FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.
9	COLORADO	U016-1(11)	1

Rev. 4/27/59 — Project Number - D.F.E.

COLORADO DEPARTMENT OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED

FEDERAL AID PROJECT NO. U 016-1(11)

STATE HIGHWAY NO. 70

ARAPAHOE AND DENVER COUNTIES

INDEX OF SHEETS

SCALES OF ORIGINAL DRAWINGS

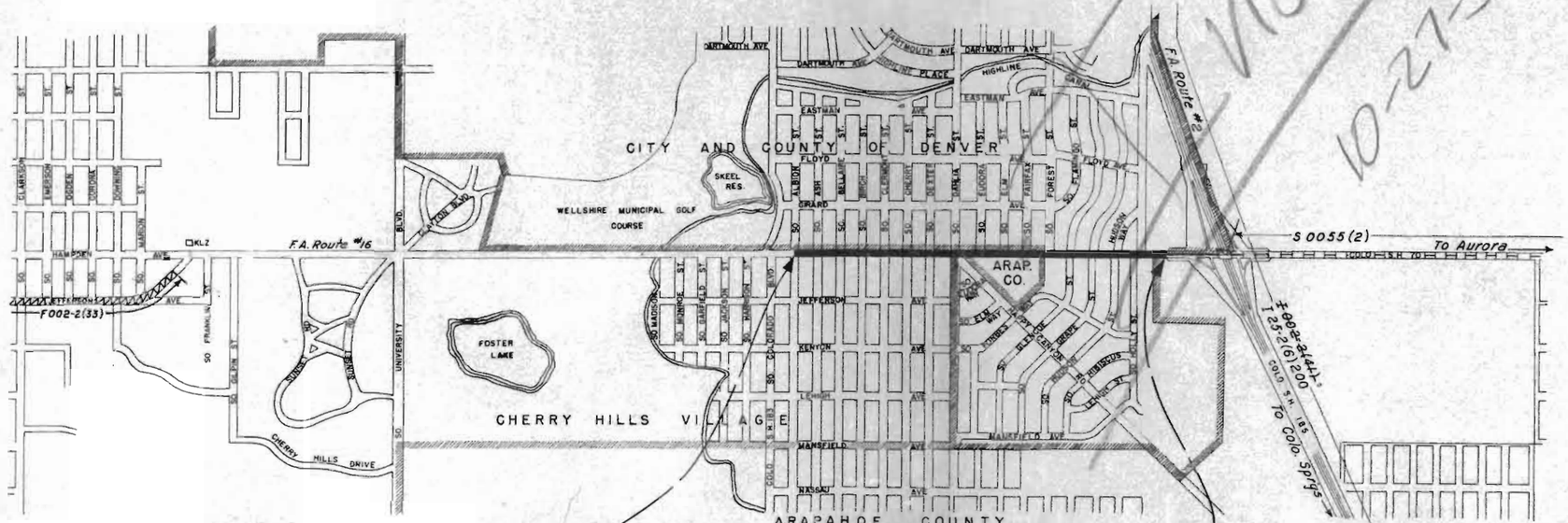
ON PLAN, 1 IN. = 50 FT.
ON PROFILE, 1 IN. = 50 FT. HORIZONTAL, 1 IN. = 10 FT. VERTICAL

GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT 5,575 Ft. = 1.056 Miles
NET LENGTH OF PROJECT 5,575 Ft. = 1.056 Miles

IF SHOWN OTHERWISE ON THESE PLANS, THIS PROJ. NO. SHALL BE "U 016-1(11)"

CONVENTIONAL SIGNS

- CENTER LINE (↔ PLAN SHEET)
- RIGHT OF WAY LINE (R.O.W. MARKER)
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- LAND LINES (SECTION LINE / 1/4 SECTION LINE / 1/16 SECTION LINE)
- RAILROAD (TITLE SHEET / PLAN SHEET)
- BARBED WIRE FENCE
- COMBINATION WIRE FENCE
- SNOW FENCE
- TELEPHONE & TELEGRAPH LINES
- POWER LINE
- DETOUR
- PRESENT ROAD (Plan Sheets)
- C. OF A. LINE (CONTROL OF ACCESS)
- ACCESS POINTS (FREEWAYS)
- ACCESS DENIED BY DEED (OUTSIDE R.O.W. LINE; C = COMMERCIAL, NC = NON-COMMERCIAL; 24 C, 16 NC; A)
- FRONTAGE ROAD (PRESENT CONST.)
- FRONTAGE ROAD (FUTURE CONST.) F F F F



STA. 234+75
BEGIN PROJ. U 016-1(11)

STA. 290+50
END PROJ. U 016-1(11)

SCALE

1000 2000 3000 4000
500

SCALE IN FEET

SEE SPECIAL PROVISIONS FOR NOTICE TO BIDDERS

COLORADO
DEPARTMENT OF HIGHWAYS

APPROVED: Mark T. Watkins 4-16-59
CHIEF ENGINEER. DATE

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

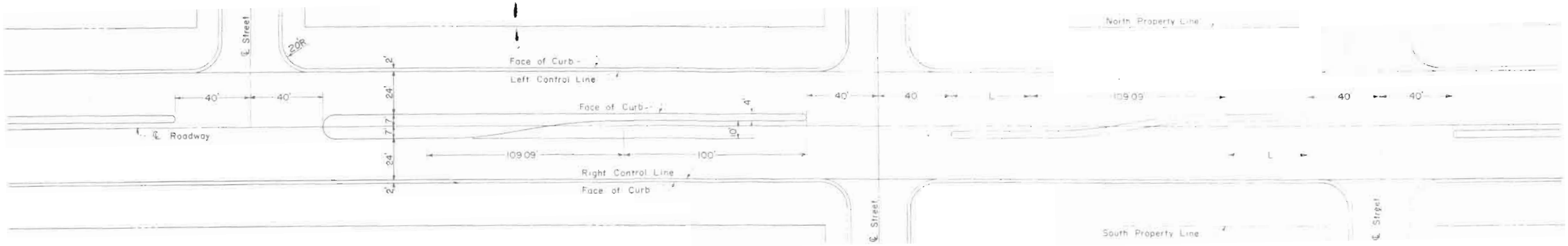
APPROVED: DATE

DIVISION ENGINEER

R.S.M.

FED. ROAD DIV. NO.	STATE	PROJ. NO.
9	COLO.	U 016 - [illegible] UNI

TYPICAL SECTIONS



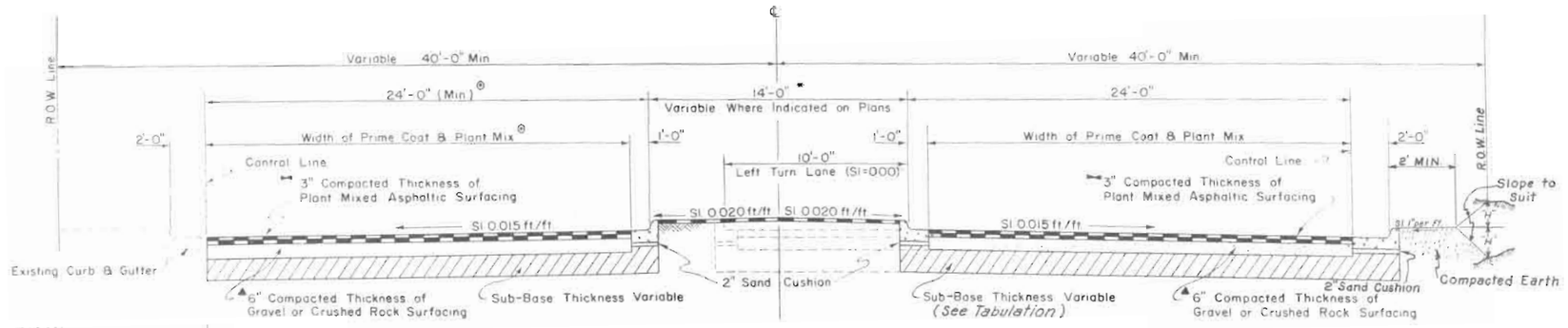
TYPICAL MEDIAN LAYOUT

NOTES

1. L Distance to be 100' Where possible Where block length prohibits 100' Length, median curb shall be placed so that L shall be equal at each end of median Exceptions as noted on plan sheets
2. All curb returns to be 20' R at street intersections
3. Curbs, Gutters, & New Surfacing to meet existing street facilities

TYPICAL REVERSE CURVE IN MEDIAN

Δ = 10° 28 5198"
D = 19° 06
T = 27.50'
L = 54.84'
R = 300.00'

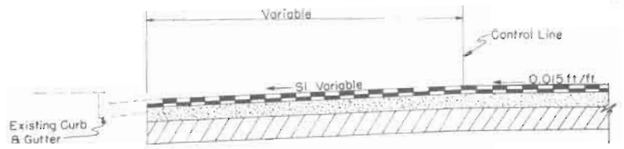


▲ 6" Compacted Thickness of Gravel or Crushed Rock Surfacing to be Placed in two (2) 3" Courses.

* Raised Median shall have 1" compacted thickness of Asphaltic Surf g with seal coat chip er tamped earth

⊨ 3" Compacted Thickness of Mixed Asphaltic Surfacing shall placed in two (2) courses of 1 ½" thickness

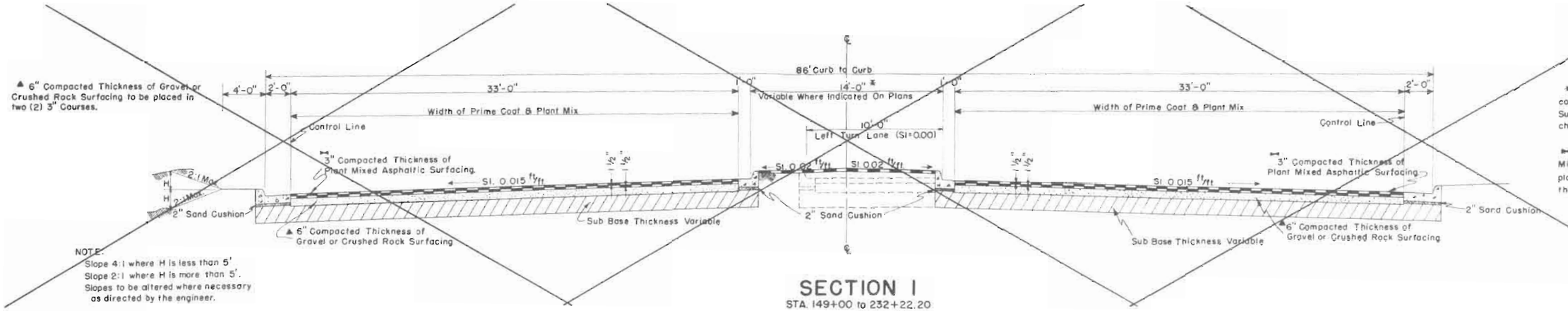
SECTION 2
STA. 234+75 to 290+50



⊛ Where existing curb and gutter is set back beyond the normal distance shown on the typical section, construction shall be as above

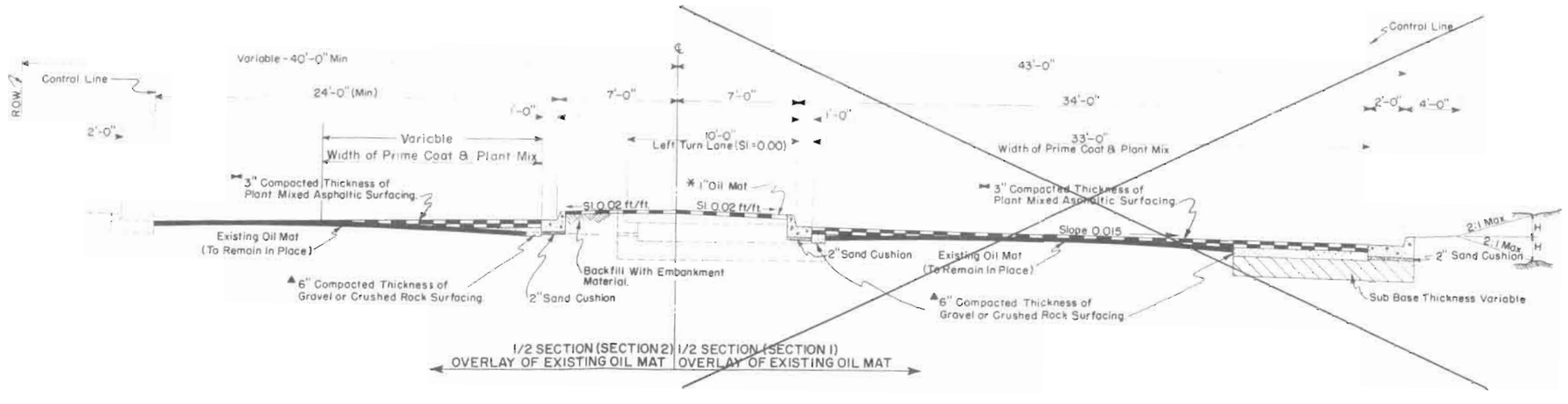
FED. ROAD DIV. NO.	STATE	PROJ. NO.
9	COLO.	U 016-1(11) UNIT 1

TYPICAL SECTIONS



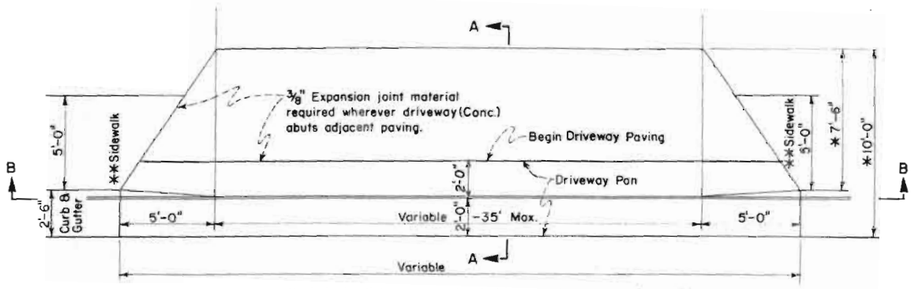
SECTION I

STA. 149+00 to 232+22.20

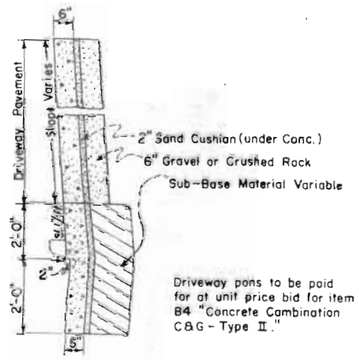


FED. ROAD DIV. NO.	STATE	PROJ. NO.
9	COLO	U 015-4(11) UNIT 1

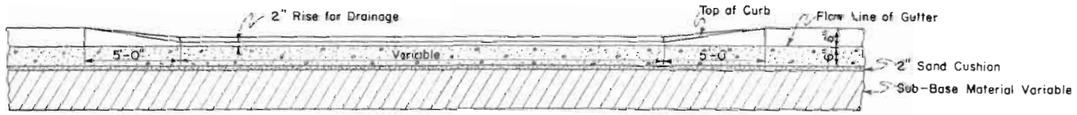
Rev. Driveway 4/27/59 C.J.W.



* Variable distance; construct driveways to property line only.
** Sidewalks are to be constructed where shown on plans.



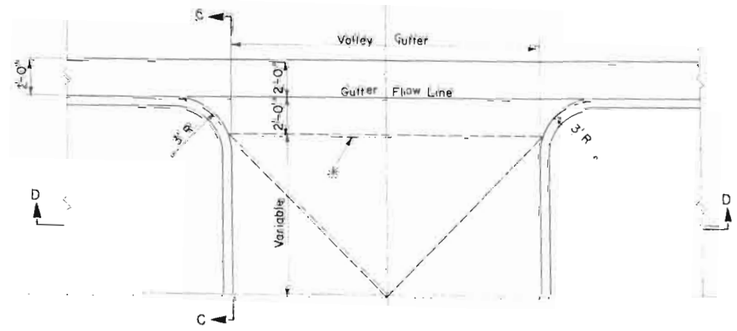
Section A-A



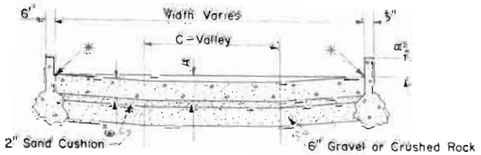
Section B-B

TYPICAL DRIVEWAY PLAN

No Scale



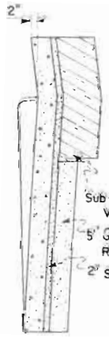
Plan



Section D-D

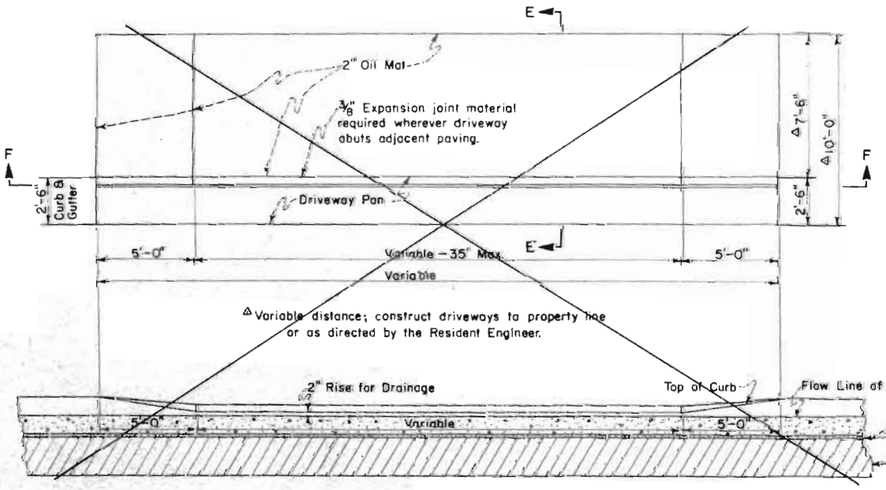
Dimension "A" Varies from maximum at property line to zero at gutter line.
" "B" " " zero " " " " 6" " " "
" "C" " " " " " " " full width at gutter line.

