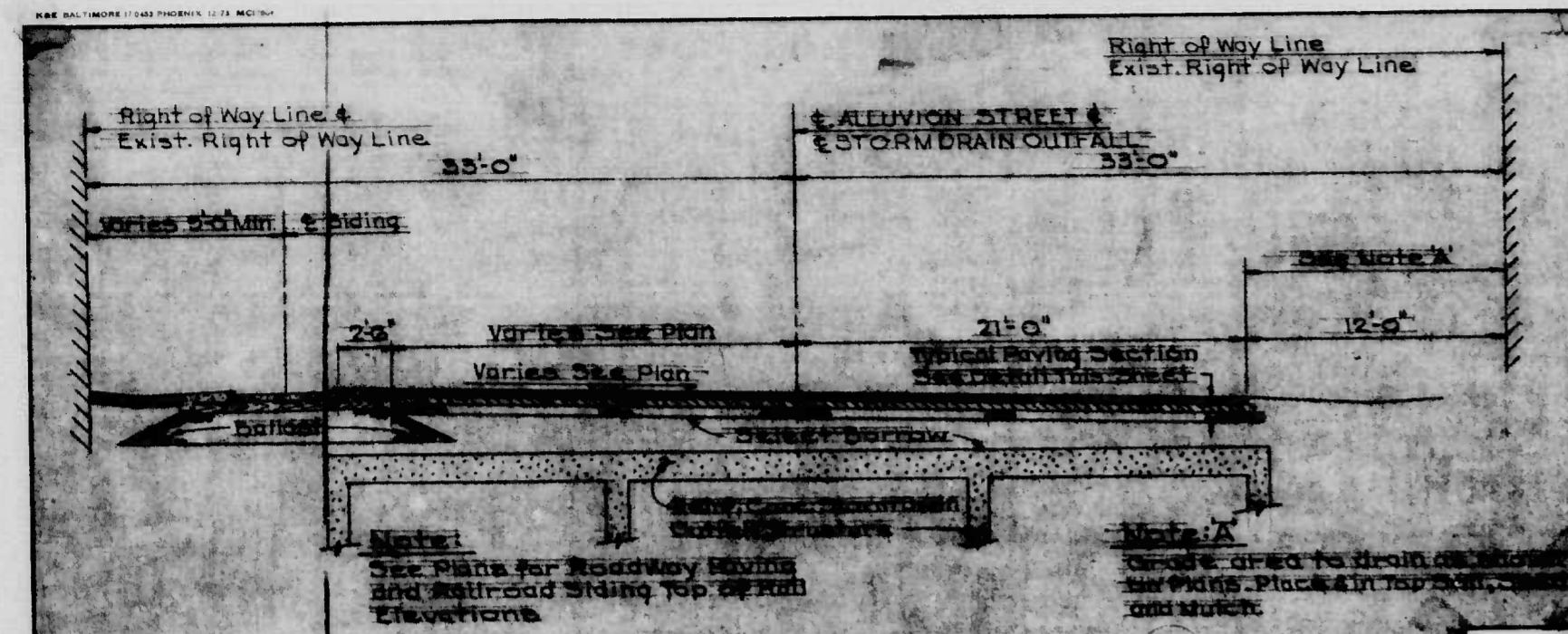
CROSS REFERENCE NOTES:

1. For Base Line of Box Culvert Stakeout Data, See Sheet No. 3
2. For Typical Box Culvert Sections, See Sheet No. 12
3. For Boring Data, See Sheet No. 22
4. For General Notes, See Sheet No. 2
5. For Manhole Stack Details, See Sheet No. 13

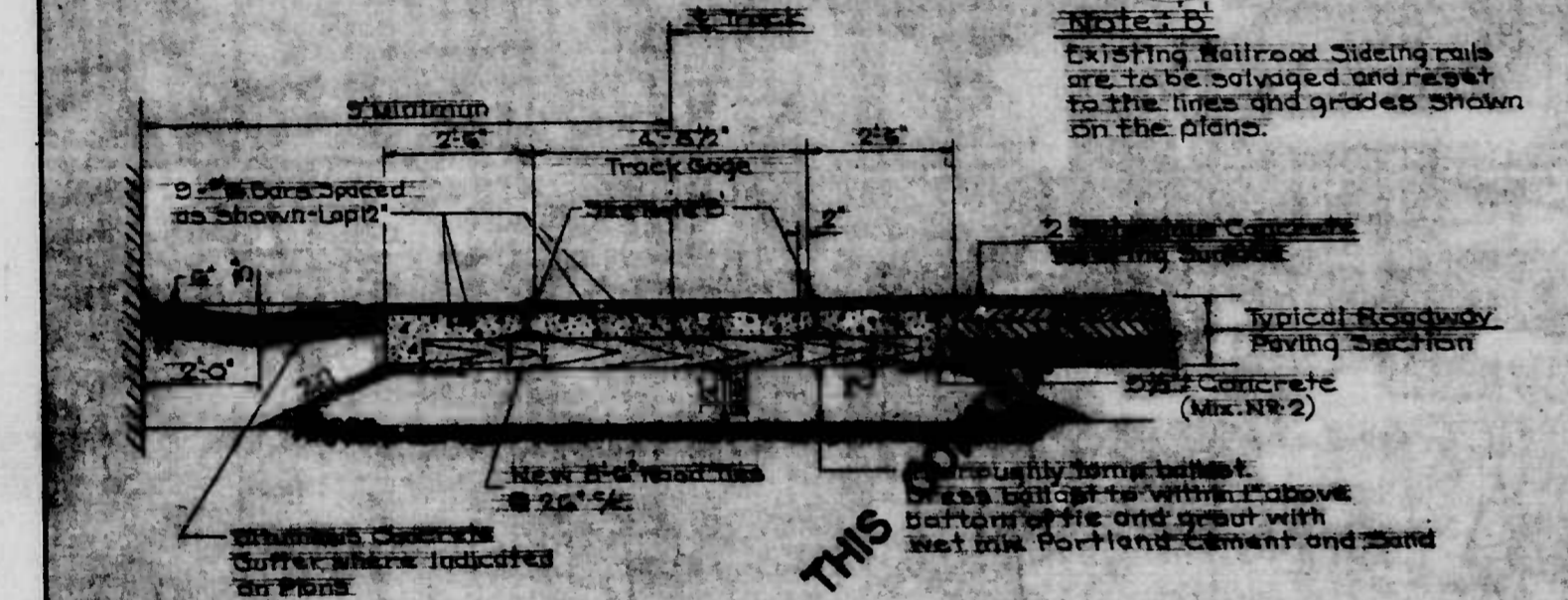


REVISIONS	CONSULTANT	CITY OF BALTIMORE & STATE HIGHWAY ADMINISTRATION OF MARYLAND	
		DEPARTMENT OF PUBLIC WORKS & INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET ALT. B-BOX CULVERT PLAN & PROFILE & TUNNEL DETAILS	DRAWN BY M. K. K. TRACED BY R. V. F.A.P. NO. I-170-8(12) S.H.A. NO. BC-259-11-815 BALTO. CITY NO. 2286
		DES. BY M. K. K. CHK. BY J. S.	SHEET NO. 11A OF 24
		SCALE: 1/8" = 1'-0"	DATE: OCTOBER 1974

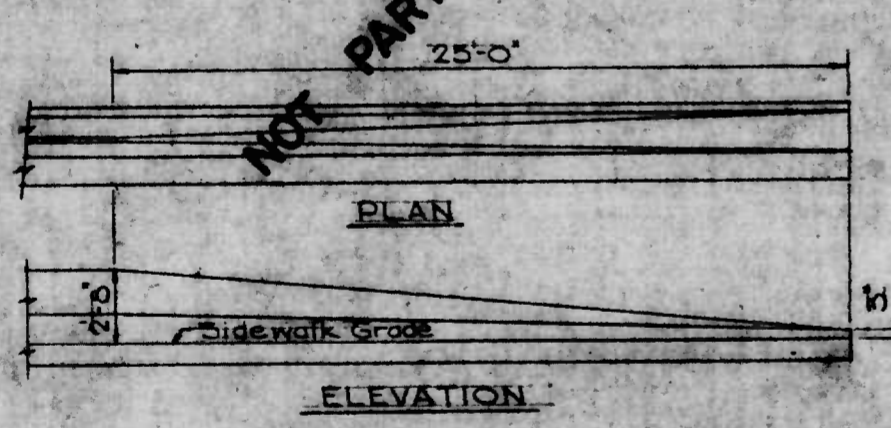
AREA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	14	24



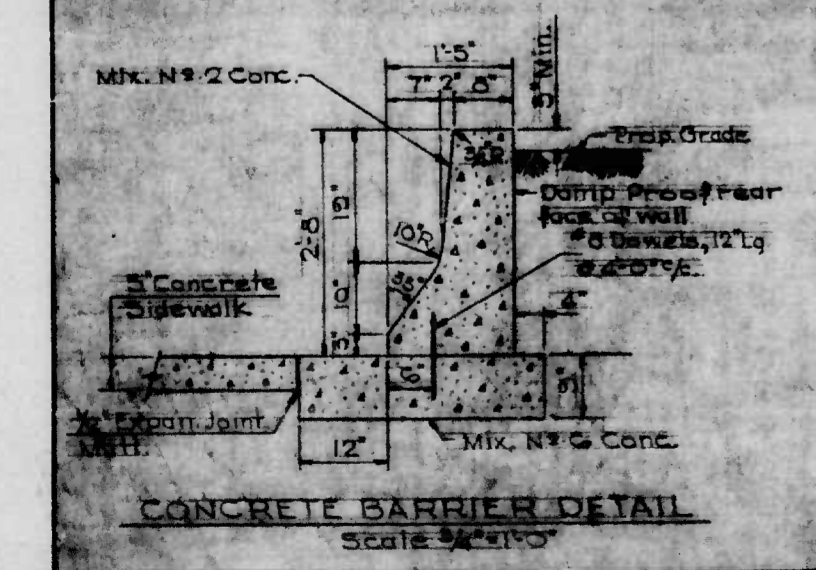
TYPICAL SECTION - ALLUVION STREET
WARNER STREET TO RUSSELL STREET
Scale: 1" = 5'-0"



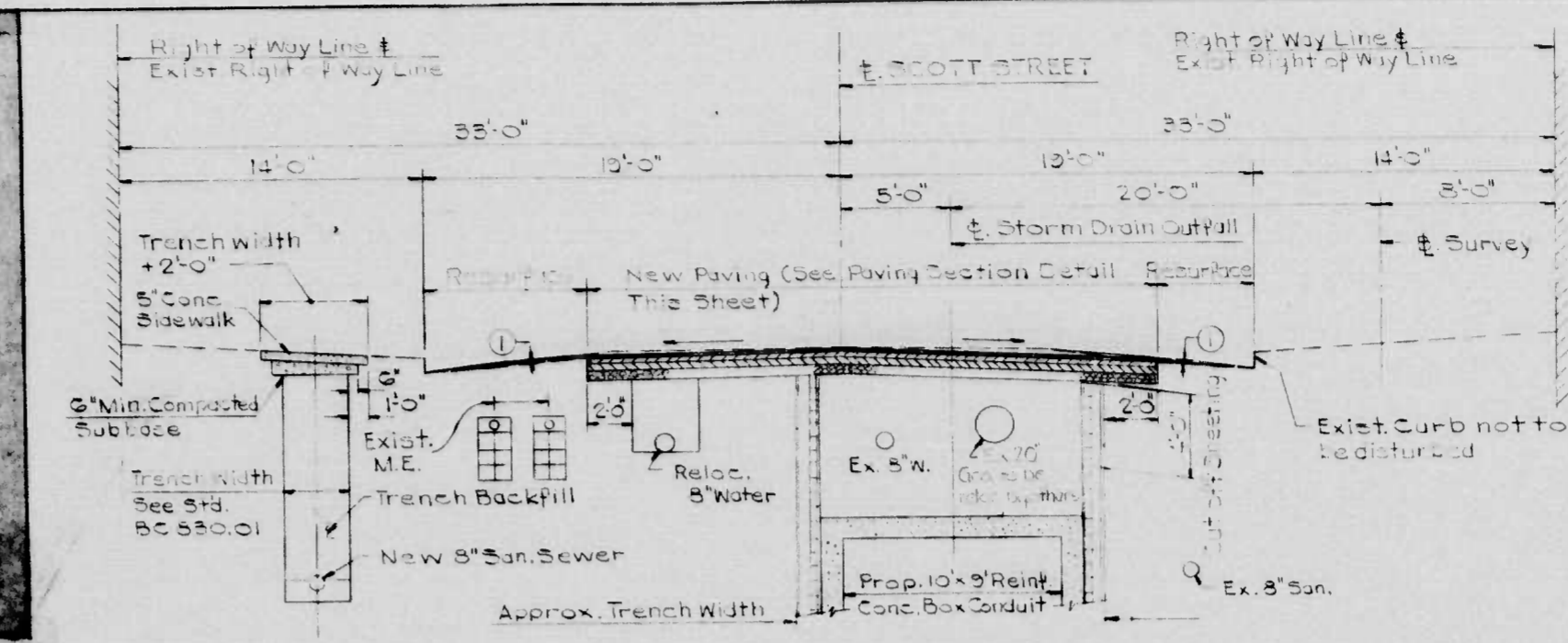
TYPICAL SECTION - RAILROAD SIDING
Scale: 1" = 2'-0"



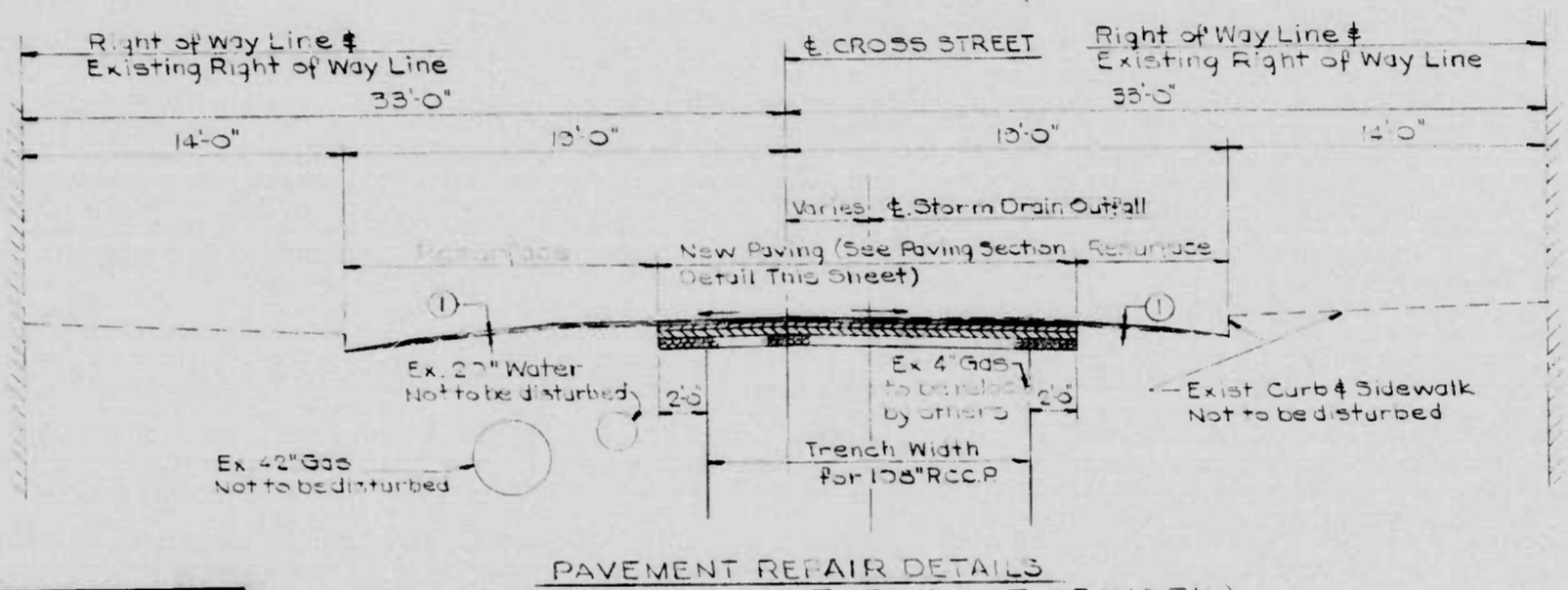
BARRIER TRANSITION DETAILS
Scale: 1/2" = 1'-0"



CONCRETE BARRIER DETAIL
Scale: 3/4" = 1'-0"



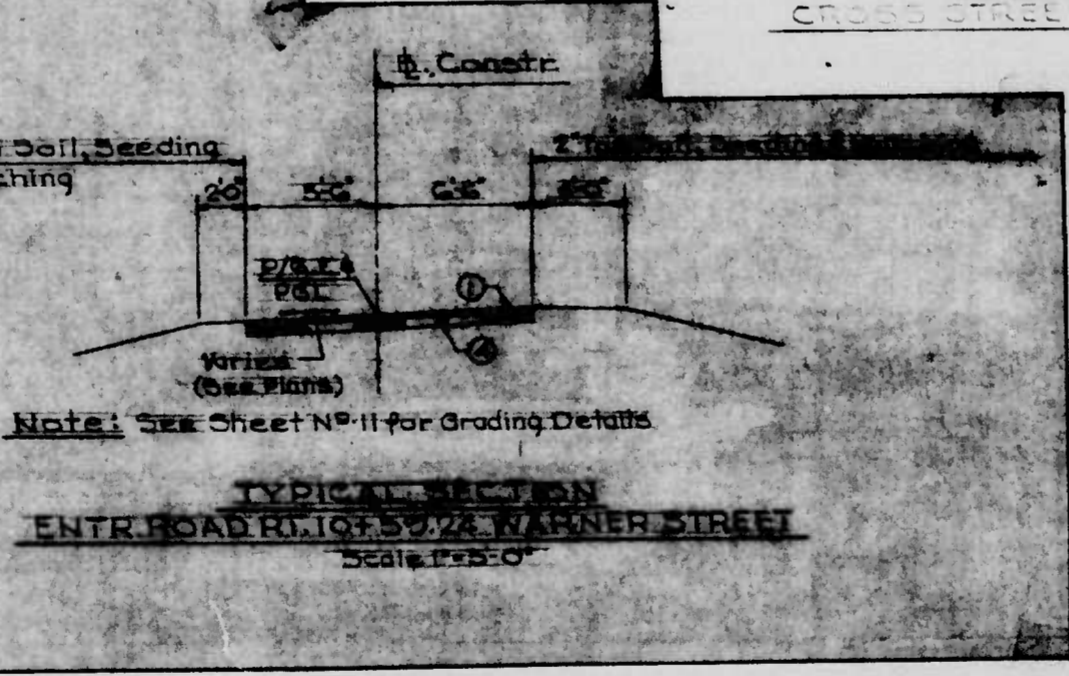
PAVEMENT REPAIR DETAILS
SCOTT STREET (OSTEND TO CROSS)
Scale: 1" = 5'-0"



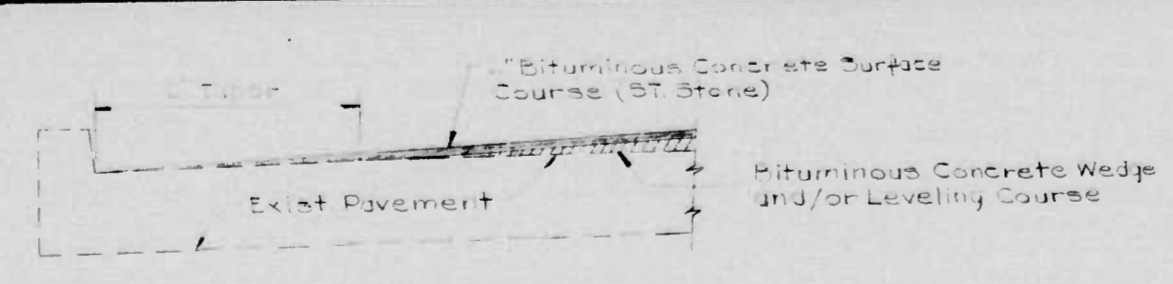
PAVEMENT REPAIR DETAILS
CROSS STREET (SCOTT TO LIMIT OF WORK)
Scale: 1" = 5'-0"

- ① 2" Bituminous Concrete Surface Course (ST Stone)
- ② 3" Bituminous Concrete Base Course (Sand BI)
- ③ 4" Bituminous Concrete Base Course (Sand BI)
- ④ 6" Dense Graded Stabilized Aggregate Base Course with Asphalt Emulsion (2-3" Courses)

TYPICAL ROADWAY PAVING SECTION
Not To Scale



TYPICAL SECTION
ENTR. ROAD RIGHT OF WAY WARNER STREET
Scale: 1" = 5'-0"



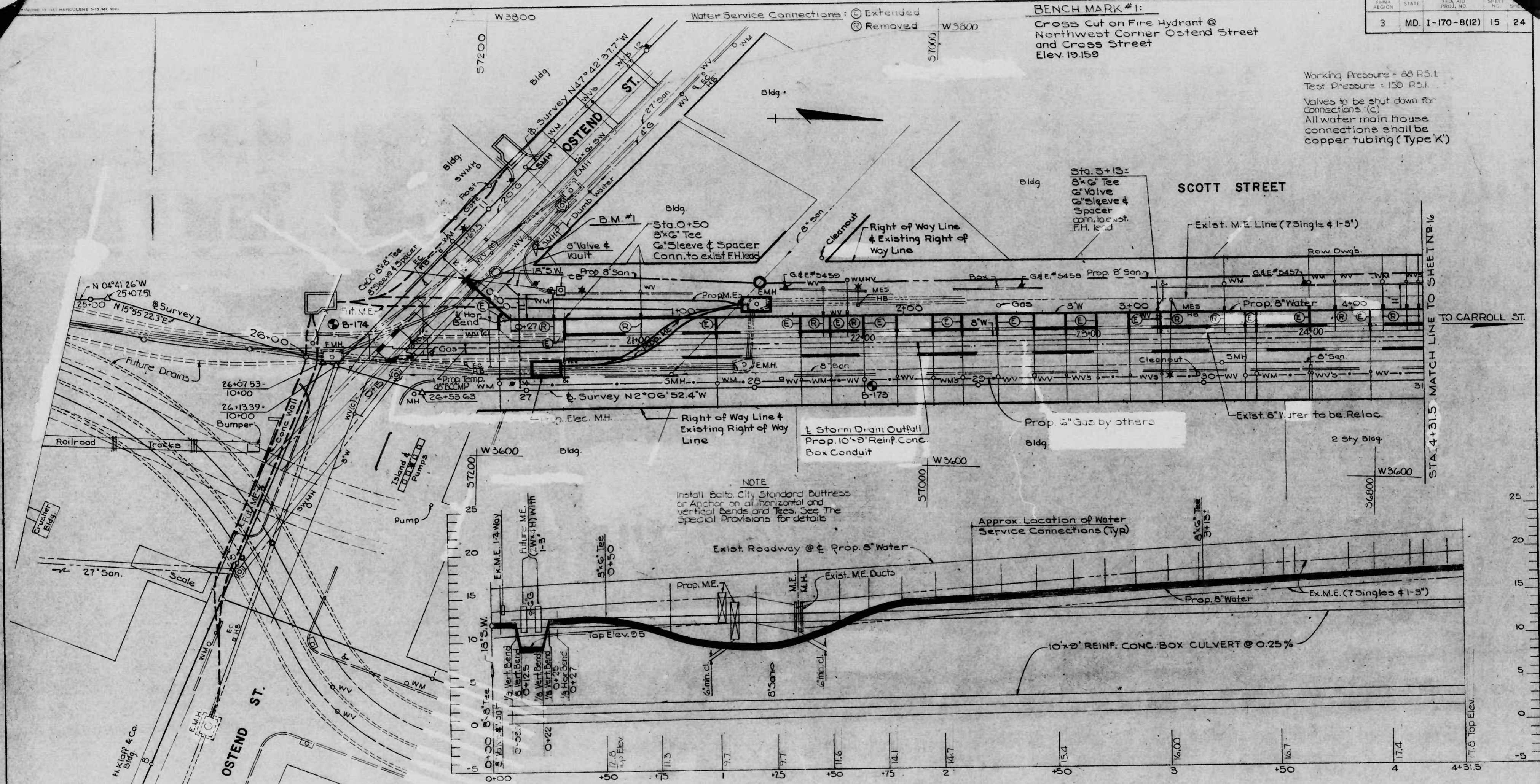
PAVEMENT RESURFACING DETAIL

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS	STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS DOWNS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET TYPICAL SECTIONS AND DETAILS	DRAWN BY K.L.E. TRACED BY D.M.S. F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-11-815 BALTO. CITY NO. 2286
		SCALE: AS SHOWN	DATE: OCTOBER 1974
			SHEET NO. 14 OF 24

