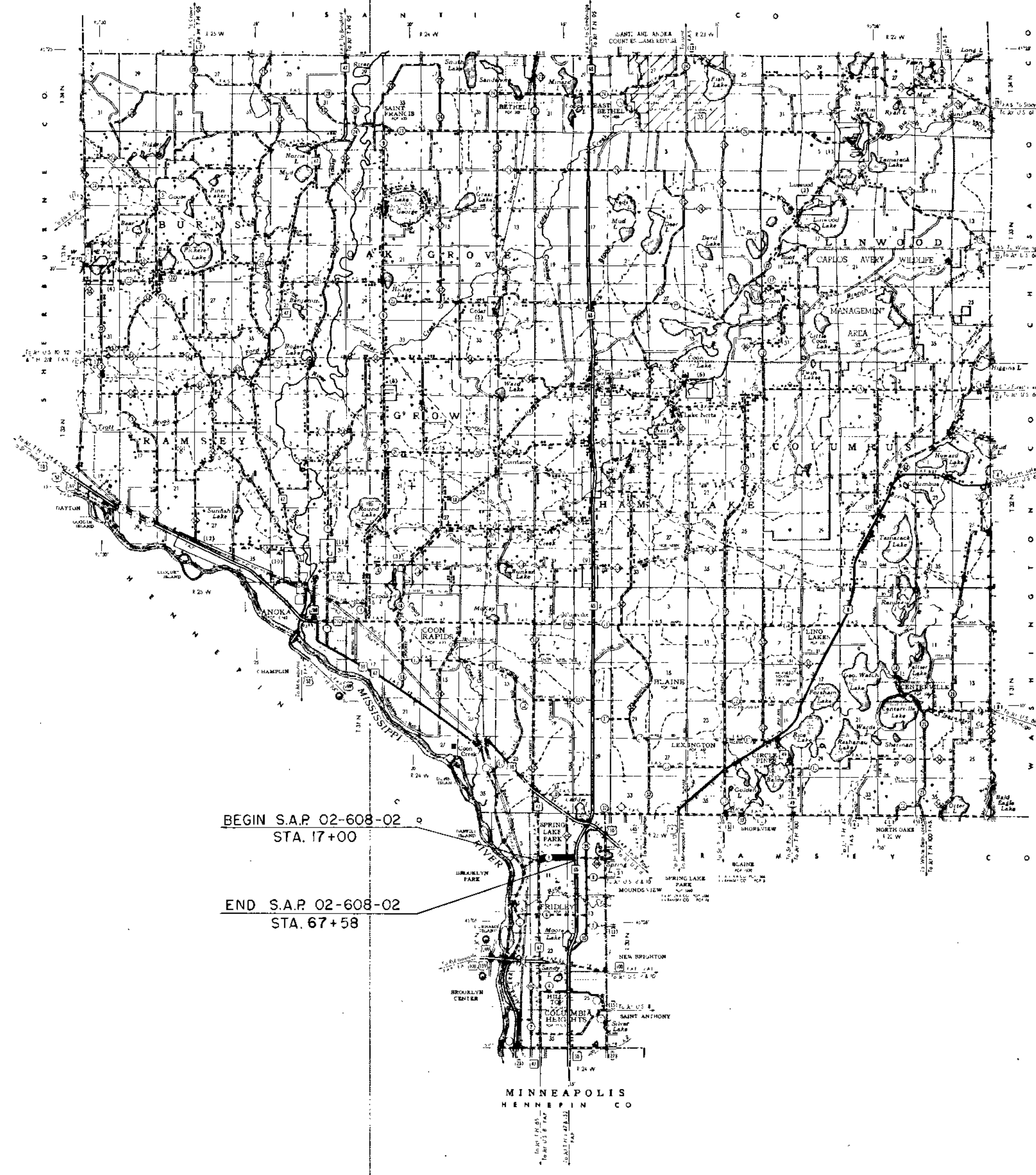
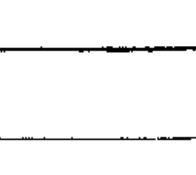
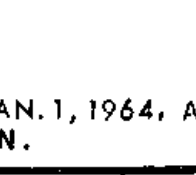
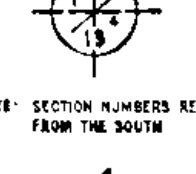


CONVENTIONAL SIGNS

STATE LINE		TIMBER	
COUNTY LINE		BR. IR.	
TOWNSHIP OR RANGE LINE		ORCHARD	
SECTION LINE		ROCK LEDGE	
QUARTER LINE		SAND	
SIXTEENTH LINE		EDGE OF CUT	
RIGHT-OF-WAY LINE		TIE OF EMBANKMENT	
PRESENT ROAD 7/8 LINE		CATCH BASIN	
LIMITED ACCESS		MANHOLE	
PROPERTY LINE (SEMP. AND LIND.)		ROAD NILET	
VACATED PLATTED PROPERTY		FINE HYDRANT	
CORPORATE OR CITY LIMITS		ARC LAMP	
TWINE HIGHWAY CENTER LINE		OTHER LAMPS (Sub 1-4)	
RETAINING WALL		RAILROAD CROSSING SIGN	
STEAM RAILROAD		ELECTRIC WARNING SIGN	
ELECTRIC RAILROAD		GRAVING GATE	
RAILROAD RIGHT-OF-WAY LINE		CATTLE GUARD	
CREEK		OVERHEAD (Highway Over)	
RAPIDS OR WATERFALL		UNDERPASS (Highway Under)	
DAY SIGN		ABUTMENT, WALL & PIER	
RAILROAD SIGN FENCE		BRIDGE	
BOARD OR HIGHWAY SIGN FENCE		CONCRETE (One Story Frame)	
WIRE FENCE		C CONCRETE & STONE TYLE & BRICK PL. STUCCO	
RAILROAD SIGN FENCE		HEDGE	
STONE WALL OR FENCE		IRON PIPE	
GAS MAIN		STONE MONUMENT	
WATER PIPE		WOOD STAKE OR NAIL	
SEWER PIPE		MEANDER CORNER	
DRAIN TILE			
GRAVEL PIT			
CLAY PIT			
ROCK QUARRY			
SPRINGS			
MARSH			



STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS  
CONSTRUCTION PLAN FOR STORM SEWER, GRADING & BITUMINOUS SURFACING  
**County State Aid Highway No. 8**

BETWEEN T.H. NO. 47 AND T.H. NO. 65  
From A PT. 1290' W. & 262' S. OF N. 1/4 COR. SEC. 11, T. 30 N., R. 24 W. To A PT. ON N. SEC. LINE 1164.2' E. OF THE N.W. COR. SEC. 12, T. 30 N., R. 24 W.  
Give proper reference to Section, Township and Range

GROSS LENGTH	5,058 FEET	0.958 MILES
BRIDGES LENGTH	— FEET	— MILES
EXCEPTIONS LENGTH	— FEET	— MILES
NET LENGTH	5,058 FEET	0.958 MILES

SCALES  
Plan 1 inch = 200 Feet  
PROFILE Horiz. 1 inch = 200 Feet, Vert. 1 inch = 20 Feet  
WORKING PLANS Horiz. 1 inch = 100 Feet, Vert. 1 inch = 10 Feet  
LAYOUT Cross Section 1 inch = 10 FEET  
Scale 1 inch = 50 Feet

MINN. PROJ. \_\_\_\_\_

INDEX OF SHEETS

Sheet No. 1.	Title Sheet & Layout Map
" No. 2.	Est. Quantities & Typical Sec.
" No. 3. To 4.	Plan & Profile
" No. 5.	STORM SEWER
" No. 6 TO 10.	CROSS SECTIONS

DESIGN DATA

ADT. (CURRENT YEAR)	3050
ADT. (20 YEAR PROJECTION)	7015
SOIL FACTOR	50%
STRUCTURAL DESIGN	9 TCN
H.C.A.D.T. (PROJ.)	300-600

DESIGN SPEED  
LOCALLY RESTRICTED TO 30 MPH

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

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.

*Colby J. Sundheim*  
COUNTY ENGINEER DATE *May 6, 1966*

ANOKA COUNTY REG. NO. 2551

RECOMMENDED FOR APPROVAL *Edgar C. Pearson* 5-9-1966  
DISTRICT ENGINEER

RECOMMENDED FOR APPROVAL *C. C. Weichselbaum* 5-31-1966

APPROVED *E. J. Pearson* 5-31-1966  
ACTING STATE AID ENGINEER

DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	
DISTRICT ENGINEER	DATE

**MICRO-FILMED**

Minn. Project No. \_\_\_\_\_ S.A.P. 02-608-02  
State Project No. \_\_\_\_\_

ANOKA County, Minnesota. County Proj. No. \_\_\_\_\_ Plan No. \_\_\_\_\_ Sheet 1 of 10 Sheets