DETAILS SHOWING CONCRETE ALLEY ENTRANCE



Section C-C

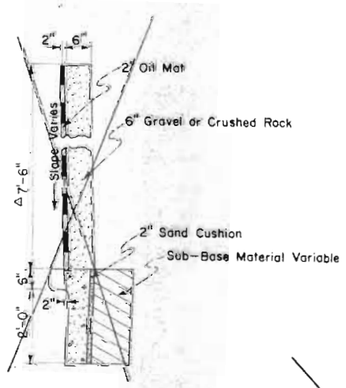
* NOTE: Expansion joint material will be placed at these locations and around inlets and manholes when adjacent to pavement and/or curb & gutter.



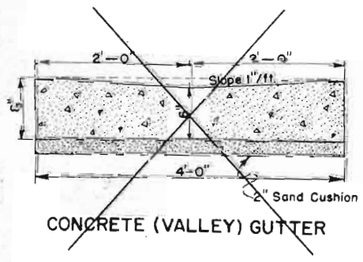
Section F-F

TYPICAL DRIVEWAY PLAN (ASPHALT)

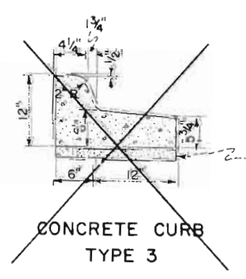
No Scale



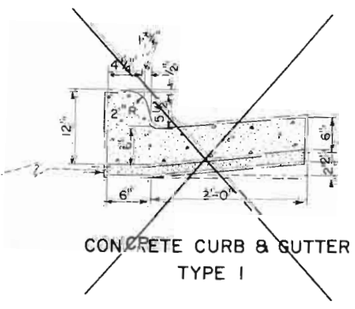
Section E-E



CONCRETE (VALLEY) GUTTER



CONCRETE CURB TYPE 3



CONCRETE CURB & GUTTER TYPE 1

NOTE: See Standard M-45-A Sheet 20 for Curb and Gutter Details.

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	
9	COLORADO	U 016-1(11) UNIT 1	

Rev. Gen. Notes 4-27-59 C.J.

TABULATION OF LENGTH & DESIGN DATA

STATION	ROADWAY LIN. FT.	
234+75.0 Begin Project U016-1(11) 290+50.0 End Project U016-1(11)	5,575.0	
TOTALS	5,575.0	
SUMMARY	LIN. FT.	MILES
TOTAL LENGTH U016-1(11)	5,575.0	1.056

DESIGN DATA

MAXIMUM DEGREE OF CURVE	NONE
MAXIMUM GRADE	7.08 %
MINIMUM N.P.S.D.-HORIZONTAL	UNLIMITED
MINIMUM N.P.S.D.-VERTICAL	365 FT.
MAXIMUM DESIGN SPEED	50 MPH

TABULATION OF SECTIONS

TYPICAL SECTION NUMBER	LOCATION	STA. TO STA.	PV'M'T WIDTH	REMARKS
2	Hampden	234+75.0 to 290+50.0	62'	*

* Width varies from Sta 278+72 to Sta 292+50. See Sheets 27 & 28

GENERAL NOTES

This project is to be constructed in conformity with the Standard Specifications of the Colorado Deportment of Highways adopted JANUARY 1, 1958.

All quantities on preliminary plans are to be considered approximate only.

All concrete used on this project shall be "Air Entrained Concrete Class "A".

All poles, water mains and gas mains encroaching on construction are to be moved by the owners.

For preliminary plan quantities of asphaltic road materials, plant mixed oil processed surfacing, asphalt & stone screenings, the following rates of application were used.

Prime Coat (over present pavement) R.C.	at	.10 gal. per sq. yd.
Prime Coat (over other areas) M.C.	at	.40 gal. per sq. yd.
Plant Mixed Oil Processed Surfacing	at	110 lbs. per sq. yd. per 1" thickness.
Asphalt (85-100 penetration)	at	6.5 lbs. per sq. yd. per 1" thickness.
Seal Coat R.C.	at	.25 gal. per sq. yd.
Stone Screenings (Limestone)	at	25 lbs. per sq. yd.

Rate of application and grade of oil shall be as determined by the engineer at the time of application.

Bottom Layer of Asphaltic Surfacing shall be completed for full width before Top Layer of Asphaltic Surfacing is placed. Paving joints in Top Layer will overlap min. 1 ft. over joints in Bottom Layer.

Liquid Asphaltic Road Material application methods which result in discoloration of Concrete Structures, will not be permitted.

Unless the present Asphaltic Processed Surfacing is to be disturbed or removed by grading operations, it is to remain intact and shall not be plowed up and mixed with other materials.

Traffic Buttons at west end of the project are to be salvaged and re-used within project limits at location designated by the Engineer. This is considered as subsidiary work and will not be paid for as a separate item.

When ordered by the Engineer, a tack coat is to be applied between asphaltic courses to improve bond. Tack coat will be placed at the approximate rate of 0.07 to 0.10 gallon per square yard, if required.

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SH. NO.
9	COLORADO	U016-1(11) UNIT 1	6

Rev. Summary 4-27-59 C.J.W.

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM	UNIT					P T
11	Removal of Obstructions	Lump Sum					
11	Removal of 8 Structures	" "					
11	Removing Concrete Sidewalk	Sq. Ft.					
11	Removing Concrete Curb	Lin. Ft.					
11	Adjust Manhole, Ring and Cover	Each					
13	Unclassified Excavation	Cu. Yd.					
17	Compaction (Standard)	Cu. Yd.					
17	Wetting	M. Gal.					
18	Station Yard Overhaul	Sta. Yd.					
18	Yard Mile Overhaul	Yd. Mi.					
23	Sub-Base Material (Class 1)	Ton					
26	Gravel or Crushed Rock Surfacing (Grading C)	Ton					
29	Asphalt (85-100 Penetration)(Tack Coat)	Ton					
30	Asphaltic Road Material (MC)	Gal.					
30	" " " (RC)	Gal.					
31	Stone Screenings (Limestone)	Ton					
32	Plant Mixed Asphaltic Surfacing	Ton					
37	Concrete Pavement (6" thick)	Sq. Yd.					
37	Sand Cushion	Cu. Yd.					
84	Concrete Gutter (4' Wide)	Lin. Ft.					
84	Concrete Combination Curb and Gutter (Type I)	Lin. Ft.					
84	" " " " " (Type II)	Lin. Ft.					
86	Concrete Sidewalks	Sq. Ft.					
130	Drop Inlets (Type 4B)(3' deep)	Each					
132	15" Reinforced Concrete Pipe Sewer (Class III)	Lin. Ft.					
132	18" " " " " " "	Lin. Ft.					
152	15" Flared End Sections for Reinf. Conc. Culvt Pipe	Each					
152	18" " " " " " " "	Each					
	STATE FORCES (NON FEDERAL AID)						
	Signing and Striping Entire Project	Lump Sum					
	Relocate Flashing Amber Light	Lump Sum					
	RIGHT OF WAY						
	Right of Way, Entire Project, including removal of Buildings & Appurtenances	Lump Sum					

FED. ROAD DIST. NO.	STATE	PROJ. NO.
9	COLO.	M 016-[illegible] UNIT 1

TABULATION OF SURFACING

LOCATION	STATION	STATION	LENGTH	*SUB-BASE MATERIAL		BASE COURSE GRAVEL SURF.		6" CONCRETE PAVEMENT		ASPHALTIC CONC. PAVEMENT		PLANT MIXED ASPHALTIC SURF.		2" GRAVEL SHOULDER SURF.		PRIME COAT M.C.-1		SEAL COAT R.C.-1		STONE SCREENINGS		2" SAND CUSHION		REMARKS
				AREA	TONS	AREA	TONS	WIDTH	SQ. YDS.	WIDTH	TONS	SQ. YDS	TONS	WIDTH	TONS	SQ. YDS.	GALS.	SQ. YDS.	GALS.	SQ. YDS.	TONS	WIDTH	CU. YDS.	
Approach to Project				Varies	1020.1	Varies	423.0					1665.9	275.0	Varies	16.2	1665.9	666.4					Varies	4.8	
℄ Albion St.(Rt.) - ℄ Ash St.(Lt.)	234+75	237+98	323.00	Varies	1473.6	Varies	650.9					2221.0	357.5			2140.0	856.0	81.0	20.3	81.0	1.1	Varies	16.5	
℄ Ash St.(Lt.) - ℄ Bellaire St.(Lt.)	237+98	241+23.50	325.50	Varies	1512.9	Varies	675.0					2293.2	371.6			2230.5	892.1	62.8	15.7	62.8	0.8	Varies	16.0	
℄ Bellaire St.(Lt.) - ℄ Birch St.(Lt.)	241+23.50	244+49	325.50	Varies	1046.3	Varies	584.8					2180.5	340.1			2042.7	817.2	180.9	45.9	180.9	2.2	Varies	16.0	
℄ Birch St.(Lt.) - ℄ Clermont St.(Rt.)	244+49	247+65	316.00	Varies	1388.3	Varies	652.9					2179.5	340.4			2013.3	805.4	166.2	41.6	166.2	2.0	Varies	16.0	
℄ Clermont St.(Rt.) - ℄ Cherry St.(Lt.)	247+65	250+98	333.00	Varies	1544.7	Varies	681.1					2338.3	376.3			2257.0	902.9	81.3	20.3	81.3	1.1	Varies	12.5	
℄ Cherry St.(Lt.) - ℄ Dexter St.(Rt.)	250+98	254+14	316.00	Varies	1442.8	Varies	640.9					2199.6	353.1			2120.9	848.3	78.7	19.7	78.7	1.1	Varies	14.4	
℄ Dexter St.(Rt.) - ℄ Dahlia St.(Lt.)	254+14	257+41	327.00	Varies	1516.5	Varies	675.6					2285.6	368.4			2207.1	882.7	78.5	19.6	78.5	1.1	Varies	14.8	
℄ Dahlia St.(Lt.) - ℄ Eudora St.(Lt.)	257+41	260+77	336.00	Varies	1530.2	Varies	719.1					2479.6	400.0			2397.0	959.0	82.6	20.7	82.6	1.1	Varies	7.3	
℄ Eudora St.(Lt.) - ℄ Elm St.(Lt.)	260+77	264+05	328.00	Varies	1379.3	Varies	648.7	35.0	70.0			2244.5	361.3			2162.2	864.0	82.3	20.6	82.3	1.0	Varies	4.6	
℄ Elm St.(Lt.) - ℄ Fairfax St.(Lt.)	264+05	267+34	329.00	Varies	1429.0	Varies	652.4					2257.5	363.6			2174.6	870.0	82.9	20.7	82.9	1.1	Varies	9.1	
℄ Fairfax St.(Lt.) - ℄ Forest St.(Lt.)	267+34	270+14	280.00	Varies	1205.0	Varies	560.9					1936.4	312.4			1869.6	747.8	66.8	16.7	66.8	0.8	Varies	6.0	
℄ Forest St.(Lt.) - ℄ Glencoe St.(Lt.)	270+14	272+93.50	279.50	Varies	1215.9	Varies	560.9					1936.3	312.2			1869.6	747.8	66.7	16.7	66.7	0.9	Varies	3.9	
℄ Glencoe St.(Lt.) - ℄ Grape St.(Lt.)	272+93.50	275+73.50	280.00	Varies	1225.7	Varies	587.1					2013.7	326.2			1957.0	782.8	56.7	14.2	56.7	0.7	Varies	4.5	
℄ Grape St.(Lt.) - ℄ Hudson Way(Lt.)	275+73.50	278+54	280.50	Varies	1233.3	Varies	593.0					2026.8	329.3			1976.5	790.9	50.3	12.6	50.3	0.7	Varies	4.3	
℄ Hudson Way(Lt.) - ℄ Holly St.	278+54	282+48	394.00	Varies	1905.4	Varies	907.2					3106.8	503.8			3024.1	1210.1	81.7	20.4	81.7	1.1	Varies	6.6	
℄ Holly St. - ℄ Ivanhoe St.(Lt.)	282+48	285+48	300.00	Varies	1641.6	Varies	776.4					2661.2	431.1			2587.9	1035.1	73.3	18.3	73.3	0.9	Varies	8.0	
℄ Ivanhoe St.(Lt.) - ℄ Ivy Way(Lt.)	285+48	289+11	363.00	Varies	2124.4	Varies	983.1					3462.2	545.8			3229.1	1291.4	234.1	58.5	234.1	2.9	Varies	10.7	
℄ Ivy Way(Lt.) - End Project	289+11	290+50	139.00	Varies	862.2	Varies	408.6					1350.8	222.9			1350.8	540.5					Varies	2.9	
Approach to Project				Varies	102.6	Varies	33.8					111.1	18.3			111.1	44.4					Varies	5.5	
PROJECT TOTAL					26,799.8		12,415.4	70.0					6,909.1		16.2		16,594.8		401.6		20.6		184.1	

* Sub Base Thickness of 12" was used for estimate. — Based on Design Curve "D"

TABULATION OF CURBS AND GUTTERS

LOCATION	STA.	STA.	CONC. COMB. CURB & GUTTER TYPE I	CONC. COMB. CURB & GUTTER TYPE II	CONCRETE GUTTER	CURB RETURN *	CONCRETE SIDEWALKS (SQ. FT.)	REMOVE		REMARKS
								CONC. SIDEWALK	CONC. CURB	
								SQ. FT.	LIN. FT.	
Approach to Project				255	12					
℄ Albion St.(Rt.) - ℄ Ash St. (Lt.)	234 + 75	237 + 98	492	574	28	63				
℄ Ash St. (Lt.) - ℄ Bellaire St. (Lt.)	237 + 98	241 + 23.50	387	495	68	126				
℄ Bellaire St. (Lt.) - ℄ Birch St. (Lt.)	241 + 23.50	244 + 49	502	575	32	63				
℄ Birch St. (Lt.) - ℄ Clermont St. (Rt.)	244 + 49	247 + 65	483	528	38	95				
℄ Clermont St. (Rt.) - ℄ Cherry St. (Lt.)	247 + 65	250 + 98	494	546	56	95				
℄ Cherry St. (Lt.) - ℄ Dexter St. (Lt.)	250 + 98	254 + 23.50	496	575	16	63				
℄ Dexter St. (Lt.) - ℄ Dahlia St. (Lt.)	254 + 23.50	257 + 41	481	527	10	95				
℄ Dahlia St. (Lt.) - ℄ Eudora St. (Lt.)	257 + 41	260 + 77	518	35	80		630	630	70	
℄ Eudora St. (Lt.) - ℄ Elm St. (Lt.)	260 + 77	264 + 05	502							
℄ Elm St. (Lt.) - ℄ Fairfax St. (Lt.)	264 + 05	267 + 34	504	280						
℄ Fairfax St. (Lt.) - ℄ Forest St. (Lt.)	267 + 34	270 + 14	406	140						
℄ Forest St. (Lt.) - ℄ Glencoe St. (Lt.)	270 + 14	272 + 93.50	405				90			
℄ Glencoe St. (Lt.) - ℄ Grape St. (Lt.)	272 + 93.50	275 + 73.50	346							
℄ Grape St. (Lt.) - ℄ Hudson Way (Lt.)	275 + 73.50	278 + 54	308							
℄ Hudson Way (Lt.) - ℄ Holly St.	278 + 54	282 + 48	496							
℄ Holly St. - ℄ Ivanhoe St. (Lt.)	282 + 48	285 + 48	446	158	16					
℄ Ivanhoe St. (Lt.) - ℄ Ivy Way (Lt.)	285 + 48	289 + 11	381	363	32				180	
℄ Ivy Way (Lt.) - End Project	289 + 11	290 + 50		139	16					
Approach to Project				420						
PROJECT TOTAL			7647	5610	404	600	720	630	250	

*=Conc. Comb. Curb & Gutter (Type II).

FED. ROAD DIST. NO.	STATE	PROJ. NO.
9	COLO	U 0941(1) UNIT 1

STORM SEWERS

INLET OR MANHOLE						STORM SEWER PIPE														REMARKS
NO.	LOCATION	TYPE	H	ELEVATION		PIPE SIZE & LENGTH							FLOW LINE ELEVATIONS		FITTINGS		LINE		%	
				RIM	INVERT	*15"	*18"	*24"	*30"	*36"	*48"	*60"	IN	OUT	7° 30' ANGLE	FLARE END	FROM	TO	GRADE	
232	232+00 LCL (On Appr. to Project)						108						93.0	89.2		1-18"	RT.	LT.	3.5	Present Const.-Flared End Lt. Future Const.-Conc. Inlet Rt.
233B	233+ LCL (On Appr. to Proj.) E. SIDE Colo. Blvd.	4B	2.5	91.60	89.10	60							89.10			1-15"			0.88	To Flared End Rt. El. 88.52
273B	272+57 LCL	4B	3.0	30.52	27.52	46							27.52	27.06					1.00	To Connect to Existing Storm Sewer – Depth Estimated
	PROJECT TOTAL					106	108									1-15"				
																1-18"				

* Reinf. Conc. Sewer Pipe (Class III)

MANHOLE ADJUSTMENTS

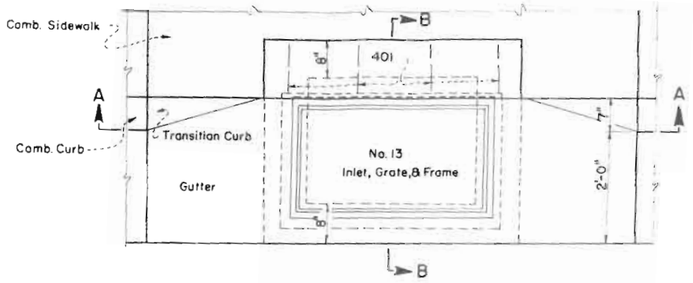
	TYPE	QUANTITY
EMH 282	Storm Sewer Manhole – Raise 1 foot ±	1

FED. ROAD DIST. NO. 9	STATE COLO.	PROJ. NO. (UDH-11) UNIT 1	SHEET NO.