FED. REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	15	24

BENCH MARK #1:
 Cross Cut on Fire Hydrant @
 Northwest Corner Ostend Street
 and Cross Street
 Elev. 19.159

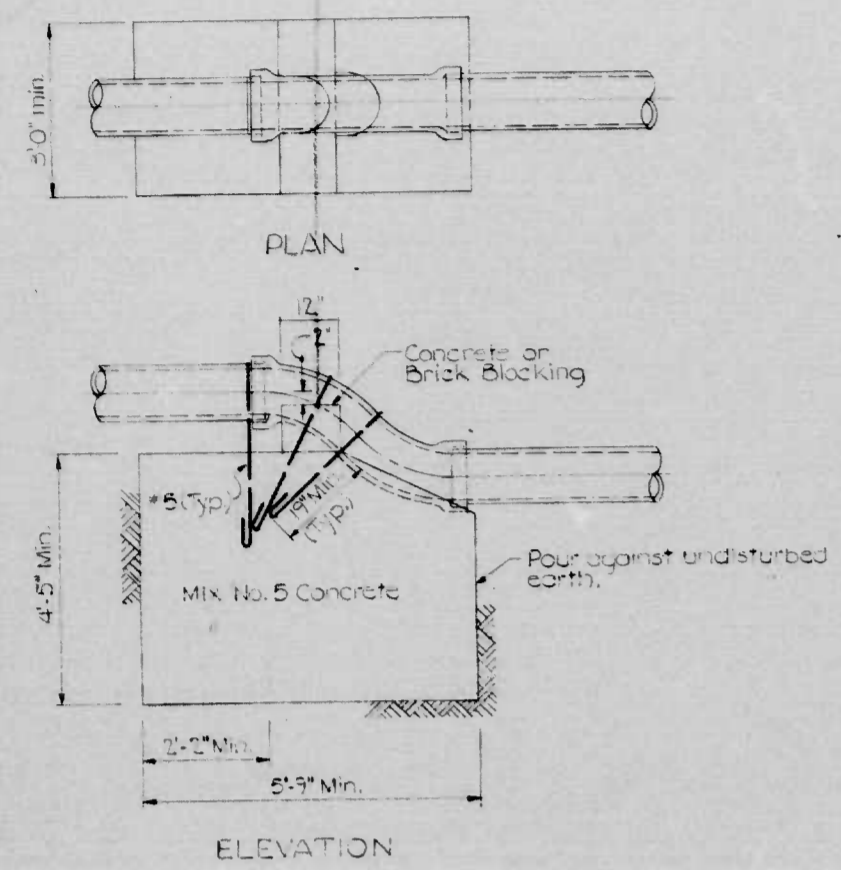
Working Pressure = 60 P.S.I.
 Test Pressure = 150 P.S.I.
 Valves to be shut down for
 Connections: (C)
 All water main house
 connections shall be
 copper tubing (Type K)



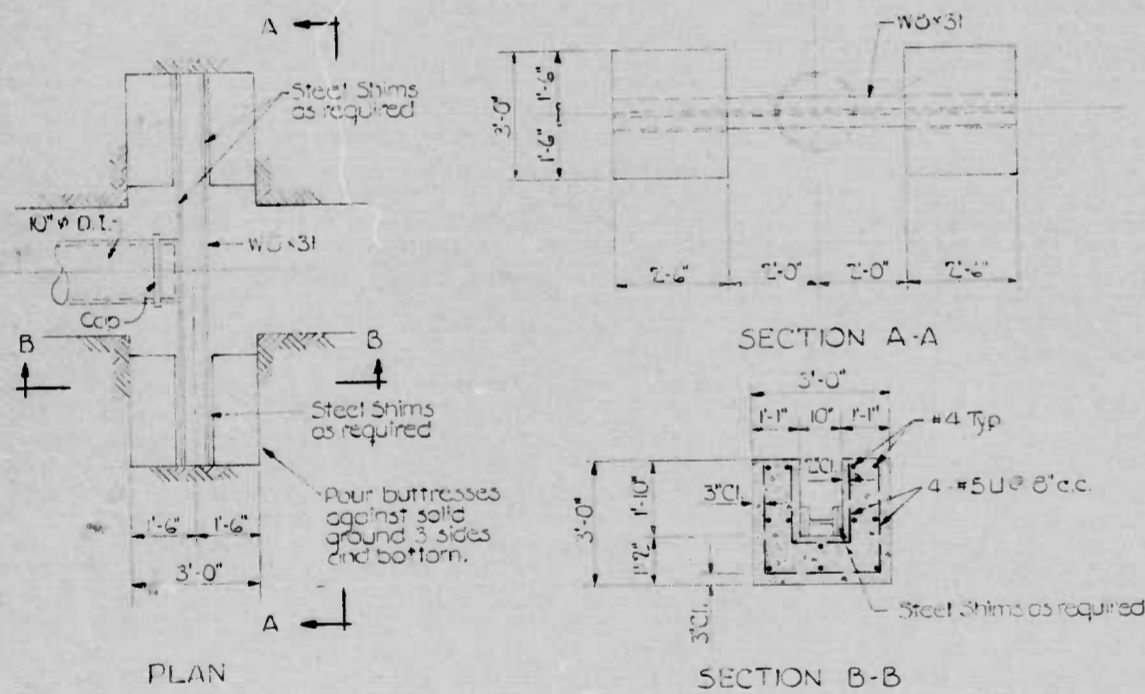
- SUGGESTED SEQUENCE OF CONSTRUCTION**
1. Install 8 inch water in Scott Street between Ostend Street and Wicomico Street and test main.
 2. Connect to existing 10 inch main in Wicomico Street with tapping sleeve and valve.
 3. Shutdown existing mains in the Scott and Ostend Street intersection and connect to existing main.
 4. Transfer service connections from existing main to new main.

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS &		STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
		INTERSTATE ROUTE 170 STORM DRAIN OUTFALL		DRAWN BY D.M.S. DES BY C.A.J.	
BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND		SOUTH OF CARROLL STREET TO OSTEND STREET BIN WATER RELOC SCOTT ST (OSTEND ST TO WICOMICO ST)		TRACED BY D.M.S. CHK BY K.L.E.	
		SCALE: PLAN 1"=20' PROFILE VERT. 1"=5' DATE: OCTOBER 1974		F.A.P. NO. I-170-8(12) S.H.A. NO. BC-259-11-815 BALTO. CITY NO. 2286	
				SHEET NO. 15 of 24	

FED. REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	17	24



ANCHORAGE AND BUTTRESS FOR VERTICAL OFFSET FITTINGS
Scale 1/2" = 1'-0"

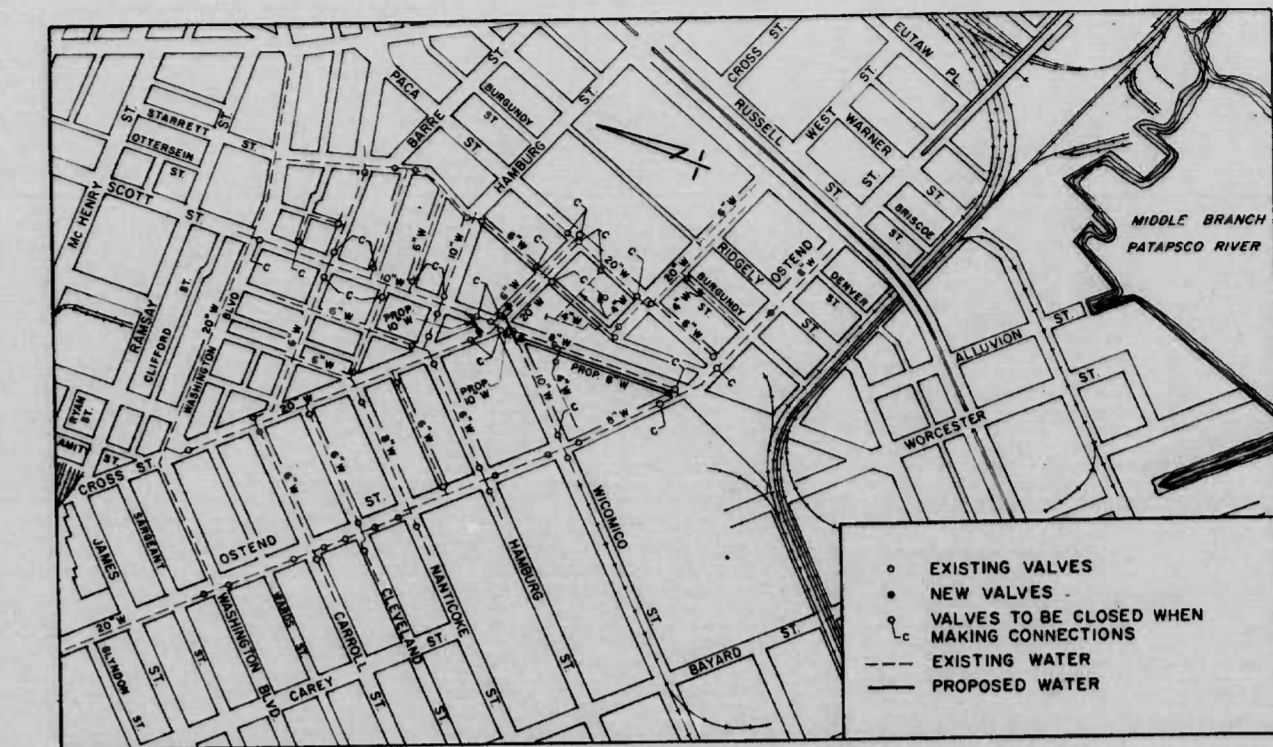


TEMPORARY CAP AND SPLIT BUTTRESS
Not to scale

SUGGESTED SEQUENCE OF CONSTRUCTION

SCOTT, CROSS, WICOMICO STREET INTERSECTION

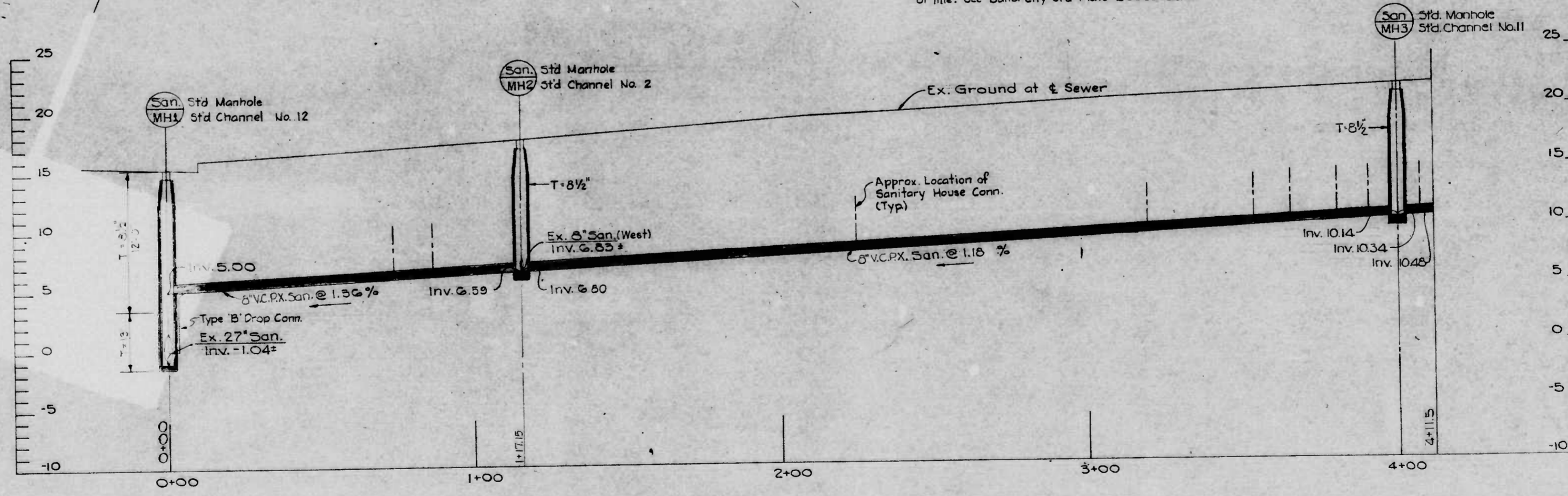
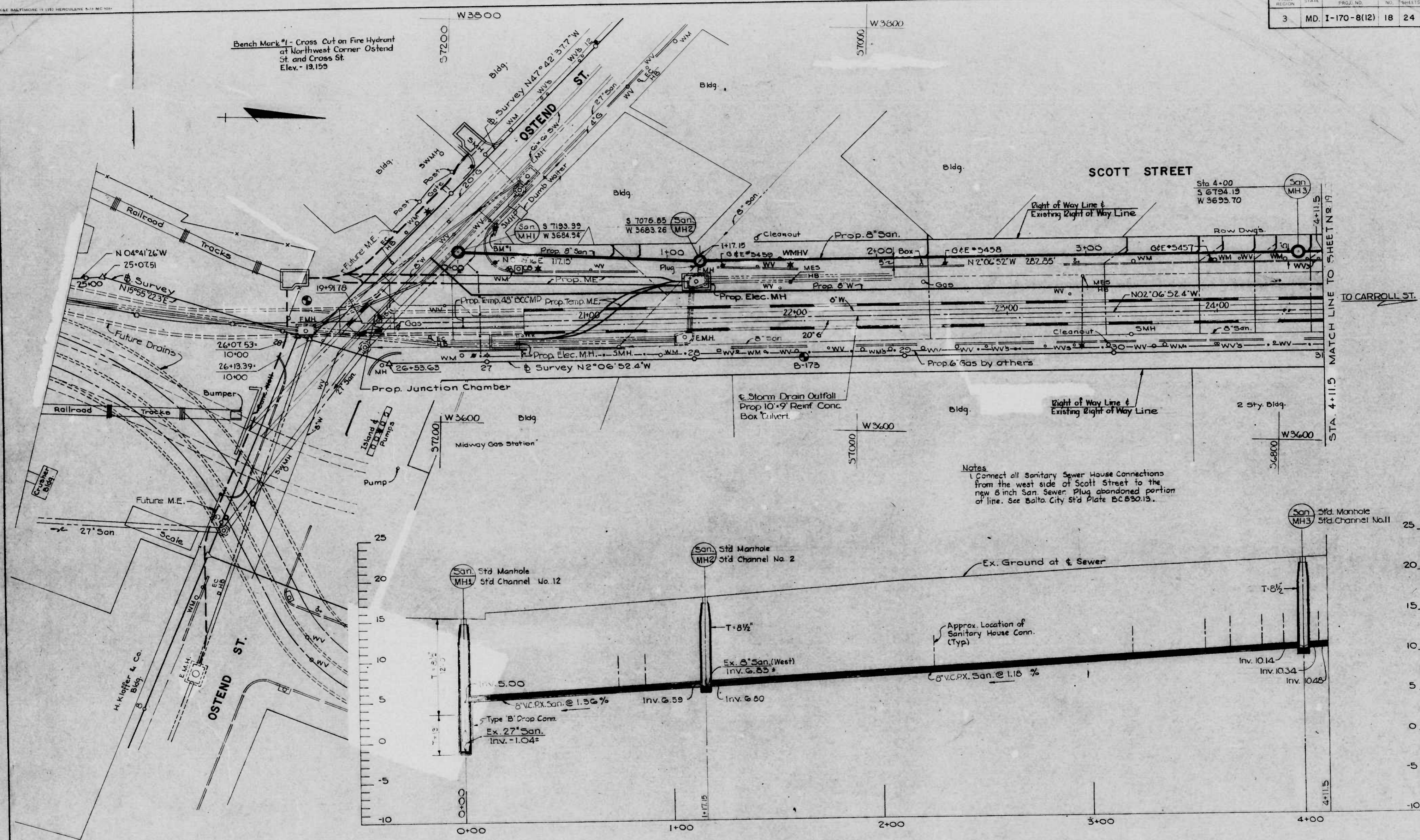
1. Complete 10'x9' Reinf. Concrete Box Culvert Structure to Sta. 28+16.5.
2. Construct split buttresses for 10 inch water in Scott Street north of Cross Street and for 6 inch water in Cross Street east of Scott Street.
3. Install temporary water service from 6 inch main in Cross Street and install temporary cap on the 6 inch main.
4. Install new 10 inch water from left of Sta. 27+70.5 to 20 inch water in Cross Street and the 6 inch connection.
5. Close the new 10 inch and 6 inch valves.
6. Close valve on new 8 inch main in Scott Street, shut down existing 10 inch water in Wicomico Street and connect new 10 inch main. Resume service in 10 inch main and reopen valve on 8 inch main. Leave valve on 6 inch connection closed.
7. Shut down existing 6 inch main in Cross Street and make connection. Resume service in 6 inch main.
8. Install temporary cap on existing 10 inch main in Scott Street north of Cross Street.
9. Remove existing 10 inch main as required. Shut down existing 20 inch main and plug and clamp outlets on existing 20"x10" cross. Resume service in 20 inch main.
10. Complete Storm Drain Outfall construction to Sta. 29+00.5.
11. Install new 10 inch water from Cross Street (Sta. 28+92) to Scott Street north of Cross Street.



VALVE MAP
Scale 1" = 500'

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS	STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO MIDDLE BRANCH WATER MAIN DETAILS	DRAWN BY T.G.S. TRACED BY T.G.S. F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-II-915 BALTO. CITY NO. 2286
		SCALE AS SHOWN	DATE OCTOBER 1974
			DES. BY K.L.E. CHK. BY K.L.E. SHEET NO. 17 OF 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	18	24

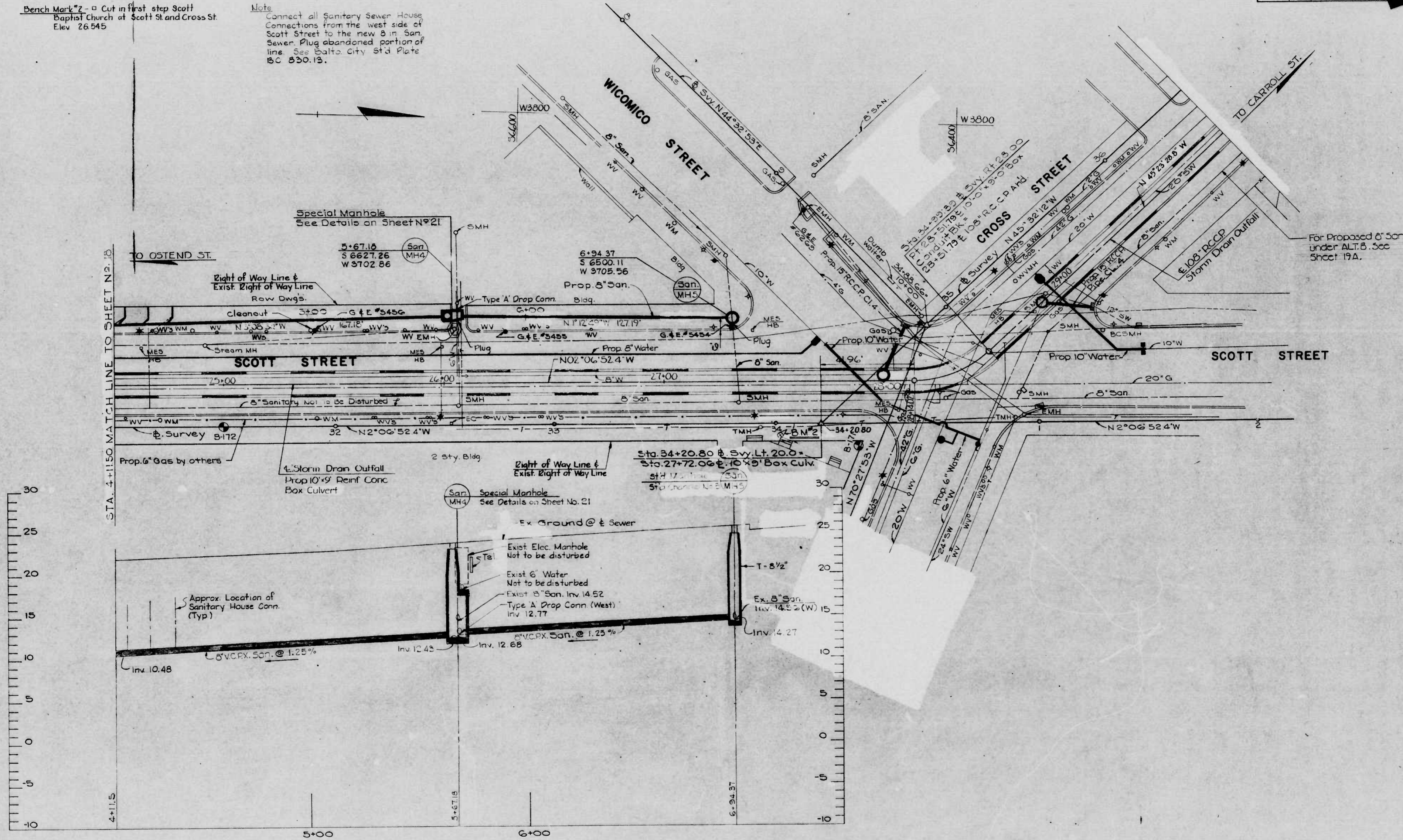


REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH O. CARROLL STREET TO OSTEND STREET 8 IN. SAN. SEWER-SCOTT ST. (OSTEND ST. TO WICOMICO ST.)	DATE: OCTOBER 1974
		SCALE: PLAN 1"=20' PROFILE VERT 1"=5'	DATE: OCTOBER 1974
		DRAWN BY: D.M.S. TRACED BY: W.A.B. F.A.P. NO. I-170-E-2) S.H.A. NO. BC-259-11-815 BALTO. CITY NO. 2286	DES. BY: M.K.K. CHK. BY: K.L.E. SHEET NO. 18 OF 24

