

ANOKA AND COUNTY
MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, CONC. C&G, BIT. SURFACE, STORM SEWER

LOCATED ON CSAH 1 FROM CHARLES STREET TO 64th WAY

STATE PROJ. NO. 02-601-23
MINN. PROJ. NO.
GROSS LENGTH 3,055.00 FEET 0.580 MILES
BRIDGES-LENGTH 0.00 FEET 0.000 MILES
EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES
NET LENGTH 3,055.00 FEET 0.580 MILES
MILE POINT TO MILE POINT

STATE PROJ. NO.
MINN. PROJ. NO.
GROSS LENGTH FEET MILES
BRIDGES-LENGTH FEET MILES
EXCEPTIONS-LENGTH FEET MILES
NET LENGTH FEET MILES
MILE POINT TO MILE POINT



END S.P. 02-601-23 (CSAH 1)
STA. 1NB. 60165.00

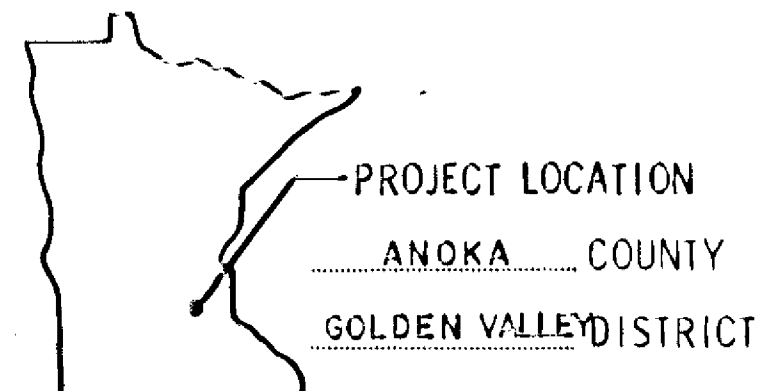
BEG. S.P. 02-601-23 (CSAH 1)
STA. 1NB. 30+00.00

SCALES

PLAN	50'
PROFILE	5' VERT 50' HORIZ
INDEX MAP	1600'
GENERAL LAYOUT	

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

DESIGN DESIGNATION
 ADT (Current Year) = 13,000 Design Speed 40 MPH
 ADT (Future Year) = 25,500 Based on STOPPING Sight Distance
 DHV (Design Hr. Vol.) = Height of eye 3.75 Height of object 0.5'
 D (Directional Distr.) = Design Speed not achieved at:
 T (Heavy Commercial) = 3 % STA. TO STA. MPH
 Soil Factor = 50 % 9 Ton Design PROJECTED HCADT = 600-1100



CONVENTIONAL SYMBOLS

EXISTING	ITEM	PROPOSED
1" M.H. 3" V.C.P.	SANITARY SEWER	M.H. 1 3"
F 3" D.I.P.	FORCEMAIN	F 4" D.I.P.
6" W. 6" C.I.P.	WATERMAIN	6" B.V. HYDRANT 6" B.V. 6" D.I.P.
1" M.H. 1" C.B.	STORM SEWER	1" ST. M.H. 1" C.B. 3
1" M.H. 24" C.M.P.	CULVERT	
	DITCH OR SWALE	
	SIGNAL AND CONDUIT	
	LIGHT STANDARD	
	SIGN	
	FENCE	
	GUARDRAIL	
	RIGHT OF WAY	
	PROPERTY LINE	
680	CONTOURS	680
673		673
	PUBLIC UTILITIES	
	TELEPHONE	
	POWER	
	GAS	



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 2-20-80 REG. NO. 10962 ENGR. Larry J. Eichen

DESIGN SQUAD L. Muijala

- Approved: *Paul K. Reed* 2/20/1980 ANOKA COUNTY ENGINEER
- Approved: *Nelson M. Quisenberry* 2/20/1980 CITY OF FRIDLEY, ENGINEER
- Recommended for Approval: *C.E. Wuehlerbaum* 3/5/1980 DISTRICT STATE AID ENGINEER
- Recommended for Approval: *Robert O. Skidell* 3-29-1981 STATE AID PLANS ENGINEER
- Recommended for Approval: _____ 19
- Approved: *John J. ...* 3/23/1981 STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE COSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	EAU PARTICIPATING		NON PARTICIPATING		GRAND TOTAL	
			ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES
2021.501	MOBILIZATION	LUMP SUM	1				1	
2031.503	FIELD LABORATORY, TYPE D	EACH	1				1	
2101.502	CLEARING	TREE	34				34	
2101.507	GRUBBING	TREE	30				30	
2104.501	REMOVE FENCE	LIN.FT.	247				247	
2104.501	REMOVE CURB AND CUTTER	LIN.FT.	2,973				2,973	
2104.501	REMOVE MANHOLES AND CATCH BASINS	EACH	9				9	
2104.509	REMOVE PIPE SEWERS	LIN.FT.	715				715	
2104.523	SALVAGE TRIP, SIGNAL SYSTEM	EACH			1			1
2104.505	REMOVE CONCRETE WALK	SQ.YD	9				9	
2104.505	REMOVE DRIVEWAY PAVEMENT	SQ.YD	94				94	
2104.523	SALVAGE HYDRANT	EACH	5				5	
2104.521	SALVAGE FENCE	LIN.FT.	256				256	
2104.523	SALVAGE CASTINGS	EACH	9				9	
2105.501	CUTMAN EXCAVATION	CU.YD	12,518				12,518	
2105.507	SUBGRADE EXCAVATION	CU.YD	9,054				9,054	
2113.501	AGGREGATE SURFACING, CLASS 2	TON	76				76	
2211.501	AGGREGATE BASE, CLASS 5	TON	14,370				14,370	
2301.501	CONCRETE PAVEMENT	SQ.YD	667				667	
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	178				178	
2331.514	BASE COURSE MIXTURE	TON	3,956				3,956	
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	149				149	
2341.508	WEARING COURSE MIXTURE	TON	351				351	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL.	1,310				1,810	
2361.504	ASPHALT CEMENT	TON	62				62	
2361.508	WEARING COURSE MIXTURE	TON	1,040				1,040	
2341.510	BINDER COURSE MIXTURE	TON	2,311				2,311	
0411.603	STONE RETAINING WALL	SQ.FT.	3,090				3,090	
2501.521	36" SPAN R.C. P-A CULVERT, CLASS II A	LIN.FT.	330				330	
2501.521	48" SPAN R.C. P-A CULVERT, CLASS II A	LIN.FT.	324				324	
2503.541	12" R.C. PIPE SEWER DESIGN 3006 CLASS II	LIN.FT.	1,557				1,557	
2503.541	12" R.C. PIPE SEWER DESIGN 3006 CLASS III	LIN.FT.	58				58	
2503.541	15" R.C. PIPE SEWER DESIGN 3006 CLASS II	LIN.FT.	281				281	
2503.541	18" R.C. PIPE SEWER DESIGN 3006 CLASS II	LIN.FT.	337				337	
2503.541	24" R.C. PIPE SEWER DESIGN 3006 CLASS II	LIN.FT.	20				20	
2503.541	33" R.C. PIPE SEWER DESIGN 3006 CLASS II	LIN.FT.	894				894	
0504.602	RELOCATE HYDRANT	EACH	3				3	
0504.602	ADJUST WATER GATE HOUSING	EACH	15				15	
0504.605	4" POLYSTYRENE INSULATION	SQ.YD	244				244	
0504.607	INSTALL HYDRANT	ASSEMBLY	5				5	
2506.506	CONSTRUCT MANHOLES DESIGN A OR F	LIN.FT.	36.2				36.2	
2506.506	CONSTRUCT MANHOLES DESIGN C OR G	LIN.FT.	26.4				26.4	
2506.507	CONSTRUCT CATCH BASINS C, G OR H	LIN.FT.	73.3				73.3	
2506.503	CONSTRUCT MANHOLES DESIGN SPEC 1	EACH	1				1	
2506.503	CONSTRUCT MANHOLES DESIGN SPEC 2	EACH	1				1	
2506.509	CONSTRUCT CATCH BASINS DESIGN SPEC 3	EACH	2				2	
2506.511	RECONSTRUCT MANHOLES	LIN.FT.	4.0				4.0	
2506.512	RECONSTRUCT CATCH BASIN	LIN.FT.	3.8				3.8	
2506.516	CASTING ASSEMBLIES	EACH	42				42	
2506.522	ADJUST FRAME AND RING CASTINGS	EACH	17				17	
0521.602	4" COLORED PATTERN CONCRETE WALK	SQ.FT.	8,870				8,870	
2521.501	4" CONCRETE WALK	SQ.FT.	3,490				3,490	
2531.501	CONCRETE C AND G DESIGN B612	LIN.FT.	5,100				5,100	
2531.501	CONCRETE C AND G DESIGN B618	LIN.FT.	6,835				6,835	
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ.YD	82				82	
2535.501	BITUMINOUS CURB	LIN.FT.	1,165				1,165	
0557.603	INSTALL FENCE	LIN.FT.	256				256	
2557.501	WIRE FENCE DESIGN 60-9322	LIN.FT.	850				850	
0563.601	TRAFFIC CONTROL	LUMP SUM	1				1	
2564.531	# 8 I SIGN PANELS, TYPE C	SQ.FT.	495.75				495.75	
0564.603	4" WIDE SOLID LINE-YELLOW	LIN.FT.	5,400				5,400	
0564.603	4" WIDE SOLID LINE-WHITE	LIN.FT.	7085				7085	
0564.603	6" WIDE CROSSWALK LINE-WHITE	LIN.FT.	315				315	
0564.603	24" WIDE STOP LINE-WHITE	LIN.FT.	100				100	
0564.603	4" WIDE BROKEN LINE-WHITE	LIN.FT.	6,040				6,040	
2545.553	PULL BOXES-SIGNALS	EACH			8			8
2545.521	3" RIGID STEEL CONDUIT-SIGNALS	LIN.FT.			258			258

Fed. Proj. No.

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT						
			ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES
0564.602	PAVEMENT MESSAGE TYPE 1		2				2	
0564.602	PAVEMENT MESSAGE TYPE 2		8				8	
2571.505	AMUR MAPLE 3'-4' HIBR	SHRUB	107				107	
2571.505	CLAVEY'S DWARF HONEYSUCKLE 2 GAL CONT.	SHRUB	135				135	
2571.505	CUTLEAF STAG HORN SUMAC 2 GAL CONT.	SHRUB	87				87	
2571.505	FRAGRANT SUMAC 2'-3' POT	SHRUB	92				92	
2571.505	JACKMANS POTENTILLA 2 GAL. CONT.	SHRUB	397				397	
2571.505	SIBERIAN PEA SHRUB 2'-3' POT	SHRUB	234				234	
2571.505	SILVER BUFFALO BERRY 3'-4' HIBR	SHRUB	78				78	
2571.506	ENGLEMAN IVY 2 YR. NO. 1 POT	VINE	139				139	
2575.519	DISC ANCHORING	ACRE	0.3				0.3	
2575.501	ROADSIDE SEEDING	ACRE	0.6				0.6	
2575.502	SEED MIXTURE 5	POUND	11				11	
2575.502	SEED MIXTURE SPECIAL 1	POUND	9				9	
2575.505	SODDING	SQ.YD.	6100				6100	
2575.511	MULCH MATERIAL TYPE 1	TON	0.6				0.6	
2575.531	COMMERCIAL FERTILIZER ANALYSIS 20-20-20	TON	0.4				0.4	

BASIS OF PLANNED QUANTITIES

- AGGREGATE BASE, CLASS 5
COMPACTED DENSITY 148 LBS./CU.FT.
- BITUMINOUS BASE COURSE, BIT. MIXTURE
110 LBS./SQ.YD./INCH OF DEPTH
BITUMINOUS MATERIAL - 4.5% OF MIXTURE BY WEIGHT
- BITUMINOUS TACK, BITUMINOUS MATERIAL
.035 GALS./SQ.YD.
- BITUMINOUS BINDER COURSE, BIT. MIXTURE -
110 LBS./SQ.YD./INCH OF DEPTH
BITUMINOUS MATERIAL - 5.5% OF MIXTURE BY WEIGHT
- BITUMINOUS WEARING COURSE, BITUMINOUS MIXTURE
110 LBS./SQ.YD./INCH OF DEPTH
BITUMINOUS MATERIAL - 6.0% OF MIX BY WEIGHT
- MULCH MATERIAL, TYPE 1 MATERIAL -
2 TONS/ACRE
- SEEDING, MIXTURE NO. 5 - 35 LBS./ACRE
- COMMERCIAL FERTILIZER, ANALYSIS 20-20-20
400 LBS./ACRE
- NOTES:
1. INCLUDES 23 TONS FOR BITUMINOUS DRIVE RESTORATION.
2. INCLUDES 641 TONS FOR CROSS STREET RESTORATION.
3. INCLUDES 328 TONS FOR CROSS STREET RESTORATION.
4. FOR DRIVEWAYS.
5. INCLUDES 415 LIN.FT. FOR CROSS STREETS.
6. INCLUDES 1,206 C.Y. OF TOPSOIL STRIPPING.
7. CONTRACTOR SUBCUT.
8. MEDIAN ONLY.
9. CROSS STREETS RIVERS EDGE NORTH AND SOUTH RESTORATION ONLY.
10. INCLUDES GATE VALVE AND BOX.
11. SALVAGED MATERIAL.
12. INSTALLED AT ROW IN WALL AREAS (1' INSIDE)
13. FOR ALL SEEDED AND SODDED AREAS.
14. SEE SHEET IS FOR APPLICATION RATES
15. CONCRETE DRIVEWAY PAVEMENT

STANDARD PLATES

THE FOLLOWING STANDARD PLATES APPROVED BY F.H.W.A. SHALL APPLY ON THIS PROJECT

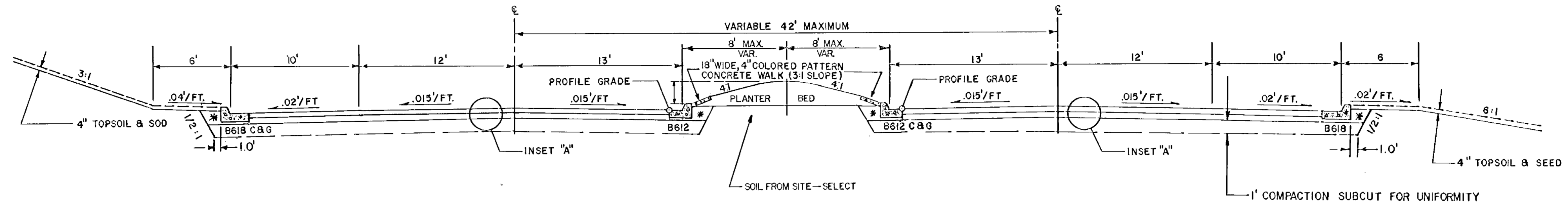
PLATE NO.	DESCRIPTION
0003A	SPECIFICATION REFERENCE TO STANDARD PLATES
1016F	CONCRETE PAVEMENTS NON-REINFORCED
1100M	EXPANSION JOINTS
1120R	CONTRACTION JOINTS
1140R	LONGITUDINAL JOINTS
3000I	REINFORCED CONCRETE PIPE
3006C	GASKET JOINT FOR R.C. PIPE
3014H	REINFORCED CONCRETE PIPE ARCH DETAIL
3145A	CONCRETE PIPE JOINT TIES
4000H	MANHOLE OR CATCH BASIN
4002D	MANHOLE OR CATCH BASIN
4005K	MANHOLE OR CATCH BASIN
4006J	MANHOLE OR CATCH BASIN
4010E	CONCRETE SHORT CONE AND ADJUSTING RING
4011D	PRECAST CONCRETE BASE
4020B	MANHOLE OR CATCH BASIN
4101B	RING CASTING FOR M.H. OR C.B.
4126E	CATCH BASIN FRAME CASTING
4149C	GRATE CASTING FOR CATCH BASIN
4160C	CURB BOX CASTING FOR CATCH BASIN
4180G	MANHOLE OR CATCH BASIN STEP
7035J	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7036B	PEDESTRIAN CURB RAMP
7100E	CONCRETE CURB AND GUTTERS
7110E	CURB AND GUTTER CONSTRUCTION AT C.B.
7111E	INSTALLATION OF CATCH BASIN CASTINGS
9322H	CHAIN LINK FENCE
8000H	STANDARD BARRICADES

State Proj. No.

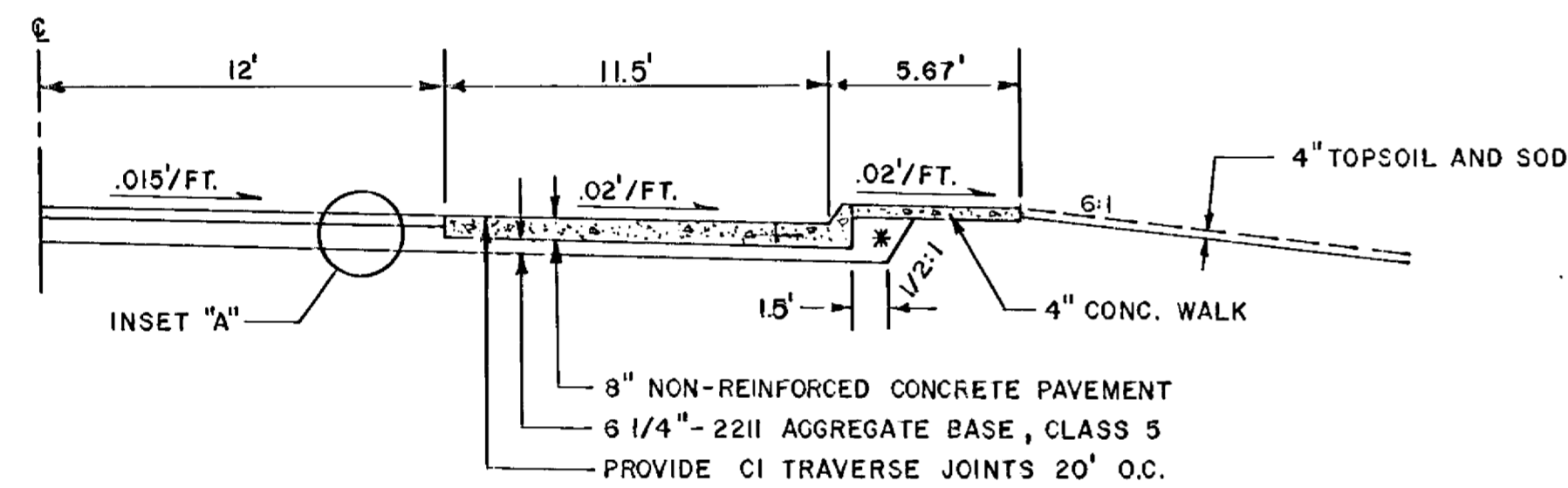
02-601-23

Sheet No. 2 of 32 Sheets

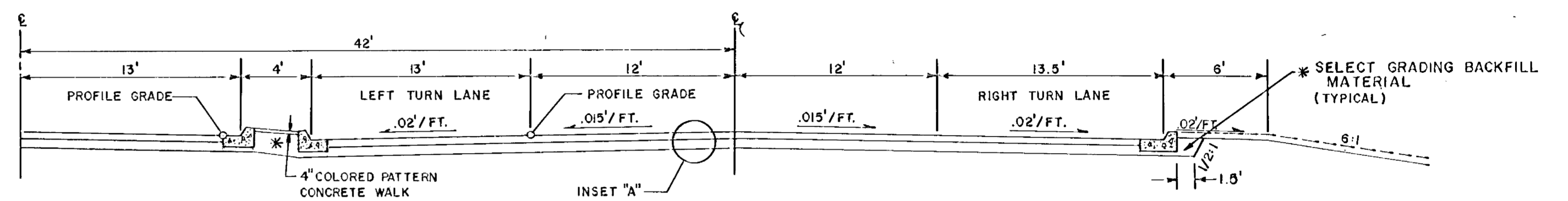
TYPICAL SECTIONS - EAST RIVER ROAD



CONCRETE BUS PAD

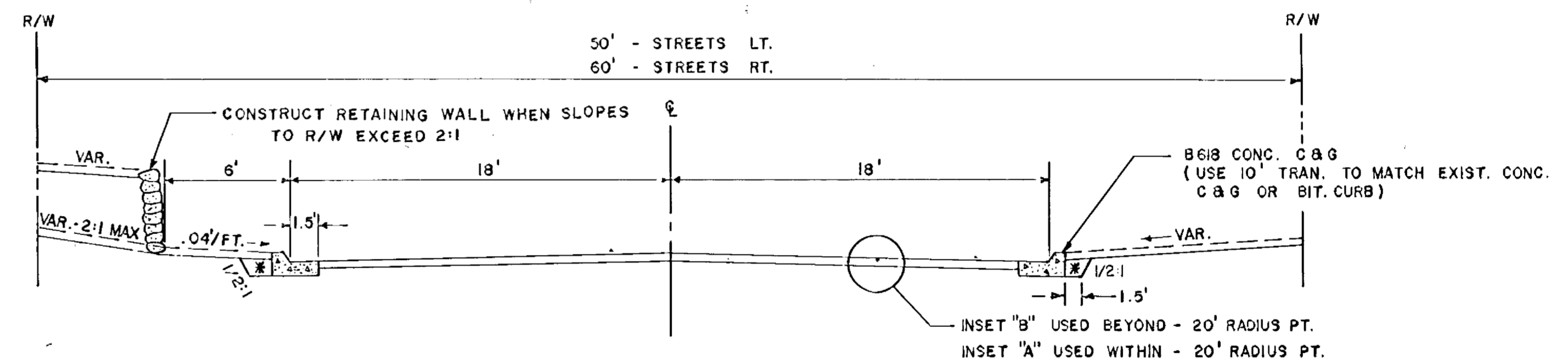


LEFT TURN LANE

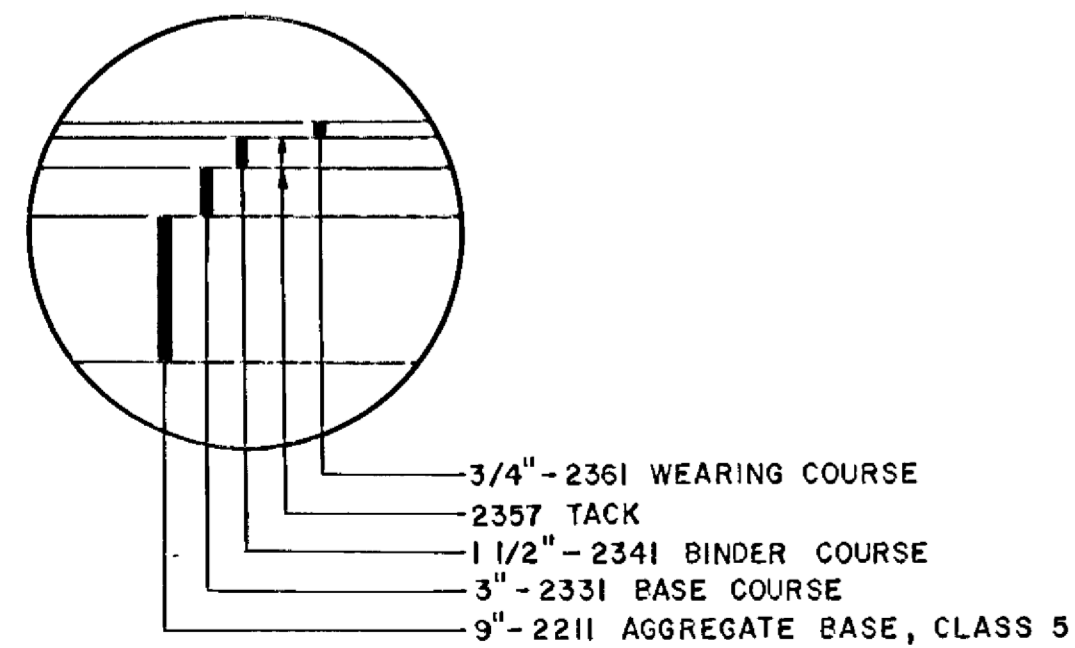


RIGHT TURN LANE

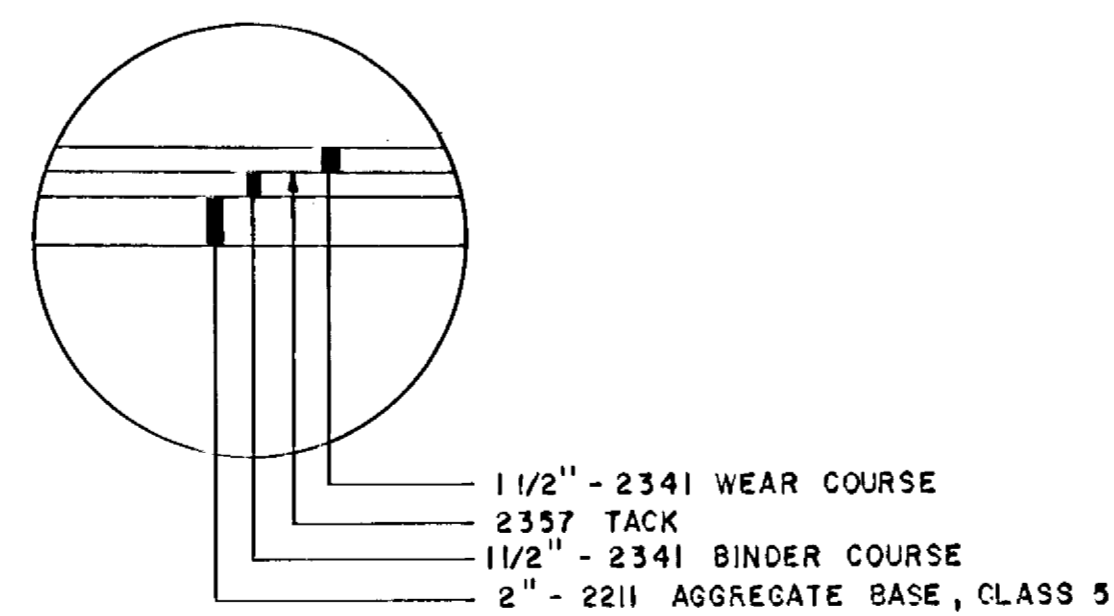
RESIDENTIAL STREETS



INSET "A"



INSET "B"



6" CONC. DRIVEWAY PAV.	
LOCATION	UNIT
LNB 29+48 RT.	6
LNB 43+54 RT.	6
LSB 45+54 LT.	19
LNB 44+62 RT.	6
LSB 48+72 LT.	9
LNB 47+21 RT.	9
LNB 50+47 RT.	9
LSB 50+49 LT.	9
LSB 58+70 LT.	9
TOTAL	82

4" POLYSTYRENE INSULATION FOR WATERMAIN	
LOCATION	UNIT
61ST WAY RT.	44
61½ ST RT.	22
62ND WAY RT.	62
62½ WAY RT.	54
63RD WAY	62
TOTAL	244

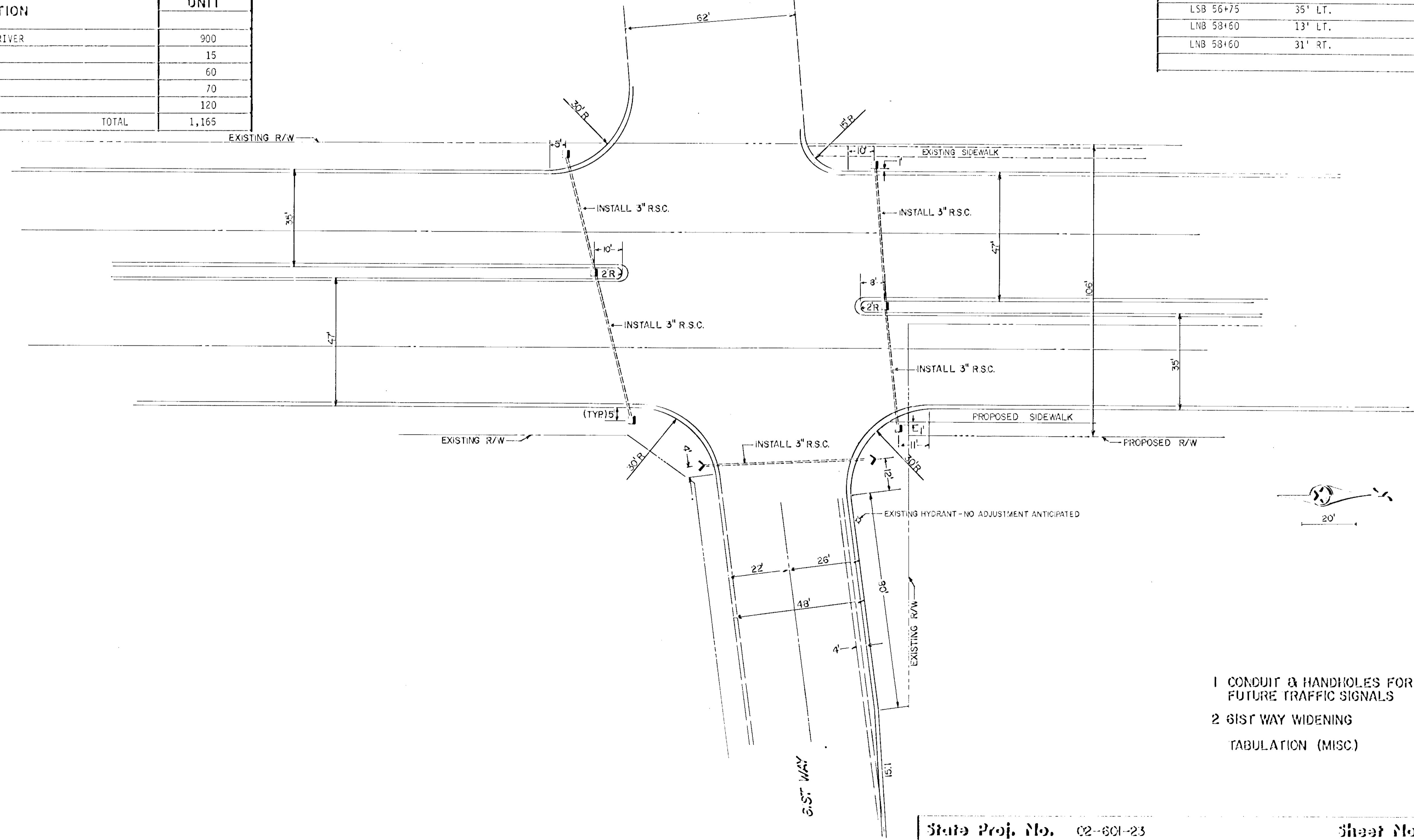
60" CHAIN LINK FENCE	
LOCATION	UNIT
LNB 42+70 TO LNB 53+50 RT.	850

