ROUTE	STATE PROJECT	FEDERAL NO.	SHEET NO.	TOTAL SHEET
I-75	82195 82251	I-75-1 (49)50 U-212 (25)	1	67

MICHIGAN

STATE HIGHWAY DEPARTMENT

JOHN C. MACKIE

STATE HIGHWAY COMMISSIONER

PLANS OF PROPOSED

MICHIGAN PROJECT I-75-1(49)50

CONTROL SECTION BI 82195B C1
BI 82195D C2
BI 82251B C29

MICHIGAN PROJECT U-212 (25)

CONTROL SECTION BU 82195E C3

FISHER FREEWAY

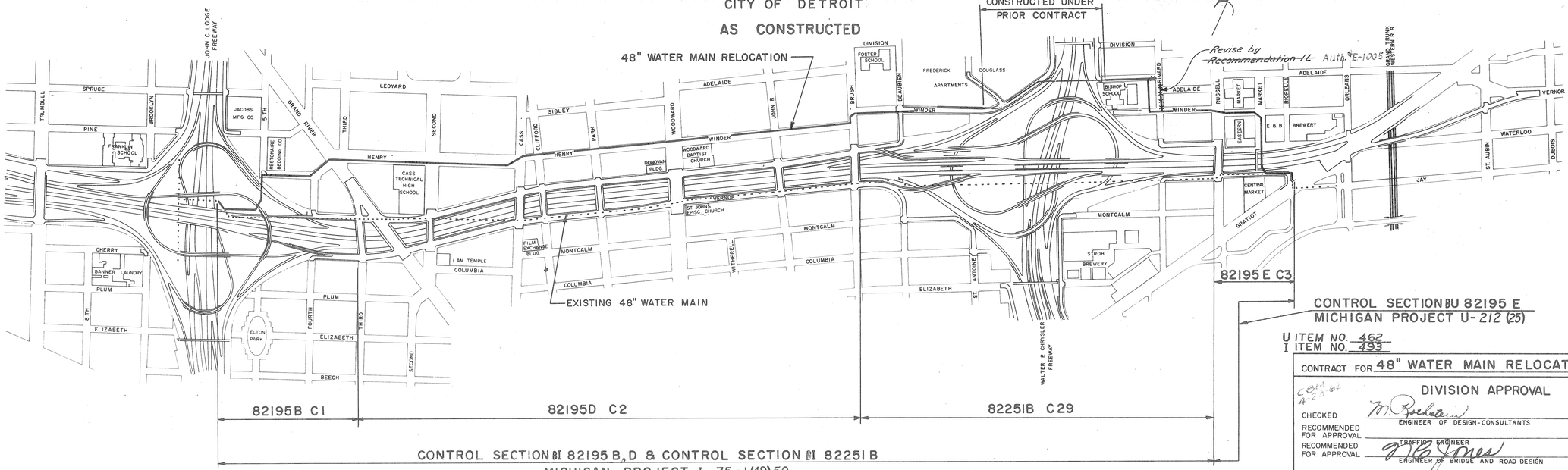
WAYNE COUNTY
CITY OF DETROIT

AS CONSTRUCTED

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN STATE HIGHWAY DEPARTMENT CURRENT STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS.

INDEX OF SHEETS

1	TITLE SHEET
2	GENERAL PLAN OF WATER MAIN
3	TYPICAL TRENCH DETAILS
4-24	RELOCATION OF 48" WATER MAIN
25-35	ENCASEMENT DETAILS
36-39	MISCELLANEOUS ALTERATIONS
40-44	DETAILS OF WELLS
45-46	SEWER ALTERATIONS
47-49	D.P.W. DETAILS OF MANHOLES & CATCH BASINS
50	DETAILS FOR BARRICADES
51-52	CONSTRUCTION IDENTIFICATION SIGNS
53-54	QUANTITY SHEETS



U ITEM NO. 462
I ITEM NO. 493

CONTRACT FOR 48" WATER MAIN RELOCATION

DIVISION APPROVAL

CHECKED M. Rochester — ENGINEER OF DESIGN-CONSULTANTS — 4-23-62 DATE

RECOMMENDED FOR APPROVAL — TRAFFIC ENGINEER — DATE

RECOMMENDED FOR APPROVAL W. C. Jones — ENGINEER OF BRIDGE AND ROAD DESIGN — 4-24-62 DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED Chas. L. Eversberg — CONSTRUCTION ENGINEER — 4-25-62 DATE

APPROVED Wm. McCauley — CHIEF DESIGN ENGINEER — 4/25/62 DATE

STATE HIGHWAY DEPARTMENT APPROVAL

APPROVED JOHN C. MACKIE, STATE HIGHWAY COMMISSIONER

BY J. C. Mayo — DIRECTOR OF ENGINEERING-CHIEF ENGINEER — 4/26/62 DATE

PLANS PREPARED BY
CITY OF DETROIT

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED [redacted]
DIVISION ENGINEER — DATE

82195B C1	PROJECT NO.	FEDERAL PROJECT	SHEET NO.
	82195 82251	I-75-1 (49)50	1

PROJECT NO. 82195B C1, 82195D C2, 82195E C3, 82251BC29
AS CONSTRUCTED

GENERAL PLAN
Scale: 1"=200'

LIST OF CONTRACT DRAWINGS FOR WATER SYSTEM AND SEWER ALTERATIONS

DRAWING NO.	DESCRIPTION	
1	GENERAL PLAN	
2	TYPICAL TRENCH SECTIONS	
3	PLAN AND PROFILE	STA. 0-34 TO STA. 1+43
4	PLAN AND PROFILE	STA. 1+43 TO STA. 3+93
5	PLAN AND PROFILE	STA. 3+93 TO STA. 8+17
6	PLAN AND PROFILE	STA. 8+17 TO STA. 12+45
7	PLAN AND PROFILE	STA. 12+45 TO STA. 17+05
8	PLAN AND PROFILE	STA. 17+05 TO STA. 21+65
9	PLAN AND PROFILE	STA. 21+65 TO STA. 26+50
10	PLAN AND PROFILE	STA. 26+50 TO STA. 30+67
11	PLAN AND PROFILE	STA. 30+67 TO STA. 34+88
12	PLAN AND PROFILE	STA. 34+88 TO STA. 39+48
13	PLAN AND PROFILE	STA. 39+48 TO STA. 44+08
14	PLAN AND PROFILE	STA. 44+08 TO STA. 48+30
15	PLAN AND PROFILE	STA. 48+30 TO STA. 51+32
16	PLAN AND PROFILE	STA. 51+32 TO STA. 55+00
17	PLAN AND PROFILE	STA. 55+00 TO STA. 59+72
18	PLAN AND PROFILE	STA. 69+55.2 TO STA. 72+45
19	PLAN AND PROFILE	STA. 72+45 TO STA. 76+79
20	PLAN AND PROFILE	STA. 76+79 TO STA. 81+07
21	PLAN AND PROFILE	STA. 81+07 TO STA. 84+50
22	PLAN AND PROFILE	STA. 84+50 TO STA. 88+30
23	PLAN AND PROFILE	STA. 88+30 TO STA. 90+36.3
24	ENCASEMENT DETAILS	STA. 00-34.0 TO STA. 5+10.2
25	ENCASEMENT DETAILS	STA. 8+41.5 TO STA. 26+43.6
26	ENCASEMENT DETAILS	STA. 29+42.0 TO STA. 34+58.6
27	ENCASEMENT DETAILS	STA. 48+99.8 TO STA. 51+00
28	ENCASEMENT DETAILS	STA. 35+81.0 TO STA. 59+46.3
29	ENCASEMENT DETAILS	STA. 72+96.8 TO STA. 76+58.4
30	ENCASEMENT DETAILS	STA. 80+12.0 TO STA. 83+44.1
31	ENCASEMENT DETAILS	STA. 85+60.0 TO STA. 90+01.1
32	REINFORCEMENT DETAILS	STA. 00-34.0 TO STA. 30+67.0
33	REINFORCEMENT DETAILS	STA. 33+90.2 TO STA. 76+58.4
34	REINFORCEMENT DETAILS	STA. 80+12.0 TO STA. 90+01.1
35	8" WATER MAIN RELOCATION IN VERNOR	
36	MISCELLANEOUS WATER MAIN CONNECTIONS NO. 1	
37	MISCELLANEOUS WATER MAIN CONNECTIONS NO. 2	
38	CONNECTIONS TO BE ABANDONED	
39	MISCELLANEOUS DETAILS	
40	BLOW-OFF WELL DETAILS	
41	ENTRANCE MANHOLE WELL DETAILS	
42	30" CONE VALVE WELL DETAILS	
43	36" GATE VALVE WELL DETAILS	
44	MISCELLANEOUS SEWER ALTERATIONS	
45	SEWER ALTERATION AT BEAUBIEN	
46	D.P.W. SPECIAL DETAIL FOR MANHOLES	
47	CATCH BASIN DETAILS	
29A	ENCASEMENT DETAILS	
36A	MISCELLANEOUS WATER MAIN CONNECTIONS NO. 1	

Supercede By Sheet No. 19A # 29A By Rec. No. 1L

Add By Rec. No. 1L

LEGEND

New Water Main	Under 24"	24" and Over
Exist. Water Main	Under 24"	24" and Over
New Water Main Connections by Others		
Water Main to be Abandoned		
New D.W.S. Gate Valve and Well		
Exist. D.W.S. Gate Valve and Well		
New Hydrant		
Exist. Hydrant		
Exist. Sewer or Drain		24" and Over
Gas Main		
Telephone and Telegraph Conduit or Underground Cable		
Electric Power Conduit or Underground Cable		
Petroleum Products Line		
Steam Line		
Trees		Size
Utility Pole		Owner
Blvd. Light		
Police and Fire Alarm Box		P.B. O.F.B.
Traffic Signal		
Mailbox, Parking Meter, or Small Sign		
Large Sign		
Gas Stop or Drip		
Catch Basin		
Sewer Manhole		
Pole Anchor		
Monument		
Existing Ditch		
Section Line		
Water Stop		

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
SHEET NO. 1 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
GENERAL PLAN

WATER SYSTEM ALTERATIONS

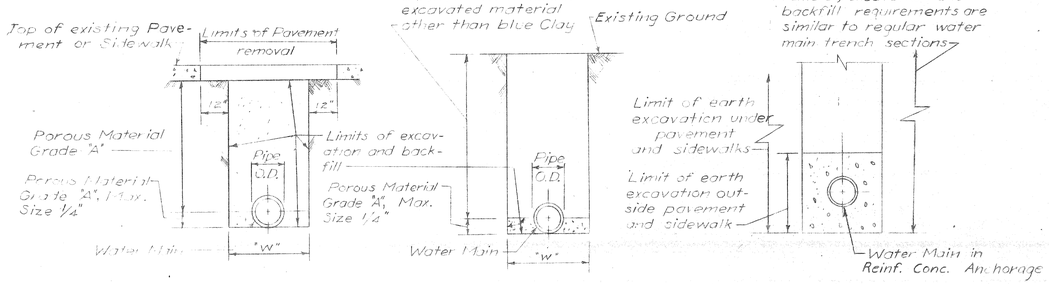
REVISIONS

NO.	DESCRIPTION	DATE	BY
	Changed Location of 48" W.M. in Rivard	9-62	M.M.J.

SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	R.V.B.	3-1-62
TRACED BY	R.V.B.	3-15-62
CHECKED BY	D.P.C.	3-17-62

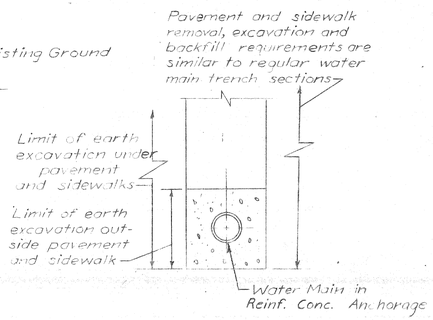
SHEET 1 OF 54

82195B C1



For Water Main under existing Pavement, Curbs, and Sidewalks

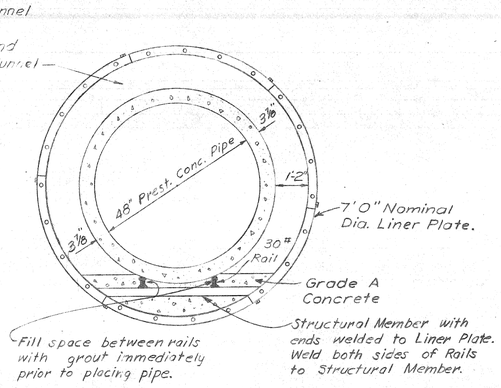
For Water Main outside of Pavement, Curbs, and Sidewalks



For Water Main in Reinf. Conc. Anchorages

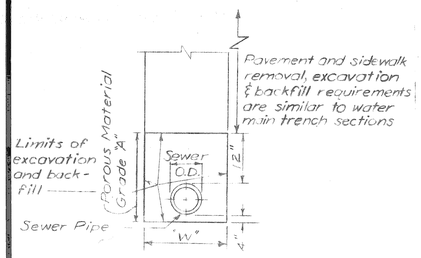
TYPICAL TRENCH SECTIONS FOR WATER MAINS

No Scale



TYPICAL TUNNEL SECTION

Not to Scale



TYPICAL TRENCH SECTION FOR SEWERS

For typical trench sections showing pay limits of excavation and backfill "W" shall not exceed (1) Outside Diameter Of Pipe Plus 12" For Pipe Up To And Including 36" Diameter. (2) Outside Diameter Of Pipe Plus 24" For Pipe Larger Than 36" Diameter. A Trench Width Of Less Than 36" Will Not Be Required.

Trenches outside of pavement, curbs, and sidewalks, where center line of the trench is less than 4 feet from the face of curb, shall be back filled to existing ground with porous material grade A.

In trenches for C.I. pipe, provide a 4" bedding of Porous Material Grade A, maximum size 1/4".

NOTES

The Contractor shall fill all gate wells with porous material grade "A" on all abandoned water mains to remain in place, remove gate well frame and cover and replace the pavement.

Existing water mains as shown indicate approximate location only as shown by D.W.S. records and no guarantee is made either as to completeness or accuracy.

Elevations of existing water mains are not known. Approximate elevations shown on the profiles are based on the assumption of average depth. The grades of the mains are subject to change to suit actual elevations of existing mains.

Excavation and backfill for the entire work shall be done by the Contractor, including excavation and backfilling Indicated On The Drawings To Be Done By Others.

The Contractor shall furnish all waterworks material required for the entire work, including work indicated on the drawings to be done by others.

Service connections, and their relocation will be made by others. Abandoned water services on existing water mains to remain in service, are to be abandoned at the existing water main by Others. Services to be abandoned at the existing water main or reconnected to new water mains are not all shown on the Plans.

Other utilities may be making alterations to their existing systems in the vicinity of the water main construction shown on the plans. These utilities should be consulted for the latest information regarding the location of their facilities.

Temporary bracing is incidental to pipe laying and shall be installed by the Contractor.

Contractor shall maintain all sewer services during the course of construction, and shall relocate and/or restore them in accordance with the requirements of the Department of Public Works.

Catch Basins and Manholes noted (S.C.) are with Salvaged Frame and Cover.

A minimum clearance of one foot shall be maintained between the water main and crossing sewers and other utilities, unless otherwise shown on the plans or approved by the Engineer. If a conflict is indicated between the water main and any other utility, that utility should be consulted.

Contractor shall use caution to avoid damage to overhanging street lights in the vicinity of the water main construction.

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT Roy Stewart
APPROVED Alfred Neuland
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 2 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
TYPICAL TRENCH SECTIONS
WATER SYSTEM ALTERATIONS

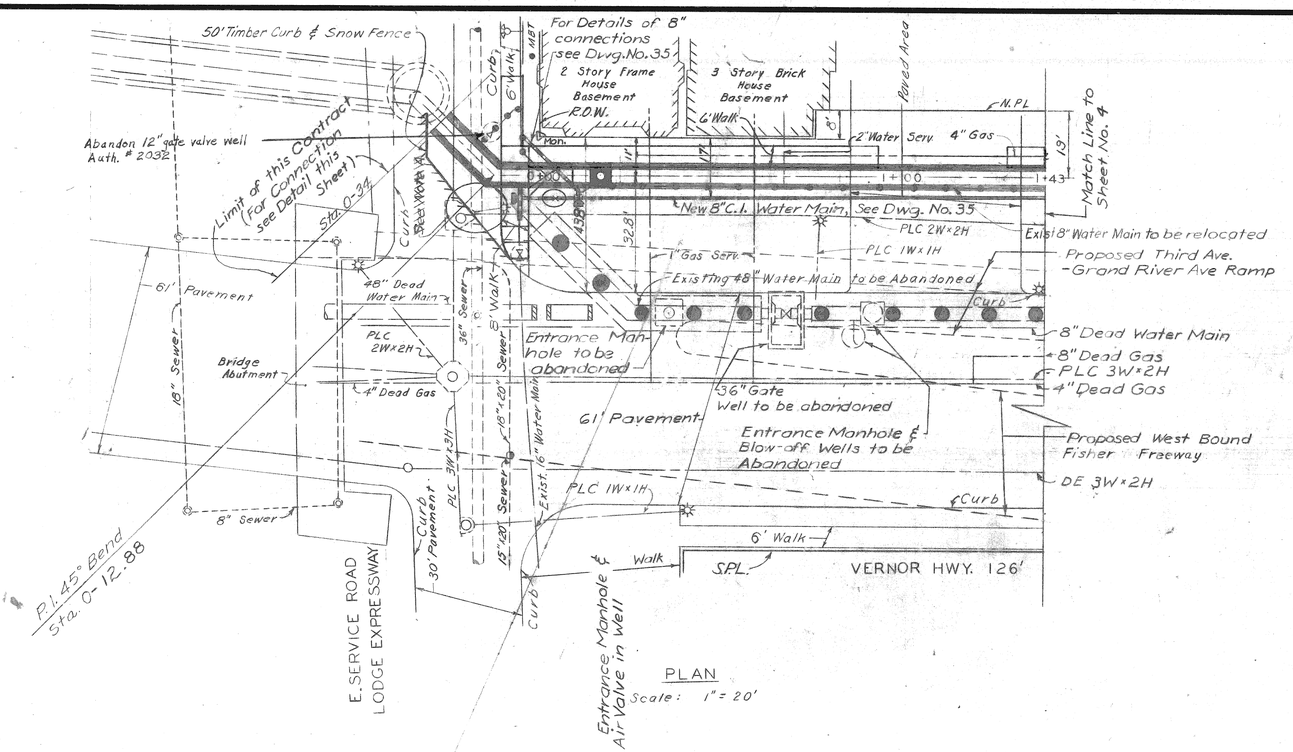
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-21-62
DRAWN BY	[illegible]	2-20-62
TRACED BY		
CHECKED BY	D.F.C.	3-17-62

SHEET 3 OF 54

82195B C1



PLAN

Scale: 1" = 20'

Note:
Pipe Sta. 0+00 is located on the extension of the East R.O.W. of the Lodge Expressway to the ℄ of the Pipe

~~Water Seal on Dual Main for Gate Valves~~

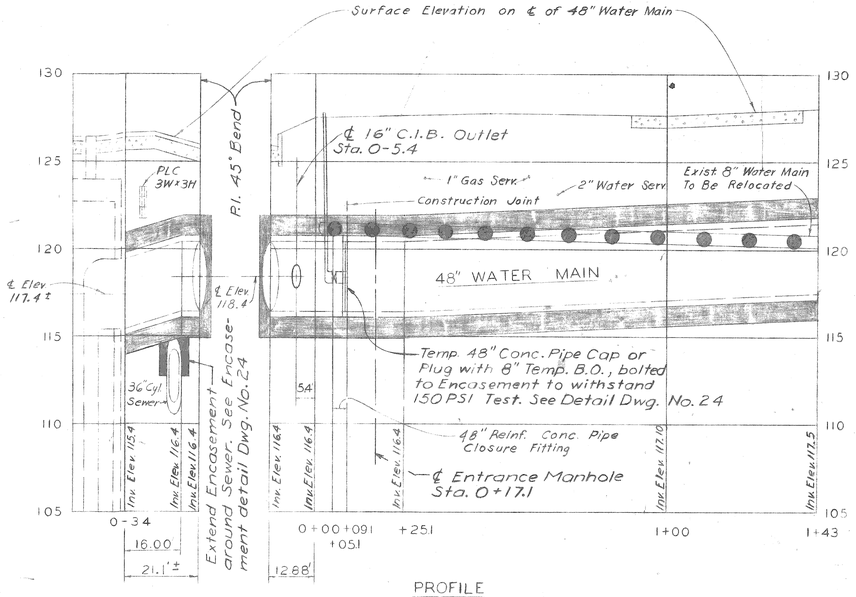
~~Deleted by Recommendation No. 1~~
Auth. #1005

QUANTITIES

ITEM			AMOUNT
Earth Excavation	Auth. #1033	760	~~758~~ C.Y.
Porous Material-Grade A (Compacted in place)		473	~~300~~ C.Y.
Grade A Concrete	Auth. #1033		226 C.Y.
Steel Reinforcement			37,181 Lbs.
Entrance Manhole Wells			1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main			177 L.F.
6" C.I. Water Main, Furnished	Auth. #1036	8	~~5~~ L.F.
8" C.I. Water Main, Furnished	Auth. #1037	57	~~88~~ L.F.
8" C.I. Water Main	Auth. #1037	163	~~185~~ L.F.
12" C.I. Water Main, Furnished Plug	Auth. #1037	0	+ L.F.
16" C.I. Water Main, Furnished	Auth. #1036	21	~~14~~ L.F.
6" Gate Valves & Boxes			1 Ea.
8" Gate Valves			2 Ea.
8" Gate Wells			2 Ea.
Water Main Trench (For work by D.W.S.)	Auth. #1036 #1038	70	~~52~~ L.F.
Abandon 12" Gate Valve Wells			1 Ea.
Abandon 36" Gate Valve Wells			1 Ea.
Abandon Blow-Off Wells			1 Ea.
Abandon Entrance Manhole Wells			2 Ea.
Mulching	Auth. #1032	0	~~0.04~~ Tons
Class A Seeding			0.02 Ac.
Top Soil Surface			~~4~~ c.y.

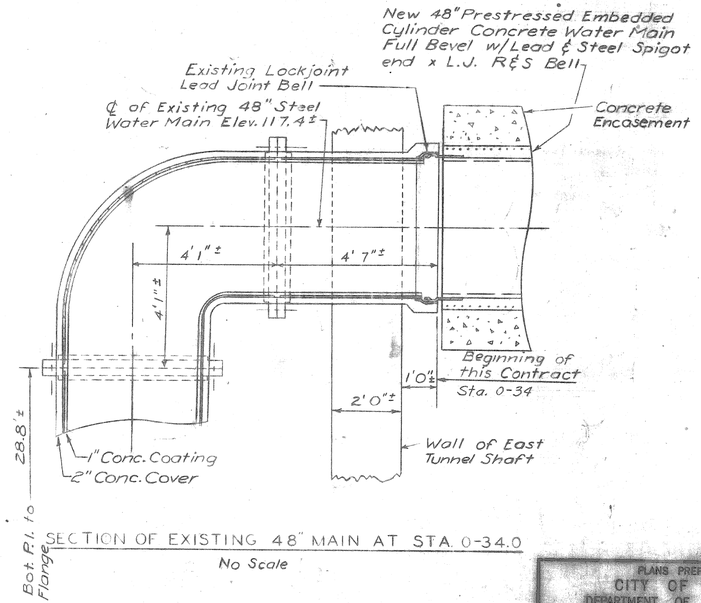
Reinforcing Steel in this Quantity Box includes steel on dwg.s No. 4 & 5.

Relocation of 8" C.I. Water Main & Items related on dwg. No. 4, are included in quantities on this sheet.



PROFILE

Scale: Horiz. 1" = 20'
Vert. 1" = 4'



SECTION OF EXISTING 48" MAIN AT STA. 0-34.0

No Scale

REFERENCE DRAWINGS

Encasement Details	Dwg. No.	1
Reinforcement Details	Dwg. No.	3
8" Water Main Relocation in Vernor	Dwg. No.	3
Miscellaneous Details	Dwg. No.	3
Entrance Manhole Well Details	Dwg. No.	4

CONTROL SECTION 82195B

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY
CORRECT: [signature]
APPROVED: [signature]
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 3 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

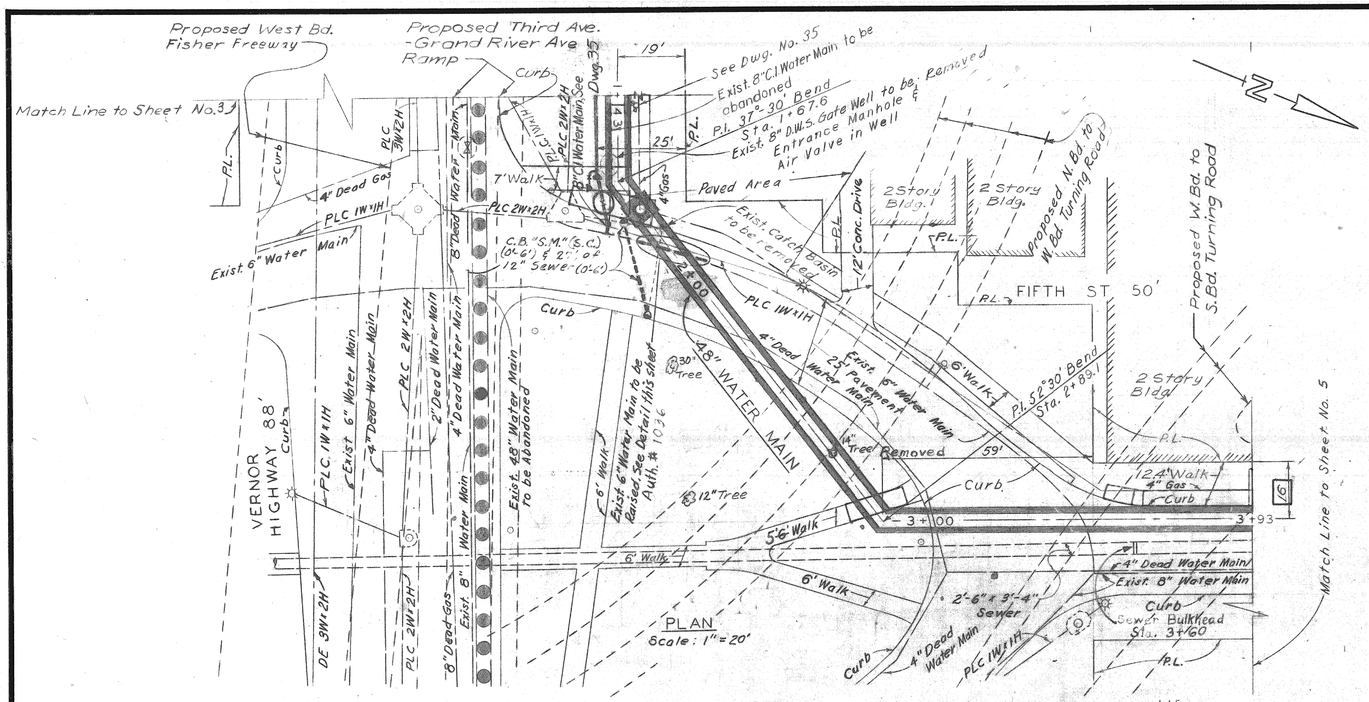
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 0-34 TO STA. 1+43
WATER SYSTEM ALTERATIONS

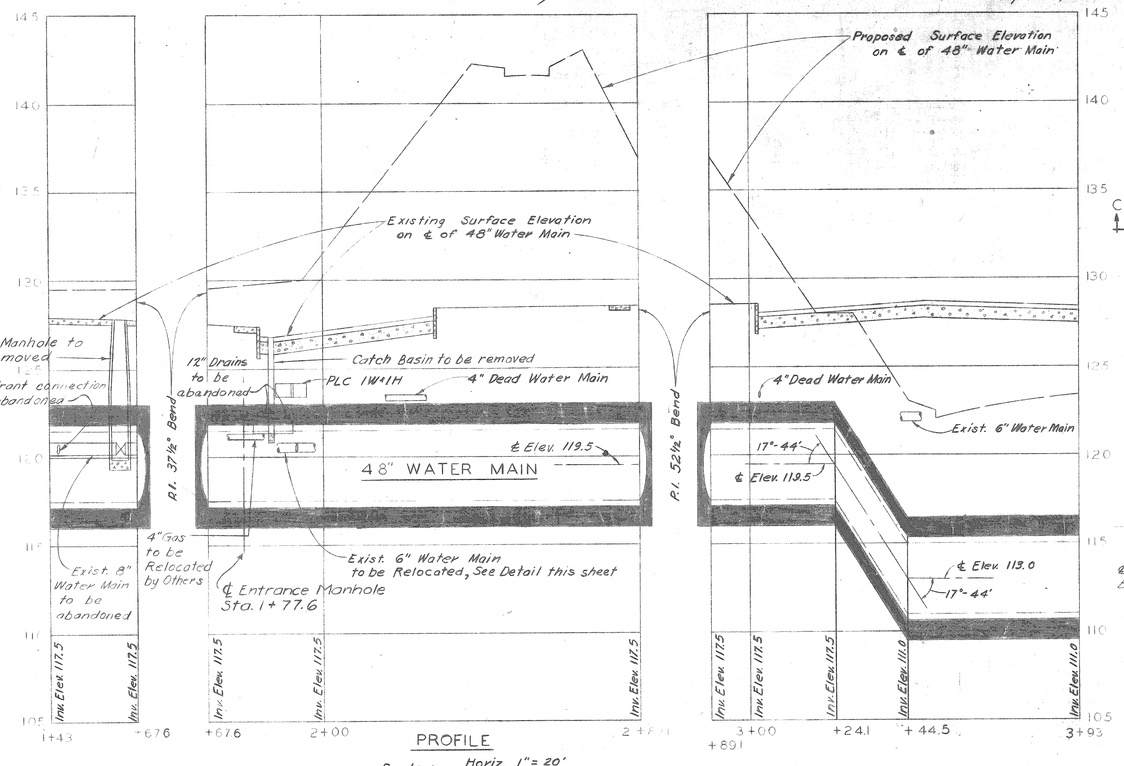
REVISIONS

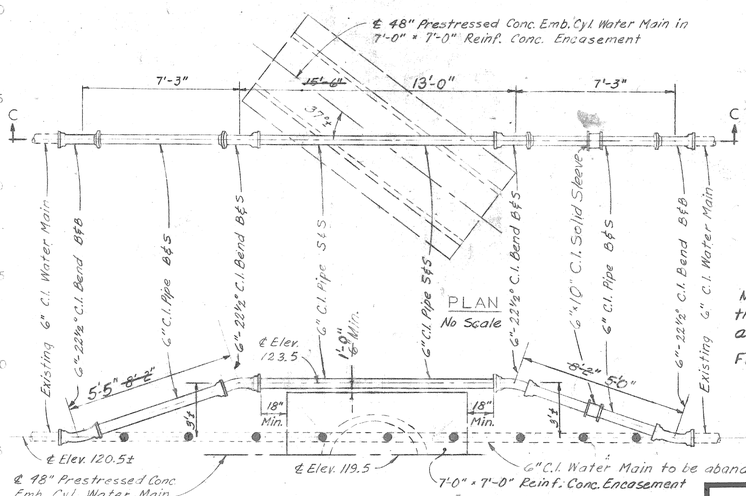
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-21-62
DRAWN BY	J.E.P.	1-18-62
TRACED BY		
CHECKED BY	J.R.C.	3-21-62
SHEET	4 OF 54	

82195B C







DETAIL OF 6" CONNECTION AT STA. 1+92

QUANTITIES

ITEM	AMOUNT
Earth Excavation Auth. #1033 866	~~891 C.Y.~~
Porous Material-Grade A (Compacted in Place) Auth. #1033 866	~~435 C.Y.~~
Grade A Concrete	293 C.Y.
Entrance Manhole Wells	1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main	251 L.F.
6" C.I. Water Main, Furnished Auth. #1096 23	~~32~~ L.F.
Water Main Trench (For work by D.W.S.) Auth. #1038 15	~~16~~ L.F.
Mulching Auth. #1032 0	~~0.02~~ Tons
Class "A" Seeding	0.01 Ac.
Top Soil Surface	4 C.Y.
Catch Basins "S.M." with Galv. Frame and Cover (0'-6')	1 Ea.
12" Sewer (0'-6')	27 L.F.
Remove C.B.	1 Ea.

Note:
The Reinforcing Steel for this drawing is included in the quantities shown on Dwg. No. 3.
Quantities related to relocation of 8" C.I. Water Main are included in the quantities as shown on Dwg. No. 3.

REFERENCE DRAWINGS

Encasement Details	Dwg. No. 24
Reinforcement Details	Dwg. No. 32
6" Water Main Relocation in Vernor	Dwg. No. 35
Miscellaneous Details	Dwg. No. 39
Entrance Manhole Well Details	Dwg. No. 41
Catch Basin Details	Dwg. No. 47

Others will cut existing 6" C.I. Water Main and install all 6" C.I. pipe and fittings to clear new 48" Water Main as shown.

Furnished 23'-5" of 6" C.I.

CONTROL SECTION 82195B

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT M. H. Thomas
APPROVED A. Mueller
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 4 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 1+43 TO STA. 3+93
WATER SYSTEM ALTERATIONS

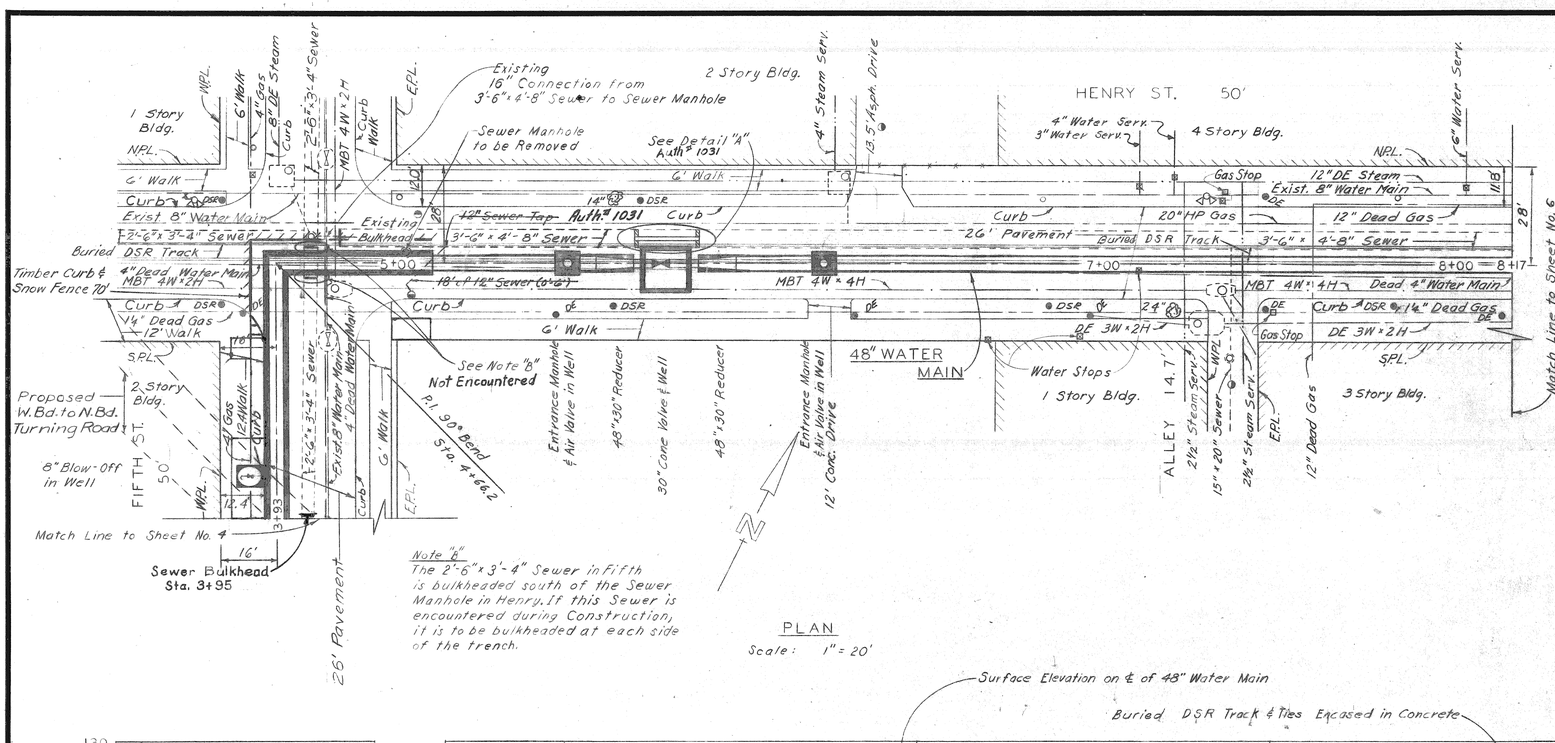
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-21-62
DRAWN BY	JEP	1-27-62
TRACED BY		
CHECKED BY	D.R.C.	3/7/62

SHEET 5 OF 34

82195B C1



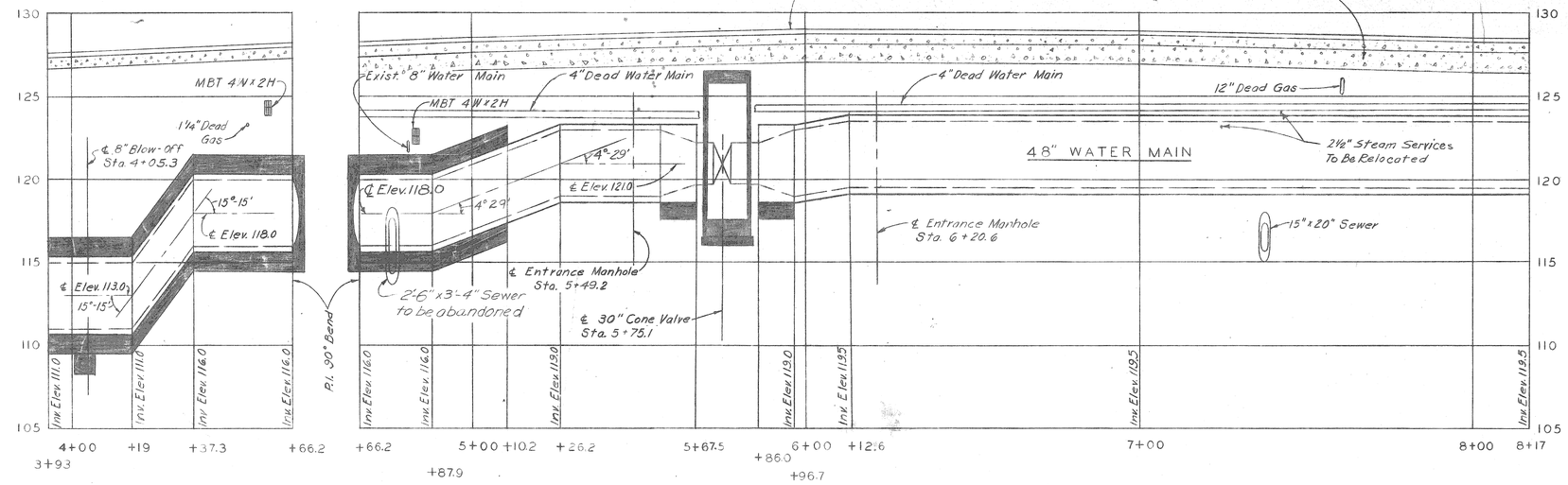
Note "B"
The 2'-6"x3'-4" Sewer in Fifth is bulkheaded south of the Sewer Manhole in Henry. If this Sewer is encountered during Construction, it is to be bulkheaded at each side of the trench.

PLAN

Scale: 1" = 20'

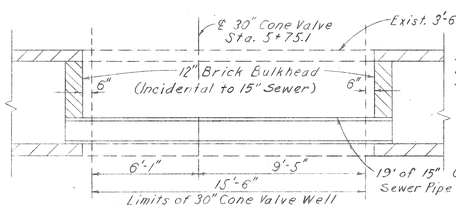
QUANTITIES

ITEM	AMOUNT
Earth Excavation Auth.# 1009 & #1033 1211	~~1230~~ C.Y.
Porous Material-Grade A (Compacted in Place) Auth.# 1009 & #1033 1211	~~810~~ C.Y.
Grade A Concrete	143 C.Y.
Entrance Manhole Wells	2 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main	405 L.F.
30" C.I. Water Main	15 L.F.
30" Cone Valves	1 Ea.
30" Cone Valve Wells	1 Ea.
8" Permanent Blow-Offs	1 Ea.
8" Blow-off Wells, 14.1'-25' deep	1 Ea.
DELETE AUTH.# 1031	
~~12" Sewer (0'-6')~~	~~18 L.F.~~
~~15" Sewer, (Concrete) C-14 (6.1'-14')~~	~~19 L.F.~~
~~12" Sewer Taps~~	~~1 Ea.~~
Remove M.H.	1 Ea.



PROFILE

Scale: Horiz. 1" = 20'
Vert. 1" = 4'



Note:
If any bldg. connections enter sewer between Bulkheads, bring into 15" Sewer Pipe & Encase with Class A Conc.

DETAIL "A"
SEWER ALTERATIONS

Scale: ¼" = 1'-0"

19' of 15" C-14 Concrete Sewer Pipe (6.1'-14') Not Placed Auth.#1031

REFERENCE DRAWINGS

Encasement Details	Dwg. No.	24
Reinforcement Details	Dwg. No.	32
Blow-Off Well Details	Dwg. No.	40
Entrance Manhole Well Details	Dwg. No.	41
30" Cone Valve Well Details	Dwg. No.	42

CONTROL SECTION 82195B

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 5 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

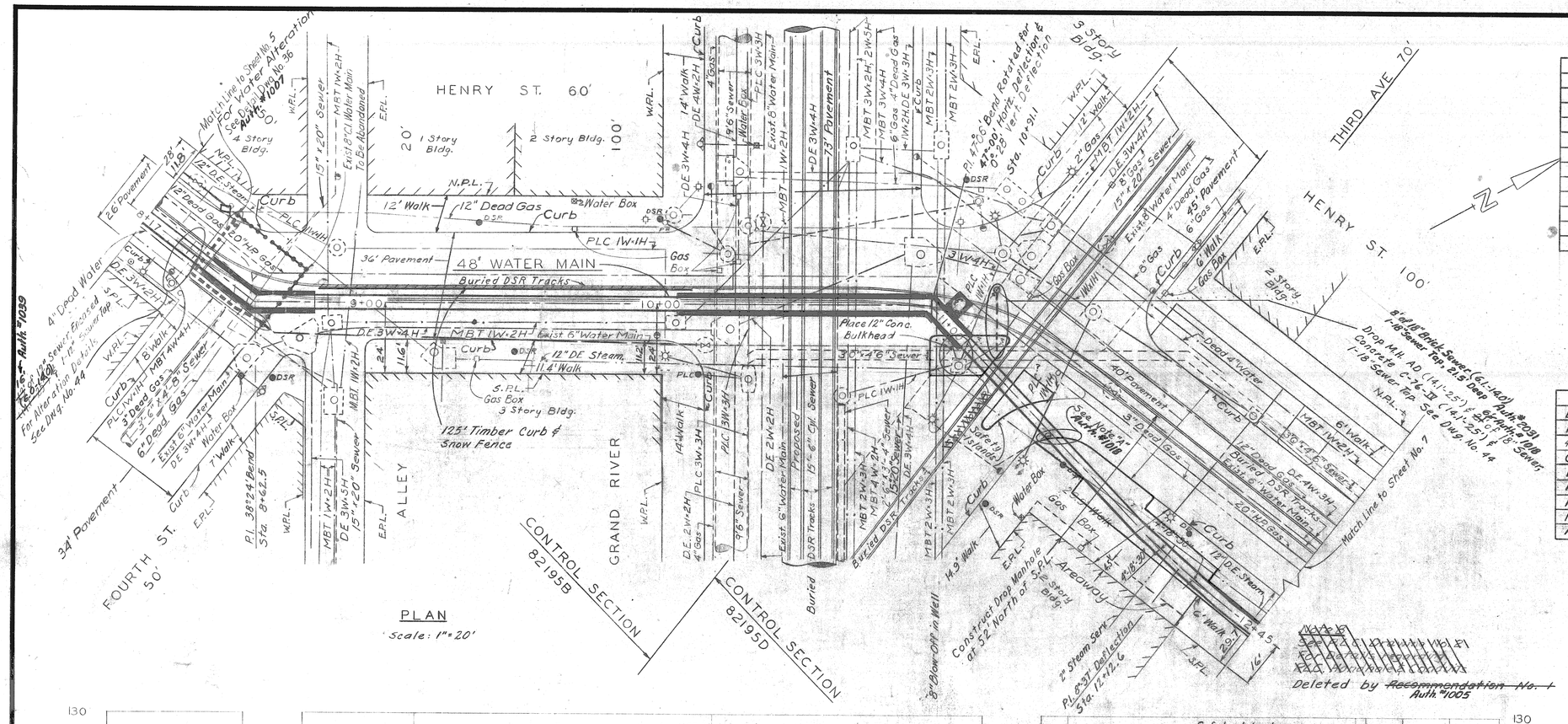
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 3+93 TO STA. 8+17
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-21-62
DRAWN BY	C.T.W.	
TRACED BY	JNF	1-19-62
CHECKED BY	P.R.C.	2-17-62
SHEET	6 OF 54	

82195B CI



CONTROL SECTION 82195 B

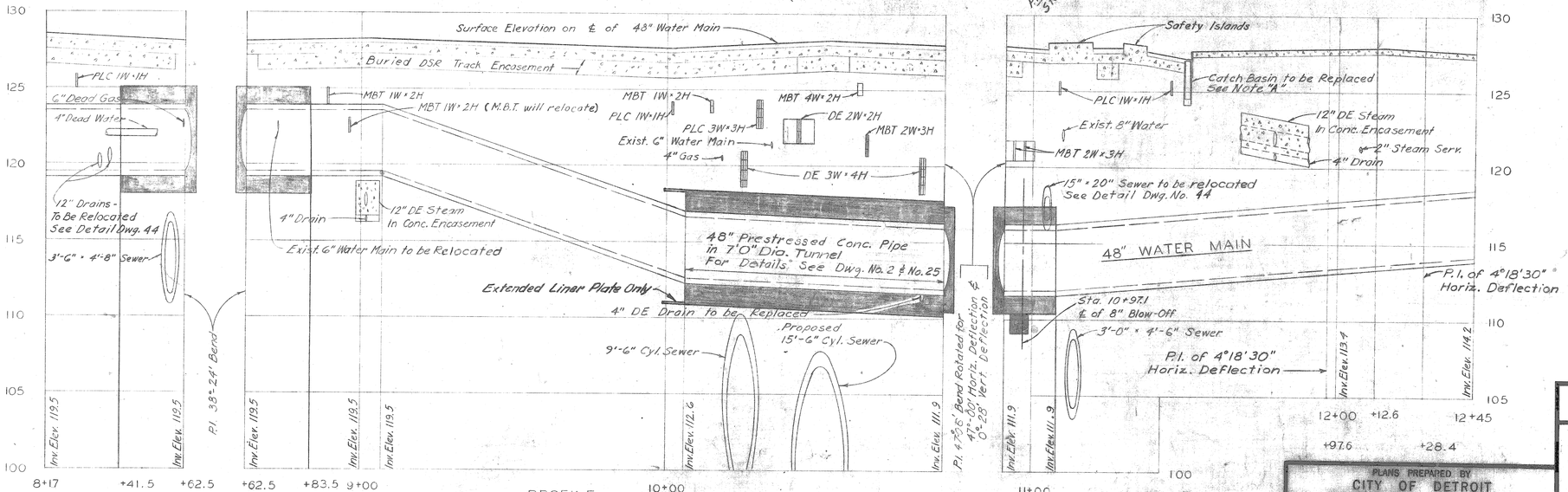
QUANTITIES

ITEM		AMOUNT
Earth Excavation	Auth. #1006 + Auth. #1033 632	~~580~~ C.Y.
Porous Material-Grade A (Compacted in Place)	Auth. #1033 462	~~396~~ C.Y.
Grade A Concrete		139 C.Y.
Reinforcing Steel		11368 Lbs.
48" Prestressed Conc. Embedded Steel Cyl. Water Main	Auth. #1006 284	~~291~~ L.F.
8" C.I. Water Main, Furnished	Auth. #1007 64	~~56~~ L.F.
8" Permanent Blow-Offs		1 Ea.
8" Blow-off wells, 14.1'-25' deep		1 Ea.
Water Main Trench (for work by DWS)	Auth. #1038 63	~~65~~ L.F.
7'0" Dia. Tunnel	Auth. #1006 92	~~85~~ L.F.
12" Sewer, Encased, 14.1' to 25'	Auth. #1039 16	13 L.F.
12" Sewer, Taps		1 Ea.

CONTROL SECTION 82195 D

QUANTITIES

ITEM		AMOUNT
Earth Excavation	Auth. #1047 535	~~527~~ C.Y.
Porous Material-Grade A (Compacted in Place)	Auth. #1047 ~~439~~ 439	~~439~~ C.Y.
48" Prestressed Conc. Embedded Steel Cyl. Water Main		137 L.F.
Catch Basins "Y" with Salvaged Frame & Cover (0'-6')		1 Ea.
Drop Manhole AD (14.1' to 25')		1 Ea.
12" Sewer, (0'-6')	Auth. #1018 0	~~6~~ L.F.
18" Sewer, Concrete C-76-II (14.1 to 25')	Auth. #1018 6	~~21~~ L.F.
18" Sewer Taps		1 Ea.
18" Sewer, Brick (6.1' to 14.0')	Auth. #2031	8 L.F.



REFERENCE DRAWINGS

Typical Trench Sections	Dwg. No. 2
Encasement Details	Dwg. No. 25
Reinforcement Details	Dwg. No. 32
Miscellaneous Water Main Connections No. 1	Dwg. No. 36
Miscellaneous Details	Dwg. No. 39
Blow-Off Well Details	Dwg. No. 40
Miscellaneous Sewer Alterations	Dwg. No. 44
D.P.W. Special Detail for Manholes	Dwg. No. 46
Catch Basin Details	Dwg. No. 47

Note "A"
Contractor shall remove exist. Catch Basin to allow for construction of Water Main and shall construct "C.B. "Y" (S.C.) (0'-6") & 4'-0" of 12" Sewer (0'-6") after Water Main is in place. Auth. #1018

CONTROL SECTION 82195B & 82195D

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 6 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

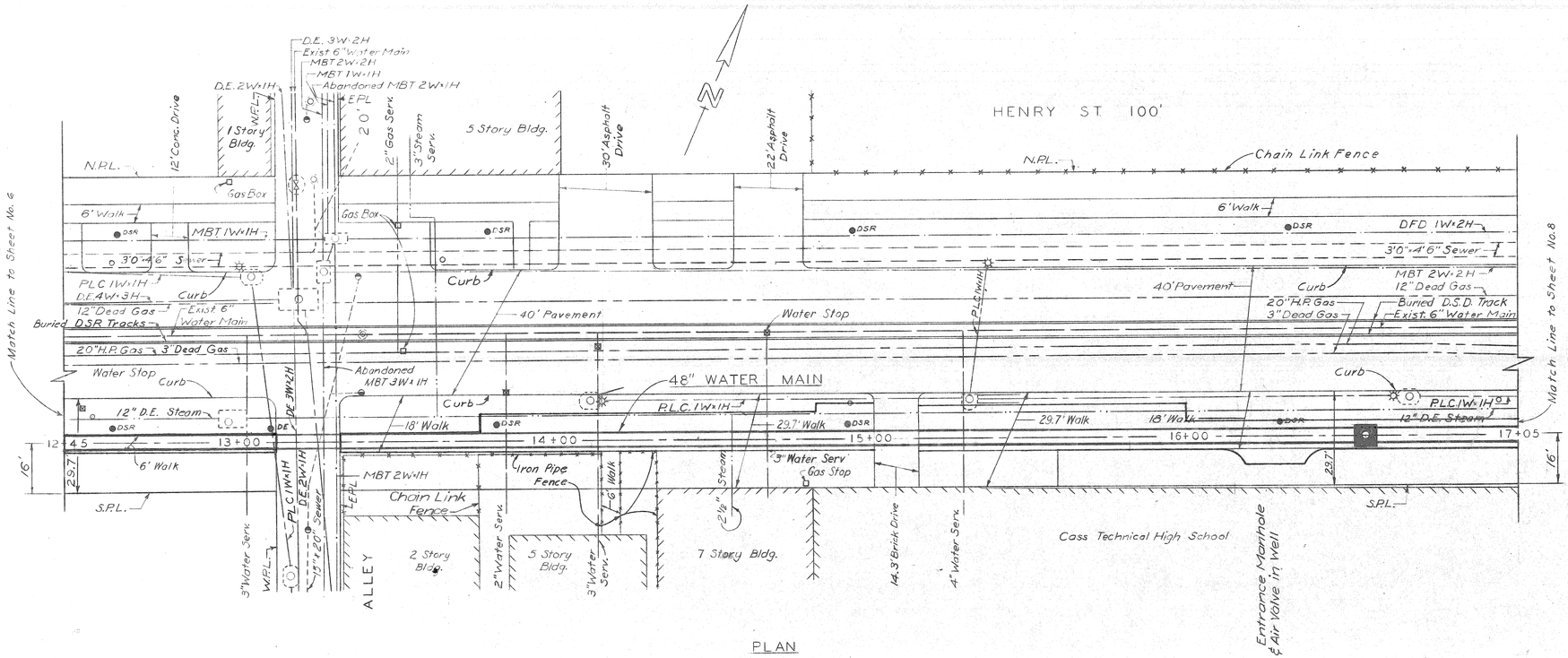
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 8+17 TO STA. 12+45
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

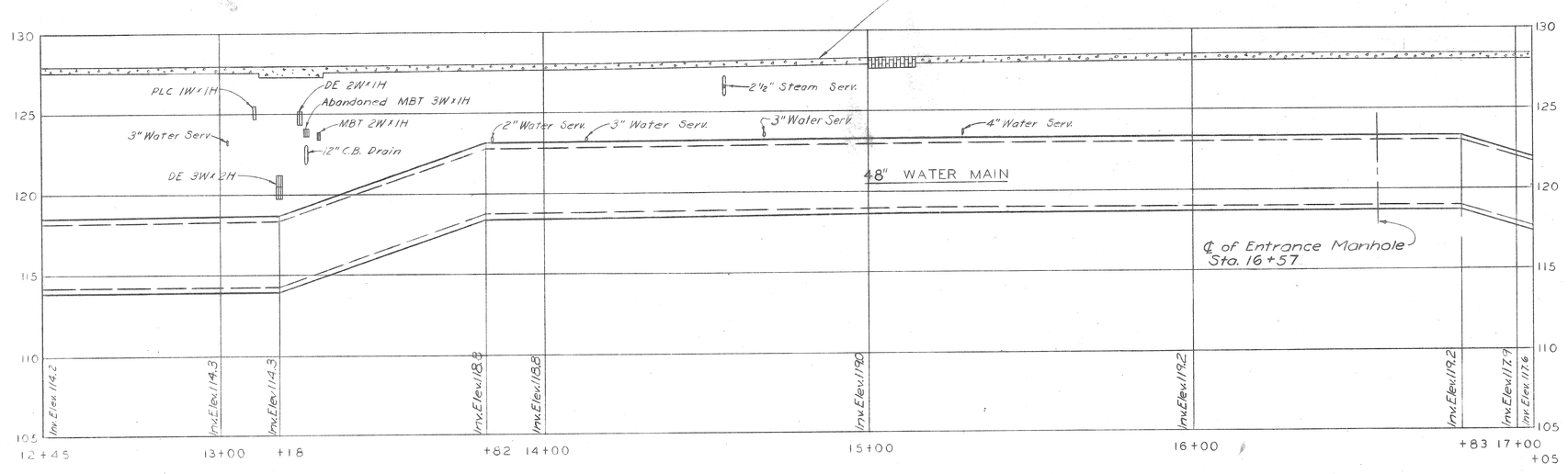
SQUAD BOSS	W.A.M.	3-22-62
DRAWN BY	D.R.C.	11-8-61
TRACED BY	R.J.B.	12-12-61
CHECKED BY	B.R.C.	3-17-62
SHEET 7 OF 54		

82195B CI



PLAN

Scale: 1" = 20'



PROFILE

Scale: Horiz. 1" = 20'

Vert. 1" = 4'

QUANTITIES

ITEM		AMOUNT
Earth Excavation	Auth. #1047 1179	~~1175~~ C.Y.
Porous Material-Grade A (Compacted in Place)	Auth. #1047 890	~~875~~ C.Y.
Entrance Manhole Wells		1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main		460 L.F.
Mulching	Auth. #1044 0	~~.02~~ Tons
Class A Seeding		.01 Ac.
Top Soil Surface		1 C.Y.

