

DETAILED PLANS

BROOKFIELD SANITARY INTERCEPTOR SEWER

CONTRACT 1 (EPA C390775-010)

CITY OF MASSILLON-TUSCARAWAS TOWNSHIP

STARK COUNTY, OHIO - 1977

CITY OF MASSILLON OFFICIALS

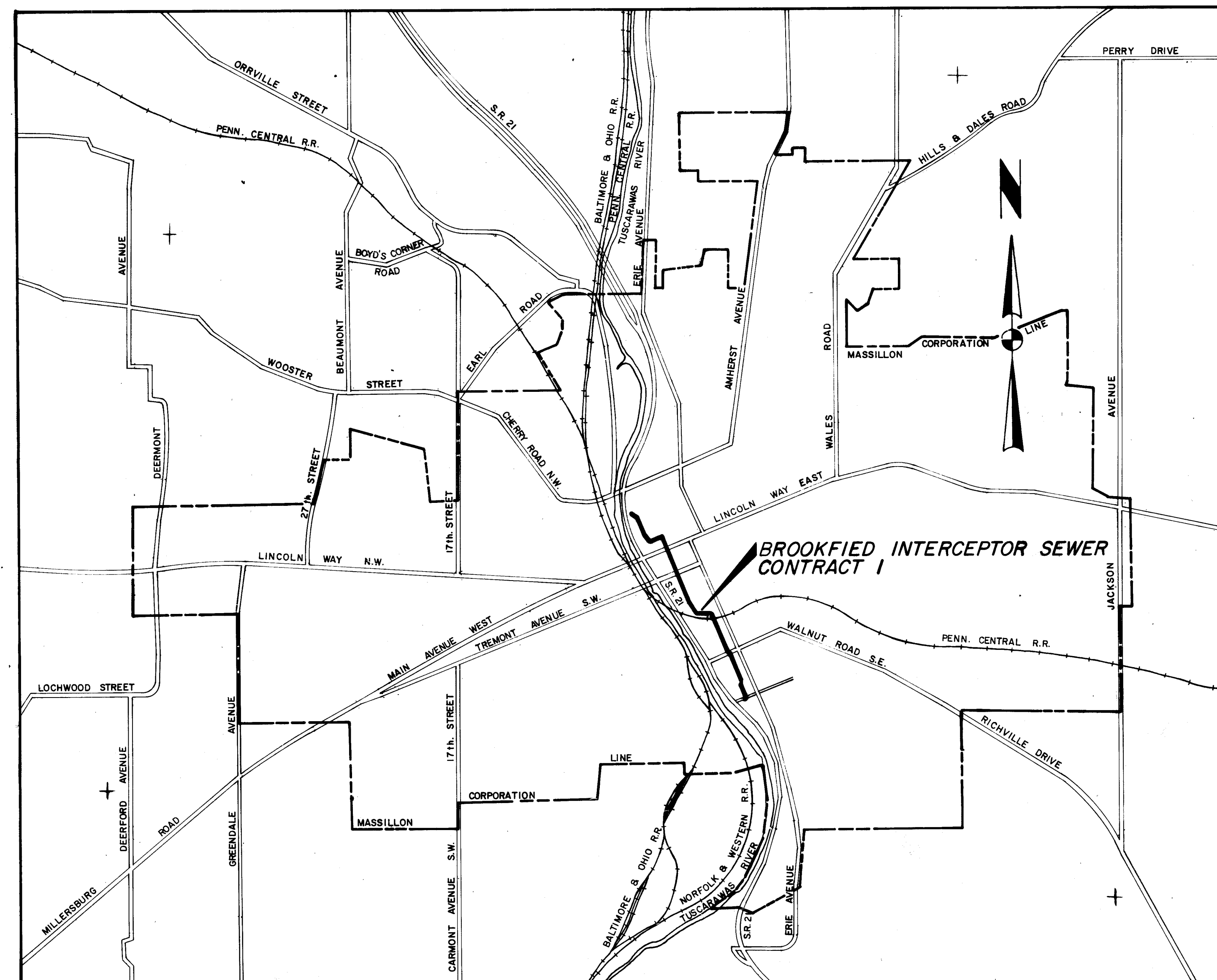
MAYOR MARK ROSS
DIRECTOR OF SAFETY & SERVICE BLASE J. SPARMA
SOLICITOR THOMAS V. FERRERO
AUDITOR MAXINE WURZBACHER
TREASURER ESTHER HAAS
ENGINEER ROBERT WAGONER
WASTE & WASTEWATER SUPT. ROBERT BUSHMAN

COUNCIL

PRESIDENT OF COUNCIL MELVILLE HERNCANE
COUNCILMAN-AT-LARGE PAUL STERGIOS
COUNCILMAN-AT-LARGE MARTHA A. HOWELL
COUNCILMAN-AT-LARGE VINCENT SNYDER
WARD ONE RON MANG
WARD TWO FRANK CICCHINELLI
WARD THREE DAVE KLEKNER
WARD FOUR PAULINE LEMON
WARD FIVE HELEN MAIER
WARD SIX ANTHONY EAGLOWSKI

STARK COUNTY OFFICIALS

COMMISSIONER VIRGIL L. MUSSER
COMMISSIONER NORMAN W. SPONSELLER
COMMISSIONER ROBERT C. SCHIRACK
COUNTY ADMINISTRATOR WILLIAM KEEN
COUNTY SANITARY ENGINEER WILLIAM J. VEROSKI
COUNTY AUDITOR WILLIAM BOWMAN
PROSECUTING ATTORNEY JAMES UNGER



LOCATION MAP
0 2000 4000 8000
SCALE IN FEET

PREPARED BY:

FRANK A. THOMAS & ASSOCIATES, INC.

CONSULTING ENGINEERS
WILLOUGHBY - NORTH CANTON, OHIO

APPROVALS

APPROVED BY:
Blase J. Sparma
MASSILLON SAFETY & SERVICE DIRECTOR
Robert Wagoner
MASSILLON CITY ENGINEER

DATE:
4-26, 1977

STARK COUNTY COMMISSIONERS:

Virgil L. Musser 4-28-77
PRESIDENT
Norman W. Sponseller 4-28-77
MEMBER
Robert C. Schirack 4-28-77
MEMBER

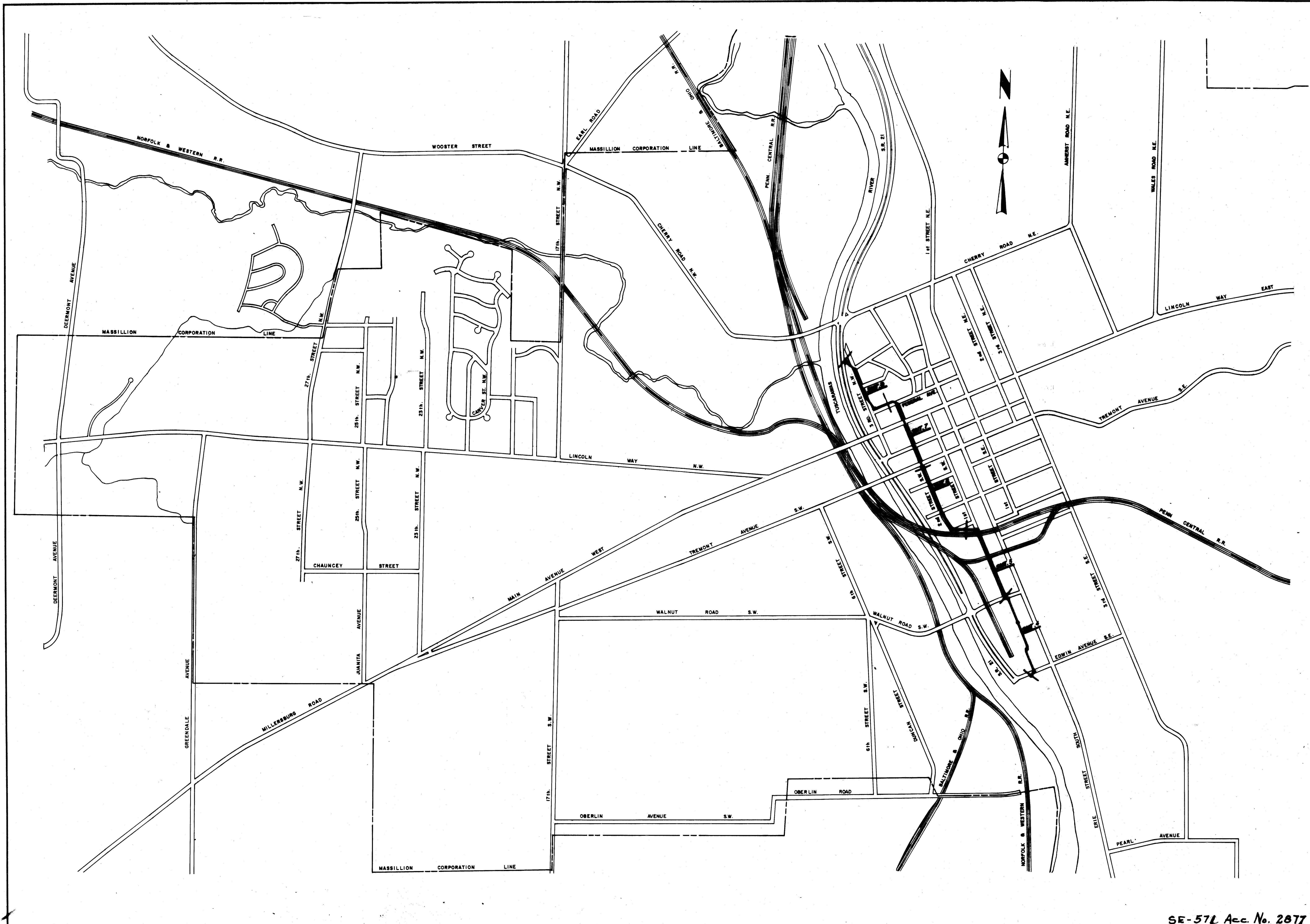
William J. Veroski 4-28-77
STARK COUNTY SANITARY ENGINEER

INDEX OF SHEETS

SHT NO	DESCRIPTION
1	TITLE SHEET
2	INDEX OF SHEETS
3	SOIL BORING LOCATIONS
4	EDWIN AVENUE TO WALNUT AVENUE
5	1 ST. STREET S.W.
6	2 ND. STREET S.W.
7	2 ND. STREET S.W. AND FEDERAL AVENUE
8	FEDERAL AVENUE AND 3 RD. STREET N.W.
9	SPECIAL MANHOLE DETAILS
10	SPECIAL MANHOLE DETAILS
11	SPECIAL MANHOLE DETAILS
12	SPECIAL STRUCTURE 1-1 AND 1-2
13	SPECIAL STRUCTURE 1-3 AND 1-4
14	SCHEDULES AND MISCELLANEOUS DETAILS
15	MISCELLANEOUS DETAILS
16	MISCELLANEOUS DETAILS

NOTE:

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.



SE-574 Acc. No. 2877

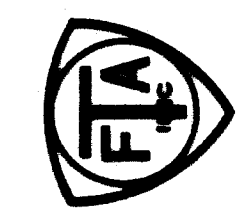
AS BUILT JAN. 1979

CONTRACT 1

SCALE
1" = 600'
NOTES
77-143

2 OF 16 SHEETS

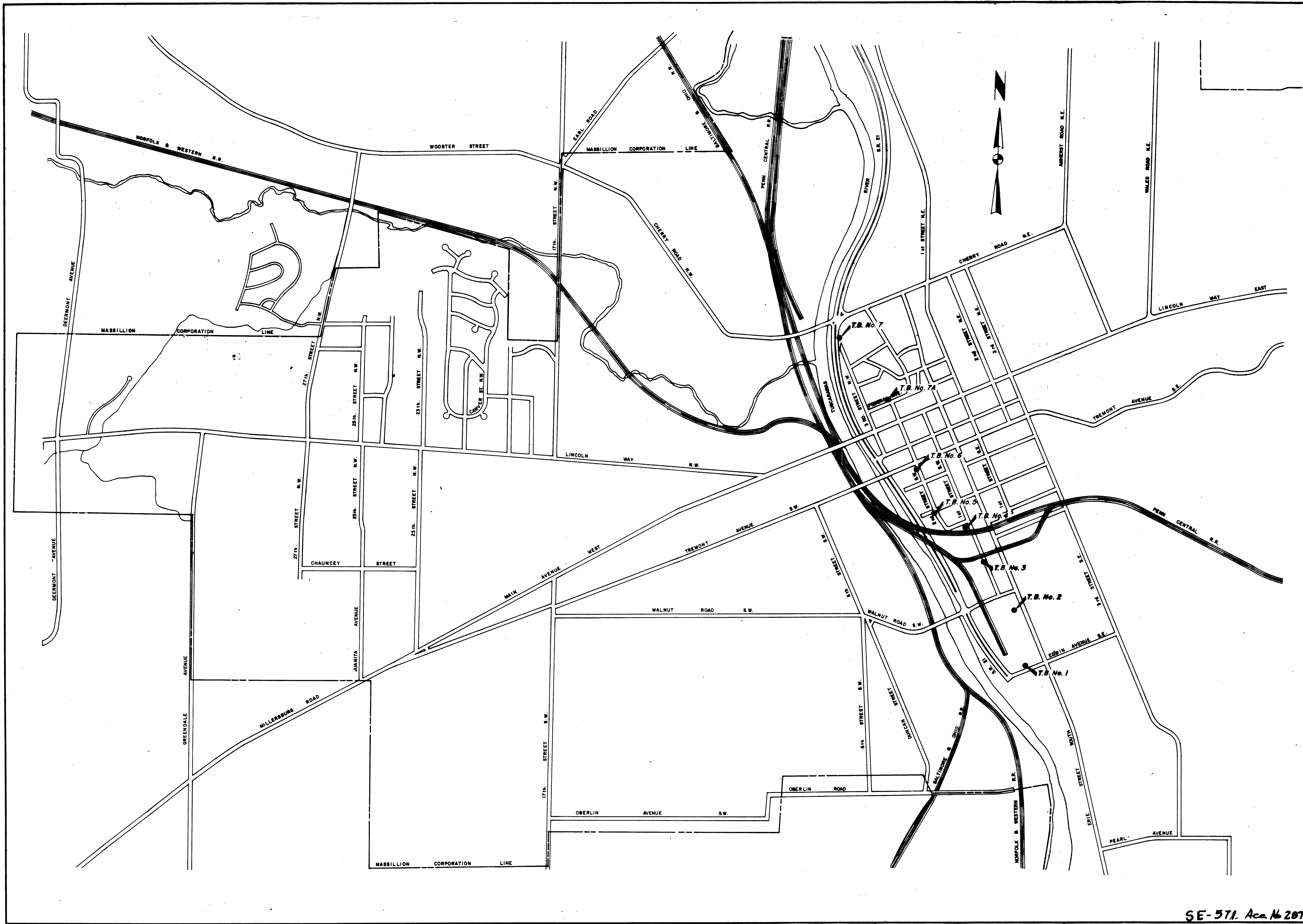
INDEX OF SHEETS



CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
INDEX OF SHEETS

FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

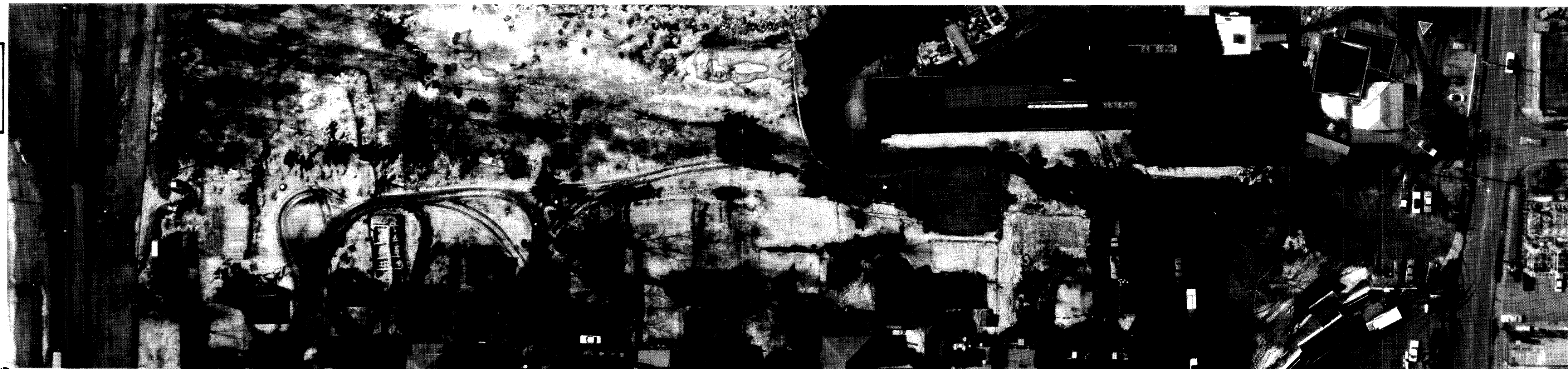
DRAWN BY: S.E.
CHECKED BY: P.W.E., D.A.B.
DATE: APRIL 1977



SE-571. Aca. No. 2078
AS BUILT JAN. 1979

SCALE 1" = 400' VERT.	77-14.3 SHEET	3 OF 16	SOIL BORING LOCATIONS	FRANK A. THOMAS & ASSOCIATES, INC. CONSULTING ENGINEERS WILLOUGHBY, OHIO	DATE: JAN. 1977
					CHECKED BY: J.M.E., D.A.B.
				CITY OF MASSILLON STARK COUNTY, OHIO BROOKFIELD SANITARY INTERCEPTOR SEWER SOIL BORING LOCATIONS	DRAWN BY: E.E., A.E.

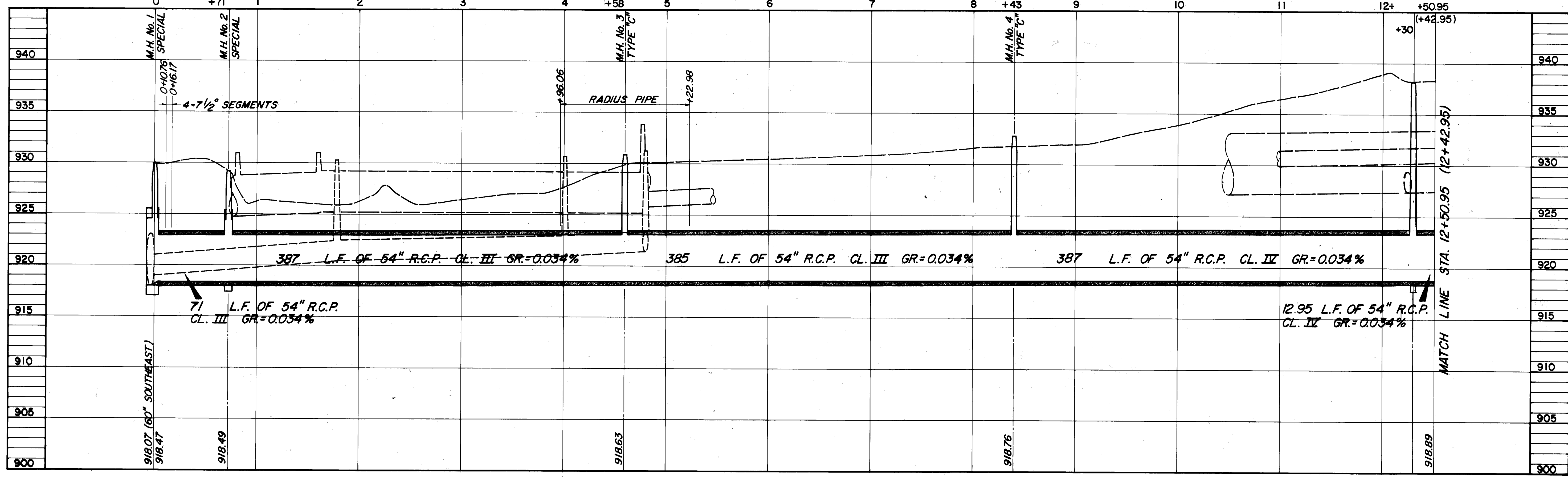
GENERAL NOTES
1. STATIONING SHOWN IS ALONG BASELINE. STATION IN PARENTHESIS IS SEWER STATIONING.
2. EASEMENTS SHOWN ARE IN THE PROCESS OF BEING ACQUIRED UNLESS OTHERWISE INDICATED.



*7'30' SEGMENTS - SEE SPECIAL M.H. NO. 1 DETAIL
SPECIAL M.H. NO. 1 DETAIL
COST TO BE INCLUDED IN PRICE BID FOR 54" R.C.P. CL. III

PAVEMENT REPLACEMENT:
EDWIN AVE. S.W.
ITEM 20B - 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT.

PAVEMENT REPLACEMENT:
WALNUT AVE. S.W.
ITEM 21 - 2 1/2" ASPHALT CONCRETE OVER 10" NON-REINFORCED PORTLAND CEMENT CONCRETE BASE.



AS BUILT JAN. 1979

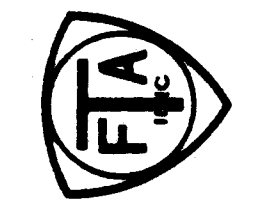
SE-571 Acc. No 2879

CONTRACT 1

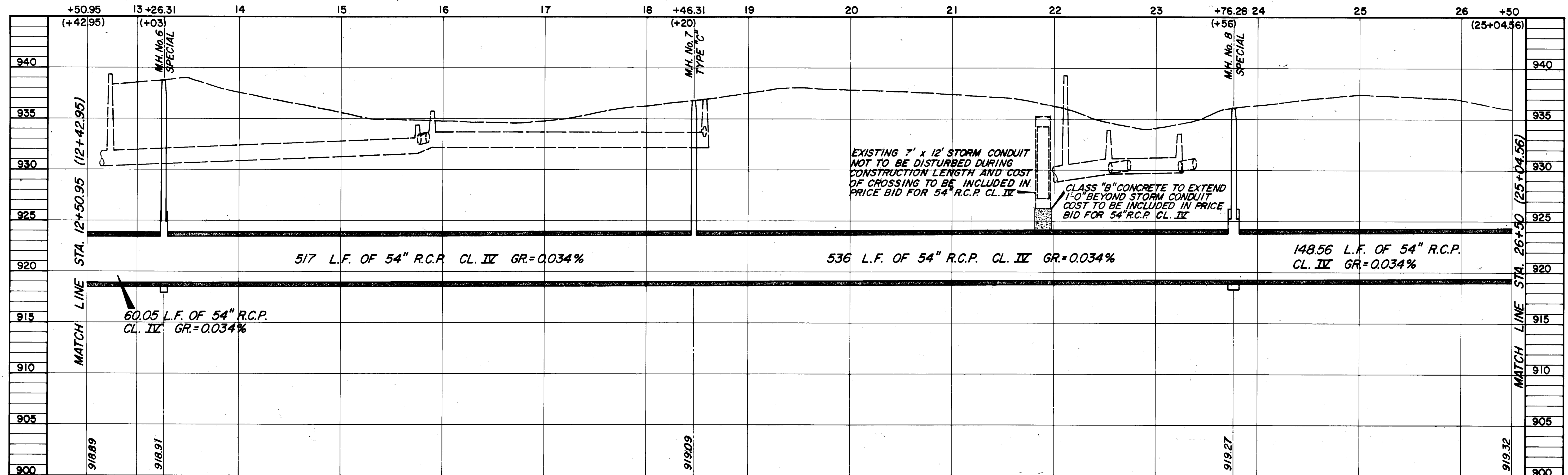
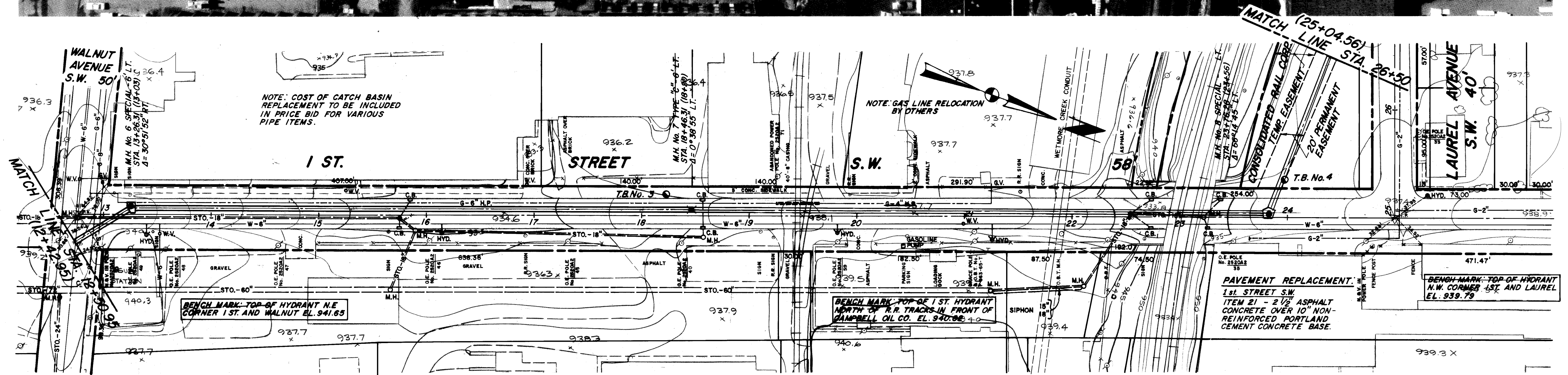
DRAWN BY: E.W.
CHECKED BY: F.M.S., D.A.D.
DATE: APRIL, 1977

FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
PLAN AND PROFILE



SCALE: 1"=50' VERT. 1"=5'
77-14.3
4 OF 16 SHEETS
EDWIN AVENUE TO WALNUT AVENUE



AS BUILT JAN., 1979

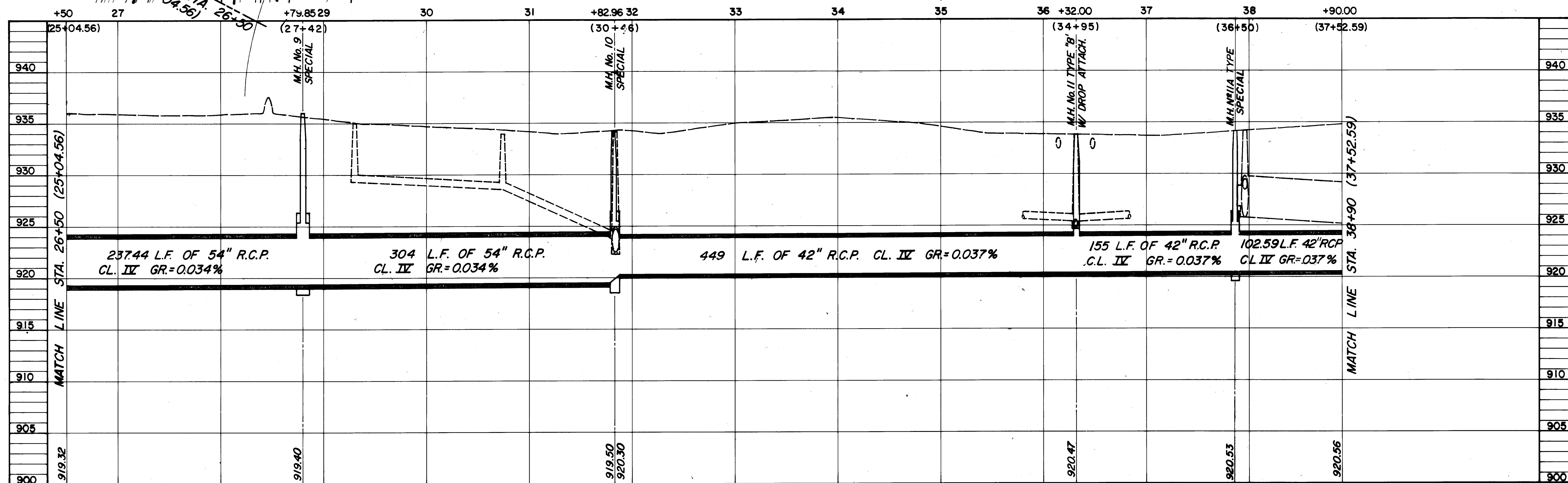
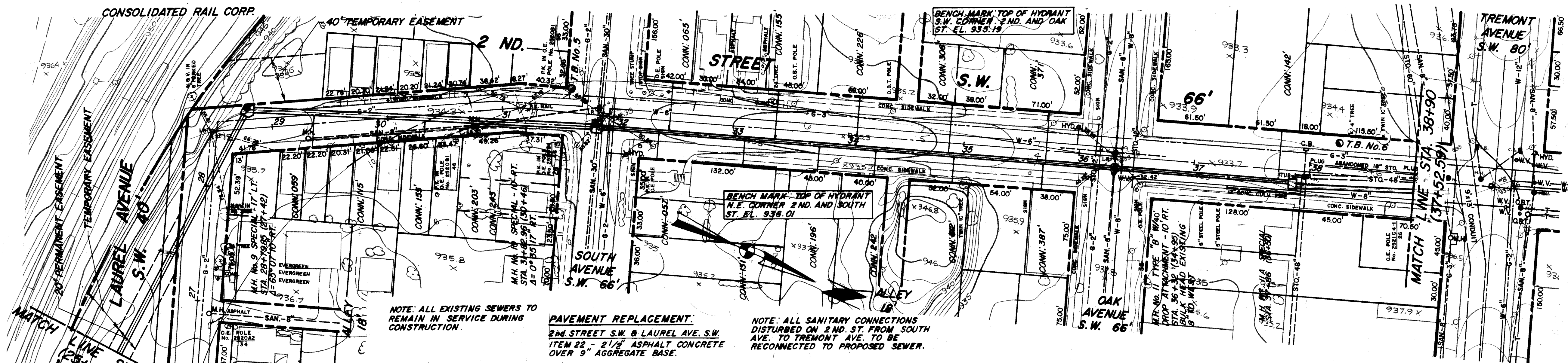
SE-571 Acc.No.2880 CONTRACT 1

FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
PLAN AND PROFILE

SCALE: HORIZ. 1"=50' VERT. 1"=5'
77-14.3
5 OF 16
1 ST. STREET S.W.