ADJUST WATER GATE HOUSING		
LOCATION		UNIT
LNB 30+40	2' LT.	1
LNB 30+60	2' RT.	1
LNB 38+88	20' LT.	1
LNB 42+35	5' LT.	1
LSB 43+50	33' LT.	1
LNB 45+43	3' LT.	1
LSB 47+20	18' RT.	1
LNB 48+79	2' LT.	1
LNB 51+02	Q	1
LSB 52+82	50' LT.	1
LSB 52+90	40' LT.	1
LNB 55+23	12' RT.	1
LSB 56+75	35' LT.	1
LNB 58+60	13' LT.	1
LNB 58+60	31' RT.	1
TOTAL		15

BITUMINUS CURB	
LOCATION	UNIT
63½ WAY LT. ERR TO RIVER	900
64TH WAY LT.	15
62ND WAY RT.	60
62½ WAY RT.	70
63RD WAY LT.	120
TOTAL	1,165

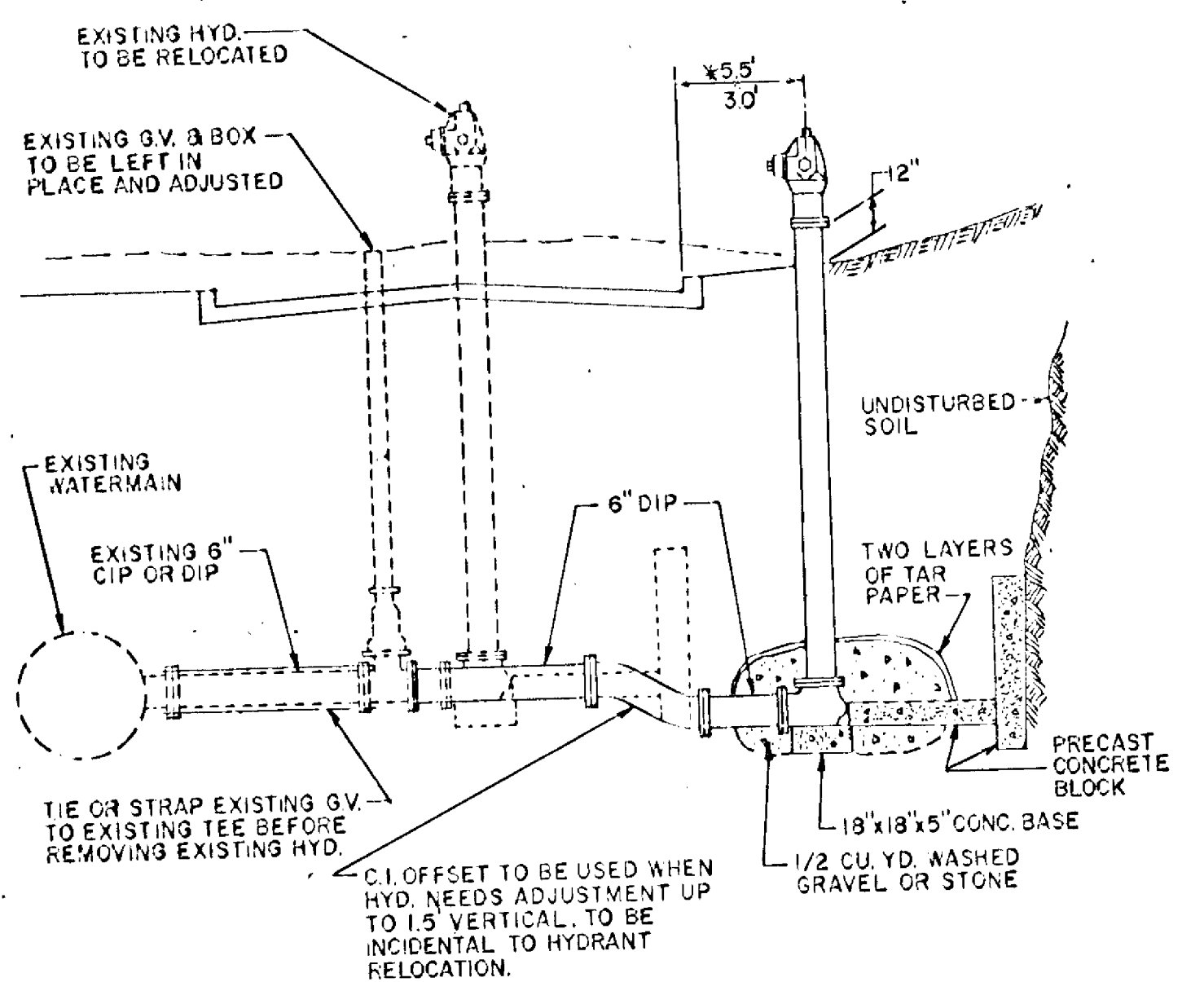
STONE RETAINING WALL	
LOCATION	UNIT
LNB 42+70 TO LNB 53+50 RT.	3,090

INSTALL FENCE (SALVAGED)	
LOCATION	UNIT
LNB 53+74 RT. TO LNB 55+00 RT.	132
LNB 55+62 RT. TO LNB 56+80 RT.	124
TOTAL	256



- 1 CONDUIT & HANDHOLES FOR FUTURE TRAFFIC SIGNALS
- 2 61ST WAY WIDENING
- TABULATION (MISC)

HYDRANT RELOCATION DETAIL



FOR HYDRANT AT: LNB 33+04-14' RT, LNB 43+47-33' LT, LNB 58+24-25' RT.

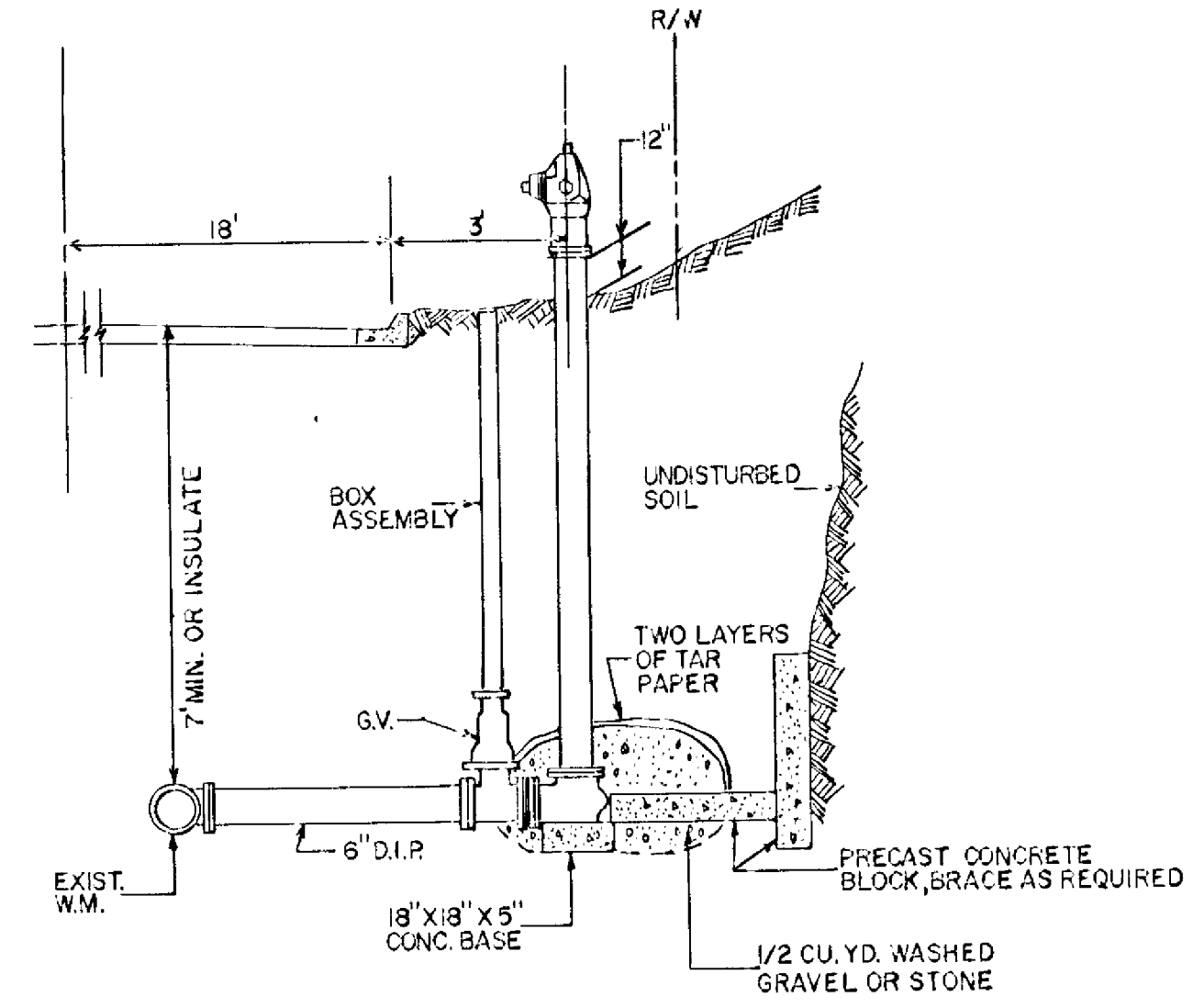
NOTE: HYDRANT RELOCATION SHALL INCLUDE ALL TOOLS, MATERIALS AND LABOR TO SECURE THE EXISTING GATE VALVE TO THE EXISTING TEE, REMOVE AND RELOCATE THE EXISTING HYDRANT INCLUDING CAST IRON PIPE, GRAVEL, TIMBERS, COMPACTOR OF DISTURBED RAILS AND ALL ELSE NECESSARY TO RELOCATE THE HYDRANT WITHOUT SHUTTING DOWN THE WATERMAIN.

HYDRANT RELOCATION ONLY		
EXISTING LOCATION		PROPOSED LOCATION
LNB 33+04	14' RT.	LNB 33+04 27.5' RT.
LNB 43+47	33' LT.	LNB 43+42 33' LT.
LNB 58+24	25' RT.	LNB 58+22 34' RT.

AREAS TO BE SEEDED & MULCHED			ACRES
LNB 30+00 LT&RT TO LNB 38+85 LT&RT	6' B/C - TOE SLOPE SEED MIX NO 5. & MULCH TYPE 1		0.3
ALL MEDIANS - AROUND PLANTING BEDS	SEED MIX SPECIAL 1 SEE SHEET 16		0.3

NOTE: ALL OTHER AREAS WILL BE EITHER TOPSOIL AND SODDED OR AS PER LANDSCAPE PLANS.

SALVAGED HYDRANT INSTALLATION DETAIL



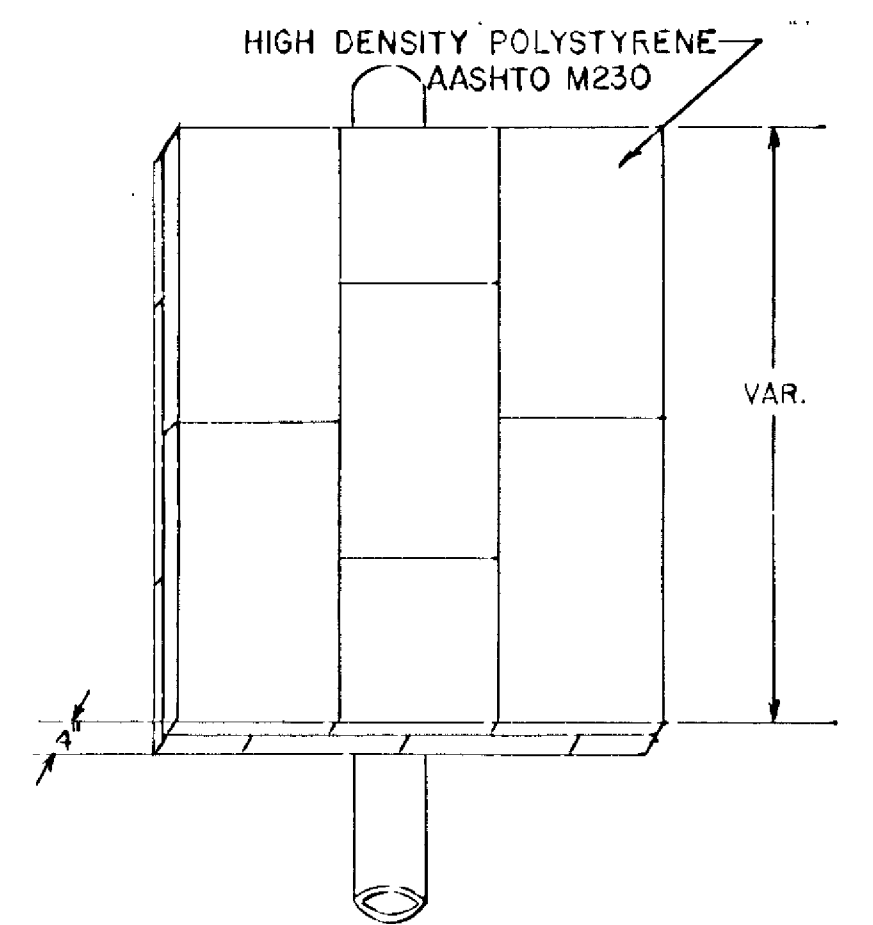
NOTE: SALVAGED ASSEMBLY SHALL INCLUDE EXISTING HYDRANT, VALVE AND BOX, ALSO THE CAPPING OF THE EXISTING TEE AND ALL NECESSARY WORK INVOLVED. HYDRANT, G.V. AND BOX INSTALLATION SHALL INCLUDE ALL TOOLS, MATERIALS AND LABOR, TO CUT THE EXISTING WATERMAIN, INSTALL THE TEE, CAST IRON PIPE, GATE VALVE AND BOX, HYDRANT, GRAVEL, CONC. BASE, CONCRETE BLOCKS AND ALL NECESSARY WORK INVOLVED.

HYDRANTS SALVAGED AND REINSTALLED			
REINSTALL	SALVAGE	STATION	LOCATION
	ASSEMBLY	LNB 42+20	14' RT.
	ASSEMBLY	LNB 45+32	4' LT.
	ASSEMBLY	LNB 48+68	3' LT.
	ASSEMBLY	LNB 51+87	2' LT.
	ASSEMBLY	LNB 55+09	9' RT.
ASSEMBLY		LNB 42+14	34' RT.
ASSEMBLY		LNB 45+23	34' RT.
ASSEMBLY		LNB 48+64	34' RT.
ASSEMBLY		LNB 51+84	34' RT.
ASSEMBLY		LNB 55+07	34' RT.

MISCELLANEOUS REMOVAL OR SALVAGE						
STATION (TO STATION)	LOCATION	DESCRIPTION	UNIT			
			LIN. FT.	SQ. YD.	CU. YD.	STRUCTURE
LSB 30+80 - 31+77	32' LT - 25' LT	B618 CONCRETE C & G	95			
LNB 30+00 - 31+75	25' RT - 22' RT	B618 CONCRETE C & G	140			
LNB 31+70 - 33+93	13' RT - 15' RT	B612 CONCRETE C & G	223			
LSB 51+00 - 52+85	24' LT	B618 CONCRETE C & G	185			
LSB 53+15 - 56+45	21' LT	B618 CONCRETE C & G	345			
LNB 51+00 - 52+00	15' LT - 5' LT	B618 CONCRETE C & G	100			
LNB 52+30 - 55+25	5' LT - 12' RT	B618 CONCRETE C & G	305			
LNB 55+50 - 58+40	12' RT - 40' RT	B618 CONCRETE C & G	320			
LSB 56+80 - 59+80	31' LT - 22' LT	B618 CONCRETE C & G	305			
LNB 59+94 - 60+65	25' LT - 30' LT	B612 CONCRETE C & G	130			
61ST WAY LT	LT - RT	B618 CONCRETE C & G	50			
RIVER'S EDGE WAY 40+69	LT - RT	" CONCRETE C & G	140			
61 1/2 WAY LT	LT - RT	" CONCRETE C & G	90			
RIVER'S EDGE WAY 43+65	LT - RT	" CONCRETE C & G	160			
62ND WAY LT	LT - RT	" CONCRETE C & G	20			
63RD WAY RT	LT - RT	" CONCRETE C & G	180			
63 1/2 WAY RT	LT - RT	B618 CONCRETE C & G	185			
LSB 39+25	28' LT	CONCRETE SIDEWALK		4.5		
LSB 40+45	28' LT	CONCRETE SIDEWALK		4.5		
LSB 45+54	LT	CONCRETE DRIVEWAY PAVEMENT		38		
LNB 46+77	RT	CONCRETE DRIVEWAY PAVEMENT		47		
LSB 51+90	LT	CONCRETE DRIVEWAY PAVEMENT		5		
LSB 58+70	LT	CONCRETE DRIVEWAY PAVEMENT		4		
LNB 47+33 - 48+65	CL - RT - R/W	REMOVE FENCE	247			
LNB 53+76 - 55+00	RT - R/W	SALVAGE FENCE	132			
LNB 55+70 - 57+00	RT - R/W	SALVAGE FENCE	124			

CLEARING AND GRUBBING

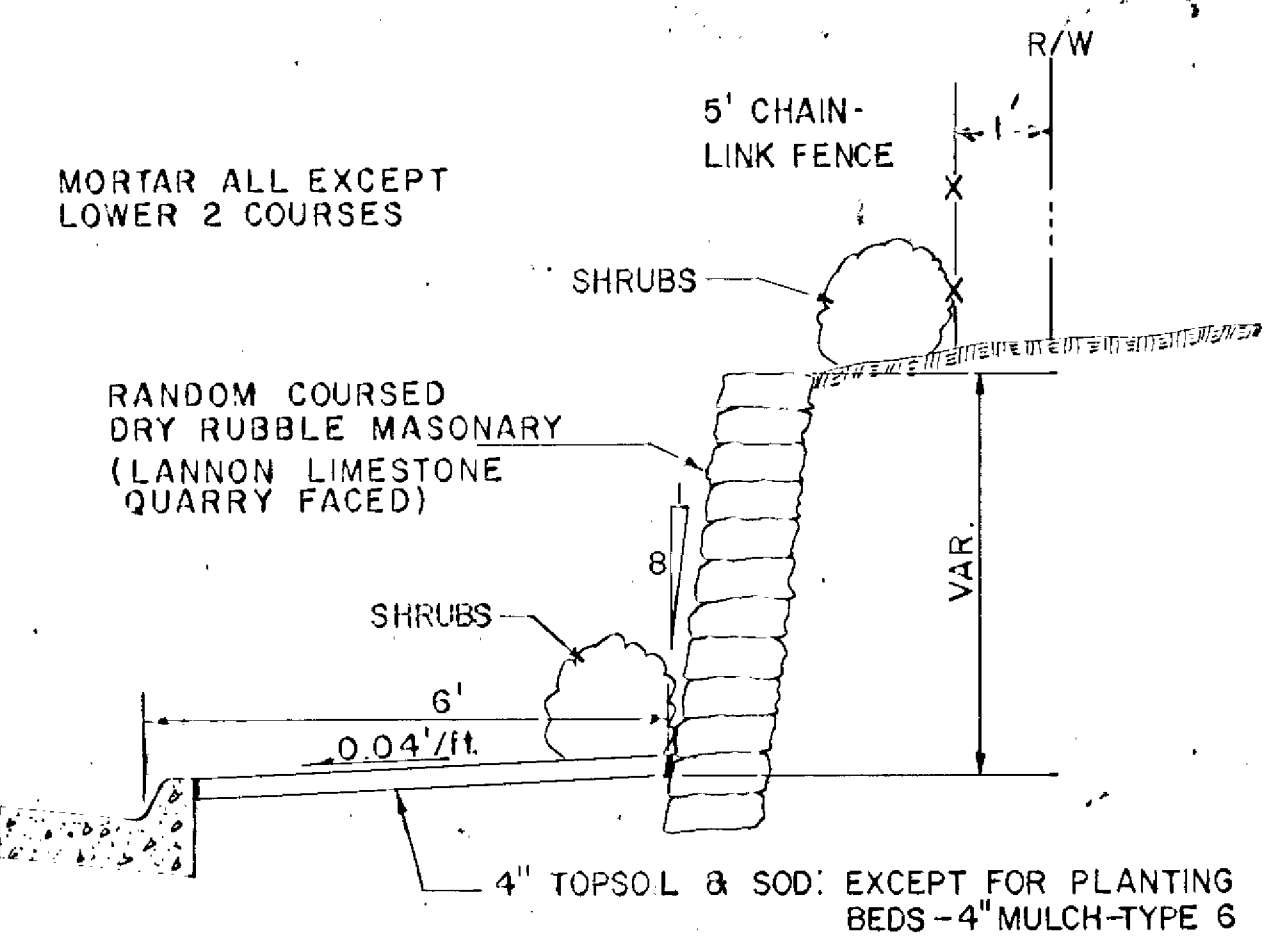
STATION TO STATION	LOCATION	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
LSB 33+22	43' LT.	1		1	
LSB 33+29	43' LT.	1		1	
LSB 33+36	42' LT.	1		1	
LSB 33+43	43' LT.	1		1	
LSB 33+77	43' LT.	1		1	
LSB 33+91	44' LT.	1		1	
LSB 34+18	43' LT.	1		1	
LSB 34+59	47' LT.	1		1	
LSB 34+92	42' LT.	1		1	
LSB 35+32	47' LT.	1		1	
LNB 43+77	2 LT, 11 RT	2		2	
LNB 45+19	16' RT.	3		1	
LNB 45+82	26' RT.	3		1	
LNB 45+89	21' RT.	1		1	
LNB 45+98	21' RT.	1		1	
LNB 46+05	23' RT.	1		1	
LNB 47+14	30' RT.	1		1	
LNB 50+23	20' RT.	1		1	
LNB 50+28	12' RT.	1		1	
LNB 50+77	24' RT.	1		1	
LNB 56+70	17' RT.	1		1	
LNB 43+32	CL	1		1	
LNB 43+40	18' RT.	1		1	
LNB 43+42	1', 9' RT.	2		2	
LNB 43+67	10' RT.	1		1	
LNB 43+97	2, 10, 19' RT	3		3	
TOTAL		34		30	