REFERENCE DRAWINGS

Entrance Manhole Well Details ___ Dwg. No. 41

CONTROL SECTION 82195D

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

PLAN AND PROFILE STA. 12+45 TO STA. 17+05

WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	WAH	3-21-62
DRAWN BY	CTW	1-3-62
TRACED BY	RJB	1-15-62
CHECKED BY	DRC	3-17-62
SHEET 8 OF 54		

82195B C1

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY

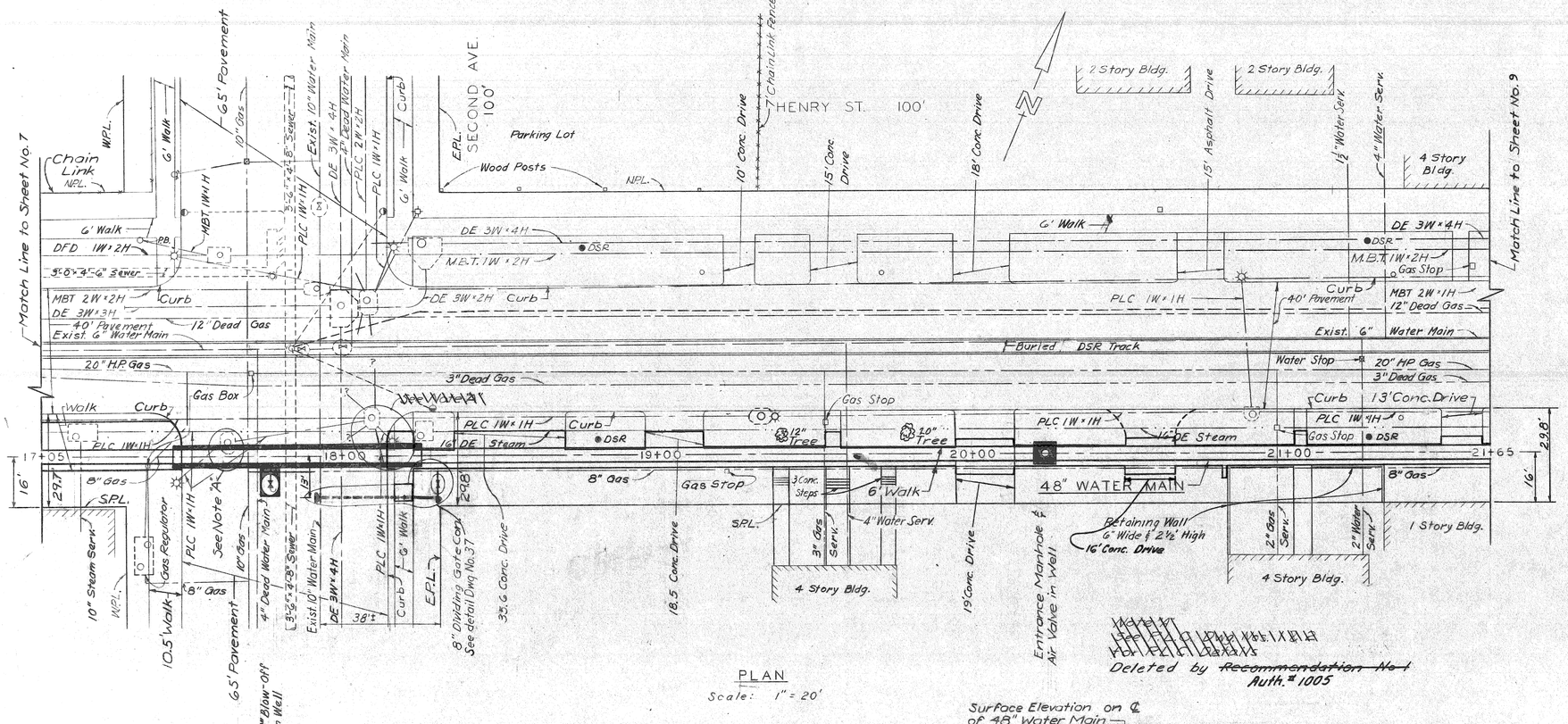
CORRECT: [signature]

APPROVED: [signature]

DATE 4-2-62

JOB NO. D-406-6

DRAWING NO. 7 OF 47



QUANTITIES

ITEM			AMOUNT
Earth Excavation	Auth. #1047	1350	~~1335~~ c.y.
Porous Material-Grade A (Compacted in place)	Auth. #1047	942	~~917~~ c.y.
Grade A Concrete			100 c.y.
Steel Reinforcement			5166 Lb.
Entrance Manhole Wells			1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main			~~465~~ L.F.
8" C.I. Water Main, Furnished	Auth. #1017	23	~~27~~ L.F.
8" C.I. Water Main	Auth. #1017	23	~~20~~ L.F.
10" C.I. Water Main, Furnished			4 L.F.
8" Gate Valves			1 Ea.
8" Gate Wells			1 Ea.
8" Permanent Blow-Offs			1 Ea.
8" Blow-off Wells		(14.1'-25' Deep)	1 Ea.
Water Main Trench (For work by D.W.S.)	Auth. #1016	36	~~34~~ L.F.
Mulching	Auth. #1044	0	~~0.02~~ Tons
Class A Seeding			0.01 Ac.
Top Soil Surface			2 C.Y.

REFERENCE DRAWINGS

Encasement Details	Dwg.	No. 25
Reinforcement Details	Dwg.	No. 32
Miscellaneous Water Main Connections No. 2	Dwg.	No. 37
Miscellaneous Details	Dwg.	No. 39
Blow-Off Well Details	Dwg.	No. 40
Entrance Manhole Well Details	Dwg.	No. 41

CONTROL SECTION 82195D

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 17+05 TO STA. 21+65
WATER SYSTEM ALTERATIONS

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 8 OF 47

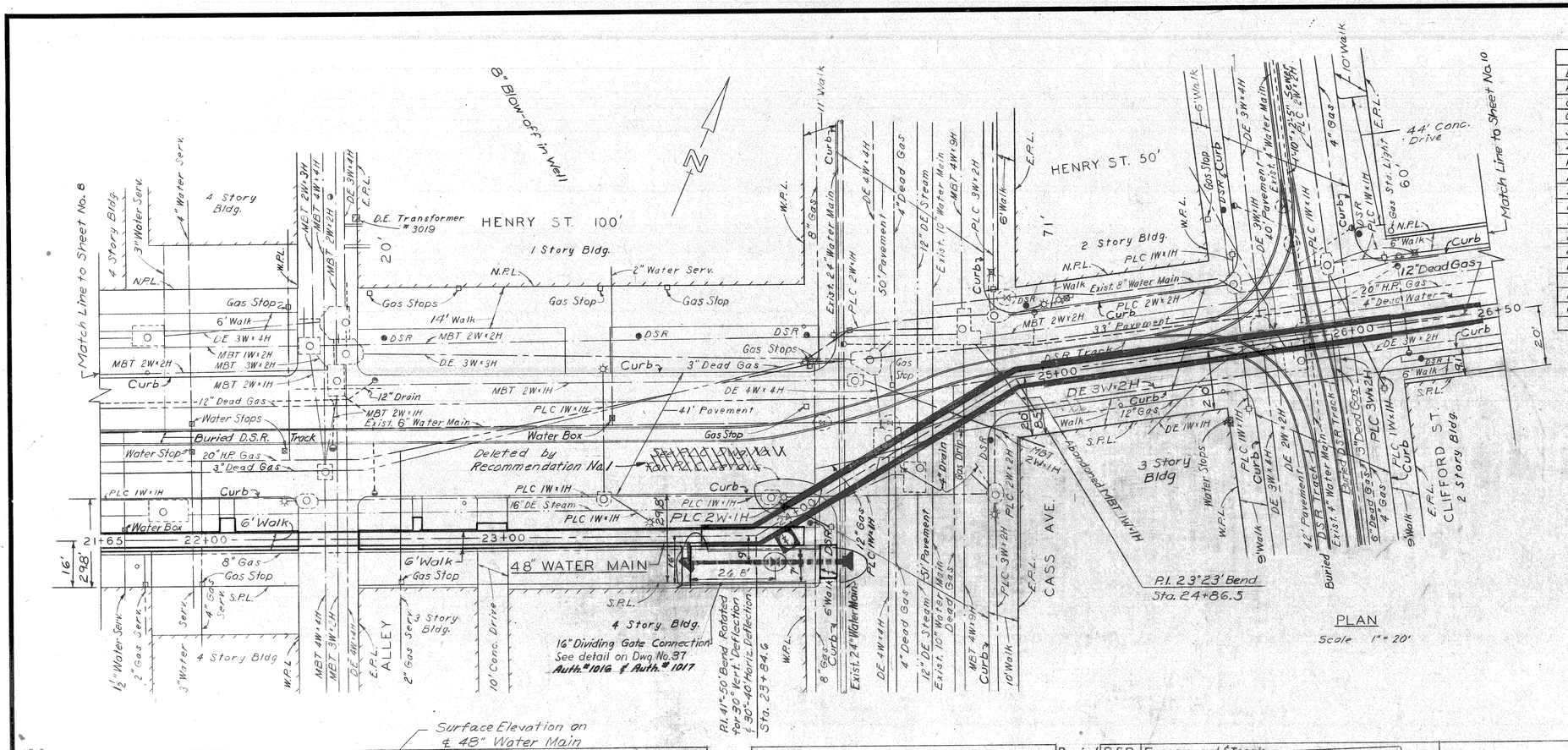
SQUAD BOSS	W.A.H.	3-22-62
DRAWN BY	J.E.P.	12-19-61
TRACED BY	J.N.F.	3-15-62
CHECKED BY	J.R.C.	3-17-62

REVISIONS

NO.	DESCRIPTION	DATE	BY

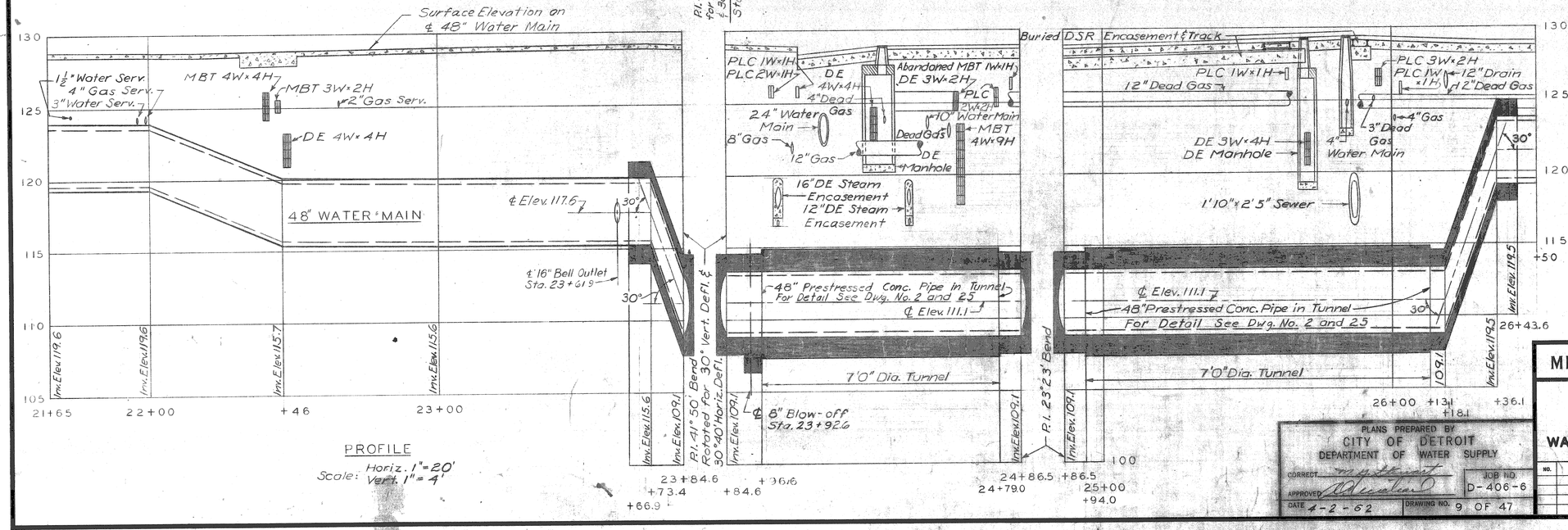
SHEET 9 OF 52

82195B C1



QUANTITIES

ITEM			AMOUNT
Earth Excavation	Auth. #1047	1192	~~1059~~ C.Y.
Porous Material Grade A (Compacted in place)	Auth. #1047	902	~~761~~ C.Y.
Grade X Concrete			161 C.Y.
Grade A Concrete			99 C.Y.
Steel Reinforcement			5547 Lbs.
48" Prestressed Conc. Embedded Steel Cyl. Water Main			490 L.F.
16" C.I. Water Main, Furnished	Auth. #1016	18	~~17~~ L.F.
16" C.I. Water Main	Auth. #1017	43	~~44~~ L.F.
24" C.I. Water Main, Furnished			4 L.F.
16" Gate Valves			1 Ea.
16" Gate Wells			1 Ea.
8" Permanent Blow-offs			1 Ea.
8" Blow-off Wells			1 Ea.
Water Main Trench (For work by D.W.S.)	Auth. #1016	28	~~48~~ L.F.
7'-0" Dia. Tunnel	Auth. #1044	201	~~202~~ L.F.
Mulching	Auth. #1044	0	~~02~~ Tons
Class A Seeding			.01 Ac.
Top Soil Surface			2 C.Y.



PROFILE

Scale: Horiz. 1" = 20'
Vert. 1" = 4'

REFERENCE DRAWINGS

Typical Trench Sections	Dwg.	No.	2
Encasement Details	Dwg.	No.	25
Reinforcement Details	Dwg.	No.	32
Miscellaneous Water Main Connections No. 2	Dwg.	No.	37
Miscellaneous Details	Dwg.	No.	39
Blow-Off Well Details	Dwg.	No.	40

CONTROL SECTION 82195D

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT [signature]
APPROVED [signature]
DATE 4-2-62

JOB NO. D-406-6
DRAWING NO. 9 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 21+65 TO STA. 26+50

WATER SYSTEM ALTERATIONS

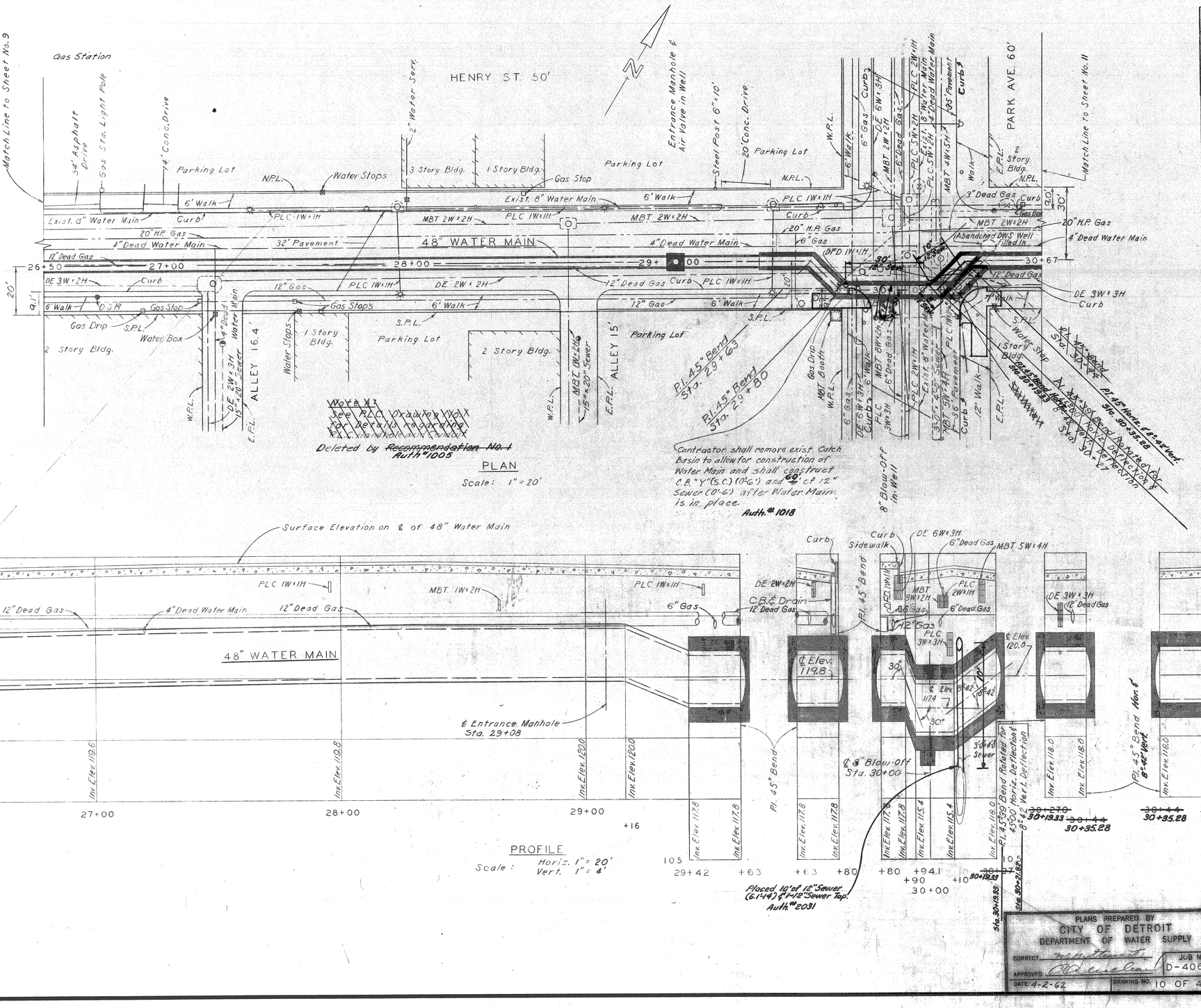
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-22-62
DRAWN BY	D.P.C.	1-4-62
TRACED BY	C.T.W.	3/10/62
CHECKED BY	D.P.C.	3-27-62

SHEET 10 OF 54

82195B C1



PLAN

Scale: 1" = 20'

PROFILE

Scale: Horiz. 1" = 20'
Vert. 1" = 4'

Placed 10'of 12" Sewer (6.1'-14') & 1-12" Sewer Tap. Auth.# 2031

QUANTITIES

ITEM		AMOUNT
Earth Excavation	Auth.# 1042 ~~1114~~	~~4070~~ C.Y.
Porous Material-Grade A (Compacted in Place)	809	~~645~~ C.Y.
Grade A Concrete	Auth.# 1020 & Auth.# 1002 139	~~143~~ C.Y.
Steel Reinforcement	Auth.# 1020 8619	~~3508~~ Lbs.
Entrance Manhole Wells		1 Ea
48" Prestressed Conc. Embedded Steel Cyl. Water Main		418 L.F.
8" Permanent Blow-Offs		1 Ea.
8" Blow-Off Wells		1 Ea.
Catch Basins "Y" (with Salvaged Frame & Cover)	(0'-6")	7 Ea.
12" Sewer	Auth.# 1018 (0'-6")	~~60~~ 60 L.F.
12" Sewer	Auth.# 2031 (6.1'-14.0')	10 L.F.
12" Sewer Tap	Auth.# 2031 (6.1'-14.0')	1 Ea.

REFERENCE DRAWINGS

Encasement Details	Dwg. No. 26
Reinforcement Details	Dwg. No. 32
Blow-Off Well Details	Dwg. No. 40
Entrance Manhole Well Details	Dwg. No. 41
Catch Basin Details	Dwg. No. 47

CONTROL SECTION 82195D

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 26+50 TO STA. 30+67
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

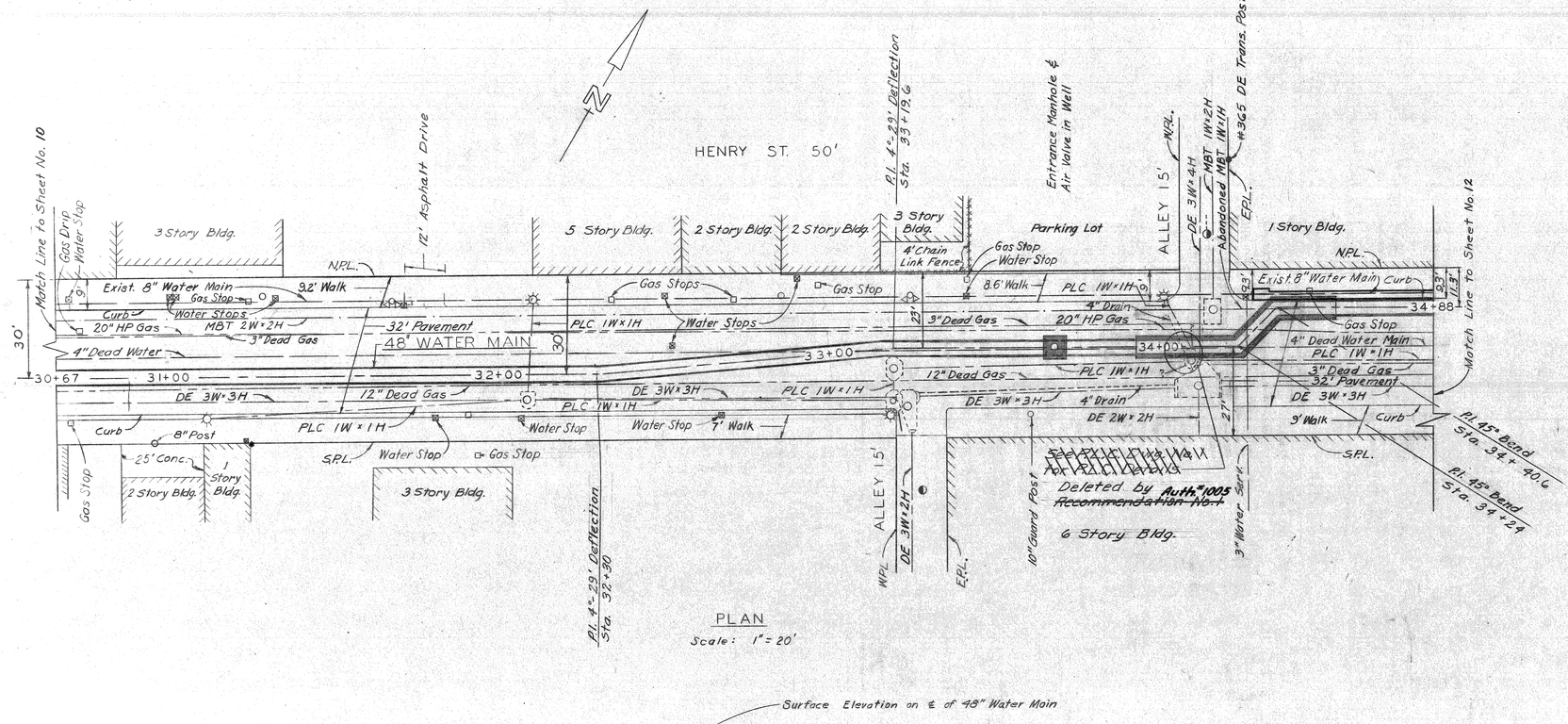
PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 10 OF 47

SQUAD BOSS	W.A.H.	3-22-62
DRAWN BY		
TRACED BY	C.T.W.	3-1-62
CHECKED BY	B.R.C.	3-17-62
SHEET 11 OF 54		

82195B C1

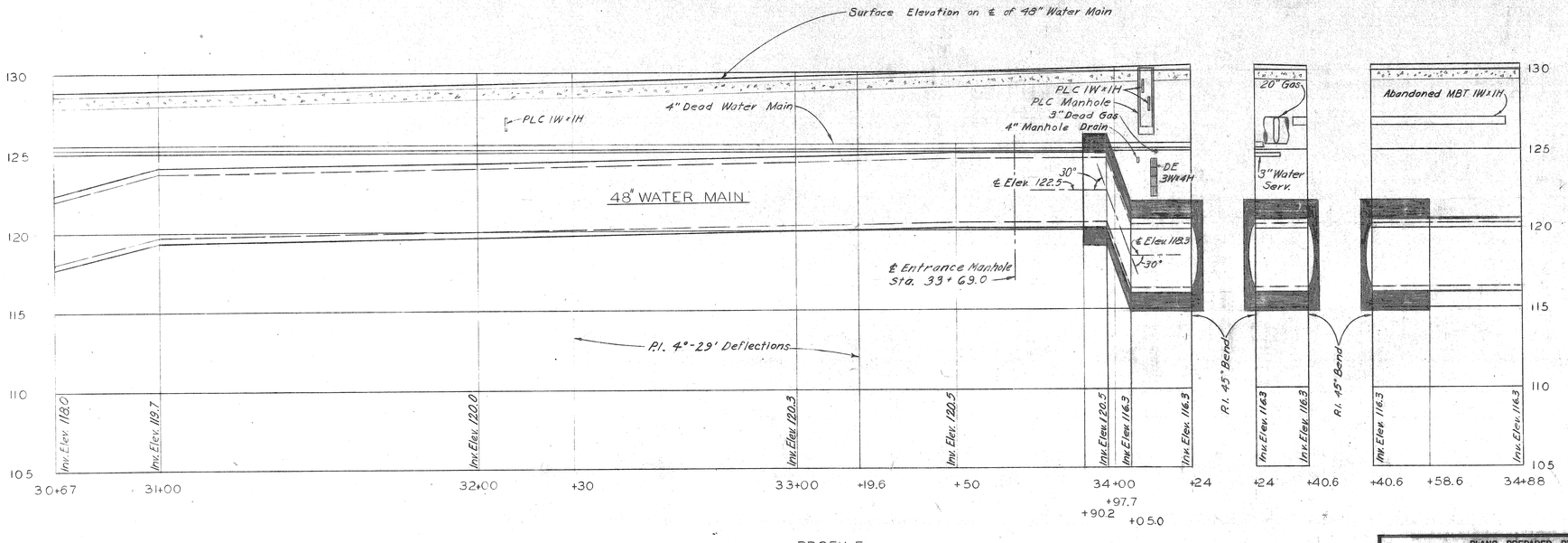
QUANTITIES

ITEM	AMOUNT
Earth Excavation Auth. #1047 1053	~~1053~~ c.y.
Porous Material-Grade A (Compacted in Place) Auth. #1047 727	~~707~~ c.y.
Grade A Concrete	82 c.y.
Steel Reinforcement	5011 Lb.
Entrance Manhole Wells	1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main	422 L.F.



PLAN

Scale: 1" = 20'



PROFILE

Scale: Horiz 1" = 20'
Vert. 1" = 4'

REFERENCE DRAWINGS

Encasement Details ——— Dwg. No. 26
Reinforcement Details ——— Dwg. No. 33
Entrance Manhole Well Details ——— Dwg. No. 41

CONTROL SECTION 82195D

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT: [signature]
APPROVED: [signature]
DATE: 4-2-62
JOB NO. D-406-6
DRAWING NO. 11 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 30+67 TO STA. 34+88
WATER SYSTEM ALTERATIONS

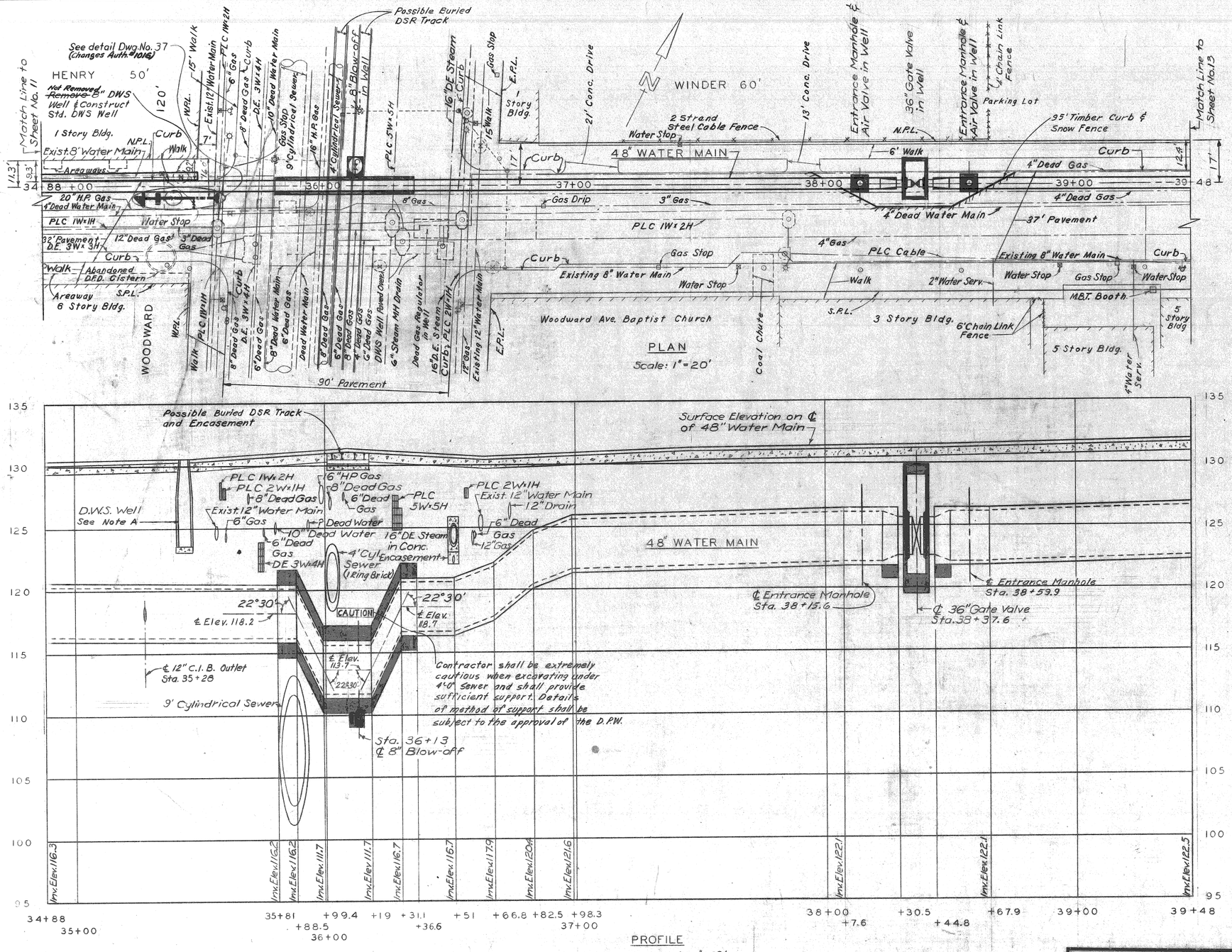
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-22-62
DRAWN BY	C.T.W.	3-2-62
TRACED BY	VNF	3-7-62
CHECKED BY	H.R.L.	3-17-62

SHEET 12 OF 54

82195B C1



PROFILE

Scale: Horiz. 1"=20'
Vert. 1"=4'

QUANTITIES

ITEM			AMOUNT
Earth Excavation	Auth. #1047	1571	~~1511~~ C.Y.
Porous Material-Grade A (Compacted in place)	Auth. #1047	1122	~~1070~~ C.Y.
Grade A Concrete	Auth. #1020	74	~~68~~ C.Y.
Steel Reintorcement			4131 Lb.
Entrance Manhole Wells			2 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main			447 L.F.
12" C.I. Water Main, Furnished	Auth. #1016	14	~~13~~ L.F.
12" C.I. Water Main	Auth. #1016	23	~~25~~ L.F.
36" C.I. Water Main			11 L.F.
12" Gate Valves			1 Ea.
36" Gate Valves			1 Ea.
12" Gate Wells			1 Ea.
36" Gate Wells			1 Ea.
8" Permanent Blow-offs			1 Ea.
8" Blow-off Wells			1 Ea.
Water Main Trench (For work by D.W.S.)	Auth. #1016	18	~~20~~ L.F.

REFERENCE DRAWINGS

Encasement Details	Dwg.	No. 28
Reinforcement Details	Dwg.	No. 33
Miscellaneous Water Main Connections No. 2	Dwg.	No. 37
Miscellaneous Details	Dwg.	No. 39
Blow-Off Well Details	Dwg.	No. 40
Entrance Manhole Well Details	Dwg.	No. 41
36" Gate Valve Well Details	Dwg.	No. 43

Note A:
Contractor shall remove existing 8" DWS Gate Well to allow for the construction of the 48" Water Main, and shall construct Std. 8" DWS Gate Well after the New Water Main is in Place.

CONTROL SECTION 82195D

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 12 OF 47

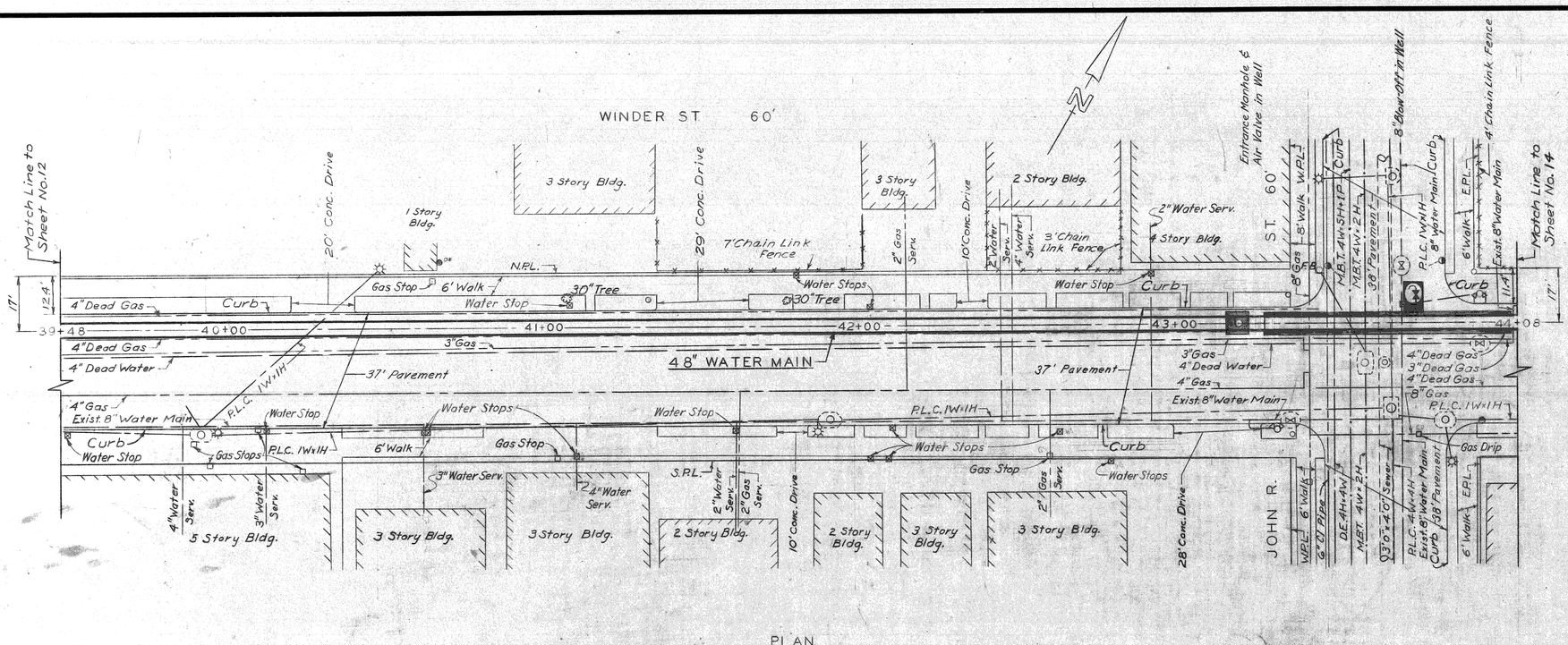
MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 34+88 TO STA. 39+48
WATER SYSTEM ALTERATIONS
REVISIONS

NO.	DESCRIPTION	DATE	BY

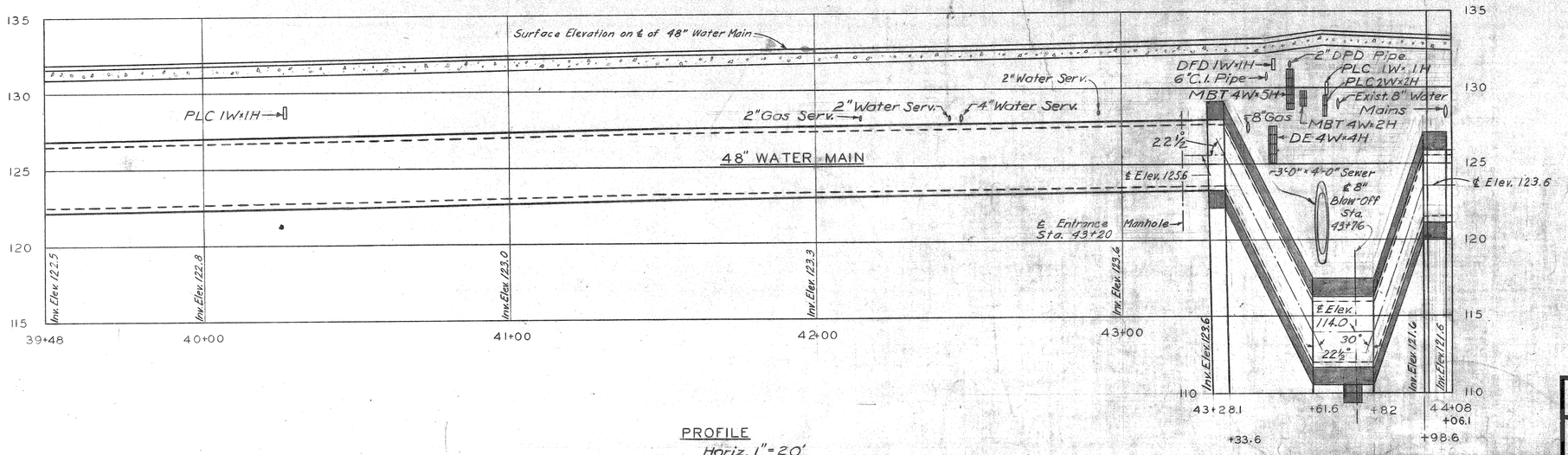
SQUAD BOSS	W.A.H.	3-22-62
DRAWN BY	C.T.W.	3-17-62
TRACED BY		
CHECKED BY	DRC	3-17-62
SHEET	13 OF 54	

82195B C1



PLAN

Scale: 1" = 20'



PROFILE

Horiz. 1" = 20'
Scale: Vert. 1" = 4'

QUANTITIES

ITEM	AMOUNT
Earth Excavation Auth.# 1047 1276	~~1237~~ c.y.
Porous Material-Grade A (Compacted) Auth.# 1276 903	~~827~~ c.y.
Grade A Concrete	98 c.y.
Steel Reinforcement	5232 Lbs.
Entrance Manhole Wells	1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main	465 L.F.
8" Permanent Blow-Offs	1 Ea.
8" Blow-off Wells	1 Ea.

REFERENCE DRAWINGS

Encasement Details	Dwg. No. 28
Reinforcement Details	Dwg. No. 33
Blow-Off Well Details	Dwg. No. 40
Entrance Manhole Well Details	Dwg. No. 41

CONTROL SECTION 82195D

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT [signature]
APPROVED [signature]
DATE 4-2-62

JOB NO. D-406-6
DRAWING NO. 13 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 39+48 TO STA. 44+08
WATER SYSTEM ALTERATIONS

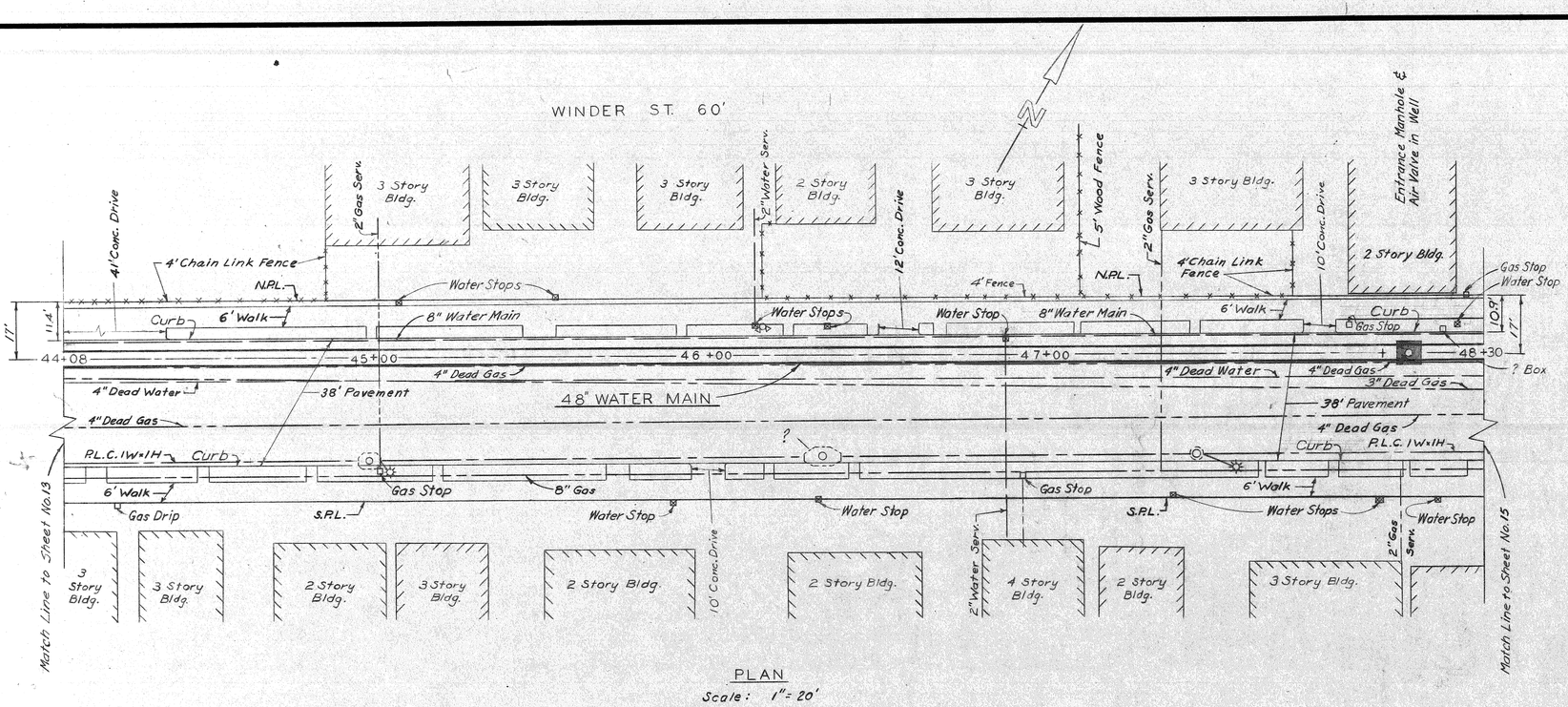
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-22-62
DRAWN BY	R.J.B.	3-1-62
TRACED BY	R.J.B.	3-14-62
CHECKED BY	D.F.C.	3-17-62

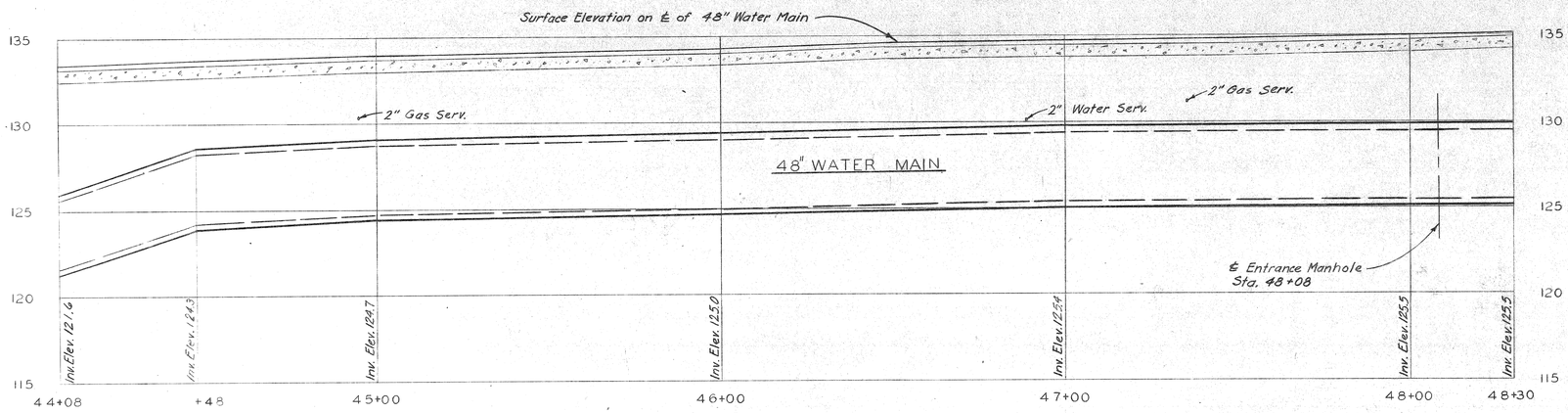
SHEET 14 OF 54

82195B C1



PLAN

Scale: 1" = 20'



PROFILE

Scale: Horiz. 1" = 20'
Vert. 1" = 4'

QUANTITIES

ITEM	AMOUNT
Earth Excavation Auth. #1047 307 Auth. #1087 ~~328~~	~~328~~ c.y.
Porous Material - Grade A (Compacted in Place) 664	~~658~~ c.y.
Entrance Manhole Wells	1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main	422 L.F.

REFERENCE DRAWINGS

Entrance Manhole Well Details ___ Dwg. No 41

CONTROL SECTION 82195D

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT M.H. Hunt
APPROVED A. Mueller
DATE 4-2-62

JOB NO. D-406-6
DRAWING NO. 14 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 44+08 TO STA. 48+30
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-22-62
DRAWN BY	R.J.B.	3-1-62
TRACED BY	R.J.B.	3-14-62
CHECKED BY	B.R.D.	3-17-62

SHEET 15 OF 54

82195B C1

CONTROL SECTION 82251B

QUANTITIES

ITEM			AMOUNT
Earth Excavation	Auth. #1028	67	~~60~~ c.y.
Porous Material-Grade A (Compacted in Place)			48 c.y.
48" Prestressed Conc. Embedded Steel Cyl. Water Main			32 L.F.

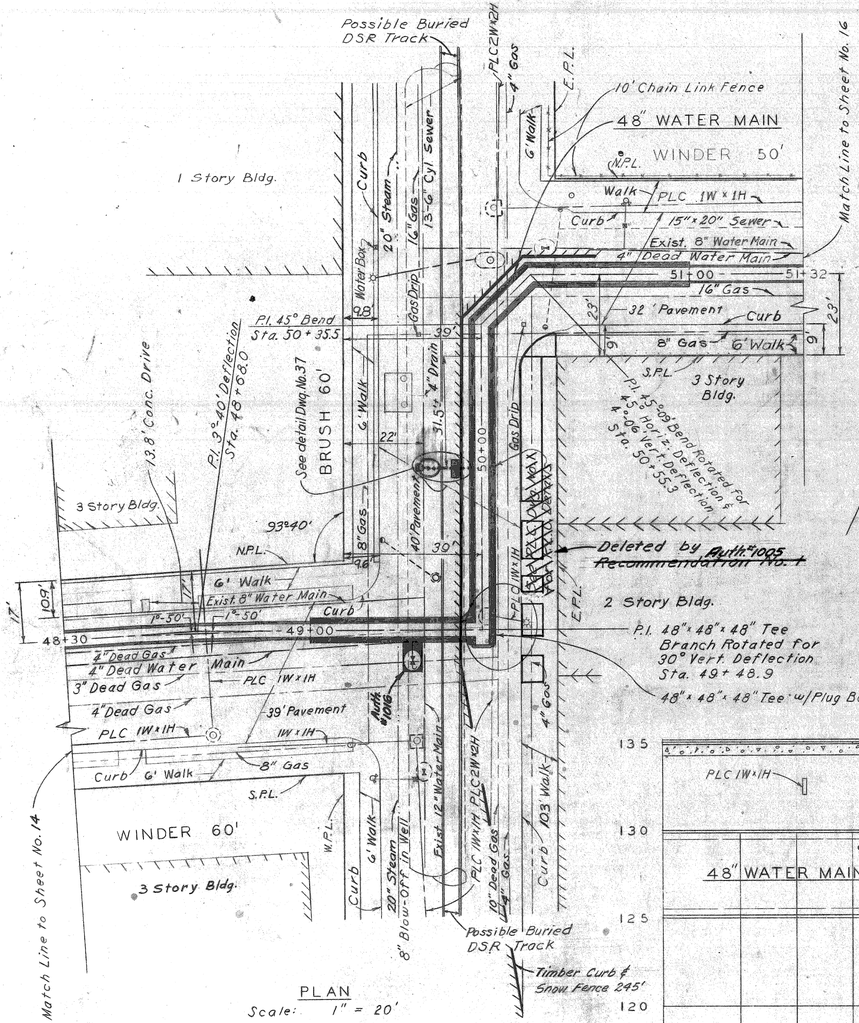
CONTROL SECTION 82195D

QUANTITIES

ITEM			AMOUNT
Earth Excavation	Auth. #1047	885	~~947~~ C.Y.
Porous Material-Grade A (Compacted in Place)	Auth. #1047	483	~~505~~ C.Y.
Grade A Concrete	Auth. #1020	253	~~252~~ C.Y.
Steel Reinforcement			14853 Lbs.
48" Prestressed Conc. Embedded Steel Cyl. Water Main			274 L.F.
12" C.I. Water Main, Furnished	Auth. #1016	19	~~17~~ L.F.
12" Tapping Valves, Furnished			1 Ea.
12" Valve Wells			1 Ea.
8" Blow-Off			1 Ea.
8" Blow-Off Wells			1 Ea.
Water Main Trench (For Work by D.W.S.)	Auth. #1016	9	~~24~~ L.F.

REFERENCE DRAWINGS

Encasement Details	Dwg. No. 27
Reinforcement Details	Dwg. No. 33
Miscellaneous Water Main Connections No. 2	Dwg. No. 37
Miscellaneous Details	Dwg. No. 39
Blow-Off Well Details	Dwg. No. 40



CONTROL SECTION 82195 D | CONTROL SECTION 82251 B

CONTROL SECTION 82195D & 82251B

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 48+30 TO STA. 51+32
WATER SYSTEM ALTERATIONS

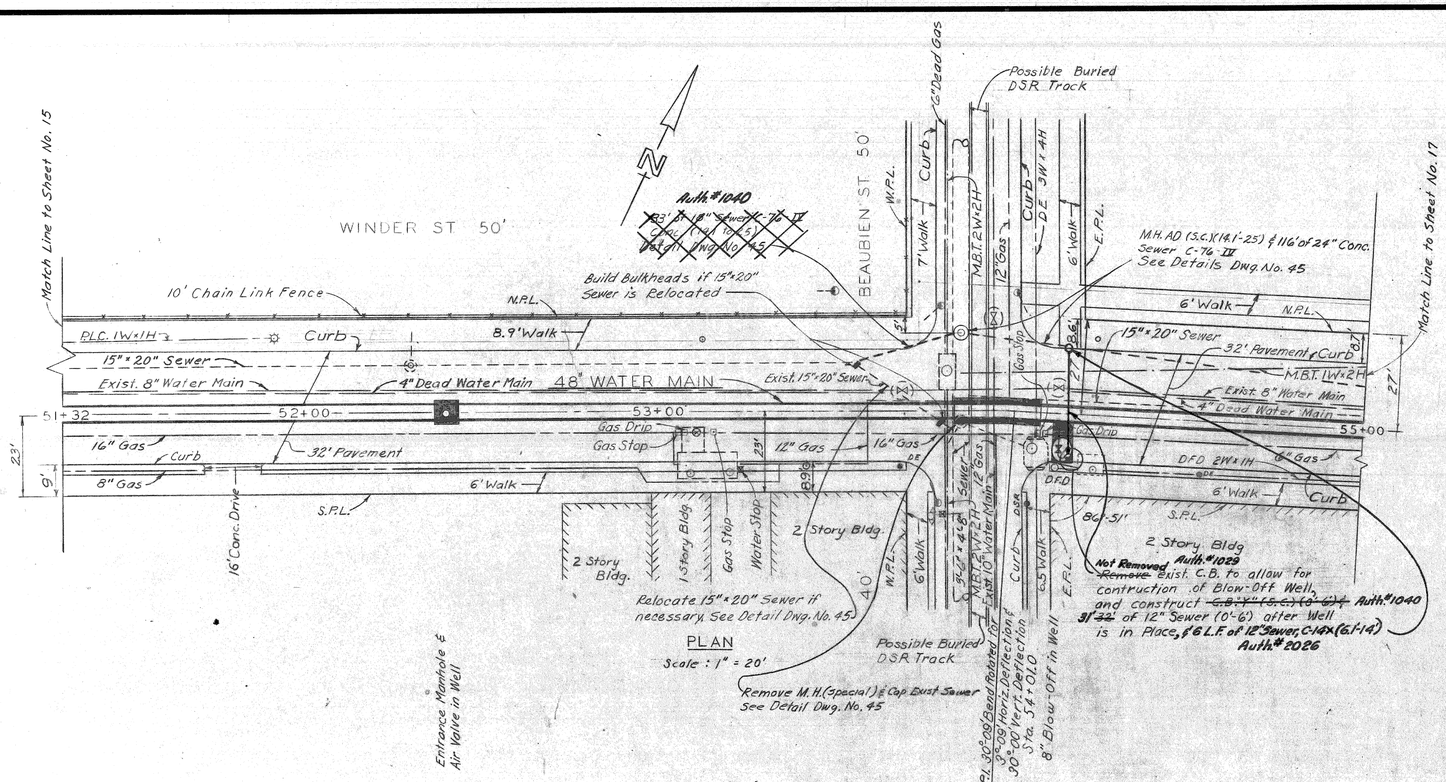
REVISIONS

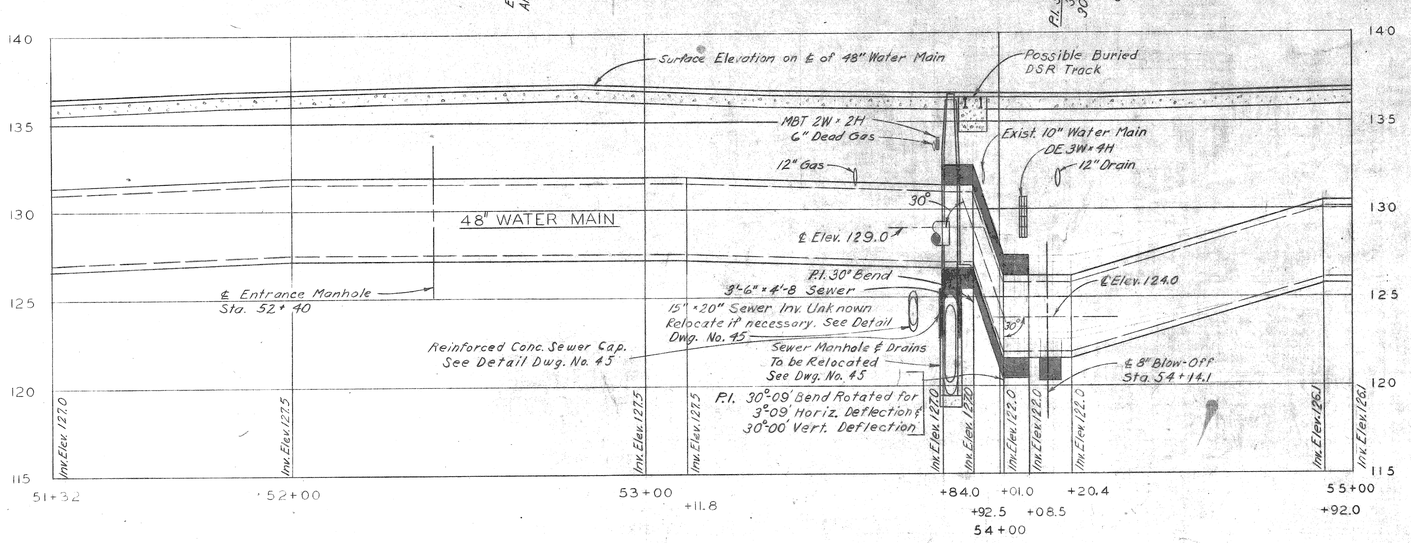
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-26-62
DRAWN BY	JNF	3-1-62
TRACED BY		
CHECKED BY	DRC	3-19-62
SHEET 16 OF 54		

82195B C1

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 15 OF 47





PROFILE

Scale : Horiz. 1" = 20'
Vert. 1" = 4'

QUANTITIES

ITEM			AMOUNT
Earth Excavation	Auth.#1028	1194	~~1247~~ C.Y.
Porous Material-Grade A (Compacted in place)	Auth.#1028	902	~~953~~ C.Y.
Grade A Concrete			31 C.Y.
Steel Reinforcement			1619 Lbs.
Entrance Manhole Wells			1
48" Prestressed Conc. Embedded Steel Cyl. Water Main			370 L.F.
8" Permanent Blow-Offs			1 Ea.
8" Blow-off Wells			1 Ea.
Catch Basin "Y" (With Salv. Frame & Cover	Auth.#1028	(0'-6') 0	~~1~~ Ea.
Manhole AD (With Salv. Frame & Cover		(14.1'-25')	1 Ea.
12" Sewer	Auth.#1040	(0'-6') 31	~~32~~ L.F.
18" Sewer, (Conc.) C-76-Class IV,	Auth.#1040	0 (14.1'-25')	~~23~~ L.F.
24" Sewer, (Conc.) C-76-Class IV,		(14.1'-25')	116 L.F.
Concrete-Grade A for Sewer Cap at Beaubien			5 C.Y.
Steel Reinforcement for Sewer Cap at Beaubien			149 Lbs.
12" Sewer C-14X	Auth.#2026	(6.1'-14.0')	6 L.F.

