STATE DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS — STATE OF COLORADO

AS CONSTRUCTED PLAN AND PROFILE OF PROPOSED As Constructed

COLORADO PROJECT NO. CC 12-0025-14

CITY OF THORNTON PROJECT NO. 0893

ADAMS COUNTY

I-25 AT 94th AVENUE INTERCHANGE
(THORNTON PARKWAY / I-25 INTERCHANGE)

SCALE OF ORIGINAL DRAWINGS
ON PLAN 1 IN. = 50 FT.
ON PROFILE 1 IN. = 50 FT. HORIZONTAL
1 IN. = 5 FT. VERTICAL
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD

		REVISIONS	
R-1	3-13-85	SHEET 1, 17 & 50	G.F.H.

PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
COLORADO CC12-0025-14	1	17

AS CONSTRUCTED
NO REVISIONS [ ] REVISED [ ] VOID [ ]

INDEX OF SHEETS

SHEET NO.	DESCRIPTION	DRAWING NO.
1	TITLE SHEET	TS-1
2	STATEWIDE PLANS INDEX	SP-1
3	TYPICAL SECTIONS RAMPS NB & SB	DT-1
4	TYPICAL SECTIONS RAMPS NE & SE	DT-2
5	TYPICAL SECTIONS RAMPS NW & SW	DT-3
6-14	SUMMARY OF APPROXIMATE QUANTITIES	QS-1 - QS-9
15	GENERAL NOTES-DIVISIONS, QUANTITY SUMMARY OF EARTHWORK	TG-1
16	TABULATION OF MISC. ITEMS (REMOVE, SALVAGE, ADJUST)	TG-2
17	TABULATION OF FENCING, SEEDING, GUARD RAIL, CULVERTS, AND STEEL CASING	TG-3
18	TABULATION OF PAVEMENT QUANTITIES, BRICK PAVER STUDS	TG-4
19	TABULATION OF STORM SEWER SYSTEM	TG-5
20	BRICK PAVER, WEST RAMP DETAILS AND GENERAL NOTES	DS-1
21	CURB RAMP, EAST RAMP DETAILS	DS-2
22	GEOMETRIC PLAN	PG-1
23-45	BRIDGE PLANS - STRUCTURE NO. E-17-MJ	B1-B23
46-48	WATERLINE INSTALLATION	DW-1 - DW-3
49	PLAN AND PROFILE THORNTON PKWY.	PP-1
50	PLAN AND PROFILE APPROACH TO PROJECT	PP-2
51 & 52	PLAN AND PROFILE SE RAMP	PP-3 & PP-4
53 & 54	PLAN AND PROFILE NE RAMP	PP-5 & PP-6
55 & 56	PLAN AND PROFILE SW RAMP	PP-7 & PP-8
57	PLAN AND PROFILE NW RAMP	PP-9
58	PAV'T LINE PROFILES AND BORE TESTING	PM-1
59-61	DRAINAGE	PD-1 - PD-3
62-80	SIGNING AND STRIPING PLANS	SS-1 - SS-19
81-94	TRAFFIC SIGNAL PLANS	TP-1 - TP-14
95	DETAILS CONST. TRAFFIC CONTROL AND SUMMARY	CS-1
96	LIGHTING PLAN FOR INFORMATION ONLY	LP-1
97	STANDARD M-412-2 (SPECIAL THIS PROJECT)	
98-99	STANDARD M-611-5 (SPECIAL THIS PROJECT)	

REVISED M&S STANDARDS
M-606-12 GUARD RAIL - TYPE 4 CONCRETE BARRIER (9 SHEETS, FEB. 16, 1983)

TABULATION OF LENGTH AND DESIGN DATA

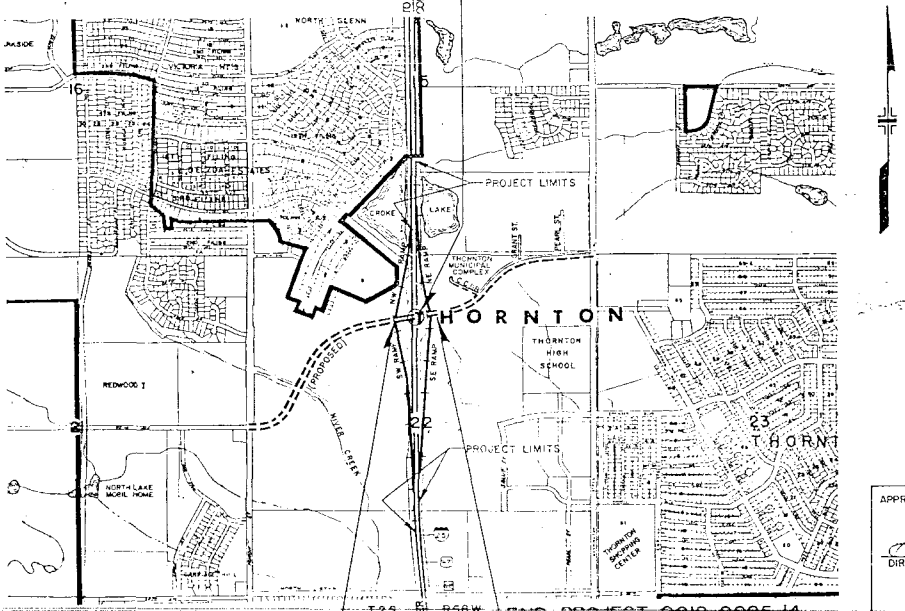
STATION	ROADWAY LINEAR FEET	STRUCTURE LINEAR FEET
THORNTON PARKWAY		
39+12.00 TO 42+52.88	340.88	
MAJOR STRUCTURE NO. E-17-MJ 42+52.88 TO 45+01.96		249.08
45+01.96 TO 47+00.00	198.04	
PROJECT TOTALS	538.92	249.08

SUMMARY	FEET	MILES
NET LENGTH (ROADWAY)	538.92	0.102
NET LENGTH (MAJOR STRUCTURE)	249.08	0.047
GROSS LENGTH	788.00	0.149

DESIGN DATA

MAXIMUM DEGREE OF CURVE	N/A
MAXIMUM GRADE	6 %
MINIMUM S.S.D. (VERTICAL)	401'
MINIMUM S.S.D. (HORIZONTAL)	N/A
MAXIMUM DESIGN SPEED	54 MPH
YEAR 2004 DESIGN TRAFFIC VOLUME:	
ADT	31,000
DHV	2,716

MAJOR STRUCTURE NO. E-17-MJ



AS CONSTRUCTED INFORMATION
CONTRACTOR Lawrence Construction Co.
Resident ENGINEER Seitz
(Project or Resident)
PROJECT STARTED 4-23-85
PROJECT COMPLETED 4-1-87
AS CONSTRUCTED PLANS APPROVED [signature] Const Engr 8-21-87
TITLE DATE

DIVISION OF HIGHWAYS
APPROVED: [signature] by K.E. Hand 8/26/87
CHIEF ENGINEER DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED DATE
DIVISION ADMINISTRATOR

APPROVED: [signature] 1-29-85
DIRECTOR OF PUBLIC WORKS DATE

URS COMPANY
3955 E. EXPOSITION AVE.
DENVER, COLORADO
80209

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
TITLE SHEET

DATE	PROJECT NO.	DESIGNED BY S.Z. / DRAWN BY R.K. / CHECKED BY	SHEET NO. 1 OF 1 SHEETS	DRAWING NO.
	URS 2057.3			TS-1

G.F.H. (DIST 6)

Plan No.	Title	Page
■ M-100-1	TEMPORARY DIVERSION	1
□ M-107-1	TEMP. RAIN EROSION CONTROL	2
■ M-203-1	APPROACH ROADS, FLARING, CUT SLOPE TREATMENT, BRIDGE & CREST WIDENING	3
□ M-203-2	DITCH TYPES	4
□ M-203-10	SUPERELEVATION OF CURVES - CROWNED HIGHWAYS	5
□ M-203-11	SUPERELEVATION OF CURVES - DIVIDED HIGHWAYS - SHOULDER PIVOT	6
□ M-203-12	SUPERELEVATION OF CURVES - STREETS	7
□ M-203-13	SUPERELEVATION OF CURVES - DIVIDED HIGHWAYS - CENTER PIVOT	8
■ M-206-1	EXCAVATION AND BACKFILL FOR STRUCTURES ....(2 SHEETS)	9
■ M-206-2	EXCAVATION AND BACKFILL FOR BRIDGES	11
□ M-214-1	PLANTING DETAILS	12
□ M-412-1	CONCRETE PAVEMENT JOINTS	13
□ M-504-1	STEEL CRIBBING	14
□ M-506-1	GABIONS AND SLOPE MATTRESS	15
□ M-510-1	STRUCTURAL PLATE CULVERT PIPE - H-20 LOADING .....(2 SHEETS)	16
□ M-601-1	SINGLE CONCRETE BOX CULVERT	18
□ M-601-2	DOUBLE CONCRETE BOX CULVERT	19
□ M-601-3	TRIPLE CONCRETE BOX CULVERT	20
□ M-601-10	HEADWALL FOR PIPE CULVERTS	21
□ M-601-11	TYPE "S" SADDLE HEADWALL FOR PIPE CULVERTS	22
□ M-601-12	HEADWALL, INTERCEPTING HEADWALL AND CULVERT OUTLET PAVING	23
□ M-601-20	WINGWALLS FOR PIPE OR BOX CULVERTS	24
□ M-603-1	METAL CULVERT PIPE - H-20 LOADING .....(2 SHEETS)	25
■ M-603-2	REINFORCED CONCRETE PIPE	27
□ M-603-3	PRECAST CONCRETE BOX CULVERT	28
■ M-603-10	CONCRETE AND METAL END SECTIONS	29
■ M-604-1	PIPE SEWER IN TRENCH	30
■ M-604-10	INLET, TYPE C	31
□ M-604-11	INLET, TYPE D	32
■ M-604-12	CURB INLET, TYPE R .....(2 SHEETS)	33
□ M-604-13	CONCRETE INLET, TYPE 13	35
■ M-604-20	MANHOLES	36
■ M-604-21	STEPS FOR MANHOLES & INLETS	37
■ M-606-1	GUARD RAIL, TYPE 3, W-BEAM ..... (8 SHEETS)	38
□ M-606-2	GUARD RAIL, TYPE 3, W-BEAM FOR LOCAL ROADS & STREETS ..... (4 SHEETS)	46
□ M-606-10	GUARD RAIL, TYPE 4, CONCRETE BARRIER, CAST-IN-PLACE	50
□ M-606-11	GUARD RAIL, TYPE 4, CONCRETE BARRIER, PRECAST-PORTABLE	51

Plan No.	Title	Page
□ M-607-1	WIRE FENCES AND GATES ..... (2 SHEETS)	53
■ M-607-2	CHAIN LINK FENCE ..... (2 SHEETS)	54
□ M-607-3	BARRIER FENCE	57
□ M-607-4	DEER FENCE AND GATE .....(2 SHEETS)	58
□ M-607-10	PICKET SNOW FENCE	60
□ M-608-1	CURB RAMPS	61
■ M-609-1	CURBS AND GUTTERS	62
□ M-611-1	CATTLE GUARD - WELDED GRILL UNITS - 10' THRU 42' ROADWAYS .....(2 SHEETS)	63
■ M-613-1	HIGHWAY LIGHTING .....(2 SHEETS)	65
□ M-615-1	EMBANKMENT PROTECTOR, TYPES 3 & 4	67
□ M-615-2	EMBANKMENT PROTECTOR, TYPE 5	68
□ M-616-1	INVERTED SIPHON (ALSO USE M-603 OR M-604 AS REQUIRED)	69
□ M-620-1	FIELD LABORATORY - CLASS 1	70
■ M-620-2	FIELD LABORATORY - CLASS 2	71
□ M-620-11	FIELD OFFICE - CLASS 1	72
■ M-620-12	FIELD OFFICE - CLASS 2	73

Plan No.	Title	Page
■ M-[illegible]	TYPICAL DEFLECTOR INSTALLATIONS .....(4 SHEETS)	75
■ S-614-1	TYPICAL GROUND SIGN PLACEMENT	79
■ S-614-2	CLASS I GROUND SIGN INSTALLATIONS	80
■ S-614-3	CLASS II GROUND SIGN INSTALLATIONS	81
■ S-614-4	CLASS III SIGNS, LAMINATED ALUMINUM PANELS AND POST SPACING TABLE .....(2 SHEETS)	82
■ S-614-5	BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS .....(2 SHEETS)	84
■ S-614-6	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS .....(2 SHEETS)	86
□ S-614-10	TYPICAL MARKER ASSEMBLY INSTALLATIONS	88
■ S-614-11	MILEPOST SIGN AND INSTALLATION	89
■ S-614-12	STRUCTURE NUMBER INSTALLATION (BRIDGE INFORMATION SHEET)	90
□ S-614-13	STANDARD RAILROAD CROSSING SIGNS AND MARKINGS	91
■ S-614-20	TYPICAL POLE MOUNT SIGN INSTALLATION	92
□ S-614-21	CONCRETE BARRIER SIGN POST INSTALLATIONS	93
□ S-614-22	TYPICAL MULTI-SIGN INSTALLATIONS	94
■ S-614-30	INTERSTATE ROUTE MARKERS	95
□ S-614-31	U. S. & COLORADO ROUTE MARKERS	96
□ S-614-32	AUXILIARY MARKERS	97
□ S-614-40	TRAFFIC SIGNAL INSTALLATION DETAILS ...(3 SHEETS)	98
■ S-614-50	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION .....(4 SHEETS)	101
■ S-614-51	BARRICADES, DRUMS, CONCRETE BARRIER (TEMP) & VERTICAL PANELS	105
■ S-627-1	TYPICAL PAVEMENT MARKINGS .....(3 SHEETS)	106

THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

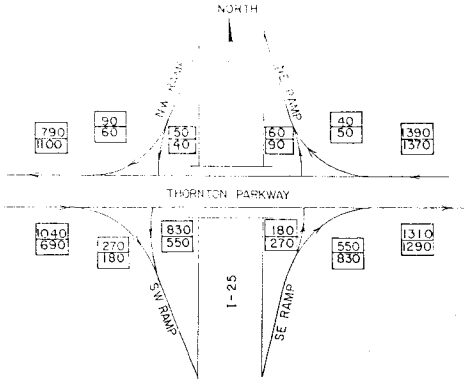
STANDARD PLANS LIST

M & S STANDARDS — JANUARY, 1982

FEDERAL AID PROJ. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	3	49

AS CONSTRUCTED

NO REVISIONS [ ] REVISED [ ] VOID [ ]

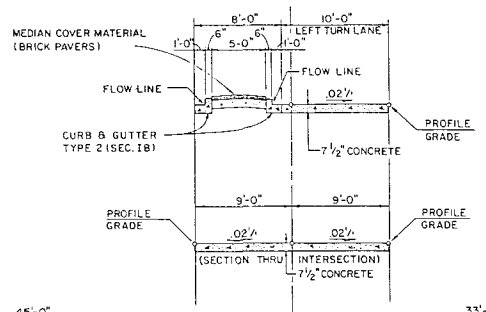


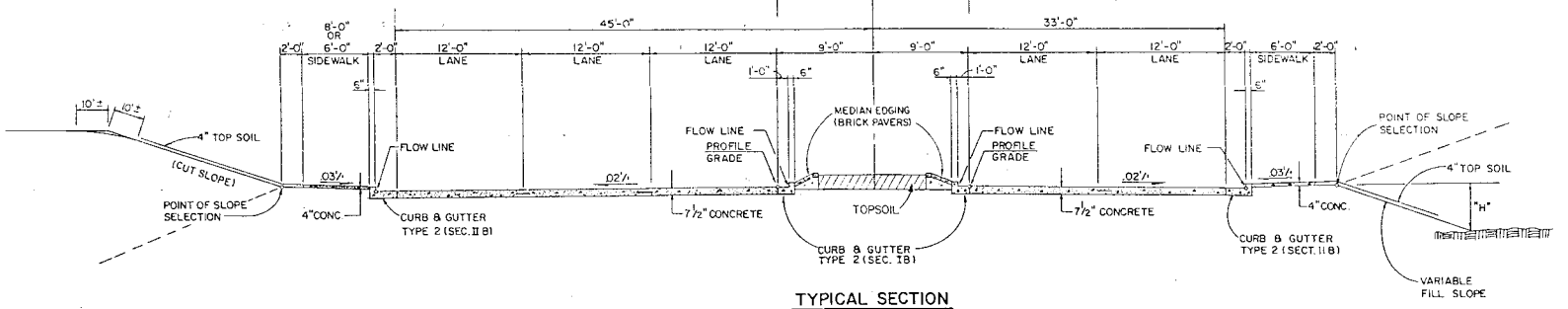
DESIGN HOURLY VOLUMES
(YEAR 2004)

NOTE:
- TOP FIGURE - A.M. PEAK HOUR
- BOTTOM FIGURE - P.M. PEAK HOUR

TYPICAL SECTION NOTES:

1. THE DEPTH AND WIDTH OF THE SIDE DITCH ~~SHALL BE~~ ARE VARIED WHERE NECESSARY IN ORDER TO PROVIDE PROPER DRAINAGE.
2. BREAK POINTS ON SLOPES AND BOTTOM OF DITCHES ~~SHALL~~ ARE BE ROUNDED ON CONSTRUCTION FOR A PLEASING APPEARANCE. SEE STANDARDS FOR DETAILS OF CUT SLOPE TREATMENT, FLARING AND WIDENING.





TYPICAL SECTION

STA. 39 + 12.00 TO STA. 42 + 38.88
STA. 45 + 15.19 TO STA. 47 + 00.00

FILL SLOPE TABLE

"H"	SLOPE
10' OR LESS	6:1
10' TO 25'	4:1
OVER 25'	3:1

CUT SLOPES

NOTE: CUT SLOPES ~~SHALL NOT~~ ARE NOT BE STEEPER THAN 3:1, UNLESS SPECIFIED IN SPECIAL CASES. FLATTER SLOPES ~~SHALL BE~~ ARE USED WHERE DRAINAGE OR OTHER CONDITIONS PROVIDES A CONFORMITY TO NATURAL GROUND.

City of Thornton
Public Works
Thornton, Colorado

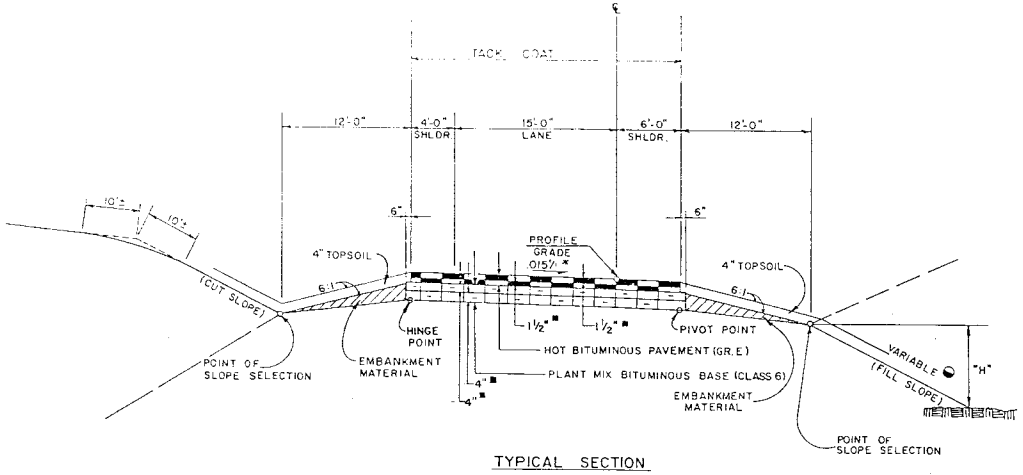
THORNTON PARKWAY / I-25 INTERCHANGE

TYPICAL SECTION — THORNTON PARKWAY

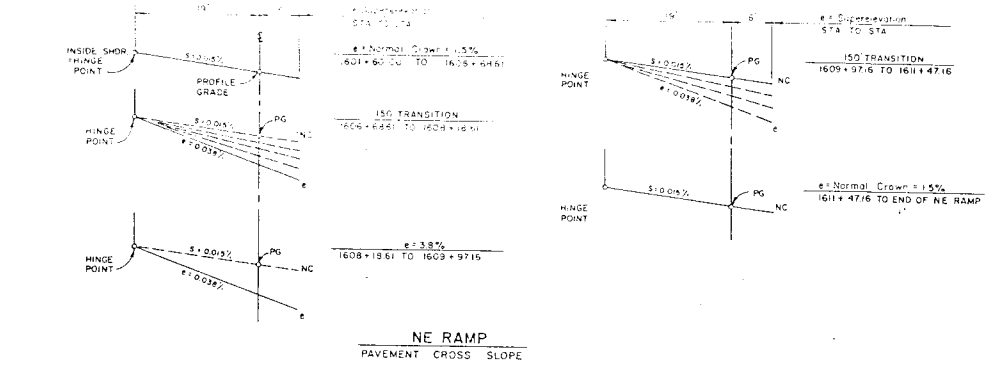
DATE	PROJECT NO.	DESIGNED BY / DRAWN BY / CHECKED BY	SHEET NO.	DRAWING NO.
	URS 2057 3	S.L. / P.Y.	1 OF 5 SHEETS	DT-1

AS CONSTRUCTED						
NO REVISIONS		REVISED		VOID		

FEDERAL AID PROJ. NO.	DIVISION	PROJ NO	SHEET NO	TOTAL SHEETS
	COLORADO	CC12-0025-14	4	9



TYPICAL SECTION
NE RAMP



NE RAMP
PAVEMENT CROSS SLOPE

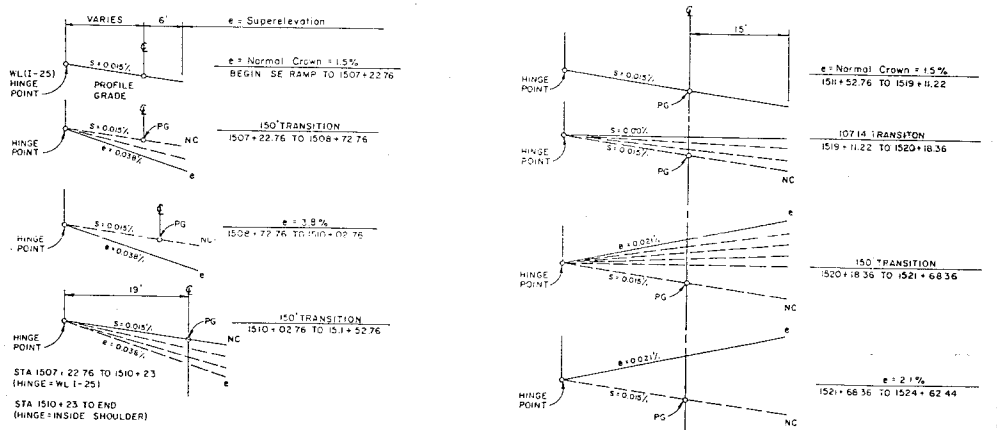
CUT SLOPES

NOTE: CUT SLOPES ~~SHALL NOT~~ MAY NOT BE STEEPER THAN 3:1, UNLESS SPECIFIED IN SPECIAL CASES. FLATTER SLOPES ~~SHALL BE~~ USED WHERE DRAINAGE OR OTHER CONDITIONS PROVIDES A CONFORMITY TO NATURAL GROUND.

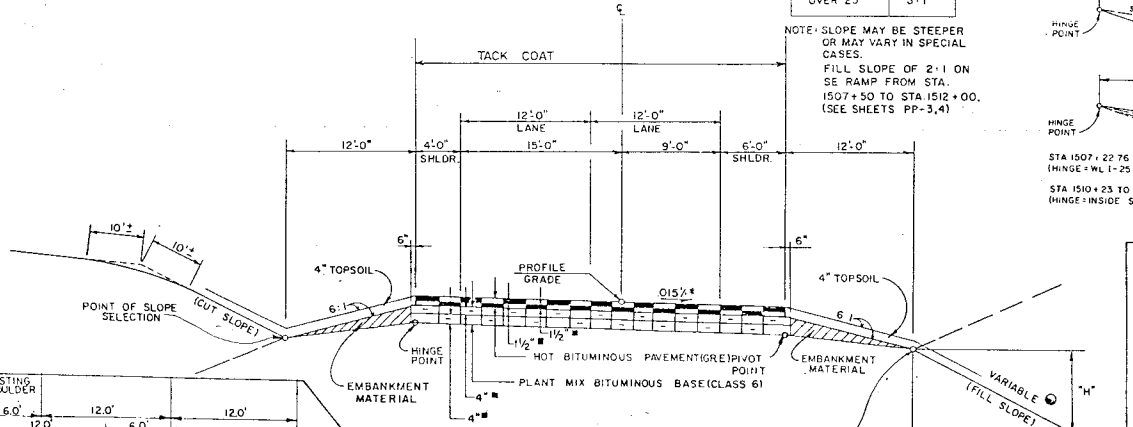
FILL SLOPE TABLE

"H"	SLOPE
10' OR LESS	6:1
10' TO 25'	4:1
OVER 25	3:1

NOTE: SLOPE MAY BE STEEPER OR MAY VARY IN SPECIAL CASES.
FILL SLOPE OF 2:1 ON SE RAMP FROM STA. 1507+50 TO STA. 1512+00. (SEE SHEETS PP-3,4)



SE RAMP
PAVEMENT CROSS SLOPE



TYPICAL SECTION
SE RAMP

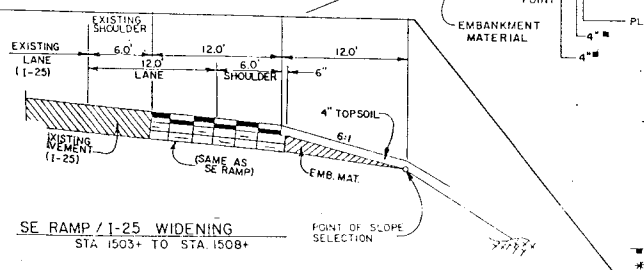
TYPICAL SECTION NOTES:

1. THE DEPTH AND WIDTH OF THE SIDE DITCH ~~SHALL BE~~ MAY BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE PROPER DRAINAGE.
2. MATERIAL ~~SHALL BE~~ PLACED IN SEPARATE COURSES AT THE FOLLOWING APPROXIMATE RATES PER 100 LIN. FT. OF ROADWAY:

BITUMINOUS PAVEMENT	SE RAMP	NE RAMP
TOP LAYERS	31 TONS/31 TONS	23 TONS/23 TONS
BOTTOM LAYERS	85.5 TONS/85.5 TONS	63.5 TONS/63.5 TONS

THE RATES SHOWN HAVE BEEN DETERMINED FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. RATES SHOULD BE ADJUSTED DURING CONSTRUCTION TO OBTAIN THE REQUIRED APPROXIMATE THICKNESS.

3. BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES ~~SHALL~~ MAY BE ROUNDED ON CONSTRUCTION FOR A PLEASING APPEARANCE. SEE STANDARDS FOR DETAILS OF CUT SLOPE TREATMENT, FLARING AND WIDENING.



SE RAMP / I-25 WIDENING
STA 1503+ TO STA. 1508+

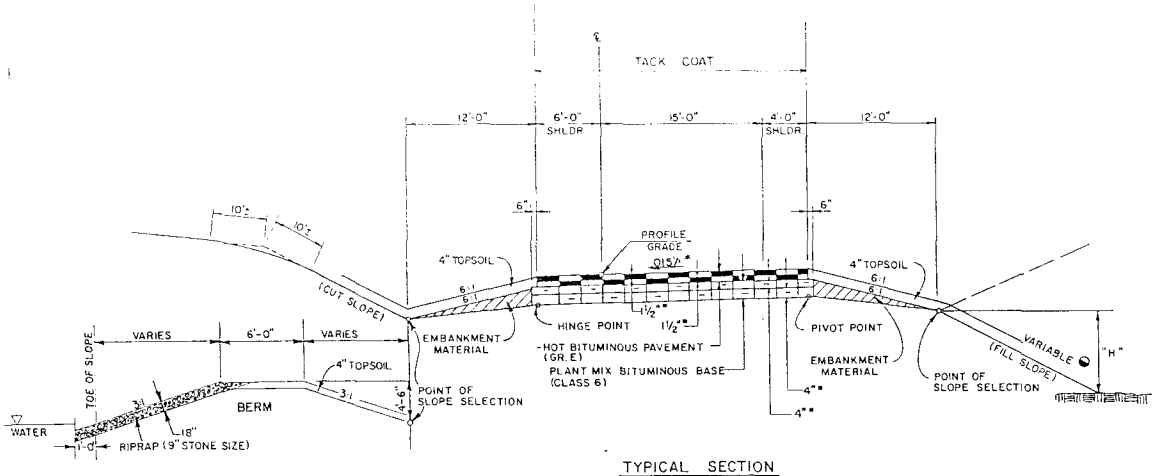
~~* APPROXIMATE THICKNESS~~
* SLOPE VARIES ON SUPERELEVATED SECTIONS (DETAILS RIGHT)

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
TYPICAL SECTIONS - SE & NE RAMPS

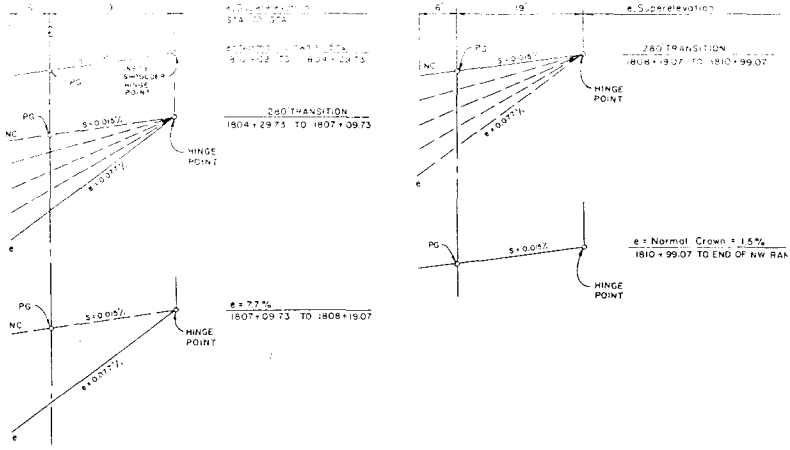
DATE	PROJECT NO.	DESIGNED BY SJ / DRAWN BY EKS / CHECKED BY	SHEET NO 4 OF 9 SHEETS	DRAWING NO
	URS 2057.3			DT-2

AS CONSTRUCTED					
NO REV. MADE	REVISED	VOID	FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.
			VIII	COLORADO	CC12-0025-14	5



STA 1811+80 TO 1813+00
(SEE SHT.PP-9)

TYPICAL SECTION
NW RAMP



NW RAMP
PAVEMENT CROSS SLOPE

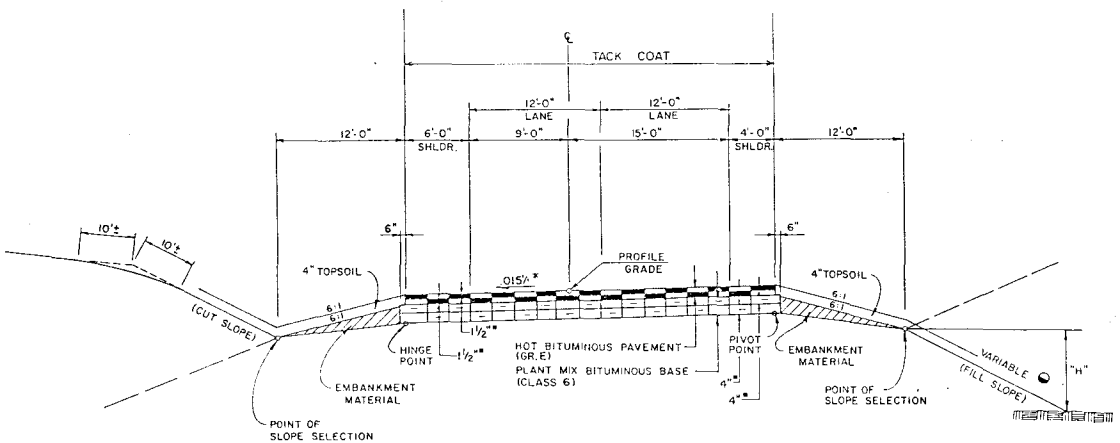
CUT SLOPES

NOTE: CUT SLOPES ~~SHALL NOT BE~~ ARE NOT STEEPER THAN 3:1, UNLESS SPECIFIED IN SPECIAL CASES. FLATTER SLOPES ~~SHALL BE~~ USED WHERE DRAINAGE OR OTHER CONDITIONS PROVIDES A CONFORMITY TO NATURAL GROUND.

FILL SLOPE TABLE

"H"	SLOPE
10' OR LESS	6:1
10' TO 25'	4:1
OVER 25'	3:1

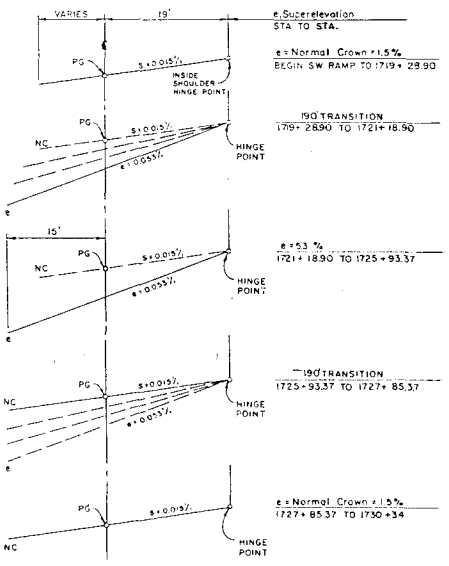
NOTE: SLOPE MAY BE STEEPER OR MAY VARY IN SPECIAL CASES.
FILL SLOPE OF 2:1 ON SW RAMP FROM STA. 1705+50 TO STA 1713+50 AND STA 1719+00 TO STA 1725+00.
(SEE SHEET PP-7, 8)
FILL SLOPE OF 3:1 ON SW RAMP FROM STA. 1730+00 TO STA 1731+74.19 AND NW RAMP FROM STA. 1800+00 TO STA 1802+00
(SEE SHEET PP-9)



TYPICAL SECTION
SW RAMP

TYPICAL SECTION NOTES:

1. THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL ~~BE~~ WILL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE PROPER DRAINAGE.
2. MATERIAL ~~SHALL BE~~ WILL BE PLACED IN SEPARATE COURSES AT THE FOLLOWING APPROXIMATE RATES PER 100 LIN. FT. OF ROADWAY: BITUMINOUS PAVEMENT:
   NW RAMP TOP LAYERS: 23 TONS/23 TONS BOTTOM LAYERS: 63.5 TONS/63.5 TONS
   SW RAMP TOP LAYERS: 31 TONS/31 TONS BOTTOM LAYERS: 85.5 TONS/85.5 TONS
   THE RATES SHOWN ~~HAVE BEEN~~ WERE DETERMINED FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. RATES ~~SHOULD BE~~ WILL BE ADJUSTED DURING CONSTRUCTION TO OBTAIN THE REQUIRED APPROXIMATE THICKNESS.
3. BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES ~~SHALL BE~~ WILL BE ROUNDED ON CONSTRUCTION FOR A PLEASING APPEARANCE. SEE STANDARDS FOR DETAILS OF CUT SLOPE TREATMENT, FLARING AND WIDENING.



SW RAMP
PAVEMENT CROSS SLOPE

~~* APPROXIMATE THICKNESS~~
* SLOPE VARIES ON SUPERELEVATED SECTION (DETAILS RIGHT)

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
TYPICAL SECTIONS - NW & SW RAMPS

DATE	PROJECT NO.	DESIGNED BY G.T.	SHEET NO. 5
	URS 20573	DRAWN BY R.K.	OF 5 SHEETS
		CHECKED BY	

PREPARED BY URS COMPANY - DENVER

SUMMARY OF ~~APPROXIMATE~~ FINAL QUANTITIES

STATE	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
COLORADO	VII	CC12-0025-14	6	[illegible]

SECT.	ITEM NO.	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT		ROADWAY PLAN	ROADWAY AS CONST.				STRUCTURE NO. E-17-MU	STR. NO. E-17-MU AS CONST.	CMO No. 2	UTILITIES PLAN	UTILITIES AS CONST.	PLAN PROJECT TOTALS	AS CONSTR. PROJECT TOTALS	+/- PLAN	% DIFF. PLAN
		201	CLEARING AND GRUBBING	L.S.		1	1									1	1	0	100
	2	202	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.S.		1	1									1	1	0	100
	2	202	REMOVAL OF PIPE	LIN. FT.		40	0	Deleted	by 105	dated 9-23-86						40	0	-40	0
	3	202	REMOVAL OF PAVEMENT MARKING	SQ. FT.		1000	976									1000	976	-24	98
1	5	202	REMOVAL OF GROUND SIGN	EACH		4	3									4	3	-1	75
1	6	202	REMOVAL OF FENCE	LIN. FT.		8,365	8,693									8,365	8,693	+328	104
1	7	202	REMOVAL OF GUARD RAIL TYPE 3	LIN. FT.		535	640									535	640	+105	120
1	8	202	REMOVAL OF GUARD RAIL TYPE 4	LIN. FT.		1,200	1,206									1,200	1206	+6	101
1	9	203	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CU. YD.		184,868	207,721									184,868	207,721	+22,853	112
1	10	206	STRUCTURE EXCAVATION CMO No 2	CU. YD.		916	916				135	135	350	676	981	1,727	2032	+305	118
1	11	206	STRUCTURE BACKFILL (CLASS 1) CMO No. 2	CU. YD.		199	199				1304	1304	125	220	319	1,723	1,822	+99	106
1	12	206	STRUCTURE BACKFILL (CLASS 2) CMO No 2	CU. YD.		233	233						225	393	554	626	787	+161	126
1	13	207	TOPSOIL (HAUL)	CU. YD.		9,750	9530									9,750	9530	-220	98
1	14	209	~~WATER (LANDSCAPING)~~	M. GAL.		450	0	Deleted	by 105	dated 9-23-86						450	0	-450	0
1	15	210	RESET GROUND SIGN	EACH		3	3									3	3	0	100
1	16	210	~~RESET CHAIN LINK FENCE~~	LIN. FT.		200	0	Deleted	by 105	dated 9-23-86						200	0	-200	0

SUMMARY OF ~~APPROXIMATE~~ FINAL QUANTITIES

NO REVISIONS	AS CONSTRUCTED	DATE	REVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
		VIII	COLORADO	CC12-0025-14	7	

INDEX		CONTRACT ITEM NO	CONTRACT ITEM	UNIT		ROADWAY PLAN	ROADWAY AS CONST.				STRUCTURE NO E-17-MU	STR. NO E-17-MU AS CONST		UTILITIES PLAN	UTILITIES AS CONST	PLAN PROJECT TOTALS	AS CONSTR PROJECT TOTALS	+/- PLAN	% DIFF. PLAN
		210	RESET GUARD RAIL TYPE 4	LIN.FT.		1,940	[illegible]									1,940	[illegible]	[illegible]	[illegible]
1	18	~~210~~	~~RESET END ANCHORAGE~~	EACH		7		Deleted	by	105						7	0	-7	0
1	19	210	RELAY PIPE (24 INCH)	LIN.FT.		214	565									214	565	+351	264
1	20	210	ADJUST MANHOLE	EACH										7	5	7	5	-2	71
1	21	212	SEEDING (NATIVE)	LB.		576	579									576	579	+3	101
1	22	212	FERTILIZER (AVAILABLE N)	LB.		810	452									810	452	-358	56
1	23	212	FERTILIZER (AVAILABLE P)	LB.		2070	1155									2070	1155	-915	56
1	24	213	MULCHING	TON		36	20.08									36	20.08	-15.92	56
1	25	213	MULCH TACKIFIER	LB.		200	200									200	200	0	100
1	26	301	PLANT MIXED BITUMINOUS BASE (CLASS 6)(HAUL AND ASPHALT)	TON		11,582	10,460.59									11,582	10,460.59	-1,121.41	90
1	27	304	AGGREGATE BASE COURSE (CLASS 6)	TON		1,600	1837.85									1,600	1837.85	+237.85	115
1	28	403	HOT BITUMINOUS PAVEMENT (PATCHING)(HAUL AND ASPHALT)	TON		200	198.59									200	198.59	-1.41	99
1	29	403	HOT BITUMINOUS PAVEMENT (GRADING E) (HAUL AND ASPHALT)	TON		4,700	3809.39									4,700	3809.39	-890.61	81
1	30	403	HOT BITUMINOUS PAVEMENT (GRADING EX) (HAUL AND ASPHALT)	TON							221	224.23				221	224.23	+3.23	101
1	31	411	EMULSIFIED ASPHALT (SLOW-SETTING)	GAL.		3,730	1,905									3,730	1,905	-1,825	51
1	32	411	~~LIQUID ASPHALTIC MATERIAL (MC-70)~~	GAL.		1,700	0	Deleted	by	105						1,700	0	-1,700	0
1	33	412	CONCRETE PAVEMENT (7 1/2 INCH)	SQ.YD.		7,641	7,162									7,641	7,162	-479	94
1	34	503	DRILLED CAISSON (24 INCH)	LIN.FT.							990	990				990	990	0	100
1	35	503	DRILLED CAISSON (36 INCH)	LIN.FT.		225	231									225	231	+6	103
1	36	503	DRILLED CAISSON (48 INCH)	LIN.FT.							153	159				153	159	+6	104
1	37	506	RIPRAP	CU. YD.		122.8	137.43									122.8	137.0	+14.20	112

SUMMARY OF ~~APPROXIMATE~~ FINAL QUANTITIES

NO REVISIONS	REVISIONS PROJECT	AND	STATE	DIVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
			COLORADO		C012-0025-14	8	11

INDEX BOOK	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT		ROADWAY PLAN	ROADWAY AS CONST				STRUCTURE NO. E-17-MJ	STR. NO E-17-MJ AS CONST.	CMO	UTILITIES PLAN	UTILITIES AS CONST	PLAN PROJECT TOTALS	AS CONSTR PROJECT TOTALS	+/- PLAN	% DIFF
	39		507	CONCRETE SLOPE AND DITCH PAVING	CU.YD.		190	147.49									190	147.49	-42.51	77
2	39		507	CONCRETE SLOPE AND DITCH PAVING (REINFORCED)	CU.YD.							135	163.57				135	163.57	+28.57	121
2	40		509	STRUCTURAL STEEL CMO No. 2	LB.							7,580	8,090		0	510	7,580	8,090	+510	107
2	41		515	WATERPROOFING (MEMBRANE)	SQ.YD.							2,339	2,339				2,339	2,339	+0.0	101
2	42		601	CONCRETE CLASS A (MISCELLANEOUS) CMO No. 2	CU.YD.		46	53.24						7.75			46	53.24	+7.24	116
2	43		601	CONCRETE CLASS AZ (BRIDGE)	CU.YD.							312	312				312	312	-0-	100
2	44		601	CONCRETE CLASS D (BRIDGE)	CU.YD.							887	887				887	887	-0-	100
2	45		602	REINFORCING STEEL CMO No. 2	LB.		2,636	2,636				116,975	120,191	630			119,611	122,777	+3166	103
2	46		602	REINFORCING STEEL (EPOXY COATED)	LB.							93,100	111,111				93,100	111,111	+18,011	119
2	47		603	18 INCH REINFORCED CONCRETE END SECTION	EACH		3	2									3	2	-1	67
	48		603	30 INCH REINFORCED CONCRETE END SECTION	EACH		1	1									1	1	0	100
2	49		603	36 INCH REINFORCED CONCRETE END SECTION	EACH		2	2									2	2	0	100
2	50		604	INLET TYPE C (5 FOOT)	EACH		2	3									2	3	+1	150
2	51		604	INLET SPECIAL (15 FOOT)	EACH		2	2									2	2	0	100
2	52		604	INLET SPECIAL (25 FOOT)	EACH		1	1									1	1	0	100
2	53		604	INLET TYPE RL10 (10 FOOT)	EACH		2	2									2	2	0	100