CROSS ST. WATERMANS TO BE INSULATED: 61ST WAY, 61 1/2 WAY, 62ND WAY, 62 1/2 WAY, 63RD WAY

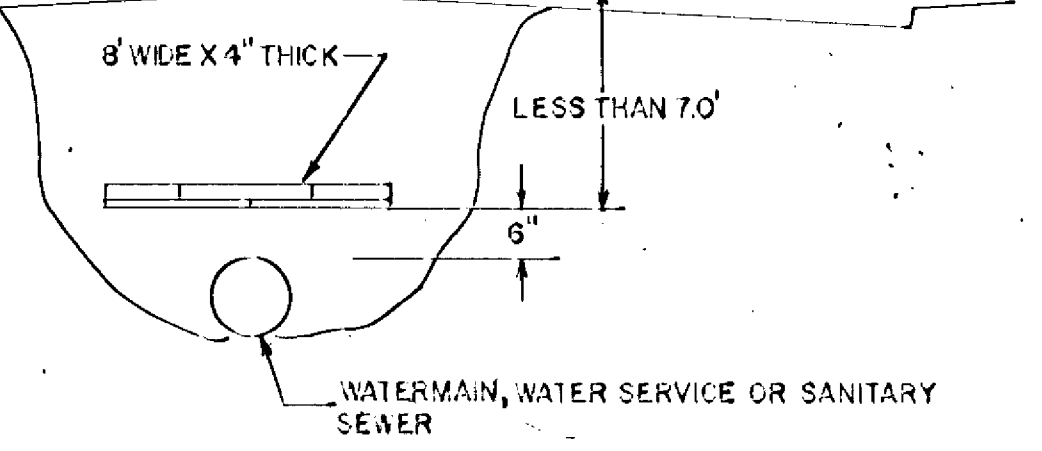
RETAINING WALL DETAIL

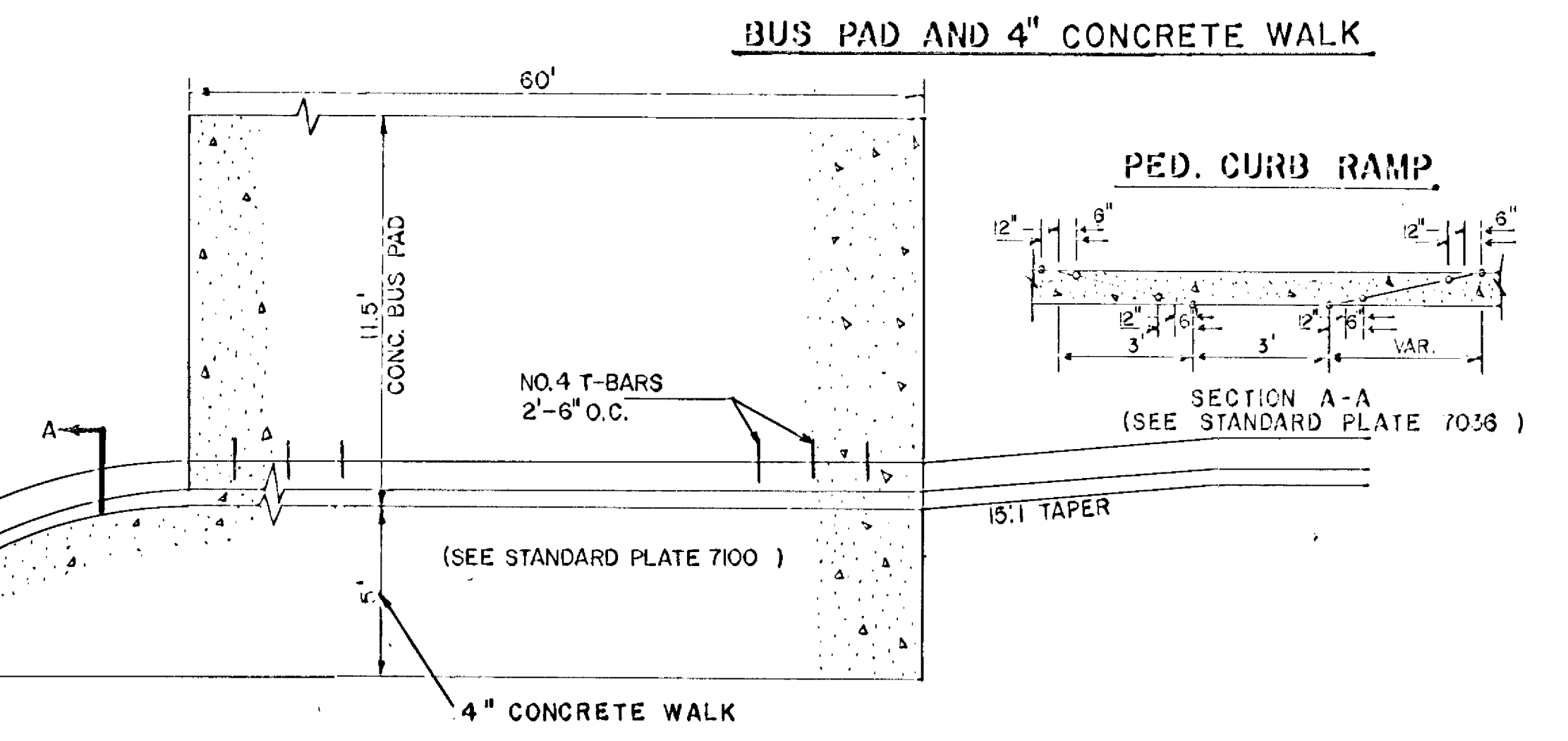
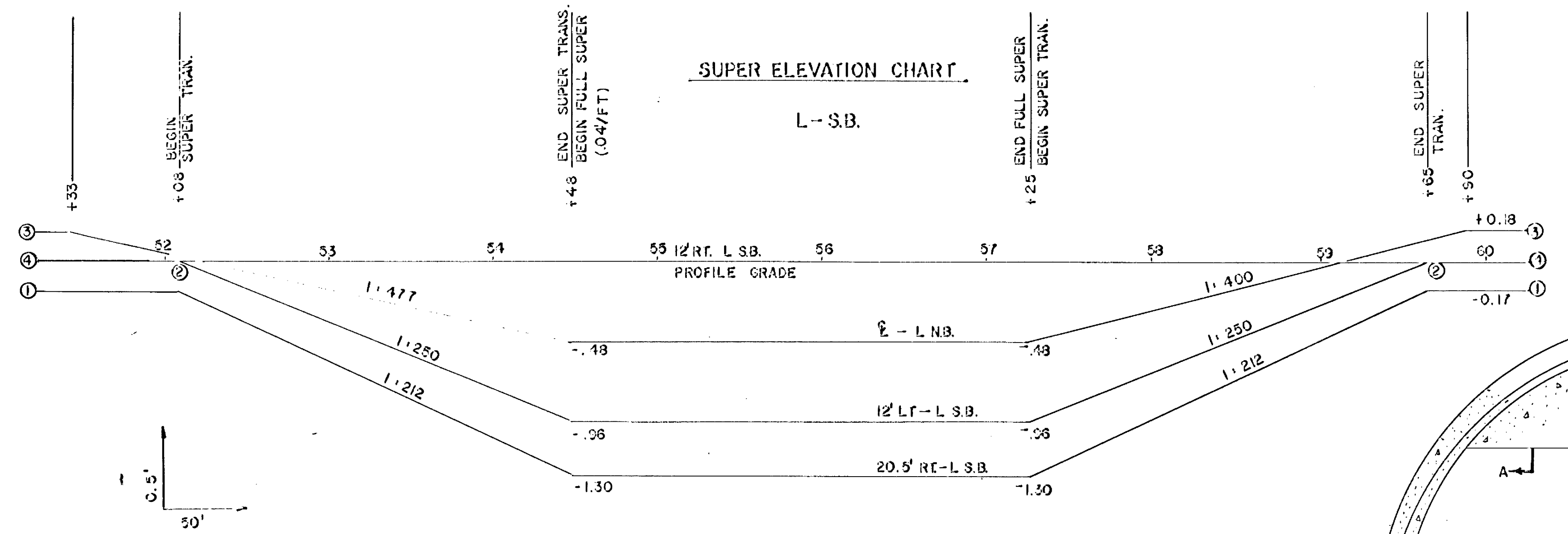
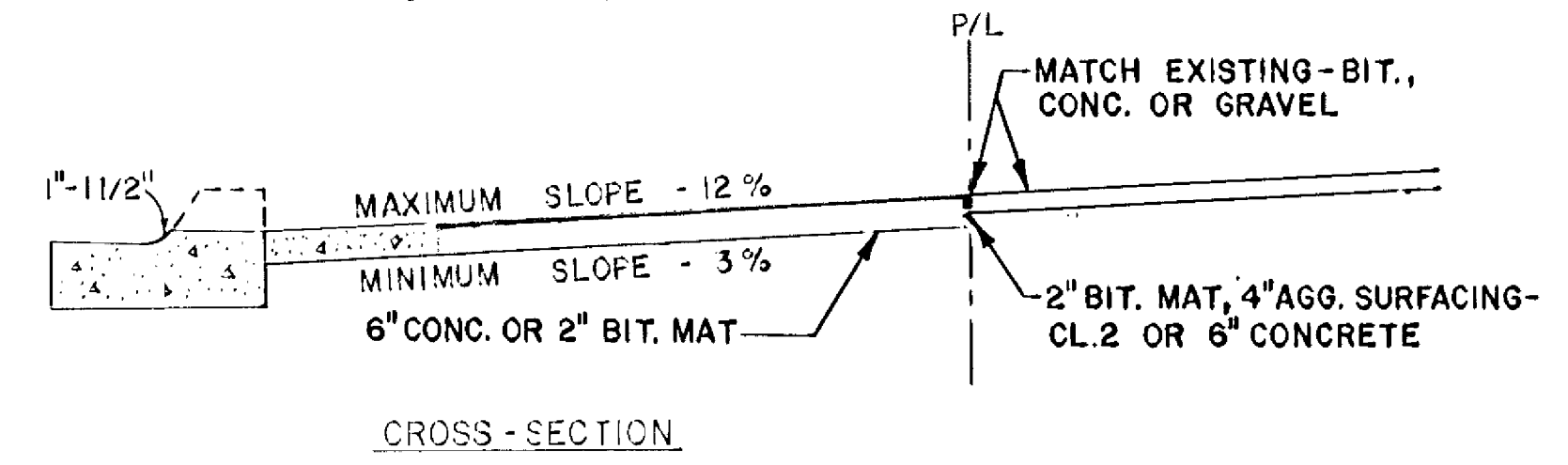
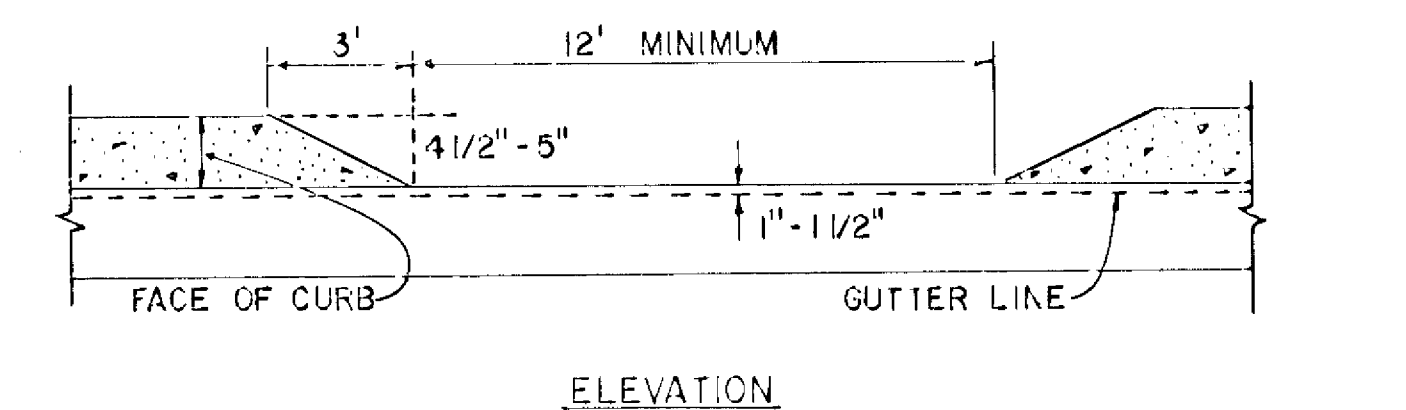
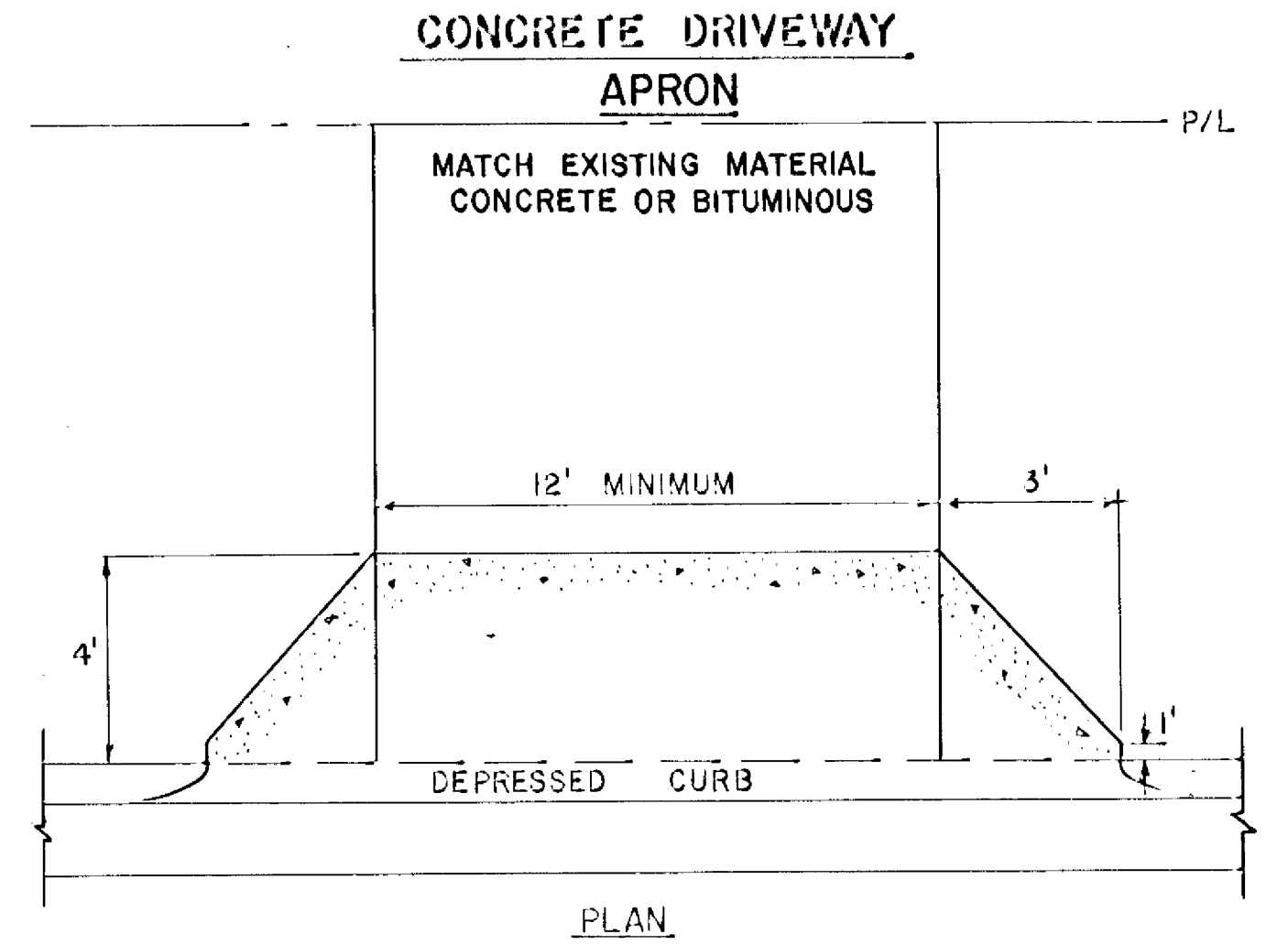
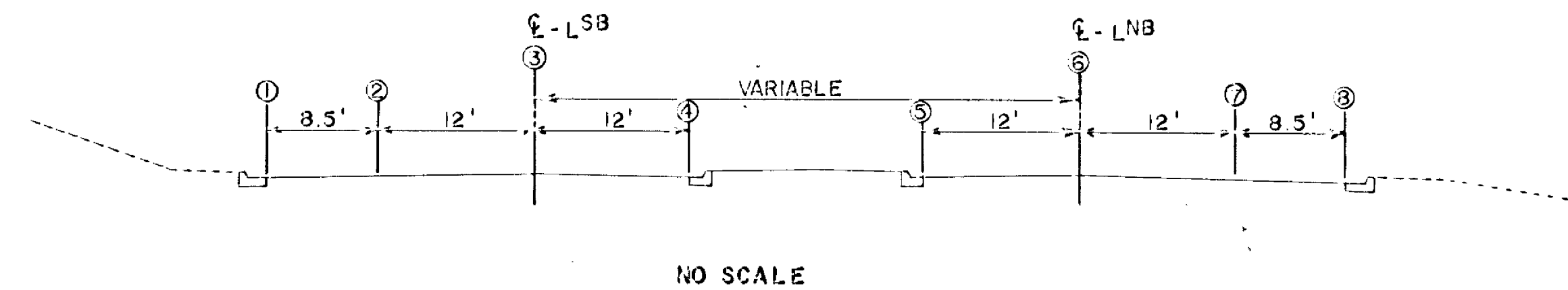
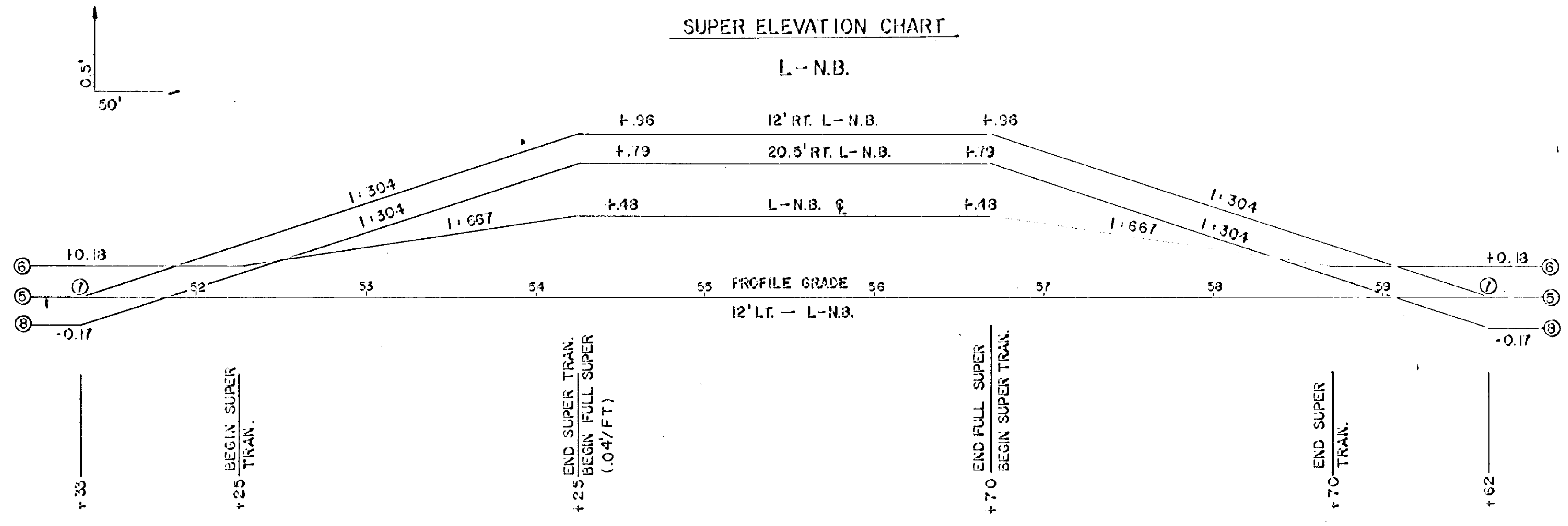
LNB STA. 42+70 - 53+50 - 28' RT.

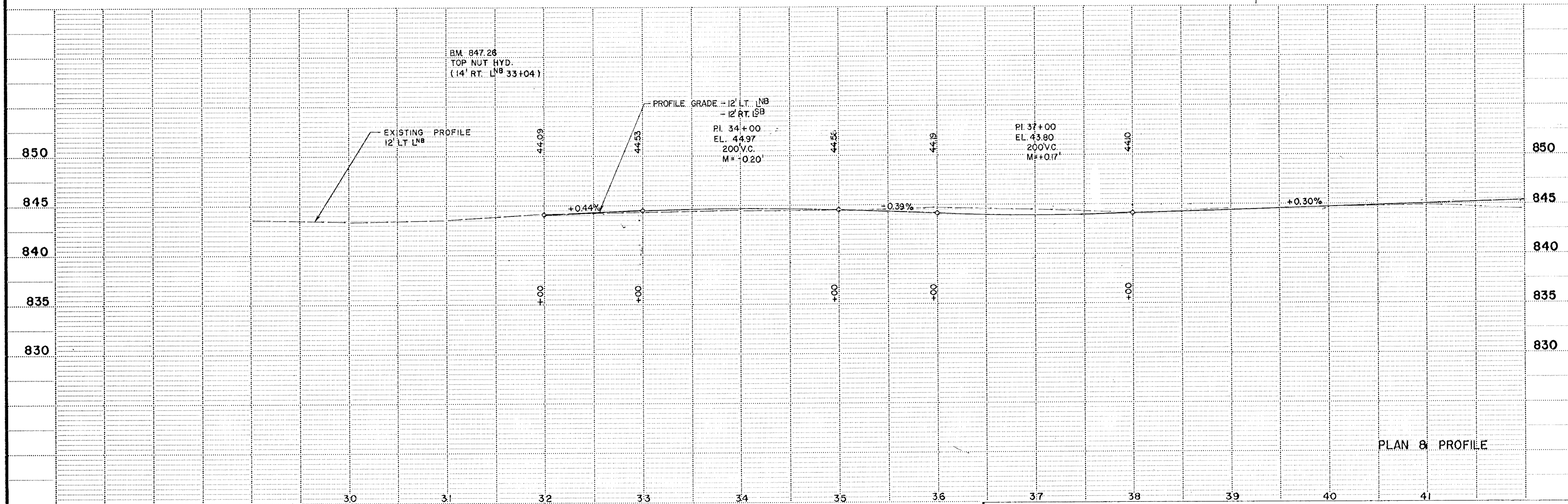
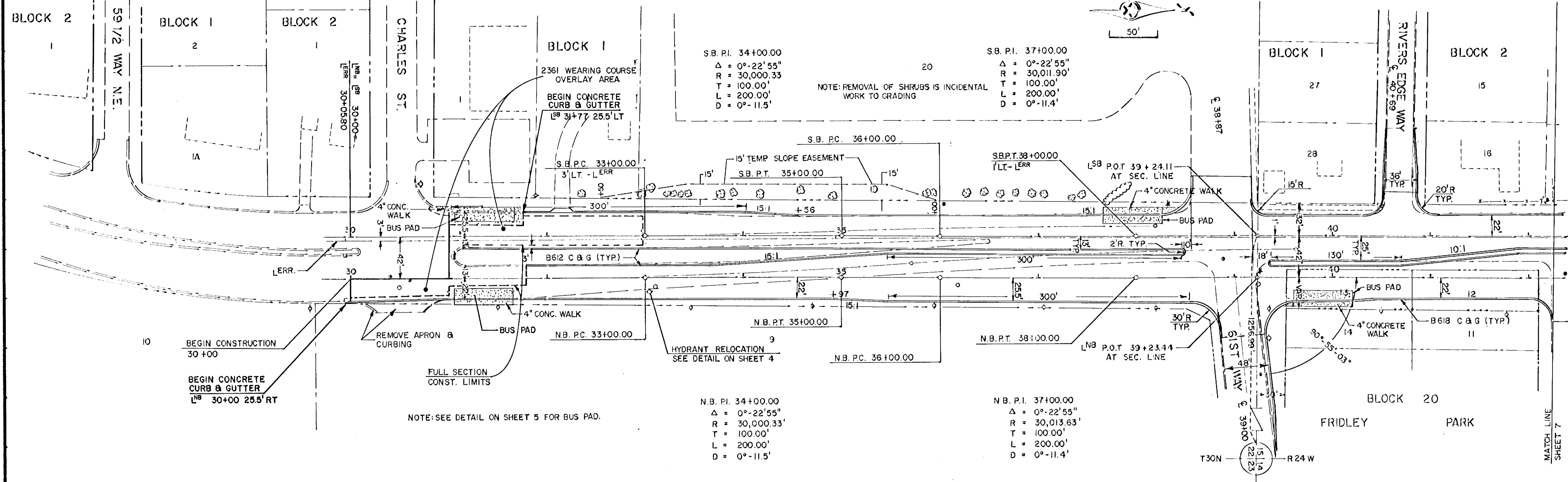


EXISTING SANITARY SEWER MANHOLES

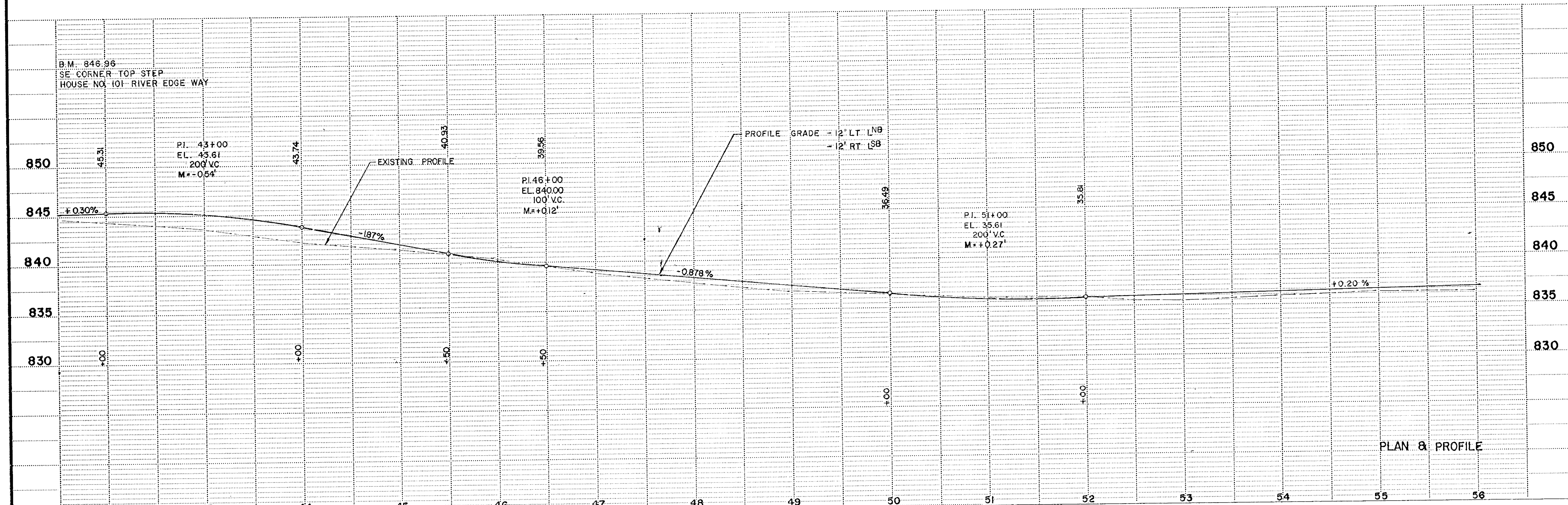
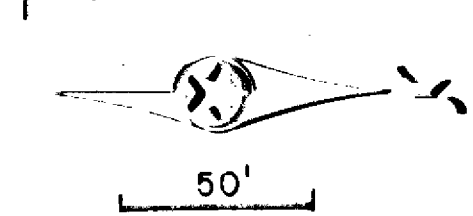
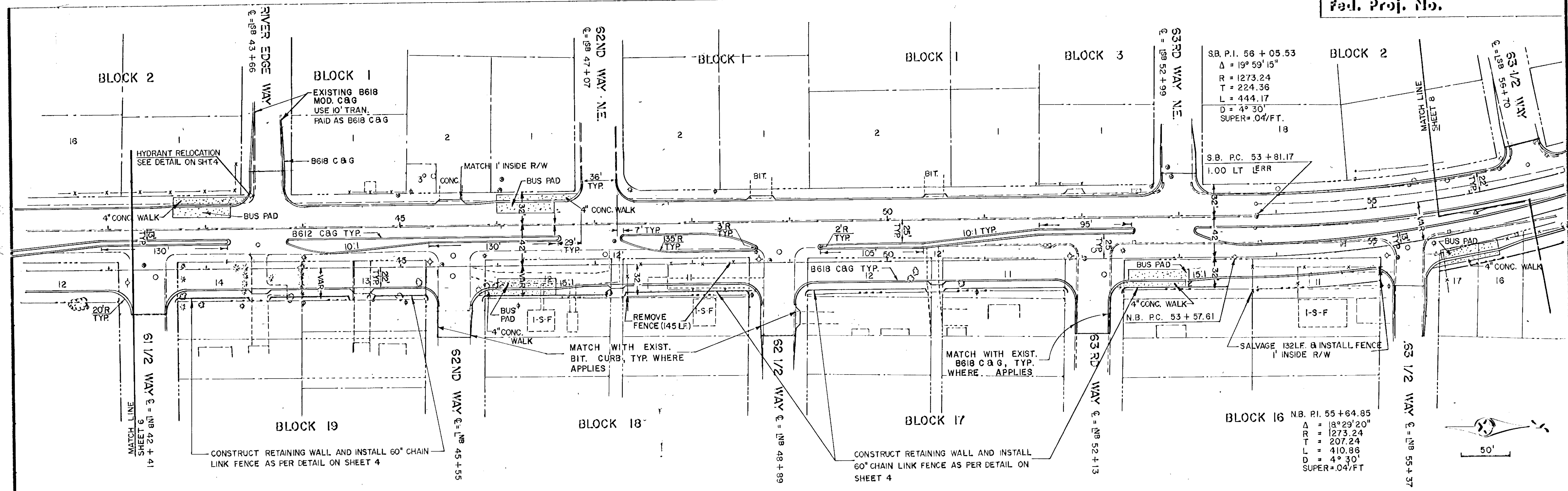
STATION	LOCATION	EXISTING RE. ELEV.	PROPOSED RE. ELEV.	ADJUST CASING	RECONSTR. LIN. FT.	INSTALL CASTING EACH	REMARKS
LNB 30+49	10' RT.	843.85	-	-	-	-	OK AS IS
LNB 33+10	10' RT.	843.90	844.17	+0.27	-	-	
LNB 36+18	10' RT.	842.59	844.18	-	1.59	-	
LNB 39+25	7' RT.	845.04	844.52	-0.52	-	-	
LNB 42+48	9' RT.	844.74	845.38	+0.64	-	-	
LNB 45+36	10' RT.	841.82	841.25	-0.59	-	-	
LNB 45+55	10' LT.	840.92	840.88	-0.04	-	-	
LNB 48+89	10' LT.	837.08	840.31	-	3.23	-	
LNB 52+13	8' LT.	836.45	835.35	-0.52	-	-	
LNB 55+35	4' RT.	836.96	836.48	-0.48	-	-	
LSB 55+79	17' LT.	835.01	835.40	+0.39	-	-	
LSB 56+66	20' LT.	835.71	835.25	-0.46	-	-	
LSB 58+77	6' LT.	836.58	836.42	-0.16	-	-	







PLAN & PROFILE

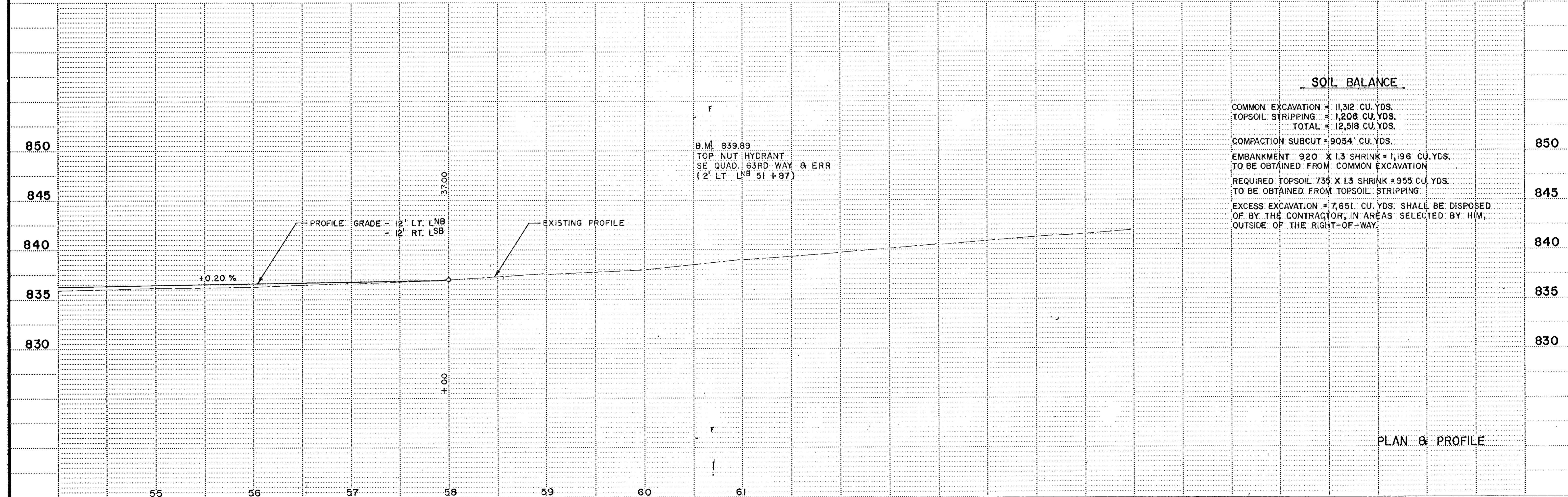
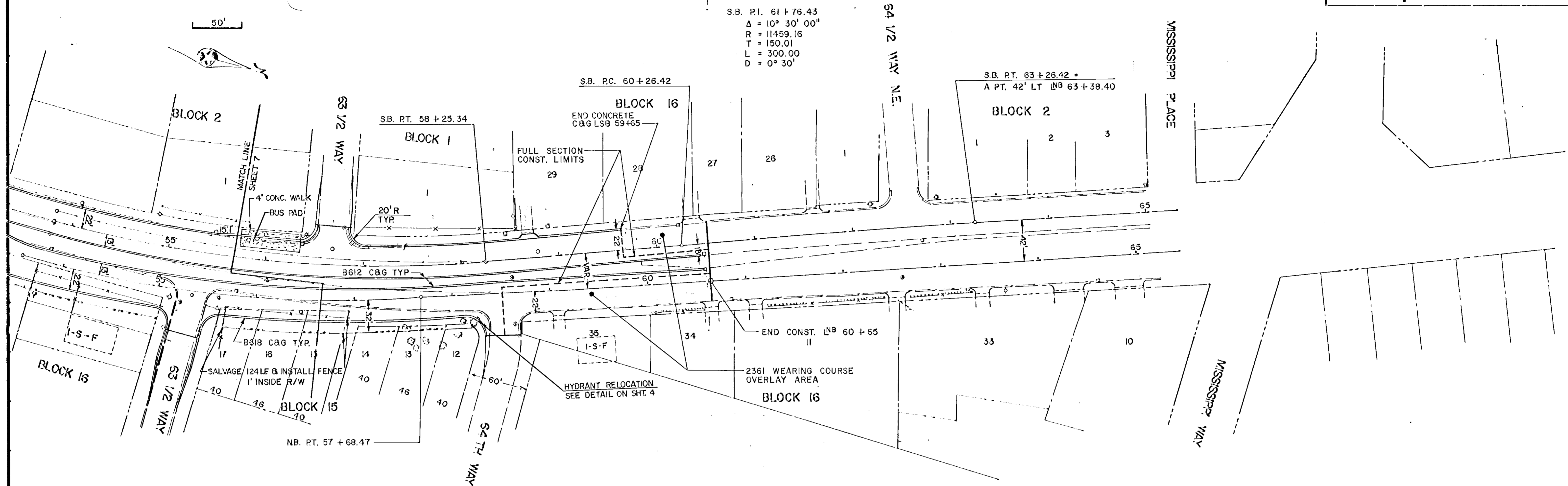


PLAN & PROFILE

SINGLE PLAN - DOTTED
 N. A. SUGGS CO. - WINNAPOLIS, ST. PAUL

S.B. P.I. 61 + 76.43
 $\Delta = 10^\circ 30' 00''$
 $R = 11459.16$
 $T = 150.01$
 $L = 300.00$
 $D = 0^\circ 30'$