REFERENCE DRAWINGS

Encasement Details	Dwg. No.	28
Reinforcement Details	Dwg. No.	33
Blow-Off Well Details	Dwg. No.	40
Entrance Manhole Well Details	Dwg. No.	41
Sewer Alterations at Beaubien	Dwg. No.	45
D.P.W. Special Details for Manholes	Dwg. No.	46
Catch Basin Details	Dwg. No.	47

CONTROL SECTION 82251B

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT: [signature]
APPROVED: [signature]
DATE: 4-2-62
JOB NO. D-406-6
DRAWING NO. 16 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 51+32 TO STA. 55+00
WATER SYSTEM ALTERATIONS

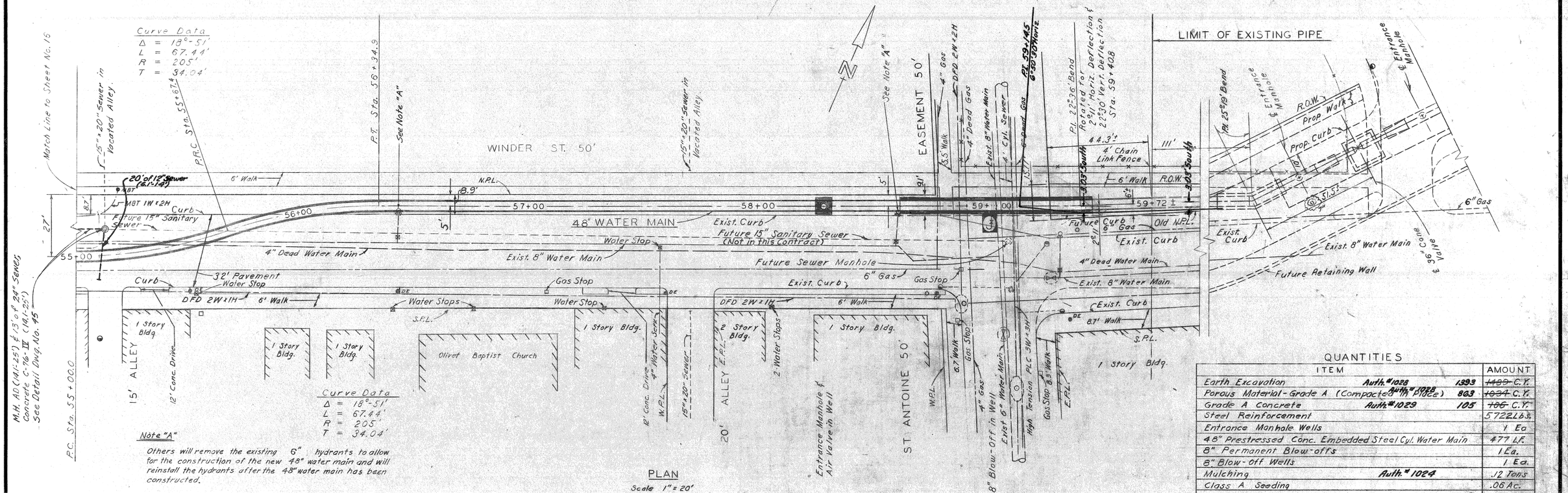
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-22-62
DRAWN BY	R.J.B.	3-1-62
TRACED BY		
CHECKED BY	D.R.C.	3-17-62

SHEET 17 OF 52

82195B C1

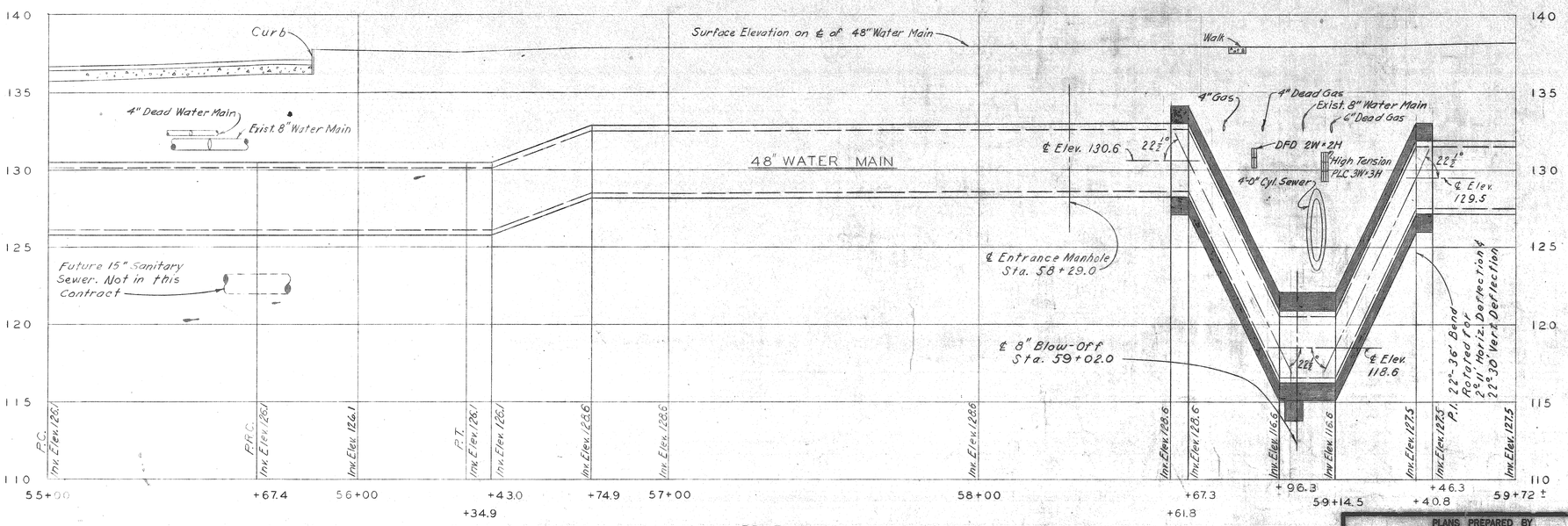


PLAN
Scale 1" = 20'

Curve Data
Δ = 18°-51'
L = 67.44'
R = 205'
T = 34.04'

Note "A"

Others will remove the existing 6" hydrants to allow for the construction of the new 48" water main and will reinstall the hydrants after the 48" water main has been constructed.



PROFILE
Scale: Horiz: 1" = 20'
Vert: 1" = 4'

QUANTITIES

ITEM		AMOUNT
Earth Excavation	Auth. #1028 1993	~~1489~~ C.Y.
Porous Material-Grade A (Compacted in Place)	Auth. #1028 863	~~1034~~ C.Y.
Grade A Concrete	Auth. #1029 105	~~106~~ C.Y.
Steel Reinforcement		5722 Lbs.
Entrance Manhole Wells		1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main		477 L.F.
8" Permanent Blow-offs		1 Ea.
8" Blow-off Wells		1 Ea.
Mulching	Auth. #1024	.12 Tons
Class A Seeding		.06 Ac.
Top Soil Surface		16 C.Y.
Manholes AD	(14.1'-25')	1 Ea.
24" Sewer, (Concrete) C-76-IV Auth. #1024	(14.1'-25') 7	~~13~~ L.F.
12" Sewer C-14X	(6.1'-14.0') Auth. #2026	20 L.F.

REFERENCE DRAWINGS

Encasement Details	Dwg.	No. 28
Reinforcement Details	Dwg.	No. 33
Miscellaneous Details	Dwg.	No. 39
Entrance Manhole Well Details	Dwg.	No. 41
D.P.W. Special Detail for Manholes	Dwg.	No. 46

CONTROL SECTION 82251B C UN

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 17 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 55+00 TO STA. 59+72 ±
WATER SYSTEM ALTERATIONS

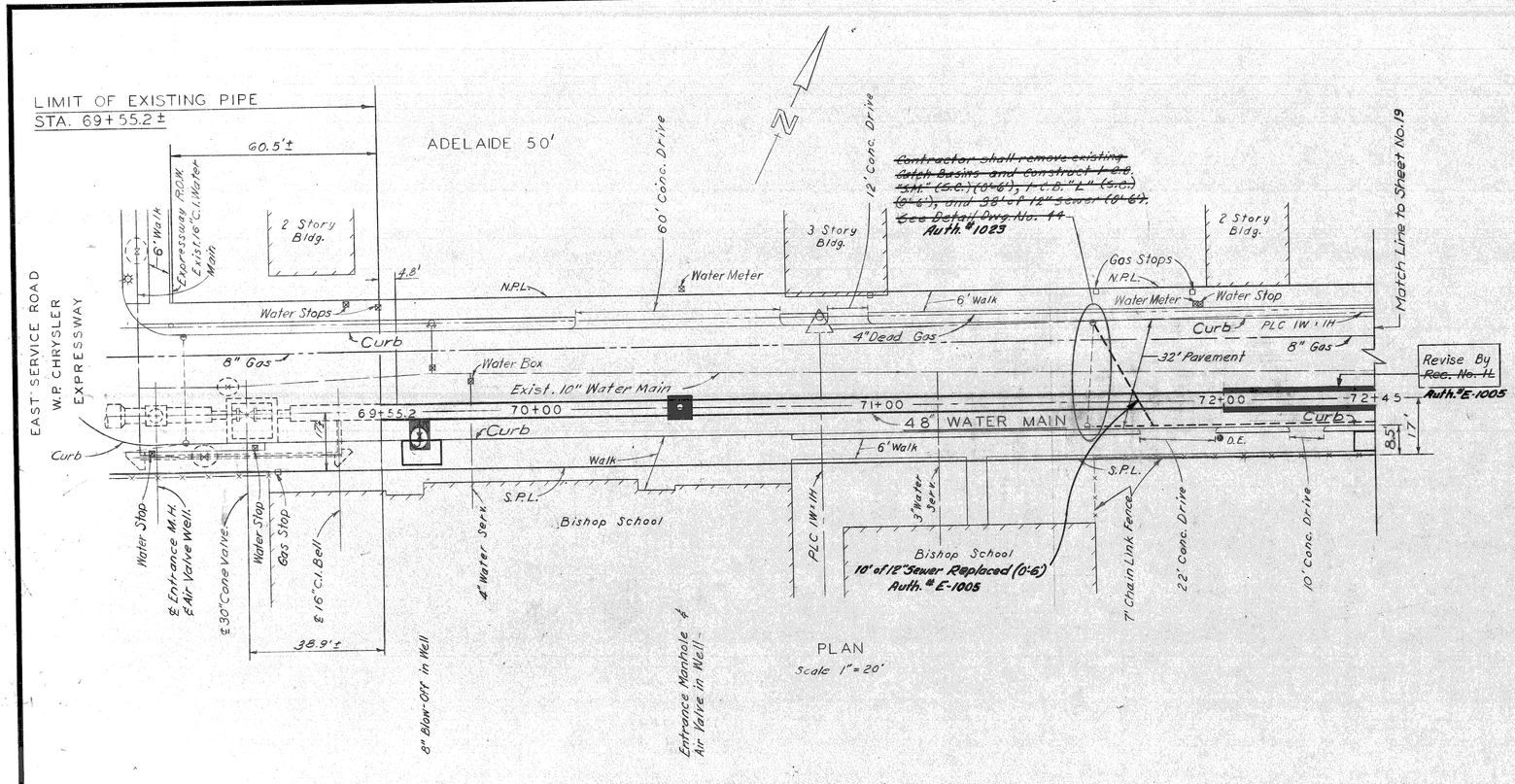
REVISIONS

NO.	DESCRIPTION	DATE	BY

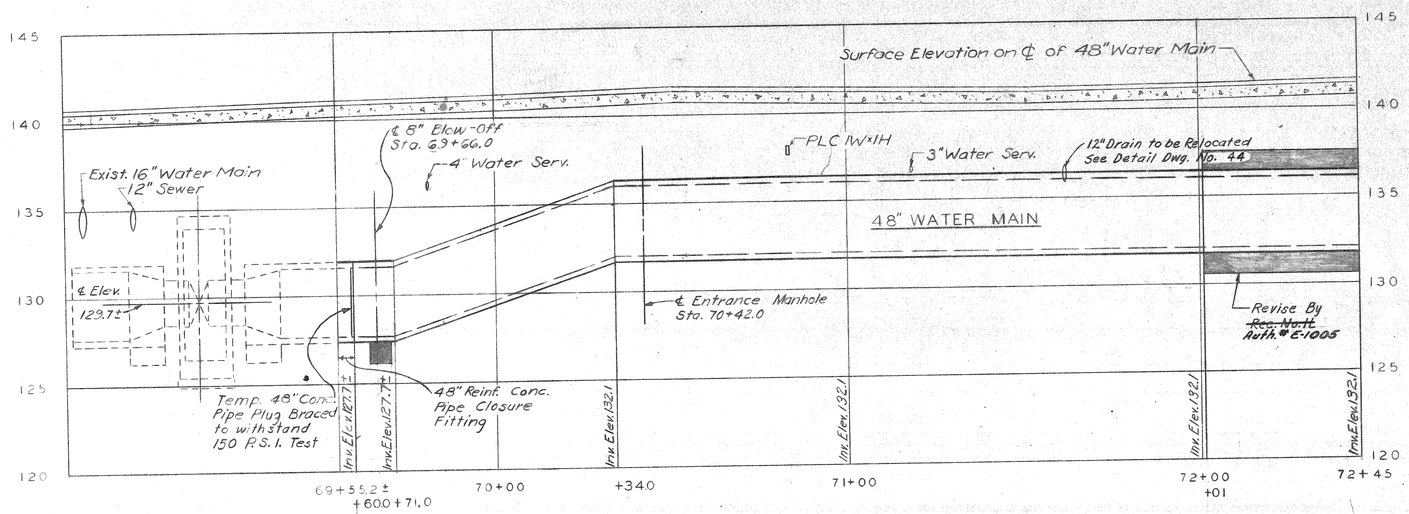
SQUAD BOSS	W.A.H.	3-28-62
DRAWN BY	J.E.P.	3-1-62
TRACED BY	C.T.W.	3-7-62
CHECKED BY	J.E.P.	3-24-62

SHEET 18 OF 54

82195B C1



PLAN
Scale 1" = 20'



PROFILE
Horiz. 1" = 20'
Scale: Vert. 1" = 4'

QUANTITIES

Auth. # E-1005 Revise By Rec. No. 11 Auth. # AI-1029

AMOUNT	ITEM	AMOUNT
708 ~~751~~ C.Y.	Earth Excavation Auth. # 1028	~~733~~ C.Y.
311 ~~396~~ C.Y.	Porous Material-Grade A (Compacted in Place) Auth. # 1028	~~332~~ C.Y.
	Entrance Manhole Wells	1 Ea.
	48" Prestressed Conc. Embeded Steel Cyl. Water Main	290 L.F.
	8" Permanent Blow-Offs	1 Ea.
	8" Blow-off Wells	1 Ea.
	Catch Basins "L" (with Salv. Frame & Cover Auth. # 1023) (0'-6')	0 + Ea.
	Catch Basins "S.M." (with Salv. Frame & Cover Auth. # 1023) (0'-6')	0 + Ea.
	12" Sewer (0'-6") 10'	~~38~~ L.F.
52 C.Y.	Grade A Concrete	
2653 lbs.	Steel Reinforcement	

Add By Rec. No. 11 Auth. # E-1005 & Auth. # AI-1029

REFERENCE DRAWINGS

Blow-Off Well Details	Dwg.	No. 40
Entrance Manhole Well Details	Dwg.	No. 41
Catch Basin Details	Dwg.	No. 47
Revise By Rec. No. 11 Auth. # E-1005 — Encasement Details	Dwg.	No. 29A
Reinforcement Details	Dwg.	No. 34

CONTROL SECTION 82251B

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 69+55.2 TO STA. 72+45
WATER SYSTEM ALTERATIONS

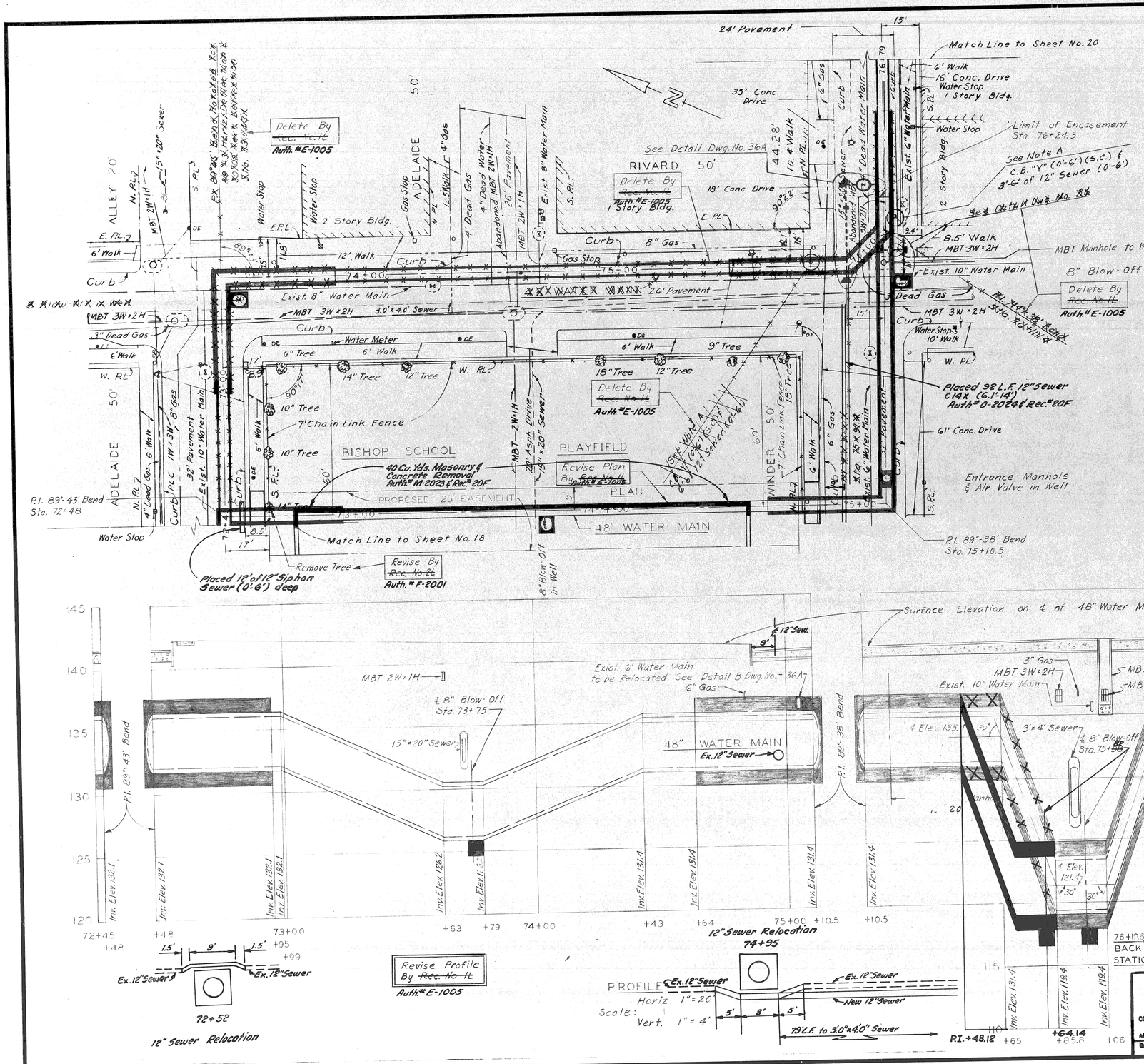
REVISIONS

NO.	DESCRIPTION	DATE	BY
	Added Encasement	9-62	[illegible]

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT W. A. Stewart
APPROVED C. F. Cleveland
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 18 OF 47

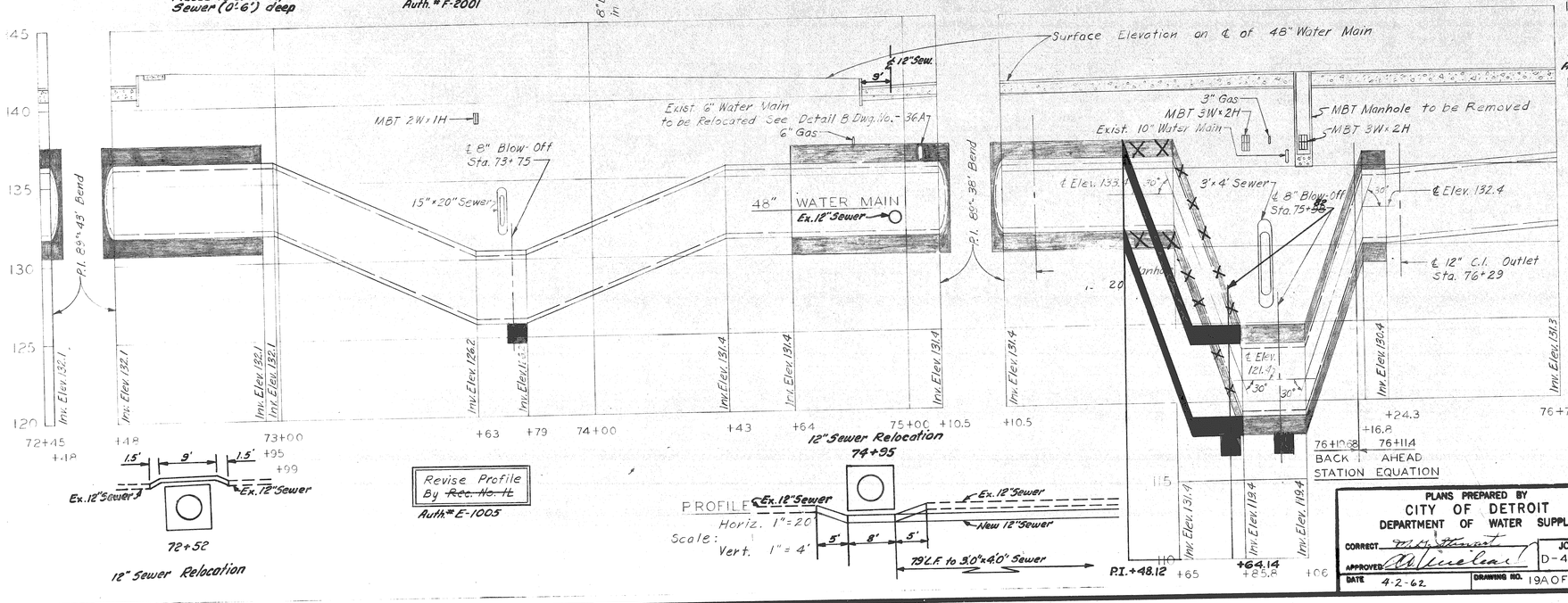
SQUAD BOSS	W.A.H.	2-28-62
DRAWN BY	C.F.W.	2-20-62
TRACED BY		
CHECKED BY	DRC	3-2-62
SHEET	19 OF 54	

82195B CI



QUANTITIES

AMOUNT	ITEM		AMOUNT
1244	~~1016~~ C.Y.	Earth Excavation Auth. #1028	352 C.Y.
648	~~616~~ C.Y.	Porous Material-Grade A (Compacted in place) Auth. #1028	53 C.Y.
270	~~266~~ C.Y.	Grade A Concrete Auth. #1029	— C.Y.
	15,695 Lbs.	Steel Reinforcement	141 Lbs.
	449 L.F.	48" Prestressed Conc. Embedded Steel Cyl. Water Main	449 L.F.
Revise By Rec. No. 11 Auth. #E-1005	17 ~~23~~ L.F.	6" C.I. Water Main, Furnished Auth. #1027	5 L.F.
	11 ~~4~~ L.F.	12" C.I. Water Main, Furnished Auth. #1027	31 L.F.
	56 ~~49~~ L.F.	12" C.I. Water Main, Auth. #1026	4 L.F.
		12" Gate Valves	1 Ea.
		12" Gate Wells	1 Ea.
	2 Ea.	8" Permanent Blow-offs	1 Ea.
	2 Ea.	8" Blow-off Wells	1 Ea.
Revise By Rec. No. 11 Auth. #E-1005	394 ~~2~~ L.F.	Water Main Trench (for work by D.W.S.) Auth. #1025	4 L.F.
	1 Ea.	Catch Basins "Y" (With Salv. Frame & Cover) (0'-6")	3 Ea.
	15 ~~6~~ L.F.	12" Sewer Auth. #1040 (0'-6')	12 L.F.
	5 ~~8~~ L.F.	8" C.I. Water Main, Furnished Auth. #1027	
Add By Rec. No. 21 Rec. #20F & Auth. #F-2001	204 ~~225~~ S.Y.	Stone Surfacing Auth. #2026	
	Lump Sum	Disassembling & Reassembling Exist. Fence	
	92 L.F.	12" Sewer C14X Auth. #2026 (6.1'-14')	
	1 Ea.	12" Sewer Tap Auth. No's 2024 & 2026 (6.1'-14')	
	1 Ea.	Removing Trees 13"-24" Dia. Auth. #F-2001	



REFERENCE DRAWINGS

Revise By Rec. No. 11 Auth. #E-1005	Encasement Details	Dwg. No.	29A
	Reinforcement Details	Dwg. No.	34
	Miscellaneous Water Main Connections No. 1	Dwg. No.	36A
	Miscellaneous Details	Dwg. No.	39
	Blow-Off Well Details	Dwg. No.	40
	Entrance Manhole Well Details	Dwg. No.	41
	Catch Basin Details	Dwg. No.	47

Note A
Contractor shall remove exist. Catch Basin to allow for construction of Water Main and shall reinstall Catch Basin and Sewer after Water Main is in place.

Add New Dwg. by ~~Recommendation 11~~ Supercedes Dwg. # ~~36~~ 19 Auth. #E-1005

CONTROL SECTION 82251B

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT W. Matthews
APPROVED A. Nuelar
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 19A OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

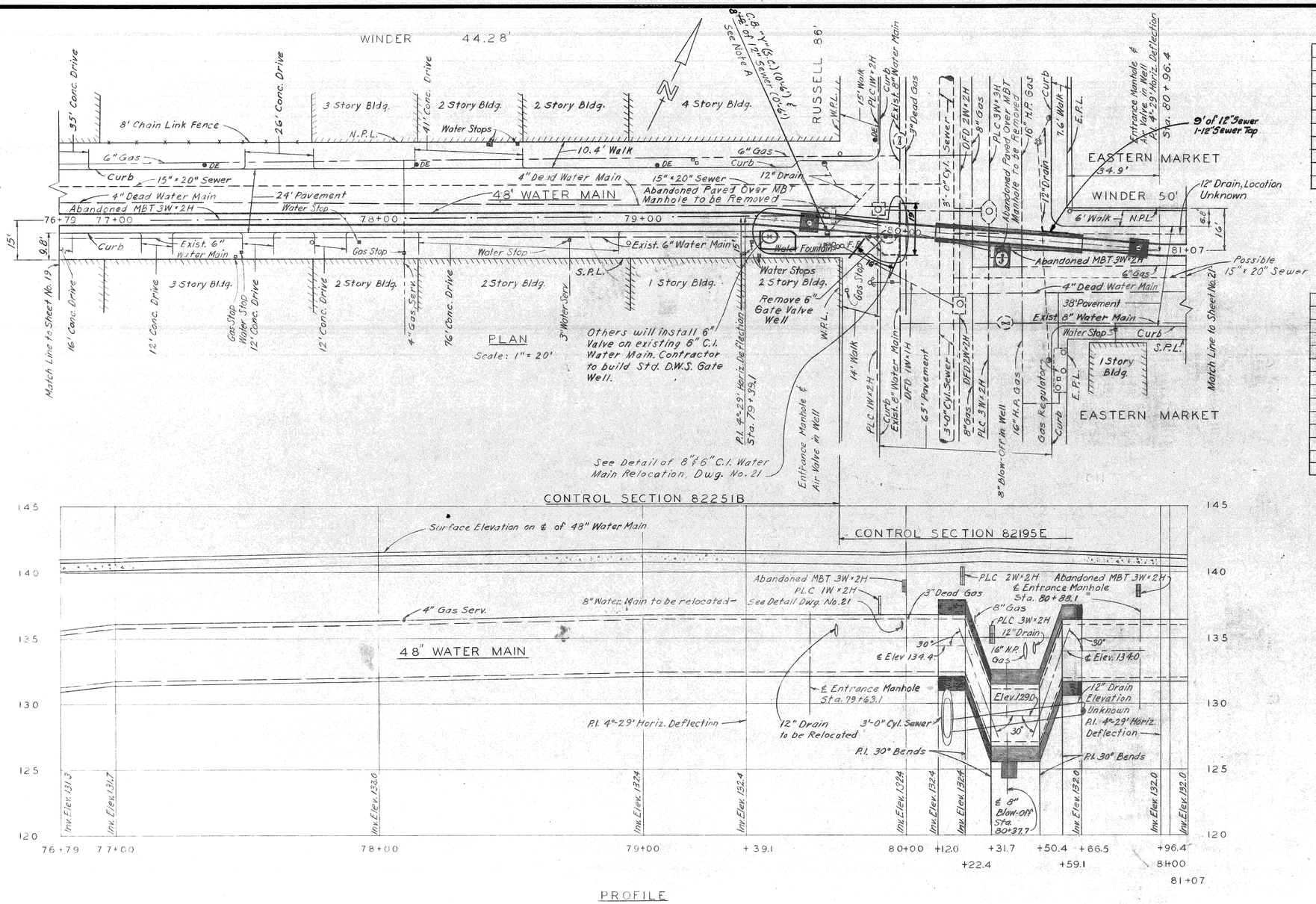
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA 72+45 TO STA 76+79
WATER SYSTEM ALTERATIONS

REVISIONS

NO	DESCRIPTION	DATE	BY
	Supercedes Dwg. No. 19	9-62	M&L

SQUAD BOSS	W.A.H.	3-27-62
DRAWN BY	JNF	3-27-62
TRACED BY		
CHECKED BY	ERB	3-27-62
SHEET	20A OF 54	

82195B CI



PROFILE

Scale : Horiz. 1" = 20'
Vert. 1" = 4'

CONTROL SECTION 82251B
QUANTITIES

ITEM		AMOUNT
Earth Excavation	Auth.# 1028 639	~~637~~ c.y.
Porous Material-Grade A (Compacted in place)	Auth. 1028 475	~~447~~ c.y.
Entrance Manhole Wells		1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main		296 L.F.
6" C.I. Water Main, Furnished		3 L.F.
6" Gate Valve, Furnished		1 Ea.
6" Gate Valve Well		1 Ea.
Water Main Trench (For Work by D.W.S.)	Auth.# 1025 0	~~4~~ L.F.
Catch Basins "Y" w/Salv. Frame & Cover	(0'-6')	1 Ea.
12" Sewer (0'-6')	Auth.# 1040 8	~~15~~ L.F.

CONTROL SECTION 82195E
QUANTITIES

ITEM		AMOUNT
Earth Excavation	Auth.# 1014 206	~~155~~ c.y.
Porous Material-Grade "A" (Compacted in place)	Auth. 1014 256	~~201~~ c.y.
Grade A Concrete	Auth.# 1014 70	~~48~~ c.y.
Steel Reinforcement		3722 Lbs.
Entrance Manhole Wells		1 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main		135 L.F.
6" C.I. Water Main, Furnished	Auth.# 1042 16	~~15~~ L.F.
8" C.I. Water Main, Furnished	Auth.# 2029 19	~~18~~ L.F.
8" Permanent Blow-Off		1 Ea.
8" Blow-Off Well 14.1'-25'		1 Ea.
Water Main Trench (For Work by D.W.S.)	Auth.# 1042 41	~~49~~ L.F.
12" Sewer CIA	(0-6')	9 L.F.
12" Sewer Top	Auth. 2029	1 Ea

REFERENCE DRAWINGS

Plan & Profile Sta. 81+07 to Sta. 84+50	Dwg. No. 21
Encasement Details	Dwg. No. 30
Reinforcement Details	Dwg. No. 34
Blow-Off Well Details	Dwg. No. 40
Entrance Manhole Well Details	Dwg. No. 41
Catch Basin Details	Dwg. No. 47

Note A
Contractor shall remove exist Catch Basin to allow for construction of Water Main and shall construct Catch Basin and Sewer after Water Main is in place.

CONTROL SECTION 82251B & 82195E

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 76+79 TO STA. 81+07
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	JNF	1-17-62
TRACED BY	JNF	3-20-62
CHECKED BY	J.R.C.	3-27-62

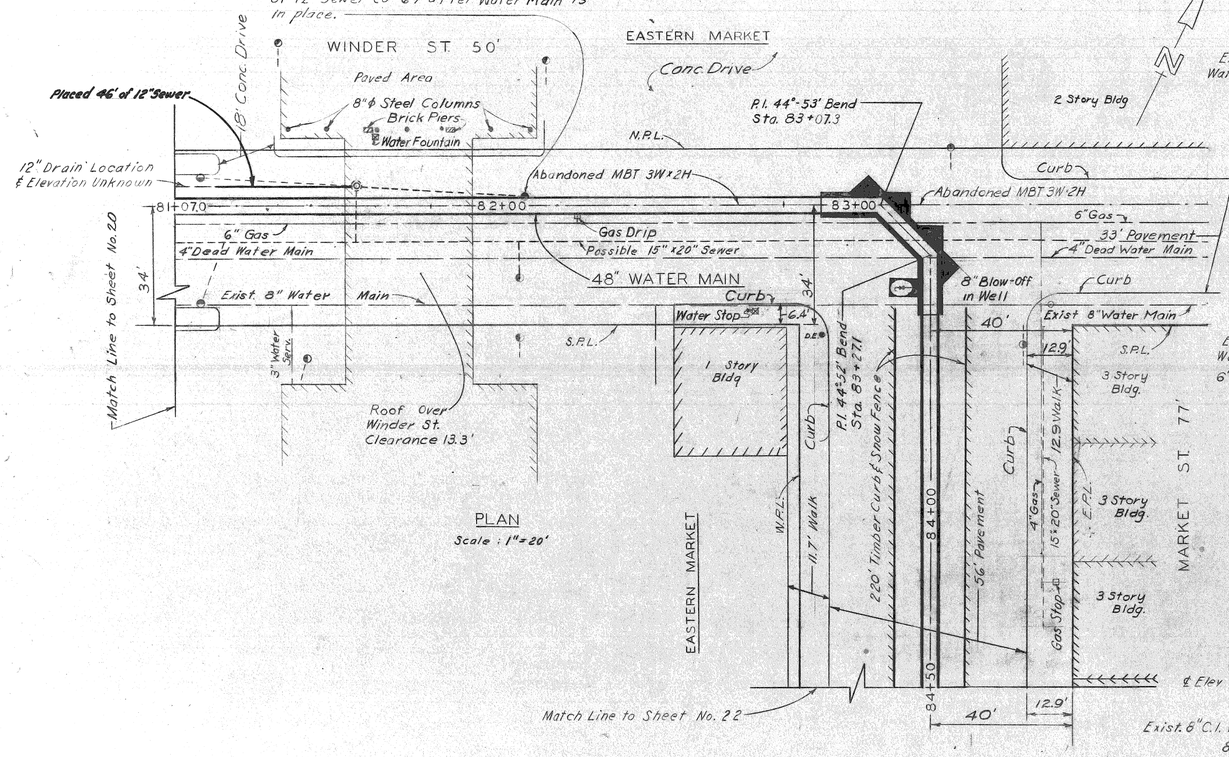
SHEET 21 OF 54

82195B CI

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT [signature]
APPROVED [signature]
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 20 OF 47

DRAWING 11808

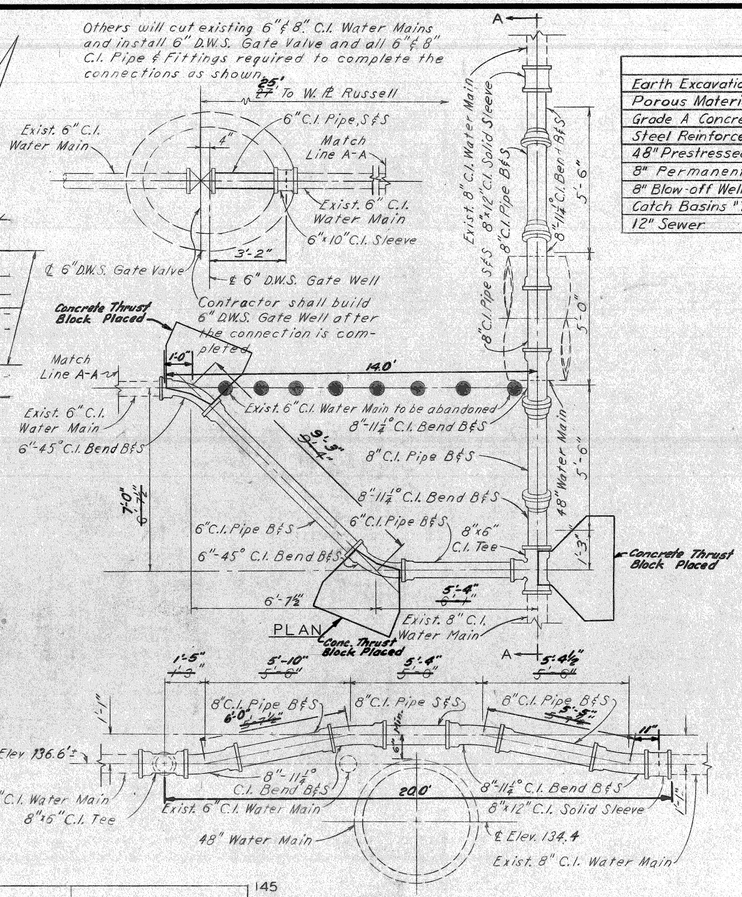
Contractor shall remove exist. Catch Basin to allow for construction of Water Main and shall construct C.B. "Y" (S.C.) (5'-6") & 6' of 12" Sewer (0'-6") after Water Main is in place.



PLAN

Scale: 1"=20'

Others will cut existing 6" & 8" C.I. Water Mains and install 6" D.W.S. Gate Valve and all 6" & 8" C.I. Pipe & Fittings required to complete the connections as shown.



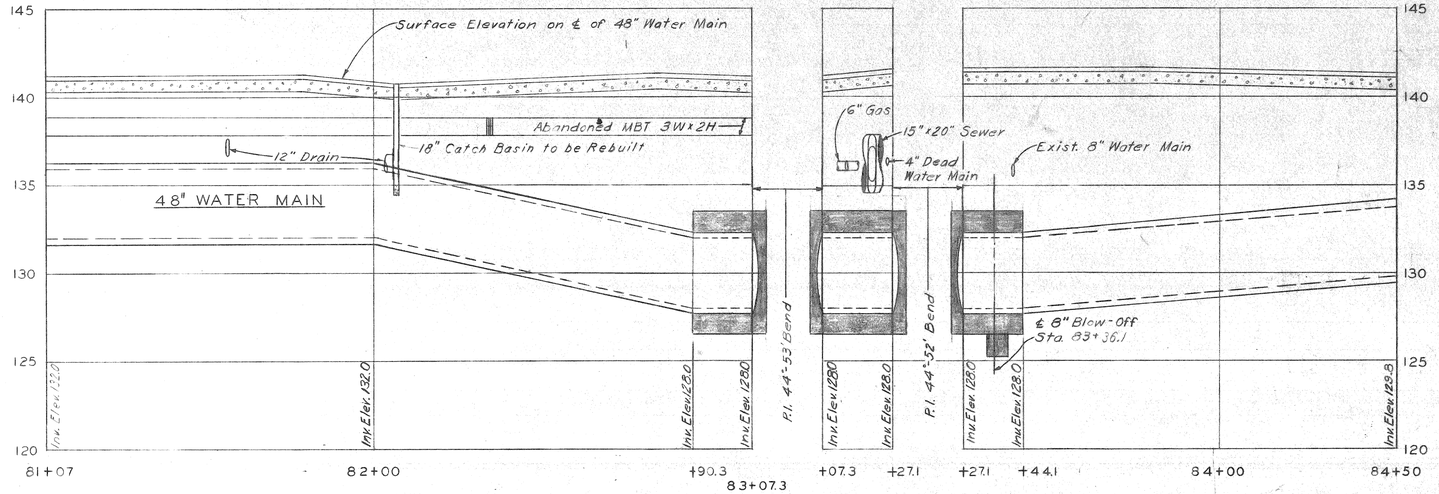
ELEVATION A-A

DETAIL OF 8" & 6" C.I. WATER MAIN RELOCATION AT RUSSELL

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

QUANTITIES

ITEM		AMOUNT
Earth Excavation	Auth. #1014	1018 ~~1028~~ C.Y.
Porous Material-Grade A (Compacted in place)	Auth. #1014	757 ~~699~~ C.Y.
Grade A Concrete		89 C.Y.
Steel Reinforcement		4967 Lb.
48" Prestressed Conc. Embedded Steel Cyl. Water Main		343 L.F.
8" Permanent Blow-offs		1 Ea.
8" Blow-off Wells		1 Ea.
Catch Basins "Y" (With Salv. Frame & Cover	(0'-6')	1 Ea.
12" Sewer	Auth. #1015 (0'-6')	46 ~~6~~ L.F.



PROFILE

Scale: Horiz. 1"=20'
Vert. 1"=4'

REFERENCE DRAWINGS

Plan & Profile Sta. 76+79 to Sta. 81+07	Dwg. No.	20
Encasement Details	Dwg. No.	30
Reinforcemt Details	Dwg. No.	34
Blow-Off Well Details	Dwg. No.	40

CONTROL SECTION 82195E

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY

CORRECT: [signature]
APPROVED: [signature]
DATE: 4-2-62

JOB NO. D-406-6
DRAWING NO. 21 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

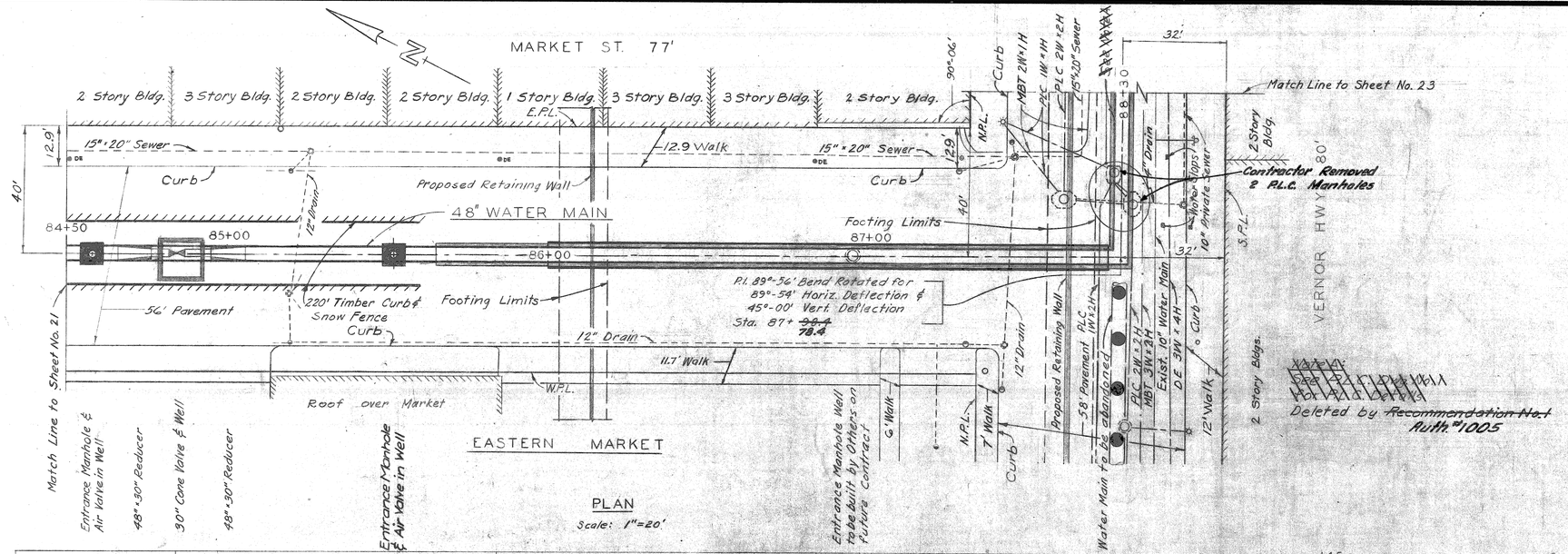
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 81+07 TO STA. 84+50
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	R.J.S.	1-16-62
TRACED BY	J.E.P.	2-15-62
CHECKED BY	W.R.C.	3-27-62
SHEET	22 OF 54	

82195B C1



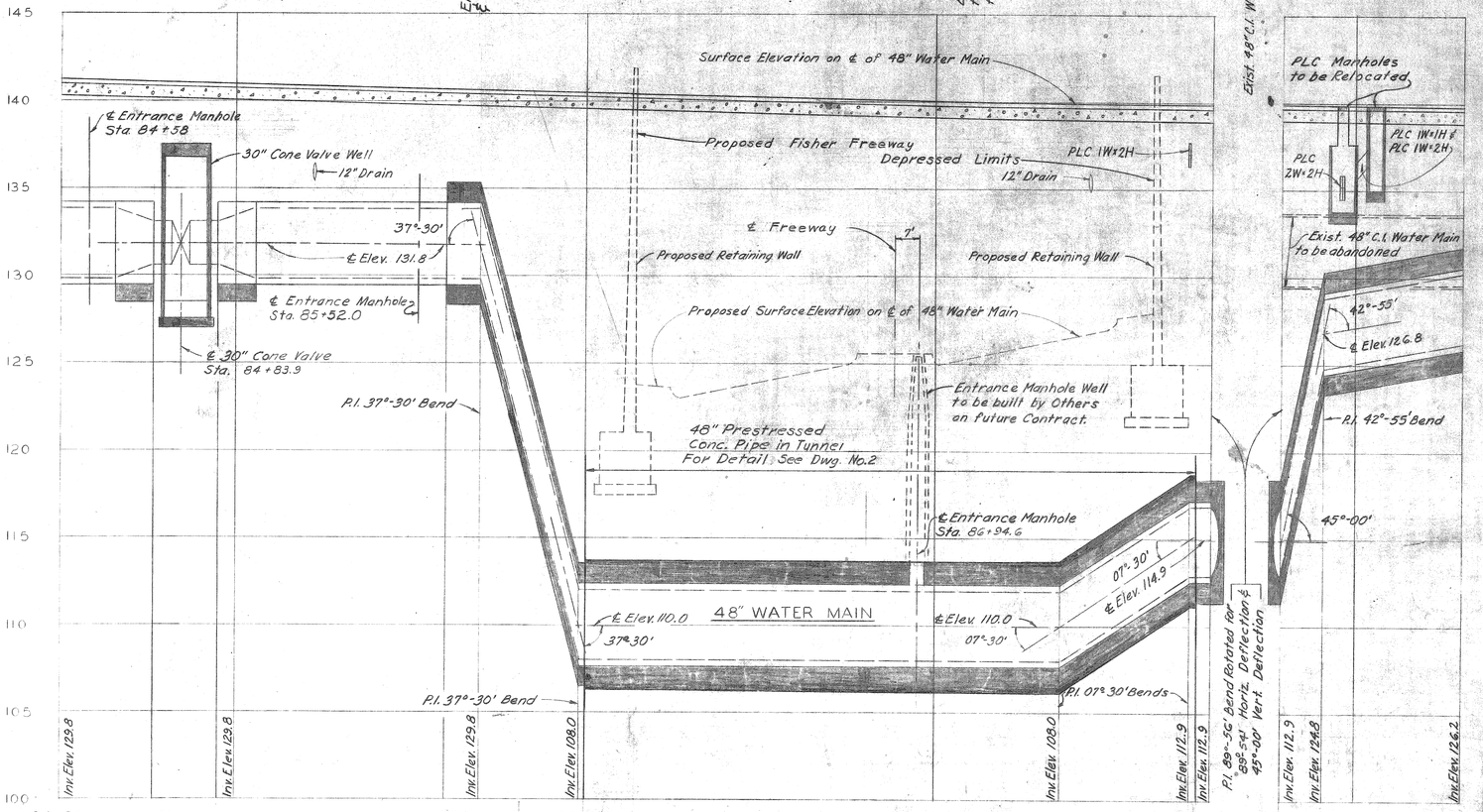
PLAN

Scale: 1"=20'

QUANTITIES

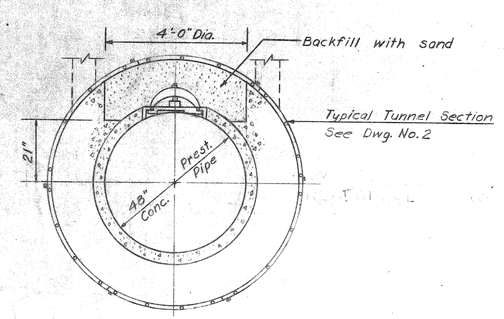
ITEM		AMOUNT
Earth Excavation	Auth. #1014 938	~~806~~ C.Y.
Porous Material-Grade A (Compacted in place)	Auth. #1014 633	~~553~~ C.Y.
Grade A Concrete		270 C.Y.
Entrance Manhole Wells		2 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main		373 L.F.
30" C.I. Water Main		15 L.F.
30" Cone Valves		1 Ea.
30" Cone Valve Well		1 Ea.
7'-0" Dia. Tunnel		175 L.F.

Note:
The Reinforcing Steel for this drawing is included in the quantities shown on Dwg. No. 23.



PROFILE

Scale: Horiz. 1"=20'
Vert. 1"=4'



ENTRANCE MANHOLE & AIR VALVE
STA. 86+94.6
Scale: ½"=1'

REFERENCE DRAWING

Typical Trench Section	Dwg.	No.	2
Encasement Details	Dwg.	No.	31
Reinforcement Details	Dwg.	No.	34
Entrance Manhole Well Details	Dwg.	No.	41
30" Cone Valve Well Details	Dwg.	No.	42

CONTROL SECTION 82195E

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 84+50 TO STA. 88+30
WATER SYSTEM ALTERATIONS

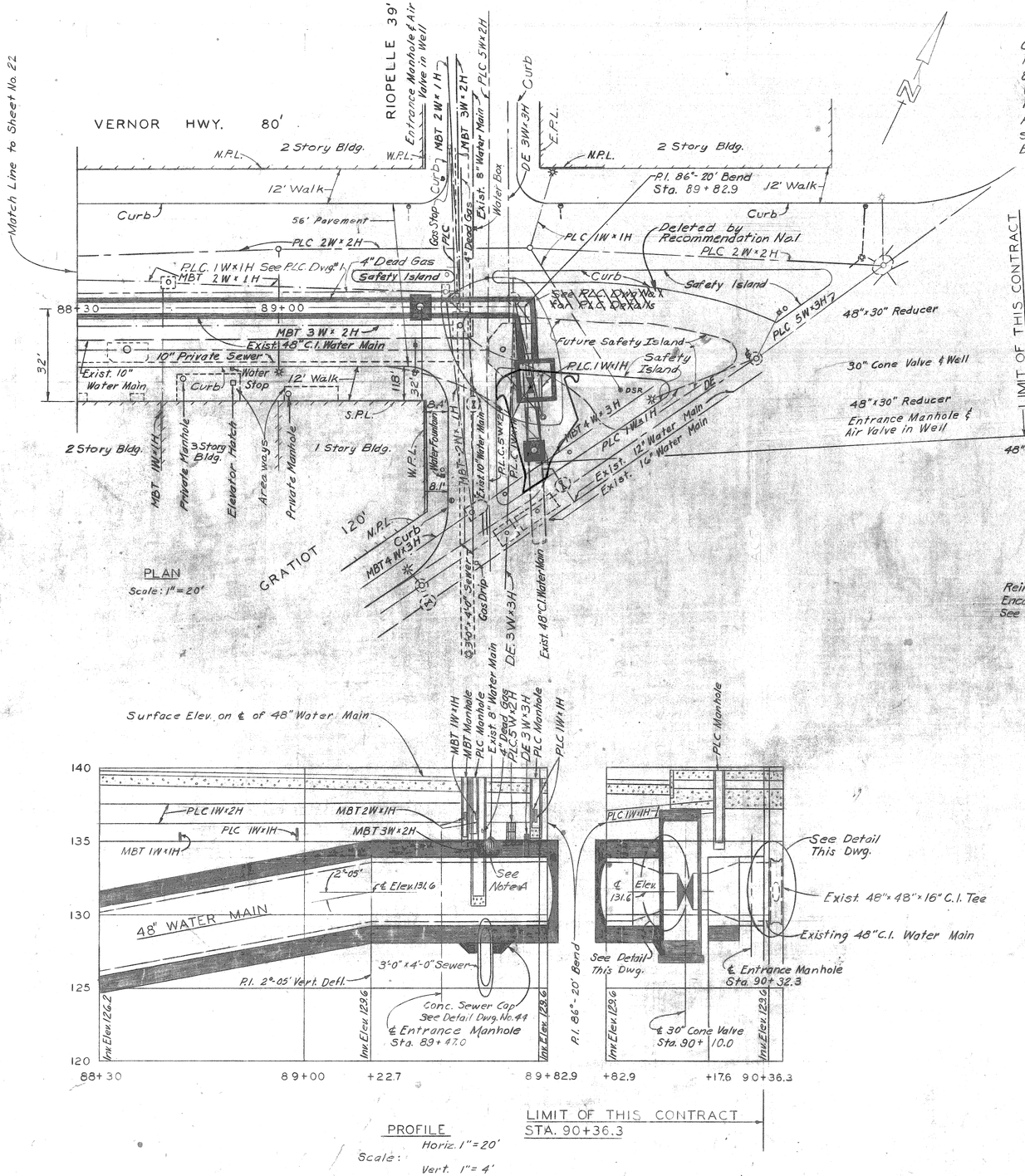
REVISIONS

NO.	DESCRIPTION	DATE	BY

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT [signature]
APPROVED [signature]
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 22 OF 47

SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	JNF	1-5-62
TRACED BY		
CHECKED BY	DRC	3-17-62
SHEET 23 OF 54		

82195B CI



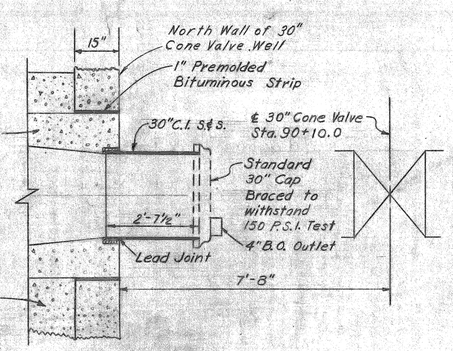
PLAN
Scale: 1" = 20'

Note A
Contractor shall install split 12" Class 100 Cement Pipe through encasement as a sleeve for Exist. 8" Water Main.
Others will remove existing 8" C.I. Pipe and install New Pipe with no joints in sleeve.
Reinforcing steel to be bent to clear 12" pipe sleeve. Concrete cover on reinforcing steel to be a minimum of four inches.

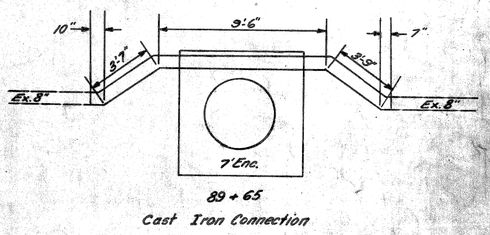
QUANTITIES

ITEM			AMOUNT
Earth Excavation	Auth. #1014	688	~~633~~ C.Y.
Porous Material-Grade A (compacted in place)	Auth. #1014	309	~~342~~ C.Y.
Grade A Concrete	Auth. #1014	205	~~286~~ C.Y.
Steel Reinforcement			34,329 Lbs.
Entrance Manhole Wells			2 Ea.
48" Prestressed Conc. Embedded Steel Cyl. Water Main			190 L.F.
30" C.I. Water Main	Auth. #1042	10	~~15~~ L.F.
30" Cone Valves			1 Ea.
30" Cone Valve Wells			1 Ea.
8" C.I. Water Main, Furnished	Auth. #2023		18 L.F.
Water Main Trench (for work by D.W.S.)	Auth. #1042		192 L.F.

Note:
Reinforcing Steel in this Quantity Box includes steel on Dwg. No. 22.



DETAIL OF NORTH WALL OF 30" CONE VALVE WELL AT VERNOR & RIOPELLE
Scale: ½" = 1.0'



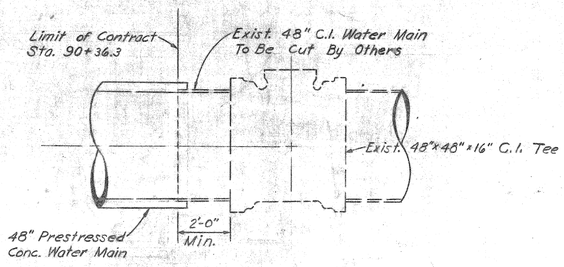
89+65
Cast Iron Connection

REFERENCE DRAWINGS

Encasement Details	Dwg.	No. 31
Reinforcement Details	Dwg.	No. 34
Entrance Manhole Well Details	Dwg.	No. 41
30" Cone Valve Well Details	Dwg.	No. 42

PROFILE
Scale: Horiz. 1" = 20'
Vert. 1" = 4'

LIMIT OF THIS CONTRACT STA. 90+36.3



CONNECTION OF NEW 48" P.S. WATER MAIN TO EXISTING 48" C.I. WATER MAIN AT RIOPELLE & GRATIOT
Scale: 3/8" = 1.0'

CONTROL SECTION 82195E

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT: [signature]
APPROVED: [signature]
DATE: 4-2-62
JOB NO. D-406-6
DRAWING NO. 23 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
PLAN AND PROFILE STA. 88+30 TO STA. 90+36.3
WATER SYSTEM ALTERATIONS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	JNF	3-16-62
TRACED BY		
CHECKED BY	D.R.C.	3-23-62
SHEET	24 OF 52	

82195B CI

Note:
All encasements shall be poured against undisturbed earth.

PLAN OF REINFORCED CONCRETE ENCASEMENT STA. 0-34.0 TO STA. 5+10.2 Scale: 3/16"=1'-0"

LOCATION PLAN OF REINFORCED CONCRETE ENCASEMENT AT STA. 0-34.0 TO STA. 5+10.2
Not to Scale

DETAIL A
Not to Scale

DETAIL OF ANCHOR BOLTS
Not to Scale

SECTION B-B
Scale: 1/4"=1'-0"

SECTION A-A
Scale: 1/4"=1'-0"

ELEVATION E-E
Scale: 3/16"=1'-0"

CONTROL SECTION 82195B

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

ENCASEMENT DETAILS STA. 0-34 TO STA. 5+10.2

WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 24 OF 47

SQUAD BOSS	W.A.H.	3-24-62
DRAWN BY	E.M.C.	3-1-62
TRACED BY		
CHECKED BY	E.M.C.	3-21-62

SHEET 23 OF 52

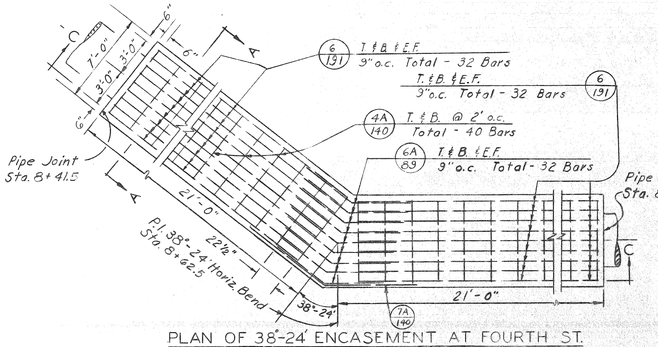
82195B C1

NOTES:

All encasements shall be poured against undisturbed earth.

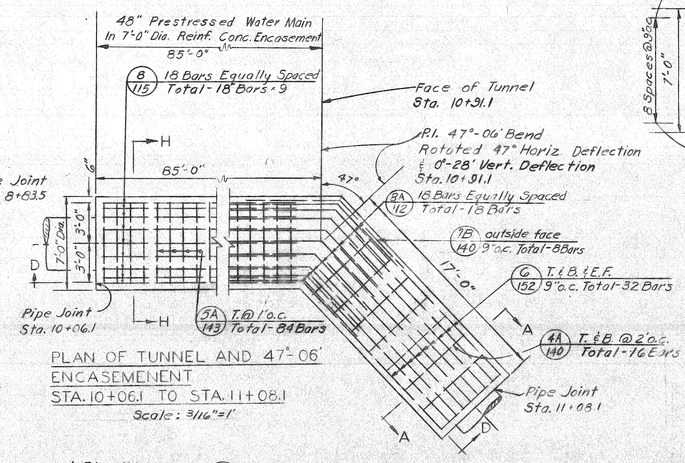
For the Bar Schedule and Bent Bar Details see Dwg. No.

Bottom 3" of encasement may be poured separate from encasement and used as a subfooting (See Specifications.)