AREA	STATE	FED. AID	PROJ. NO.
3	MD.	1-170-8(12)	19

Bench Mark 72 - Cut in first step Scott Baptist Church at Scott St and Cross St. Elev 26.545

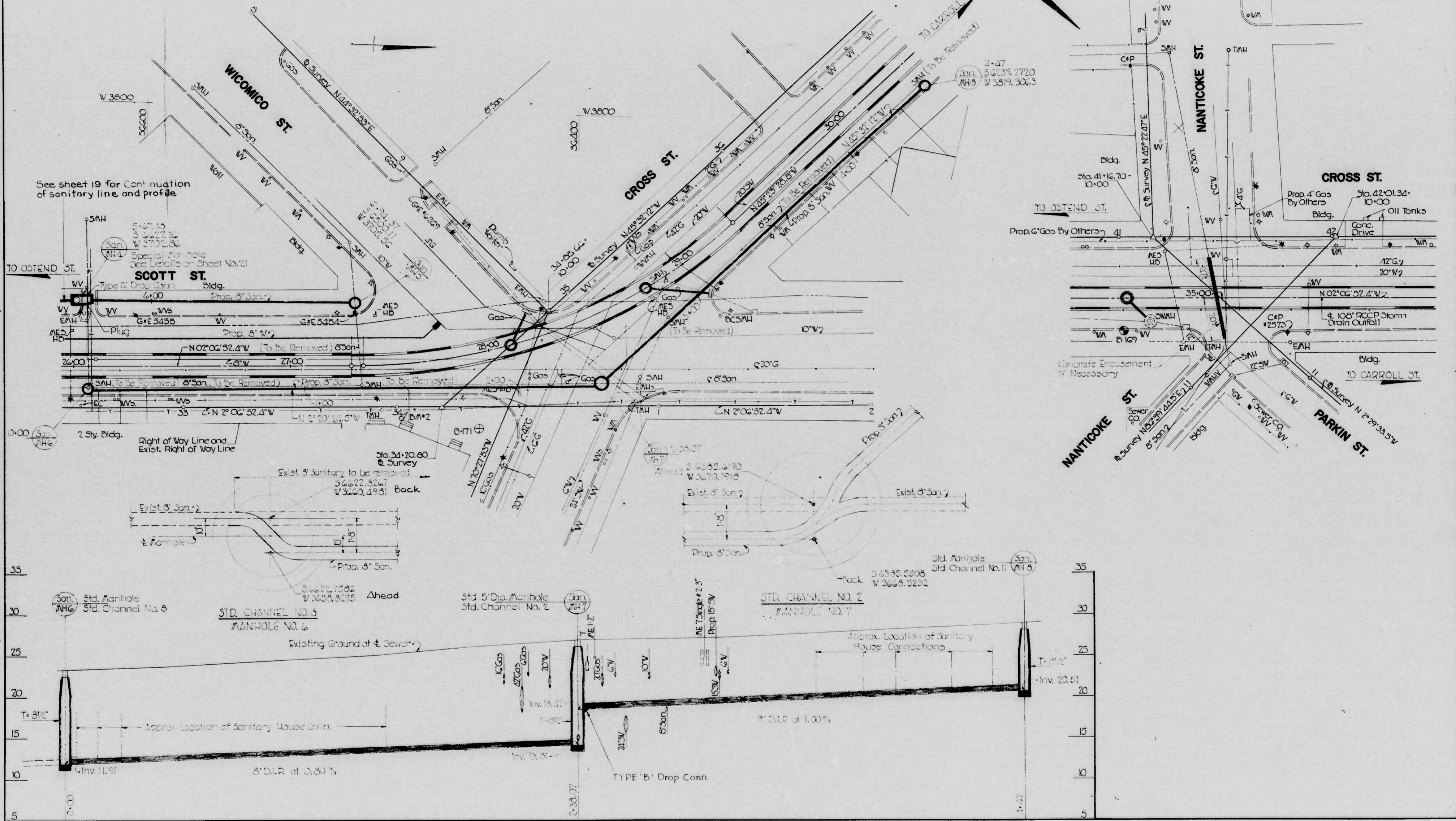
Note: Connect all Sanitary Sewer House Connections from the west side of Scott Street to the new 8 in San. Sewer. Plug abandoned portion of line. See Balto. City Std Plate BC 850.13.



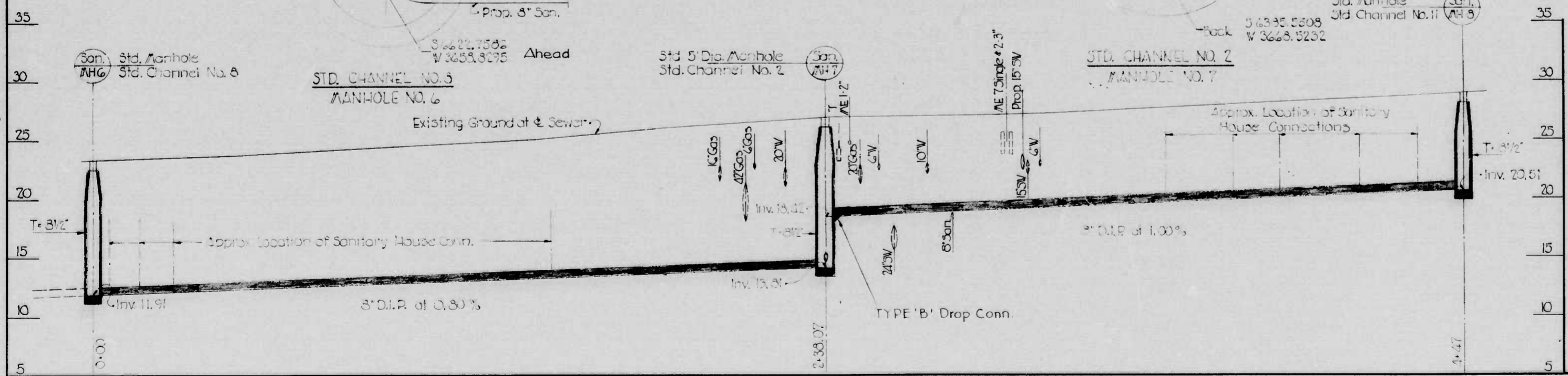
REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS	STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET 8 IN. SAN SEWER-SCOTT ST (OSTEND ST. TO WICOMICO ST.)	DRAWN BY: DMS TRACED BY: JNL F.A.P. NO. 1-170-8(12) S.H.A. NO. BC-259-11-815 BALTD. CITY NO. 2286
		SCALE: PLAN 1"=20' PROFILE VERT. 1"=5'	DATE: OCTOBER 1974 DES. BY: C.A.J. CHK. BY: K.L.E. SHEET NO. 19 OF 24

K&E BALTIMORE 19 1133 HERCULENE MC 2114

Bench Mark No. 2: a Cut in first step
Scott Baptist Church at Scott Street
and Cross Street (Elev. 26.545)



See sheet 19 for Continuation
of sanitary line and profile



FHWA DISTRICT	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD	I-170-8(12)	19A	24

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS	STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET 8" SAN. SEWERS - SCOTT ST./CROSS ST./NANTICOKE ST.(A11 B)	DRAWN BY C.A.S. TRACED BY R.V. DES. BY C.A.S. CHK. BY M.K.K.
		SCALE: PLAN 1"=20' PROFILE Vert. 1"=5'	F.A.P. NO. I-170-8(12) S.H.A. NO. BC-259-11-B15 BALTO. CITY NO. 2286
		DATE: OCTOBER 1974	SHEET NO. 19A OF 24

3	MD. 1-170-8(12)	2	24
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SOIL LEGEND

	FILL MAT'L.		A-7, CLAY
	A-3, SAND, NON-PLASTIC		A-7-2, SANDY CLAY
	A-2, SAND & FINES		A-2-7, CLAYEY SAND
	A-4-2, SANDY SILT		A-2-4, SILTY SAND
	A-4, SILT		A-5 MICA, DIATOMS, DECOMPOSED ROCK
	BLOWS PER FOOT		PLAN LOCATION OF SOIL BORINGS
	BLOWS PER FRACTIONAL FOOT		BORING TARGETS AND PROFILES SCALE: VERT. = 1"=10'

L.L. - LIQUID LIMIT P.I. - PLASTICITY INDEX N.P. - NON PLASTIC
 M.D.D. B.O.M.C. - MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT
 AS DETERMINED BY A.A.S.H.O. DESIGNATION T-160 METHOD 'C'

ABBREVIATIONS

B.C.C.M.P.	BITUMINOUS COATED CORRUGATED METAL PIPE	M.E.	MECHANICAL-ELECTRICAL
B.I.	BITUMINOUS	Mfg.	MANUFACTURING
Const.	BASE LINE OF CONSTRUCTION	M.H.	MANHOLE
Survey	BASE LINE OF SURVEY	M.T.O.	MULTI-TERRA COITA DUCT
Blk.	BLOCK	Mtl.	METAL
B.M.	BENCH MARK	P.M.	PARKING METER
Br.	BRICK	P.S.	POLICE SIGNAL
C.B.	CATCH BASIN	R.C.C.P.	REINFORCED CONCRETE PIPE
C.&G.	CURB AND GUTTER	Ret. St.	RETAIL STORE
C.I.P.	CAST IRON PIPE	Ret. W.	RETAINING WALL
Conc.	CONCRETE	S.	SIGN
C.P.	CLEANOUT PLUG	San.	SANITARY SEWER LINE
C. & P.	CHESAPEAKE & POTOMAC TELEPHONE CO	Sh.	SHINGLE
(D)	DEAD VALVE	S.L.	STREET LIGHT
D.I.P.	DUCTILE IRON PIPE	S.M.H.	SANITARY MANHOLE
Dw.	DWELLING	S.P.P.	STRUCTURAL PLATE PIPE
Elev.	ELEVATION	St.	STATION
E.M.H.	ELECTRIC MANHOLE	Std. Pl.	STANDARD PLATE
F.H.	FIRE HYDRANT	Sto.	STONE
F.A.B.	FIRE ALARM BOX	Sty.	STORY
F.F.	FRAME	S.W.	STORM WATER
G.	GAS MAIN	S.W.M.H.	STORM WATER MANHOLE
Gar.	GARAGE	T. & T.	TRANSIT AND TRAFFIC
G.B.	GAS BOX	Tel. M.H.	TELEPHONE MANHOLE
G. & E.	GAS AND ELECTRICAL CO	T.P.	TRAFFIC POLE
G.M.H.	GAS MANHOLE	U.D.	UNDERDRAIN
G.R.	GUARD RAIL	V.C.P.	VITRIFIED CLAY PIPE
G.V.	GAS VALVE	V.C.P.X.	VITRIFIED CLAY PIPE EXTRA STRENGTH
G.W.	GUY WIRE	W.	WATER MAIN
H.B.	HAND BOX	W.B.R.	WESTBOUND ROADWAY
H.W.	HEADWALL	W.M.	WATER METER
Invt.	INVERT	W.M.H.V.	WATER MANHOLE VALVE
M.S.	MASKERY	W.V.	WATER VALVE
M.B.	MAIL BOX		

LEGEND

EXISTING	PROPOSED
	CITY BENCH MARK
	INTERMEDIATE BENCH MARK
	BALTIMORE CITY MONUMENT
	BASELINE OF SURVEY
	CENTERLINE CONSTRUCTION
	ROADWAY, DRIVEWAY, SIDEWALK
	CURB LINE
	HEDGE
	TREE
	MANHOLE
	GAS VENT PIPE
	FLAGPOLE
	ALL TYPE FENCES
	GUARD RAIL
	RIGHT OF WAY OR EASEMENT LINE
	RUINS OR FOUNDATIONS
	RETAINING WALL
	RAILROAD
	WATER MAIN
	SANITARY SEWER LINE
	STORM WATER 12" TO 42" DIA.
	48" DIA. AND LARGER
	STRUCTURES
	UNDERGROUND CONDUIT
	GAS MAIN
	CURB INLET
	GRATE INLET
	FIRE HYDRANT
	VALVE, METER WATER
	VALVE, BOX GAS
	ELEC. H.B. & COND. (INSTALLED BY BALTO GAS & ELEC. CO.)
	LIGHT POLE (INSTALLED BY BALTO GAS & ELEC. CO.)
	LIGHT POLE TO BE REMOVED BY BALTO. G & E CO.
	UTILITY POLE
	UTILITY POLE WITH TRANSFORMER
	GUY POLE
	STREET SIGN
	LIGHT POLES WITH CATWALK & TRANSFORMERS
	UTILITY POLES WITH CATWALK & TRANSFORMERS
	TELEPHONE UNDERGROUND LINES
	OVERHEAD TRAFFIC CONTROL SWITCH
	MECHANICAL ELECTRICAL HAND BOX
	FIRE OR POLICE CALL BOX
	FIRE OR POLICE CALL BOX ON UTILITY POLE
	TRAFFIC POLE
	TEMPORARY POLE WITH LIGHT
	UTILITY LINES ABANDONED
	UTILITY LINES TO BE ABANDONED AND REMOVED
	UTILITY PLUG
	BILLBOARD
	ITEM TO BE REMOVED

NOTE: WHEREVER UNDERGROUND CONDUIT ON THESE PLANS HAVE BEEN LABELED M/E OR MECH/ELEC. IT SHALL BE CONSTRUED TO BE B.C.C. (BALTIMORE CITY CONDUIT)

EXPLANATORY NOTES AND REFERENCES

- VERTICAL CONTROL**
 THE LOCATION AND ELEVATIONS OF BENCH MARKS ARE SHOWN ON THE PLAN SHEETS ALL ELEVATIONS SHOWN ARE BASED ON BALTIMORE CITY DATUM.
- HORIZONTAL CONTROL**
 THE PROJECT IS ORIENTED TO CONFORM WITH THE BALTIMORE CITY GRID SYSTEM
- SPECIFICATIONS**
 STATE ROADS COMMISSION, SPECIFICATIONS FOR MATERIALS, HIGHWAYS, BRIDGES AND INCIDENTAL STRUCTURES, DATED MARCH, 1968 AND REVISED THEREOF OR ADDITIONS THERETO INCLUDED IN THE PROPOSAL AND SPECIAL PROVISIONS
- STANDARD PLATES**
 CITY OF BALTIMORE, DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, "BOOK OF STANDARDS"
- MAINTENANCE OF TRAFFIC**
 SPECIAL ATTENTION IS DIRECTED TO THE REQUIREMENTS FOR MAINTENANCE OF TRAFFIC DURING THE CONSTRUCTION OF THIS PROJECT SEE SPECIAL PROVISIONS
- EXISTING UTILITIES**
 EXISTING UTILITY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATIONS PRIOR TO COMMENCING WORK. THE NECESSARY RELOCATION AND/OR ADJUSTMENT OF THE EXISTING UTILITIES, WILL BE PERFORMED BY OTHERS UNLESS OTHERWISE PROVIDED FOR IN THE PROPOSAL OR SPECIAL PROVISIONS
- OBSTRUCTIONS**
 "OBSTRUCTIONS" ARE SHOWN ON THE DRAWINGS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. AND THE CITY DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR THE COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION
- INVERT ELEVATIONS**
 IF APPROVED BY THE ENGINEER PROPOSED INVERT ELEVATIONS MAY BE MODIFIED TO MEET CONDITIONS ENCOUNTERED DURING INSTALLATION OF UNDERGROUND FACILITIES

MATERIALS SALVAGED IN CONSTRUCTION
 THESE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE OF CONSTRUCTION EXCEPT FOR THOSE ITEMS PROVIDED FOR SALVAGE AS SHOWN ON THE PLANS OR IN THE SPECIAL PROVISIONS

GENERAL NOTES - BOX CULVERT

- SPECIFICATIONS**
 DESIGN: A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 1973.
 CONSTRUCTION: MARYLAND S.H.A. SPECIFICATIONS FOR MATERIALS, HIGHWAYS, BRIDGES AND INCIDENTAL STRUCTURES DATED 1968 AND ERRATA AND SPECIAL PROVISIONS.
- LOADING**
 HS-20 TRUCK LOADING
- CONCRETE**
 MIX NO. 2, 3,000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS, 1,200 P.S.I. WORKING STRESS

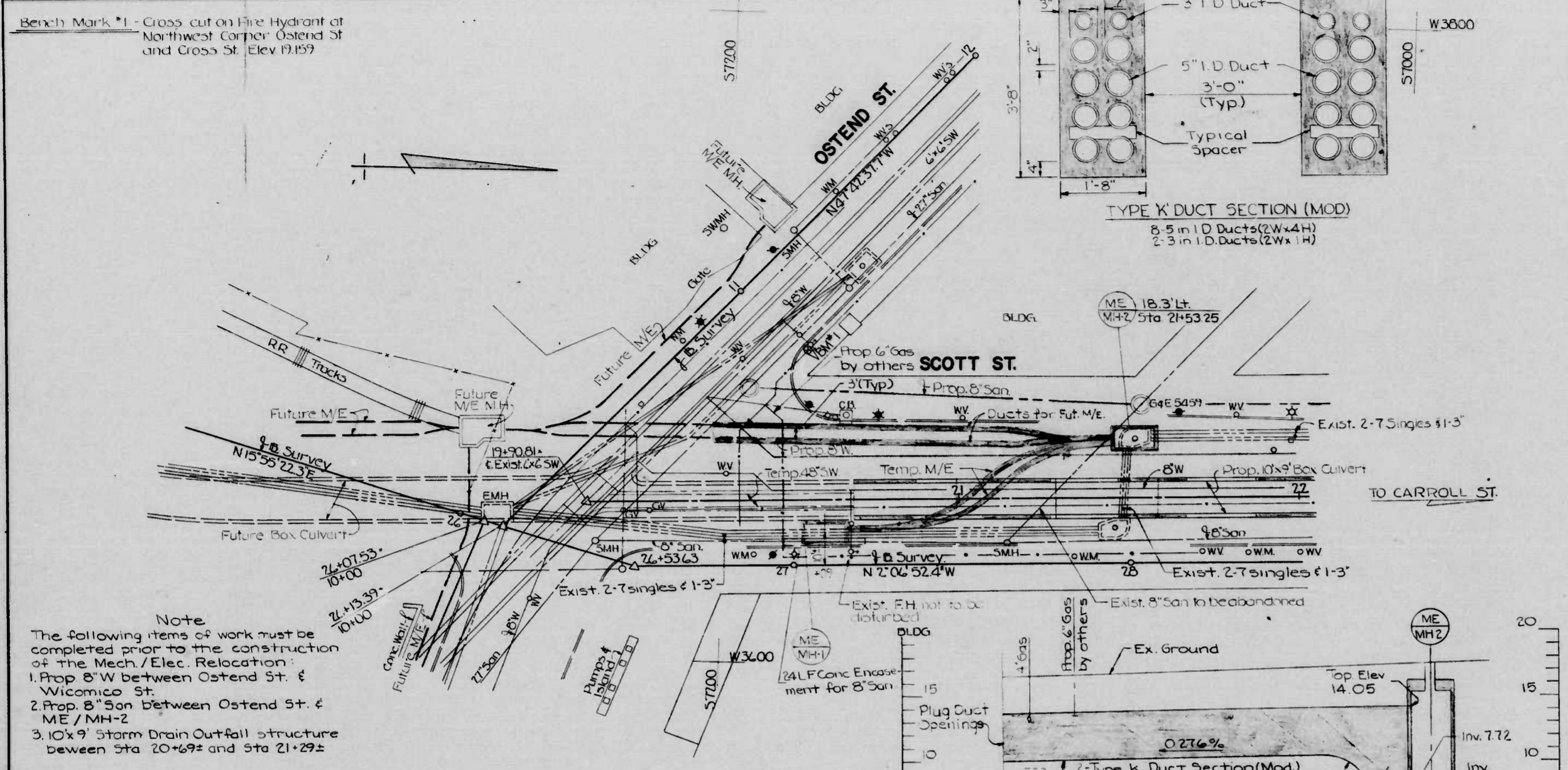
REINFORCING STEEL
 REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. A615, GRADE 60. ALL SPLICES SHALL BE LAPPED A MINIMUM OF 36 BAR DIAMETERS UNLESS OTHERWISE NOTED. MINIMUM COVER SHALL BE 2" EXCEPT AS NOTED.

BACKFILL
 SIDE WALLS AND 1 FOOT ABOVE THE TOP SLAB SHALL BE BACKFILLED USING SELECTED MATERIAL. SEE SPECIAL PROVISIONS.