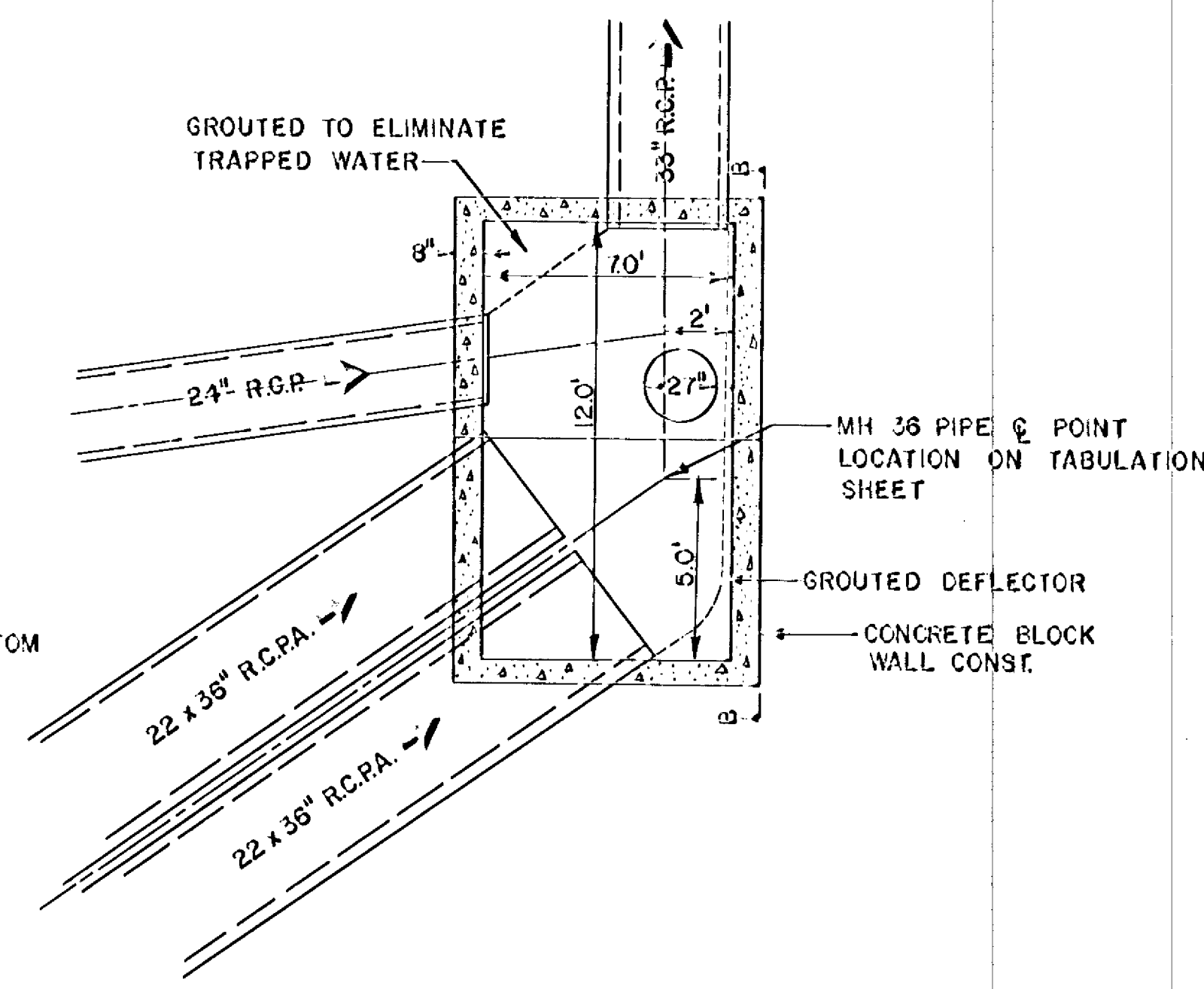
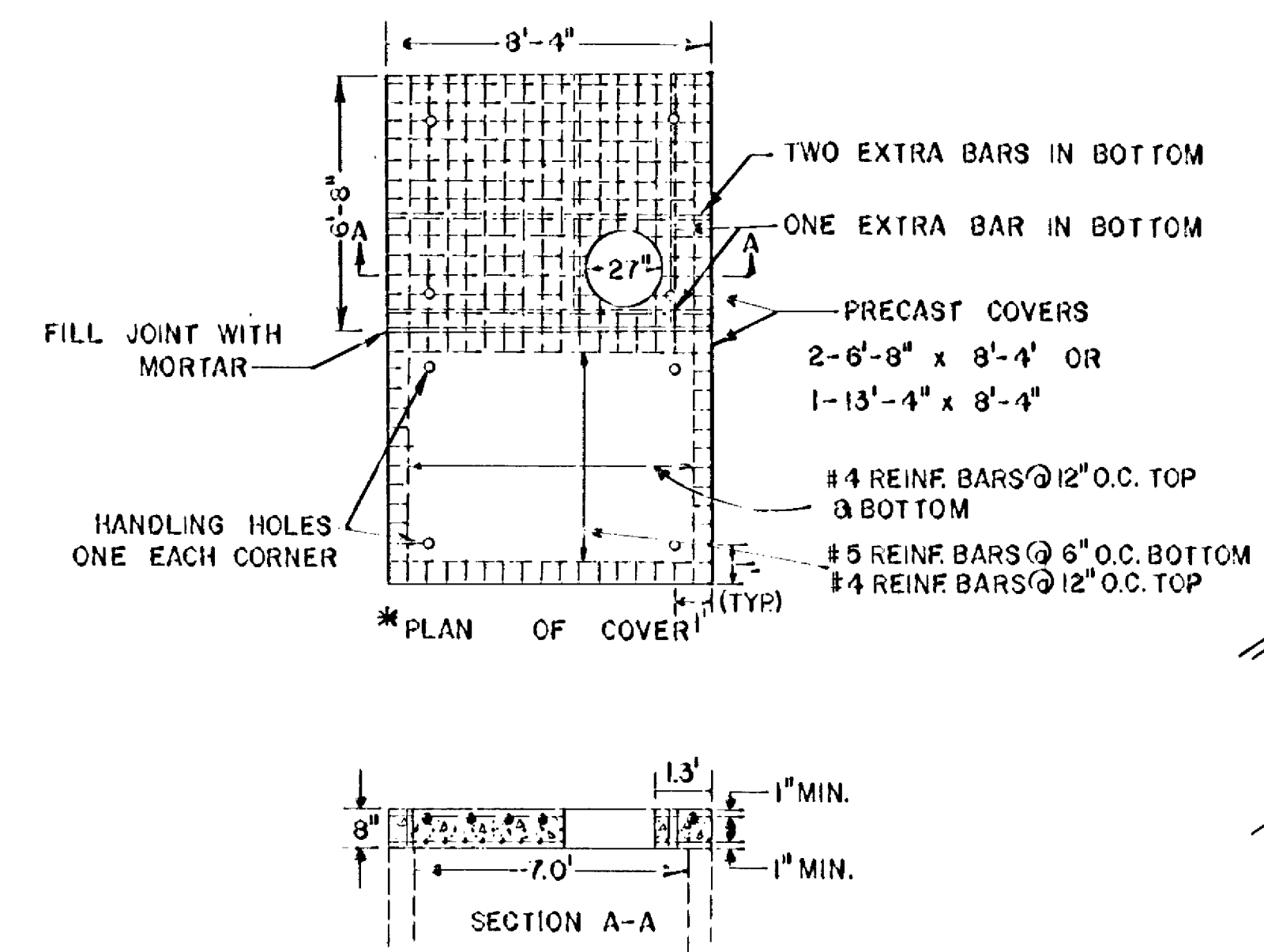
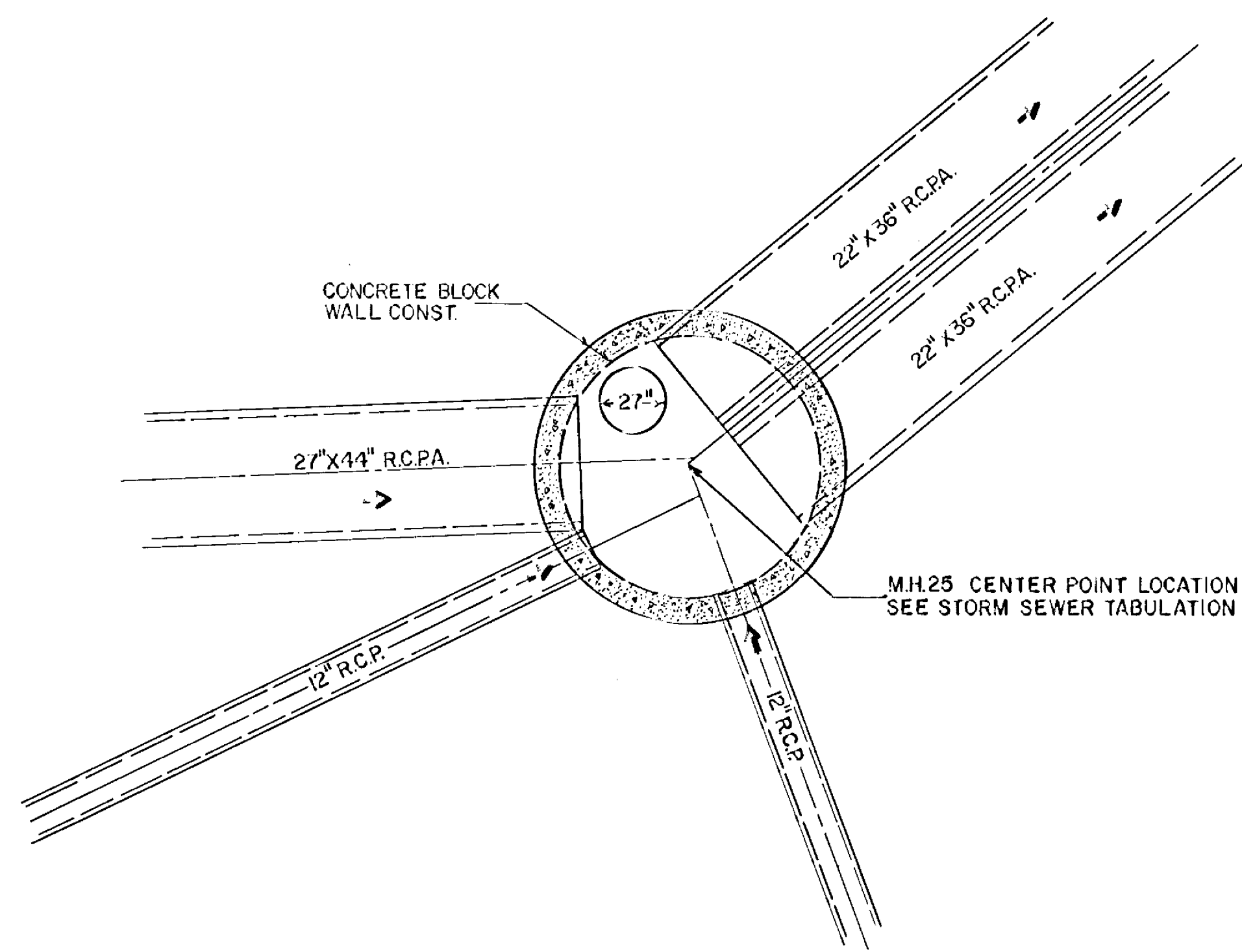
S.B. P.T. 63 + 26.42 =
 A PT. 42' LT LNB 63 + 38.40



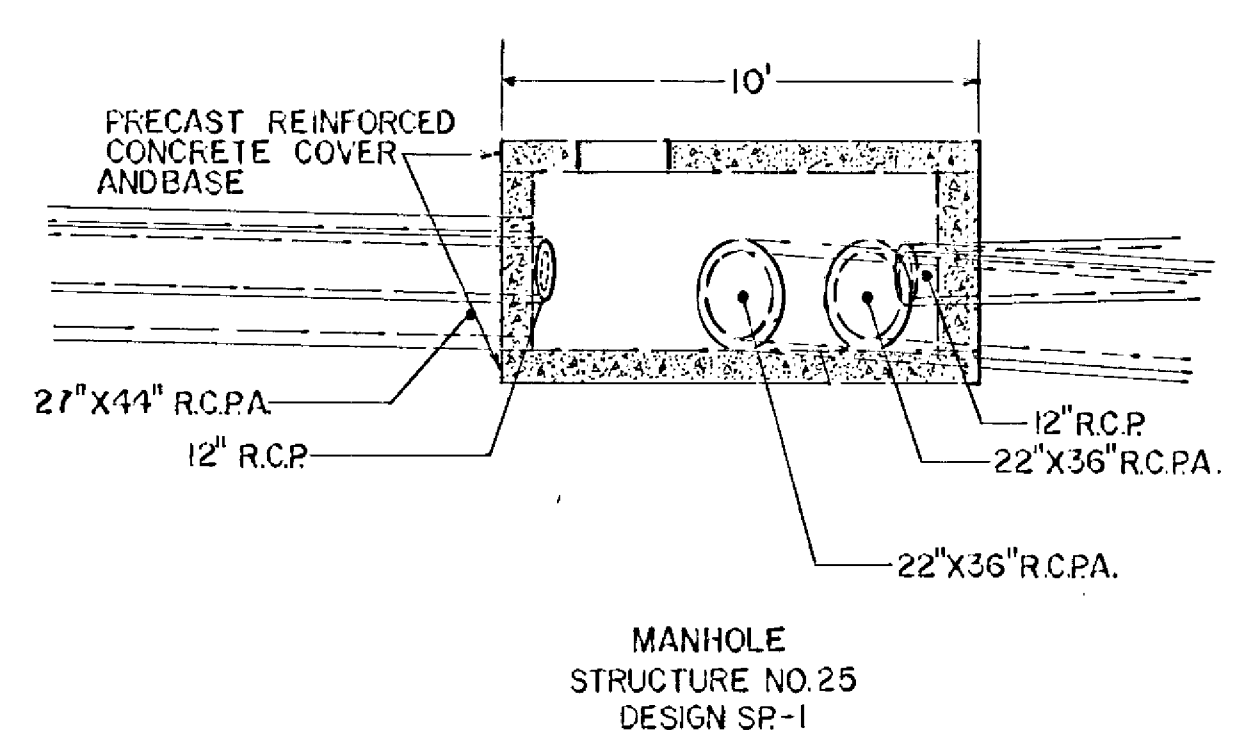
SOIL BALANCE

COMMON EXCAVATION = 11,312 CU. YDS.
 TOPSOIL STRIPPING = 1,208 CU. YDS.
 TOTAL = 12,518 CU. YDS.
 COMPACTION SUBCUT = 9054' CU. YDS.
 EMBANKMENT 920' X 1.3 SHRINK = 1,196 CU. YDS.
 TO BE OBTAINED FROM COMMON EXCAVATION
 REQUIRED TOPSOIL 735' X 1.3 SHRINK = 955 CU. YDS.
 TO BE OBTAINED FROM TOPSOIL STRIPPING
 EXCESS EXCAVATION = 7,651 CU. YDS. SHALL BE DISPOSED
 OF BY THE CONTRACTOR, IN AREAS SELECTED BY HIM,
 OUTSIDE OF THE RIGHT-OF-WAY.

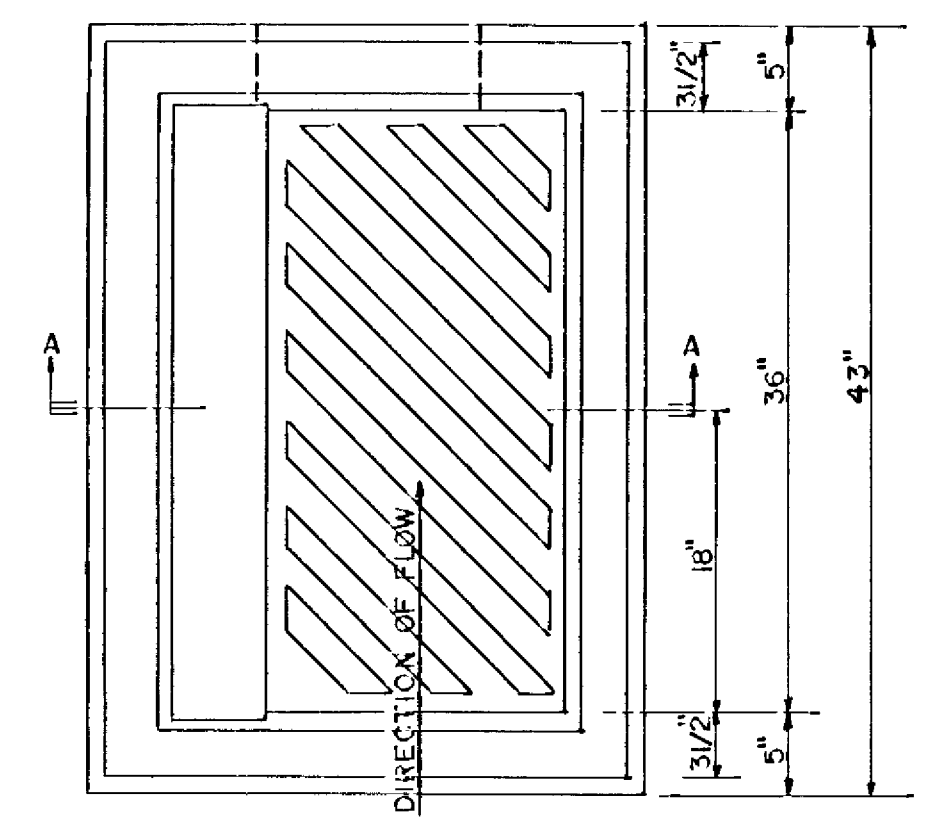
PLAN & PROFILE



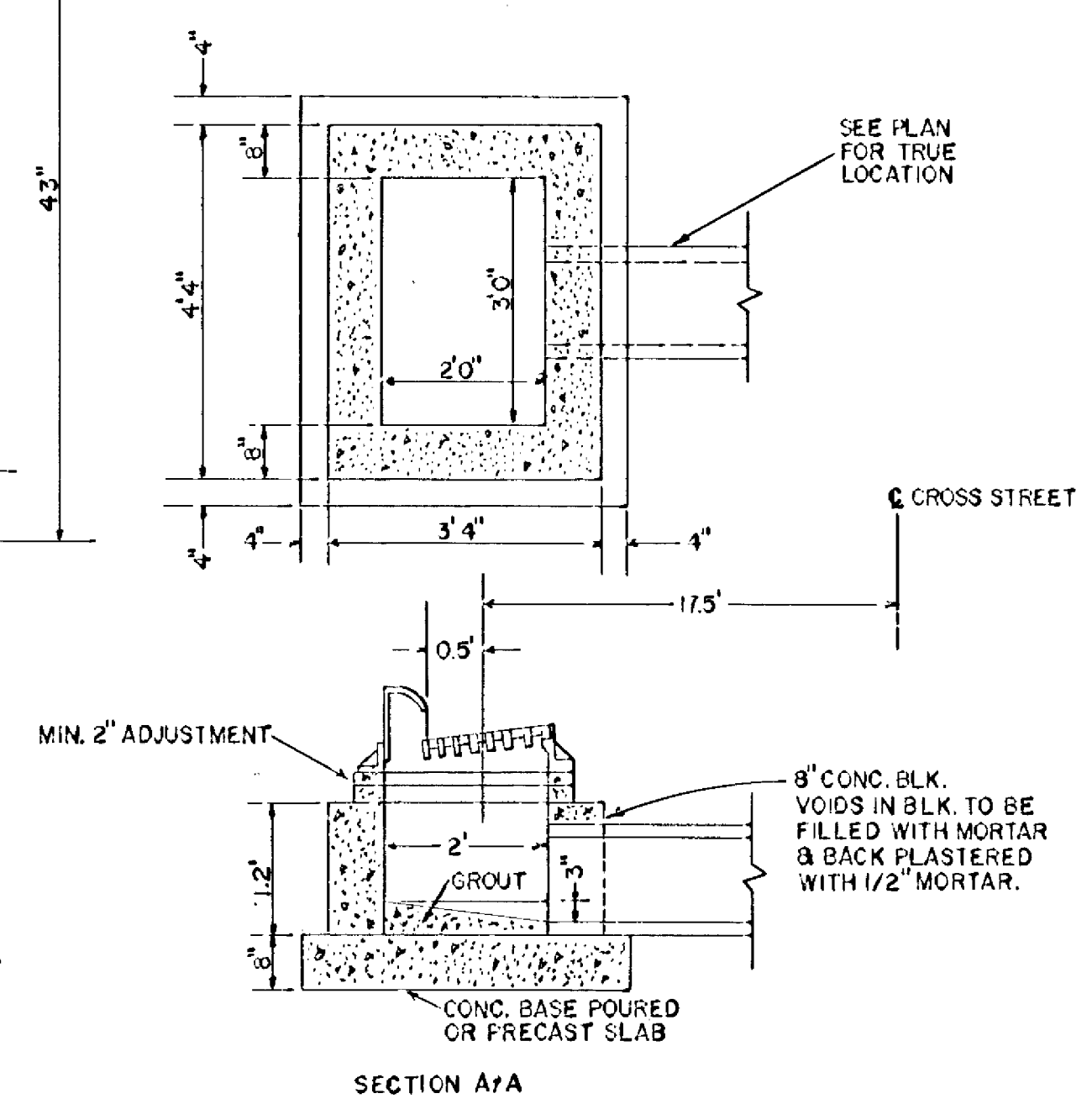
* USE 60KSI STEEL & 3KSI CONCRETE



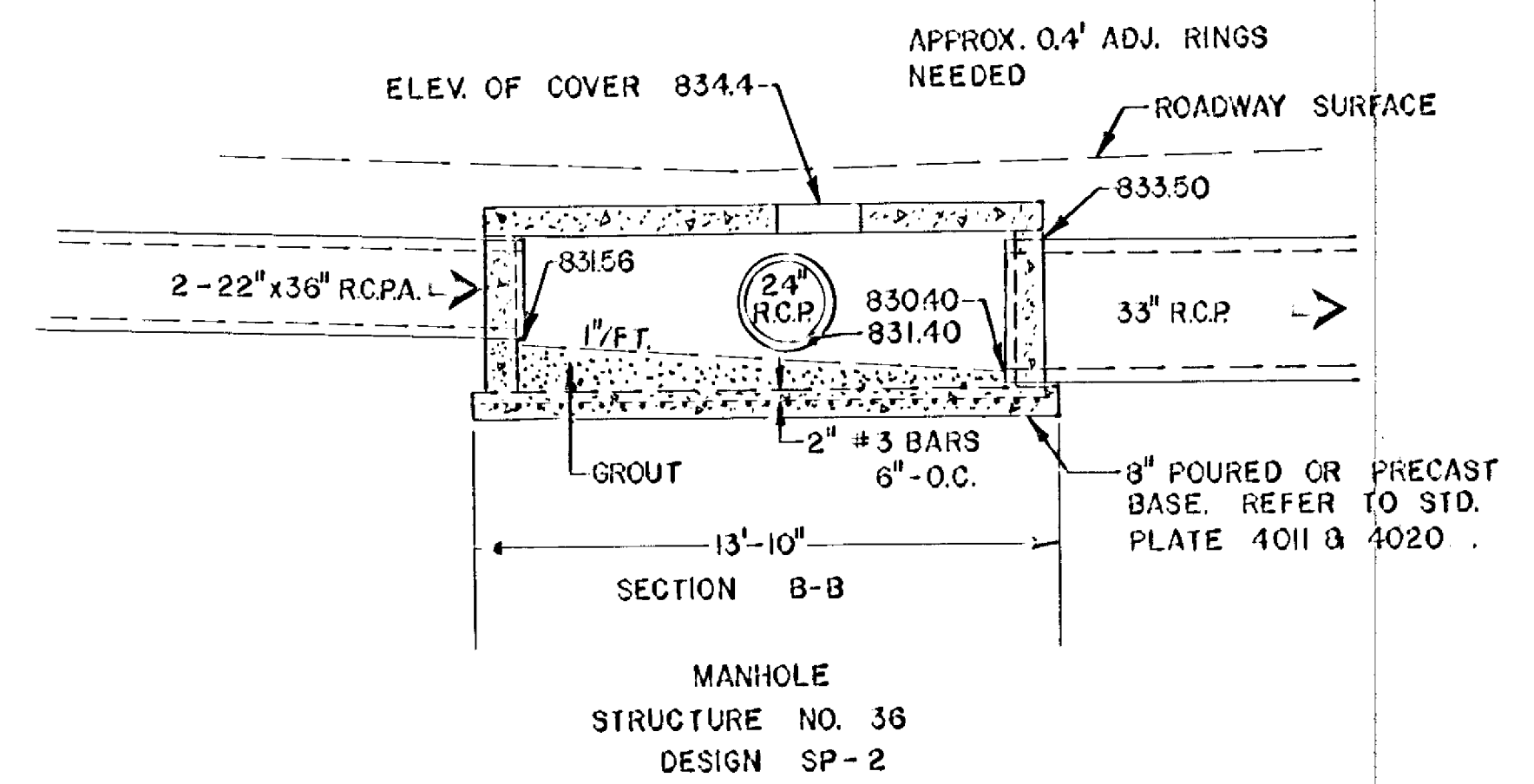
MANHOLE
STRUCTURE NO. 25
DESIGN SP-1



CURB INLET FRAME AND CURB BOX NEED A44 NO. R-3067 AND TYPE DR OR DL GRATE DEPENDING ON THE DIRECTION OF FLOW (TYPE DR IS SHOWN) ESS BROS., CHASKA MINN. NO. 3067 OR EAST JORDAN IRON WORKS, NO. 3067 EAST JORDAN, MINN. OR APPROVED EQUAL



SPECIAL CATCH BASIN DETAIL
STRUCTURES 27, 28
DESIGN SPE-3



MANHOLE
STRUCTURE NO. 36
DESIGN SP-2

SPECIAL DESIGN STRUCTURES

BLOCK 2

BLOCK 1

BLOCK 2

BLOCK 1

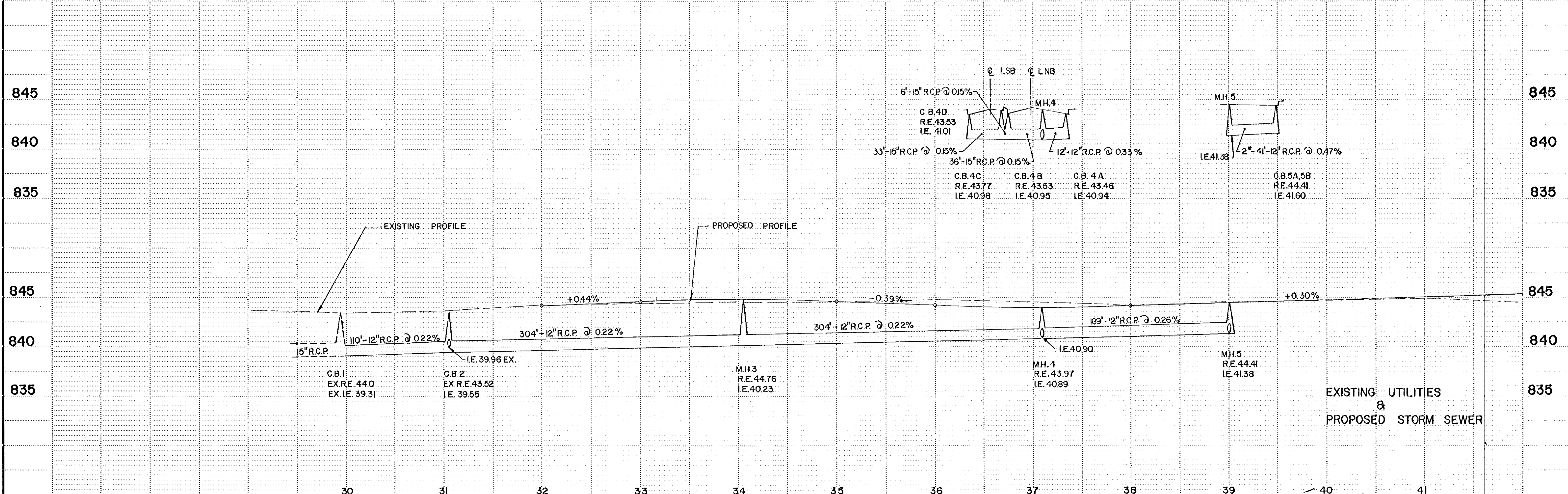
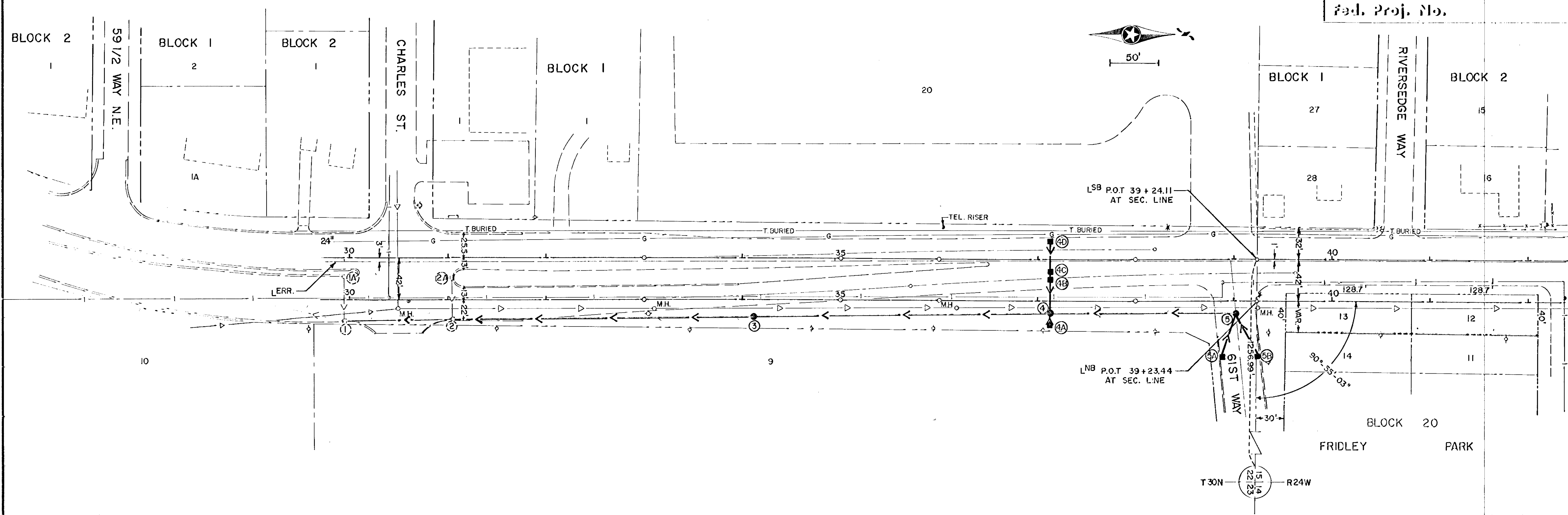
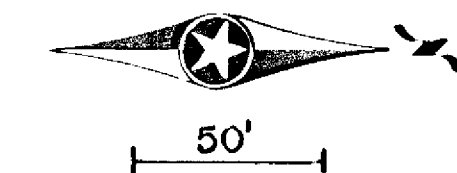
BLOCK 1

BLOCK 2

59 1/2 WAY N.E.