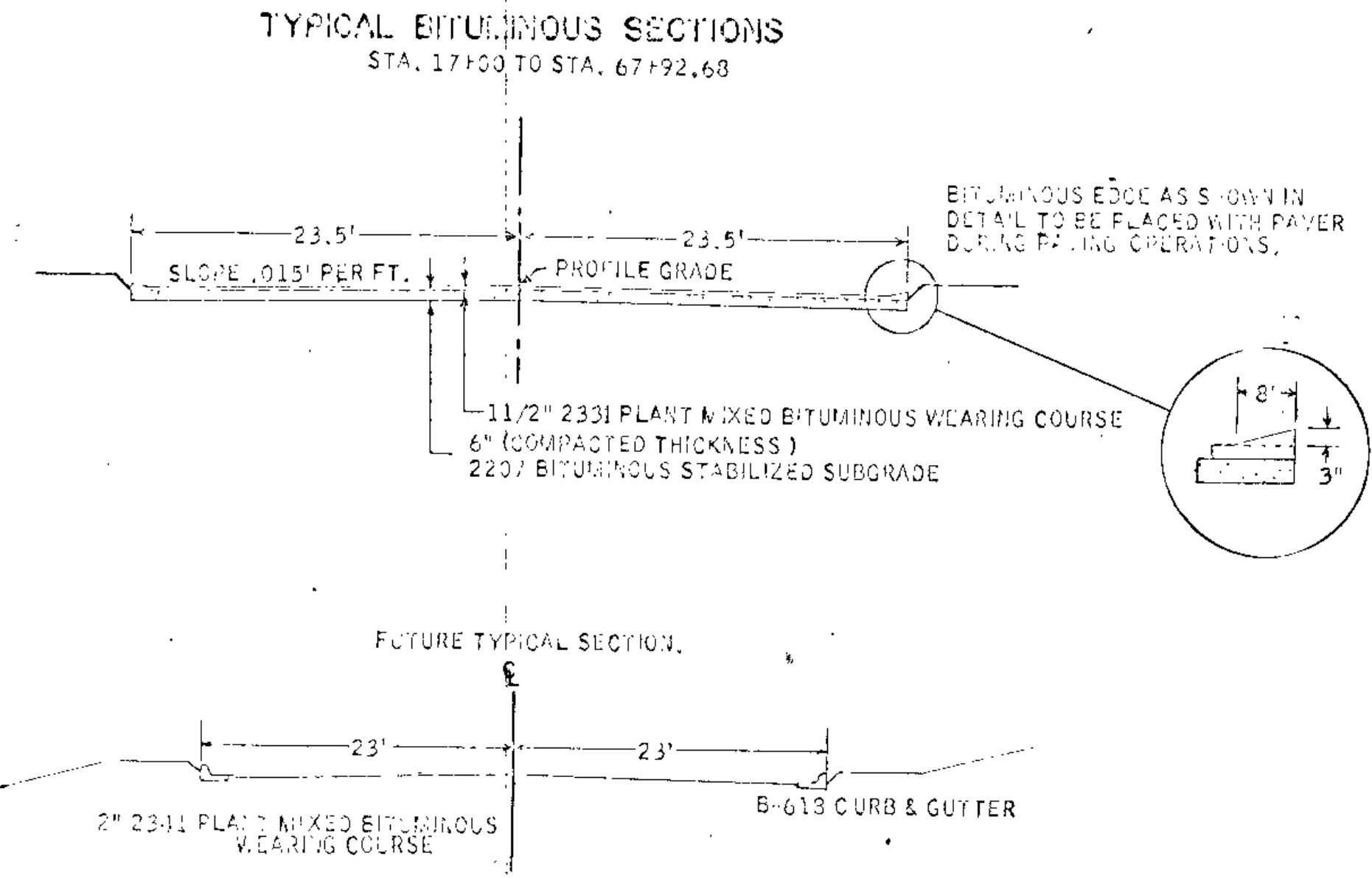
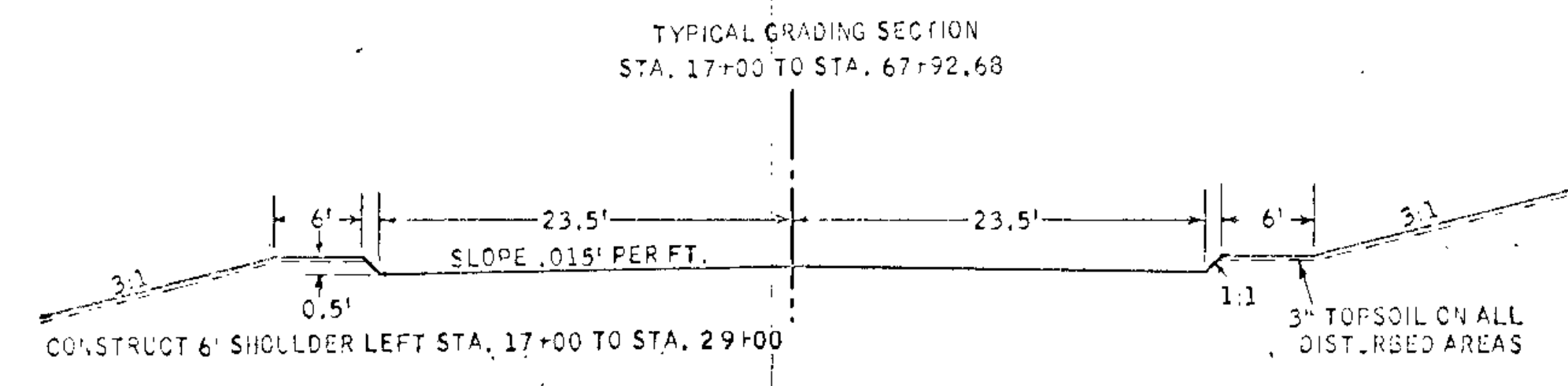
SPECIFICATIONS  
THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", DATED JAN. 1, 1964, AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS" DATED FEB. 1, 1966, SHALL GOVERN.

STATEMENT OF ESTIMATED QUANTITIES					
ITEM NO.	ITEM	UNIT	CITY OF FRIDLEY QUANTITIES	VILLAGE OF SP. LAKE PK QUANTITIES	TOTAL ESTIMATED QUANTITIES
2101.502	CLEARING	TREE	9	9	9
2101.507	GRUBBING	TREE	11	11	11
2104.501	REMOVE PORT. CULV.	LIN. FT.	20	30	50
2104.503	REMOVE CURB & GUTTER	LIN. FT.	10	10	10
2104.521	REMOVE PORTABLE CURB	LIN. FT.	176	176	176
2104.510	REMOVE FENCE	LIN. FT.	98	98	98
597.621	RESET FENCE	LIN. FT.	86	86	86
2109.501	CLASS "A" EXCAVATION	CU. YD.	2,514	2,513	5,027
2109.510	TOPSOIL COVER	CU. YD. (V.M.)	346	346	692
2109.514	SALVAGE BITUMINOUS MIXTURE ON ROAD	CU. YD. (V.M.)	1,173	1,173	2,346
2130.501	WATER	M-GAL.	40	40	80
2131.501	CALCIUM CHLORIDE TREATMENT	TON	13	13	26
2207.503	BITUMINOUS MATERIAL FOR MIX	GAL.	50,465	50,465	100,930
2207.503	BITUMINOUS MATERIAL FOR FOG	GAL.	1,682	1,682	3,364
2207.512	BITUMINOUS STABILIZED SUBGRADE (6" THICK)	SQ. YD.	16,822	16,822	33,644
2331.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL.	841	841	1,682
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	70	70	140
2331.508	ACARING COURSE MIXTURE	TON	1,262	1,262	2,524
2331.518	BITUMINOUS MIXTURE FOR DRIVEWAY REPLM.T.	TON	15	5	20
2503.512	F. & I. 12" R.C.P. CLASS 4	LIN. FT.	29	29	58
2503.512	F. & I. 15" R.C.P. CLASS 4	LIN. FT.	29	29	58
2506.506	CONSTRUCT MANHOLE DESIGN C. OR G.	LIN. FT.		8.4	8.4
2506.507	CONSTRUCT CATCH BASINS DESIGN C. OR G.	LIN. FT.		11.2	11.2
2506.516	F. & I. CASTING ASSEMBLY	ASSEMBLY		3	3
2506.522	ADJUST FRAME & RING CASTINGS	ASSEMBLY	6	10	16
2515.541.15	F. & I. CONC. APRON FOR 15" S.C.P.	APRON	1	1	2
2576.501	SODDING	SQ. YD.	3,900	4,402	8,302
504.685	ADJUST WATER GATE HOUSING	HOUSING	6	6	12
2515.541.12	F. & I. CONC. APRON FOR 12" S.C.P.	APRON		3	3
2531.591	CONCRETE CURB & GUTTER DESIGN S-518	LIN. FT.	40		40