DRAWN BY: F.W.
CHECKED BY: P.W.S. D.A.D.
DATE: APRIL, 1977



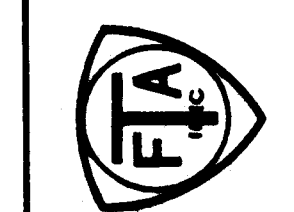
AS BUILT JAN. 1979

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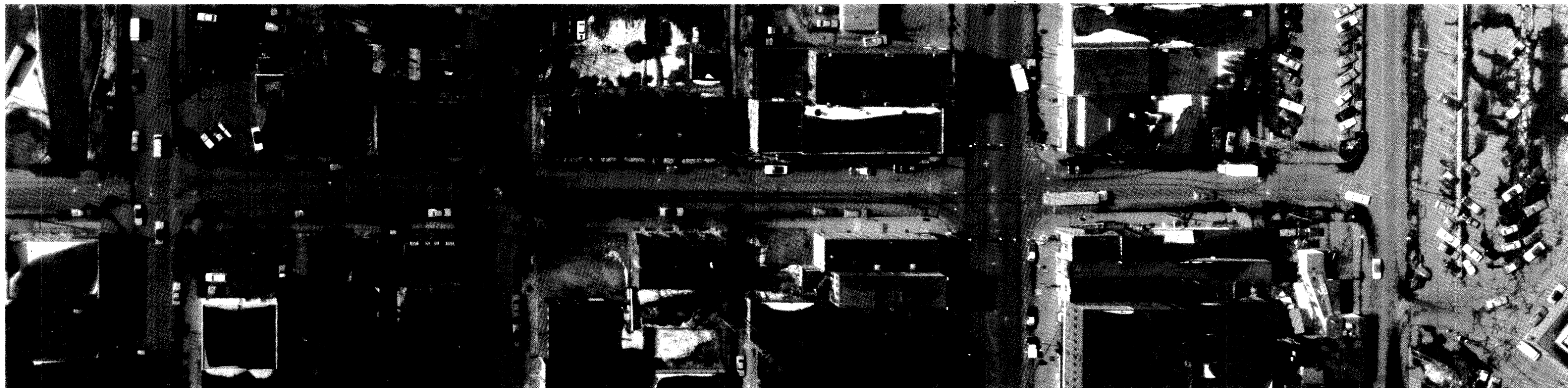
DRAWN BY: FW
CHECKED BY: F.W.S. D.A.D.
DATE: APRIL, 1977

FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

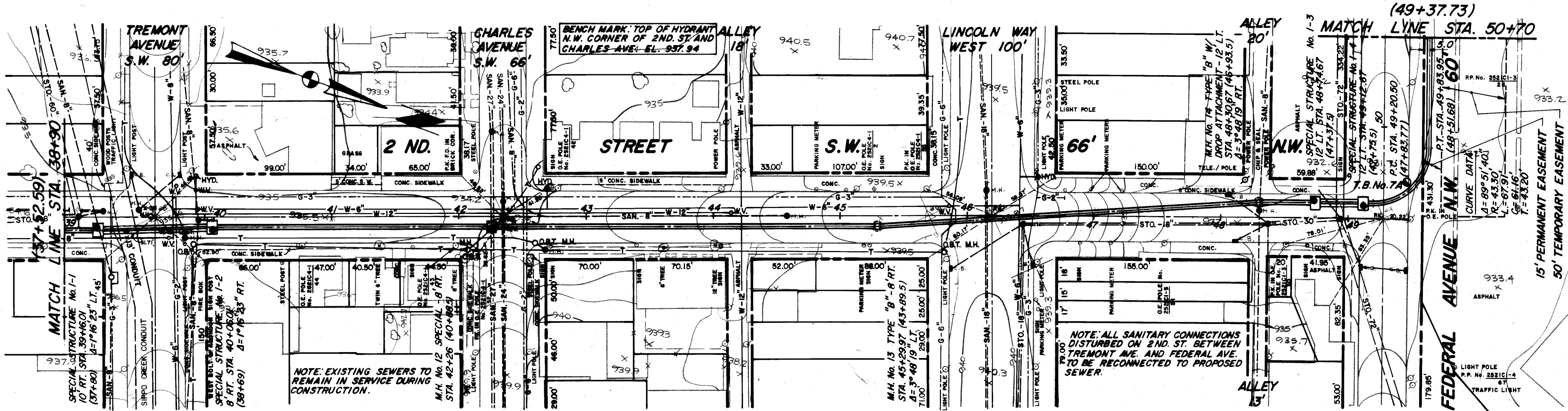
CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
PLAN AND PROFILE



SCALE: HORIZ. 1"=50' VERT. 1"=5'
77-14.3
6 OF 16 SHEETS
2ND STREET S.W.



BENCH MARK: TOP OF HYDRANT
N.W. CORNER OF 2ND ST. AND
TREMONT AVE. EL. 937.30

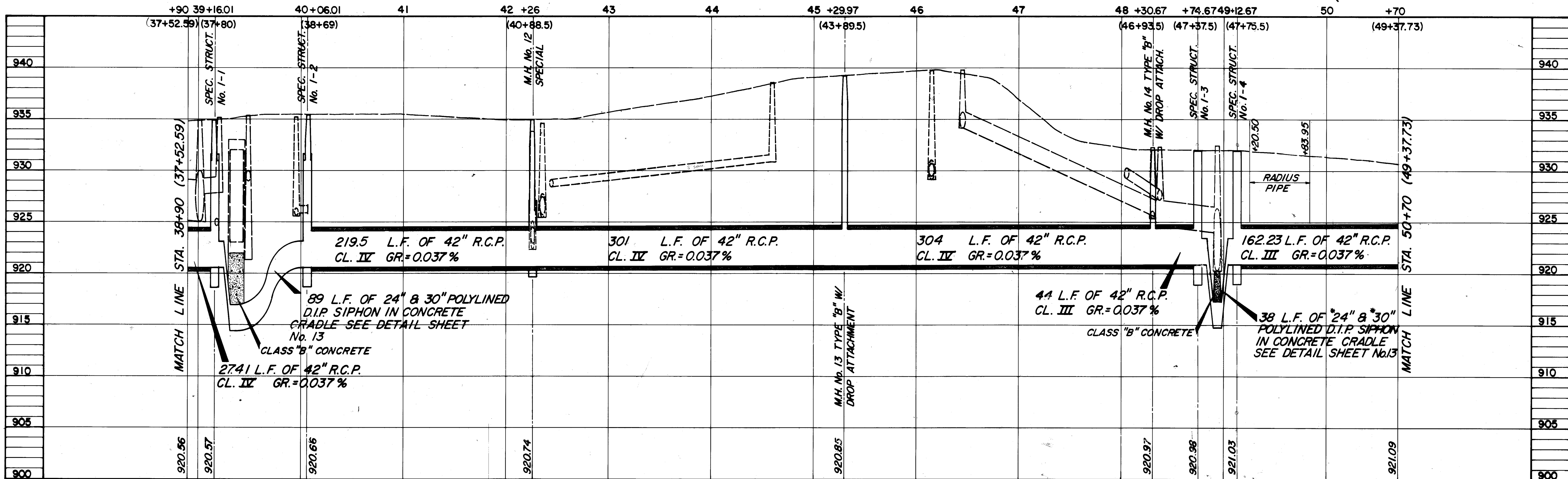


BENCH MARK: TOP OF HYDRANT
N.W. CORNER OF 2ND ST. AND
CHARLES AVE. EL. 937.94

BENCH MARK: N.W. CORNER OF
CONCRETE PIER NORTH TOWER
AT ALLEY ON SECOND ST. SOUTH
OF FEDERAL AVE. EL. 934.21

PAVEMENT REPLACEMENT:
2nd STREET S.W.
STA. 38+90 TO STA. 39+20
ITEM 22 - 2 1/2" ASPHALT CONCRETE
OVER 9" AGGREGATE BASE.
2nd STREET S.W.
STA. 39+20 TO STA. 46+70
ITEM 21 - 2 1/2" ASPHALT CONCRETE
OVER 10" NON-REINFORCED PORTLAND
CEMENT CONCRETE BASE.
2nd STREET N.W. STA. 46+70 NORTH,
FEDERAL AVE. & PARKING AREA
ITEM 22 - 2 1/2" ASPHALT CONCRETE
OVER 9" AGGREGATE BASE.

54" R.C.P. CL. III RADIUS PIPE STA. 49+20.50
TO STA. 49+83.95 LENGTH AND COST TO
BE INCLUDED IN PRICE BID FOR 54" R.C.P.
CL. III.



AS BUILT JAN, 1979

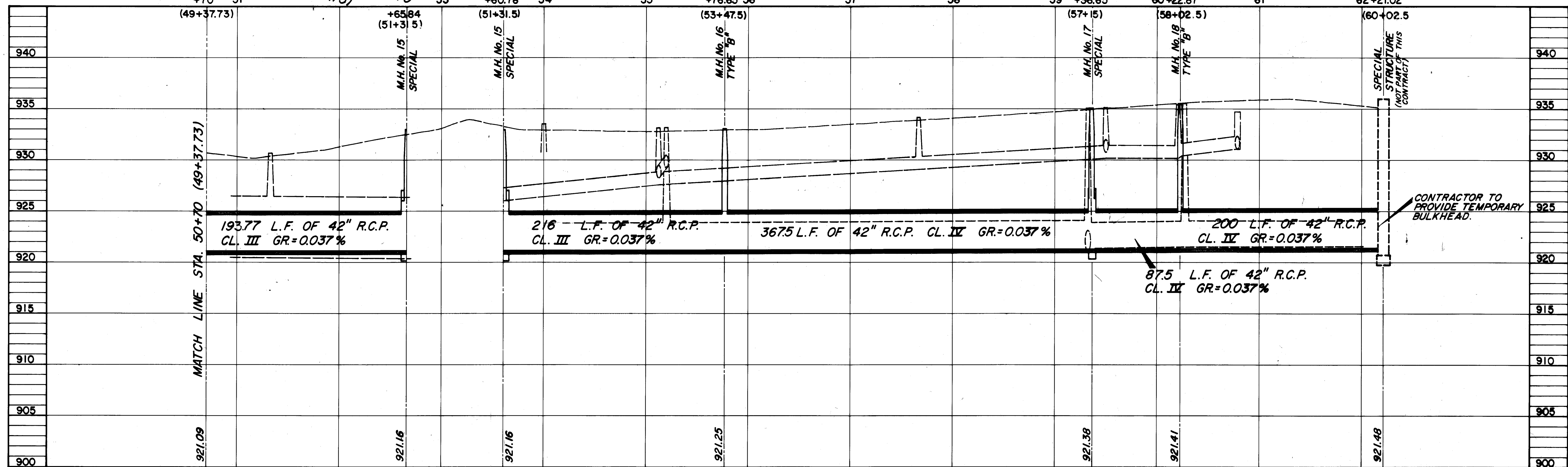
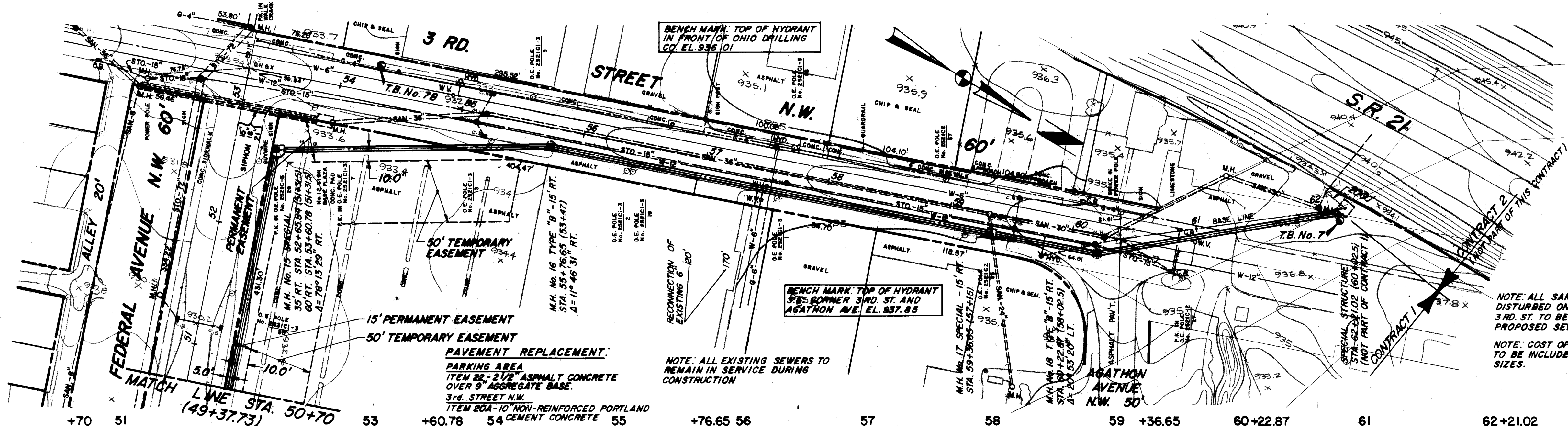
SE-571 Acc. No. 2882 CONTRACT 1

DRAWN BY: E.W.
CHECKED BY: P.M.S., D.A.D.
DATE: APRIL, 1977

FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
PLAN AND PROFILE

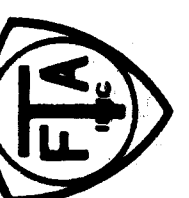
SCALE: HORIZ. 1"=50' VERT. 1"=5'
7 OF 16 SHEETS
2ND STREET SW. AND FEDERAL AVENUE



AS BUILT JAN. 1979

FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

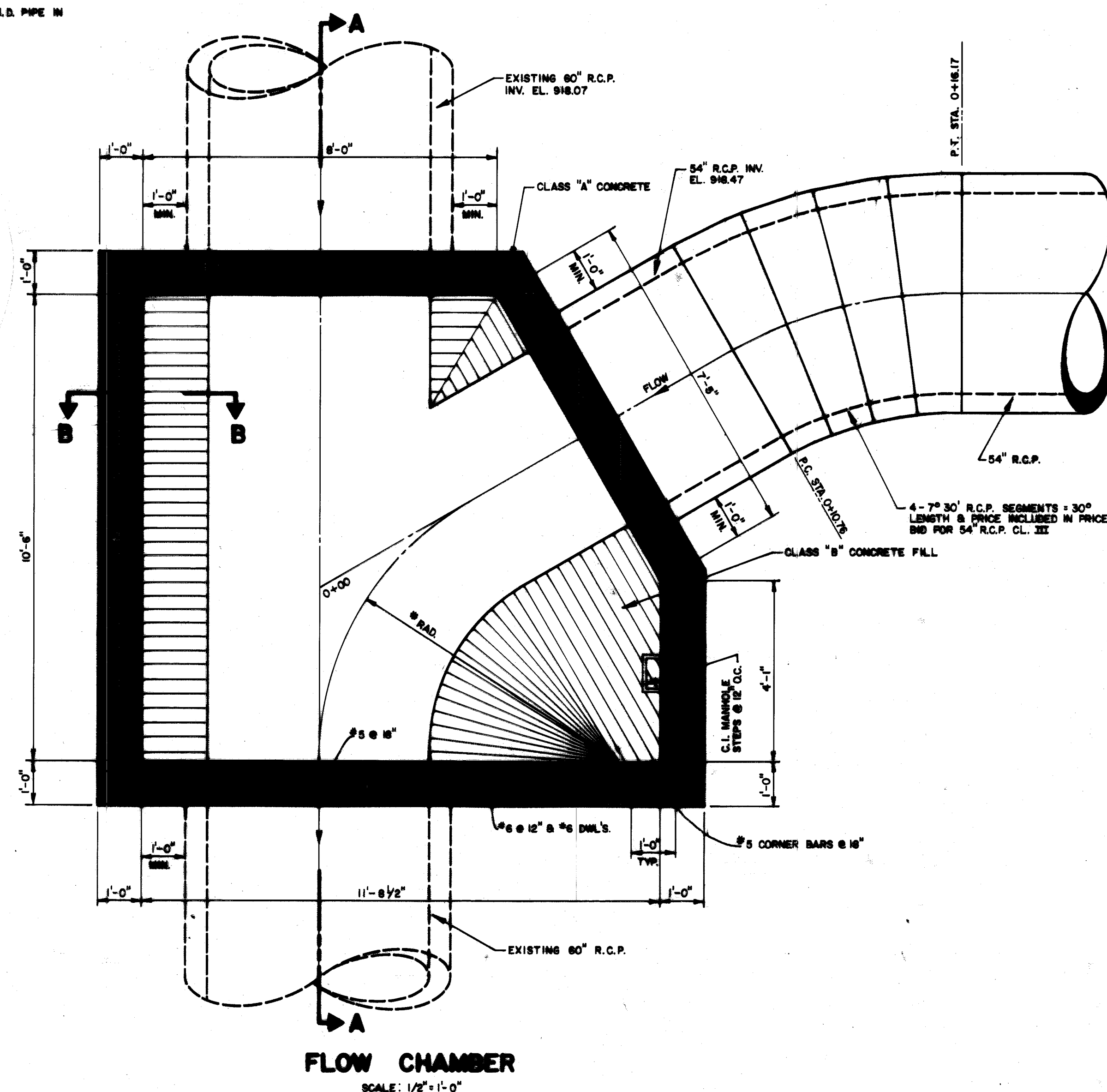
CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
PLAN AND PROFILE



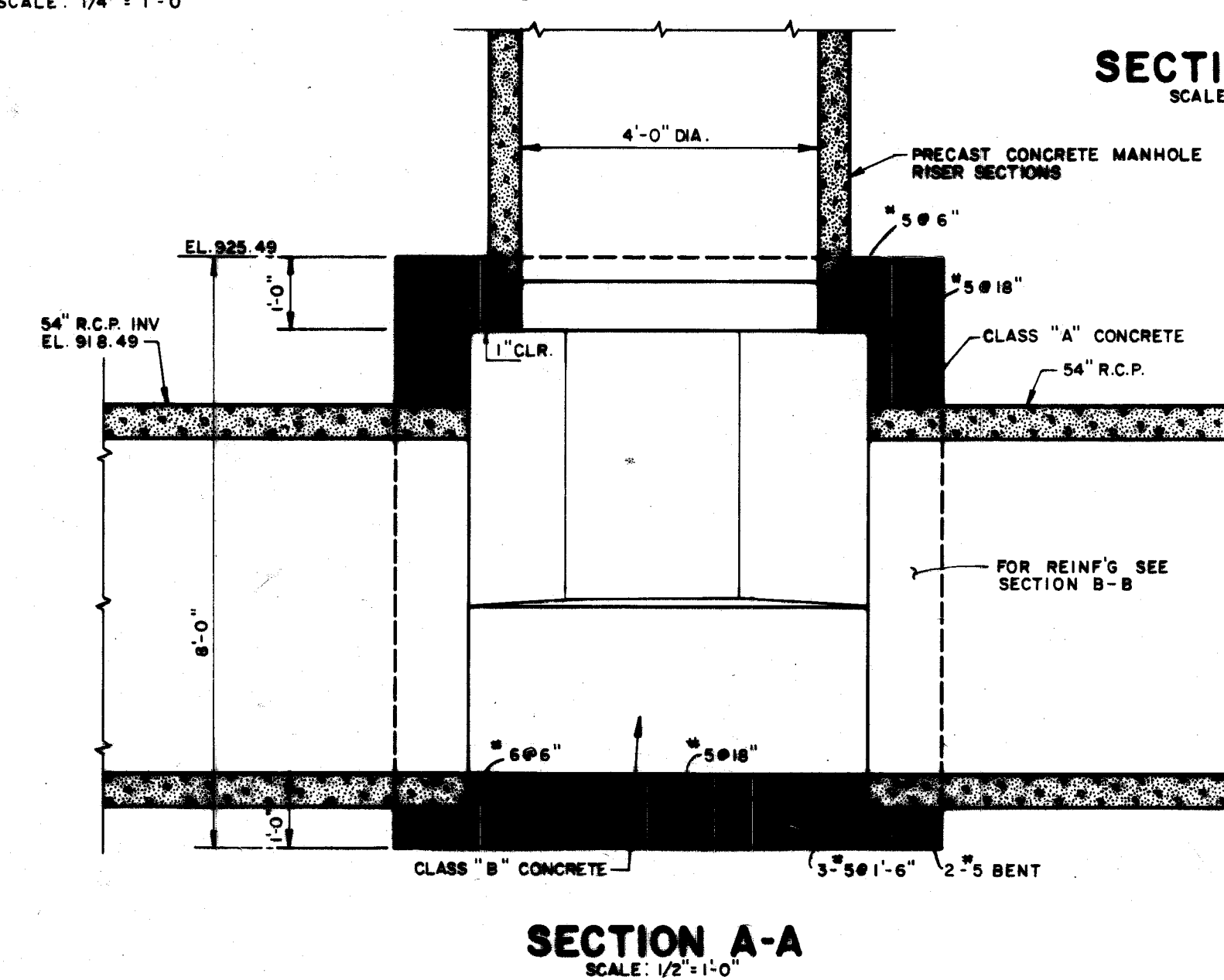
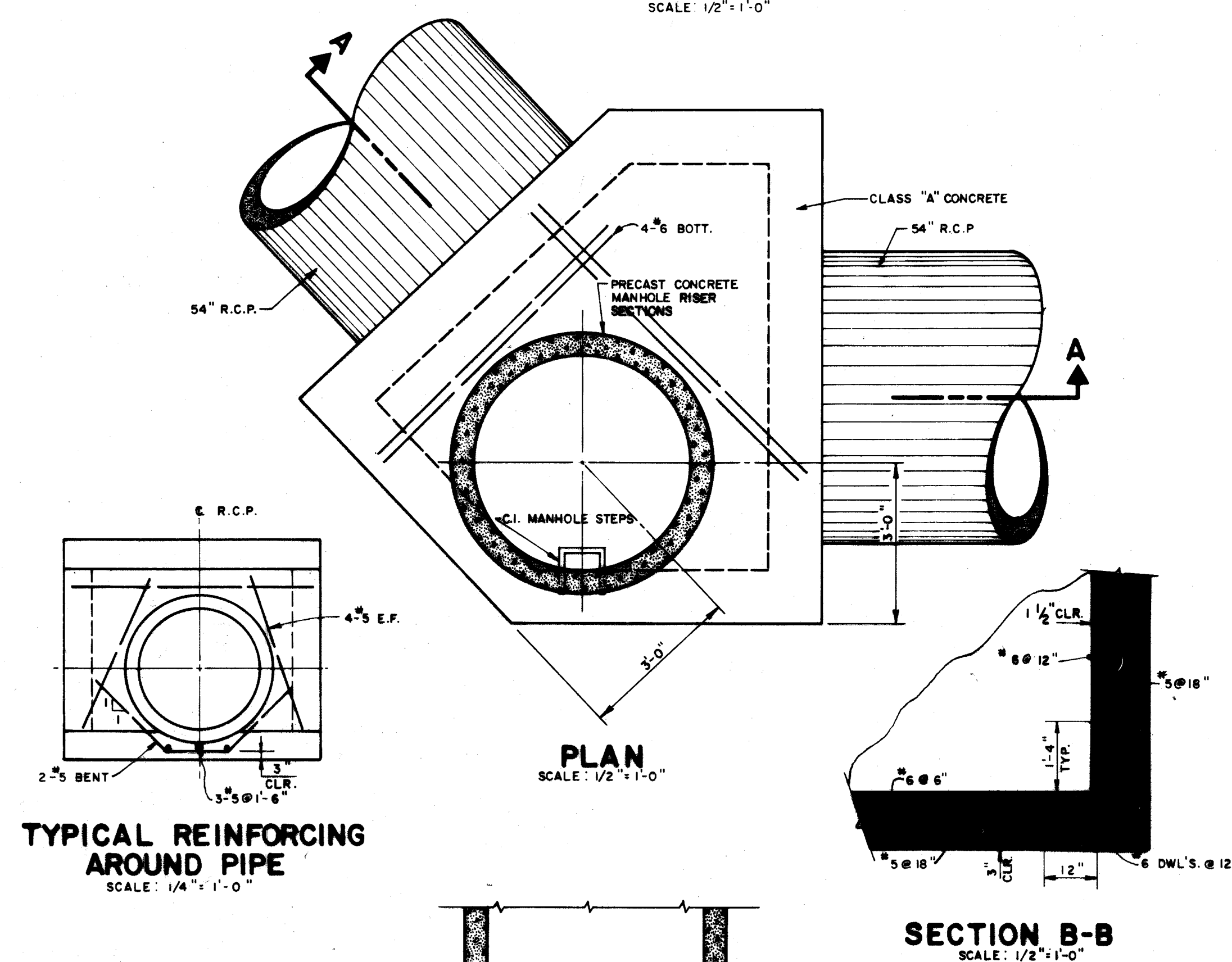
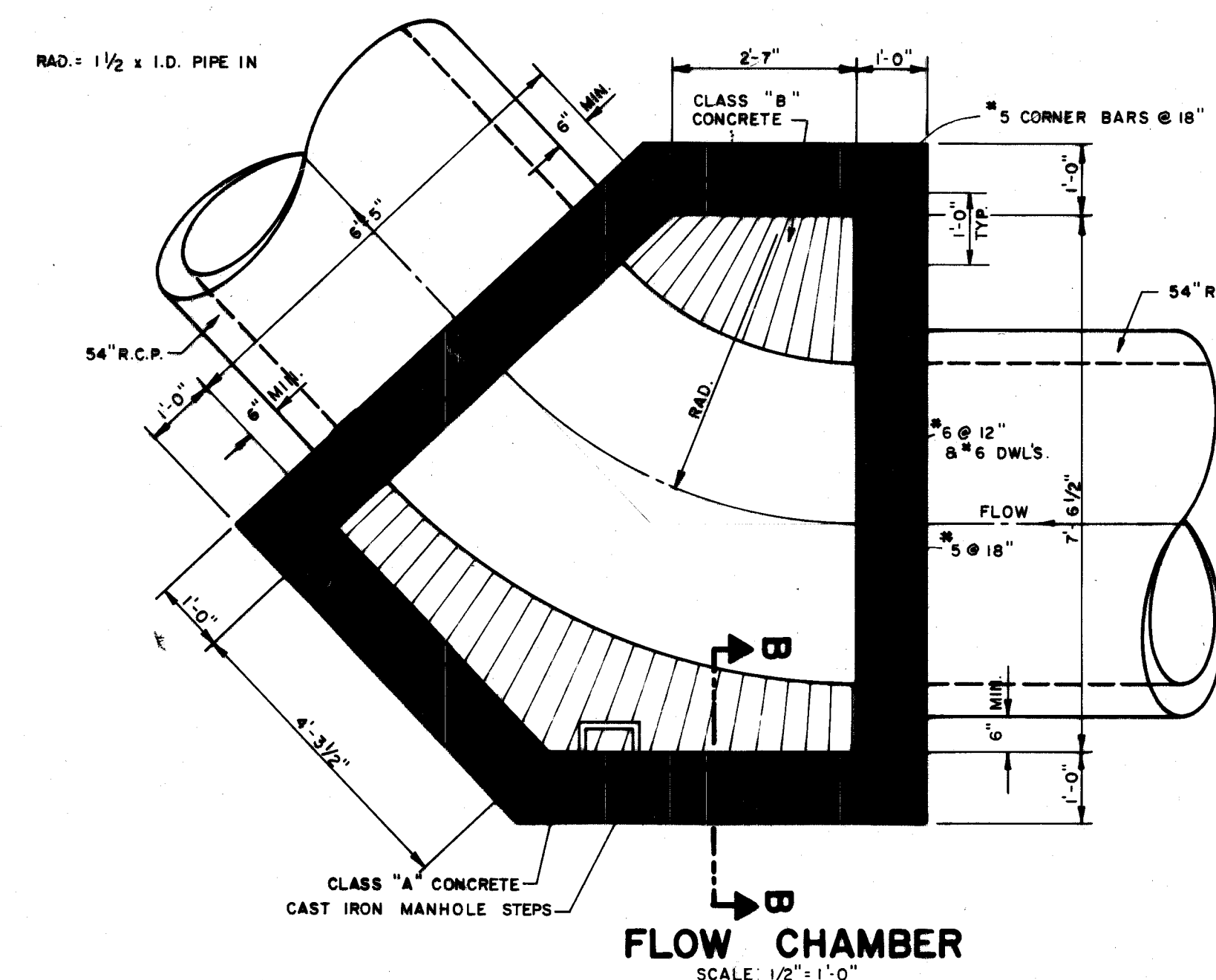
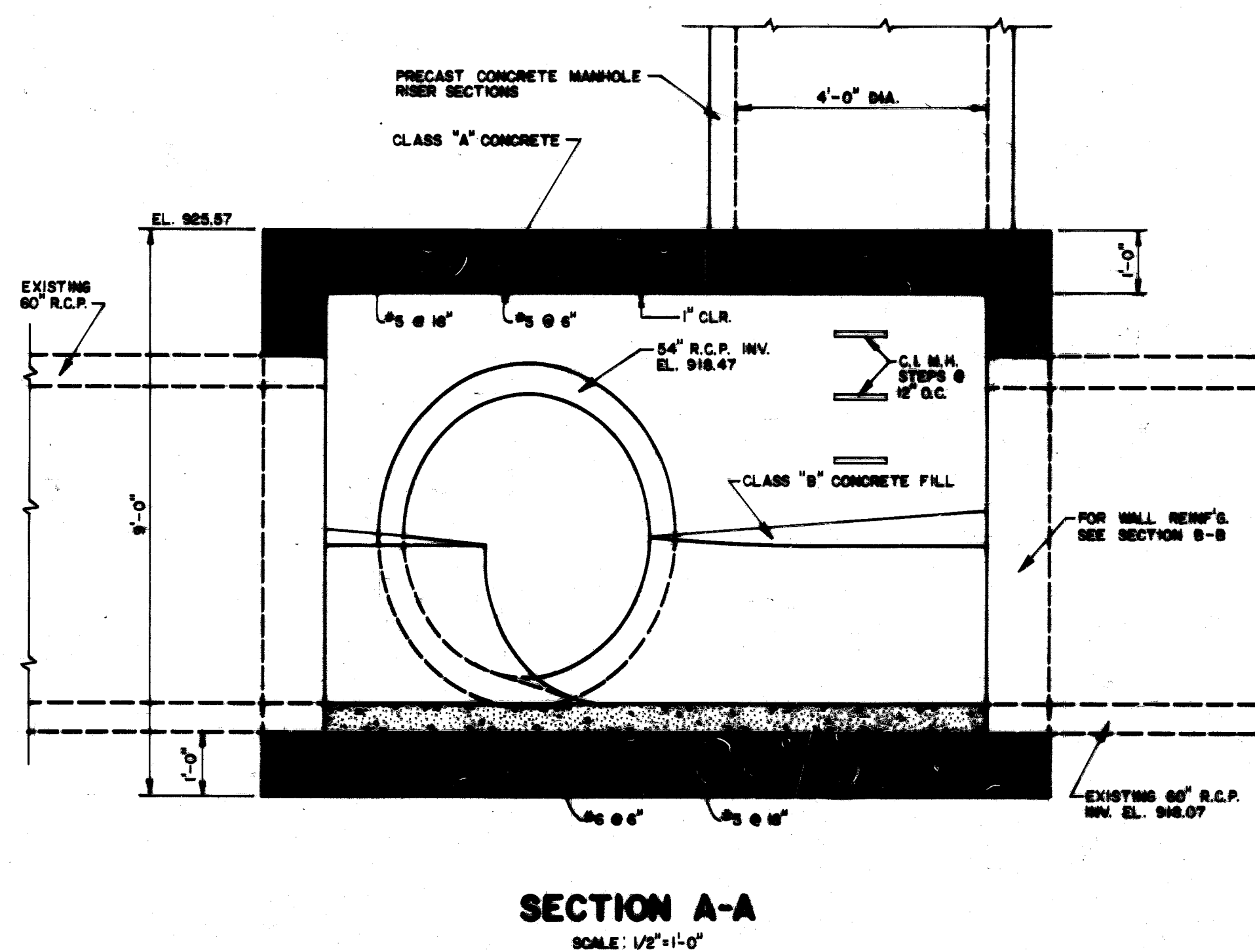
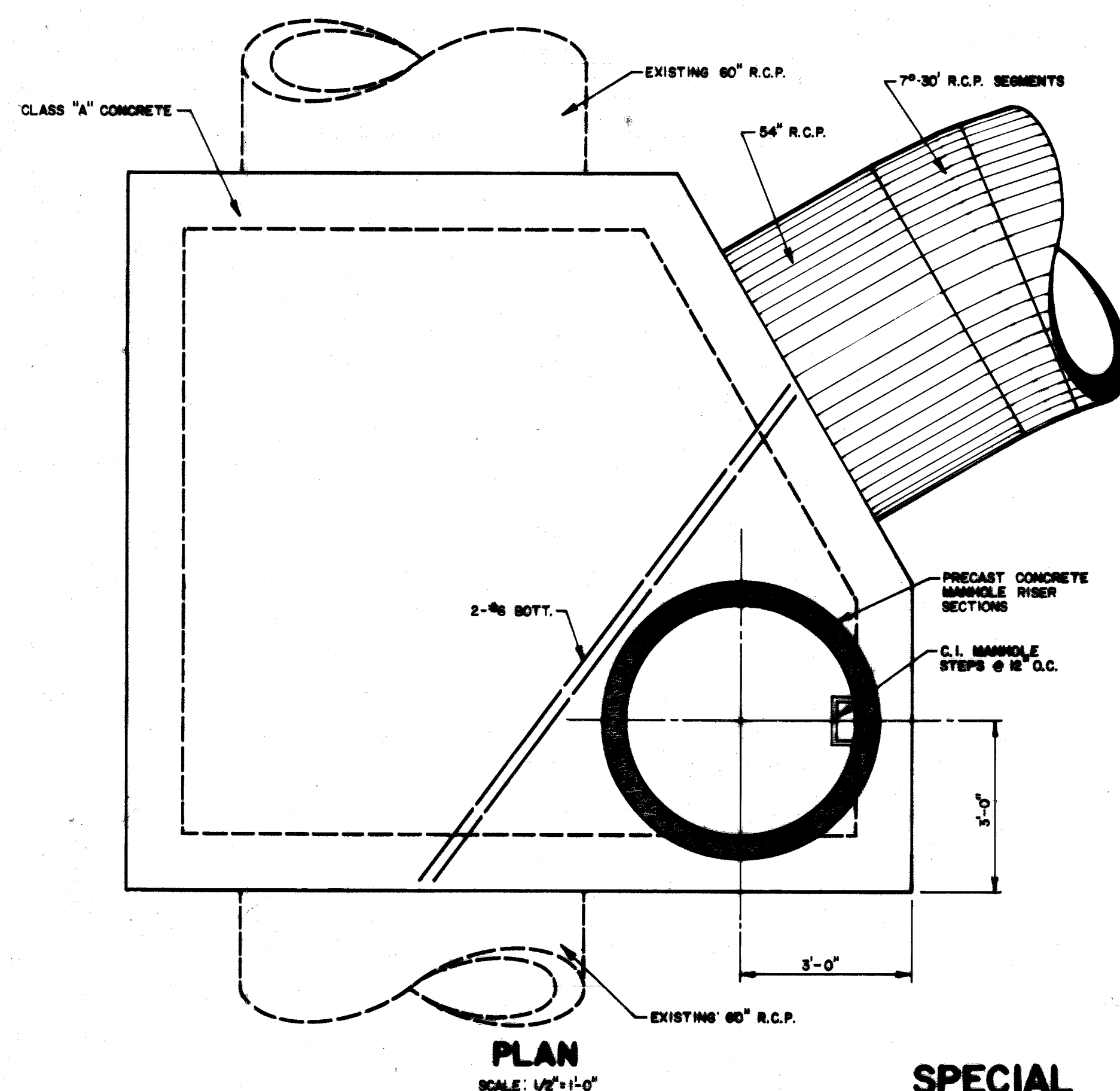
SCALE: HORIZ. 1"=50' VERT. 1"=5'
77-14.3
8 OF 16 SHEETS
FEDERAL AVENUE AND 3RD STREET N.W.