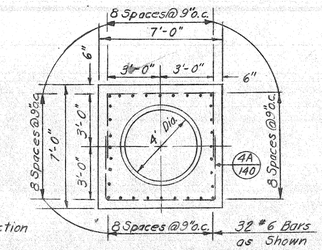
PLAN OF 38°-24' ENCASEMENT AT FOURTH ST.

Scale: 3/16" = 1'



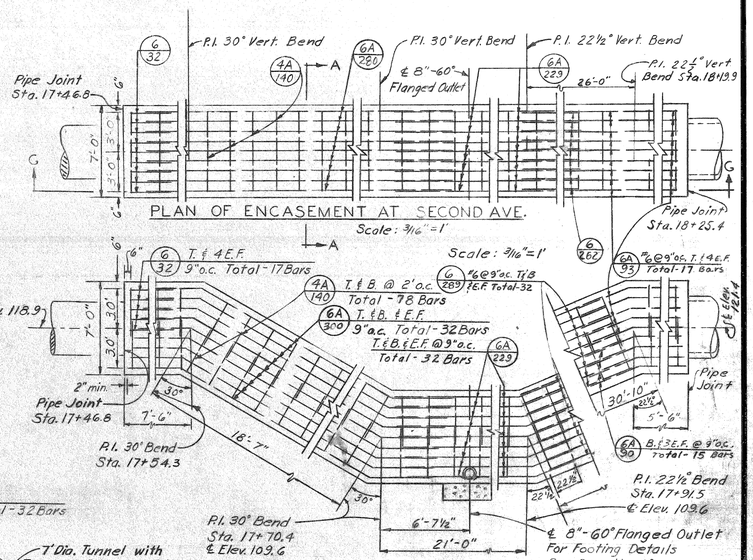
PLAN OF TUNNEL AND 47°-06' ENCASEMENT STA. 10+06.1 TO STA. 11+08.1

Scale: 3/16" = 1'



SECTION A-A

Scale 1/4" = 1'

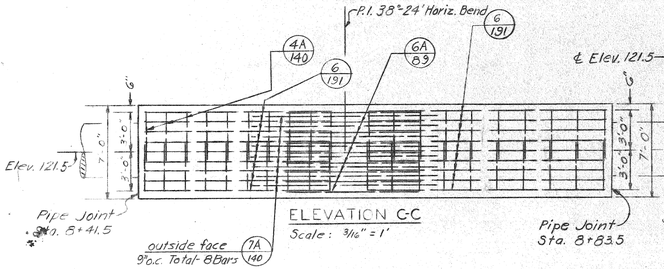


PLAN OF ENCASEMENT AT SECOND AVE.

Scale: 3/16" = 1'

ELEVATION G-G

Scale: 3/16" = 1'

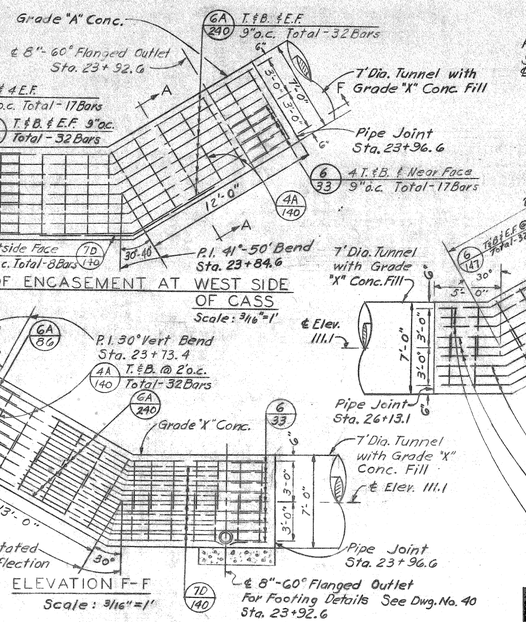


ELEVATION C-C

Scale: 3/16" = 1'

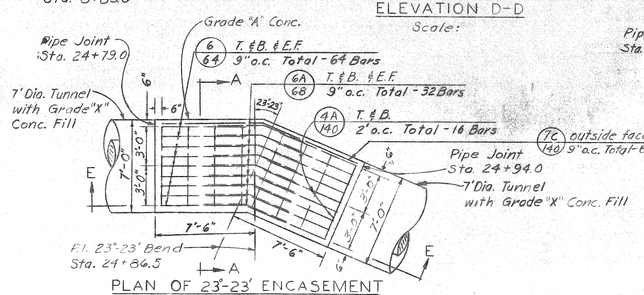
ELEVATION D-D

Scale:



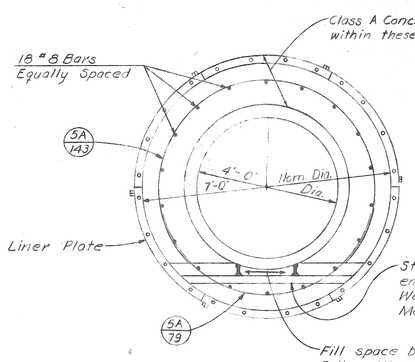
PLAN OF ENCASEMENT AT WEST SIDE OF CASS

Scale: 3/16" = 1'



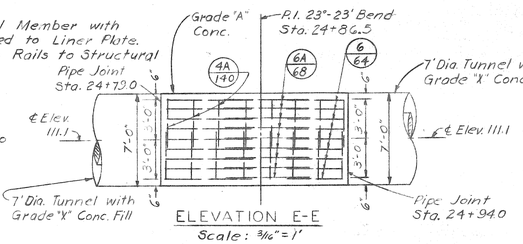
PLAN OF 23°-23' ENCASEMENT AT EAST SIDE OF CASS

Scale: 3/16" = 1'



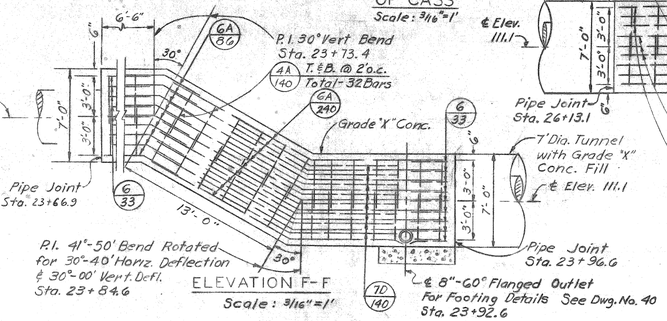
SECTION H-H

Scale: 1/2" = 1'



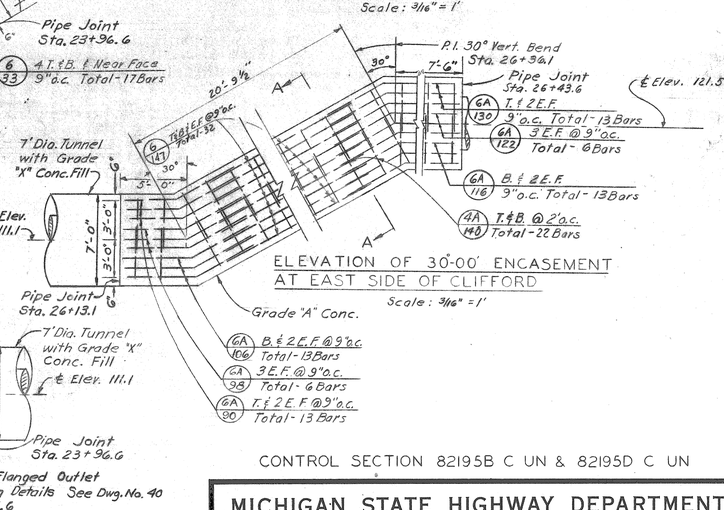
ELEVATION E-E

Scale: 3/16" = 1'



ELEVATION F-F

Scale: 3/16" = 1'



ELEVATION OF 30°-00' ENCASEMENT AT EAST SIDE OF CLIFFORD

Scale: 3/16" = 1'

Note:

Tunnels at Grand River and at Vernor are to be filled with Class A Concrete as shown above. Tunnels at Cass and Clifford are to be filled with Grade X Concrete.

CONTROL SECTION 82195B C UN & 82195D C UN

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

ENCASEMENT DETAILS STA. 8+41.5 TO STA. 26+43.6

WATER SYSTEM ALTERATIONS

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY

CORRECT [signature]

APPROVED [signature]

DATE 4-2-62

JOB NO. D-406-6

SHEET NO. 25 OF 47

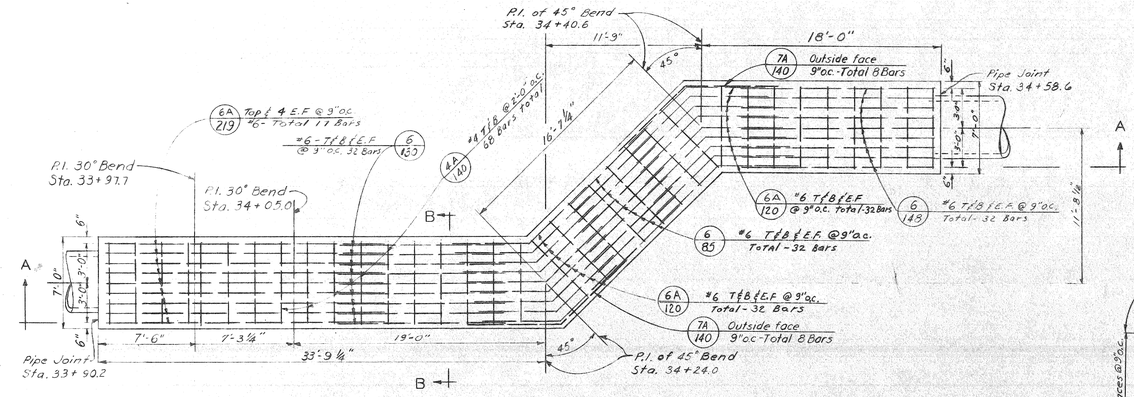
SQUAD BOSS	W.A.H.	3-21-62
DRAWN BY	J.E.P.	2-2-62
TRACED BY		
CHECKED BY	E.M.B.	3-21-62

SHEET 26 OF 54

REVISIONS

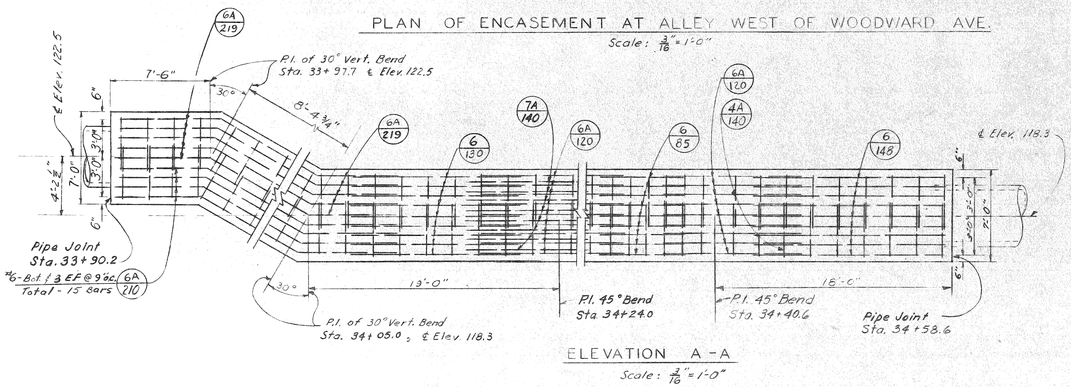
NO.	DESCRIPTION	DATE	BY

82195B C1



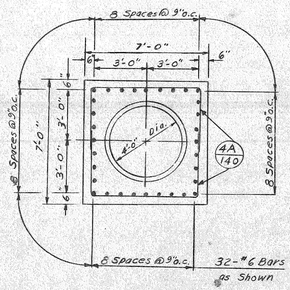
PLAN OF ENCASEMENT AT ALLEY WEST OF WOODWARD AVE.

Scale: 3/16" = 1'-0"



ELEVATION A-A

Scale: 3/16" = 1'-0"



SECTION B-B

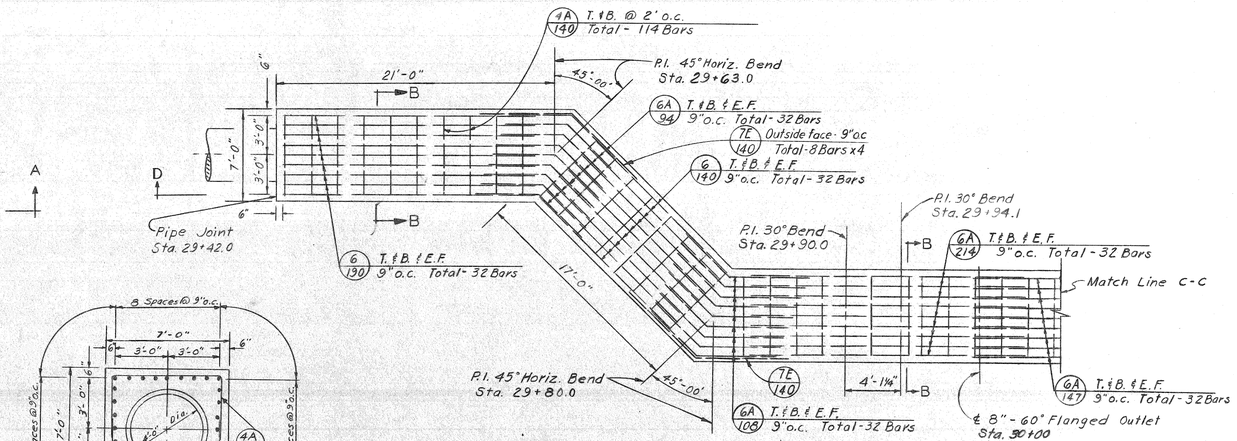
Scale: ½" = 1'

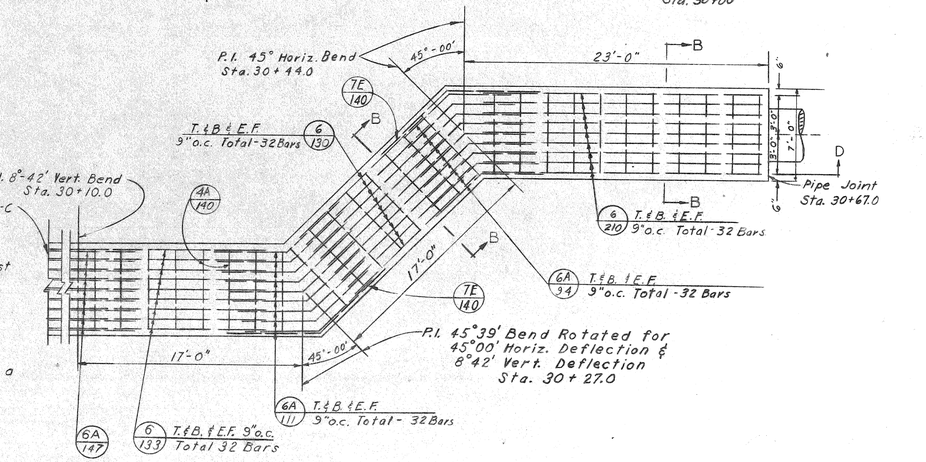
NOTES:

All encasements shall be poured against undisturbed earth.

For the Bar Schedule and Bent Bar Details see Dwg. No. 32 & No. 33

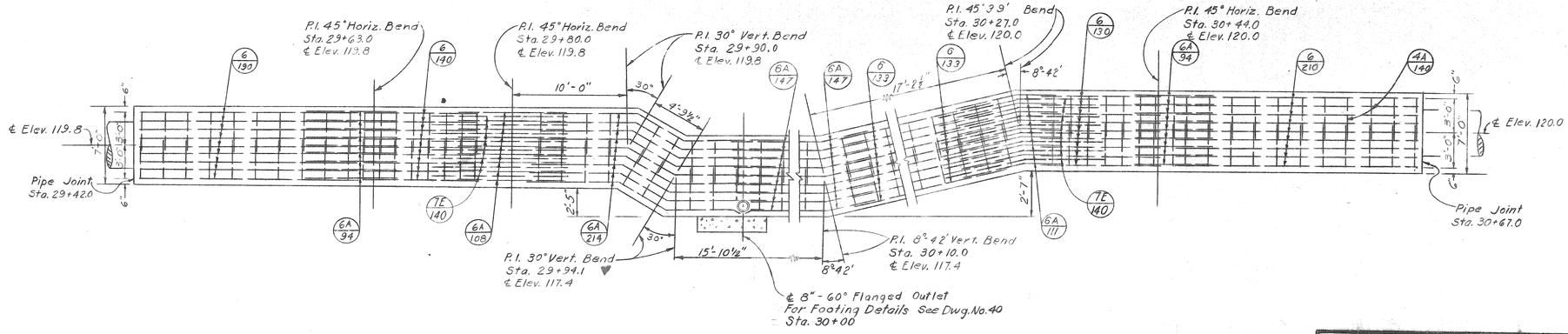
Bottom 3" of encasement may be poured separate from encasement and used as a subfooting (See Specifications.)





PLAN OF ENCASEMENT AT PARK AVE

Scale: 3/16" = 1'



ELEVATION D-D

Scale: 3/16" = 1'

CONTROL SECTION 82195D

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT W. H. Stewart

APPROVED A. Douglas

DATE 4-2-62

JOB NO. D-406-6

DRAWING NO. 26 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

ENCASEMENT DETAILS STA. 29+42 TO STA. 34+58.6

WATER SYSTEM ALTERATIONS

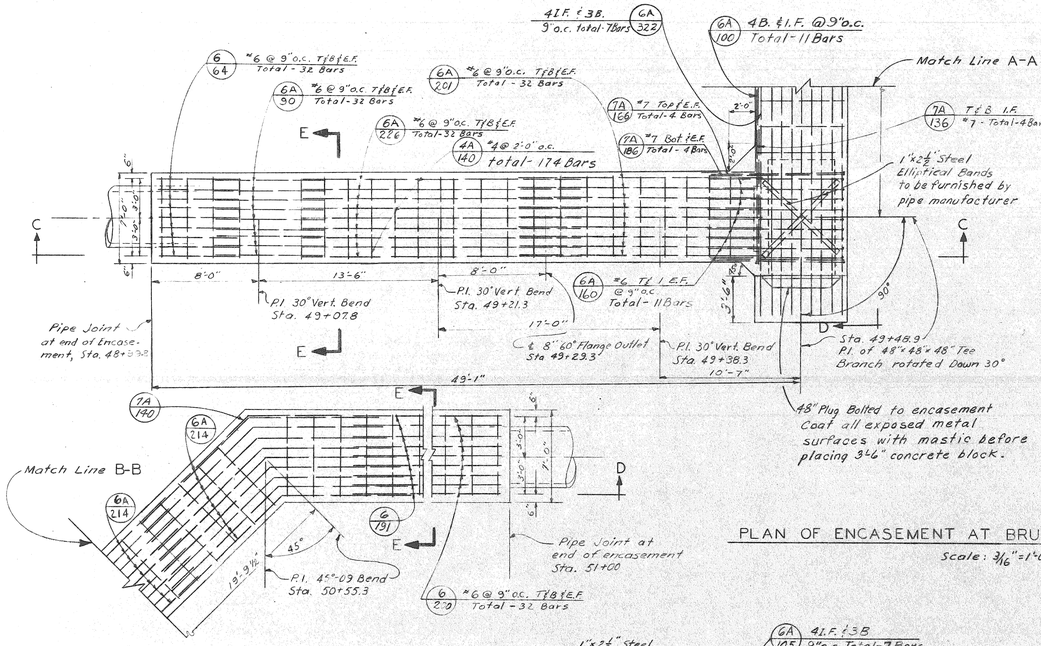
REVISIONS

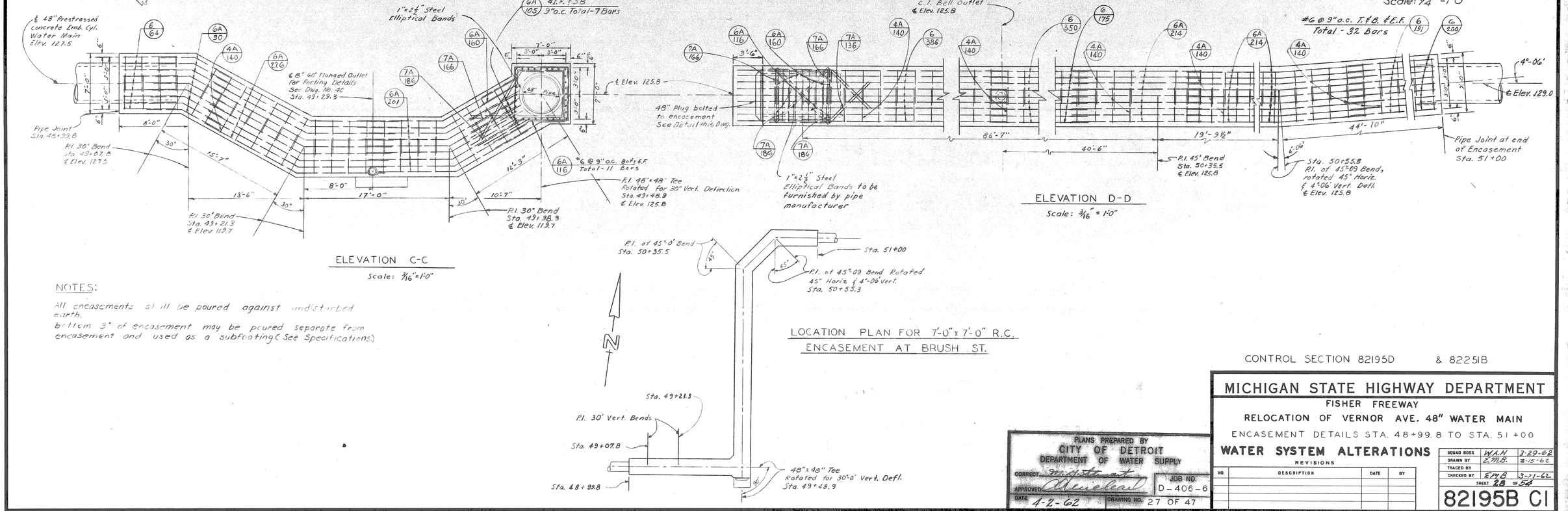
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-21-62
DRAWN BY	E.B.	1-23-62
TRACED BY	J.E.P.	1-31-62
CHECKED BY	E.M.B.	3-21-62

SHEET 27 OF 54

82195B C1





NOTES:

All encasements shall be poured against undisturbed earth.
bottom 3" of encasement may be poured separate from encasement and used as a subfooting (See Specifications)

CONTROL SECTION 82195D & 82251B

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT: [signature]
APPROVED: [signature]
DATE: 4-2-62
JOB NO. D-406-6
DRAWING NO. 27 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

ENCASEMENT DETAILS STA. 48+99.8 TO STA. 51+00

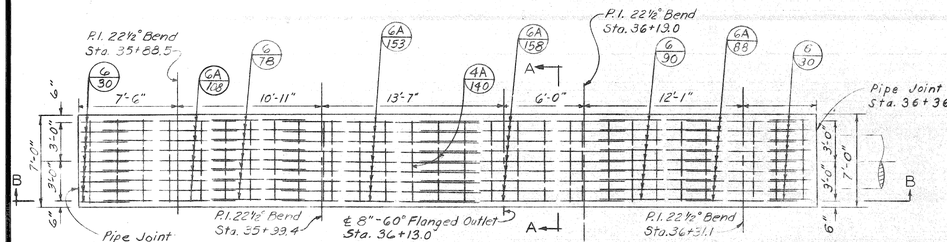
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

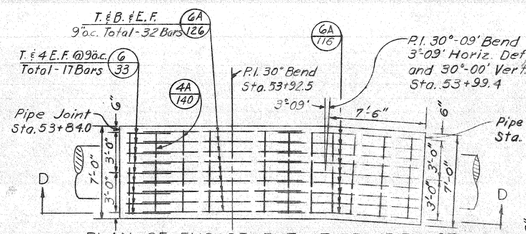
SQUAD BOSS	W.A.H.	7-29-62
DRAWN BY	E.M.B.	8-15-62
TRACED BY		
CHECKED BY	E.M.B.	9-21-62
SHEET 28 OF 54		

82195B C1



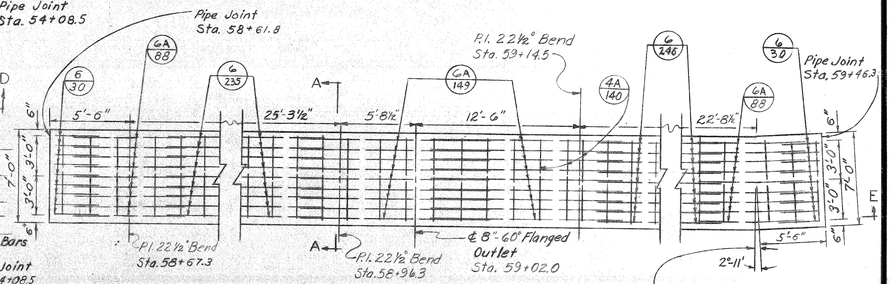
PLAN OF ENCASEMENT AT WOODWARD AVE.

Scale: 3/16" = 1'



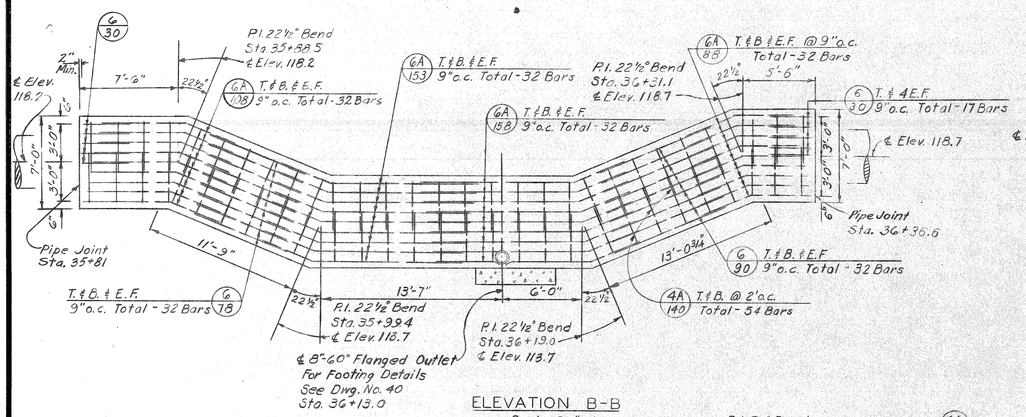
PLAN OF ENCASEMENT AT BEAUBIEN ST.

Scale: 3/16" = 1'



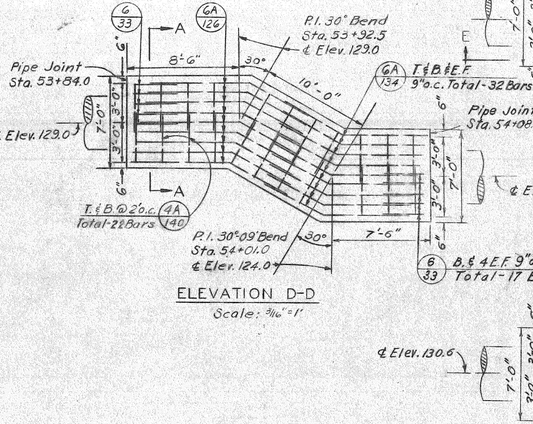
PLAN OF ENCASEMENT AT ST. ANTOINE ST.

Scale: 3/16" = 1'-0"



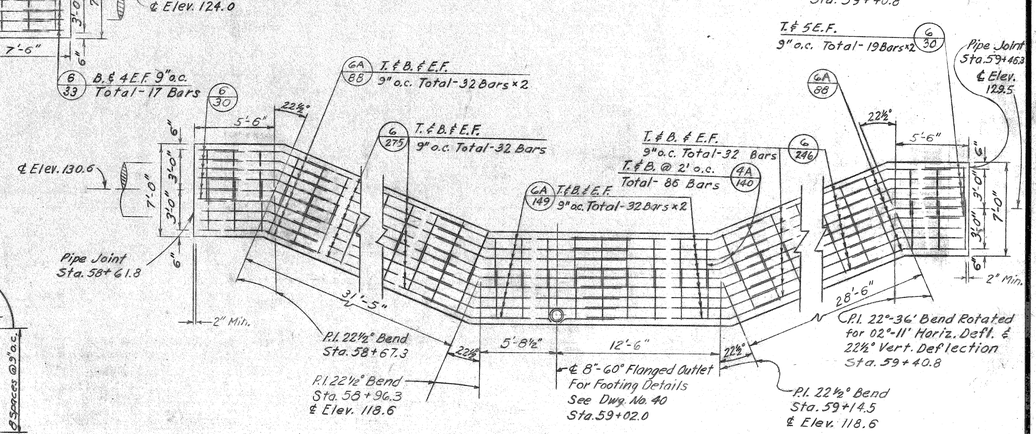
ELEVATION B-B

Scale: 3/16" = 1'



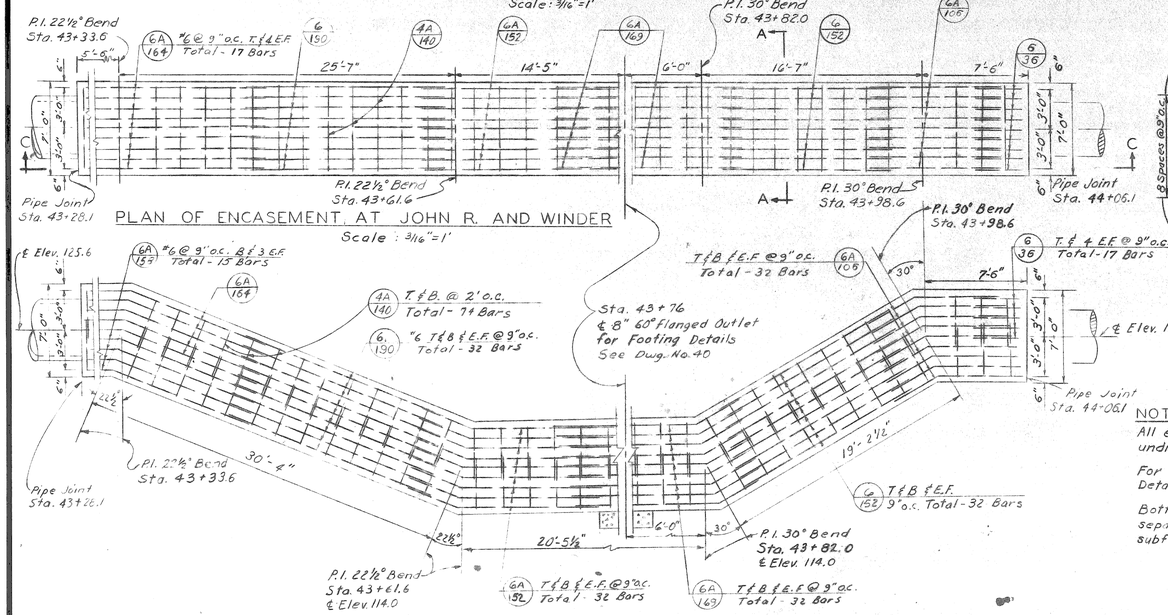
ELEVATION D-D

Scale: 3/16" = 1'



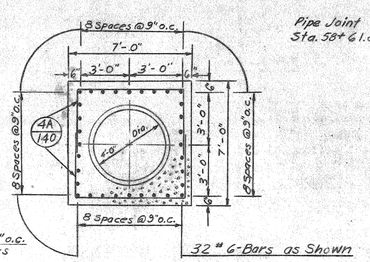
ELEVATION E-E

Scale: 3/16" = 1'-0"



ELEVATION C-C

Scale: 3/16" = 1'-0"



SECTION A-A

Scale: 1/4" = 1'

NOTES:

All encasements shall be poured against undisturbed earth.

For the Bar Schedule and Bent Bar Details see Dwg. No.

Bottom 3" of encasement may be poured separate from encasement and used as a subfooting (See Specifications.)

CONTROL SECTION 82195D & 82251B

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY

CORRECT [signature]

APPROVED [signature]

DATE 4-2-62

JOB NO. D-406-6

DRAWING NO. 28 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

ENCASEMENT DETAILS STA. 35+81 TO STA. 59+46.3

WATER SYSTEM ALTERATIONS

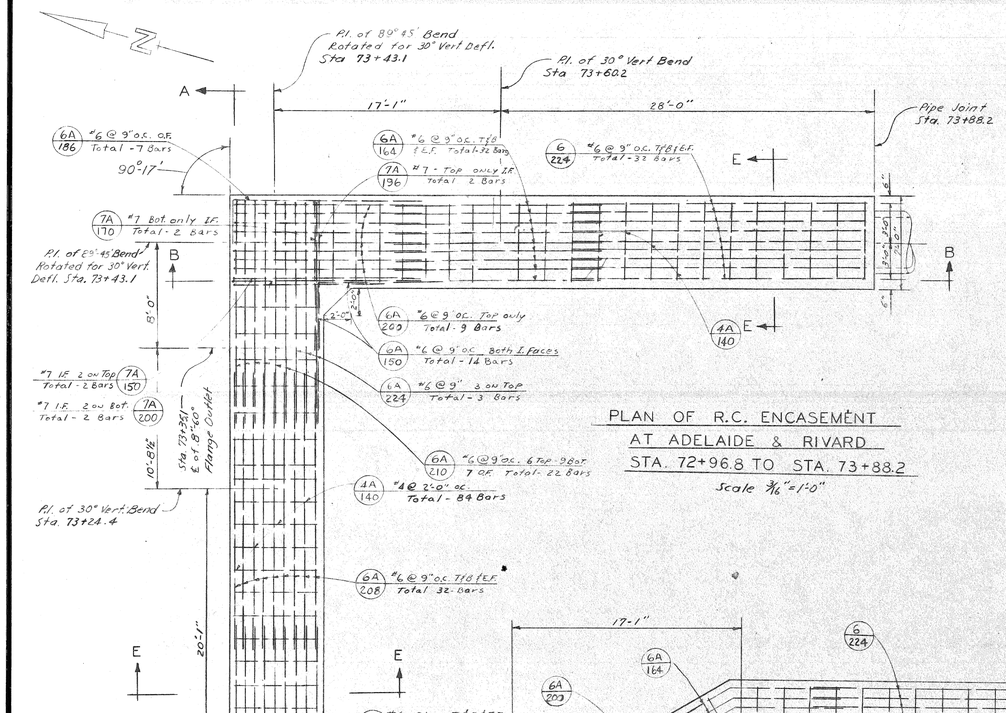
REVISIONS

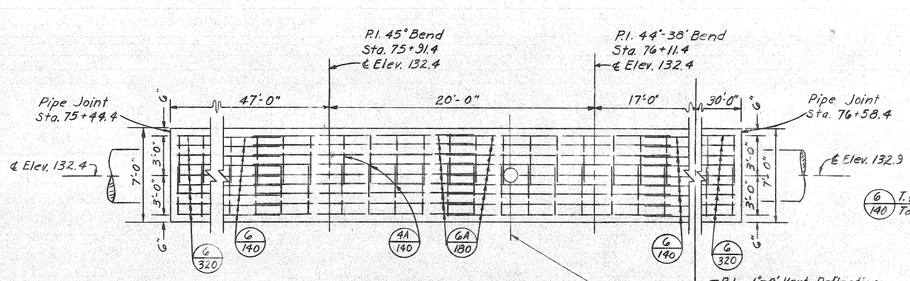
NO.	DESCRIPTION	DATE	BY

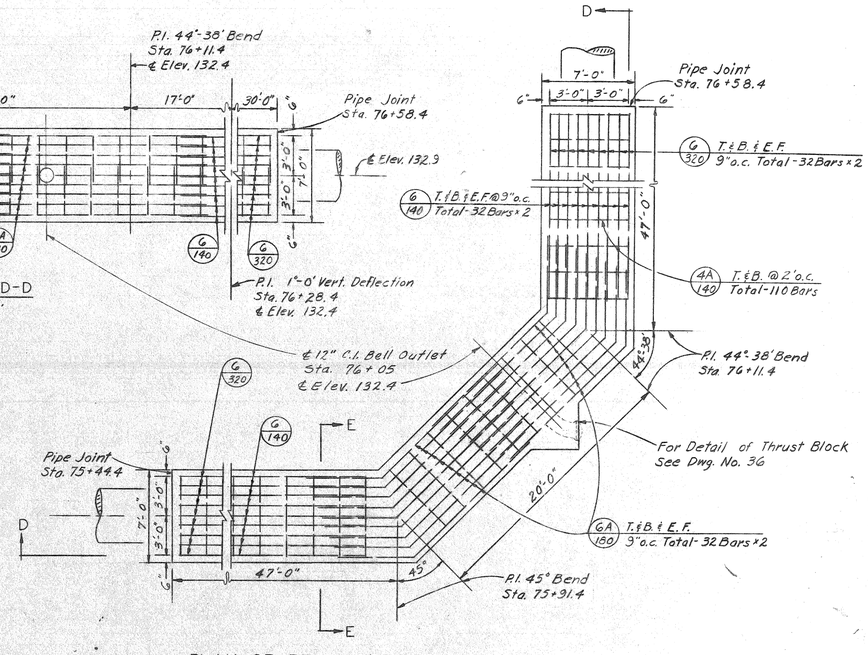
SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	J.E.P.	2-21-62
TRACED BY	J.N.F.	2-23-62
CHECKED BY	E.M.G.	3-27-62

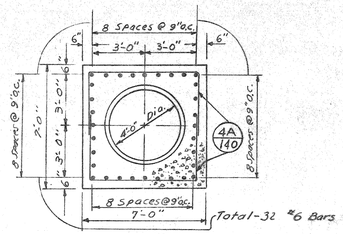
SHEET 29 OF 52

82195B C1









Delete Entire Sheet By ~~Rec. No. H.~~ See Dwg. No 29A — Auth. #E1005

This Sheet VOID See Sheet #29A

NOTES

All encasements shall be poured against undisturbed earth. Bottom 3" of encasement may be poured separate from encasement and used as a subfooting (See Specifications). For the Reinforcing Steel Bar Schedule and Bent Bar Details See Dwg. No.

CONTROL SECTION 82251B

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY
CORRECT: [signature]
APPROVED: [signature]
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 29 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

ENCASEMENT DETAILS STA. 72+96.8 TO STA. 76+58.4

WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY
	THIS Dwg. Voided	3-62	[illegible]
	See Dwg. No 29A		

SQUAD BOSS	W.A.H	3-29-62
DRAWN BY	[illegible]	2-16-62
TRACED BY	JEP	3-27-62
CHECKED BY	EMB	3-28-62
SHEET	30 OF 54	

82195B C1

STATION EQUATION
STA. 76+11.4 AHEAD = STA. 76+19.68 BACK

Pipe Joint Sta. 76+24.3
℄ Elev. 132.4
P.I. 30° Vert. Bend Sta. 76+16.8
P.I. 30° Vert. Bend Sta. 76+06
P.I. 30° Vert. Bend Sta. 75+85.8
P.I. 30° Vert. Bend Sta. 75+65
P.I. 89°-38' Horiz. Bend Sta. 75+10.5
7'-6" | 19'-1" | 20'-2½" | 20'-9½" | 54'-5½"
T & B. & E.F. @ 9" o.c. Total - 17 Bars (G 36)
T & B. & E.F. @ 9" o.c. Total = 32×4=128 Bars (GA 129)
T & B. & E.F. @ 9" o.c. Total - 32×2=64 Bars (G 131)
8'-0"
℄ 8"-60° Flanged Outlet Sta. 75+98
T & B. & E.F. @ 9" o.c. Total - 32 Bars (G 151)
T & B. & E.F. @ 9" o.c. Total - 32×2=64 Bars (G 240)
T & B. & O.F. @ 9" o.c. Total - 43 Bars (GA 160)
Inside Face Only @ 9" o.c. Total - 8 Bars (BA 169)
Typ. T & B. @ 2' o.c. Total 166 Bars (4A 140)
T & B. & E.F. @ 9" o.c. Total - 32×2=64 Bars (G 215)
℄ 10" Class 100 Cement Asbestos Pipe Sleeve
46'-5½"
47'-0"
3'-6" | 3'-0" | 7'-0"

PLAN OF R.C. ENCASEMENT IN WINDER ST.
FROM STA. 74+64 TO STA. 76+24.3 (EQUATED)
Scale: 3/16" = 1'-0"

P.I. 89°-38' Bend Sta. 75+10.5
℄ 10" Class 100 Cement Asbestos Pipe Sleeve
4'-0" | 1'-1" | 4'-0" | 46'-5½" | 4"±
Pipe Joint Sta. 74+64
℄ Elev. 133.4
Outside Face Only @ 9" o.c. Total - 7 Bars (G 100)

ELEVATION A-A
Scale: 3/16" = 1'-0"

8 Spaces @ 9" o.c. = 3'-0"
48" Dia.
8 Spaces @ 9" o.c. = 7'-0"

SECTION C-C
Scale: 1/4" = 1'-0"

Pipe Joint Sta. 74+64
6" | 3'-0" | 3'-0" | 6" = 7'-0"
℄ Elev. 133.4

P.I. 89°-43' Bend Sta. 72+48
T & B. @ 2' o.c. Total - 88 Bars (4A 140)
T & B. & O.F. @ 9" o.c. Total - 25 Bars (GA 206)
T & B. & E.F. @ 9" o.c. Total - 32 Bars×2 (G 350)
Pipe Joint Sta. 72+95
℄ Elev. 134.1
47'-0"
3'-0" | 3'-6" = 7'-0"
I.F. Only @ 9" o.c. Total - 7 Bars×2 (GA 126)
T & B. @ 9" o.c. Total - 18 Bars (GA 206)

PLAN OF R.C. ENCASEMENT IN ADELAIDE ST.
FROM STA. 72+01 TO STA. 72+95
Scale: 3/16" = 1'

P.I. 89°-43' Bend Sta. 72+48
Pipe Joint Sta. 72+01
℄ Elev. 134.1
47'-0"
3'-0" | 3'-6" = 7'-0"
O.F. Only @ 9" o.c. Total - 7 Bars (G 146)

ELEVATION D-D
Scale: 3/16" = 1'

Pipe Joint Sta. 72+01
3'-0" | 3'-0" = 7'-0"
℄ Elev. 134.1

P.I. 89°-43' Bend Sta. 72+48
T & B. on I.F. Only Total - 4 Bars×2 (BA 169)
Pipe Joint Sta. 72+95
℄ Elev. 134.1
47'-0"
3'-0" | 3'-6" = 7'-0"

ELEVATION E-E
Scale: 3/16" = 1'

P.I. 30° Vert. Bend Sta. 76+16.8 ℄ Elev. 132.4
Pipe Joint Sta. 76+24.3
℄ Elev. 132.4
7'-6"
22'-0"
30°
℄ 8"-60° Flanged Outlet Sta. 75+98 For Footing Details See Dwg. No. 40
24'-0"
54'-5½"
P.I. 89°-38' Horiz. Bend Sta. 75+10.5
℄ Elev. 133.4
Inside Face Only @ 9" o.c. Total - 7 Bars (GA 120)
P.I. 30° Vert. Bend Sta. 76+06 ℄ Elev. 121.4
8'-0"
20'-2½"
P.I. 30° Vert. Bend Sta. 75+85.8 ℄ Elev. 121.4

STATION EQUATION
STA. 76+11.4 AHEAD = STA. 76+19.68 BACK

ELEVATION B-B
Scale: 3/16" = 1'-0"

New Dwg. No. ~~30A~~ 29A
Supercedes Original
Dwg. No. ~~29~~ By ~~Rec. No. 11~~
Auth. ~~8~~ E-1005

CONTROL SECTION 82251B

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
ENCASEMENT DETAILS STA. 72+01 TO STA. 76+24.3
WATER SYSTEM ALTERATIONS

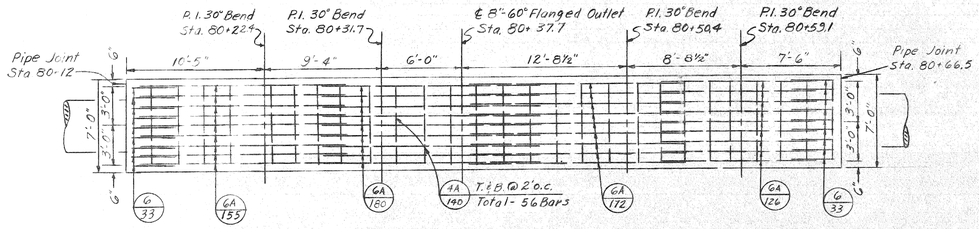
REVISIONS

NO.	DESCRIPTION	DATE	BY
	Supercedes Dwg. No 29	9-62	WAH

SQUAD BOSS			
DRAWN BY	JNF	JEP	8-30-62
TRACED BY			
CHECKED BY			

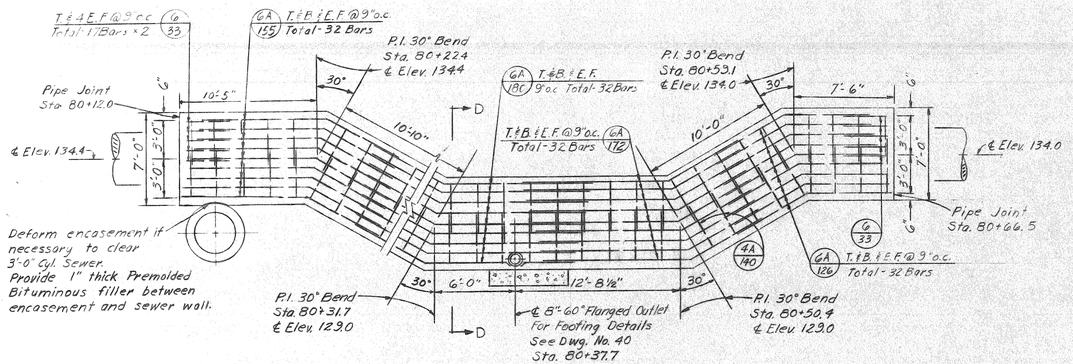
SHEET 30A OF 54

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT M. B. Stewart
APPROVED [illegible]
DATE
JOB NO. D-406-6
DRAWING NO. 29A OF 47



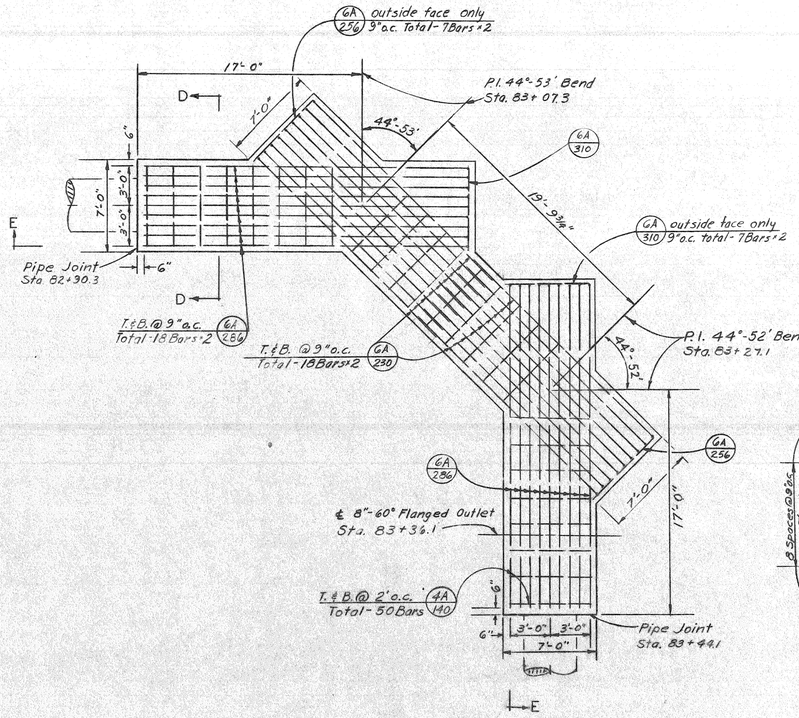
PLAN OF REINF. CONC. ENCASEMENT AT RUSSELL ST.

Scale: 3/16" = 1'



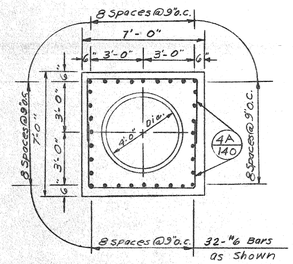
ELEVATION

Scale 3/16"=1'



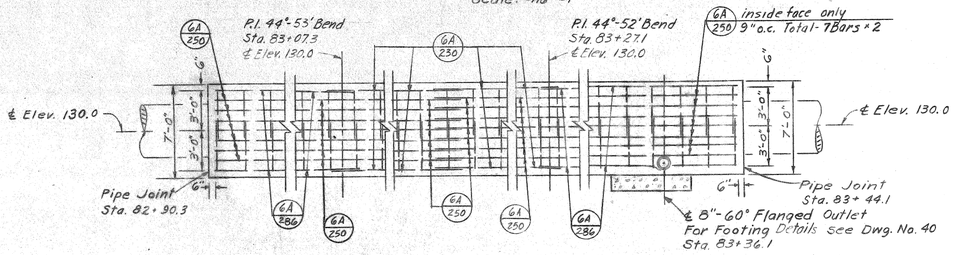
PLAN OF REINF. CONC. ENCASEMENT AT MARKET & WINDER

Scale: 3/16" = 1'



SECTION D-D

Scale: ¼" = 1'



ELEVATION E-E

Scale 3/16"=1'

NOTES:

All encasements shall be poured against undisturbed earth.
For the Bar Schedule and Bent Bar Details see Dwg. No.
Bottom 3" of encasement may be poured separate from encasement and used as a subfooting (See Specifications.)

CONTROL SECTION 82251B & 82195E

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT: [signature]
APPROVED: [signature]
DATE: 4-2-62
JOB NO. D-406-6
DRAWING NO. 30 OF 47

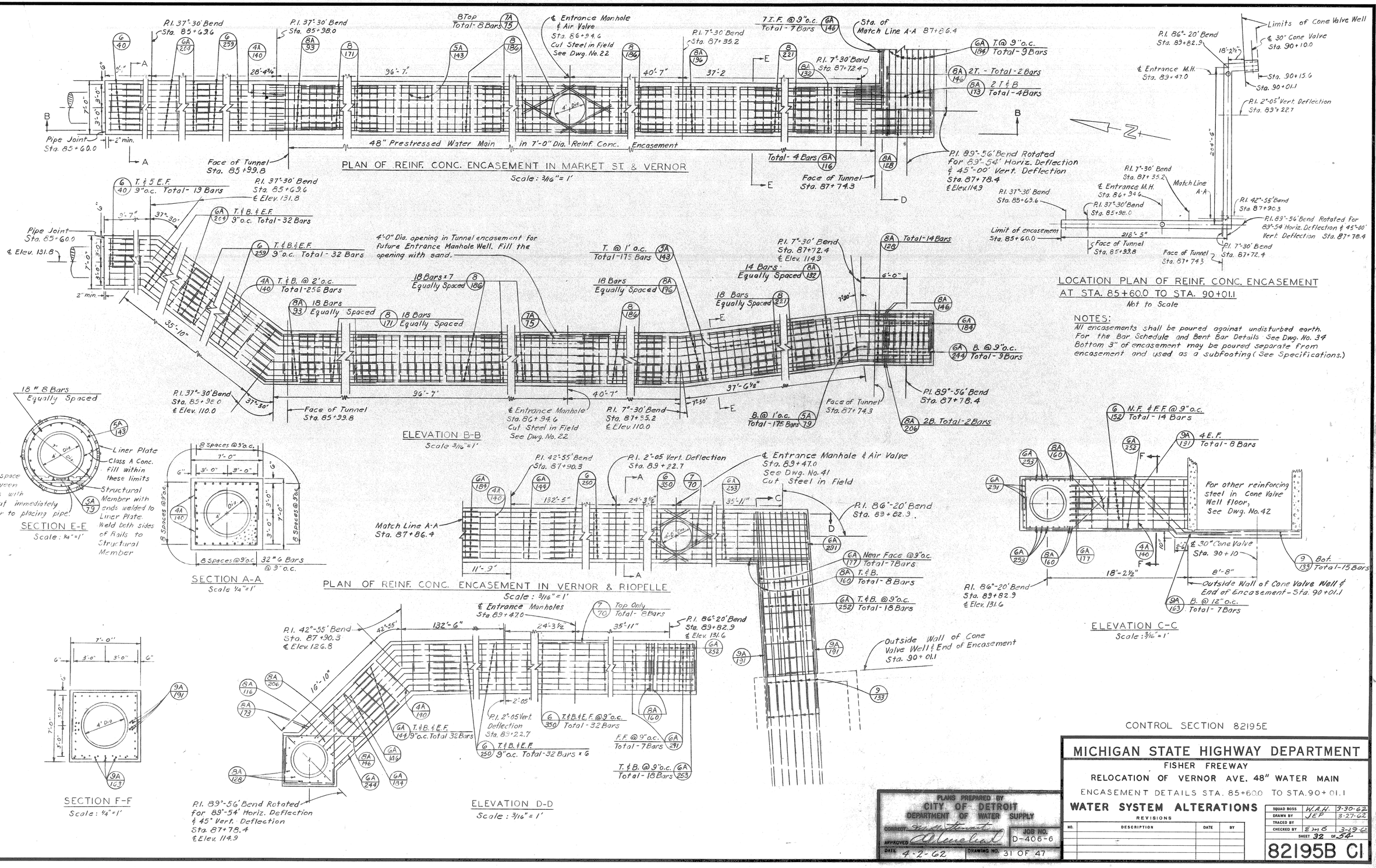
MICHIGAN STATE HIGHWAY DEPARTMENT
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
ENCASEMENT DETAILS STA. 80+12.0 TO STA. 83+44.1
WATER SYSTEM ALTERATIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	7-29-62
DRAWN BY	JEP	8-2-62
TRACED BY		
CHECKED BY	E.M.B	8-21-62

SHEET 31 OF 54

82195B C1



CONTROL SECTION 82195E

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY
CORRECT: [signature]
APPROVED: [signature]
DATE: 4-2-62
JOB NO. D-406-6
DRAWING NO. 31 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

ENCASEMENT DETAILS STA. 85+60.0 TO STA. 90+01.1

WATER SYSTEM ALTERATIONS

REVISIONS

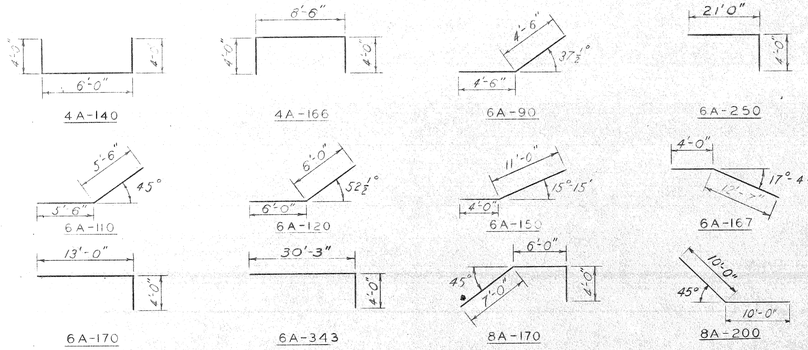
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-30-62
DRAWN BY	J.E.P.	3-27-62
TRACED BY		
CHECKED BY	E.J.M.S.	3-29-62