- 1. RESETTING OF CURB WILL BE INCIDENTAL TO THE ABOVE ITEM. (SEE SPEC. PROV.)
- 2. INCLUDES BITUMINOUS MATERIAL FOR MIXTURE OF ITEM 2331.518

FORM 2109-10-53  
The following Standard Detail plates, approved by the Bureau of Public Roads, shall apply on this project.

PLATE NO.	STANDARD DETAIL PLATES DESCRIPTION
3000 D	REINFORCED CONCRETE PIPE
3100 D	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
4002 C	MANHOLE OR CATCH BASIN (DESIGN C)
4206 D	MANHOLE OR CATCH BASIN (DESIGN G)
4101 A	RING CASTING FOR MANHOLE OR CATCH BASIN
4110 C	COVER CASTING FOR MANHOLE
4126 C	CATCH BASIN FRAME CASTING
4141 B	GRATE CASTING FOR CATCH BASIN
4161 C	CURB BOX CASTING FOR CATCH BASIN
8000 B, 8001 A, 8005 A & 8003	STANDARD SIGNS & BARRICADES



NOTE: THE EMBANKMENT SHALL BE COMPACTED BY THE ORDINARY COMPACTION AS PROVIDED IN 2110.302, EXCEPT THAT THE COMPACTION SHALL BE ACCOMPLISHED BY AN APPROVED VIBRATORY COMPACTOR. THE COMPACTOR SHALL HAVE AN EMPTY WEIGHT OF NOT LESS THAN 3 TONS AND A DRUM OF NOT LESS THAN 30 INCHES IN DIAMETER NOR LESS THAN 40 INCHES IN LENGTH.

NOTE: THE UPPER 1.0' OF NATURAL SOIL IS CONSIDERED UNSUITABLE FOR USE IN UPPER 1.0' OF ROADWAY. THIS PORTION SHALL BE PLACED BELOW THE UPPER 1.0' OF EMBANKMENT DURING CONSTRUCTION.

NOTE: COUNTY ENGINEER TO GET PERMISSION TO CLEAN DITCH DRAINAGE LINE IN TRUNK HIGHWAY RIGHT OF WAY.

BASIS OF PLANNED QUANTITIES

- 2207 BITUMINOUS BASE  
BITUMINOUS MATERIAL FOR FOG 0.10 GAL. PER S.Y.  
BITUMINOUS MATERIAL FOR MIX 0.50 GAL PER S.Y. PER INCH OF DEPTH
- 2331 PLANT MIXED BITUMINOUS WEARING COURSE  
BITUMINOUS MATERIAL FOR TACK 0.05 GAL. PER S.Y.  
BITUMINOUS MATERIAL FOR MIX 5.5% OF MIXTURE BY WEIGHT  
BITUMINOUS MIXTURE 150 POUNDS PER SQ. YD.

CLASS "A" EXCAVATION COMPUTATION  
TOTAL AMOUNT OF CLASS "A" EXCAVATION 6,368 CU. YDS.  
MINUS BITUMINOUS SURFACE IN PLACE 1,341 CU. YDS.  
PAY QUANTITY OF CLASS "A" EXCAVATION 5,027 CU. YDS.

SALVAGE BITUMINOUS SURFACE COMPUTATION  
AVG. DEPTH .3' AVG. WIDTH 23.7' LENGTH 5,093  
BULKING FACTOR FOR VEHICULAR MEASURE 175%