DRAWN BY: E.W.
CHECKED BY: P.W.S., D.A.D.
DATE: APRIL, 1977

*RAD: 1 1/2 x L.D. PIPE IN



NOTE: PRICE BID FOR SPECIAL MANHOLES TO INCLUDE ALL CONCRETE, REINFORCING STEEL, PRECAST RISER SECTIONS, STEPS, CASTING, COVER, CONNECTION TO EXISTING OR PROPOSED SEWERS, BULKHEADS, PUMPING AND ALL OTHER MATERIALS & LABOR REQUIRED FOR AN INSTALLATION COMPLETE IN EVERY WAY.



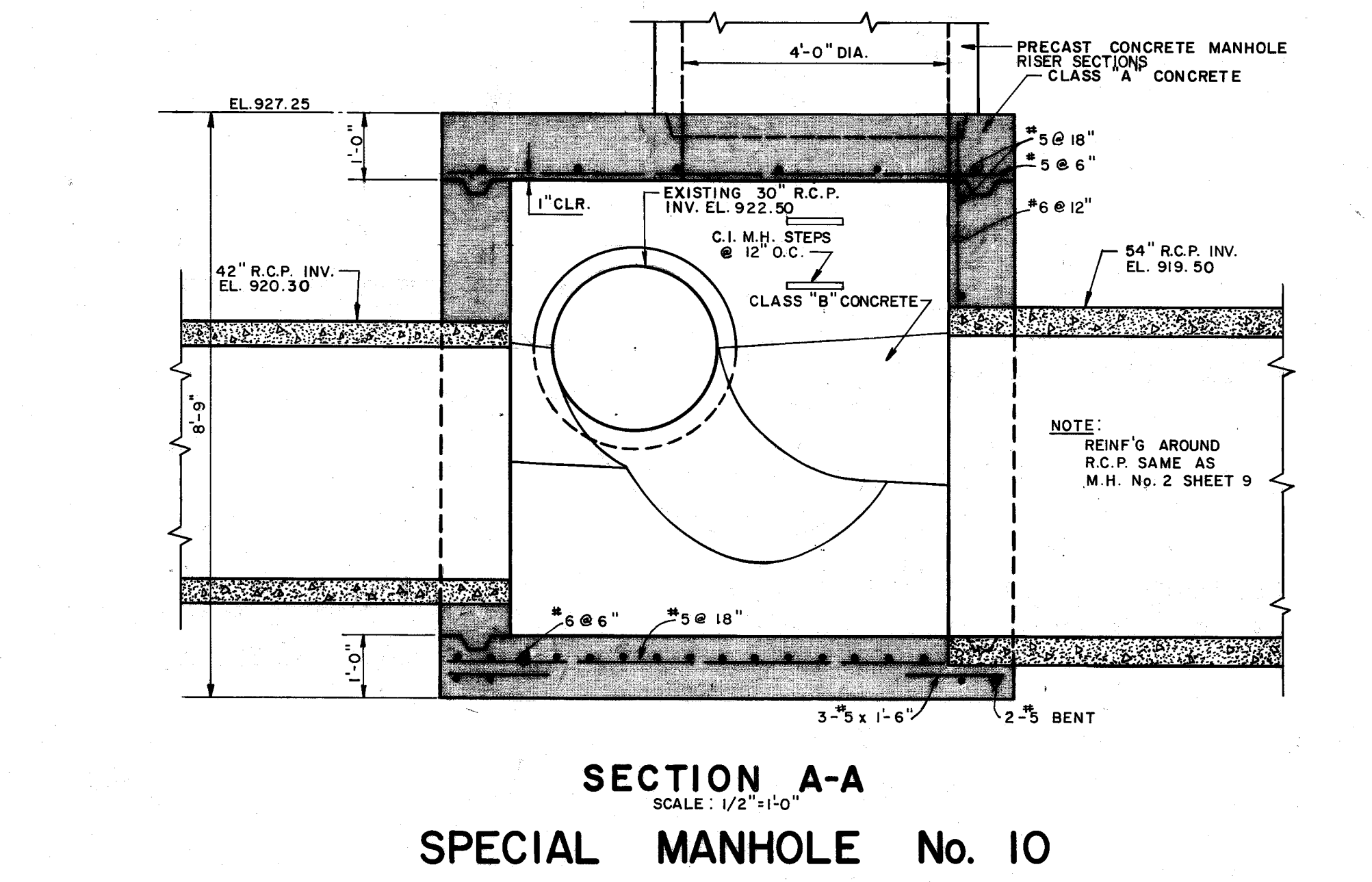
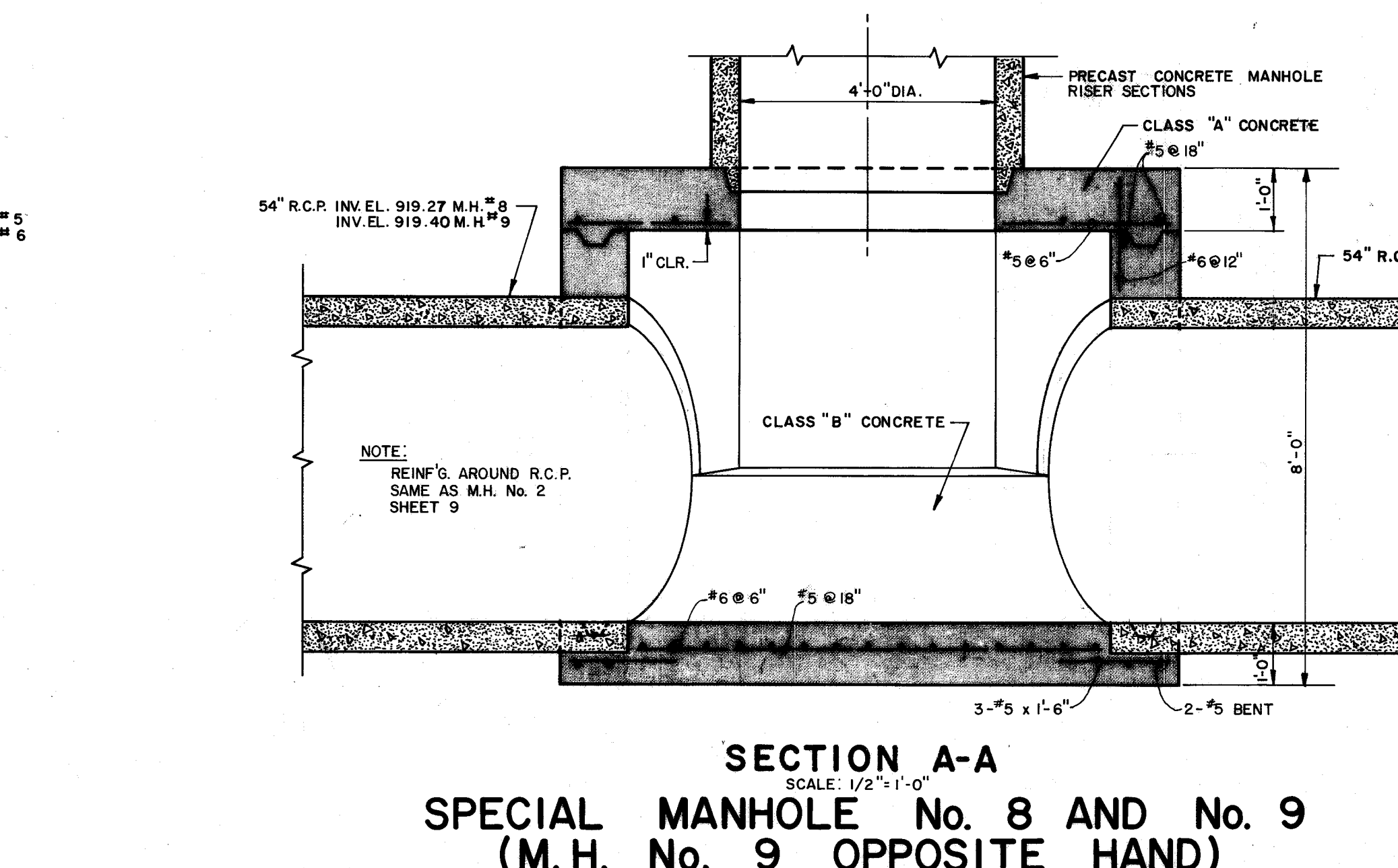
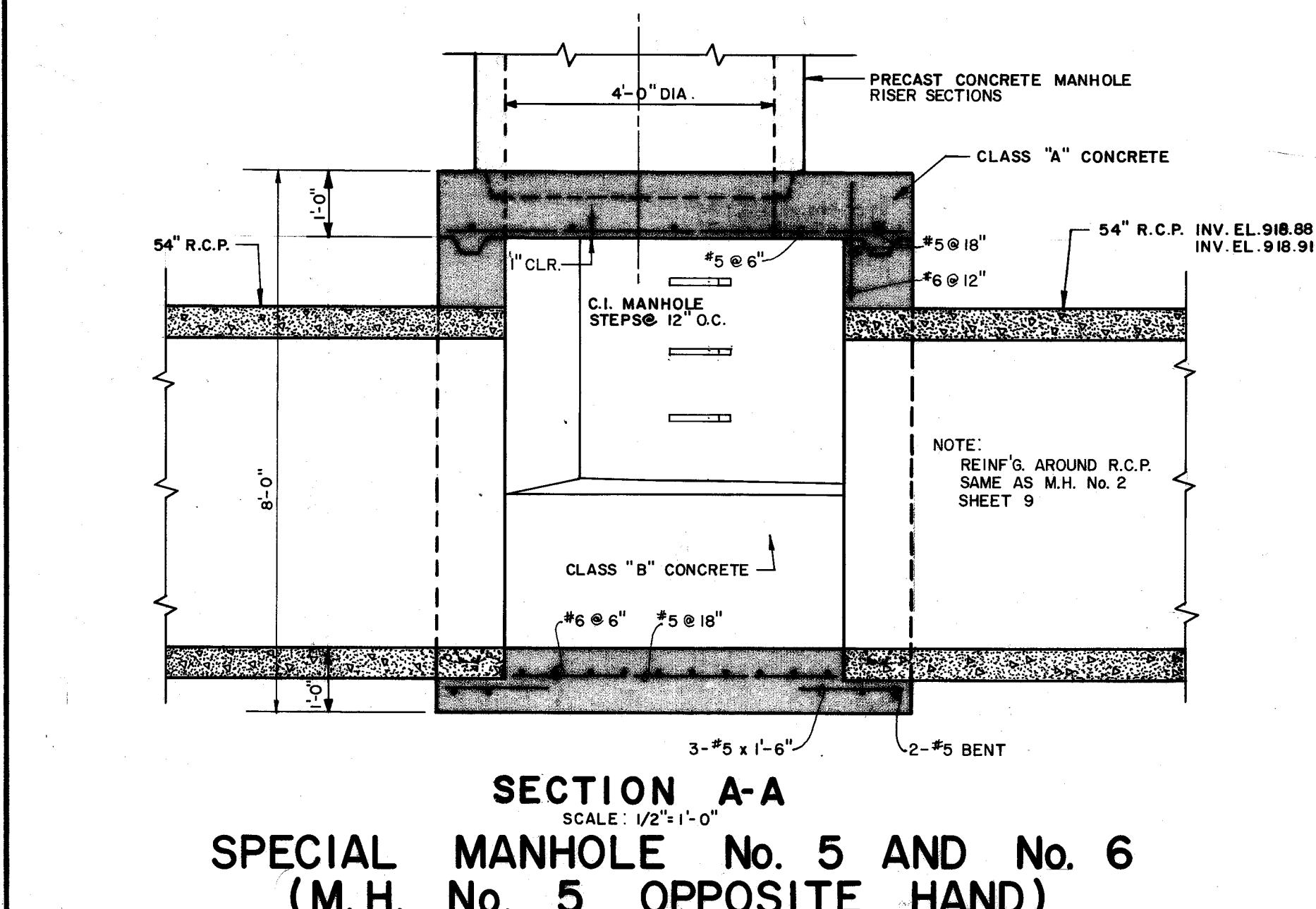
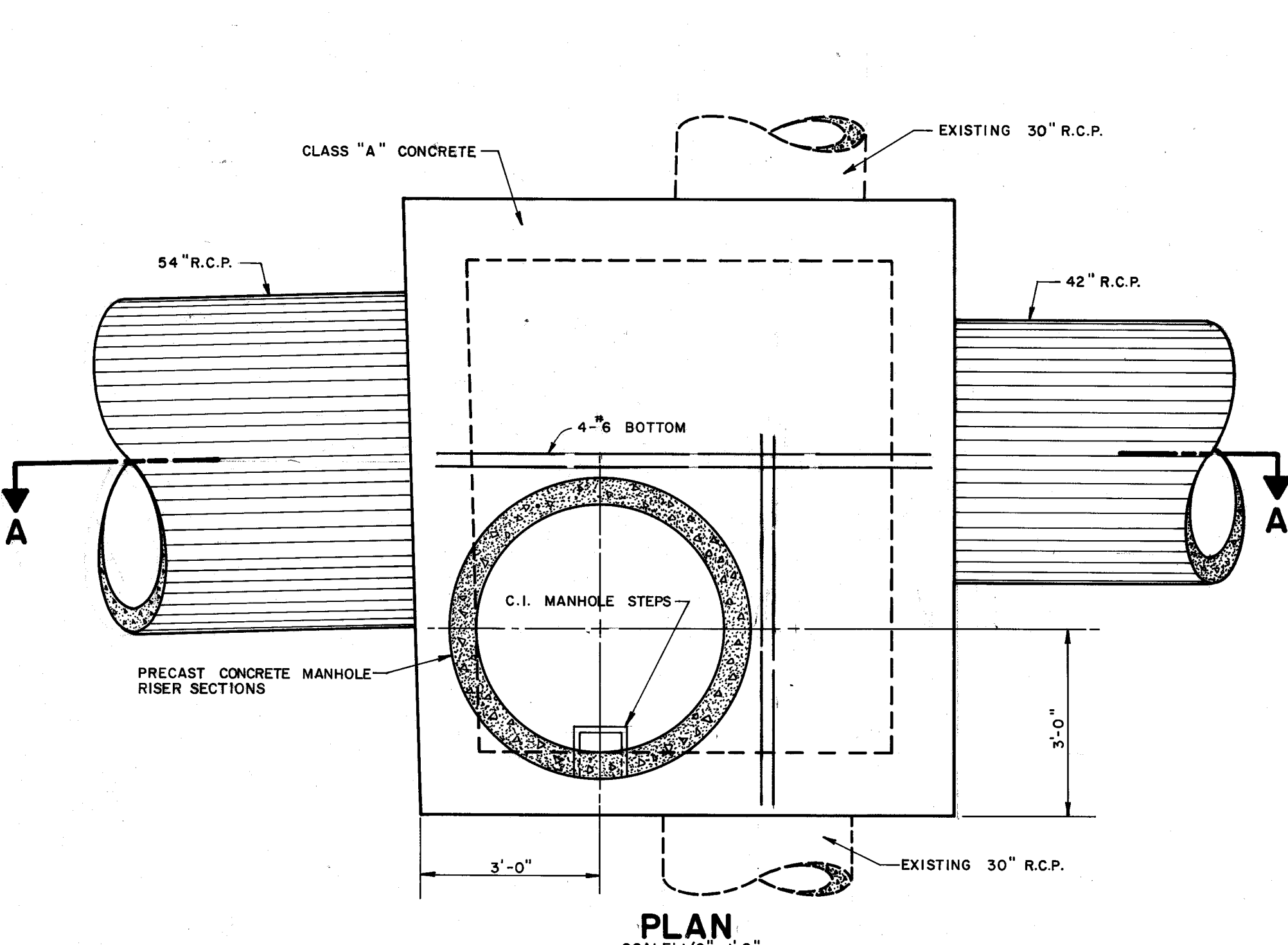
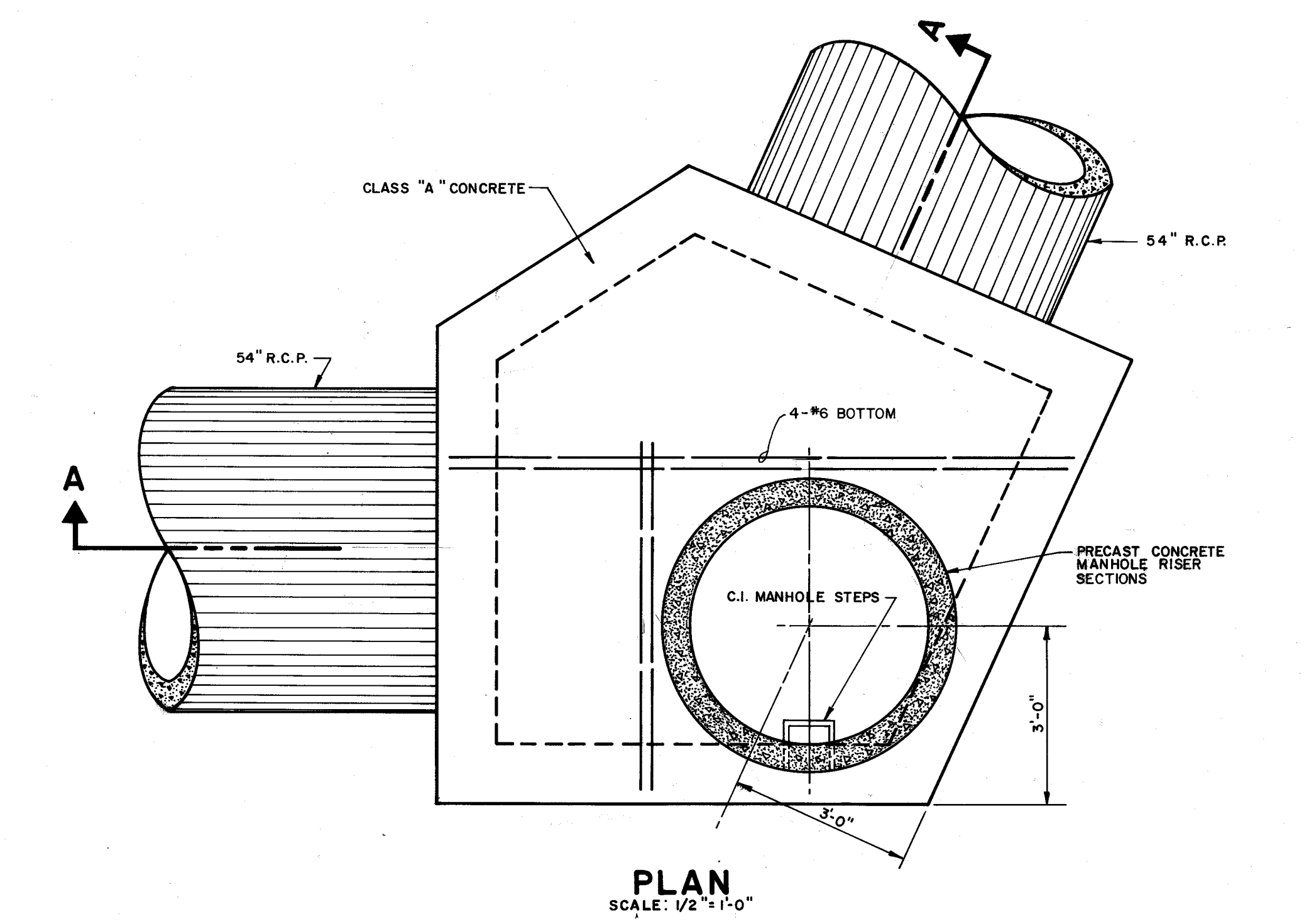
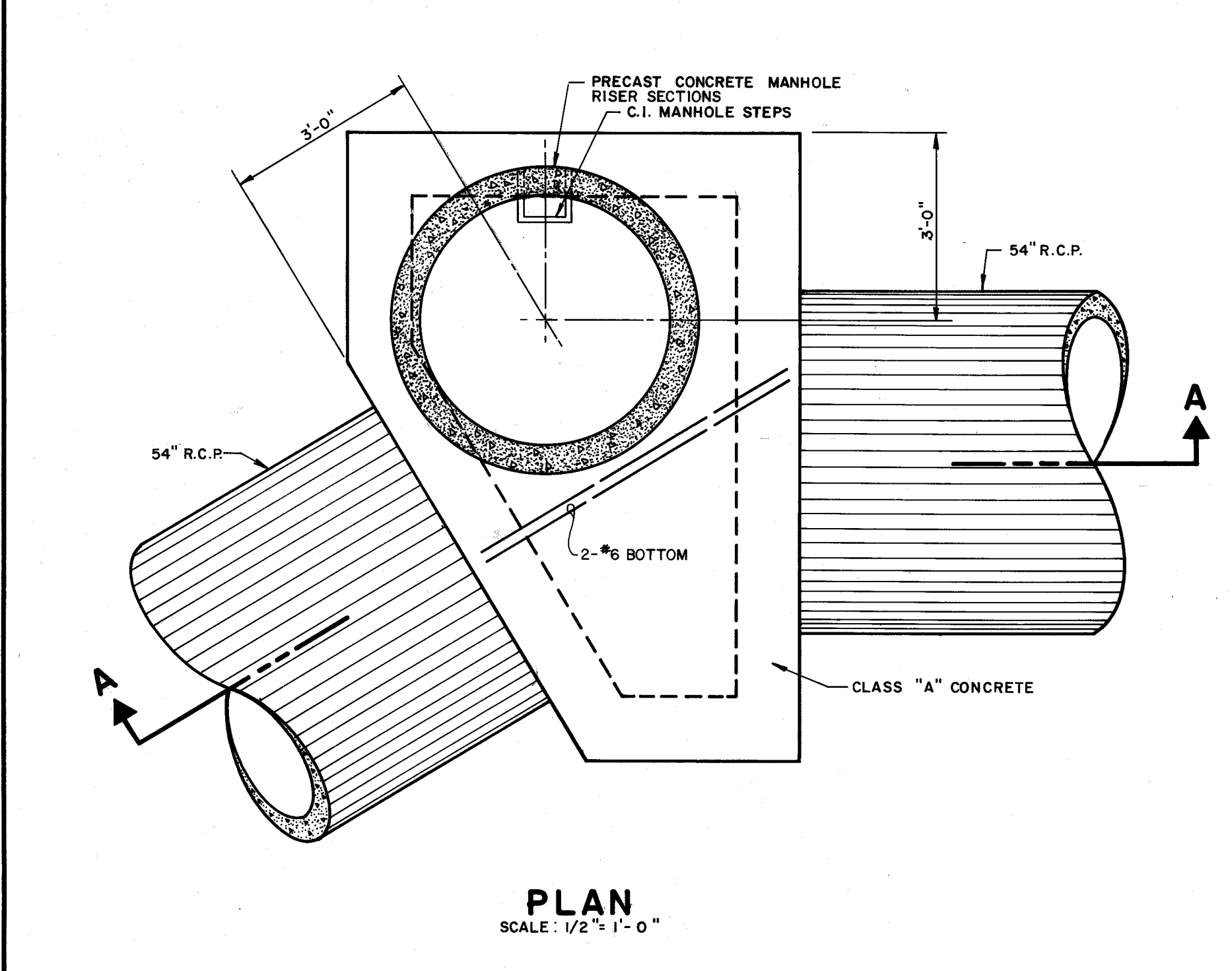
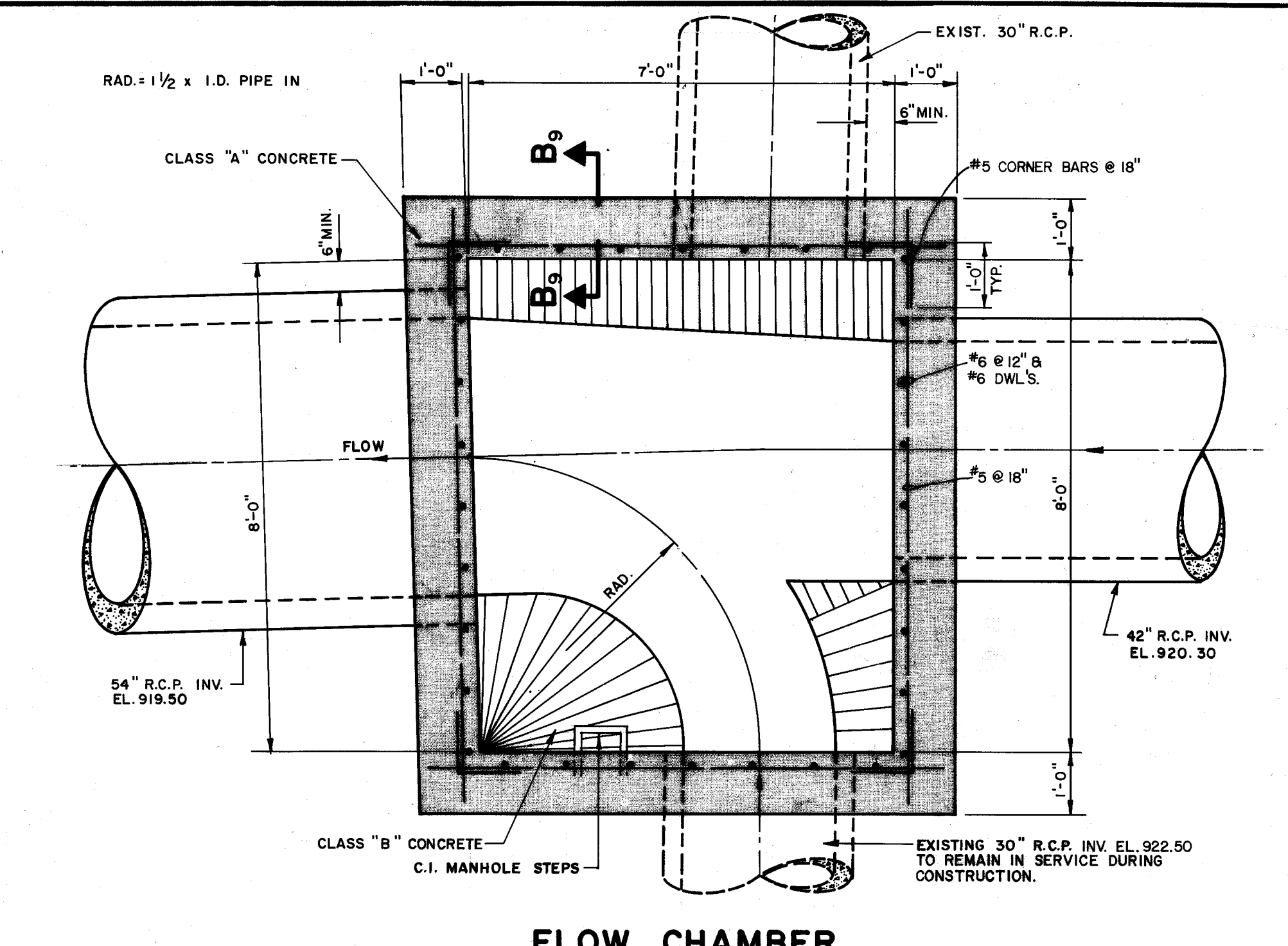
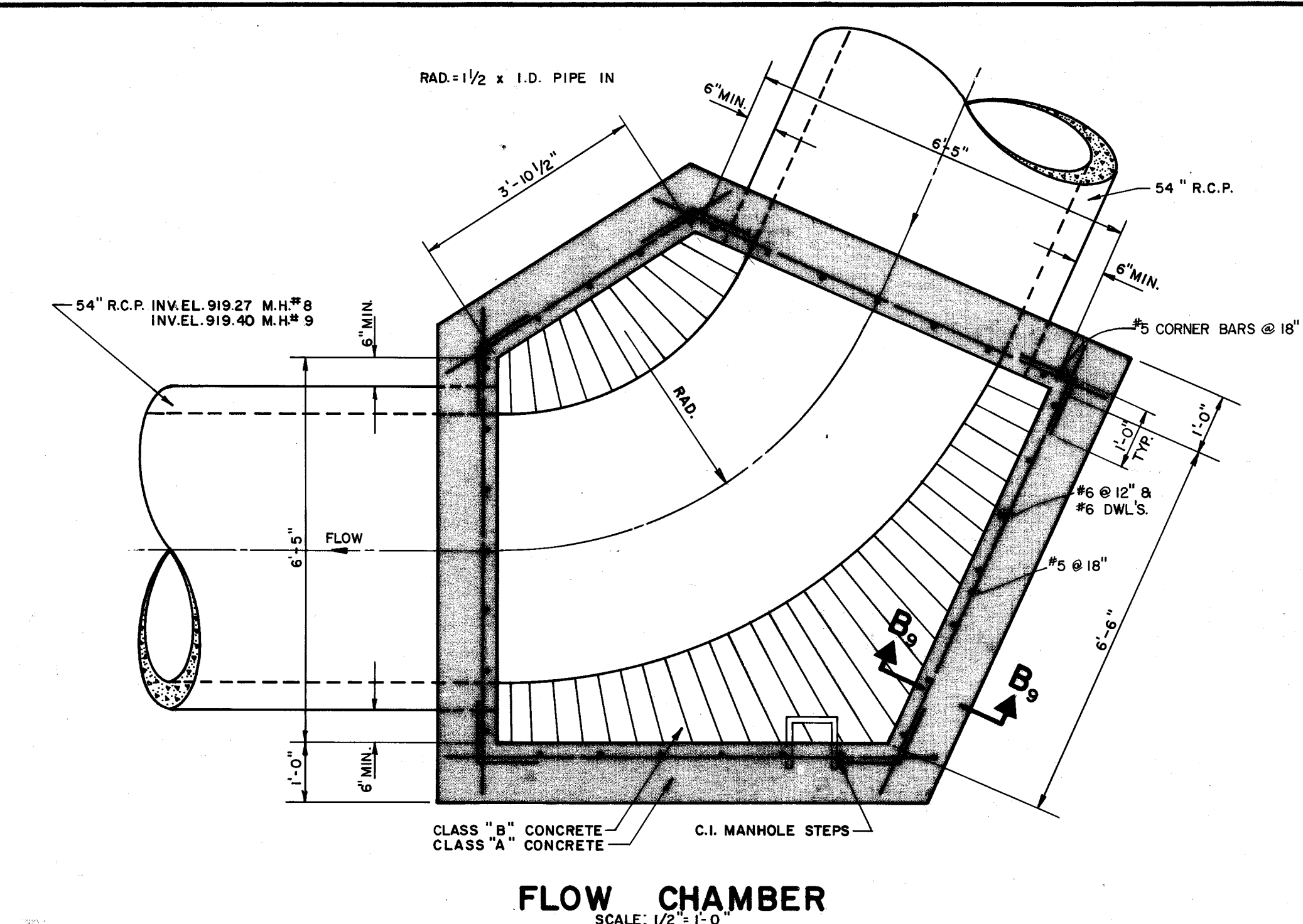
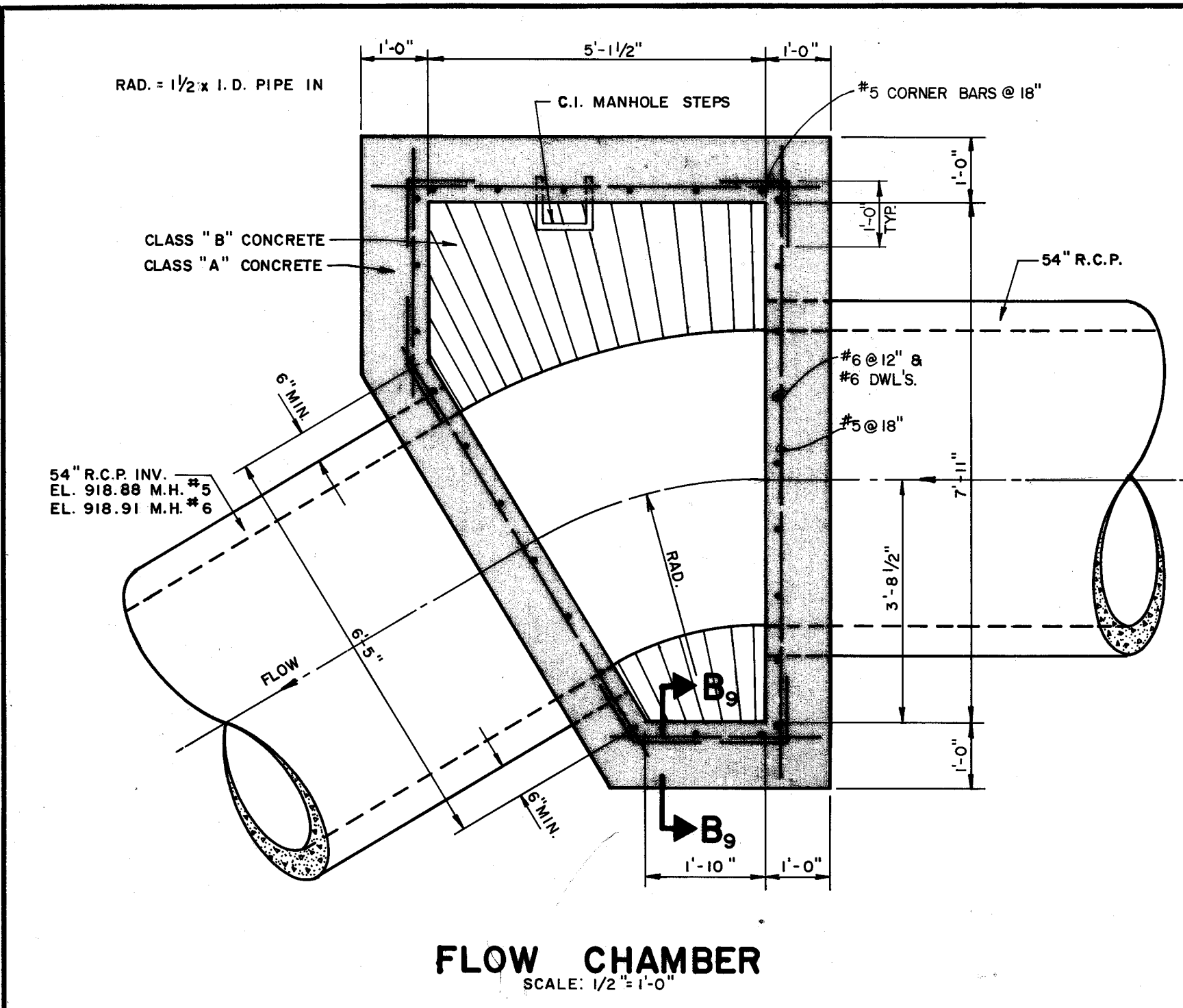
FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

**CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
SPECIAL MANHOLE DETAILS**

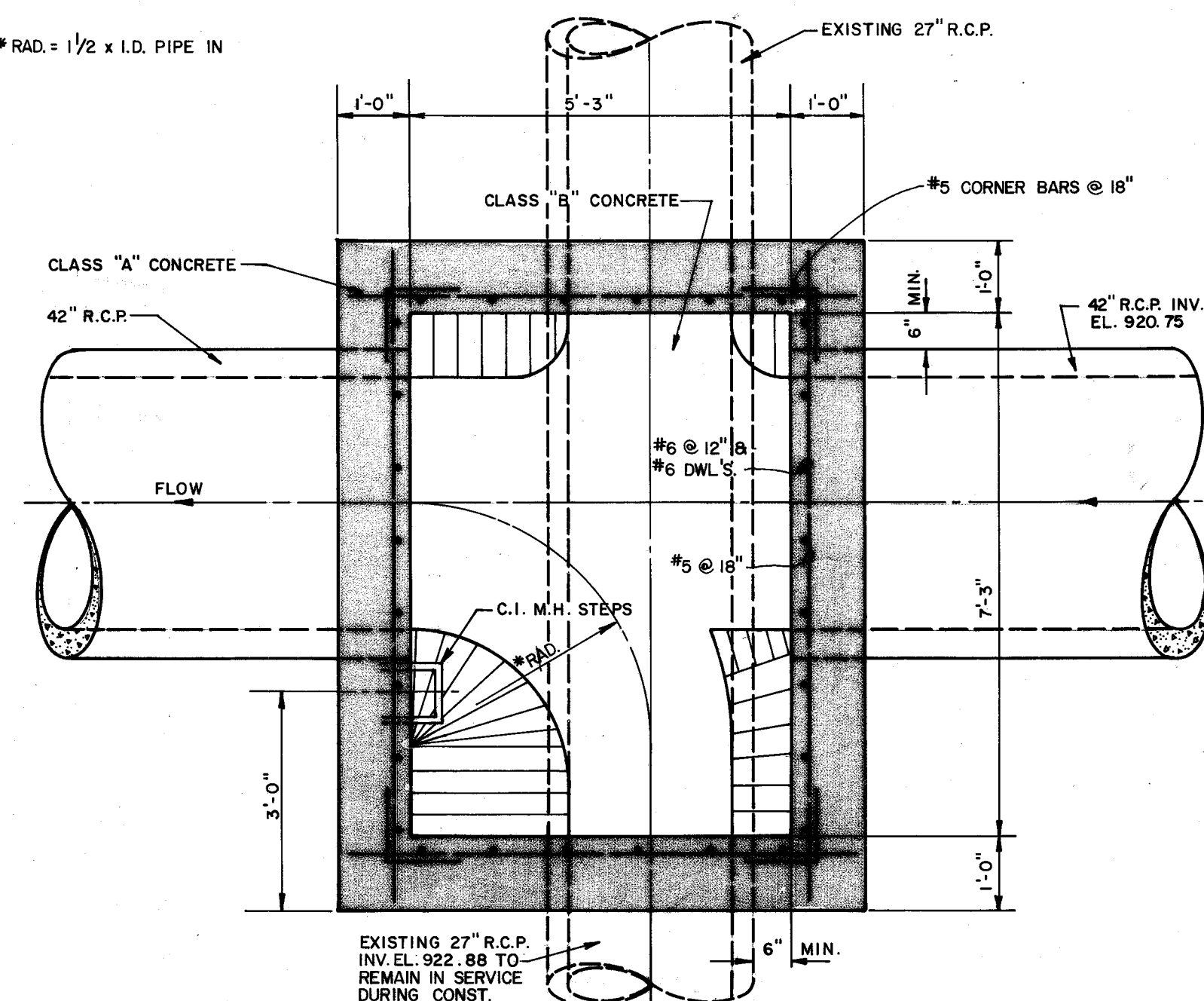


9 OF 16

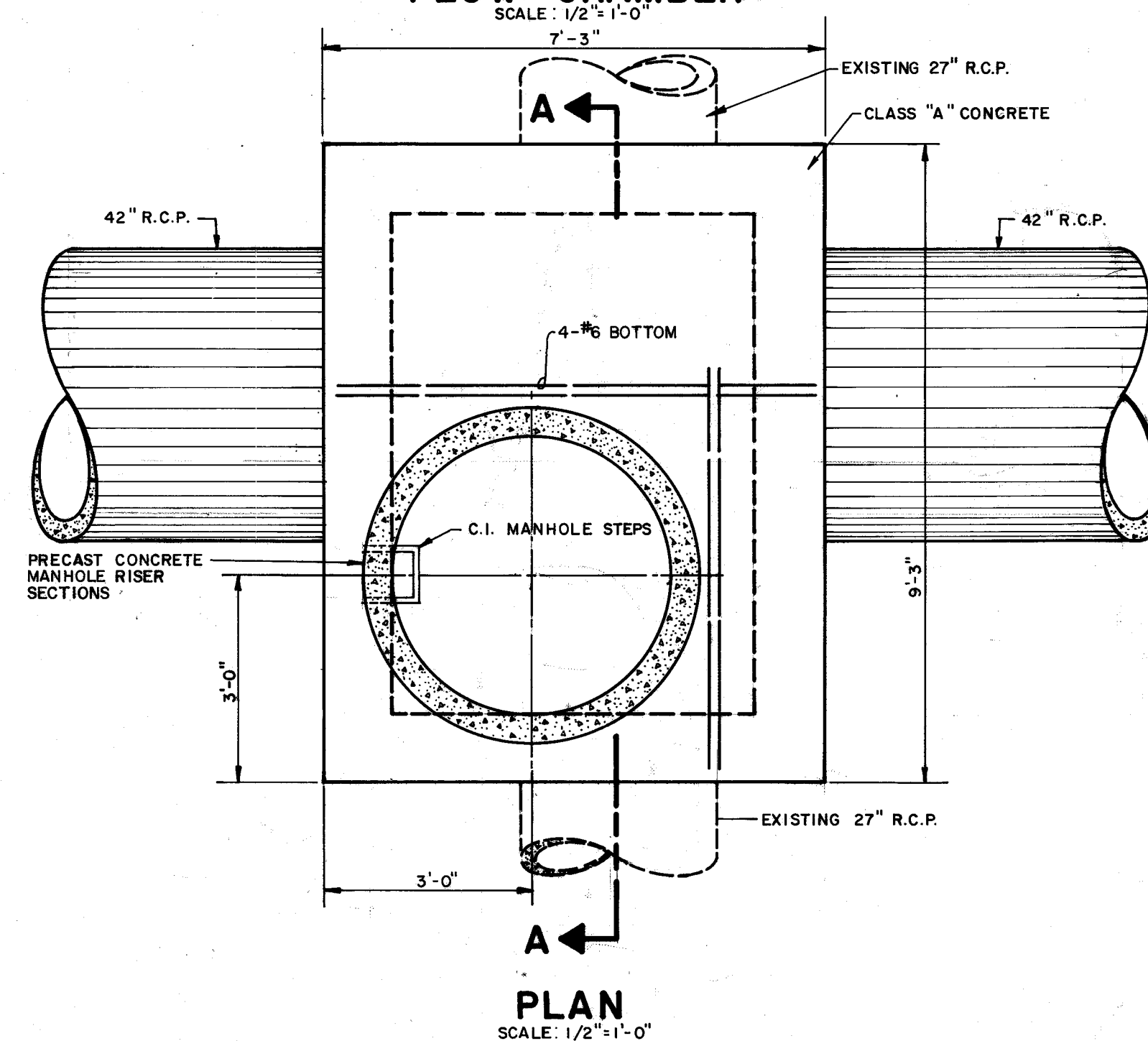
SPECIAL MANUFACTURING



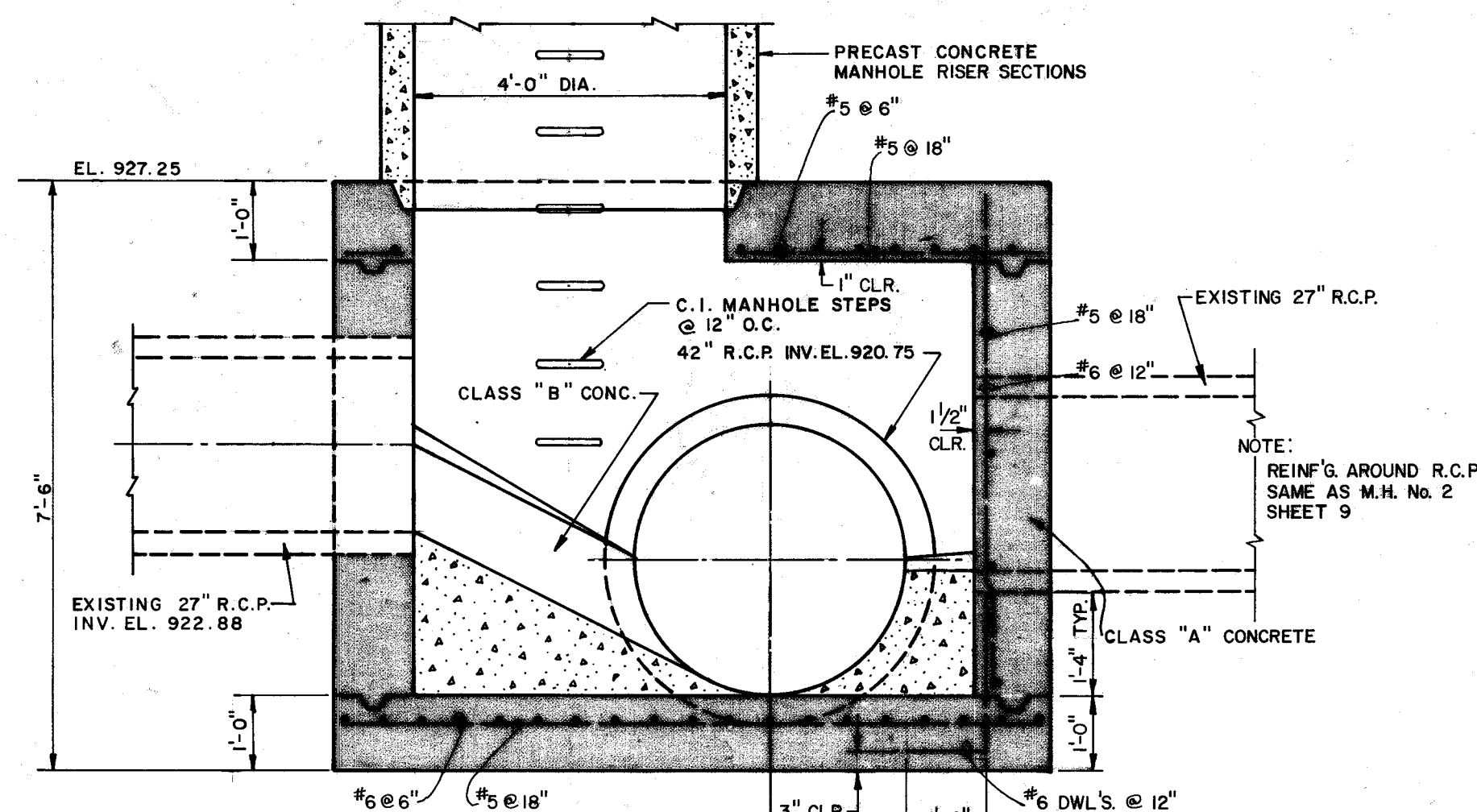
*RAD. = 1/2 x I.D. PIPE IN



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



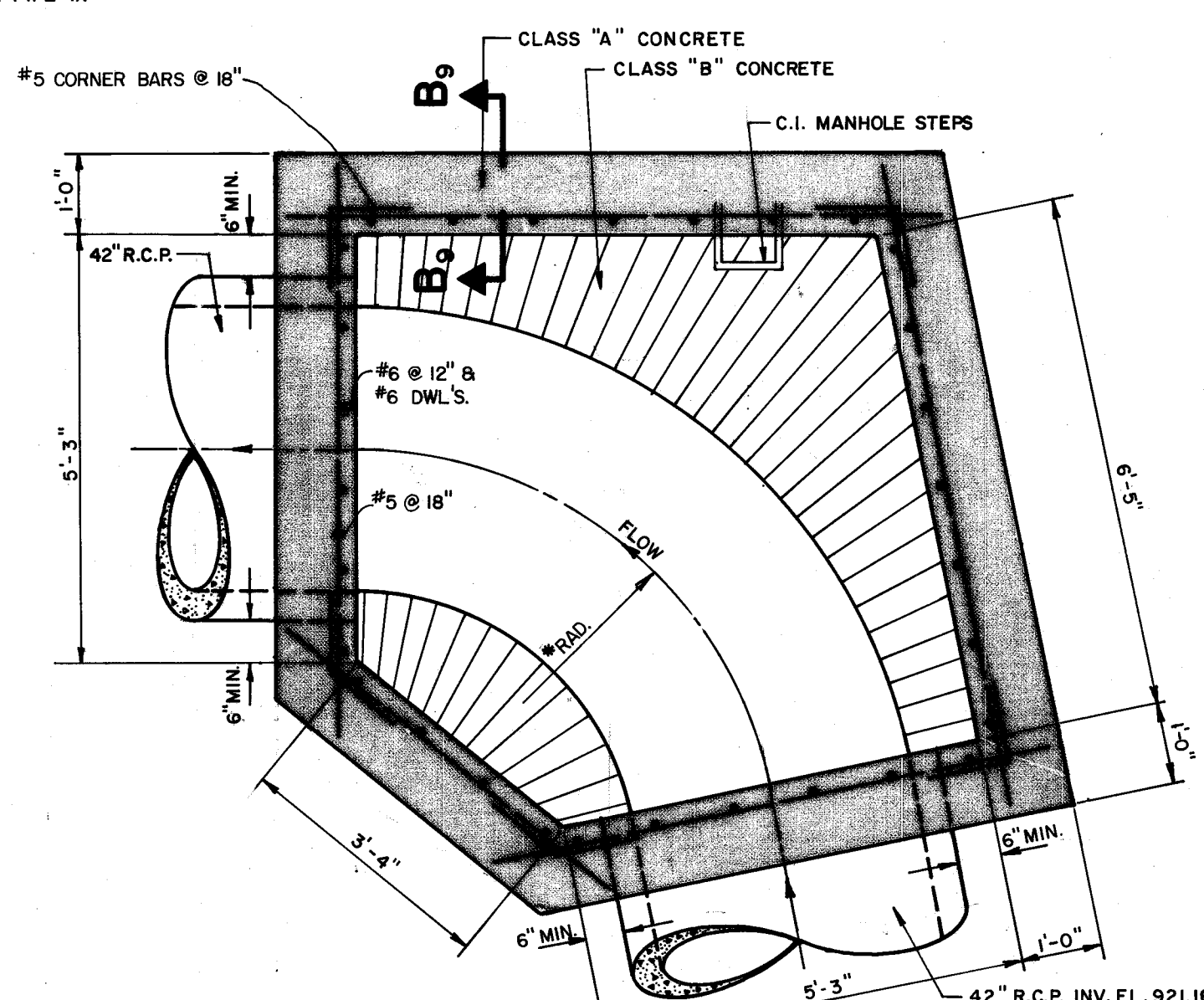
PLAN
SCALE: 1/2" = 1'-0"



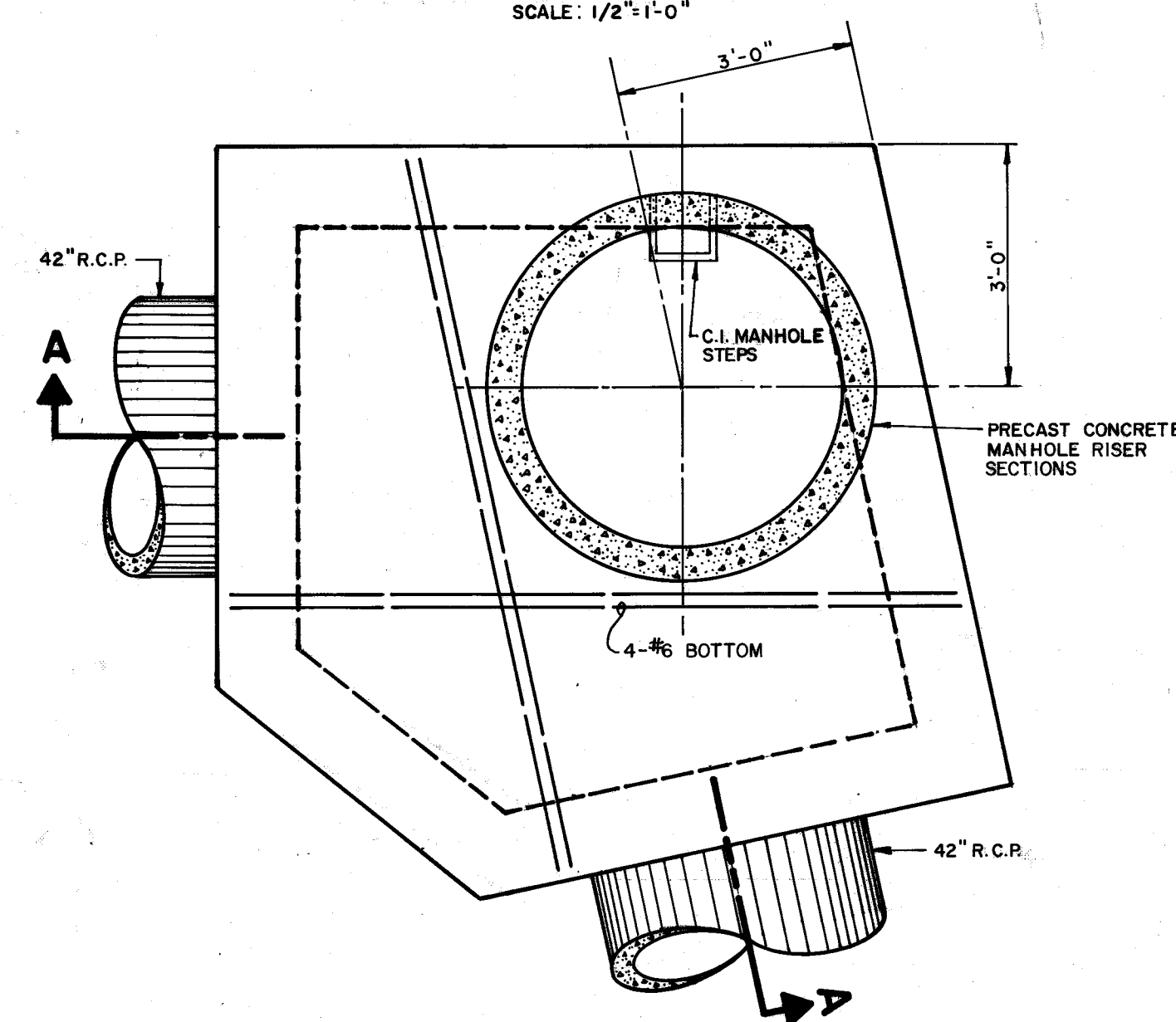
SECTION A-A
SCALE: 1/2" = 1'-0"

SPECIAL MANHOLE No. 12

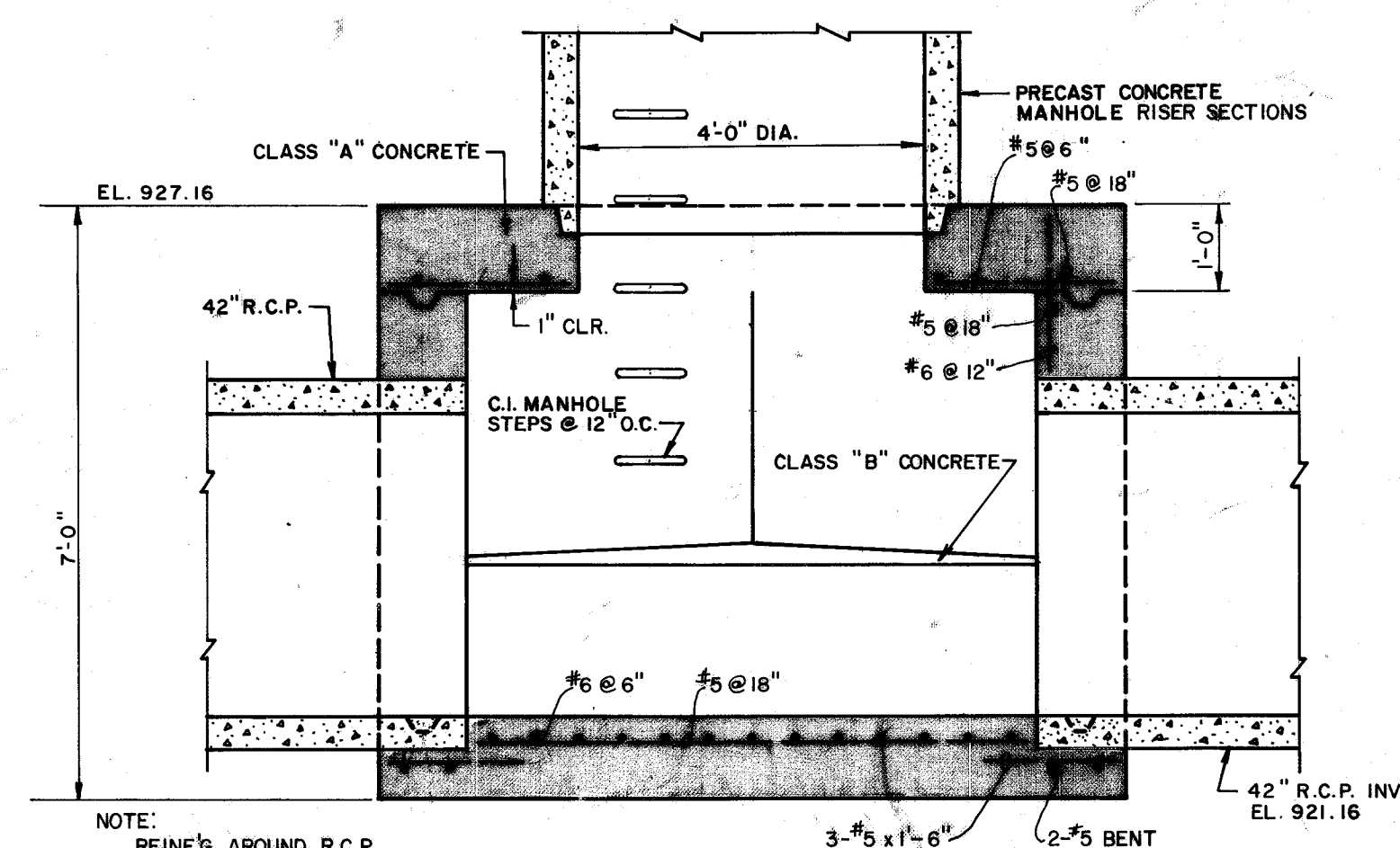
*RAD. = 1/2 x I.D. PIPE IN



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



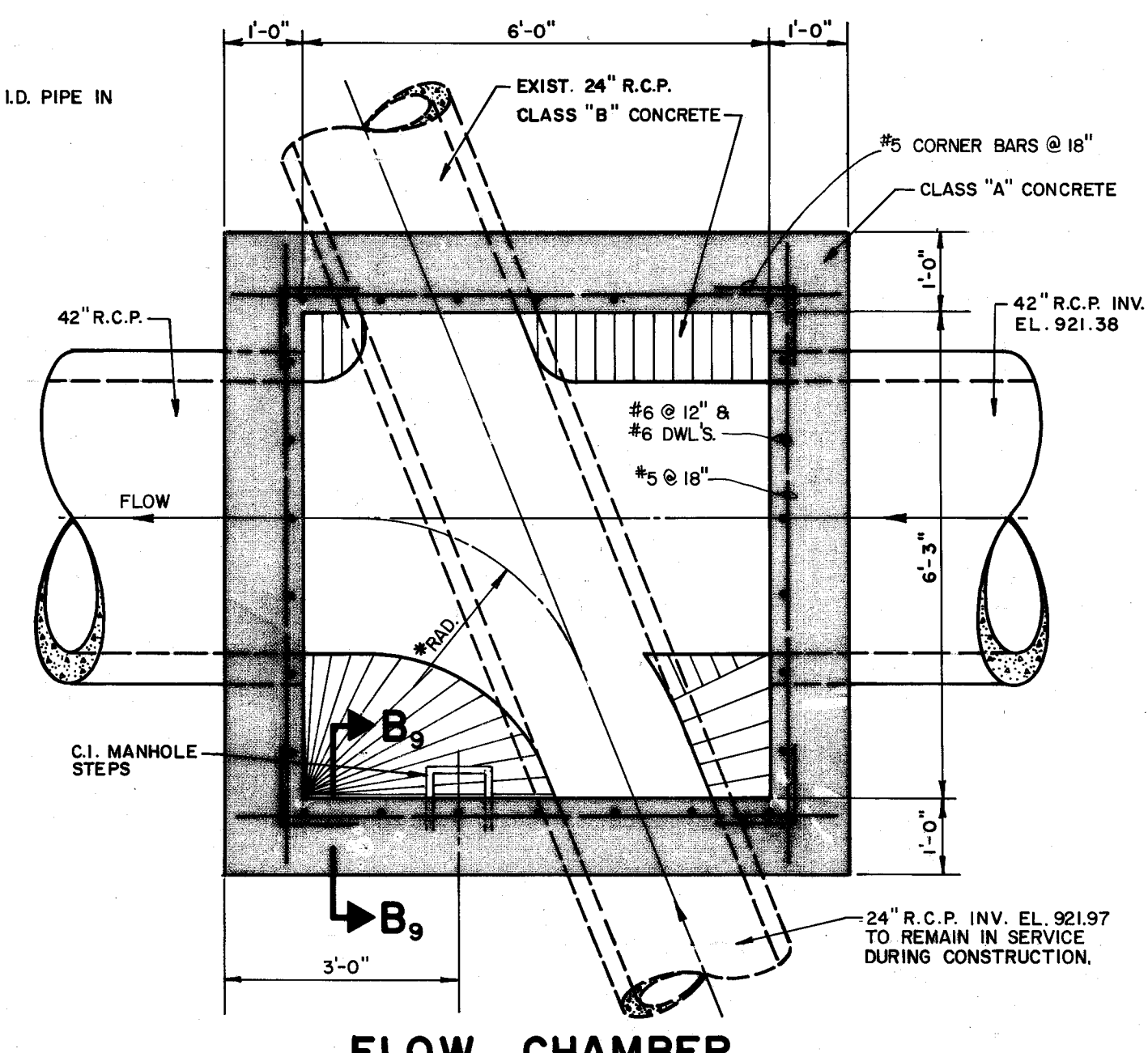
PLAN
SCALE: 1/2" = 1'-0"