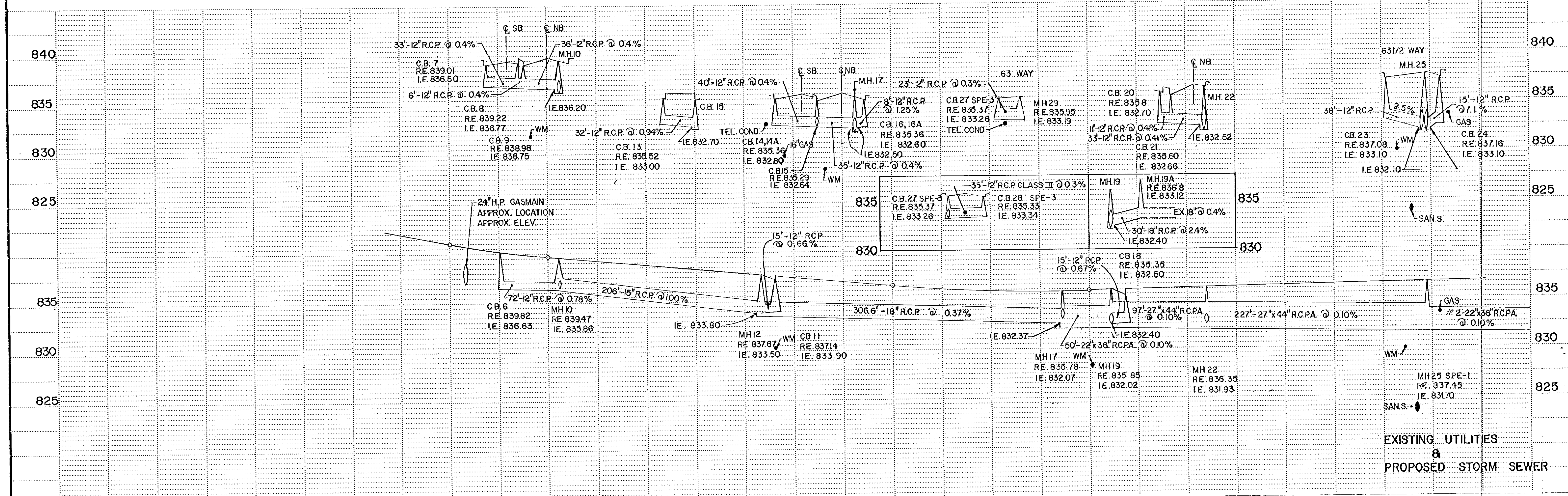
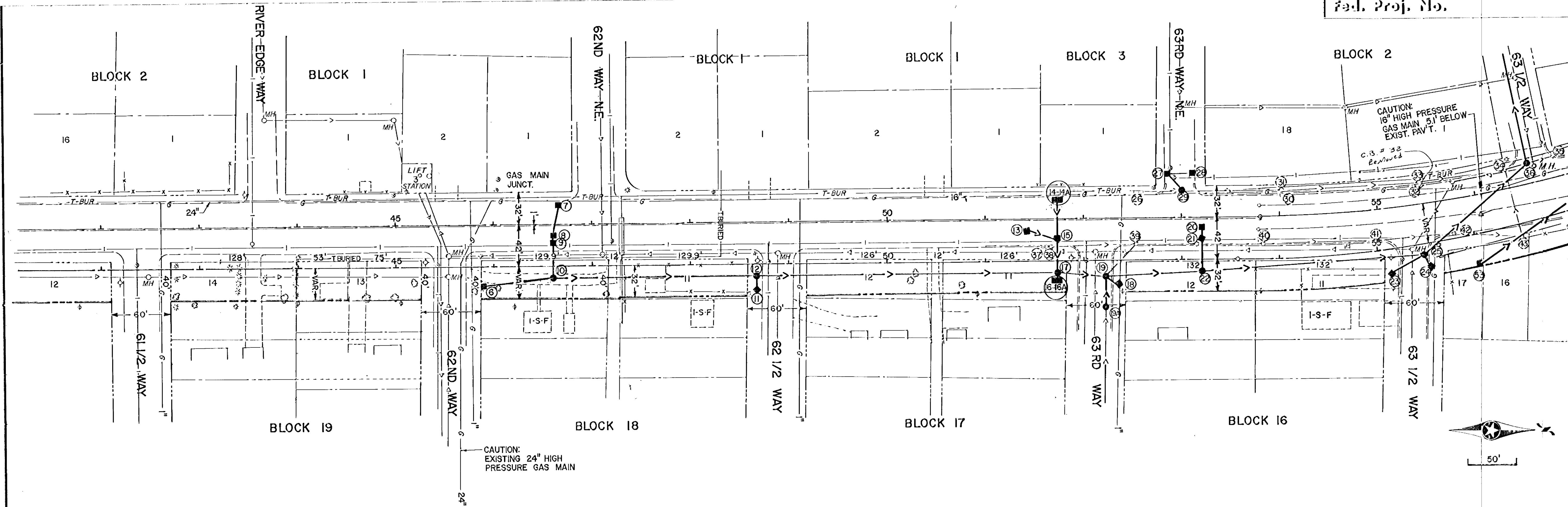
CHARLES ST.

RIVERSEDGE WAY



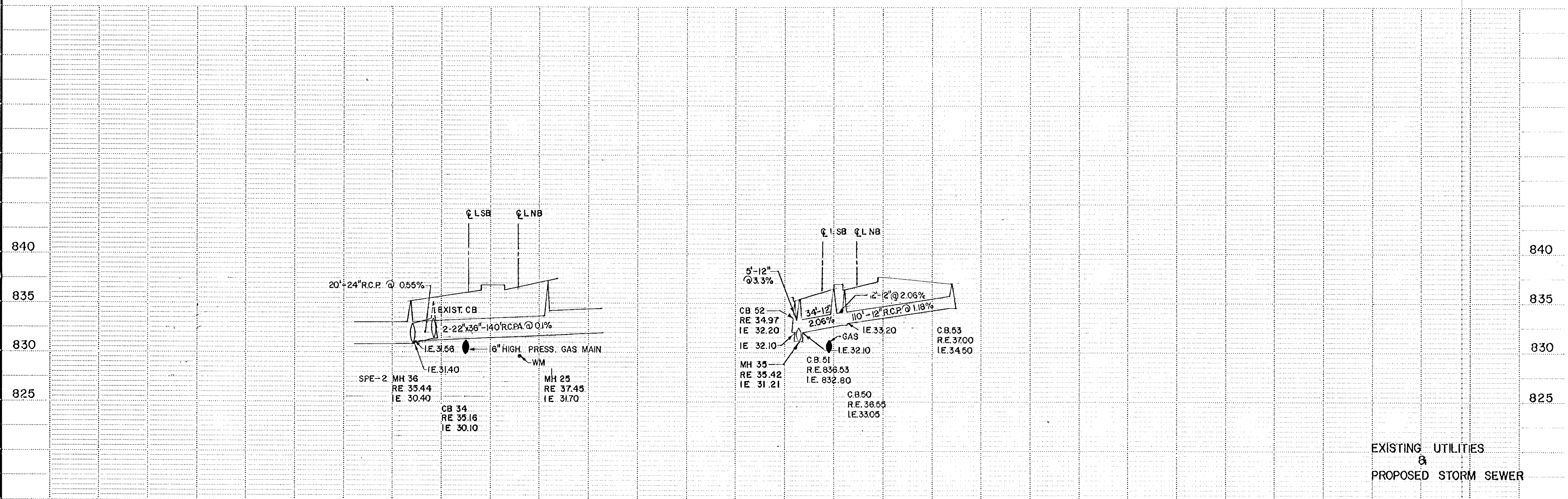
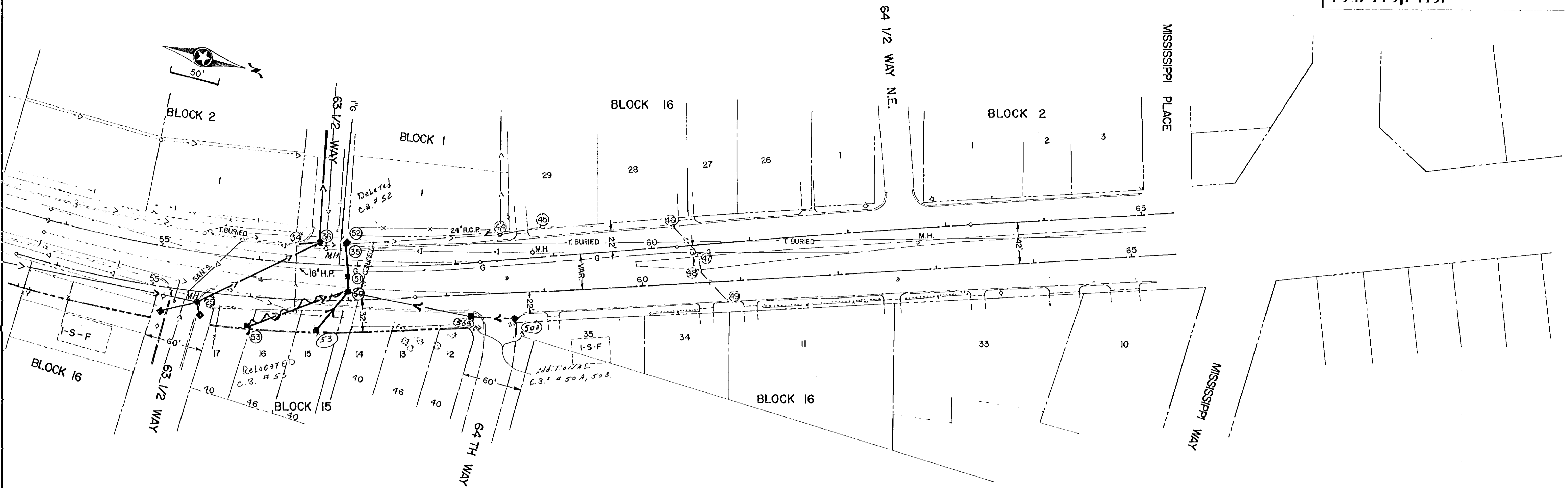
SINGLE PLAN - DOTTED
R. A. MOORE'S CO. - MINNEAPOLIS - ST. PAUL

4-7901



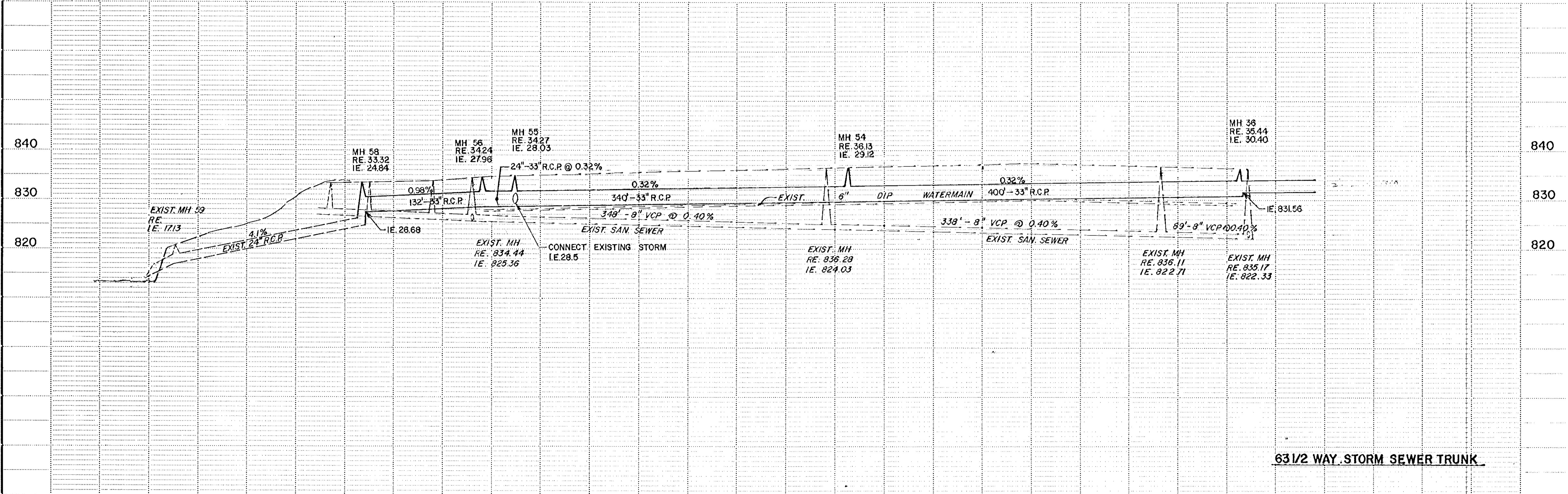
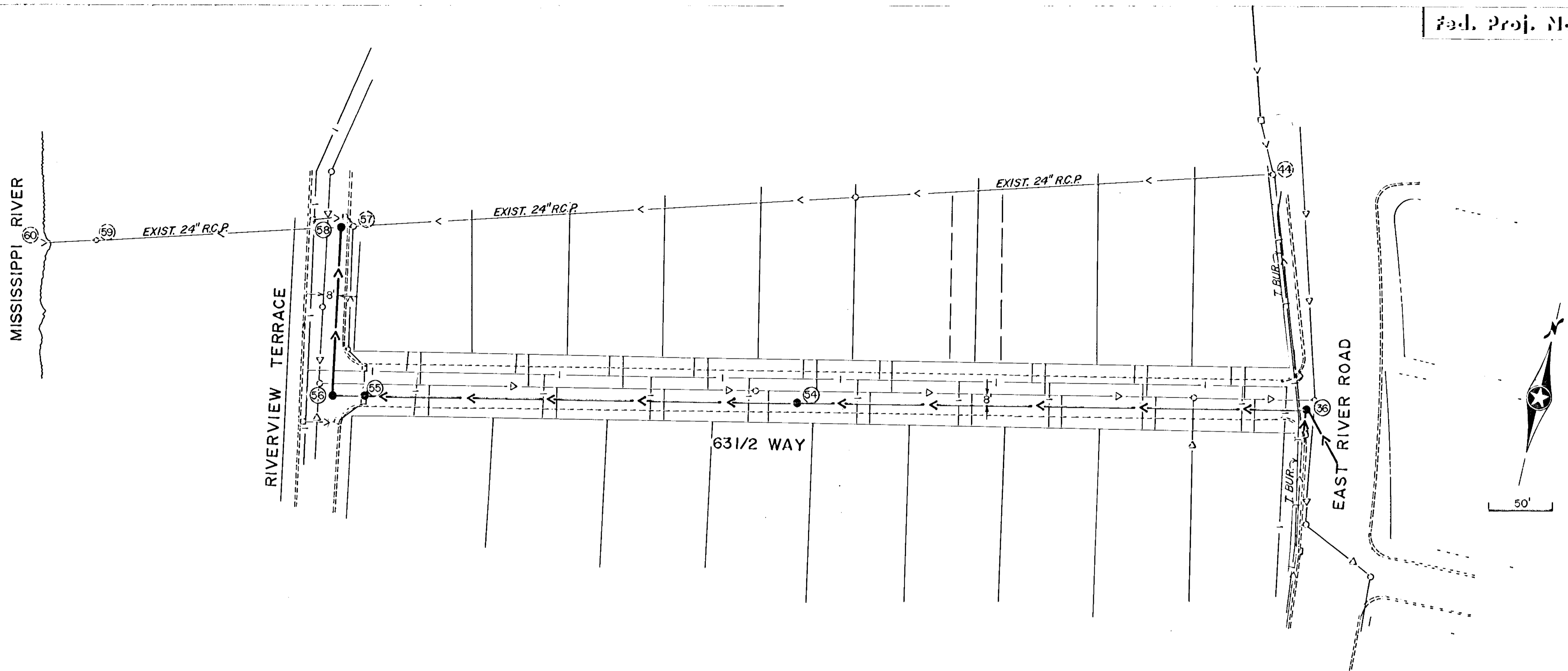
EXISTING UTILITIES
&
PROPOSED STORM SEWER

SINGLE PLAN - DOTTED
P. A. WEAVER CO. - MINNEAPOLIS, ST. PAUL



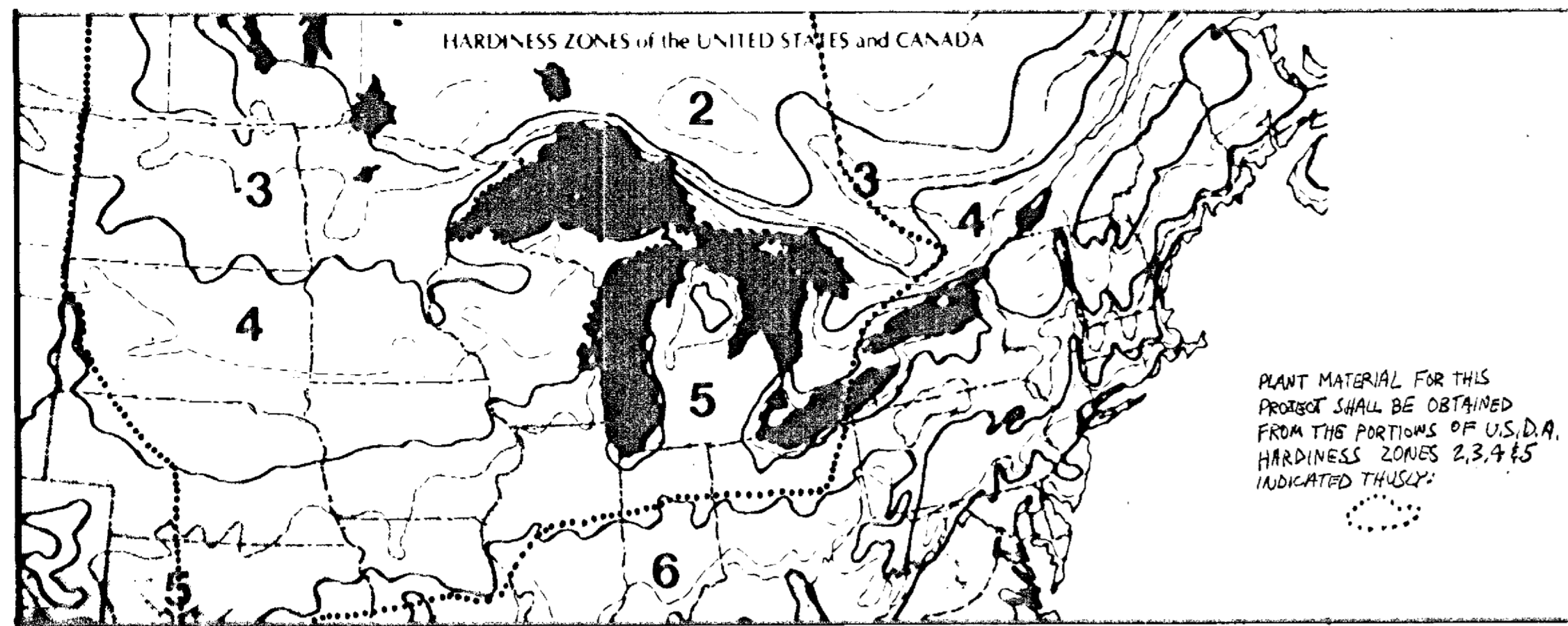
EXISTING UTILITIES & PROPOSED STORM SEWER

SINGLE PLAN - DOTTED R. A. ROBERTS CO. - MINNEAPOLIS - ST. PAUL



63 1/2 WAY STORM SEWER TRUNK

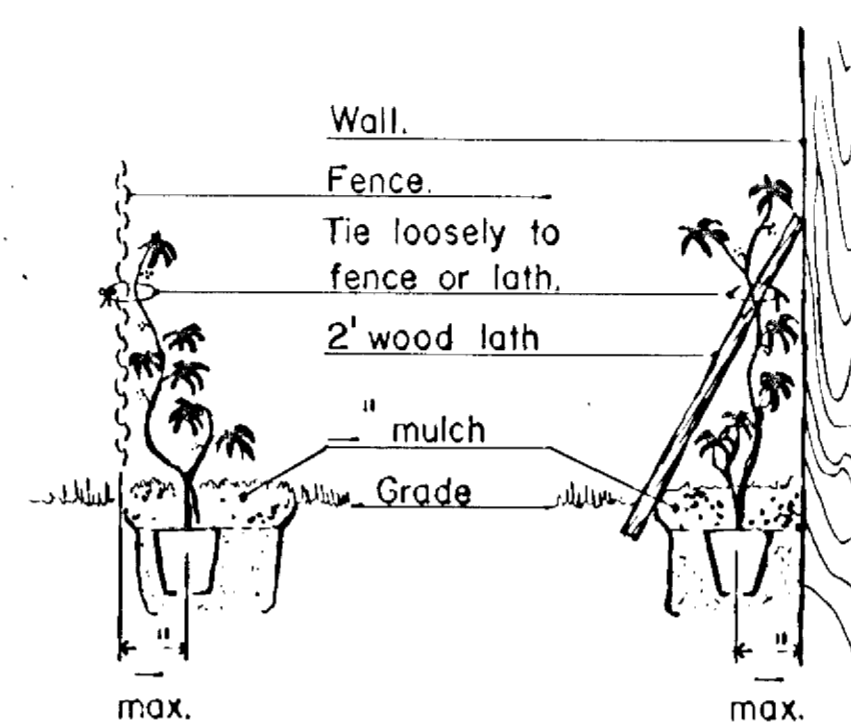
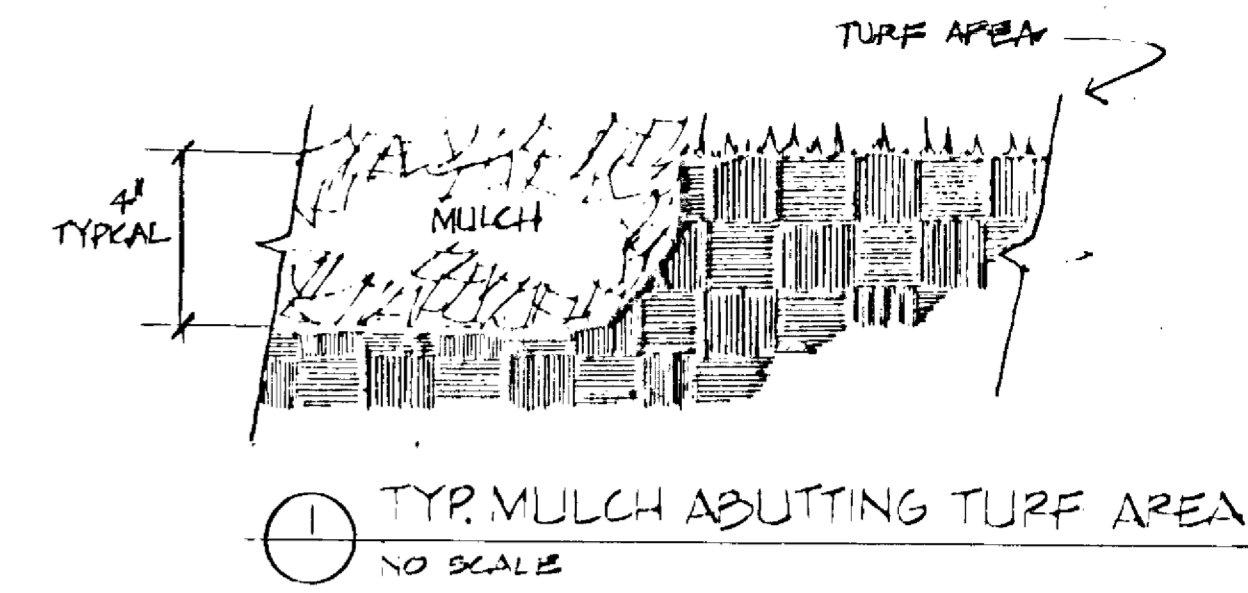
SINGLE PLAN - DOTTED
H. A. ROBERTS CO. - MINNEAPOLIS, ST. PAUL



PLANTING SCHEDULE					
Common Name	Botanical Name	Size & Root type	Quantity	Spacing	Notes
AMUR MAPLE	ACER GINNALA	4 B&B SHRUB FORM	107	5 1/2' O.C.	4 FERTILIZER TABS
CLAYEY DWARF HONEYBUCKLE	LONICERA CLAYEY'S DWARF	2 GALLON	135	3 1/2' O.C.	3 FERTILIZER TABS
CUTLEAF SPANGLER SUMAC	Rhus typhina 'LACINATA'	2 GALLON	87	4' O.C.	3 FERTILIZER TABS
ENGELMANN IVY	PARTHENOCISSUS QUINQUEFOLIA ENGELMANNI	POTTED	139	6' O.C.	1 FERTILIZER TAB
FRAGRANT SUMAC	Rhus aromatica	2' POTTED	92	3 1/2' O.C.	3 FERTILIZER TABS
JACKMAN POTENTILLA	POTENTILLA JACKMANI	2 GALLON	397	2 1/2' O.C.	3 FERTILIZER TABS
SIBERIAN PEASHRUB	CARAGANA ARBORESCENS	3 POTTED	234	5' O.C.	4 FERTILIZER TABS
SILVER BUFFANOBERRY	SHEPHERSON ARGENTEA	4 B&B	73	6' O.C.	4 FERTILIZER TABS

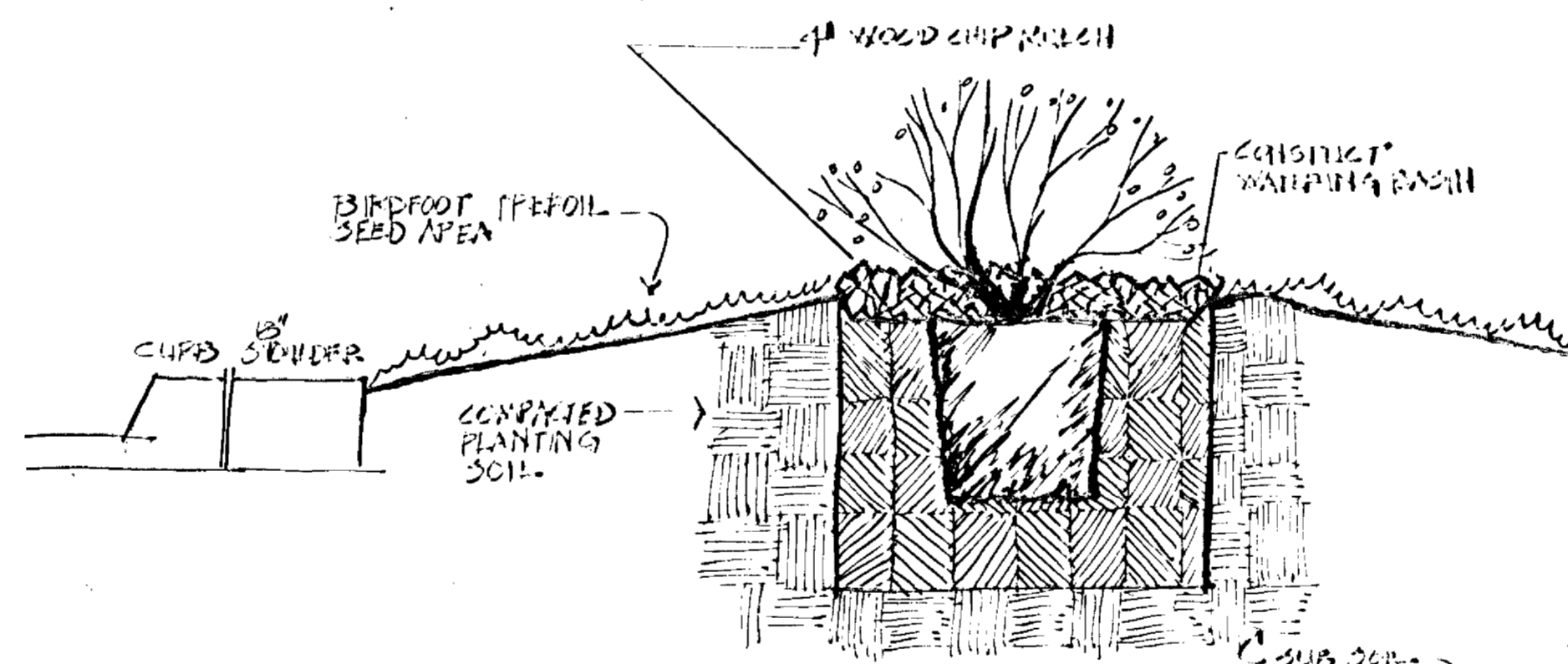
SEEDING RATES			
	AREA	BIRDFOOT TREFOIL (LBS)	ANNUAL RYE (LBS)
MEDIAN 1	4640 SQ. FT.	1.30	2.11
MEDIAN 2	930	.26	.43
MEDIAN 3	1500	.42	.70
MEDIAN 4	4300	1.20	1.96
TOTALS	11370 SQ. FT.	3.18 LBS.	5.20 LBS.

BIRDFOOT TREFOIL AT 12 LBS/ACRE ≈ 1 LB/3600 SQ. FT.
ANNUAL RYE GRASS AT 20 LBS/ACRE ≈ 1 LB/2200 SQ. FT.