SUMMARY OF ~~APPROXIMATE~~ FINAL QUANTITIES

AS CONSTRUCTED					
NO REVISIONS	REVISED	VOID		DISTRICT	PROJECT NO	SHEET	TOTAL SHEETS
				XII	CC12-C025-14	9	

INDEX BOOK	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT		ROADWAY PLAN	ROADWAY AS CONST				STRUCTURE NO. E-17-MJ	STR. NO. E-17-MJ AS CONST		UTILITIES PLAN	UTILITIES AS CONST	PLAN PLUS CHANGE ORDERS	AS CONSTR. PLUS CHANGE ORDERS	+/- PLAN	% DIFF PLAN
2	54		604	MANHOLE SLAB BASE (10 FOOT)	EACH		3	[illegible]									3			
2	55		604	MANHOLE SLAB BASE (15 FOOT)	EACH		1	1									1			100
2	56		604	MANHOLE SPECIAL	EACH										1	1	1	1	0	100
2	57		604	18 INCH REINFORCED CONCRETE PIPE SEWER	LIN.FT.		380	[illegible]									380	[illegible]	[illegible]	115.
2	58		604	24 INCH REINFORCED CONCRETE PIPE SEWER	LIN.FT.		142	147									142	147	+5	103
2	59		604	30 INCH REINFORCED CONCRETE PIPE SEWER	LIN.FT.		87	87									87	87	0	100
2	60		604	36 INCH REINFORCED CONCRETE PIPE SEWER	LIN.FT.		142	145									142	145	+3	102
2	61		606	GUARD RAIL TYPE 3 (6-3 POST SPACING)	LIN.FT.		650	775									650	775	+125	119
2	62		606	GUARD RAIL TYPE 4	LIN.FT.		1200	1347									1200	1347	+147	12
2	63		606	END ANCHORAGE TYPE 3D	EACH		3	5									3	5	+2	167
2	64		606	END ANCHORAGE TYPE 3E	EACH		3	7									3	7	+4	233
2	65		607	LINE POST (CHAIN LINK)	EACH		11	11									11	11	0	100
2	66		607	END POST (CHAIN LINK)	EACH		6	6									6	6	0	100
2	67		607	CORNER AND LINE BRACE POST (CHAIN LINK)	EACH		27	28									27	28	+1	104
2	68		607	FENCE CHAIN LINK SPECIAL	LIN.FT.							558	556				558	556	-2	100
2	69		607	FENCE CHAIN LINK (72 INCH)	LIN.FT.		8080	8841									8080	8841	+761	109

SUMMARY OF ~~APPROXIMATE~~ QUANTITIES

AS CONSTRUCTED				
NO REVISIONS	REVISED	VO.D	DIVISION	PROJ. NO.
			VII	CC.2-0025-14

INDEX BOOK	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT		ROADWAY PLAN	ROADWAY AS CONST.				STRUCTURE NO. E-17-MJ	STR NO. E-17-MJ AS CONST		UTILITIES PLAN	UTILITIES AS CONST	PLAN PROJ. TOTALS	AS CONSTR. PROJ. TOTALS	+- PLAN	% DIFF.
2	70		608	CONCRETE SIDEWALK	SQ.FT.		609	[illegible]									609	[illegible]		[illegible]
2	71		608	CONCRETE CURB RAMP	SQ. YD.		250	181									250	[illegible]	-69	76
2	72		608	BRICK PAVERS	SQ. FT.		8,883	7,124									8,883	7,124	-1,759	80
2	73		609	~~CURB TYPE 2 (SECTION IB)~~	LIN. FT.		100	~~0~~	Deleted	5-8	105	dated 9-23-86						100	~~0~~	-100	0
2	74		609	CURB AND GUTTER TYPE 2 (SECTION IB)	LIN.FT.		990	997									990	997	+7	101
2	75		609	CURB AND GUTTER TYPE 2 (SECTION IIB)	LIN.FT.		1,930	1,656									1,930	1,656	-274	86
2	76		612	DELINEATOR (TYPE I)	EACH		63	99									63	99	+36	157
2	77		612	DELINEATOR (TYPE II)	EACH		52	54									52	54	+2	104
2	78		613	1 INCH ELECTRICAL CONDUIT	LIN.FT.		80	152				297	297				377	449	+72	119
2	79		613	2 INCH ELECTRICAL CONDUIT	LIN.FT.		5,960	4,199				1,698	1,698				7,658	5,897	-1,761	77
2	80		613	2 INCH ELECTRICAL CONDUIT (JACKED)	LIN.FT.		280	340									280	340	+60	121
2	81		613	6 INCH ELECTRICAL CONDUIT	LIN.FT.							618	636				618	636	+18	103
2	82		613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LIN. FT.		500	825									500	825	+325	165
2	83		613	DIRECT BURIAL CABLE	LIN. FT.		1,555	1585									1,555	1585	+30	102
2	84		613	WIRING	L.S.		1	1									1	1	~~0~~	100

SUMMARY OF ~~APPROXIMATE~~ FINAL QUANTITIES

AS CONSTRUCTED
NO REVISIONS ____ REVISED ____ VOID ____

FEDERAL AID NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	11	

INDEX BOOK	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT		ROADWAY PLAN	ROADWAY AS CONST				STRUCTURE NO. E-17-MJ	STR. NO. E-17-MJ AS CONST		UTILITIES PLAN	UTILITIES AS CONST	PLAN PROJECT TOTALS	AS CONSTR. PROJECT TOTALS	+/- PLAN	% OVER PLAN
3	85		614	FLAGGING	HR.		3,500	2504.5									3,500	2504.5	-995.5	72
3	86		614	TRAFFIC CONTROL SUPERVISOR	DAY		160	224									160	224	+64	140
3	87		614	SIGN PANEL (CLASS I)	SQ.FT.		170	214									170	214	+44	126
3	88		614	SIGN PANEL (CLASS II)	SQ.FT.		254	263									254	263	+9	103
3	89		614	SIGN PANEL (CLASS III)	SQ.FT.		1,467	1467									1,467	1467	0	100
3	90		614	TIMBER SIGN POST 4x4 INCH	LIN.FT.		235	312									235	312	+77	133
3	91		614	TIMBER SIGN POST 6x6 INCH	LIN.FT.		248	263									248	263	+15	106
3	92		614	STEEL SIGN POST (W 8x18)	LIN.FT.		39	39									39	39	0	100
3	93		614	CONCRETE FOOTING (TYPE 3)	EA.		2	2									2	2	0	100
3	94		614	CONCRETE FOOTING V (SPREAD)	EA.		2	2									2	2	0	100
3	95		614	CONCRETE FOOTING VI (SPREAD)	EA.		3	3									3	3	0	100
3	96		614	CONCRETE FOOTING II-S (SPREAD)	EA.		4	4									4	4	0	100
3	97		614	OVERPASS MOUNTED SIGN BRACKET	EA.		2	2									2	2	0	100
3	98		614	BALANCED BUTTERFLY STRUCTURE	EA.		4	4									4	4	0	100
3	99		614	CANTILEVER STRUCTURE (25 TO LESS THAN 30 FOOT FRAME)	EA.		4	4									4	4	0	100
3	100		614	CANTILEVER STRUCTURE (30 TO LESS THAN 35 FOOT FRAME)	EA.		1	1									1	1	0	100

SUMMARY OF ~~APPROXIMATE~~ FINAL QUANTITIES

AS CONSTRUCTED							
NO REVISIONS		REVISED		VOID			

FEDERAL AID PROJ. NO.	DIVISION	PROJ. NO.	SHT. NO.	TOTAL SHEETS
VIII	COLORADO	CC 12-0025-14	12	

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT		ROADWAY PLAN	ROADWAY AS CONST.				STRUCTURE NO. E-17-MJ	STR NO E-17-MJ AS CONST.		UTILITIES PLAN	UTILITIES AS CONST.	PLAN PROJECT TOTALS	AS CONSTR. PROJECT TOTALS	+/- PLAN	% PLAN
3	101		614	65-5730 al Exch No Date: 10-21-85 ~~LOOP DETECTOR WIRE (PREFAB) SPECIAL~~	LIN. FT.		2,490	~~0~~									2,490	~~0~~	-2,490	0
3	102		614	~~LOOP DETECTOR WIRE (PROBE) SPECIAL~~	EA.		14	~~0~~									14	~~0~~	-14	0
	103		614	LOOP DETECTOR WIRE	LIN. FT.		1,575	6626									1,575	6626	+5051	421
3	104		614	TRAFFIC SIGNAL VEHICLE DETECTOR AMPLIFIER (LOOP TYPE) (2 CHANNEL)(SPECIAL)	EA.		16	16									16	16	~~0~~	100
3	105		614	BARRICADE (TYPE 3 M-B)	EA.		4	4									4	4	~~0~~	100
3	106		614	BARRICADE (TYPE 3 M-A)(TEMPORARY)	EA.		8	6									8	6	-2	75
3	107		614	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EA.		36	4									36	4	-32	11
3	108		614	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EA.		60	49									60	49	-11	82
3	109		~~614~~	Deleted by 105 dated 9-23-86 ~~CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)~~	EA.		4	~~0~~									4	~~0~~	4	0
3	110		614	VERTICAL PANEL	EA.		40	111									40	111	+71	278
3	111		614	VERTICAL PANEL (WITH LIGHT)(FLASHING)	EA.		20	8									20	8	-12	40
3	112		614	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)	EA.		6	6									6	6	0	100
	113		~~614~~	Deleted by 105 dated 9-23-86 ~~DRUM CHANNELIZING DEVICE~~	EA.		24	~~0~~									24	~~0~~	24	0
3	114		614	CONCRETE BARRIER (TEMPORARY)	LIN. FT.		1348	470									1348	470	-878	72

SUMMARY OF ~~APPROXIMATE~~ FINAL QUANTITIES

AS CONSTRUCTED					
NO REVISIONS	REVISED 4-1-97	VOID	FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.
			VIII	COLORADO	CC12-0025-14

SHEET NO. 13 TOTAL SHEETS 14

INDEX ROW	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT		ROADWAY PLAN	ROADWAY AS CONST.				STRUCTURE NO. E-17-MJ	STR NO. E-17-MJ AS CONST		UTILITIES PLAN	UTILITIES AS CONST.	PLAN PROJECT TOTALS	AS CONSTR. PROJECT TOTALS	+/- PLAN	% DIFF. PLAN
6	115		614	TRAFFIC CONE	EA.		200	[illegible]									200	[illegible]	[illegible]	[illegible]
3	116		614	TRAFFIC SIGNAL POLE STEEL (1 MAST ARM) (SPECIAL)	EA.		6	6									6	6	0	100
3	117		614	TRAFFIC SIGNAL POLE STEEL (2 MAST ARM)(SPECIAL)	EA.		1										1	1	0	100
3	118		614	TRAFFIC SIGNAL PEDESTAL POLE STEEL (SPECIAL)	EA.		2	2									2	2	0	100
3	119		614	TRAFFIC SIGNAL EQUIPMENT	L.S.		1	1									1	1	0	100
3	120		618	PRESTRESSED CONCRETE UNIT (I SECTION) (115 TO 120 FEET)	EA.							15	15				15	15	0	100
3	121		618	PRESTRESSED CONCRETE UNIT (I SECTION) (130 TO 135 FEET)	EA.							15	15				15	15	0	100
3	122		619	24 INCH DUCTILE IRON PIPE	LIN.FT.										463	335	463	335	-128	72
3	123		619	30 INCH DUCTILE IRON PIPE	LIN.FT.										8	8	8	8	0	100
	124		619	30 INCH WELDED STEEL PIPE	LIN.FT										310	310	310	310	0	100
3	125		619	2 INCH GALVANIZED PIPE	LIN. FT.		337	337									337	337	0	100
3	126		619	8 INCH GALVANIZED PIPE	LIN. FT.		337	337									337	337	0	100
3	127		619	24 INCH x 30 INCH DUCTILE IRON PIPE REDUCER	EA.										2	2	2	2	0	100
3	128		620	FIELD OFFICE (CLASS 2)	EA.		1	1									1	1	0	100
3	129		620	FIELD LABORATORY (CLASS 2)	EA.		1	1									1	1	0	100
3	130		620	SANITARY FACILITY	EA.		3	2									3	2	-1	67
			626	MOBILIZATION	LS		0.6	0.6				0.4	0.4				1	1	0	100
3	131		627	PAVEMENT MARKING PAINT	GAL.		50	57									50	57	+7	114
3	132		627	PREFORMED PLASTIC PAVEMENT MARKING (60 MILS)	SQ. FT.		7128	7419									7128	7419	+291	104
3	133		209	WETLINE MCR 3	M Gal.			458										458		
3	134			Provide Power Drop MCR 6	L.S.			1										1		
3	135			Provide Phone To Trailers MCR 7	L.S.			1										1		
3	136			Install Security Fence MCR 8	L.S.			1										1		
3	137			Provide Power To Office Trailer MCR 9	L.S.			1										1		
3	138			Rebuild Manhole MCR 10	EA.			2										2		
3	139			Galvanized Anchor Bolts MCR 11	L.S.			1										1		
3	140			Claim Settlement CMO 2	L.S.			1										1		
3	141		212	Soil Preparation MCR 13	Acre			10										10		
3	142		619	4 inch PVC Pipe CMO 5	Lin Ft			1,220										1,220		
3	143		619	6 inch PVC Pipe CMO 5	Lin Ft			220										220		
3	144		[illegible]	[illegible]	[illegible]			[illegible]										[illegible]		
3	145		210	Adjust Inlet MCR 14	EA.			5										5		

SUMMARY OF ~~APPROXIMATE~~ QUANTITIES

AS CONSTRUCTED							
NO REVISIONS		REVISED [illegible] 97	VOID	FEDERAL AID PROJECT NO.	DIVISION	PROJ. NO	SHEET NO.	TOTAL SHEETS
				STH	COLORADO	CC12-0025-14	14	

INDEX LINE	PAGE	SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT		ROADWAY PLAN	ROADWAY AS CONST				STRUCTURE NO. E-17-MJ	STR. NO. E-17-MJ AS CONST		UTILITIES PLAN	UTILITIES AS CONST	PLAN PROJECT TOTALS	AS CONSTR. PROJECT TOTALS	+/- PLAN	% DIFF
				-- FORCE ACCOUNT ITEMS --																
			MCR 1	Remove Billboard	F.A.		0	(~~$58.75~~)										(~~$58.75~~)		—
			MCR 4	Fiber Line for Slope Paving	F.A.		0	(~~$37,[illegible]~~)										(~~$37,[illegible]~~)		—
			MCR 5	Relocate Office Trailer	F.A.		0	(~~$[illegible]~~)										(~~$[illegible]~~)		—
			F/A01	MINOR CONTRACT REVISIONS	F.A.		0.6	(~~$[illegible]~~)				0.4	0.4 ($4,590.43)				1	(~~$[illegible]~~)		—
			MCR 12	Patching	F.A.			(~~$[illegible]~~)										(~~$[illegible]~~)		—
			F/A06	MBE INCENTIVE PAYMENT	F.A.		0.6	—				0.4	—				1	—		—
			CMO 3	Modify Waterline (30 inch)	F.A.		0								($53,000.00) 1	($58,841.23) 1		($58,841.23) 1		—
			MCR 3	Revise Signal Pole Foundation	F.A.		0	($14,950.05) 1									0	($14,950.05) 1		—
			MCR 19	Modify Approach Slab Joint			0					0	($4,264.33)				0	($4,264.33)		—
			CMO4	CLEANING AND RELOCATING TRAFFIC SIGNAL POLES	F.A.		0	1				0	1				0	1		—
							0	($13,125.00)									0	($13,125.00)		—
			MCR 11	A-BOLTS FOR LIGHT POLES Added by MCR Line 11	F.A.		0	(254.10)							0	254.10	0	254.10		
				-- WORK TO BE DONE BY OTHERS --																
				-- BY PUBLIC SERVICE COMPANY --																
			F/A02	PROVIDE POWER SOURCE	F.A.		1	—									1	—		
			F/A03	FURNISH AND INSTALL INTERCHANGE AND STREET LIGHTING	F.A.		1	1									1	1		
							0	($193,503)									0	$193,503		
			F/A04	RELOCATE OVERHEAD POWER LINES UNDERGROUND	F.A.										1	1	1	1		
															0	($194,283)	0	($194,283)		
				-- BY MOUNTAIN BELL --																
			F/A05	PROVIDE TELEPHONE INTERCONNECT	F.A.										1	1	1	1		
															0	($59,208.00)	0	($59,208.00)		
				-- Bid Items --																
2	146		609	Asphalt Curb Type 6 MCR 15	Lin. Ft		0	675									0	675		
3	147		507	Bituminous Slope + Ditch Paving (Haul + Asphalt) MCR 6	Ton		0	5.00									0	5.00		
3	145		403	Price Reduction (Gr. E)	L.S.		0									1	0	1		
3	149		619	Gaskets + Polygrip CMO 2	L.S.		0									1	0	1		
5	150		626	Demobilization CMO 2	L.S.		0	1							0	1	0	1		
5	151		202	Removal of End Anchorage MCR 17	EA		0	7									0	7		
5	152		105	UTILITY DELAY CMO 6	L.S.		1	1							0	1 ($10,102)	0	1 ($10,102)		

AS CONSTRUCTED			
NO REVISIONS	REVISED	VOID	

FEDERAL ROAD REGION NO.	STATE	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO		CC12-0025-14	15	

GENERAL NOTES

1. FOR INFORMATION ONLY RAW QUANTITIES OF PAVEMENT STRUCTURE MATERIALS, THE FOLLOWING ~~ESTIMATE OF QUANTITIES WERE MADE~~:

   PRIME COAT (MC-70) _____ @ 0.4 GALS./SQ.YD.

   TACK COAT DILUTED EMUL. ASPH. (SLOW-SETTING) @ 0.10 GALS./SQ.YD. (DILUTED)

   BITUMINOUS PAVEMENT _____ @ 110 LBS.PER.SQ.YD./INCH

   AGGREGATE BASE COURSE _____ @ 133 LBS.PER.CU.FT.

   DILUTED EMULSIFIED ASPHALT FOR TACK COAT ~~SHALL CONSIST~~ OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER.

   A TACK COAT ~~WILL BE~~ WAS REQUIRED BETWEEN LAYERS OF BITUMINOUS PAVEMENT.

2. DILUTED EMULSIFIED ASPHALT ~~SHALL BE~~ WAS USED AS A DUST PALLIATIVE WHERE REQUIRED AND ~~PREPARED BY~~ OF A DILUTION OF EMULSIFIED ASPHALT AND WATER, THE PORTIONS OF WHICH ~~WERE TO BE~~ WERE 9 PARTS WATER AND 1 PART EMULSIFIED ASPHALT BASED ON VOLUME MEASUREMENT. LOCATIONS ~~SHALL BE~~ WERE AS ORDERED.

3. THE FOLLOWING ~~SHALL BE~~ WERE FURNISHED WITH EACH BITUMINOUS PAVER:

   1. A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH.

   2. SHOES SKI OR SHOE.

4. ANY LAYER OF BITUMINOUS PAVEMENT THAT ~~IS~~ WAS TO HAVE A SUCCEEDING LAYER PLACED THEREON ~~SHALL BE~~ WAS COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER ~~IS~~ WAS PLACED.

5. ROAD APPROACHES WHICH ~~WERE TO BE~~ WERE BITUMINOUS PAVEMENT ~~SHALL BE~~ WERE PRIMED AND A 2 1/2" THICKNESS OF PAVEMENT ~~WAS~~ WAS A 5" THICKNESS OF ABC PLACED.

6. DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT ~~SHALL BE~~ WAS AS FOLLOWS:

   FULL DEPTH OF ALL EMBANKMENTS.

   - BASES OF CUTS AND FILLS 6 INCHES
   - BASES OF FILLS 4 FEET OR LESS IN HEIGHT, 6 INCHES
   - ~~USE~~ THE FOLLOWING REDUCED DEPTH OF MOISTURE-DENSITY CONTROL FOR BASES OF CUTS AND FILLS ~~IF~~ WERE 6 INCHES OR LESS:

     EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS ~~WILL BE~~ WERE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND ~~WILL NOT BE~~ WERE NOT PAID FOR SEPARATELY.

7. THE MINIMUM THICKNESS OF TOPSOIL ~~SHALL BE~~ WAS 4 INCHES. ~~IF IT IS ESTIMATED THAT~~ ~~[illegible]~~ CU. YDS. WILL BE REQUIRED BASED ON AVERAGE THICKNESS, AND ~~WILL BE~~ OBTAINED FROM UNDESIGNATED SOURCES.

8. ~~IT IS ESTIMATED THAT~~ 57 ~~[illegible]~~ GALS. OF PAVEMENT MARKING PAINT ~~WILL BE~~ WAS REQUIRED ON THIS PROJECT AS FOLLOWS:

   ~~WHITE 57 GAL.~~
   ~~YELLOW 00 GAL.~~

   ~~IT IS ESTIMATED THAT~~ 741.9 ~~[illegible]~~ SQ. FT. OF PREFORMED PLASTIC PAVEMENT MARKINGS ~~WILL BE~~ WERE REQUIRED ON THIS PROJECT.

9. THE CONTRACTOR ~~SHALL BE~~ WAS RESTRICTED FROM USING GRANT STREET FOR HAULING EQUIPMENT OR AS A HAUL ROAD TO ACCESS THE PROJECT SITE, UNLESS DIRECTED BY THE ENGINEER. THORNTON PARKWAY ~~SHALL BE~~ WAS USED ON THE EAST SIDE OF I-25 TO ACCESS THE PROJECT SITE FROM WASHINGTON STREET.

(FOR INFORMATION ONLY)

MOISTURE DENSITY CONTROL

ITEM		CU. YD.		
COMPACTION (AASHTO T-99)				
- Compaction		184,868		
⊕ - Bases of Cuts and Fills		5,263		
TOTAL		190,131		
WETTING		M. GAL.		
- Roadway (190,131 x .04)		7,605		
TOTAL		7,608		

⊕ – See General Note No. 6 for Explanation.

SUMMARY OF EARTHWORK

INDEX BOOK	INDEX PAGE	INDEX SHEET	ITEM		CU YD.		
			EMBANKMENT MATERIAL (C.I.P.)				
			Roadway (From Cross-Sections)				
			- 94th Avenue (West of I-25)		~~16,402~~		
			- 94th Avenue (East of I-25)		~~469~~		
			- SE Ramp		~~67,127~~		
			- NE Ramp		~~3,290~~		
			- SW Ramp		~~70,611~~		
			- NW Ramp		~~36,502~~		
			Misc. Project				
			Reset Guard Rail (from Cross-Sections)		~~1.7~~		
1	9		TOTAL FOR PAY QUANTITY		~~184,868~~	207,721	
			FOR INFORMATION ONLY				
			ROADWAY QUANTITIES BALANCE				
			EMBANKMENT MATERIAL X FACTOR (184,868 x 1.20)		221,842		
			TOTAL FOR BALANCE		221,842		
			UNCLASSIFIED EXCAVATION				
			Roadway (From Cross-Sections)				
			- 94th Avenue (West of I-25)		0		
			- 94th Avenue (East of I-25)		16,522		
			- SE Ramp		9,916		
			- NE Ramp		10,554		
			- SW Ramp		663		
			- NW Ramp		705		
			Source (Undesignated – Minimum R-value Shall Be 10 for material used for the top 2 feet below roadway subgrade and minimum R-value of 5 for all other subgrade material)		183,482		
			TOTAL FOR BALANCE		221,842		

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY/I-25 INTERCHANGE
GENERAL NOTES / SUMMARY OF EARTHWORK

DATE	PROJECT NO.	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO. 1 OF 1 SHEETS	DRAWING NO.
	URS 2057.3					TG-1

PREPARED BY · URS COMPANY · DENVER

AS CONSTRUCTED			
NO REVISIONS	REVISED	VOID	

FEDERAL ROAD REGION NO	DIVISION	PROJ NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	16	

TABULATION OF MISCELLANEOUS ITEMS

STATION	SIDE	CURB & GUTTER TYPE 2 (I B)	CURB & GUTTER TYPE 2 (II B)	CURB TY 2 B	CONCRETE SIDEWALK	CONCRETE CURB RAMP			DELINEATOR (TYPE I)	DELINEATOR (TYPE II)	REMARKS
		LIN. FT.	LIN. FT.	LIN. FT.	SQ. YD.	SQ. YD.			EACH	EACH	
THORNTON PARKWAY											
BEGIN PROJECT TO 40 +	—	130									
40 + TO BRIDGE	LT.		225		207	9					
40 + TO BRIDGE	RT.	380	215		153	9					
BRIDGE	MED.										
BRIDGE TO 45 +	LT.	105	30		29	9					
	RT.	105	35		35	9					
45 + TO END PROJECT	ISLAND	206		~~400~~ 0							
SE RAMP	LT.		140								
	RT.		242		56	14			17	13	
	ISLAND	84	46			41					
	—										
NE RAMP	LT.		95								
	RT.		176		63	14			9	15	
	ISLAND	66	21			36					
SW RAMP	LT.		126		32	14			17	16	
	RT.		100								
	ISLAND	80	120			49					
	—										
NW RAMP	LT.		186		34	14			7	8	
	RT.		130								
	ISLAND	40	43			32					
	—										
I-25									13		
FINAL TOTALS		~~990~~ 999	~~1930~~ 1656	~~100~~ 0	~~609~~ 519	~~250~~ 189			~~43~~ 99	~~32~~ 54	

SUMMARY DELINIATOR

Type I		Type II	
Crystal	~~61~~ 97	Crystal - Crystal	~~44~~ 48
Red	2	Crystal - Red	6

TABULATION OF REMOVE, ADJUST AND RESET ITEMS

STATION	SIDE	REMOVAL OF FENCE	RESET GUARD RAIL TYPE 3	RESET CHAIN LINK FENCE	REMOVAL OF PIPE	REMOVAL OF GUARD RAIL TYPE 3	REMOVAL OF GUARD RAIL TYPE 4	RESET END ANCHORAGE	ADJUST MANHOLE	RESET GROUND SIGN	REMARKS
		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	
INTERSTATE 25											
71 + 95 TO 112 + 50	RT.	~~4000~~ 1400								1 ②	② SEE SHEETS SS-13, 14 FOR LOCATIONS
63 + 00 TO 111 + 00	LT.	~~4800~~ 4068								2 ②	
112 + 00 TO 114 + 00	LT.			~~200~~							
93 + 80 TO 105 + 20	MEDIAN						640				
THORNTON PARKWAY (ROADWAY APPROACH)											
46 + 05	LT.								1		
47 + 30	LT.								~~1~~		
51 + 12	RT.								1		
51 + 75	LT.								1		
53 + 70	LT./RT.								~~2~~ 1		
53 + 90	LT.								~~4~~ 0		
437+56 to 437+75			19								
2.64 + 30 to 245+20			100								
4 37 + 20 to 438+20			100								
SE RAMP											
1522 + 64.20					~~1~~ 0						▲ SEE SHEET PD-2
1505 + 35 *	RT.										* REMOVAL OF SIGNAL VAULT TO BE INCLUDED IN "REMOVAL OF STRUCTURES & OBSTRUCTURES"
1507 + 35 TO 1513 + 85	RT, LT.		562 ~~510~~			~~135~~		~~2~~ 0			
1521+04 TO 1525 + 04	LT.	—				~~400~~					
SW RAMP											
1705 + 95 TO 1713 + 70	LT.		775					~~2~~ 0			
1718 + 50 TO 1725 + 00	LT.		650					~~2~~ 0			
INTERSTATE 25 ① 288+80 TO 290 + 20	MEDIAN						140				
235+80 TO 237+20	MEDIAN						~~140~~ 142				
465+30 TO 466+70	MEDIAN						140				
386+80 TO 388+30	MEDIAN						~~140~~				
264 +	LT.						144	~~1~~ 0			
FINAL TOTALS		~~8345~~ 8042	~~5206~~ 4140	~~200~~ 0	~~40~~ 0	~~635~~ 540	~~1200~~ 1206	~~7~~ 0	~~7~~ 5	3	

NOTE: 1. ① REQUIRES 437 CU YD OF EMBANKMENT MATERIAL (SEE EARTHWORK TAB, TG-1).
2. FOR DRAINAGE REMOVAL AND RESET ITEMS, SEE SHEET TD-1.
3. ② SEE SIGNING AND STRIPING SHEETS, SS-1 THRU 13 FOR LOCATIONS.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

TABULATION OF MISC. ITEMS / REMOVE, RESET, ETC.

DATE	PROJECT NO.	DESIGNED BY S.Z. / DRAWN BY / CHECKED BY	SHEET NO 1 OF 1 SHEETS	DRAWING NO
	URS2057.3			TG-2

PREPARED BY · URS COMPANY · DENVER

FEDERAL ROAD REGION NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	17	17

INSTALLATION OF FENCING

LOCATION	FENCE CHAIN LINK (72" HIGH) LIN. FT.	END POST CHAIN LINK EACH	CORNER AND LINE BRACE POSTS CHAIN LINK EACH
1513+00 TO 1518+00	900		2
518+00 TO 521+00	1400		4
521+00 TO 1539+50	395	1	1
NE RAMP			
1601+30 TO 1603+50	860	2	4
SW RAMP			
1538+50 TO 1731+74	3300	1	12
NW RAMP			
1530+00 TO 1811+00	1150	1	4
FINAL TOTALS	~~8080~~ 8640	6	~~27~~ 28

NOTE: 11 LINE POSTS TO BE USED TO RESET FENCE

(R-1) 9 CHAIN LINK FABRIC FOR THIS LOCATION SHALL BE 1 INCH MESH NO 9 GALVANIZED AND ~~WILL~~ BE PAID FOR AS "FENCE CHAIN LINK (72 INCH)" ALL OTHER LOCATION SHALL BE AS SPECIFIED IN STANDARD M-607-2.

TABULATION OF CONDUIT ⊗

LOCATION	2 INCH ELECTRICAL CONDUIT LIN. FT.	2 INCH ELECTRICAL CONDUIT (JACKED) LIN. FT.	DIRECT BURIAL CABLE LIN. FT.
OVERHEAD SIGNS ⊙			
283+50 (SIGN 1)	—	70	75
264+00 (SIGN 2)	—	—	100
236+50 (SIGN 4)	100	70	150
539+50 (SIGN 5)	—	—	50
526+20 (SIGN 7)	—	—	100
489+00 (SIGN 27)	—	—	100
466+00 (SIGN 44)	—	70	240
438+40 (SIGN 45)	—	—	600
387+50 (SIGN 46)		70	140
LIGHTING			
THORNTON PARKWAY			
39+12	150		
47+00	120		
SE RAMP - 1514+00	40		
NE RAMP - 1608+50	30		
SW RAMP - 1722+00	40		
NW RAMP - 1808+50	30		
FINAL TOTALS	510	~~280~~ 240	~~1,533~~ 1565

⊙ — SEE SIGNING AND STRIPING SHEETS, SS-1 THRU 19.

⊗ NOTE: SEE SHEETS TP-1 AND B-1 FOR ADDITIONAL CONDUIT QUANTITIES.

STEEL CASING FOR FUTURE SPRINKLER SYSTEM

LOCATION	2 INCH GALVANIZED PIPE LIN. FT.		8 INCH GALVANIZED PIPE LIN. FT.	
SE RAMP				
1520+00	44		44	
1526+00	44		44	
NE RAMP				
1602+00	48		48	
1606+00	35		35	
SW RAMP				
1723+00	44		44	
1729+00	52		52	
NW RAMP				
1803+00	35		35	
1807+00	35		35	
FINAL TOTALS	337		337	

NOTE: 1: GALVANIZED PIPE SHALL BE SCHEDULE 40
2: CONTRACTOR SHALL MARK THE ENDS OF STEEL PIPE AS DIRECTED BY THE ENGINEER.

TABULATION OF GUARD RAIL

LOCATION	GUARD RAIL TYPE 3 (6'-3" POST SPACING) LIN. FT.	GUARD RAIL TYPE 4 LIN. FT.	END ANCHORAGE TYPE 3D EACH	END ANCHORAGE TYPE 3E EACH
INTERSTATE 25				
98+80 TO 105+20		~~640~~ 640		
⊙ 288+80 TO 290+20		~~140~~ 170		
⊙ 263+50 TO ~~265+50~~ 264+75	~~175~~ 175			
⊙ 235+80 TO 237+20		~~140~~ 170		
⊙ 539+00 TO 540+75	175		1	1
⊙ 487+75 TO 489+50	~~150~~ 175		1	1
⊙ 465+30 TO 466+70		~~140~~ 177		
⊙ 437+25 TO 439+00	~~150~~ 175		1	1
⊙ 386+70 TO 388+30		~~140~~ 170		
⊙ 1507+00 TO 1508+75	175			
FINAL TOTALS	~~650~~ 925	~~1200~~ 1255	~~3~~ 5	~~3~~ 7

NOTE:
1. ⊙ — SEE SIGNING AND STRIPING SHEETS, SS1 THRU 19 FOR LOCATIONS OF GUARD RAIL.
2. 12 FOOT TRANSITION SECTION WILL NOT BE REQUIRED IN THE MEDIAN ONLY (SEE M 606-12).

SEEDING

SOIL PREPARATION, FERTILIZING WITH COMMERCIAL FERTILIZER, AND SEEDING WILL BE REQUIRED FOR ~~APPROXIMATELY 10~~ 10 ACRES FOR ROADWAY [illegible] TO BE SEEDED. DISTURBED AREAS NOT SURFACED.

FERTILIZER RATE FOR NATIVE SEED

COMMERCIAL FERTILIZER NATIVE SEED (AMMONIUM PHOSPHATE)	% AVAILABLE	LBS/ACRE AVAILABLE NITROGEN	LBS/ACRE AVAILABLE PHOSPHATE	RATE LBS/ACRE
AVAILABLE NITROGEN (N)	(18-0-0)	45	—	250
AVAILABLE PHOSPHATE (P)	(0-46-0)	—	115	250

GENERAL NOTES

⊗ NATIVE SEED AREAS (~~11.944~~ 10 ACRES) ~~SHALL REQUIRE~~ THE FOLLOWING:

A. TOP SOIL (4 INCHES).
B. FERTILIZER (SEE ABOVE).
C. WATER. ~~SHALL BE~~ APPLIED TO THE SEED BED PRIOR TO ACTUAL SEEDING. PENETRATION ~~SHALL~~ BE TO A DEPTH OF 3 INCHES. ~~APPLY~~ IN A MANNER WHICH ~~WILL~~ NOT CAUSE EROSION. WATER ~~SHALL BE~~ APPLIED AT THE ABOVE RATE (APPROXIMATELY 1½" PER WEEK) UNTIL A 2 INCH AVERAGE STAND OF GRASS ~~HAS~~ HAS BEEN ACHIEVED.
D. NATIVE SEED MIX ~~SHALL~~ BE:

COMMON NAME	BOTANICAL NAME	RATE PLS/ACRE
BUFFALO GRASS (TREATED)	BUCHLOE DACTYLOIDES	13
HARD FESCUE (DOMESTIC)	FESTUCA OVINA	2
MANHATTEN PERENNIAL RYEGRASS	LOLIUM PERENNE	8
CRESTED WHEATGRASS (FAIRWAY STRAIN)	AGROPYRON CRISATUM	3
BLUE GRAMA	BOUTELOUA GRACILIS	2
WHITE DUTCH CLOVER	TRIFOLIUM	4
	TOTAL LBS PLS/ACRE SEEDING	32

E. MULCH (2 TONS/ACRE). ~~SHALL BE~~ HAY MULCH.
F. SLOPES STEEPER THAN 3:1 ~~SHALL BE~~ MULCHED WITH 2 TONS OF HAY/ACRE IN COMBINATION WITH AN APPROVED BIODEGRADABLE TACKIFIER (100 LBS/ACRE).
G. ~~WATER (LANDSCAPING, SEEDING AND MULCHING) SHALL BE APPLIED AT 25 M.GAL/ACRE.~~
H. LANDSCAPING WATER IS AVAILABLE FROM CITY OF THORNTON. CONTACT THE THORNTON UTILITIES DEPARTMENT.

TABULATION OF SEEDING QUANTITIES

ITEM NO.	CONTRACT ITEM	UNIT	FINAL QUANTITY
213	MULCHING	TON	~~36~~ 20.05
212	FERTILIZER (AVAILABLE P)	LB.	~~2070~~ 1155
212	FERTILIZER (AVAILABLE N)	LB.	~~810~~ 452
212	SEEDING (NATIVE)	LB.	~~576~~ 579
209	WATER (LANDSCAPING)	M.GAL.	~~450~~ 0
207	TOPSOIL (HAUL)	CU. YD.	~~9750~~ 9530 ◆
213	MULCH TACKIFIER	LB.	200

⊗ AREAS ~~TO BE~~ SEEDED (APPROX. 10 ACRES) ~~SHALL~~ INCLUDE THE FOLLOWING:

- ALL CUT AND FILL SLOPES (AS SHOWN ON THE TYPICAL SECTIONS, PT-1-3, WHERE 4 INCHES OF TOPSOIL IS REQUIRED).
- DISTURBED AREAS WITHIN THE INTERCHANGE AREA.
- ADDITIONAL AREAS WHERE REQUIRED AS DIRECTED BY THE ENGINEER.

◆ — ~~INCLUDES~~ 70 CU.YD. OF TOPSOIL FOR MEDIANS.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
TAB. OF FENCING, SEEDING AND GUARD RAIL

DATE	PROJECT NO	DESIGNED BY	SHEET NO	DRAWING NO
	URS 20573	DRAWN BY / CHECKED BY	OF SHEETS	TG-3

PREPARED BY URS COMPANY - DENVER

TABULATION OF PAVEMENT QUANTITIES

RAMPS

℄ STATIONS	HOT BITUMINOUS PAVEMENT (GRADE E) (HAUL & ASPHALT) BOTTOM LAYER 1½" TONS	BOTTOM LAYER 1½" FINAL	SECOND LAYER 1½" TONS	SECOND LAYER 1½" FINAL	PLANT MIX BITUMINOUS BASE (CLASS 6) (HAUL & ASPHALT) BOTTOM LAYER 4" TONS	BOTTOM LAYER 4" FINAL	SECOND LAYER 4" TONS	SECOND LAYER 4" FINAL
NE RAMP								
1601+64.8 - 1621+62	~~354~~	271.73	~~391~~	249.79	~~970~~	905.32	~~970~~	940.94
NW RAMP								
1802+02 - 1814+33	~~260~~	250.16	~~260~~	253.24	~~778~~	628.19	~~778~~	650.44
SE RAMP								
1503+38.3 - 1530+20.0	~~648~~	651.55	~~648~~	667.54	~~1791~~	1657.28	~~1791~~	1791.57
V RAMP								
1701+04 - 1730+24	~~677~~	656.35	~~677~~	672.77	~~1696~~		~~1696~~	
1714+00 - 1721+50	~~67~~		~~67~~		~~360~~	1638.31	~~360~~	1746.54
ROADWAY APPROACH TO PROJECT	~~295~~	0	~~295~~	0				
ESTIMATED FOR IRREGULARITIES	~~224~~				~~552~~			
SUBTOTALS	2,462	1,660.27	2,238	1,947.10	6,067	5331.10	5515	5129.49
FINAL TOTALS	~~4,700~~ 3609.39				~~11,582~~ 10,460.59			

THORNTON PARKWAY

℄ STATIONS	CONCRETE PAVEMENT 7½ INCH ☆ SQ. YD.	FINAL
THORNTON PARKWAY		
39+12 - 42+39	~~4175~~	3712
APPROACH SLAB 42+39 - 42+53	~~146~~	0
APPROACH SLAB 45+02 - 45+16	~~146~~	0
45+16 - 47+00	~~3225~~	3370
TOTALS	~~7641~~	7162

AGGREGATE BASE COURSE

LOCATION	CLASS 6 TONS	FINAL
ROADWAY APPROACH TO PROJECT	~~1600~~	1837.85
TOTALS	1600	1837.85

NOTES

1. IT IS ESTIMATED THAT 3,730 GALS. OF EMULSIFIED ASPHALT ~~WILL~~ BE REQUIRED ON THIS PROJECT.
2. ~~IT IS ESTIMATED THAT~~ 200 TONS OF HOT BITUMINOUS PAVEMENT (PATCHING) ~~WILL BE~~ REQUIRED ON THIS PROJECT.
3. IT IS ESTIMATED THAT 1700 GALS. OF LIQUID ASPHALTIC MATERIAL (MC-70) ~~WILL~~ BE REQUIRED AS PRIME COAT FOR THIS PROJECT.
4. APPROACH SLAB ~~SHALL BE~~ IS NOT INCLUDED IN THE ITEM FOR CONCRETE PAVEMENT (7½") AND ~~WILL~~ NOT BE PAID FOR SEPARATELY. SEE BRIDGE PLAN SHEET FOR DETAILS

TABULATION OF BRICK PAVER ITEMS

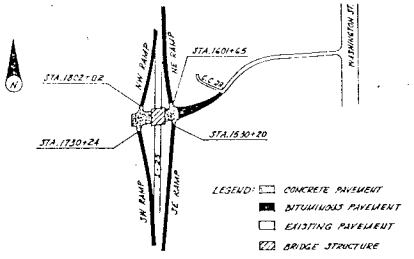
PAVER TYPE / LOCATION	CONCRETE SLOPE AND DITCH PAVING CU. YD.	FINAL	BRICK PAVERS SQ. FT.	FINAL
BRICK CROSSWALK				
THORNTON PARKWAY				
39+	21	19.2	664	627.6
45+	21	20	672	667.2
SE RAMP	17	17.6	552	556.1
NE RAMP	11	11.3	360	363.2
SW RAMP	13	14.3	416	463.5
NW RAMP	15	15.3	488	507.2
MEDIAN COVER MATERIAL				
THORNTON PARKWAY				
40+ TO 45+	28	28.3	2235	2103.0
SE RAMP	~~8~~	0	~~630~~	0
NE RAMP	~~5~~	0	~~342~~	0
SW RAMP	19	14.4	1532	1152.1
NW RAMP	3	1	232	115.2
MEDIAN EDGING				
THORNTON PARKWAY				
BEGIN PROJ. TO 40+	11	8.1	290	84.2
45+ TO END PROJ.	18		470	477.4
TOTALS FOR PAY	190	142.44	8,883	7124

NOTE: FOR BRICK PAVER DETAILS, SEE SHEET DS-1, 2.

SURFACING STABILIZATION CHART

	FLEXIBLE	RIGID
18 KIP EDLA	120 ⊗	120 ◒
REGIONAL FACTOR	2.0	2.0
SERVICEABILITY INDEX	2.5	2.5
R-VALUE	9	9
WEIGHTED STRUCTURAL NUMBER	4.00	4.00
STRENGTH COEFFICIENTS:		
- HBP (GRADE E)	0.44	—
- PMBB (CLASS 6)	0.34	—
- CONCRETE (CLASS AX OR P)	—	0.53
- ABC (CLASS 6)	0.12	—

SKETCH FOR PAVEMENT-TYPE LOCATIONS



☆ - TRANSITIONS TO BRICK CROSSWALKS SHALL BE INCLUDED IN THE WORK. (SEE DETAIL SHEET DS-1.)

⊗ - BASED UPON 20 YEAR DESIGN VOLUMES.