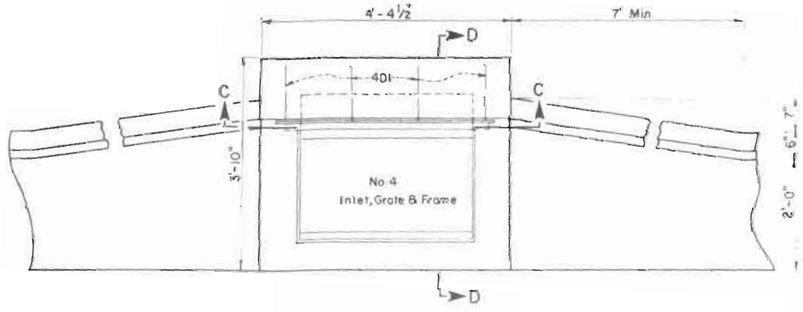
LIST OF STRUCTURES

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.
9	COLO.	U 016-1(11) UNIT 1	10

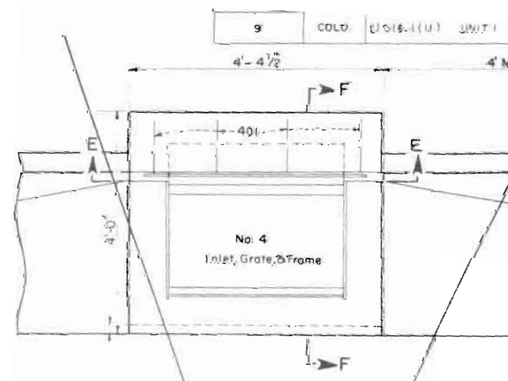
NOTE NO.	LOCATION	DESCRIPTION	REMOVALS	STR. EXCAV.	STR. BACKFILL	CORRUGATED METAL CULVERT PIPE			REINFORCED CONCRETE CULVERT PIPE					FLARED END SECTIONS			REMARKS
						LINEAR FT			LINEAR FT					EACH			
			EACH	CU. YD	CU. YD	18"	24"	36"	18"	24"	30"	36	48"	15"	18"	24"	
2	233+45	Remove 24"X8"X46' Wood Box Culvert	1														
3	234+75	Remove 24"X8"X40' Wood Box Culvert	1														
4	243+65	Remove 12"X 20' C.M.P. Culvert	1														
5	244+49	Remove 24"X8"X40' Wood Box Culvert	1														
5.5	246+00	Remove 12"X 24' C.M.P., Rt.	1														
6	247+74	Remove 24"X8"X38' Wood Box Culvert	1														
7	248+32	Remove 10"X 12" CMP Culvert (Under Driveway Lt.)	1														
8	264+02	Remove Concrete Covered Side Drain	1														
	235±	Reset Flashing Amber Light from 287±	(Work by State Forces)														
		PROJECT TOTAL	8														



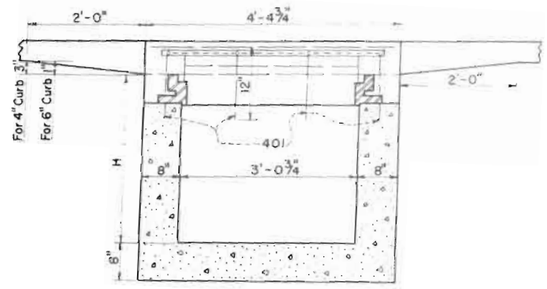
PLAN – (For Comb. Curb, Gutter & Sidewalk or Type II Curb & Gutter)



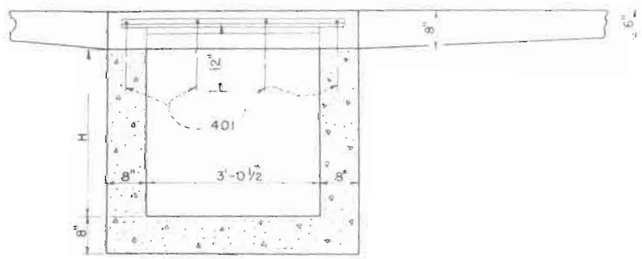
PLAN (For Type II Curb & Gutter)



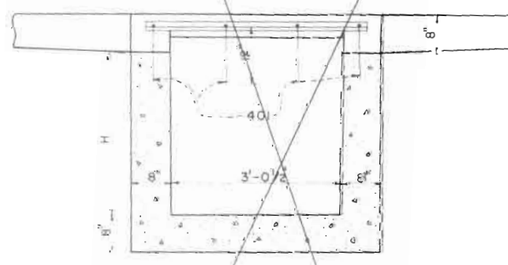
PLAN (For Type 2 Curb & Gutter)



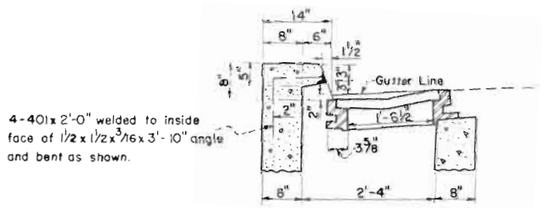
SECTION A–A (For Comb. Curb, Gutter, & Sidewalk or Type II Curb & Gutter)



SECTION C–C (For Type II Curb & Gutter)

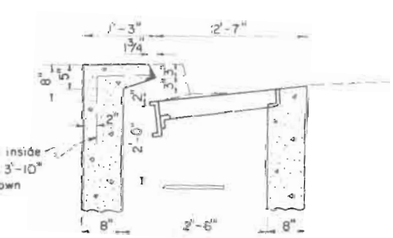


SECTION E–E (For Type 2 Curb & Gutter)



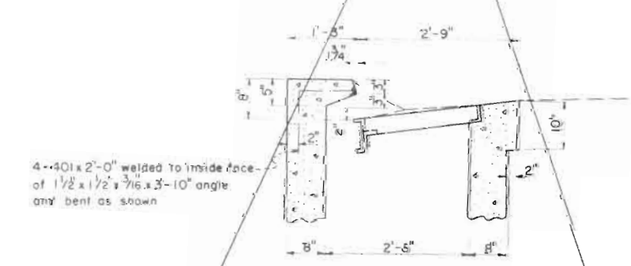
4-40I x 2'-0" welded to inside face of 1½ x 1½ x 3/16 x 3'-10" angle and bent as shown.

SECTION B–B
Use with Type II Curb & Gutter



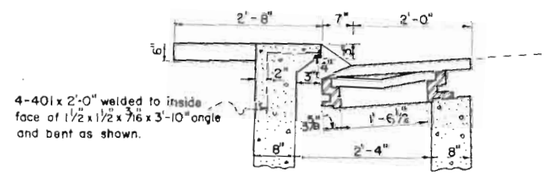
4-40I x 2'-0" welded to inside face of 1½ x 1½ x 3/16 x 3'-10" angle and bent as shown

SECTION D–D
Use with Type II Curb & Gutter



4-40I x 2'-0" welded to inside face of 1½ x 1½ x 3/16 x 3'-10" angle and bent as shown

SECTION F–F
Use with Type 2 Curb & Gutter



4-40I x 2'-0" welded to inside face of 1½ x 1½ x 3/16 x 3'-10" angle and bent as shown.

SECTION B–B
Use with Comb. Curb, Gutter, & Sidewalk

INLET TYPE 3

No. 13 Grate and Frame to be used with Type 3 Inlet.

INLET TYPE 4-B

No. 4 Grate and Frame to be used with Type 4B & 4C Inlets

INLET TYPE 4-C

GENERAL NOTES

All work shall be done in accordance with the Standard Specifications of the Colorado Department of Highways applicable to the project.

All concrete shall be class "A" and air entrained as specified.

All concrete walls shall be formed on both sides.

All exposed concrete corners shall be beveled to a 1" face.

All reinforcing bars shall be deformed, of intermediate grade, and conform to A.S.T.M. Spec. A-305-507 or latest revision.

All castings shall be painted with two coats of asphalt or coal tar and oil.

NOTE: Use steps for all inlets with H = 3'-6" or more. Start 2'-0" below gutter line and space equally at Minimum of 18" (See Section D-D)

* Volumes of concrete occupied by inlet or outlet pipes to be deducted from pay quantities of Concrete.

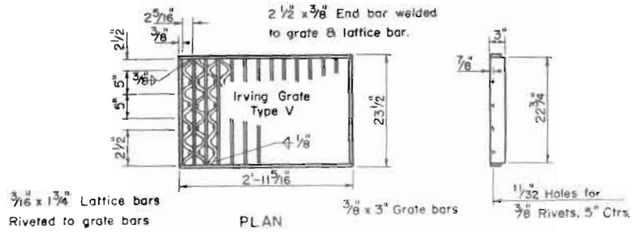
QUANTITIES – TYPE 3, 4-B & 4-C INLETS

H	CLASS A CONCRETE * CU. YDS.	REINFORCING STEEL LBS.
3'-0"	1.37	54
3'-0"	1.54	54
4'-0"	1.71	54
4'-6"	1.88	54
5'-0"	2.05	54
5'-6"	2.22	54
6'-0"	2.39	54
6'-6"	2.56	54
7'-0"	2.73	54
7'-6"	2.90	54
8'-0"	3.07	54

COLO
DEPARTMENT
CONCRE
No. 3, No.

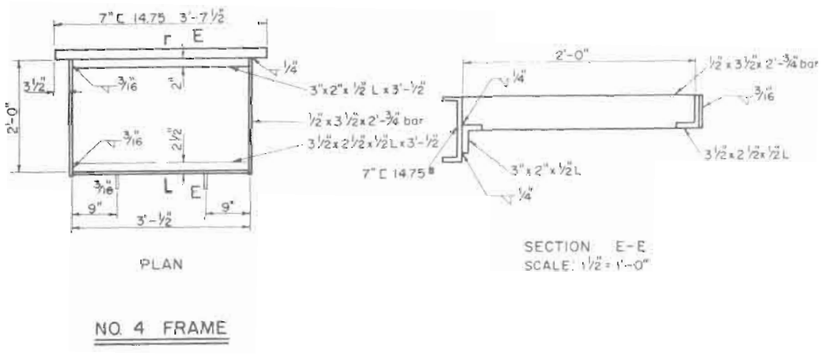
Designed by:
Made by:
Checked by:

FED. ROAD DIVISION NO.	DISTRICT	PROJ. NO.
9	COLO	U 016-1(11) Unit

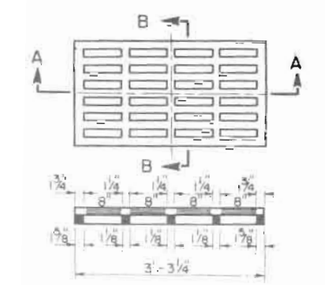


NO. 4 GRATE

NOTE: NO. 4 GRATE AND FRAME TO BE USED WITH TYPE 4-B AND 4-C INLET.

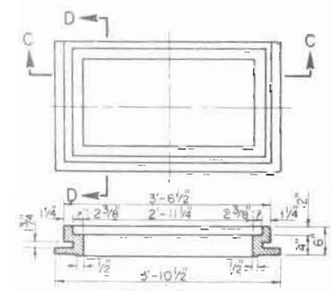


NO. 4 FRAME



NO 13 GRATE

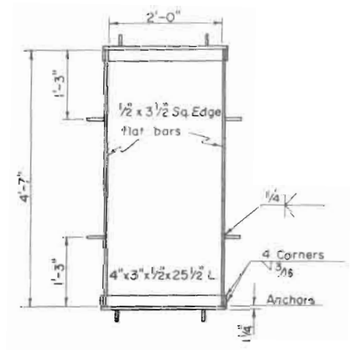
275 lbs



NO. 13 FRAME

508 lbs

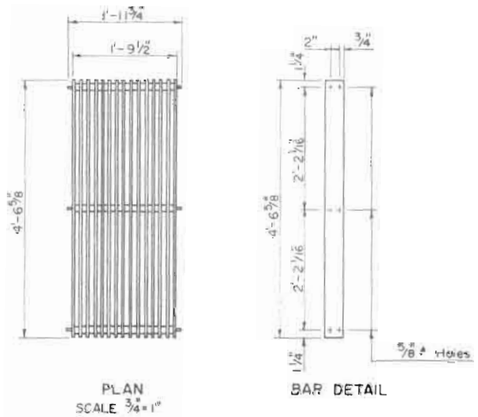
NOTE: NO. 13 G AND FRAME T USED WITH T INLET.



NO. 5 FRAME

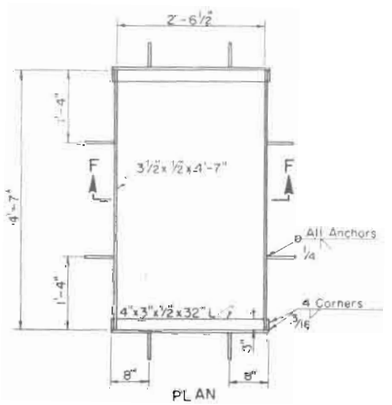
108 lbs.

NOTE: NO. 5 GRATE & FRAME MAY BE USED WITH INLET TYPE 1.



NO. 5 GRATE

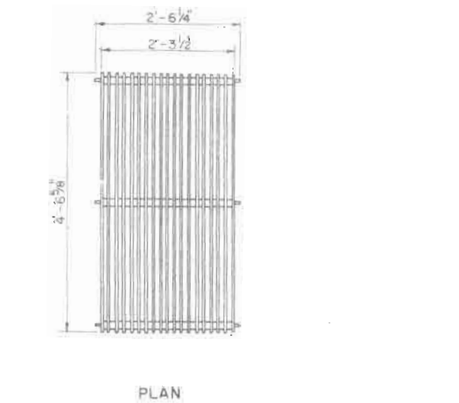
473 lbs.



NO. 5A FRAME

120 lbs.

NOTE: NO. 5A GRATE AND FRAME MAY BE USED WITH INLET TYPE 2.



NO. 5A GRATE

597 lbs.

COLO
DEPARTMENT
CONCRET
GRATES
NO. 13, NO.

Designed by:
Made by:
Checked by:

FED. ROAD DIV. NO.	DIST.	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO	U 016-1(11) ~~UNIT 1~~	13	

DRAINAGE PLANS

@ 1-13-66 R.O.W. R.S.M.

LEGEND

SANITARY SEWERS

- Existing sanitary sewer.
- Existing sewers to be abandoned.
- Existing sewer to be plugged.
- Existing manhole requiring new work.
- New sewers and manholes.

STORM SEWERS

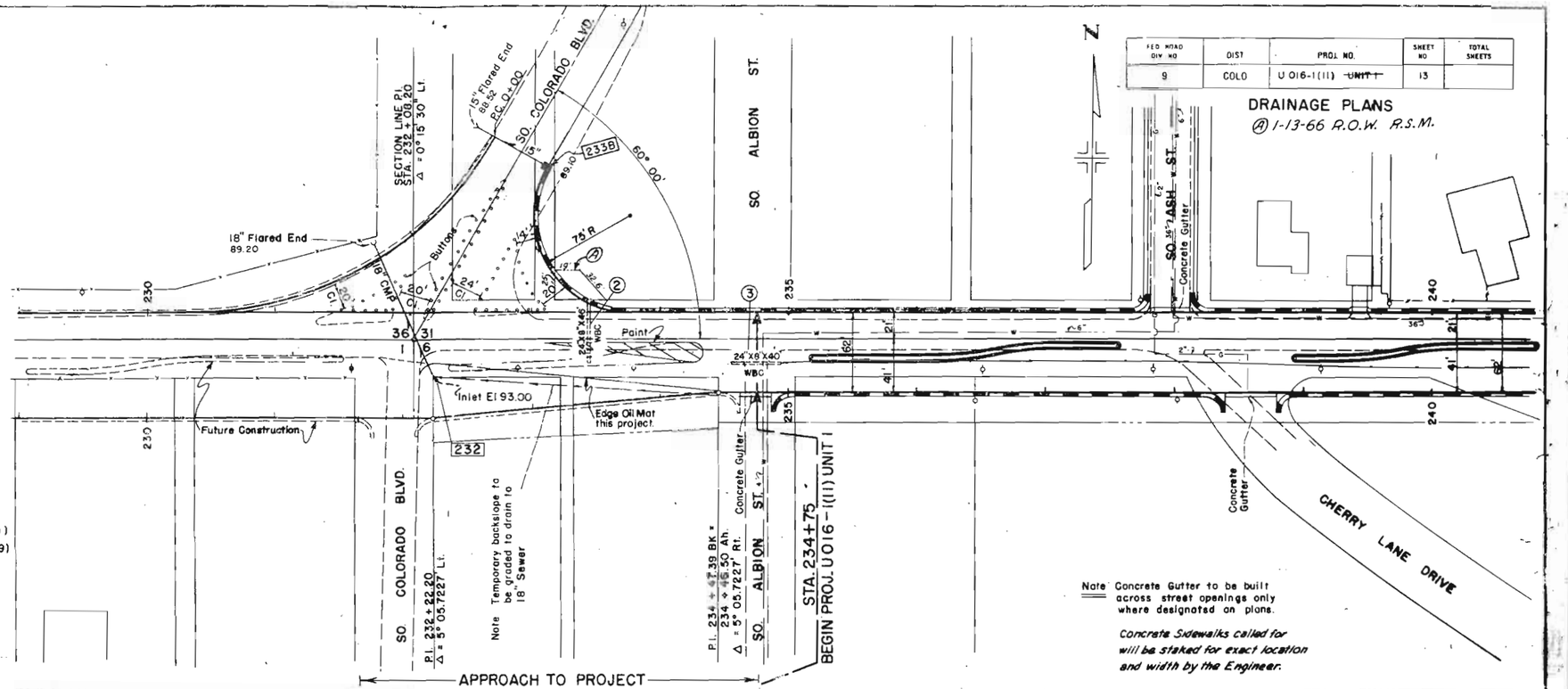
- Existing lines, manholes and inlets.
- Existing lines to be used.
- Existing lines to be plugged and/or inlets to be abandoned.
- New lines, manholes and inlets.