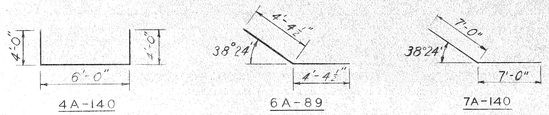
SHEET 32 OF 54

82195B C1

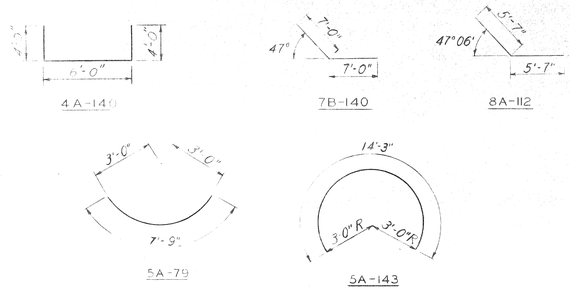
REINFORCED CONCRETE ENCASEMENT FROM STA. 0-34 TO STA. 5+10.2



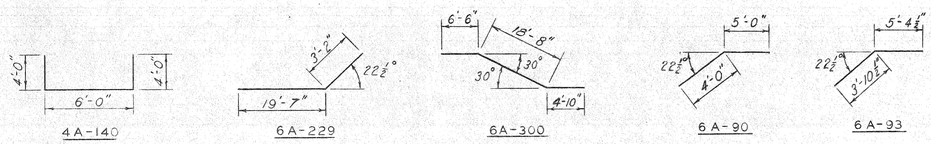
REINFORCED CONCRETE ENCASEMENT FROM STA. 8+415 TO STA. 8+835



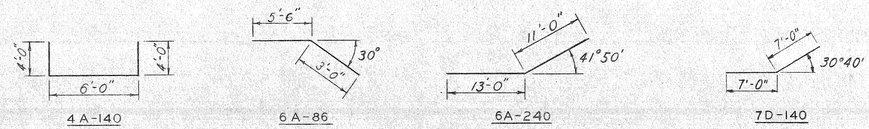
REINFORCED CONCRETE ENCASEMENT FROM STA. 10+061 TO STA. 11+081



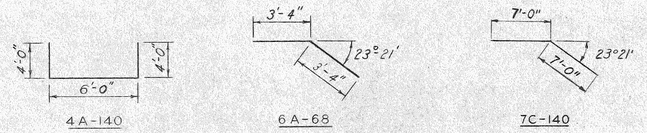
REINFORCED CONCRETE ENCASEMENT FROM STA. 17+468 TO STA. 17+25.4



REINFORCED CONCRETE ENCASEMENT FROM STA. 23+66.9 TO STA. 23+96.6

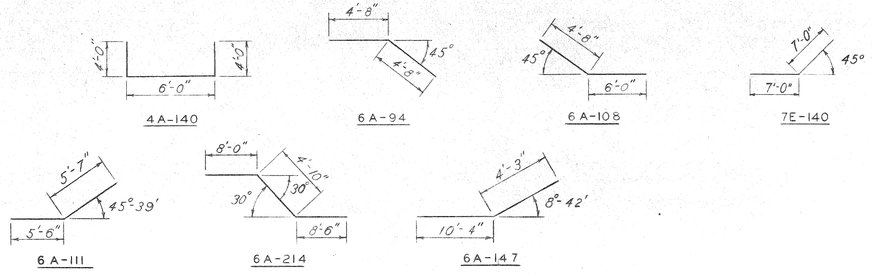


REINFORCED CONCRETE ENCASEMENT FROM STA. 24+790 TO STA. 24+94.0



REINFORCED CONCRETE ENCASEMENT FROM STA. 26+131 TO STA. 26+43.6

REINFORCED CONCRETE ENCASEMENT FROM STA. 29+42 TO STA. 30+67



BILL OF REINFORCING BARS

Mark	No.	Size	Length	Remarks	Weight
4A-140	522	# 4	14'-0"	Bent	4882
4A-166	22	# 4	16'-6"	"	242
6-180	34	# 6	18'-0"	Straight	919
6-253	160	# 6	25'3"	"	6068
6-270	224	# 6	27'-0"	"	9084
6-309	32	# 6	30'9"	"	1478
6-369	64	# 6	36'9"	"	3533
6-356	32	# 6	35'6"	"	1706
6A-90	32	# 6	9'-0"	Bent	433
6A-110	32	# 6	11'0"	"	529
6A-120	32	# 6	12'0"	"	577
6A-150	64	# 6	15'0"	"	1442
6A 167	64	# 6	16'7"	"	1594
6A 170	25	# 6	17'0"	"	638
6A 250	7	# 6	25'0"	"	263
6A 343	25	# 6	34'3"	"	1286
7-70	16	# 7	7'-0"	Straight	229
7A-90	16	# 7	9'-0"	Bent	294
8A-140	8	# 8	14'-0"	"	299
8A-170	8	# 8	17'-0"	"	363
8A 200	8	# 8	20'-0"	"	427
10A 260	8	# 10	26'-0"	"	895
4A-140	56	# 4	14'-0"	"	524
5A-79	84	# 5	7'-9"	"	679
5A-143	84	# 5	14'-3"	"	1248
6-152	32	# 6	15'-2"	Straight	729
6-191	64	# 6	19'-1"	"	1834
6A89	32	# 6	8'-9"	Bent	421
7A140	8	# 7	14'-0"	"	229
7B140	8	# 7	14'-0"	"	229
8-115	162	# 8	11'-5"	Straight	4938
8A112	18	# 8	11'-2"	Bent	537
4A140	78	# 4	14'-0"	"	729
6-32	17	# 6	3'-2"	Straight	81
6-289	32	# 6	28'-9"	"	1382
6A90	15	# 6	9'-0"	Bent	203
6A93	17	# 6	9'-3'	"	236
6A229	32	# 6	22'9"	"	1093
6A300	32	# 6	30'-0"	"	1442
4A140	72	# 4	14'-0"	"	673
6-33	31	# 6	3'-0"	Straight	166
6-64	64	# 6	6'4"	"	609
6-147	32	# 6	14'7"	"	701
6A 68	32	# 6	6'-8"	Bent	320
6A-86	32	# 6	8'-6"	"	409
6A90	13	# 6	9'-0"	"	176
6A98	6	# 6	9'-8"	"	87
6A106	13	# 6	10'-6"	"	205
6A116	13	# 6	11'6"	"	225
6A122	6	# 6	12'2"	"	110
6A130	13	# 6	13'0"	"	254
6A-240	32	# 6	24'0"	"	1154
7C140	8	# 7	14'0"	"	229
7D140	8	# 7	14'-0"	"	229
6-130	32	# 6	13'-0"	Straight	625
6-133	32	# 6	13'3"	"	637
6-140	32	# 6	14'0"	"	673
6-190	32	# 6	19'-0"	"	913
6-210	32	# 6	21'0"	"	1009
6A94	64	# 6	9'4"	Bent	897
6A108	32	# 6	10'-8"	"	513
6A111	32	# 6	11'-1"	"	533
6A147	32	# 6	14'7"	"	701
6A214	32	# 6	21'4"	"	1025
7E140	32	# 7	14'-0"	"	916
4A140	114	# 4	14'0"	"	1066

CONTROL SECTION 82195B — Refer to Dwg No. 6 — Refer to Dwg No. 8 — CONTROL SECTION 82195D — Refer to Dwg No. 9 — Refer to Dwg No. 10

CONTROL SECTION 82195B & 82195D

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT Phil Stewart
APPROVED A. J. Cleveland
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 32 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

REINFORCEMENT DETAILS STA. 0-34 TO STA. 30+67

WATER SYSTEM ALTERATIONS

REVISIONS

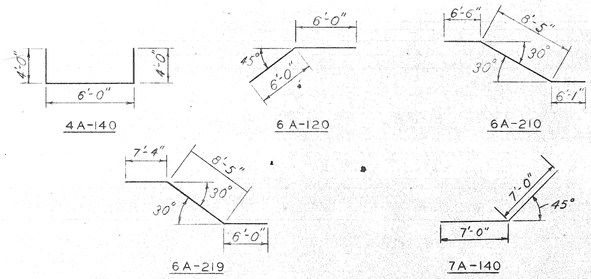
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	7-30-62
DRAWN BY	C.T.W.	3-18-62
TRACED BY	DRP	3-20-62
CHECKED BY	E.M.B.	3-21-62

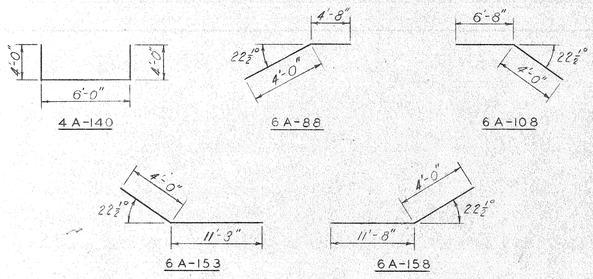
SHEET 33 OF 54

82195B CI

REINFORCED CONCRETE ENCASEMENT FROM STA. 33+90.2 TO STA. 34+58.6

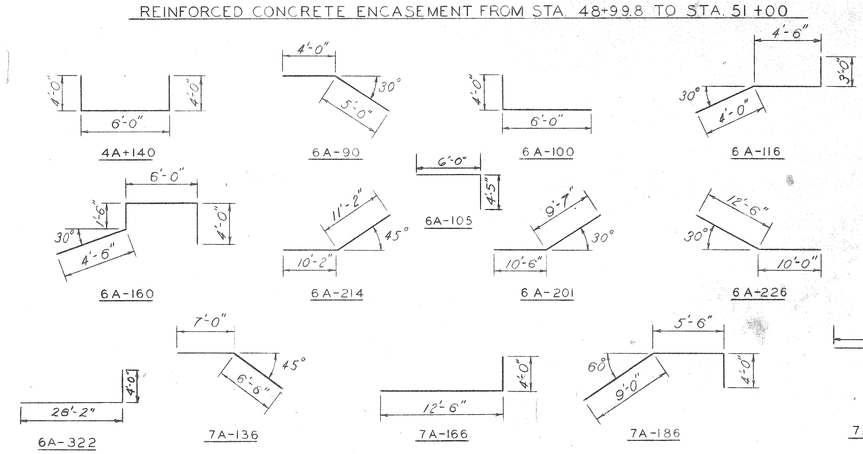


REINFORCED CONCRETE ENCASEMENT FROM STA. 35+81.0 TO STA. 36+36.6

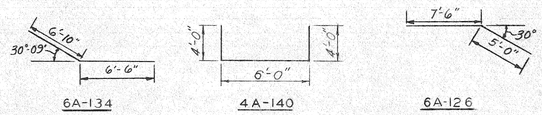


REINFORCED CONCRETE ENCASEMENT FROM STA. 43+28.1 TO STA. 44+06.1

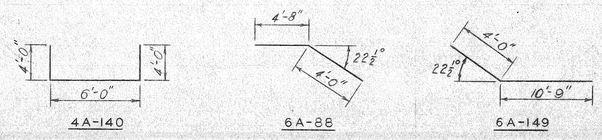
REINFORCED CONCRETE ENCASEMENT FROM STA. 48+99.8 TO STA. 51+00



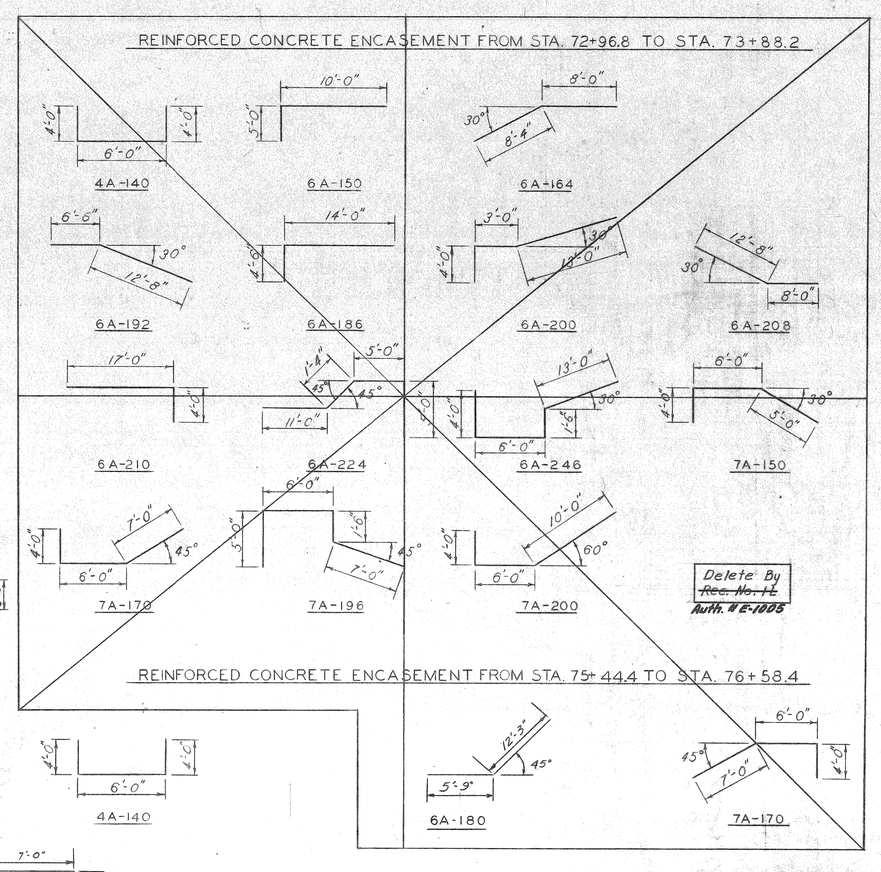
REINFORCED CONCRETE ENCASEMENT FROM STA. 53+84.0 TO STA. 54+08.5



REINFORCED CONCRETE ENCASEMENT FROM STA. 58+61.8 TO STA. 59+46.3



REINFORCED CONCRETE ENCASEMENT FROM STA. 72+96.8 TO STA. 73+88.2



Delete By Rec. No. 11 Auth. # E-1005

REINFORCED CONCRETE ENCASEMENT FROM STA. 75+44.4 TO STA. 76+58.4

CONTROL SECTION 82195D

CONTROL SECTION 82251B

Delete By Rec. No. 11 Auth. # E-1005

Refer to Dwg. No. 13

Refer to Dwg. No. 15

Refer to Dwg. No. 16

Refer to Dwg. No. 17

Refer to Dwg. No. 18

BILL OF REINFORCING BARS

Mark	No.	Size	Length	Remarks	Weight
4A-140	68	#4	14'-0"	Bent	636
6-85	32	#6	8'-5"	Straight	405
6-130	32	#6	13'-0"	"	625
6-148	32	#6	14'-8"	"	705
6A-120	64	#6	12'-0"	Bent	1154
6A-210	15	#6	21'-0"	"	473
6A-219	17	#6	21'-9"	"	555
7A-140	16	#7	14'-0"	"	458
4A-140	54	#4	14'-0"	"	505
6-30	34	#6	3'-0"	Straight	153
6-78	32	#6	7'-8"	"	368
6-90	32	#6	9'-0"	"	433
6A-88	32	#6	8'-8"	Bent	417
6A-108	32	#6	10'-8"	"	513
6A-153	32	#6	15'-3"	"	733
6A-158	32	#6	15'-8"	"	753
4A-140	74	#4	14'-0"	"	692
6-36	17	#6	3'-6"	Straight	89
6-152	32	#6	15'-2"	"	729
6-190	32	#6	19'-0"	"	913
6A-106	32	#6	10'-6"	Bent	505
6A-158	15	#6	15'-8"	"	353
6A-152	32	#6	15'-2"	"	729
6A-164	17	#6	16'-4"	"	417
6A-169	32	#6	16'-9"	"	805
4A-140	174	#4	14'-0"	"	1627
6-64	32	#6	6'-4"	Straight	304
6-175	32	#6	17'-5"	"	837
6-191	32	#6	19'-1"	"	917
6-200	32	#6	20'-0"	"	961
6-226	11	#6	22'-6"	"	372
6-350	32	#6	35'-0"	"	1682
6-386	25	#6	38'-6"	"	1446
6A-90	32	#6	9'-0"	Bent	433
6A-100	11	#6	10'-0"	"	165
6A-105	7	#6	10'-5"	"	110
6A-116	11	#6	11'-6"	"	190
6A-160	11	#6	16'-0"	"	264
6A-214	64	#6	21'-4"	"	2051
6A-201	32	#6	20'-1"	"	965
6A-226	32	#6	22'-6"	"	1081
6A-322	7	#6	32'-2"	"	338
7A-136	4	#7	13'-6"	"	110
7A-140	16	#7	14'-0"	"	458
7A-166	4	#7	16'-6"	"	135
7A-186	4	#7	18'-6"	"	151
4A-140	22	#4	14'-0"	"	206
6-33	34	#6	3'-3"	Straight	166
6A-134	32	#6	13'-4"	Bent	641
6A-126	32	#6	12'-6"	"	601
4A-140	86	#4	14'-0"	"	809
6-30	38	#6	3'-0"	Straight	171
6-275	32	#6	27'-5"	"	1318
6-246	32	#6	24'-6"	"	1178
6A-88	64	#6	8'-8"	Bent	533
6A-149	64	#6	14'-9"	"	1418
4A-140	134	#4	14'-0"	"	1814
6-32	17	#6	3'-2"	Straight	81
6-140	64	#6	14'-0"	"	1346
6-224	32	#6	22'-4"	"	1073
6-320	64	#6	32'-0"	"	3076
6A-150	14	#6	15'-0"	Bent	315
6A-164	32	#6	16'-4"	"	785
6A-180	64	#6	18'-0"	"	1730
6A-186	7	#6	18'-6"	"	195
6A-192	32	#6	19'-0"	"	924
6A-200	9	#6	20'-0"	"	270
6A-208	32	#6	20'-8"	"	993
6A-210	22	#6	21'-0"	"	694
6A-224	3	#6	22'-4"	"	101
6A-246	9	#6	24'-6"	"	331
7A-150	2	#7	15'-0"	"	61
7A-170	2	#7	17'-0"	"	69
7A-196	2	#7	19'-6"	"	80
7A-200	2	#7	20'-0"	"	82

CONTROL SECTION 82195D & 82251B

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF WATER SUPPLY

CORRECT: [signature] JOB NO. D-406-6

APPROVED: [signature] DRAWING NO. 33 OF 47

DATE: 4-2-62

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

REINFORCEMENT DETAILS STA. 33+90.2 TO STA. 76+58.4

WATER SYSTEM ALTERATIONS

REVISIONS

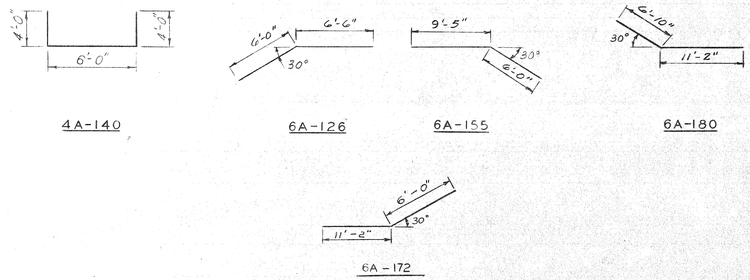
NO.	DESCRIPTION	DATE	BY
	Deleted Steel Details, Sta. 72+96.8 to 73+88.2	9-62	[illegible]

SQUAD BOSS	W.A.H.	3-30-62
DRAWN BY	C.T.W.	3-27-62
TRACED BY	D.P.C.	3-28-62
CHECKED BY	[illegible]	3-29-62

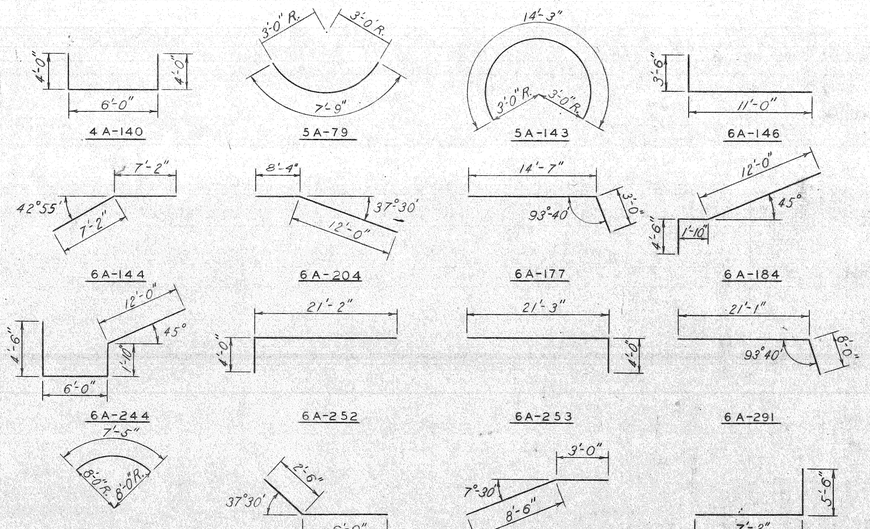
SHEET 54 OF 54

82195B C1

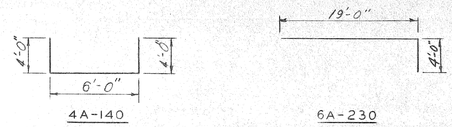
REINFORCED CONCRETE ENCASEMENT FROM STA. 80+12 TO STA. 80+66.5



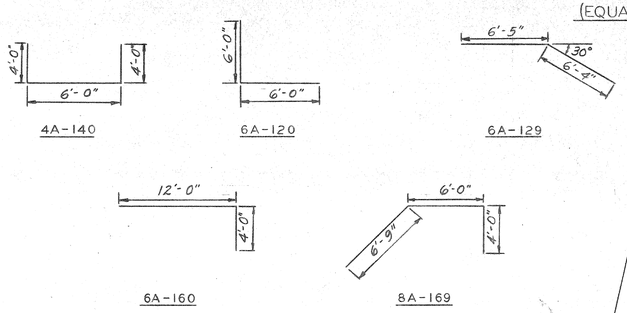
REINFORCED CONCRETE ENCASEMENT FROM STA. 85+60.0 TO 90+01.1



REINFORCED CONCRETE ENCASEMENT FROM STA. 82+90.3 TO STA. 83+44.1

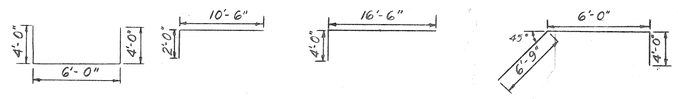


REINFORCED CONCRETE ENCASEMENT FROM STA. 74+64 TO 76+24.3 (EQUATED)



Add By
~~Rec. No. 11~~
Auth. # E-1005

REINFORCED CONCRETE ENCASEMENT FROM STA. 72+01 TO STA. 72+95



CONTROL SECTION 82251 B

CONTROL SECTION 82195E

Refer to Dwg. No. 20

Refer to Dwg No. 21

Refer to Dwgs. Nos. 22 & 23

Refer to Dwg. No. 19

Refer to Dwg. No. 18

CONTROL SECTION 82251 B

CONTROL SECTION 82195E

BILL OF REINFORCING BARS

Mark	No.	Size	Length	Remarks	Weight
4A-140	56	#4	14'-0"	Bent	524
6A-126	32	#6	12'-6"	Bent	601
6A-155	32	#6	15'-5"		771
6A-172	32	#6	17'-2"	"	825
6A-180	32	#6	18'-0"	"	865
6-33	34	#6	3'-3"	Straight	166
4A-140	50	#4	14'-0"	Bent	468
6A-230	36	#6	23'-0"	"	1244
6A-250	14	#6	25'-0"	"	526
6A-256	14	#6	25'-6"	"	536
6A-286	36	#6	28'-6"	"	1541
6A-310	14	#6	31'-0"	"	652
4A-140	256	#4	14'-0"	Bent	2394
5A-79	175	#5	7'-9"	"	1415
5A-143	175	#5	14'-3"	"	2601
6-40	19	#6	4'-0"	Straight	114
6-152	14	#6	15'-2"	"	319
6-250	192	#6	25'-0"	"	7210
6-259	32	#6	25'-9"	"	1238
6-350	32	#6	35'-0"	"	1682
6A-146	7	#6	14'-6"	Bent	152
6A-144	32	#6	14'-4"	"	689
6A-177	7	#6	17'-7"	"	185
6A-184	9	#6	18'-4"	"	248
6A-204	32	#6	20'-4"	"	978
6A-244	9	#6	24'-4"	"	329
6A-252	18	#6	25'-2"	"	680
6A-253	18	#6	25'-3"	"	683
6A-291	7	#6	29'-1"	"	306
7-70	8	#7	7'-0"	Straight	114
7A-75	8	#7	7'-5"	Bent	121
8-171	18	#8	17'-1"	Straight	821
8-186	126	#8	18'-6"	"	6224
8-221	18	#8	22'-1"	"	1061
8A-93	18	#8	9'-3"	Bent	445
8A-116	4	#8	11'-6"	"	123
8A-128	14	#8	12'-8"	"	474
8A-132	14	#8	13'-2"	"	492
8A-146	2	#8	14'-6"	"	77
8A-160	8	#8	16'-0"	"	342
8A-173	4	#8	17'-3"	"	184
8A-196	18	#8	19'-6"	"	937
8A-206	2	#8	20'-6"	"	109
9-133	15	#9	13'-3"	Straight	676
9A-163	7	#9	16'-3"	Bent	387
9A-191	8	#9	19'-1"	"	519
4A-140	88	#4	14'-0"	Bent	823
6-146	7	#6	14'-6"	Straight	153
6-350	64	#6	35'-0"	"	3364
6A-126	14	#6	12'-6"	Bent	263
6A-206	43	#6	20'-6"	"	1324
8A-169	8	#8	16'-9"	"	358
4A-140	166	#4	14'-0"	"	1552
6-36	17	#6	3'-6"	Straight	89
6-100	7	#6	10'-0"	"	105
6-131	64	#6	13'-1"	"	1258
6-151	32	#6	15'-1"	"	725
6-215	64	#6	21'-5"	"	2059
6-240	64	#6	24'-0"	"	2307
6A-120	7	#6	12'-0"	Bent	126
6A-129	128	#6	12'-9"	"	2451
6A-160	43	#6	16'-0"	"	1033
8A-169	8	#8	16'-9"	"	358

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT: Ralph Hunter
APPROVED: Wilmer Leard
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 34 OF 47

CONTROL SECTION 82195E

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

REINFORCEMENT DETAILS STA. 80+12.0 TO STA. 90+01.1

WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY
	Added Details of Reinf. Bars for Encasements on Dwgs. No. 18 & 19.	9-62	WNH

SQUAD BOSS	W.A.H.	7-20-62
DRAWN BY	C.T.W.	3-24-62
TRACED BY	D.P.C.	5-28-62
CHECKED BY	E.M.B.	3-30-62
SHEET	35 OF 52	

82195B C1

Others will install 12" C.I. Plug & Thrust Block Auth.# 1037
West in exist. 12"x12" C.I. Tee
Exist 12" C.I. Water Main to be abandoned
Exist 12" Gate Well to be abandoned See B.S.&E. Auth.# 2032
See Detail "B" this Dwg.
2 Story Frame House Basement 2 Water Services
3 Story Brick House Basement 2" Water Service
Others will remove exist. Hydrant and install on new Hydrant connection.
VERNOR HWY. 126' N.P.L.
FIFTH STREET
P.L.C. 1W-1H Exist 6" C.I. Water Main
℄ 48" Prestressed Conc. Water Main
Abandoned 4" Water Main
6' Walk
4" Gas
8" C.I. Pipe, Class 250, Cement Lined Auth.# 1037-A
PLC 2W-2H Exist 8" C.I. Water Main to be abandoned
4.8" Conc. Drive
8" D.W.S. Gate Valve & Well
See Detail "A", this sheet
CRAWFORD PARK
Gas Service
Curb
8" D.W.S. Gate Valve & Well
PLC 2W-2H
JOHN C. LODGE
Exist 16" C.I. Water Main
Existing 16" Valve in Well Closed and sealed
Exist. 48" Water Main to be abandoned
4" Gas

PLAN
Scale 1" = 20'

NOTE
The quanitities for this dwg. are included with the quanitities on Dwg. No. 3

After the new 8" C.I. Water Main is in service, and before the exist. 8" Main is abandoned, others will disconnect all services from the 8" Main to be abandoned and connect to the new main.

N.P.L. Vernor

℄ of new 8" C.I. Water Main to meet ℄ of exist. 8" C.I. Water Main
Exist. 8" C.I. Water Main to remain in service
~~8"x16" C.I. Solid Sleeve~~
P.I. 8" ~~22½°~~ 45° C.I. Bend, B&S
℄ 48" P.S. Conc. Emb. Cyl. Pipe in 7'-0"x7'-0" Encasement
MATCH LINE A-A
Exist. 8" C.I. Water Main to be abandoned.
8" C.I. Cap
Existing 8" C.I. Water Main
Concrete Thrust Block Placed
Temporary 8" C.I. Cap
8" C.I. Pipe, S&S
Face of bell of 8"-45° C.I. Bend, B&S
℄ Elev. 122.6
8" ~~22½°~~ 45° C.I. Bend, B&S
8" ~~22½°~~ 45° C.I. Bend, B&S
P.I. 8"-45° C.I. Bend, B&S
℄ Exist 8" C.I. Water Main Elev. 120.9±
Elev. 121.9 Top of 7'-0"x7'-0" Encasement
℄ Elev. 118.4 of 48" Water Main

ELEVATION
DETAIL "B"
Scale ½" = 1'-0"

Others will cut the exist. 8" C.I. Water Main in the East Service Drive of John C. Lodge, remove the Temp. 8" C.I. Cap and install all 8" C.I. Pipe and fittings to complete the connection, as shown, in Detail "B" after the new 8" C.I. Water Main has been tested and is ready for service.

5A-80
#5 - 4 Req'd.
3'-2"
2'-5"
4'-0"
12"
3"
2'-4"
6"
4'-0"
4"#5 @ 12" + 3"0" 6"
#5 @ 12"
T 4"#5@12" Total 4 Bars
As shown Total 4 Bars
Bot. 4"#5@12" Total 4 Bars
T & Bot. Total 4 Bars
1'-7"

DETAIL OF CONCRETE THRUST BLOCK FOR 8" 45° C.I. VERTICAL BEND
Scale ⅜" = 1'-0"

Surface Elev. on ℄ 8" Water Main
℄ 8" D.W.S. Gate Valve Std. 8" D.W.S. Gate Well
2-1" Gas Services
℄ 8" D.W.S. Gate Valve Std. 8" D.W.S. Gate Well
P.I. 8" 11¼° C.I. Bend
PLC 1W-1H
P.I. 8" ~~22½°~~ C.I. Bend
℄ 8"x8" C.I. Tee
℄ 8"x6" C.I. Tee & Temp. Plug
℄ Exist. 8"x6" C.I. Tee
℄ Elev. 120.5± of Exist. 8"x8" Tee
℄ 16"x8" C.I. Tee
Subgrade Elev. 122.2
Subgrade Elev. 120.2
Temp. 8" C.I. Cap
℄ Elev. 118.4±
P.I. 8"-45° C.I. Bend
4.2' 30.8' 126' 9'-0" 18.1'

PROFILE
Scale: Horiz. 1" = 20' Vert. 1" = 4'

℄ 16" C.I. Bell Outlet
℄ 48" Prestressed Conc. Water Main ℄ 7'-0"x7'-0" Encasement
Temp. 16" C.I. Plug
Contractor shall build Conc. Thrust Block
16" C.I. Pipe, S&S
Exist. 48" Conc. Cyl. Water Main to be abandoned
Temp. 8" Cap
16"-11¼ C.I. Bend B.S.
Conc. Thrust Block for 45° Bend
℄ 16"x8" C.I. Tee
16"-11¼ C.I. Bend B.S.
8" C.I. Pipe, S&S
8"-45° C.I. Bend, B&B
Others will remove exist. 16"-45° C.I. Bend, B&S & Install 16"x15 C.I. Solid Sleeve
Exist. 16" C.I. Water Main to remain in service
16"x8" C.I. Tee & Conc. Thrust Block ℄ Elev. 118.4±
Temp. 8" C.I. Cap
Contractor shall build Conc. Thrust Block. See detail this dwg.
4'-2½"

ELEVATION
DETAIL "B"
Scale ½" = 1'-0"

22½° C.I. Bend
MATCH LINE A-A
Contractor shall build 8" D.W.S. Gate Well & 8" D.W.S. Gate Valve
8"-45° C.I. Bend, B&S
Abandon 8" C.I. Water Main
Temp. 8" C.I. Plug
℄ Elev. 120.5± 8"x6" C.I. Tee
8" C.I. Pipe, S&S
8"-11¼° C.I. Bend, B&S
Contractor shall build Conc. Thrust Block
℄ Std. 8" D.W.S. Gate Well
PLAN

Others will remove the exist. 16"-45° C.I. Bend, the temp. 16" C.I. Plug, and temp. 8" C.I. Cap and install all 8" and 16" C.I. Pipe and fittings to complete the connections as shown after the new 48" Water Main is ready for service.

Remove exist. 8" 11¼° Bend, B&S, & Install 8" 22½° C.I. Bend, B&S
Exist 8"x8" C.I. Tee with exist 8"x6" Reducers, S&S, North & South
Std. 8" D.W.S. Gate Well
8" D.W.S. Gate Valve
8" C.I. Pipe, S&S
℄ Elev. 120.5±
8" C.I. Pipe, S&S
8"-11¼° C.I. Bend, B&S
Contractor shall build 8" D.W.S. Gate Well.
℄ of new 8" C.I. Water Main to meet ℄ of exist. 8" C.I. Water Main
17'-9½"

DETAIL "A"
Scale ½" = 1'-0"

Others will cut the exist. 8" C.I. Water Main in Vernor, remove the Temp. 8" C.I. Plug and install all 8" C.I. Pipe and fittings to complete the connection as shown in Detail "A" after the new 8" C.I. Water Main is ready for service.

CONTROL SECTION 82195B C UN

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 35 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

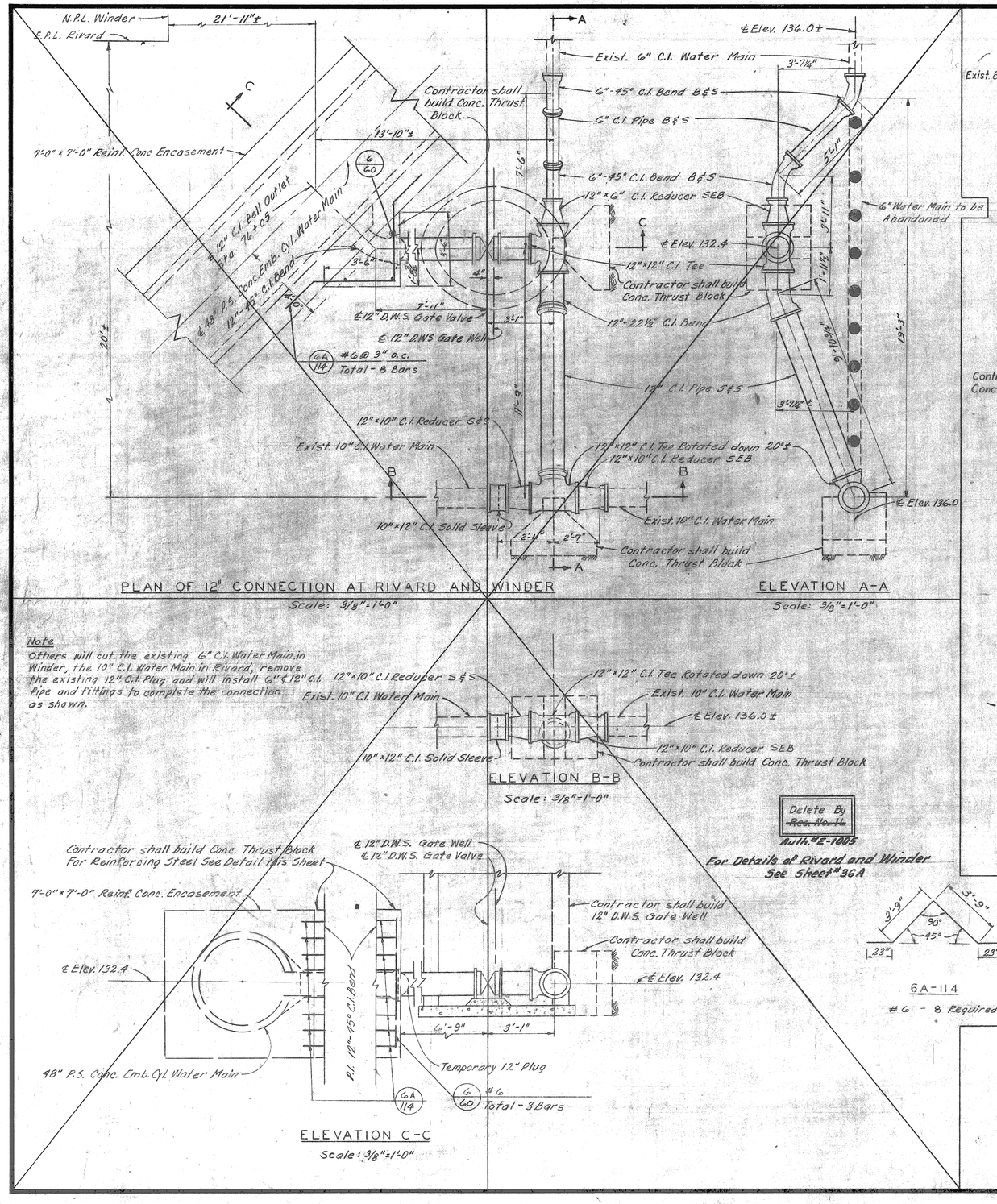
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
8" WATER MAIN RELOCATION IN VERNOR
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-20-62
DRAWN BY	E.S.C.	3-14-62
TRACED BY		
CHECKED BY	E.M.B.	3-21-62
SHEET 36 OF 54		

82195B C1

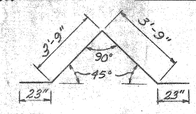


Note

Others will cut the existing 6" C.I. Water Main in Winder, the 10" C.I. Water Main in Rivard, remove the existing 12" C.I. Plug and will install 6" & 12" C.I. Pipe and fittings to complete the connection as shown.

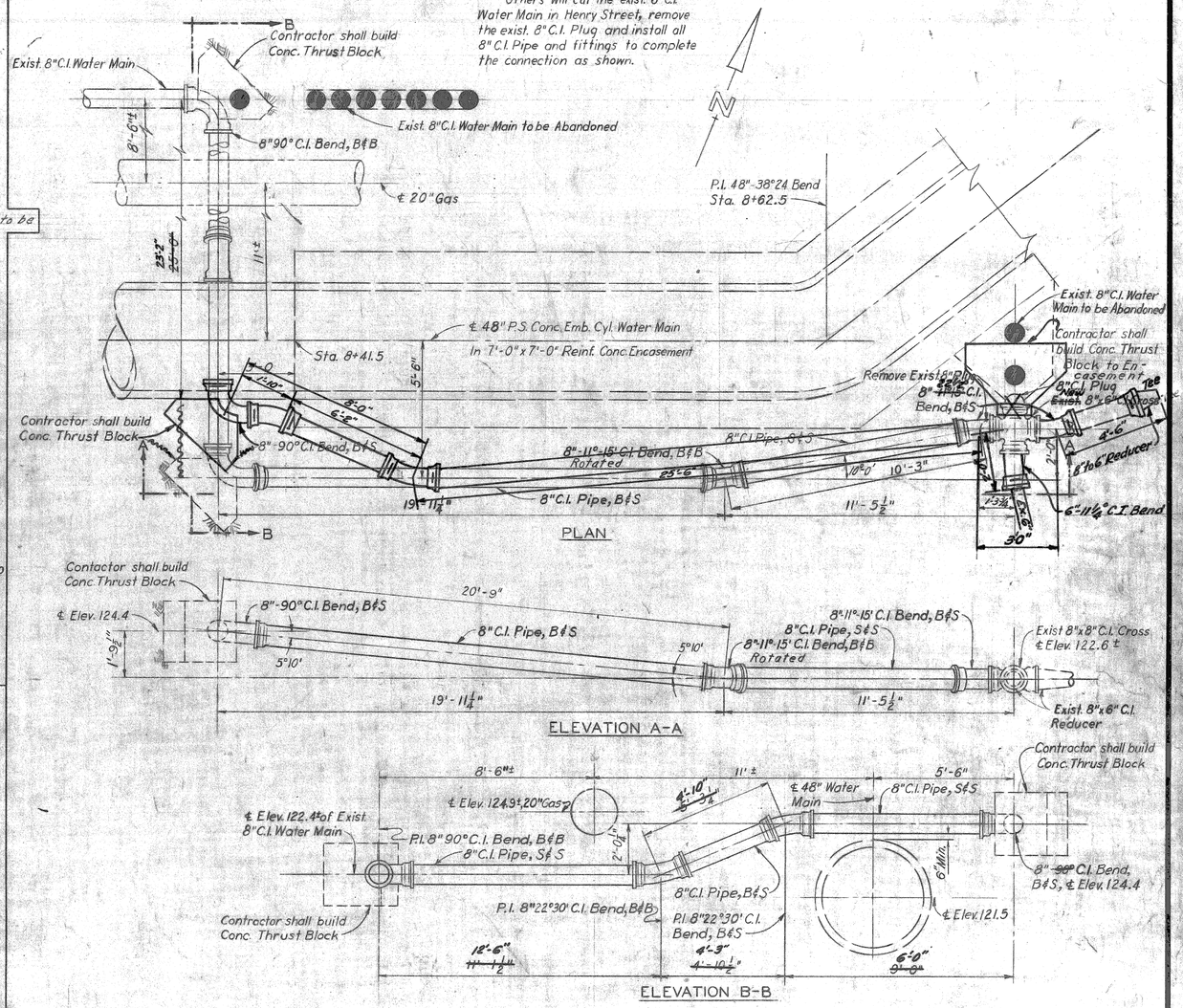
Delete By Req. No. 16 Auth. #E-1005

For Details of Rivard and Winder See Sheet #36A



6A-114

#6 - 8 Required



DETAIL OF 8" C.I. WATER MAIN RELOCATION
FOURTH AND HENRY
Scale: 3/8"=1'-0"

CONTROL SECTION 82195B & 82251B

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT: W. J. Stewart
APPROVED: A. Nielsen
DATE: 4-2-62
JOB NO. D-406-6
DRAWING NO. 36 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

MISCELLANEOUS WATER MAIN CONNECTIONS NO. 1

WATER SYSTEM ALTERATIONS

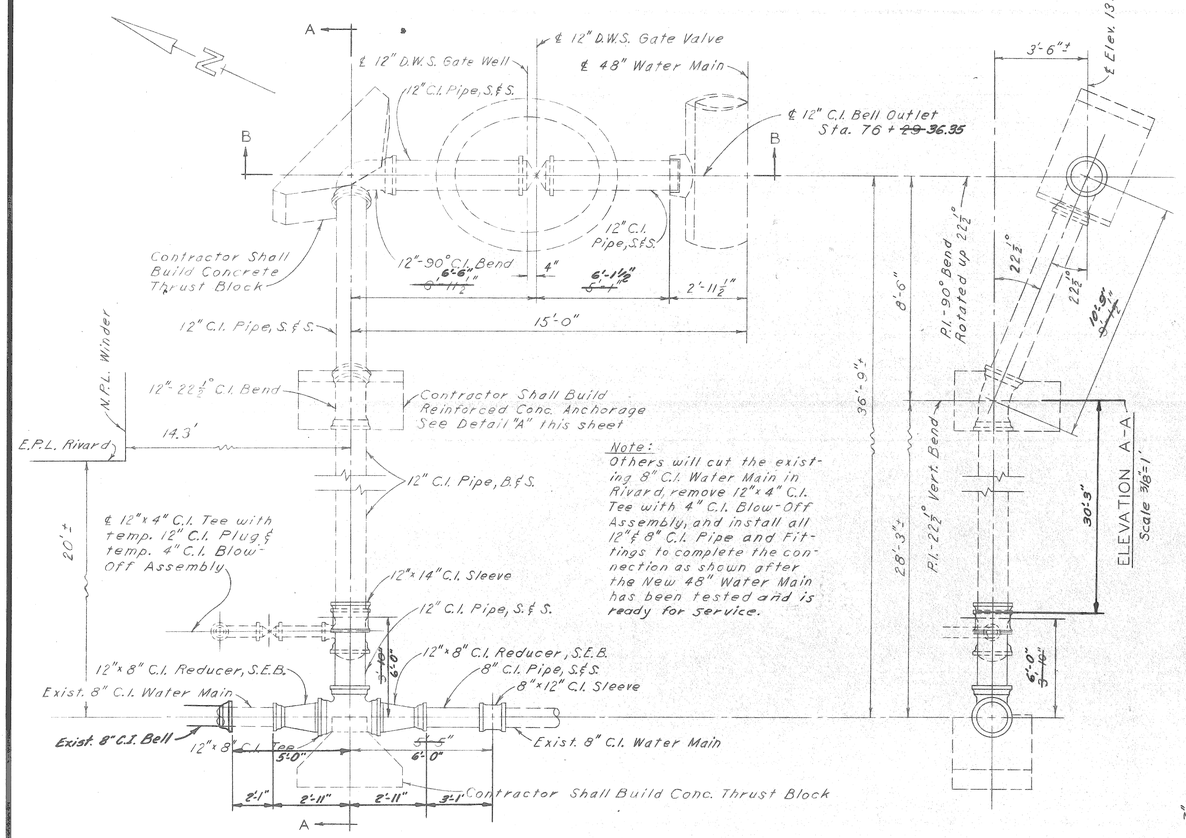
REVISIONS

NO.	DESCRIPTION	DATE	BY
	Deleted 12" Connection @ Sta. 76+05	9-62	MRD

SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	J.N.F., E.S.C.	3-22-62
TRACED BY		
CHECKED BY	E.M.B.	3-26-62

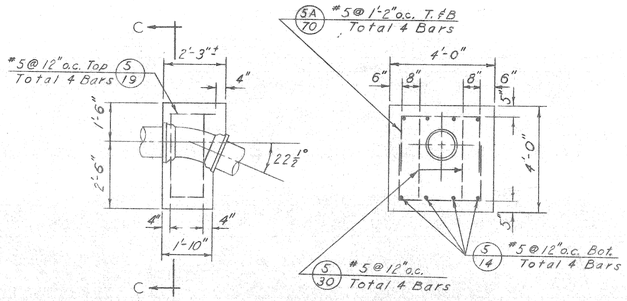
SHEET 37 OF 54

82195B C1

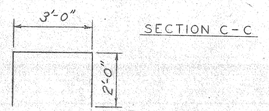


PLAN OF 12" CONNECTION AT RIVARD AND WINDER

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



ELEVATION

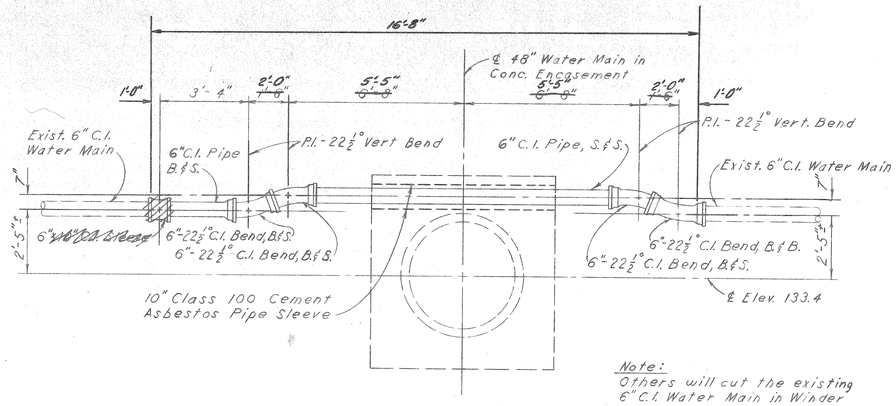


SECTION C-C

5A-70

DETAIL "A"

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



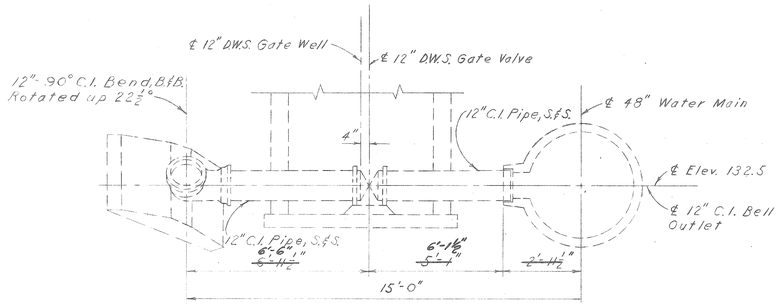
ELEVATION

DETAIL "B"

6" WATER MAIN RELOCATION IN WINDER

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

Note:
Others will cut the existing 6" C.I. Water Main in Winder and install all 6" C.I. Pipe and Fittings to complete the connection as shown.



ELEVATION B-B

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

Add New Dwg.
~~By Rec. No. 11~~
Auth. # E-1005

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT M.D. Stewart

APPROVED

DATE

JOB NO. D-406-6

DRAWING NO. 36A OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
MISCELLANEOUS WATER MAIN CONNECTIONS NO. 1

WATER SYSTEM ALTERATIONS

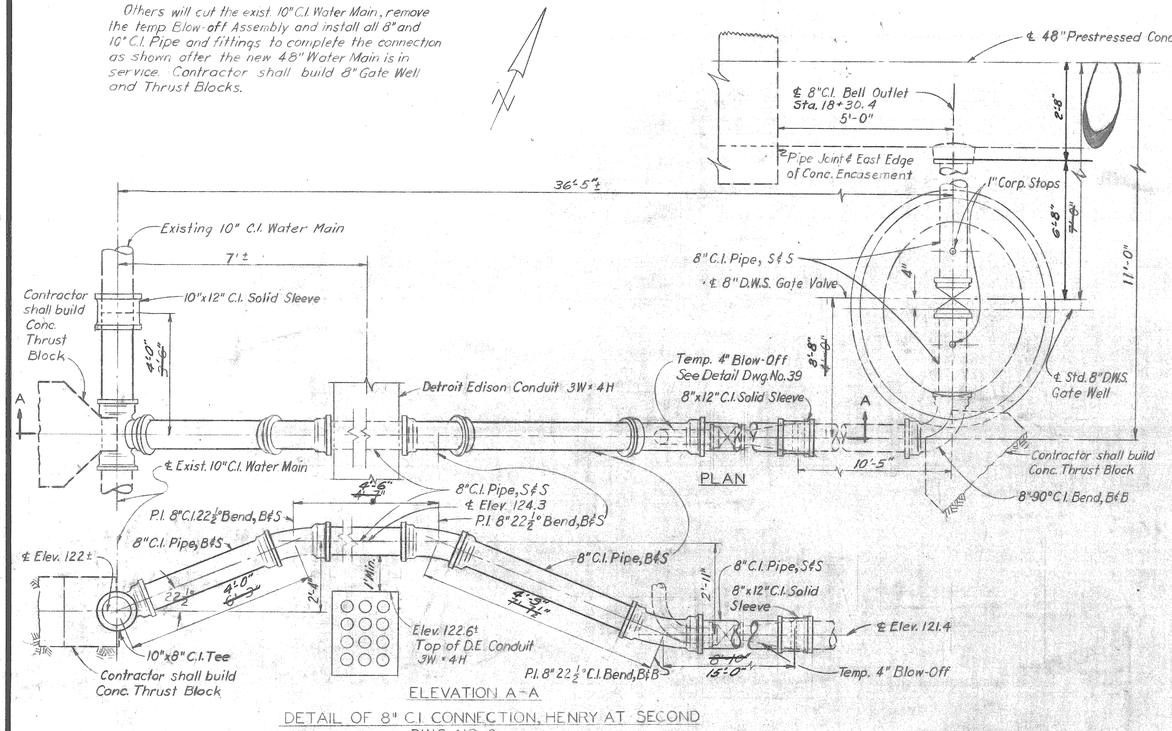
REVISIONS

NO.	DESCRIPTION	DATE	BY
	Supercedes Detail of 12" Connection at Rivard and Winder Sts. On Dwg. No. 36	9-62	WAH

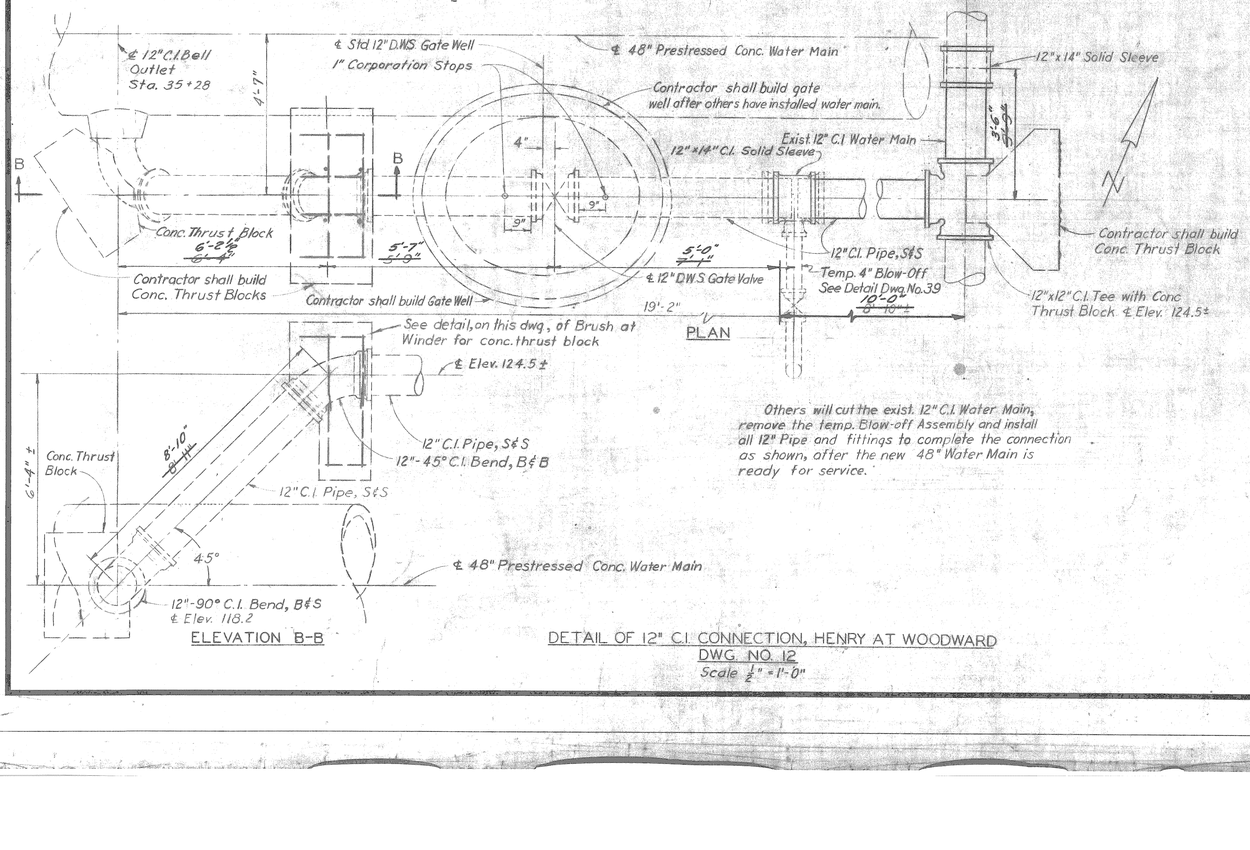
SQUAD BOSS		
DRAWN BY	C. T. W.	9-4-62
TRACED BY		
CHECKED BY		

SHEET 37A OF 54

Others will cut the exist. 10" C.I. Water Main, remove the temp. Blow-off Assembly and install all 8" and 10" C.I. Pipe and fittings to complete the connection as shown after the new 48" Water Main is in service. Contractor shall build 8" Gate Well and Thrust Blocks.

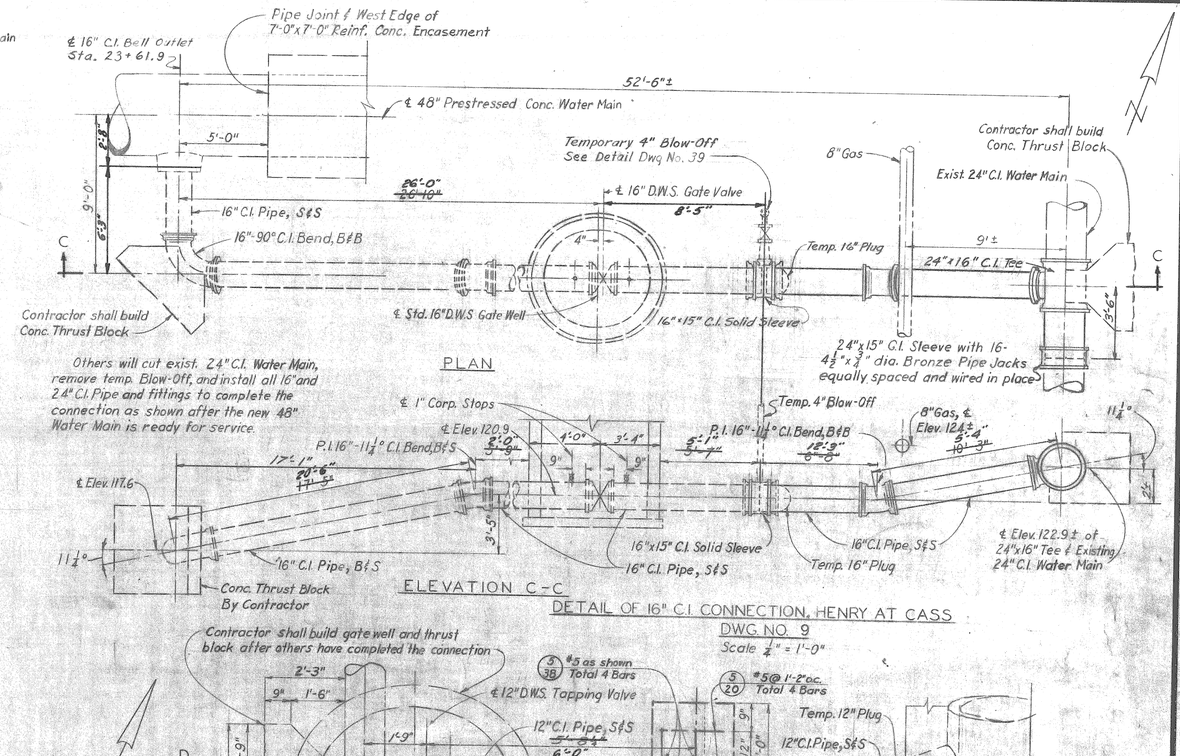


DETAIL OF 8" C.I. CONNECTION, HENRY AT SECOND
DWG. NO. 8
Scale ½" = 1'-0"



Others will cut the exist. 12" C.I. Water Main, remove the temp. Blow-off Assembly and install all 12" Pipe and fittings to complete the connection as shown, after the new 48" Water Main is ready for service.

DETAIL OF 12" C.I. CONNECTION, HENRY AT WOODWARD
DWG. NO. 12
Scale ½" = 1'-0"



Others will remove the temp. 12" C.I. Plug and install the 12"x12" Tapping Sleeve and Valve and all 12" C.I. Pipe and fittings necessary to complete the connection as shown after the new 48" Water Main is ready for service.

DETAIL OF 12" C.I. CONNECTION, BRUSH AT WINDER
DWG. NO. 15
Scale ½" = 1'-0"

CONTROL SECTION
8225IB & 8219SD

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
SHEET NO. 37 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

MISCELLANEOUS WATER MAIN CONNECTIONS NO. 2

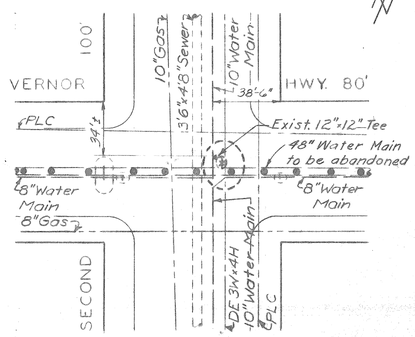
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

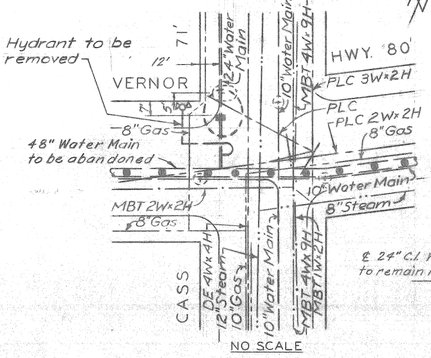
SQUAD BOSS	W.A.L.	3-29-62
DRAWN BY	E.S.C.	3-15-62
TRACED BY		
CHECKED BY	E.M.G.	3-31-62
SHEET 32 OF 52		

82195B CI



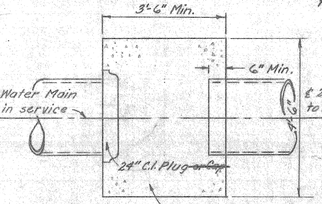
NO SCALE

After the new 48" Water Main is in service, others will cut existing 12" C.I. Water Main and install 12" C.I. Plug in existing 12"x12" Tee.
The Contractor shall build 12" conc. thrust block, close 12" DWV Valve, and abandon Gate Well.