◒ - BASED UPON 10 YEAR DESIGN VOLUMES.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY/I-25 INTERCHANGE
TABULATION OF PAVEMENT QUANTITIES

DATE | PROJECT NO URS 20573 | DESIGNED BY D.S.A.K. | DRAWN BY | CHECKED BY | SHEET NO 1 OF 1 SHEETS | DRAWING NO TG-4

PREPARED BY URS COMPANY - DENVER

TABULATION OF STORM SEWER SYSTEM

CC12-0025-14 19

INDEX BOOK	INDEX PAGE	INDEX SHEET	NOTE NO.	LOCATION	INLET - EACH TYPE B (PAY) 10'-0" H (PAY) 10	INLET - EACH TYPE C H (PAY) 5'	INLET - EACH SPECIAL 15'	INLET - EACH SPECIAL 25	MANHOLE - EACH SLAB BASE H (PAY) 10'	MANHOLE - EACH SLAB BASE H (PAY) 15	F.E. SECTION RCP EACH 18"	F.E. SECTION RCP EACH 30	F.E. SECTION RCP EACH 36	F.E. SEC. REMOVE RCP 24"	LINE FROM	LINE TO	INVERT ELEVATIONS ◑ LOWER	INVERT ELEVATIONS ◑ UPPER	PIPE REFERENCE NUMBER	REINFORCED CONCRETE LINEAR FEET RCP CLASS II AND III, CLASS 2 BEDDING 18" CLASS II	24" CLASS II	30" CLASS II	36" CLASS II	24" RELAY	"H" PIPE COVER FEET	STRUCTURE EXCAVATION CUBIC YARD	STRUCTURE BACKFILL (COL. 1) CUBIC YARD	STRUCTURE BACKFILL (COL. 2) CUBIC YARD	UNCLASS. EXCAV. IN TRENCH EMB. CUBIC YARD	MISCELLANEOUS
															40+40	40+40			2	78'					4.8	11	16	3		□ INCLUDES QUANTITIES FOR END SECTION
															40+40	40+78			12	148'					4.8	15□	23□	5□		
															1601+64.82	1603+07.50			21					~~138'~~ 219	8.5	~~151~~	~~20~~ 11	51	67	
															1603+07.50	1603+19			23					~~76'~~ 78	18.0	208	11	28	162	
															1603+19	1605+45.50			24		46				14.5	64	7	17	36	
															1608+95	1608+91.2			27		~~38'~~ 42				3.5	52	14	17	8	
															1721+20.14	1720+96.45			42		25 ~~58'~~				21.0	38	9	14	17	
															1720+96.45	1720+08			44			87'	35		6.3	82□	16□	40□	45	
															1805+06.5	1805+03.5			48				~~142'~~		12.7	38	65	8□		
				THORNTON PKWY. (35' RT. OF ℄)											1513+00	1511+55			61	163 ~~154~~					7.0	218□	18	50	157	
															1608+44	1608+91				44										
															42+27	39+50								265						
				△ 40+40.00		1																								
				THORNTON PKWY (45' LT. OF ℄)																										
				△ 40+40.00		1																								
				SOUTHEAST RAMP (97.36' LT. OF ℄)											1811+80	1813+00														Requires ~~100~~ 117.73 Cu. Yds. of Riprap
				△ 1522+39.20				1			1																			
				(24' LT. OF ℄)																										
				△ 1513+00.00		1																								
				NORTHEAST RAMP (36' RT. OF ℄)																										
				△ 1603+07.50			1†																						10	
				(18' LT. OF ℄)																										
				△ 1608+91.20		1																								
				SOUTHWEST RAMP (24.8' RT. OF ℄)																										
				△ 1721+48.50				1																						
				1608+97.64		1																								
				MANHOLE STA.																										
				△ 1512+18.00					~~1~~																					* REQUIRES 2.4 CU. YDS. OF RIPR. (12") FOR CULVERT OUTLET EROSION PROTECTION
				△ 1601+64.82						1																				
				△ 1608+95.00					1																					
				△ 1720+96.45					1																					
				F.E. SEC. STA.																										
				△										1																† REQUIRES 9.2 CU. YDS. RIPRAP (12") FOR CULVERT OUTLET EROSION PROTECTION
				△										1																
				△										1																
				△ 40+78.00							1*															3				◇ REQUIRES 6.4 CU. YDS. RIPRAP (12") FOR CULVERT OUTLET EROSION PROTECTION
				△ 1511+55.00							1◇															5				
				△ 1512+50.00							~~1~~															5				
				△ 1720+00.00								1◇														8				
				△ 1805+06.50									1													9				◒ UNCLASSIFIED EXCAVATION AND COMPACTION REQUIRED TO FILL TRENCH TO ORIGINAL GROUND OR SUBGRADE
				△ 1805+03.50									1†													9				
				△ 1522+64.20										1																
				△ 105+45.50										1																
				△ 1608+95.00										1																
				TOTAL		2	2	2	1	3	1	3	1	2	6 ⊗				—	438 380	147 ~~142~~	87	145 ~~142~~	565 ~~214~~		715 ~~916~~	170 ~~199~~	233	502 ◒	LINE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LIN. FT. OF PIPE (ESTIMATED 502 CU.

▲ Elevation approximate only, actual elevation to be determined during construction.

⊗ INCLUDED IN ITEM "REMOVAL OF STRUCTURES AND OBSTRUCTIONS".

DIVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
	C012-0025-14	20	20

AS MODIFIED

NO REVISIONS | REVISED | VOID

[illegible]

[illegible]

[illegible]

1. A TRANSVERSE CONTRACTION JOINT [illegible] SHALL BE PLACED IN THE [illegible] IN PLACE OF A LONGITUDINAL CONTRACTION JOINT AS SHOWN ON THE TYPICAL JOINT LAYOUT. (NOTE: SEE JOINT DETAILS, STANDARD M-412-1).
2. A LONGITUDINAL CONTRACTION JOINT SHALL BE PLACED THROUGH THE [illegible] PAVEMENT TRAY AS SHOWN PLACED [illegible] THE [illegible] LENGTH [illegible] THE [illegible] THE [illegible] AT THE LONGITUDINAL [illegible] IN THE ORIGINAL PAVEMENT.
3. UPON COMPLETION OF THE LAYING OF BRICK PAVERS IN THE [illegible] A TRANSVERSE CONTRACTION JOINT SHALL BE [illegible] ALONG THE [illegible] AT THE [illegible] IN THE [illegible] PAVEMENT.

BRICK CROSSWALK

1. CONCRETE PAVEMENT TRAY - [illegible] BE PAID FOR AT THE CONTRACT UNIT PRICE FOR "CONCRETE SLOPE AND DITCH PAVING" (CU. YD.).

   A BROOM FINISH [illegible] BE APPLIED TO ALL EXPOSED SURFACES PRIOR TO PLACEMENT OF BRICK PAVERS.

   EXPANSION JOINTS BETWEEN CONCRETE PAVEMENT SURFACE SHALL BE INCLUDED IN THE WORK.
2. BRICK PAVERS - [illegible] BE TYPE A, HAVE A COMPRESSIVE STRENGTH OF 15,000 PSI AND BE SCORED ON ALL SIDES.

   BRICK PAVERS [illegible] BE SET ON A 3/4-INCH BED OF HIGH STRENGTH MORTAR.

   ALL MORTAR JOINTS BETWEEN BRICK PAVERS [illegible] BE 3/8-INCH AND BE FLUSH WITH ADJACENT PAVERS.

   COLOR [illegible] BE "WALNUT GRAIN" (ROBINSON BRICK COMPANY), CHEMICAL RESISTANT BRICK ASTM C-279 OR APPROVED EQUAL. MORTAR [illegible] BE PAID FOR SEPARATELY BUT [illegible] INCLUDED IN THE WORK.

   BRICK PAVERS [illegible] BE PLACED IN A RUNNING BOND PATTERN.

MEDIAN COVER (NATURAL/MEDIAN EDGING

1. CONCRETE BASE - [illegible] CLASS B AND [illegible] BE PAID FOR AT THE CONTRACT UNIT PRICE FOR "CONCRETE SLOPE AND DITCH PAVING" (CU. YD.).

   A BROOM FINISH [illegible] BE APPLIED TO EXPOSED SURFACES RECEIVING THE BRICK PAVERS.

   EXPANSION JOINTS REQUIRED [illegible] BE INCLUDED IN THE WORK.
2. BRICK PAVERS - [illegible] BE TYPE B.

   BRICK PAVERS [illegible] BE SET ON A 5/8-INCH BED OF HIGH STRENGTH MORTAR.

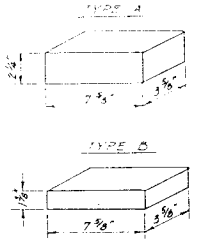
   ALL MORTAR JOINTS BETWEEN BRICK PAVERS [illegible] BE 3/8-INCH AND SHALL HAVE A SLIGHTLY BEVELED FINISH BETWEEN PAVERS. COLOR [illegible] BE "WALNUT GRAIN" (ROBINSON BRICK COMPANY) OR APPROVED EQUAL.

   MORTAR [illegible] BE PAID FOR SEPARATELY BUT [illegible] INCLUDED IN THE WORK.

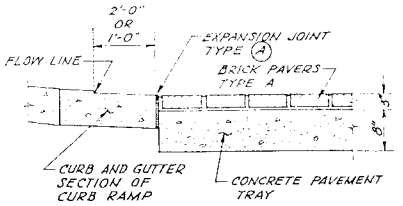
   BRICK PAVERS [illegible] BE PLACED IN A RUNNING BOND PATTERN.

CURB RAMPS

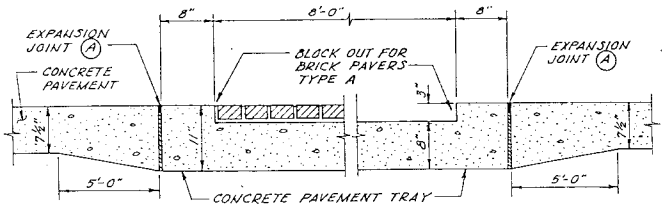
1. CONCRETE [illegible] BE CLASS A OR B.
2. NORMAL GUTTER FLOW LINE [illegible] BE MAINTAINED THROUGH THE RAMP AREA.
3. ON TRIANGULAR ISLAND CURB RAMPS A "HIGH POINT" [illegible] BE ESTABLISHED IN ORDER THAT NORMAL DRAINAGE DOES NOT FLOW THROUGH THE CURB RAMP AREA. SLOPES [illegible] NOT EXCEED 1-INCH PER FOOT.



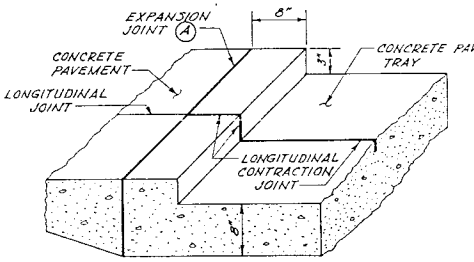
BRICK PAVER TYPES



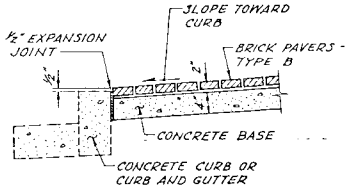
SECTION E-E



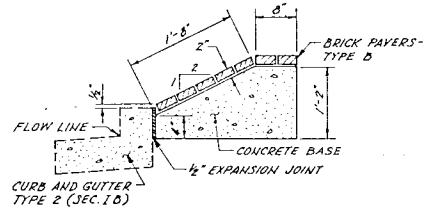
SECTION D-D



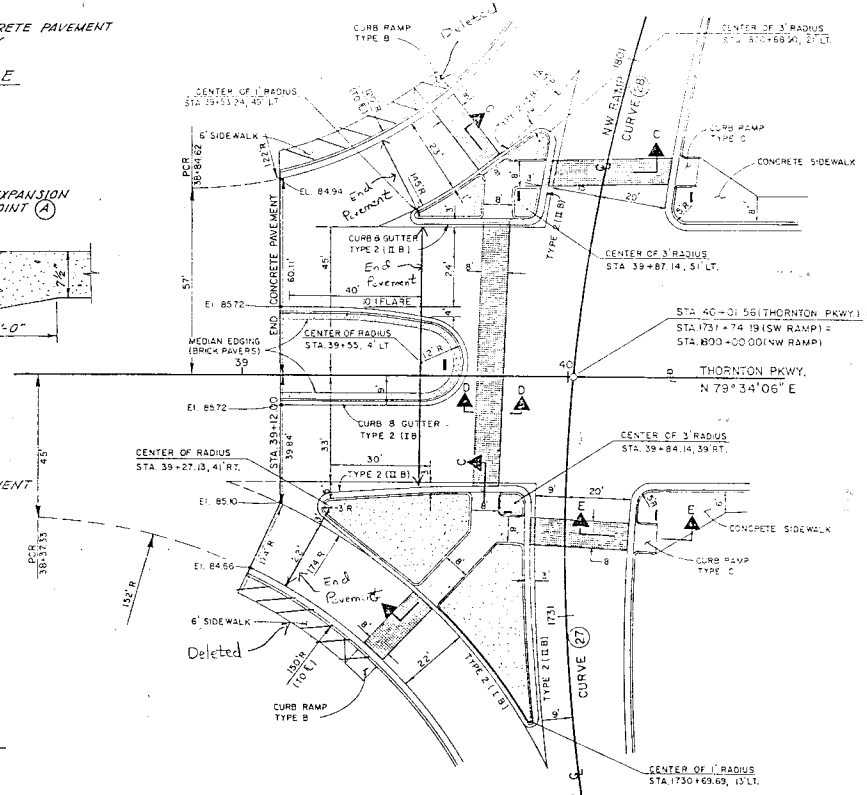
TYPICAL
LONGITUDINAL CONTRACTION JOINT (E)
IN CONCRETE PAVEMENT TRAY



TYPICAL
MEDIAN COVER MATERIAL
(BRICK PAVERS)



TYPICAL
MEDIAN EDGING (BRICK PAVERS)



KEY

- BRICK CROSSWALK (SEE DETAILS, LEFT)
- MEDIAN COVER MATERIAL (BRICK PAVERS)
- TRAFFIC SIGNAL SUPPORT (SEE SHEET TP-9 FOR LOCATIONS)

WEST RAMP INTERSECTION DETAIL

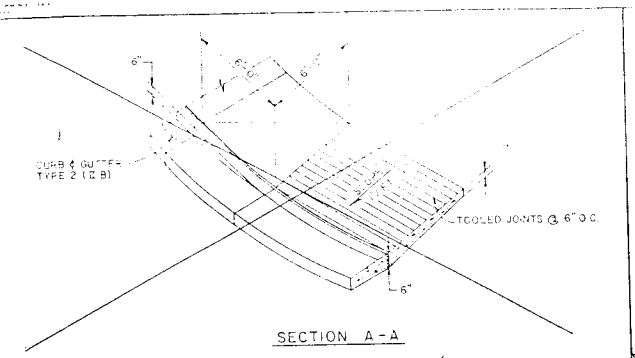
ORIGINAL SCALE: 1"=20'

City of Thornton
Public Works
Thornton, Colorado

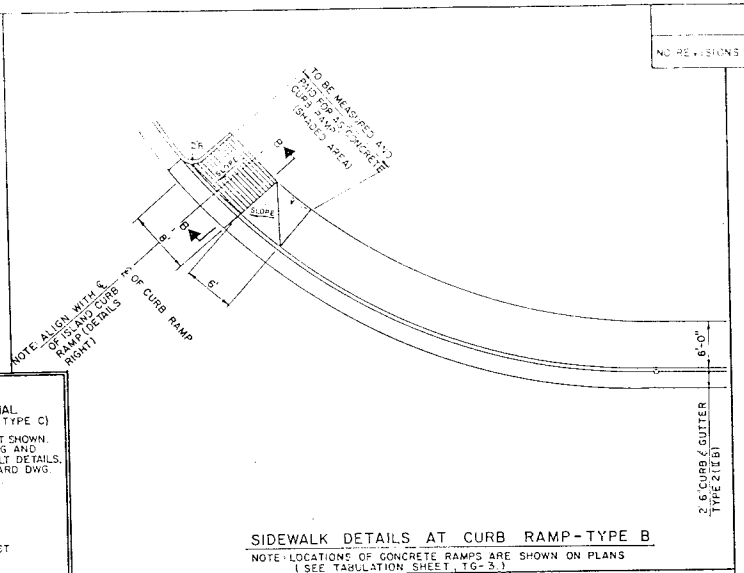
THORNTON PARKWAY / I-25 INTERCHANGE

BRICK PAVERS, WEST RAMP, NOTES

DATE	PROJECT NO	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO	DRAWING NO
	UNS 2037.3	S.J.	P.L.		2 OF 2 SHEETS	DS-1



SECTION A-A



SIDEWALK DETAILS AT CURB RAMP-TYPE B

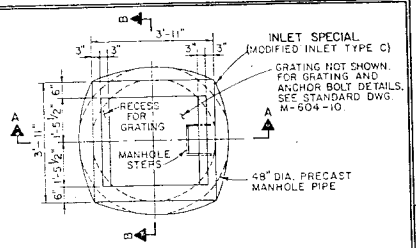
NOTE: LOCATIONS OF CONCRETE RAMPS ARE SHOWN ON PLANS (SEE TABULATION SHEET, TG-3.)

DRAINAGE DETAILS

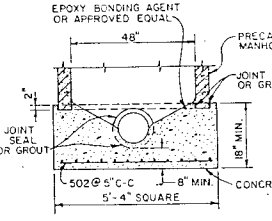
INLET SPECIAL (MODIFIED TYPE "C" INLET)

(SPECIAL THIS PROJECT)

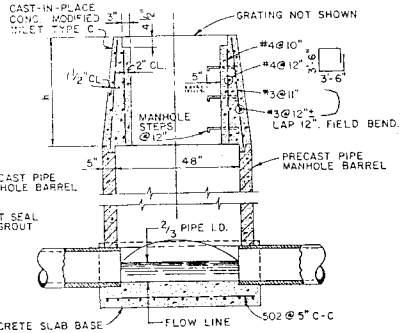
h	CONCRETE	REINF. STEEL	NO. STEPS REQ'D
FEET	CU. YDS	LBS.	—
3	1.1	106	—
4	1.4	139	2
	1.8	172	2
6	2.1	205	3



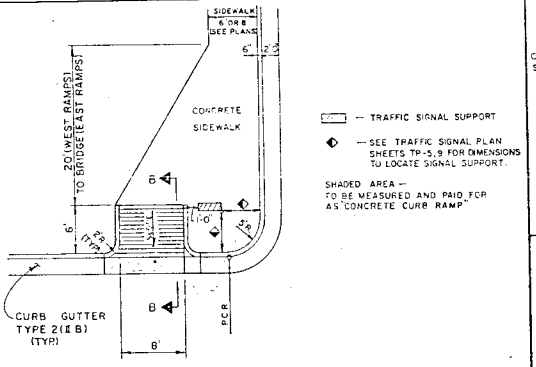
PLAN VIEW



SECTION B-B



SECTION A-A



— TRAFFIC SIGNAL SUPPORT

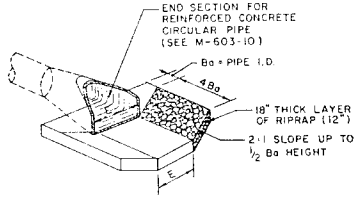
— SEE TRAFFIC SIGNAL PLAN SHEETS TP-5,9 FOR DIMENSIONS TO LOCATE SIGNAL SUPPORT.

SHADED AREA — TO BE MEASURED AND PAID FOR AS "CONCRETE CURB RAMP"

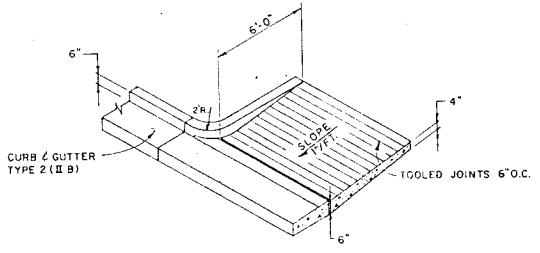
SIDEWALK DETAILS AT CURB RAMP-TYPE C

NOTE: LOCATIONS OF CURB RAMPS ARE SHOWN ON PLANS (SEE TABULATION SHEET, TG-3.)

R.C.P. I.D. Ba	RIPRAP (12")
INCHES	CU. YDS.
18	2.4
24	4.1
30	6.4
36	9.2
42	12.0
48	[illegible]



CULVERT INLET/OUTLET EROSION PROTECTION



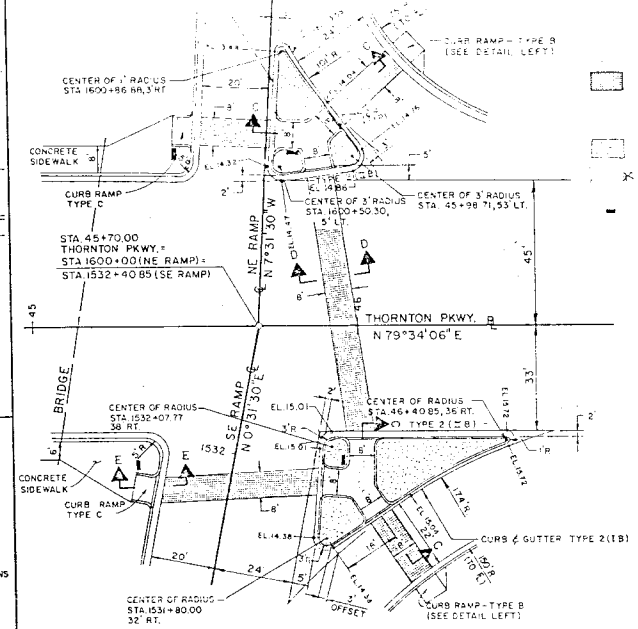
SECTION B-B

GENERAL NOTES

(SEE SHEET DS-1)

KEY

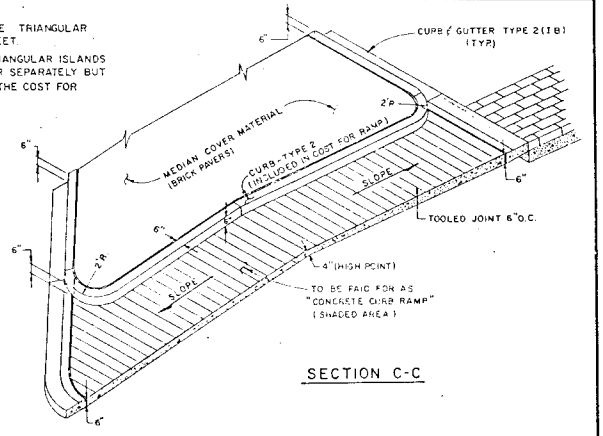
- BRICK CROSSWALK (SEE SHEET DS-1 FOR DETAILS)
- MEDIAN COVER MATERIAL (BRICK PAVERS) (AS REQUIRED FOR ISLANDS)
- TRAFFIC SIGNAL SUPPORT - (SEE SHEET TP-5 FOR LOCATIONS)



EAST RAMP INTERSECTION DETAIL (ORIGINAL SCALE 1" = 20')

NOTES:

1) ALL CURB RADII INSIDE TRIANGULAR ISLANDS ~~SHALL BE~~ 2 FEET.
2) ALL CURBS INSIDE TRIANGULAR ISLANDS ~~WILL~~ NOT BE PAID FOR SEPARATELY BUT ~~WILL BE~~ INCLUDED IN THE COST FOR "CURB RAMPS".



SECTION C-C

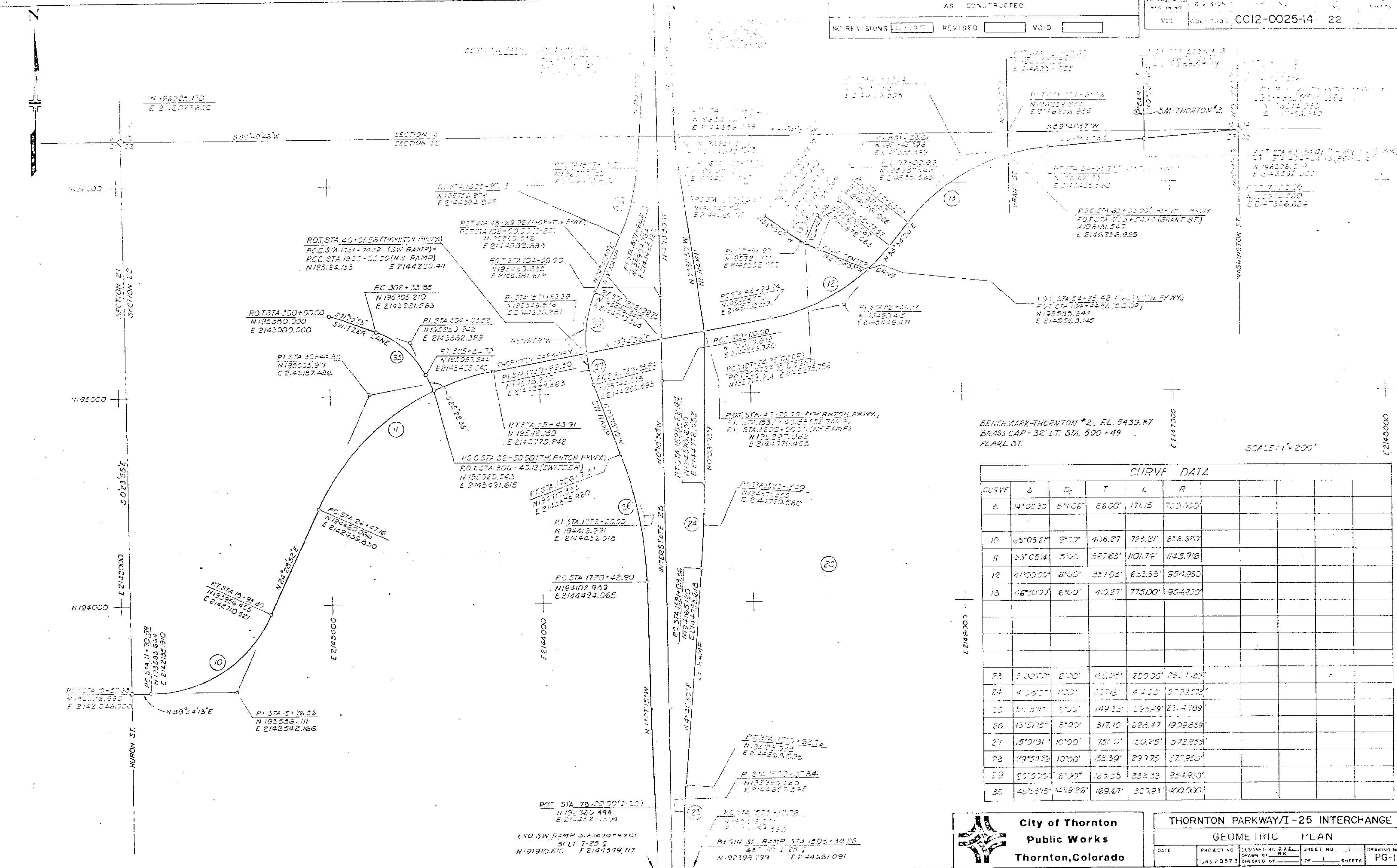
City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

DRAINAGE, CURB RAMP EAST RAMP DETAILS

DATE	PROJECT NO.	DESIGNED BY S.Z. DRAWN BY R.K. CHECKED BY	SHEET NO. 2 OF 2 SHEETS	DRAWING NO. DS-2
	URS 20573			

PREPARED BY · URS COMPANY · DENVER



CURVE DATA					
CURVE	Δ	D_c	T	L	R
6	14°00'30"	8°11'06"	86.00'	171.15	700.000'
10	65°05'21"	9°00'	406.27	723.21'	636.620'
11	55°05'14"	5°00'	597.63'	1101.74'	1145.916
12	41°00'00"	6°00'	357.03'	683.33'	954.930'
13	46°30'00"	6°00'	410.27'	775.00'	954.930'
23	5°00'00"	2°00'	125.03'	250.00'	2864.789'
24	4°08'27"	1°00'	207.18'	414.03'	5729.578'
25	5°55'11"	2°00'	149.33'	295.49'	2864.789'
26	13°51'15"	3°00'	317.10	628.47	1909.859'
27	15°01'31"	10°00'	75.58'	150.25'	572.958'
28	29°59'29"	10°00'	155.39'	293.75	572.958'
29	20°00'00"	6°00"	168.38	333.33	954.930'
35	45°53'15"	14°19'26"	169.67'	320.93'	400.000

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY/I-25 INTERCHANGE
GEOMETRIC PLAN

DATE	PROJECT NO	DESIGNED BY	SHEET NO	DRAWING NO
	URS 2057	SHAWN BY / CHECKED BY	1 OF 1 SHEETS	PG-1

PREPARED BY URS COMPANY · DENVER

AS-CONSTRUCTED		
DETAILED	REVISED	CHECKED

FEDERAL HIGHWAY REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	23	

REVISIONS		

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE DIVISION OF HIGHWAYS, STATE OF COLORADO, APPLICABLE TO THE PROJECT.

FOR CONSTRUCTION DETAILS OF STRUCTURE EXCAVATION AND BACK-FILL, SEE STANDARD M-206-2.

FOR STRUCTURE NUMBER INSTALLATION, SEE STANDARD S-614-12.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.

ALL STRUCTURAL STEEL ~~SHALL~~ BE A 36. ALL STRUCTURAL STEEL ~~SHALL~~ BE PAINTED IN ACCORDANCE WITH SECTION 509 OF THE STANDARD SPECIFICATIONS. THE COLOR ~~SHALL BE~~ SAND BEIGE.

GRADE 60 REINFORCING STEEL ~~IS~~ REQUIRED FOR NO. 4 BARS AND LARGER.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS:

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS AZ CONCRETE	1'-0"	1'-3"	1'-8"	2'-3"	3'-0"	3'-10"	4'-10"	5'-11"
SPLICE LENGTH FOR CLASS D CONCRETE	1'-0"	1'-3"	1'-6"	2'-0"	2'-7"	3'-4"	4'-2"	5'-1"

THE ABOVE SPLICE LENGTHS ~~SHALL BE~~ INCREASED BY 20 PERCENT FOR 3-BAR BUNDLES AND 33 PERCENT FOR 4-BAR BUNDLES.

PERMANENT STEEL DECK FORMS ~~SHALL~~ BE REQUIRED.

APPLIED WIND LOADS AND EARTHQUAKE LOADS WERE NOT CONSIDERED IN ANALYZING THE STRUCTURE FOR STABILITY DURING THE CONSTRUCTION STAGES.

E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE

E.C. = EPOXY COATED
E.W. = EACH WAY
—— INDICATES BAR LAP; DO NOT JOGGLE BARS.

CLASS 5 COLORED COATING FINISH WILL ~~BE~~ BE REQUIRED. THE COLOR ~~WILL BE~~ SAND BIEGE.

THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR ~~IS~~ RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES, AS ~~MAY BE~~ NECESSARY TO AVOID DAMAGE THERETO.

AREAS TO RECEIVE CLASS 5 COATING FINISH ~~SHALL INCLUDE~~ INCLUDES ALL EXPOSED CONCRETE SURFACES ON PIERS, ABUTMENTS, AND WINGWALLS; FACES OF PARAPET AND SLAB CANTILEVER; OUTSIDE FACES OF EXTERIOR GIRDERS.

DESIGN DATA:

CURRENT AASHTO DESIGN SPECIFICATIONS:
LIVE LOAD: AASHTO HS-20-44 AND INTERSTATE ALTERNATE
DEAD LOAD: ASSUMES 48 LBS. PER SQ. FT. FOR BITUMINOUS PAVEMENT
REINFORCED CONCRETE:
f_s = 24,000 psi #4 BARS AND LARGER
CLASS D CONC. f_c = 1800 psi, n = 8
CLASS AZ CONC. f_c = 1600 psi, n = 8
STRUCTURAL STEEL: AASHTO M-183 (ASTM A-36) f_s = 20,000 psi
PRESTRESSED CONCRETE: f'_s = 270,000 psi
f'_c = (SEE DETAILS)

CROSS REFERENCE DRAWING NUMBER
B
1
SECTION OR DETAIL IDENTIFICATION

SUMMARY OF QUANTITIES:

	ITEM	DESCRIPTION	UNIT	STRUCTURE: SUPER STRUCTURE	ABUT NO. 1	PIER NO. 2	ABUT. NO. 3	APPROACH SLAB WEST	APPROACH SLAB EAST	TOTAL
(1)	206	STRUCTURE EXCAVATION	CU.YD.		55.6		79.4			135
	206	STRUCTURE BACKFILL (CLASS I)	CU.YD.		620		684			1304
	403	HOT BITUMINOUS PAVEMENT (GRADING EX)(HAUL BASPH.)	TON	~~221~~ 225						~~221~~ 225
	503	DRILLED CAISSON (24-INCH)	LIN.FT.		495		495			990
	503	DRILLED CAISSON (48-INCH)	LIN.FT.			~~153~~ 157				~~153~~ 157
	507	CONCRETE SLOPE & DITCH PAVING (REINFORCED)	CU.YD.		~~55.6~~ 135		~~79.4~~			~~135~~
(3)	509	STRUCTURAL STEEL	LB.	6680	250	400	250			7580
	515	WATERPROOFING (MEMBRANE)	SQ.YD.	~~2103~~ 2339				~~118~~	~~118~~	~~2339~~
	601	CONCRETE CLASS AZ (BRIDGE)	CU.YD.		41.9	121.1	42.8	53.1	53.1	312
	601	CONCRETE CLASS D (BRIDGE)	CU.YD.	872.6				6.7	7.7	887
	602	REINFORCING STEEL	LB.	~~69,859~~ 69,863	~~6239~~ 6243	~~23,956~~ 23,960	~~5749~~ 5753	6086	6086	~~116,975~~ 116,979
	602	REINFORCING STEEL (EPOXY COATED)	LB.	~~90,610~~ 90,614				~~12,45~~ 12,454	~~12,45~~ 12,454	~~93,100~~ 93,104
	607	FENCE CHAIN LINK (SPECIAL)	LIN.FT.	~~558~~ 566						~~558~~ 566
	613	1" ELECTRICAL CONDUIT	LIN.FT.	~~297~~ 310						~~297~~ 310
	613	2" ELECTRICAL CONDUIT	LIN.FT.	~~1698~~ 1705						~~1698~~ 1705
	613	6" ELECTRICAL CONDUIT	LIN.FT.	~~618~~ 626						~~618~~ 626
	618	PRESTRESSED CONCRETE UNIT (I-SECTION)(115-120 FT)	EACH	15						15
	618	PRESTRESSED CONCRETE UNIT (I-SECTION)(130-135 FT.)	EACH	15						15
(2)		1/2" EXPANSION JOINT MATERIAL	SQ.FT.		~~44~~	~~213~~	~~44~~			~~301~~

(1) INCLUDES 135 CU. YD. STRUCTURE EXCAVATION FOR CONCRETE SLOPE & DITCH PAVING.

(2) ~~TO BE INCLUDED IN THE BID PRICE FOR ITEM 601, CONC. CLASS D (BRIDGE).~~

(3) INCLUDES 2620 LBS. FOR TWO SIGN SUPPORTS, 900 LBS. FOR 36" ø PIPE SLEEVES, AND 4060 LBS. FOR PRESTRESSED GIRDER SOLE PLATES.

INDEX OF DRAWINGS:

DWG. NO. B1 GENERAL INFORMATION – SUMMARY OF QUANTITIES
DWG. NO. B2 GENERAL LAYOUT
DWG. NO. B3 ENGINEERING GEOLOGY, FOUNDATION PLAN
DWG. NO. B4 ABUTMENT 1 DETAILS
DWG. NO. B5 ABUTMENT 3 DETAILS
DWG. NO. B6 ABUTMENT & WINGWALL DETAILS
DWG. NO. B7 PIER 2 DETAILS
DWG. NO. B8 FRAMING PLAN, WATERLINE SUPPORTS
DWG. NO. B9 SLAB PLAN
DWG. NO. B10 TYPICAL SECTION & MISCELLANEOUS DETAILS
DWG. NO. B11 BENCH MARK DETAILS, MEDIAN TAPER
DWG. NO. B12 COLORADO G-68 GIRDER
DWG. NO. B13 FENCE CHAIN LINK (SPECIAL)
DWG. NO. B14 SLOPE PAVING DETAILS
DWG. NO. B15 APPROACH SLAB DETAILS
DWG. NO. B16 SIGN SUPPORT FRAME
DWG. NO. B17 OVERPASS MOUNTED BRIDGE BRACKETS
DWG. NO. B18 OVERPASS MOUNTED BRIDGE BRACKETS
DWG. NO. B19 LIGHT POLE BASE DETAILS
DWG. NO. B20 BRIDGE DECK ELEVATIONS
DWG. NO. B21 BRIDGE DECK ELEVATIONS
DWG. NO. B22 BRIDGE DECK ELEVATIONS
DWG. NO. B23 ROADWAY APPROACHES

BRIDGE DESCRIPTION:

2 SPAN (115'-0", 130'-0") BRIDGE, CONCRETE SLAB AND PRESTRESSED GIRDER.

THORNTON PARKWAY OVER I-25
82'-0" ROADWAY CURB TO CURB 79°52'19" SKEW
1'-0" PARAPET WITH 8'-0" WALK NORTH SIDE
1'-0" PARAPET WITH 5'-0" WALK SOUTH SIDE
6'-0" RAISED MEDIAN

STRUCTURE NO. E-17-MJ

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
GENERAL INFORMATION – SUMMARY OF QUANTITIES

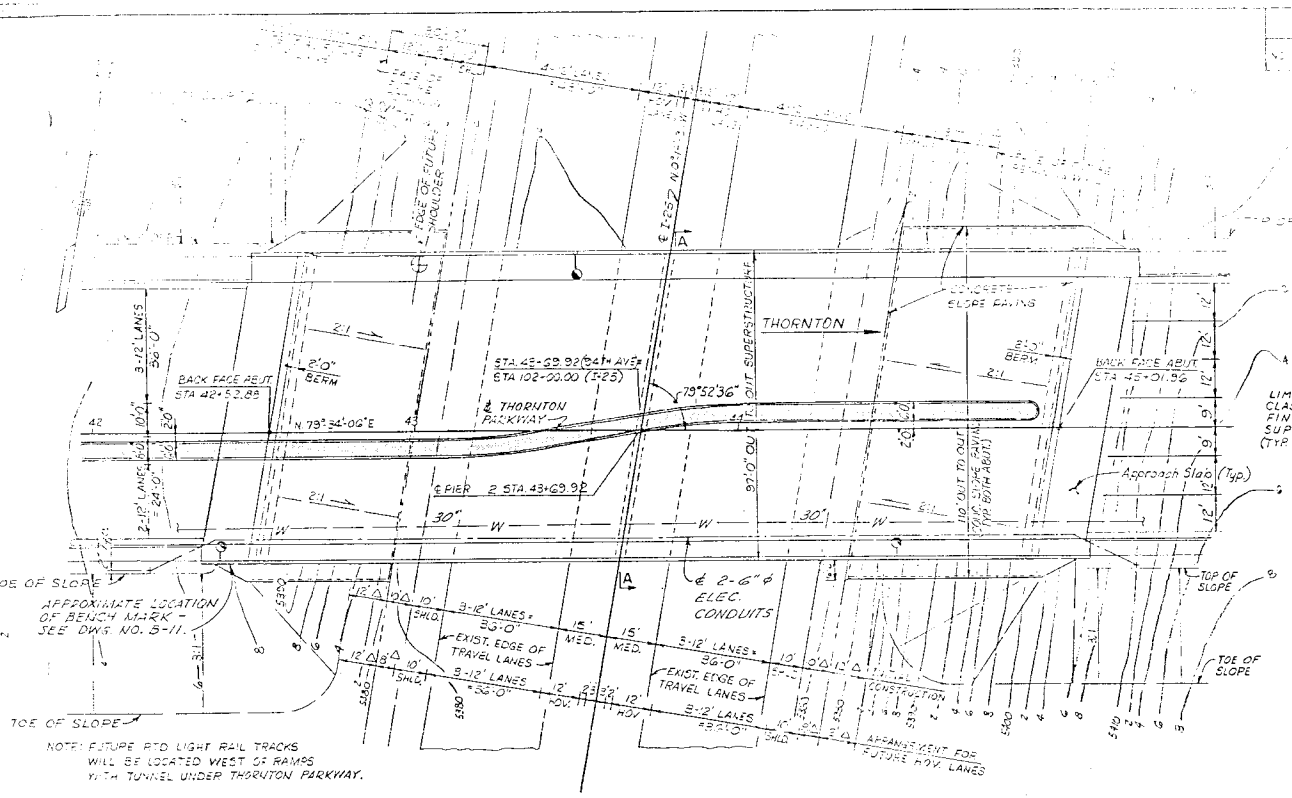
DATE	FN. JOB NO.	DESIGNED BY D.C. / DRAWN BY J.W. / CHECKED BY L.F.	SHEET NO. 1 OF 23 SHEETS	DRAWING NO. B-1
	UNK 23573			

PREPARED BY URS COMPANY - DENVER

AS CONSTRUCTED			
NO REV SHNS	REVISED	VOID	

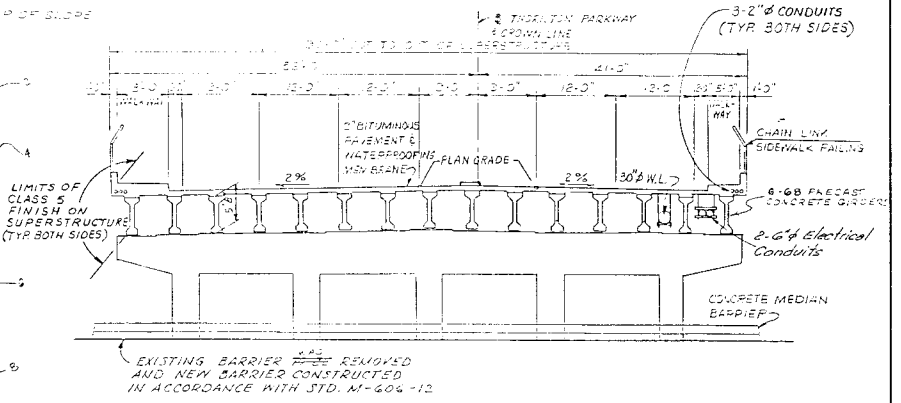
FEDERAL ROAD REGION NO	DIVISION	PROJ NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	24	49

REVISIONS		

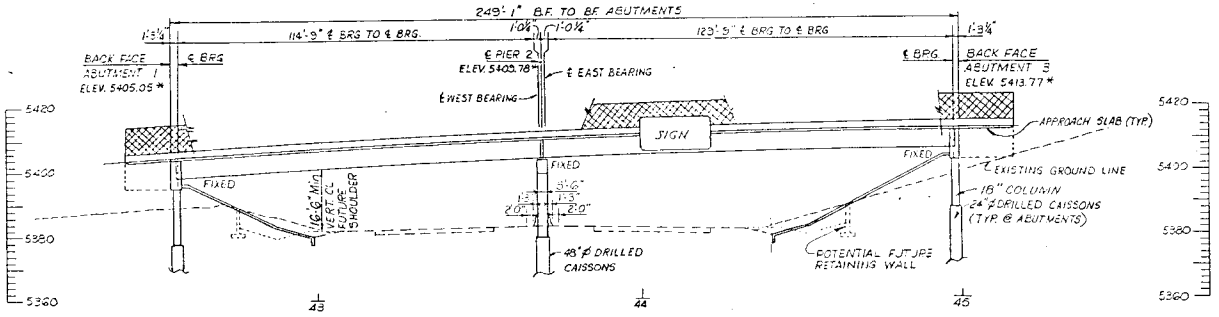


PLAN

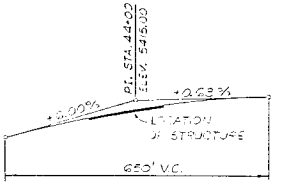
⊕ INDICATES LOCATION OF MINIMUM VERTICAL CLEARANCE.
△ TYPICAL AT STRUCTURE ONLY.
INDICATES POLE MOUNTED LUMINAIRE



SECTION A-A



SECTION
(TAKEN AT ℄ STRUCTURE)
* FINISHED ROADWAY ELEVATION @ CROWN



PROFILE GRADE

LIVE LOADING HS 20-44 AND INTERSTATE ALTERNATE

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

GENERAL LAYOUT

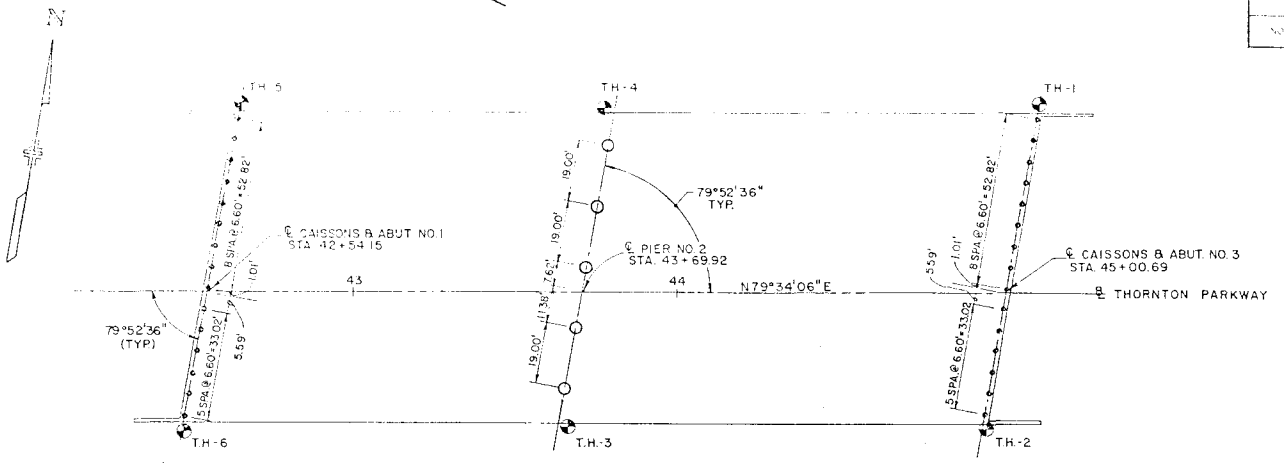
DATE	PROJECT NO	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO 2 OF 23 SHEETS	DRAWING NO
	URS 20573					B2

PREPARED BY · URS COMPANY · DENVER

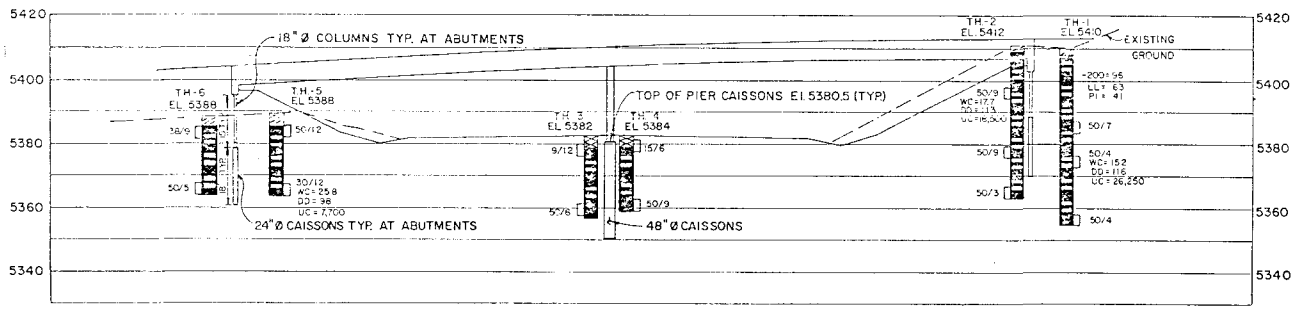
NO.	REVISIONS	BY	DATE

PROJECT NO.	PROJECT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
		CC 12-0025-14	25	77

REVISIONS		



FOUNDATION PLAN



NOTES:

1. ALL DRILLED CAISSONS ~~SHALL BE~~ CLASS AZ, WITH A MINIMUM fc' = 4,000 PSI.
2. MINIMUM EMBEDMENT OF CAISSONS INTO UNWEATHERED BEDROCK SHALL BE 18'.
3. CAISSON LOADS:

	EMBEDMENT (FT.)	ACTUAL LOAD MAX.	ACTUAL LOAD MIN.	ALLOWABLE LOAD MAX.	ALLOWABLE LOAD MIN. (15 KSF)
ABUTMENT 1	18.0'	190^k	113^k	434^k	47^k
PIER 2	32.0'	1230^k	898^k	1433^k	188^k
ABUTMENT 3	18.0'	190^k	113^k	434^k	47^k

ESTIMATED BOTTOM OF CAISSON ELEVATIONS:

ABUTMENT 1 = 5361
PIER 2 = 5350
ABUTMENT 3 = 5370

SUMMARY OF TEST RESULTS

HOLE	DEPTH (FEET)	NATURAL MOISTURE (%)	NATURAL DRY DENSITY (PCF)	ATTERBERG LIMITS: LIQUID LIMIT (%)	ATTERBERG LIMITS: PLASTICITY INDEX (%)	UNCONFINED COMPRESSIVE STRENGTH (PSF)	PASSING NO. 200 SIEVE (%)	SOIL TYPE
TH-1	0-10			63	41		96	CLAYSTONE
	34	15.2	116			26,250		CLAYSTONE
TH-2	18	17.7	113			18,500		CLAYSTONE
	33	21.1	106	51	26	13,950	99	CLAYSTONE
	38	18.1	107					CLAYSTONE
3	14	16.8	113					CLAYSTONE, SANDY
	19	21.8	105			13,960		CLAYSTONE, SANDY
TH-4	9	19.1	109					CLAYSTONE, SANDY
	19	20.6	106			14,340		CLAYSTONE
TH-5	9	13.0	112	36	17		59	CLAYSTONE, SANDY
	24	25.9	99			7,700		CLAYSTONE, SANDY
TH-6	14	19.4	109			20,320		CLAYSTONE
	19	20.6	108					CLAYSTONE, SANDY

TYPE OF MATERIAL

- ASPHALT AND BASE COURSE
- FILL, SAND, SILTY (TH-3 AND TH-4), LOOSE TO MEDIUM DENSE, MOIST, BROWN-CLAY SANDY (TH-1), VERY STIFF, MOIST, BROWN
- GRAVEL, CLAYEY, SANDY, DENSE, MOIST, BROWN, (GC)
- CLAY, SANDY, MEDIUM TO VERY STIFF, SLIGHTLY MOIST, MOIST BROWN (CL)
- WEATHERED BEDROCK, CLAYSTONE /SANDSTONE, VERY STIFF TO MEDIUM HARD, MOIST, BROWN, LIGHT BROWN, GRAY, OLIVE
- BEDROCK SANDSTONE, CLAYEY, HARD, MOIST, BROWN
- BEDROCK, CLAYSTONE, SANDY, INTERBEDDED SANDSTONE, HARD VERY HARD, MOIST, BROWN, GRAY, OLIVE, RED-BROWN

LEGEND

THE BORINGS WERE DRILLED FEBRUARY 16, 17 AND APRIL 15, 1983 WITH A 4 INCH DIAMETER CONTINUOUS FLIGHT POWER AUGER.