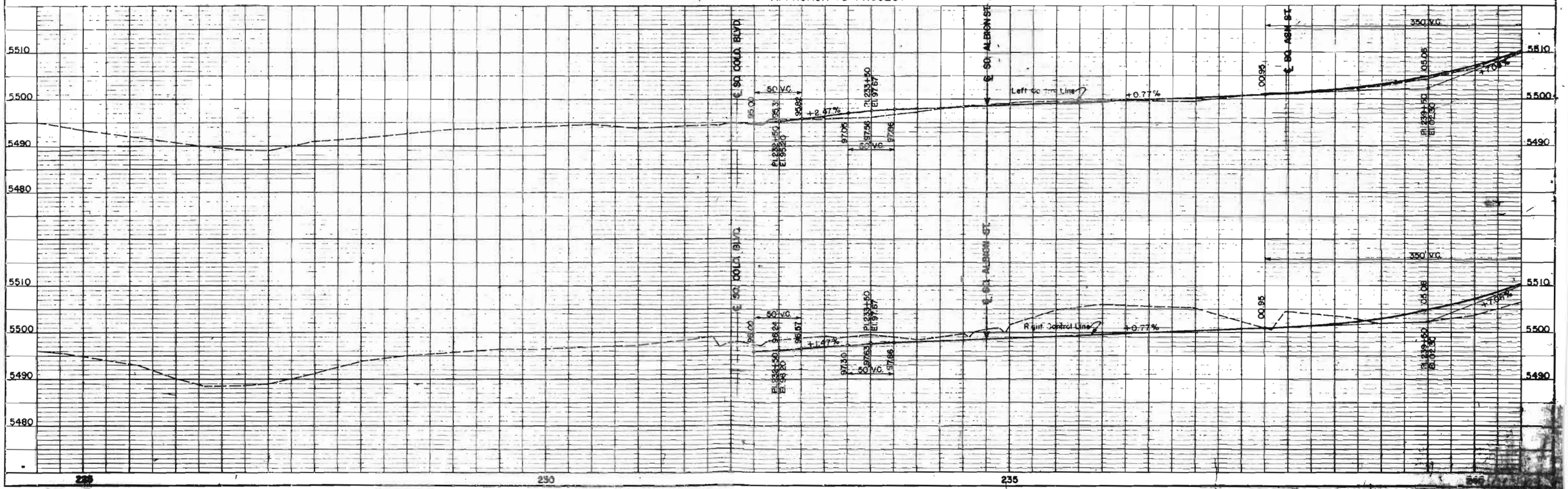
UTILITY LINES

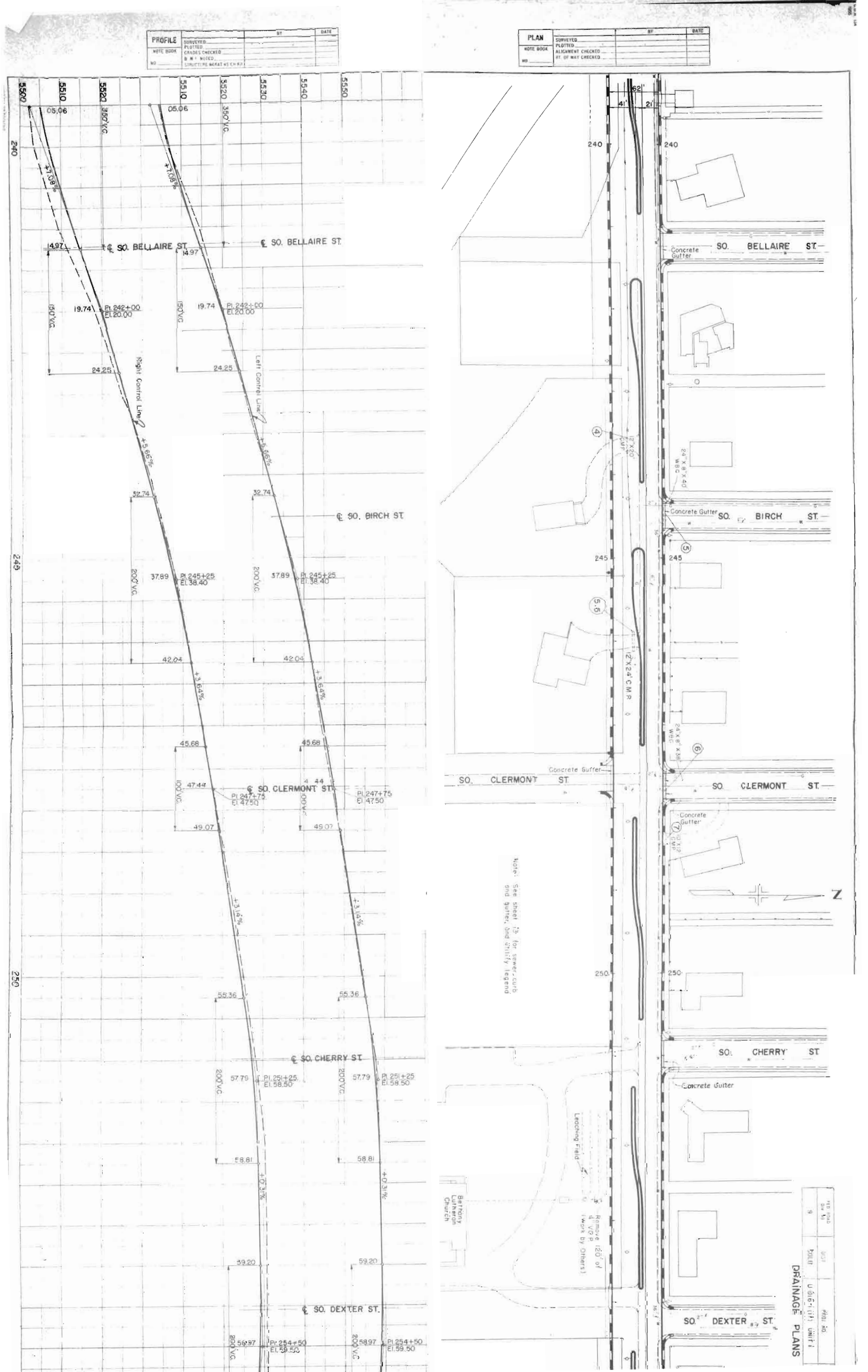
- Power lines (underground)
- Tel. & Tel. lines "
- Gas lines "
- Water lines "

CURBS

- Concrete Combination Curb & Gutter (Type I) (See Details Sheet No. 19)
- Concrete Combination Curb & Gutter (Type II) (See Details Sheet No. 19)
- Concrete Gutter (See Details Sheet No. 19)
- Concrete Gutter Across Driveways (See Details Sheet No. 4)






PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'S NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO
BY
DATE
PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NOTE BOOK
NO
BY
DATE
5500
5510
5520
5530
5540
5550
240
250
05.06
350' V.C.
+1.08%
+1.38%
14.97
℄ SO. BELLAIRE ST.
19.74
Pl. 242+00
El. 20.00
150' V.C.
24.25
Right Control Line
Left Control Line
+3.65%
32.74
℄ SO. BIRCH ST.
37.89
Pl. 245+25
El. 38.40
200' V.C.
42.04
+3.64%
45.68
℄ SO. CLERMONT ST.
47.44
Pl. 247+75
El. 47.50
100' V.C.
49.07
+3.14%
55.36
℄ SO. CHERRY ST.
57.79
Pl. 251+25
El. 58.50
58.81
+0.31%
59.20
℄ SO. DEXTER ST.
58.97
Pl. 254+50
El. 59.50
62'
41'
21'
Concrete Gutter
SO. BELLAIRE ST.
SO. BIRCH ST.
SO. CLERMONT ST.
SO. CHERRY ST.
SO. DEXTER ST.
12"X24" CMP
24"X8"X40' WBC
Note: See sheet 12 for sewer, curb and gutter, and utility legend.
Leaching Field
Remove 120' of 4" VCP (Work by Others)
Bethany Lutheran Church
Z
DRAINAGE PLANS

DRAINAGE PLANS

PROJECT
U 016-1(11) UNIT 1

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT OF WAY CHECKED
NOTE BOOK
NO
DATE
BY

PROFILE
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT OF WAY CHECKED
NOTE BOOK
NO
DATE
BY

N

SO. DAHLIA ST.
SO. EUDORA ST.
SO. ELM ST.
SO. FAIRFAX ST.

Existing Curb & Gutter (To remain in place)

62'
41'
21'

Side Drain

New Driveway Location

Existing Curb & Gutter
(To remain in place)

Existing driveway to be closed. Sidewalk to be installed to match existing walk.

Remove Sidewalk
Remove Curb

Existing Curb and Gutter
Remove Existing Top Concrete Slab & Side Drain

Standard Service Station
Oil Mat

Concrete Gutter
1/4 Cor

Existing Gutter

HAPPY CANYON ROAD

Concrete Pavement

Safeway Store

Congco Service Station
Oil Mat

Note: See sheet 13 for sewer, curb and gutter and utility legend

255
260
265

5560
5550
5540
5570
5560
5550

Left Control Line
Right Control Line

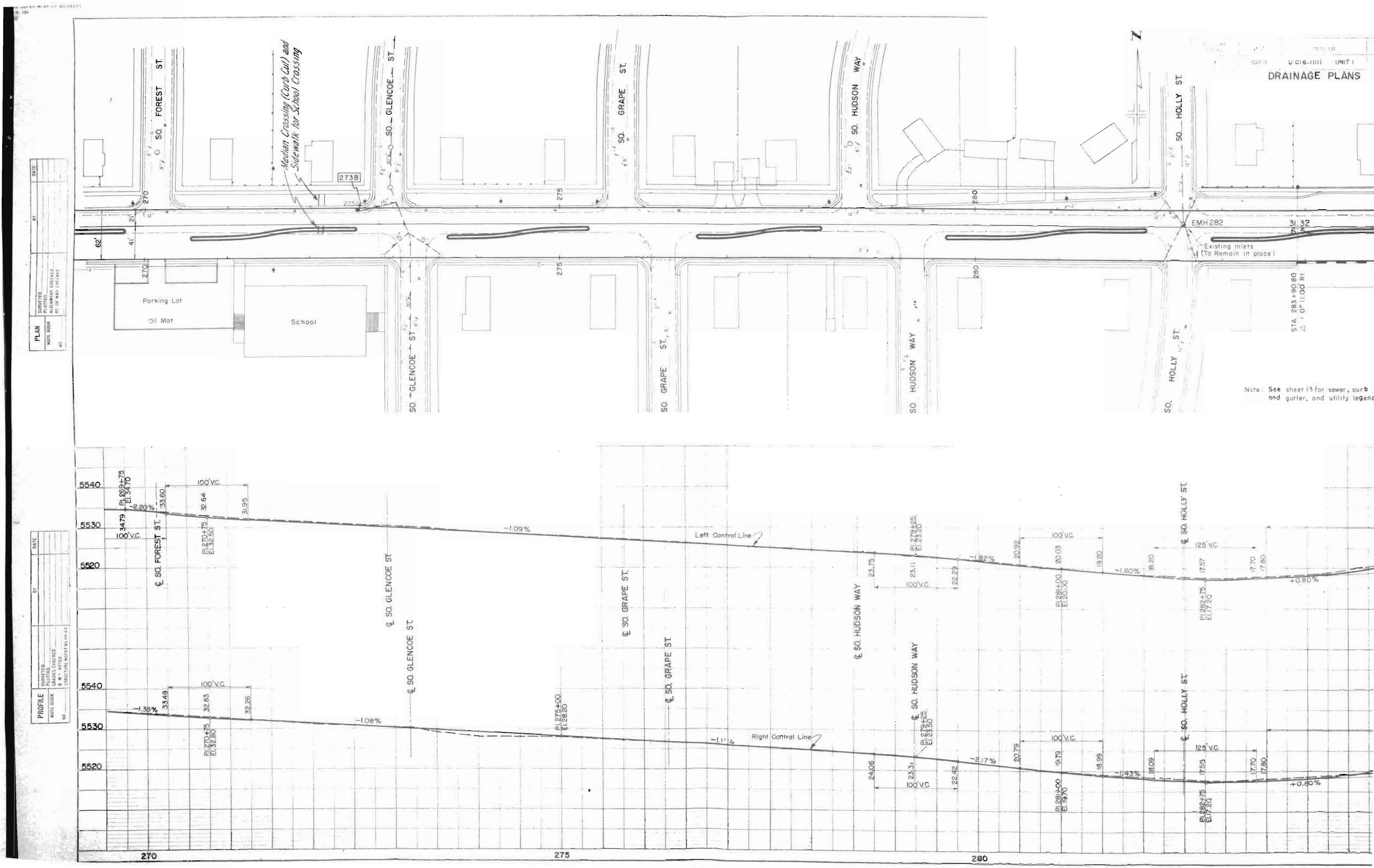
200' V.C.
100' V.C.
75' V.C.

-1.80%
-2.00%
-0.90%
-2.40%
-0.70%
-2.50%
-0.67%
-1.60%
-2.00%
-1.50%
-1.54%

Pl. 259+00 El. 51.40
Pl. 260+00 El. 49.40
Pl. 261+00 El. 48.50
Pl. 263+00 El. 43.70
Pl. 264+00 El. 43.00
Pl. 265+00 El. 40.50
Pl. 265+75 El. 40.00
Pl. 268+75 El. 36.30

57.71
52.30
51.37
50.40
49.64
48.95
48.36
47.30
44.90
43.91
43.35
42.7
41.75
41.44
40.67
40.25
39.91
39.40
36.00
35.34
34.95
45.50
44.56
43.75
42.85
40.65
39.84

255
260
265


DRAINAGE PLANS
SO. FOREST ST.
SO. GLENCOE ST.
SO. GRAPE ST.
SO. HUDSON WAY
SO. HOLLY ST.
Median Crossing (Curb Cut) and Sidewalk for School Crossing
273B
EMH 282
Existing Inlets (To Remain in place)
STA 283+90.80
Parking Lot
Oil Mat
School
Note: See sheet 13 for sewer, curb and gutter, and utility legend
PLAN
PROFILE
Left Control Line
Right Control Line
100' V.C.
125' V.C.
-1.09%
-1.08%
-2.20%
-1.82%
-1.60%
-2.17%
-1.43%
+0.80%
PI 270+75 El. 32.50
PI 275+00 El. 28.20
PI 279+25 El. 23.20
PI 281+00 El. 20.20
PI 282+75 El. 17.20
PI 270+75 El. 32.80
PI 279+25 El. 23.50
PI 281+00 El. 19.70
5540
5530
5520
270
275
280

DRAINAGE PLAN

PROJ. NO. U016-1(11) UNIT 1

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
R.S. OF WAY CHECKED
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
R. W. WORKED
STRUCTURE NOTATIONS CHKD.
NOTE BOOK
NO.
BY
DATE

N

To Denver

To Aurora

To Colo. Springs

U.S. 87

SO. IVANHOE ST

SO. IVY WAY

Concrete Gutter

Edge Existing Oil

Widen Sub-Base & Surfacing to 34'

Edge of Oil

Left Control Line

Right Control Line

Section Line

Face of Existing Curb (To be removed)

Face of Existing Curb (To remain in place)

285

290

62'

41'

21'

10'

11'

24'

34'

62

41

21

11

5' R

100'

STR. NO. F-17-W
CONST. PROJ. NO. ~~+002-2(41)~~
125-2(6)200

Project U016-1(11) UNIT 1

Project Ahead (As Constructed)

1 Ft. Offset to be Absorbed in street intersection

Meet Existing Median Curb

Note: See sheet 13 for sewer, curb and gutter, and utility legend.

STA. 290+50
END U016-1(11) UNIT 1

APPROACH TO PROJECT

℄ SO. IVANHOE ST.

℄ SO. IVY WAY

300' V.C.