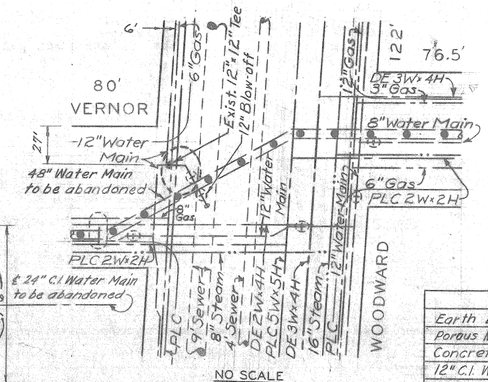


NO SCALE

After the new 48" Water Main is in service, others will cut existing 24" C.I. Water Main and install 24" C.I. Plug ~~or Cap~~. The Contractor shall build 4'-6" x 4'-6" x 3'-6" concrete block. See Detail "A".
Others will close and seal existing 24" DWS Valve.



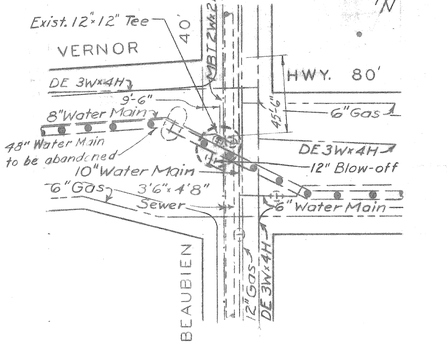
DETAIL "A"
No Scale



NO SCALE

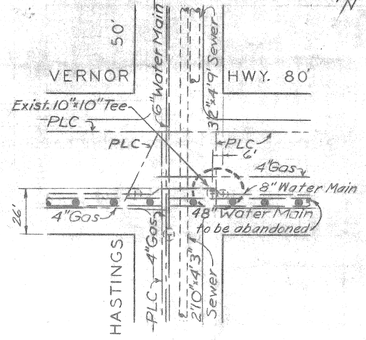
After the new 48" Water Main is in service, others will cut existing 12" C.I. Water Main and install 12" C.I. Plug in existing ~~12"x12"~~ Tee. **12"Bend**
The Contractor shall build 12" conc. thrust block, close existing 12" Valve, abandon 12" Gate Well, close 12" Blow-off Valve, and abandon 12" Blow-off Well.

QUANTITIES			CONTROL 82195D	SECTIONS 82251B
ITEM			AMOUNT	AMOUNT
Earth Excavation	Auth.#1047	19	~~26~~ C.Y.	5 ~~27~~ C.Y. Auth. #1047
Porous Material-Grade A (Compacted in Place)	Auth. #1047	21	~~27~~ C.Y.	2 ~~51~~ C.Y. Auth. #1047
Concrete Grade A			4 C.Y.	2 ~~9~~ C.Y. Auth. #1047
12" C.I. Water Main, Furnished	Auth.#1016	0	~~3 L.F.~~	—
24" C.I. Water Main, Furnished	Auth.#1017	0	~~1 L.F.~~	—
10" C.I. Water Main, Furnished			—	0 ~~2 L.F.~~ Auth. #1026
Abandon 10" Gate Wells			—	1 ~~2~~ Ea. Auth. #1026
Abandon 12" Gate Wells			2 Ea.	1 Ea.
Abandon Blow-off Wells			2 Ea.	2 Ea.



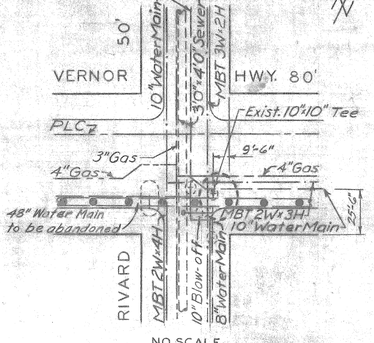
NO SCALE

After the new 48" Water Main is in service, others will cut existing 12" C.I. Water Main and install ~~12" C.I. Cap on Spigot out of Plug~~ existing 12"x12" Tee.
The Contractor shall build 12" conc. thrust block, close existing 12" Valve, abandoned 12" Gate Well, close 12" Blow-off Valve, and abandon 12" Blow-off Well.



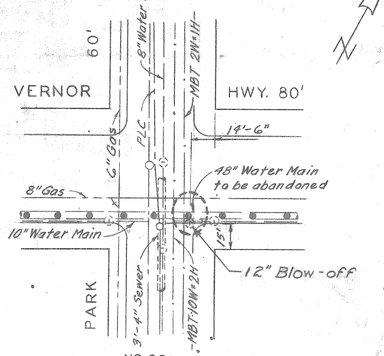
NO SCALE

After the new 48" Water Main is in service, others will cut existing 10" C.I. Water Main and install 10" C.I. Plug in existing 10"x10" Tee.
The Contractor shall build 10" conc. thrust block, close existing 10" Valve and abandon 10" Gate Well.
work was done on previous D.W.S. Contract



NO SCALE

After the new 48" Water Main is in service, others will cut existing 10" C.I. Water Main and install 10" C.I. Plug in existing 10"x10" Tee.
The Contractor shall build 10" conc. thrust block, close existing 10" Valve, abandon 10" Gate Well, close 10" Blow-off Valve, and abandon 10" Blow-off Well.



NO SCALE

After the new 48" Water Main is in service, the Contractor shall close 12" Blow-off Valve and abandon 12" Blow-off Well.

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT: M. J. Stewart
APPROVED: A. Weiland
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 38 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

CONNECTIONS TO BE ABANDONED

WATER SYSTEM ALTERATIONS

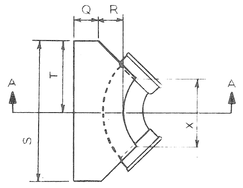
REVISIONS

NO.	DESCRIPTION	DATE	BY

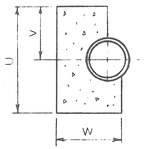
SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	R.O.S.	3-22-62
TRACED BY		3-26-62
CHECKED BY	E.M.B.	3-27-62

SHEET 39 OF 54

82195B CI



PLAN

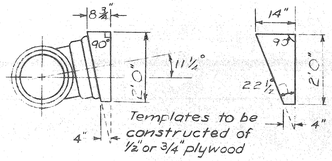


SECTION A-A

SCHEDULE OF THRUST BLOCK DIMENSIONS								
BEND SIZE	CODE							
	Q	R	S	T	U	V	W	X
8" 90°	0'9"	1'0"	3'4"	1'8"	2'6"	1'3"	1'11"	1'2"
12" 90°	0'9"	1'4"	5'6"	2'9"	3'0"	1'6"	2'4"	1'8"
16" 90°	1'0"	1'8"	6'0"	3'0"	5'0"	2'6"	3'0"	2'8"
8 45°	0'9"	1'0"	2'4"	1'2"	2'0"	1'0"	1'11"	1'4"
12" 45°	0'9"	1'4"	3'6"	1'9"	2'6"	1'3"	2'4"	1'4"
16" 45°	1'0"	1'8"	5'4"	2'8"	3'0"	1'6"	3'0"	2'6"
12" 22½°	0'9"	1'0"	2'6"	1'3"	2'0"	1'0"	2'0"	1'4"
16" 22½°	1'0"	1'8"	3'4"	1'8"	2'6"	1'3"	3'0"	1'2"

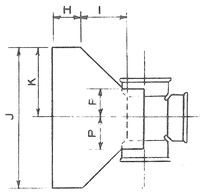
DETAIL OF STANDARD THRUST BLOCKS FOR BENDS

No Scale

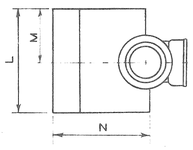


TEMPLATE FOR SETTING TEES AT 11¼° & 22½° ANGLES

No Scale



PLAN



ELEVATION

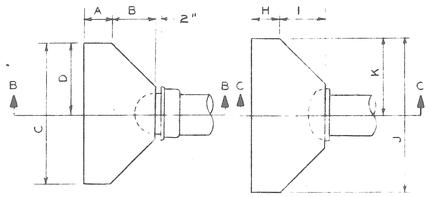
SCHEDULE OF THRUST BLOCK DIMENSIONS								
TEE SIZE	CODE							
	H	I	J	K	L	M	N	P
8"×8"	0'9"	1'0"	3'0"	1'6"	2'0"	1'0"	8" 2'3"	8" 0'6"
12"×8"							12" 2'5"	12" 0'6"
16"×8"							16" 2'9"	16" 0'6"
12"×12"	0'9"	1'4"	4'0"	2'0"	3'0"	1'6"	12" 2'9"	8" 0'8"
16"×12"							16" 3'1"	16" 0'8"
16"×16"	1'0"	1'8"	5'0"	2'6"	4'0"	2'0"	16" 3'8"	16" 0'11"

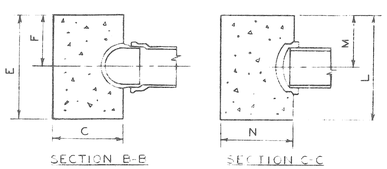
DETAIL OF STANDARD THRUST BLOCKS FOR TEES

No Scale

NOTE

The back face of all thrust blocks shall be poured against undisturbed earth.

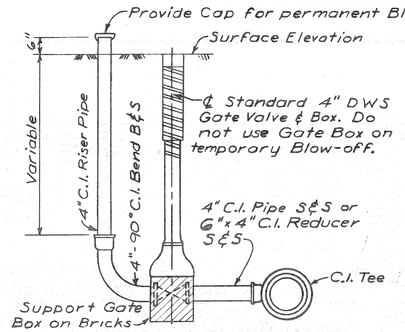




SCHEDULE OF THRUST BLOCK DIMENSIONS							
PLUG SIZE	CODE						
	A	B	C	D	E	F	G
8"	0'9"	1'2"	3'0"	1'6"	2'0"	1'0"	1'11"
12"	0'9"	1'4"	4'0"	2'0"	3'0"	1'6"	2'1"
16"	1'0"	1'8"	5'0"	2'6"	4'0"	2'0"	2'8"
CAP SIZE	CODE						
	H	I	J	K	L	M	N
8"	0'9"	1'2"	3'0"	1'6"	2'0"	1'0"	1'11"
12"	0'9"	1'4"	4'0"	2'0"	3'0"	1'6"	2'1"
16"	1'0"	1'8"	5'0"	2'6"	4'0"	2'0"	2'8"

DETAIL OF STANDARD THRUST BLOCKS FOR PLUGS & CAPS

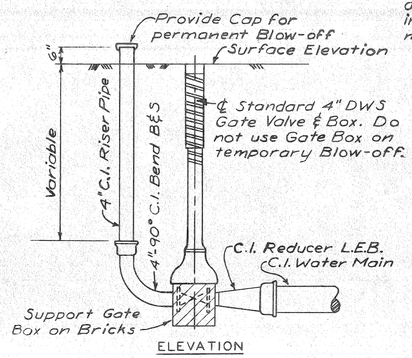
No Scale



ELEVATION

DETAIL OF 4" C.I. ELOW-OFF

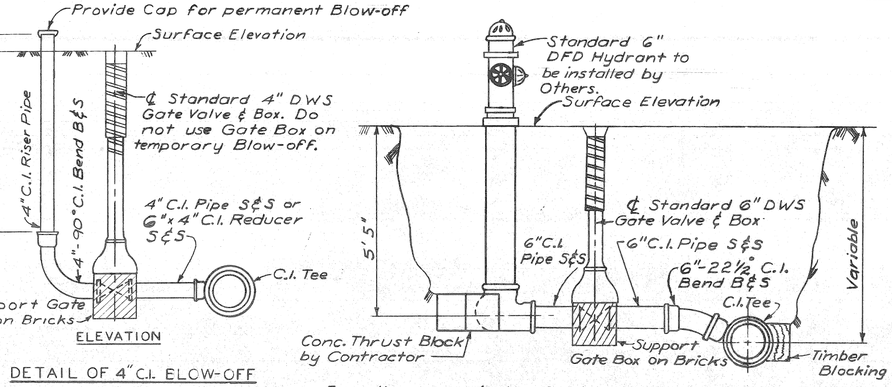
No Scale



ELEVATION

DETAIL OF 4" C I BLOW-OFF

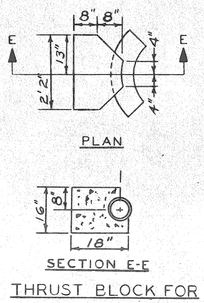
No Scale



From the new main the Contractor shall install the Tee, 6"-22½° C.I. Bend B&S, 6"C.I. Pipe, 6"DWS Gate Valve & Box, 6"C.I. Pipe, and Hydrant. From any existing main the complete Hydrant installation will be done by Others. Hydrants to be a minimum of 3' behind the curb.

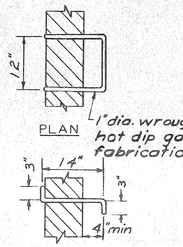
DETAIL OF 6" HYDRANT INSTALLATION

No Scale



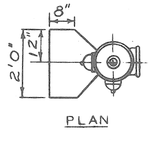
THRUST BLOCK FOR 6" HYDRANT BEND

No Scale



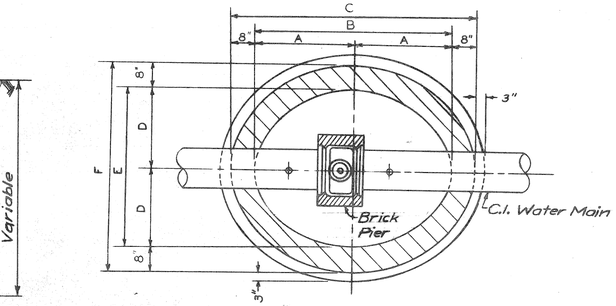
DETAIL OF MAN-HOLE STEPS

No Scale

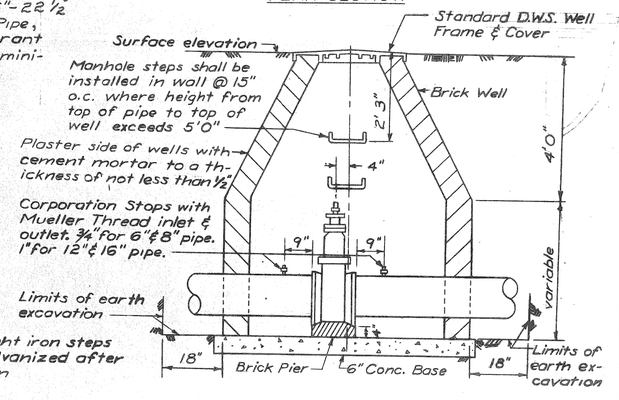


THRUST BLOCK FOR 6" HYDRANT

No Scale



PLAN SECTION

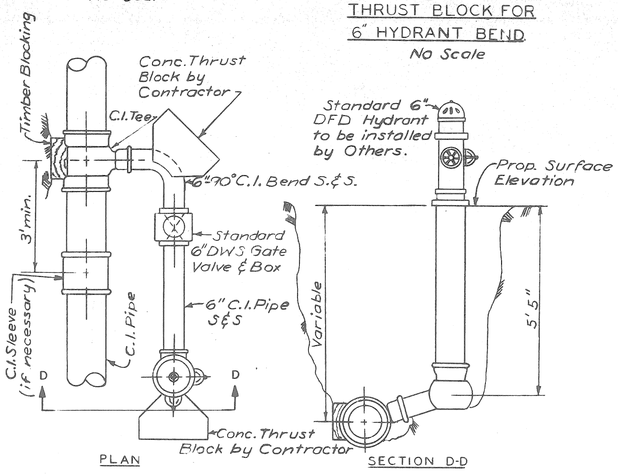


SECTION THROUGH GATE WELL

SCHEDULE OF GATE WELL DIMENSIONS						
SIZE	A	B	C	D	E	F
6"	2'6"	5'0"	6'4"	2'0"	4'0"	5'4"
8"	2'6"	5'0"	6'4"	2'0"	4'0"	5'4"
12"	2'9"	5'6"	6'10"	2'3"	4'6"	5'10"
16"	3'0"	6'0"	7'4"	2'9"	5'6"	6'10"

DETAIL OF STANDARD GATE WELLS

No Scale



NOTE

From the new main the Contractor shall install the tee, 6"-90° C.I. Bend, 6" DWS Gate Valve & Box, and 6" C.I. Pipe. From any existing main the complete Hydrant installation will be done by others. Hydrant is to be a minimum of 3' behind curb.

DETAIL OF 6" HYDRANT INSTALLATION

No Scale

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT W. A. Stewart

APPROVED A. Lucian

DATE 4-2-62 DRAWING NO. 39 OF 47

JOB NO. D-406-6

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

MISCELLANEOUS DETAILS

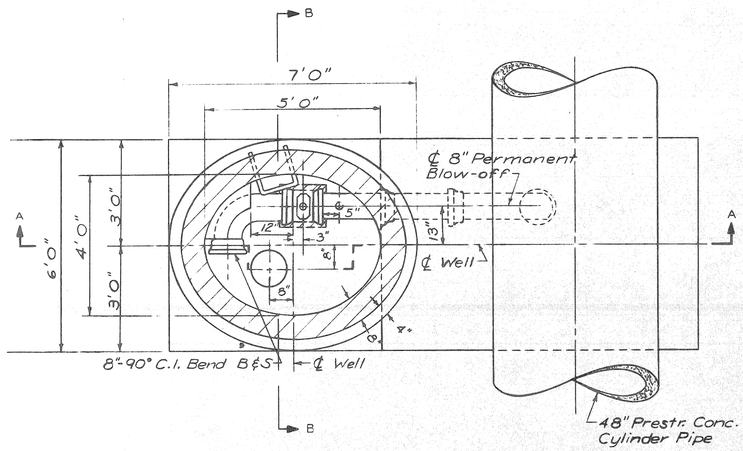
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

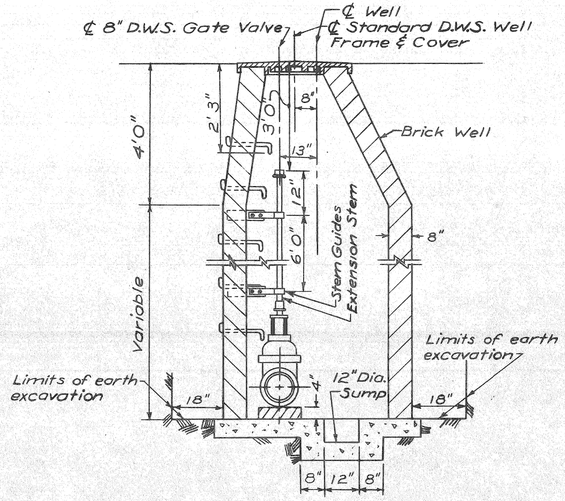
SQUAD BOSS	W.A.H	3-28-62
DRAWN BY	R.J.B.	3-24-62
TRACED BY		
CHECKED BY	E.M.B.	3-27-62
SHEET	40 OF 54	

82195B C1

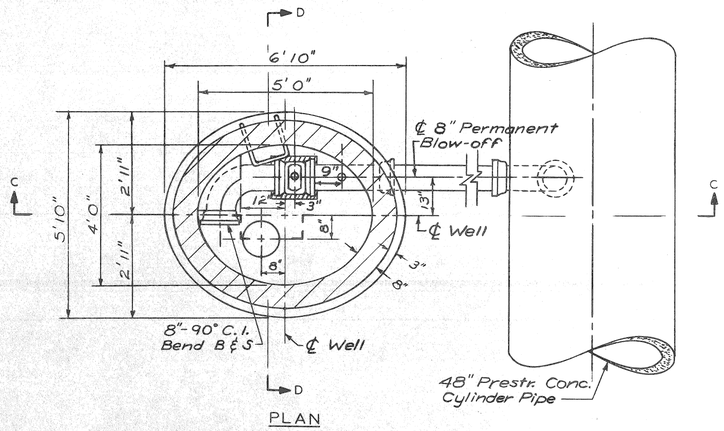


PLAN

NOTE
At all 8"-60° flanged blow-off outlets in encasement, the face of the bell of the 8"-60° flange and bell bend shall be flush with the face of the encasement.

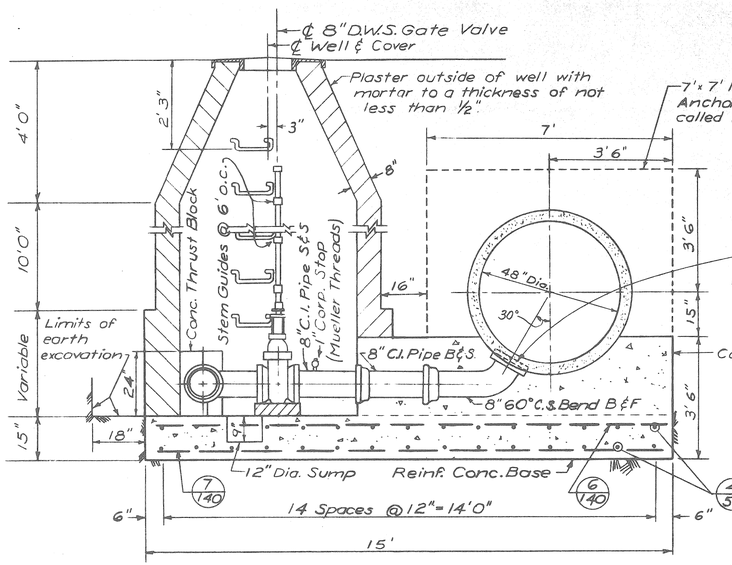


SECTION D-D

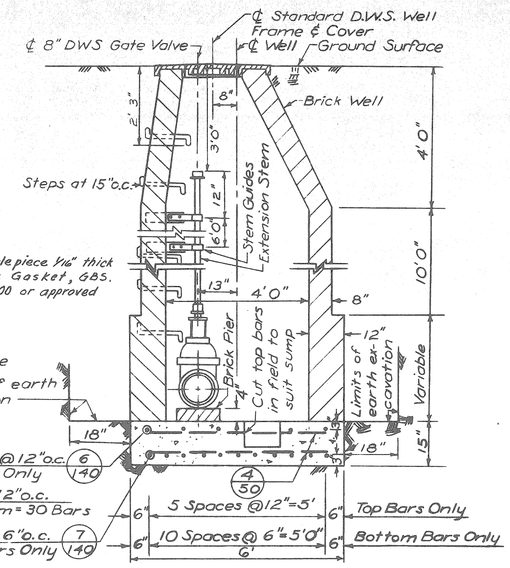


PLAN

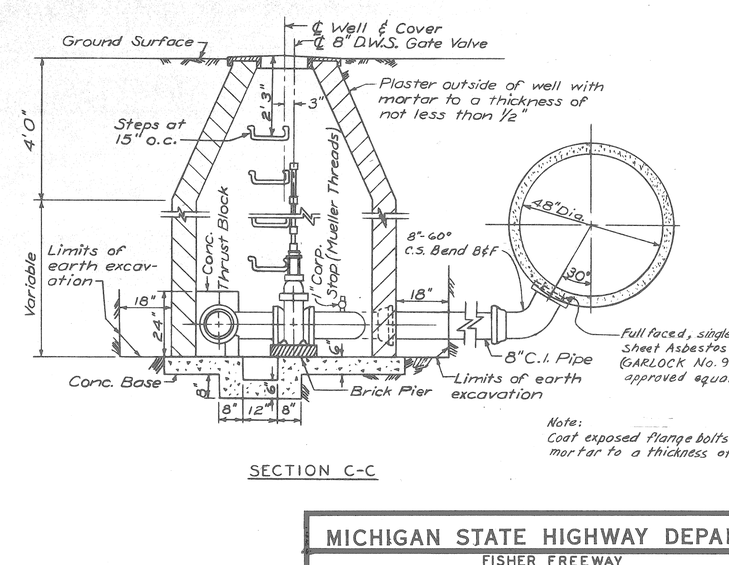
DETAIL OF 8" BLOW-OFF AND WELL
WELL 6.1 FEET TO 14.1 FEET DEEP
Scale: ½"=1'0"



SECTION A-A



SECTION B-B



SECTION C-C

DETAIL OF 8" BLOW-OFF AND WELL
WELL 14.1 FEET TO 25 FEET DEEP
Scale: ½"=1'0"

SCHEDULE OF REINFORCING BARS				
Mark	No.	Size	Length	Remarks
4-50	30	4	5'0"	Straight
6-140	6	6	14'0"	"
7-140	11	7	14'0"	"

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 40 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
BLOW-OFF WELL DETAILS
WATER SYSTEM ALTERATIONS

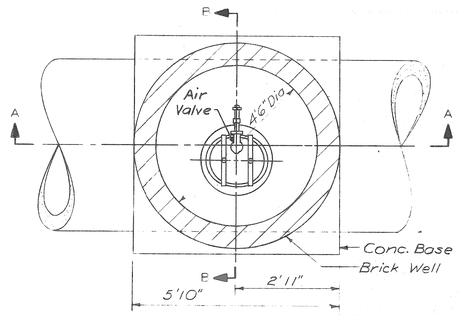
REVISIONS

NO.	DESCRIPTION	DATE	BY

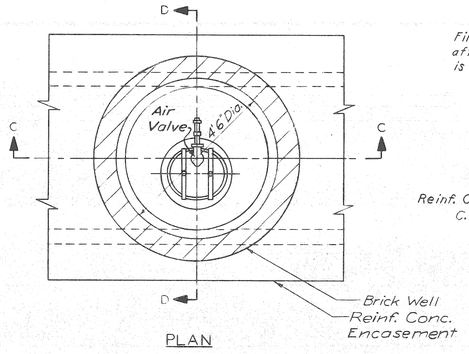
SQUAD BOSS	W.A.H.	3-28-62
DRAWN BY	R.J.B.	3-29-62
TRACED BY		
CHECKED BY	E.M.B.	3-27-62

SHEET 41 OF 54

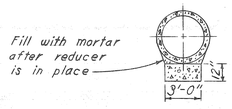
82195B CI



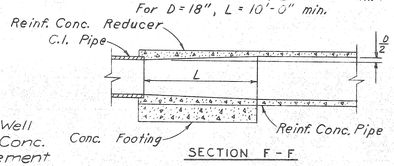
PLAN



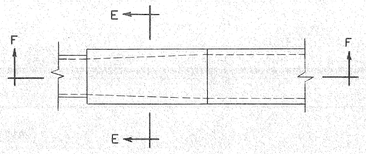
PLAN



SECTION E-E



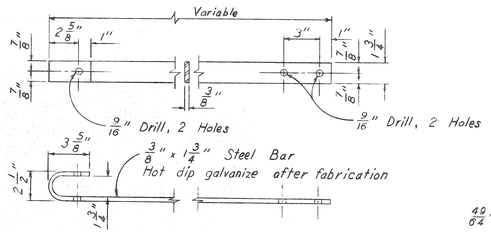
SECTION F-F



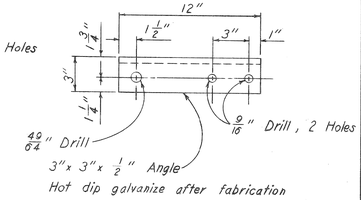
PLAN

FOOTING UNDER EACH CONCRETE PIPE REDUCER

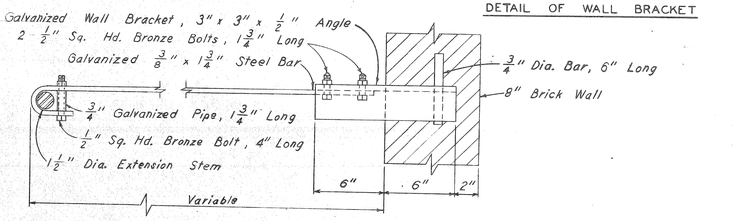
Not to Scale



DETAIL OF BAR



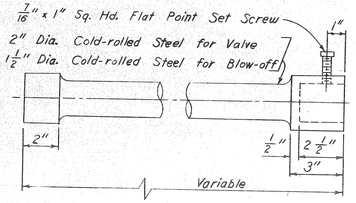
DETAIL OF WALL BRACKET

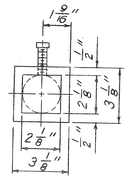


ASSEMBLY

DETAIL OF EXTENSION STEM GUIDE FOR BLOW-OFF WELL

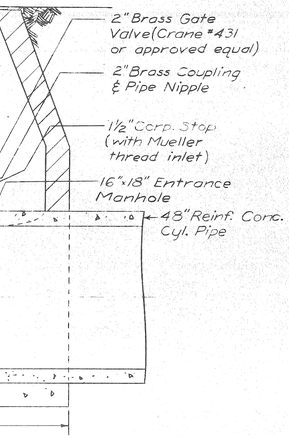
Scale: 2"= 1'-0"



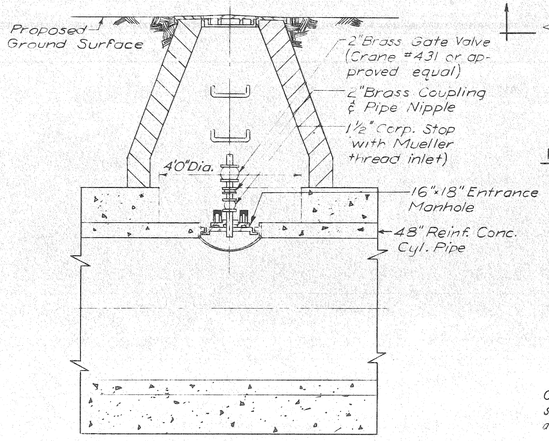


DETAIL OF EXTENSION STEM

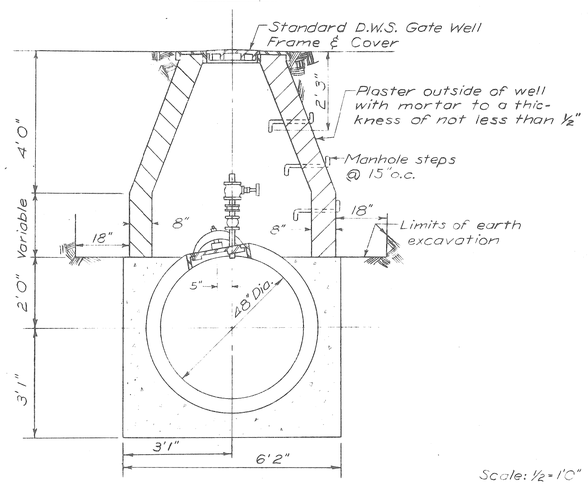
Not to Scale



SECTION A-A



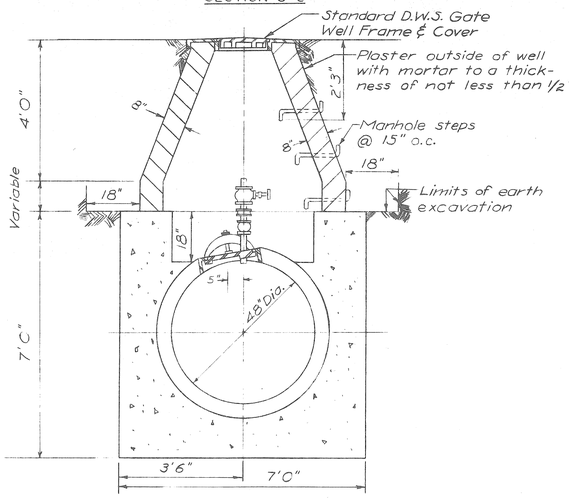
SECTION C-C



SECTION B-B

Scale: ½"=1'0"

DETAIL OF ENTRANCE MANHOLE FOR 48" WATER MAIN



SECTION D-D

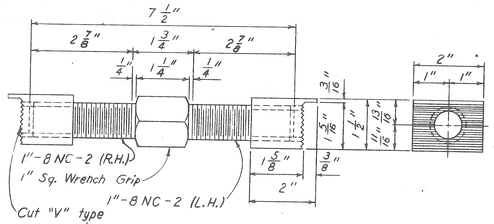
DETAIL OF ENTRANCE MANHOLE FOR 48" WATER MAIN IN ENCASEMENT

C.I. Pipe Joint in concrete encasement shall be covered with Noah's pitch to a thickness not less than ¼"

BELL AND SPIGOT

DETAIL OF CAST IRON JOINT IN ANCHORAGE

No Scale



DETAIL OF 1" PIPE JACK

Scale: Half Size

NOTE:
All Pipe Jack Material to be Bronze A.S.T.M. Designation B 21-52 Alloy "A" Hard

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT H. R. Stewart
APPROVED C. W. Clark
DATE 4-2-62

JOB NO. D-406-6
DRAWING NO. 41 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

ENTRANCE MANHOLE WELL DETAILS

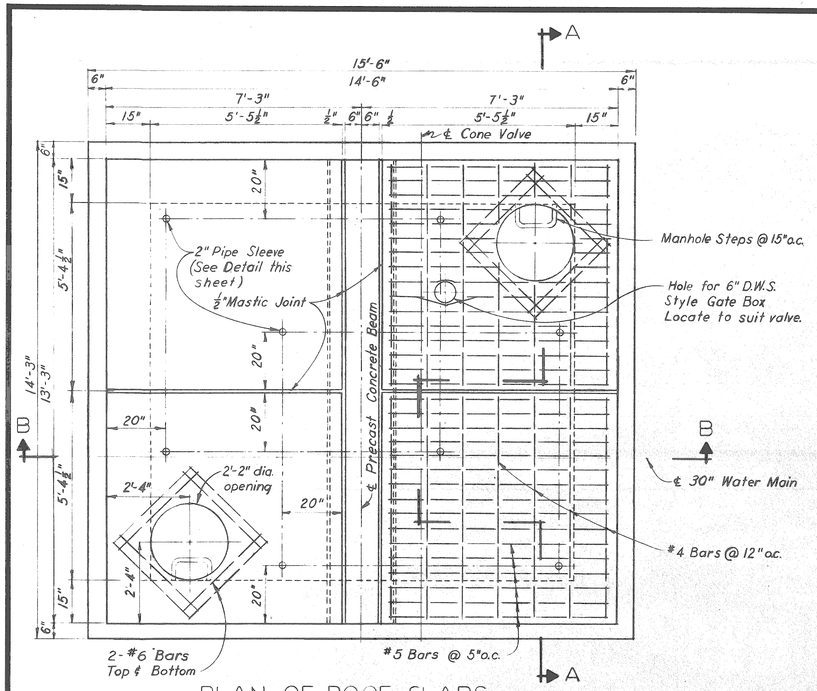
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

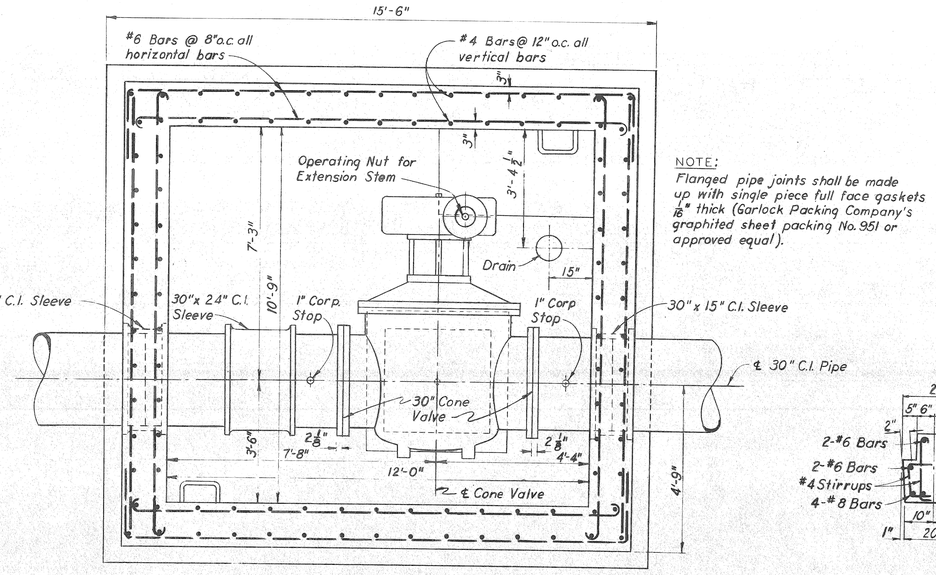
ROAD DESS	WAH	3-28-62
DRAWN BY	R.S.	3-21-62
TRACED BY		
CHECKED BY	E.J.M.B.	3-27-62
SHEET	42 OF 54	

82195B C1



PLAN OF ROOF SLABS

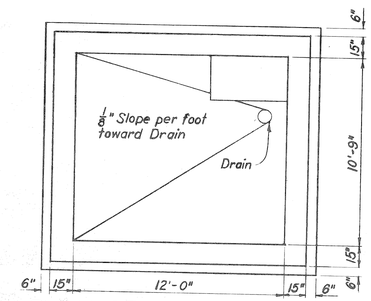
Scale : ½" = 1'-0"



NOTE:
Flanged pipe joints shall be made up with single piece full face gaskets ⅛" thick (Garlock Packing Company's graphited sheet packing No. 951 or approved equal).

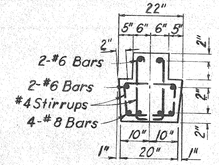
PLAN BELOW ROOF SLABS

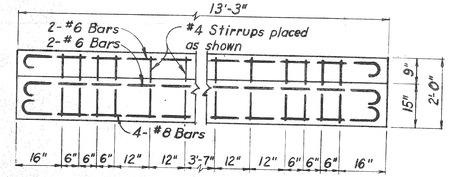
Scale : ½" = 1'-0"



PLAN OF WELL FLOOR

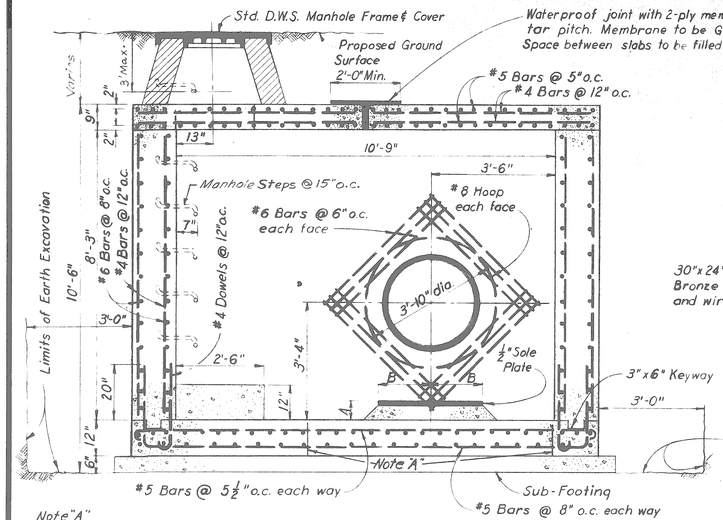
Scale : ¼" = 1'-0"





PRECAST BEAM

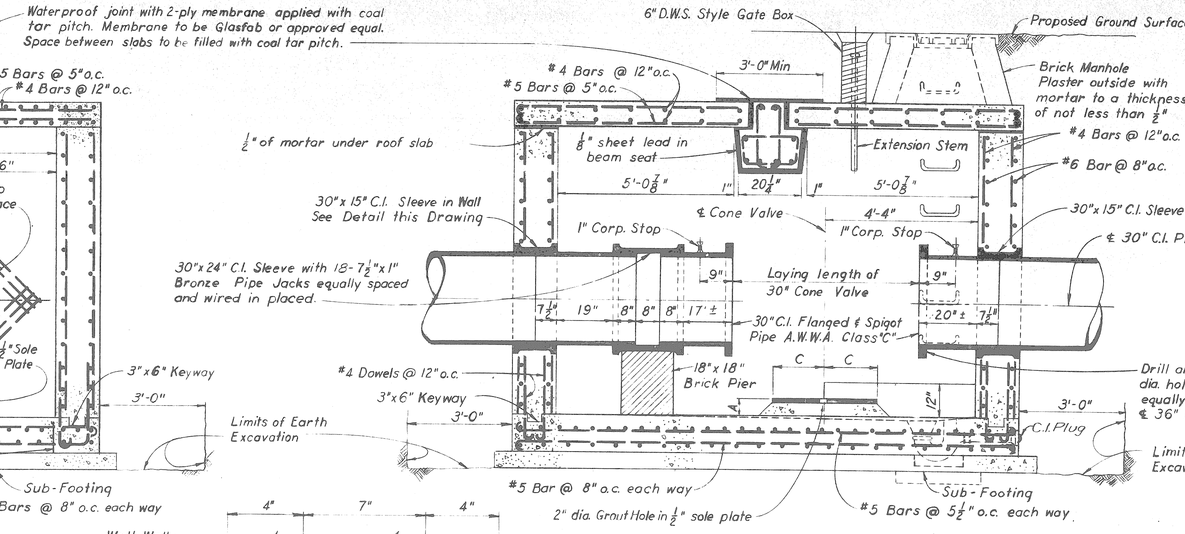
Scale : ½" = 1'-0"



Note "A"
For additional steel in floor of well, where well is constructed as part of encasement See Dwg. No. 31

SECTION A-A

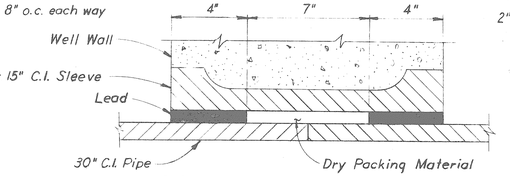
Scale : ½" = 1'-0"



SECTION B-B

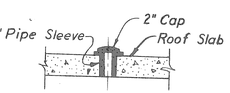
Scale : ½" = 1'-0"

NOTE:
Dimensions A, B, & C shall suit the requirements of the Valve Manufacturer.



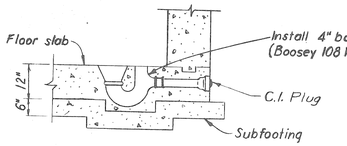
DETAIL OF WALL SLEEVE

Scale : 3" = 1'-0"



DETAIL OF PIPE SLEEVE

No Scale



DETAIL OF DRAIN

Scale : ½" = 1'-0"

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT _____

APPROVED _____

DATE 4-2-62

JOB NO. D-406-6

DRAWING NO. 42 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

30" CONE VALVE WELL DETAILS

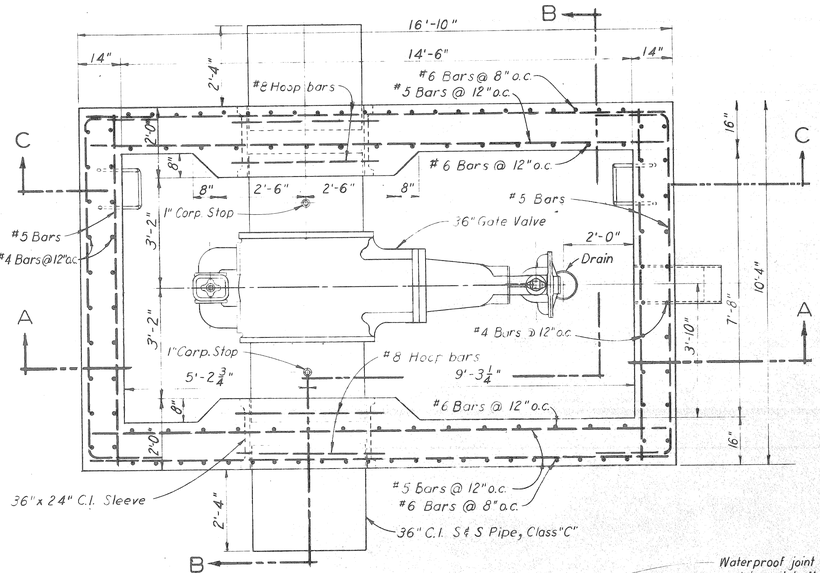
WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

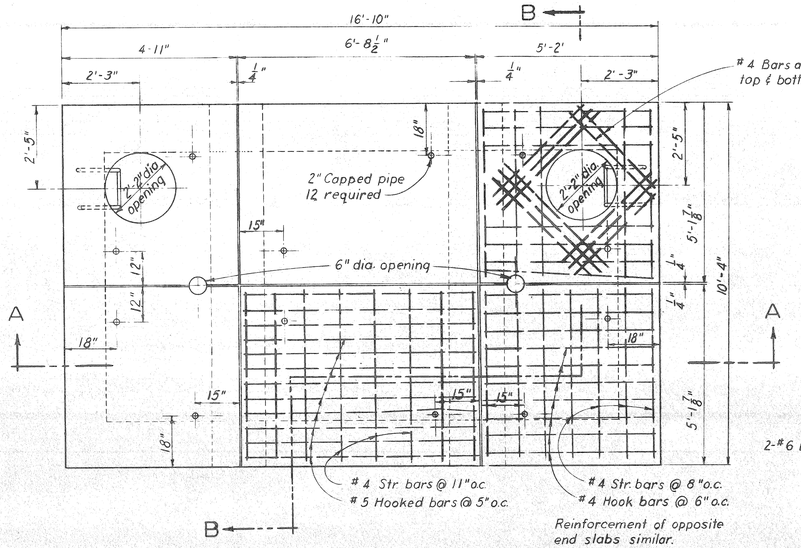
SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	E.S.C.	1-16-62
TRACED BY		
CHECKED BY	E.M.B.	3-21-62
SHEET	43 OF 54	

82195B C1



PLAN BELOW ROOF BEAMS

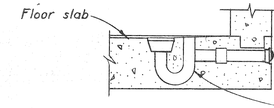
Scale $\frac{1}{2}$"=1'-0"



Reinforcement of opposite end slabs similar.

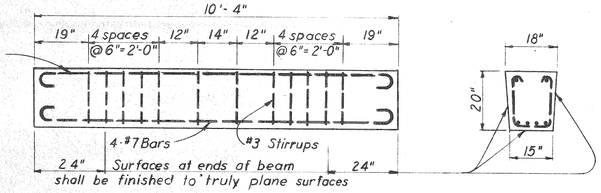
PLAN OF ROOF SLABS

Scale $\frac{1}{2}$"=1'-0"



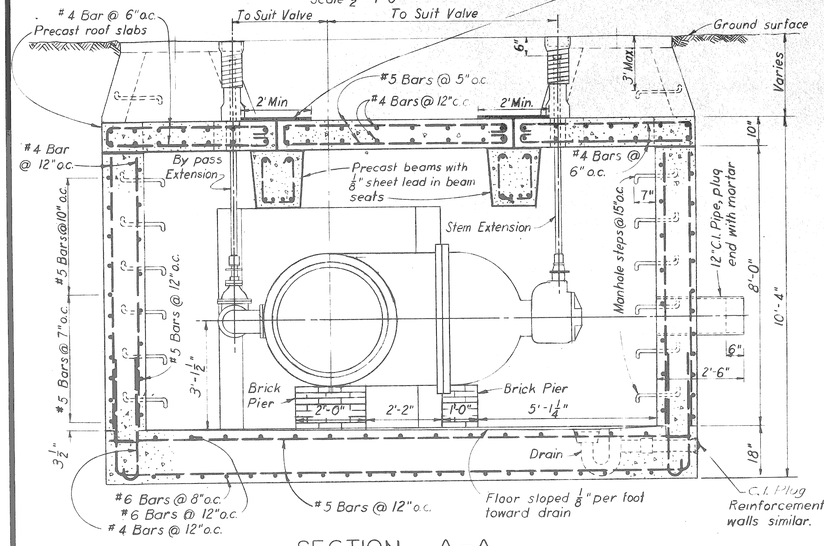
DETAIL OF DRAIN

Scale $\frac{1}{2}$"=1'-0"



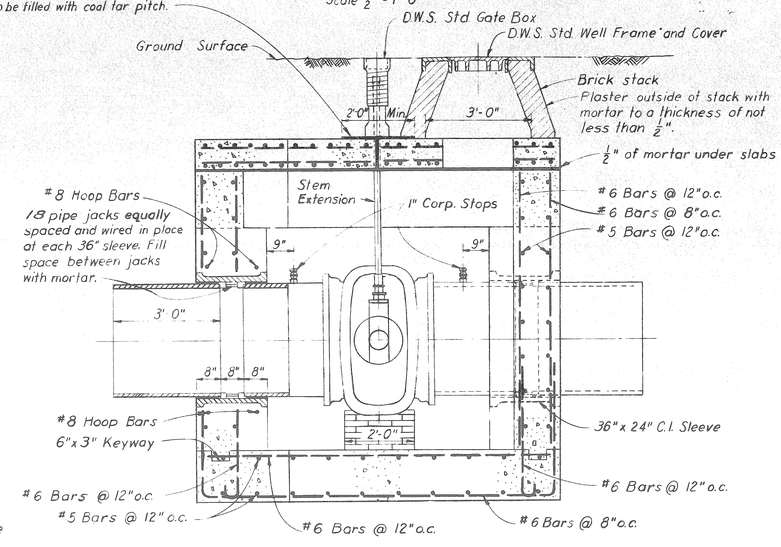
PRECAST BEAM

Scale $\frac{1}{2}$"=1'-0"



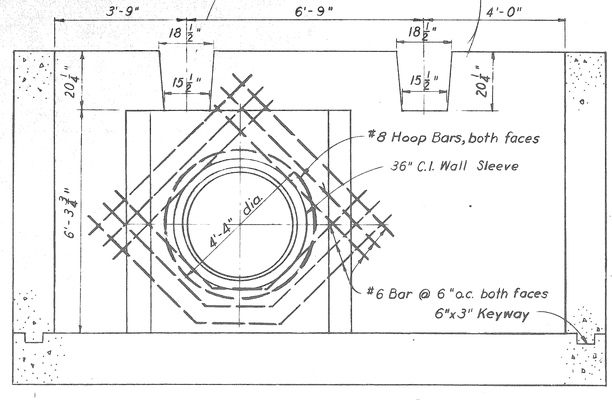
SECTION A-A

Scale $\frac{1}{2}$"=1'-0"



SECTION B-B

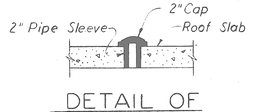
Scale $\frac{1}{2}$"=1'-0"



SECTION C-C

Scale $\frac{1}{2}$"=1'-0"

Showing reinforcing steel around 36" C.I. Wall Sleeve.



DETAIL OF PIPE SLEEVE

No Scale

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT M. E. Stewart

APPROVED Adam Cisar

DATE 4-2-62

JOB NO. D-406-6

DRAWING NO. 43 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY

RELOCATION OF VERNOR AVE. 48" WATER MAIN

36" GATE VALVE WELL DETAILS

WATER SYSTEM ALTERATIONS

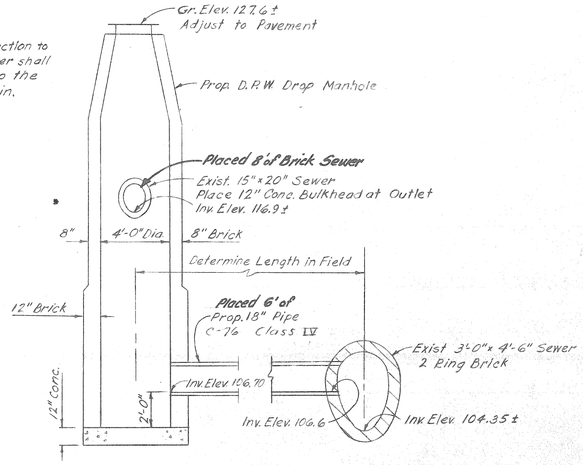
REVISIONS

NO.	DESCRIPTION	DATE	BY

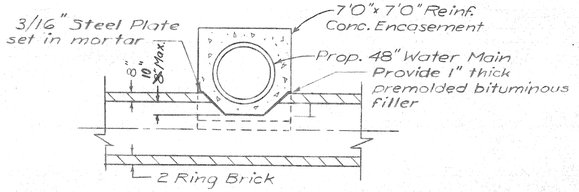
SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	E.S.C.	1-25-62
TRACED BY		
CHECKED BY	E.M.B.	3-21-62
SHEET	44 OF 54	

82195B C1

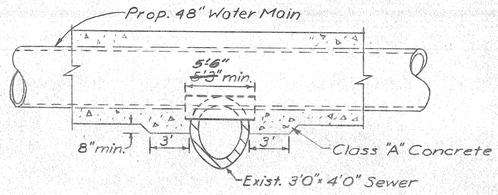
Note:
Drop Manhole and 18" connection to existing 3'-0" x 4'-6" Sewer shall be constructed prior to the construction of Water Main.



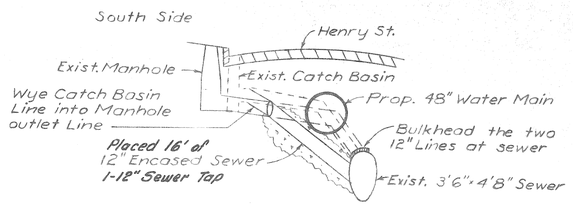
SEWER ALTERATION AT HENRY AND THIRD
Scale 1/4" = 1'-0"



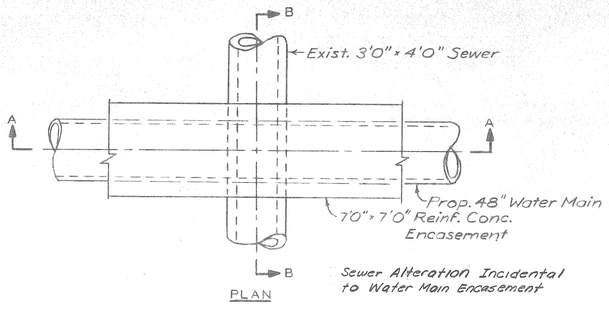
SECTION B-B



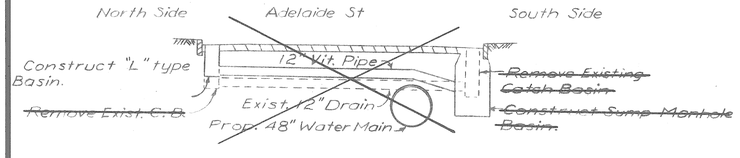
SECTION A-A



12" DRAIN RELOCATIONS AT FOURTH AND HENRY
No Scale



SEWER ALTERATION AT VERNOR AND RIOPELLE
Scale: 3/16" = 1'0"



Not Necessary

CATCH BASIN AND DRAIN ALTERATIONS
IN ADELAIDE AT STA. 71+62
No Scale

REFERENCE DRAWINGS

D.R.W. Special Details for Manholes ___ Dwg. No. 46
Catch Basin Details ___ Dwg. No. 47

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY
CORRECT
APPROVED
DATE 4-2-62
JOB NO. D-406-6
DRAWING NO. 44 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

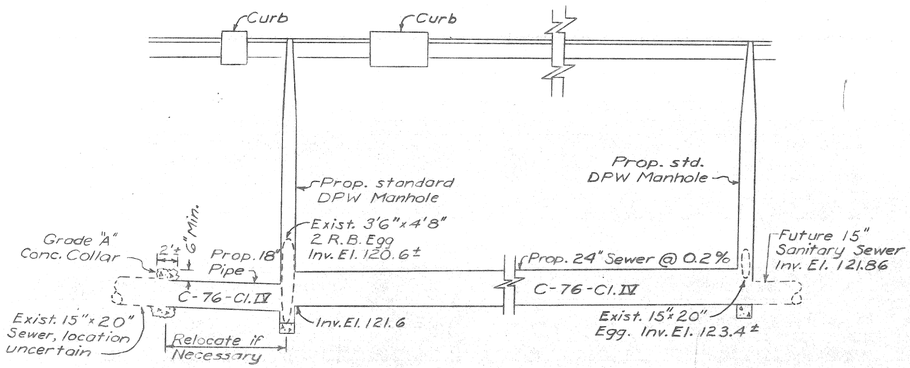
FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
MISCELLANEOUS SEWER ALTERATIONS
WATER SYSTEM ALTERATIONS
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	J.N.F.	3-21-62
TRACED BY	R.J.B.	3-22
CHECKED BY	E.M.B.	3-27-62

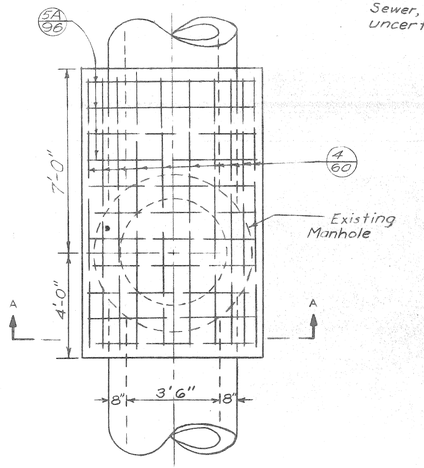
SHEET 45 OF 54

82195B C1

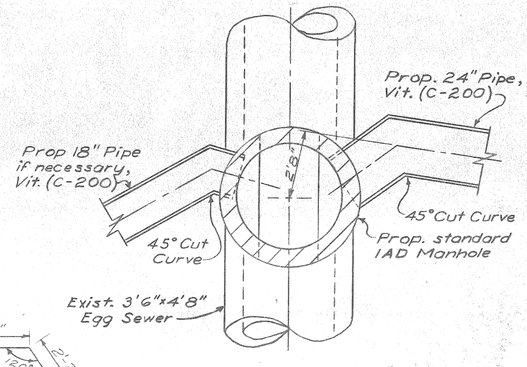


PROFILE

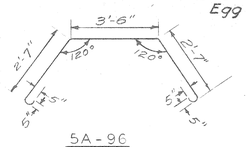
Scale: Horiz. 1"=20'
Vert. 1'=4'

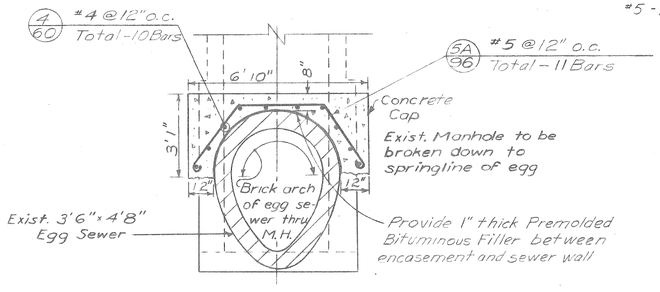


PLAN



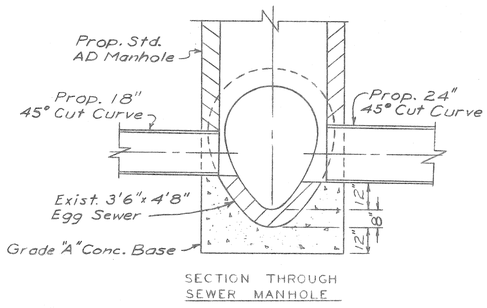
PLAN





SECTION A A

SEWER MANHOLE
CAPPING AT BEAUBIEN
Scale: 3/8"=1'0"



SECTION THROUGH SEWER MANHOLE

SEWER MANHOLE
RELOCATION AT BEAUBIEN
Scale: 3/8"=1'0"

REFERENCE DRAWINGS

D.P.W. Special Details for Manholes ____ Dwg. No. 46

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF WATER SUPPLY

CORRECT _____
APPROVED _____
DATE 4-2-62

JOB NO. D-406-6
DRAWING NO. 45 OF 47

MICHIGAN STATE HIGHWAY DEPARTMENT

FISHER FREEWAY
RELOCATION OF VERNOR AVE. 48" WATER MAIN
SEWER ALTERATIONS AT BEAUBIEN

WATER SYSTEM ALTERATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY

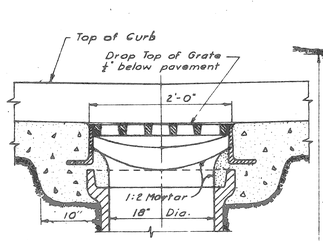
SQUAD BOSS	W.A.H.	3-29-62
DRAWN BY	R.J.B.	3-27-62
TRACED BY	R.J.B.	3-28
CHECKED BY	E.M.B.	3-29-62

SHEET 46 OF 54

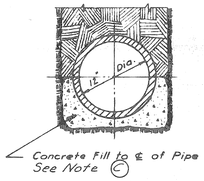
82195B C1

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.			47	
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

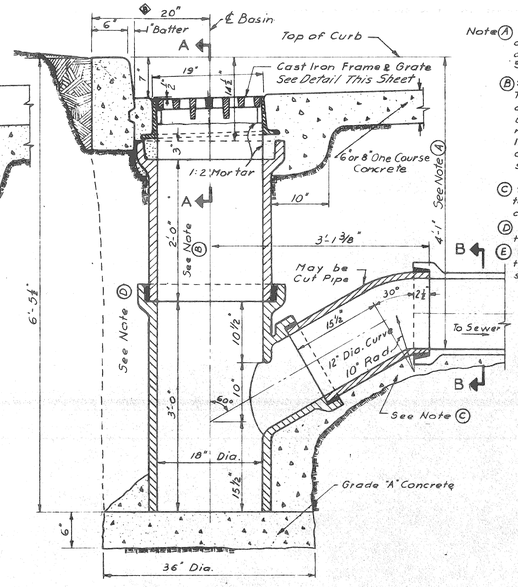
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS



SECTION A - A



SECTION B - B



"Y" TYPE CATCH BASIN

Note (A): This Dimension based on 2'-0" length of str. pipe. If shorter pipe is used, decrease this dimension accordingly. See Note (B)

(B): (For Modified Basin.) To clear an existing utility line as shown on the plan, or to use a shallow outlet, basin may be modified by placing a 12" length of straight 18" Dia. pipe on top of "Y" instead of the standard 24" length.