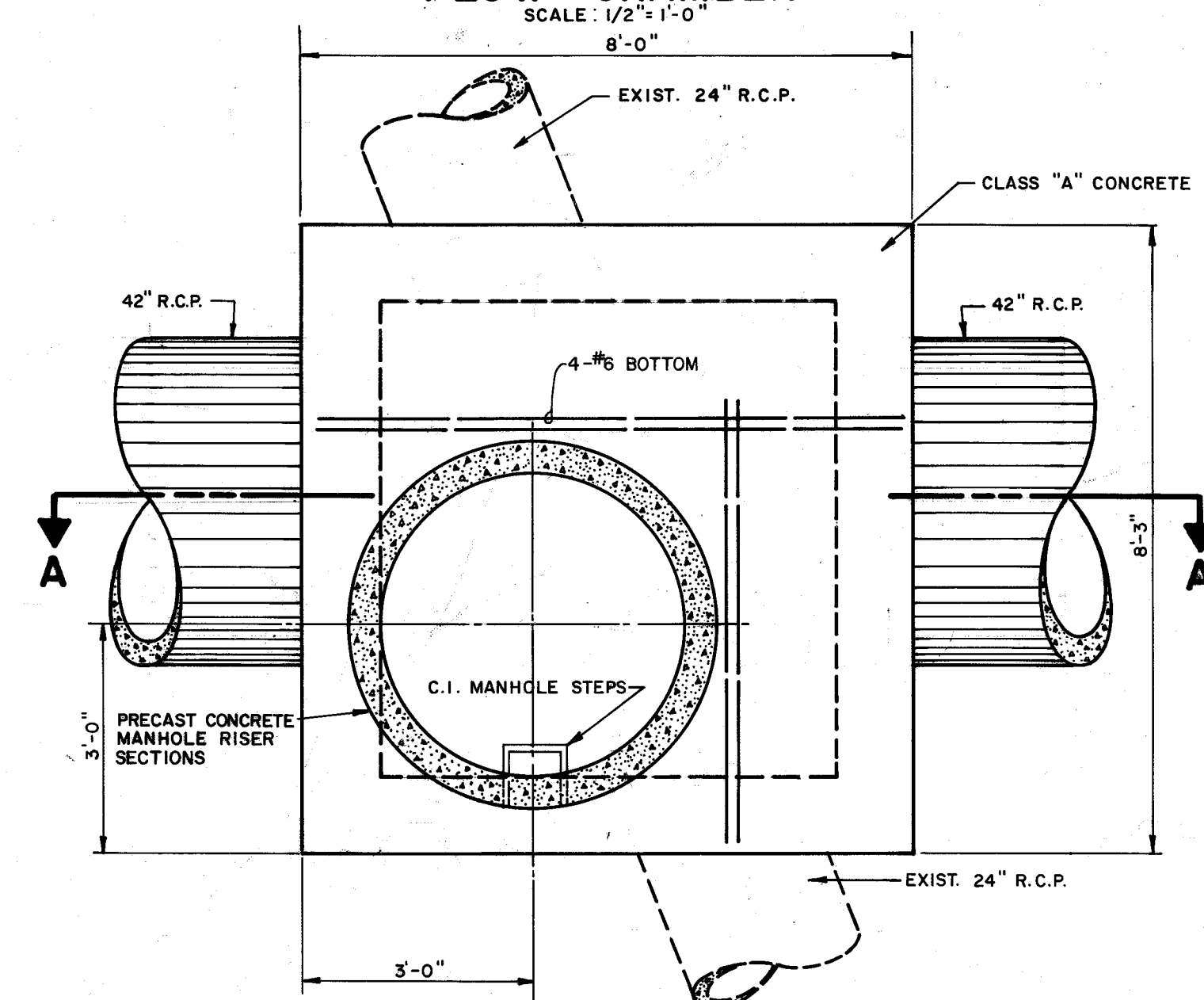
SECTION A-A
SCALE: 1/2" = 1'-0"

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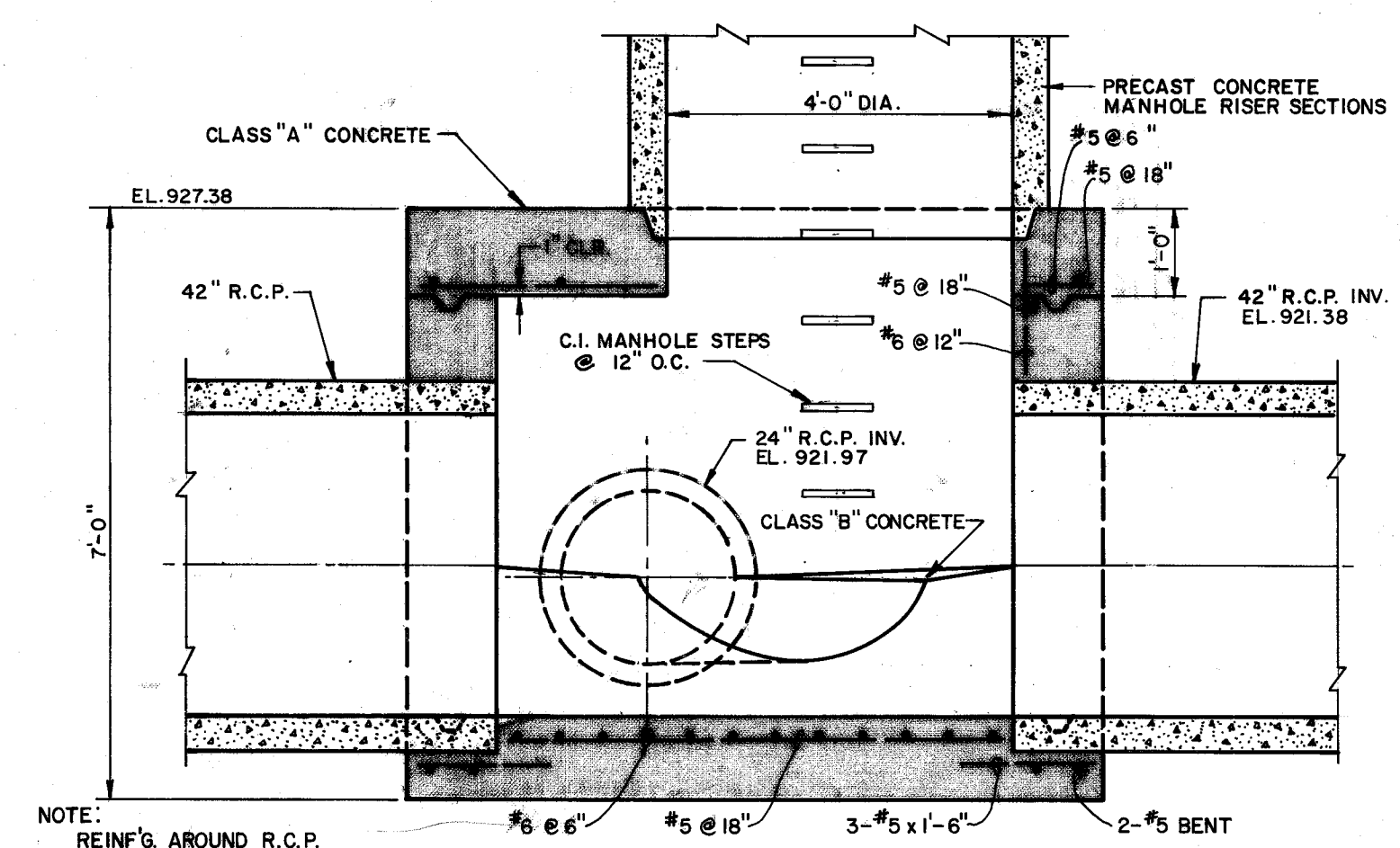
*RAD. = 1/2 x I.D. PIPE IN



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



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



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

SPECIAL MANHOLE No. 17

DRAWN BY: J.S.
CHECKED BY: J.W.S., D.A.D.
DATE: APRIL 1977

FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
SPECIAL MANHOLE DETAILS

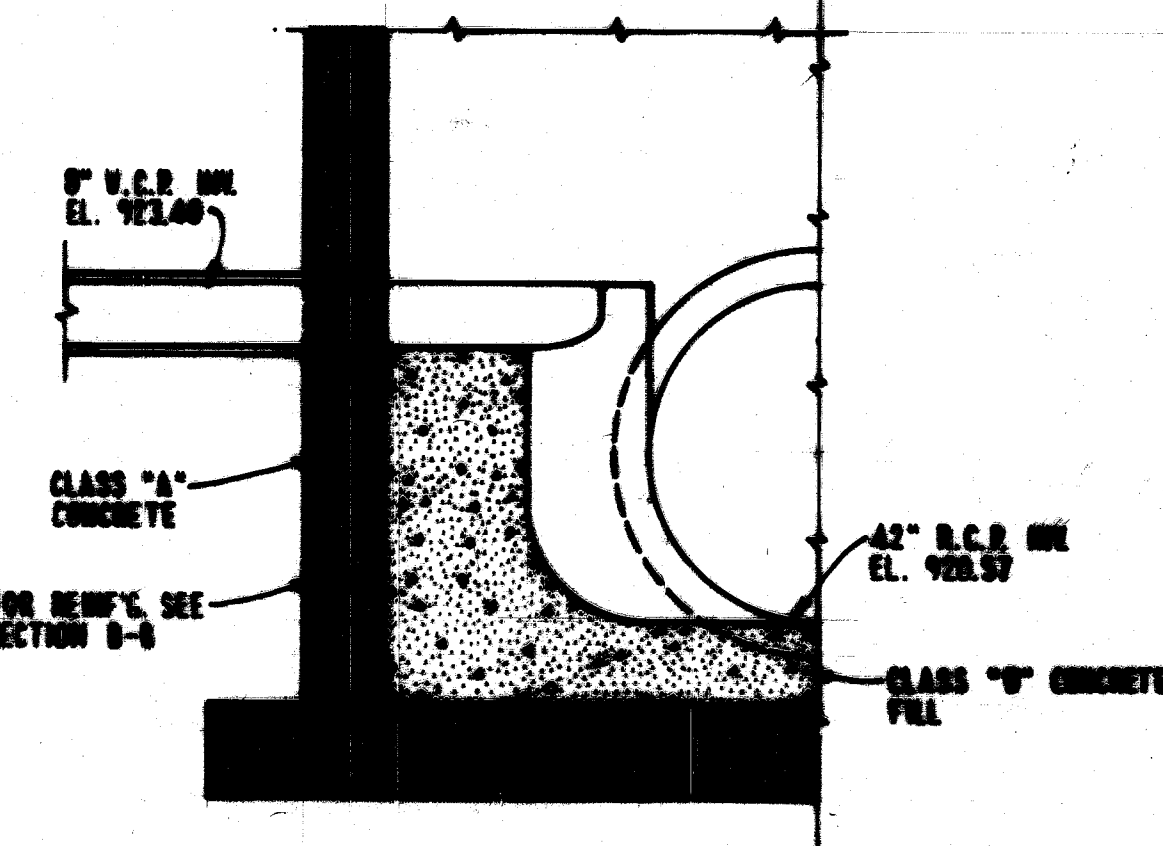
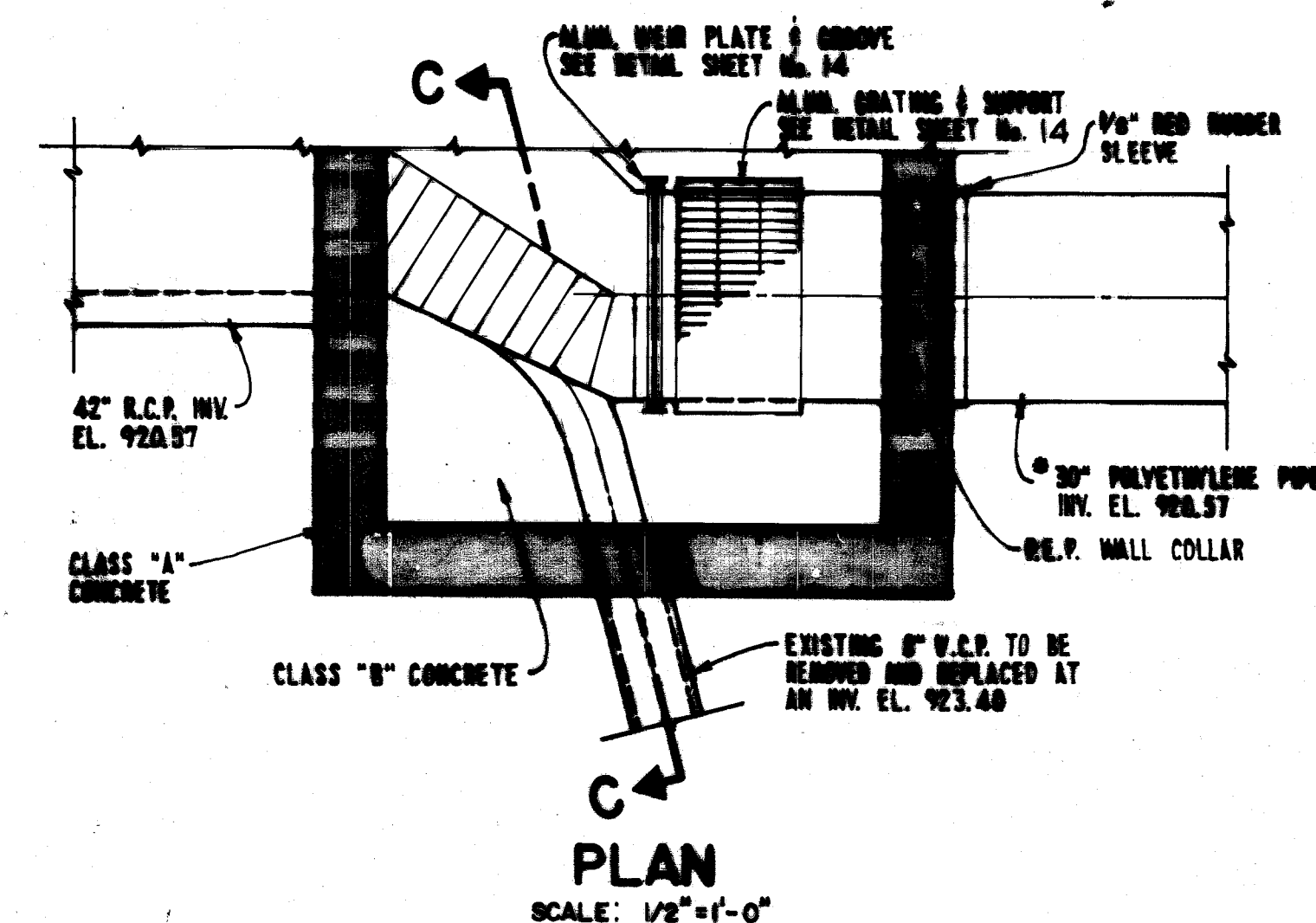
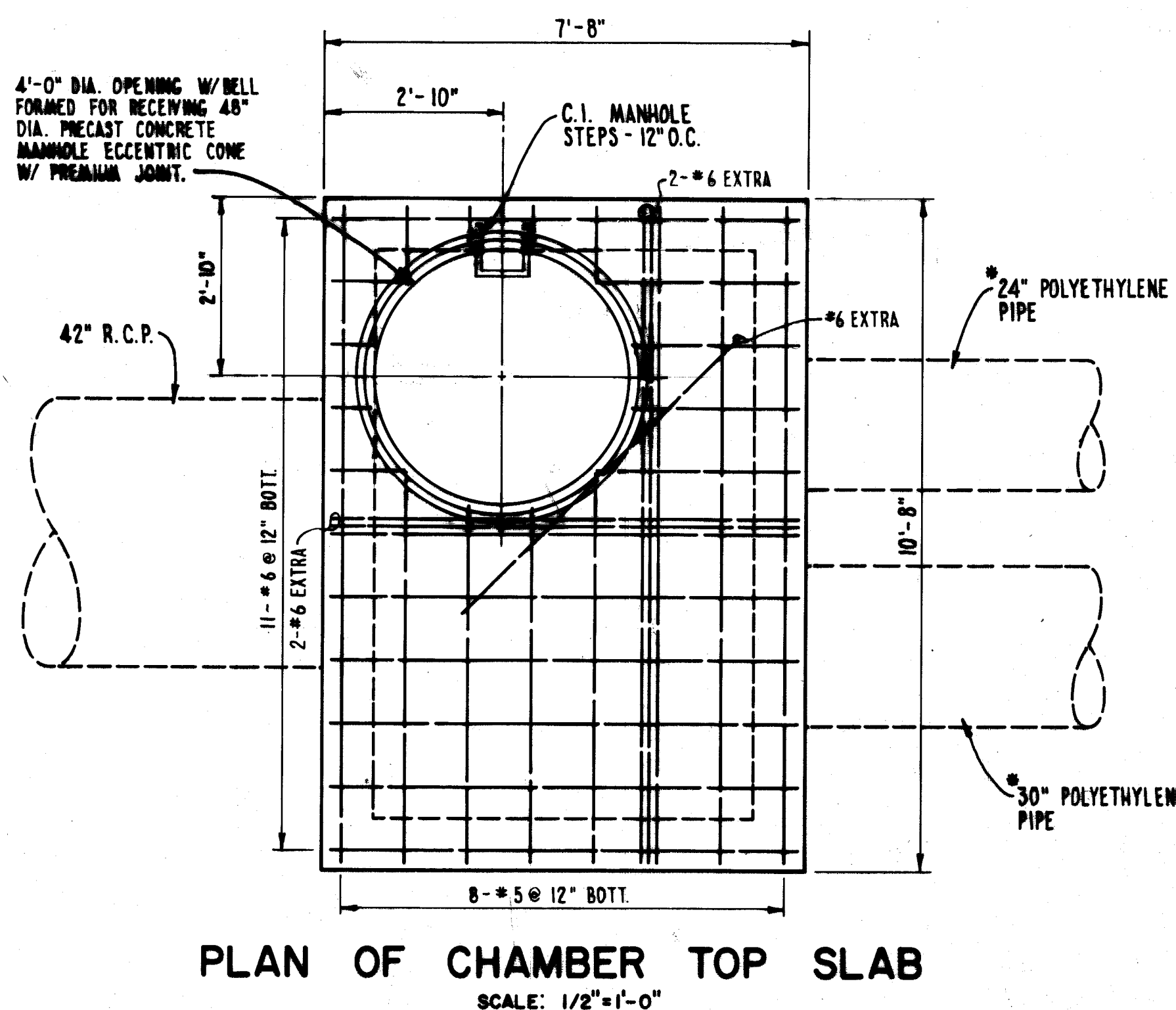
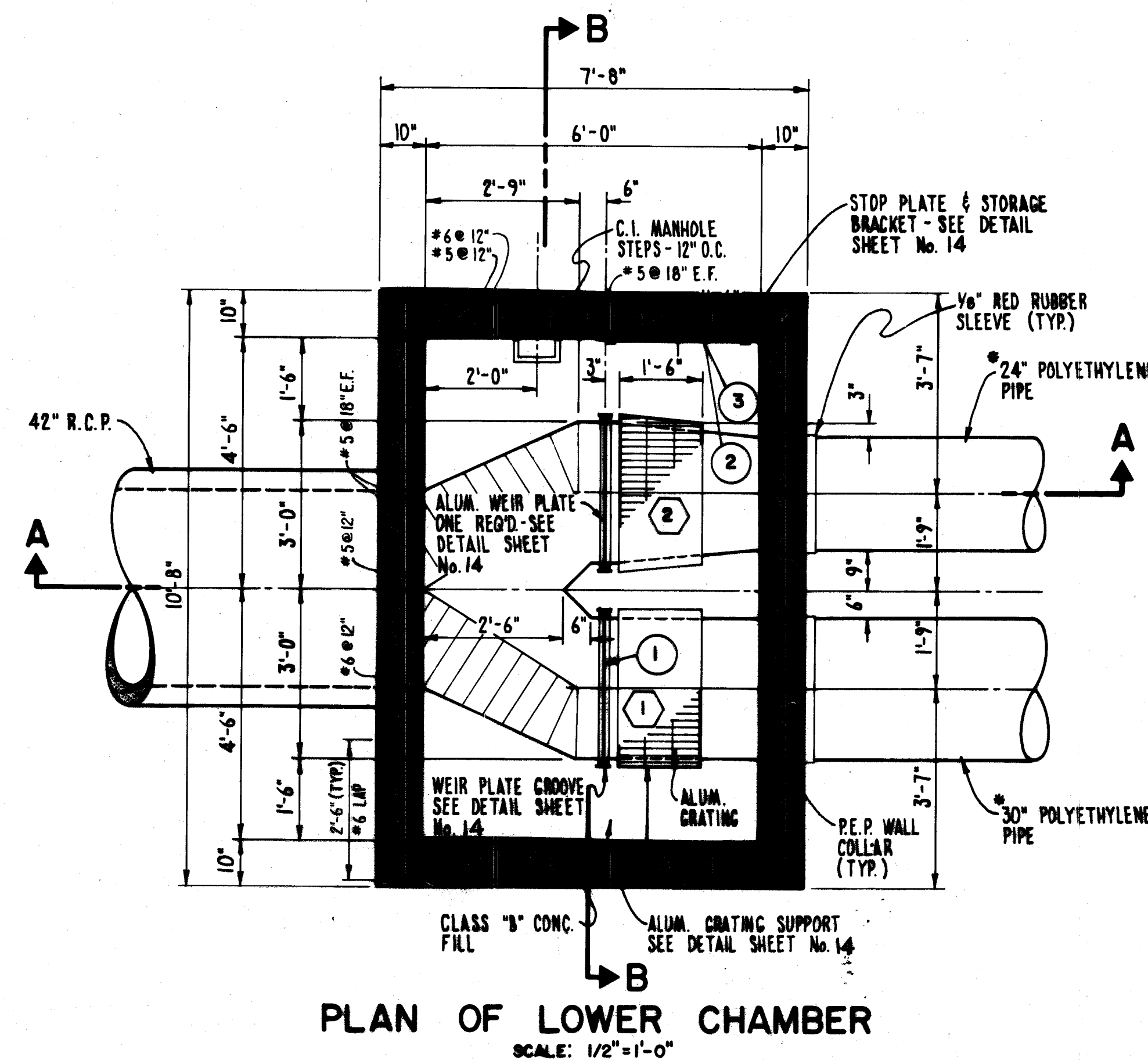
REV 5-11-78 C.F.W. REVISED MANHOLES No. 12 & 17 (FLOW CHAMBERS)

SCALE: NOTED
AS NOTED
HOR. VERT.
77-14.3
11 OF 16 SHEETS
SPECIAL MANHOLE DETAILS

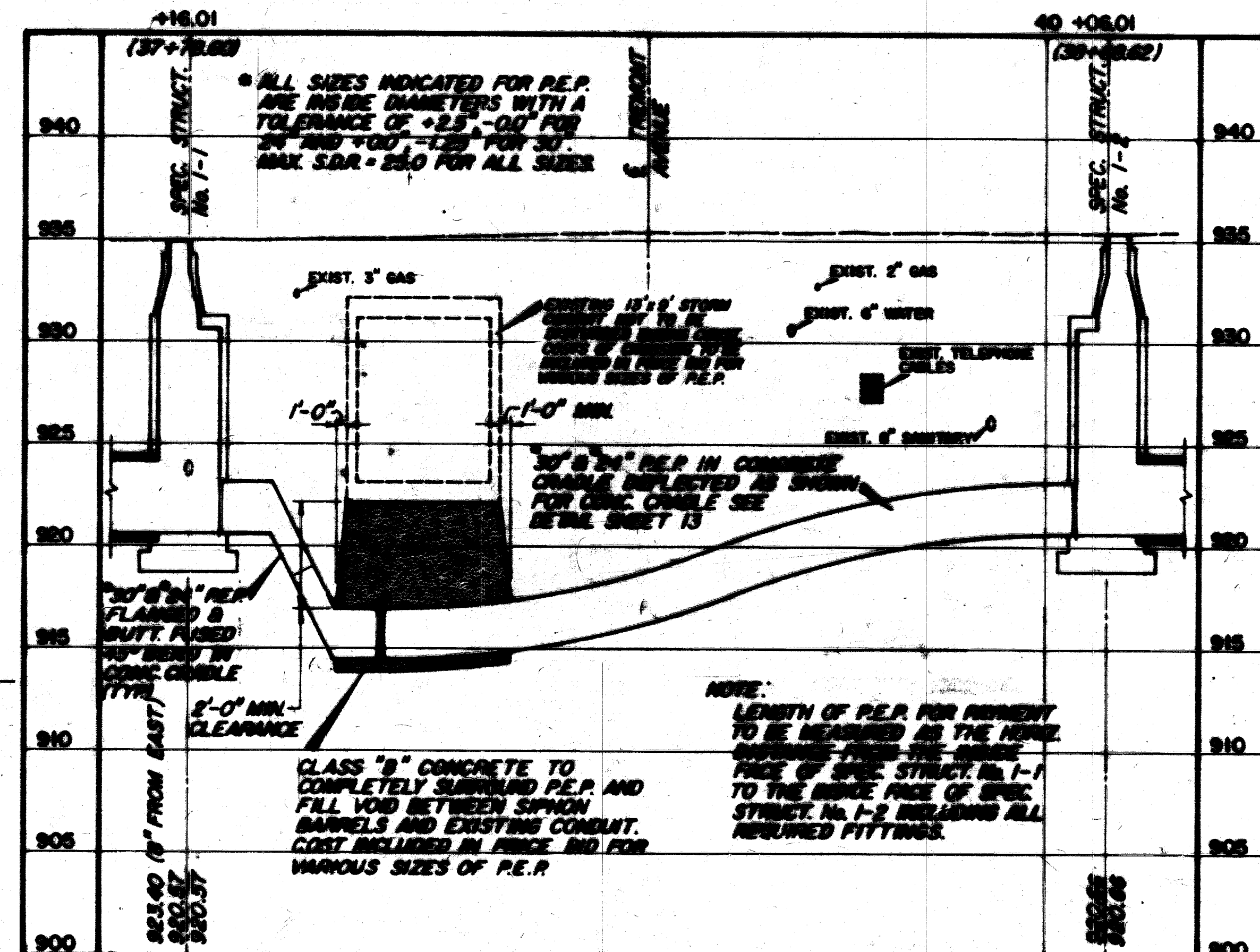
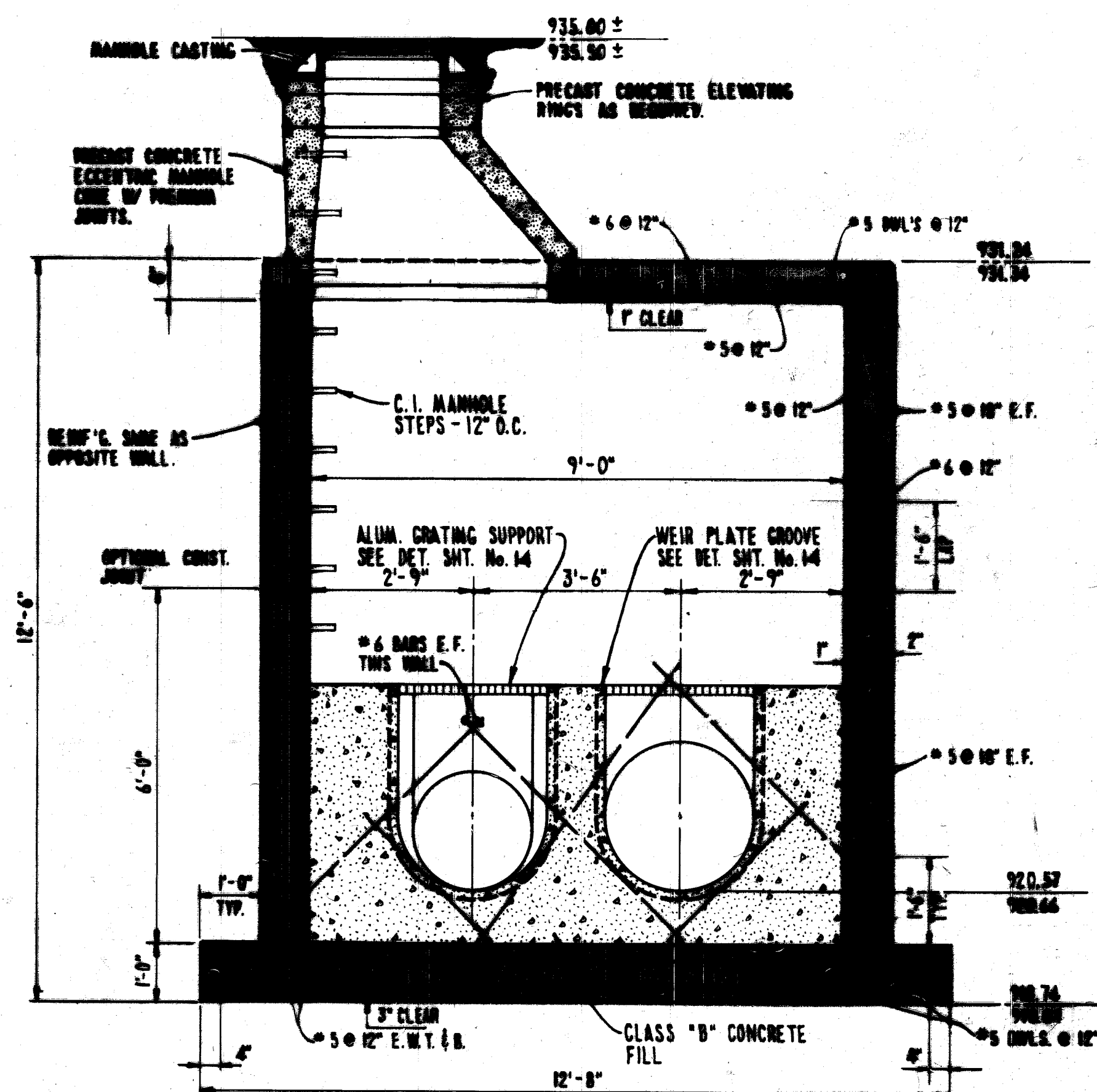
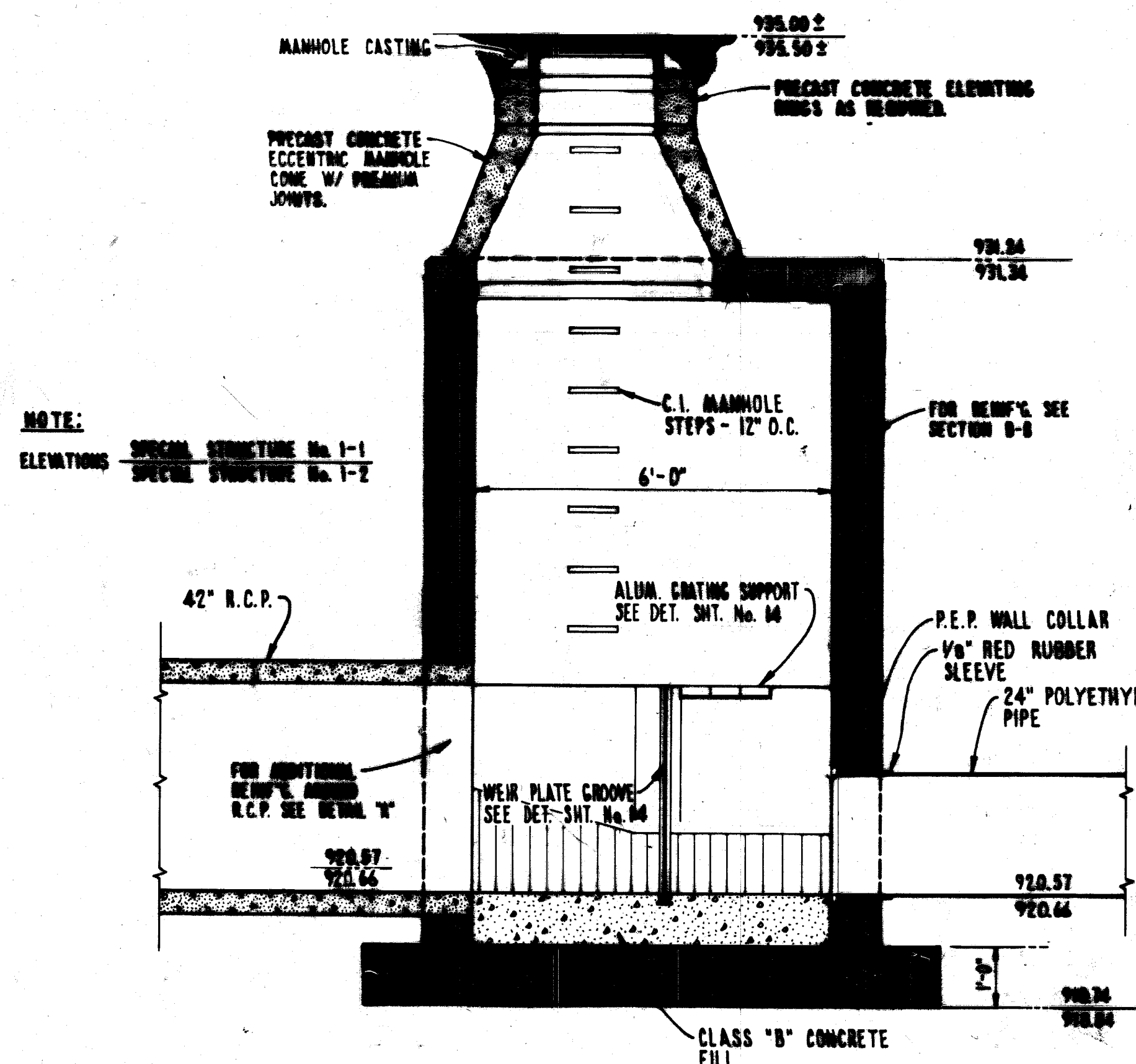
SE-571 Acc No 2886

AS BUILT JAN. 1979

CONTRACT 1



DETAIL - 8" CONNECTION TO SPECIAL STRUCTURE No. 1-1



GENERAL NOTES:

1. REINFORCING STEEL SHALL BE GRADE 40 AND SHALL COMPLY WITH A.S.T.M. A618.
2. JOINTS SHALL BE INSTALLED AT ALL CONSTRUCTION JOINTS AS SHOWN ON THE PLANS.