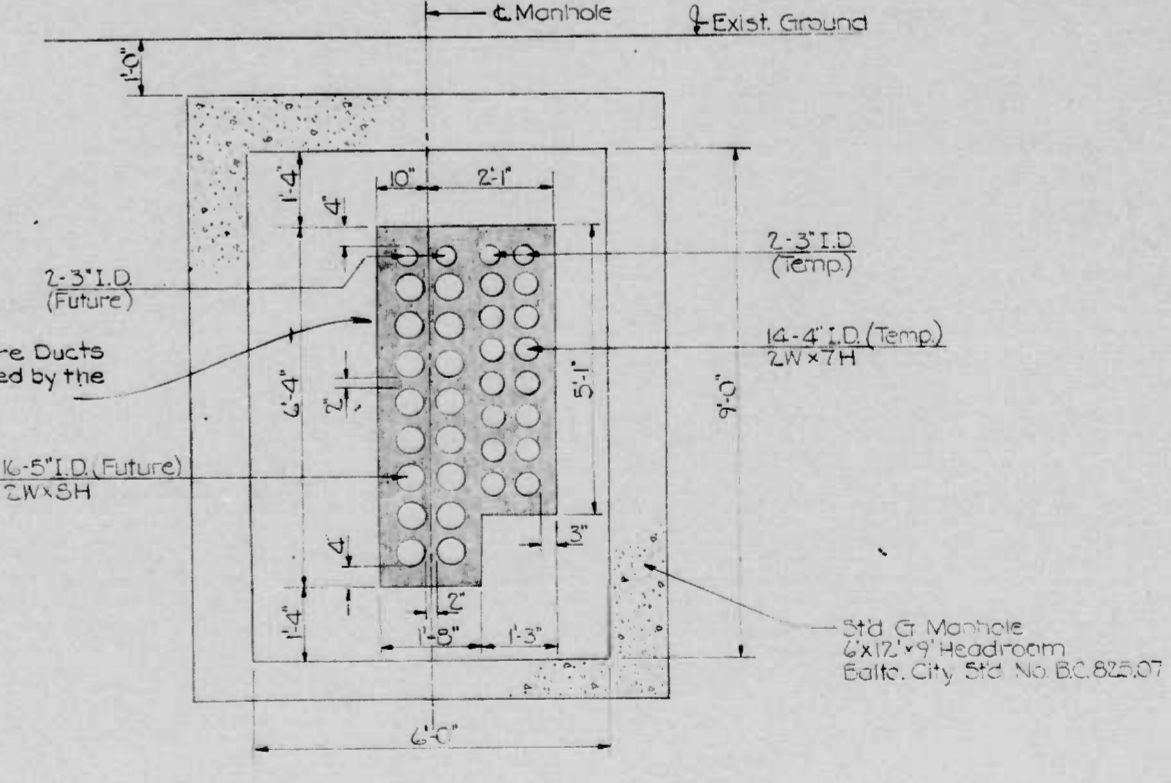
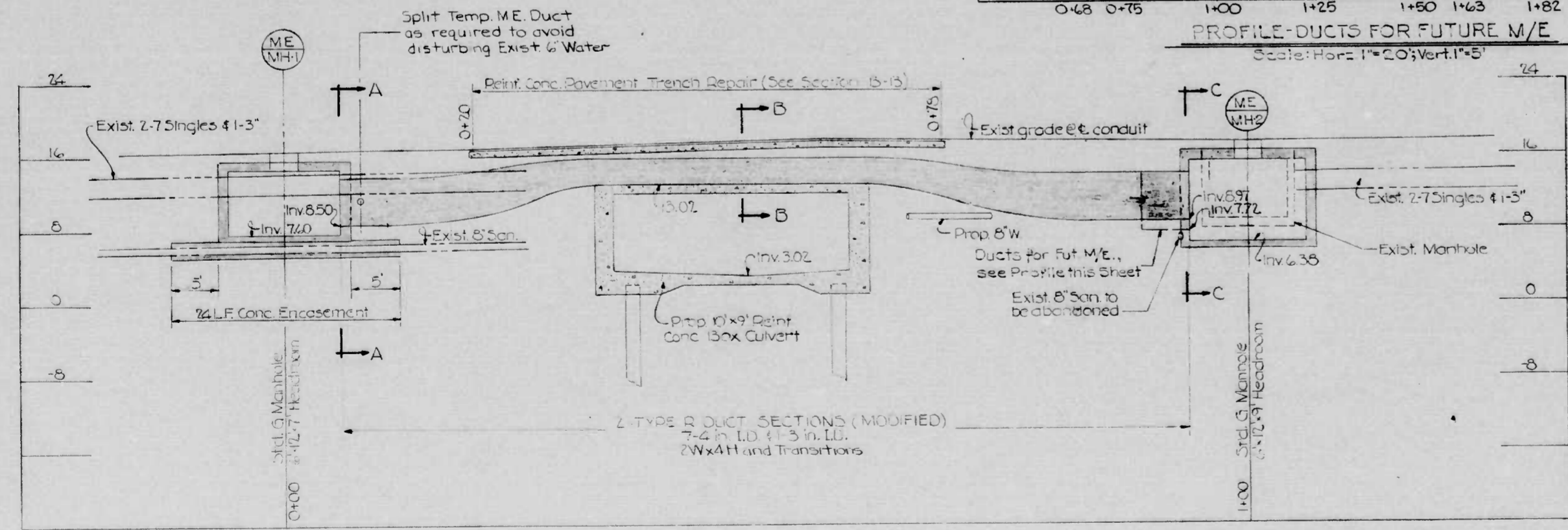
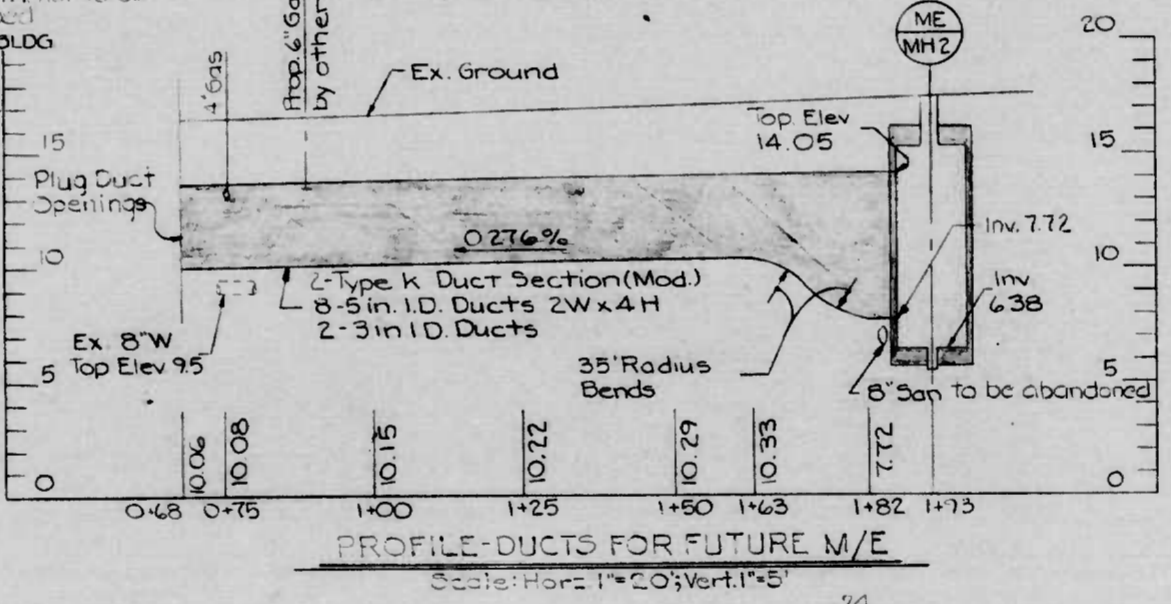
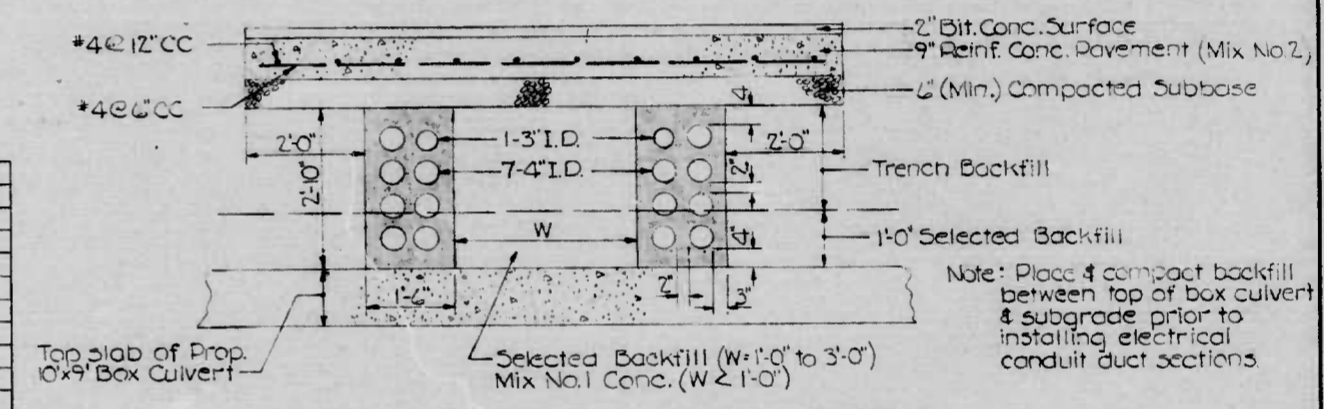
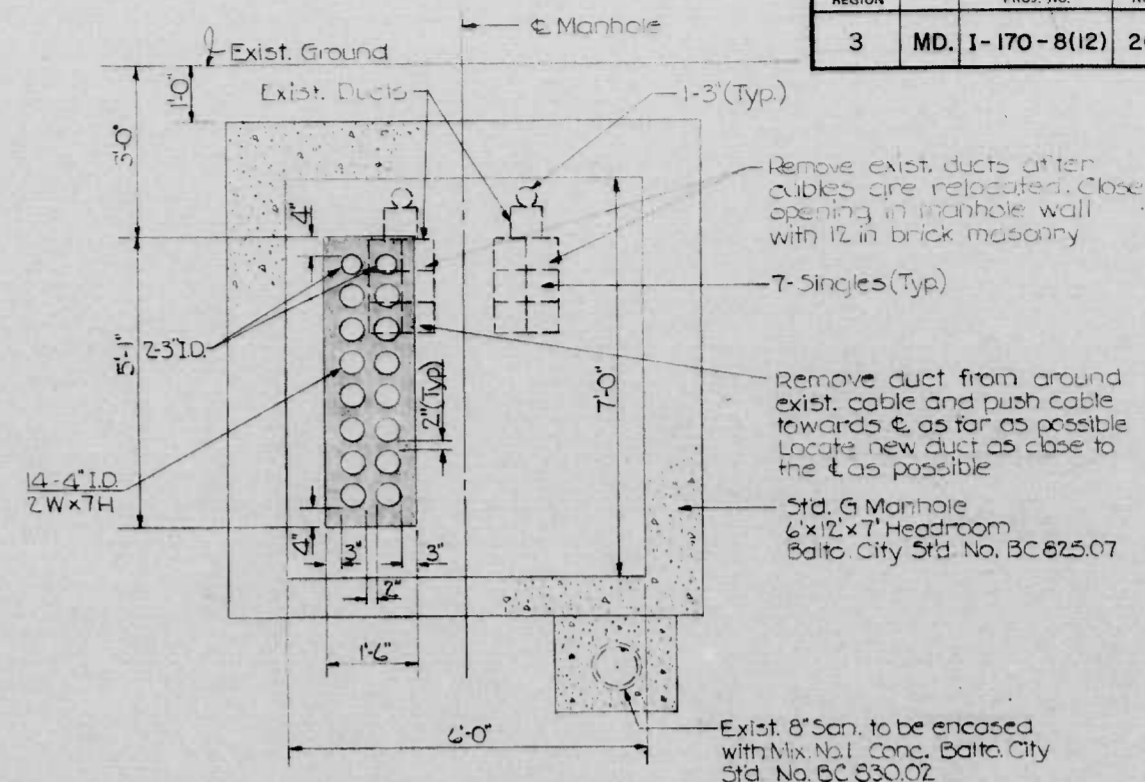
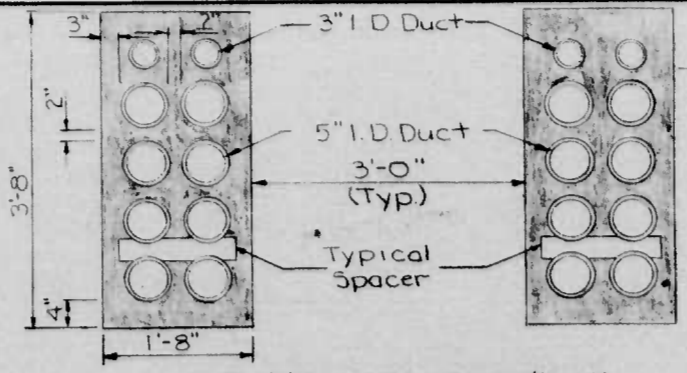
BEARING PILES
 STEEL SHALL CONFORM TO THE REQUIREMENT OF A.S.T.M. DESIGNATION A-36. ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL BUT IN NO CASE TO LESS THAN 90 TONS FOR HP 10x57.

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS	STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
	BALLARD DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET LEGEND AND GENERAL NOTES	DRAWN BY RAW TRACED BY R.A.W. DES. BY CAJ CHK. BY KLE
		SCALE	DATE: OCTOBER 1974
			F.A.P. NO. 1-170-8(12) S.H.A. NO. BC 259-11-815 BALTO. CITY NO. 2286
			SHEET NO. 2 OF 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	20	24



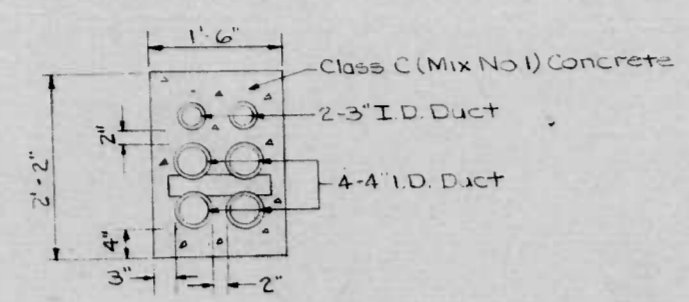
Note
The following items of work must be completed prior to the construction of the Mech/Elec. Relocation:
1. Prop 8"W between Ostend St. & Wicomico St.
2. Prop 8" San between Ostend St. & ME/MH-2
3. 10x9" Storm Drain Outfall structure between Sta 20+69.2 and Sta 21+29.2



REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET SCOTT ST MECH. - ELEC. RELOCATION	
		DRAWN BY D.C.S. TRACED BY D.C.S. F.A.P. NO I-170-8(12) S.H.A. NO BC 259-11-815 BALTO. CITY NO. 2296	DES. BY K.L.E. CHK BY K.L.E. SHEET NO. 20 of 24
		SCALE: AS SHOWN	DATE: OCTOBER 1974

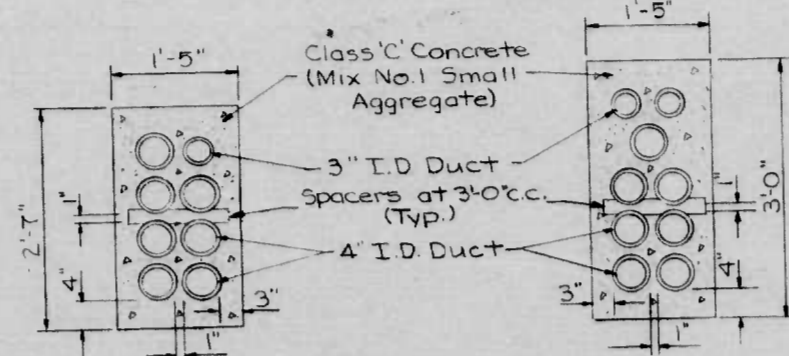
FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	21	24

NOTE:
 2 in. ϕ 4 in. I.D. Duct to be split duct for placement around existing cables or regular duct for replacement of vacant ducts, see the Special Provisions.



TYPE T DUCT SECTION (MOD)
 4-4 in I.D. Ducts & 2-3 in I.D. Ducts
 2Wx3H
 Scale 3/4" = 1'-0"

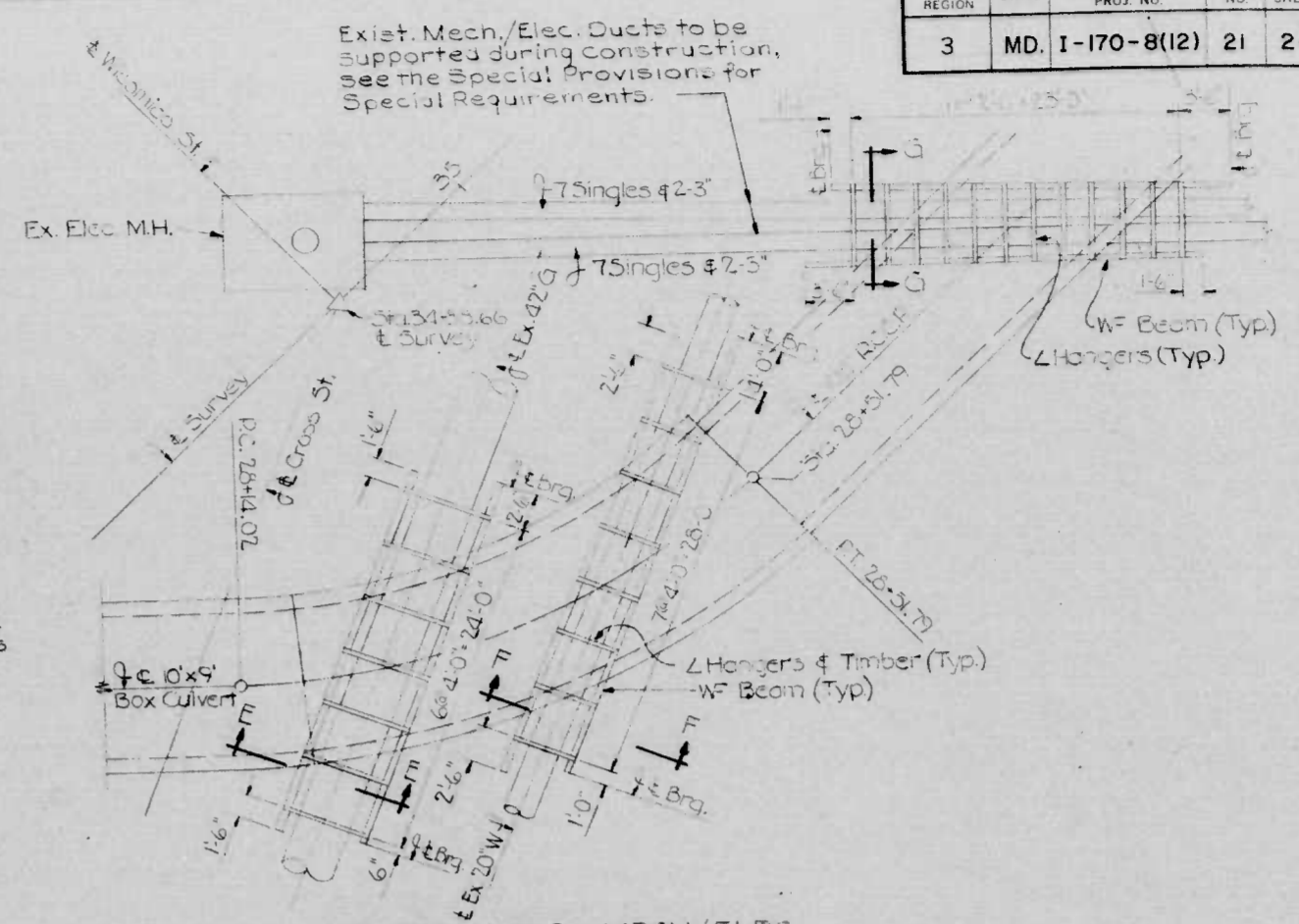
Note: For contingent use as directed by the Engineer to replace existing ducts



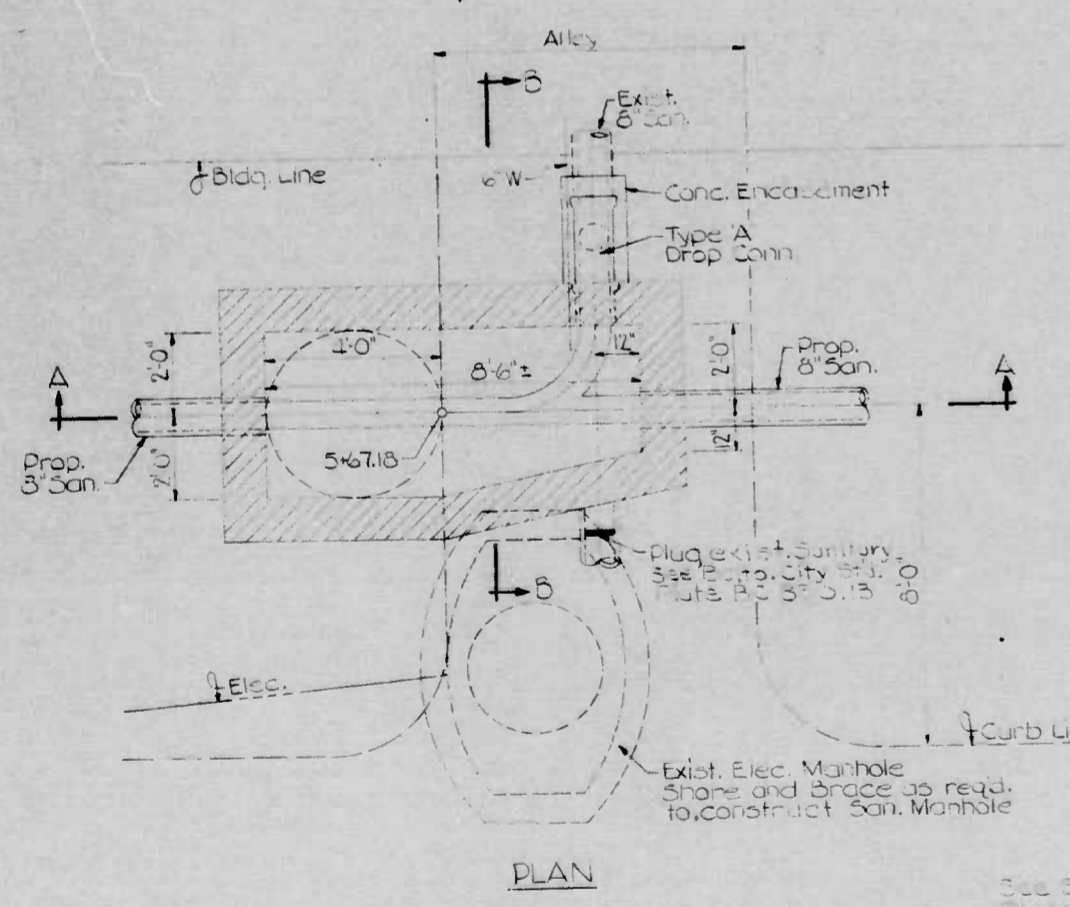
SPECIAL DUCT SECTION NO. 2
 1-4 in I.D. Ducts & 1-3 in I.D. Duct

SPECIAL DUCT SECTION NO. 1
 1-4 in I.D. Ducts & 2-3 in I.D. Ducts

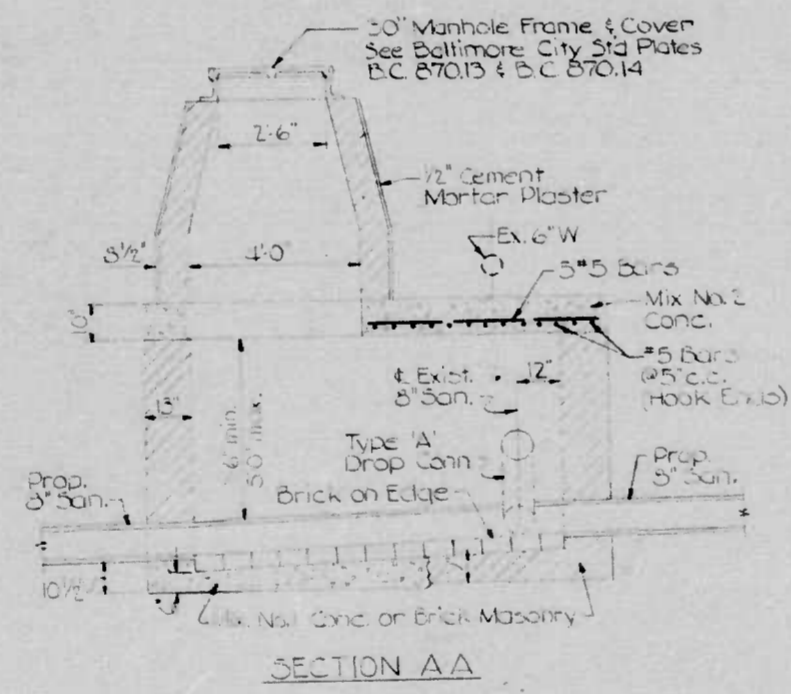
MECH. ELEC. DUCT REPLACEMENT DETAILS FOR STORM DRAIN OUTFALL STA. 28+75± (ALL A)
 Scale 3/4" = 1'-0"