(C): All excavated space below pipe to be filled with concrete - 3 sacks cement per cu. yd.

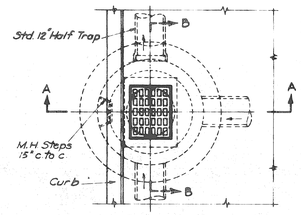
(D): Backfill around sump must be tamped in 6" layers or flushed.

(E): All sewer construction must conform to current Detroit standard sewer specification.

REQUIRED

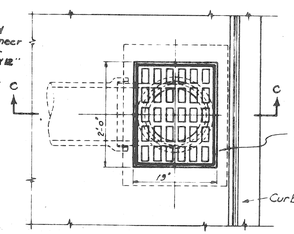
1 - Flat Grate Frame & Cover
1 - 18" Straight Pipe
1 - 18" × 12" Special "Y"
1 - 12" Dia. 30° Curve
3 - Cu. Yds. Excavation } Approximate
0.15 - Cu. Yds. Grade "A" Conc. } Quantities

Fill Concrete Variable. (3 - Bags Cement per Cu. Yds.)



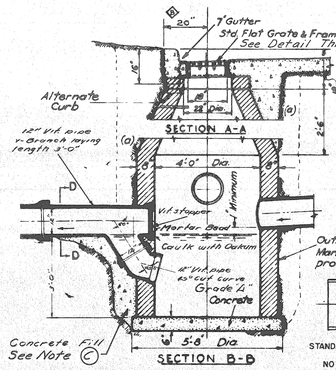
PLAN

NOTE: When "L" type basin is ordered to be used by the Field Engineer or called for on drawings instead of the Standard 18"×12" Y basin, contractor shall construct a standard half-trap if directed to do so by the Field Engineer.



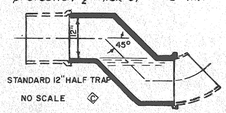
PLAN

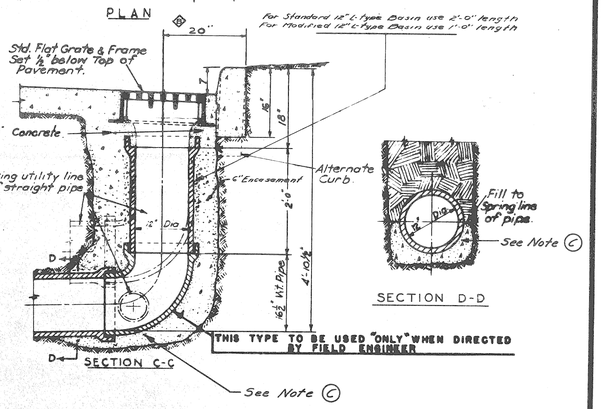
For details of Flat Grate and Frame, See Detail This Sheet



(a) BACKFILL AROUND SUMP TO BE TAMPED OR FLUSHED

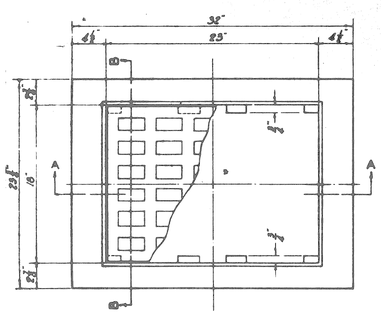
Outside surface of brick Sump Manhole Basin to be given plaster protection ½" thick of 1 to 2 Mix.



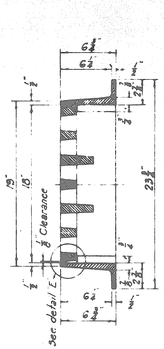


SUMP MANHOLE BASIN
"SM" TYPE BASIN

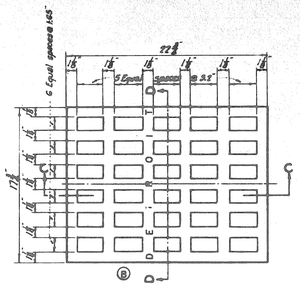
"L" TYPE CATCH BASIN



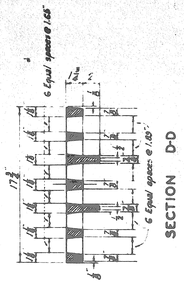
PLAN VIEW OF FRAME



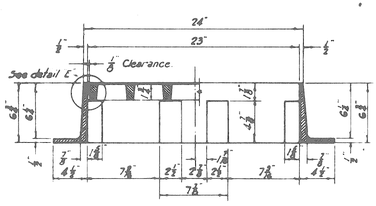
SECTION B-B



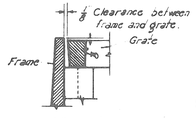
PLAN VIEW OF GRATE



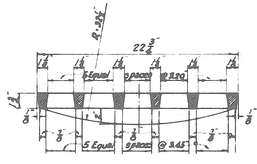
SECTION D-D



SECTION A-A

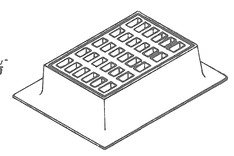


DETAIL "E"
No Scale



SECTION C-C

Notes:-
Frame and grate to be gray iron castings
Total weight ..... 267# Minimum.
Frame ..... 152# "
Grate ..... 115# "



ISOMETRIC VIEW
No Scale

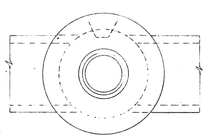
CATCH BASIN DETAILS

DRAWING NO. 7 OF

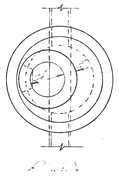
FILE NO. U.S. NO. STATE STENCIL	82195B C1	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
				47

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.			48	
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

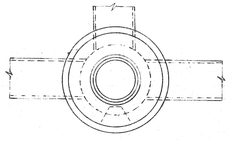
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS



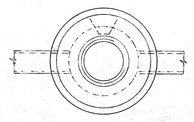
PLAN



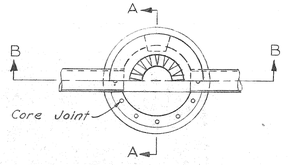
PLAN



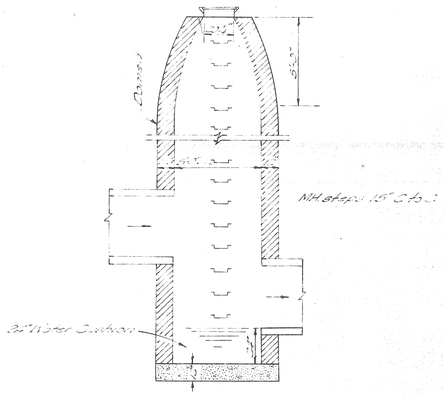
PLAN



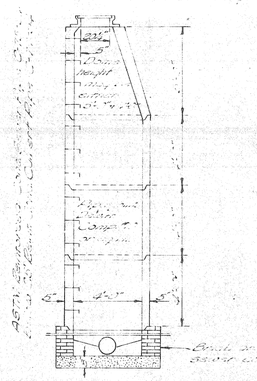
PLAN



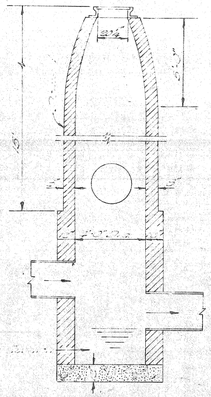
PLAN



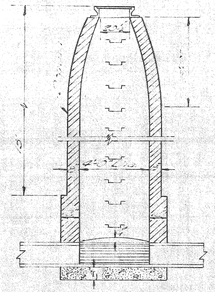
STD. SOLID M.H.
MANHOLE
PLAN



PRECAST MANHOLE
Scale: 1/4"=1'-0"

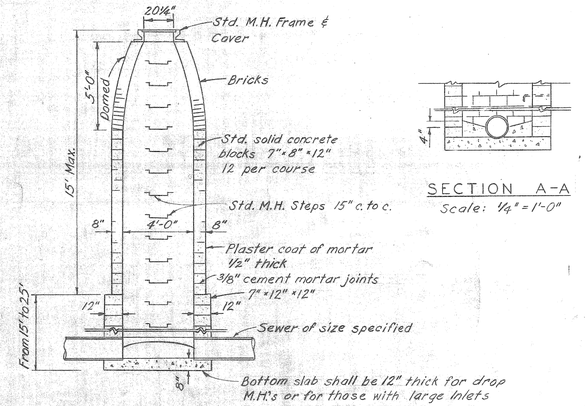


DROP MANHOLE
Scale: 1/4"=1'-0"



D.P.W. STD. M.H. MANHOLE
Scale: 1/4"=1'-0"

Concrete blocks of dimensions shown shall be made in accordance with A.S.T.M. specifications C139-39



SECTION B-B
Scale: 1/4"=1'-0"

SECTION A-A
Scale: 1/4"=1'-0"

CONCRETE BLOCK ALTERNATE FOR STANDARD D.P.W. MANHOLE

Note:
D.P.W. Standard Manholes shall be constructed when M.H. AD is called for on Drawings for Alterations City Sewers.

NO.	DESCRIPTIONS	DES.	CHD.	APP.	DATE
2					
1	Section of Precast Manhole	S.S.			
1	To Steps or Rungs as called for	S.S.	J.L.		
	REVISIONS	DES.	CHD.	APP.	DATE

WORK BY

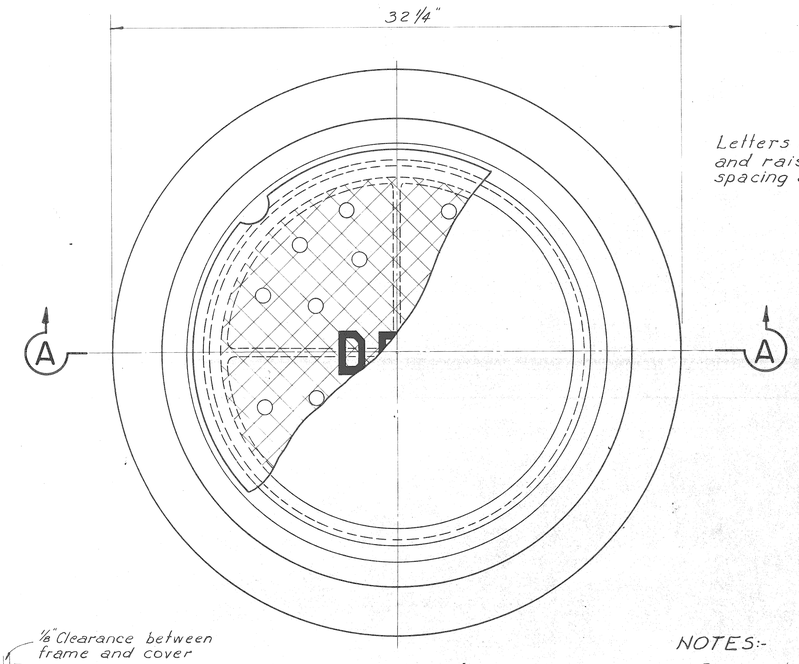
D.P.W. SPECIAL DETAIL FOR MANHOLES

DRAWING NO. 48 OF

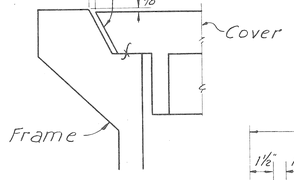
FILE NO. USE NO. ORD STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82195B C1			48

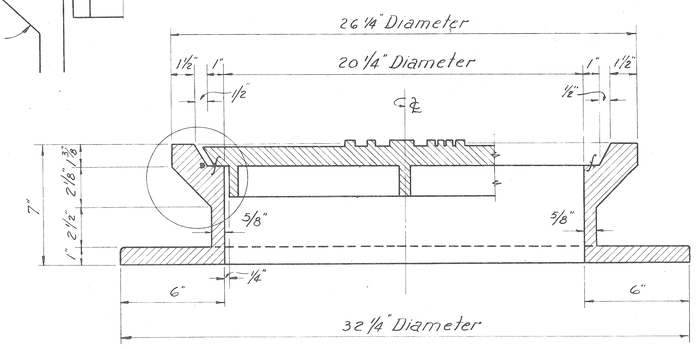
	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.			49	
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

FED. PROJ. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS



PLAN VIEW OF FRAME





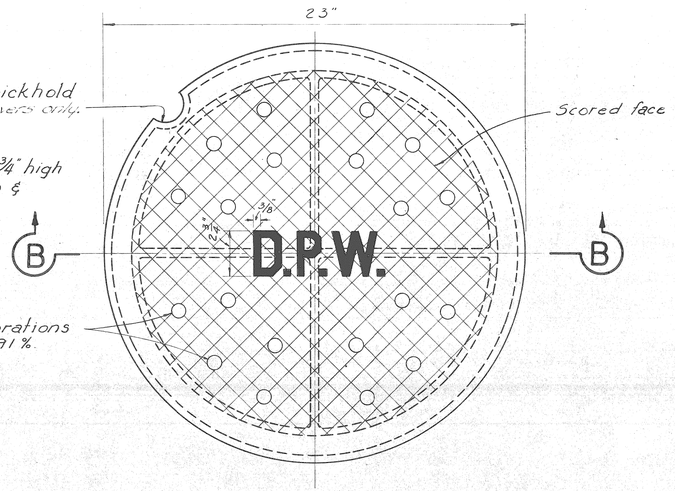
SECTION A-A

NOTES:-

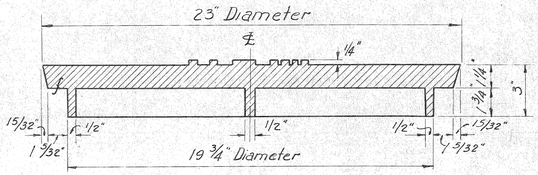
Frame and cover to be gray iron castings.
Total weight = 409# (Perf cover)
Manhole frame = 262#
Cover (Perf) = 147#
Cover (Blank) = 157#

The seating face of the cover and the seat for same on the frame shall be machine finished so that the cover shall rest on even bearing on its seat at all points without rocking or tilting.

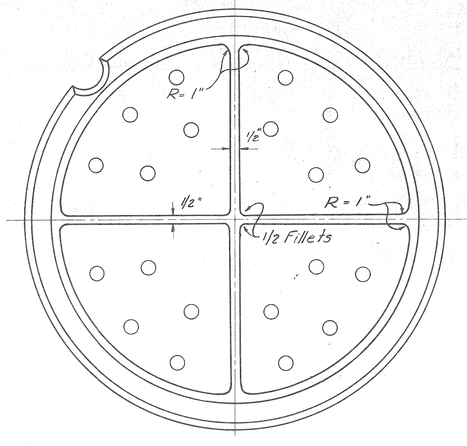
SCALE 3" = 1'



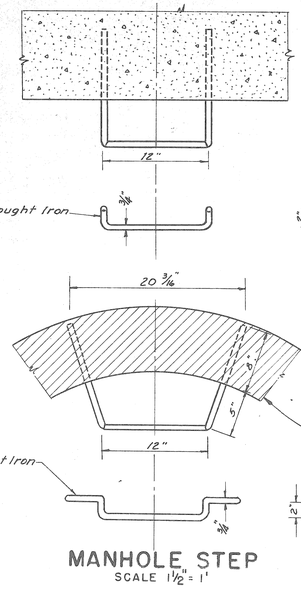
PLAN VIEW OF COVER



SECTION B-B



BOTTOM VIEW OF COVER



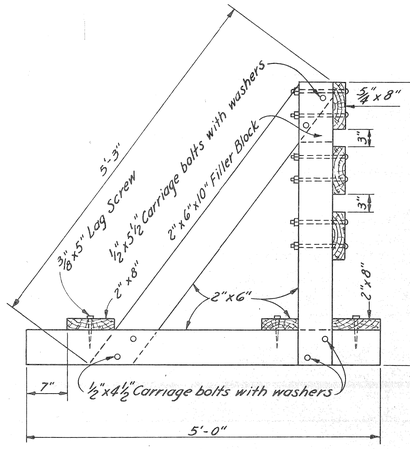
Cast Iron Manhole Steps:
Cast iron manhole steps shall be 10"x10"x3" as manufactured by the Neenah Foundry Co. #-1980-E, or by the Clow National F-3630, or by the East Jordan Iron Works 1161, or Approved Equal.

MANHOLE STEP
SCALE 1 1/2" = 1'

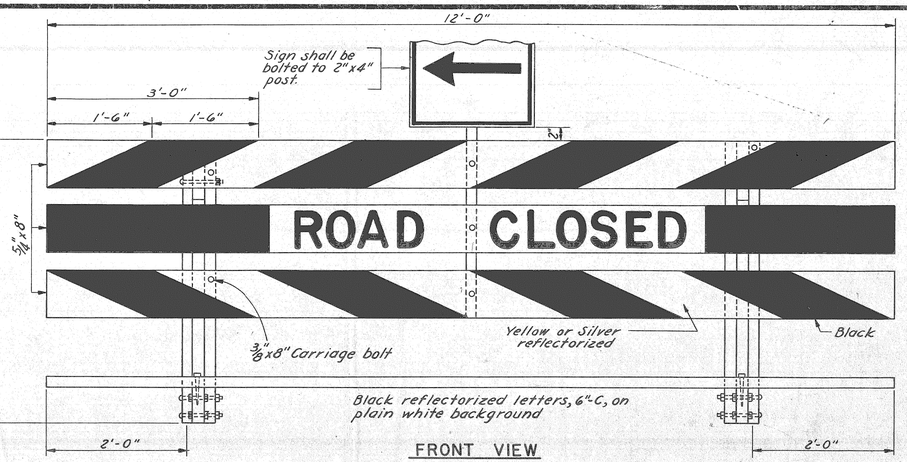
	D					
	C					
	B	Added Specs. for C.I. Manhole Steps	S.S.	K.L.	J.W.D.	11-4-96
	A	Deleted "Mile Steel" From M.H. Steps	S.S.	K.L.	J.W.D.	11-4-96
Noted By		DESCRIPTIONS	DEV.	CK'D	APP'D	DATE
		REVISIONS				

SPECIAL DETAIL OF MANHOLE FRAME AND COVER AD

PLOTS NOT TO SCALE STENCIL	82195B CI	STATE PROJECT	FED. PROJ.	SHEET NO. 49



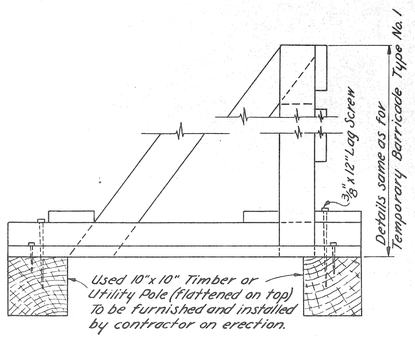
END VIEW



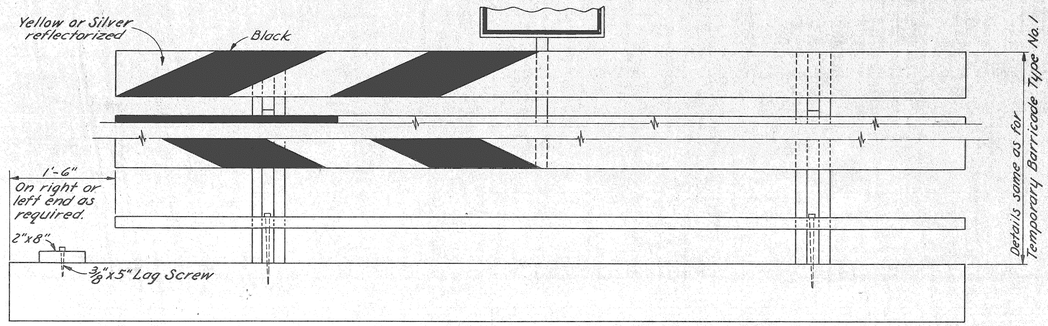
FRONT VIEW

TEMPORARY BARRICADE - TYPE No. 1

Scale: 1"=1'-0"



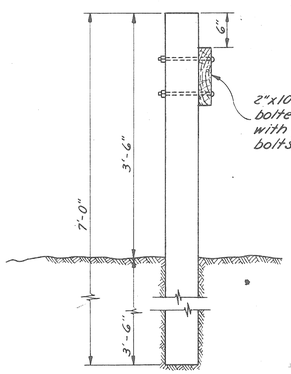
END VIEW



FRONT VIEW

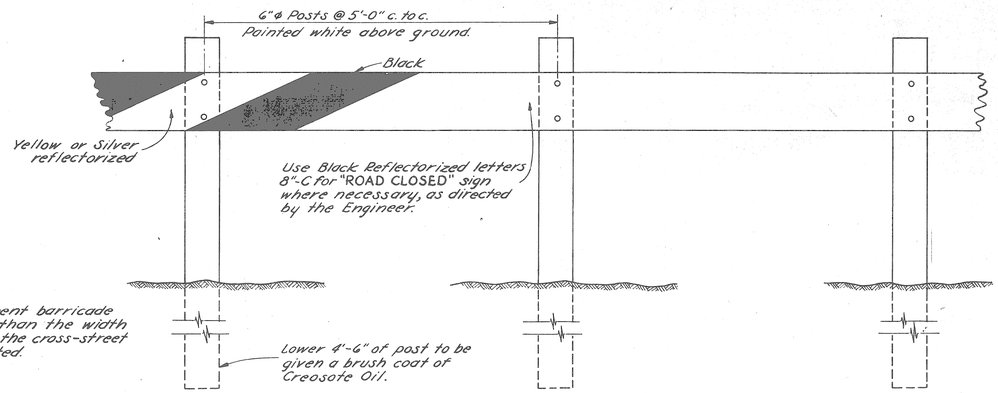
TEMPORARY BARRICADE-TYPE No. 2

Scale: 1" =1'-0"



END VIEW

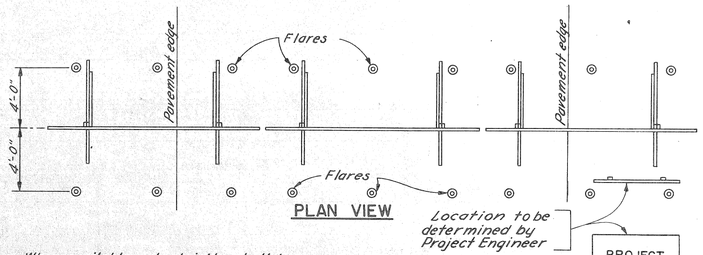
NOTE:
Each semi-permanent barricade shall be 10' longer than the width of the pavement of the cross-street or alley to be protected.



FRONT VIEW

SEMI-PERMANENT BARRICADE

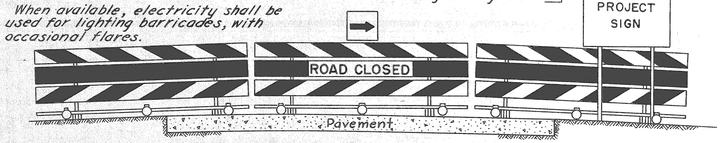
Scale: 1"=1'-0"



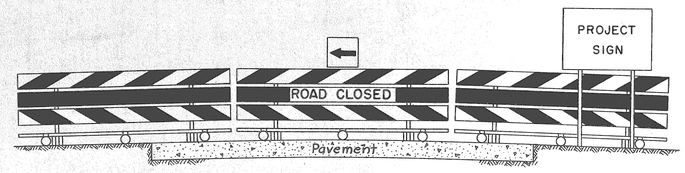
PLAN VIEW

Location to be determined by Project Engineer

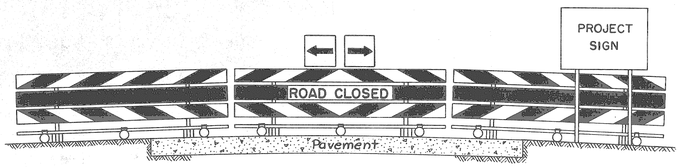
When available, electricity shall be used for lighting barricades, with occasional flares.



View of barricade when traffic is directed to right



View of barricade when traffic is directed to left



View of barricade when traffic is directed to left and right

TYPICAL BARRICADE UNITS

Scale: 1/4"=1'-0"

NOTE:
All face boards to be Douglas Fir.
All other boards and posts to be Fir.

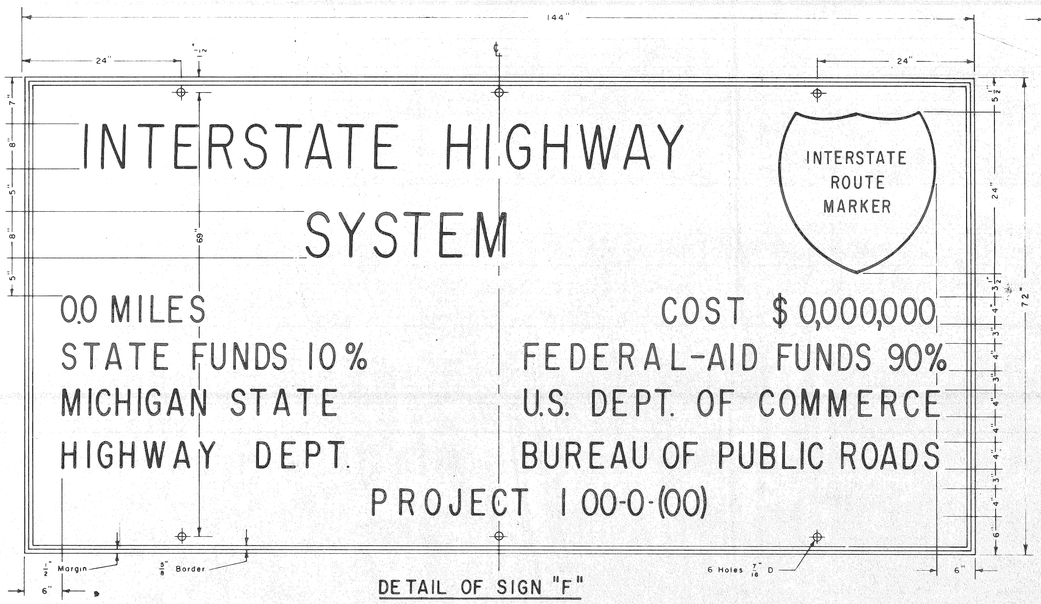
DETAILS FOR BARRICADES

DIST.	STATE	FED.AID PROJ. NO.	FINAL PLANS	SHEET NO.	TOTAL SHEETS
4	MON.			63	
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

DIST.	STATE	FED.AID PROJ. NO.	FINAL PLANS	SHEET NO.	TOTAL SHEETS
4	MON.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

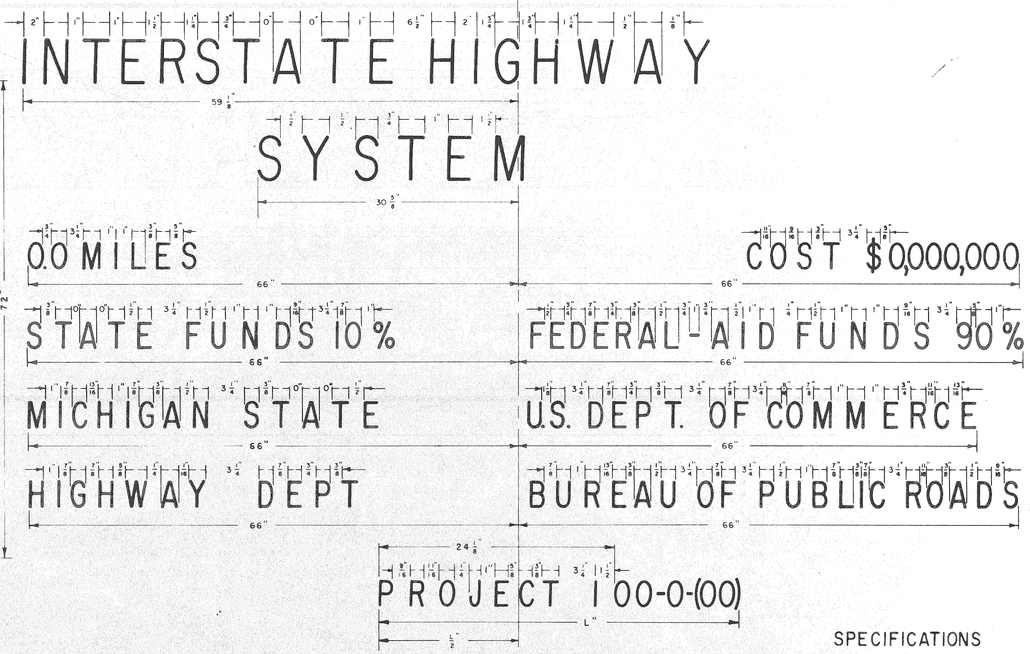
FILE NO. USE NO. 330 REVISED	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
82195B CI			50

ORIGINAL



DETAIL OF SIGN "F"

Scale None



DETAIL OF LETTER SPACING

Scale None

SPECIFICATIONS

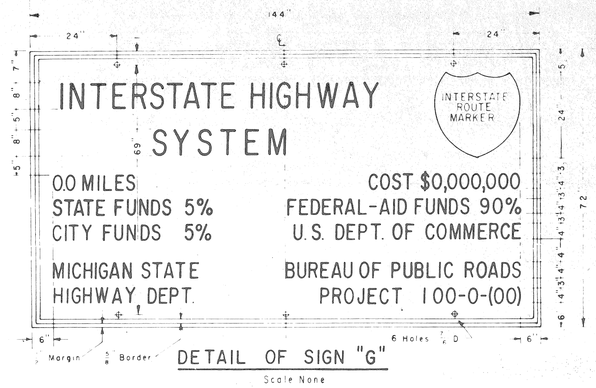
Size — Sign "F" — 12'-0" X 6'-0"
Sign "G" — 12'-0" X 6'-0"
Sign "H" — 12'-0" X 7'-0"
5/8" exterior plywood or equivalent

Legend — Series "C" letters of the height indicated - Michigan State Highway Department standard alphabet.

Color — Black legend and border on a white background.

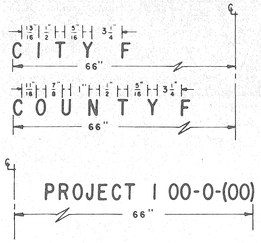
Reflectorization — None

All material and workmanship shall comply with Michigan State Highway Department current specifications.

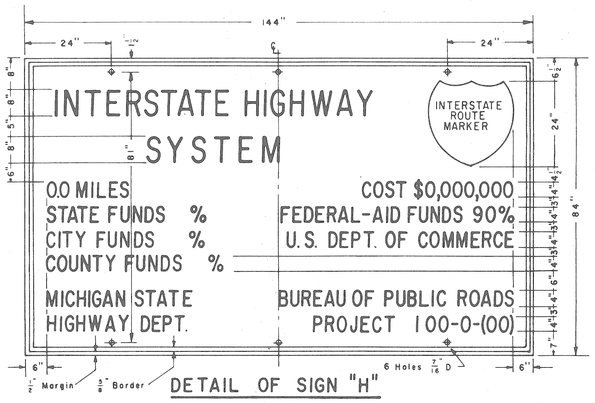


DETAIL OF SIGN "G"

Scale None



ALTERNATE LETTER SPACING FOR SIGN "G" & "H"



DETAIL OF SIGN "H"

Scale None

NOTES

1. An abbreviated form legend, such as BRIDGE, DRAINAGE, UTILITIES, SIGNING, etc., may be substituted for length of project where applicable. In these cases legend shall be same height as word "MILE" and placed similarily.

2. Where fractional percentages are required, such as 12 1/2, fractional digits shall be 2" Series "C"

3. Signs shall be located as directed by the Engineer and erected on the right side of roadway so placed that bottom of each sign is as follows
   Sign "F" - 5' above edge of pavement
   Sign "G" - 5' above edge of pavement
   Sign "H" - 4' above edge of pavement
   They shall be positioned so that left edge of signs are two feet beyond the outer edge of the roadway shoulder or two feet to the right of the face of an unmountable curb or as directed by the Engineer.
   Sign "F", "G" and "H" shall be supported by three 4" ϕ posts or equivalent.

4. **See Traffic Division Standard plan SB-3-5 for Interstate Route marker construction details (Route marker used on construction identification signs will not be reflectorized).**

82195B C1

MICHIGAN STATE HIGHWAY DEPARTMENT
STANDARD PLAN FOR
CONSTRUCTION IDENTIFICATION SIGN INTERSTATE PROJECTS

DIVISION APPROVAL

CHECKED — M. Rothstein, ENGINEER OF DESIGN — 4/28/61 DATE
RECOMMENDED FOR APPROVAL — Harold H. Bennett, TRAFFIC ENGINEER — 4-28-61 DATE
RECOMMENDED FOR APPROVAL — C. H. Carl Jr., ENGINEER OF BRIDGE AND ROAD DESIGN — 4/28/61 DATE

OFFICES OF DESIGN AND CONSTRUCTION

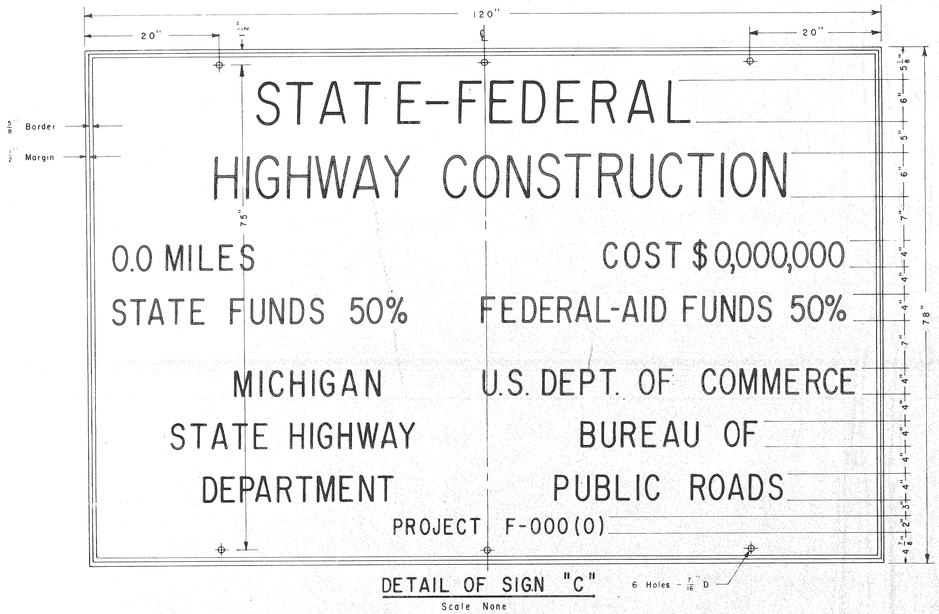
APPROVED — C. P. Laird, CONSTRUCTION ENGINEER — 4-28-61 DATE
APPROVED — G. T. McCarthy, HIGHWAY ENGINEER — 4-28-61 DATE

STATE HIGHWAY DEPARTMENT APPROVAL

APPROVED — JOHN C. MACKIE, STATE HIGHWAY COMMISSIONER
BY — John E. Mayer, DEPUTY STATE HIGHWAY ENGINEER — 4-28-61 DATE

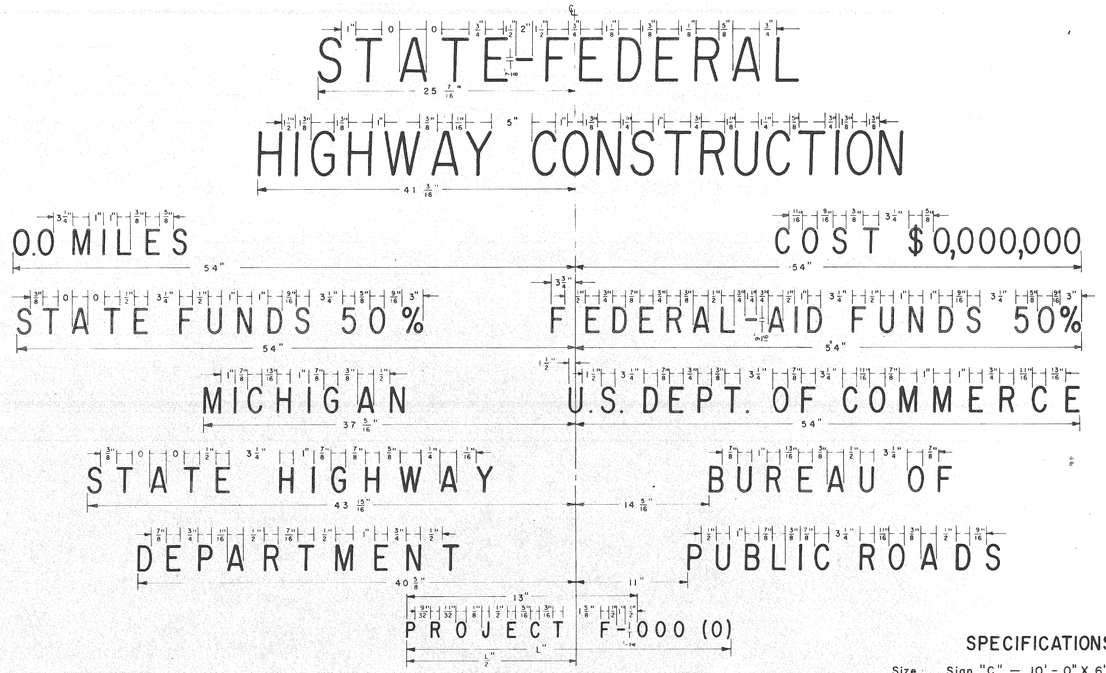
DRAWN BJE & F.J.A. CHECKED BY — APPROVED BPR — SHEET NO. 51

E-6-I-60



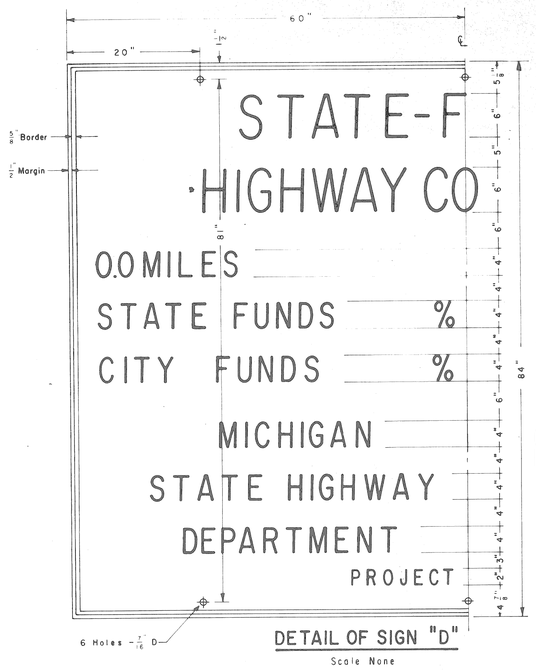
DETAIL OF SIGN "C"

Scale None



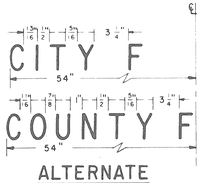
DETAIL OF LETTER SPACING

Scale None

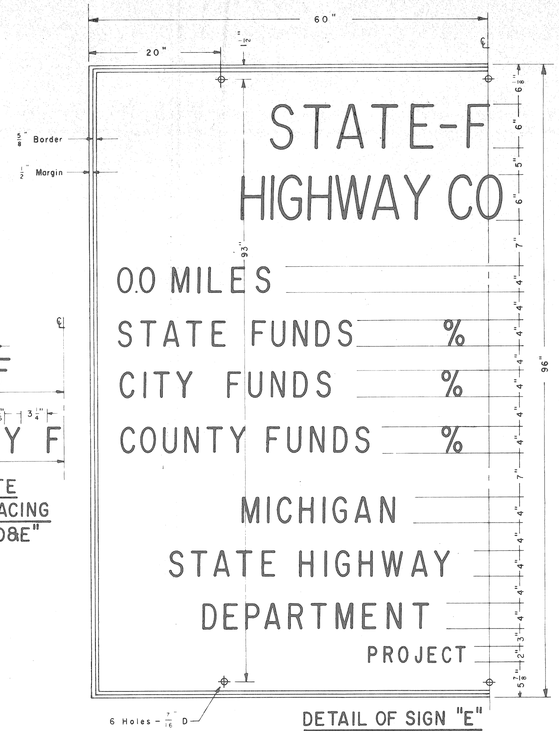


DETAIL OF SIGN "D"

Scale None



ALTERNATE
LETTER SPACING
For Sign "D&E"



DETAIL OF SIGN "E"

Scale None

NOTES

1. An abbreviated form legend, such as BRIDGE, DRAINAGE, UTILITIES, SIGNING, etc., may be substituted for length of project where applicable. In these cases legend shall be same height as word "MILE" and placed similarily.
2. Where fractional percentages are required, such as 12 1/2, fractional digits shall be 2" Series "C".
3. Signs shall be located as directed by the Engineer and erected on the right side of roadway so placed that bottom of each sign is as follows:
   Sign "C" - 5' above edge of pavement.
   Sign "D" - 5' above edge of pavement.
   Sign "E" - 4' above edge of pavement.
   They shall be positioned so that left edge of signs are two feet beyond the outer edge of the roadway shoulder or two feet to the right of the face of an unmountable curb or as directed by the Engineer.
   Sign "C", "D" and "E" shall be supported by three 4" ϕ posts or equivalent.

SPECIFICATIONS

Size: Sign "C" — 10'-0" X 6'-6"
Sign "D" — 10'-0" X 7'-0"
Sign "E" — 10'-0" X 8'-0"
5/8" exterior plywood or equivalent

Legend: Series "C" letters of the height indicated - Michigan State Highway Department standard alphabet.

Color: Black legend and border on a white background.

Reflectorization: None

All material and workmanship shall comply with Michigan State Highway Department current specifications.

MICHIGAN STATE HIGHWAY DEPARTMENT
STANDARD PLAN FOR
CONSTRUCTION IDENTIFICATION SIGN
PRIMARY PROJECTS

DIVISION APPROVAL

CHECKED	M K Eschelman, ENGINEER OF DESIGN	4-26-61 DATE
RECOMMENDED FOR APPROVAL	Harold H Bennie, TRAFFIC ENGINEER	4-26-61 DATE
RECOMMENDED FOR APPROVAL	C H Cook, ENGINEER OF BRIDGE AND ROAD DESIGN	4-26-61 DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED	L T Laird, CONSTRUCTION ENGINEER	4-26-61 DATE
APPROVED	G J McCarthy, CHIEF DESIGN ENGINEER	4/26/61 DATE

STATE HIGHWAY DEPARTMENT APPROVAL

APPROVED JOHN C. MACKIE
STATE HIGHWAY COMMISSIONER

BY John E. Mayer, DIRECTOR OF ENGINEERING-CHIEF ENGINEER — 4/26/61 DATE

DRAWN BY GAR CHECKED BY _____ APPROVED BPR _____ SHEET NO. 52

82195B C1

E-6-F-60

QUANTITY SHEET – E

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.			53	
ROUTE	STATE PROJECT	COUNTY	TWP.	SHEET NO.	TOTAL SHEETS
	U 95-1(49)				
	Data (25)				

EARTHWORK AND MISCELLANEOUS

	UNIT	AS PER PLANS CONTROL SECTION B.I. 82195 B C1	B.I. 82195 D C2	B.I. 82251 B C29	U 82195 E C3	AS CONSTRUCTED CONTROL SECTION B.I. 82195 B C1	B.I. 82195 D C2	B.I. 82251 B C29	U 82195 E C3
EARTHWORK									
Earth Excavation				5,236			35 SUM 78 P.F. FINAL 4/11/64		
For Alterations to Water & Sewers	Cu. Yds.	3,468	10,881	~~5,564~~	3,012	3,441	11,003	5,250	2,957
For Alterations to Lighting	Cu. Yds.	~~0~~	~~0~~ ①	①	~~20~~	–	–	–	–
Total Earth Excavation	Cu. Yds.	~~3,468~~	~~10,881~~	~~5,564~~	~~3,032~~	3,441	11,003	5,250	2,957
		3,468	10,881	5,236	3,012		11/10/64 POST FINAL – 80 POST FINAL 4/11/64		
Backfill - Porous Material - Grade A (Compacted in Place)				3,441					
For Alterations to Water & Sewers	Cu. Yds.	1,941	7,428	~~3,903~~	1,875	2,139	7,824	3,449	1,886
For Alterations to Lighting	Cu. Yds.	~~0~~	~~0~~	3,441 ①	~~0~~	–	–	–	–
Total Porous Material - Grade A (Compacted in Place)	Cu. Yds.	~~5,844~~	~~5,581~~	~~7,344~~	~~3,761~~	2,139	7,824	3,449	1,886
		1,941	3,428		1,875		4/19/64 POST FINAL		
MISCELLANEOUS		806	840	481	633		8/10/66		
Concrete - Grade A	Cu. Yds.	~~808~~	~~840~~	~~481~~ ①	~~636~~	806	849	465	634
Steel Reinforcement	lbs.	48,549	49,448	~~27,445~~	43,018	48,549	48,559	25,813	43,018
Mulching	Tons	.06	.06	.12		–	–	–	
Class A Seeding	Acres	.03	.03	.06		.03	.03	.06	
Top Soil Surface	Cu. Yds.	8	5	16		8	5	16	
Maintaining Traffic	Lump Sum					Lump	Sum	L.S.	L. SUM
Timber Curb & Snow Fence	Lin. Ft.	200	200	10	30	200	200	10	30
Concrete - Grade X	Cu. Yds.		161				161		
Stone Surfacing	Sq. Yds.			225 ①					
Disassembling & Reassembling Exist. Fence	Lump Sum			Lump Sum					
		Auth. #E1005							
		Revised by ~~Recommendation No. 1~~							

EXPLANATION OF CHANGES	BI 82195 B-C1	BI 82195 D-C2	BI 82251 B-C29	U 82195 E-C3
	Auth. No.	Auth. No.	Auth. No.	Auth. No.
			4-1010	
	K-1009		2-1008 6-1003	
	A-1001	A-1002		C-1003
	BA 1046	BI 1047	AH 1028	BB 1045
	BB 1045			
			4-1010	
	K-1009		2-1008 6-1003	
	A-1001	A-1002		C-1003
	BA 1046	BI 1047	AH 1028	BB 1045
	BB 1045			
	A-1001			
	A-1004 BA 1046	2-1002 Y-1020	6-1005 AT 1029	5-1003 3-1010
		Y-1020	E-1005	
	1032	BC 1044	AD 1024	
				F-2001
				F-2001
	AK-1031	W-1018	6-1005 AU-1040	T-1015
	AS-1039			
	AK-1031			
		W-1018	AU-1040	
			AU-1040	
	AK-1031			
		AZ-1043		
			AC-1023	
			AC-1023	
			6-1005 AL-1029	
		Peco # NF		AE-1028 E-1005

ALTERATIONS TO SEWERS	UNIT	AS PER PLANS CONTROL SECTION B.I. 82195 B C1	B.I. 82195 D C2	B.I. 82251 B C29	U 82195 E C3	AS CONSTRUCTED CONTROL SECTION B.I. 82195 B C1	B.I. 82195 D C2	B.I. 82251 B C29	U 82195 E C3
12" Sewer, 6.0' Deep or Less	Lin. Ft.	45	12	~~24~~ 33 ①	6	27	60	54	55
12" Sewer, (Encased) 14.1' to 25' Deep	Lin. Ft.	13				16			
15" Sewer, (Conc), C-14, 6.1' to 14' Deep	Lin. Ft.	19				–			
18" Sewer, (Conc), C-76-Class III, 14.1' to 25' Deep	Lin. Ft.		21	33			6	–	
24" Sewer, (Conc), C-76-Class III, 14.1' to 25' Deep	Lin. Ft.			129				123	
12" Sewer Taps	Each	2				1			
18" Sewer Taps	Each		1				2		
Catch Basins "L" (with salvaged cover), 6.0' Deep or Less	Each			1				–	
Catch Basins "SM" (with salvaged cover), 6.0' Deep or Less	Each	1		1		1		–	
Catch Basins "V" (with salvaged cover), 6.0' Deep or Less	Each		2	~~3~~ 4	1		2	2	1
Manholes AD, 14.1' to 25' Deep	Each			1				1	
Manholes AD, (with salvaged cover), 14.1' to 25' Deep	Each			1 ①				1	
Drop Manholes AD, 14.1' to 25' Deep	Each		1				1		
Removing Catch Basins	Each	1	2	~~5~~ 6	1	1	2	2	1
Removing Manholes	Each	1				1			
Removing Manholes - Special	Each			1				1	

EXPLANATION OF CHANGES	BI 82195 B-C1	BI 82195 D-C2	BI 82251 B-C29	U 82195 E-C3
	Auth. No.	Auth. No.	Auth. No.	Auth. No.
	AK-1031	W-1018	6-1005 AU-1040	T-1015
	AS-1039			
	AK-1031			
		W-1018	AU-1040	
			AU-1040	
	AK-1031			
		AZ-1043		
			AC-1023	
			AC-1023	
			6-1005 AL-1029	
		Peco # NF		AE-1028 E-1005

① Revise by ~~Recommendation No. 1~~ Auth. #E1005
② Add by ~~Recommendation No. 2~~ Auth. #F2001

REMOVAL QUANTITIES

AS PER PLANS

SHEET NO.	Removing Old Pavement Sq. Yds.	Removing Sidewalk Sq. Yds.	Removing Curbs Lin. Ft.	Removing D.S.R. Track Strip Sq. Yds.	Removing Trees 13"-24" Dia. Each	Pavement Replacement Sq. Yds.	4" Conc. Sidewalk Sq. Ft.	7" Conc. Sidewalk Sq. Ft.	Conc. Curb Detail 2A Lin. Ft.	
4	23	160				23	721	720	9	
5	165	53			1	165	323	152	93	
6	221	30		229		450	272			
7	128	14	6	116		244	128		28	
~~50~~	~~0~~					~~0~~				Auth. #E1005
~~51~~		~~0~~					~~0~~			Revised by ~~Recommendation No. 1~~
Totals	~~512~~ 537	~~263~~ 237	6	345	1	~~887~~ 882	~~1,443~~ 1,447	872	130	Control Section B.I. 82195 B-C1
7	18	116		11		29	1,040		51	
8	34	398				20	3,582	125		
9	97	311				97	2,047	758	23	
10	72	152		6		78	1,276	88	10	
11	417	13	12			417	120		39	
12	402	23				402	208		52	
13	450	43		26		476	386		69	
14	464					464			10	
15	414					414				
16	246			17		263				
39	53	3				53	24		8	
~~50~~	~~50~~ 0	~~22~~ 0				~~50~~ 0	~~101~~ 0		~~21~~ 0	Auth. #E1005
~~51~~	~~0~~ 0	~~0~~ 0				~~0~~ 0	~~30~~ 0		~~5~~ 0	Revised by ~~Recommendation No. 1~~
Totals	~~2,224~~ 2,667	~~1,184~~ 1,059	12	60	—	~~2,730~~ 2,713	~~3,811~~ 8,683	971	~~280~~ 262	Control Section B.I 82195 D-C2
16	70					70				
17	439	21		15		454	192		99	
18	121	6	199			121	50		306	
19	306	19				306	172		30	
20	~~333~~	~~112~~ 12			1	~~333~~	~~201~~ 48		~~245~~ 18	
21	295	10 ①				295	93		85	
39	33					33				
	1,497	68				1,512	415		538	
Totals	~~1,825~~	~~168~~	199	15	1	~~1,690~~	~~1,518~~	—	~~765~~	Control Section B.I 82251 B-C29
21	149	10				149	89		26	
22	362	3				362	30			
23	238					238				
24	192	53				192	477		21	
~~50~~	~~55~~ 0	~~23~~ 0				~~55~~ 0	~~24~~ 0		~~0~~	Auth. #E1005
~~51~~										Revised by ~~Recommendation No. 1~~
	941	46				941	696		47	
Totals	~~996~~	~~49~~	—	—	—	~~996~~	~~800~~	—	~~73~~	Control Section U 82195 E-C3

AS CONSTRUCTED

4	40	~~177~~				39	~~1005~~	587	11	
5	53	76			1	149	626	59	98	
6	247	40		180		423	360		82	
7	196	2	6	56		252	13		6	
	Auth. #E-1005	Auth. #AD-1035		Auth. #AD-1035		Auth. #E-1005	Auth. #AU-1040	Auth. #AU-1040	Auth. #AE-1028	
Totals	636	295	6	236	1	863	2004	646	197	Control Section B.I 82195 B-C1
7	16	219		12		25	1973		67	
8	12	453				11	3911	165	18	
9	87	372				86	2254	1090	21	
10	53	158		10		62	1343	82	25	
11	389	49				387	445		38	
12	375	16				373	139		55	
13	445	28		11		453	256		224	
14	462					462			229	
15	440					440			229	
16	264	28		17		281	248		16	
39	10					13				
	Auth. # B-1002	Auth. # B-1002	Auth. # Y-1020	Auth. # AB 1022		Auth. # B-1002	Auth. # B-1002	Auth. # Z-1021	Auth. # Z-1003 P-1005 G-1012	
Totals	2553	1323	0	50		2593	10569	1337	962	Control Section B.I 82195 D-C2
16	30					30				
17	319	4		12		328	36		74	
18	204	8	88			201	70		146	
19	268	7				267	66		14	
20A	290	23				289	206		18	
21	266	8				266	71		11	
39	2					5				
	Auth. #E-1005	Auth. #E-1005	Auth. #AH 1030	Auth. #AE 1025		Auth. #E-1005	Auth. #AL-1029		Auth. #E-1005	
Totals	1379	50	88	12		1386	449		263	Control Section B.I 82251 B-C29
21	132					132				
22	319					319				
23	224					224				
24	177	74				177	667		26	
	Auth. #E-1003	Auth. #E-1003				Auth. #E-1003	Auth. #E-1003		Auth. #E-1013	
Totals	852	74				852	667		26	Control Section U 82195 E-C3

PLAN ESTIMATE BY _____ DATE _____ CHECKED BY _____ DATE _____ DATE _____ DATA COMPLETED K.A. Fisher PROJ. ENG DATE 10-1-63 HISTORY CHECKED ENTERED ON PLANS BY _____ DATE _____

FILE NO. USE NO STENCIL	82195B C1	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
				53

QUANTITY SHEET – E

ALTERATIONS TO WATER MAINS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.			54	
ROUTE	STATE PROJECT	COUNTY	TWP.	SHEET NO.	TOTAL SHEETS
	F 75-1 (49)				
	U 212 (25)				