AS BUILT NOTE: POLYMER DUCTILE IRON PIPE USED IN ACTUAL CONSTRUCTION IN PLACE OF ALL P.E.P.

FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

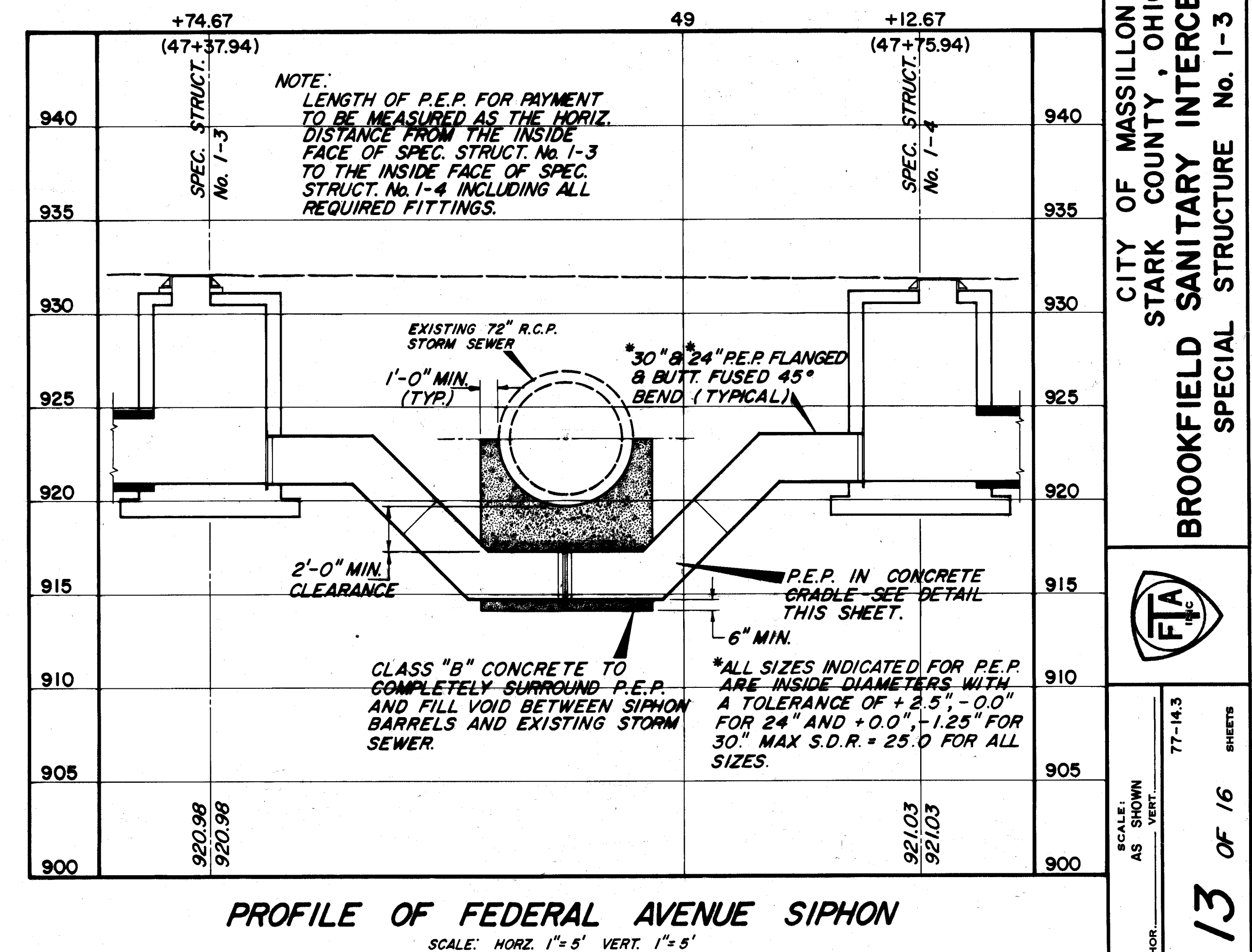
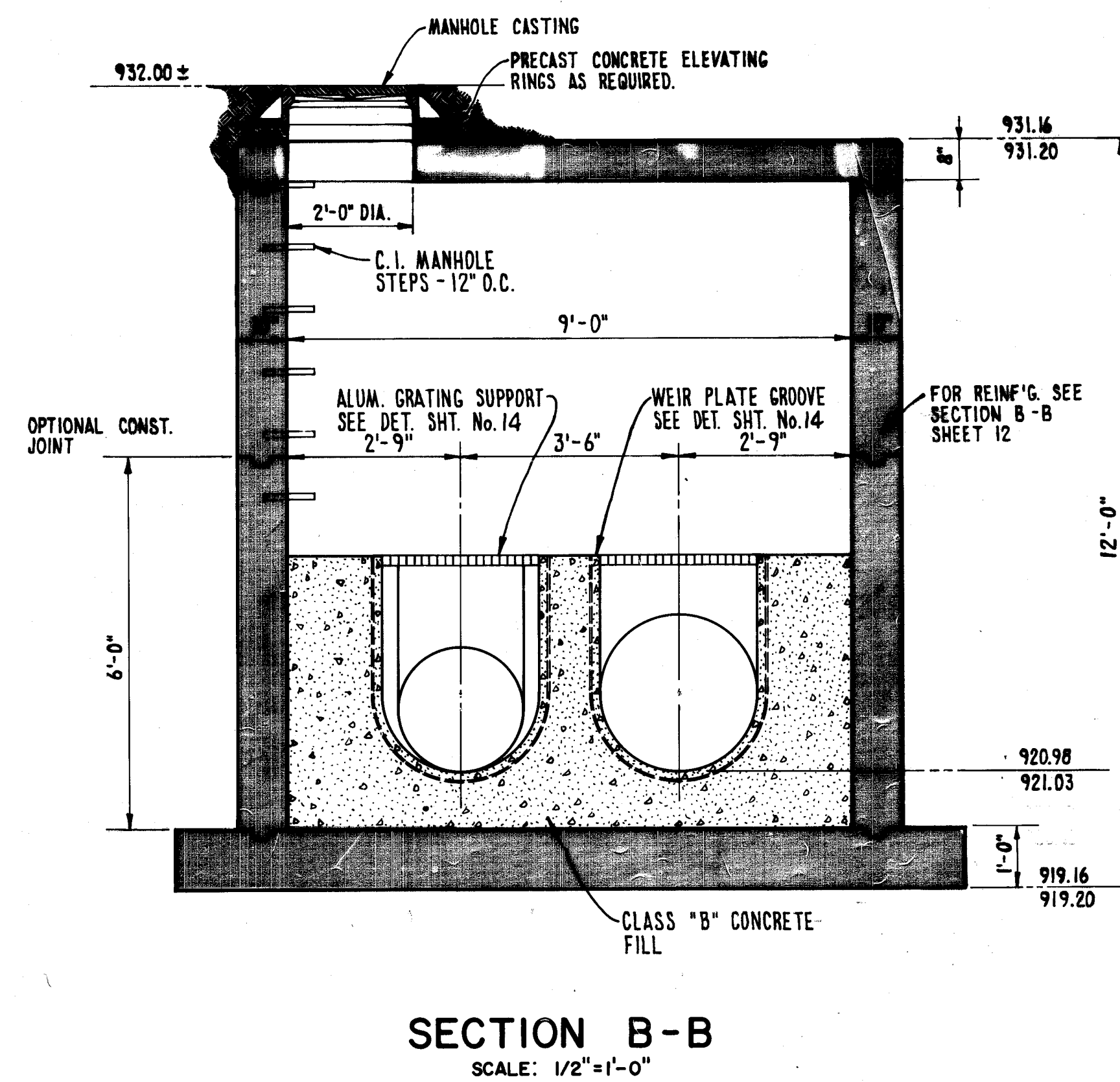
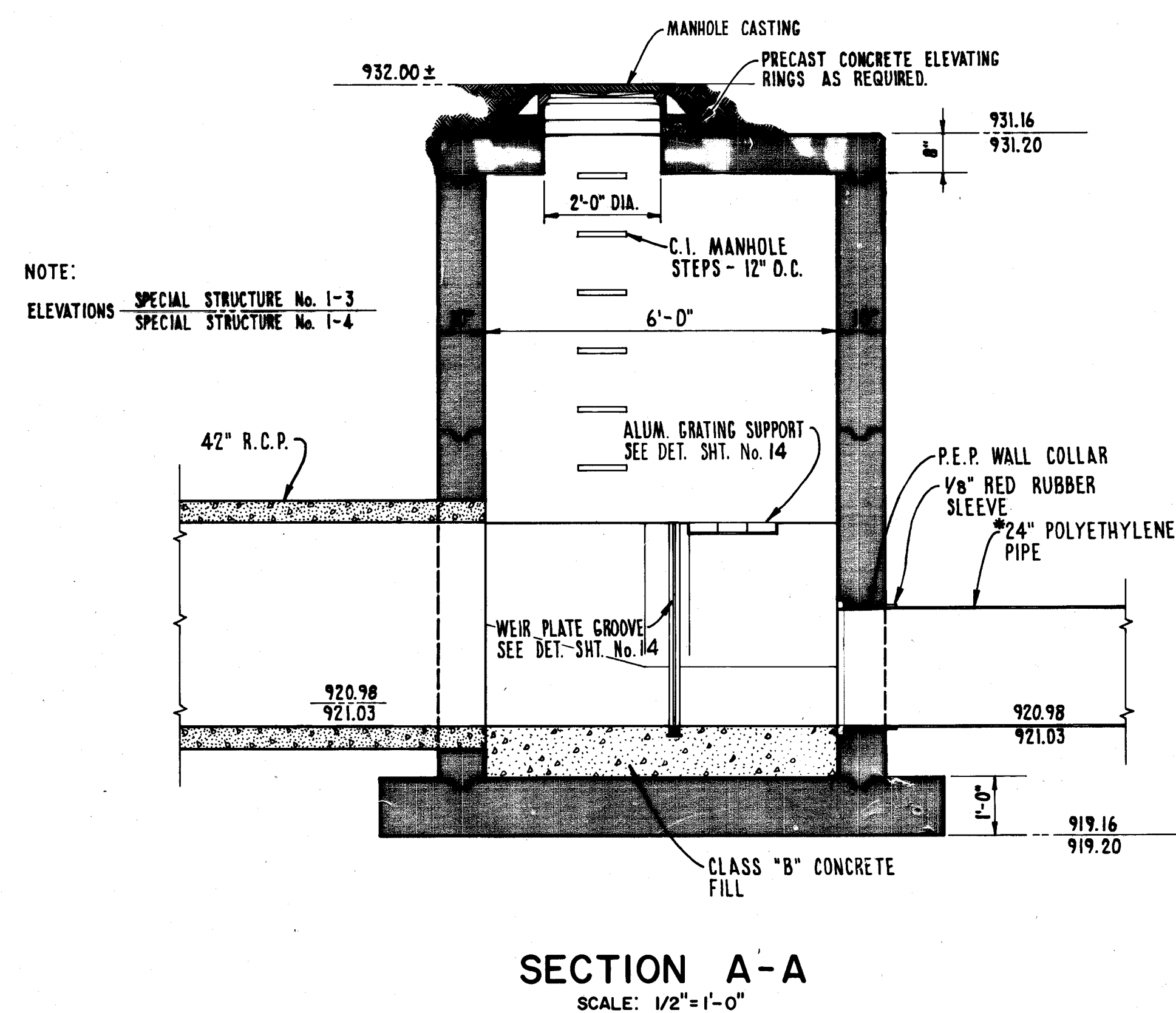
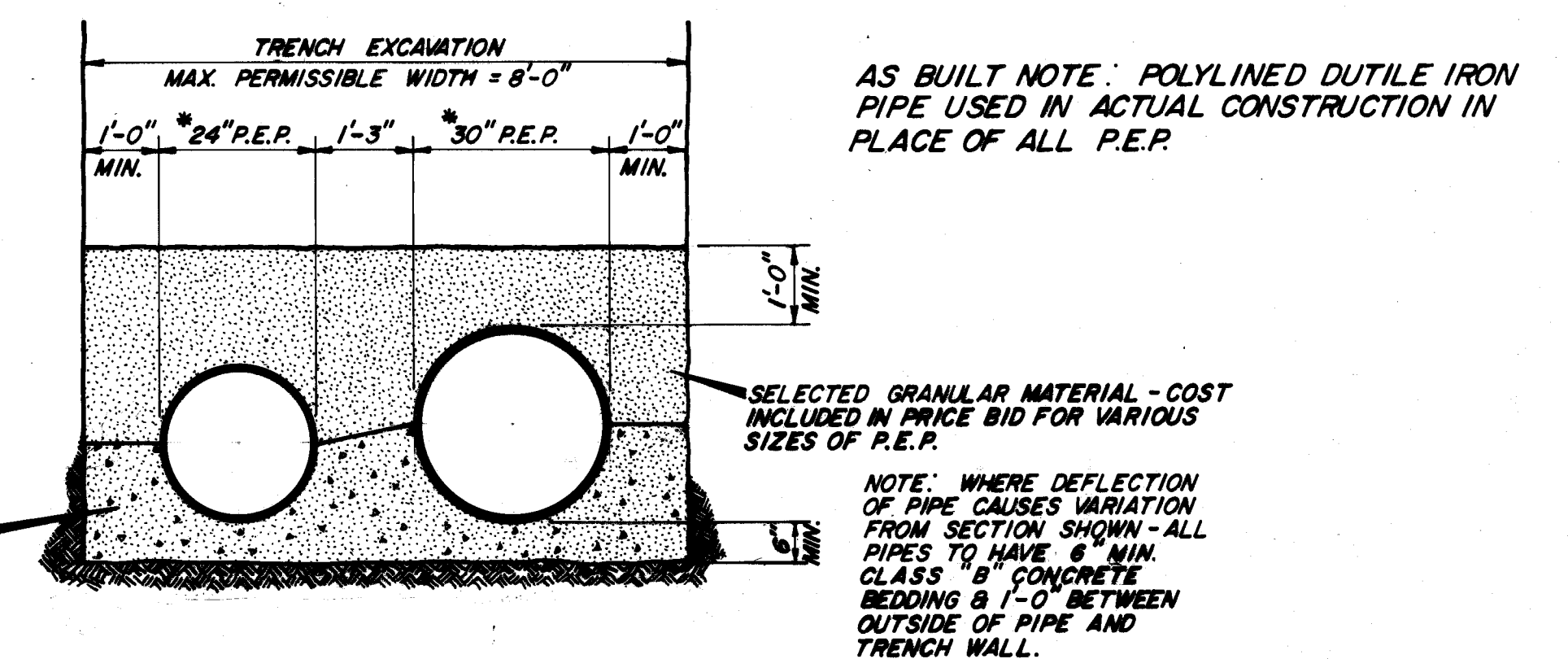
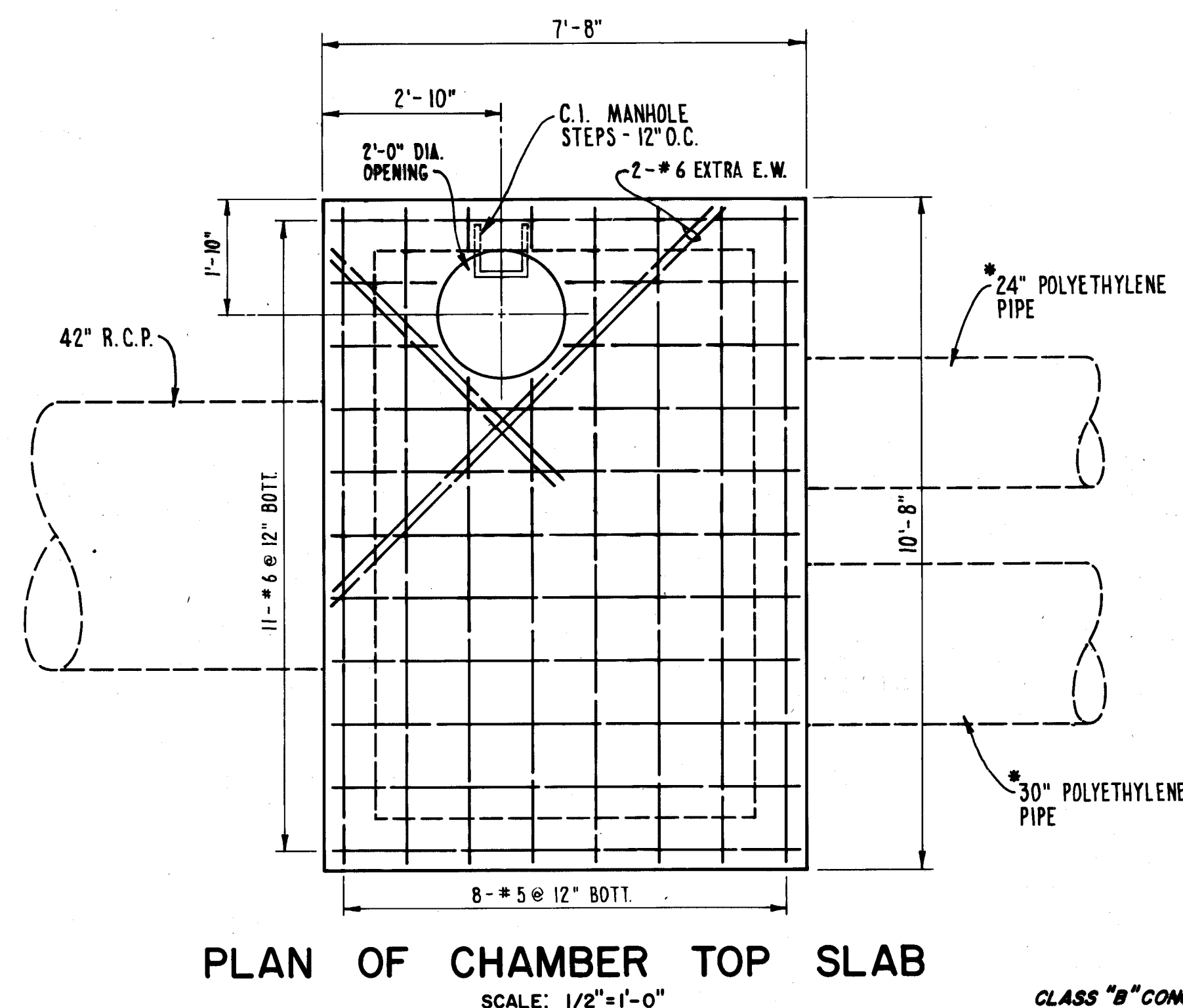
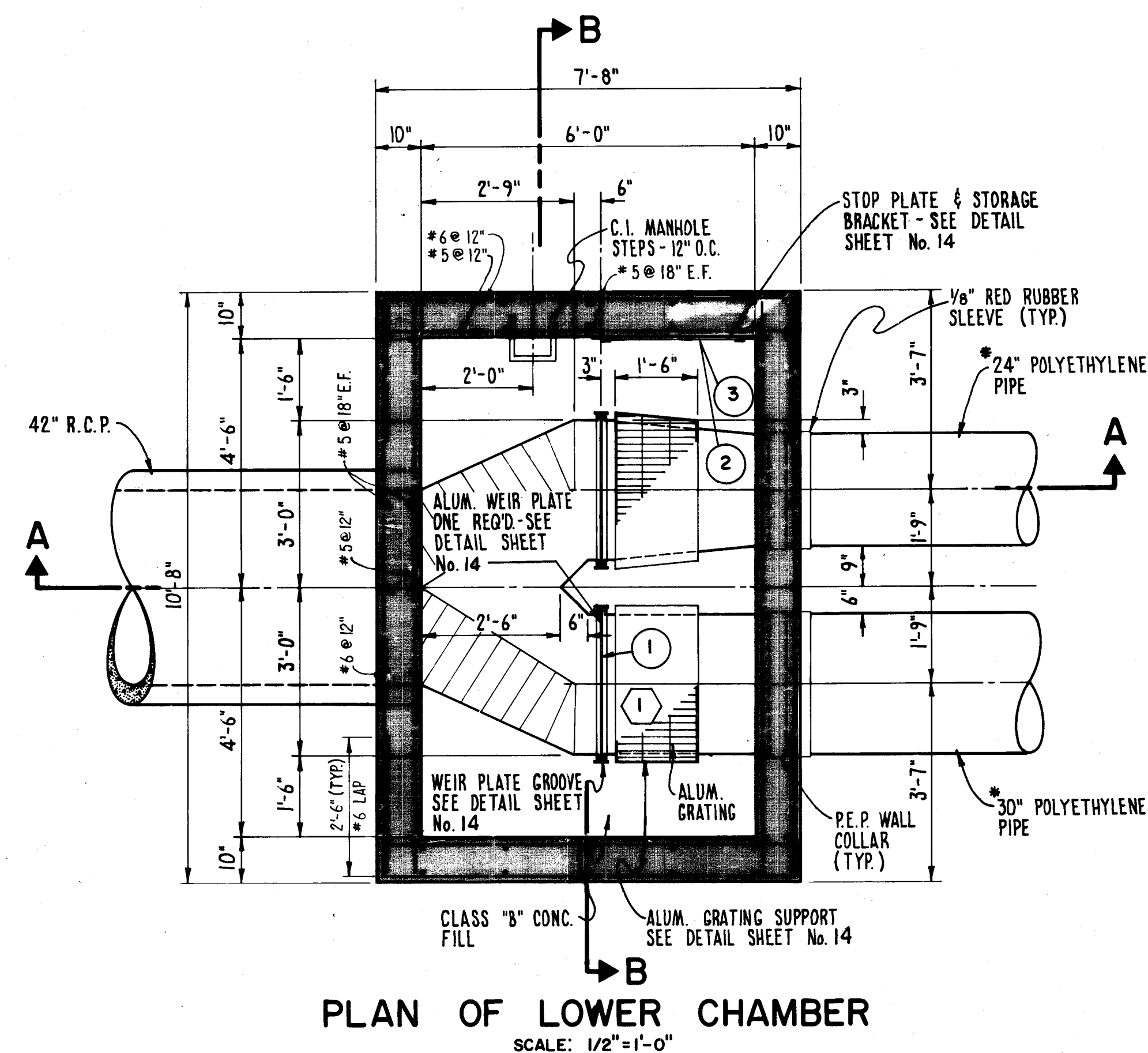
CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
SPECIAL STRUCTURE No. 1-1 AND 1-2