SEWER SYSTEM												
NO.	STATION	LOCATION	REMARKS	TYPE	DESIGN	LIN. FT.	TOP CAST.	OUTLET	F. & I. CAST ASSEM.	DRAIN TO	F. & I. 12" R.C.P. CL. 4	F. & I. 15" R.C.P. CL. 4
1	29+92	16' LT.	ADJ. CAST	MH	INP.		871.40	871.40	A	MH NO. 3	8'	
2	30+91	20.9' LT.		CB	C OR G 2.9		885.13	882.00	A	MH NO. 1	8'	
3	30+85	16' LT.	ADJ. CAST	MH	INP.		885.08	882.00	A	MH NO. 3	37'	
4	30+85	20.9' RT.		CB	C OR G 2.9		885.08	882.00	A	MH NO. 3	37'	
5	34+87	16' LT.	ADJ. CAST	MH	INP.		888.90	885.50	A	MH NO. 6	37'	
6	34+87	16' LT.	ADJ. CAST	MH	INP.		888.90	885.50	A	MH NO. 6	37'	
7	34+93	20.9' LT.		CB	C OR G 3.3		888.95	885.50	A	MH NO. 6	8'	
8	38+93	20.9' LT.		CB	C OR G 3.5		891.21	887.50	A	MH NO. 9	8'	
9	38+87	16' LT.	ADJ. CAST	MH	INP.		886.14	886.14	A	MH NO. 6	37'	
10	38+87	20.9' RT.		CB	C OR G 3.5		891.19	887.50	A	MH NO. 9	37'	
11	42+74	20.9' RT.		CB	C OR G 3.1		892.82	889.50	A	MH NO. 12	37'	
12	42+74	16' LT.	ADJ. CAST	MH	INP.		888.35	888.35	A	MH NO. 9	37'	
13	42+55	40' LT.		CB	C OR G 3.7		893.10	889.19	A	MH NO. 12	32'	
14	43+33	40' LT.		CB	C OR G 3.3		893.10	889.57	A	CB NO. 13	38'	
15	43+52	20.9' LT.		CB	C OR G 3.1		893.14	889.84	A	CB NO. 14	27'	
16	46+03	20.9' RT.		CB	C OR G 2.9		894.61	891.48	A	MH NO. 17	37'	
17	46+03	16' LT.	ADJ. CAST	MH	INP.		891.26	891.26	A	MH NO. 12	37'	
18	46+24	40' LT.		CB	C OR G 3.4		895.30	891.68	A	MH NO. 17	32'	
19	46+62	40' LT.		CB	C OR G 3.2		895.30	891.87	A	CB NO. 18	38'	
20	46+84	20.9' LT.		CB	C OR G 3.0		895.15	892.00	A	CB NO. 19	27'	
21	49+21	20.9' RT.		CB	C OR G 3.0		896.87	893.68	A	MH NO. 22	37'	
22	49+31	16' LT.	ADJ. CAST	MH	INP.		895.42	895.42	A	MH NO. 17	37'	
23	49+52	40' LT.		CB	C OR G 3.2		897.30	893.88	A	MH NO. 22	32'	
24	49+50	40' LT.		CB	C OR G 3.0		897.30	894.07	A	CB NO. 23	38'	
25	50+07	20.9' LT.		CB	C OR G 3.1		897.53	894.20	A	CB NO. 24	27'	
26	52+60	20.9' RT.		CB	C OR G 3.3		899.79	896.30	A	MH NO. 27	37'	
27	52+60	16' LT.	ADJ. CAST	MH	INP.		895.42	895.42	A	MH NO. 27	37'	
28	52+81	40' LT.		CB	C OR G 3.8		900.30	896.35	A	MH NO. 27	32'	
29	53+19	40' LT.		CB	C OR G 3.4		900.30	896.73	A	CB NO. 28	38'	
30	53+38	20.9' LT.		CB	C OR G 3.2		900.36	897.00	A	CB NO. 29	27'	
31	56+03	20.9' RT.		CB	C OR G 3.2		901.20	897.80	A	MH NO. 32	40'	
32	55+88	16' LT.	ADJ. CAST	MH	INP.		897.11	897.11	A	MH NO. 27	37'	
33	56+09	40' LT.		CB	C OR G 3.4		901.30	897.68	A	MH NO. 32	32'	
34	56+47	40' LT.		CB	C OR G 3.2		901.30	897.87	A	CB NO. 33	38'	
35	56+66	20.9' LT.		CB	C OR G 3.2		901.96	898.00	A	CB NO. 34	27'	
36	60+86	16' LT.	ADJ. CAST	MH	INP.		898.66	898.66	A	MH NO. 32	37'	
37	61+06	40' LT.		CB	C OR G 2.9		901.90	898.82	A	MH NO. 36	30'	
38	61+44	40' LT.		CB	C OR G 2.7		916.93	899.01	A	CB NO. 37	38'	
39	65+00	20.9' LT.		CB	C OR G 2.7		930.17	897.30	A	CB NO. 40	42'	
40	65+00	20.9' RT.		CB	C OR G 2.6		906.17	897.20	A	MH NO. 41	8'	
41	65+00	29' RT.		MH	C OR G 3.7		901.00	897.10	B	MH NO. 42	236'	
42	67+34	29' RT.	*	MH	C OR G 4.7		901.50	896.60	B	OPEN DITCH	24'	
43	18+02	20.9' RT.	*	CB	C OR G 2.5		871.45	868.80	C	OPEN DITCH	84'	
44	20+00	20.9' RT.	*	CB	C OR G 2.9		872.45	869.40	A	CB NO. 43	12'	198'
45	21+05	20.9' RT.	*	CB	C OR G 3.4		873.34	869.72	A	CB NO. 44	12'	105'
46	21+88	20.9' RT.	*	CB	C OR G 3.9		874.09	869.97	A	CB NO. 45	12'	83'

\* F. & I. APRONS FOR OFFTAKE

CASTINGS					
	GRATE	FRAME	CURB BOX	HEIGHT	USE
A	810	801	*	0.87	C.B.
B	711	700-7		0.58	M.H.
C	810	801	822	0.87	C.B.

\* SEE SPECIAL PROVISIONS

NOTE ALL SLOPES & DIMENSIONS SHOWN ON TYPICAL SECTIONS ARE NOMINAL

ADJUST ITEMS		
STATION	LOCATION	TYPE
18+40	2' RT.	SAN. M.H.
21+19	2' RT.	SAN. M.H.
23+98	1' RT.	SAN. M.H.
26+49	4' LT.	SAN. M.H.
19+23	27' RT.	BELL TEL. M.H.
24+27	27' RT.	BELL TEL. M.H.
23+98	23' RT.	WATER GATE VALVE
29+95	25' RT.	WATER GATE VALVE
51+14	24' RT.	WATER GATE VALVE
55+83	23' RT.	WATER GATE VALVE
57+43	13' RT.	WATER GATE VALVE
67+25	23' RT.	WATER GATE VALVE

BM # 4 ELEV 87.18  
SPIKE IN 48" COTTENWOOD NE. T.H. 47 & CSAH. NO 8

TERRACE RD (BIT) STA 30+00 LT.