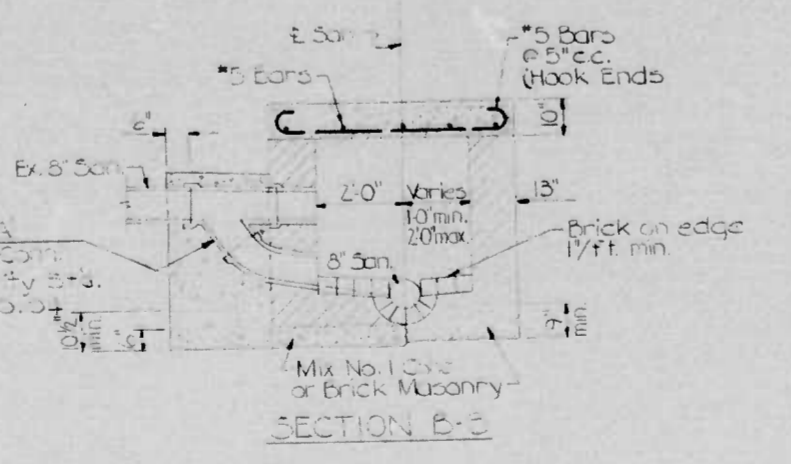
PLAN - 42" GAS, 20" WATER & MECH/ELEC. AT SCOTT AND CROSS STREETS (ALL A)
 Scale: 1/8" = 1'-0"



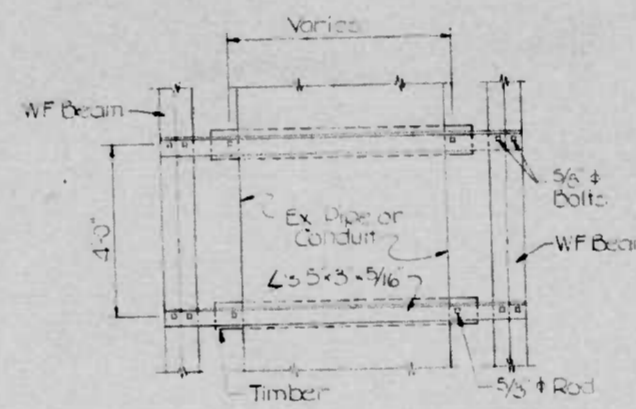
SPECIAL SANITARY MANHOLE NO. 4
 SCALE 1/8" = 1'-0"



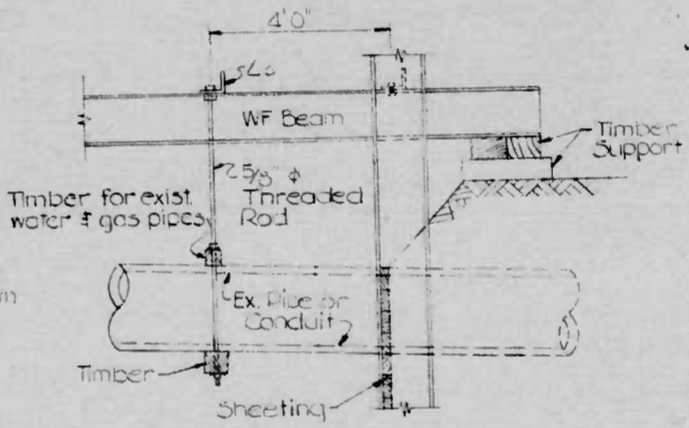
SECTION A-A



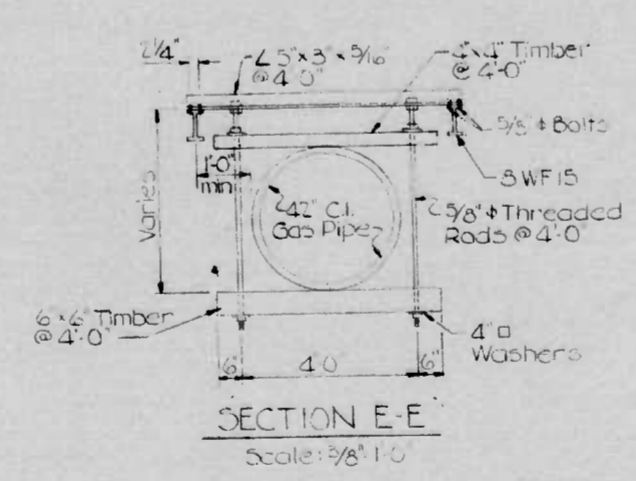
SECTION B-B



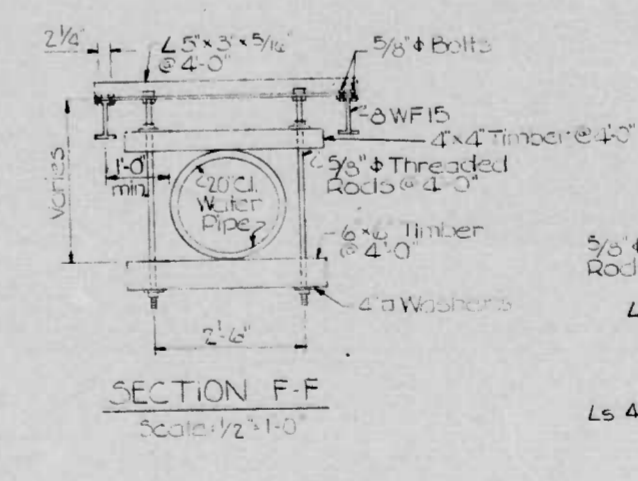
TYPICAL HANGER DETAIL
 Scale: 3/8" = 1'-0"



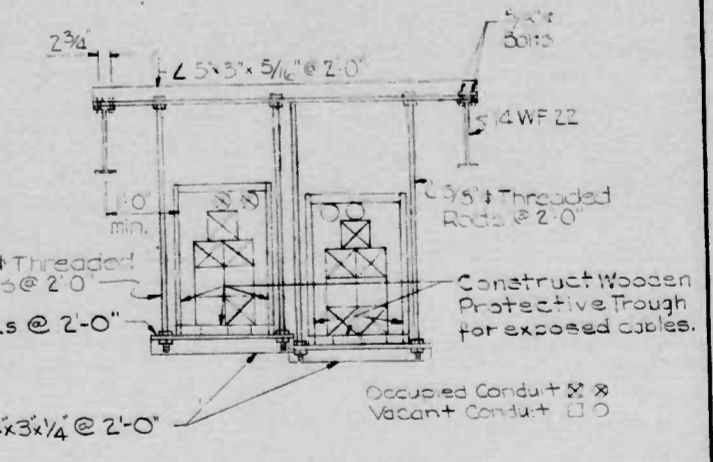
PART ELEVATION TYPICAL HANGER DETAIL
 Scale: 3/8" = 1'-0"



SECTION E-E
 Scale: 3/8" = 1'-0"



SECTION F-F
 Scale: 1/2" = 1'-0"



SECTION G-G
 Scale: 1/2" = 1'-0"

EXISTING UTILITIES SUPPORT DETAILS (ALL A)
 Scale as Shown

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS	STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET MISCELLANEOUS UTILITY DETAILS	DRAWN BY K.L.E. TRACED BY R.W.S. F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-11-815 BALTO. CITY NO. 2286
		SCALE: AS SHOWN	DATE: OCTOBER 1974
			DES. BY K.L.E. CHK. BY C.A.J. SHEET NO. 21 of 24

FED. REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	22	24

BORINGS

DEPTH SCALE
0
5
10
15
20
25
30
35
40
45
50

DEPTH IN FT.	BLOWS PER 6" ON DRIVEN SPLIT SPOON	% RECOVERY	GROUND 9.3
6.5	7-3-3	100	Black Moist Misc. Fill some Shells
14.5	5-5	100	Black Moist Clay And Misc. Fill
17.5	2-5-3	100	Black Moist Silty Sand With Gravel
22.0	17-5-4	100	Gray Moist Silty Clay
27.0	WQH/18	100	Gray Moist Silty Clay
32.0	1-1-1	100	Gray Moist Silty Sand With Gravel
42.5	7-5-9	100	Gray Moist Silty Sand With Gravel
45.9	35-30	95	Gray Moist Sand Weathered Rock

DEPTH IN FT.	BLOWS PER 6" ON DRIVEN SPLIT SPOON	% RECOVERY	GROUND 11.8
7.5	6-7-8	100	Brown & Black Moist Sand With Shells
14.0	1-2-3	100	Brown Moist Silt With Shells and Gravels
23.4	2-3-4	100	Gray Moist Silty Sand
27.0	7-9-11	100	Gray Moist Silty Sand
27.0	2-3-4	100	Brown Moist Sandy Silt
32.0	5-3-4	100	Brown Moist Sandy Silt
41.0	6-7-18	100	Brown Moist Sandy Silt With Gravel
41.0	27-25-35	100	Brown Moist Sandy Silt With Gravel

*Encountered Water at 28.0'

DEPTH IN FT.	BLOWS PER 6" ON DRIVEN SPLIT SPOON	% RECOVERY	GROUND 12.9
7.5	16-18-18	100	Black Moist Sandy Clay
13.5	5-6-4	100	Black to Brown Moist Sandy Clay with Bricks
18.5	2-1/12"	75	Black Moist Silt With Broken Shells
18.5	5-1-2	100	Black Moist Silty Sand
24.0	2-2-2	100	Black Moist Sandy Silt
29.0	2-1-2	100	Black Moist Sandy Silt With Gravel
36.0	17-25-37	100	Black Moist Sandy Silt With Gravel

*Encountered Water at 18.5'

DEPTH IN FT.	BLOWS PER 6" ON DRIVEN SPLIT SPOON	% RECOVERY	GROUND 14.5
7.5	13-9-7	100	Black Moist Sandy Silt
13.5	4-4-4	100	Black Wet Sandy Silt
13.5	4-5-7	100	Black Sandy Silt Moist
19.0	1-1-1	100	Black Wet Silty Sand
24.0	2-1-2	100	Black Wet Silty Sand
28.5	2-1-2	100	Black Wet Silty Sand
33.5	22-25-13	100	Gray Moist Silty Sand With Gravel
37.5	40.4	25-57/4	White Moist Sand With Weathered Rock

*Encountered Water At 9.0'

DEPTH IN FT.	BLOWS PER 6" ON DRIVEN SPLIT SPOON	% RECOVERY	GROUND 12.6
8.0	4-2-2	100	Black Moist Misc. Fill and Shells
8.0	3-2-2	100	Black Moist Silty Sand
19.0	2-1-2	100	Gray Moist Clay and Silt
24.0	1-2-2	100	Gray Moist Clay and Silt
27.5	2-3-5	100	Gray Moist Clay and Silt
33.5	17-23-25	100	Brown Moist Silty Sand With Weathered Rock
35.0	36.0	11-22-50	Brown Moist Silty Sand With Weathered Rock

*Encountered Water at 22.5'

DEPTH IN FT.	BLOWS PER 6" ON DRIVEN SPLIT SPOON	% RECOVERY	GROUND 11.7
7.5	6-3-3	100	Brown Moist Sand With Weathered Rock
7.5	5-2-3	100	Black Moist Sandy Silt
13.5	1-1-2	100	Gray Moist Sandy Clay
18.5	4-3-5	100	Gray Moist Clay and Silt
27.5	4-5-11	100	Gray Moist Clay and Silt
36.0	11-22-50	100	Brown Moist Silty Sand With Weathered Rock

*Encountered Water at 27.5'

DEPTH IN FT.	BLOWS PER 6" ON DRIVEN SPLIT SPOON	% RECOVERY	GROUND 17.2
7.5	7-3-5	100	Gray Moist Clay With Fine Sand
9.9	9-9-9	100	Brown Moist Fine Sand
13.5	3-3-4	100	Gray Moist Clay
17.0	3-3-5	100	Black Moist Micaceous Silt
27.0	2-3-4	100	Gray Moist Silty Sand (Weathered Rock)

*Encountered Water at 27.5'

DEPTH IN FT.	BLOWS PER 6" ON DRIVEN SPLIT SPOON	% RECOVERY	GROUND 18.9
7.5	2-4-3	100	Brown to Green Moist Clay With Rock
10.0	10-29-25	100	Gray to Red Moist Sandy Weathered Rock
13.5	3-3-3	100	Brown to Green Moist Clay With Fine Sand
19.0	2-3-3	100	Gray to Brown Moist Silt
22.0	2-3-3	100	Brown to Green Moist Clay
27.5	3-4-6	100	Brown to Green Moist Clay With Wood Fragments
33.5	13-16-31	100	Gray Moist Silty Sand With Weathered Rock
40.0	10-11-21	100	Gray Moist Silty Sand With Weathered Rock
47.0	2-9-29	100	Brown to Green Moist Weathered Rock
51.0	51/5	35	Dry

DEPTH SCALE
0
5
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15
20
25
30
35
40
45
50
55

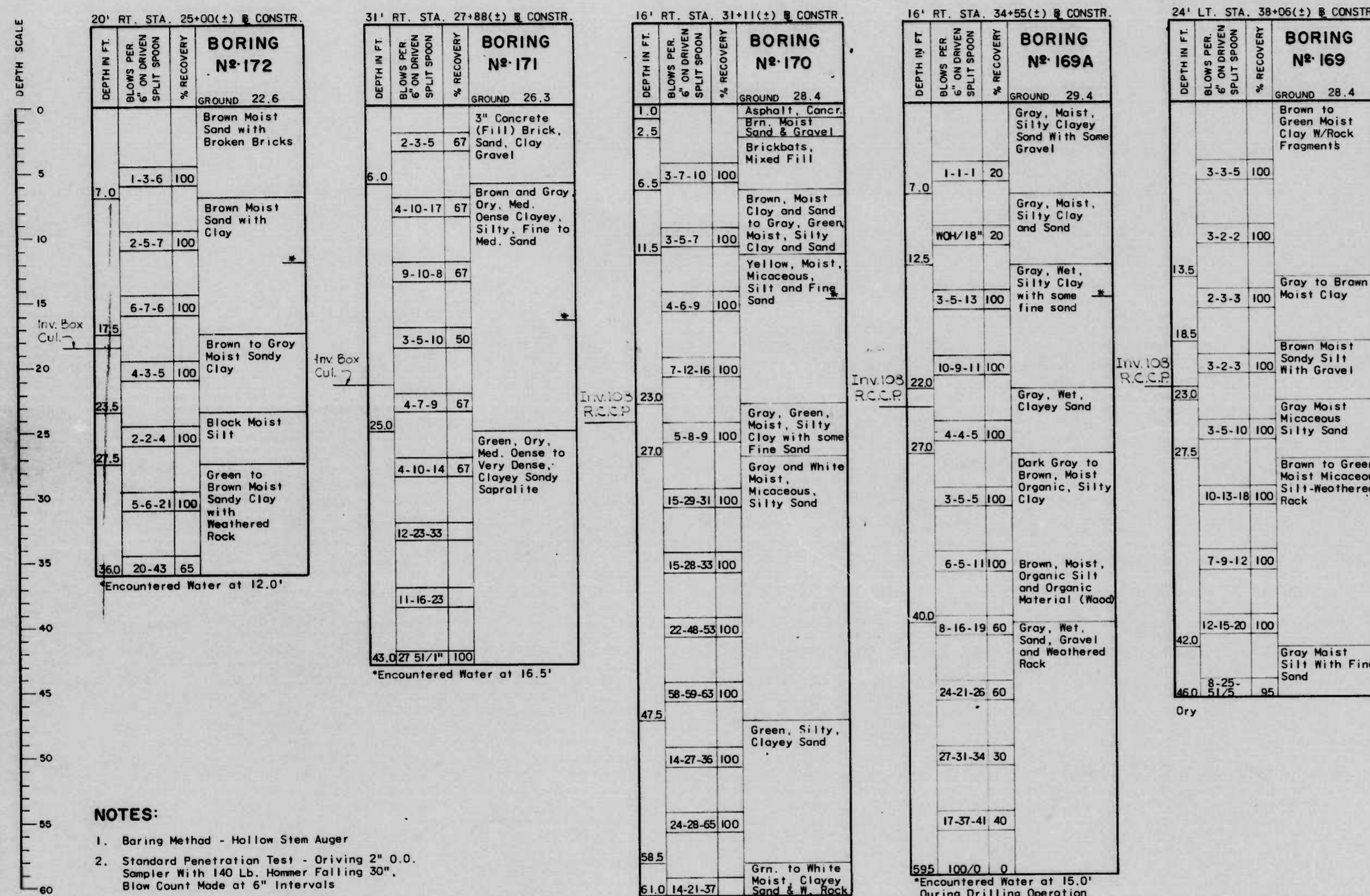
- NOTES:
- Boring Method - Hollow Stem Auger
 - Standard Penetration Test - Driving 2" O.D. Sampler With 140 Lb. Hammer Falling 30", Blow Count Made at 6" Intervals
 - Soil Classifications Shown Are Visual
 - For Boring Locations, See Plan Sheets

NOT APPLICABLE TO THIS CONTRACT THIS CONTRACT

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET BORINGS	
		DRAWN BY M.A.B. TRACED BY M.A.B.	DES. BY M.K.K. CHK. BY E.G.H.
		F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-11-815	SHEET NO. 22 OF 24
		SCALE: 1" = 5' VERT DATE: OCTOBER 1974	BALTO. CITY NO. 2286

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD	I-170-8(12)	23	24

BORINGS



- NOTES:**
- Boring Method - Hollow Stem Auger
 - Standard Penetration Test - Driving 2" O.D. Sampler With 140 Lb. Hammer Falling 30". Blow Count Made at 6" Intervals
 - Soil Classifications Shown Are Visual
 - For Boring Locations, See Plan Sheets

GRADING TABLE - ALTERNATE 'A'

LOCATION	CLASS 3 EXCAVATION	PIPE TRENCH EXCAVATION	COMPACTED BACKFILL REQ'D.	REMARKS
SHEET No. 4 Sta. 19+83.56 TO 19+93.00 Sta. 19+93.00 TO 20+68.82 Sta. 20+68.82 TO 24+50.00	70. C.Y. 3,357. C.Y.	300. C.Y.	40. C.Y. 108. C.Y. 919. C.Y.	S-1 48" BCCMP. 10' x 9' BOX
SHEET No. 5 Sta. 24+50.00 TO 28+51.79 Sta. 28+51.79 TO 30+00.00	4,302. C.Y.	1,881. C.Y.	1,733. C.Y. 1,159. C.Y.	10' x 9' BOX 108" PIPE
SHEET No. 6 Sta. 30+00.00 TO 36+00.00		7,498. C.Y.	4,577. C.Y.	108" PIPE
SHEET No. 7 Sta. 36+00.00 TO 38+26.52		2,887. C.Y.	1,784. C.Y.	108" PIPE
TOTALS	7,729. C.Y.	12,566. C.Y.	10,320. C.Y.	
Total Class 3 Excavation and Pipe Trench Excavation		20,295. C.Y.		
Backfill and Shrinkage Allowance = 1.15 (10,320)		11,868. C.Y.		
APPARENT WASTE		8,427. C.Y.		

GRADING TABLE - ALTERNATE 'B'

LOCATION	CLASS 3 EXCAVATION	PIPE TRENCH AND TUNNEL EXCAVATION	COMPACTED BACKFILL REQ'D.	REMARKS
SHEET No. 4 Sta. 19+83.56 TO 19+93.00 Sta. 19+93.00 TO 20+68.82 Sta. 20+68.82 TO 24+50.00	70. C.Y. 3,357. C.Y.	300. C.Y.	40. C.Y. 108. C.Y. 919. C.Y.	S-1 48" BCCMP. 10' x 9' BOX
SHEET No. 5 Sta. 24+50.00 TO 27+28.82 BK	2,911. C.Y.		1,128. C.Y.	10' x 9' BOX
SHEET No. 5A Sta. 27+36.43 Ah'd. TO 30+00		1,104. C.Y.		108" PIPE TUNNEL
SHEET No. 6 Sta. 30+00 TO 36+00.		2,513. C.Y.		108" PIPE TUNNEL
SHEET No. 7 Sta. 36+00 TO 38+26.52		949. C.Y.		108" PIPE TUNNEL
TOTALS	6,338. C.Y.	4,866. C.Y.	2,195. C.Y.	
Total Class 3 Excavation, Tunnel Excavation and Pipe Trench Excavation		11,204. C.Y.		
Backfill and Shrinkage Allowance = 1.15 (2,195)		2,524. C.Y.		
APPARENT WASTE		8,680. C.Y.		