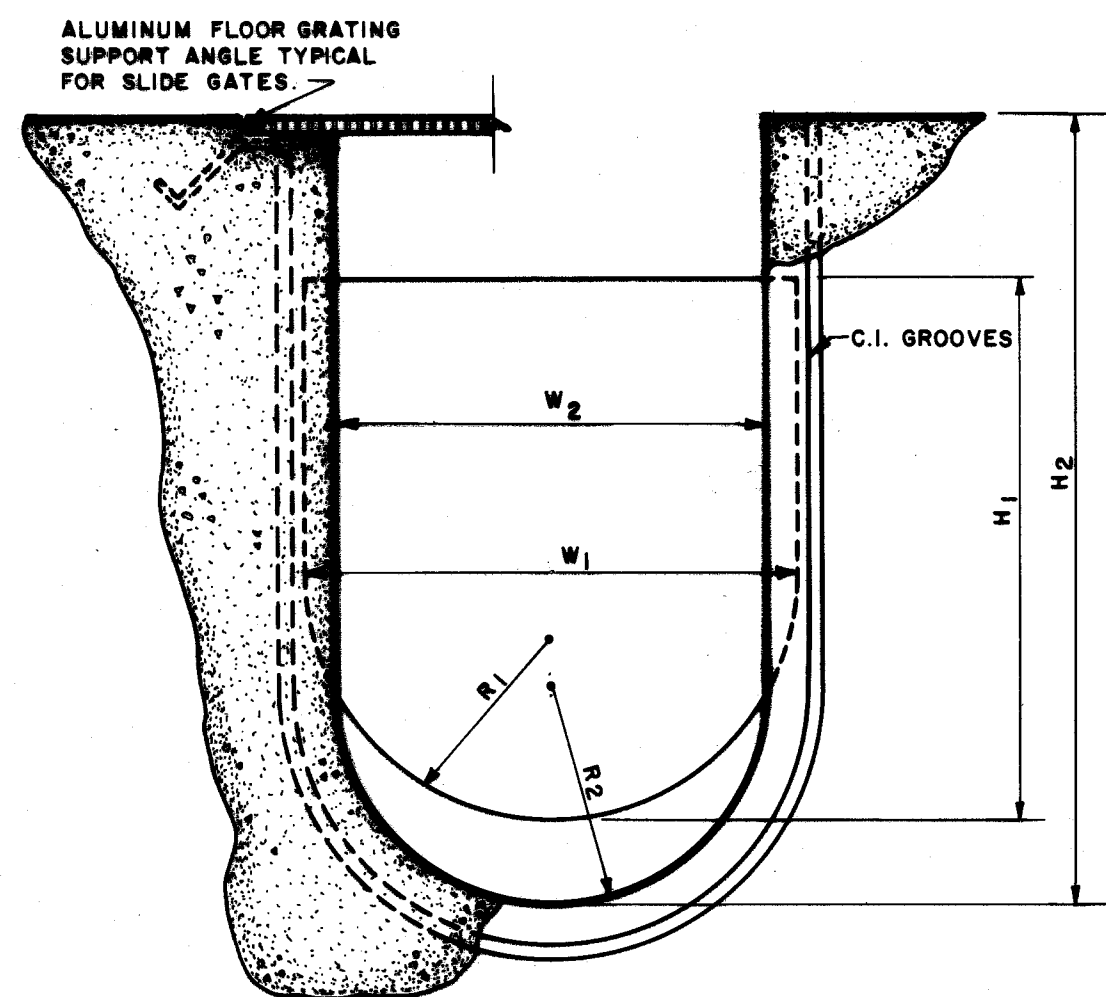


SCALE: HORIZ. 1"=10' VERT. 1"=5'
12 OF 16
SPECIAL STRUCTURE No. 1-1 AND 1-2

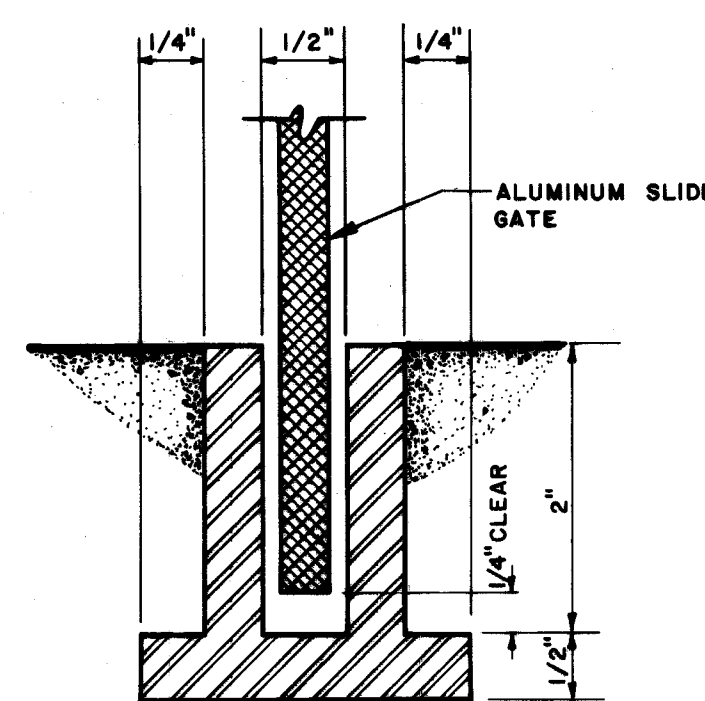
SE-571 Acc. No. 2887

AS BUILT, JAN. 1987 CONTRACT

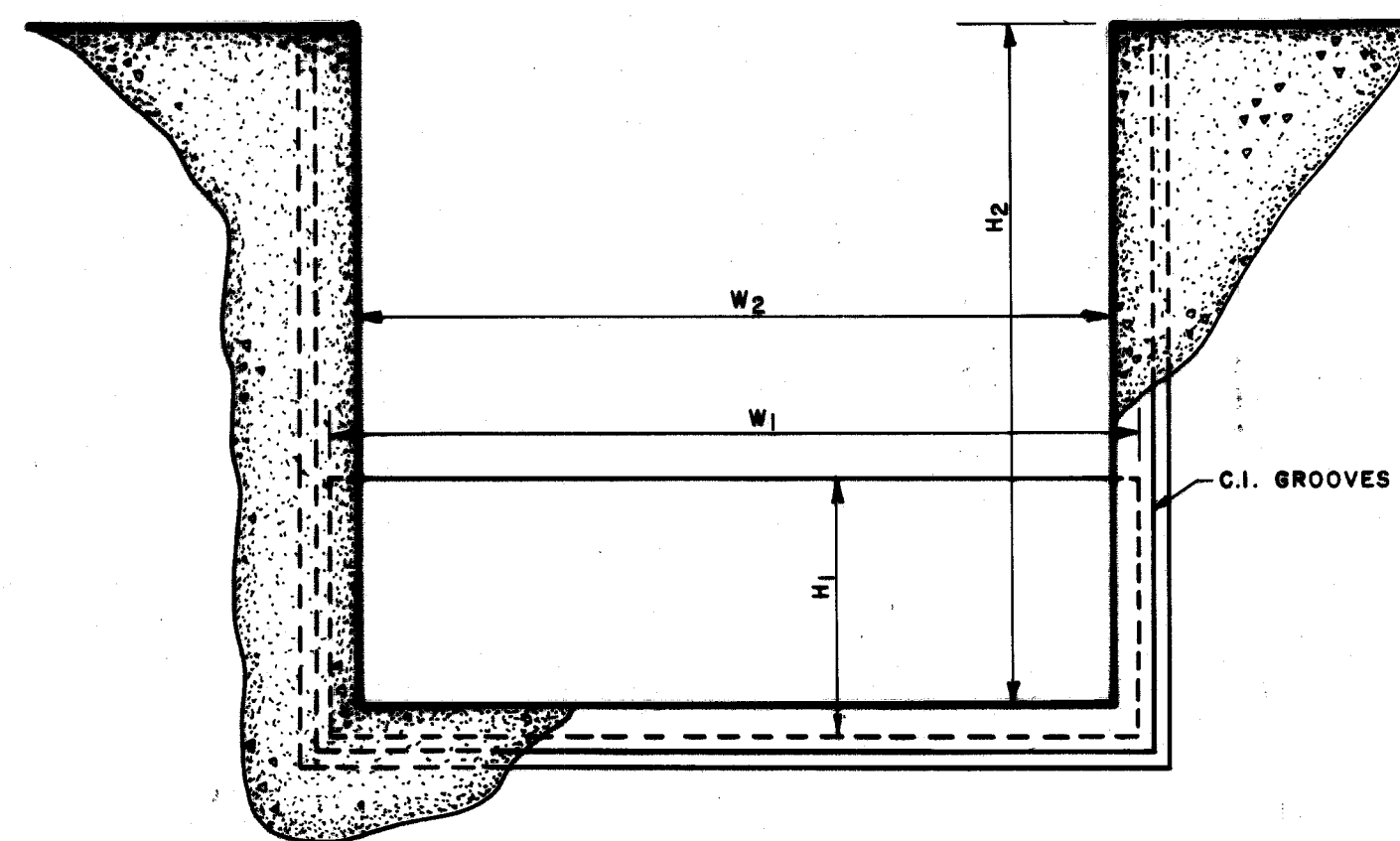




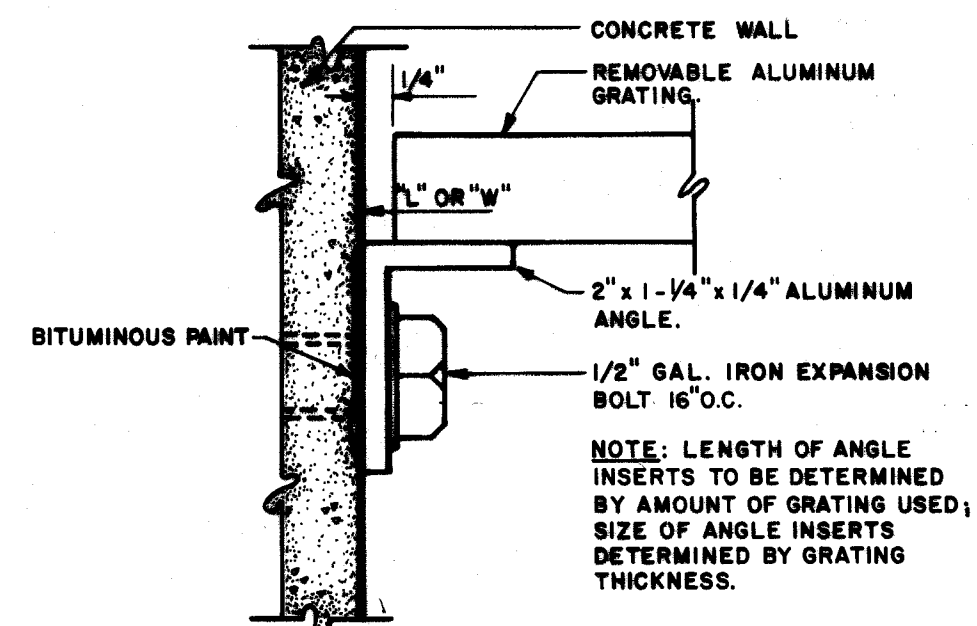
SLIDE GATE / WEIR GROOVE DETAIL
FOR CIRCULAR CHANNEL
NO SCALE



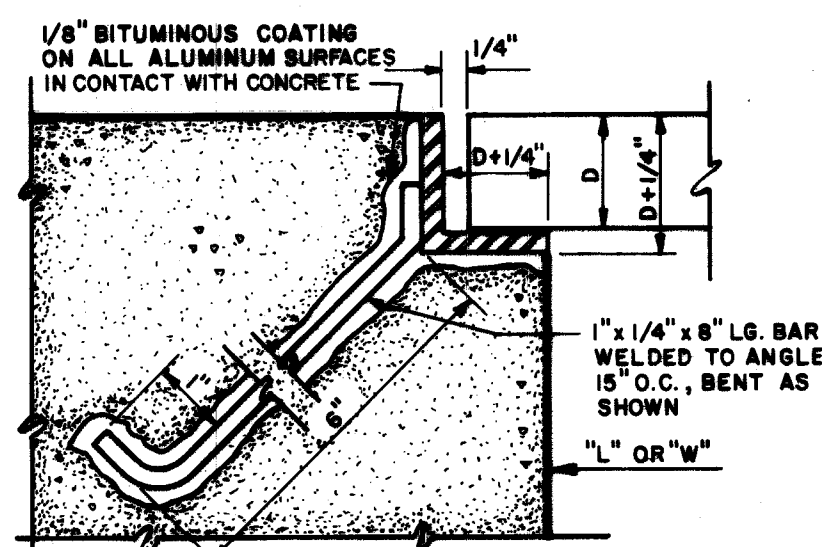
NO SCALE



SLIDE GATE / WEIR GROOVE DETAIL
FOR RECTANGULAR CHANNEL
NO SCALE

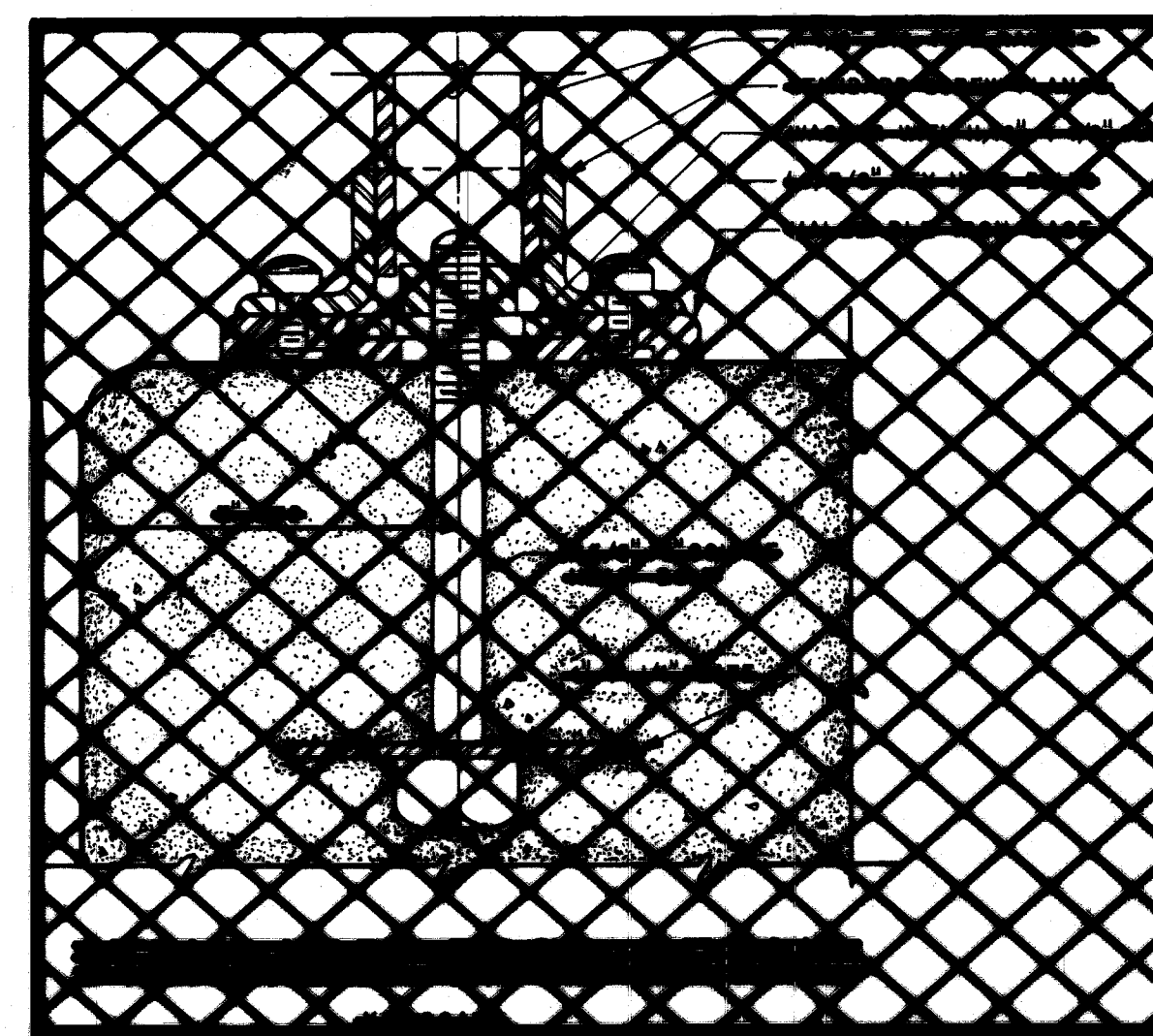


AT WALL



IN FLOOR

FLOOR GRATING DETAILS
NO SCALE

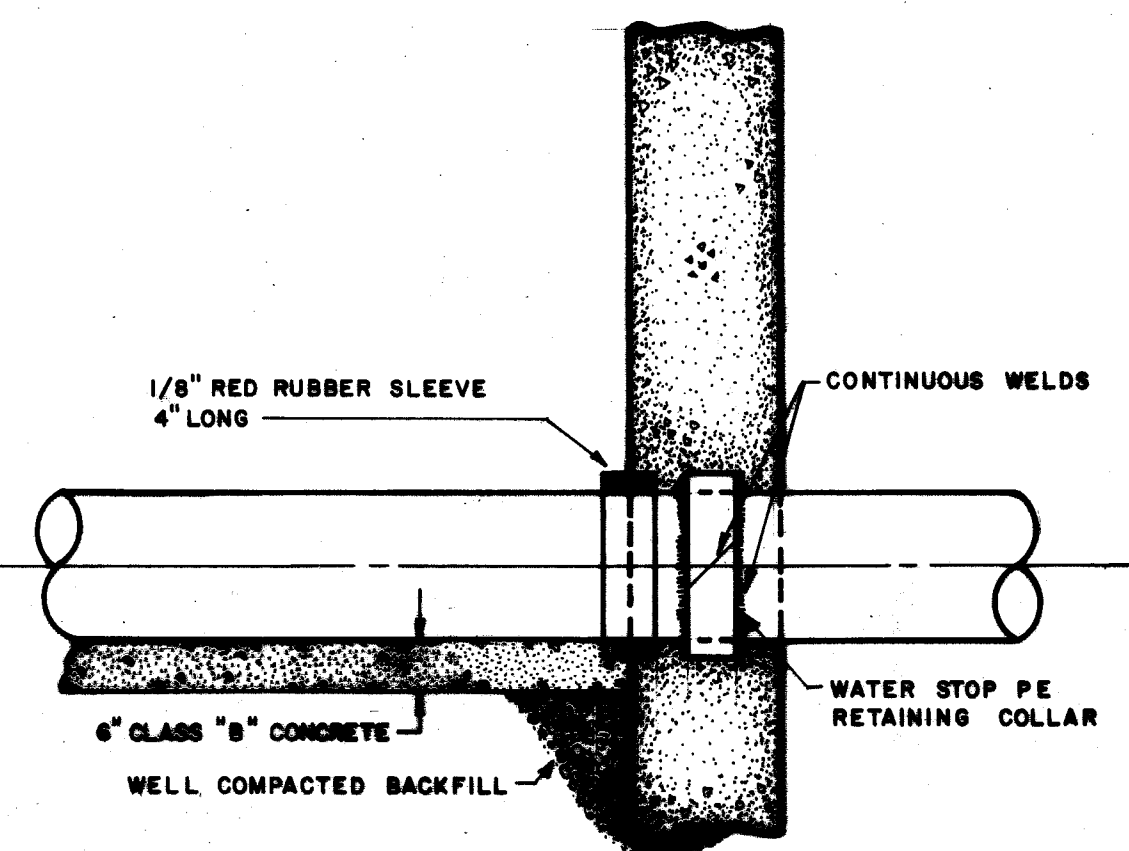


SLIDE GATE / WEIR SCHEDULE

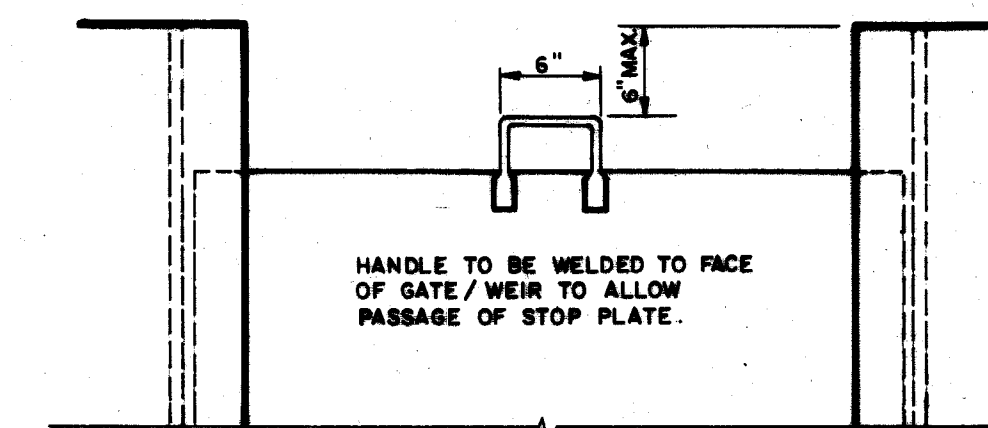
MARK N ^o	LOCATION	W ₁	H ₁	W ₂	H ₂	R ₁	R ₂	REMARKS
①	SPEC. STRUCTURE 1-2	33 1/2"	21 1/2"	30"	42"	16 3/4"	15"	LIFTING HANDLE REQ'D - CENTERED
②	SPEC. STRUCTURE 1-4	33 1/2"	22 1/2"	30"	42"	—	—	LIFTING HANDLE REQ'D - CENTERED
③	SPEC. STRUCTURE 1-1	33 1/2"	44"	30"	42"	16 3/4"	15"	LIFTING HANDLE REQ'D - CENTERED
④	SPEC. STRUCTURE 1-3	33 1/2"	44"	30"	42"	16 3/4"	15"	LIFTING HANDLE REQ'D - CENTERED
⑤	SPEC. STRUCTURE 2-1	33 1/2"	44"	30"	42"	16 3/4"	15"	LIFTING HANDLE REQ'D - CENTERED
⑥	SPEC. STRUCTURE 2-2	33 1/2"	44"	30"	42"	16 3/4"	15"	LIFTING HANDLE REQ'D - CENTERED
⑦	SPEC. STRUCTURE 2-3	33 1/2"	44"	30"	42"	16 3/4"	15"	LIFTING HANDLE REQ'D - CENTERED
⑧	SPEC. STRUCTURE 2-4	33 1/2"	44"	30"	42"	16 3/4"	15"	LIFTING HANDLE REQ'D - CENTERED

FLOOR GRATING SCHEDULE

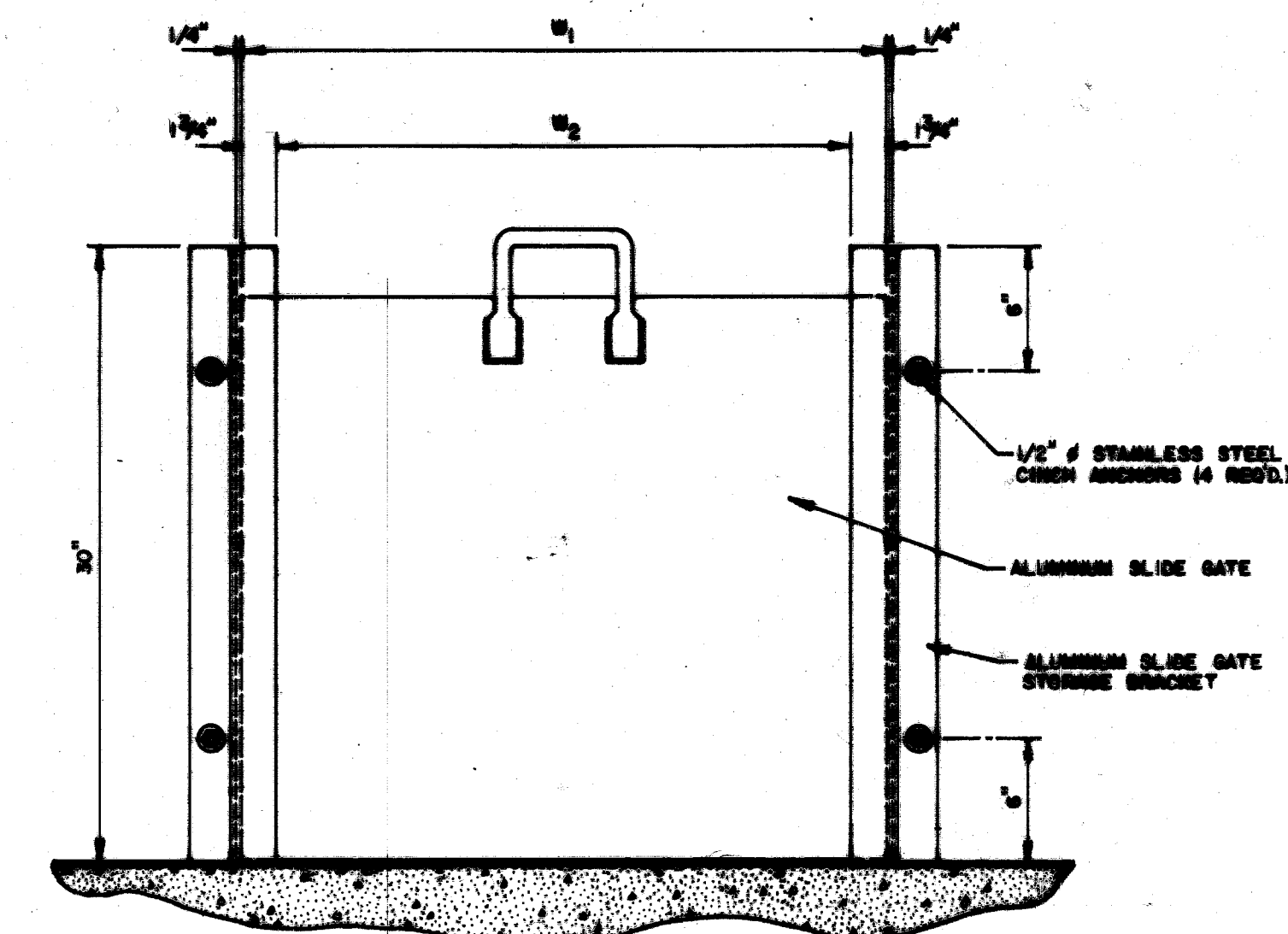
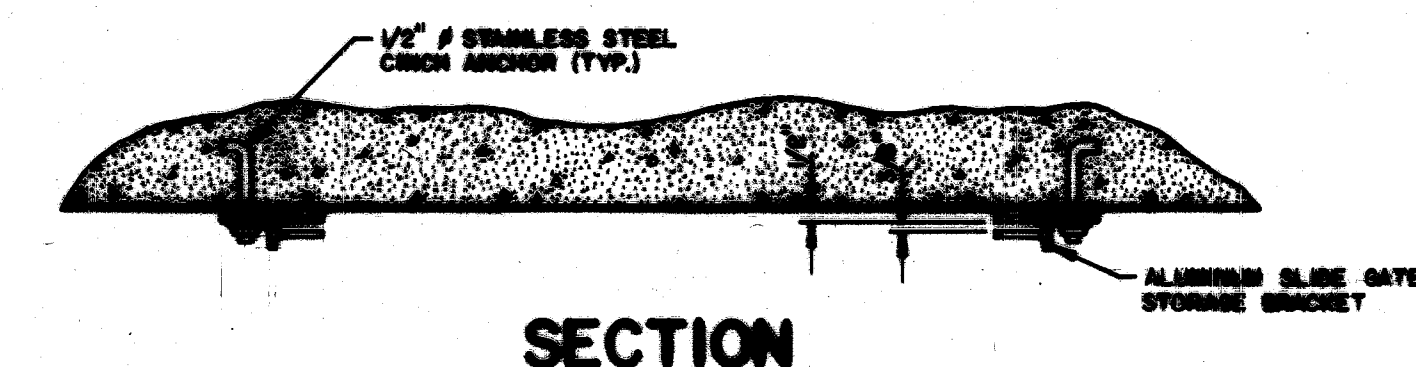
MARK N ^o	LOCATION	L	W	D	REMARKS
①	SPEC. STRUCTURES 1-1, 1-2, 1-3 & 1-4	18"	32 1/2"	1 1/4"	4 REQ'D
②	SPEC. STRUCTURES 1-1, 1-2, 1-3 & 1-4	18"	32 1/2"	1 1/4"	4 REQ'D
③	SPEC. STRUCTURE 2-1	18"	32 1/2"	1 1/4"	4 REQ'D
④	SPEC. STRUCTURE 2-2	18"	32 1/2"	1 1/4"	4 REQ'D
⑤	SPEC. STRUCTURE 2-3	18"	32 1/2"	1 1/4"	4 REQ'D
⑥	SPEC. STRUCTURE 2-4	18"	32 1/2"	1 1/4"	4 REQ'D



POLYETHYLENE PIPE WALL COLLAR DETAIL
NO SCALE
AS BUILT NOTE: DUCTILE IRON PIPE USED IN PLACE OF P.E.P.



SLIDE GATE / WEIR
HANDLE DETAIL
NO SCALE



SLIDE GATE STORAGE BRACKET DETAIL
NO SCALE

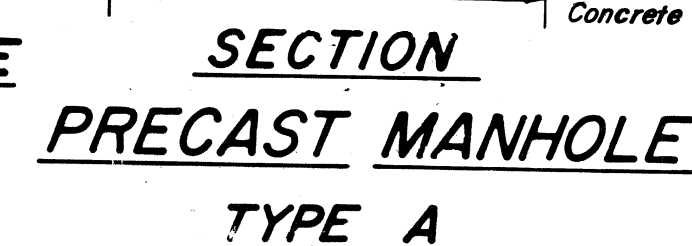
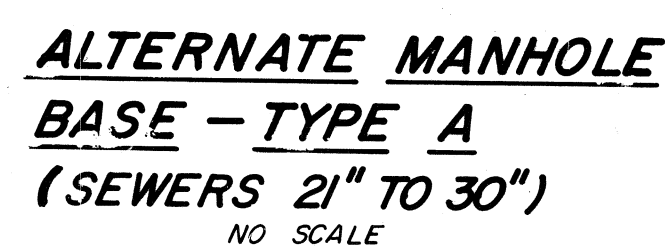
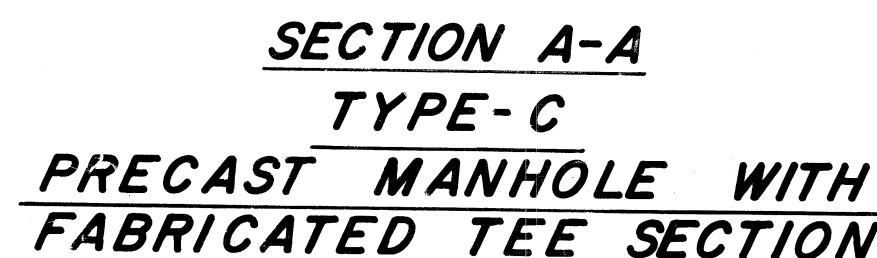
FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
SCHEDULES AND MISCELLANEOUS DETAILS



SCALE NOTED
AS SHOWN
14 OF 16 SHEETS
SCHEDULES AND MISCELLANEOUS DETAILS

Pipe To Be 48" Above Grade & Have 2'-0" Min.
Lateral Clearance From Edge Of Road.



NOTE: NO SCALE
Unless Otherwise Directed By The Engineer, Where Two Pipes (Sewer & Water) Cross Each Other, A Concrete Pad And Cradle Separator Shall Be placed Between Them As Indicated Above. Where Permission is Granted To Omit The Concrete Pads, Groutor Backfill Shall Be Tamped In 6" Layers Around Both Pipes. Such Tamped Backfill Shall Be Continuous From The Cradle Of The Lower Pipe To The Top Of The Upper Pipe, And At The Bottom Shall Extend in Both Directions, For The Full Width Of The Trench. (Price Included In Price Bid For Lineal Feet Of Pipe.)

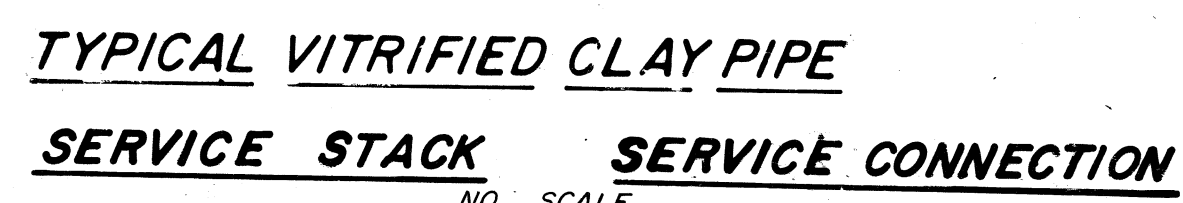
<i>Sewer Size</i>	<i>Drop Size</i>
8"	8"
10"	10"
12" - 15" - 18"	12"
21" - 24"	15"
27" - 30" - 36"	18"

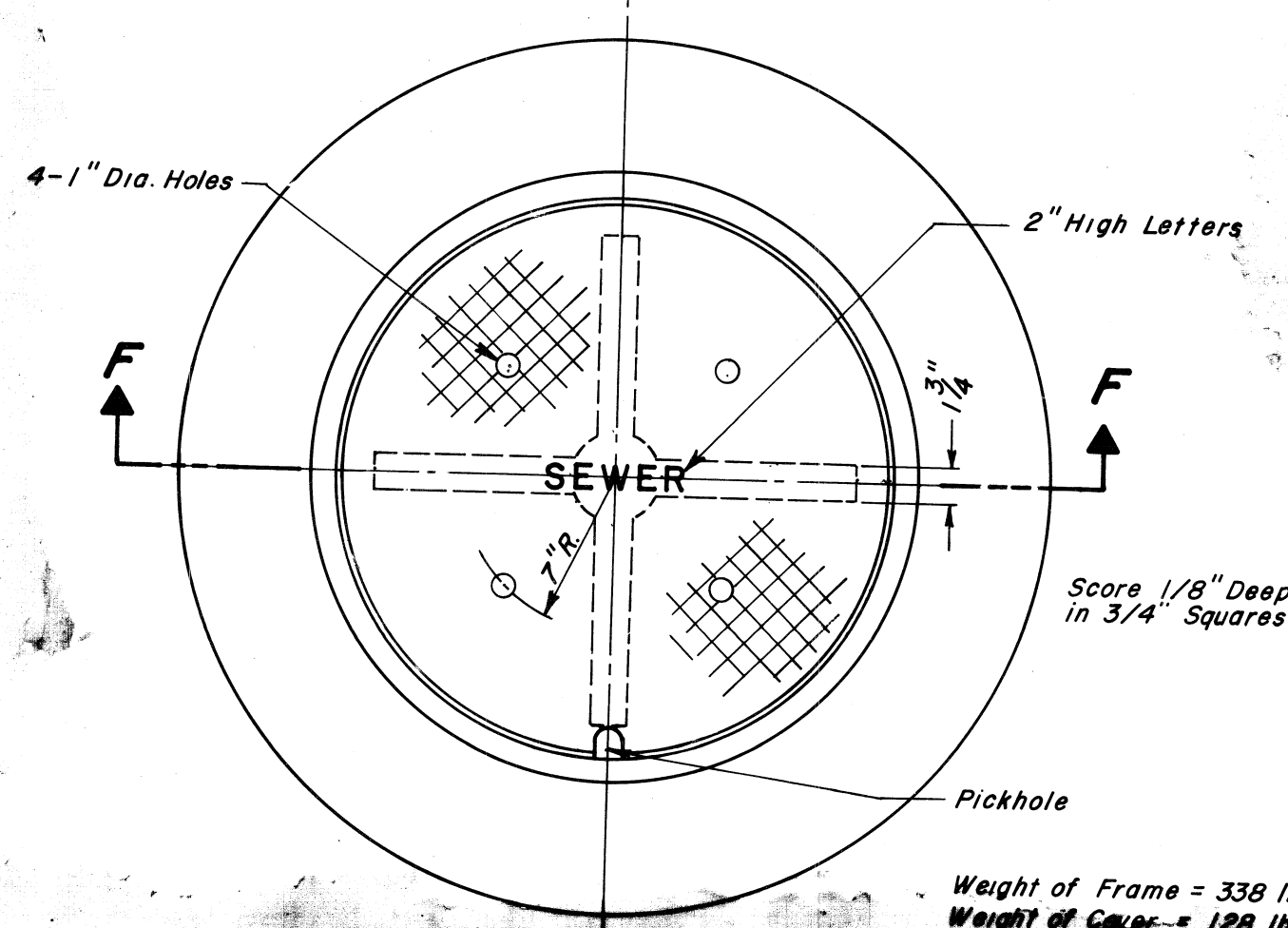


Note: Depth of all manholes measured from sewer invert to top of casting



NOTE:
Backfill Around Collar After
Concrete Has Attained
Sufficient Strength.