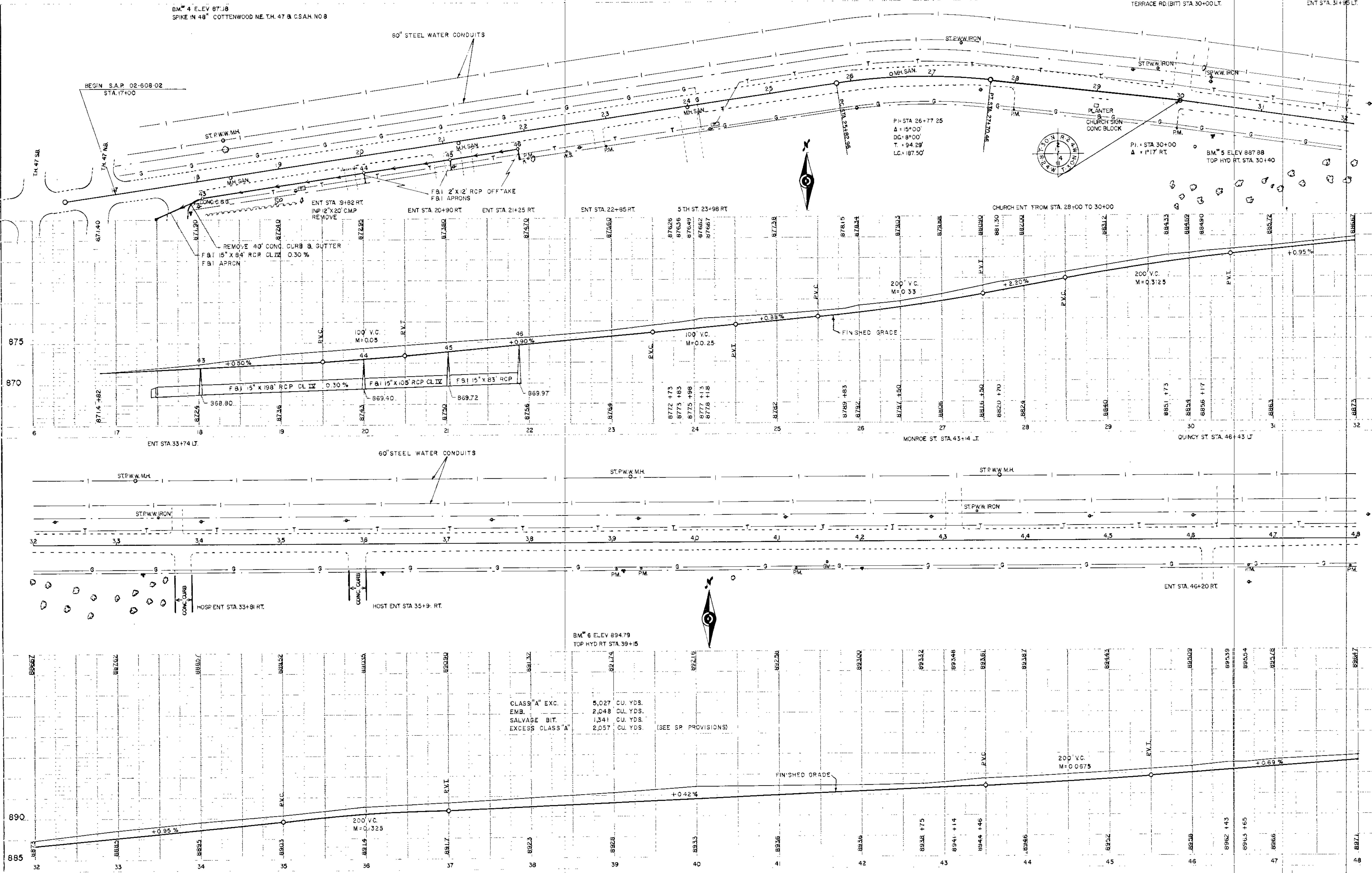
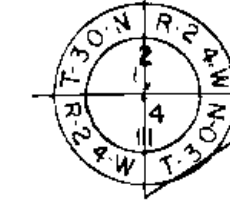
ENT STA. 31+95 LT.

60" STEEL WATER CONDUITS

BEGIN S.A.P. 02-608-02  
STA. 17+00

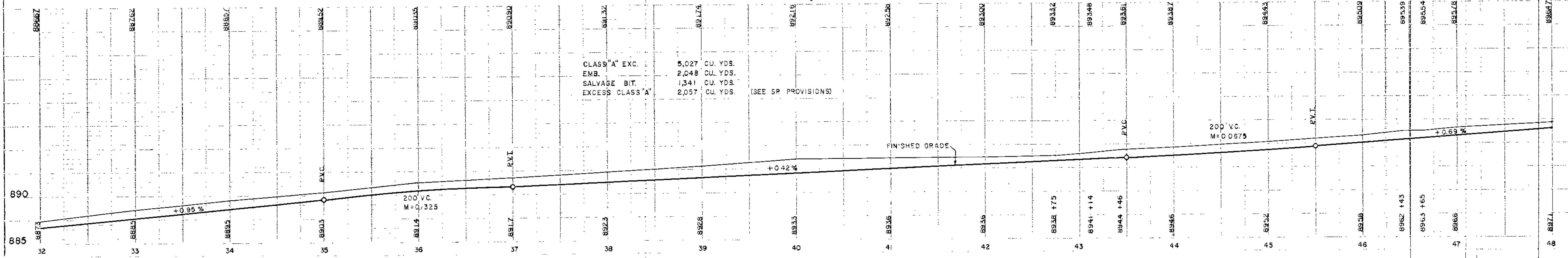
PI+ STA 26+77.25  
Δ = 15°00'  
DC = 8°00'  
T = 94.29'  
LC = 187.50'

PI+ STA 30+00  
Δ = 1°17' RT  
BM # 5 ELEV 887.88  
TOP HYD RT. STA. 30+40



CLASS "A" EXC.	5,027	CU. YDS.
EMB.	2,048	CU. YDS.
SALVAGE BIT.	1,341	CU. YDS.
EXCESS CLASS "A"	2,057	CU. YDS. (SEE SP PROVISIONS)

200' V.C.  
M=0.0675



JACKSON STREET STA. 49+77 LT (SAND)

60" STEEL WATER CONDUITS

VANBUREN ST. STA 53+00 LT (BIT)

ENT. STA. 54+69 LT.