NO FREE GROUND WATER WAS ENCOUNTERED AT THE TIME OF DRILLING

WC - INDICATES NATURAL MOISTURE CONTENT (%)
DD - INDICATES DRY DENSITY (PCF)
-200 - INDICATES PERCENT PASSING THE NO. 200 SIEVE
UC - INDICATES UNCONFINED COMPRESSIVE STRENGTH (PSF)
LL - INDICATES LIQUID LIMIT (%)
PI - INDICATES PLASTICITY INDEX (%)
SS - INDICATES SULFATE CONTENT (PPM)

DRIVE SAMPLE. THE SYMBOL 29/12 INDICATES THAT 29 BLOWS OF A 140 POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2.5 INCH O.D. SAMPLER 12 INCHES.

INDICATES DEPTH AT WHICH BULK SAMPLE OF STRATA WAS OBTAINED FROM AUGER CUTTINGS

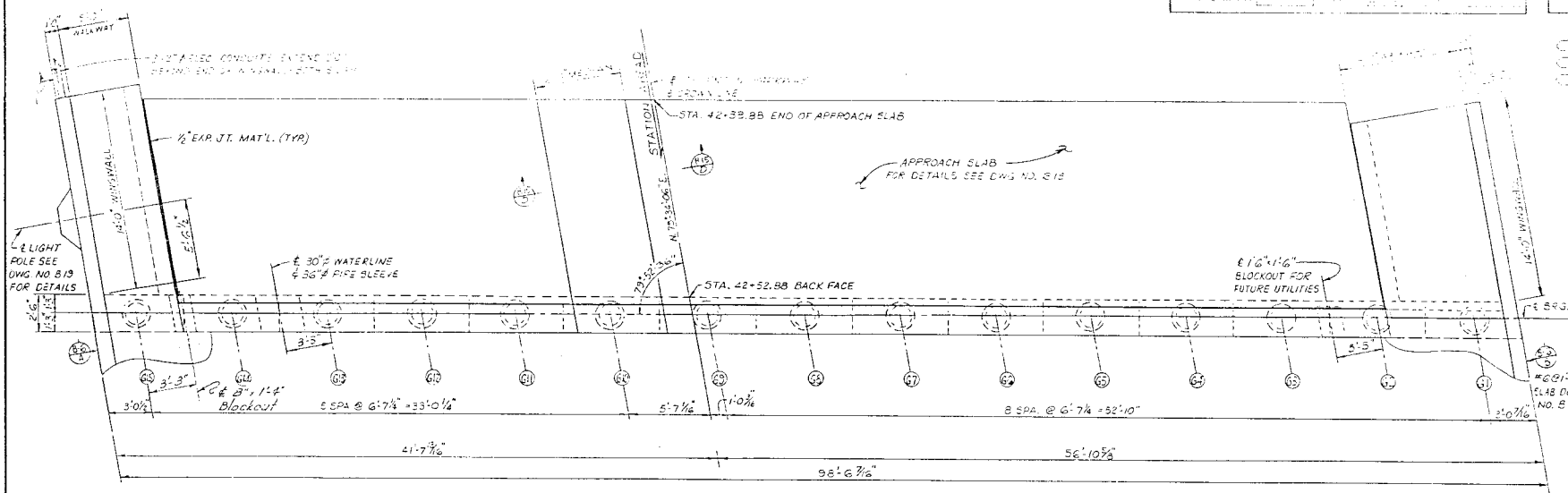
City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

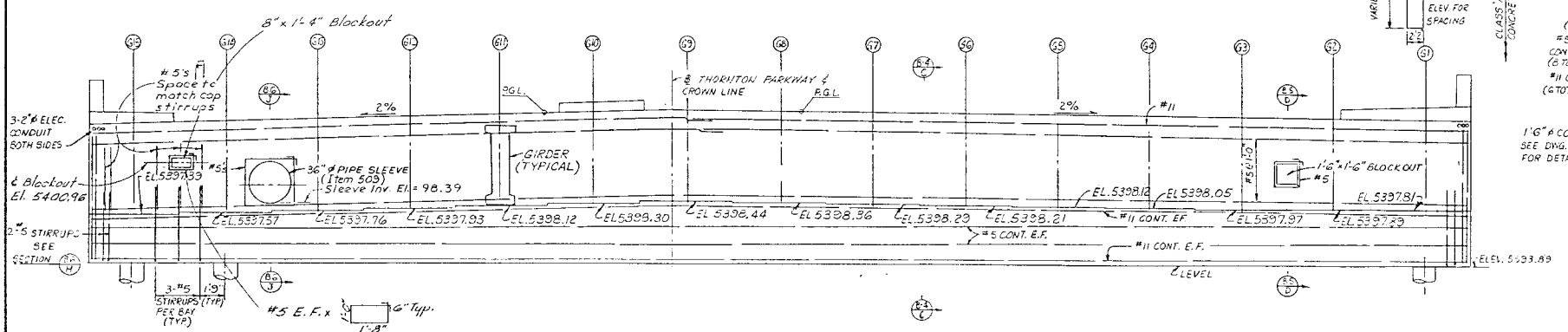
ENG. GEOLOGY, FOUNDATION PLAN

DATE	PROJECT NO.	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO.	OF 23 SHEETS	DRAWING NO.
	URS 20573				1		B-3

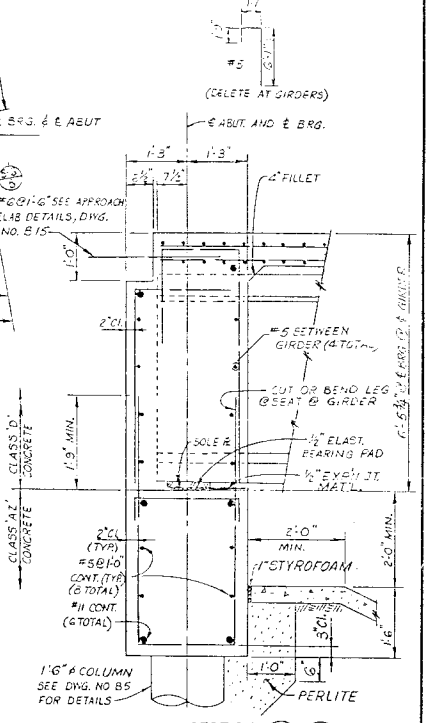
PREPARED BY URS COMPANY - DENVER

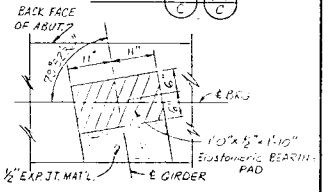


PLAN



ELEVATION



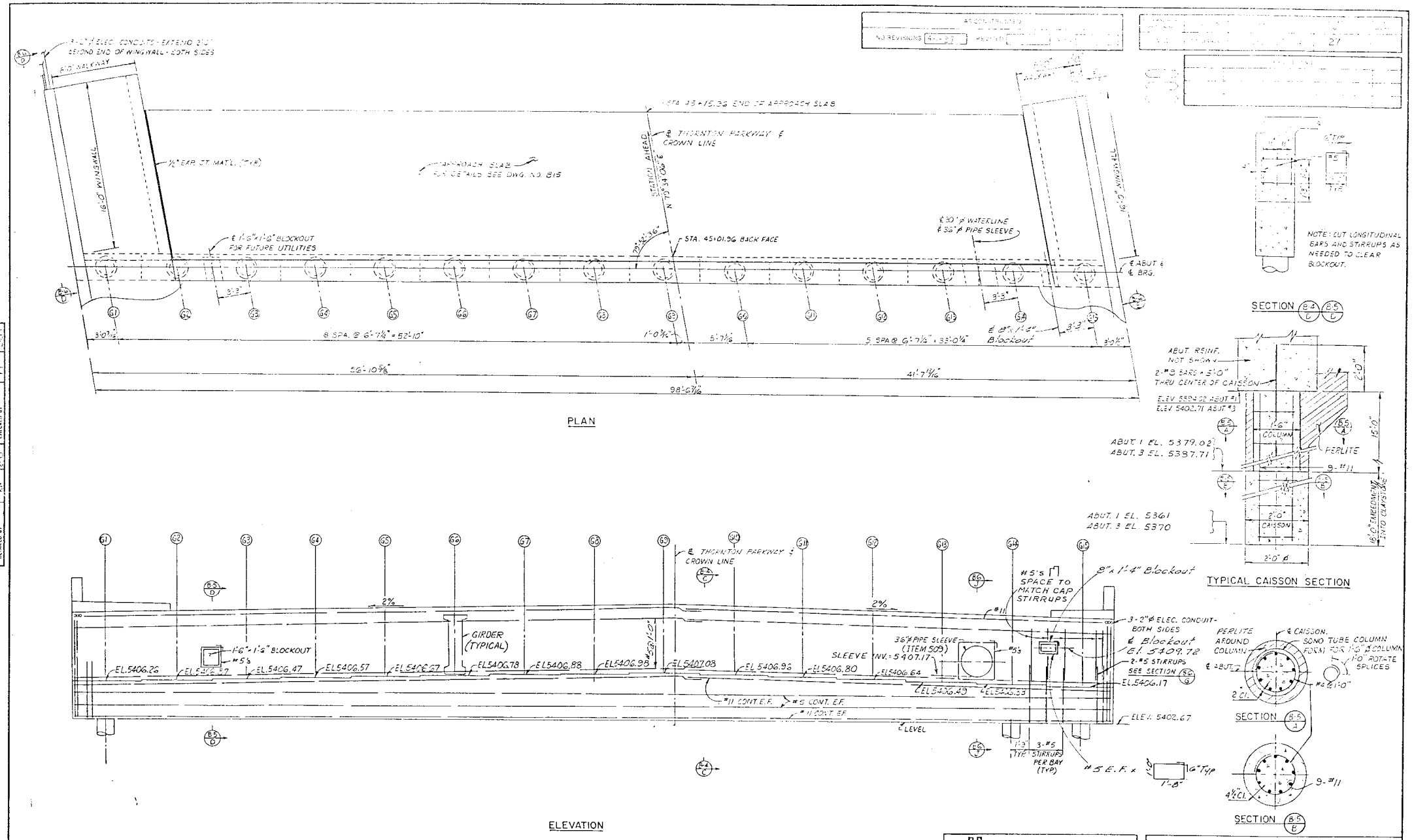


PLAN AT BEARINGS

NOTES:
1. PORTIONS OF ABUTMENT AND SLAB ABOVE BEARINGS SEAT ~~TO BE~~ POURED MONOLITHICALLY.
2. ALL ABUTMENT STIRRUPS ~~TO BE~~ WERE PLACED PERPENDICULAR TO ℄ ENG.

City of Thornton Public Works Thornton, Colorado	THORNTON PARKWAY / I-25 INTERCHANGE		
	ABUTMENT I DETAILS		
DATE	PROJECT NO. URS 2057.3	DESIGNED BY / DRAWN BY / CHECKED BY	SHEET NO. 4 OF 23 SHEETS	DRAWING NO. B-4

PREPARED BY - URS COMPANY - DENVER



NO.	REVISIONS	BY	DATE

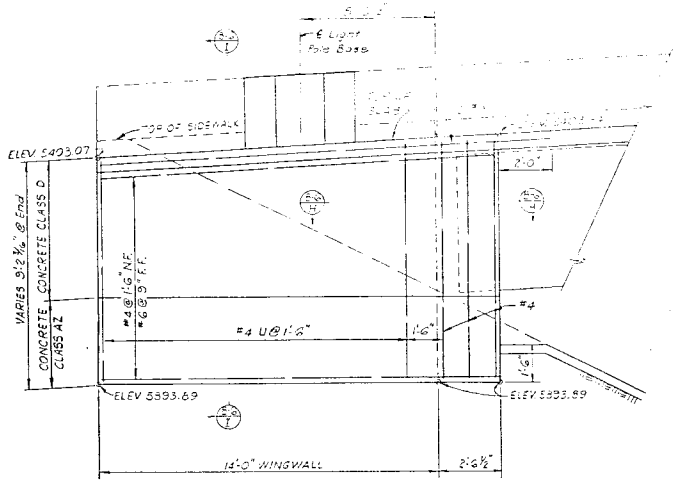
City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

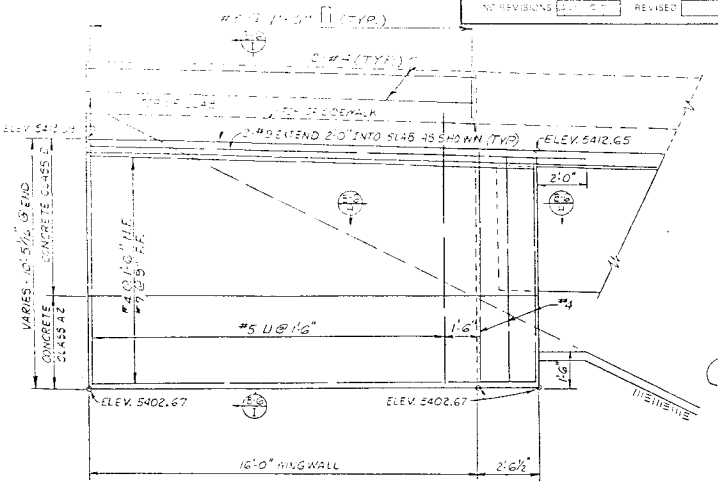
ABUTMENT 3 DETAILS

DATE	PROJECT NO.	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO. 5 OF 23 SHEETS	DRAWING NO.
	URS 2057 3					B-5

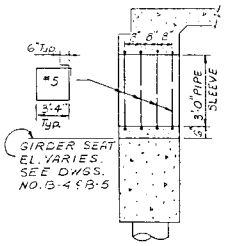
PREPARED BY URS COMPANY - DENVER



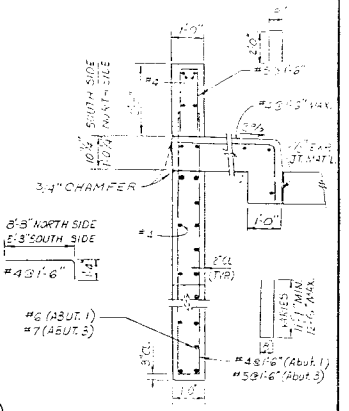
ELEVATION (B-4 / A)



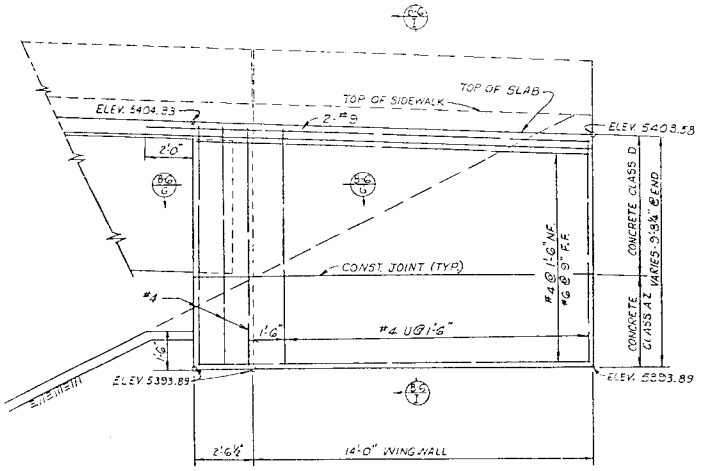
ELEVATION (B-5 / D)



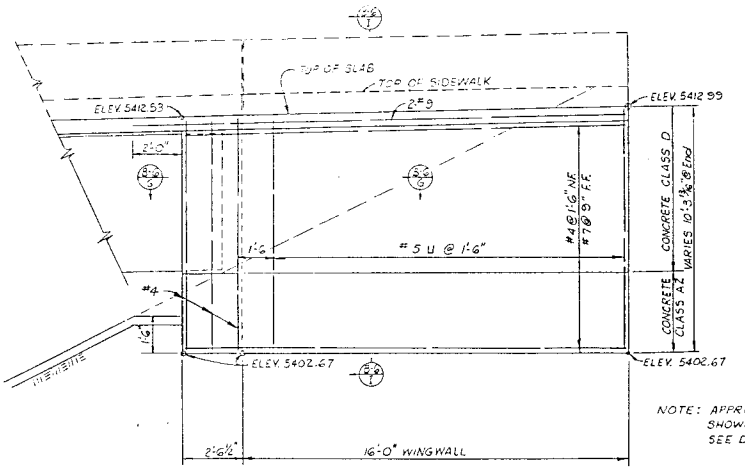
SECTION (B-4 / J) (B-5 / J)



SECTION (B-6 / T)

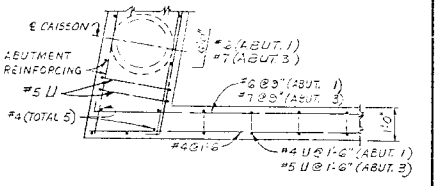


ELEVATION (B-4 / B)

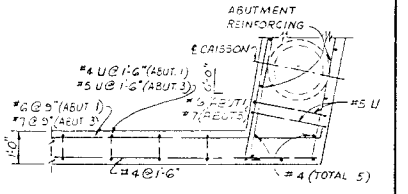


ELEVATION (B-5 / E)

NOTE: APPROACH SLAB NOT SHOWN. FOR DETAILS, SEE DWG. NO. B 15.



SECTION (B-6 / G)



SECTION (B-6 / H)

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

ABUTMENT & WINGWALL DETAILS

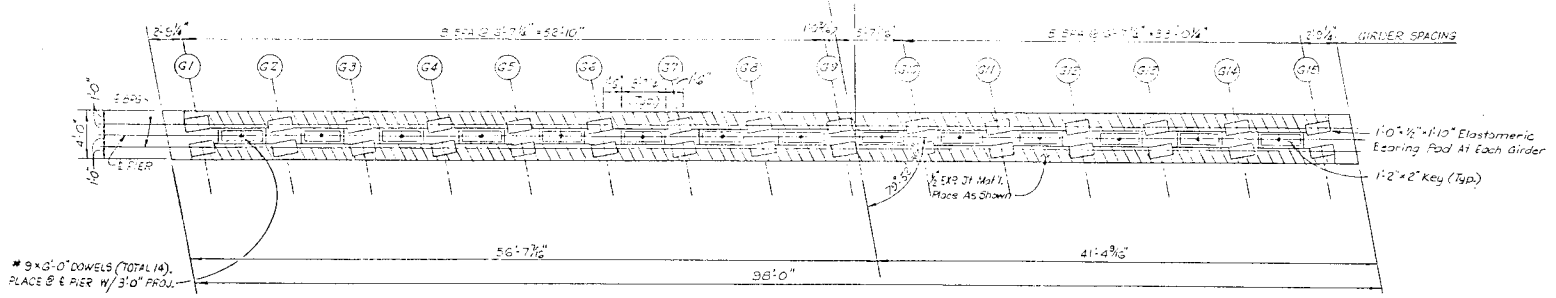
DATE	PROJECT NO	DESIGNED BY / DRAWN BY / CHECKED BY	SHEET NO. 6 OF 23 SHEETS	DRAWING NO.
	URS 2357.3			B-6

PREPARED BY URS COMPANY DENVER

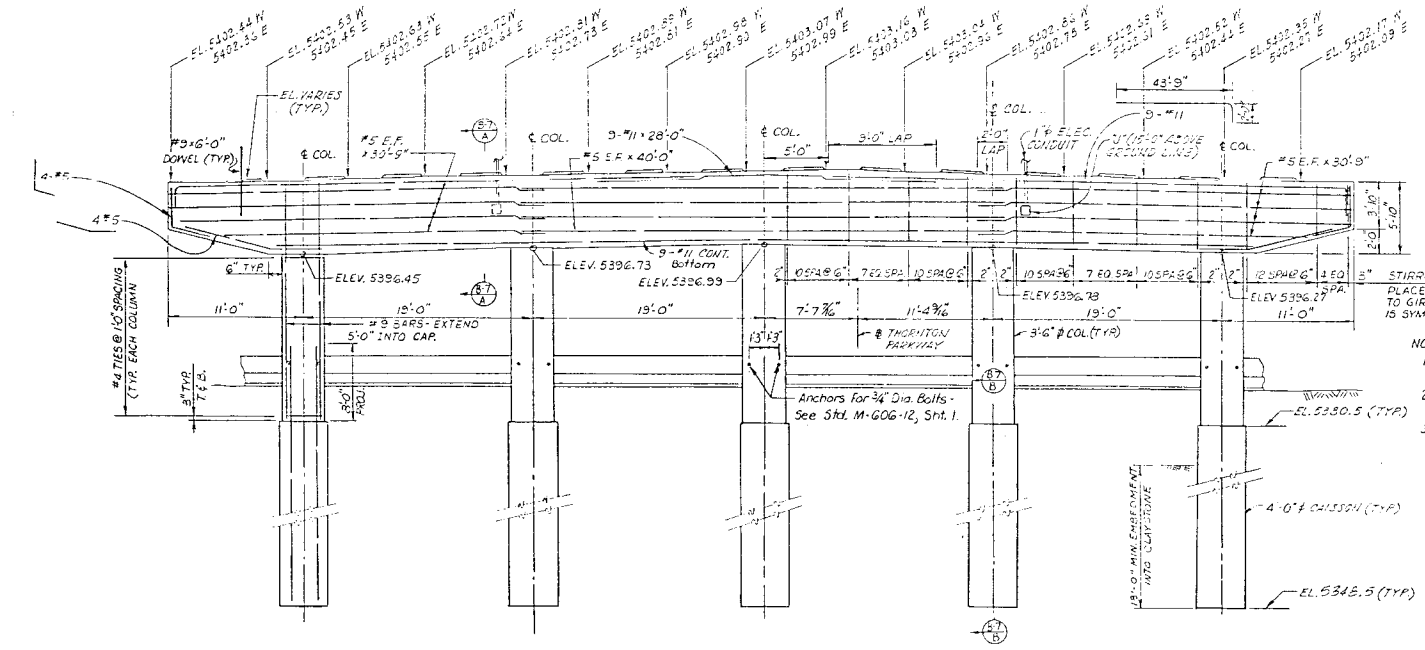
AS CONSTRUCTED
NO REVISIONS | REVISED | VOID

VIII				29

REVISIONS



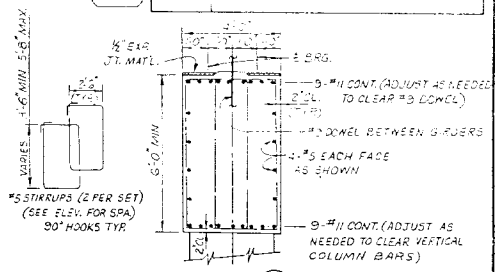
PLAN



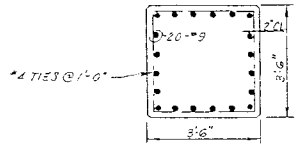
ELEVATION

NOTES:

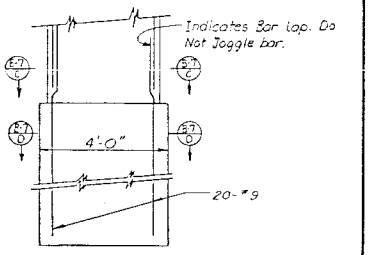
1. Concrete For Caissons, Columns And Cap ~~Strait Se~~ Class AZ.
2. See Dwg. No. B-10 For Pier Diaphragm Details.
3. "J" - 6"x6"x4" Junction Box Flush With Face Of Pier. Drain For Interior Condensation.



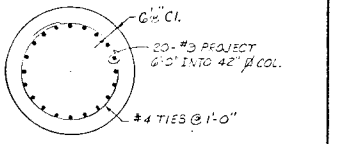
SECTION B-7/A



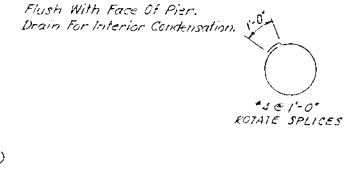
SECTION B-7/C



SECTION B-7/B



SECTION B-7/D



City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
PIER 2 DETAILS

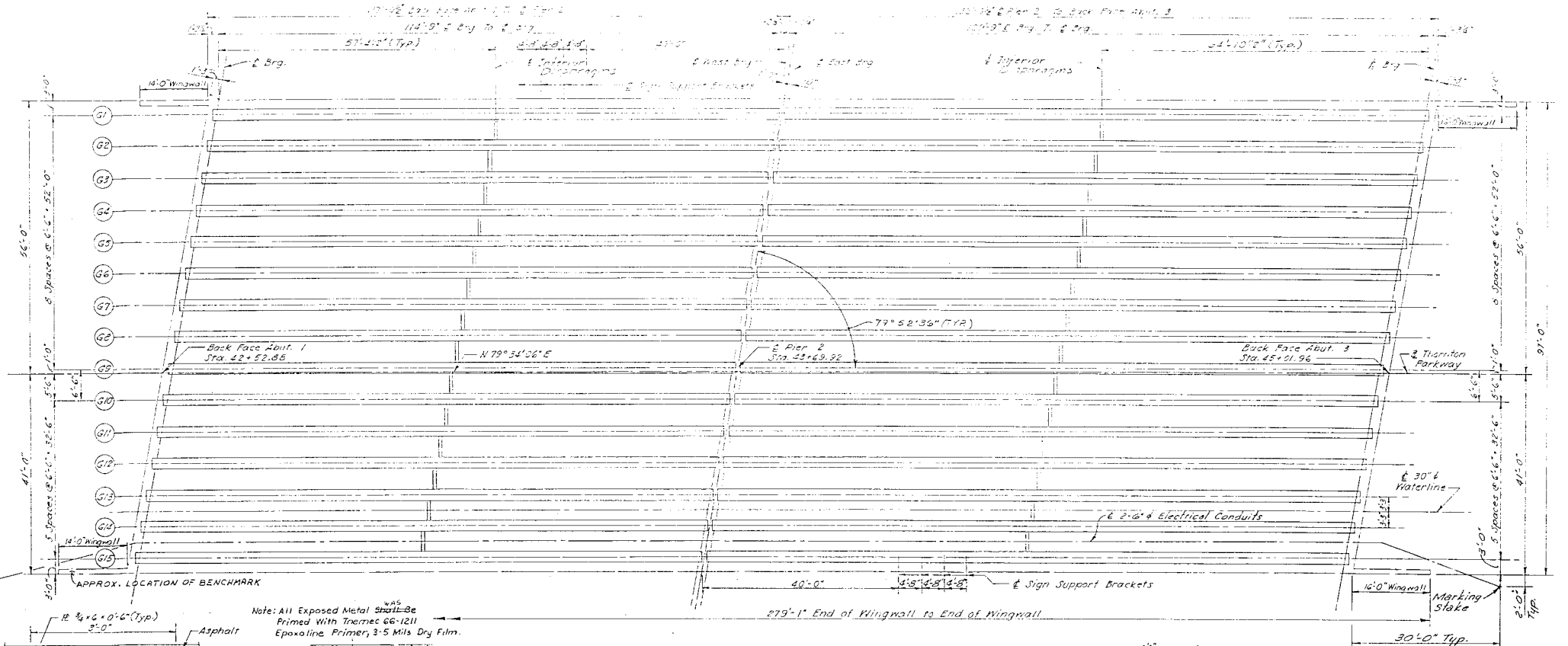
DATE	PROJECT NO.	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO.	OF 23 SHEETS	DRAWING NO.
	URS 2057.3						B-7

PREPARED BY · URS COMPANY · DENVER

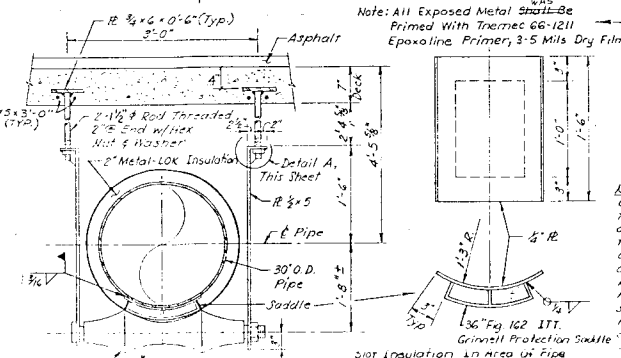
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL ROAD REGION NO	DIVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	[illegible]	30	[illegible]

REVISIONS		



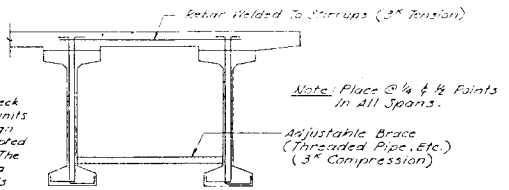
FRAMING PLAN



WATERLINE SUPPORT DETAIL

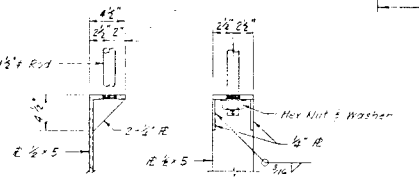
Note: All Exposed Metal ~~Shall Be~~ WAS Primed With Tnemec 66-1211 Epoxoline Primer, 3-5 Mils Dry Film.

Note: The exterior prestressed units ~~shall be~~ provided with temporary additional diaphragms during construction of the concrete deck to prevent lateral deflection of the units due to construction loads. The design of these diaphragms ~~shall be~~ accepted by the engineer prior to their use. The method shown on this drawing is a suggestion only. It is the contractor's responsibility to provide an adequate design based on actual construction [illegible]



Note: Place @ ¼ & ½ Points In All Spans.

SUGGESTED TEMPORARY DIAPHRAGMS @ EXTERIOR GIRDERS



DETAIL B-B / A

Note: All material for pipe hangers ~~to be~~ AND included in Bid Item 613 Waterline.

City of Thornton
Public Works
Thornton, Colorado

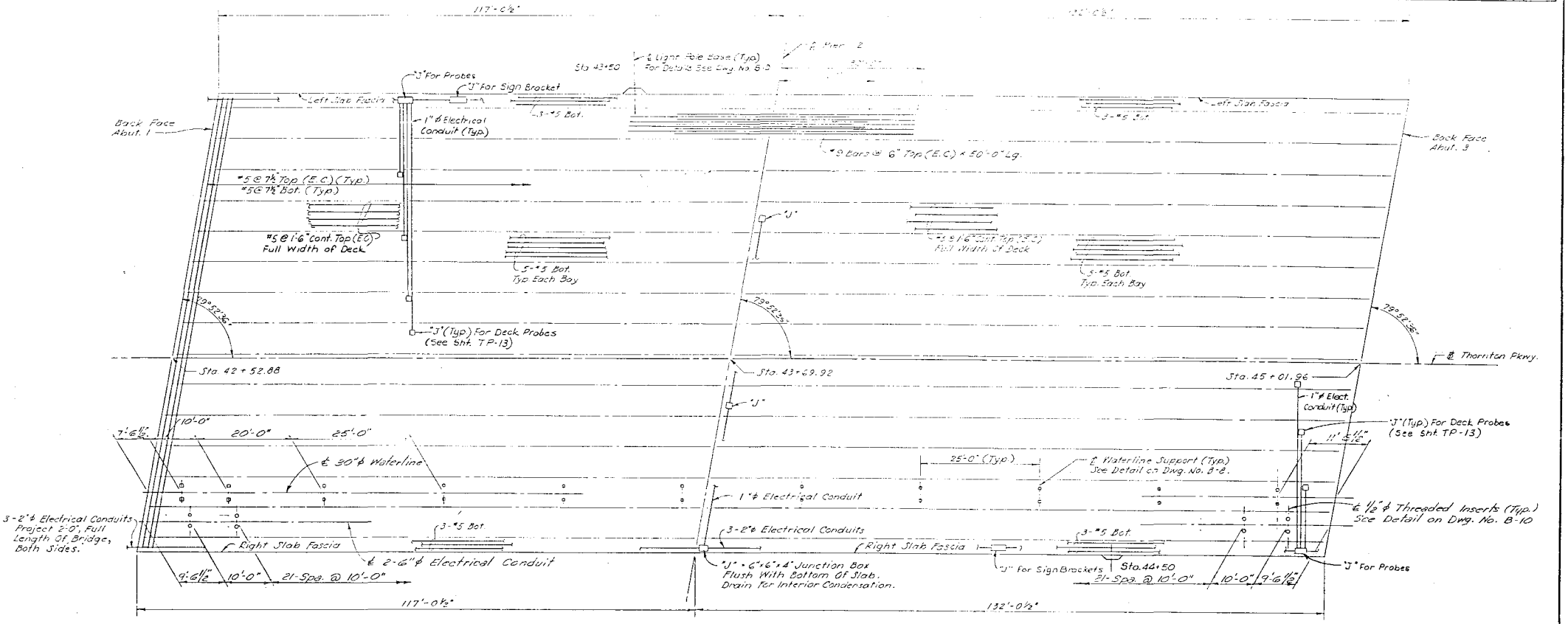
THORNTON PARKWAY/I-25 INTERCHANGE
FRAMING PLAN, WATERLINE SUPPORTS

DATE	PROJECT NO	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO	OF	SHEETS	DRAWING NO
	UPS 20573	D.S.	J.M.	J.F.	9	23		B-8

PREPARED BY URS COMPANY DENVER

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	31	[illegible]

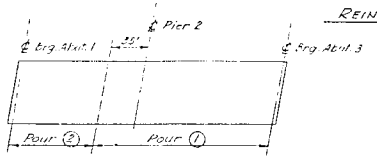
REVISIONS		



REINFORCING PLAN

Steel Placing Notes:

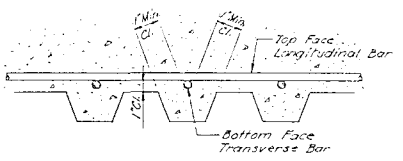
1. E.C. indicates epoxy coated reinforcing bars, included in Bid Item 602, Reinf. Steel (Epoxy Coated).
2. Decks ~~shall be~~ WHAS formed using permanent steel bridge deck forms. See Special Provisions and detail this sheet.
3. For typical section see Dwg. No. B-10.
4. For diaphragm details see Dwg. Nos. B-4 & B-10.
5. Transverse bar spacing ~~is to be~~ WHAS measured parallel to ℄ of bridge.



OPTIONAL POURING SCHEDULE

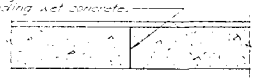
Notes:

1. An approved retarder ~~must be~~ WHAS used when necessary in order to retain the workability of the concrete. ~~If~~ the deck ~~is~~ WHAS poured in one continuous operation.
2. The [illegible] WHAS alternate pouring schedule [illegible] the engineer [illegible]



STAY-IN-PLACE FORM DETAIL

~~WHS~~ WHAS ~~Construction joints~~ prior to applying an approved epoxy bonder suitable for hardening wet concrete.



OPTIONAL CONSTRUCTION JOINT

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

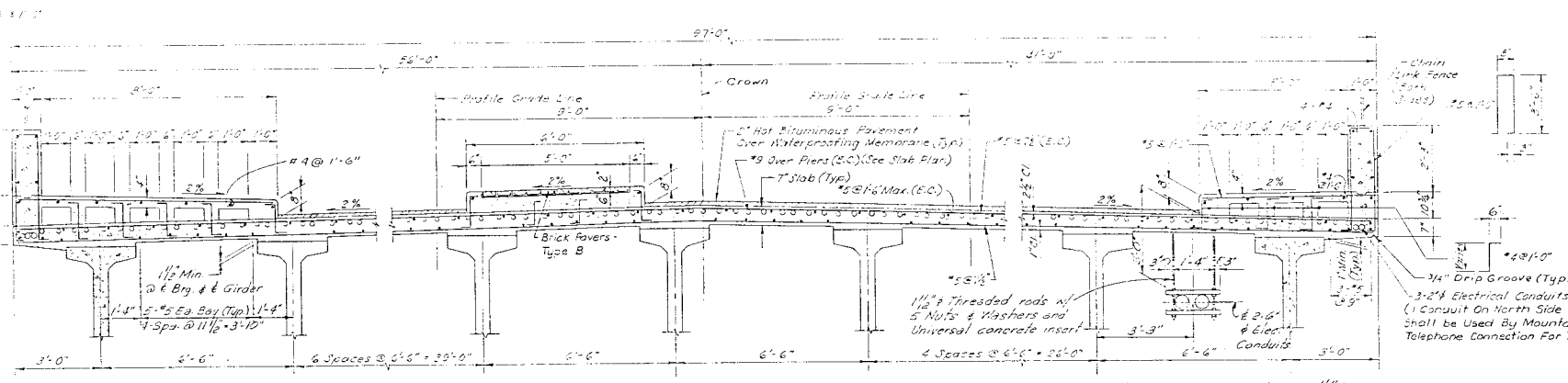
SLAB PLAN

DATE	PROJECT NO.	DESIGNED BY D.S. / DRAWN BY J.M. / CHECKED BY L.F.	SHEET NO. 9 OF 23 SHEETS	DRAWING NO.
	URS 2057.3			B-9

PREPARED BY URS COMPANY DENVER

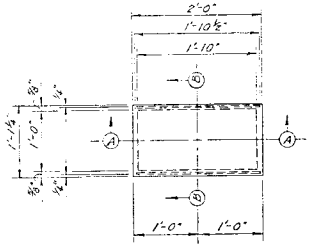
FEDERAL HIGHWAY REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	32	[illegible]

REVISIONS

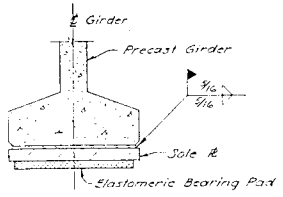


Note: Concrete inserts and ½"ϕ threaded rods shall each be capable of supporting 1000 lbs.

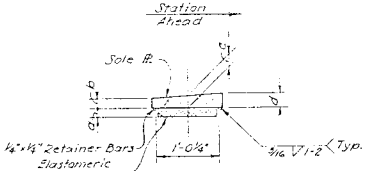
MEDIAN SECTION



PLAN



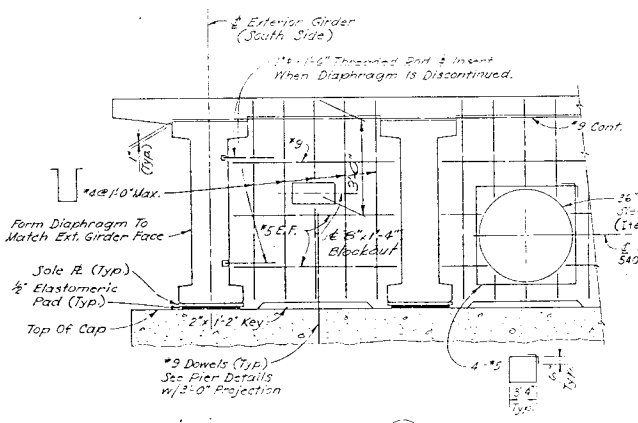
SECTION (A)



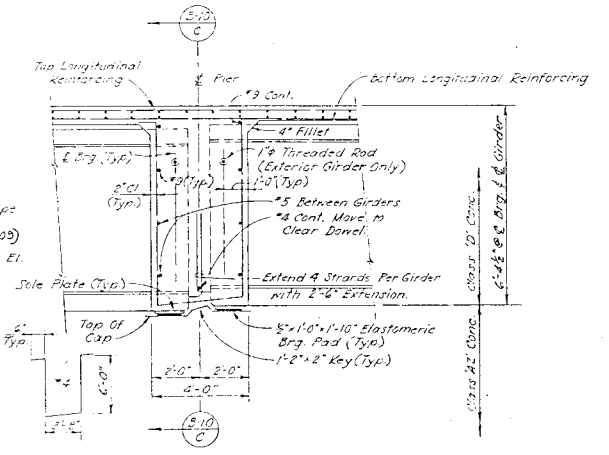
SECTION (B)

Location	No. Req'd.	Dimensions (Inches) a	b	c	d
Abut. 1	15	½	½	¾	1
Pier 2, West Brg.	15	½	½	¾	1
Pier 2, East Brg.	15	½	½	¾	1
Abut. 3	15	½	½	¾	1

ELASTOMERIC BEARING DETAILS



SECTION (B-10 / C)



PIER DIAPHRAGM DETAILS

Notes:

1. ~~Do not paint~~ steel surfaces in contact with elastomeric pad. Sole not painted.
2. Elastomeric bearing pads ~~shall not be~~ paid for separately, but ~~will be~~ were included in Item 618.
3. Structural steel for bearings ~~will be~~ measured and paid for in accordance with Item 509, Structural Steel.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
TYPICAL SECTION & MISC. DETAILS

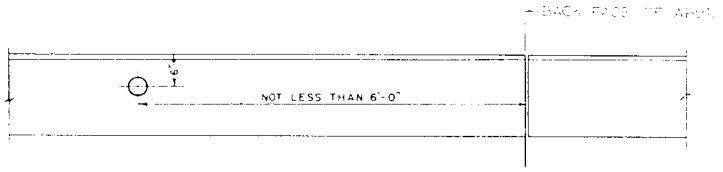
DATE	PROJECT NO.	DESIGNED BY D.S. / DRAWN BY J.M. / CHECKED BY L.F.	SHEET NO. 10 OF 23 SHEETS	DRAWING NO.
	URS 20573			8-10

PREPARED BY URS COMPANY - DENVER

PROJECT NO.	SHEET NO.	SHEETS
CC12-0025-14	33	49

REVISIONS

BRIDGE STANDARD 103



PLAN

Note: Where 1'-3" safety curbs are not used place marker in center of curb.