+0.80%

+6.06%

20.96

28.09

Pl 285+00
El. 5520.00

Left Control Line

Right Control Line

5560

5550

5570

5560

5550

5530

5520

5510

285

290

295

EPT. OF HIGHWAYS
D.H. 137
2

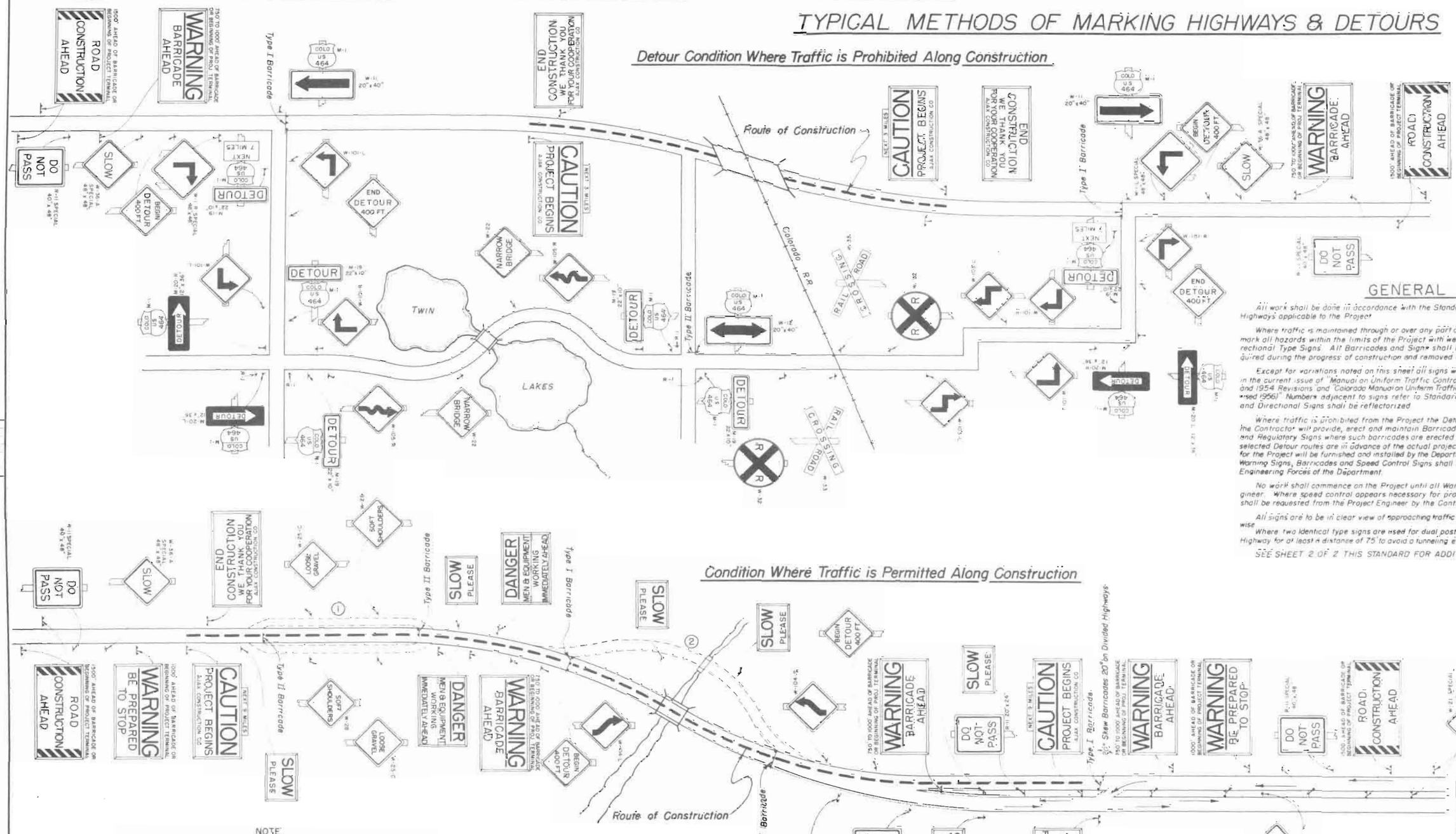
STANDARD ROADWAY CONSTRUCTION TRAFFIC SIGNS

STANDARD M-29-C
(SHEET 1 OF 2 SHEETS)

FED. ROAD REG NO.	DIVISION	U 016-1
9	COLO.	(0) Weld

TYPICAL METHODS OF MARKING HIGHWAYS & DETOURS

Detour Condition Where Traffic is Prohibited Along Construction



Condition Where Traffic is Permitted Along Construction

NOTE

Typical examples for marking Projects as shown hereon constitute a minimum of signs required and is subject to alteration to fit actual conditions encountered in the field. Additional markings and any special signs required for the guidance and protection of traffic will be placed as required on the project at the Contractor's expense.

All Signs and Barricades must be maintained in good condition and kept clean and free of dirt at all times to give the appearance of new signing. Contractor's and Engineers' equipment must be parked so that signs and barricades are visible to approaching traffic at all times.

LEGEND

(1) NEW GRADE, TRAFFIC USING SHOULDERS
(2) TRAFFIC USING DETOUR AROUND STRUCTURE

GENERAL NOTES

All work shall be done in accordance with the Standard Specifications of the Co Highways applicable to the Project

Where traffic is maintained through or over any part of the Project, the Contracti mark all hazards within the limits of the Project with well maintained Barricades, W rectional Type Signs. All Barricades and Signs shall be moved, added to, change quired during the progress of construction and removed entirely when project is com

Except for variations noted on this sheet all signs will be in conformity with the in the current issue of "Manual on Uniform Traffic Control Devices for Streets & High and 1954 Revisions and Colorado Manual on Uniform Traffic Control Devices for Streets & ised 1956)" Numbers adjacent to signs refer to Standards in the Manual. Standard and Directional Signs shall be reflectorized

Where traffic is prohibited from the Project the Detour will be marked by the De The Contractor will provide, erect and maintain Barricades complete with approved L and Regulatory Signs where such barricades are erected and maintained at the ends selected Detour routes are in advance of the actual project terminal. U.S. or State Hou for the Project will be furnished and installed by the Department. The location and posi Warning Signs, Barricades and Speed Control Signs shall be as recommended by the C Engineering Forces of the Department.

No work shall commence on the Project until all Warning Signs are in place and gineer. Where speed control appears necessary for protection of the travelling pub shall be requested from the Project Engineer by the Contractor.

All signs are to be in clear view of approaching traffic and are not to be obstructed by wise

Where two identical type signs are used for dual posting they are to be staggered Highway for at least a distance of 75' to avoid a tunneling effect.

SEE SHEET 2 OF 2 THIS STANDARD FOR ADDITIONAL NOTES AND DET

COLO
DEPARTMENT
Standard
Construction

Designed by J.C.R.
Made by J.C.R.
Checked by

Initial	Date
By	
By	
By	
By	

...DEPARTMENT OF HIGHWAYS
D. H. 126
...RY, 1952

STANDARD ROADWAY CONSTRUCTION TRAFFIC SIGNS

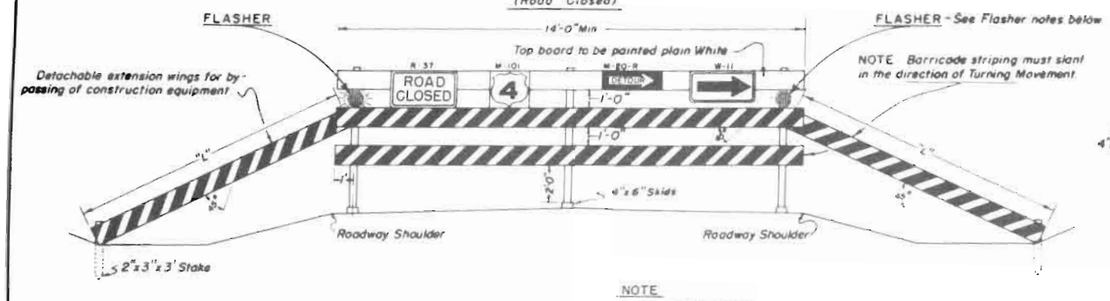
STANDARD M-29-C
(SHEET 2 OF 2 SHEETS)

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.
9	COLORADO	[illegible]

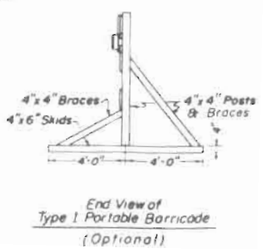
Rev. 10-23-58 m J.C.R.

DETAILS OF BARRICADES

Type I
(Road Closed)



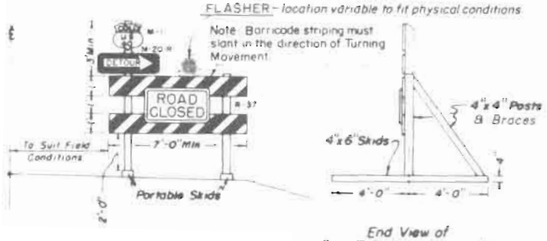
"L" Variable, length to be adequate to provide closing of borrow pit and shoulder



End View of Type I Portable Barricade
(Optional)

NOTE
The various types & combinations of approved Signs and Beacons for Barricades required for each project will be governed by field conditions and subject to approval by the Engineer.

Type II
(Beg. of Detour, By-Pass Areas within Proj, Extreme Hazards, etc.)



End View of Type II Portable Barricade
(Optional)

NOTE: Alternate materials or other reflective elements on Construction Traffic Signs and Barricades will be permitted only after approval of such material by the Department.

DETAILS OF CONSTRUCTION SIGNS

DETAILS OF SIGN AND BEACON FABRICATION AND USAGE

Construction Signs "A" through and including "G" shall be made of ¾" Plywood or other material after approval by the Department, and as per details above. Signs shall be reflectorized with reflective sheeting or other reflective materials of types approved by the Department.

CONSTRUCTION SIGN "A" - Wide Angle White background with painted Black lettering. Barricade stripes of 4" Wide Angle White placed over Black painted vertical stripe spaced as shown above. This sign is the First advance warning sign and shall be placed 1500 feet ahead of barricade or beginning of project terminal and on both sides of the travelled way in all cases.

CONSTRUCTION SIGN "B" - Apply top 23" strip of Flat Top Silver, reversed screened or sprayed with Transparent Red Paint allowing the words "WARNING" and 1-inch Underline to remain as Flat Top Silver. Balance of lettering painted Black on a 22" strip of Wide Angle White. This sign is the Second advance warning sign and shall be placed 1000 feet ahead of barricade or beginning of project terminal and on both sides of the travelled way on divided highways and singly on two-lane highways.

CONSTRUCTION SIGN "C" - Apply top 23" strip of Flat Top Silver, reversed screened or sprayed with Transparent Red Paint allowing the words "WARNING" and 1-inch Underline to remain as Flat Top Silver. Balance of lettering painted Black on a 22" strip of Wide Angle White. This sign is the Third advance warning sign in cases where barricades are used and shall be placed 750 to 1000 feet ahead of barricade or beginning of project terminal and on both sides of the travelled way on divided highways and singly on two-lane highways.

REVERSE SIDES OF SIGNS "A", "B" and "C" - The word "SLOW" shall be painted Black and superimposed over a Yellow miniature W-36-A background panel. Balance of lettering shall be painted Black on a White background.

CONSTRUCTION SIGN "D" - Apply top 24½" strip of Flat Top Silver, reversed screened or sprayed with Transparent Red Paint allowing the words "CAUTION" and 1½" Underline to remain as Flat Top Silver. Balance of lettering painted Black on a 20½" strip of Wide Angle White. This sign will be provided with a detachable 1" material board mounted on back of sign with 2-⅛"x 2" bolts. This board shall be painted White with Black lettering. (Indicate to the nearest Mile). This sign shall be placed to mark the Beginning of the Project. To be placed singly and may be placed opposite barricade if desirable.

CONSTRUCTION SIGN "E" - Apply top 17½" strip of Flat Top Silver, reversed screened or sprayed with Transparent Red Paint allowing the words "DANGER" and 1-inch Underline to remain as Flat Top Silver. Balance of lettering painted Black on a 27½" strip of Wide Angle White. The sign is of the hinged and fold type to facilitate the closing down of sign when the need is not prevalent. This sign shall be placed 500 feet ahead of the situation on hand.

CONSTRUCTION SIGN "F" - The words "END CONSTRUCTION" and "CONTRACTORS NAME" shall be painted Black on strips 22" and 6½" respectively of Wide Angle White. For balance of lettering, apply 16½" strip of Flat Top Silver, reversed screened or sprayed with Transparent Red Paint allowing "WE THANK YOU FOR YOUR COOPERATION" remaining in Flat Top Silver. This sign shall be placed to mark the Ending of the Project. To be placed singly and may be placed opposite barricade if desirable.

CONSTRUCTION SIGN "G" - The words "SLOW" and "PLEASE" shall be painted Black on a background of Wide Angle Yellow. This sign shall be used frequently within the limits of the Project.

All of the preceding signs shall be fastened to 2-4"x4" posts set 4 feet in the ground with a minimum of 3-1"x4" nailing strips on the back. Bottom of sign to be not less than 36" above the ground.

FLAGMAN WARNING SIGN "H" - This sign shall be made of Plastic or other lightweight material, painted Red background with White lettering on the "STOP" side and painted Green background with White lettering on the "GO" side. Handle to be grooved on one side to indicate reading of sign to flagman. This sign will be used whenever flagmen are necessary. Sign to be reflectorized if used to stop traffic at night.

DETOUR WARNING SIGN "I" - To be of ⅜" (Min.) plywood or No. 16 (Min.) gauge metal with Black painted letters on a Wide Angle Yellow Background.

CONSTRUCTION SIGN "J" - ⅜" x 9" metal slides to be placed between "NEXT ⁓ MILES" spaced so as to accommodate appropriate size numerals. Required numerals to be furnished by the Department and to be installed by the Contractor. Numerals calculated to the nearest Mile.

All material shall be sound and durable. Barricades, signs, symbols and lettering conforming to styles noted hereon will be of good workmanship and well maintained. Uneven lettering will not be accepted.

FLARES AND TORCHES shall be either of the oil burning or electrical type approved by the Department and shall be placed 3 feet to 5 feet ahead of the object to be illuminated. Particular care shall be taken to protect all signs and barricades from smoke and smudge arising from the use thereof.

FLASHERS used on Type I or II Barricade shall be of the Battery or Electrical Type and shall have no less than 12.566 sq. inches of light area (4" dia. lens). The illuminating element in a flashing amber beacon or signal shall be flashed continuously at a rate between 50 or 60 flashes per minute which will be clearly distinguishable to traffic. The duration in which Flashers will be left in operation will be governed by field conditions and subject to approval by the Engineer.

Alternate methods of processing signs or the substitution of symbols or other reflecting elements for painted symbols will be permitted only after approval of such methods or materials by the Department.

The Department shall furnish and install the following as required OUTSIDE THE LIMITS of the Project:

1	"ROAD CONSTRUCTION AHEAD"	Minimum 4
2	"WARNING BE PREPARED TO STOP"	Minimum 2
3	"WARNING BARRICADE AHEAD"	As Required
4. ■	Standard Warning & Directional Signs	As Required

The Contractor shall furnish and install the following as required WITHIN THE LIMITS of the Project:

1	All Barricades		As Required
2	"CAUTION PROJECT BEGINS"		Minimum 2
3	"DANGER MEN & EQUIPMENT WORKING IMMEDIATELY AHEAD"		As Required
4	"END CONSTRUCTION WE THANK YOU FOR YOUR COOPERATION"		Minimum 2
5.	"SLOW PLEASE"		As Required
6	Standard Warning & Directional Signs		As Required
7.	Approved Directional Arrows & Regulatory Signs for Barricades		As Required
8	Torches and Flares as follows:	Type I Barricade	Minimum 3
		Type II Barricade	Minimum 1
9	Flashers - Type I Barricade		2 Required
	Type II Barricade		As Required

■ Including Type I Barricade located immediately inside of Project terminal points.

SPECIFICATIONS

PAINT - All paint and methods of painting shall be in conformity with the ...cations of the Colorado Department of Highways for painting of Tim...

STRIPING - Planking and Wings shall be painted with Maintenance Fla... before adding any one of the following acceptable Reflective Strips:
(a) Wide Angle White, 7" strip, spaced 8" apart
(b) Flat Top Silver, 3" strip, spaced 7" apart
▲(c) Direct Process of Glass Beads on Paint, 3" strip, space...
Stripes shall be applied on both front and back of barricades for opp...
Diversion of traffic will be accomplished as follows:
1- Stripes for barricades diverting traffic to the left shall start on th... the lower plank and progress up to the left. Traffic diversion to the ri... opposite.
2- Stripes on barricades diverting traffic in both directions shall begi... lower plank and progress up in both directions.

TIMBER - All timber used shall conform to the Standard Specifications ...
Untreated Timber

Planking	1"x12" or 2"x12"	S4S
Posts (Barricades)	6"x 6"	S4S
Posts (Signs)	4"x 4"	S4S

The Reflectorized Stripes on planking & wings on all barricades shall be ... White or Silver Reflective Material of a type acceptable to the Department.

Barricades may be either portable as shown or fixed with posts set ...

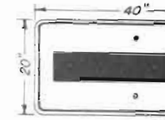
All skids, braces and posts to be painted white and nailed together w...

Bases to be weighted where necessary to provide stability.

▲ When this method is used as described above or when white binder and ... to planking and wings, alternate black stripes using Maintenance Flat Black ... applied over the reflective material in the prescribed pattern. All measure... are to be made along the horizontal axis of the board.

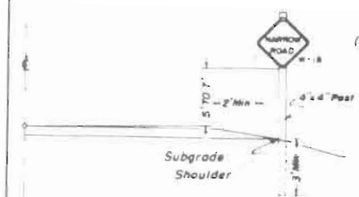
Details of Reflectorized Arrows

MARKINGS - A Wide Angle White Reflectorized Arrow of Reflective Material acceptable to the Department to be placed on a Black background. Letters to be 4" in height.