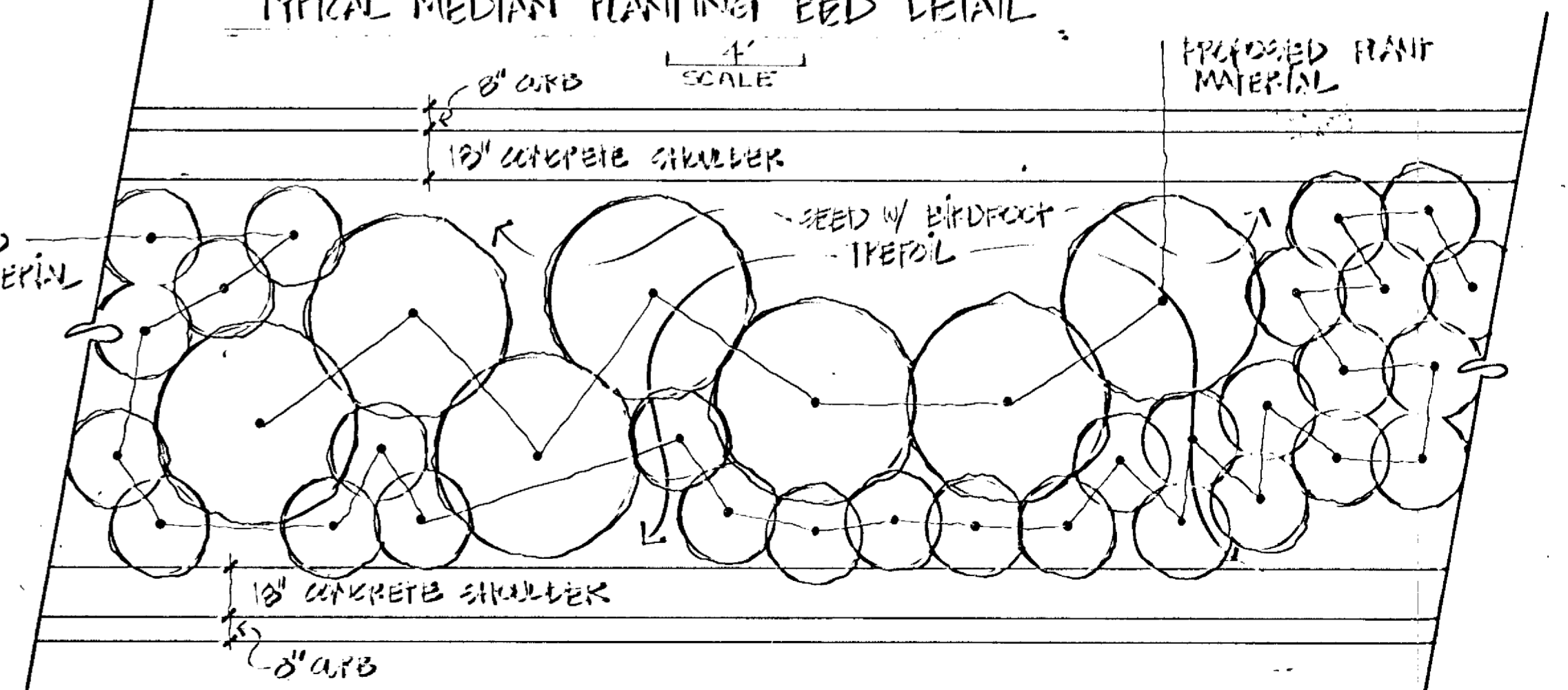
VINE PLANTING

1. Place and tamp enough planting soil into hole so that the plant can be placed at proper depth.
2. Set plant at grade and with roots evenly distributed.
3. Complete planting operations, plumb plant and water thoroughly.

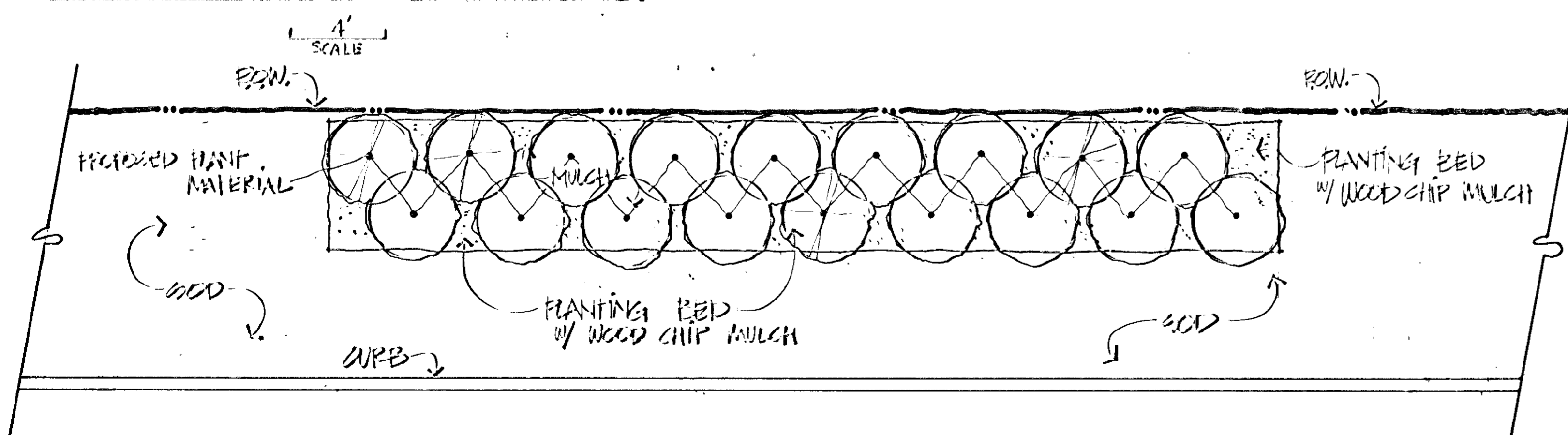


7 TYPICAL MULCH FOR MEDIAN PLANTS

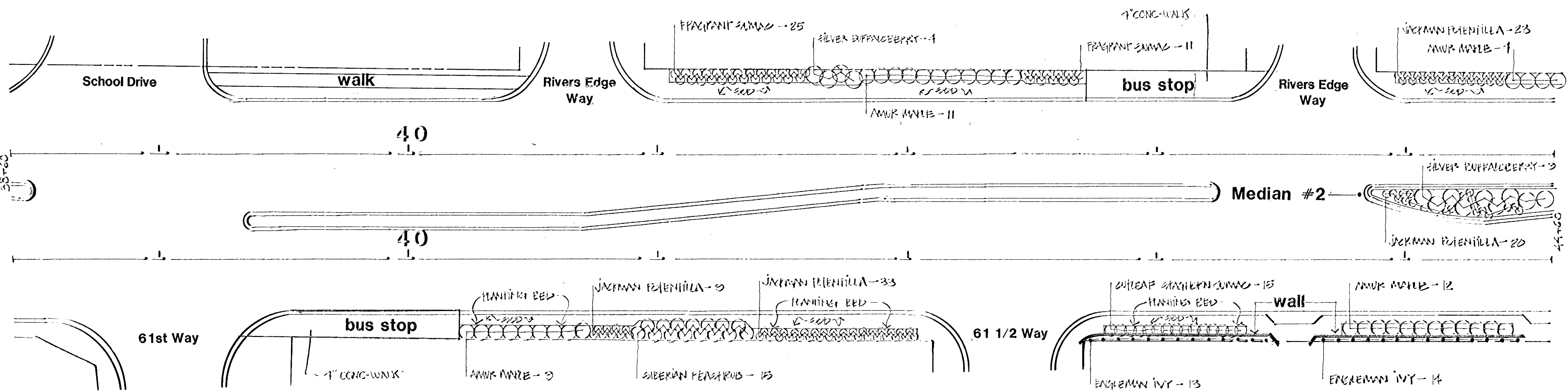
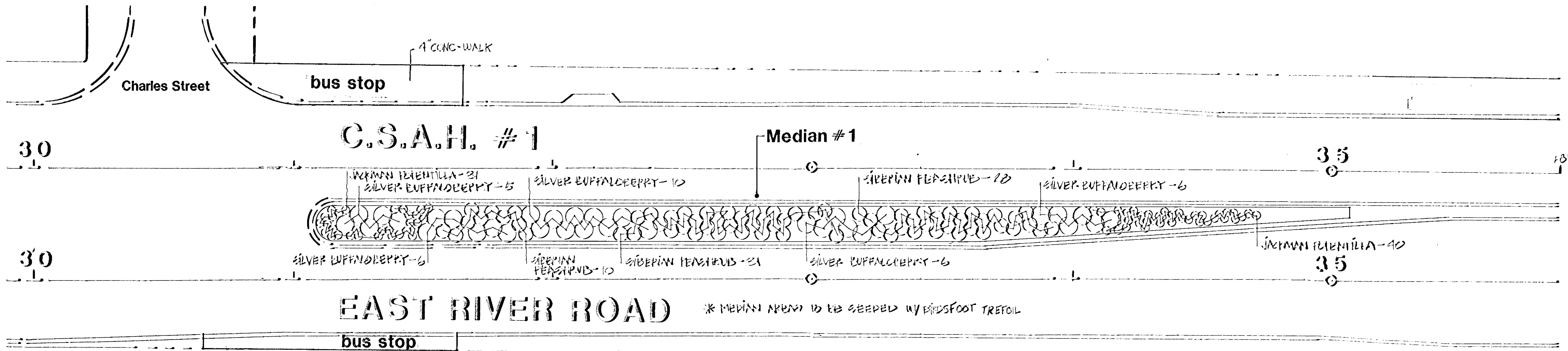
TYPICAL MEDIAN PLANTING BED DETAIL

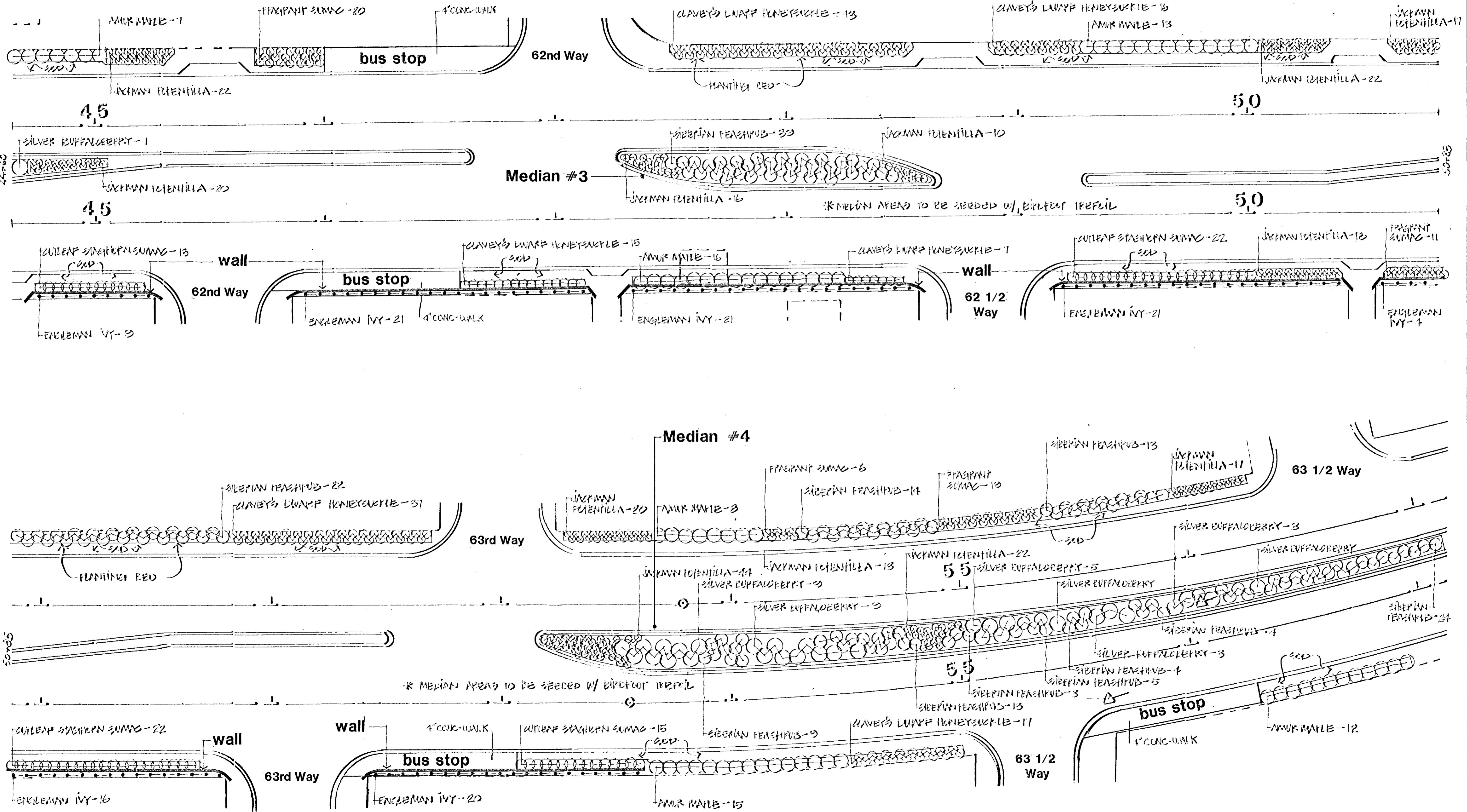


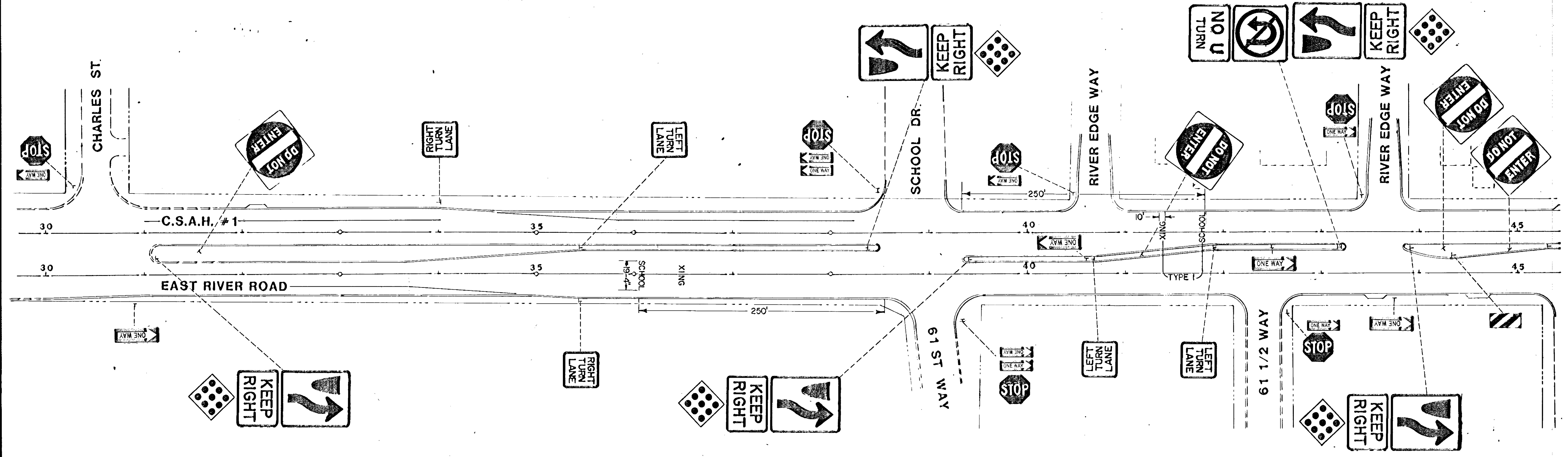
TYPICAL SHOULDER PLANTING BED DETAIL



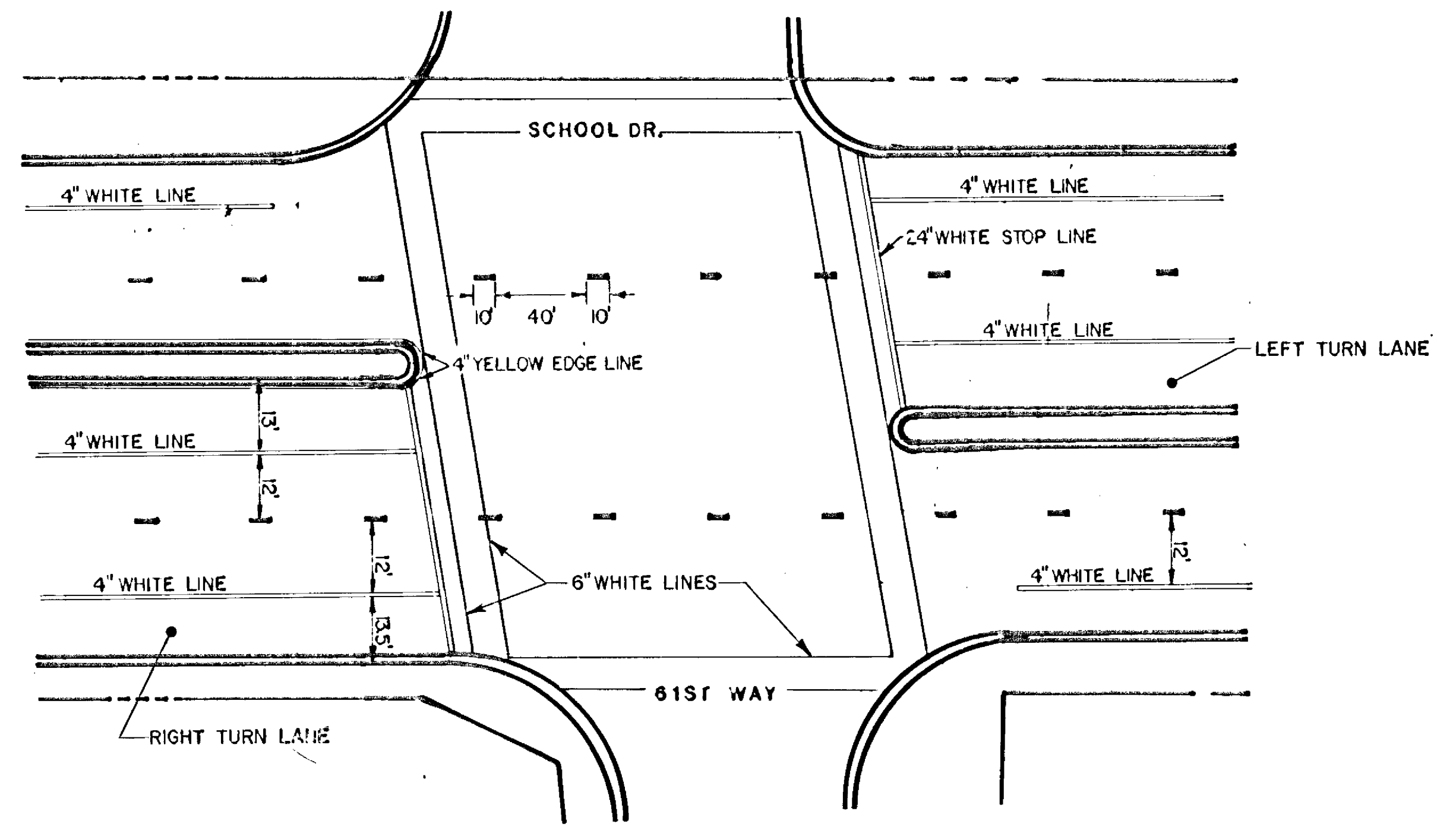
East River Road



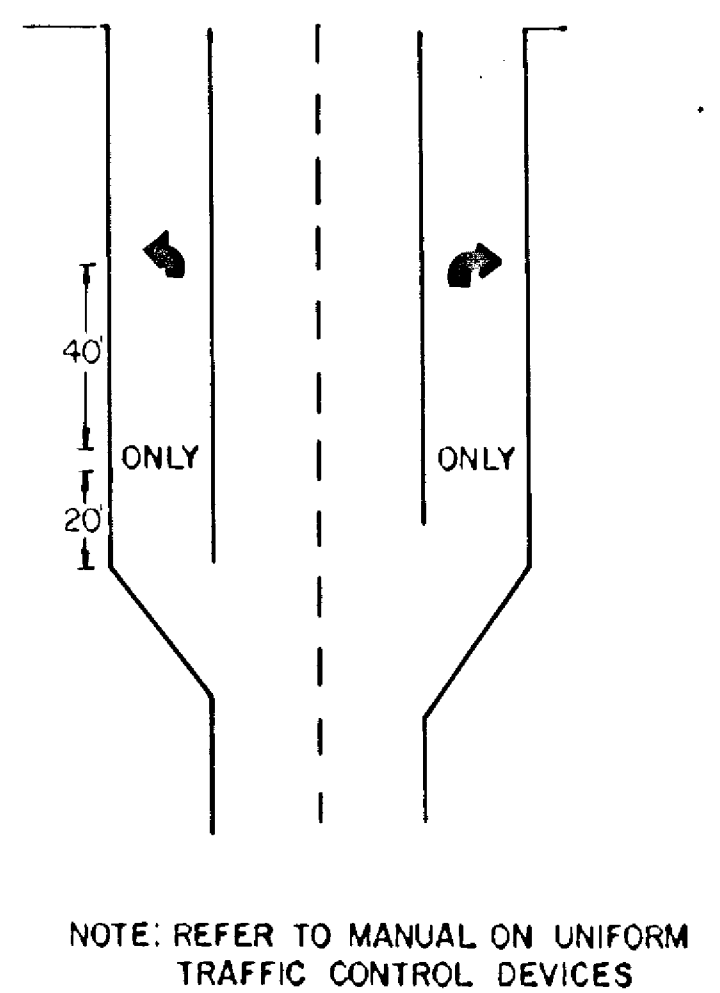




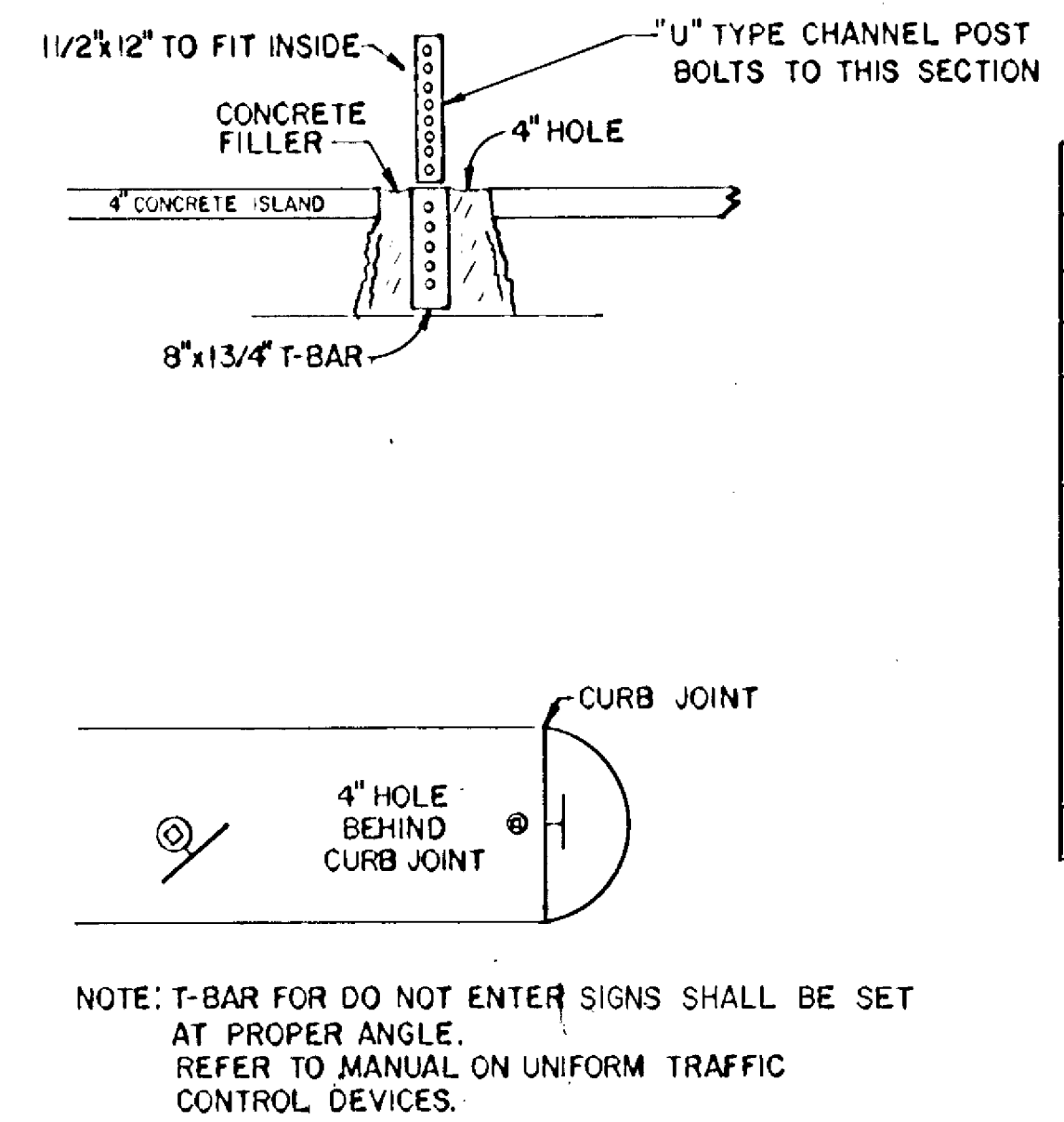
PAVEMENT MARKING TYPICAL DETAIL



MESSAGE DETAIL TYPE 2

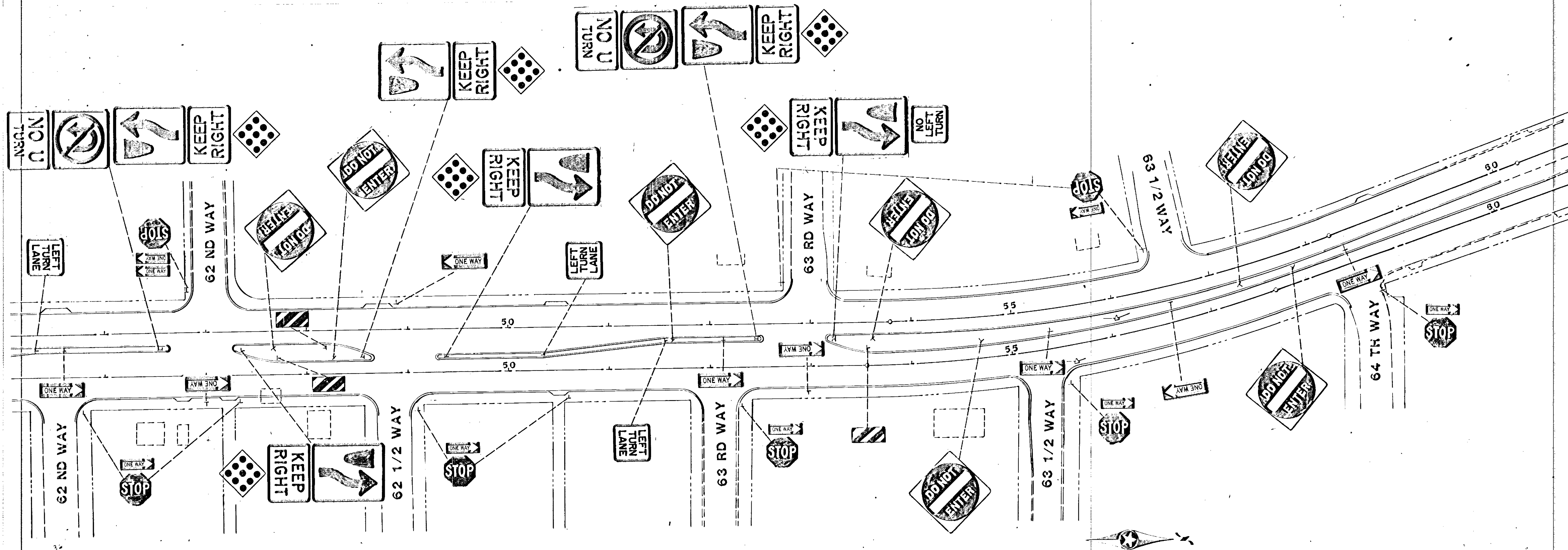








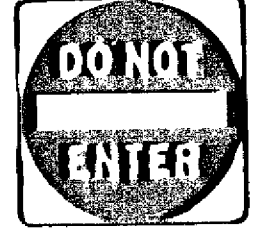






SIGN POST DETAIL



PAVEMENT MESSAGES			
KIND	DESCRIPTION, LOCATION		EACH
TYPE 1	SCHOOL XING	36+00 - 36+50	1
TYPE 1	SCHOOL XING	41+40 - 41+80	1
TYPE 2	ONLY	36+00 - 36+46	1
		33+60 - 34+00	1
TYPE 2	ONLY	36+00 - 36+40	1
		40+00 - 40+70	1
		42+00 - 42+40	1
		45+30 - 45+70	1
		49+60 - 50+00	1
		51+80 - 52+20	1
		TOTAL	10

1. SIGN PLAN
2. PAVEMENT MARKINGS



SIGN	SYMBOL	LEGEND	
 R3-2A			
 R1-1	X4-2	X4-4L	R3-X2
 R4-7			
 18"X48" R6-1R	 18"X48" R6-1L	 12"X36" R6-1R	 12"X36" R6-1L