ELEVATION

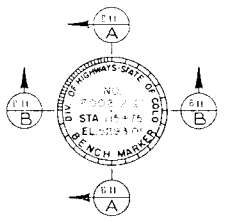
NOTES:

All work ~~shall be~~ will be done in accordance with Standard Specifications applicable to the project.

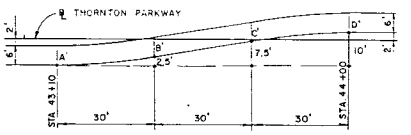
All exposed surfaces of the bronze tablet ~~are to be~~ will be ground to a smooth surface. All letters are ~~to be~~ depressed a minimum of 1/16 inch. Information on the bronze tablet indicated by pin lines ~~is to be~~ will be stamped in field by the engineering party after marker is placed. 3/16 inch letters and figures ~~to be~~ will be used. Project designation on tablets ~~shall be~~ will be properly shown (i.e.; I for Fed. Aid Interstate, F for Fed. Aid Primary, S for Fed. Aid Secondary, etc. B C for State Projects. See details below).

Bronze Bench Mark Tablets ~~will be~~ will be furnished by the Division at no expense to the Contractor.

Installation of Bronze Bench Mark Tablets ~~will not be~~ will not be paid for directly, but ~~shall be~~ will be included in the price bid for Concrete.



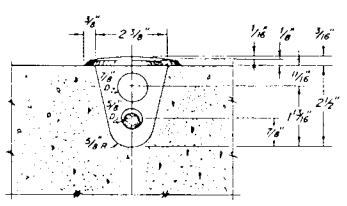
One marker ~~to be~~ will be placed on Bridges as shown. The station shown on marker ~~shall be~~ will be the centerline stationing directly opposite the marker.



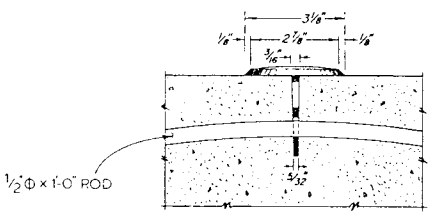
SPEED LANE TAPER DETAIL

A' D' = TAPER LENGTH

A'B' AND C'D' ARE PARABOLIC CURVES



SECTION B



SECTION A

BENCH MARK DETAILS

City of Thornton
Public Works
Thornton, Colorado

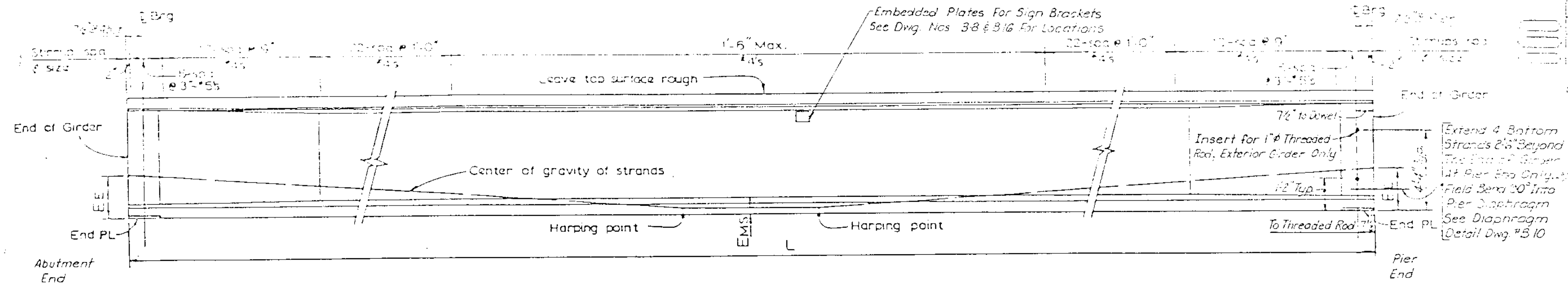
THORNTON PARKWAY / I-25 INTERCHANGE

BENCH MARK DETAILS, MEDIAN TAPER

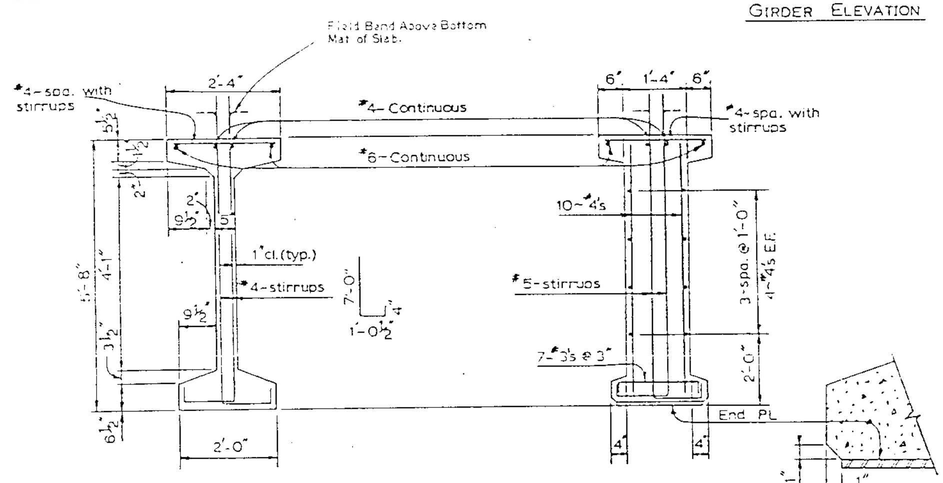
DATE	PROJECT NO.	DESIGNED BY SJ	SHEET NO. 11	DRAWING NO.
	JRS 20573	DRAWN BY RFL	OF 23 SHEETS	B-11
		CHECKED BY LLF		

PREPARED BY JRS COMPANY DENVER

Bridge Standard 60

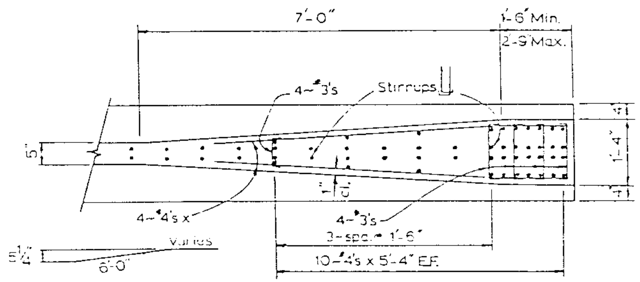


GIRDER ELEVATION

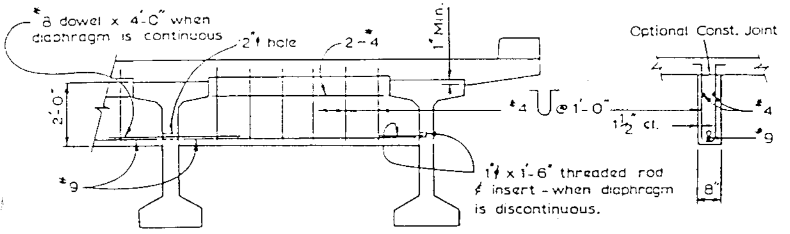


AT MID SPAN — AT END PL

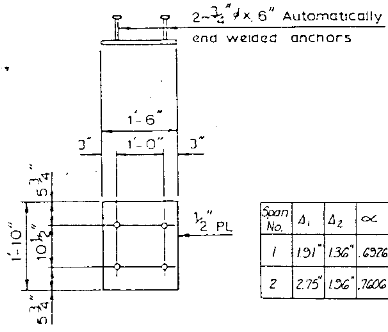
TYPICAL GIRDER SECTIONS



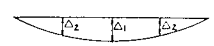
SECTION THRU END BLOCK



INTERMEDIATE DIAPHRAGM DETAILS
(For diaphragm location see Superstructure Plan.)



END PL DETAIL



Δ_1 = Deflection at Centerline Due to Cast-In-Place Slab, Diaphragms, Asphalt, Walkways, And Railings.
Δ_2 = Deflection at 1/4 Points Due to Cast-In-Place Slab, Diaphragms, Asphalt, Walkways, And Railing.

Span No.	Δ_1	Δ_2	α	β
1	1.91"	1.36"	.6926	.5180
2	2.75"	1.36"	.7606	.5572

GENERAL NOTES

[illegible] THE INTEGRAL [illegible] THREADED [illegible] AS SHOWN ON THE PLANS [illegible] IN THE BID PRICE FOR ITEM NO. 618, [illegible]

A [illegible] OF [illegible] STEEL ~~[illegible]~~ WAS [illegible] WHEN APPROVED BY THE ENGINEER.

~~[illegible]~~ 1/2" MINIMUM CHAMFER ON ALL CORNERS WAS USED EXCEPT AS NOTED.

A MINIMUM OF TWO HARPING POINTS ~~[illegible]~~ WERE USED PER GIRDER.

~~[illegible]~~ ALL STRANDS FLUSH WITH THE GIRDER ENDS WERE CUT UNLESS OTHERWISE NOTED. THE EXPOSED ENDS OF STRANDS AND A 1" STRIP OF ADJOINING CONCRETE ~~SHALL BE~~ CLEANED AND PAINTED WITH AN APPROVED WATERPROOFING COMPOUND.

~~[illegible]~~ 1/2" ϕ STRANDS $f_s' = 270$ KSI. LOW-RELAXATION STRANDS MEETING THE REQUIREMENTS OF ASTM-A416-66 GRADE 270. ALTERNATE STRANDS ARE STRESS-RELIEVED STRANDS MEETING THE REQUIREMENTS OF ASTM-A416-74 GRADE 270.

THE ULTIMATE STRENGTH OF THE STRUCTURE ~~[illegible]~~ MEETS THE REQUIREMENTS OF THE APPLICABLE AASHTO SPECIFICATIONS.

ENTRAINED AIR ~~IS~~ WAS NOT REQUIRED FOR GIRDER CONCRETE.

INITIAL PRESTRESS FORCE: THE JACKING FORCE PER GIRDER INCLUDING ALL LOSSES
$F_i = \alpha \times f_s' \times A_s^*$

FINAL PRESTRESS FORCE: THE FORCE REMAINING PER GIRDER AFTER ALL LOSSES
$F_f = \beta \times f_s' \times A_s^*$

A_s^* = AREA OF PRESTRESSING STEEL

f_s' = ULTIMATE STRENGTH OF PRESTRESSING STEEL

CONCRETE ~~SHALL BE~~ IS CLASS S.

CONCRETE STRENGTH: f'_{ci} - IS AT TIME OF RELEASE OF PRESTRESS FORCE.
f'_c - IS AT 28 DAYS.

CLEARANCE:
1. THE MINIMUM DISTANCE BETWEEN GROUPS OR INDIVIDUAL STRANDS IS 1-3/4" (MEASURED BETWEEN CENTERS OF ADJACENT STRANDS).
2. MINIMUM CONCRETE COVER FOR PRESTRESSING STEEL IS 1-1/2".

END BLOCKS ~~[illegible]~~ WERE USED ON ALL GIRDERS UNLESS OTHERWISE NOTED.

EMBEDDED PLATES FOR SIGN BRACKETS ~~SHALL BE~~ WERE INCLUDED IN ITEM 618

GIRDER SCHEDULE

Span No.	Girder No.	L (Feet)	EMS (Inch)	EE (Inch)	F_i (KIPS)	F_f (KIPS)	Concrete Strength f'ci (PSI)	f'c (PSI)
1	1-15	116'-0"	3.34	17.00	973	728	4195	4719
2	1-15	131'-0"	3.46	17.00	1257	921	5384	6116

DIVISION OF HIGHWAYS

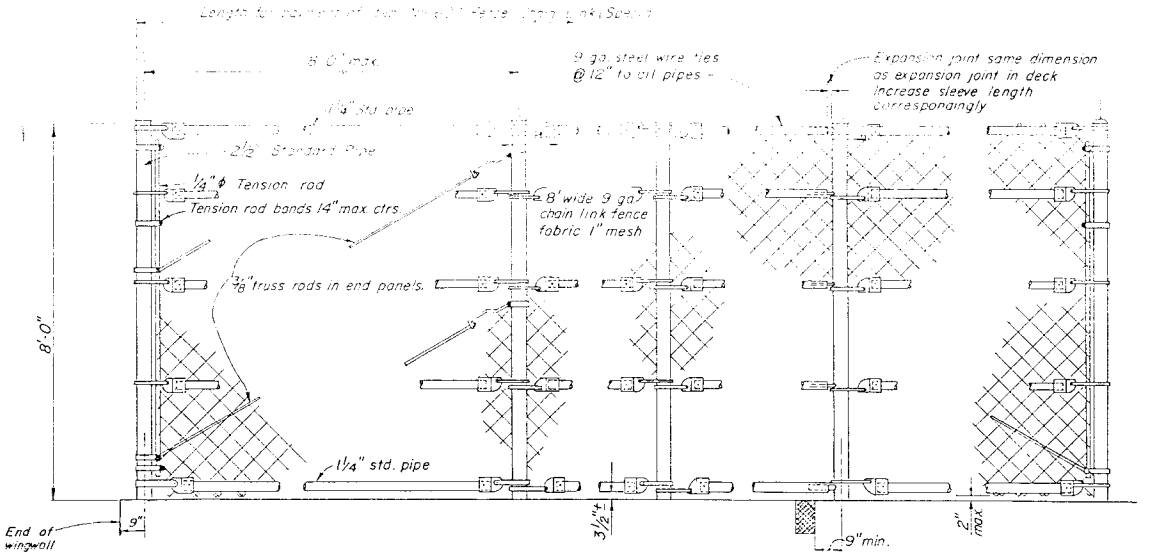
COLORADO G68 GIRDER

City of Thornton
Public Works
Thornton, Colorado

Designer: I. FELZIEN — Structure Numbers: E-17-MJ
Detailer: W.R. HESSLER
Drawing Number B12 of 23 Drawings

(11-1-79)

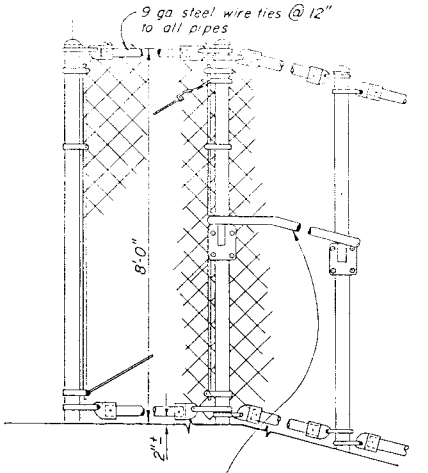
Revision Dates: 9-1-81, 3-5-84 — (Preliminary Stage Only)



END POST

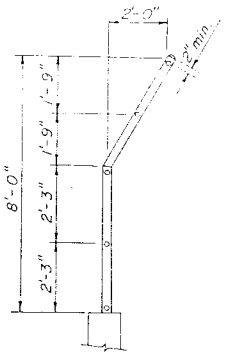
INTERMEDIATE POSTS

AT DECK EXPANSION JOINTS

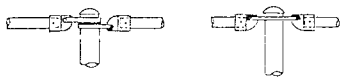


ON SLOPES

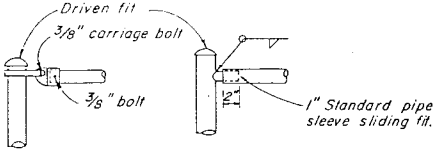
NOTE "A"
Pipe handrailing required only where slope is 8% or greater, or as indicated elsewhere in the plans.



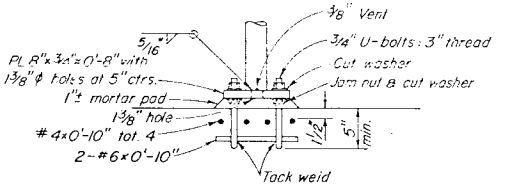
TYPICAL SECTION



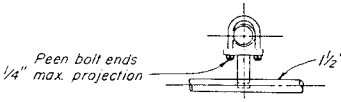
ALTERNATIVE DETAILS



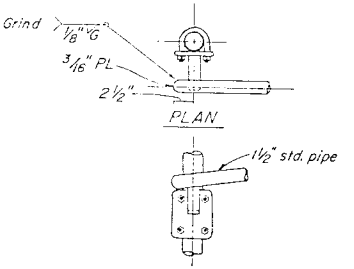
TYPICAL CONNECTION DETAILS



ANCHORAGE DETAIL

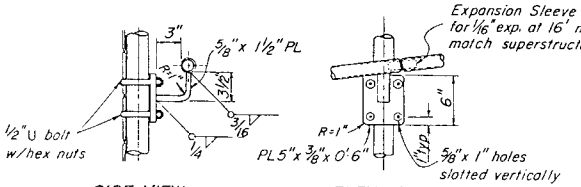


PLAN



PIPE HANDRAILING AT END

When required, see note "A".

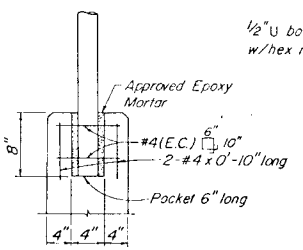


SIDE VIEW

ELEVATION

PIPE HANDRAILING BRACKET

When required, see note "A".



ALTERNATE ANCHORAGE DETAIL

NOTES

1. Railing assembly except chain link fabric ~~to be~~ is galvanized after fabrication.
2. Peen all ⅜" bolts were peened.
3. Railing ~~shall~~ conform to horizontal and vertical alignment. Posts ~~shall be~~ vertical. Top and bottom pipes ~~shall be~~ bent if radius is 100' or less -- may be on 8' chords if radius is greater than 100'.
4. Alternative details may be submitted by Contractor for Engineer's approval.
5. Chain link fabric on bridge ~~shall be~~ is colored vinyl-clad.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

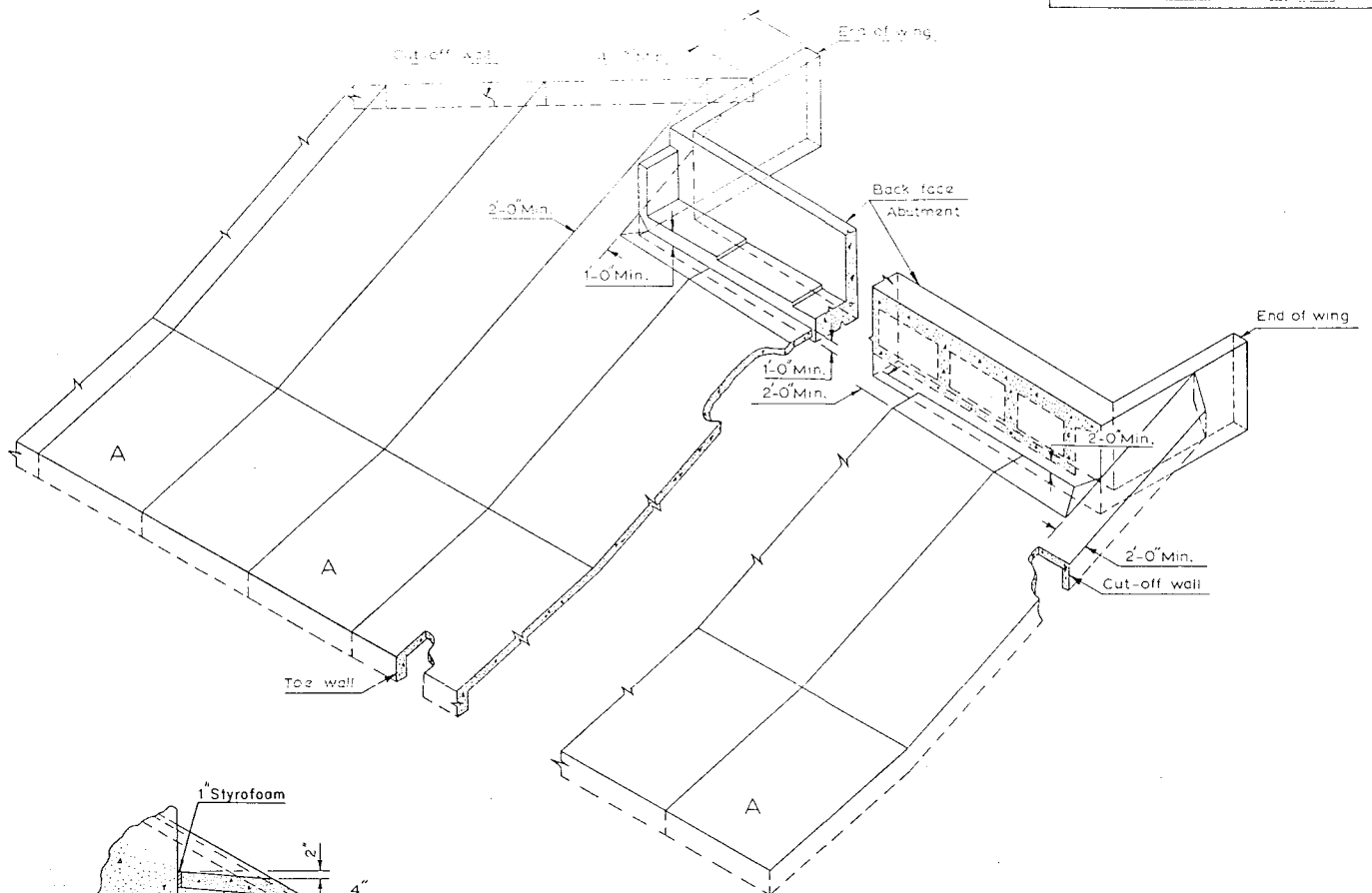
FENCE CHAIN LINK (SPECIAL)

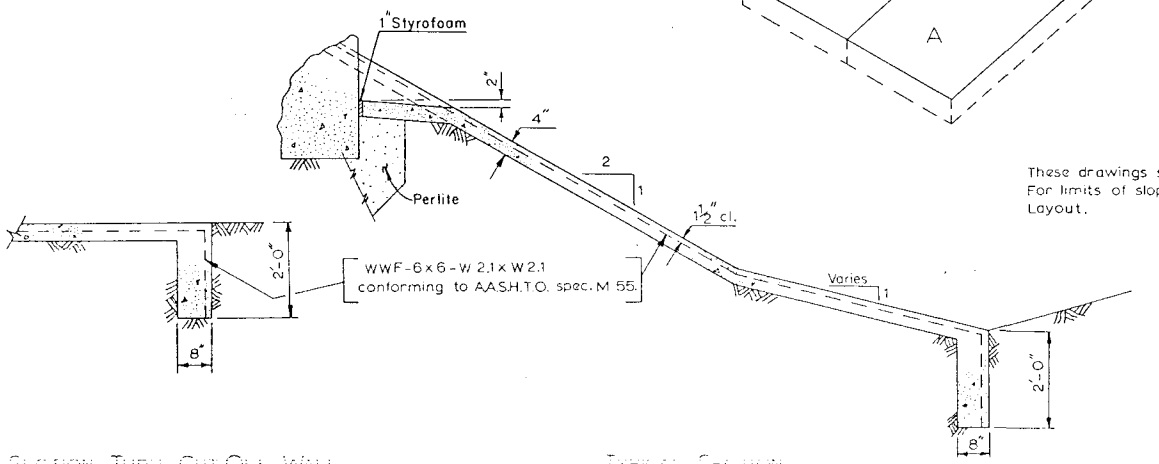
DATE | PROJECT NO. URS 20571 | DESIGNED BY | DRAWN BY | CHECKED BY | SHEET NO. 13 OF 23 SHEETS | DRAWING NO. B-13

PREPARED BY URS COMPANY DENVER

AS CONSTRUCTED

NO REVISIONS | REVISED | APPROVED





These drawings show general details only. For limits of slope paving, see General Layout.

SECTION THRU CUT-OFF WALL

TYPICAL SECTION THRU SLOPE PAVING

[illegible] SLOPE UP FROM PAVING [illegible] ADJACENT ETC. [illegible] CONCRETE, [illegible] WITH 1" EXPANSION JOINT MATERIAL.

EXPANSION JOINT MATERIAL AND WELDED WIRE FABRIC ~~[illegible]~~ ~~[illegible]~~ PAID FOR SEPARATELY, BUT ~~[illegible]~~ INCLUDED IN THE WORK.

PANELS MARKED THUS, [illegible] AN EXPOSED AGGREGATE FINISH. AFTER THE CONCRETE IS STRUCK TO GRADE, THE SURFACE ~~[illegible]~~ SPRAYED WITH AN APPROVED RETARDER. THE AMOUNT OF RETARDER SPRAYED ON THE SURFACE ~~[illegible]~~ AS RECOMMENDED BY THE MANUFACTURER.

IN ALL CASES, THE EXPOSED AGGREGATE FINISH ~~[illegible]~~ STARTED ON THE FIRST PANEL FACING ONCOMING TRAFFIC.

THE CONCRETE ~~[illegible]~~ ALLOWED TO SET. SETTING TIME ~~[illegible]~~ DETERMINED BY THE ENGINEER. AFTER SETTING THE PRESCRIBED TIME, THE SURFACE ~~[illegible]~~ BROOMED AND WASHED WITH WATER TO EXPOSE THE AGGREGATE.

THE EXPOSED AGGREGATE FINISH ~~[illegible]~~ THEN ~~BE~~ SPRAYED WITH A CLEAR CURING COMPOUND.

COARSE AGGREGATE USED IN EXPOSED AGGREGATE PANELS ~~[illegible]~~ COMPOSED PREDOMINANTLY OF STONE CONTRASTING IN COLOR TO THAT OF NORMAL CONCRETE IN ADJACENT PANELS.

COARSE AGGREGATE ~~[illegible]~~ THE REQUIREMENTS OF AASHTO DESIGNATION M-43 SIZE NUMBER 6.

STRUCTURE EXCAVATION FOR CONCRETE SLOPE AND DITCH PAVING ~~[illegible]~~ LIMITED TO THE ACTUAL VOLUME OCCUPIED BY THE SLOPE PAVING CONCRETE.

City of Thornton
Public Works
Thornton, Colorado

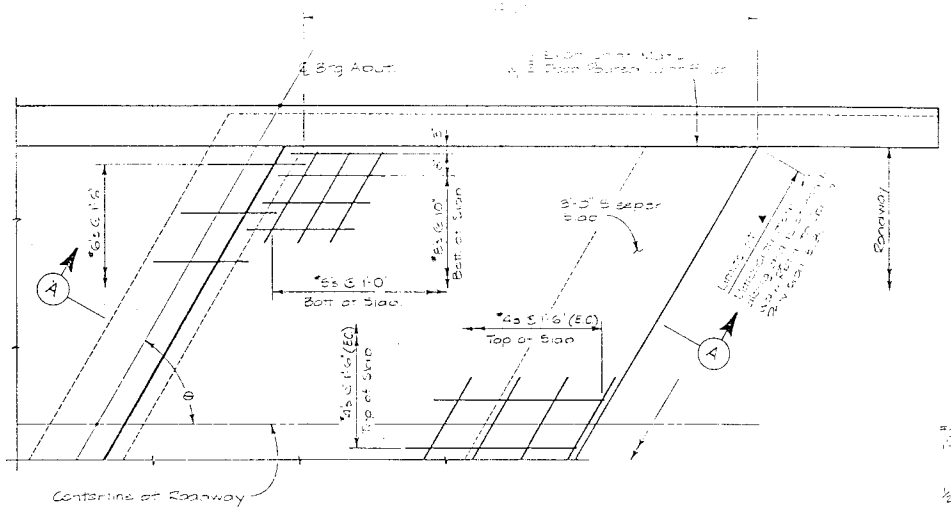
DIVISION OF HIGHWAYS

SLOPE PAVING DETAILS

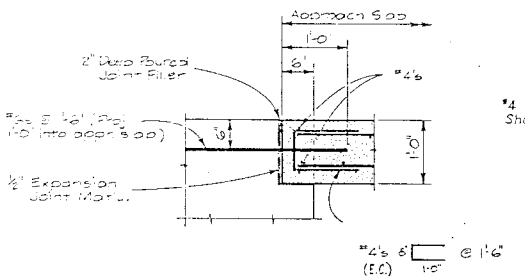
Designer D. SHAFFER | Structure Numbers E-17-MJ
Detailer W.R. HESSLER
Drawing Number B14 of 23 Drawings

Revision Dates (Preliminary Stage Only)

(11-1-79)



PLAN

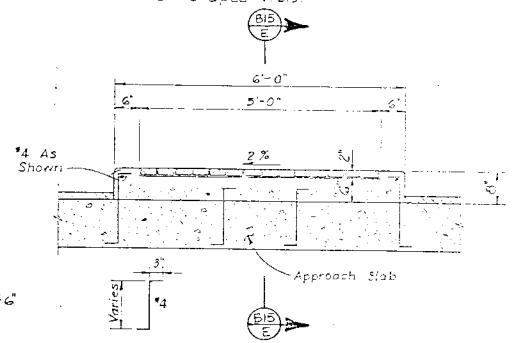


DETAIL "B"

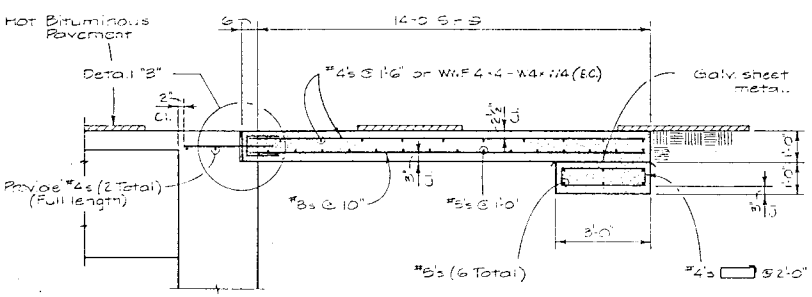
GENERAL NOTES

Concrete for approach slab ~~shall be~~ Class D.

1/2" Expansion joint material, prod. meet AASHTO Spec. M 213.

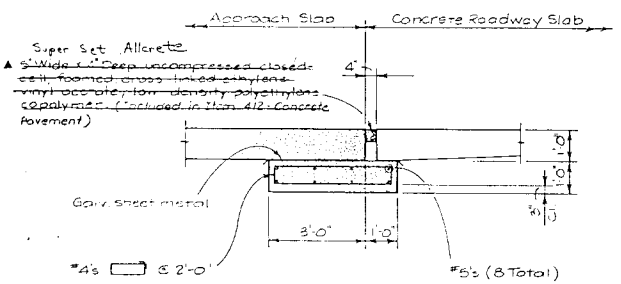


SECTION B15 E



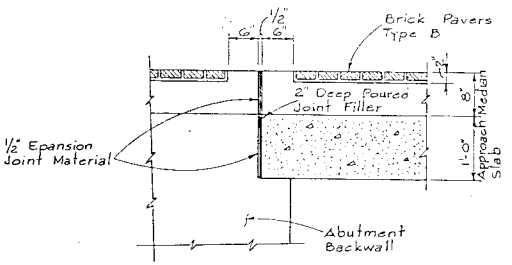
SECTION (A)

With Asphalt Roadway



SECTION (A)

With Concrete Roadway Slab



SECTION B15 E

For Reinforcing, See Detail B, This Sheet & SECTION B15 D.

City of Thornton
Public Works
Thornton, Colorado

(4-20-82)

DIVISION OF HIGHWAYS

APPROACH SLAB DETAILS

Designer D. SAUFER		Structure Numbers	E-17-MJ
Detailer R. HUSHAW			
Drawing Number B 15	of 23		Drawings

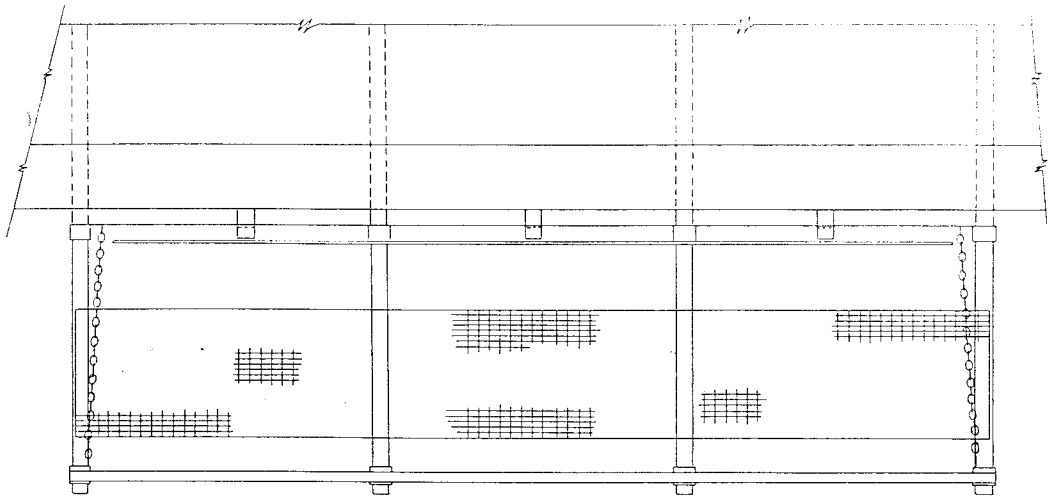
Revision Dates (Preliminary Stage Only)

104

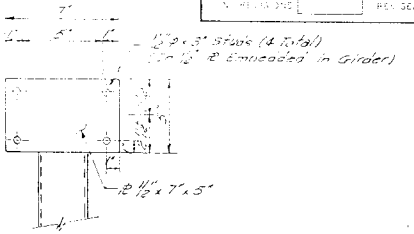
FEDERAL AID PROJECT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	38	

AS CONSTRUCTED

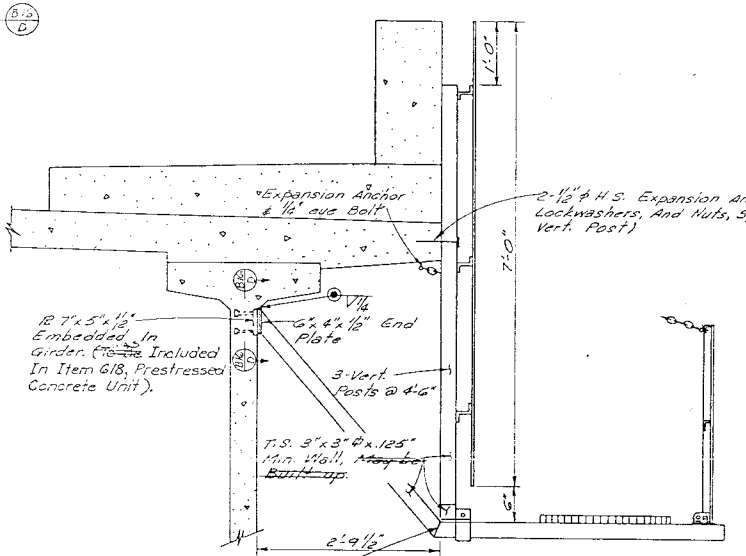
REVISIONS



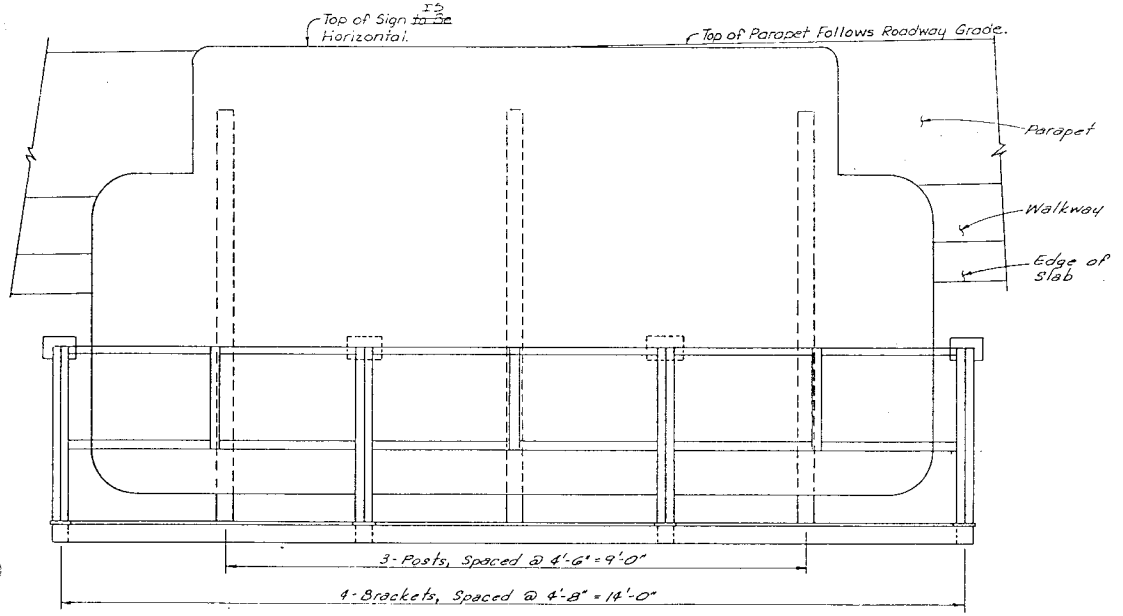
PLAN
Scale 1" = 1'-0"



SECTION B-B
Scale 3" = 1'-0"



TYPICAL SECTION
Scale 1" = 1'-0"



ELEVATION
Scale 1" = 1'-0"

Note:
For Details of Walkway, Lights, And Rails, See Dwg. Nos. B17 And B-18.

URS ENGINEERS - DENVER

DIVISION OF HIGHWAYS

SIGN SUPPORT FRAME

City of Thornton
Public Works
Thornton, Colorado

Designer L. FELZIEN		Structure Numbers	E-17-MJ
Detailer T. RICK			
Drawing Number B16	of 23		Drawings

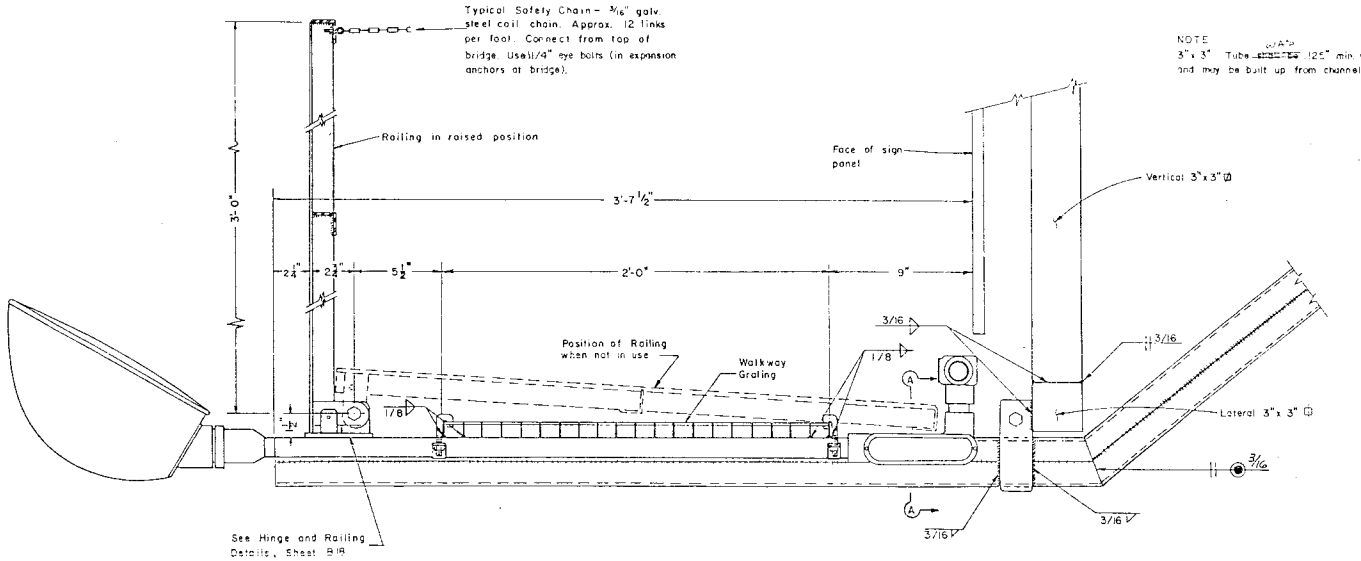
Revision Dates (Preliminary Stage Only)

DETAILED BY
CHECKED BY

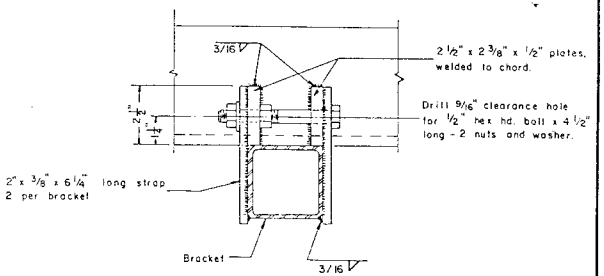
ADMINISTRATED		
NUMBER SHEETS	REVISED	VOID

FEDERAL HIGHWAY REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 12-0025-14	39	

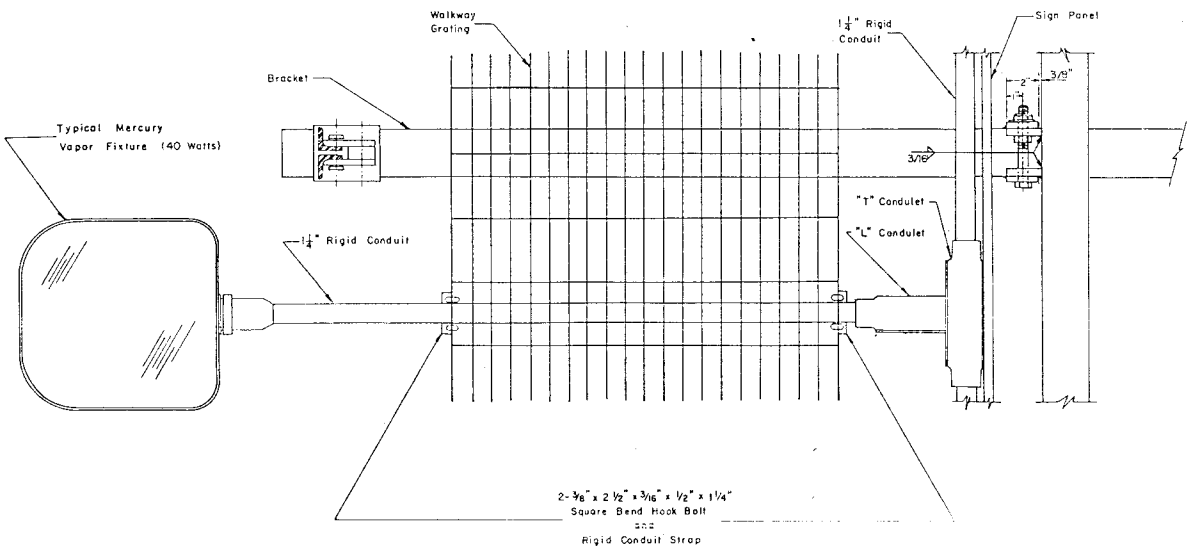
REVISIONS



NOTE
3"x 3" Tube ~~[illegible]~~ N/A 125" min. wall thickness, and may be built up from channel or angle.