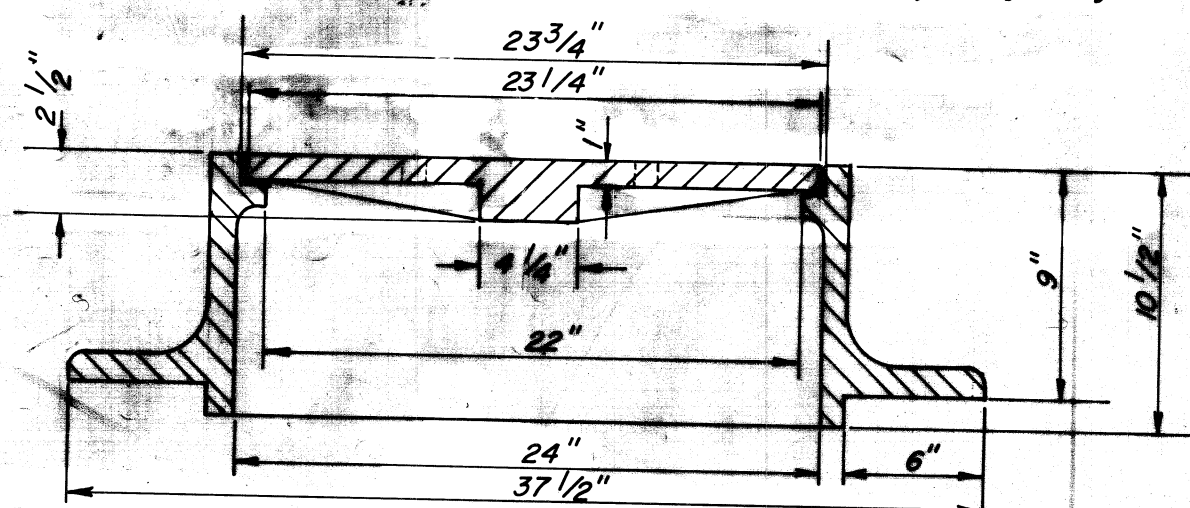




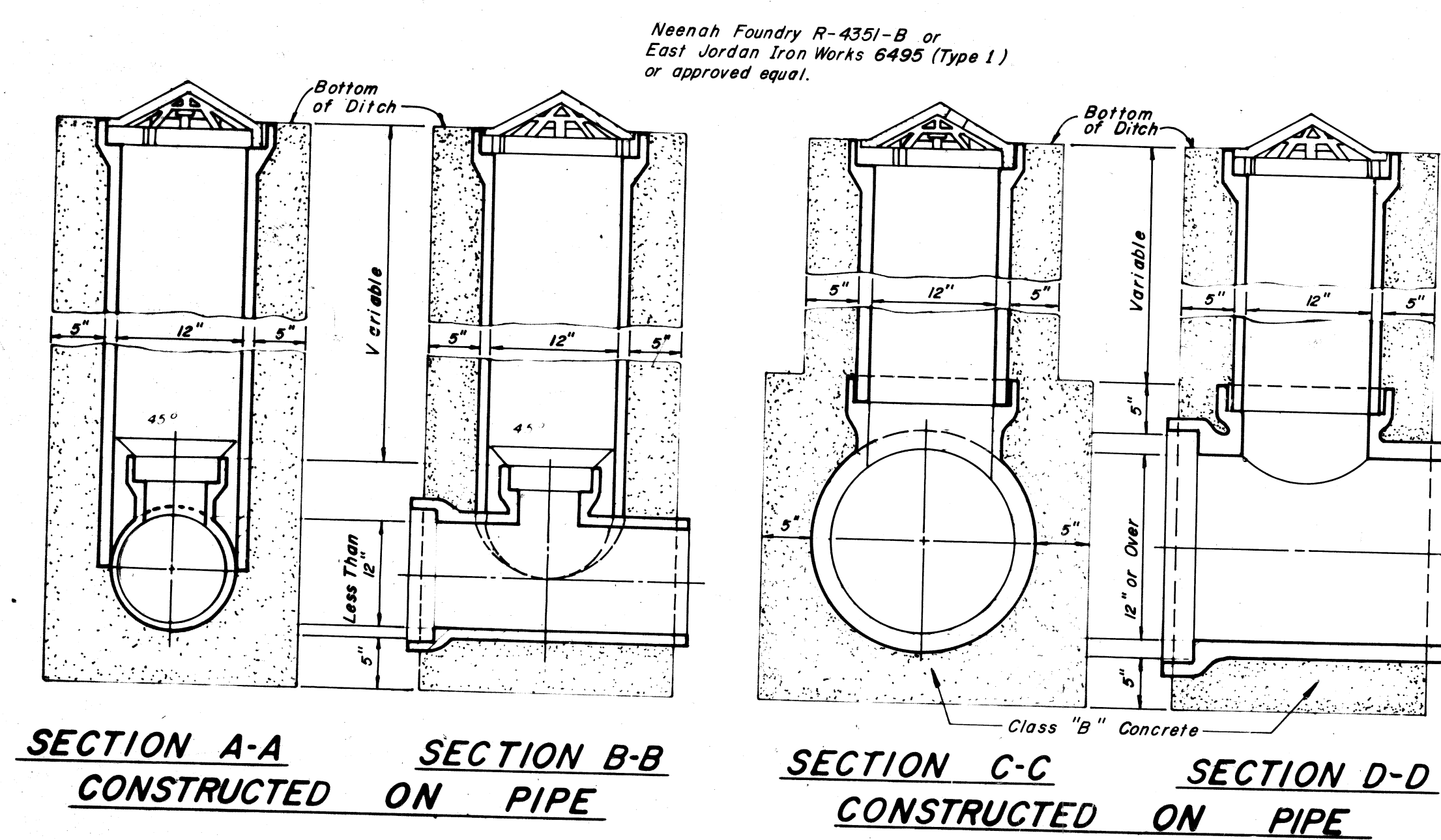
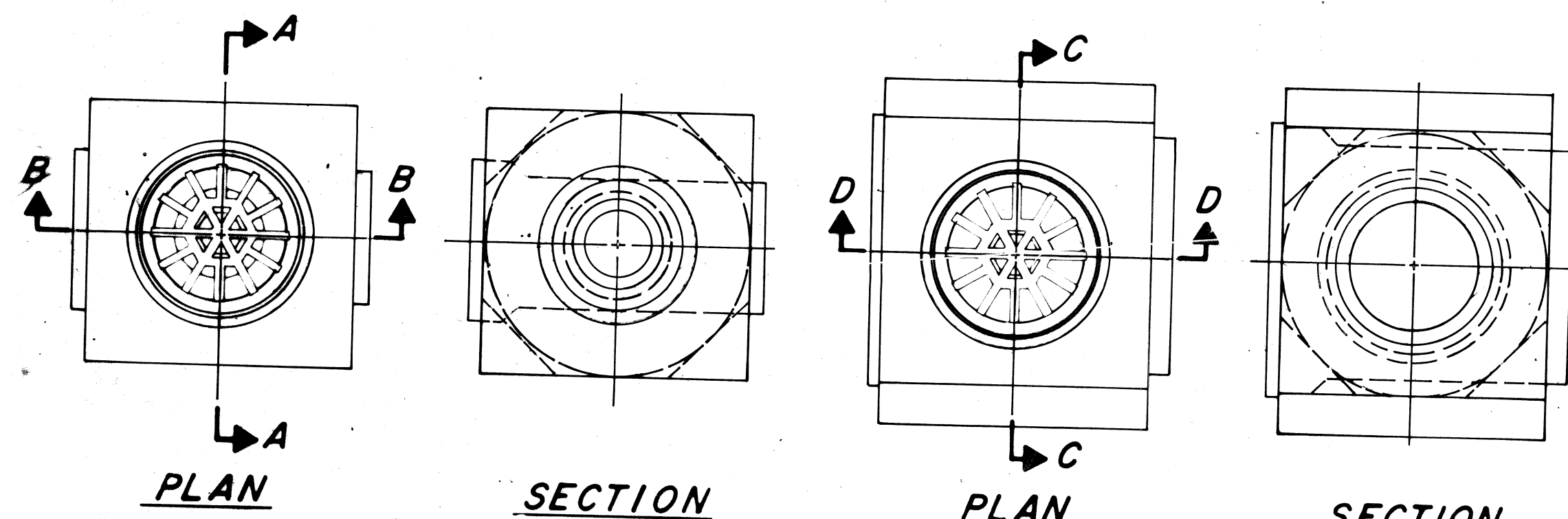
PLAN OF MANHOLE COVER
NO SCALE

Weight of Frame = 338 lbs.
Weight of Cover = 128 lbs.
NOTE: Manhole Frame & Cover Neenah NF-13240, or Equal

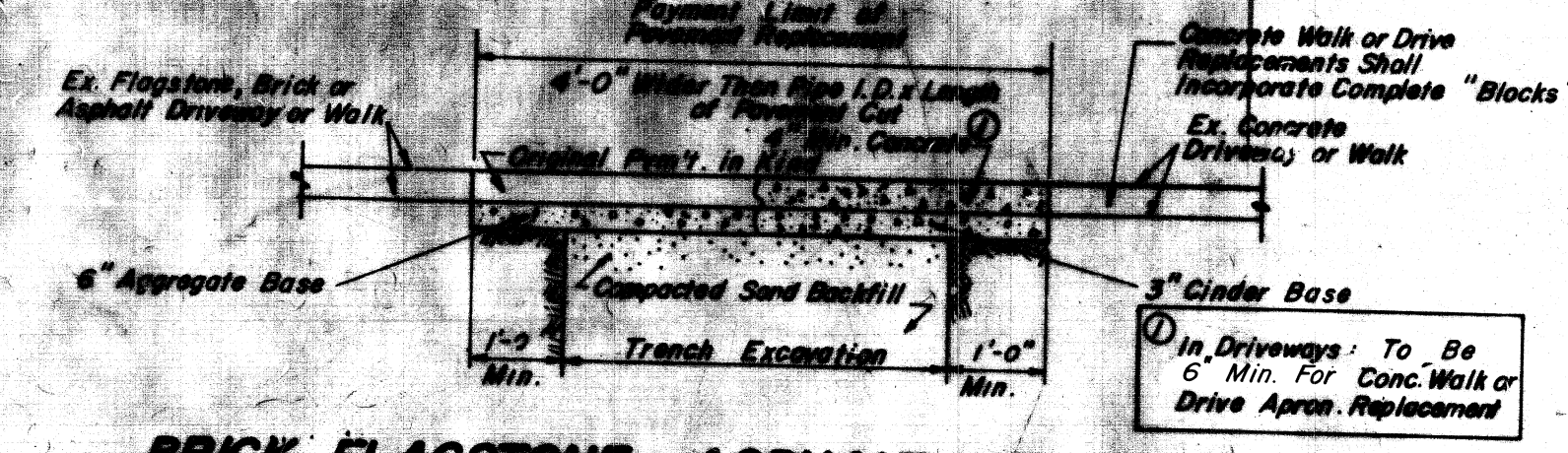
NOTE: When Watertight Cover is Called for on Plan Sheets, Use Neenah R-1916-F, or Equal, Manhole Frame & Cover With Precast Concrete Adjusting Rings.



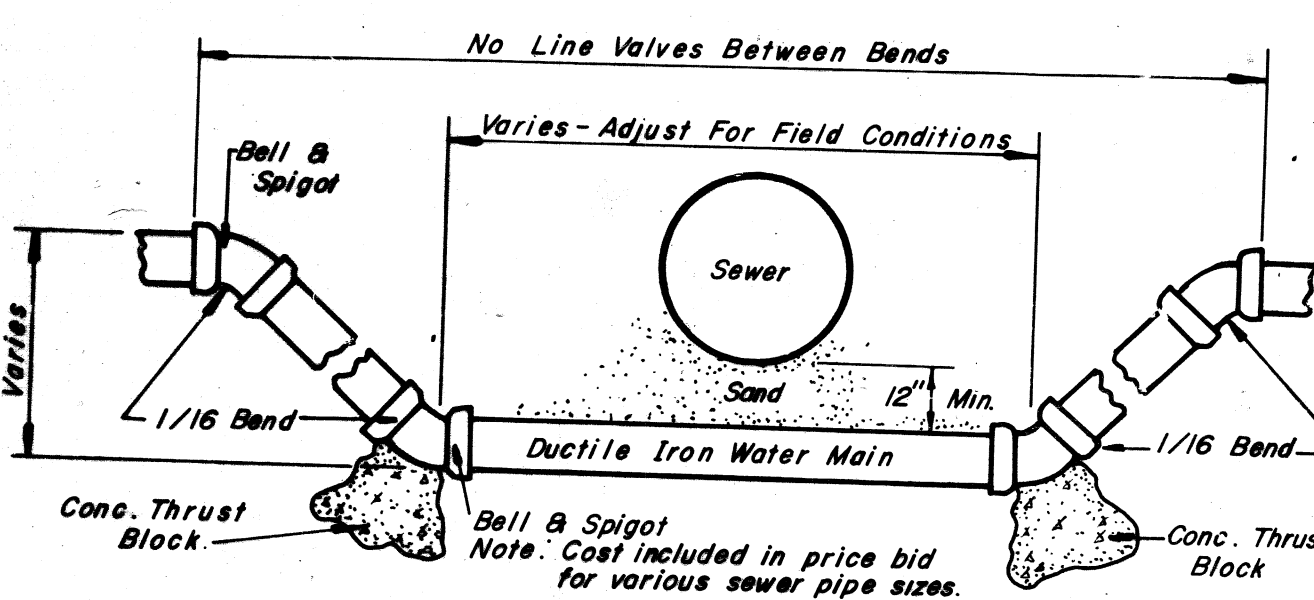
SECTION F-F
NO SCALE



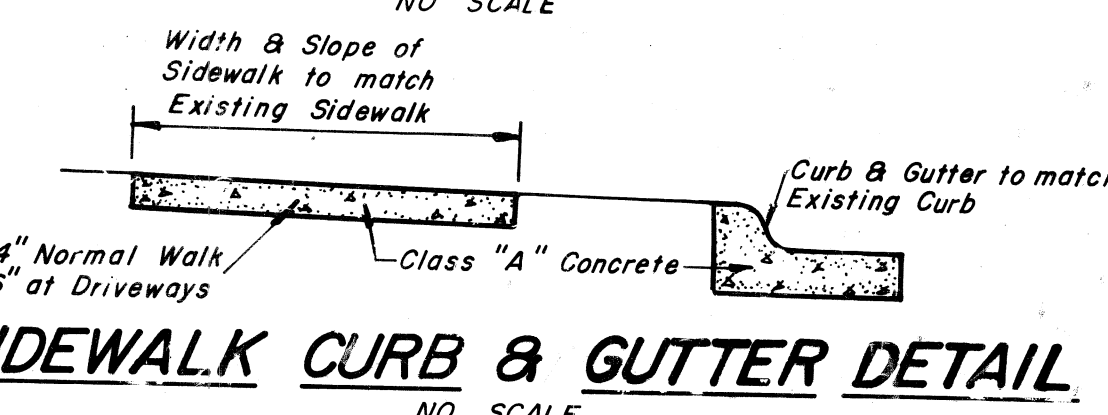
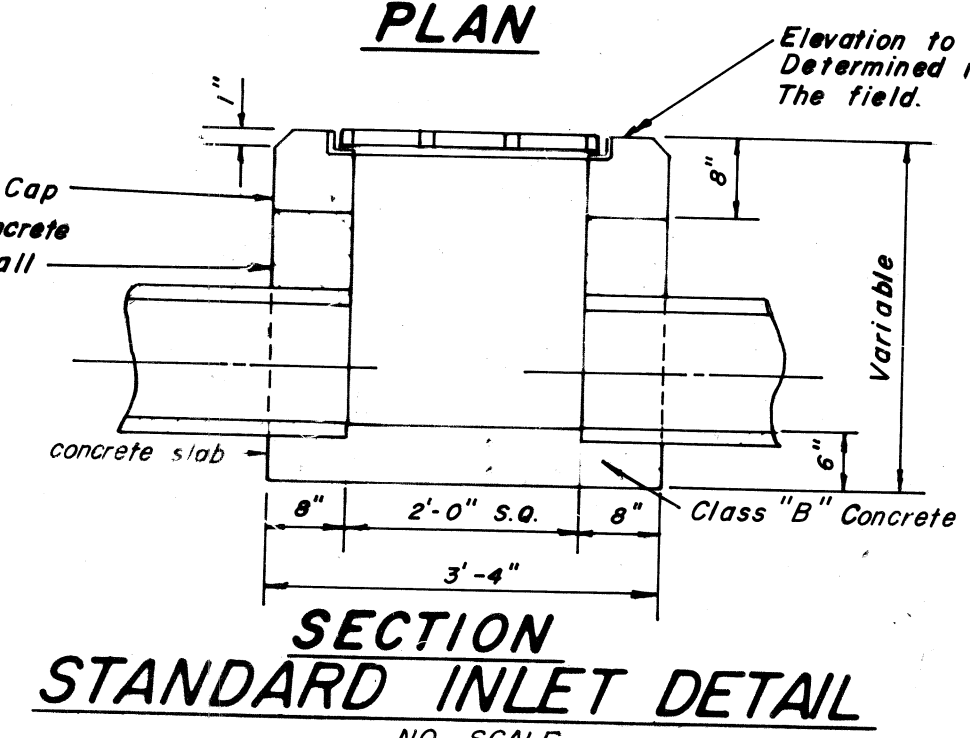
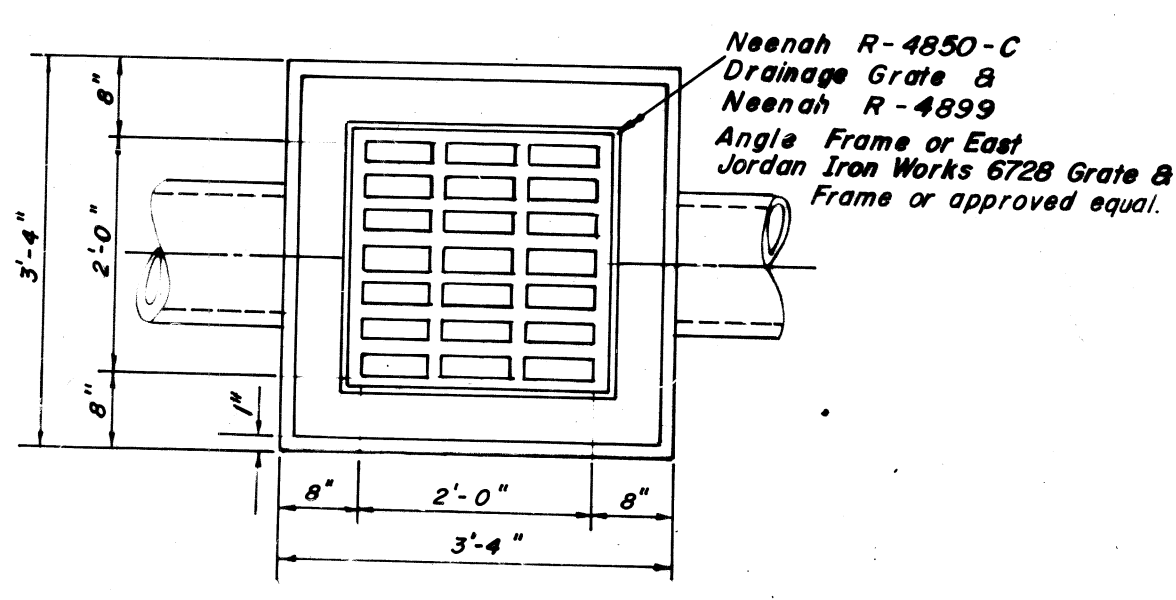
STANDARD SIDE DITCH INLETS
SCALE: 1"=1'-0"



BRICK, FLAGSTONE, ASPHALT, OR CONCRETE DRIVEWAY & WALK REPLACEMENT
TYPICAL REPAIR OF PAVEMENT OPENINGS
NO SCALE

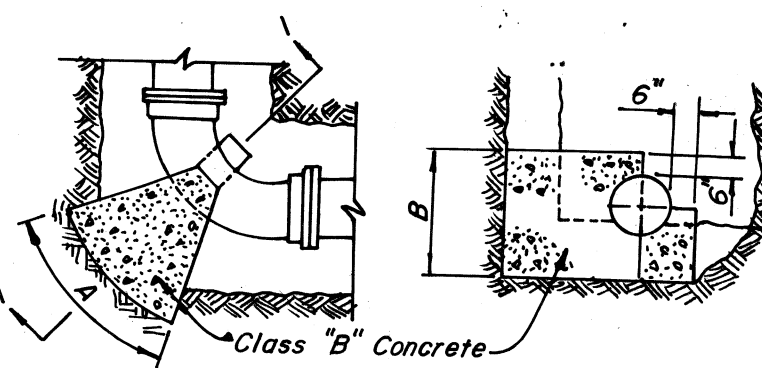


DETAIL OF WATER MAIN LOWERING
NO SCALE



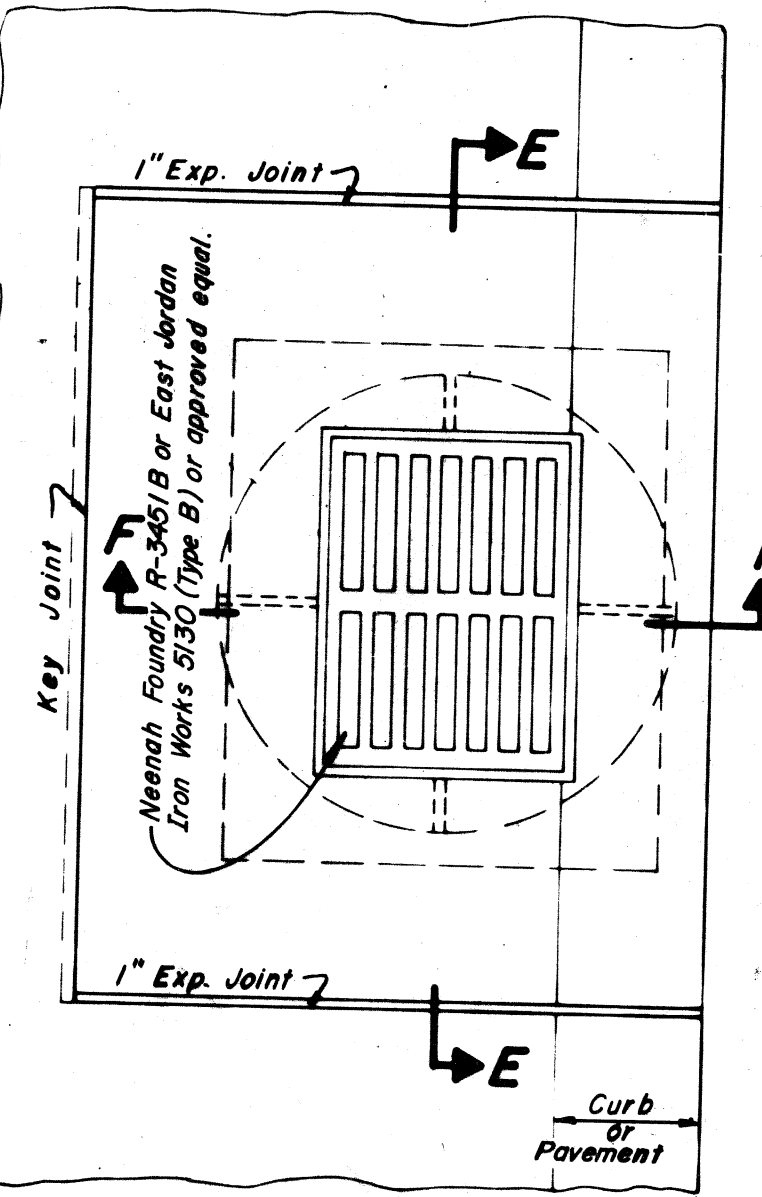
SIDEWALK CURB & GUTTER DETAIL
NO SCALE

For 18" Force Main: Required Thrust Blocking	90° Bend	45° Bend	22 1/2° Bend	11 1/4° Bend
Bearing Area — S. F.	12	6	3.25	1.50
Min. Concrete Volume — Cu. Yds.	1.10	0.75	0.50	0.30



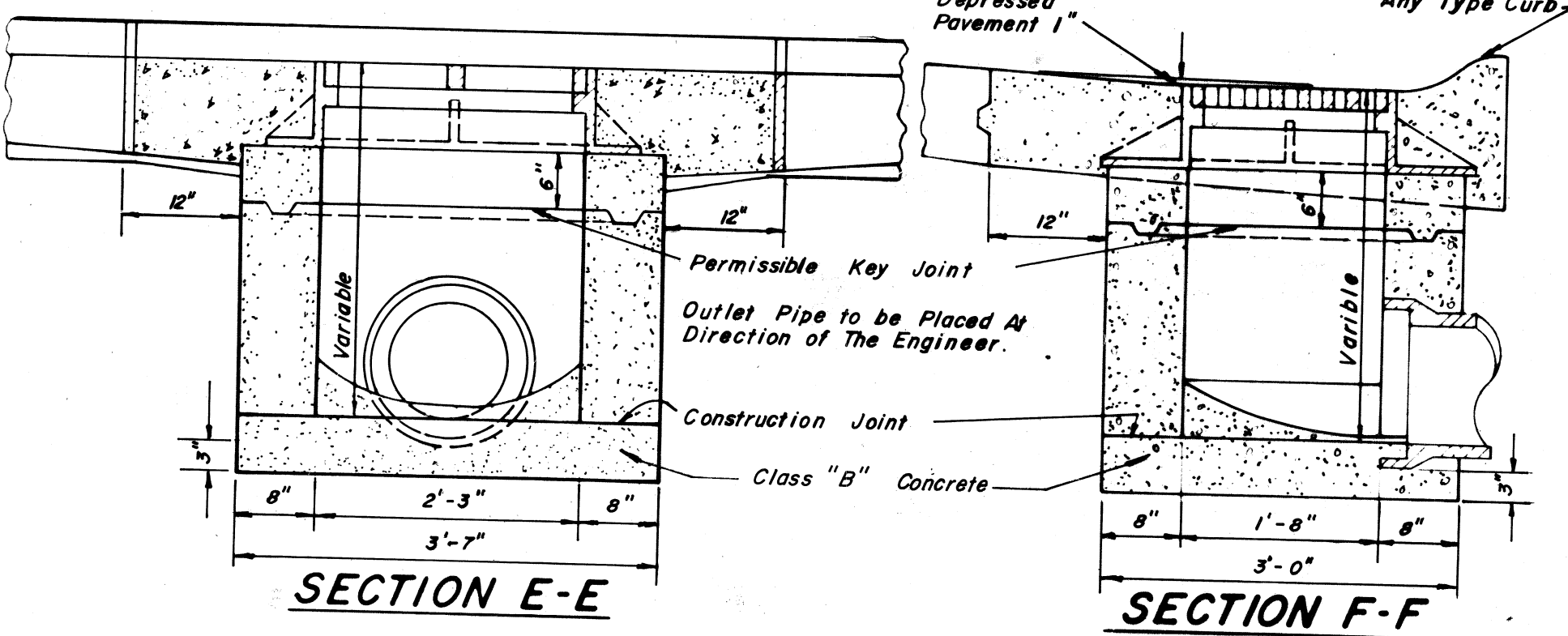
NOTE: All Concrete Blocking Must Have Its Entire Face-Ax-B-Bearing Against Undisturbed 2000 P.S.I. (Bearing Capacity) Soil. Blocking Design Based On Combined Working Pressure Plus Water Hammer Of 150 P.S.I.

TYPICAL THRUST BLOCKING DETAIL
NO SCALE

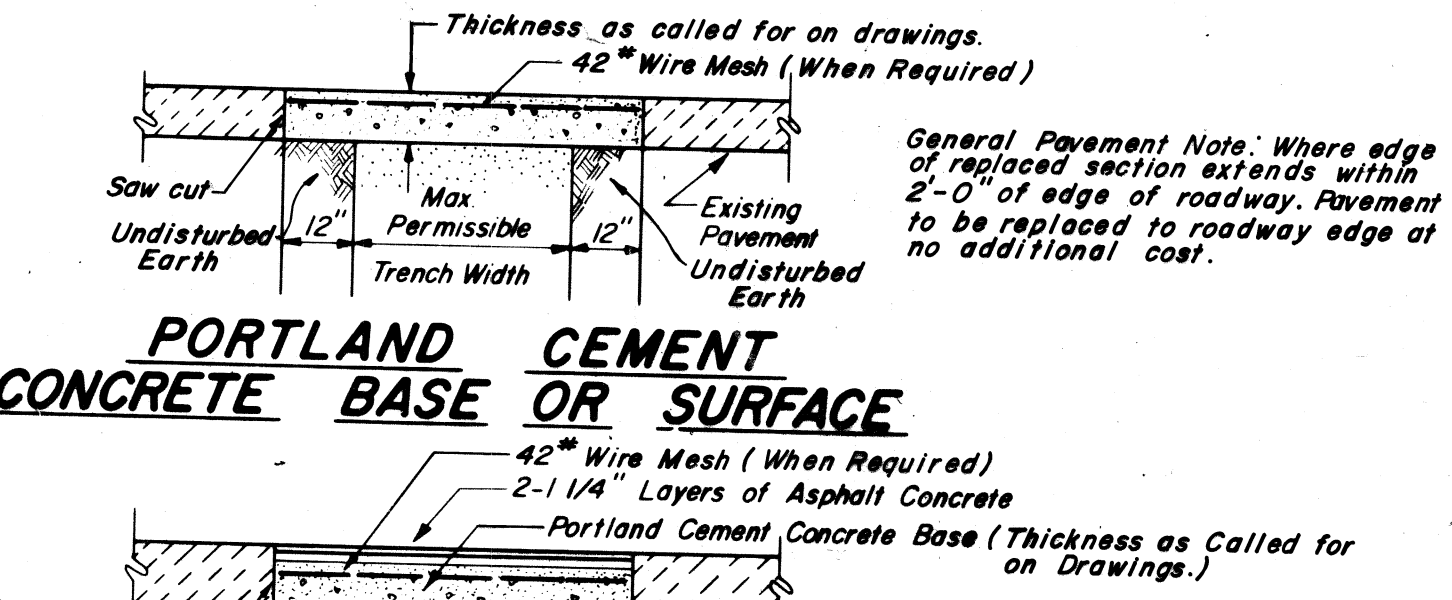


PLAN

Note: Brick Side Walks, When Used in Place of Concrete Shall be 8" Inches in Thickness.

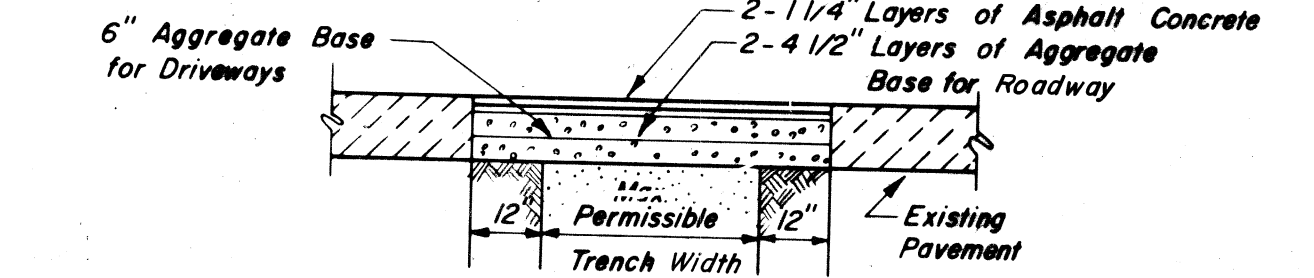


STANDARD CATCH BASIN
NO SCALE

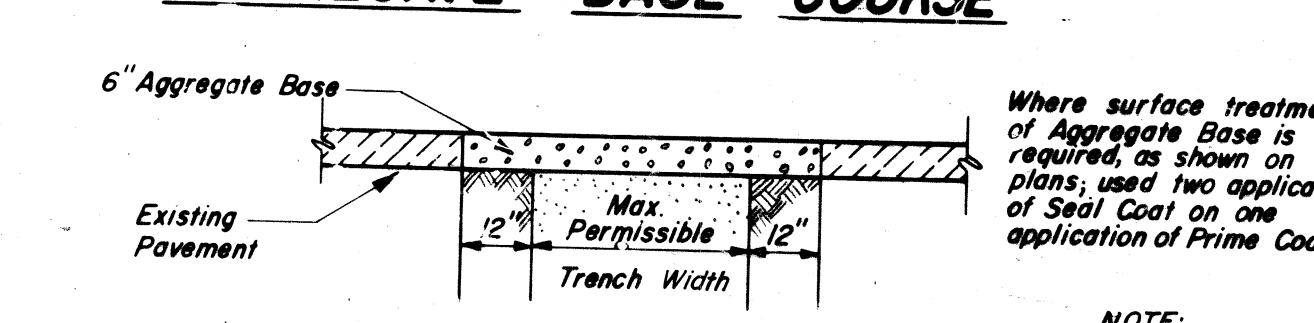


PORTLAND CEMENT CONCRETE BASE OR SURFACE

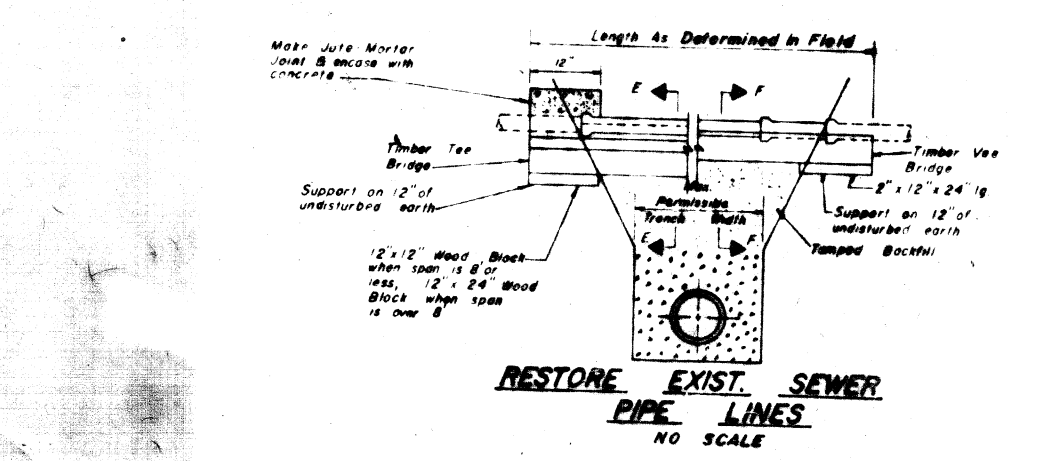
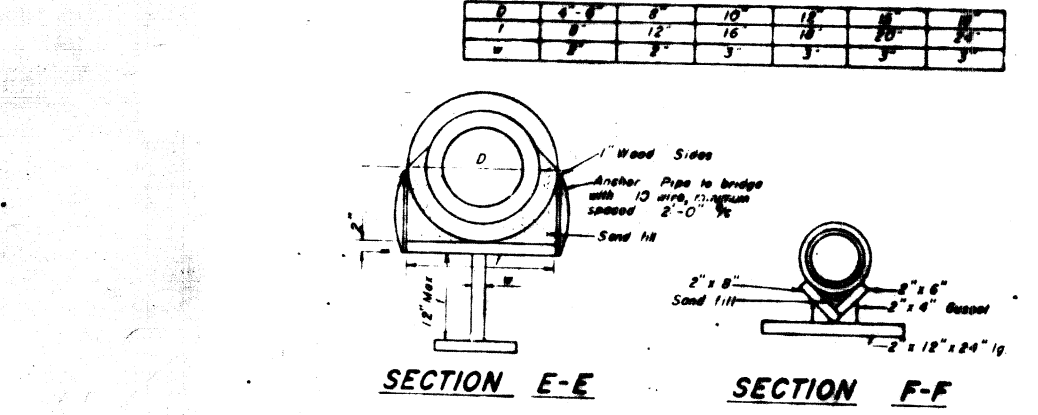
ASPHALT CONCRETE SURFACE COURSE
PORTLAND CEMENT CONCRETE BASE COURSE



ASPHALT CONCRETE SURFACE COURSE
AGGREGATE BASE COURSE



AGGREGATE BASE
TYPICAL PAVEMENT REPLACEMENT SECTIONS
NO SCALE

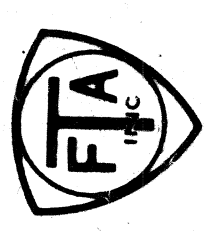


DETAIL OF REPLACEMENT
NO SCALE

DRAWN BY: R.S.
CHECKED BY: P.W.S., D.A.D.
DATE: APRIL, 1977

FRANK A. THOMAS & ASSOCIATES, INC.
CONSULTING ENGINEERS
WILLOUGHBY, OHIO

CITY OF MASSILLON
STARK COUNTY, OHIO
BROOKFIELD SANITARY INTERCEPTOR SEWER
STANDARD DETAIL SHEET



SCALE: AS SHOWN
77-143
16 OF 16
STANDARD DETAIL SHEET