ABLE ST. STA. 56+28 LT.

ENT. STA 57+94 LT. ENT. STA. 58+26 LT. (BIT)

ENT. STA 58+99 LT.

TYLER ST. STA. 61+25 LT (BT)

ENT. STA. 63+50 LT.

ST P.W.W.M.H.

ST P.W.W.M.H.  
24" DIA. MOUND

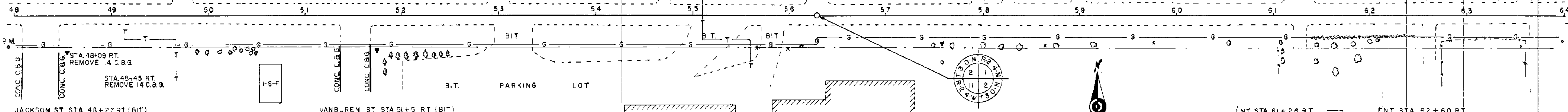
P.C. STA 56+28.48  
Δ = 0'03" LT

ST P.W.W. BRICK M.H. 2' ABOVE GROUND

ST P.W.W. IRON

ST P.W.W. IRON

ST P.W.W. IRON



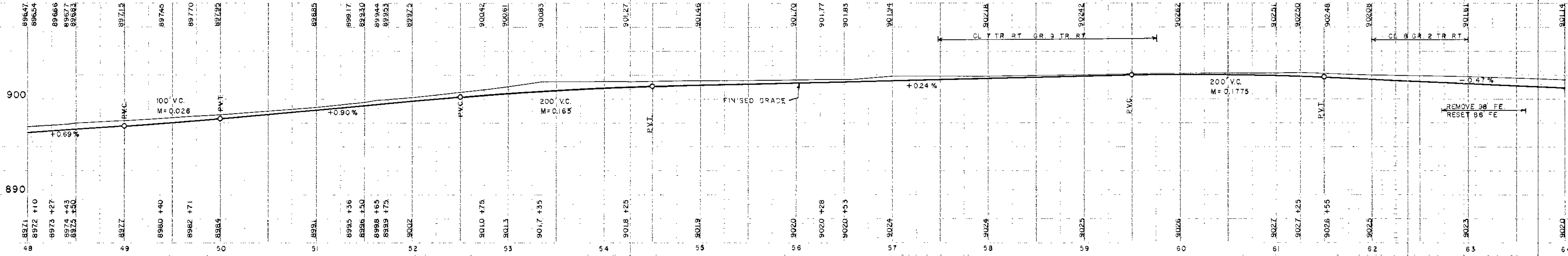
JACKSON ST. STA. 48+27 RT (BIT)  
B.M. #7 ELEV. 900.10  
TOP HYD. RT. STA. 48+54

VANBUREN ST. STA 51+51 RT (BIT)  
STA. 51+35 RT. REMOVE 21' C.B.G.  
STA. 51+66 RT. REMOVE 21' C.B.G.

B.M. #8 ELEV. 905.31  
TOP HYD. RT. STA. 57+57

ENT. STA. 61+26 RT.

ENT. STA. 62+60 RT.

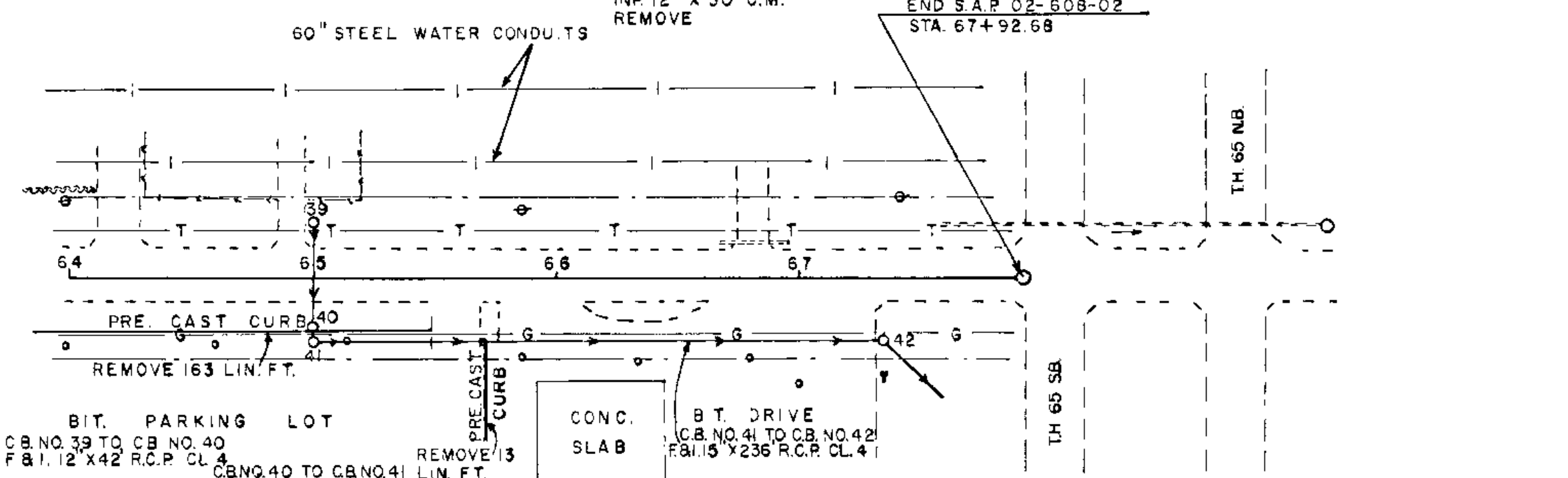


ENT. STA. 64+20 LT (DBL)

ENT. STA. 64+90 LT.