MARKINGS - A Black Arro... Yellow background of Refl... acceptable to the Depart...

Position of Signs Relative to Roadbed & H...



Top Vie... (Showing angle of sign in re...

Plane on whic... torized Signs sho...

NOTE
Warning Signs to be made of 3/8" (Min.) plywood or No. 16 Gauge (Min.) metal and shall be reflectorized.
Location to be governed by field conditions. Exact location to be staked by the Engineer in all cases warning Signs are to be placed well in advance of hazard, the distance depending on topography, and existing approach speeds.

COLOR... DEPARTMENT O...
Standard ...
Construction T...

Designed by	J.C.R.	App...
Made by	J.C.R.	En...
Checked by		Date

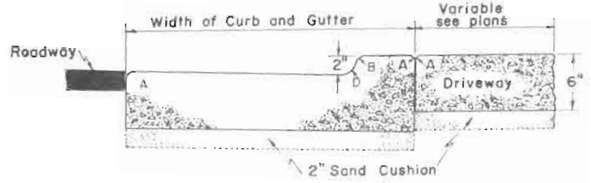
STANDARD CURBS AND GUTTERS

STANDARD M-45-A

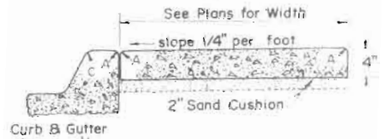
FED. ROAD REG. NO. 9 | DIVISION COLO | PROJECT NO. 2016-1(11)

REV	
12-9-58	Curb D
3-26-59	Curb D

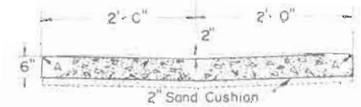
CONCRETE PAVEMENT (DRIVEWAYS)



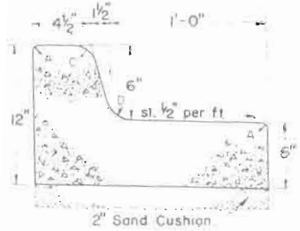
CONCRETE SIDEWALKS



CONCRETE GUTTER

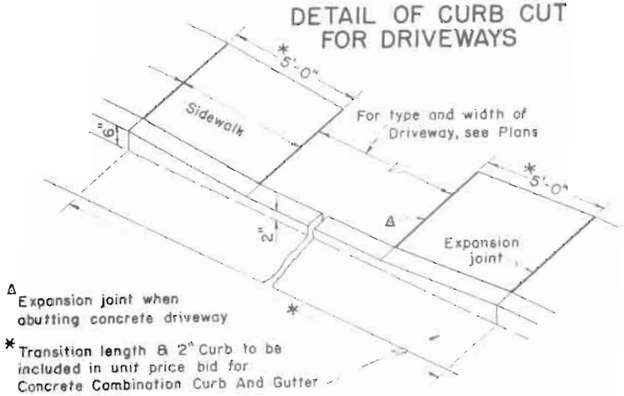


CONCRETE COMBINATION CURB AND GUTTER (6" Barrier-1' Gutter) (Type I)



LEGEND FOR RADII	
A	= ⅛"
B	= 1"
C	= 1½"
D	= 1½ to 2"

DETAIL OF CURB CUT FOR DRIVEWAYS

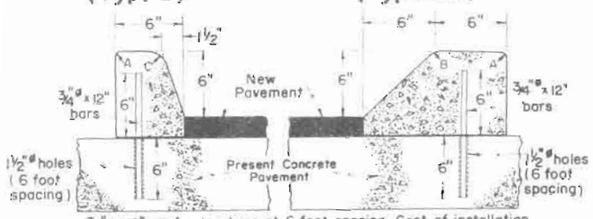


Δ Expansion joint when abutting concrete driveway

* Transition length & 2" Curb to be included in unit price bid for Concrete Combination Curb And Gutter

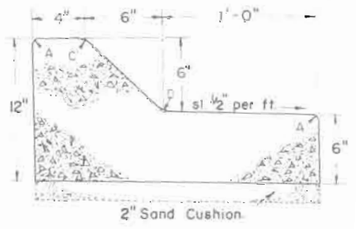
CONCRETE CURB (6" Barrier-Doweled) (Type I)

CONCRETE CURB (6" Mountable-Doweled) (Type I-M)

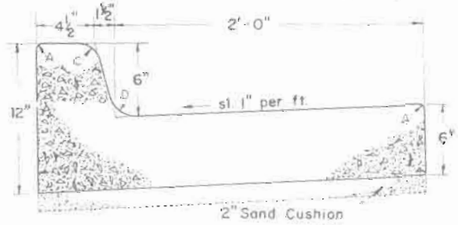


¾"ø x 12" reinforcing bars at 6 foot spacing. Cost of installation to be included in unit price bid for Curb. Bars to be grouted in ½"ø holes in present concrete. Grout to consist of 2 parts clean sand and 1 part cement.

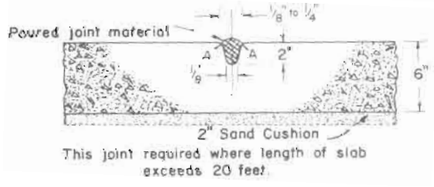
CONCRETE COMBINATION CURB AND GUTTER (6" Mountable-1' Gutter) (Type I-M)



CONCRETE COMBINATION CURB AND GUTTER (6" Barrier-2' Gutter) (Type II)



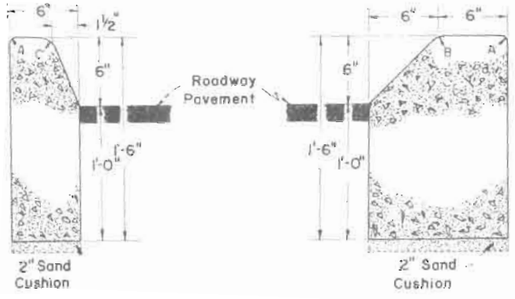
TRANSVERSE WEAKENED PLANE JOINT FOR CONCRETE PAVEMENT (DRIVEWAYS)



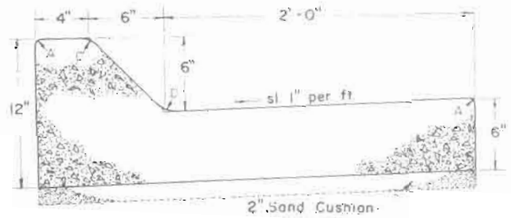
This joint required where length of slab exceeds 20 feet.

CONCRETE CURB (6" Barrier) (Type II)

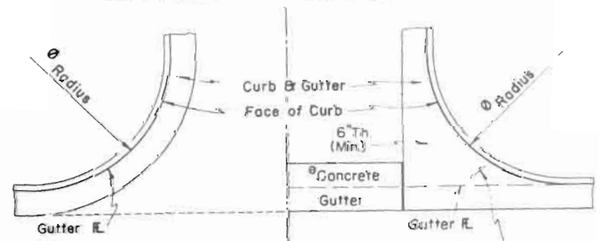
CONCRETE CURB (6" Mountable) (Type II-M)



CONCRETE COMBINATION CURB AND GUTTER (6" Mountable-2' Gutter) (Type II-M)



CONSTRUCTION OF CONCRETE GUTTERS AT INTERSECTIONS



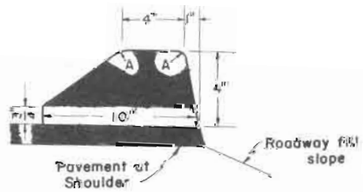
ø Length of Radius as shown elsewhere on Plans.

Area to be included in unit price bid for Concrete Combination Curb And Gutter.

This section to be built when ø Concrete Gutter is not required.

This section to be built when ø Concrete Gutter is required.

ASPHALTIC SHOULDER ROLL



GENERAL NOTES

All work shall done in accordance with the Specif Colorado Department of Highways.

All Concrete used in the construction of concret sheet shall be Class "A" Concrete.

On Curves 3 degrees and sharper, Curbs and/or placed on the Arc of the Curve unless otherwise n A maximum chord length of 10 feet may be used of curve is less than 3 degrees.

Sand Cushion to be used only when called fo

At locations where in-place concrete pavemer layed with asphalt, the asphalt shall be remove ment of Doweled-type Curb.

COLO
DEPARTMENT
STAN
CURBS AN

Designed by
Made by
Checked by CRS

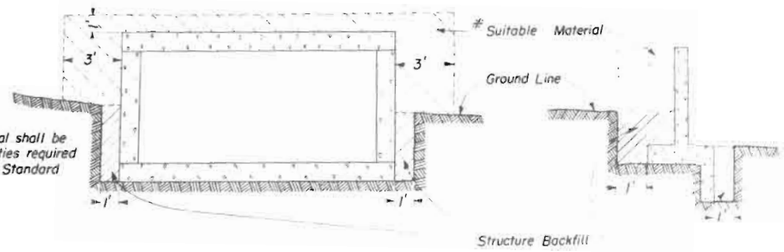
REVISIONS

STANDARD M-60-B

FED. ROAD REGION NO. 8 | DIVISION COLO. | U016-1 (11) Unit 1

RE
2-9-59 Dbl. C

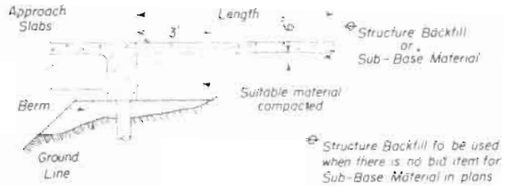
CONCRETE BOX CULVERTS & WINGWALLS



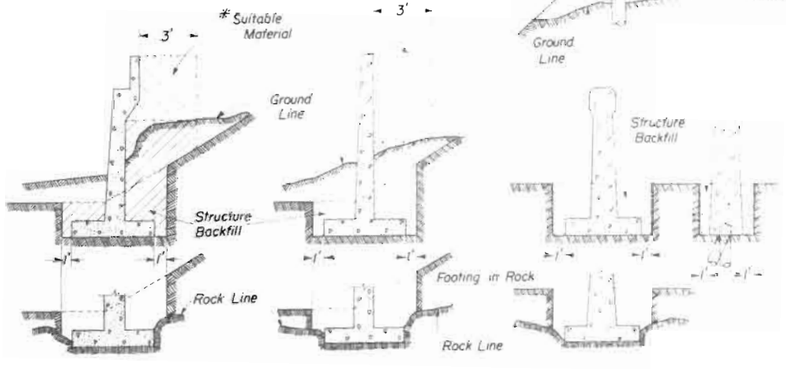
* Suitable Material shall be compacted to densities required for Item 16 of the Standard Specifications.

PIERS, ABUTMENTS, RETAINING WALLS ETC.

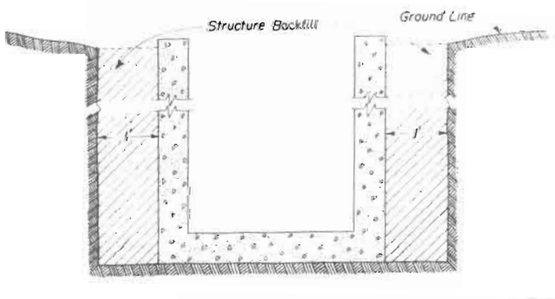
All material that is to be compacted shall be placed in horizontal layers not more than 6" inches in depth and compacted before the next layer is placed. For Arches, Rigid Frames and Box Culverts the fill shall be brought up uniformly on both sides of the center of structure to avoid stresses in the structure caused by unsymmetrical loading.



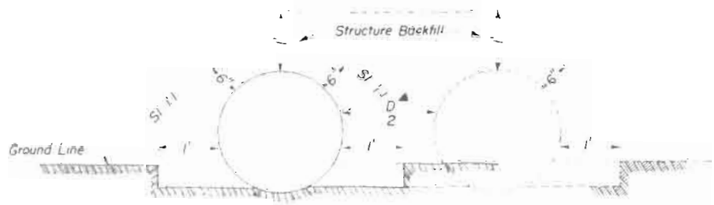
Structure Backfill to be used when there is no bid item for Sub-Base Material in plans



DROP INLETS, DIVISION BOXES, INTERCEPTING HEADWALLS ETC.

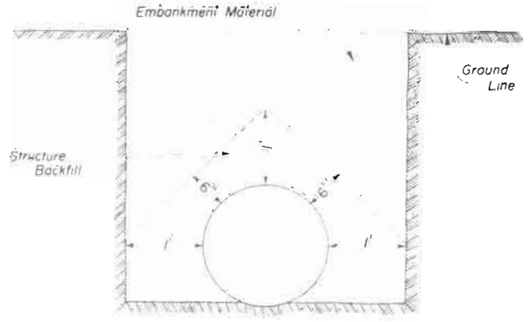


CIRCULAR CONDUIT



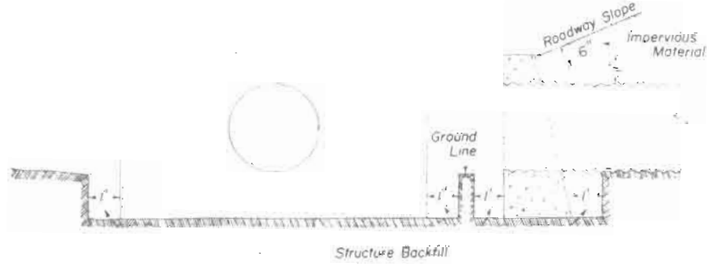
When two or more conduits are layed side by side, the distance between conduits shall be 1/2 the conduit diameter but not less than 2'-0"

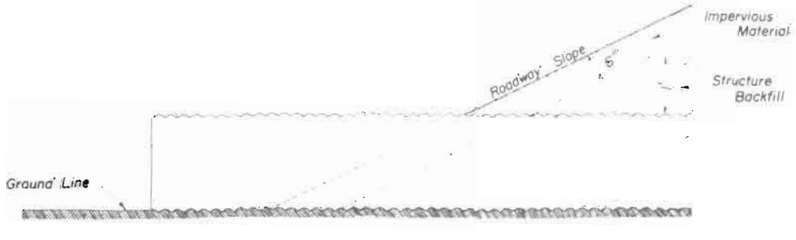
SIPHONS OR CONDUIT IN TRENCH



ELLIPTICAL OR ARCH CONDUIT

HEADWALLS AND END OF CULVERTS





GENERAL NOTES

All work shall be done according to the Standard Specifications of the Colorado Department of Highways applicable to the Project.

If, in the opinion of the Engineer, the material beneath the Structure is of such character as to cause unequal settlement along the length of the Structure, the material shall be removed to such a depth ordered, and backfilled with gravel or other suitable material and compacted in accordance with Item 16 of the Standard Specifications.

Suitable Material shall be any "Unclassified Excavation" material developed on the project except large rock, boulders or other materials considered by the Engineer to be undesirable for backfill around culverts, boxes etc.

COLO
DEPARTMENT
STANDARD
OF BA
AROUND S

Designed by H.E.P.L.
Made by D.M.E.
Checked by L.E.O.