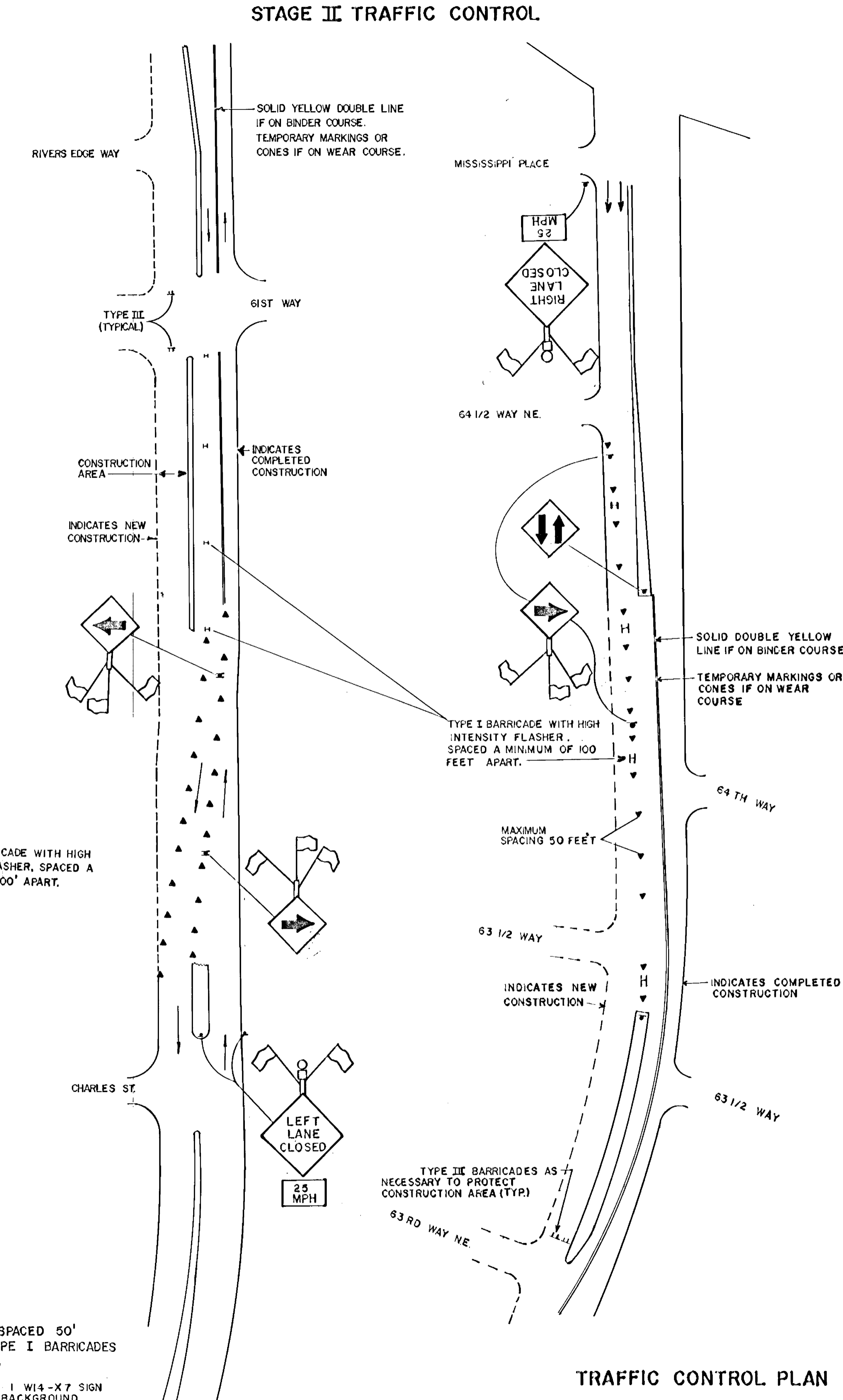
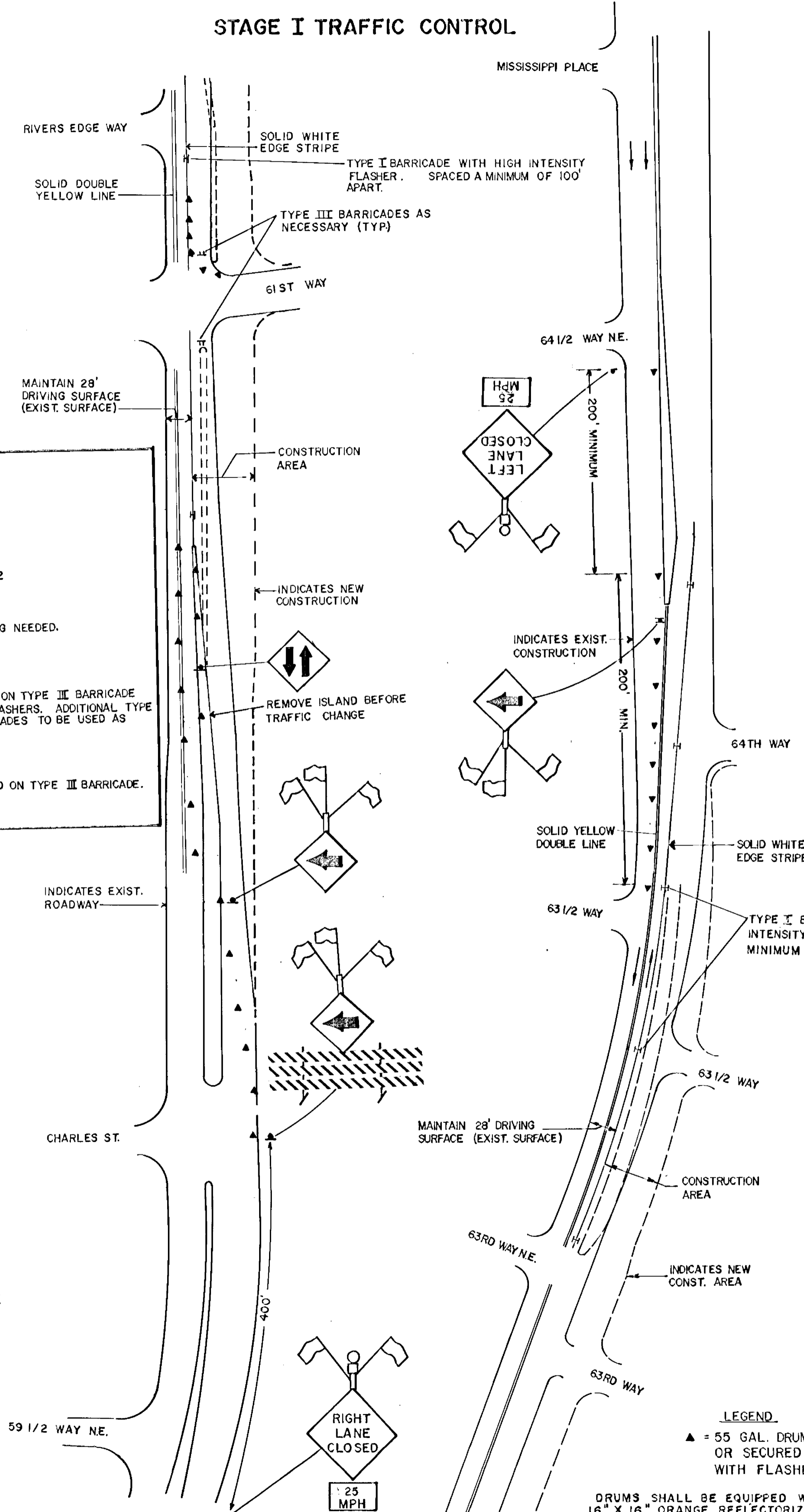
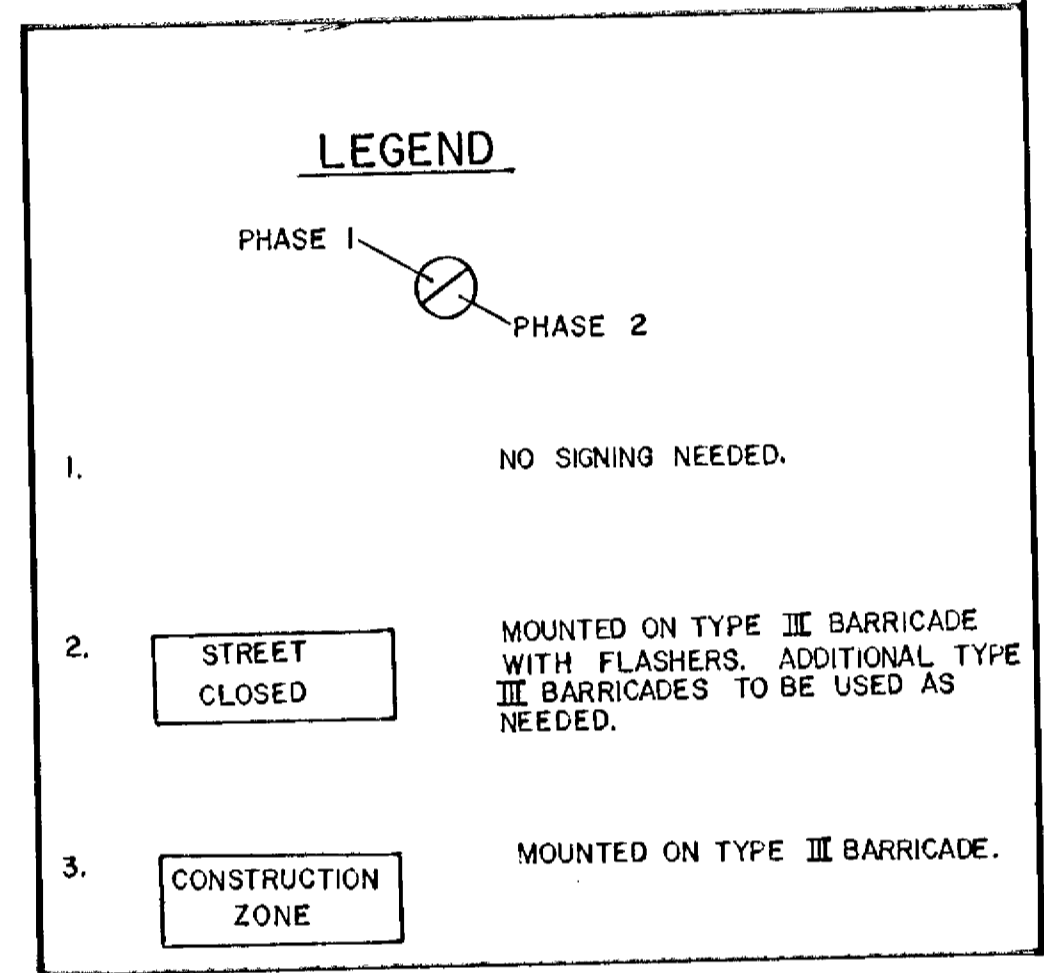
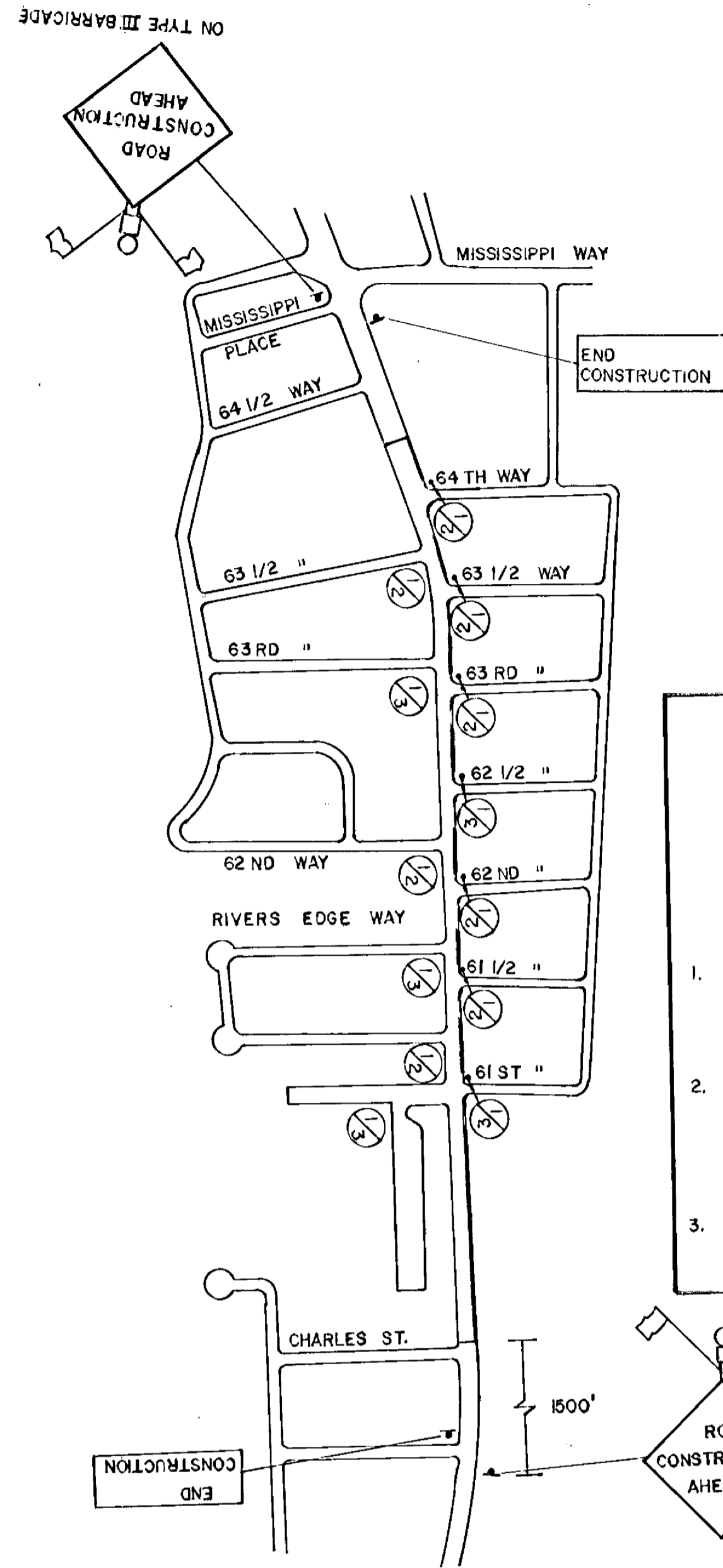
SIGNS					
STD SIGN NUMBER	DESCRIPTION	SIZE	SQ. FT.	NUMBER REQUIRED	TOTAL SQ. FT.
R1-1	STOP	30" x 30"	6.25	16	100.00
R3-2A	(NO LEFT TURN)	24" x 30"	5.00	1	5.00
R3-4	NO U TURN	24" x 24"	4.00	3	12.00
R3-X1	RIGHT TURN LANE	30" x 30"	6.25	2	12.50
R3-X2	LEFT TURN LANE	30" x 30"	6.25	6	37.50
R4-7	KEEP RIGHT	24" x 30"	5.00	11	55.00
R5-1	DO NOT ENTER	30" x 30"	6.25	11	68.75
R6-1L	ONE-WAY ARROW	12" x 36"	3.00	3	9.00
R6-1R	ONE-WAY ARROW	12" x 36"	3.00	16	48.00
R6-1L	ONE-WAY ARROW	18" x 48"	6.00	6	36.00
R6-1R	ONE-WAY ARROW	18" x 48"	6.00	7	42.00
X4-4L	CLEARANCE MARKER	8" x 18"	1.00	4	4.00
X4-2	OBJECT MARKER	18" x 18"	6.00	11	66.00
				TOTAL	495.75

NOTE: ALL EXISTING SIGNS SHALL BE SALVAGED FOR ANOKA COUNTY EXCEPT M.T.C. SIGNS WHICH SHALL BE SALVAGED FOR THE CITY OF FRIDLEY. ALSO, THE SALVAGE OF SIGNS IS INCIDENTAL WORK. SALVAGED SIGNS SHALL BE DELIVERED TO THE APPROPRIATE AGENCY ON THE PROJECT.

SIGN PLAN

STAGE I TRAFFIC CONTROL

STAGE II TRAFFIC CONTROL



- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO "THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", INCLUDING APPENDIX B.
 - THE MAINTENANCE OF TRAFFIC IS THE RESPONSIBILITY OF THE CONTRACTOR. THIS TRAFFIC CONTROL PLAN INDICATES THE MINIMUM CONTROLS NEEDED. OTHER MEASURES SHALL BE IMPLEMENTED AS NECESSARY TO INSURE SAFE USE OF THE PUBLIC STREET WITH A MINIMUM OF INCONVENIENCE.
 - THE INCOMPLETE PORTIONS OF MEDIAN REMAINING AFTER STAGE II CONSTRUCTION SHALL BE CONSTRUCTED WHILE MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION THROUGH PROPER SIGNING OF APPROPRIATE LANE CLOSURES. (SEE LEFT LANE CLOSURE DETAILS OF STAGE I AND II)

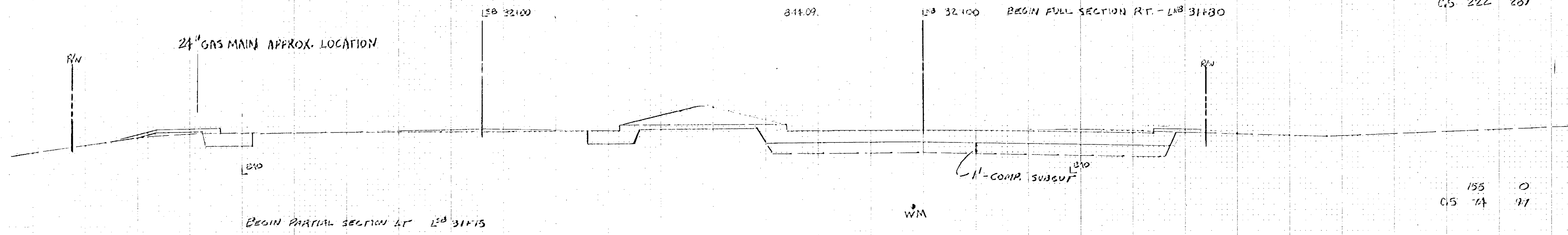
LEGEND

▲ = 55 GAL. DRUMS SPACED 50' OR SECURED TYPE I BARRICADES WITH FLASHERS.

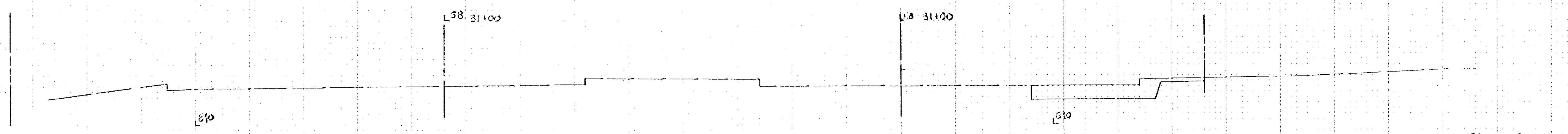
DRUMS SHALL BE EQUIPPED WITH 1 W14-X7 SIGN 16" X 16" ORANGE REFLECTORIZED BACKGROUND

TRAFFIC CONTROL PLAN

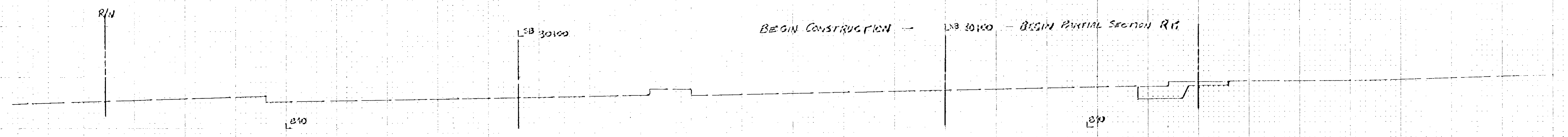
EXCAVATION	EMBARKMENT
CU. YDS.	CU. YDS.
265	73
C.S. 222	237



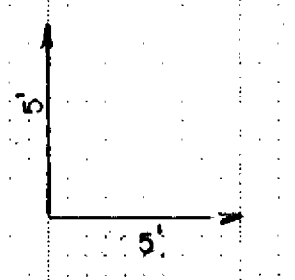
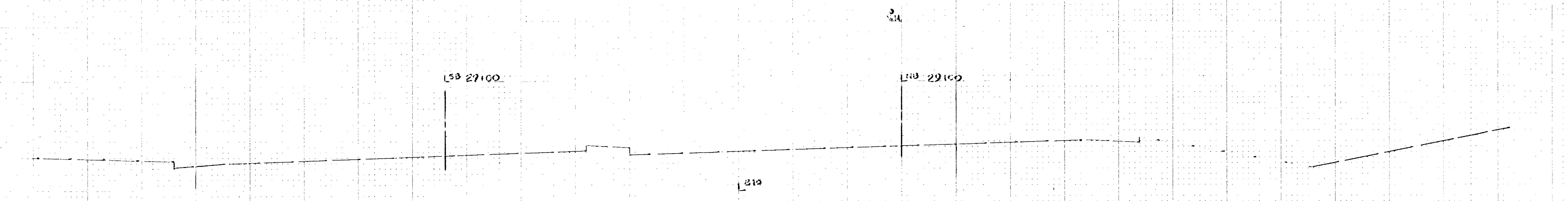
155	0
C.S. 74	97



50	0
C.S. 0	0



BEGIN CONSTRUCTION — BEGIN PARTIAL SECTION RT



LAWSON CRASS, BEYER, AND ASSOCIATES

STA. 29+00 TO 32+00

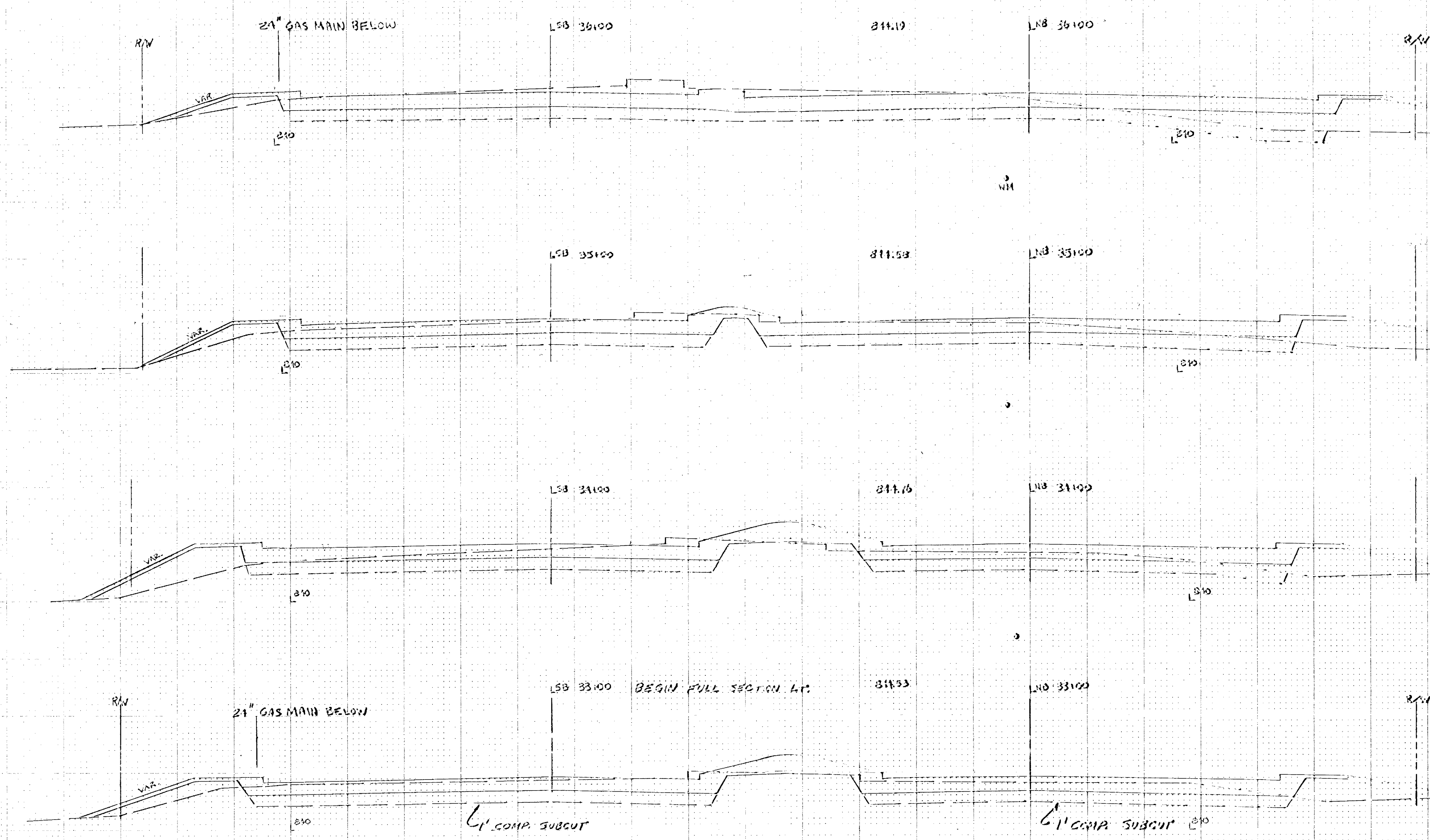
EXCAVATION CU. YDS.	EMBANKMENT CU. YDS.
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441 C.S. 344	225 447
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352 C.S. 328	246 426
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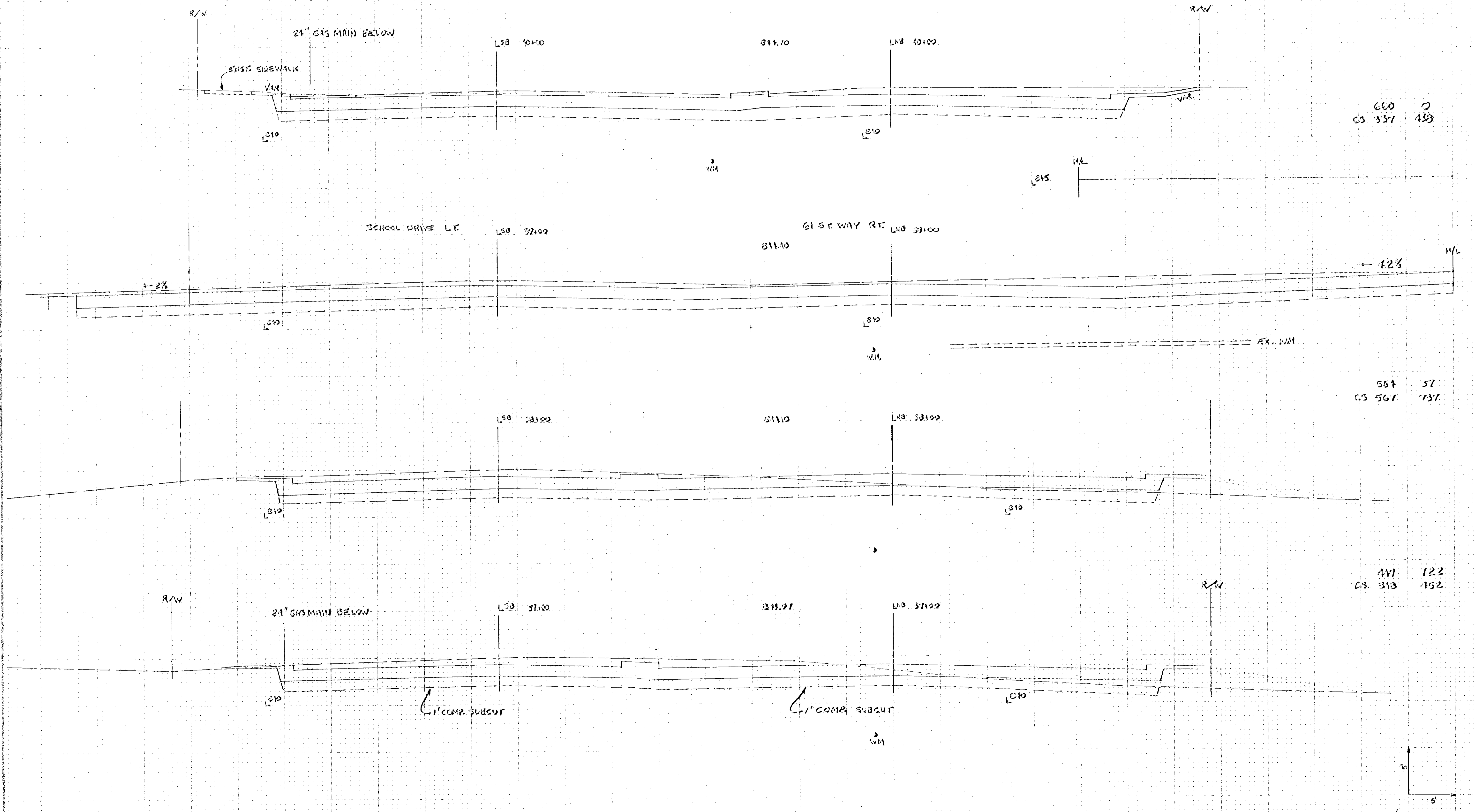
243 C.S. 306	203 328
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211 C.S. 276	136 385
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STA. 33100 TO 36100