ENT. STA. 66+79 LT.  
INP 12" X 30" C.M.  
REMOVE

END S.A.P. 02-608-02  
STA. 67+92.68



60" STEEL WATER CONDUITS

PRE-CAST CURB REMOVE 163 LIN. FT.

REMOVE 13' PRE-CAST CURB

CONC. SLAB

BIT. DRIVE (CB NO. 41 TO CB NO. 42) F&I 15' X 236' R.C.P. CL. 4'

TH 60 SB

TH 60 SB

COMMERCIAL BLDGS.

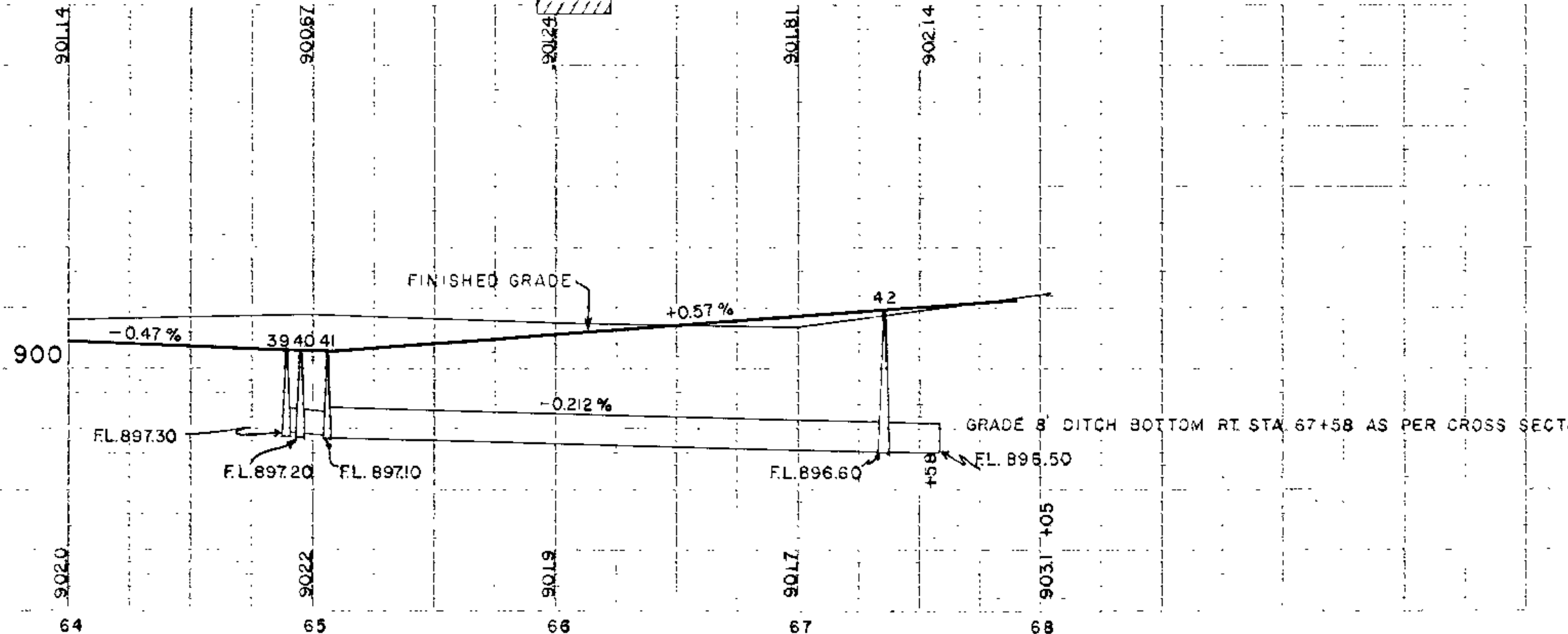
FILL STAT.

CONC. SLAB

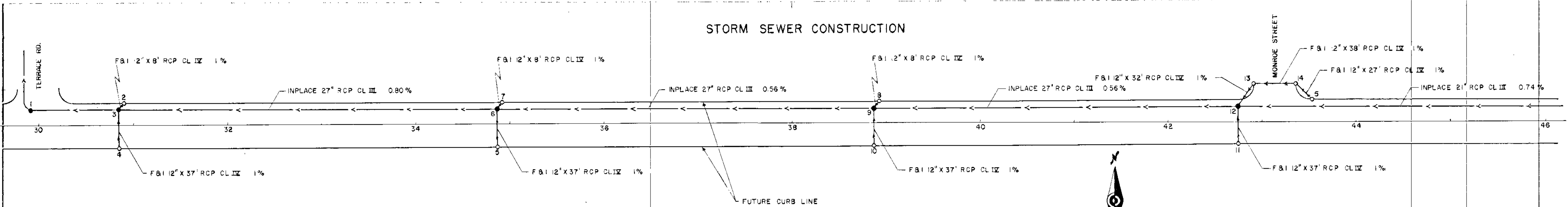
GRADE 8' DITCH BOTTOM RT. STA. 67+58 AS PER CROSS SECTIONS

B.M. #9 ELEV. 904.87  
TOP HYD. RT. STA. 67+33

CONC. APRON FOR 5" S.C.P.



# STORM SEWER CONSTRUCTION



SCALE: VERT. 1" = 5'  
 HORZ. 1" = 50'

● MH INPLACE  
 ○ NEW CATCH BASIN