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARD-OIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET BORINGS	DRAWN BY M.A.B. TRACED BY M.A.B. F.A.P. NO. I-170-8(12) SHA NO. BC 259-11-815 BALTO. CITY NO. 2286
		DES. BY M.K.K. CHK. BY E.G.H.	SHEET NO. 23 of 24
		SCALE: 1" = 5' VERT.	DATE: OCTOBER 1974

SUMMARY OF QUANTITIES

FHWA REGION STATE FED AID PROJ NO SHEET NO TOTAL SHEETS
 3 MD. I-170-8(12) 24 24

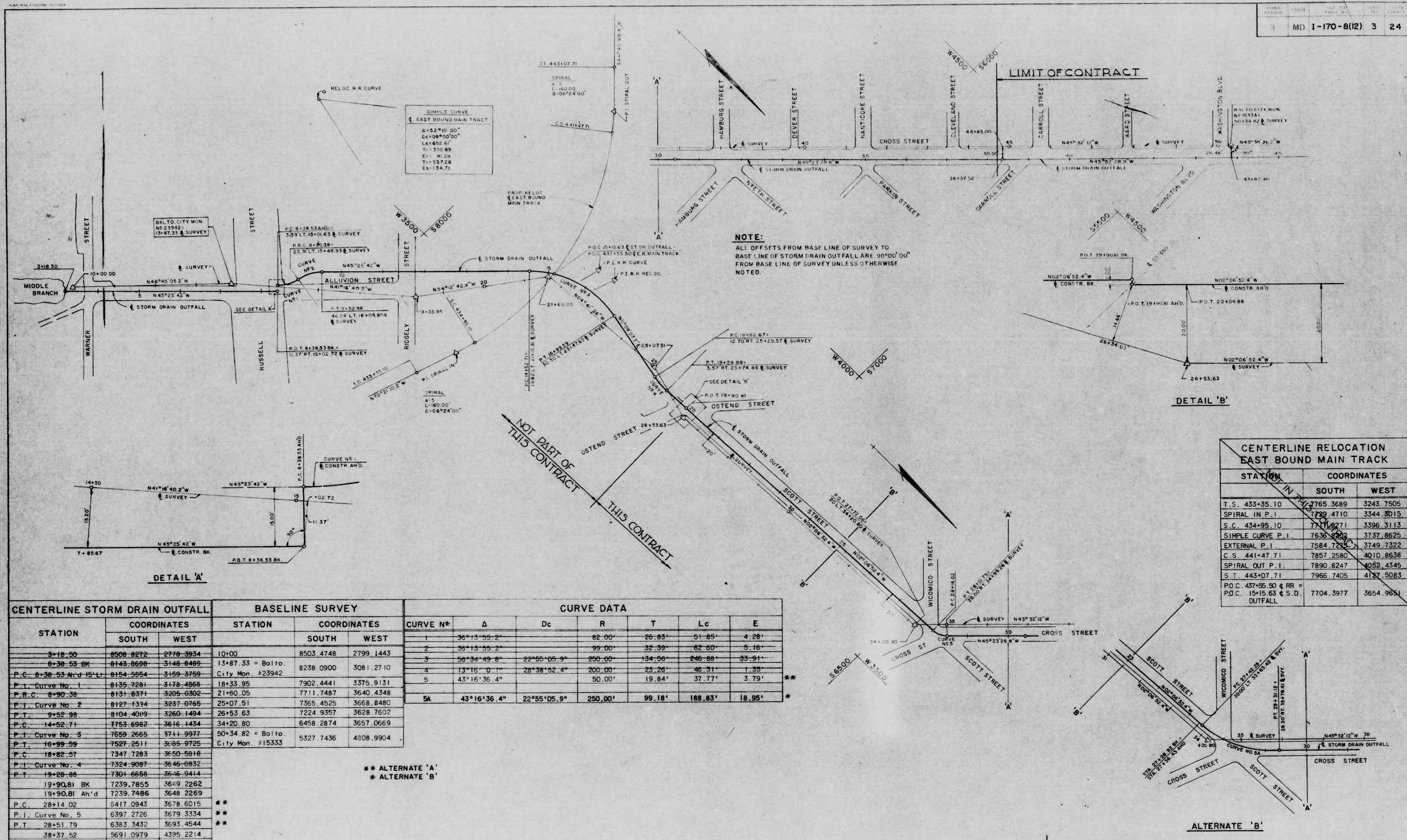
IDENT. NO.	PAY ITEM	UNIT	QUANTITY	CONTINGENT QUANTITY	PROPOSAL QUANTITY
PRELIMINARY ITEMS					
101	Engineers Facilities	L.S.	L.S.	L.S.	L.S.
102	Maintenance of Traffic - Alt. 'A'	L.S.	L.S.	L.S.	L.S.
103	Construction Stakeout	L.S.	L.S.	L.S.	L.S.
104	Mobilization	L.S.	L.S.	L.S.	L.S.
105	On The Job Training	HR.	4,000		4,000
106	Protection of Existing Structures	L.S.	L.S.	L.S.	L.S.
107	Maintenance of Traffic - Alt. 'B'	L.S.	L.S.	L.S.	L.S.
GRAVING ITEMS					
201	Borrow Excavation	C.Y.		1,000	1,000
202	Test Pit Excavation	C.Y.		150	150
203	Removal of Existing Masonry	C.Y.		10	10
DRAINAGE ITEMS					
301	Class 3 Excavation For Incidental Construction	C.Y.		250	250
302	Selected Backfill Using #6 Aggregate	C.Y.		100	100
303	Selected Backfill Using Crusher Run	C.Y.		100	100
304	12 In. R. C. Pipe, Class 4	L.F.	13		14
305	15 In. R. C. Pipe, Class 4	L.F.	49		50
306	18 In. R. C. Pipe, Class 4	L.F.	16		16
307	21 In. R. C. Pipe, Class 4	L.F.	16		16
308	48 In. B.C.C.M. Pipe Type A #12 Gauge	L.F.	72		72
309	Removal of Old Pipe Culverts, Any Size	L.F.		100	100
310	Manhole Stack for Box Culvert Structure - Min. Depth - Alt. 'A'	Ea.	3		3
311	Manhole Stack for Box Culvert Structure - Vert. Depth - Alt. 'A'	L.F.	14		15
312	Crown Manhole - Min. Depth - Alt. 'A'	Ea.	3		3
313	Crown Manhole - Vert. Depth - Alt. 'A'	L.F.	28		30
314	Remove and Salvage Manhole and Inlet Frames, Grates & Cov. - Alt. 'A'	Ea.	6		6
315	Hauling to Storage Area of Salvaged Frames, Grates & Cov. - Alt. 'A'	Ea.	6		6
316	Mix No. 2 Concrete for Miscellaneous Structures	C.Y.		10	10
317	Mix No. 1 Concrete for Miscellaneous Structures	C.Y.		15	15
318	Ordinary Brick Masonry for Miscellaneous Structures	C.Y.		10	10
319	Utility Trench Underdrain	L.F.		1,500	1,500
320	Sheeting and Shoring Left In Place	S.F.		17,000	17,000
321	12 In. Asbestos-Cement Pipe Class 100 - Alt. 'B'	L.F.	679		680
322	Temporary Standard Storm Water Manhole, 30 In. Cover - Min. Depth - Alt. 'B'	Ea.	1		1
323	Temporary Standard Storm Water Manhole, Vertical Depth - Alt. 'B'	L.F.	8		8
324	Manhole Stack for Box Culvert Structure - Min. Depth - Alt. 'B'	Ea.	2		2
325	Manhole Stack for Box Culvert Structure - Vert. Depth - Alt. 'B'	L.F.	5		6
326	Crown Manhole - Min. Depth - Alt. 'B'	Ea.	4		4
327	Crown Manhole - Vert. Depth - Alt. 'B'	L.F.	36		38
328	Remove and Salvage Manhole and Inlet Frames, Grates & Cov. - Alt. 'B'	Ea.	7		7
329	Hauling to Storage Area of Salvaged Frames, Grates & Cov. - Alt. 'B'	Ea.	7		7

IDENT. NO.	PAY ITEM	UNIT	QUANTITY	CONTINGENT QUANTITY	PROPOSAL QUANTITY
STRUCTURE ITEMS					
401	Class 3 Excavation For Structures - Alt. 'A'	C.Y.	7,729		7,800
402	10 In. Steel HP Bearing Piles @ 57# Furn. Driven, etc. - Alt. 'A'	L.F.	5,526		5,550
403	10 In. Steel HP Brg. T. Piles @ 57# Furn. Driven, etc. - Alt. 'A'	L.F.	262		275
404	10 In. Steel HP Bearing Pile @ 57# Pile Splices	Ea.	30		30
405	Pile Tip Reinforcement, Steel Bearing Piles	Ea.	10		10
406	Sheeting and Shoring For Storm Drain Outfall - Alt. 'A'	L.S.	L.S.		L.S.
407	Surveillance of Pile Driving	Ea.	50		50
408	10'-0" x 9'-0" Reinforced Concrete Box Culvert, Sta. 20+68.82 to Sta. 28+51.79 - Alt. 'A'	L.S.	L.S.		L.S.
409	Junction Chamber S-1 At Sta. 19+91±	L.S.	L.S.		L.S.
410	Contingent Concrete For Box Culvert	C.Y.	50		50
411	Furnishing and Placing 108 In. R.C.C. Pipe, Class 4, In Trench - Alt. 'A'	L.F.	975		976
412	Class 3 Excavation for Structures - Alt. 'B'	C.Y.	6,338		6,350
413	Excavating and Tunneling for 108 In. Paired-In-Place Reinforced Concrete Pipe - Alt. 'B'	L.F.	1,090		1,090
414	10 In. Steel HP Bearing Piles @ 57# Furn. Driven, etc. - Alt. 'B'	L.F.	4,726		4,750
415	10 In. Steel HP Brg. T. Piles @ 57# Furn. Driven, etc. - Alt. 'B'	L.F.	230		230
416	Sheeting and Shoring for Storm Drain Outfall - Alt. 'B'	L.S.	L.S.		L.S.
417	10'-0" x 9'-0" Reinforced Concrete Box Culvert, Sta. 20+68.82 to Sta. 27+28.82 BK - Alt. 'B'	L.S.	L.S.		L.S.
418	Furnishing and Pouring-In-Place 108 In. Reinforced Concrete Pipe in Tunnel - Alt. 'B'	L.F.	1,090		1,090
PAVING ITEMS					
501	Variable Depth Sub-base Using Crusher Run - Alt. 'A'	Ton	44		50
502	6" Dense Graded Stabilized Aggregate Base Course with Asphalt Emulsion - Alt. 'A'	S.Y.	4,540		4,600
503	Crusher Run Aggregate For Maintenance of Traffic	Ton		1,000	1,000
504	Bituminous Concrete For Wedge and/or Leveling Course	Ton	100		100
505	Bituminous Concrete Using Band ST/STONE - Alt. 'A'	Ton	766		770
506	Bituminous Concrete Using Band B1 - Alt. 'A'	Ton	1,864		1,870
507	Bituminous Concrete For Maint. of Traffic, Stone or Slag - Alt. 'A'	Ton		200	200
508	Patching Existing Pavement Using Class H.E.S. Concrete	S.Y.	100		100
509	Calcium Chloride	Ton		2	2
510	Variable Depth Sub-base Using Crusher Run - Alt. 'B'	Ton	264		275
511	6" Dense Graded Stabilized Aggregate Base Course with Asphalt Emulsion - Alt. 'B'	S.Y.	2,338		2,350
512	Bituminous Concrete Using Band ST/STONE - Alt. 'B'	Ton	420		425
513	Bituminous Concrete Using Band B1 - Alt. 'B'	Ton	1,023		1,030
514	Bituminous Concrete for Maint. of Traffic, Stone or Slag - Alt. 'B'	Ton		100	100
SHOULDER ITEMS					
601	B.C. Type A Curb 7 In. x 20 In.	L.F.		400	400
602	Standard Type A Combination Curb and Gutter, 12 In. Gutter Pan, 9 In. Depth	L.F.		20	20
603	5 In. Concrete Sidewalk	S.F.	2,935		3,000

IDENT. NO.	PAY ITEM	UNIT	QUANTITY	CONTINGENT QUANTITY	PROPOSAL QUANTITY
UTILITY ITEMS					
801	Hand Box For Mechanical Electrical Service	Ea.	3		3
802	Type V Duct Section 4-4 In. I.O. P.V.C. 2W x 2H	L.F.		50	50
803	Type Y Duct Section 1-3 In. I.O. P.V.C.	L.F.		125	125
804	Type Z Duct Section 1-2 In. I.O. Metallic	L.F.		50	50
805	Type K Duct Section (MOD.) 8-5 In. I.O. P.V.C. and 2-3 In. I.O. P.V.C. 2W x 5H	L.F.	238		240
806	Type R Duct Section (MOD.) 7-4 In. I.O. P.V.C. and 1-3 In. I.O. P.V.C. 2W x 4H And Transitions	L.F.	176		180
807	Type T Duct Section (MOD.) 4-4 In. I.O. P.V.C. and 2-3 In. I.O. P.V.C. 2W x 3H	L.F.		25	25
808	Special Duct Section No. 1, 7-4 In. I.O. P.V.C. and 2-3 In. I.O. P.V.C. - Alt. 'A'	L.F.	35		35
809	Special Duct Section No. 2, 7-4 In. I.O. P.V.C. and 1-3 In. I.O. P.V.C. - Alt. 'A'	L.F.	35		35
810	Class C Contingent Concrete	C.Y.		5	5
811	Type G Manhole-Mechanical Electrical-6 Ft. x 12 Ft. x 7 Ft. HR	Ea.	1		1
812	Type G Manhole-Mechanical Electrical-6 Ft. x 12 Ft. x 9 Ft. HR	Ea.	1		1
813	8 In. Vitrified Clay Pipe Extra Strength	L.F.	694		694
814	Temporary Relocation of Sanitary Sewer House Connection - Alt. 'A'	Ea.		10	10
815	Reconstruct Existing Sanitary Sewer House Connection - Alt. 'A'	Ea.	12		12
816	6 In. Ductile Iron Pipe And Fittings - Water	L.F.	35		40
817	8 In. Ductile Iron Pipe And Fittings - Water	L.F.	755		760
818	10 In. Ductile Iron Pipe And Fittings - Water - Alt. 'A'	L.F.	156		160
819	6 In. Valve And Vault - Alt. 'A'	Ea.	2		2
820	8 In. Valve And Vault	Ea.	1		1
821	10 In. x 8 In. Tapping Sleeve, Valve And Vault	Ea.	1		1
822	20 In. x 10 In. Tapping Sleeve, Valve And Vault - Alt. 'A'	Ea.	2		2
823	Contingent Class H.E.S. Concrete	C.Y.		5	5
824	3/4 In. Copper Pipe, Type K Water Service Incl. Top and Fittings	Ea.		10	10
825	1 In. Copper Pipe, Type K Water Service Incl. Top and Fittings	Ea.		10	10
826	2 In. Copper Pipe, Type K Water Service Incl. Top and Fittings	Ea.		10	10
827	Standard San. Manhole, 30 In. Cover-Minimum Depth - Alt. 'A'	Ea.	4		4
828	Standard San. Manhole, Vertical Depth - Alt. 'A'	L.F.	39		40
829	Special San. Manhole No. 4	L.S.	L.S.		L.S.
830	Type A San. Drop Connection	Ea.	1		1
831	Type B San. Drop Connection - Alt. 'A'	Ea.	1		1
832	Temporary Relocation of Sanitary Sewer House Connection - Alt. 'B'	Ea.		21	21
833	Reconstruct Existing Sanitary Sewer House Connection - Alt. 'B'	Ea.	23		23
834	8 In. Ductile Iron Pipe and Fittings - Sanitary - Alt. 'B'	L.F.	447		450
835	6 In. Valve and Vault - Alt. 'B'	Ea.	1		1
836	Standard San. Manhole, 30 In. Cover-Min. Depth - Alt. 'B'	Ea.	6		6
837	Standard San. Manhole, Vertical Depth - Alt. 'B'	L.F.	51		52
838	Type B San. Drop Connection - Alt. 'B'	Ea.	2		2
839	5 Ft. Dia. San. Manhole, 30 In. Cover - Min. Depth - Alt. 'B'	Ea.	1		1
840	5 Ft. Dia. San. Manhole, Vertical Depth - Alt. 'B'	L.F.	9		9

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARO-OIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET SUMMARY OF QUANTITIES	
		DRAWN BY: D.M.S. TRACED BY: M.A.B. F.A.P. NO. I-170-8(12) S.H.A. NO. BC-259-11-815 BALTO. CITY NO. 2286	DES. BY: C.A.J. CHK BY: C.A.J. SHEET NO. 24 of 24
SCALE		DATE: OCTOBER 1974	

PROJECT NO.	DATE	SHEET NO.	TOTAL SHEETS
3	MD 1-170-8(12)	3	24



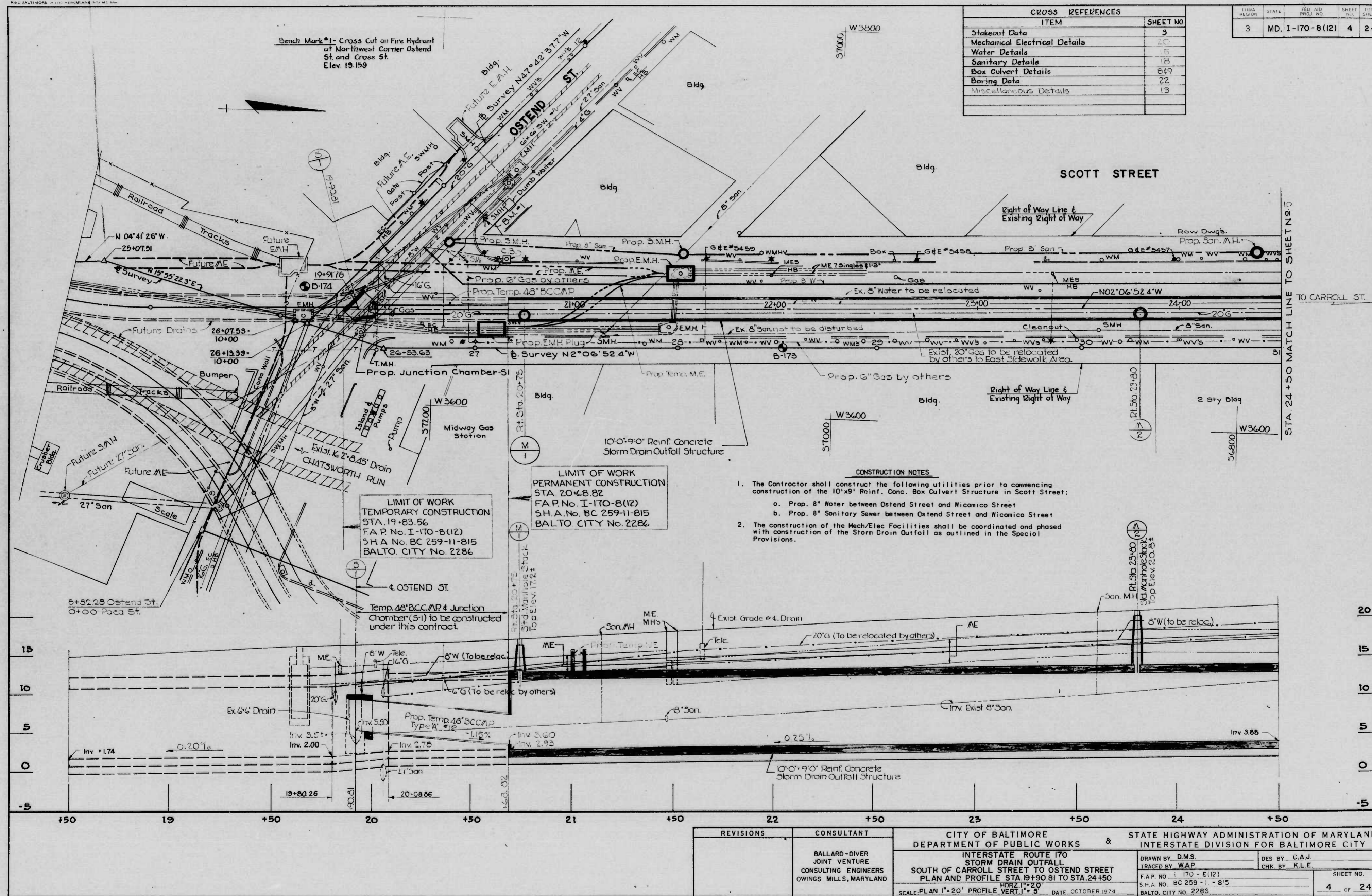
CENTERLINE RELOCATION EAST BOUND MAIN TRACK

STATION	COORDINATES	
	SOUTH	WEST
T.S. 433+35.10	7765.3689	3243.7505
SPIRAL IN P.I.	7739.4710	3344.8015
S.C. 434+95.10	7711.8271	3396.3113
SIMPLE CURVE P.I.	7636.8202	3337.8625
EXTERNAL P.I.	7584.7232	3749.7322
C.S. 441+47.71	7857.2580	4010.8638
SPIRAL OUT P.I.	7890.8247	4052.4345
S.T. 443+07.71	7966.7405	4127.5083
P.O.C. 437+55.50 & RR =		
P.O.C. 15+15.63 & S.D. =	7704.3977	3654.9651
OUTFALL		

CENTERLINE STORM DRAIN OUTFALL			BASELINE SURVEY			CURVE DATA						
STATION	COORDINATES		STATION	COORDINATES		CURVE NO.	Δ	Dc	R	T	Lc	E
	SOUTH	WEST		SOUTH	WEST							
3+18.50	8508.8272	2776.3954	10+00	8503.4748	2799.1443	1	36°13'55.2"		82.00'	26.85'	51.85'	4.28'
8+36.59 BK	8143.8698	3148.8489	13+87.33 = Balto.	8238.0900	3081.2710	2	36°13'55.2"		99.00'	32.39'	62.60'	5.16'
P.C. 8+36.53 Ah'd 15' Lt	8154.5554	3159.3759	City Mon. #23942			3	56°34'49.8"	22°55'05.9"	290.00'	134.56'	246.88'	33.91'
P.I. Curve No. 1	8135.7281	3178.4868				4	13°16'0.1"	28°38'52.4"	200.00'	25.26'	46.31'	1.35'
P.R.C. 8+90.36	8131.8371	3205.0302	21+60.05	7711.7487	3640.4348	5A	43°16'36.4"	22°55'05.9"	250.00'	99.18'	188.83'	18.95'
P.T. Curve No. 2	8127.1394	3237.0765	25+07.51	7365.4525	3668.8480				50.00'	19.84'	37.77'	3.79'
P.T. 9+52.98	8104.4089	3260.1494	26+53.63	7224.9357	3628.7602							
P.C. 14+52.71	7753.6982	3616.1434	34+20.80	6458.2874	3657.0669							
P.T. Curve No. 3	7659.2665	3711.9977	50+34.82 = Balto.	5327.7436	4008.9904							
P.T. 16+99.59	7527.2511	3685.9725	City Mon. #15333									
P.C. 18+82.57	7347.7283	3650.5918										
P.I. Curve No. 4	7324.9087	3646.0832										
P.T. 19+28.88	7301.6658	3646.9414										
19+90.81 BK	7239.7855	3649.2262										
19+90.81 Ah'd	7239.7486	3648.2269										
P.C. 28+14.02	6417.0943	3678.6015										
P.I. Curve No. 5	6397.2726	3679.3334										
P.T. 28+51.79	6383.3432	3693.4544										
38+37.52	5691.0979	4395.2214										
27+28.82Bk = 27+36.43Ah	6502.2411	3675.4575										
P.C. 27+42.29	6496.5809	3675.6739										
P.I. Curve No. 5A	6397.2726	3679.3334										
P.T. 29+31.12	6327.6253	3749.9386										

** ALTERNATE 'A'
* ALTERNATE 'B'

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS	STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET STAKEOUT DATA	DRAWN BY: D.M.S. TRACED BY: D.M.S. F.A.P. NO. I-170-8(12) S.H.A. NO. DC-259-11-81E BALTO. CITY NO. 2286
		DES. BY: K.L.E. CHK. BY: C.A.U.	SHEET NO. 3 OF 24
		SCALE: 1"=100'	DATE: OCTOBER 1974



CROSS REFERENCES	
ITEM	SHEET NO.
Stakeout Data	3
Mechanical Electrical Details	20
Water Details	15
Sanitary Details	18
Box Culvert Details	B49
Boring Data	22
Miscellaneous Details	13

PROJ. REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	4	24

Bench Mark #1 - Cross Cut on Fire Hydrant at Northwest Corner Ostend St. and Cross St. Elev. 19.159

LIMIT OF WORK
TEMPORARY CONSTRUCTION
STA. 19+83.56
F.A.P. No. I-170-8(12)
S.H.A. No. BC 259-11-815
BALTO. CITY No. 2286

LIMIT OF WORK
PERMANENT CONSTRUCTION
STA. 20+68.82
F.A.P. No. I-170-8(12)
S.H.A. No. BC 259-11-815
BALTO. CITY No. 2286

CONSTRUCTION NOTES

- The Contractor shall construct the following utilities prior to commencing construction of the 10'x9' Rein. Conc. Box Culvert Structure in Scott Street:
 - Prop. 8" Water between Ostend Street and Wicomico Street
 - Prop. 8" Sanitary Sewer between Ostend Street and Wicomico Street
- The construction of the Mech/Elec Facilities shall be coordinated and phased with construction of the Storm Drain Outfall as outlined in the Special Provisions.