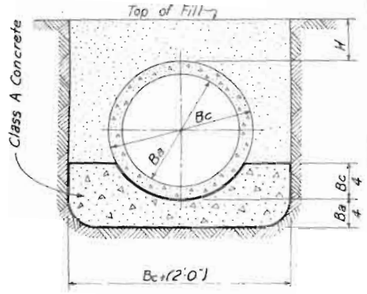
DEPT. OF HIGHWAYS
C.D.H. 137
953
E TRACING
—PLAIN

Initial | Date

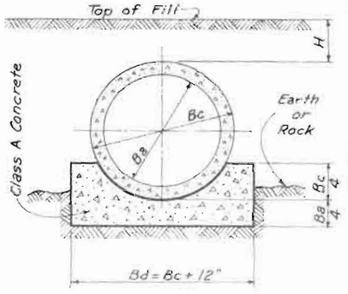
STANDARD M-112-F

REGION NO.	DIVISION	PROJECT
9	COLO.	2016-110(12) 11

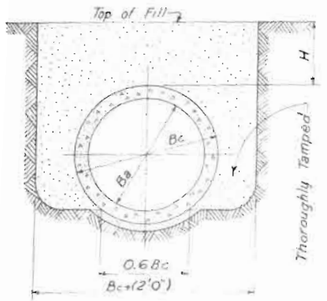
Rev - Ref of Conc. Pipe to Class - 7-9-58



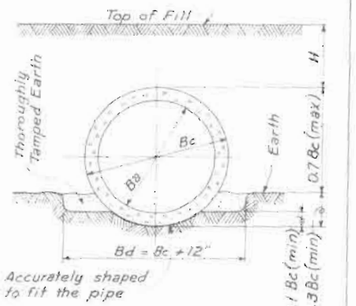
CONCRETE CRADLE
BEDDING IN TRENCHES



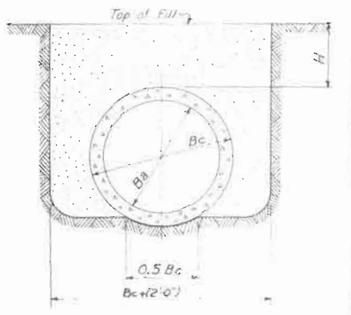
CONCRETE CRADLE
BEDDING IN FILLS



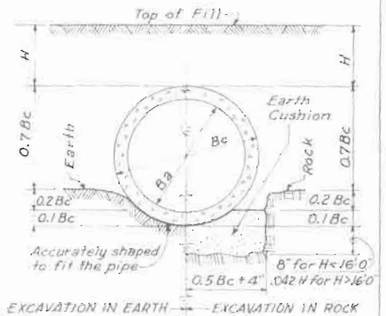
FIRST CLASS
BEDDING IN TRENCHES



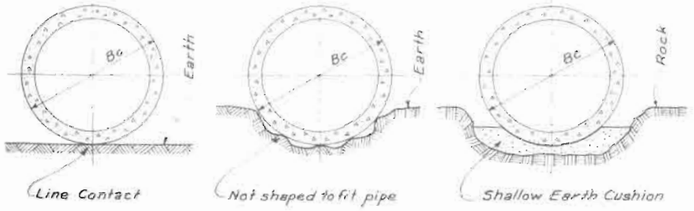
FIRST CLASS
BEDDING IN FILLS



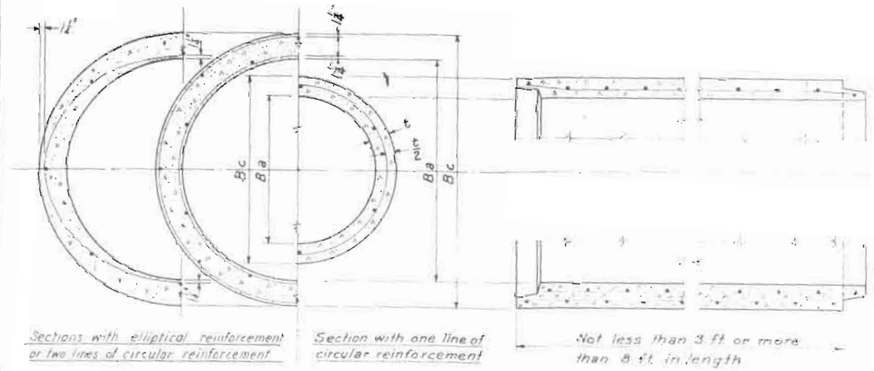
ORDINARY
BEDDING IN TRENCHES



ORDINARY
BEDDING IN FILLS



IMPERMISSIBLE BEDDINGS IN TRENCHES OR FILLS
THESE THREE TYPES SHALL NOT BE USED



Sections with elliptical reinforcement or two lines of circular reinforcement

Section with one line of circular reinforcement

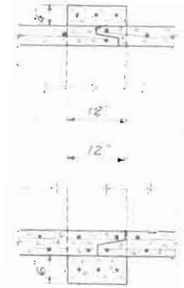
PIPE CROSS SECTIONS

Where two lines of steel are contemplated a single line placed elliptically may be used, and the area of this shall be at least 50% of the total steel area required for two lines of reinforcement. Pipe with elliptical reinforcing shall have the word "Top" or "Bottom" clearly stenciled on the inside of the pipe at the correct place to indicate the proper position when laid.

Not less than 3 ft. or more than 8 ft. in length

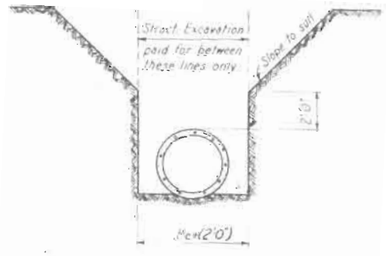
LONGITUDINAL SECTIONS

If machine made pipe is used a modified bell will be acceptable to the department.



CONCRETE COLLAR

Where the flow line grade of the pipe is 10% or greater, all pipe shall be the bell and spigot type or shall be tongue and groove pipe with concrete collars as detailed above or a type approved in writing by the Engineer.



Where it is necessary to bed the pipe in a deep trench the contractor may, for his own convenience and at his own expense, slope the cut from a point 2'-0" above the top of the pipe as shown above.
Note: For Concrete Sewer Pipe Structural Excavation is not a separate pay item.

Nominal Size Inside Diameter (Inches)	* External Diameter Bc (Inches)	Three Edge Bearing Crack Point (Pounds)	Three Edge Bearing Method Ultimate Load (Pounds)	Max depth of fill "H" in ft. for 3 types of Concrete Cradle: First Class Pipe in Trench	First Class Pipe in Fills	Pipe in No Trench	Pipe in Fills	Pipe
12	16	2250	3500	"	30	"	19	
15	19½	2625	4065	"	28	"	18	
18	23	3000	4500	"	28	"	18	
24	30	3000	6000	"	22	"	14	
30	37	3375	5150	"	21	25	14	
36	44	4050	6600	"	21	17	14	
42	51	4725	7350	"	22	17	14	
48	58	5600	8000	"	22	17	14	
54	65	5850	9000	"	22	17	14	
60	72	6000	10000	"	21	15	14	
66	79	6300	11000	"	20	15	13	
72	86	6600	12000	"	20	14	13	
84	100			"	20	13	13	
24	30	4000	6000	"	29	No Limit	18	No Limit
30	37	5000	7500	"	30	No Limit	19	"
36	44	6000	9000	"	30	40	19	"
42	51	7000	10500	"	31	40	20	"
48	58	8000	12000	"	31	37	20	"
54	65	9000	13500	"	32	36	20	"
60	72	9000	15000	"	29	28	19	"
66	79	9500	16500	28	28	26	19	"
72	86	9900	18000	64	28	24	18	"
84	100			46	28	22	18	"
12	16	1800	2700	"	24	No Limit	15	"
15	19½	2000	3000	"	22	No Limit	14	"
18	23	2200	3300	"	21	48	13	"
21	26½	2400	3600	"	20	28	13	"
24	30	2400	3600	"	18	18	12	"
27	33	2550	3800	"	18	17	11	"
30	37	2700	4050	"	17	15	11	"
33	40½	2850	4300	43	17	14	11	"
36	44	3000	4500	22	16	11	11	"
42	51	3200	4800	19	16	10	10	"
48	58	3400	5100	17	15	9	10	"
54	65	3700	5550	17	15	9	10	"
60	72	4000	6000	16	13	9	10	"
66	79	4250	6350	16	13	9	10	"
72	86	4500	6750	13	13	8	10	"
4	5⅛	1000		"	35	"	24	"
6	7¼	1100		"	31	"	20	"
8	9⅝	1300		"	28	"	18	"
10	11⅞	1400		"	25	"	16	"
12	14	1500		"	23	"	14	"
15	17½	1750		"	21	"	13	"
18	21	2000		"	21	"	13	"
21	24½	2200		"	20	27	12	"
24	28½	2400		"	19	22	12	"

Reinforced Concrete Sewer Pipe - Class III - A.S.T.M. C-76

Reinforced Concrete Sewer Pipe - Class IV - A.S.T.M. C-76

Reinforced Concrete Sewer Pipe - Class V - A.S.T.M. C-76

Std. Spr. Unreinforced Conc. Sewer Pipe - A.S.T.M. C-14

* Note: External diameter of pipe shown in the table only, having been determined by using 3000 lbs. per lf. greater strength concrete is used this diameter may accordingly

Minimum Depth of Fill over Concrete Pipe

Main Roadways	2 Foot
Approach Roadways	1 Foot

GENERAL NOTES

All work shall be done according to the Standard Specifications of the Colorado State Highway Department applicable to the project.

The type of Pipe Joint used and the field construction thereof to make the joint reasonably water-tight shall be submitted to the Department for approval.

Unless otherwise noted the type of bedding shall be Ordinary Bedding. When the maximum fill height as noted hereon, for this type of bedding, is exceeded then that type of bedding which is indicated by the allowable fill height shall be used.

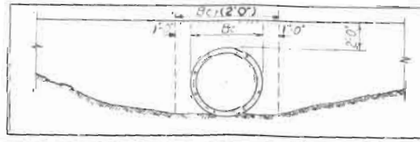
All culverts shall have headwalls or flared end sections A and as shown on the plans in accordance with Department Standards.

For size, type and location of pipe see plan sheets for project.

Supporting soils shall be composed of firm and uniform material throughout the entire length of Culvert. The soil shall be accurately shaped to fit the Pipe in accordance with the bedding conditions shown.

The Pipe shall be laid with the Bell or Groove end placed upstream.

For Std. Methods of Structure Backfill See Std. M-60-8



If the desired fill height for pipe in a fill exceeds that given in the table, new embankment may be constructed to an elevation of two feet above the top of the pipe; a trench may then be excavated in the embankment and the pipe installed in accordance with a pipe in a trench. This work shall conform to the requirements for "Embankments" as shown in the specifications.

COLOR
DEPARTMENT
REINF. CONCRETE
STD STRENGTH 12, 15, 18, 21, 24, 27, 30, 33, 36, 42, 48, 54, 60, 66, 72, 79, 86
EXTRA STR 24, 30, 36, 42, 48, 54, 60, 66, 72, 79, 86
CONCRETE
REINF. 12, 15, 18, 21, 24, 27, 30, 33, 36, 42, 48, 54, 60, 66, 72, 79, 86
UNREINF. 4, 6, 8, 10, 12, 15, 18, 21, 24, 27, 30, 33, 36, 42, 48, 54, 60, 66, 72, 79, 86

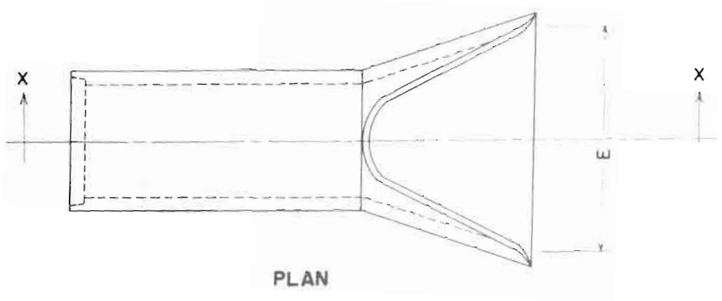
Designed by W.W.D.	App
Made by W.W.D.	
Checked by P.C.	Dat

Initial	Date
W.W.D.	3-1-52
P.C.	3-7-52
W.W.D.	3-5-52
P.C.	3-7-52
W.W.D.	3-10-52
P.C.	3-16-52

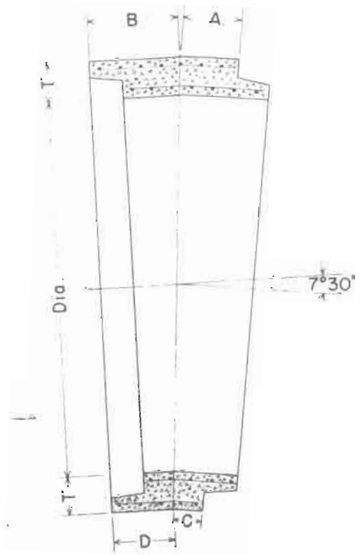
STANDARD M-118-B

FED. ROAD REG. NO.	DIVISION	16016-1
9	COLO.	(11) Unit 1

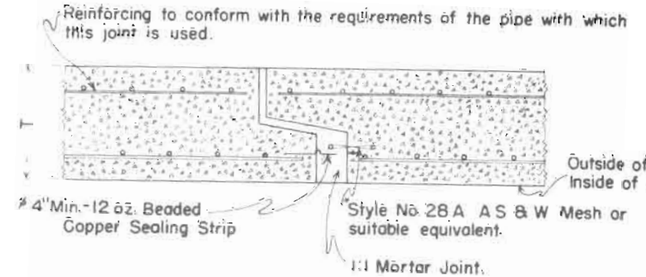
FLARED END SECTION FOR CONCRETE PIPE



7°30' ANGLE SECTION FOR CONCRETE PIPE

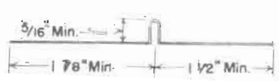


COPPER EXPANSION JOINT FOR CONCRETE PIPE
(WHEN REQUIRED ON PLANS)



*When Welded Rectangular Mesh is used for the reinforcing steel in the pipe the inner line of Mesh may be extended into the joint space instead of using a separate strip of Triangular Mesh.

#COPPER SEALING STRIP



#Copper Sealing Strips shall be made from sheet copper, 4" min. width, cent shown and weighing 12 oz. per sq. ft. Both legs of strip shall be perforated in a satisfactory manner to secure bond. Each sealing strip shall be continuous around each pipe joint with a 1¼" end lap.

DIMENSIONS FOR FLARED END SECTIONS

DIAMETER	A	B	C	D	E
12"	4"	2'-0"	4'-0⅞"	6'-0⅞"	2'-0"
15"	6"	2'-3"	3'-10"	6'-1"	2'-6"
18"	9"	2'-3"	3'-10"	6'-1"	3'-0"
24"	9½"	3'-7½"	4'-6"	8'-11½"	4'-0"
30"	1'-0"	4'-6"	3'-7¾"	8'-1¾"	5'-0"
36"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"
42"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"
48"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"
54"	2'-6"	6'-0"	2'-3"	8'-3"	7'-6"
*60"	2'-6"	5'-0"	3'-3"	8'-3"	8'-0"

*60" end section is based on a slope of 2:1

DIMENSIONS FOR 7°30' ANGLE SECTIONS

DIAMETER OF PIPE	LENGTH ON OUTSIDE OF PIPE				AVERAGE LAYING LENGTH ON ℄
	A	B	C	D	
12"	4½"	4½"	3½"	3½"	8"
15"	5½"	5⅛"	4¼"	3⅞"	9⅜"
18"	3½"	6½"	2"	5"	8½"
24"	4"	6½"	2"	4⁹⁄₁₆"	8½"
30"	4½"	7"	2"	4½"	9"
36"	4⅞"	8⁷⁄₁₆"	2"	5⁹⁄₁₆"	10⁷⁄₁₆"
42"	6"	9½"	2⅝"	6⅛"	12⅛"
48"	7"	11"	3⅜"	7⁹⁄₁₆"	14³⁄₁₆"
54"	8⅛"	12⅛"	4"	8"	16⅛"
60"	9⅛"	14"	4⅜"	9¼"	18⅜"

A, B, C and D apply to Tongue and Groove type of Joint only and can be varied for other types of Joints.

GENERAL NOTES

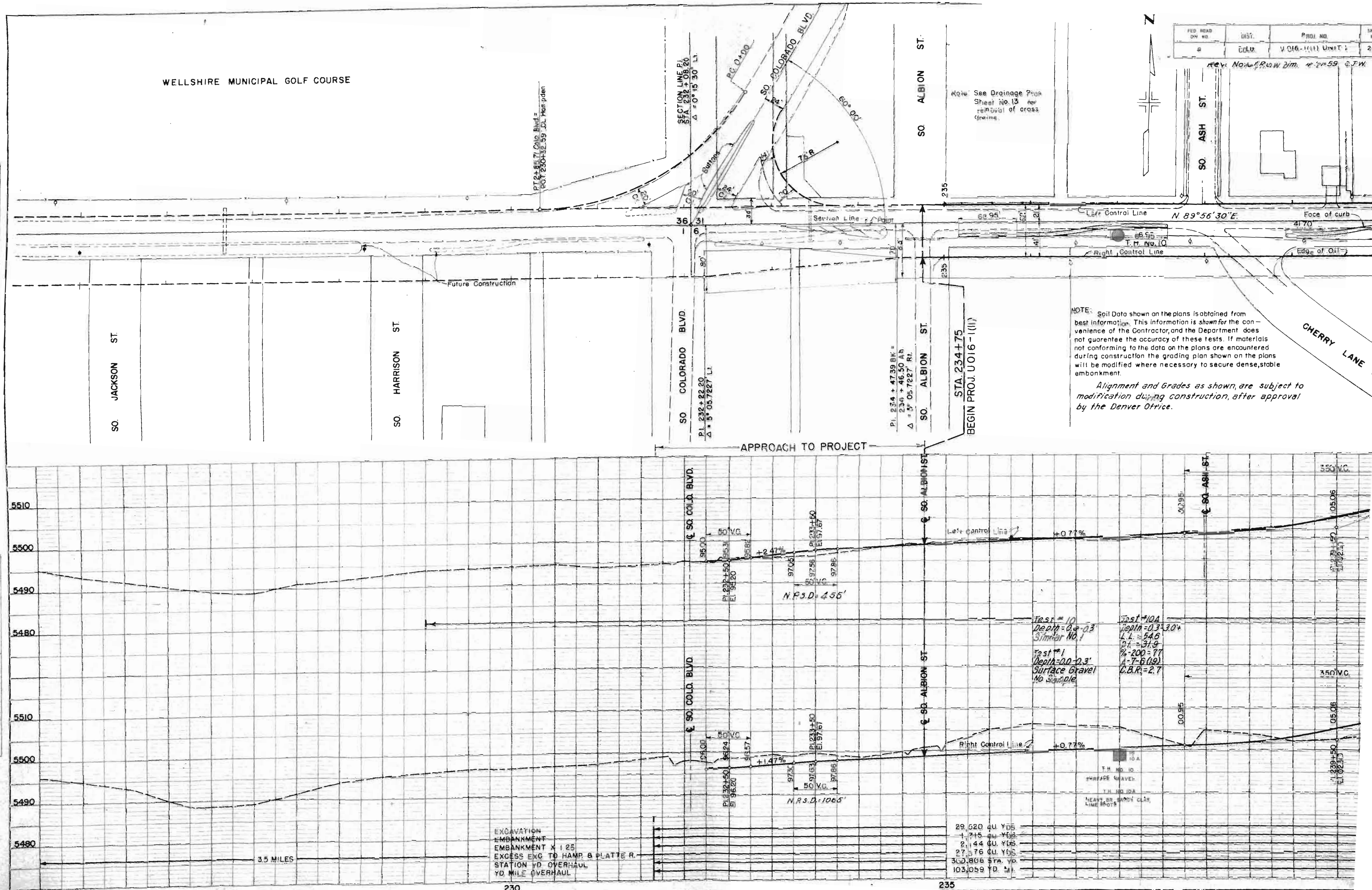
Joints other than Tongue and Groove may be used for Flared End Sections 7°30' Angle and for the Copper Expansion Joint but all Joints for any one pipe structure must be uniform.