SECTION A—A



City of Thornton
Public Works
Thornton, Colorado

DIVISION OF HIGHWAYS

OVERPASS MOUNTED BRIDGE BRACKETS

Designer	D. Shaffer	Structure Numbers	E-17-MJ
Detailer	R. Hinshaw		
Drawing Number B 17		of 23	Drawings

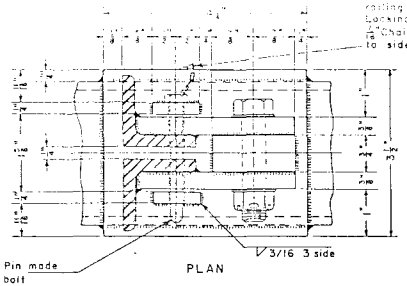
Revision Dates (Preliminary Stage Only)

STATE	FED. AID	CC 13-0025-14	40

REVISIONS

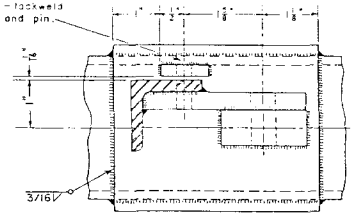
AS CONSTRUCTED

NO REVISION ☐ REVISED ☐ VOID ☐



PLAN

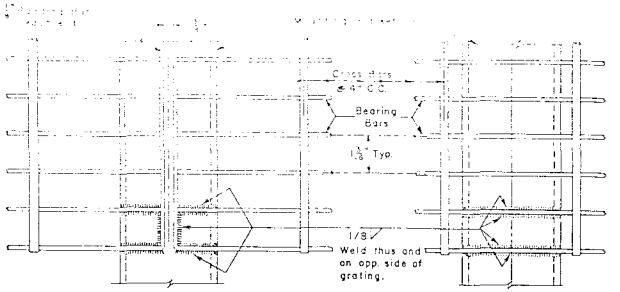
TYPICAL INTERIOR HINGE



NOTE: For dimensions not shown see Typical Interior Hinge

PLAN

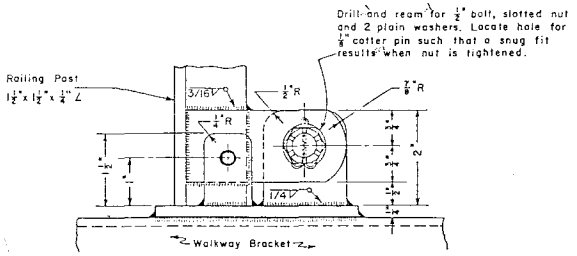
TYPICAL EXTERIOR HINGE



DISCONTINUOUS

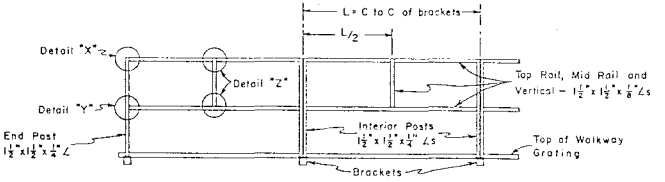
CONTINUOUS

TYPICAL WALKWAY GRATING

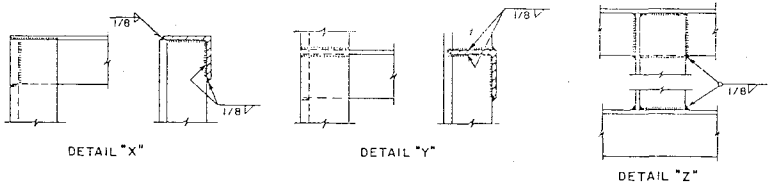


ELEVATION

TYPICAL INTERIOR HINGE



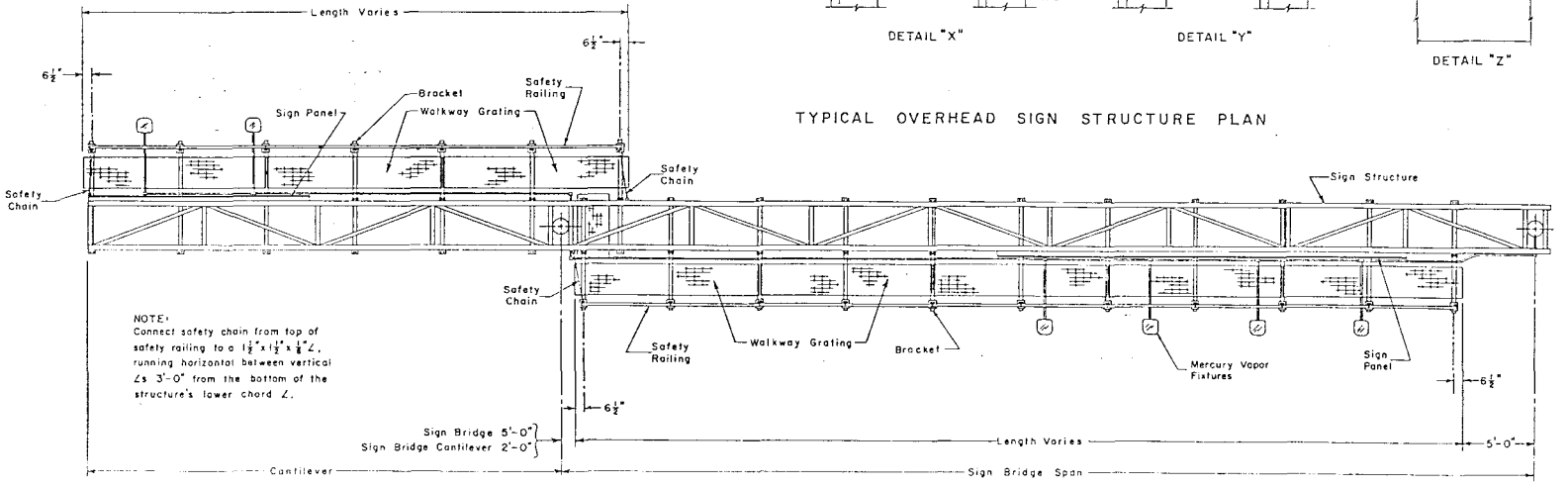
TYPICAL SAFETY RAILING ELEVATION AND DETAILS



DETAIL "X"

DETAIL "Y"

DETAIL "Z"



NOTE:
Connect safety chain from top of safety railing to a 1 1/2" x 1 1/2" x 1/8" ∠, running horizontal between vertical ∠s 3'-0" from the bottom of the structure's lower chord ∠.

TYPICAL OVERHEAD SIGN STRUCTURE PLAN

City of Thornton
Public Works
Thornton, Colorado

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

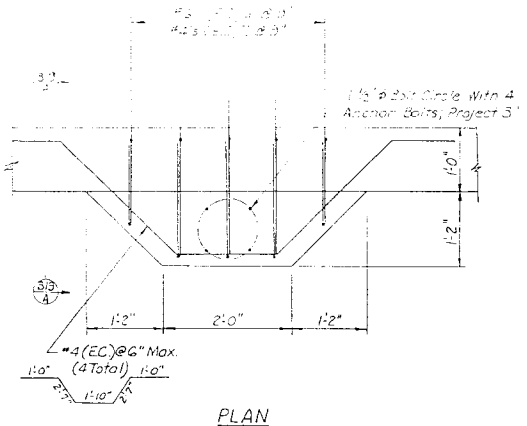
OVERPASS
MOUNTED
BRIDGE BRACKETS

Designer	D. Shaffer	Structure Numbers	E-17-MJ
Detailer	R. Hinshaw		
Drawing Number B 18	of 23	Drawings	

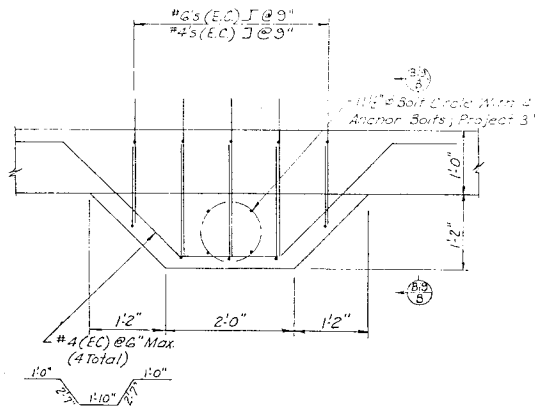
ORIGINAL

		CC 12-0025-14	41	[illegible]

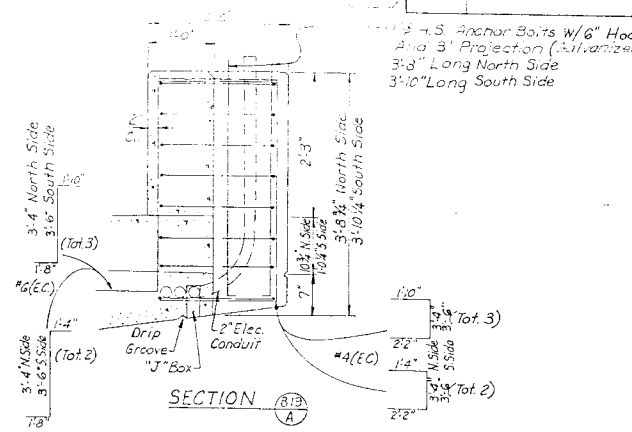
REVISIONS



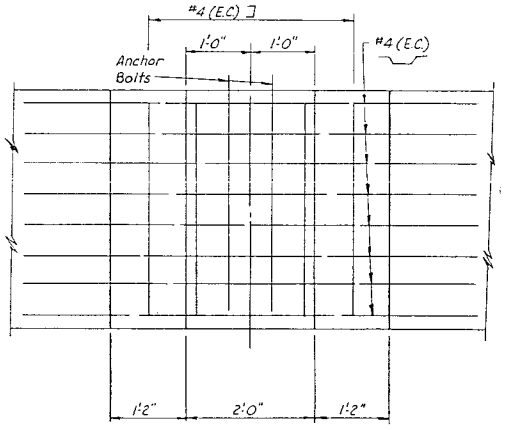
PLAN



PLAN

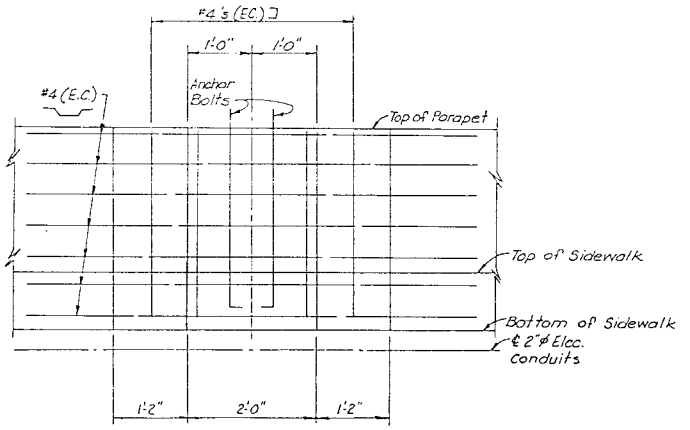


SECTION (B19 A)



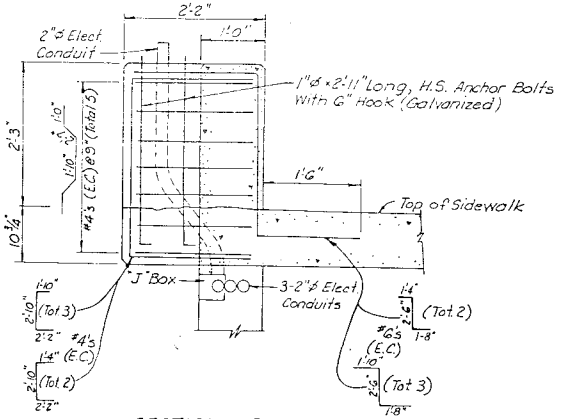
ELEVATION

Light Pole Bases @ Sta 43+50 & 44+50



ELEVATION

Light Pole Base @ Sta. 42+40



SECTION (B19 B)

URS ENGINEERS - DENVER

Notes:

For Location of Light Poles Bases, See Drawing No. B9.

Anchor Bolts ~~Shall~~ WILL NOT Be Included In Cost of Light Poles.

City of Thornton
Public Works
Thornton, Colorado

DIVISION OF HIGHWAYS

LIGHT POLE BASE DETAILS

Designer L. Felzien		Structure Numbers	E-17-MJ
Detailer R. Hinshaw			
Drawing Number B 19	of 23	Drawings	

Revision Dates (Preliminary Stage Only)

LONGITUDINAL LINE: NORTH [illegible]

BF ABUT 1	42+62.[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
CL BRG A1	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
F-1	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
F-2	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
F-3	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
F-4	43+1?.3437	-56.0000	5406.2?41	-56.0000	[illegible]		312.3437
F-5	43+21.5737	-56.0000	5406.6743	-56.0000	321.5737		321.5737
F-6	43+32.9737	-56.0000	5407.1247	-56.0000	332.9737		332.9737
F-7	43+44.4737	-56.0000	5407.5602	-56.0000	344.4737		344.4737
F-8	43+55.9487	-56.0000	5407.9?97	-56.0000	355.9487		355.9487
F-9	43+67.4237	-56.0000	5408.4065	-56.0000	367.4237		367.4237
BK BRG P2	43+7?.?987	-56.0000	5408.9123	-56.0000	37?.?987	-56.8856	37?.?987
CL PIER 2	43+79.3187	-56.0000	5408.9479	-56.0000	379.3187	-56.8856	379.3187
AH BRG P2	43+80.?387	-56.0000	5408.9535	-56.0000	380.?387	-56.8856	380.?387
F-1	43+93.9137	-56.0000	5409.3265	-56.0000	393.9137		393.9137
F-2	44+06.5?87	-56.0000	5409.7566	-56.0000	406.5?87		406.5?87
F-3	44+19.5637	-56.0000	5410.1724	-56.0000	419.5637		419.5637
F-4	44+32.5387	-56.0000	5410.5743	-56.0000	432.5387		432.5387
F-5	44+45.8137	-56.0000	5410.9622	-55.0000	445.8137		445.8137
F-6	44+58.7387	-56.0000	5411.3363	-56.0000	458.7387		458.7387
F-7	44+71.7637	-56.0000	5411.6964	56.0000	471.7637		471.7637
F-8	44+84.7387	-56.0000	5412.0427	-56.0000	484.7387		484.7387
F-9	44+97.7137	-56.0000	5412.3750	-56.0000	497.7137		497.7137
CL BRG A3	45+10.6887	-56.0000	5412.6934	-56.0000	510.6887	-56.8856	510.6887
BF ABUT 3	45+11.9587	-56.0000	5412.7239	-56.0000	511.9587	-56.8856	511.9587

LONGITUDINAL LINE: GIRDER NO. 1

BF ABUT 1	42+62.3430	-53.0000	5404.2441	-53.0000	262.3430	-53.8382	262.3430
CL BRG A1	42+63.6130	-53.0000	5404.3026	-53.0000	263.6130	-53.8382	263.6130
F-1	42+75.0880	-53.0000	5404.8049	-53.0000	275.0880		275.0880
F-2	42+86.5630	-53.0000	5405.2792	-53.0000	286.5630		286.5630
F-3	42+98.0380	-53.0000	5405.7307	-53.0000	298.0380		298.0380
F-4	43+09.5130	-53.0000	5406.2523	-53.0000	309.5130		309.5130
F-5	43+20.9880	-53.0000	5406.7171	-53.0000	320.9880		320.9880
F-6	43+32.4630	-53.0000	5407.1529	-53.0000	332.4630		332.4630
F-7	43+43.9380	-53.0000	5407.6017	-53.0000	343.9380		343.9380
F-8	43+55.4130	-53.0000	5408.0300	-53.0000	355.4130		355.4130
F-9	43+66.8880	-53.0000	5408.4473	-53.0000	366.8880		366.8880
BK BRG P2	43+78.3630	-53.0000	5408.9536	-53.0000	378.3630	-53.8382	378.3630
CL PIER 2	43+79.3830	-53.0000	5408.8592	-53.0000	379.3830	-53.8382	379.3830
AH BRG P2	43+80.4030	-53.0000	5408.9047	-53.0000	380.4030	-53.8382	380.4030
F-1	43+93.3780	-53.0000	5409.3689	-53.0000	393.3780		393.3780
F-2	44+06.3530	-53.0000	5409.7791	-53.0000	406.3530		406.3530
F-3	44+19.3280	-53.0000	5410.2155	-53.0000	419.3280		419.3280
F-4	44+32.3030	-53.0000	5410.6179	-53.0000	432.3030		432.3030
F-5	44+45.2780	-53.0000	5411.0065	-53.0000	445.2780		445.2780
F-6	44+58.2530	-53.0000	5411.3811	-53.0000	458.2530		458.2530
F-7	44+71.2280	-53.0000	5411.7416	-53.0000	471.2280		471.2280
F-8	44+84.2030	-53.0000	5412.0787	-53.0000	484.2030		484.2030
F-9	44+97.1780	-53.0000	5412.4216	-53.0000	497.1780		497.1780
CL BRG A3	45+10.1530	-53.0000	5412.7416	-53.0000	510.1530	-53.8382	510.1530
BF ABUT 3	45+11.4230	-53.0000	5412.7710	-53.0000	511.4230	-53.8382	511.4230

LONGITUDINAL LINE: GIRDER NO. 2

BF ABUT 1	42+61.1925	-46.5000	5404.3224	-46.5000	261.1925	-47.2354	261.1925
CL BRG A1	42+62.4525	-46.5000	5404.3790	-46.5000	262.4525	-47.2354	262.4525
F-1	42+73.9275	-46.5000	5404.8842	-46.5000	273.9275		273.9275
F-2	42+85.4025	-46.5000	5405.3795	-46.5000	285.4025		285.4025
F-3	42+96.8775	-46.5000	5405.8624	-46.5000	296.8775		296.8775
F-4	43+08.3525	-46.5000	5406.3251	-46.5000	308.3525		308.3525
F-5	43+19.8275	-46.5000	5406.7870	-46.5000	319.8275		319.8275
F-6	43+31.3025	-46.5000	5407.2473	-46.5000	331.3025		331.3025
F-7	43+42.7775	-46.5000	5407.6850	-46.5000	342.7775		342.7775
F-8	43+54.2525	-46.5000	5408.1172	-46.5000	354.2525		354.2525
F-9	43+65.7275	-46.5000	5408.5356	-46.5000	365.7275		365.7275
BK BRG P2	43+77.2025	-46.5000	5408.9430	-46.5000	377.2025	-47.2354	377.2025
CL PIER 2	43+78.2225	-46.5000	5408.9787	-46.5000	378.2225	-47.2354	378.2225
AH BRG P2	43+79.2425	-46.5000	5409.0143	-46.5000	379.2425	-47.2354	379.2425
F-1	43+92.2175	-46.5000	5409.4597	-46.5000	392.2175		392.2175
F-2	44+05.1925	-46.5000	5409.8912	-46.5000	405.1925		405.1925
F-3	44+18.1675	-46.5000	5410.3085	46.5000	418.1675		418.1675
F-4	44+31.1425	-46.5000	5410.7125	-46.5000	431.1425		431.1425
F-5	44+44.1175	-46.5000	5411.1023	-46.5000	444.1175		444.1175
F-6	44+57.0925	-46.5000	5411.4782	46.5000	457.0925		457.0925
F-7	44+70.0675	-46.5000	5411.8401	46.5000	470.0675		470.0675
F-8	44+83.0425	-46.5000	5412.1882	-46.5000	483.0425		483.0425
F-9	44+96.0175	-46.5000	5412.5224	46.5000	496.0175		496.0175
CL BRG A3	45+08.9925	-46.5000	5412.8426	-46.5000	508.9925	-47.2354	508.9925
BF ABUT 3	45+10.2625	-46.5000	5412.8732	-46.5000	510.2625	-47.2354	510.2625

LONGITUDINAL LINE: GIRDER NO. 3

BF ABUT 1	42+60.0219	-40.0000	5404.4006	-40.0000	260.0219	-40.6326	260.0219
CL BRG A1	42+61.2919	-40.0000	5404.4573	-40.0000	261.2919	-40.6326	261.2919
F-1	42+72.7669	-40.0000	5404.9607	-40.0000	272.7669		272.7669
F-2	42+84.2419	-40.0000	5405.4513	-40.0000	284.2419		284.2419
F-3	42+95.7169	-40.0000	5405.9349	-40.0000	295.7169		295.7169
F-4	43+07.1919	-40.0000	5406.4176	-40.0000	307.1919		307.1919
F-5	43+18.6669	-40.0000	5406.8808	-40.0000	318.6669		318.6669
F-6	43+30.1419	-40.0000	5407.3328	-40.0000	330.1419		330.1419
F-7	43+41.6169	-40.0000	5407.7740	-40.0000	341.6169		341.6169
F-8	43+53.0919	-40.0000	5408.2043	-40.0000	353.0919		353.0919
F-9	43+64.5669	-40.0000	5408.6237	-40.0000	364.5669		364.5669
BK BRG P2	43+76.0419	-40.0000	5409.0323	-40.0000	376.0419	-40.6326	376.0419
CL PIER 2	43+77.0619	-40.0000	5409.0681	-40.0000	377.0619	-40.6326	377.0619
AH BRG P2	43+78.0819	-40.0000	5409.1038	-40.0000	378.0819	-40.6326	378.0819
F-1	43+91.0569	-40.0000	5409.5504	-40.0000	391.0569		391.0569
F-2	44+04.0319	-40.0000	5409.9832	-40.0000	404.0319		404.0319
F-3	44+17.0069	-40.0000	5410.4020	-40.0000	417.0069		417.0069
F-4	44+29.9819	-40.0000	5410.8070	-40.0000	429.9819		429.9819
F-5	44+42.9569	-40.0000	5411.1980	-40.0000	442.9569		442.9569
F-6	44+55.9319	-40.0000	5411.5751	-40.0000	455.9319		455.9319
F-7	44+68.9069	-40.0000	5411.9383	-40.0000	468.9069		468.9069
F-8	44+81.8819	-40.0000	5412.2876	40.0000	481.8819		481.8819
F-9	44+94.8569	-40.0000	5412.6230	-40.0000	494.8569		494.8569
CL BRG A3	45+07.8319	-40.0000	5412.9445	-40.0000	507.8319	-40.6326	507.8319
BF ABUT 3	45+09.1019	-40.0000	5412.9752	-40.0000	509.1019	-40.6326	509.1019

LONGITUDINAL LINE: GIRDER NO. 4

BF ABUT 1	42+58.8613	-33.5000	5404.4780	-33.5000	258.8613	-34.0298	258.8613
CL BRG A1	42+60.1313	-33.5000	5404.5354	-33.5000	260.1313	-34.0298	260.1313
F-1	42+71.6063	-33.5000	5405.0430	-33.5000	271.6063		271.6063
F-2	42+83.0813	-33.5000	5405.5337	-33.5000	283.0813		283.0813
F-3	42+94.5563	-33.5000	5406.0259	-33.5000	294.5563		294.5563
F-4	43+06.0313	-33.5000	5406.5004	-33.5000	306.0313		306.0313
F-5	43+17.5063	-33.5000	5406.9644	-33.5000	317.5063		317.5063
F-6	43+28.9813	-33.5000	5407.4176	-33.5000	328.9813		328.9813
F-7	43+40.4563	-33.5000	5407.8599	-33.5000	340.4563		340.4563
F-8	43+51.9313	-33.5000	5408.2912	-33.5000	351.9313		351.9313
F-9	43+63.4063	-33.5000	5408.7118	-33.5000	363.4063		363.4063
BK BRG P2	43+74.8813	-33.5000	5409.1215	-33.5000	374.8813	-34.0298	374.8813
CL PIER 2	43+75.9013	-33.5000	5409.1573	-33.5000	375.9013	-34.0298	375.9013
AH BRG P2	43+76.9213	-33.5000	5409.1931	-33.5000	376.9213	-34.0298	376.9213
F-1	43+89.8963	-33.5000	5409.6411	-33.5000	389.8963		389.8963
F-2	44+02.8713	-33.5000	5410.0751	-33.5000	402.8713		402.8713
F-3	44+15.8463	-33.5000	5410.4951	-33.5000	415.8463		415.8463
F-4	44+28.8213	-33.5000	5410.9012	-33.5000	428.8213		428.8213
F-5	44+41.7963	-33.5000	5411.2936	-33.5000	441.7963		441.7963
F-6	44+54.7713	-33.5000	5411.6720	-33.5000	454.7713		454.7713
F-7	44+67.7463	-33.5000	5412.0364	-33.5000	467.7463		467.7463
F-8	44+80.7213	-33.5000	5412.3870	-33.5000	480.7213		480.7213
F-9	44+93.6963	-33.5000	5412.7236	-33.5000	493.6963		493.6963
CL BRG A3	45+06.6713	-33.5000	5413.0463	-33.5000	506.6713	-34.0298	506.6713
BF ABUT 3	45+07.9413	-33.5000	5413.0772	-33.5000	507.9413	-34.0298	507.9413

LONGITUDINAL LINE: GIRDER NO. 5

BF ABUT 1	42+57.7008	-27.0000	5404.5565	-27.0000	257.7008	-27.4270	257.7008
CL BRG A1	42+58.9708	-27.0000	5404.6135	-27.0000	258.9708	-27.4270	258.9708
F-1	42+70.4458	-27.0000	5405.1222	-27.0000	270.4458		270.4458
F-2	42+81.9208	-27.0000	5405.6193	-27.0000	281.9208		281.9208
F-3	42+93.3958	-27.0000	5406.1065	-27.0000	293.3958		293.3958
F-4	43+04.8708	-27.0000	5406.5929	-27.0000	304.8708		304.8708
F-5	43+16.3458	-27.0000	5407.0450	-27.0000	316.3458		316.3458
F-6	43+27.8208	-27.0000	5407.5023	-27.0000	327.8208		327.8208
F-7	43+39.2958	-27.0000	5407.9456	-27.0000	339.2958		339.2958
F-8	43+50.7708	-27.0000	5408.3781	-27.0000	350.7708		350.7708
F-9	43+62.2458	-27.0000	5408.7998	-27.0000	362.2458		362.2458
BK BRG P2	43+73.7208	-27.0000	5409.2105	-27.0000	373.7208	-27.4270	373.7208
CL PIER 2	43+74.7408	-27.0000	5409.2465	-27.0000	374.7408	-27.4270	374.7408
AH BRG P2	43+75.7608	-27.0000	5409.2824	-27.0000	375.7608	-27.4270	375.7608
F-1	43+88.7358	-27.0000	5409.7316	-27.0000	388.7358		388.7358
F-2	44+01.7108	-27.0000	5410.1668	-27.0000	401.7108		401.7108
F-3	44+14.6858	-27.0000	5410.5881	-27.0000	414.6858		414.6858
F-4	44+27.6608	-27.0000	5410.9956	-27.0000	427.6608		427.6608
F-5	44+40.6358	-27.0000	5411.3891	-27.0000	440.6358		440.6358
F-6	44+53.6108	-27.0000	5411.7687	-27.0000	453.6108		453.6108
F-7	44+66.5858	-27.0000	5412.1344	-27.0000	466.5858		466.5858
F-8	44+79.5608	-27.0000	5412.4862	-27.0000	479.5608		479.5608
F-9	44+92.5358	-27.0000	5412.8241	-27.0000	492.5358		492.5358
CL BRG A3	45+05.5108	-27.0000	5413.1480	-27.0000	505.5108	-27.4270	505.5108
BF ABUT 3	45+06.7808	-27.0000	5413.1790	-27.0000	506.7808	-27.4270	506.7808

LONGITUDINAL LINE: GIRDER NO. 6

BF ABUT 1	42+56.6402	-20.5000	[illegible]	-20.5000	256.6402	-20.8242	256.6402
CL BRG A1	42+57.9102	-20.5000	5404.6915	-20.5000	257.9102	-20.8242	257.9102
F-1	42+69.2852	-20.5000	5405.2?12	-20.5000	269.2852		269.2852
F-2	42+80.7602	-20.5000	5405.7003	-20.5000	280.7602		280.7632
F-3	42+92.2352	-20.5000	5406.1?51	-20.5000	292.2352		292.2352
F-4	43+03.7102	-20.5000	5406.6652	-20.5000	303.7102		303.7102
F-5	43+15.1852	-20.5000	5407.1314	-20.5000	315.1852		315.1852
F-6	43+26.6602	-20.5000	5407.5869	-20.5000	326.6602		326.6602
F-7	43+38.1352	-20.5000	5408.0313	-20.5000	338.1352		338.1352
F-8	43+49.6102	-20.5000	5408.4649	-20.5000	349.6102		349.6102
F-9	43+61.0852	-20.5000	5408.8876	-20.5000	361.0852		361.0852
BK BRG P2	43+72.5602	-20.5000	5409.2995	-20.5000	372.5602	-20.8242	372.5602
CL PIER 2	43+73.5802	-20.5000	5409.3356	-20.5000	373.5802	-20.8242	373.5802
AH BRG P2	43+74.6002	-20.5000	5409.3716	-20.5000	374.6002	-20.8242	374.6002
F-1	43+87.5752	-20.5000	5409.8220	-20.5000	387.5752		387.5752
F-2	44+00.5502	-20.5000	5410.2564	-20.5000	400.5502		400.5502
F-3	44+13.5252	-20.5000	5410.6810	-20.5000	413.5252		413.5252
F-4	44+26.5002	-20.5000	5411.0897	-20.5000	426.5002		426.5002
F-5	44+39.4752	-20.5000	5411.4844	-20.5000	439.4752		439.4752
F-6	44+52.4502	-20.5000	5411.8653	-20.5000	452.4502		452.4502
F-7	44+65.4252	-20.5000	5412.2322	-20.5000	465.4252		465.4252
F-8	44+78.4002	-20.5000	5412.5853	-20.5000	478.4002		478.4002
F-9	44+91.3752	-20.5000	5412.9244	-20.5000	491.3752		491.3752
CL BRG A3	45+04.3502	-20.5000	5413.2496	-20.5000	504.3502	-20.8242	504.3502
BF ABUT 3	45+05.6202	-20.5000	5413.2807	-20.5000	505.6202	-20.8242	505.6202

LONGITUDINAL LINE: GIRDER NO. 7

BF ABUT 1	42+55.3797	-14.0000	5404.7121	-14.0000	255.3797	-14.2214	255.3797
CL BRG A1	42+56.6497	-14.0000	5404.7693	-14.0000	256.6497	-14.2214	256.6497
F-1	42+68.1247	-14.0000	5405.2492	-14.0000	268.1247		268.1247
F-2	42+79.5997	-14.0000	5405.7301	-14.0000	279.5997		279.5997
F-3	42+91.0747	-14.0000	5405.2652	-14.0000	291.0747		291.0747
F-4	43+02.5497	-14.0000	5406.7474	-14.0000	302.5497		302.5497
F-5	43+14.0247	-14.0000	5407.2196	-14.0000	314.0247		314.0247
F-6	43+25.4997	-14.0000	5407.6713	-14.0000	325.4997		325.4997
F-7	43+36.9747	-14.0000	5408.1168	-14.0000	336.9747		336.9747
F-8	43+48.4497	-14.0000	5408.5515	-14.0000	348.4497		348.4497
F-9	43+59.9247	-14.0000	5408.9754	-14.0000	359.9247		359.9247
BK BRG P2	43+71.3997	-14.0000	5409.3??3	-14.0000	371.3997	-14.2214	371.3997
CL PIER 2	43+72.4197	-14.0000	5409.4245	-14.0000	372.4197	-14.2214	372.4197
AH BRG P2	43+73.4397	-14.0000	5409.4606	-14.0000	373.4397	-14.2214	373.4397
F-1	43+86.4147	-14.0000	5409.9122	-14.0000	386.4147		386.4147
F-2	43+99.3897	-14.0000	5410.3500	-14.0000	399.3897		399.3897
F-3	44+12.3647	-14.0000	5410.7739	-14.0000	412.3647		412.3647
F-4	44+25.3397	-14.0000	5411.1837	-14.0000	425.3397		425.3397
F-5	44+38.3147	-14.0000	5411.5797	-14.0000	438.3147		438.3147
F-6	44+51.2897	-14.0000	5411.9615	-14.0000	451.2897		451.2897
F-7	44+64.2647	-14.0000	5412.3300	-14.0000	464.2647		464.2647
F-8	44+77.2397	-14.0000	5412.6843	-14.0000	477.2397		477.2397
F-9	44+90.2147	-14.0000	5413.0246	-14.0000	490.2147		490.2147
CL BRG A3	45+03.1897	-14.0000	5413.3511	-14.0000	503.1897	-14.2214	503.1897
BF ABUT 3	45+04.4597	-14.0000	5413.3523	-14.0000	504.4597	-14.2214	504.4597

VOID

City of Thornton
Public Works
Thornton, Colorado

NOTE: ELEVATIONS ARE AT TOP OF CONCRETE DECK .1667 FEET BELOW FINISHED GRADE.

BRIDGE STANDARD 3

REVISIONS

DIVISION OF HIGHWAYS

BRIDGE DECK ELEVATIONS

Designer I Felzien | Structure Numbers E-17-MJ
Detailer R Hinshaw
Drawing Number B 20 of 23 Drawings

Revision Dates (Preliminary Stage Only) 1/24-80

DETAILED BY RMH 7-84 CHECKED BY PMY 7-84

AS CONSTRUCTED

VOID

Point Designation	Station	Offset	Elevation	Offset X	Ordinate Y	Bent line length from Y axis or offset from exterior girder	Girder line length
LONGITUDINAL LINE: P. G. L.							
BF ABUT 1	[illegible]	-9.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CL BRG A1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
F-1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
F-2	[illegible]	-9.0000	[illegible]	[illegible]	[illegible]		[illegible]
F-3	42+88.[illegible]	-9.0000	5406.3316	-9.0000	[illegible]		[illegible]
F-4	43+01.6569	-9.0000	5406.8176	-9.0000	301.6569		301.6569
F-5	43+13.1319	-9.0000	5407.2738	-9.0000	313.1319		313.1319
F-6	43+24.6069	-9.0000	5407.7361	-9.0000	324.6069		324.6069
F-7	43+36.0819	-9.0000	5408.1826	-9.0000	336.0819		336.0819
F-8	43+47.5569	-9.0000	5408.6181	-9.0000	347.5569		347.5569
F-9	43+59.0319	-9.0000	5409.0422	-9.0000	359.0319		359.0319
BK BRG P2	43+70.5069	-9.0000	5409.4566	-9.0000	370.5069	-9.1423	370.5069
CL PIER 2	43+71.5269	-9.0000	5409.4928	-9.0000	371.5269	-9.1423	371.5269
AH BRG P2	43+72.5469	-9.0000	5409.5290	-9.0000	372.5469	-9.1423	372.5469
F-1	43+85.5219	-9.0000	5409.9916	-9.0000	385.5219		385.5219
F-2	43+98.4969	-9.0000	5410.4203	-9.0000	398.4969		398.4969
F-3	44+11.4719	-9.0000	5410.8451	-9.0000	411.4719		411.4719
F-4	44+24.4469	-9.0000	5411.2559	-9.0000	424.4469		424.4469
F-5	44+37.4219	-9.0000	5411.6529	-9.0000	437.4219		437.4219
F-6	44+50.3969	-9.0000	5412.0360	-9.0000	450.3969		450.3969
F-7	44+63.3719	-9.0000	5412.4051	-9.0000	463.3719		463.3719
F-8	44+76.3469	-9.0000	5412.7603	-9.0000	476.3469		476.3469
F-9	44+89.3219	-9.0000	5413.1017	-9.0000	489.3219		489.3219
CL BRG A3	45+02.2969	-9.0000	5413.4291	-9.0000	502.2969	-9.1423	502.2969
BF ABUT 3	45+03.5669	-9.0000	5413.4604	-9.0000	503.5669	-9.1423	503.5669
LONGITUDINAL LINE: GIRDER NO. 8							
BF ABUT 1	42+54.2191	-7.5000	5404.7497	-7.5000	254.2191	-7.6186	254.2191
CL BRG A1	42+55.4891	-7.5000	5404.8470	-7.5000	255.4891	-7.6186	255.4891
F-1	42+66.9641	-7.5000	5405.3590	-7.5000	266.9641		266.9641
F-2	42+78.4391	-7.5000	5405.8601	-7.5000	278.4391		278.4391
F-3	42+89.9141	-7.5000	5406.3503	-7.5000	289.9141		289.9141
F-4	43+01.3891	-7.5000	5406.8296	-7.5000	301.3891		301.3891
F-5	43+12.8641	-7.5000	5407.2950	-7.5000	312.8641		312.8641
F-6	43+24.3391	-7.5000	5407.7556	-7.5000	324.3391		324.3391
F-7	43+35.8141	-7.5000	5408.2023	-7.5000	335.8141		335.8141
F-8	43+47.2891	-7.5000	5408.6381	-7.5000	347.2891		347.2891
F-9	43+58.7641	-7.5000	5409.0630	-7.5000	358.7641		358.7641
BK BRG P2	43+70.2391	-7.5000	5409.4770	-7.5000	370.2391	-7.6186	370.2391
CL PIER 2	43+71.2591	-7.5000	5409.5133	-7.5000	371.2591	-7.6186	371.2591
AH BRG P2	43+72.2791	-7.5000	5409.5495	-7.5000	372.2791	-7.6186	372.2791
F-1	43+85.2541	-7.5000	5410.0024	-7.5000	385.2541		385.2541
F-2	43+98.2291	-7.5000	5410.4414	-7.5000	398.2291		398.2291
F-3	44+11.2041	-7.5000	5410.8664	-7.5000	411.2041		411.2041
F-4	44+24.1791	-7.5000	5411.2776	-7.5000	424.1791		424.1791
F-5	44+37.1541	-7.5000	5411.6745	-7.5000	437.1541		437.1541
F-6	44+50.1291	-7.5000	5412.0582	-7.5000	450.1291		450.1291
F-7	44+63.1041	-7.5000	5412.4276	-7.5000	463.1041		463.1041
F-8	44+76.0791	-7.5000	5412.7831	-7.5000	476.0791		476.0791
F-9	44+89.0541	-7.5000	5413.1248	-7.5000	489.0541		489.0541
CL BRG A3	45+02.0291	-7.5000	5413.4525	-7.5000	502.0291	-7.6186	502.0291
BF ABUT 3	45+03.2991	-7.5000	5413.4836	-7.5000	503.2991	-7.6186	503.2991
LONGITUDINAL LINE: GIRDER NO. 9							
BF ABUT 1	42+53.0585	-1.0000	5404.3672	-1.0000	253.0585	-1.0158	253.0585
CL BRG A1	42+54.3285	-1.0000	5404.9246	-1.0000	254.3285	-1.0158	254.3285
F-1	42+65.8035	-1.0000	5405.4377	-1.0000	265.8035		265.8035
F-2	42+77.2785	-1.0000	5405.9399	-1.0000	277.2785		277.2785
F-3	42+88.7535	-1.0000	5406.4312	-1.0000	288.7535		288.7535
F-4	43+00.2285	-1.0000	5406.9116	-1.0000	300.2285		300.2285
F-5	43+11.7035	-1.0000	5407.3811	-1.0000	311.7035		311.7035
F-6	43+23.1785	-1.0000	5407.8398	-1.0000	323.1785		323.1785
F-7	43+34.6535	-1.0000	5408.2876	-1.0000	334.6535		334.6535
F-8	43+46.1285	-1.0000	5409.7245	-1.0000	346.1285		346.1285
F-9	43+57.6035	-1.0000	5409.1505	-1.0000	357.6035		357.6035
BK BRG P2	43+69.0785	-1.0000	5409.5657	-1.0000	369.0785	-1.0158	369.0785
CL PIER 2	43+70.0985	-1.0000	5409.6020	-1.0000	370.0985	-1.0158	370.0985
AH BRG P2	43+71.1185	-1.0000	5409.6383	-1.0000	371.1185	-1.0158	371.1185
F-1	43+84.0935	-1.0000	5410.0925	-1.0000	384.0935		384.0935
F-2	43+97.0685	-1.0000	5410.5327	-1.0000	397.0685		397.0685
F-3	44+10.0435	-1.0000	5410.9590	-1.0000	410.0435		410.0435
F-4	44+23.0185	-1.0000	5411.3714	-1.0000	423.0185		423.0185
F-5	44+35.9935	-1.0000	5411.7699	-1.0000	435.9935		435.9935
F-6	44+48.9685	-1.0000	5412.1545	-1.0000	448.9685		448.9685
F-7	44+61.9435	-1.0000	5412.5251	-1.0000	461.9435		461.9435
F-8	44+74.9185	-1.0000	5412.8819	-1.0000	474.9185		474.9185
F-9	44+87.8935	-1.0000	5413.2248	-1.0000	487.8935		487.8935
CL BRG A3	45+00.8685	-1.0000	5413.5537	-1.0000	500.8685	-1.0158	500.8685
BF ABUT 3	45+02.1385	-1.0000	5413.5852	-1.0000	502.1385	-1.0158	502.1385
LONGITUDINAL LINE: BASELINE							
BF ABUT 1	[illegible]	[illegible]	[illegible]	0.0000	[illegible]	0.0000	[illegible]
CL BRG A1	[illegible]	[illegible]	[illegible]	0.0000	[illegible]	0.0000	[illegible]
F-1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
F-2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
F-3	[illegible]	0.0000	[illegible]	0.0000	288.5750		288.5750
F-4	43+00.0500	0.0000	5406.9242	0.0000	300.0500		300.0500
F-5	43+11.5250	0.0000	5407.3939	0.0000	311.5250		311.5250
F-6	43+23.0000	0.0000	5407.8527	0.0000	323.0000		323.0000
F-7	43+34.4750	0.0000	5408.3007	0.0000	334.4750		334.4750
F-8	43+45.9500	0.0000	5408.7378	0.0000	345.9500		345.9500
F-9	43+57.4250	0.0000	5409.1640	0.0000	357.4250		357.4250
BK BRG P2	43+68.9000	0.0000	5409.5793	0.0000	368.9000	0.0000	368.9000
CL PIER 2	43+69.9200	0.0000	5409.6157	0.0000	369.9200	0.0000	369.9200
AH BRG P2	43+70.9400	0.0000	5409.6520	0.0000	370.9400	0.0000	370.9400
F-1	43+83.9150	0.0000	5410.1063	0.0000	383.9150		383.9150
F-2	43+96.8900	0.0000	5410.5467	0.0000	396.8900		396.8900
F-3	44+09.8650	0.0000	5410.9732	0.0000	409.8650		409.8650
F-4	44+22.8400	0.0000	5411.3858	0.0000	422.8400		422.8400
F-5	44+35.8150	0.0000	5411.7845	0.0000	435.8150		435.8150
F-6	44+48.7900	0.0000	5412.1693	0.0000	448.7900		448.7900
F-7	44+61.7650	0.0000	5412.5401	0.0000	461.7650		461.7650
F-8	44+74.7400	0.0000	5412.8971	0.0000	474.7400		474.7400
F-9	44+87.7150	0.0000	5413.2421	0.0000	487.7150		487.7150
CL BRG A3	45+00.6900	0.0000	5413.5693	0.0000	500.6900	0.0000	500.6900
BF ABUT 3	45+01.9600	0.0000	5413.6008	0.0000	501.9600	0.0000	501.9600
LONGITUDINAL LINE: GIRDER NO. 10							
BF ABUT 1	42+51.8930	5.5000	5404.7246	5.5000	251.8930	5.5870	251.8930
CL BRG A1	42+53.1680	5.5000	5404.7821	5.5000	253.1680	5.5870	253.1680
F-1	42+64.6430	5.5000	5405.2963	5.5000	264.6430		264.6430
F-2	42+76.1180	5.5000	5405.7996	5.5000	276.1180		276.1180
F-3	42+87.5930	5.5000	5406.2920	5.5000	287.5930		287.5930
F-4	42+99.0680	5.5000	5406.7735	5.5000	299.0680		299.0680
F-5	43+10.5430	5.5000	5407.2441	5.5000	310.5430		310.5430
F-6	43+22.0180	5.5000	5407.7039	5.5000	322.0180		322.0180
F-7	43+33.4930	5.5000	5408.1529	5.5000	333.4930		333.4930
F-8	43+44.9680	5.5000	5408.5908	5.5000	344.9680		344.9680
F-9	43+56.4430	5.5000	5409.0179	5.5000	356.4430		356.4430
BK BRG P2	43+67.9180	5.5000	5409.4342	5.5000	367.9180	5.5870	367.9180
CL PIER 2	43+68.9380	5.5000	5409.4706	5.5000	368.9380	5.5870	368.9380
AH BRG P2	43+69.9580	5.5000	5409.5070	5.5000	369.9580	5.5870	369.9580
F-1	43+82.9330	5.5000	5409.9624	5.5000	382.9330		382.9330
F-2	43+95.9080	5.5000	5410.4039	5.5000	395.9080		395.9080
F-3	44+08.8830	5.5000	5410.8314	5.5000	408.8830		408.8830
F-4	44+21.8580	5.5000	5411.2451	5.5000	421.8580		421.8580
F-5	44+34.8330	5.5000	5411.6448	5.5000	434.8330		434.8330
F-6	44+47.8080	5.5000	5412.0306	5.5000	447.8080		447.8080
F-7	44+60.7830	5.5000	5412.4026	5.5000	460.7830		460.7830
F-8	44+73.7580	5.5000	5412.7606	5.5000	473.7580		473.7580
F-9	44+86.7330	5.5000	5413.1047	5.5000	486.7330		486.7330
CL BRG A3	44+99.7080	5.5000	5413.4349	5.5000	499.7080	5.5870	499.7080
BF ABUT 3	45+00.9780	5.5000	5413.4664	5.5000	500.9780	5.5870	500.9780
LONGITUDINAL LINE: P. G. L.							
BF ABUT 1	42+51.2731	9.0000	5404.6262	9.0000	251.2731	9.1423	251.2731
CL BRG A1	42+52.5431	9.0000	5404.6839	9.0000	252.5431	9.1423	252.5431
F-1	42+64.0181	9.0000	5405.1986	9.0000	264.0181		264.0181
F-2	42+75.4931	9.0000	5405.7025	9.0000	275.4931		275.4931
F-3	42+86.9681	9.0000	5406.1954	9.0000	286.9681		286.9681
F-4	42+98.4431	9.0000	5406.6776	9.0000	298.4431		298.4431
F-5	43+09.9181	9.0000	5407.1495	9.0000	309.9181		309.9181
F-6	43+21.3931	9.0000	5407.6091	9.0000	321.3931		321.3931
F-7	43+32.8681	9.0000	5408.0586	9.0000	332.8681		332.8681
F-8	43+44.3431	9.0000	5408.4972	9.0000	344.3431		344.3431
F-9	43+55.8181	9.0000	5408.9249	9.0000	355.8181		355.8181
BK BRG P2	43+67.2931	9.0000	5409.3419	9.0000	367.2931	9.1423	367.2931
CL PIER 2	43+68.3131	9.0000	5409.3783	9.0000	368.3131	9.1423	368.3131
AH BRG P2	43+69.3331	9.0000	5409.4148	9.0000	369.3331	9.1423	369.3331
F-1	43+82.3081	9.0000	5409.8708	9.0000	382.3081		382.3081
F-2	43+95.2831	9.0000	5410.3129	9.0000	395.2831		395.2831
F-3	44+08.2581	9.0000	5410.7411	9.0000	408.2581		408.2581
F-4	44+21.2331	9.0000	5411.1555	9.0000	421.2331		421.2331
F-5	44+34.2081	9.0000	5411.5559	9.0000	434.2081		434.2081
F-6	44+47.1831	9.0000	5411.9424	9.0000	447.1831		447.1831
F-7	44+60.1581	9.0000	5412.3150	9.0000	460.1581		460.1581
F-8	44+73.1331	9.0000	5412.6736	9.0000	473.1331		473.1331
F-9	44+86.1081	9.0000	5413.0184	9.0000	486.1081		486.1081
CL BRG A3	44+99.0831	9.0000	5413.3493	9.0000	499.0831	9.1423	499.0831
BF ABUT 3	45+00.3531	9.0000	5413.3809	9.0000	500.3531	9.1423	500.3531
LONGITUDINAL LINE: GIRDER NO. 11							
BF ABUT 1	42+50.7374	12.0000	5404.5418	12.0000	250.7374	12.1898	250.7374
CL BRG A1	42+52.0074	12.0000	5404.5995	12.0000	252.0074	12.1898	252.0074
F-1	42+63.4824	12.0000	5405.1148	12.0000	263.4824		263.4824
F-2	42+74.9574	12.0000	5405.6192	12.0000	274.9574		274.9574
F-3	42+86.4324	12.0000	5406.1127	12.0000	286.4324		286.4324
F-4	42+97.9074	12.0000	5406.5953	12.0000	297.9074		297.9074
F-5	43+09.3824	12.0000	5407.0670	12.0000	309.3824		309.3824
F-6	43+20.8574	12.0000	5407.5279	12.0000	320.8574		320.8574
F-7	43+32.3324	12.0000	5407.9779	12.0000	332.3324		332.3324
F-8	43+43.8074	12.0000	5408.4170	12.0000	343.8074		343.8074
F-9	43+55.2824	12.0000	5408.8452	12.0000	355.2824		355.2824
BK BRG P2	43+66.7574	12.0000	5409.2626	12.0000	366.7574	12.1898	366.7574
CL PIER 2	43+67.7774	12.0000	5409.2991	12.0000	367.7774	12.1898	367.7774
AH BRG P2	43+68.7974	12.0000	5409.3356	12.0000	368.7974	12.1898	368.7974
F-1	43+81.7724	12.0000	5409.7922	12.0000	381.7724		381.7724
F-2	43+94.7474	12.0000	5410.2349	12.0000	394.7474		394.7474
F-3	44+07.7224	12.0000	5410.6637	12.0000	407.7224		407.7224
F-4	44+20.6974	12.0000	5411.0786	12.0000	420.6974		420.6974
F-5	44+33.6724	12.0000	5411.4796	12.0000	433.6724		433.6724
F-6	44+46.6474	12.0000	5411.8667	12.0000	446.6474		446.6474
F-7	44+59.6224	12.0000	5412.2399	12.0000	459.6224		459.6224
F-8	44+72.5974	12.0000	5412.5991	12.0000	472.5974		472.5974
F-9	44+85.5724	12.0000	5412.9445	12.0000	485.5724		485.5724
CL BRG A3	44+98.5474	12.0000	5413.2759	12.0000	498.5474	12.1898	498.5474
BF ABUT 3	44+99.8174	12.0000	5413.3076	12.0000	499.8174	12.1898	499.8174
LONGITUDINAL LINE: GIRDER NO. 12							
BF ABUT 1	42+49.5769	18.5000	5404.3599	18.5000	249.5769	18.7926	249.5769
CL BRG A1	42+50.8469	18.5000	5404.4168	18.5000	250.8469	18.7926	250.8469
F-1	42+62.3219	18.5000	5404.9332	18.5000	262.3219		262.3219
F-2	42+73.7969	18.5000	5405.4387	18.5000	273.7969		273.7969
F-3	42+85.2719	18.5000	5405.9333	18.5000	285.2719		285.2719
F-4	42+96.7469	18.5000	5406.4170	18.5000	296.7469		296.7469
F-5	43+08.2219	18.5000	5406.8898	18.5000	308.2219		308.2219
F-6	43+19.6969	18.5000	5407.3515	18.5000	319.6969		319.6969
F-7	43+31.1719	18.5000	5407.8029	18.5000	331.1719		331.1719
F-8	43+42.6469	18.5000	5408.2431	18.5000	342.6469		342.6469
F-9	43+54.1219	18.5000	5408.6724	18.5000	354.1219		354.1219
BK BRG P2	43+65.5969	18.5000	5409.0909	18.5000	365.5969	18.7926	365.5969
CL PIER 2	43+66.6169	18.5000	5409.1275	18.5000	366.6169	18.7926	366.6169
AH BRG P2	43+67.6369	18.5000	5409.1641	18.5000	367.6369	18.7926	367.6369
F-1	43+80.6119	18.5000	5409.6220	18.5000	380.6119		380.6119
F-2	43+93.5869	18.5000	5410.0659	18.5000	393.5869		393.5869
F-3	44+06.5619	18.5000	5410.4960	18.5000	406.5619		406.5619
F-4	44+19.5369	18.5000	5410.9121	18.5000	419.5369		419.5369
F-5	44+32.5119	18.5000	5411.3143	18.5000	432.5119		432.5119
F-6	44+45.4869	18.5000	5411.7026	18.5000	445.4869		445.4869
F-7	44+58.4619	18.5000	5412.0770	18.5000	458.4619		458.4619
F-8	44+71.4369	18.5000	5412.4375	18.5000	471.4369		471.4369
F-9	44+84.4119	18.5000	5412.7841	18.5000	484.4119		484.4119
CL BRG A3	44+97.3869	18.5000	5413.1168	18.5000	497.3869	18.7926	497.3869
BF ABUT 3	44+98.6569	18.5000	5413.1486	18.5000	498.6569	18.7926	498.6569