EXCAVATION		EMBANKMENT	
CU. YDS.	CU. YDS.	CU. YDS.	CU. YDS.
584	0	0	0
CS 332	432	432	



660	0
CS 337	438

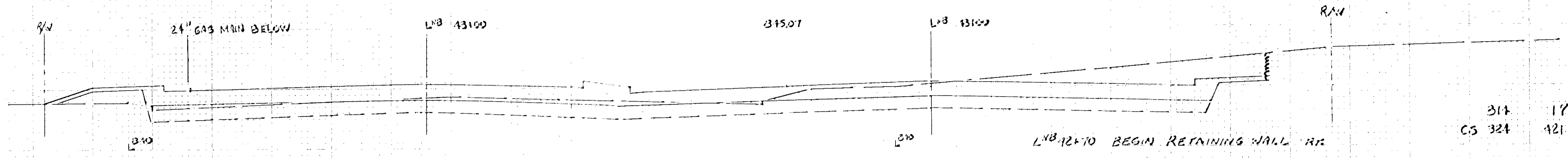
564	57
CS 567	737

447	122
CS 313	152

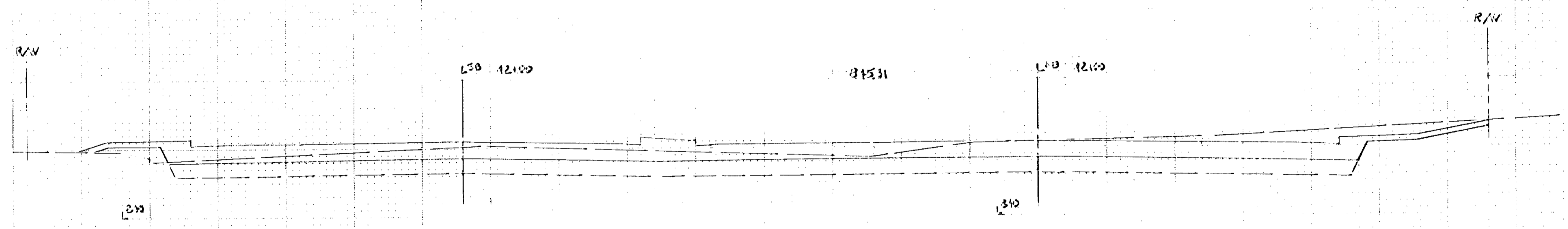
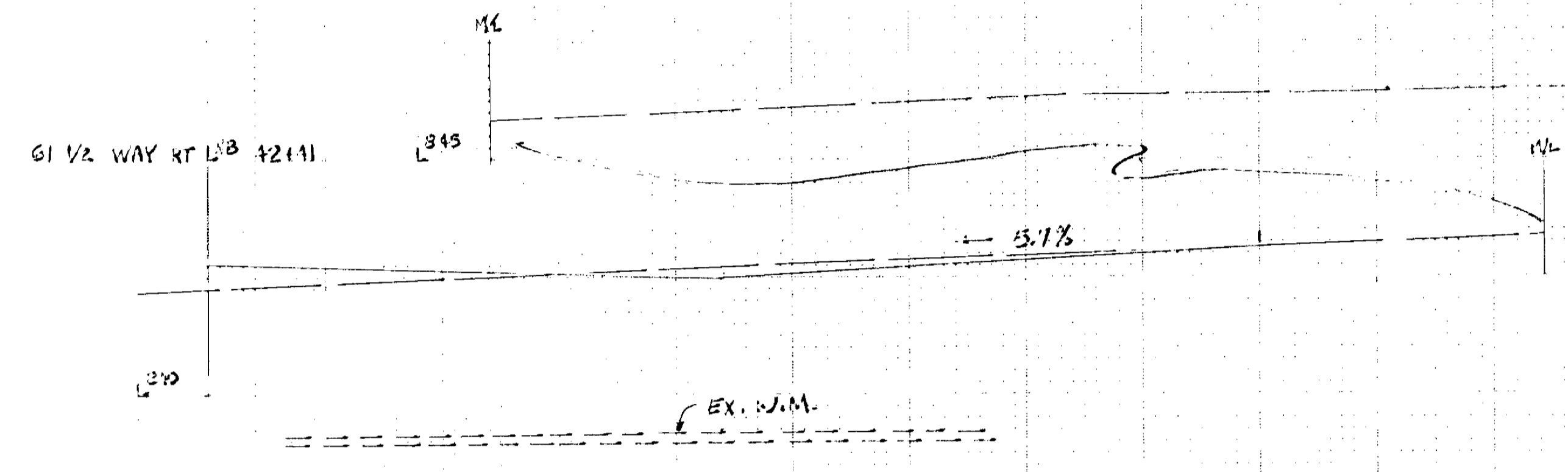
STA. 37+00 TO 40+00

EXCAVATION EMBANKMENT

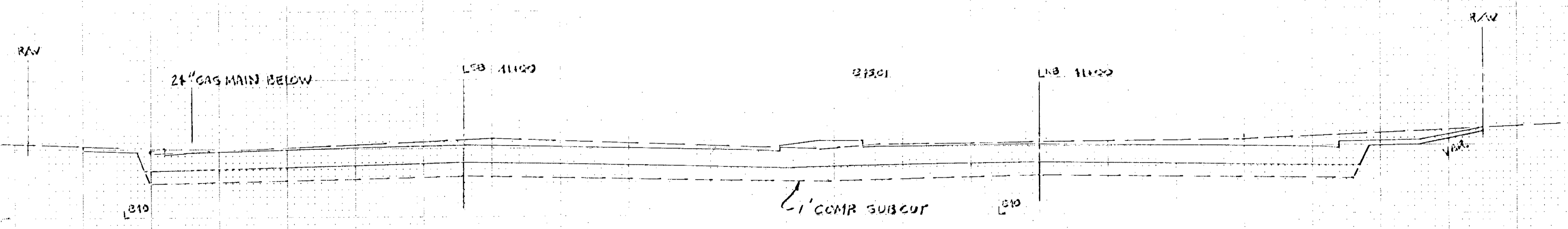
CU. YDS.	CU. YDS.
310	7
CS 357	477



314	17
CS 324	421

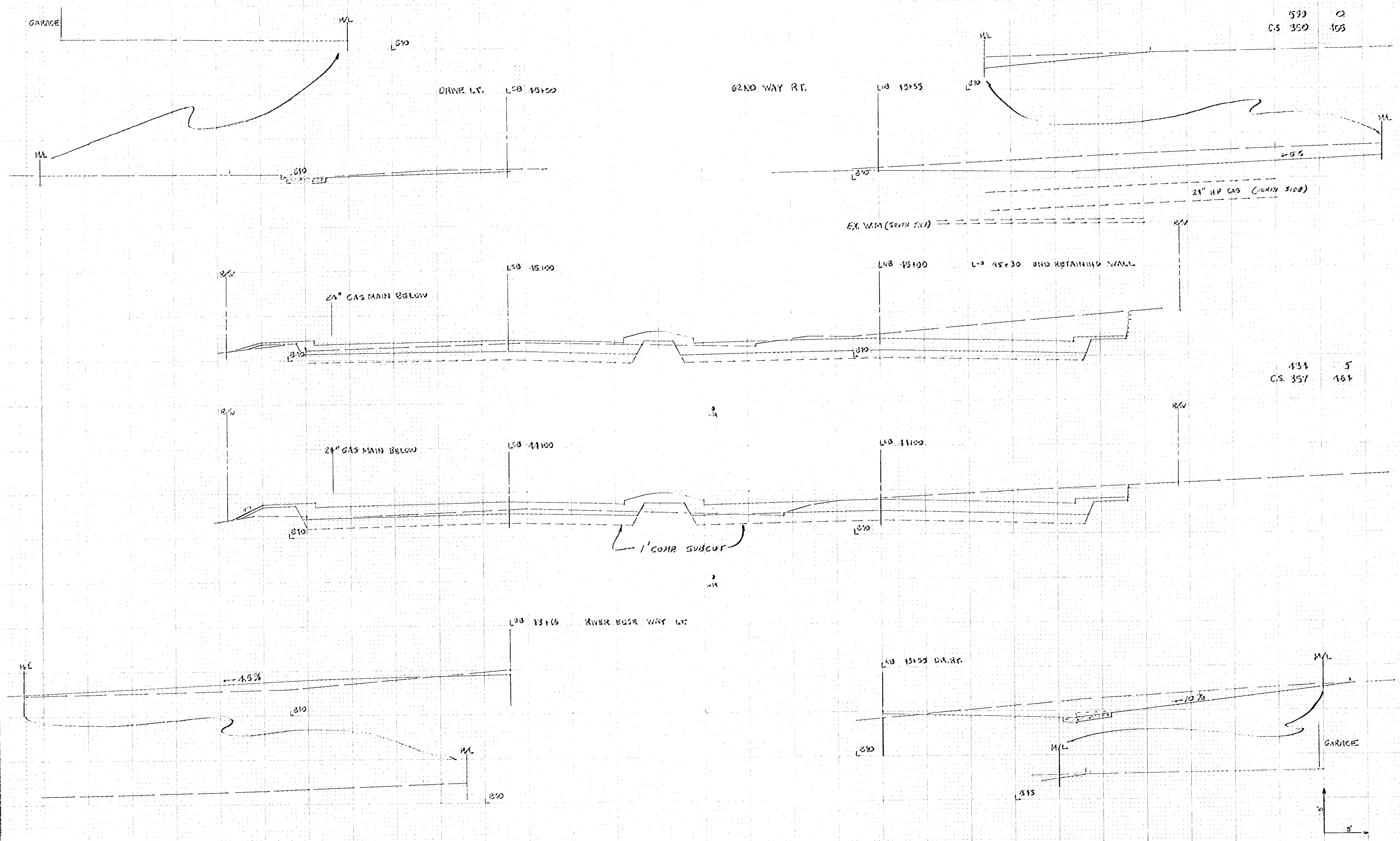


455	0
CS 321	421



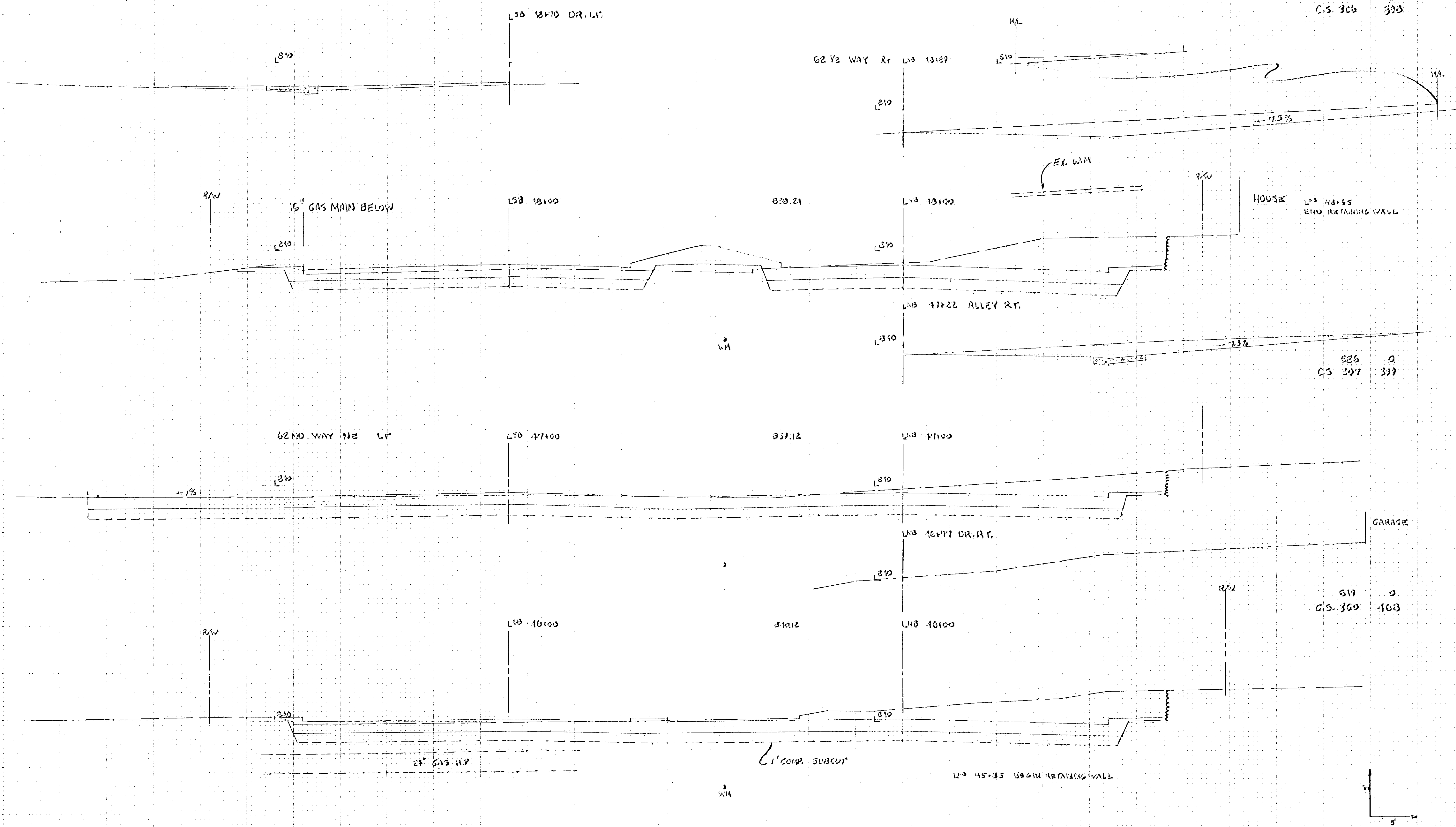
1.3% RIVER EDGE WAY

EXCAVATION	EMBANKMENT
CU. YDS.	CU. YDS.
599	0
CS. 350	155



434	5
CS. 357	164

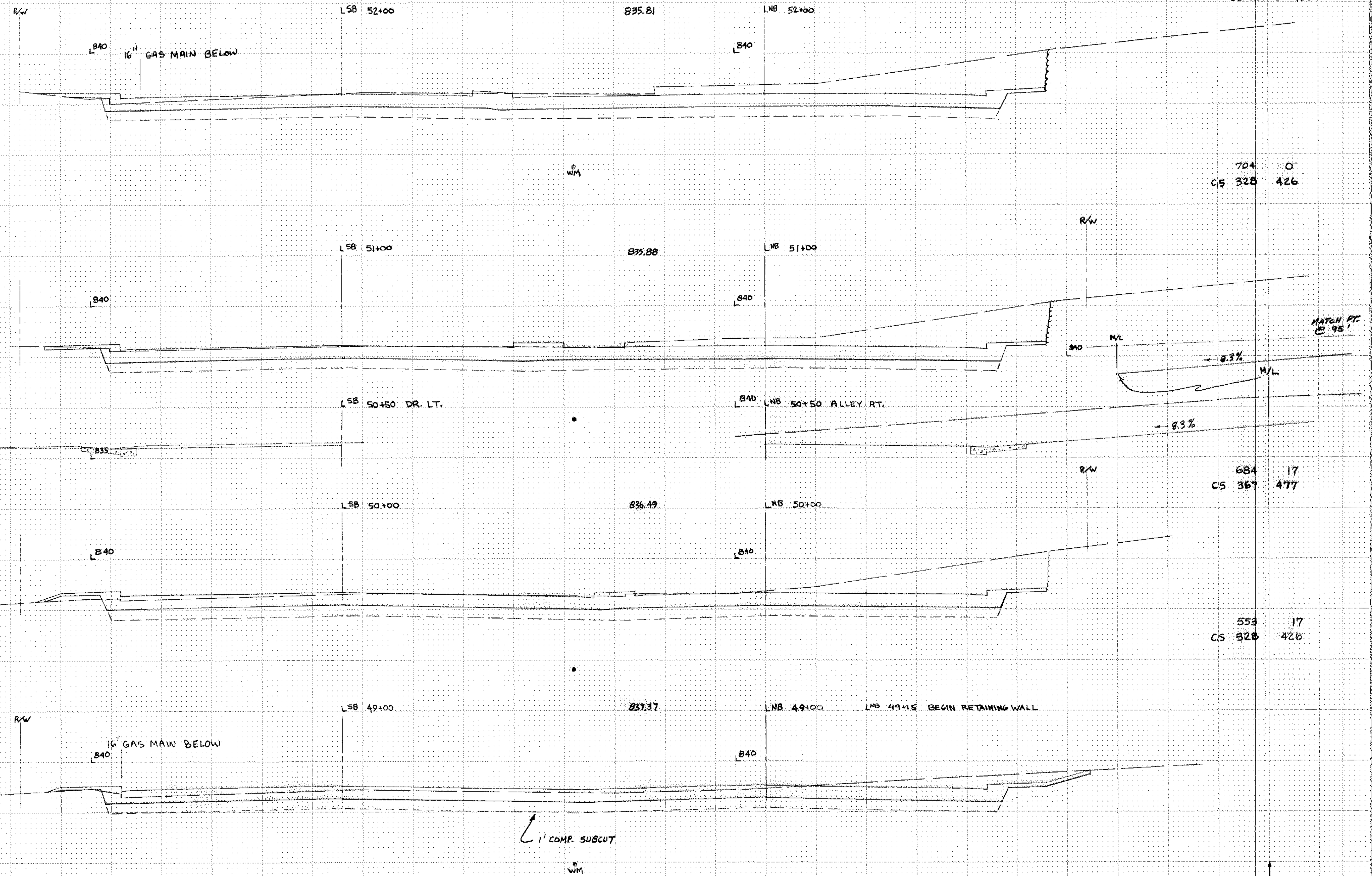
EXCAVATION	EMBANKMENT
CU. YDS.	CU. YDS.
520	0
C.S. 306	393



526	0
C.S. 307	399
519	0
C.S. 360	163

EXCAVATION EMBANKMENT

CU. YDS. CU. YDS.



704 0
CS 328 426

684 17
CS 367 477

553 17
CS 328 426

MATCH PT.
@ 95'

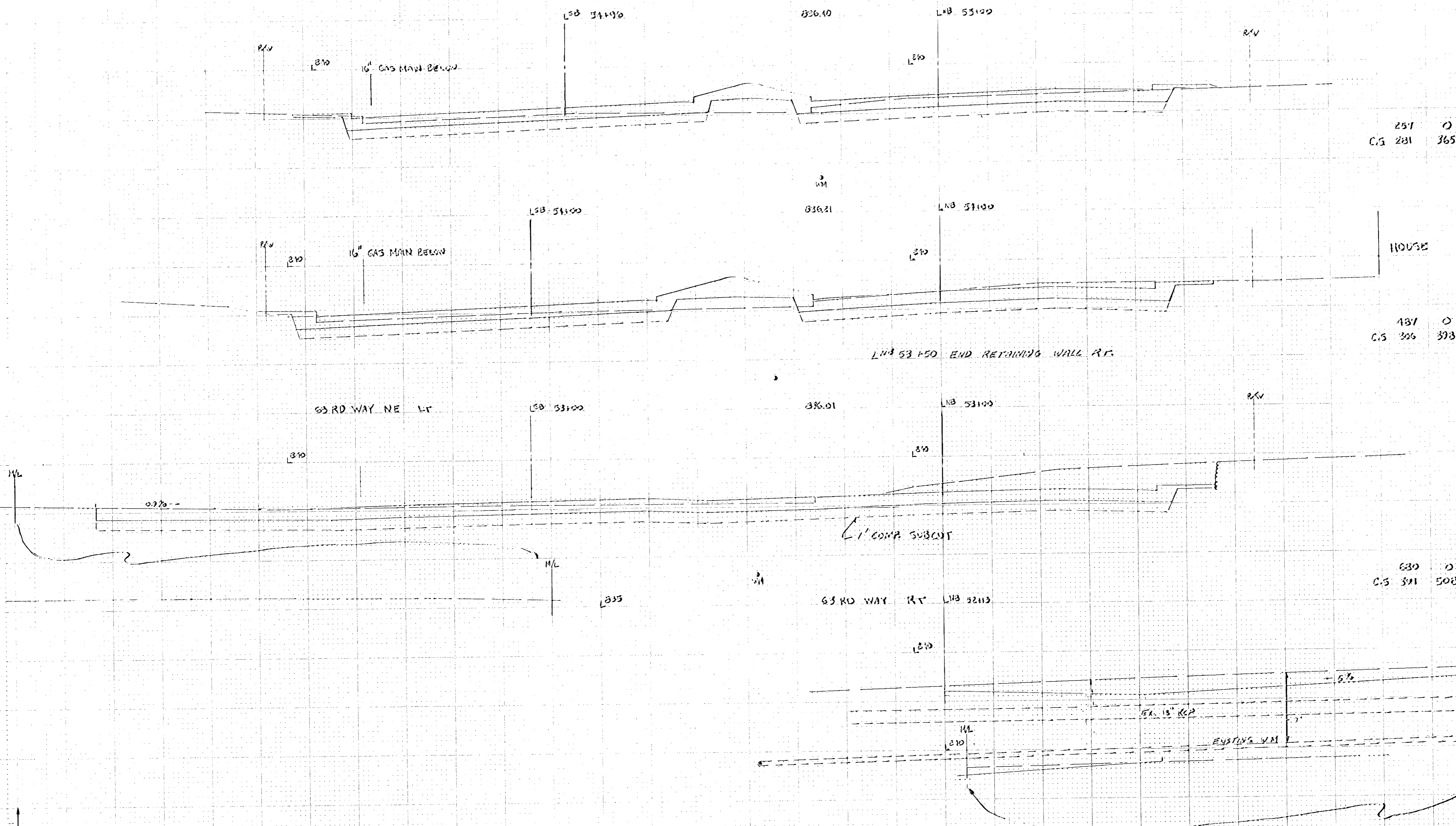
- 8.3%

- 8.3%

1' COMP. SUBCUT

STA 49+00 TO 52+00

FACTORY CROSS SECTIONS - SEE NOTES



257 0
C.S. 281 365

437 0
C.S. 306 393

630 0
C.S. 321 508

STA. 53+13 TO 55+00

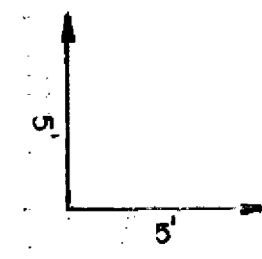
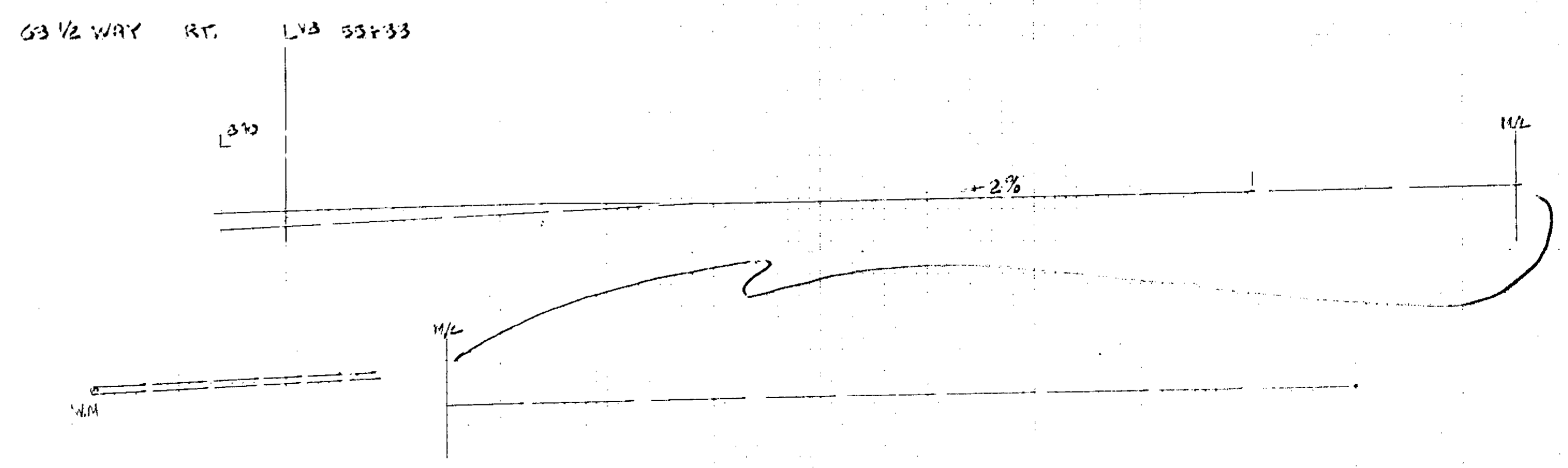
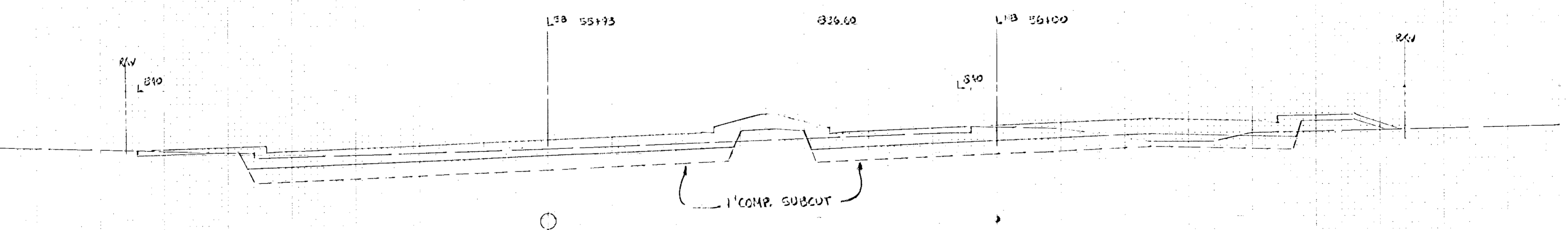
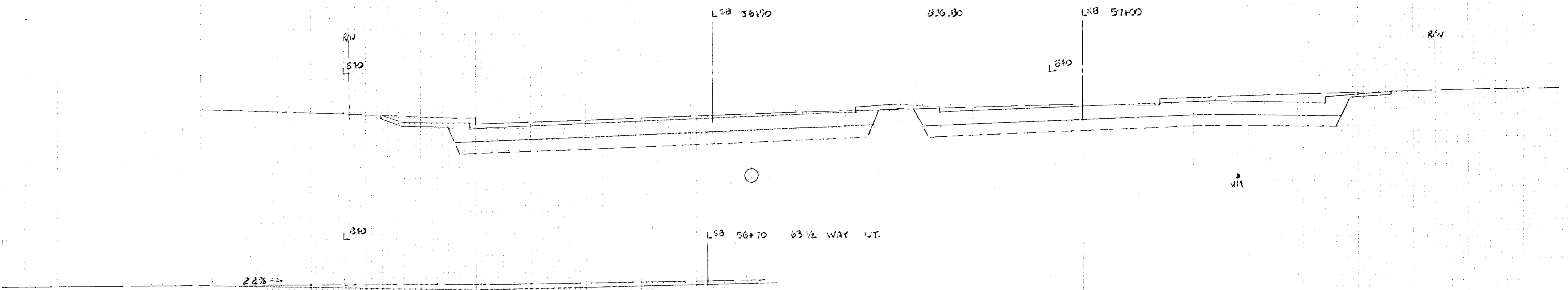
EXCAVATION EMBANKMENT

CU. YDS. CU. YDS.

420 0
C.S. 364 395

311 12
C.S. 233 363

179 12
C.S. 220 364



END MEDIAN SECTION AND CONSTRUCTION - L.NB 60+65

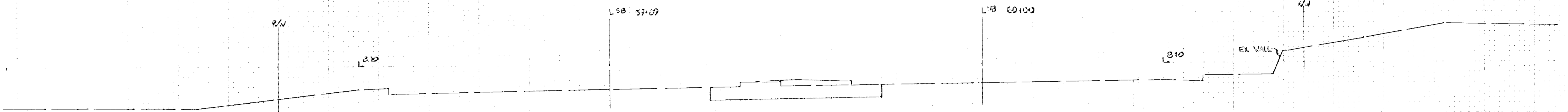
EXCAVATION EMBANKMENT

CU. YDS. CU. YDS.

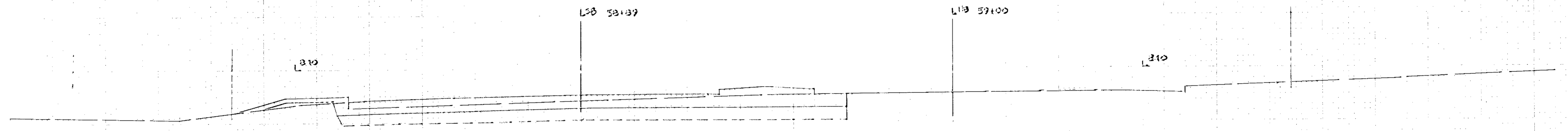
26 0
0.5 0 0

110 0
0.5 87 114

233 0
0.5 250 325



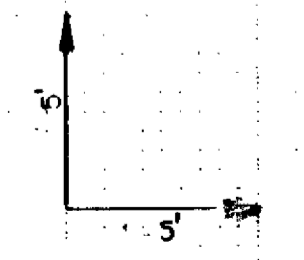
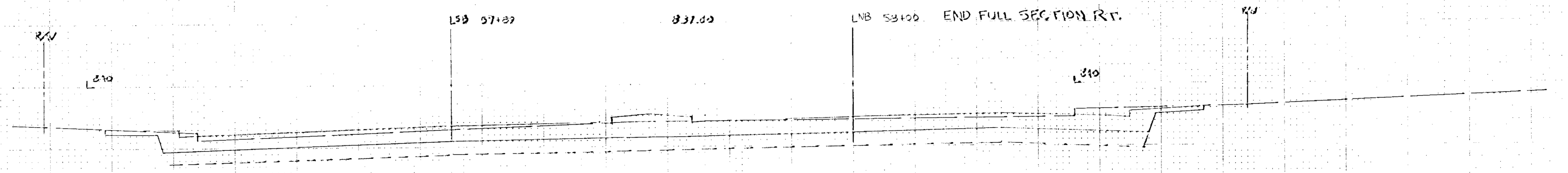
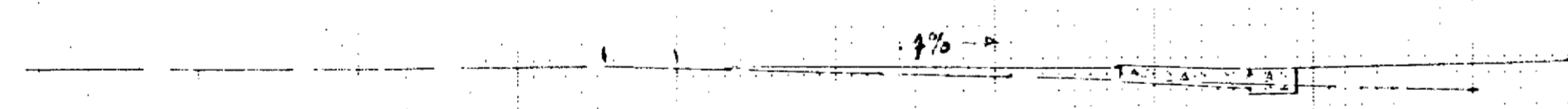
LNB 57+65 END FULL SECTION LT.



LNB 58+00 DR. LT.

6 FT. WIDE RT.

LNB 58+33





	EXCAVATION	TOTALS	
		EMBRANKMENT	
COMMON	12,518 CU. YDS	1,126	CU. YDS
COMPACTION SUBCUT	9,054 CU. YDS	11,170	CU. YDS
EXCESS	7,601 CU. YDS		

FUNCTIONAL CROSS SECTION - OPEN DITCH
M. A. BORDO CO. WINNEBAGO ST. PAUL

STA. 61+00 TO 63+00