Concrete, wall thickness and reinforcing steel in Flared End Sections and 7 Angle Sections must conform with the requirements of the pipe with which they are used.

Alternate types of expansion joints may be substituted for the expansi joint shown on this sheet after approval by the Department.

Flared end sections are to be furnished with tongue or groove, and bell or spigot as required, in order that joints may be laid with the bell groove end upstream.

COLORA
DEPARTMENT O
STANDA
FLARED END
7°30' ANGLE
AND
COPPER EXPAN
FOR
CONCRETE PIPE
Designed by R.S.M.
Made by J.M.K.
Checked by R.S.M.



FED. ROAD DIV. NO.
DIST.
PROJ. NO.
COLO.
U 016-1(11) UNIT 1
Rev. Note & R.O.W. Dim. 4-27-59 C.J.W.
N
WELLSHIRE MUNICIPAL GOLF COURSE
SO. JACKSON ST.
SO. HARRISON ST.
SO. COLORADO BLVD.
SO. ALBION ST.
SO. ASH ST.
CHERRY LANE
SECTION LINE P.I. STA. 232+08.20 Δ = 0° 15' 30" Lt.
P.T. 2+85.71 Colo. Blvd. = POT 230+32.59 "DL" Hampden
P.I. 232+22.20 Δ = 5° 05.7227' Lt.
P.I. 234+47.39 BK = 234+46.50 Ah Δ = 5° 05.7227' Rt.
STA. 234+75 BEGIN PROJ. U016-1(11)
APPROACH TO PROJECT
Note: See Drainage Plan Sheet No. 13 for removal of cross grains.
Left Control Line
Right Control Line
Section Line
N. 89°56'30"E.
Face of curb
Edge of Oil
T.H. No. 10
Future Construction
Buttons
NOTE: Soil Data shown on the plans is obtained from best information. This information is shown for the convenience of the Contractor, and the Department does not guorentee the accuracy of these tests. If materials not conforming to the data on the plans are encountered during construction the grading plan shown on the plans will be modified where necessary to secure dense, stable embankment.
Alignment and Grades as shown, are subject to modification during construction, after approval by the Denver Office.
℄ SO. COLO. BLVD.
℄ SO. ALBION ST.
℄ SO. ASH ST.
Left Control Line
Right Control Line
50 V.C.
350 V.C.
+2.47%
+1.47%
+0.77%
P.I. 232+50 El. 96.20
P.I. 233+50 El. 97.67
N.R.S.D. = 455'
N.R.S.D. = 1065'
Test # 10 Depth = 0.0-0.3' Similar No. 1
Test # 1 Depth = 0.0-0.3' Surface Gravel No Sample
Test # 10A Depth = 0.3-3.0'+ L.L. = 54.6 P.I. = 31.9 %-200 = 77 A-7-6(9) C.B.R. = 2.7
T.H. No. 10 SURFACE GRAVEL
T.H. No. 10A HEAVY BR. SANDY CLAY, LIME SPOTS
EXCAVATION 29,520 CU. YDS.
EMBANKMENT 1,715 CU. YDS.
EMBANKMENT X 1.25 2,144 CU. YDS.
EXCESS EXC. TO HAMP. & PLATTE R. 27,376 CU. YDS.
STATION YD. OVERHAUL 300,806 STA. YD.
YD. MILE OVERHAUL 103,059 YD. MI.
3.5 MILES
5510
5500
5490
5480
225
230
235
PLAN
PROFILE

FED. ROAD D.V. NO.	DIST.	PROJ. NO.	SHEET NO.
9	COLO.	U 016-1(11) UNIT 1	25

Rev. R.O.W. Dim. 4-27-59 C.J.W.

PLAN — SURVEYED: PLOTTED: CHECKED: NOTE BOOK: ALIGNMENT CHECKED: RT. OF WAY CHECKED: NO. DATE BY

PROFILE — SURVEYED: PLOTTED: CHECKED: NOTE BOOK: ALIGNMENT CHECKED: R. W. L. NOTED: STRUCTURE NOTATIONS CHECKED: NO. DATE BY

N

SO. BELLAIRE ST.

SO. BIRCH ST.

SO. CLERMONT ST.

SO. CHERRY ST.

SO. DEXTER ST.

Left Control Line N. 89°56'30"E.

Right Control Line

Edge of Oil

Face of Curb

T.H. No. 11

41.70' 100.00' 100.00' 67.70' 67.70' 67.95' 67.95' 54.20

240 245 250 255

Leaching Field

Bethany Lutheran Church

Test #11
Similar No.1
Test #1
Depth=0.0-0.3'
Surface Gravel
No Sample

Test #11A
Depth=0.3-9.0'
L.L.=44.4
P.I.=22.8
%-200=84
A-7-6(14)
C.B.R.=3.6

Test #11B
Depth=9.0-10.0'+
L.L.=55.9
P.I.=30.6
%-200=87
A-7-6(19)
C.B.R.=2.7

℄ SO. BELLAIRE ST. — Pl. 242+00, El. 5500.00 — 14.97' — 19.74 — 150' V.C. N.P.S.D.=590' — +7.06% — 128.25

℄ SO. BIRCH ST. — Pl. 245+25, El. 5538.40 — 32.74 — 37.89 — 200' V.C. N.P.S.D.=465' — +5.65% — 48.04

℄ SO. CLERMONT ST. — Pl. 247+75, El. 5547.50 — 45.68 — 47.44 — 100' V.C. N.P.S.D.=>1300' — 49.07 — +3.64% — +3.14%

℄ SO. CHERRY ST. — Pl. 251+25, El. 5558.50 — 55.36 — 57.79 — 200' V.C. N.P.S.D.=365' — 58.81 — +0.31%

℄ SO. DEXTER ST. — Pl. 254+50, El. 5559.50 — 59.20 — 200' V.C. N.P.S.D.=465'

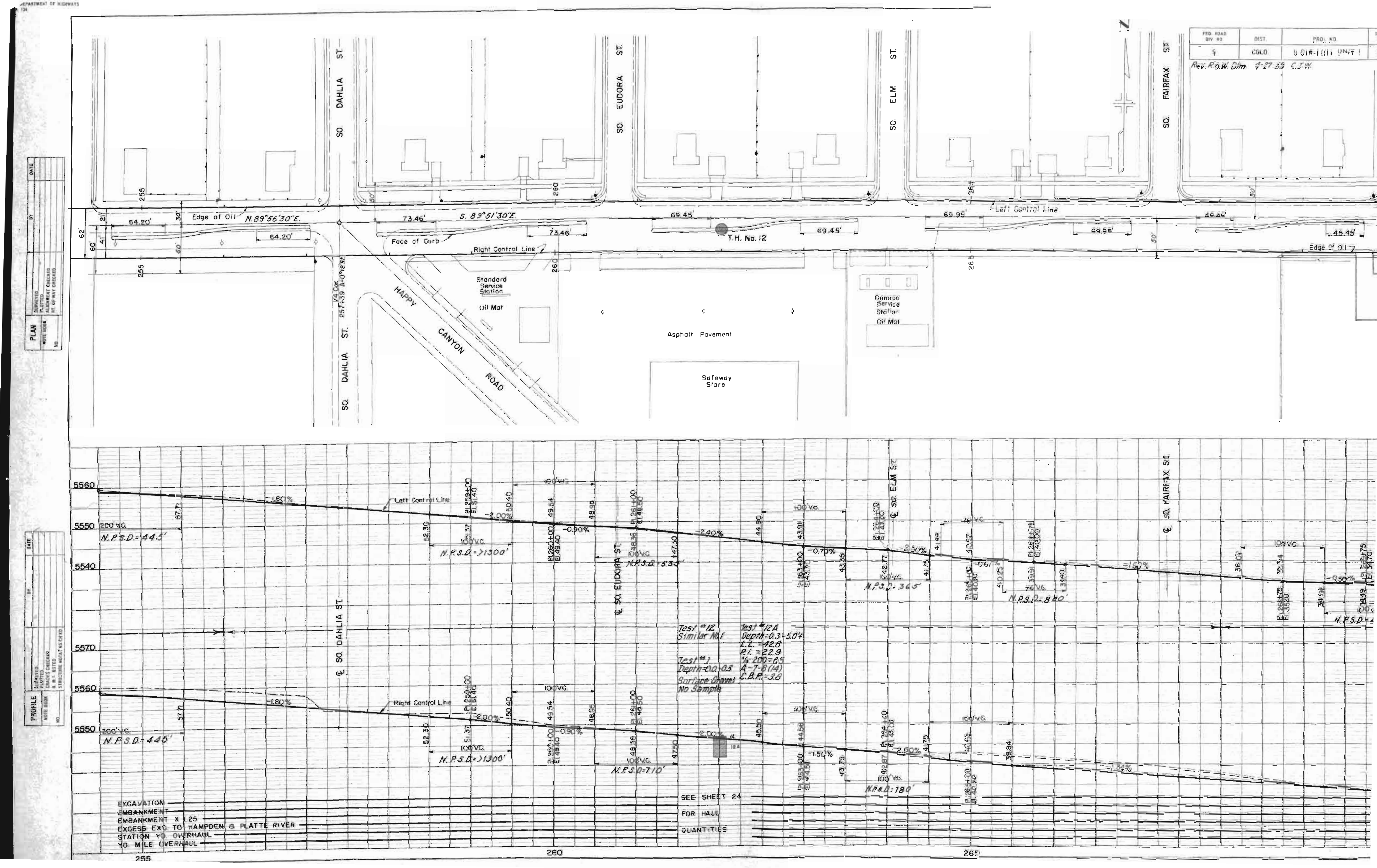
T.H. NO. 11
SURFACE GRAVEL
T.H. NO. 11A
LT. BR. SAND & CLAY
T.H. NO. 11B
SAND WITH CLAY BALLS, LIME SPOTS

5540 5530 5520 5510 5500

0.06

EXCAVATION
EMBANKMENT
EMBANKMENT X 1.25
EXCESS EXC. TO HAMPDEN & PLATTE RIVER
STATION YD. OVERHAUL
YD. MILE OVERHAUL

SEE SHEET 24 FOR HAUL QUANTITIES



DEPARTMENT OF HIGHWAYS
FED. ROAD DIV. NO. 5
DIST.
PROJ. NO.
COLO.
Rev. R.O.W. Dim. 4-27-59 C.J.W.
PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NOTE BOOK
NO.
BY
DATE
SO. DAHLIA ST.
SO. EUDORA ST.
SO. ELM ST.
SO. FAIRFAX ST.
Edge of Oil
N.89°56'30"E.
S. 89°51'30"E.
Face of Curb
Right Control Line
Left Control Line
T.H. No. 12
HAPPY CANYON ROAD
Standard Service Station
Oil Mat
Asphalt Pavement
Safeway Store
Conoco Service Station
64.20'
73.46'
69.45'
69.95'
45.45'
PROFILE
SURVEYED
PLOTTED
CROSS-CHECKED
B. M.'s NOTED
STRUCTURE NOTATNS CH'KD
Left Control Line
Right Control Line
200' V.C.
N.P.S.D.= 445'
100' V.C.
N.P.S.D.= >1300'
N.P.S.D.= 555'
N.P.S.D.= 365'
N.P.S.D.= 850'
N.P.S.D.= 710'
N.P.S.D.= 180'
-1.80%
-2.00%
-0.90%
-2.40%
-0.70%
-2.50%
-1.60%
-1.50%
Test #12 Similar Mat.
Test #12A Depth=0.3-5.0' L.L.=42.8 P.I.=22.9 %-200=85 A-7-6(14) C.B.R.=3.6
Test #1 Depth=0.0-0.3 Surface Gravel No Sample
5560
5550
5540
5570
EXCAVATION
EMBANKMENT
EMBANKMENT X 1.25
EXCESS EXC. TO HAMPDEN & PLATTE RIVER
STATION YD. OVERHAUL
YD. MILE OVERHAUL
SEE SHEET 24 FOR HAUL QUANTITIES
255
260
265

CO DEPARTMENT OF HIGHWAYS
UR 139
55

FED ROAD DIV NO	DIST	PROJ NO	SHEET NO
9	COLO	U 016-1(11) UNIT 1	27

Rev. R&W Dim. 4-27-59 CJW

PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, NOTE BOOK, BY, DATE

PROFILE — SURVEYED, PLOTTED, PROFILE CHECKED, NOTE BOOK, BY, DATE, STRUCTURE INITIALS OR NO.

SO. FOREST ST.
SO. GLENCOE ST.
SO. GRAPE ST.
SO. HUDSON WAY
SO. HOLLY ST.

Edge of Oil
Face of Curb
Left Control Line
Right Control Line
T.H. No. 13
T.H. No. 14
Edge of Oil
Parking Lot
Oil Mat
School

45.45' 45.20' 45.20' 30.45' 30.45' 67.95' 67.95' 65.45' 55.45'
S 89°51'30"E
S 89°40'30"E
STA 283+90.80
Δ = 0°11'00" Rt

Test #13 Similar No.1
Test #1 Depth=0.0-0.3' Surface Gravel No Sample
Test #13A Depth=0.3-3.0' L.L.=45.0 P.I.=26.7 %-200=90 A-7-6(16) C.B.R.=2.7
Test #14 Similar No.1
Test #14A L.L.=43.0 P.I.=25.2 %-200=78 A-7-6(14) C.B.R.=5.6

T.H. NO.13 SURFACE GRAVEL
T.H. NO.13A BR. SANDY CLAY, LIME SPOTS
T.H. NO.14 SURFACE GRAVEL
T.H. NO.14A BR. SANDY CLAY & GRAVEL, FILL

N.P.S.D.=480'
N.P.S.D.=1040'
N.P.S.D.=1430'
N.P.S.D.=740'

EXCAVATION
EMBANKMENT
EMBANKMENT X 1.25
EXCESS EXC. TO HAMPDEN & PLATTE RIVER
STATION YD. OVERHAUL
YD. MILE OVERHAUL

SEE SHEET FOR HAUL QUANTITIES

5540
5530
5520
270
275
280

FED. HIGHWAY DIV. NO.	DIST.	PROJ. NO.	SHEET NO.
9	COLO	U-0018-1(011) UNIT II	23

Rev. R.O.W. Dim. 4-27-59 C.J.W.

SO. IVANHOE ST

SO. IVY WAY

To Denver

To Aurora

To Colo. Springs

U.S. 87

N

285 50' | 290 70'

Left Control Line

Sec. Line

Face of Existing Curb S. 89°40'30"E. 100.00'

Face of Existing Curb (To Remain in Place)

24' 32'

2' 10' 11' 21' 41' 62' 55.45' 70' 70' 41' 62' 21' 11'

Edge of Oil

Right Control Line

150' Taper

12' Rt. 288+50 RCL

12' 290

5' R

STR. NO. F-17-W
CONST. PROJ. NO. ~~I 002-2(41)~~
I 25-2-(6)200

℄ Project U 016-1(11) UNIT I

℄ Project Ahead (As Constructed)

1 Ft. Offset to be Absorbed in street intersection.

STA. 290+50 END U 016-1(11)

APPROACH TO PROJECT

PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, R/W MAP CHECKED, NOTE BOOK, NO., BY, DATE

PROFILE — SURVEYED, PLOTTED, PROFILE CHECKED, NOTE BOOK, NO., B. M.'s NOTED, STRUCTURE NOTATIONS CHKD., BY, DATE

℄ SO. IVY WAY

℄ SO. IVANHOE ST

300' V.C.

+6.06%

+0.80%

Left Control Line

Right Control Line

28.09

20.96

Sta. 285+00 El. 19.00

5560
5550
5570
5560
5550
5530
5520
5510

EXCAVATION
EMBANKMENT
EMBANKMENT x 1.25
EXCESS EXC. TO HAMPDEN & PLATTE RIVER
STATION YD. OVERHAUL
YD. MILE OVERHAUL

SEE SHEET 24 FOR HAUL QUANTITIES

285 290 295

Excavation Cu. Yds. | Excavation Area | Embankment Area | Embankment Cu. Yds.

Excavation Cu. Yds. | Excavation Area | Embankment Area | Embankment Cu. Yds.

REGION NO. 8 COLO U016-1(11) UNIT1

SUMMARY OF EARTHWORK
U016-1(11) UNIT1

EXCAVATION
FROM CROSS SECTIONS — TOTAL 29,520 CU. YDS.

EMBANKENT
FROM CROSS SECTIONS — TOTAL 1,715 CU. YDS.

EMBANKMENT X FACTOR — TOTAL 2,144 CU. YDS.

EXCESS EXCAVATION — TOTAL 27,376 CU. YDS.

STATION YARD OVERHAUL
FROM MASS DIAGRAM — TOTAL 300,806 STA YDS

YARD MILE OVERHAUL
FROM MASS DIAGRAM — TOTAL 103,059 YD MILE

COMPACTION
EMBANKMENT X FACTOR + EXCESS EXCAVATION 29,520 CU. YDS
BASES OF CUTS AND FILLS 14,386 CU. YDS
TOTAL 43,906 CU. YDS

SHEET TOTALS: EXCAVATION, EMBANKMENT

ORIGINAL SURVEY: DATE, BY, SURVEYED, PLOTTED, TEMPLATE, NOTE BOOK, AREA CHECKED, NO.

FINAL SURVEY: DATE, BY, SURVEYED, PLOTTED, TEMPLATE, NOTE BOOK, AREA CHECKED, NO.