NOTE: ELEVATIONS ARE AT TOP OF CONCRETE DECK .1667 FEET BELOW FINISHED GRADE.

BRIDGE STANDARD 3

City of Thornton
Public Works
Thornton, Colorado

DIVISION OF HIGHWAYS

BRIDGE DECK ELEVATIONS

Designer	L. Felzien	Structure Numbers	E-17-MJ
Detailer	R. Hinshaw		
Drawing Number B 21		of 23	

Revision Dates: 10-4-80

3

Detailed by RMH 7-84 Checked by PMY 7-84

BRIDGE DESIGNATION AND ROADWAY POINT DESIGNATION	STATION	OFFSET	ELEVATION					
LONGITUDINAL LINE: GIRDER NO. 13								
BK ABUT 1	42+47.4141	25.0000	5404.1761	25.0000	245.4141	25.0000	245.4141	
CL BRG A1	42+47.6563	25.0000	5404.2243	25.0000	245.6563	25.0000	245.6563	
F-1	42+51.1513	25.0000	5404.7515	25.0000	251.1513		251.1513	
F-2	42+72.5363	25.0000	5405.0779	25.0000	272.5363		272.5363	
F-3	42+94.1113	25.0000	5405.7537	25.0000	294.1113		294.1113	
F-4	43+15.5863	25.0000	5406.2315	25.0000	295.5863		295.5863	
F-5	43+37.0613	25.0000	5406.7125	25.0000	337.0613		337.0613	
F-6	43+58.5363	25.0000	5407.1956	25.0000	358.5363		358.5363	
F-7	43+80.0113	25.0000	5407.6777	25.0000	380.0113		380.0113	
F-8	43+41.4863	25.0000	5407.0600	25.0000	341.4863		341.4863	
F-9	43+32.9613	25.0000	5408.4955	25.0000	352.9613		352.9613	
BK BRG P2	43+44.4763	25.0000	5407.9193	25.0000	344.4763	25.3954	344.4763	
CL PIER 2	43+55.9863	25.0000	5407.3554	25.0000	355.9863	25.3954	355.9863	
AH BRG P2	43+66.4763	25.0000	5407.9325	25.0000	366.4763	25.3954	366.4763	
F-1	43+79.4513	25.0000	5408.4516	25.0000	379.4513		379.4513	
F-2	43+92.4263	25.0000	5408.8762	25.0000	392.4263		392.4263	
F-3	44+05.4013	25.0000	5409.3281	25.0000	405.4013		405.4013	
F-4	44+18.3763	25.0000	5410.7454	25.0000	418.3763		418.3763	
F-5	44+31.3513	25.0000	5411.1498	25.0000	431.3513		431.3513	
F-6	44+44.3263	25.0000	5411.5365	25.0000	444.3263		444.3263	
F-7	44+57.3013	25.0000	5411.9141	25.0000	457.3013		457.3013	
F-8	44+70.2763	25.0000	5412.2759	25.0000	470.2763		470.2763	
F-9	44+83.2513	25.0000	5412.6237	25.0000	483.2513		483.2513	
CL BRG A3	44+96.2263	25.0000	5412.9576	25.0000	496.2263	25.3954	496.2263	
BF ABUT 3	44+97.4763	25.0000	5412.9996	25.0000	497.4763	25.3954	497.4763	
LONGITUDINAL LINE: GIRDER NO. 14								
BF ABUT 1	42+47.2554	31.5000	5403.9832	31.5000	247.2554	31.9982	247.2554	
CL BRG A1	42+47.5254	31.5000	5404.0311	31.5000	247.5254	31.9982	247.5254	
F-1	42+68.0008	31.5000	5404.5696	31.5000	268.0008		268.0008	
F-2	42+71.4758	31.5000	5405.0773	31.5000	271.4758		271.4758	
F-3	42+82.9508	31.5000	5405.5741	31.5000	282.9508		282.9508	
F-4	42+94.4258	31.5000	5406.0600	31.5000	294.4258		294.4258	
F-5	43+05.9008	31.5000	5406.5351	31.5000	305.9008		305.9008	
F-6	43+17.3758	31.5000	5406.9992	31.5000	317.3758		317.3758	
F-7	43+28.8508	31.5000	5407.4525	31.5000	328.8508		328.8508	
F-8	43+40.3258	31.5000	5407.8949	31.5000	340.3258		340.3258	
F-9	43+51.8008	31.5000	5408.3264	31.5000	351.8008		351.8008	
BK BRG P2	43+63.2758	31.5000	5407.7471	31.5000	363.2758	31.9982	363.2758	
CL PIER 2	43+64.2758	31.5000	5407.7340	31.5000	364.2758	31.9982	364.2758	
AH BRG P2	43+65.3158	31.5000	5408.8237	31.5000	365.3158	31.9982	365.3158	
F-1	43+78.2908	31.5000	5409.2411	31.5000	378.2908		378.2908	
F-2	43+91.2658	31.5000	5409.7275	31.5000	391.2658		391.2658	
F-3	44+04.2408	31.5000	5410.1600	31.5000	404.2408		404.2408	
F-4	44+17.2158	31.5000	5410.5787	31.5000	417.2158		417.2158	
F-5	44+30.1908	31.5000	5410.9834	31.5000	430.1908		430.1908	
F-6	44+43.1658	31.5000	5411.3742	31.5000	443.1658		443.1658	
F-7	44+56.1408	31.5000	5411.7511	31.5000	456.1408		456.1408	
F-8	44+69.1158	31.5000	5412.1141	31.5000	469.1158		469.1158	
F-9	44+82.0908	31.5000	5412.4631	31.5000	482.0908		482.0908	
CL BRG A3	44+95.0658	31.5000	5412.7983	31.5000	495.0658	31.9982	495.0658	
BF ABUT 3	44+96.3358	31.5000	5412.8024	31.5000	496.3358	31.9982	496.3358	
LONGITUDINAL LINE: GIRDER NO. 15								
BF ABUT 1	42+46.0952	38.0000	5403.8098	38.0000	246.0952	38.6010	246.0952	
CL BRG A1	42+47.3652	38.0000	5403.8680	38.0000	247.3652	38.6010	247.3652	
F-1	42+58.8402	38.0000	5404.3477	38.0000	258.8402		258.8402	
F-2	42+70.3152	38.0000	5404.8964	38.0000	270.3152		270.3152	
F-3	42+81.7902	38.0000	5405.3945	38.0000	281.7902		281.7902	
F-4	42+93.2652	38.0000	5405.8814	38.0000	293.2652		293.2652	
F-5	43+04.7402	38.0000	5406.3575	38.0000	304.7402		304.7402	
F-6	43+16.2152	38.0000	5406.8225	38.0000	316.2152		316.2152	
F-7	43+27.6902	38.0000	5407.2772	38.0000	327.6902		327.6902	
F-8	43+39.1652	38.0000	5407.7207	38.0000	339.1652		339.1652	
F-9	43+50.6402	38.0000	5408.1533	38.0000	350.6402		350.6402	
BK BRG P2	43+62.1152	38.0000	5403.5760	38.0000	362.1152	38.6010	362.1152	
CL PIER 2	43+63.1352	38.0000	5404.5120	38.0000	363.1352	38.6010	363.1352	
AH BRG P2	43+64.1552	38.0000	5409.6499	38.0000	364.1552	38.6010	364.1552	
F-1	43+77.1302	38.0000	5409.1105	38.0000	377.1302		377.1302	
F-2	43+90.1052	38.0000	5408.5582	38.0000	390.1052		390.1052	
F-3	44+03.0802	38.0000	5409.9919	38.0000	403.0802		403.0802	
F-4	44+16.0552	38.0000	5410.4119	38.0000	416.0552		416.0552	
F-5	44+29.0302	38.0000	5410.8177	38.0000	429.0302		429.0302	
F-6	44+42.0052	38.0000	5411.2096	38.0000	442.0052		442.0052	
F-7	44+54.9802	38.0000	5411.5873	38.0000	454.9802		454.9802	
F-8	44+67.9552	38.0000	5411.9502	38.0000	467.9552		467.9552	
F-9	44+80.9302	38.0000	5412.3025	38.0000	480.9302		480.9302	
CL BRG A3	44+93.9052	38.0000	5412.6389	38.0000	493.9052	38.6010	493.9052	
BF ABUT 3	44+95.1752	38.0000	5412.6711	38.0000	495.1752	38.6010	495.1752	
F-1	44+96.4452	38.0000	5412.7032	38.0000	496.4452	38.6010	496.4452	
F-2	44+97.7152	38.0000	5412.7353	38.0000	497.7152	38.6010	497.7152	
F-3	44+98.9852	38.0000	5412.7674	38.0000	498.9852	38.6010	498.9852	
F-4	44+99.2552	38.0000	5412.7995	38.0000	499.2552	38.6010	499.2552	
F-5	45+00.5252	38.0000	5412.8316	38.0000	500.5252	38.6010	500.5252	
F-6	45+01.7952	38.0000	5412.8637	38.0000	501.7952	38.6010	501.7952	
F-7	45+03.0652	38.0000	5412.8958	38.0000	503.0652	38.6010	503.0652	
F-8	45+04.3352	38.0000	5412.9279	38.0000	504.3352	38.6010	504.3352	
F-9	45+05.6052	38.0000	5412.9600	38.0000	505.6052	38.6010	505.6052	
CL BRG A3	45+06.8752	38.0000	5412.9921	38.0000	506.8752	38.6010	506.8752	
BF ABUT 3	45+08.1452	38.0000	5413.0242	38.0000	508.1452	38.6010	508.1452	

NATIONAL HIGHWAY SYSTEM	DIVISION	REGION	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	COLORADO	100	

AS CONSTRUCTED

NO REVISIONS

City of Thornton
Public Works
Thornton, Colorado

NOTE: ELEVATIONS ARE AT TOP OF CONCRETE DECK .1667 FEET BELOW FINISHED GRADE.

BRIDGE STANDARD 3

REVISIONS

DIVISION OF HIGHWAYS

BRIDGE DECK ELEVATIONS

Designer L. Felzien
Detailer R. Hinshaw
Structure Numbers E-17-MJ
Drawing Number B 22 of 23 Drawings

Revision Date (Preliminary Plans Only)
10-4-90

DETAILED BY RWH 7/94 CHECKED BY RWH 7/94 PMK 7/94

AS CONSTRUCTED			
NO REVISIONS 9-1-87	REVISED		VOID

FEDERAL HIGHWAY ADMINISTRATION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	45	47

REVISIONS		

BRIDGE STANDARD 1

ROADWAY APPROACHES

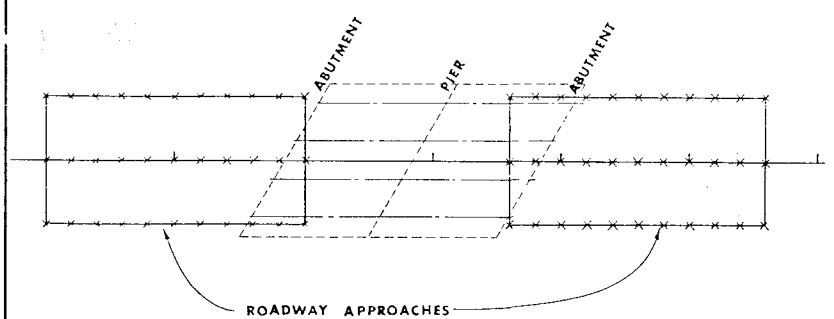
ELEVATIONS ARE AT FINISHED GRADE

ELEVATIONS ON ROADWAY APPROACHES (AT FINISHED GRADE)

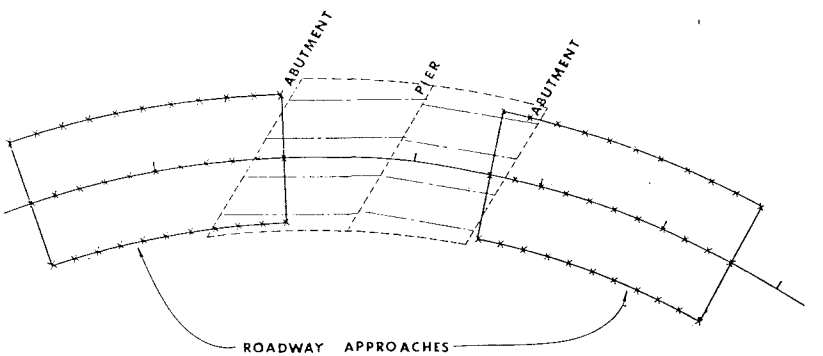
STATION	OFFSETS -56.0000	-47.0000	-9.0000	0.0000	9.0000	35.0000	41.0000
40+80.0	5394.86	5395.04	5395.80	5395.98	5395.80	5395.28	5395.16
+90.0	95.45	95.63	96.39	96.57	96.39	95.87	95.75
41+00.0	96.03	96.21	96.97	97.15	96.97	96.45	96.33
+10.0	96.61	96.79	97.55	97.73	97.55	97.03	96.91
41+20.0	5397.18	5397.36	5398.12	5398.30	5398.12	5397.60	5397.48
+30.0	97.74	97.92	98.68	98.86	98.68	98.16	98.04
+40.0	98.29	98.47	99.23	99.41	99.23	98.71	98.59
+50.0	98.83	99.01	99.77	99.95	99.77	99.25	99.13
41+60.0	5399.36	5399.54	5400.30	5400.48	5400.30	5399.78	5399.66
+70.0	99.89	00.07	00.83	01.01	00.83	00.31	00.19
+80.0	00.40	00.58	01.34	01.52	01.34	00.82	00.70
+90.0	00.91	01.09	01.85	02.03	01.85	01.33	01.21
42+00.0	5401.41	5401.59	5402.35	5402.53	5402.35	5401.83	5401.71
+10.0	01.91	02.09	02.85	03.03	02.85	02.33	02.21
+20.0	02.39	02.57	03.33	03.51	03.33	02.81	02.69
+30.0	02.87	03.05	03.81	03.99	03.81	03.29	03.17

ELEVATIONS ON ROADWAY APPROACHES (AT FINISHED GRADE)

STATION	OFFSETS -56.0000	-47.0000	-9.0000	0.0000	9.0000	35.0000	41.0000
45+70.0	5414.14	5414.32	5415.08	5415.26	5415.08	5414.56	5414.44
+80.0	14.33	14.51	15.27	15.45	15.27	14.75	14.63
+90.0	14.50	14.68	15.44	15.62	15.44	14.92	14.80
46+00.0	14.67	14.85	15.61	15.79	15.61	15.09	14.97
46+10.0	5414.84	5415.02	5415.78	5415.96	5415.78	5415.26	5415.14
+20.0	14.99	15.17	15.93	16.11	15.93	15.41	15.29
+30.0	15.14	15.32	16.08	16.26	16.08	15.56	15.44
+40.0	15.27	15.45	16.21	16.39	16.21	15.69	15.57
46+50.0	5415.40	5415.58	5416.34	5416.52	5416.34	5415.82	5415.70
+60.0	15.52	15.70	16.46	16.64	16.46	15.94	15.82
+70.0	15.64	15.82	16.58	16.76	16.58	16.06	15.94
+80.0	15.74	15.92	16.68	16.86	16.68	16.16	16.04
46+90.0	5415.84	5416.02	5416.78	5416.96	5416.78	5416.26	5416.14
47+00.0	15.92	16.10	16.86	17.04	16.86	16.34	16.22
+10.0	16.00	16.18	16.94	17.12	16.94	16.42	16.30
+20.0	16.07	16.25	17.01	17.19	17.01	16.49	16.37



* TANGENT ALIGNMENT



* HORIZONTAL CURVE ALIGNMENT

* THESE DRAWINGS ARE SCHEMATICS ONLY AND DO NOT NECESSARILY REFLECT THE ACTUAL BRIDGE LAYOUT.

City of Thornton
Public Works
Thornton, Colorado

(11-1-79)

DIVISION OF HIGHWAYS

ROADWAY APPROACHES

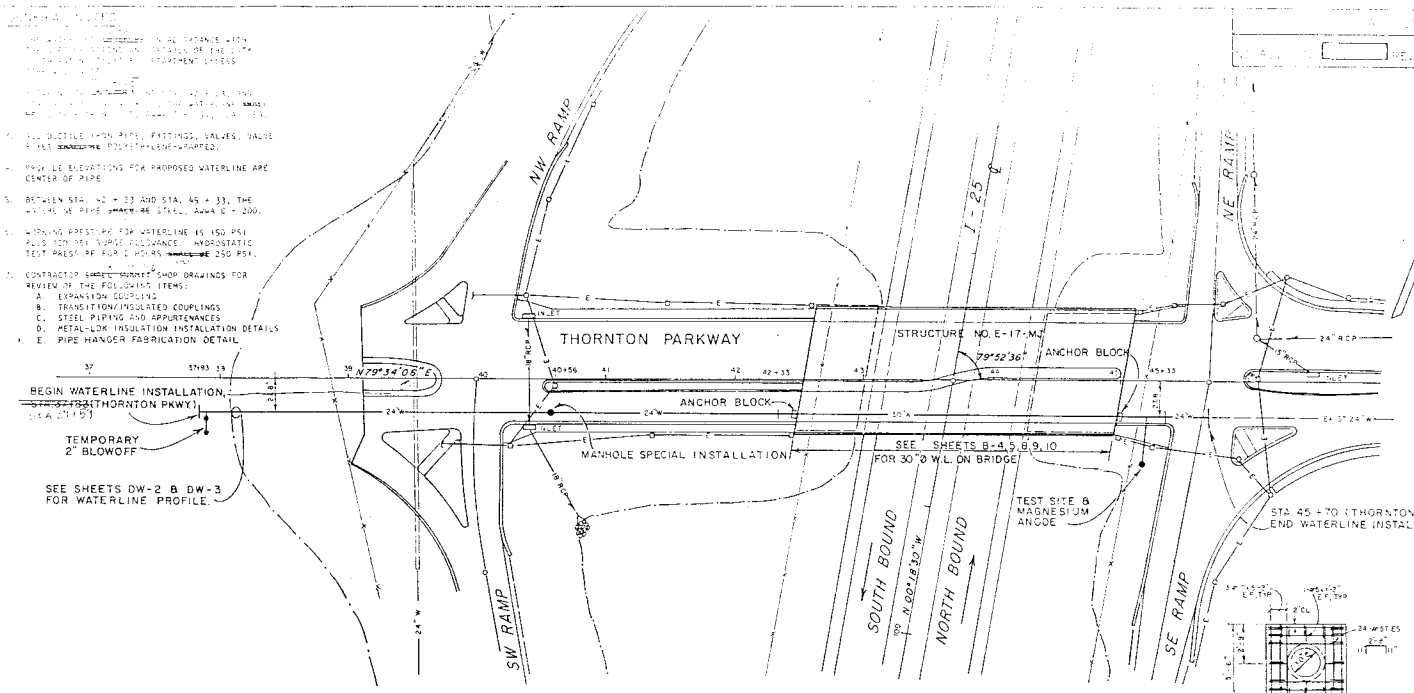
Designer	[illegible]	Structure Numbers	[illegible]
Detailer	R. HINSHAW		
Drawing Number B 23 of 23			Drawings

Revision Dates (Preliminary Stage Only)

1

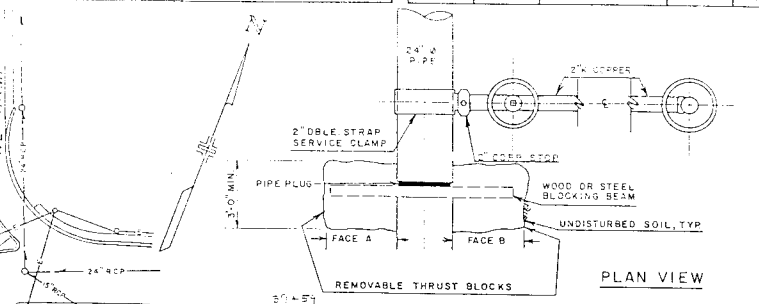
FEDERAL REGION	DIVISION	PROJECT NO.	SHEET	SHEET TOTAL
VIII	U.C.	CC-12-0025-14	46	46

7. ALL DUCTILE IRON PIPE, FITTINGS, VALVES, VALVE BOXES ~~SHALL BE~~ POLYETHYLENE-WRAPPED.
8. PROFILE ELEVATIONS FOR PROPOSED WATERLINE ARE CENTER OF PIPE.
9. BETWEEN STA. 42 + 23 AND STA. 45 + 33, THE WATERLINE PIPE ~~SHALL BE~~ STEEL, AWWA C - 200.
10. WORKING PRESSURE FOR WATERLINE IS 150 PSI PLUS 100 PSI SURGE ALLOWANCE. HYDROSTATIC TEST PRESSURE FOR 2 HOURS ~~SHALL BE~~ 250 PSI.
11. CONTRACTOR ~~SHALL SUBMIT~~ SHOP DRAWINGS FOR REVIEW OF THE FOLLOWING ITEMS:
    A. EXPANSION COUPLING
    B. TRANSITION/INSULATED COUPLINGS
    C. STEEL PIPING AND APPURTENANCES
    D. METAL-LOK INSULATION INSTALLATION DETAILS
    E. PIPE HANGER FABRICATION DETAIL



THORNTON PARKWAY WATERLINE — PLAN

Original Scale 1" = 50'

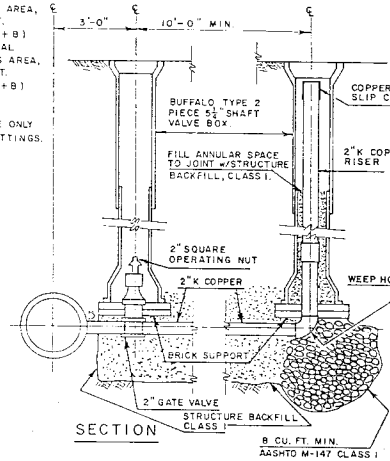


PLAN VIEW

STA. ~~37+83~~ 51+54 REQ. TOTAL BEARING AREA, 57 SQ. FT. (FACE A + B)

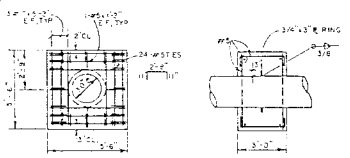
STA. 45 + 60 REQ. TOTAL BEARING AREA, 88 SQ. FT. (FACE A + B)

NOTE: USE ONLY BRASS FITTINGS.



SECTION

TEMPORARY 2" BLOWOFF DETAIL



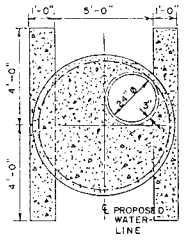
ANCHOR BLOCK DETAILS

SUMMARY OF QUANTITIES

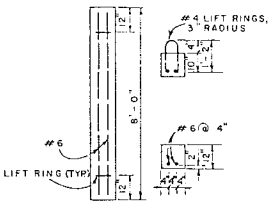
ITEM NO.	DESCRIPTION	UNIT	STA. ~~37+83~~ 51+54 to STA. 42+23	STA. 42+23 to STA. 45+33	STA. 45+33 to STA. 45+70	TOTAL
206	STRUCTURE EXCAVATION	CU.YD.+				292 ~~576~~
206	STRUCTURE BACKFILL (CLASS I)	CU.YD.*				299 ~~220~~
206	STRUCTURE BACKFILL (CLASS 2)	CU.YD.*				512 ~~383~~
619	24-INCH DUCTILE IRON PIPE	LIN.FT.	365 ~~435~~		30	395 ~~465~~
619	30"-INCH WELDED STEEL PIPE	LIN.FT.		310		310
604	MANHOLE SPECIAL	EACH	1			1
619	24-INCH BY 30-INCH D.I. REDUCER	EACH	1		1	2
619	30-INCH DUCTILE IRON PIPE	LIN.FT.	4		4	8

* QUANTITY BASED ON CITY OF THORNTON STANDARD OF 6" BELOW PIPE, 12" ON EITHER SIDE, AND 12" ABOVE TOP OF PIPE.

\+ QUANTITY BASED ON CITY OF THORNTON STANDARD OF 12" ON EITHER SIDE OF PIPE, AND STARTING AT 12" ABOVE TOP OF PIPE.

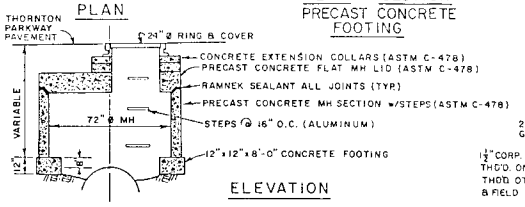


PLAN



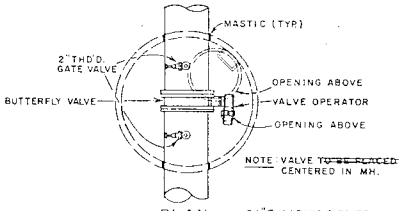
PLAN SECTION

PRECAST CONCRETE FOOTING

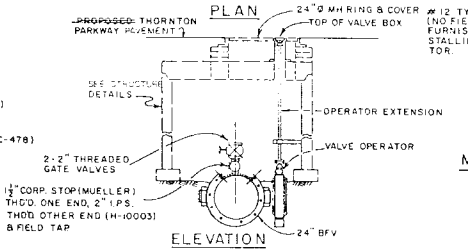


ELEVATION

MANHOLE SPECIAL (STRUCTURE DETAILS)

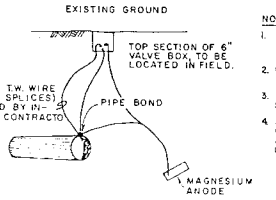


PLAN



ELEVATION

MANHOLE SPECIAL (VALVING DETAILS)



MAGNESIUM ANODE & TEST SITE

NOTES:

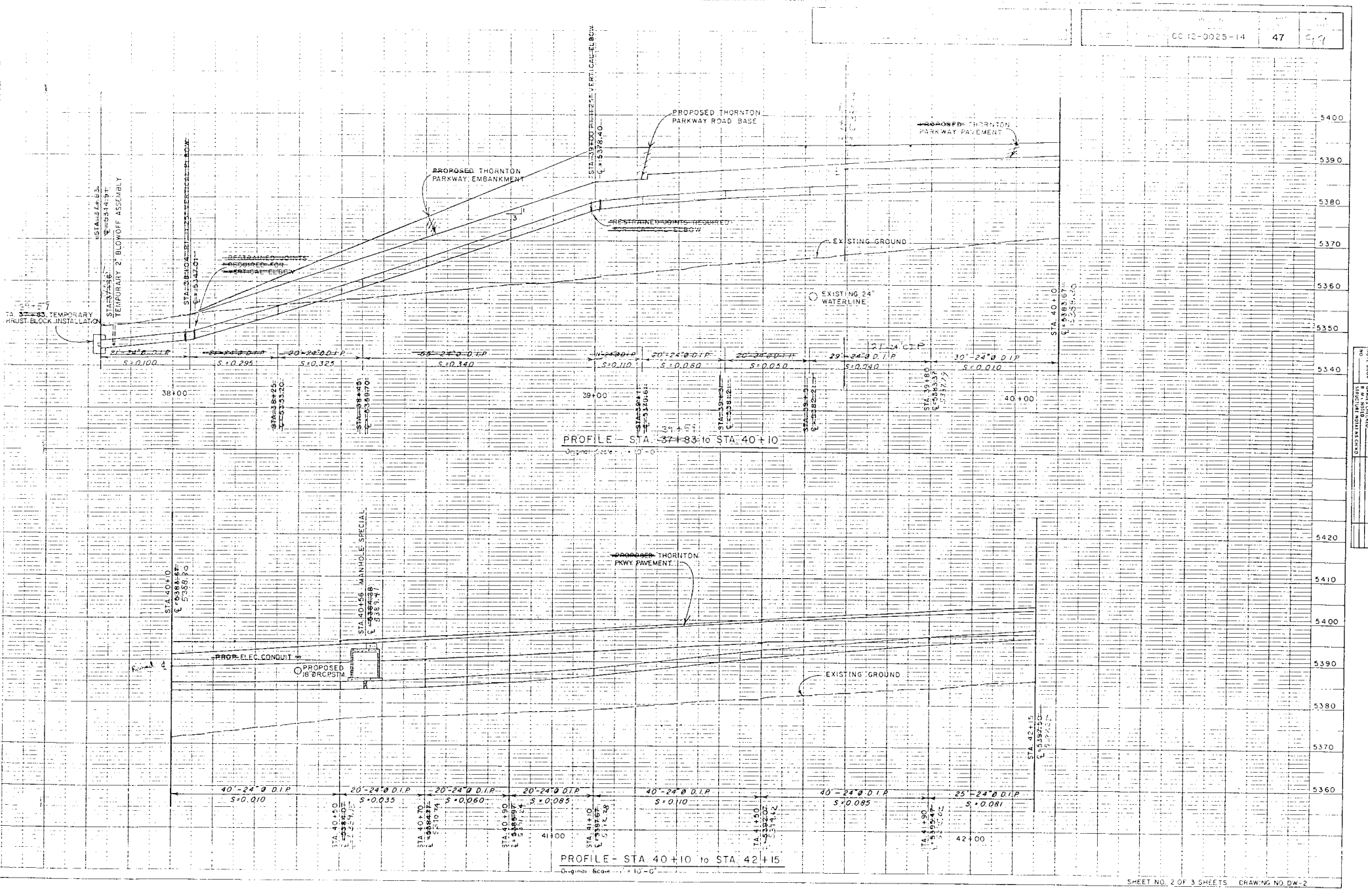
1. ANODE ~~TO BE~~ PLACED BELOW BOTTOM OF PIPE AT A MINIMUM DISTANCE OF 40'-0" FROM PIPE.
2. LEAVE 2'-0" OF SLACK IN WIRE AT VALVE BOX.
3. ANODE ~~TO BE~~ PUDDLED IN NATIVE SOIL PRIOR TO BACKFILL.
4. PIPE SURFACE ~~IS TO BE~~ CLEANED OF ALL COATING OR FOREIGN MATTER AT POINT OF PIPE BOND.

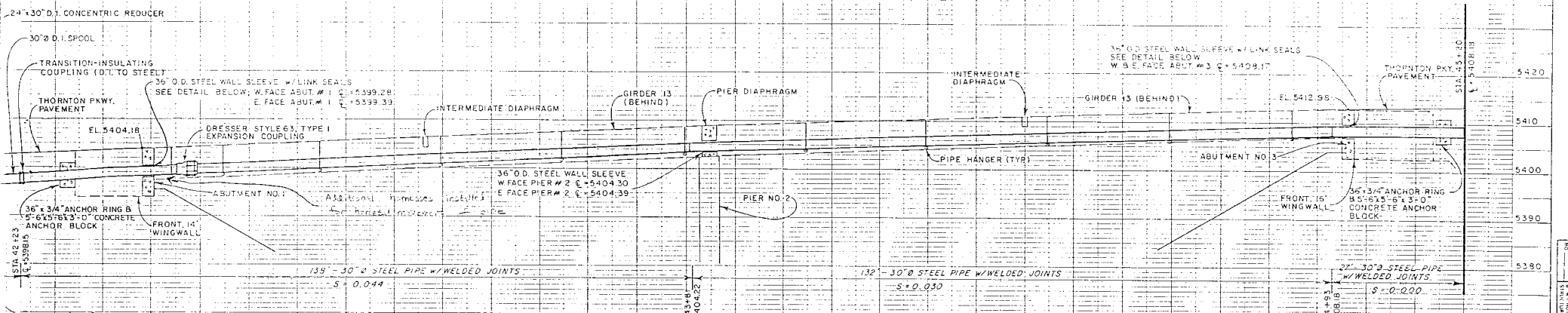
THORNTON PARKWAY/I-25 INTERCHANGE

WATERLINE INSTALLATION

DATE	DESIGNED	DRAWN	CHECKED	SHEET NO.	DRAWING NO.
				3	DW-1

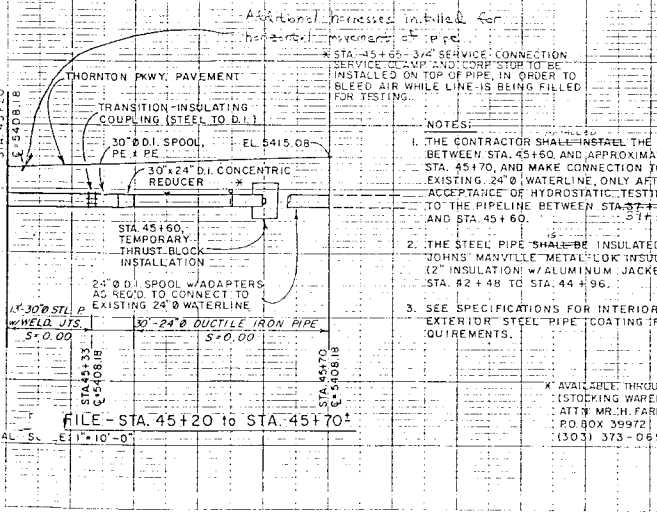
PREPARED BY • URS COMPANY • DENVER


PROPOSED THORNTON PARKWAY ROAD BASE
PROPOSED THORNTON PARKWAY PAVEMENT
PROPOSED THORNTON PARKWAY EMBANKMENT
RESTRAINED JOINTS REQUIRED FOR VERTICAL ELBOW
EXISTING GROUND
EXISTING 24" WATERLINE
STA. 37+83 TEMPORARY THRUST-BLOCK INSTALLATION
TEMPORARY 2" BLOWOFF ASSEMBLY
PROFILE - STA. 37+83 to STA. 40+10
Original Scale 1" = 10'-0"
PROPOSED THORNTON PKWY. PAVEMENT
PROP. ELEC. CONDUIT
PROPOSED 18" RCP
STA. 40+56 MANHOLE SPECIAL
EXISTING GROUND
PROFILE - STA. 40+10 to STA. 42+15
Original Scale 1" = 10'-0"
SHEET NO. 2 OF 3 SHEETS DRAWING NO. DW-2



PROFILE - STA. 42+15 to STA. 45+20

ORIGINAL SCALE: 1" = 10'-0"



PROFILE - STA. 45+20 to STA. 45+70±

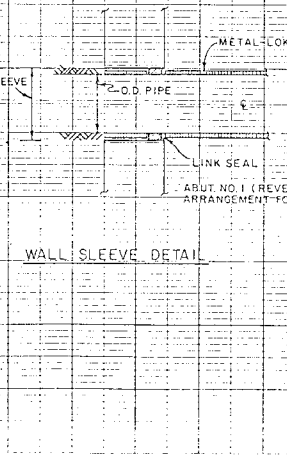
ORIGINAL SCALE: 1" = 10'-0"

NOTES:

1. THE CONTRACTOR SHALL INSTALL THE PIPE BETWEEN STA. 45+60 AND APPROXIMATELY STA. 45+70, AND MAKE CONNECTION TO THE EXISTING 24"Ø WATERLINE, ONLY AFTER ACCEPTANCE OF HYDROSTATIC TESTING TO THE PIPELINE BETWEEN STA. ~~37+83~~ 37+84 AND STA. 45+60.
2. THE STEEL PIPE SHALL BE INSULATED WITH JOHNS MANVILLE METAL-LOK INSULATION, (2" INSULATION w/ALUMINUM JACKET,) STA. 42+48 TO STA. 44+96.
3. SEE SPECIFICATIONS FOR INTERIOR AND EXTERIOR STEEL PIPE COATING REQUIREMENTS.

* STA. 45+65 - 3/4" SERVICE CONNECTION SERVICE CLAMP AND CORP STOP TO BE INSTALLED ON TOP OF PIPE, IN ORDER TO BLEED AIR WHILE LINE IS BEING FILLED FOR TESTING.

* AVAILABLE THROUGH E.J. BARTELLS CO. (STOCKING WAREHOUSE FOR MANVILLE) ATT'N MR. H. FARNSWORTH P.O. BOX 39972 DENVER, CO. 80239 (303) 373-0651



WALL SLEEVE DETAIL

NOTE: METAL-LOK INSULATION ~~TO BE~~ EXTENDED COMPLETELY THROUGH 36" WALL SLEEVE FOR PIER NO. 2 (NO LINK-SEALS.)