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET PLAN AND PROFILE STA. 19+90.81 TO STA. 24+50 SCALE PLAN 1"=20' PROFILE VERT. 1"=5'	DATE OCTOBER 1974
		DRAWN BY: D.M.S. TRACED BY: W.A.P. F.A.P. No. I-170-8(12) S.H.A. No. BC 259-11-815 BALTO. CITY No. 2285	DES. BY: C.A.J. CHK. BY: K.L.E. SHEET NO. 4 of 24

French Manhole cut in first step Scott Baptist Church at Scott St and Cross St (Elev 26.545)

CONSTRUCTION NOTES

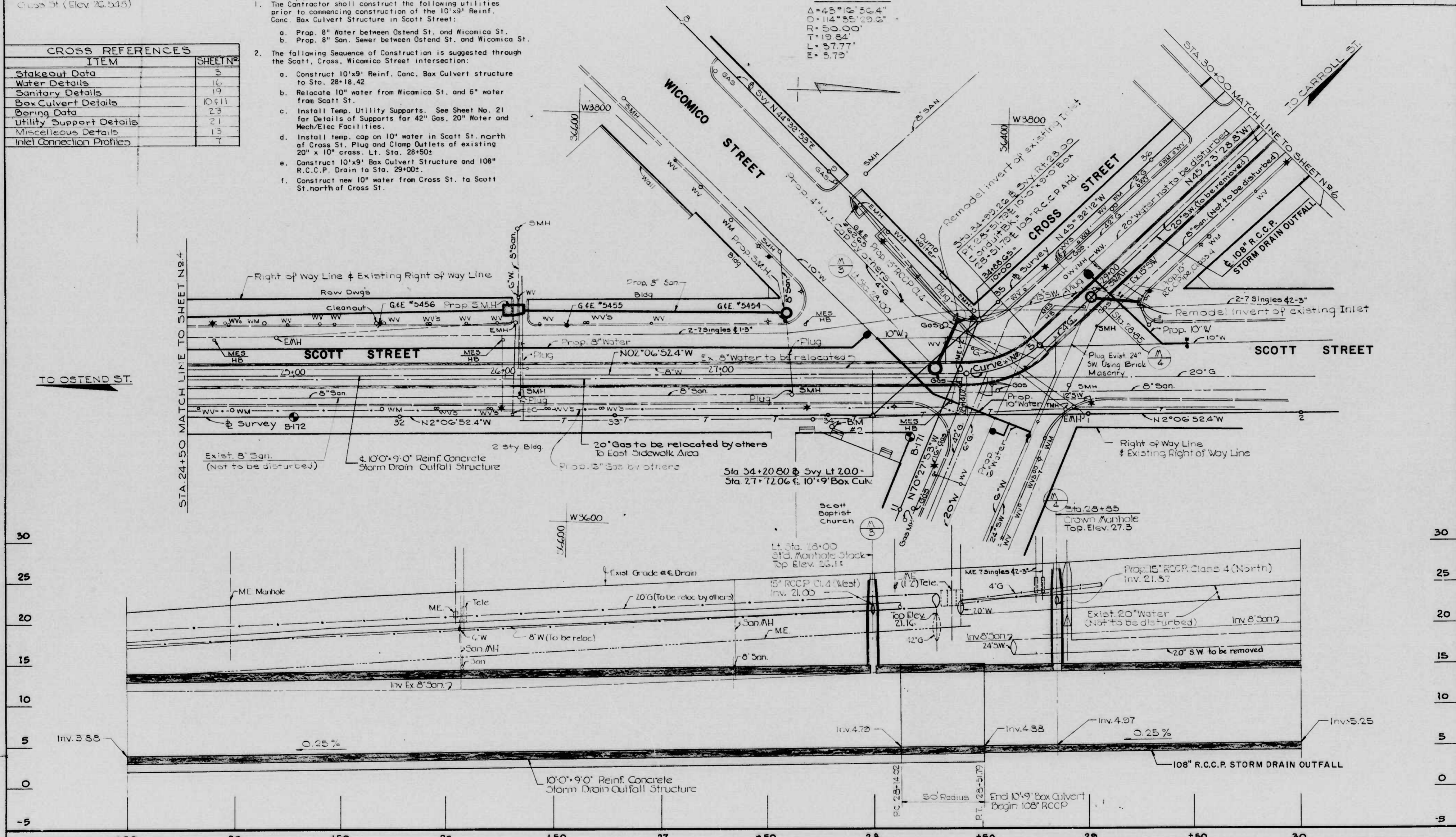
- The Contractor shall construct the following utilities prior to commencing construction of the 10'x9' Reinf. Conc. Box Culvert Structure in Scott Street:
 - Prop. 8" Water between Ostend St. and Wicomico St.
 - Prop. 8" San. Sewer between Ostend St. and Wicomico St.
- The following Sequence of Construction is suggested through the Scott, Cross, Wicomico Street intersection:
 - Construct 10'x9' Reinf. Conc. Box Culvert structure to Sta. 28+18.42
 - Relocate 10" water from Wicomico St. and 6" water from Scott St.
 - Install Temp. Utility Supports. See Sheet No. 21 for Details of Supports for 42" Gas, 20" Water and Mech/Elec Facilities.
 - Install temp. cap on 10" water in Scott St. north of Cross St. Plug and Clamp Outlets of existing 20" x 10" cross. Lt. Sta. 28+50±
 - Construct 10'x9' Box Culvert Structure and 108" R.C.C.P. Drain to Sta. 29+00±.
 - Construct new 10" water from Cross St. to Scott St. north of Cross St.

CURVE DATA

CURVE NO. 5
 $\Delta = 43^\circ 10' 50.4"$
 $D = 14^\circ 35' 20.0"$
 $R = 50.00'$
 $T = 19.84'$
 $L = 37.77'$
 $E = 3.73'$

FED. REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	5	24

CROSS REFERENCES	
ITEM	SHEET NO.
Stakeout Data	3
Water Details	16
Sanitary Details	19
Box Culvert Details	10 & 11
Boring Data	23
Utility Support Details	21
Miscellaneous Details	13
Inlet Connection Profiles	7



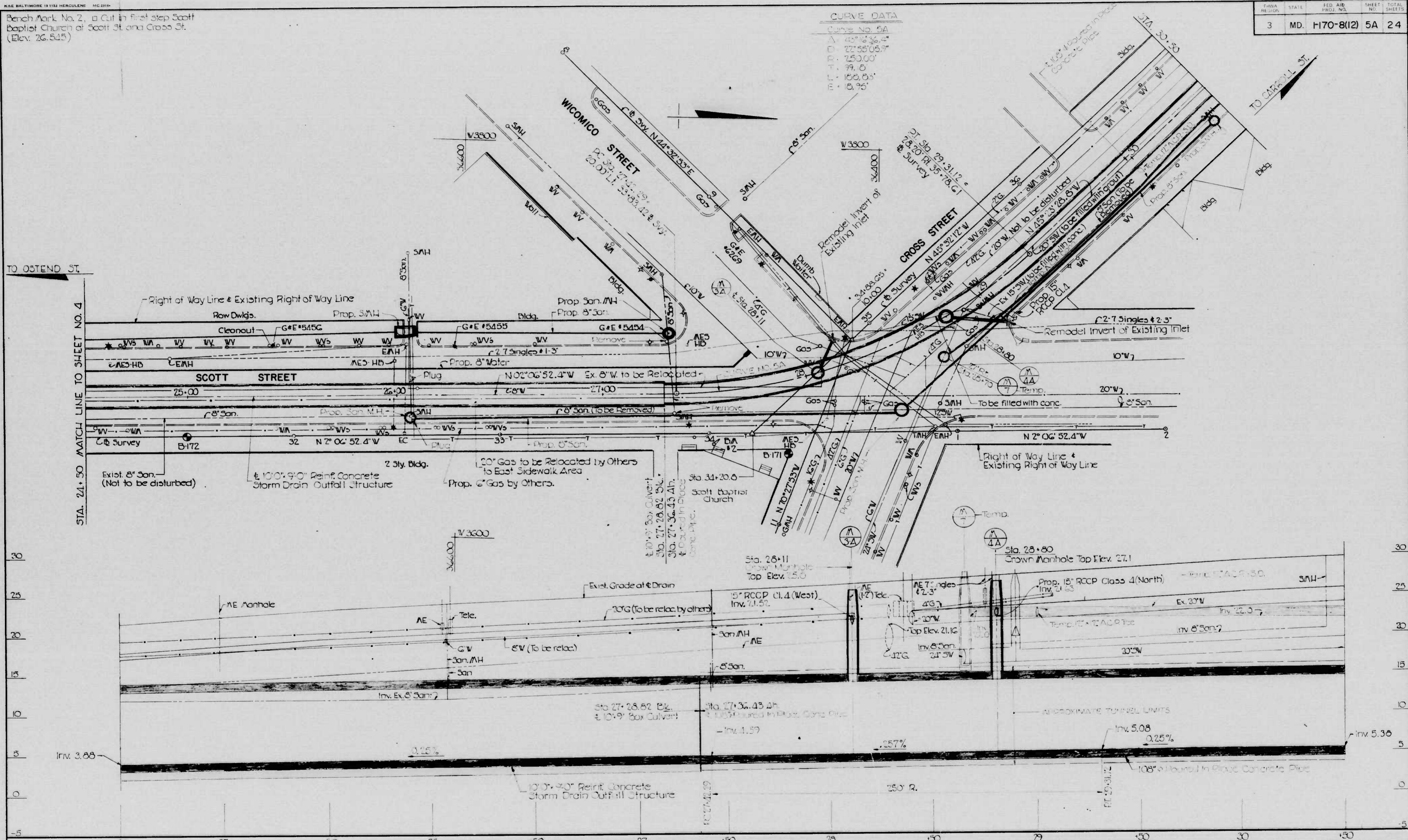
REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
		INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET PLAN AND PROFILE STA 24+50 TO STA 30+00	DESIGNED BY: C.A.J. CHECKED BY: K.L.E.
BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND		DRAWN BY: D.M.S. TRACED BY: D.M.S. F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-315	SHEET NO. 5 OF 24
SCALE: PLAN 1"=20' PROFILE V.L.R.T. 1"=5'		DATE: OCTOBER 1974	BALTO. CITY NO. 2286

Bench Mark No. 2, a Cut in First Step Scott Baptist Church at Scott St. and Cross St. (Elev. 26.545)

CURVE DATA

Curve No.	5A
Δ	40° 36' 36"
D	27° 55' 05"
R.T.	25300'
E.T.	79.0'
E	100.05'
B	0.95'

FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3 MD. H170-8(12)	5A	24



REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET PLAN AND PROFILE STA 24.50 TO STA 30+50 (ALT B)	DRAWN BY: R.V. TRACED BY: R.V. F.A.P. NO. J-170-B(12) S.H.A. NO. BC-259-11-815 BALTO. CITY NO. 2286
		DES. BY: M.K.K. CHK. BY: K.L.E.	SHEET NO. 5A OF 24

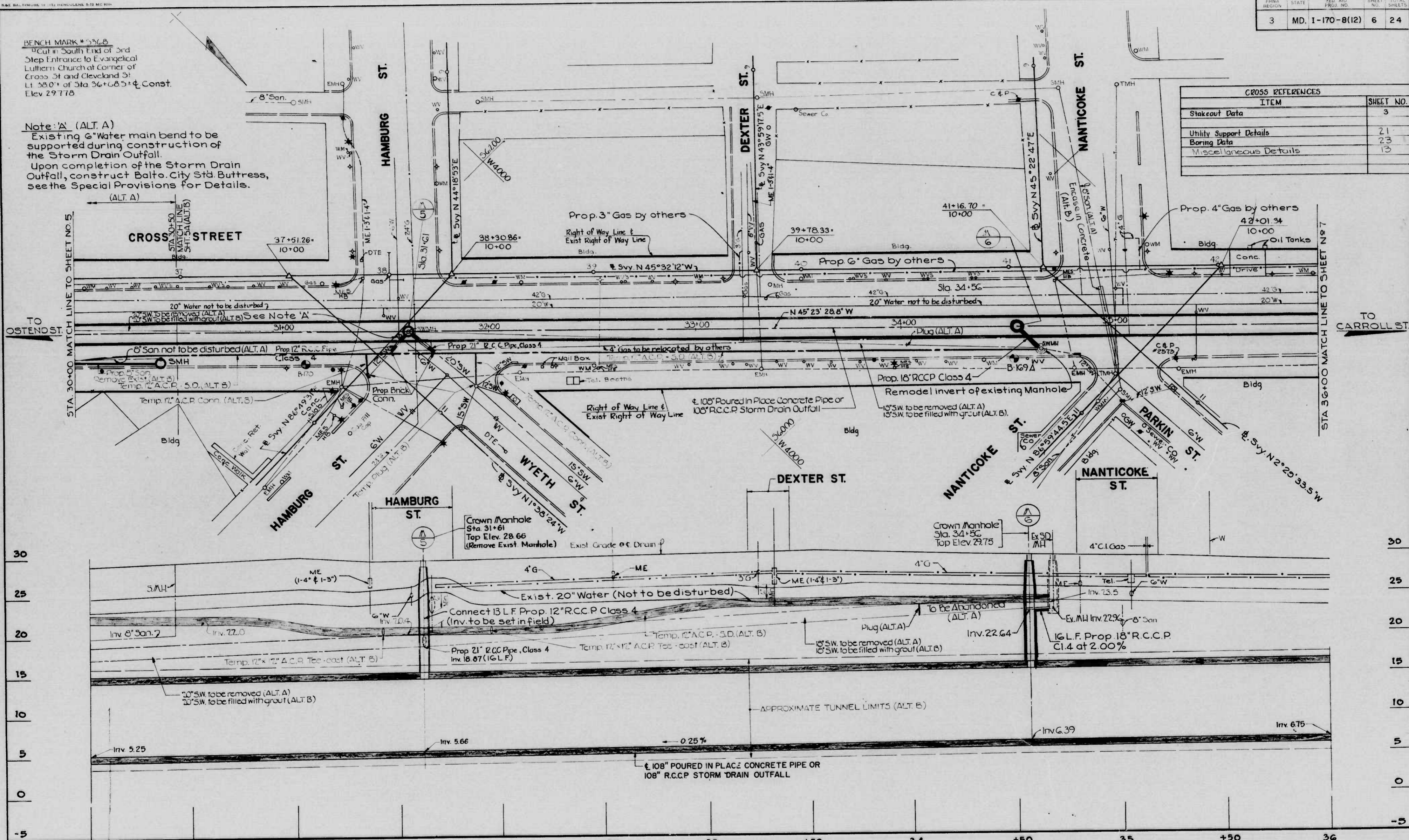
SCALE: PLAN 1"=20' PROFILE VERT. 1"=5' DATE: OCTOBER 1974

FED. REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	6	24

BENCH MARK # 5568
Cut in South End of 3rd Step Entrance to Evangelical Lutheran Church at Corner of Cross St and Cleveland St. Lt. 38.0' of Sta 36+00.5 ± Const. Elev 29778

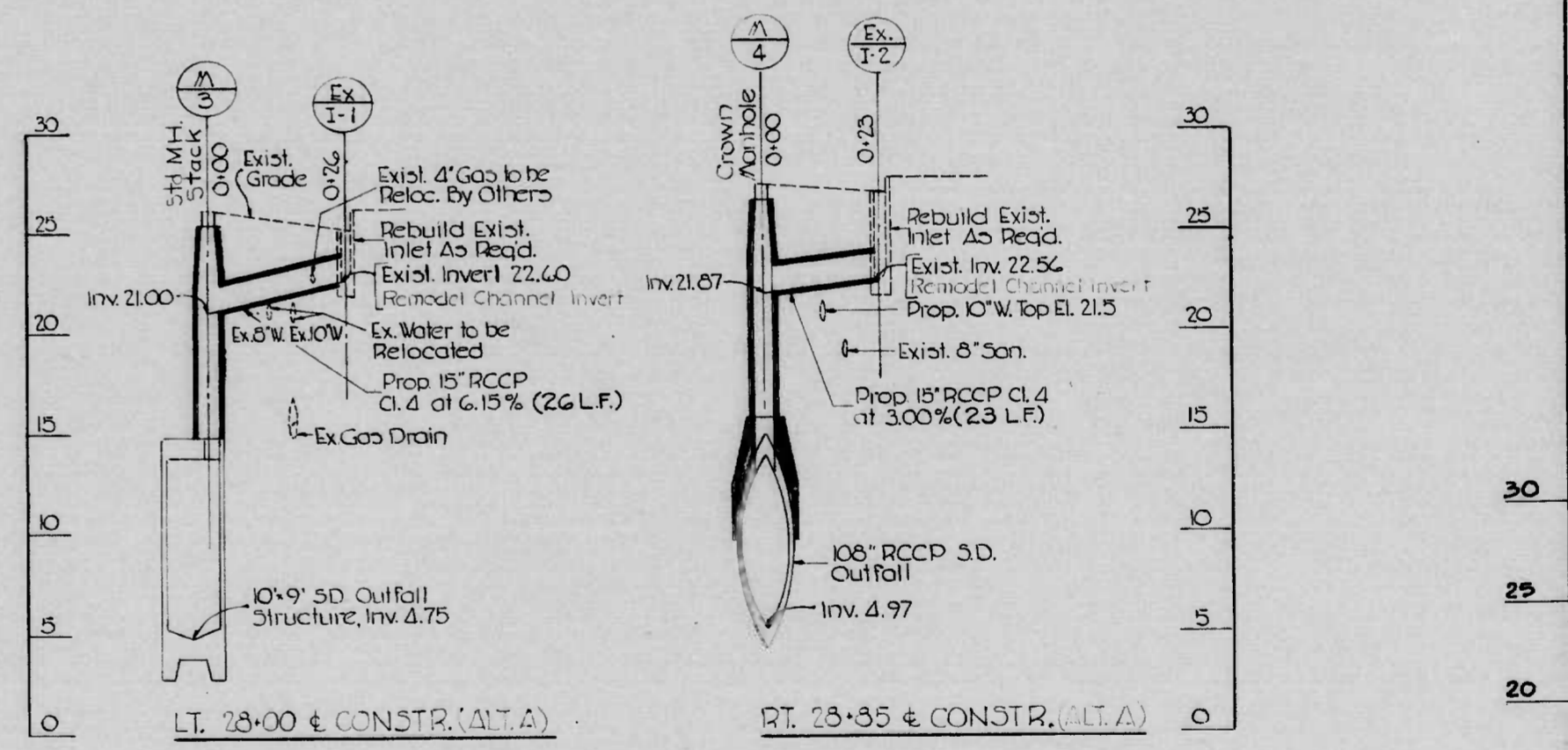
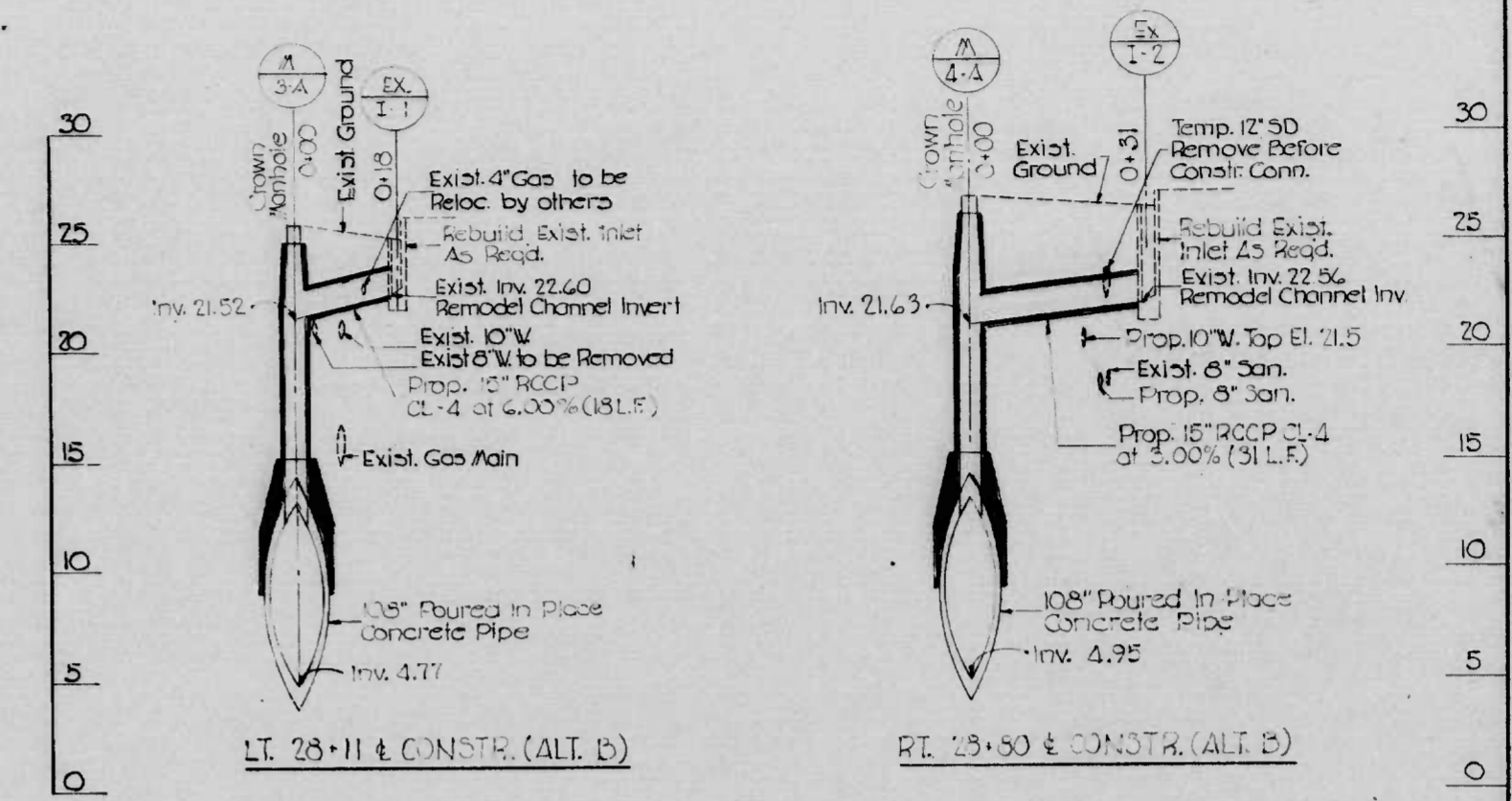
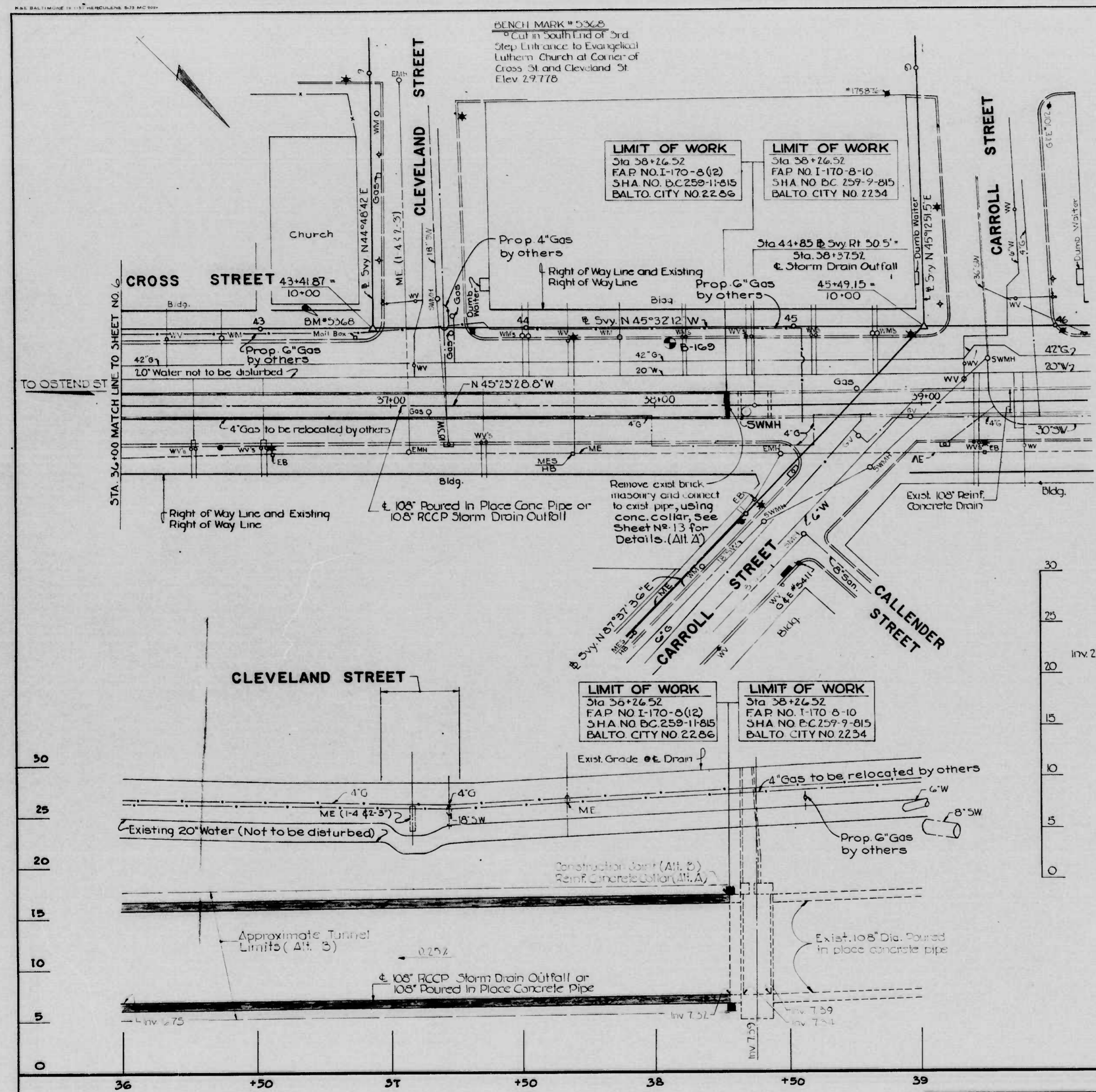
Note 'A' (ALT. A)
Existing 6" Water main bend to be supported during construction of the Storm Drain Outfall.
Upon completion of the Storm Drain Outfall, construct Balto. City Sta. Buttress, see the Special Provisions for Details.