		AS PER PLANS – CONTROL SECTION				AS CONSTRUCTED – CONTROL SECTION				EXPLANATION OF CHANGES			
	UNIT	BI 82195 B C1	BI 82195 D C2	BI 82251 B C29	U 82195 E C3	BI 82195 B C1	BI 82195 D C2	BI 82251 B C29	U 82195 E C3	BI 82195 B-C1 Auth. No.	BI 82195 D-C2 Auth. No.	BI 82251 B-C29 Auth. No.	U 82195 E-C3 Auth. No.
6" C.I. Water Main, Furnished	Lin.Ft.	32	–	~~8~~ 23	15	31	–	20	16	AP 1036		E-1005 AQ 1027	AY 1042
6" C.I. Water Main	Lin.Ft.	5	–	–	–	–	–	–	–	AP 1036			
8" C.I. Water Main, Furnished	Lin.Ft.	84	27	~~28~~ 26	–	121	23	5	–	E-1005 AQ 1037	V-1017	E-1005 AQ 1027	
8" C.I. Water Main	Lin.Ft.	185	20	–	– ①	163	23	–	–	AQ 1037	V-1017		
10" C.I. Water Main, Furnished	Lin.Ft.	–	4	2	–	–	4	–	–			AF 1026	
10" C.I. Water Main	Lin.Ft.	–	–	–	–	–	–	–	–				
12" C.I. Water Main, Furnished	Lin.Ft.	1	33	~~4~~	–	–	32	12	–	AQ 1037	U 1016	E-1005 AQ 1027	
12" C.I. Water Main	Lin.Ft.	–	25	~~49~~	–	–	23	56	–		U 1016	E-1005 AF 1026	
16" C.I. Water Main, Furnished	Lin.Ft.	14	17	–	–	21	18	–	–	AP 1036	U 1016		
16" C.I. Water Main	Lin.Ft.	–	44	–	–	–	43	–	–		V 1017		
24" C.I. Water Main, Furnished	Lin.Ft.	–	5	–	–	–	4	–	–		V 1017		
30" C.I. Water Main	Lin.Ft.	15	–	–	30	15	–	–	25				AY 1042
36" C.I. Water Main	Lin.Ft.	–	11	1,913	–	–	11	–	–				
48" Prestressed Conc. Embedded Steel Cylinder Pipe	Lin.Ft.	1,124	4,000	~~4,000~~	1,041	~~1,124~~ 1,913	4,000	1,914	1,041	E-1006 AR 1038		E-1005	
6" Gate Wells	Each	–	–	1	–	–	–	1	–				
8" Gate Wells	Each	2	1	–	–	2	1	–	–				
12" Gate Wells	Each	–	2	1	– ①	–	2	1	–				
16" Gate Wells	Each	–	1	–	–	–	1	–	–				
8" Blow-off Wells	Each	2	6	~~5~~	2	2	6	5	2			E-1005	
6" Gate Valves, Furnished	Each	–	–	1	–	–	–	1	–				
8" Gate Valves	Each	2	1	–	–	2	1	–	–				
12" Gate Valves	Each	–	1	1	–	–	1	1	–				
16" Gate Valves	Each	–	1	–	–	–	1	–	–				
30" Cone Valve Wells	Each	1	–	–	2	1	–	–	2				
8" Permanent Blow-offs	Each	2	6	~~5~~	2	2	6	5	2			E-1005	
6" Gate Valves and Boxes	Each	1	–	–	–	1	–	–	–				
Entrance Manhole Wells	Each	4	8	~~5~~	~~5~~ ①	4	8	5	5			E-1005	
Water Main Trench (for work by Department of Water Supply)	Lin.Ft.	133	123	~~46~~	49	148	91	39	60	E-1006 AR 1038	U-1016	E-1005 AE 1025	AY 1042
Sand-Lime Mixture (Compacted in Place)	Cu.Yds.	194	743	~~364~~ 390	188	–	–	–	–	AR 1038	BC-1044	E-1005 AE 1028	AY 1042
36" Gate Valves	Each	–	1	–	–	–	1	–	–				
30" Cone Valves	Each	1	–	–	2	1	–	–	2				
12" Tapping Valves, Furnished	Each	–	1	–	–	–	1	–	–				
36" Gate Wells	Each	–	1	–	–	–	1	–	–				
7'-0" Dia. Tunnel	Lin.Ft.	85	202	–	175	92	201	–	175	E-1006	BC-1044		
Abandoning 10" Gate Valve Wells	Each	–	–	2	–	–	–	1	–			AD 1024	
Abandoning 12" Gate Valve Wells	Each	–	2	1	–	-1	2	1	–	BD 2032			
Abandoning 36" Gate Valve Wells	Each	1	–	–	–	1	–	–	–				
Abandoning Blow-off Wells	Each	1	2	2	–	1	2	2	–				
Abandoning Entrance Manhole Wells	Each	2	–	–	–	2	–	–	–				

① Revise by ~~Recommendation No. 14 Auth.~~ E-1005

EXTRAS

CONTROL SECTION	AUTH. NUMBER	REMARKS			AMOUNT
BI 82195 B-C1	BD 2032	Abandon 12" Gate Valve Wells	1 Ea. @	30.00	30.00
	BF 2034	Premium Time, Force Account			324.09
				Total	354.09
BI 82195 D-C2	BB 2031	18" Brick Sewer, 6.1' to 14' Deep	8 Lin.Ft. @	10.00	80.00
	BB 2031	12" Sewer, 6.1' to 14' Deep	10 Lin.Ft. @	7.50	75.00
	BB 2031	12" Sewer Tap	1 Ea. @	25.00	25.00
	AT 2027	Premium Time, Force Account			855.09
	BA 2030	Standby Assistance, Force Account			409.74
	BK 2036	Bituminous Material (Cold Patch)	34.22 Tons @	10.00	342.20
				Total	1787.03
BI 82251 B-C29	~~AB 2026~~ AB 2031	12" Sewer, 6.1' to 14' Deep	118 Lin.Ft. @	7.50	885.00
	AB 2024 D-2024	12" Sewer Tap, 6.1' to 14' Deep	1 Ea. @	40.00	40.00
	F-2001	Removing Tree, 13" to 24" Dia.	1 Ea. @	100.00	100.00
	F-2001 AB 2026	Stone Surfacing	204 Sq.Yds @	2.50	510.00
	F-2001	Disassembling & Reassembling Exist. Fence	Lump Sum	275.00	275.00
	~~AB 2026~~ AB 2033	Removing Masonry & Concrete	40 Cu.Yds @	10.00	400.00
	AW 2028	Standby Assistance, Force Account			179.61
	BL 2037	Bituminous Material (Cold Patch)	51.89 Tons @	10.00	518.90
				Total	2908.51
U 82195 E-C3	AX 2029	12" Sewer Tap	1 Ea. @	25.00	25.00
	AX 2029	8" C.I. Water Main, Furnished	37 Lin.Ft. @	8.00	296.00
	BE 2033	Premium Time, Force Account			1154.88
	BJ 2035	Bituminous Material (Cold Patch)	56.12 Tons @	10.00	561.20
				Total	2037.08

CHECKED

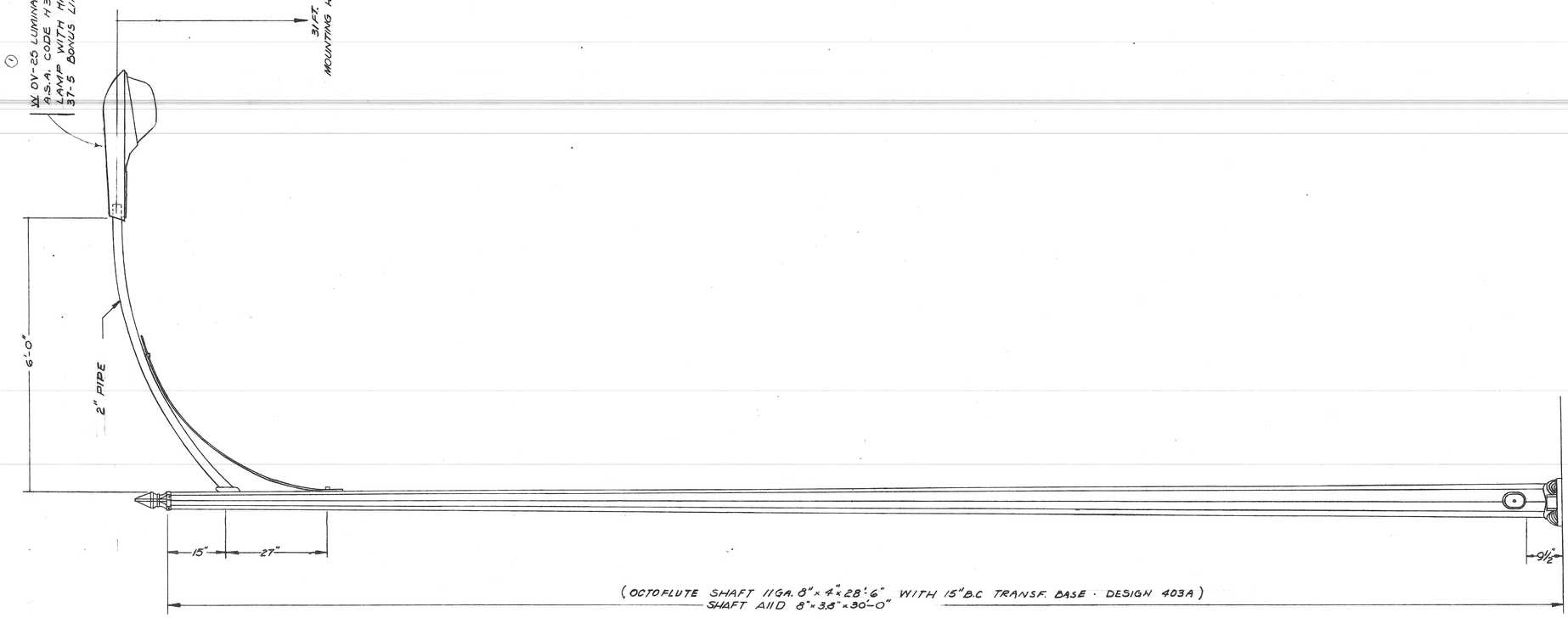
4-29-64

PLAN ESTIMATE BY _____ DATE _____ CHECKED BY _____ DATE _____ DATE _____

DATA COMPLETED _____ PROJ. ENG. DATE 10-1-63

HISTORY CHECKED ENTERED ON PLANS BY _____ DATE _____

FILE NO. USE NO. 330 STENCIL	82195B C1	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
				54



SCALE : 3/4" = 1'

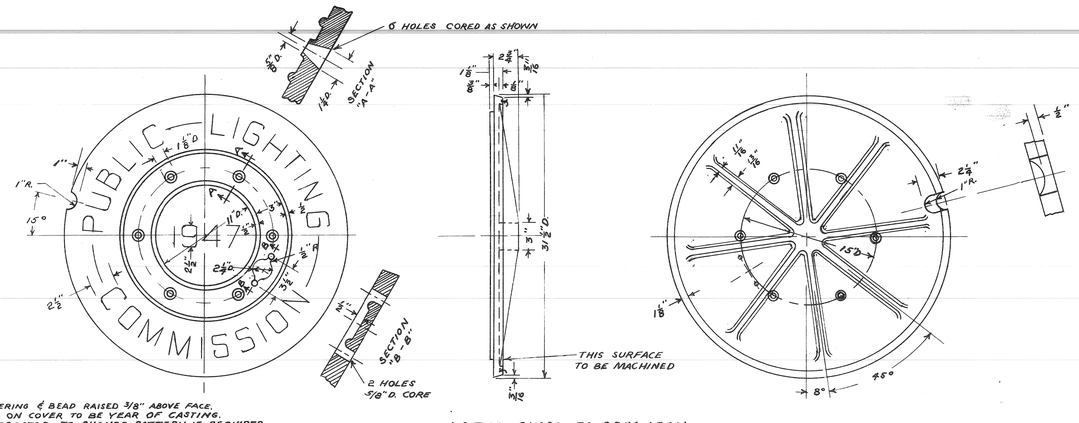
ANC. BASE U.G. MERCURY VAPOR ST. LTG UNIT # 401A 1H300 - 6' ARM. OV-25-250W
TRANSF. " " " " " " # 403A 1H300 - " " "

CITY OF DETROIT PUBLIC LIGHTING COMMISSION —DETAIL— U.G. STREET LIGHTING STANDARD	DRAWN BY L.M.	FILE NO. 55-3
	CHECKED BY GF	SHEET NO. 40
	APPROVED BY GF-Mem	DATE 3-27-59

MICHIGAN STATE HIGHWAY DEPARTMENT

REVISIONS			
NO.	DESCRIPTION	DATE	BY
(1)	ADDED NOTE & OV-25 LUMINAIRE	11-22-60	M.V.C.

ROAD DES		
DRAWN BY		
TRACED BY		
CHECKED BY		
SHEET	OF	

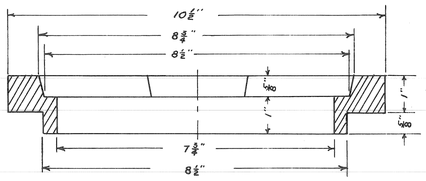


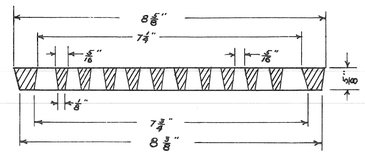
LETTERING & BEAD RAISED 3/8" ABOVE FACE.
YEAR ON COVER TO BE YEAR OF CASTING.
CONTRACTOR TO CHANGE PATTERN IF REQUIRED.

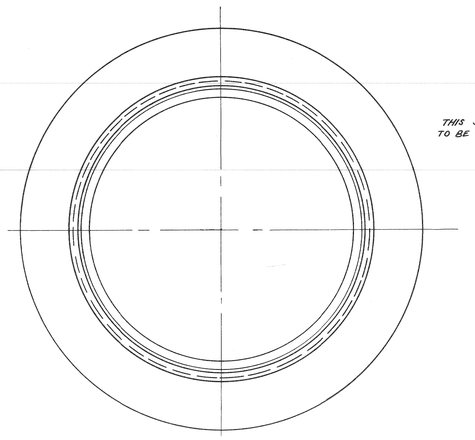
A.S.T.M. CLASS 30 GRAY IRON
P.L.C. PATT. NO. 418
APPRX. WT. - 245 #

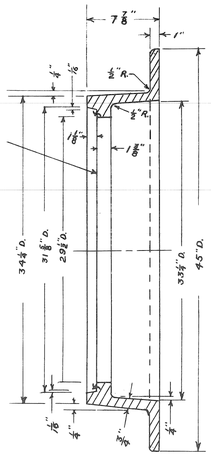
MANHOLE COVER

SCALE 1½" = 1'-0"





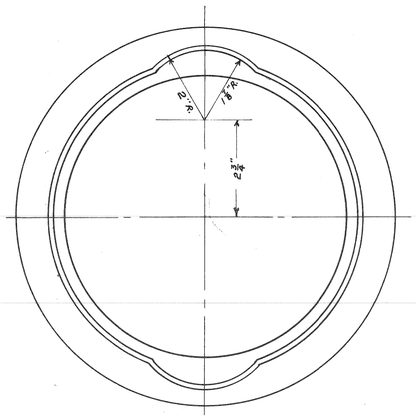




A.S.T.M. CLASS 20 OR 30 GREY IRON
P.L.C. PATT. NO. 417
APPRX. WT. - 410 #
③

MANHOLE FRAME

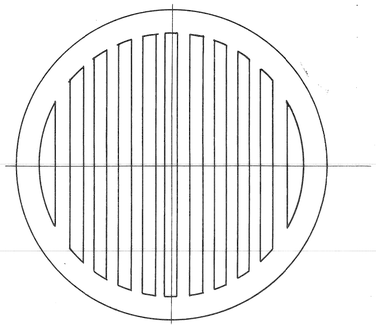
SCALE 1½" = 1'-0"



A.S.T.M. CLASS 20 OR 30 GREY IRON
P.L.C. PATT. NO. 318-A
APPRX. WT. - 9 #
③

SEWER RING

SCALE HALF-SIZE



A.S.T.M. CLASS 20 OR 30 GREY IRON
P.L.C. PATT. NO. 318
APPRX. WT. - 4.5 #
③

SEWER GRATE

SCALE HALF-SIZE

NOTE:

FRAMES MAY BE A.S.T.M. CLASS 30 GRAY IRON IF THE CONTRACTOR SO ELECTS.

NO.	DESCRIPTION	DATE	BY
③	ADDED CLASS 30	5-31-61	M.J.C.
	CH'KD 8/27/58 REVISIONS REDRAWN 4-22-55		
1.	FRAME OVERALL HT. CHANGED FROM 8" TO 7 7/8" & COVER FLANGE THICKNESS CHANGED FROM 1 1/2" TO 1 3/8"	10-28-58	J.C.F.
2	CHANGED WT. OF MANHOLE FRAME TO 410#	3-1-61	LWM

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION
P.L.C. DETAILS – MANHOLE FRAME & COVER – SEWER GRATE & RING

DRAWN BY	FILE NO.
R.F.B.	55-3A
CHECKED BY	SHEET NO.
G.F.L.	8
APPROVED BY	DATE
	6-10-47

MICHIGAN STATE HIGHWAY DEPARTMENT

APPROVED _____ CHIEF BRIDGE DRAFTSMAN

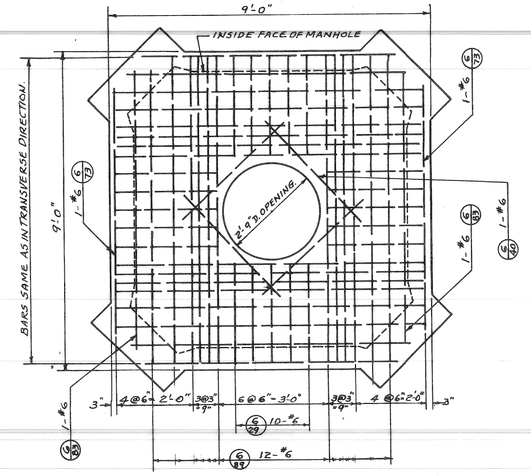
APPROVED _____ ENGINEER OF BRIDGE DESIGN

APPROVED _____ BRIDGE ENGINEER

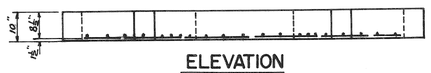
SQUAD BOSS		
DRAWN BY		
TRACED BY		
CHECKED BY		

SHEET 59 OF 67

82195B C1



PLAN

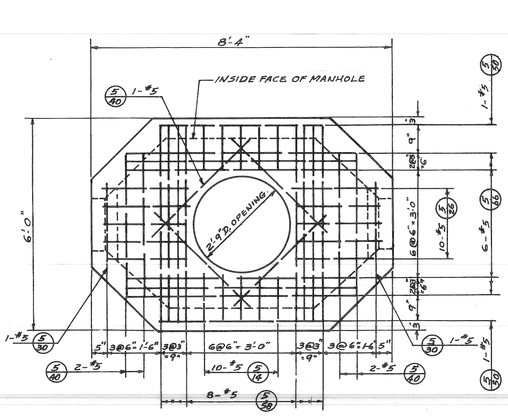


ELEVATION

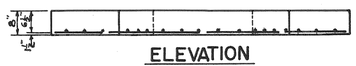
TABLE FOR #6 BARS		
MARK	NO.	LENGTH
6-84	24	8'-9"
6-83	4	8'-3"
6-73	4	7'-3"
6-40	4	4'-0"
6-29	20	2'-9"

FOR #1-4 WAY MANHOLE

SCALE ½" = 1'-0"



PLAN

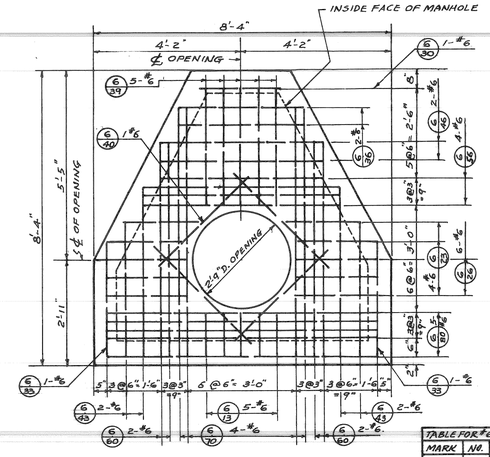


ELEVATION

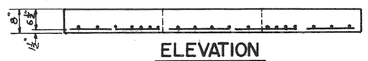
TABLE FOR #5 BARS		
MARK	NO.	LENGTH
5-66	6	6'-6"
5-58	8	5'-8"
5-50	2	5'-0"
5-40	8	4'-0"
5-30	2	3'-0"
5-26	10	2'-6"
5-14	10	1'-4"

FOR #1-2 WAY MANHOLE

SCALE ½" = 1'-0"



PLAN

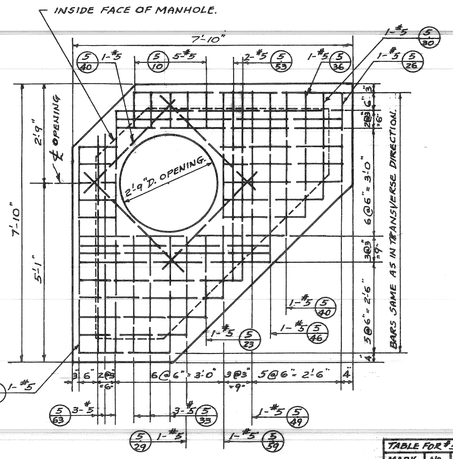


ELEVATION

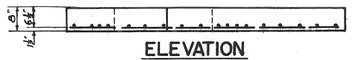
TABLE FOR #6 BARS		
MARK	NO.	LENGTH
6-80	5	8'-0"
6-70	4	7'-0"
6-60	4	6'-0"
6-56	4	5'-6"
6-46	2	4'-6"
6-43	4	4'-3"
6-40	4	4'-0"
6-39	5	3'-9"
6-36	2	3'-6"
6-33	2	3'-3"
6-30	1	3'-0"
6-26	6	2'-6"
6-23	4	2'-3"
6-13	5	1'-3"

FOR #1-3WAY MANHOLE

SCALE ½" = 1'-0"



PLAN

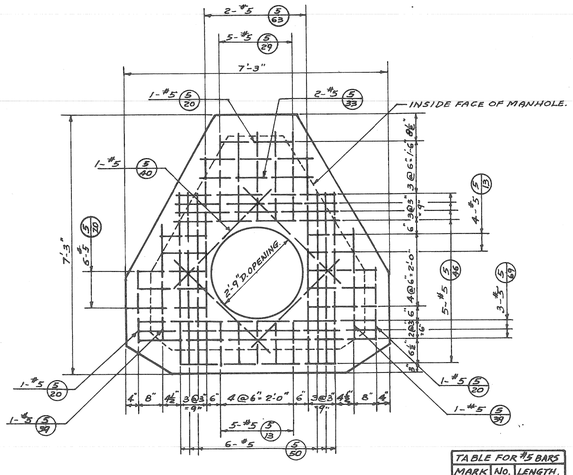


ELEVATION

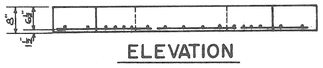
TABLE FOR #5 BARS		
MARK	NO.	LENGTH
5-63	6	6'-3"
5-59	4	5'-9"
5-53	4	5'-3"
5-49	2	4'-9"
5-46	2	4'-6"
5-40	6	4'-0"
5-36	2	3'-6"
5-33	6	3'-3"
5-30	2	3'-0"
5-29	2	2'-9"
5-26	2	2'-6"
5-23	2	2'-3"
5-10	10	1'-0"

FOR #1-CORNER MANHOLE

SCALE ½" = 1'-0"



PLAN

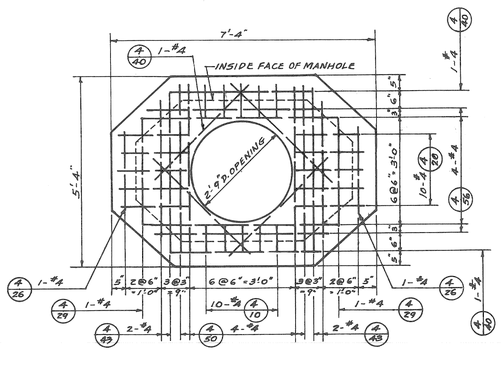


ELEVATION

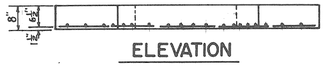
TABLE FOR #5 BARS		
MARK	NO.	LENGTH
5-69	3	6'-9"
5-63	2	6'-3"
5-50	6	5'-0"
5-46	5	4'-6"
5-40	4	4'-0"
5-39	2	3'-9"
5-33	2	3'-3"
5-29	3	2'-9"
5-20	9	2'-0"
5-13	9	1'-3"

FOR #2-3 WAY MANHOLE

SCALE ½" = 1'-0"



PLAN

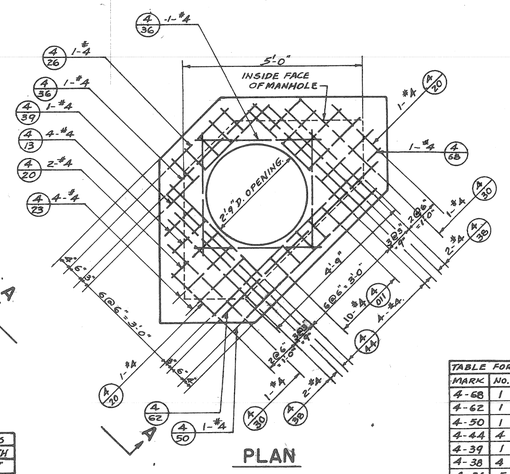


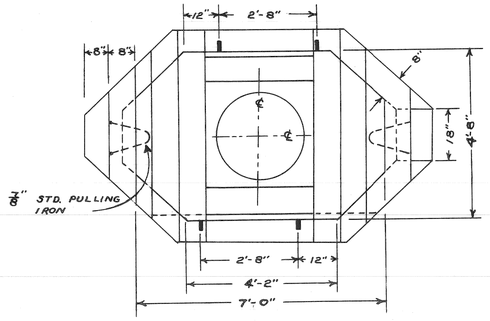
ELEVATION

TABLE FOR #6 BARS		
MARK	NO.	LENGTH
4-56	4	5'-6"
4-50	4	5'-0"
4-43	4	4'-3"
4-40	6	4'-0"
4-29	2	2'-9"
4-26	2	2'-6"
4-20	10	2'-0"
4-10	10	1'-0"

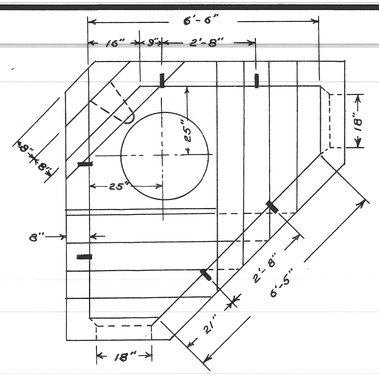
FOR #2-2 WAY MANHOLE

SCALE ½" = 1'-0"

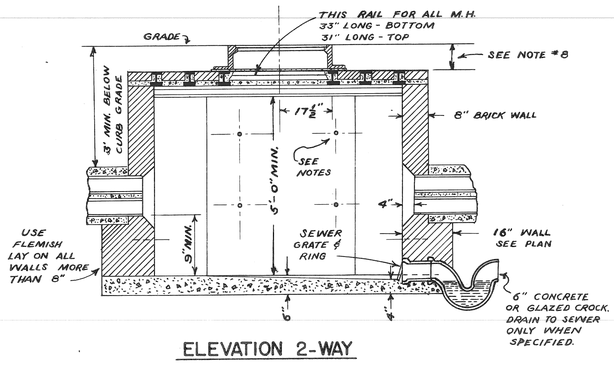

1-#4
5'-0"
INSIDE FACE OF MANHOLE
2'-9" D. OPENING
1-#4
1-#4
4-#4
2-#4
4-#4
1-#4
1-#4
1-#4
1-#4
1-#4
1-#4
1-#4
1-#4
1



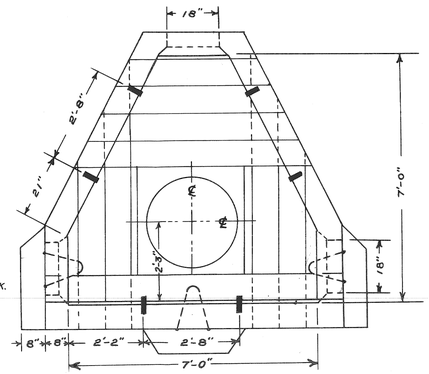
2-WAY



CORNER



ELEVATION 2-WAY



3-WAY

CABLE RACK NOTE:

USE JOSLYN CAT #J5124 RACK OR EQUAL
USE JOSLYN CAT #J5131 HOOK OR EQUAL
USE GALVANIZED MOUNTING BOLTS

NOTE:

EXCAVATION LIMITS FOR PUBLIC LIGHTING COMMISSION MANHOLES SHALL BE ON VERTICAL PLANES ON THE FOOTING OUTLINE.

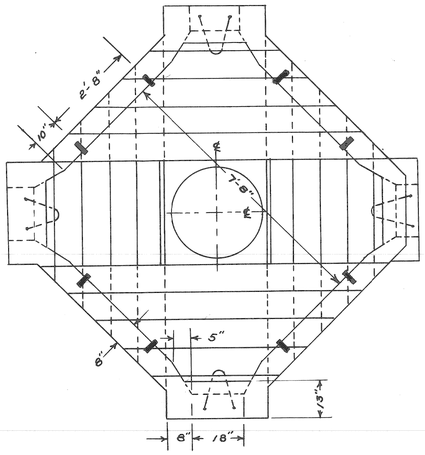
RAILS REQUIRED

CORNER		2-WAY		3-WAY		4-WAY	
NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
1	4'-0"	2	SPEC.	2	SPEC.	2	SPEC.
2	4'-3"	2	4'-8"	1	3'-8"	4	3'-9"
1	4'-9"	4	6'-0"	1	4'-5"	4	5'-3"
2	4'-10"	2	6'-3"	2	4'-10"	4	6'-10"
2	5'-8"			1	5'-2"	4	8'-4"
2	6'-5"			1	5'-11"	4	9'-10"
				2	6'-3"		
				1	6'-8"		
				2	7'-9"		
				2	8'-4"		

SPECIAL RAIL DEMENSION
31" LONG TOP
33" LONG BOTTOM

NOTES:

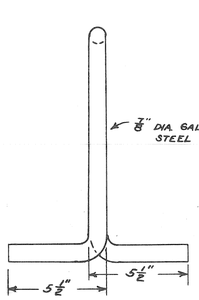
1. MANHOLE ROOF TO HAVE 60#/YD. OR HEAVIER "T" RAILS SPACED ONE BRICK APART WITH ONE ROW OF BRICKS ON EDGE BETWEEN RAILS.
2. WHERE MANHOLES ARE LOCATED BACK OF CURB, ROOF MUST BE BUILT 18" BELOW CURB GRADE, TO PROVIDE FOR FUTURE WIDENING.
3. MANHOLE NUMBER TO BE INSTALLED ON MANHOLE WALL.
4. BOLTS, RACKS, AND PULLING IRON TO BE HOT DIP GALVANIZED.
5. MANHOLES TO HAVE 5'-0" MIN. HEADROOM EXCEPT WHERE MORE THAN SIX DUCTS ARE USED, IN WHICH CASE HEADROOM TO BE 5'-6".
6. MOUNTING HEIGHT FOR LOWER BOLT OF THE CABLE RACKS SHALL BE THE AVERAGE HEIGHT OF THE BOTTOM OF LOWEST DUCTS IN THE MAIN CONDUITS.
7. ℄ OF RAILS UNDER M.H. FRAME FLANGE TO BE APPROX. 18" FROM ℄'S OF FRAME.
8. IN PAVEMENT PROVIDE AT LEAST 3" BETWEEN ROOF AND BASE OF PAVEMENT. WHERE EXISTING GRADE IS HIGHER THAN PROPOSED FUTURE GRADE INSTALL BRICK RING OR GROUT (AS REQUIRED) UNDER FRAME TO ALLOW FOR FUTURE FRAME ADJUSTMENT.

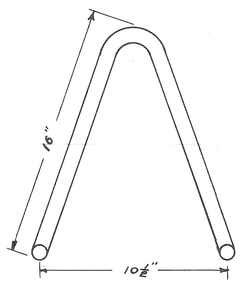


4-WAY

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

NO. 1 MANHOLES





PULLING IRON

SCALE 1/4" = 1"

CHK'D 4-22-55 C.P. REVISIONS REDRAWN 4-20-55

NO.	DESCRIPTION	DATE	BY
1	CABLE RACK NOTE ADDED	10-7-53	J.C.F.
2	NOTE #8 CHANGED	4-31-54	J.C.F.
3	EXCAVATION LIMITS NOTE ADDED	6-30-54	J.C.F.
4	DELETED NO. 2 MANHOLES	4-22-55	A.T.

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

P.L.C. DETAILS — MANHOLES

DRAWN BY	FILE NO.
M.J.C.	56-3D
CHECKED BY	SHEET NO
G.L.	7
APPROVED BY	DATE
G.P.	1-2-52

MICHIGAN STATE HIGHWAY DEPARTMENT

STATE HIGHWAY COMMISSIONER

APPROVED _____ CHIEF BRIDGE DRAFTSMAN

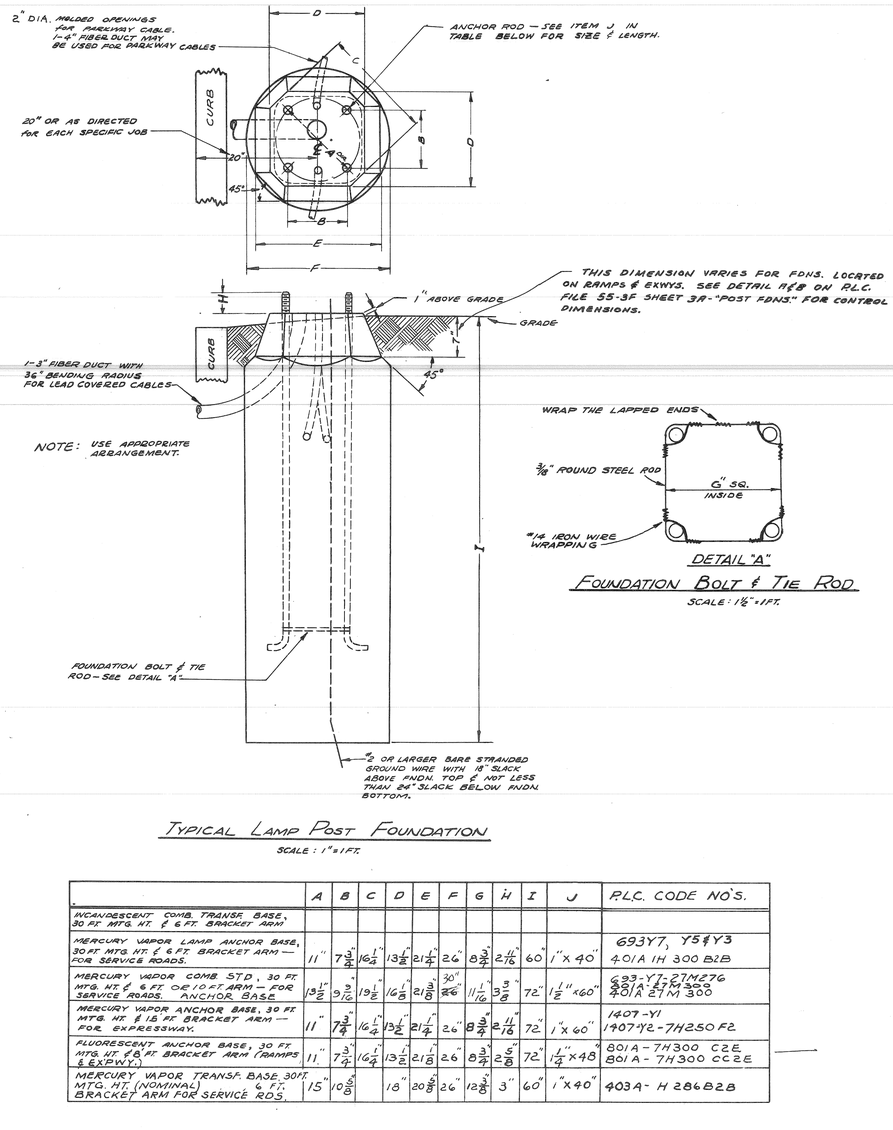
APPROVED _____ ENGINEER OF BRIDGE DESIGN

APPROVED _____ BRIDGE ENGINEER

SQUAD BOSS		
DRAWN BY		
TRACED BY		
CHECKED BY		

SHEET 57 OF 67

82195B C1



THIS DIMENSION VARIES FOR FDNS. LOCATED ON RAMPS & EXWYS. SEE DETAIL A & B ON P.L.C. FILE 55-3F SHEET 3A - "POST FDNS." FOR CONTROL DIMENSIONS.

DETAIL "A"

FOUNDATION BOLT & TIE ROD

SCALE: 1½" = 1 FT.

TYPICAL LAMP POST FOUNDATION

SCALE: 1" = 1 FT.

	A	B	C	D	E	F	G	H	I	J	P.L.C. CODE NO'S.
INCANDESCENT COMB. TRANSF. BASE, 30 FT. MTG. HT. & 6 FT. BRACKET ARM											
MERCURY VAPOR LAMP ANCHOR BASE, 30 FT. MTG. HT. & 6 FT. BRACKET ARM — FOR SERVICE ROADS.	11"	7 3/4"	16 1/2"	13 1/2"	21 1/4"	26"	8 3/4"	2 11/16"	60"	1" X 40"	693Y7, Y5 & Y3 401A 1H 300 B2B
MERCURY VAPOR COMB. STD., 30 FT. MTG. HT. & 6 FT. OR 10 FT. ARM — FOR SERVICE ROADS. ANCHOR BASE	13 1/2"	9 3/16"	19 1/2"	16 1/2"	21 3/8"	30" 26"	11 1/16"	3 3/8"	72"	1 1/2" X 60"	693-Y1-27MZ76 401A-27M300 401A 27M 300
MERCURY VAPOR ANCHOR BASE, 30 FT. MTG. HT. & 15 FT. BRACKET ARM — FOR EXPRESSWAY.	11"	7 3/4"	16 1/4"	13 1/2"	21 1/4"	26"	8 3/4"	2 11/16"	72"	1" X 60"	1407-Y1 1907-Y2-7H250 F2
FLUORESCENT ANCHOR BASE, 30 FT. MTG. HT. & 8 FT. BRACKET ARM (RAMPS & EXPWY.)	11"	7 3/4"	16 1/4"	13 1/2"	21 1/8"	26"	8 3/4"	2 5/8"	72"	1 1/4" X 48"	801A-7H300 C2E 801A-7H300 CC2E
MERCURY VAPOR TRANSF. BASE 30 FT. MTG. HT. (NOMINAL) 4 FT. BRACKET ARM FOR SERVICE RDS.	15"	10 5/16"		18"	20 5/8"	26"	12 3/8"	3"	60"	1" X 40"	403A-H 286B2B

CITY OF DETROIT	DRAWN BY L.W.M.	FILE NO. 55-3A
PUBLIC LIGHTING COMMISSION	CHECKED BY W.E.B. G.F.	SHEET NO. 3 B
P.L.C. DETAILS — POST FOUNDATIONS	APPROVED BY P.L.M.	DATE 10-12-59

MICHIGAN STATE HIGHWAY DEPARTMENT

APPROVED BY P.L.M.

P.L.C. U.G. DEPT. H.K.

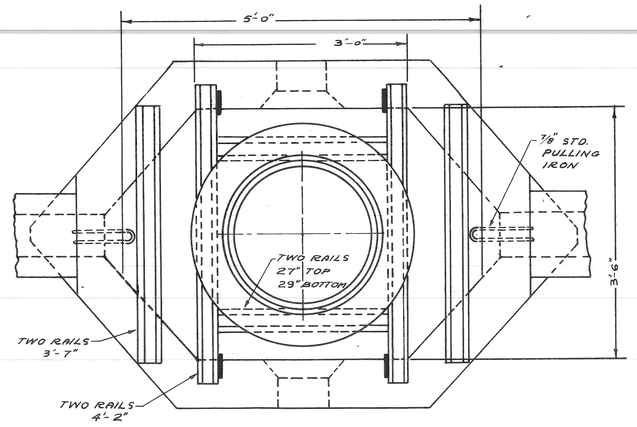
REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ADDED P.L.C. CODE NO'S.	3-29-61	LWM

SQUAD BOOKS
DRAWN BY
TRACED BY
CHECKED BY

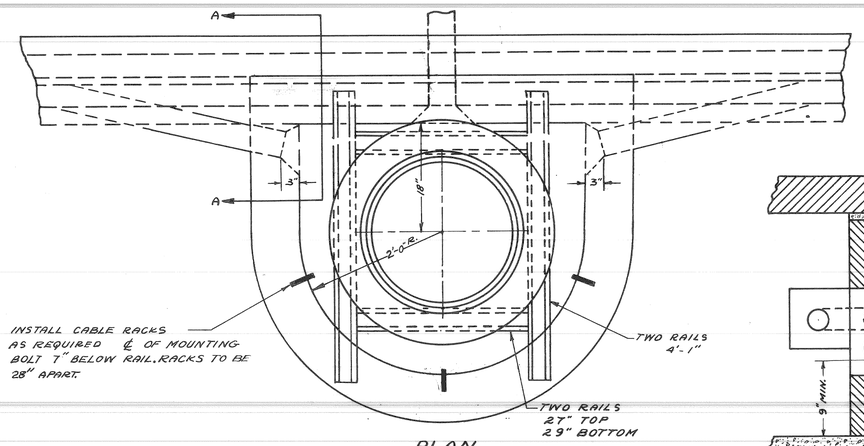
SHEET 55 OF 67

82195B C1



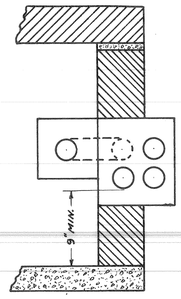
PLAN

TYPE "S" HANDHOLE



PLAN

TYPE "D" HANDHOLE



SECTION A-A

NOTES:

1. DUCT ENTRANCE TO BE BUILT AS REQUIRED
2. ALL RAILS TO BE 60 #/Y D OR HEAVIER
3. CABLE PULLING IRONS TO BE GALVANIZED
4. CABLE RACKS AND ARMS TO BE GALVANIZED
5. IN PAVEMENT PROVIDE AT LEAST 3" BETWEEN ROOF AND BASE OF PAVEMENT. WHERE EXISTING GRADE IS HIGHER THAN PROP. FUTURE GRADE, INSTALL BRICK RING OR GROUT (AS REQ'D) UNDER FRAME TO ALLOW FOR FUTURE FRAME ADJUSTMENT.

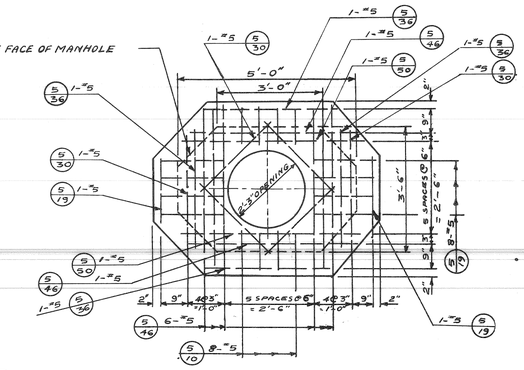
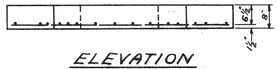


TABLE FOR #5 BARS		
MARK	NO.	LENGTH
5-50	2	5'-0"
5-46	8	4'-6"
5-36	4	3'-6"
5-30	6	3'-0"
5-19	10	1'-9"
5-10	8	1'-0"

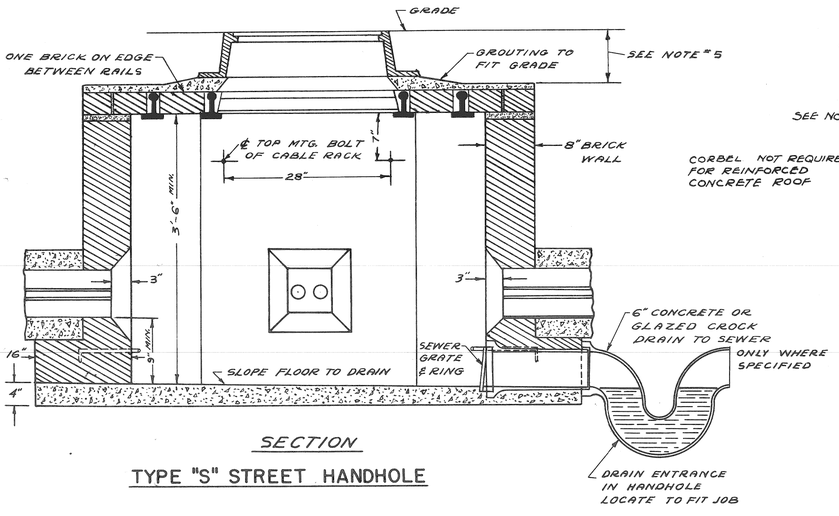
PLAN



ELEVATION

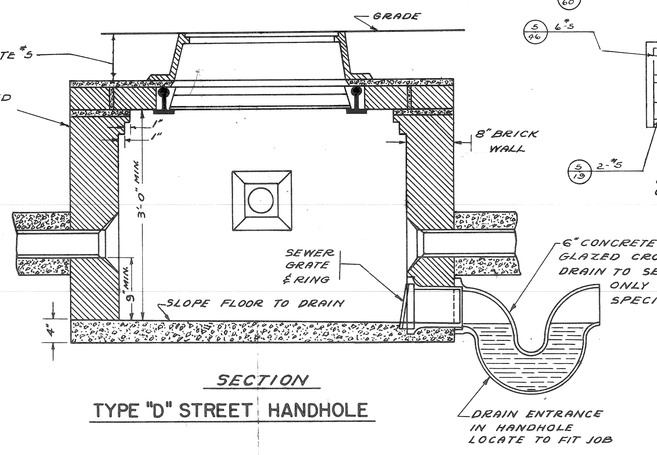
ALTERNATE ROOF TYPE "S" HANDHOLE

MSHD GRADE A (6B) CONCRETE



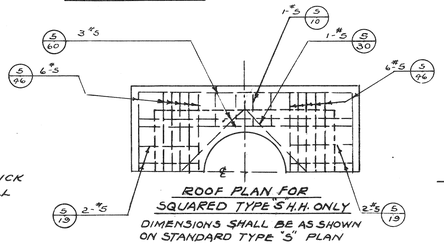
SECTION

TYPE "S" STREET HANDHOLE



SECTION

TYPE "D" STREET HANDHOLE



ROOF PLAN FOR SQUARED TYPE 'S' H.H. ONLY

DIMENSIONS SHALL BE AS SHOWN ON STANDARD TYPE "S" PLAN

ELEVATION

ALTERNATE ROOF TYPE "D" HANDHOLE

MSHD GRADE A (6B) CONCRETE

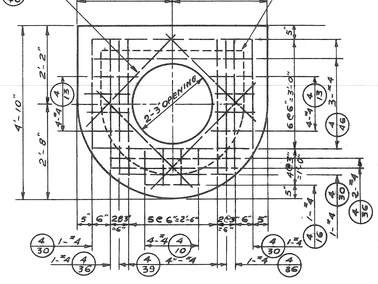
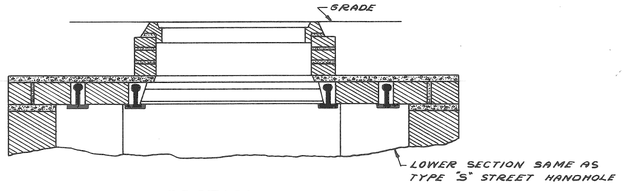


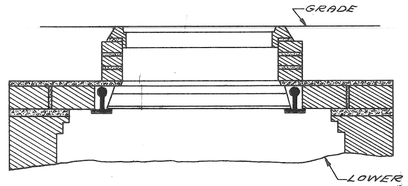
TABLE FOR #4 BARS		
MARK	NO	LENGTH
4-46	3	4'-6"
4-40	4	4'-0"
4-39	1	3'-9"
4-36	1	3'-6"
4-30	3	3'-0"
4-16	1	1'-6"
4-13	8	1'-3"
4-10	4	1'-0"

PLAN



SECTION

TYPE "S" SIDEWALK HANDHOLE



SECTION

TYPE "D" SIDEWALK HANDHOLE

NOTE:

BAR NUMBERS DENOTE THE SIZE OF BAR REQUIRED IN ACCORDANCE WITH CURRENT USAGE SPECIFIED BY THE CONCRETE REINFORCING STEEL INSTITUTE.

NOTE:

EXCAVATION LIMITS FOR PUBLIC LIGHTING COMMISSION HANDHOLES SHALL BE ON VERTICAL PLANES ON THE FOOTING OUTLINE.

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

NO.	DESCRIPTION	DATE	BY
	SQUARED TYPE 'S' H.H. ADDED	4-28-57	M.K.F.
5	EXCAVATION LIMITS NOTE ADDED	6-30-54	J.C.F.
	CHG'D 4-22-55 QP REVISIONS REDRAWN 4-20-55		
1	ALTERNATE ROOFS ADDED		
2	ADDED SECTION A-A TO TYPE "D" HANDHOLE	4-2-52	M.J.C.
3	CORBELLING ADDED TO H.H. WALL	6-4-52	M.J.C.
4	CHANGE NOTE #5	9-30-54	J.C.F.

APPROVED _____ CHIEF BRIDGE DRAFTSMAN

APPROVED _____ ENGINEER OF BRIDGE DESIGN

APPROVED _____ BRIDGE ENGINEER

CITY OF DETROIT
PUBLIC LIGHTING COMMISSION

P.L.C. DETAILS — HANDHOLES

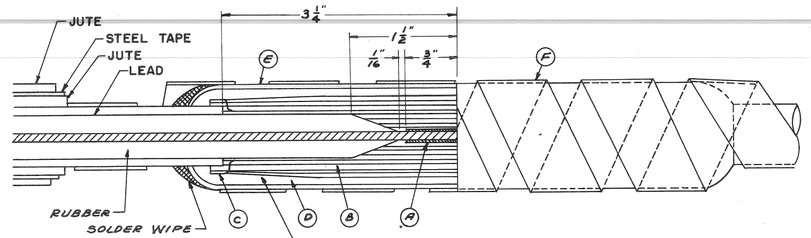
DRAWN BY	FILE NO.
R. G. P.	55-36
CHECKED BY	SHEET NO.
CWB	2
APPROVED BY	DATE
Memo	2-11-52

MICHIGAN STATE HIGHWAY DEPARTMENT

SQUAD BOSS	
DRAWN BY	
TRACED BY	
CHECKED BY	

SHEET 53 OF 67

82195B C1



NOTE: VOID THIS JOINT NOT FILLED WITH COMPOUND.

(A) #8 COPPER SLEEVE 1½" LONG TIGHTLY CLOSED AND SWEATED.

(B) TAPE #1 TO BE BUILT TO A SIZE 50% GREATER THAN THE ORIGINAL INSULATION DIAMETER.

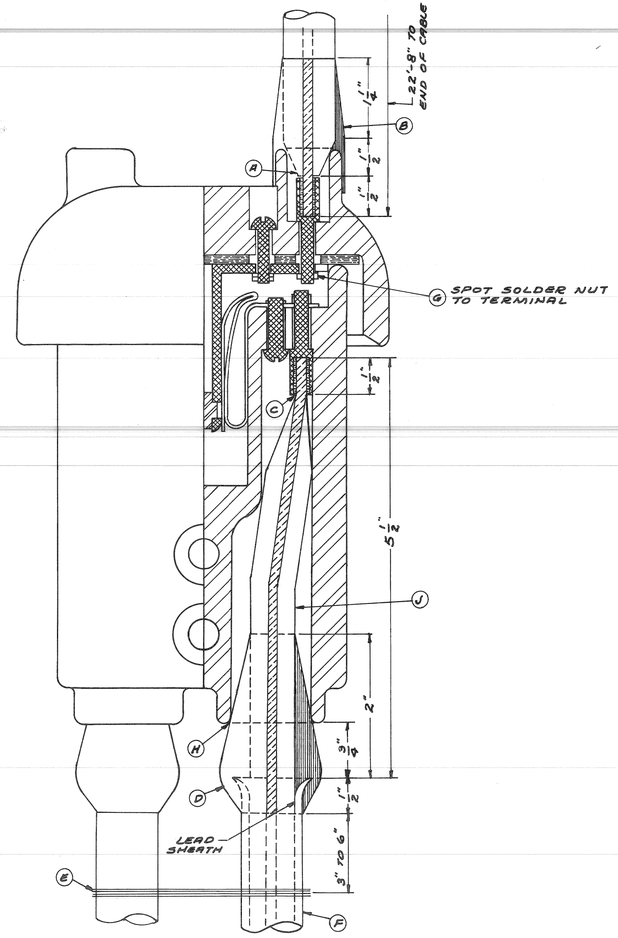
(C) TWO THICKNESSES TAPE #1 TO BE BROUGHT OVER LEAD-¼.

(D) ONE LAYER OF #2 TAPE.

(E) 1¼" x 8" x 1/8" WALL LEAD SLEEVE.

(F) STEEL TAPE TO BE PEELED FROM CABLE AND AFTER SPLICE IS COMPLETED, BOTH TAPES SHALL BE WRAPPED OVER SPLICE AND TIED WITH WIRE.

#8 PARKWAY CABLE JOINT (R.I.L.C. JOINT SIMILAR EXCEPT FOR JUTE AND ARMOR)



(A) SWEAT TERMINAL & PENCIL RUBBER INSULATION TO FIT SNUGLY IN PORCELAIN OPENING SO THAT AS NUT (G) IS DRAWN UP TIGHT THE OPENING IS COMPLETELY AND TIGHTLY FILLED.

(B) BUILD UP WITH TAPE #1 AS SHOWN AND COVER WITH 2 LAYERS OF ½ HALF LAP TAPE #2. THIS IS COVERED WITH ONE COAT OF BLACK INSULATING VARNISH, G.E. #457.

(C) SWEAT CONDUCTOR INTO TERMINAL & PENCIL RUBBER INSULATION 1" AS SHOWN.

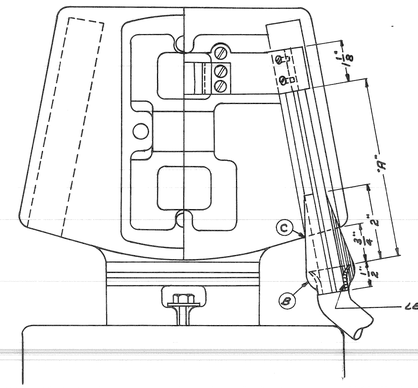
(D) CUT LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON, DON'T BREAK OFF BY BENDING. BELL THE LEAD SHEATH. THEN STRIP OFF THE BRAID AROUND THE RUBBER TO WITHIN 3/4" OF LEAD SHEATH. FILL SHEATH CAVITY WITH BISHOP #55 B ADHESIVE. APPLY TAPE #1 TO FORM STRESS CONE OVER BELL AND HAVING ENOUGH TO FORM A TIGHT FIT BETWEEN CABLE AND PORCELAIN AT (H) COVER THE SPLICING GUM WITH 2 LAYERS OF TAPE #2 HALF LAP TO ABOUT ½ BEYOND TERMINAL END OF GUM AND PAINT WITH BLACK INSULATING VARNISH, G.E. #457.

(E) #18 SERVICE WIRE OR BRAID 4 WRAPS BETWEEN CABLES AND SWEATED TO LEAD SHEATH FOR BOND. TIE TO GROUND WIRE.

(F) FOR PARKWAY CABLE, JUTE AND STEEL TAPE STRIPPED OFF TO NEAR DUCT ENTRANCE.

(J) REMOVE WAX AND ANY FOREIGN MATTER FROM END OF BRAID TO TERMINAL BEFORE APPLYING ANY INSULATION.

#8 PARKWAY OR L.C.P.I. CABLE CONNECTIONS FOR SERIES CUTOUT



"A" THIS DISTANCE WILL VARY DEPENDING ON THE MAKE OF COIL USED.

(B) CUT LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DON'T BREAK OFF BY BENDING. CUT OFF INSULATION FOR CONNECTION. BELL THE LEAD SHEATH THEN STRIP OFF THE BRAID AROUND THE RUBBER TO WITHIN 3/4" OF LEAD SHEATH. APPLY OKALITE RUBBER CEMENT IN BELL SHEATH. APPLY TAPE #1 TO FORM STRESS CONE OVER BELL AND HAVING ENOUGH TO FORM A TIGHT FIT BETWEEN CABLE AND PORCELAIN AT (C). COVER SPLICING GUM WITH DOUBLE LAYER OF ½" LAP TAPE #2 TO ABOUT ½" BEYOND TERMINAL END OF GUM AND PAINT WITH BLACK INSULATING VARNISH, G.E. #457. REMOVE WAX AND ANY FOREIGN MATTER FROM RUBBER INSULATION, FROM END OF BRAID TO TERMINAL BEFORE APPLYING ANY INSULATION.

CABLE CONNECTION TO COMBINATION SAFETY COIL AND SERIES CUTOUT

TAPE NOTE: (2) JOHNS-MANVILLE "DUTCH BRAND" ASTM RUBBER TAPE #1 TAPE #8, OR AN APPROVED EQUAL.
TAPE #2 - 3M SCOTCH BRAND #33 ELECTRICAL TAPE OR APPROVED EQUAL

COMPOUND NOTE:
COMPOUND A - MINERALLAC #78

CAULKING MATERIAL:
#1 SCOTCHCAST BRAND RESIN #4, EPOXY TYPE RESIN.

1/C 7500 V. POTHERD

NOTES FOR 1/C 7500 V POTHERD

1. CUT LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING. SLIP THE LEAD CUP OVER THE CABLE. BELL THE LEAD SHEATH, THEN STRIP OFF THE BRAID AROUND THE RUBBER TO WITHIN ¾" OF THE LEAD SHEATH. REMOVE WAX AND FOREIGN MATTER FROM RUBBER INSULATION.
2. SWEAT CONDUCTOR INTO TERMINAL (D) AND PENCIL RUBBER INSULATION 1" AS SHOWN.
3. FIRMLY MOUNT THE TERMINAL (D) IN THE PORCELAIN HOUSING INVERT THE POTHEAD AND FILL WITH COMPOUND "A" OR EQUAL.
4. AFTER THE COMPOUND HAS COOLED BUT WHILE STILL TACKY SLIP THE LEAD DISCS INTO PLACE AND SWEAT TO CABLE SHEATH AT (N)
5. TRAIN THE CABLE AND MOUNT THE POTHEAD ON CROSS-ARM.
6. SLIP THE CONE SHAPED RUBBER BUSHING (B) OVER THE CONDUCTOR.
7. SWEAT THE CONDUCTOR IN TERMINAL (E) & PENCIL THE RUBBER INSULATION AS SHOWN.
8. MOUNT THE TERMINAL FIRMLY IN THE CAP (B) & FILL TO UNDERSIDE OF RUBBER BUSHING WITH COMPOUND "A" OR EQUAL. (#8 WIRE ONLY)
9. BUILD UP WITH TAPE #1 AND CARRY TWO LAYERS OVER THE END OF THE CAP TO POINT (F) AS SHOWN AND COVER WITH 2 LAYERS OF HALF LAP TAPE #2 AND PAINT WITH G.E. #457 BLACK INSULATING VARNISH.

REDRAWN 9-9-60

CITY OF DETROIT PUBLIC LIGHTING COMMISSION P.L.C. DETAILS - CABLE SPLICES & CONNECTIONS	DRAWN BY R.K.J.	FILE NO. 55-3H
	CHECKED BY	SHEET NO. 1
	APPROVED BY	DATE 1-31-52

MICHIGAN STATE HIGHWAY DEPARTMENT

REVISIONS			
NO.	DESCRIPTION	DATE	BY
(2)	CHANGED TO JOHNS MANVILLE TAPE	3-3-61	M.J.C.
3	1/C PH TERMINATION CHANGED	2-26-62	M.J.C.

SQUAD BOSS		
DRAWN BY		
TRACED BY		
CHECKED BY		

SHEET 52 OF 67

82195B C1