CROSS REFERENCES	
ITEM	SHEET NO.
Stakeout Data	3
Utility Support Details	21
Boring Data	23
Miscellaneous Details	13



30	+50	31	+50	32	+50	33	+50	34	+50	35	+50	36
REVISIONS				CONSULTANT				CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY				
				BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND				INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET PLAN AND PROFILE STA. 30+00 TO STA 36+00				
				DRAWN BY J.N.L. TRACED BY J.N.L.				DES. BY C.A.J. CHK. BY K.L.E.				
				F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-11-815				SHEET NO. 6 OF 24				
				SCALE PLAN 1"=20' PROFILE VERT. 1"=5' DATE OCTOBER 1974				BALTO. CITY NO. 2286				

FED. AID PROJ. NO.	STATE	SHEET NO.	TOTAL SHEETS
3	MD. 1-170-8(12)	7	24

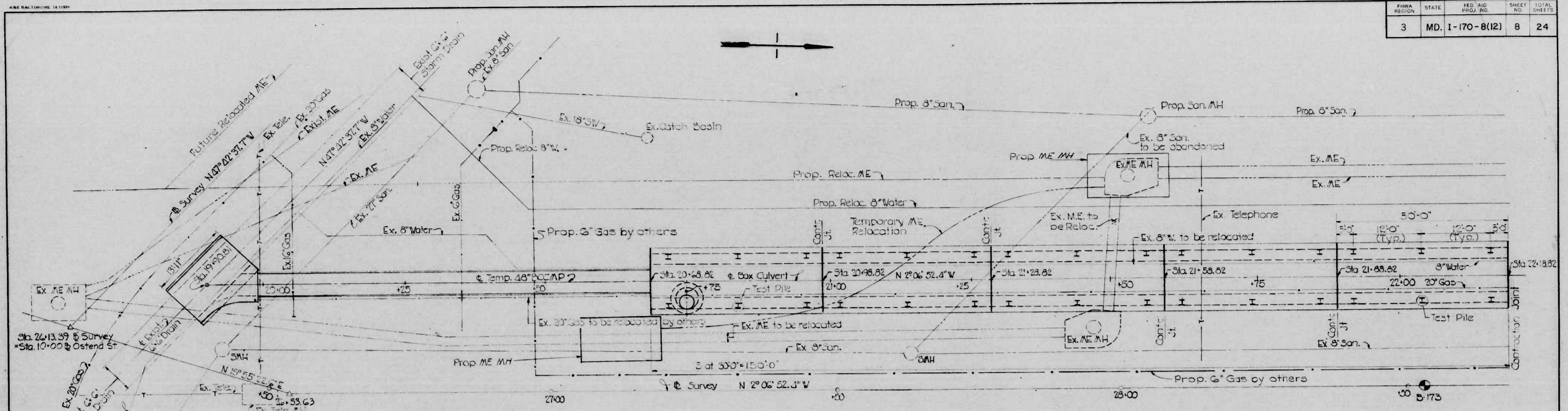


INLET CONNECTION PROFILES
(See Sheet No. 5 For Plan)
SCALE: HORIZ. 1"=20' VERT. 1"=5'

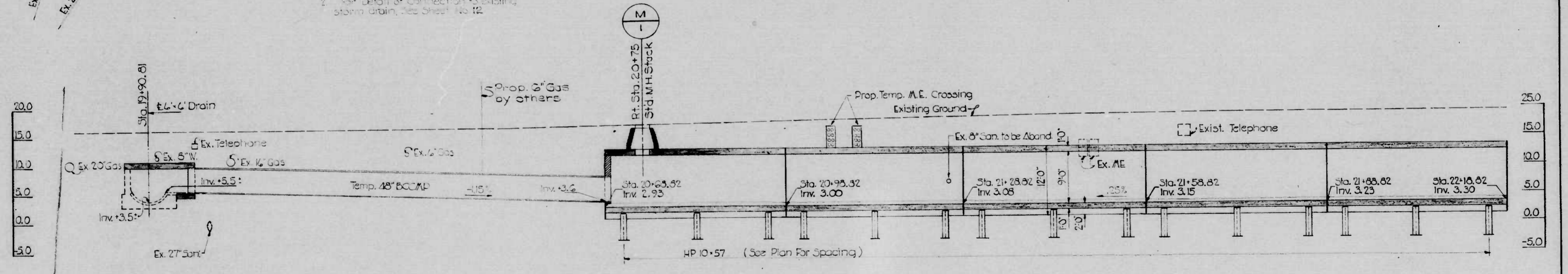
- CROSS REFERENCE NOTED**
- For Stakeout Data, See Sheet No. 2
 - For Boring Data, See Sheet No. 13
 - For Utility Support Details, See Sheet No. 21
 - For Miscellaneous Details, See Sheet No. 13

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
		INTERSTATE ROUTE 170 STORM DRAIN OUTFALL PLAN AND PROFILE STA. 36+00 TO STA. 38+26.52	DRAWN BY: W.A.P. TRACED BY: W.A.P. DES. BY: C.A.J. CHK. BY: K.L.E.
BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND		F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-11-815 BALTO. CITY NO. 2286	SHEET NO. 7 OF 24
SCALE: PLAN 1"=20' PROFILE VERT. 1"=5' DATE: OCTOBER 1974			

FED. REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	1-170-8(12)	8	24



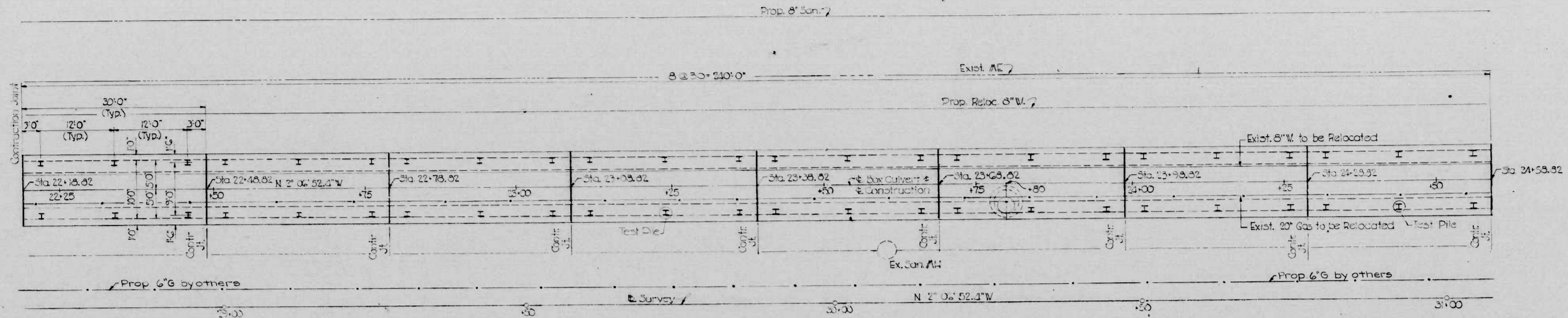
- Notes:**
1. For reinf. plan of Ostend St. Junction Chamber, See Sheet No. 12.
 2. For Detail of Connection to existing storm drain, See Sheet No. 12.



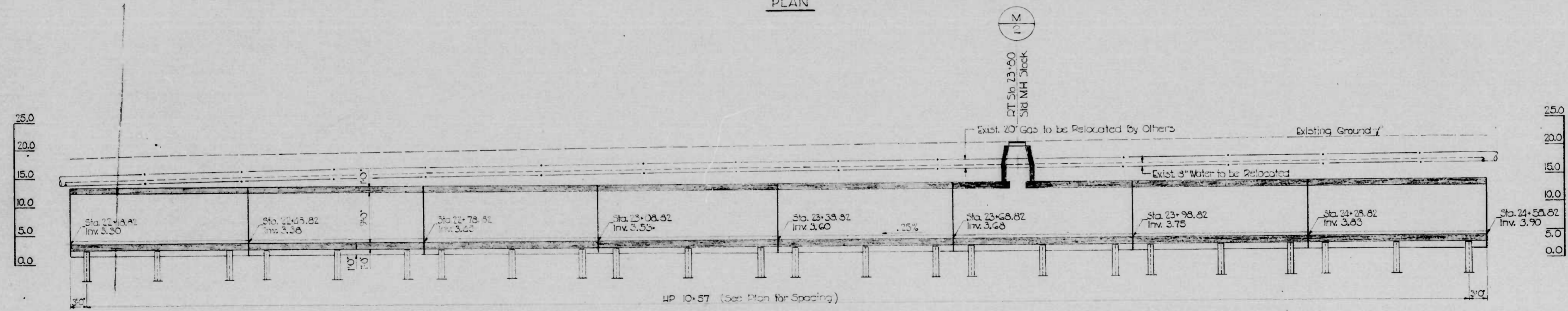
- CROSS REFERENCE NOTES:**
1. For Base Line of Box Culvert Stakeout Data, See Sheet No. 3.
 2. For Typical Box Culvert Sections, See Sheet No. 12.
 3. For Boring Data, See Sheet No. 22.
 4. For General Notes, See Sheet No. 2.
 5. For Manhole Stack Details, See Sheet No. 12.

REVISIONS [Empty]	CONSULTANT BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET BOX CULVERT PLAN AND PROFILE		DRAWN BY: I.S. TRACED BY: R.V. F.A.P. NO. 1-170-8(12) S.H.A. NO. BC259-11-815 BALTO. CITY NO. 2286	DES. BY: M.K.K. CHK. BY: J.S. SHEET NO. 8 OF 24
		SCALE: 1/8" = 1'-0" DATE: OCTOBER 1974			

FYMA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-170-8(12)	9	24



PLAN



PROFILE

CROSS REFERENCE NOTES:

1. For Base Line of Box Culvert Stakeout Data, See Sheet No. 3
2. For Typical Box Culvert Sections, See Sheet No. 12
3. For Boring Data, See Sheet No. 22 & 23
4. For General Notes, See Sheet No. 7
5. For Manhole Stack Details, See Sheet No. 13

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS		STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
	BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS OWINGS MILLS, MARYLAND	INTERSTATE ROUTE 170 STORM DRAIN OUTFALL SOUTH OF CARROLL STREET TO OSTEND STREET BOX CULVERT PLAN AND PROFILE		DRAWN BY: M.K.K. TRACED BY: R.V.	DES. BY: M.K.K. CHK. BY: J.S.
	SCALE: 1/8" = 1'-0"		DATE: OCTOBER 1974	F.A.P. NO. I-170-8(12) S.H.A. NO. BC 259-11-815 BALTO. CITY NO. 2286	SHEET NO. 9 OF 24

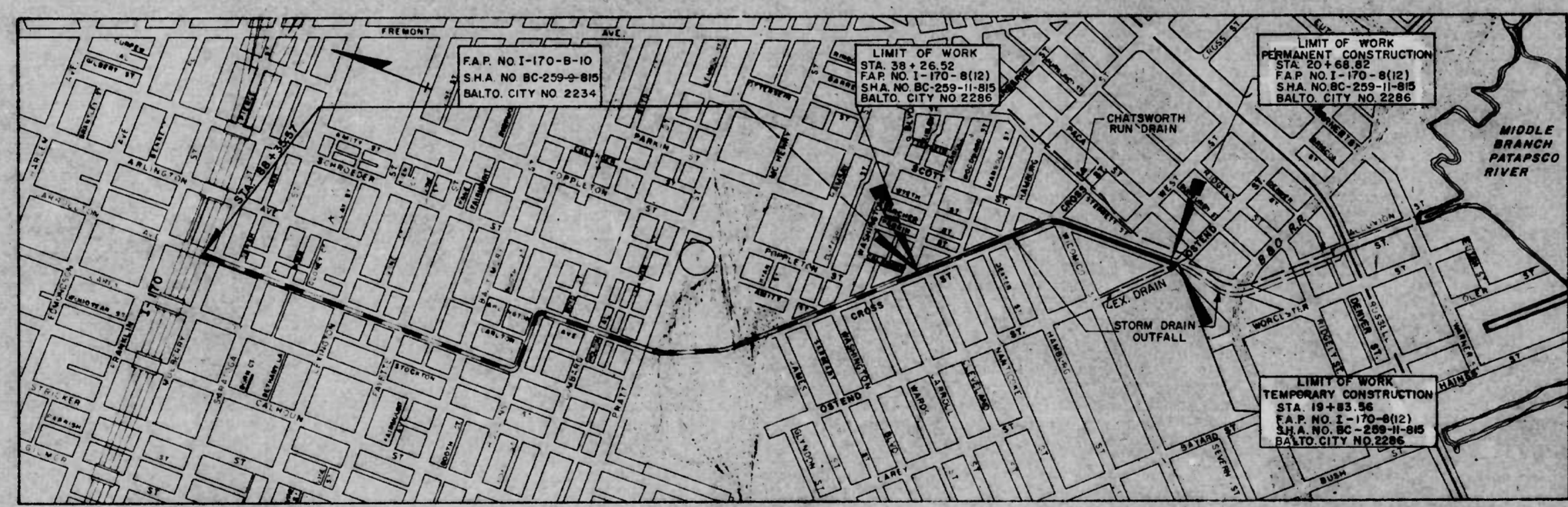
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET TOTAL
3	MD	I-170-8(12)	1 24

SHEET NO.	DESCRIPTION
1	Title Sheet
2	Legend and General Notes
3	Construction Stakeout Data
4	Sta. 19+90.81 to Sta. 24+50
5	Sta. 24+50 to Sta. 30+00
6	Sta. 30+00 to Sta. 36+00
7	Sta. 36+00 to Sta. 38+26.82
8	Sta. 19+90.81 to Sta. 22+18.82
9	Sta. 22+18.82 to Sta. 24+58.82
10	Sta. 24+58.82 to Sta. 26+98.82
11	Sta. 26+98.82 to Sta. 28+51.91
12	Box Culvert Typical Section and Details
13	Miscellaneous Details
14	Typical Sections and Details
15	8 In. Water Reloc. - Scott St. (Ostend St. to Wicomico St.)
16	8 In. Water Reloc. - Scott St. (Ostend St. to Wicomico St.)
17	Water Main Details
18	8 In. San. Sewer - Scott St. (Ostend St. to Wicomico St.)
19	8 In. San. Sewer - Scott St. (Ostend St. to Wicomico St.)
20	Mech. Elec. Line Scott St. and Ostend St.
21	Miscellaneous Utility Details
22	Borings
23	Borings
24	Summary of Quantities
25A	Sta. 24+50 to Sta. 30+50 (Alt. 'B')
11A	Alt. 'B' - Sta. 19+90.82 to Sta. 27+28.82 and Tunnel Details
19A	8 In. San. Sewer - Scott St./Cross St./Nanticoke St. (Alt. 'B')

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS
AND
THE STATE HIGHWAY ADMINISTRATION
INTERSTATE DIVISION FOR BALTIMORE CITY
FEDERAL AID PROJECT NO. I-170-8(12)
STATE HIGHWAY ADMINISTRATION NO. BC 259-11-815
CITY OF BALTIMORE BUREAU OF ENGINEERING
HIGHWAY ENGINEERING DIVISION CONTRACT NO. 2286

INTERSTATE ROUTE 170
STORM DRAIN OUTFALL
SOUTH OF CARROLL STREET TO OSTEND STREET

BOOK NO.	DESCRIPTION
I-170-213	STORM DRAIN OUTFALL - TRAVERSE REFERENCES AND TIES TO BALTO. CITY SURVEY CONTROL. SIDE STREET SPUR LINES - WARNER ST. TO LOMBARD ST.
I-170-214	STORM DRAIN OUTFALL - LEVELS
I-170-215, 216 & 217	STORM DRAIN OUTFALL - TOPOGRAPHY, UTILITY ELEVATIONS AND CROSS SECTIONS
I-170-218, 219 & 220	SIDE STREETS - REFERENCES & TOPOGRAPHY WARNER STREET TO PRATT STREET
I-170-221 & 222	SIDE STREETS - SPUR LINES, REFERENCES & TOPOGRAPHY - LOMBARD ST. TO SARAH ANN ST.
I-170-223 & 224, 225 & 226	SIDE STREETS - BENCH MARKS, PROFILES & CROSS SECTIONS - WARNER STREET TO SARATOGA STREET
I-170-227	STORM DRAIN OUTFALL - BORING & AUGER LOCATIONS
I-170-233 & 234	MISCELLANEOUS TOPOGRAPHY, CROSS SECTIONS AND ELEVATIONS



LEGEND

————— INDICATES LIMITS OF WORK UNDER THIS CONTRACT

————— INDICATES WORK TO BE PERFORMED UNDER BALTIMORE CITY CONTRACT NO. 2234

----- FUTURE CONSTRUCTION

LOCATION PLAN
SCALE 1"=500'

LENGTH OF PROJECT = 1757.70 FEET (0.3329 MILE)
(PERMANENT CONSTRUCTION)

NOTE
EFFECTIVE JULY 1, 1971, IN ACCORDANCE WITH THE PROVISION OF CHAPTER 526 OF THE ACTS OF THE 1970 GENERAL ASSEMBLY WHEREVER THE TITLE "STATE ROADS COMMISSION" AND/OR TERM "COMMISSION" IS USED, IT SHALL BE CONSTRUED TO BE "THE STATE HIGHWAY ADMINISTRATION"

CHECKED BY BUREAU OF ENGINEERING WATER DIVISION WASTE WATER DIVISION HIGHWAY ENGINEERING DIVISION SURVEY AND RECORDS DIVISION BUREAU OF UTILITY OPERATIONS LIGHTING SECTION HIGHWAY MAINTENANCE DIV. CONDUIT SECTION HIGHWAY MAINTENANCE DIV. SEDIMENTATION AND EROSION CONTROL REP. DEPARTMENT OF TRANSIT AND TRAFFIC	INITIALS RJK/BJP WAB/BJP WJY GAN/BJP GIN/BJP BAC JWE	DATE 10/9/74 10/9/74 10/9/74 10/9/74 10/9/74 10/9/74 10/9/74	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS APPROVAL RECOMMENDED APPROVED	PREPARED BY BALLARD-DIVER JOINT VENTURE CONSULTING ENGINEERS 17 GWYNNS MILL COURT OWINGS MILLS, MARYLAND 21117 DATE 10/8/74	THE STATE HIGHWAY ADMINISTRATION REVIEWED AND APPROVAL RECOMMENDED APPROVAL RECOMMENDED APPROVED	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION APPROVED
	(Signatures and dates for approval)					