PROFILE

SUPPLIED BY: DUFFIELD ASSOCIATES & W. HOSTETLER

NOT I. BURR

NO. | DATE

SHEET NO. 3 OF 3 SHEETS DRAWING NO. DW-3

AS CONSTRUCTED

NO REVISIONS ☐ REVISED ☐ VOID ☐

CC 12-0025-14 49

CURVE DATA

(27) P.I. 1730+99.49
Δ = 15°01'31"
D_c = 10°00'00"
T = 75.56'
L = 150.25'
R = 572.958'
e = 0.07 ft.
MDS = 40 MPH
SSD = 450'

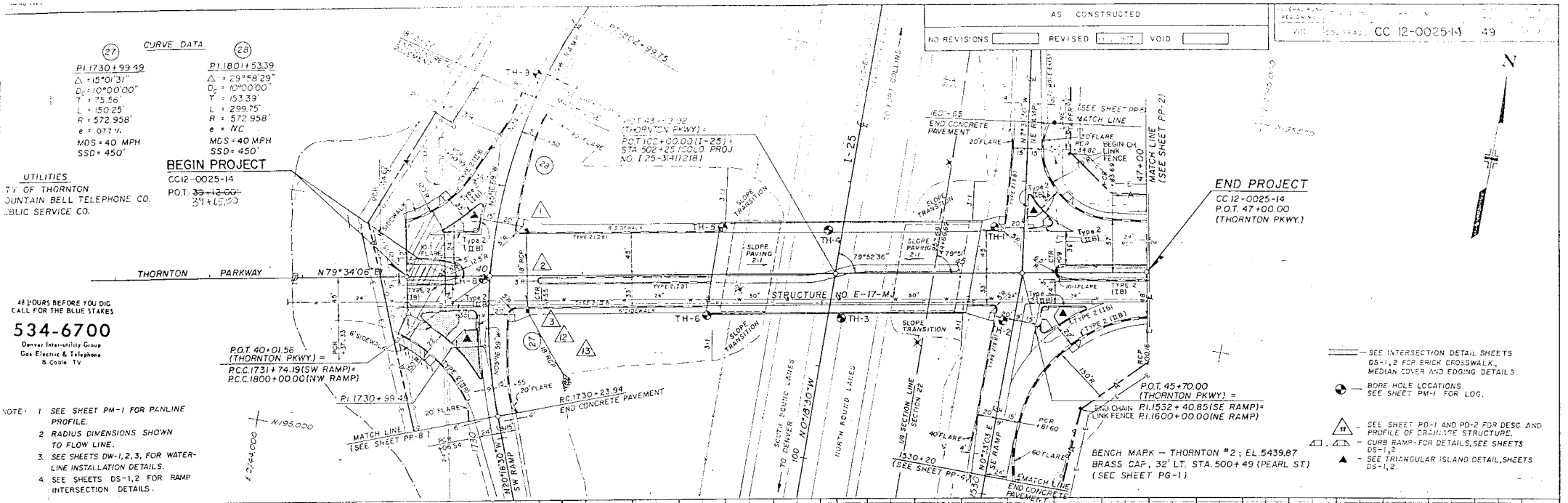
(28) P.I. 1801+53.39
Δ = 29°58'29"
D_c = 10°00'00"
T = 153.39'
L = 299.75'
R = 572.958'
e = NC
MDS = 40 MPH
SSD = 450'

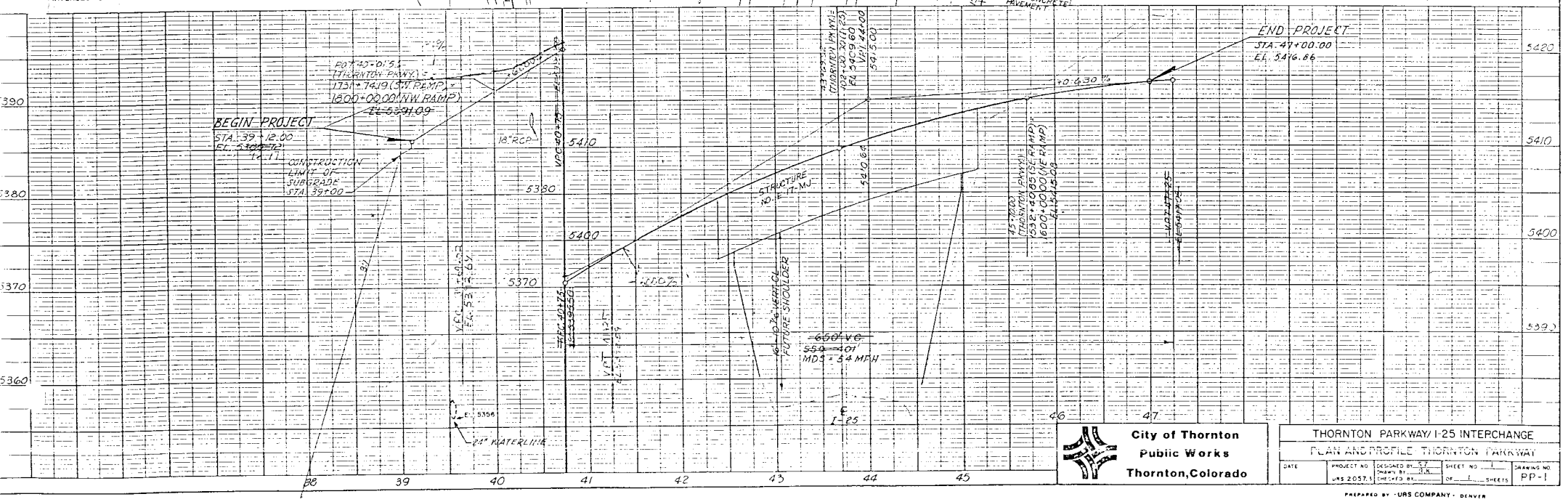
UTILITIES
CITY OF THORNTON
MOUNTAIN BELL TELEPHONE CO.
PUBLIC SERVICE CO.

BEGIN PROJECT
CC12-0025-14
P.O.T. ~~39+12.00~~ 39+15.00

48 HOURS BEFORE YOU DIG
CALL FOR THE BLUE STAKES
534-6700
Denver Interutility Group
Gas Electric & Telephone
& Cable TV

NOTE:
1. SEE SHEET PM-1 FOR PANLINE PROFILE.
2. RADIUS DIMENSIONS SHOWN TO FLOW LINE.
3. SEE SHEETS DW-1,2,3, FOR WATER-LINE INSTALLATION DETAILS.
4. SEE SHEETS DS-1,2 FOR RAMP INTERSECTION DETAILS.





City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY/I-25 INTERCHANGE
PLAN AND PROFILE THORNTON PARKWAY

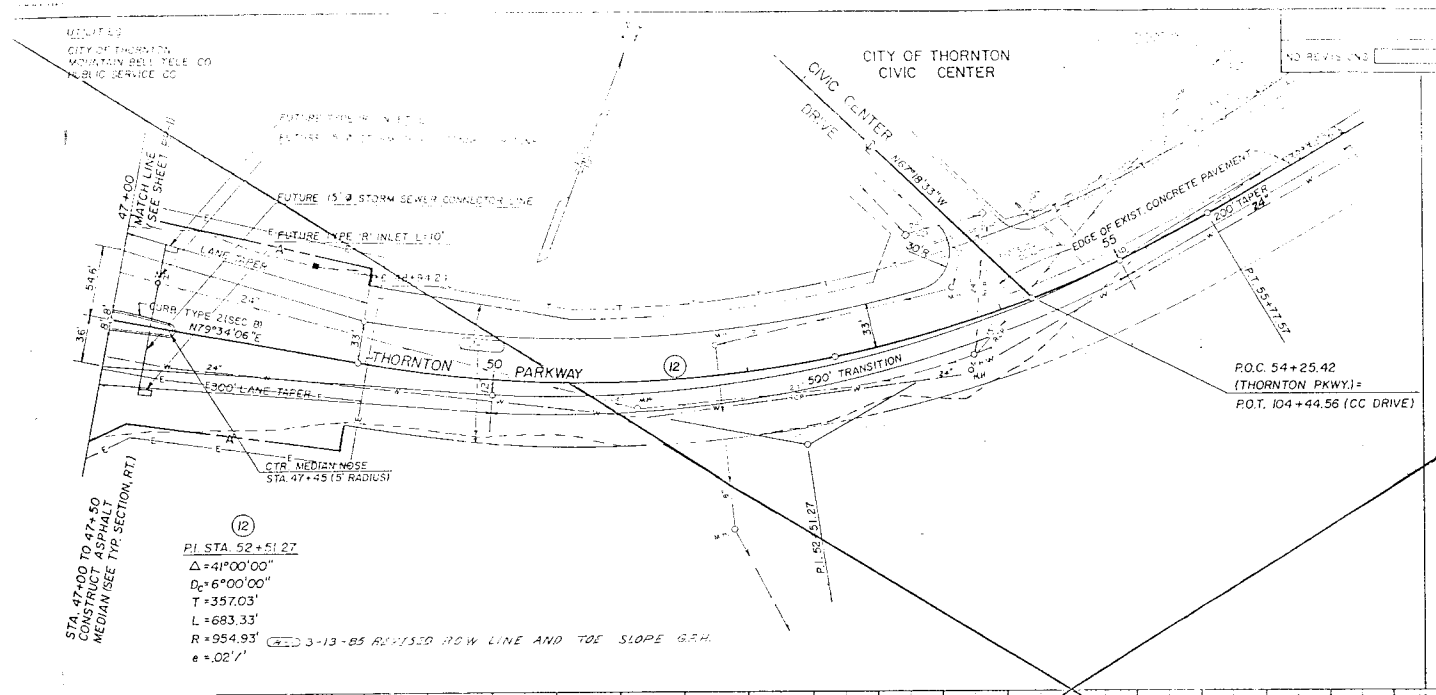
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS 2057.1	DRAWN BY	OF SHEETS	PP-1
		CHECKED BY		

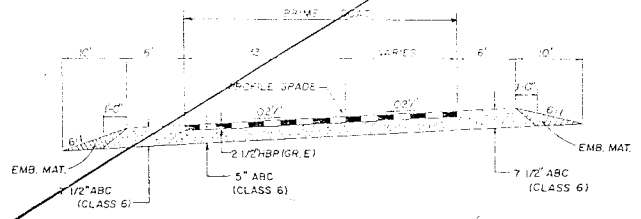
PREPARED BY URS COMPANY DENVER

UTILITIES
CITY OF THORNTON
MOUNTAIN BELL TELE CO
PUBLIC SERVICE CO

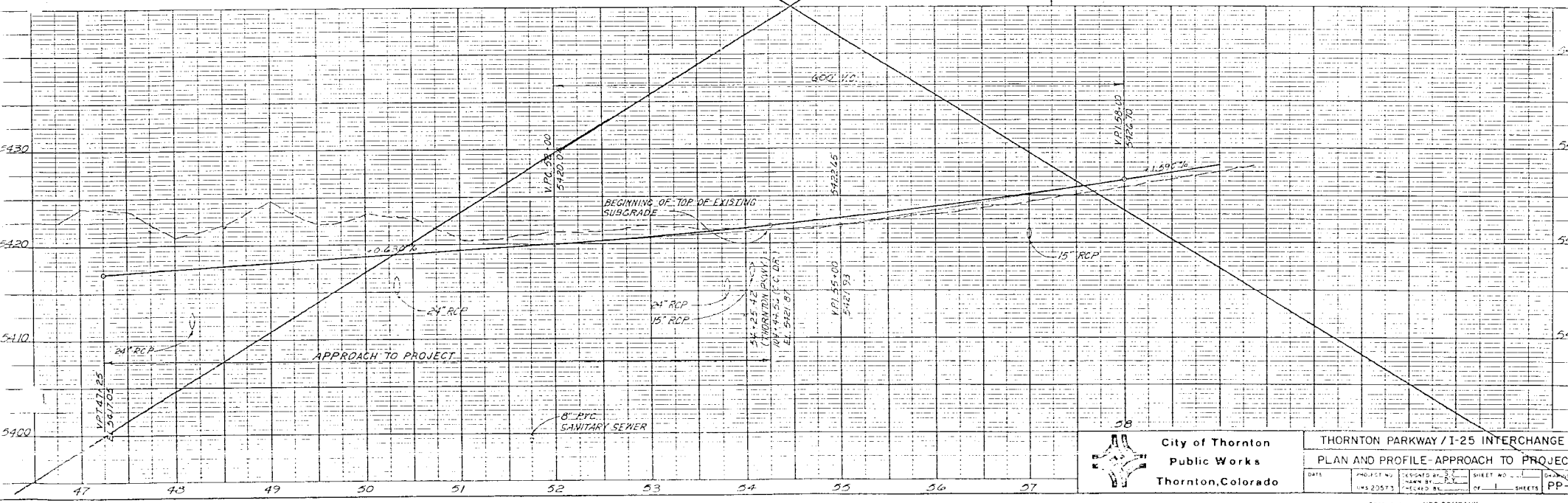
CITY OF THORNTON
CIVIC CENTER

C012-C025-14 50





TYPICAL SECTION
APPROACH TO PROJECT
STA. 47+00 TO CIVIC CENTER DR.
N.T.S.



City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
PLAN AND PROFILE - APPROACH TO PROJECT

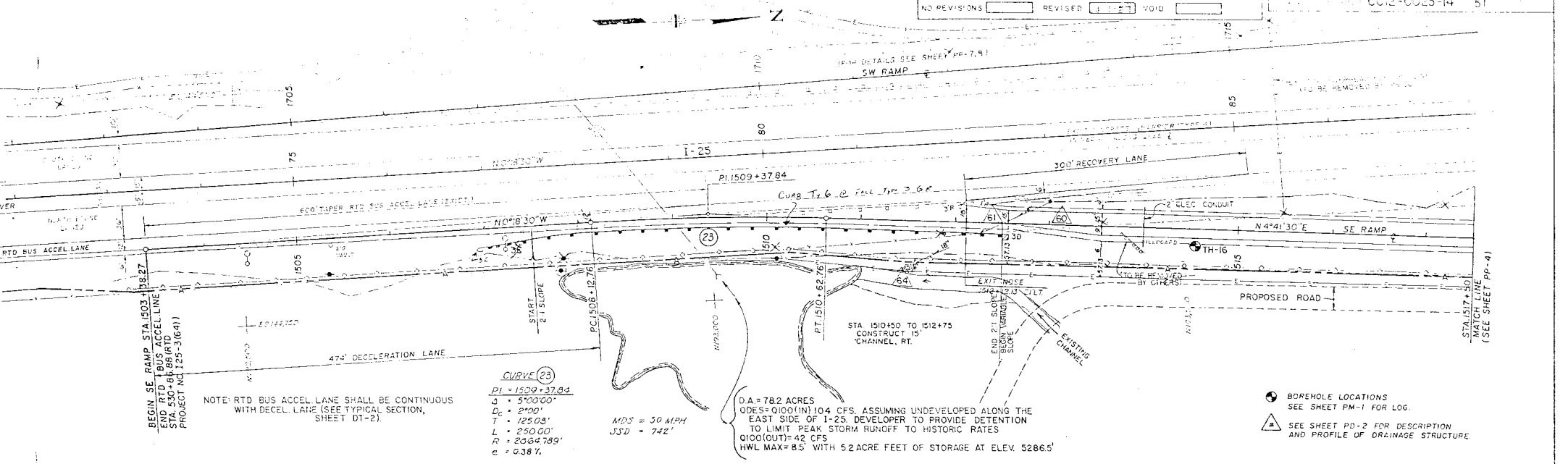
DATE	PROJECT NO.	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO.	OF	SHEETS	DRAWING NO.
	IMS 2057-3					1		PP-2

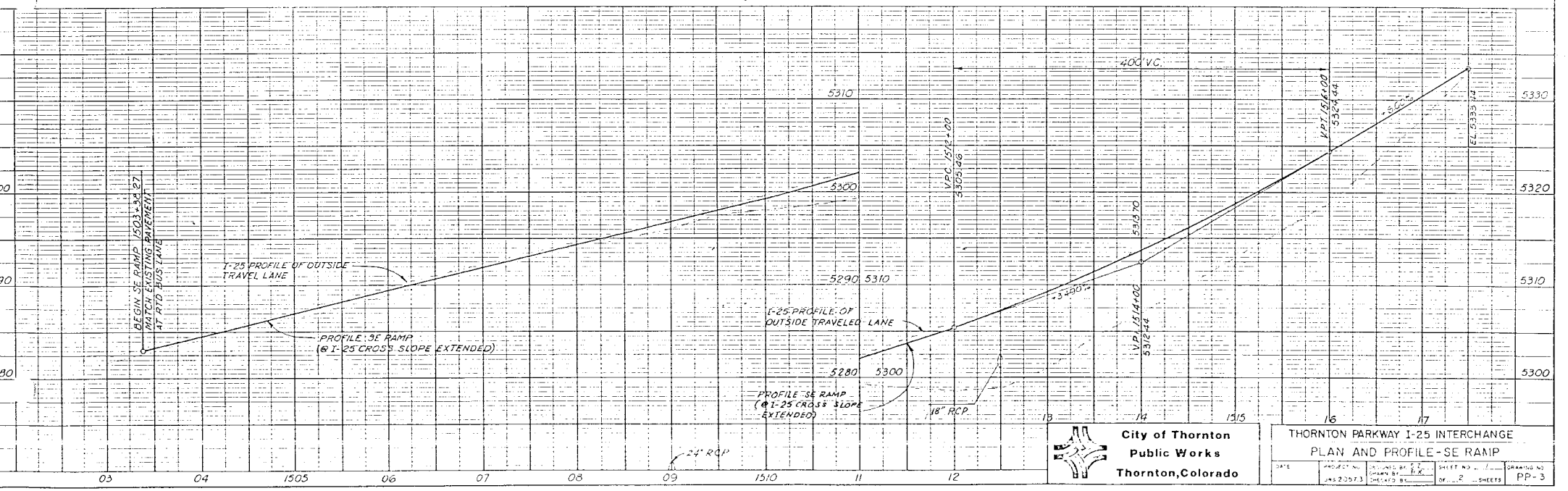
PREPARED BY URS COMPANY - DENVER

AS CONSTRUCTED

NO REVISIONS ☐ REVISED ☐ VOID ☐

CC12-0025-14 51





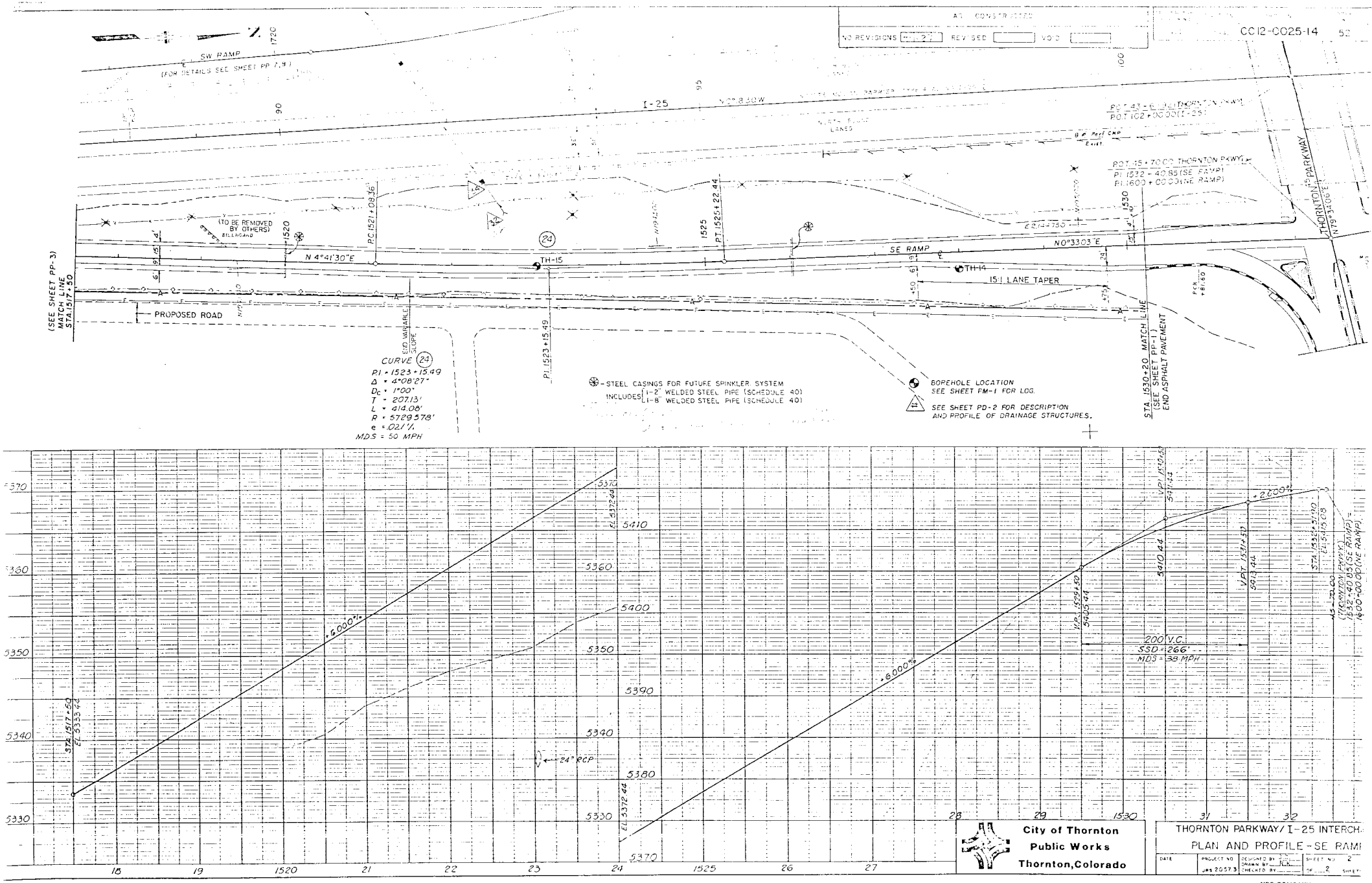
City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY I-25 INTERCHANGE

PLAN AND PROFILE - SE RAMP

DATE	PROJECT NO.	DRAWING BY	SHEET NO.	DRAWING NO.
	JAS 2057.3	DRAWN BY	1 OF 2 SHEETS	PP-3

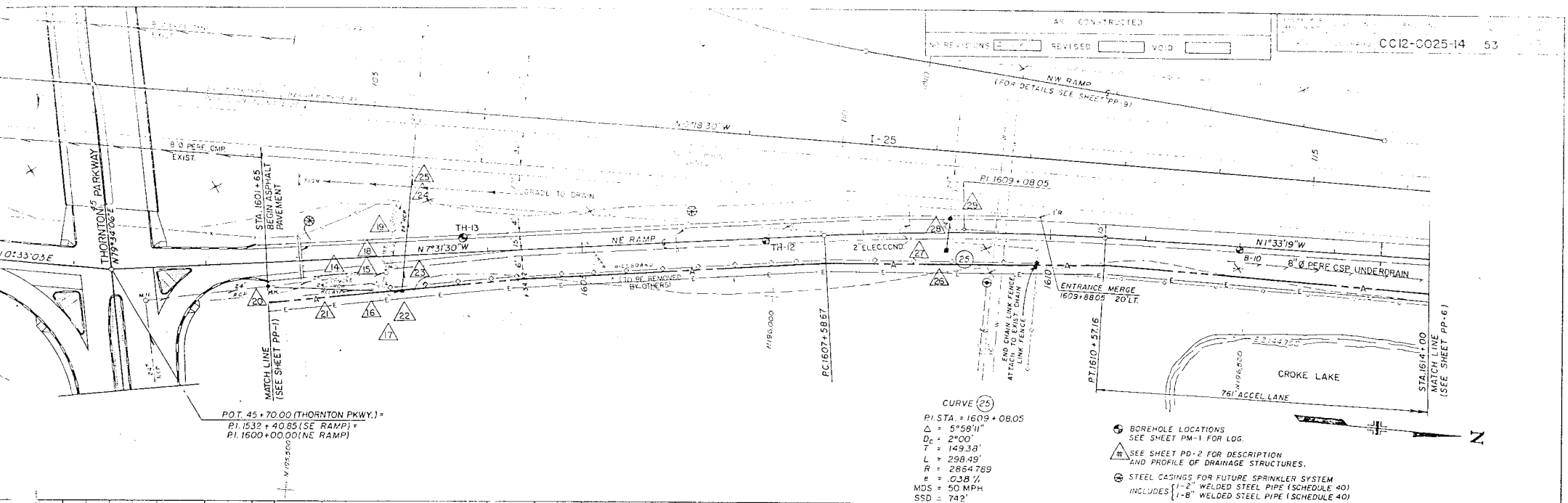
PREPARED BY URS COMPANY - DENVER


CC12-0025-14
NO REVISIONS
REVISED
VOID
SW RAMP
(FOR DETAILS SEE SHEET PP 7,8)
I-25
N 22°8'30"W
NORTH BOUND LANES
P.O.T. 43 + 6.36 THORNTON PKWY
P.O.T. 102 + 00.00 (I-25)
P.O.T. 45 + 70.00 THORNTON PKWY
P.I. 1532 - 40.85 (SE RAMP)
P.I. 1600 + 00.00 (NE RAMP)
THORNTON PARKWAY
N 89°53'30"E
(TO BE REMOVED BY OTHERS)
BILLBOARD
1520
P.C. 1521 + 08.36
1525
P.T. 1525 + 22.44
1530
N 4°41'30"E
TH-15
SE RAMP
N0°33'03"E
TH-14
15:1 LANE TAPER
(SEE SHEET PP-3)
MATCH LINE
STA. 1517 + 50
PROPOSED ROAD
END VARIABLE SLOPE
CURVE 24
P.I. = 1523 + 15.49
Δ = 4°08'27"
Dc = 1°00'
T = 207.13'
L = 414.08'
R = 5729.578'
e = .021 ft/ft
MDS = 50 MPH
P.I. 1523 + 15.49
- STEEL CASINGS FOR FUTURE SPINKLER SYSTEM
INCLUDES 1-2" WELDED STEEL PIPE (SCHEDULE 40)
1-8" WELDED STEEL PIPE (SCHEDULE 40)
BOREHOLE LOCATION
SEE SHEET FM-1 FOR LOG.
SEE SHEET PD-2 FOR DESCRIPTION AND PROFILE OF DRAINAGE STRUCTURES.
STA. 1530 + 20 MATCH LINE
(SEE SHEET PP-1)
END ASPHALT PAVEMENT
5370
5360
5350
5340
5330
5410
5400
5390
5380
STA. 1517 + 50
EL. 5333.44
+6.000%
24" RCP
EL. 5372.44
VPI 1530.00
5412.44
+2.000%
VPT 1531.50
5413.44
VPC 1529.50
5405.44
5410.44
200' V.C.
SSD = 266'
MDS = 38 MPH
STA. 1535 + 00.00
(THORNTON PKWY)
STA. 1532 + 40.85 (SE RAMP)
= 600 + 00.00 (NE RAMP)
18
19
1520
21
22
23
24
1525
26
27
28
29
1530
31
32
City of Thornton
Public Works
Thornton, Colorado
THORNTON PARKWAY/I-25 INTERCH.
PLAN AND PROFILE - SE RAMP
DATE
PROJECT NO
URS 2057.3
DESIGNED BY
DRAWN BY
CHECKED BY
SHEET NO 2
OF 2 SHEETS
PREPARED BY URS COMPANY - DENVER

AS CONSTRUCTED

NO REVISIONS ✓ REVISED ___ VOID ___

CC12-0025-14 53



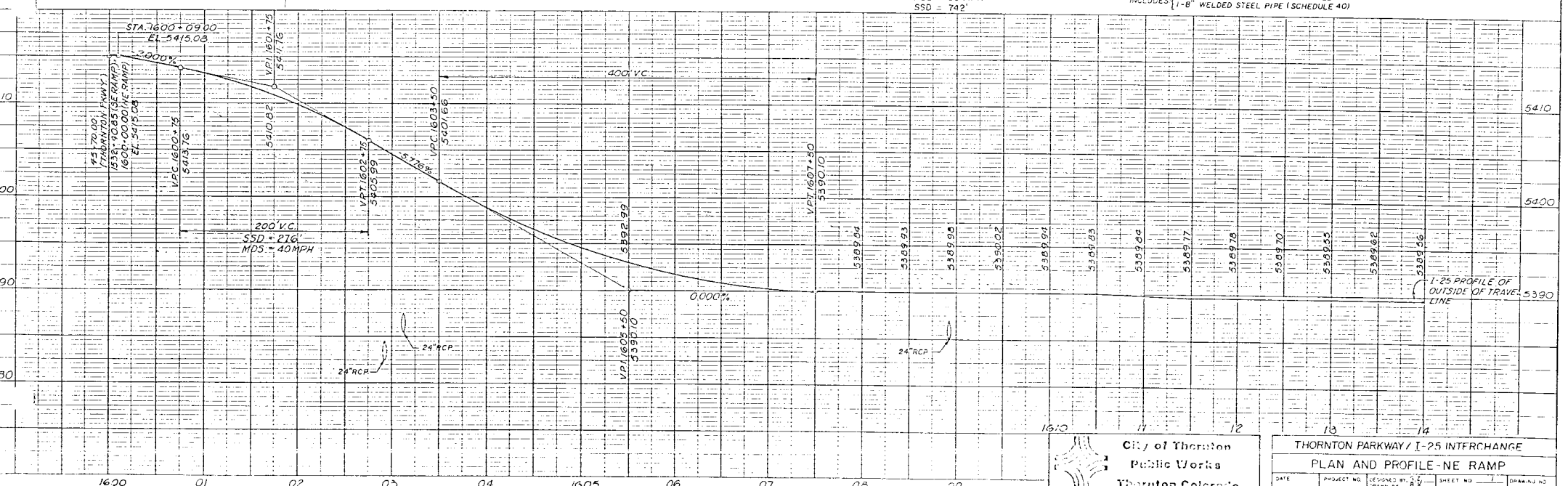
CURVE (25)

P.I. STA. = 1609 + 08.05
Δ = 5°58'11"
D_c = 2°00'
T = 149.38'
L = 298.49'
R = 2864.789
e = .038 %
MDS = 50 MPH
SSD = 742'

BOREHOLE LOCATIONS
SEE SHEET PM-1 FOR LOG.

SEE SHEET PD-2 FOR DESCRIPTION AND PROFILE OF DRAINAGE STRUCTURES.

STEEL CASINGS FOR FUTURE SPRINKLER SYSTEM INCLUDES { 1-2" WELDED STEEL PIPE (SCHEDULE 40) / 1-8" WELDED STEEL PIPE (SCHEDULE 40)



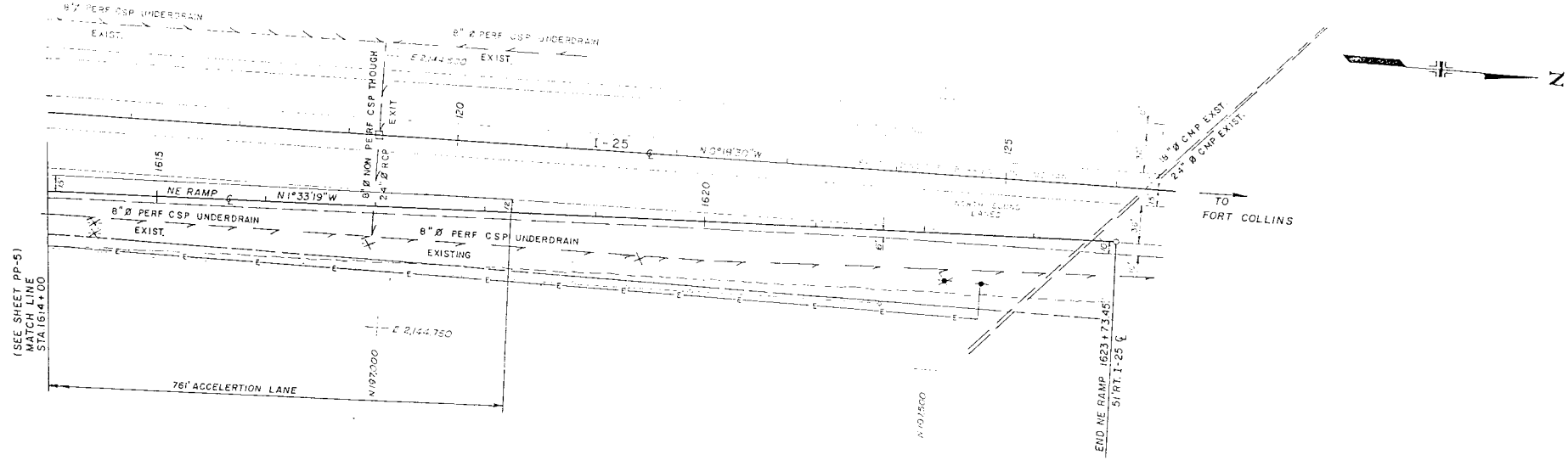
City of Thornton
Public Works
Thornton, Colorado

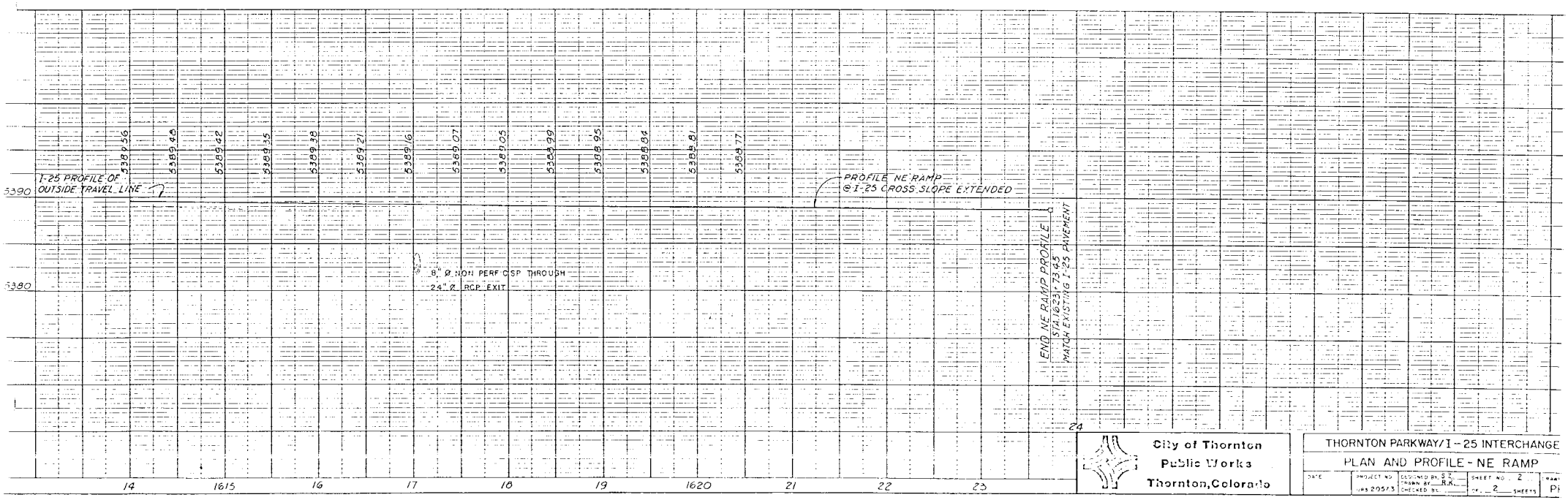
THORNTON PARKWAY / I-25 INTERCHANGE

PLAN AND PROFILE - NE RAMP

DATE	PROJECT NO.	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO.	DRAWING NO.
	HS 20573	J.C.	R.K.		1 of 2 SHEETS	PP-5

PREPARED BY URS COMPANY - DENVER



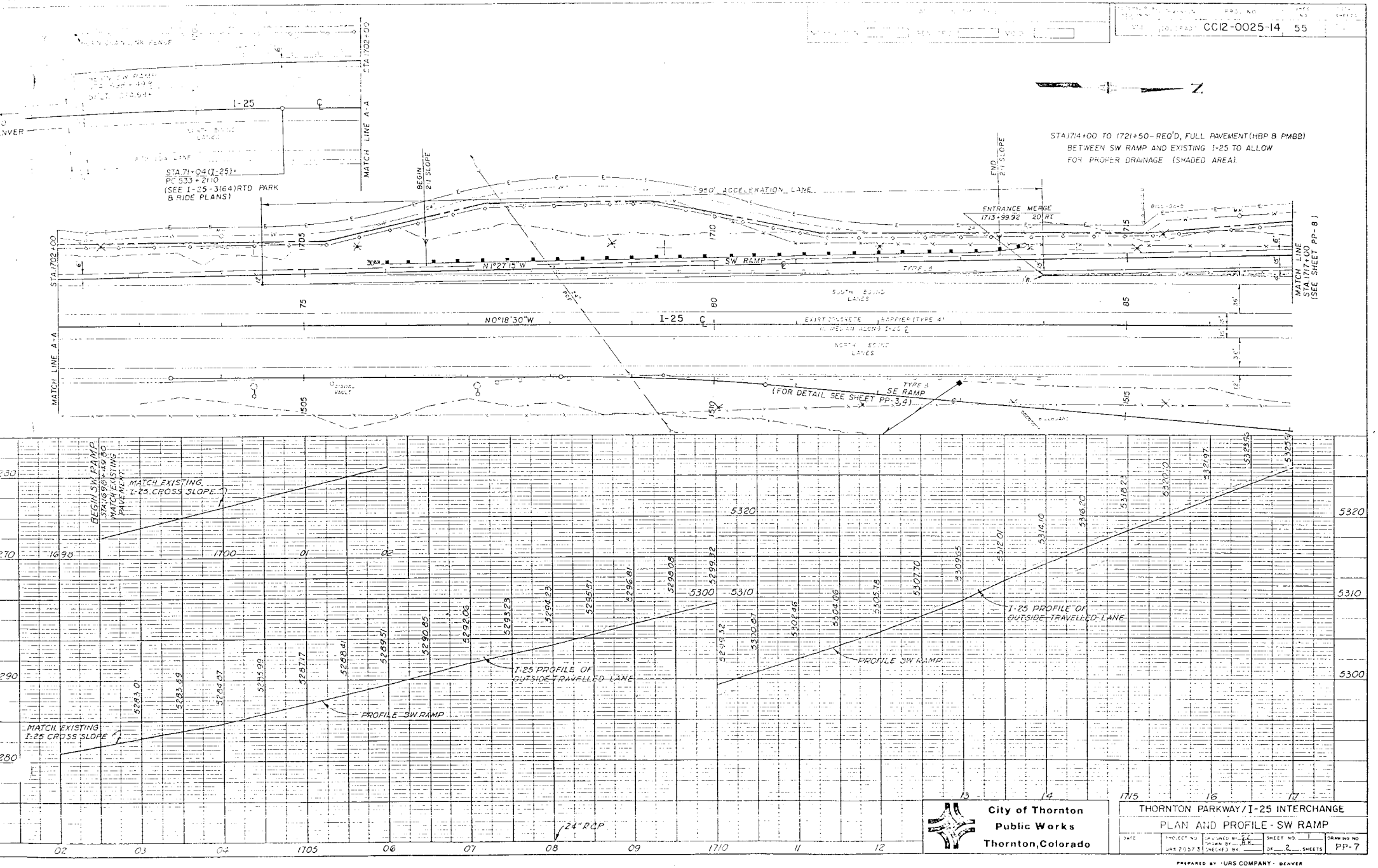


City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY/I-25 INTERCHANGE
PLAN AND PROFILE - NE RAMP

DATE	PROJECT NO.	DESIGNED BY S.S. DRAWN BY R.K. CHECKED BY	SHEET NO. 2 OF 2 SHEETS	NAME
	URS 205773			P

PREPARED BY URS COMPANY - DENVER


STA 1714+00 TO 1721+50 - REO'D, FULL PAVEMENT (HBP & PMBB) BETWEEN SW RAMP AND EXISTING I-25 TO ALLOW FOR PROPER DRAINAGE (SHADED AREA).
STA 1714+04 (I-25) = PC 533+21.10 (SEE I-25-3(64) RTD PARK & RIDE PLANS)
MATCH LINE A-A
BEGIN 2:1 SLOPE
END 2:1 SLOPE
950' ACCELERATION LANE
ENTRANCE MERGE 1713+99.92 20' RT
STA 1702+00
N1°27'15"W
SW RAMP
TYPE 3
SOUTH BOUND LANES
N0°18'30"W
I-25
EXIST. CONCRETE BARRIER (TYPE 4) TO BE REMOVED ALONG I-25 ℄
NORTH BOUND LANES
TYPE 3
SE RAMP
(FOR DETAIL SEE SHEET PP-3,4)
MATCH LINE STA 1717+00 (SEE SHEET PP-8)
BEGIN SW RAMP STA 1698+49.80
MATCH EXISTING PAVEMENT
MATCH EXISTING I-25 CROSS SLOPE
I-25 PROFILE OF OUTSIDE TRAVELLED LANE
PROFILE SW RAMP
24" RCP
5320
5310
5300
5280
City of Thornton
Public Works
Thornton, Colorado
THORNTON PARKWAY / I-25 INTERCHANGE
PLAN AND PROFILE - SW RAMP
PROJECT NO. URS 7057.3
DESIGNED BY
DRAWN BY
CHECKED BY
SHEET NO. 1 OF 2 SHEETS
DRAWING NO. PP-7
PREPARED BY URS COMPANY - DENVER

BORE HOLE LOCATIONS SEE SHEET PM-1 FOR LOG

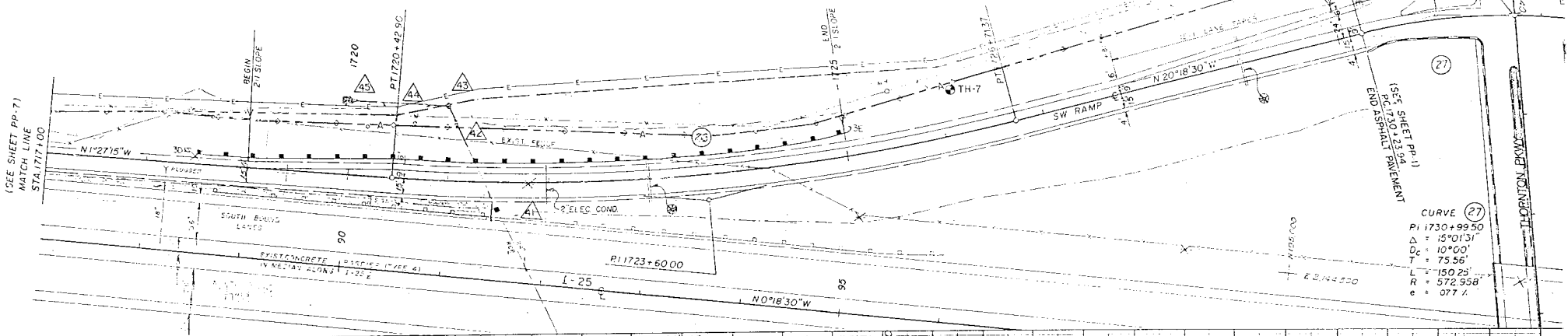
SEE SHEET PD-3 FOR DESCRIPTION AND PROFILE OF DRAINAGE STRUCTURES.

-STEEL CASINGS FOR FUTURE SPRINKLER SYSTEM INCLUDES
(1-2" WELDED PIPE (SCHEDULE 40)
(2-8" WELDED PIPE (SCHEDULE 40)

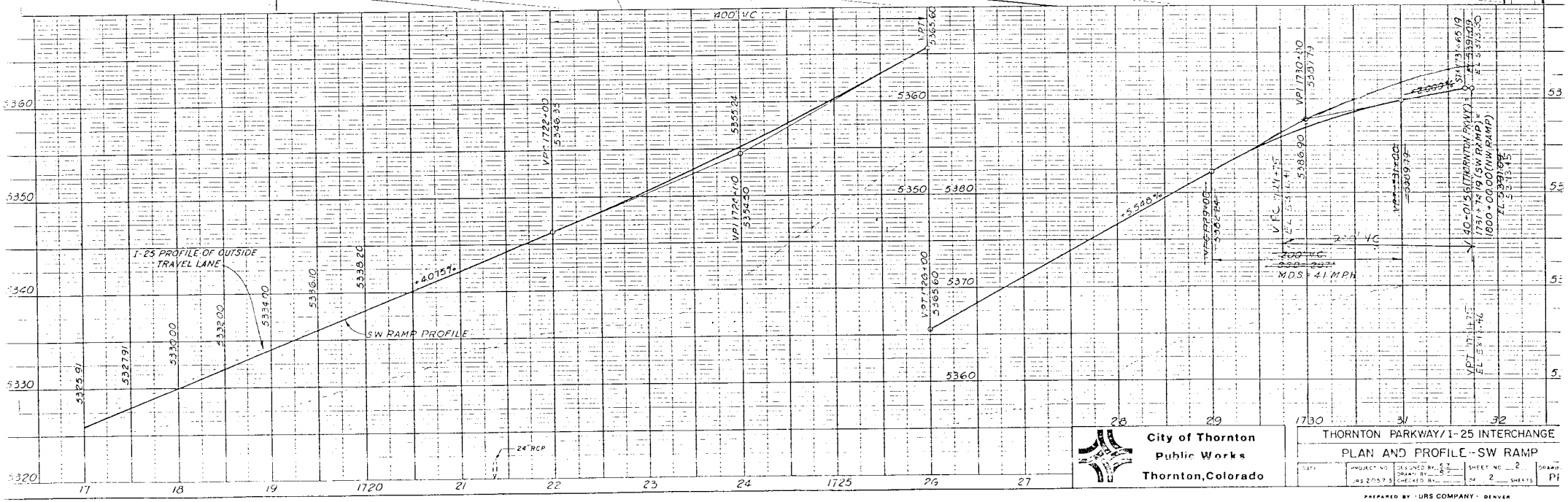
STA. 1714+00 TO 1721+50 - REQ'D. FULL PAVEMENT (HBP & PMBB) BETWEEN SW RAMP & I-25 TO ALLOW FOR PROPER DRAINAGE (SHADED AREA).

CURVE 23
PI = 1723+60.00
Δ = 16°51'15"
Dc = 3°00'00"
T = 317.10'
L = 628.47'
R = 1909.959'
e = .053 %
MDS = 50 MPH

BEGIN PROJECT
PBT 40+01.56 (THORNTON PKWY.)
PBT 1731+74.19 (SW RAMP)
PBT 600+00.00 (NW RAMP)



CURVE 27
PI 1730+99.50
Δ = 15°01'31"
Dc = 10°00'
T = 75.56'
L = 150.25'
R = 572.958'
e = .077 %



City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY/I-25 INTERCHANGE
PLAN AND PROFILE - SW RAMP

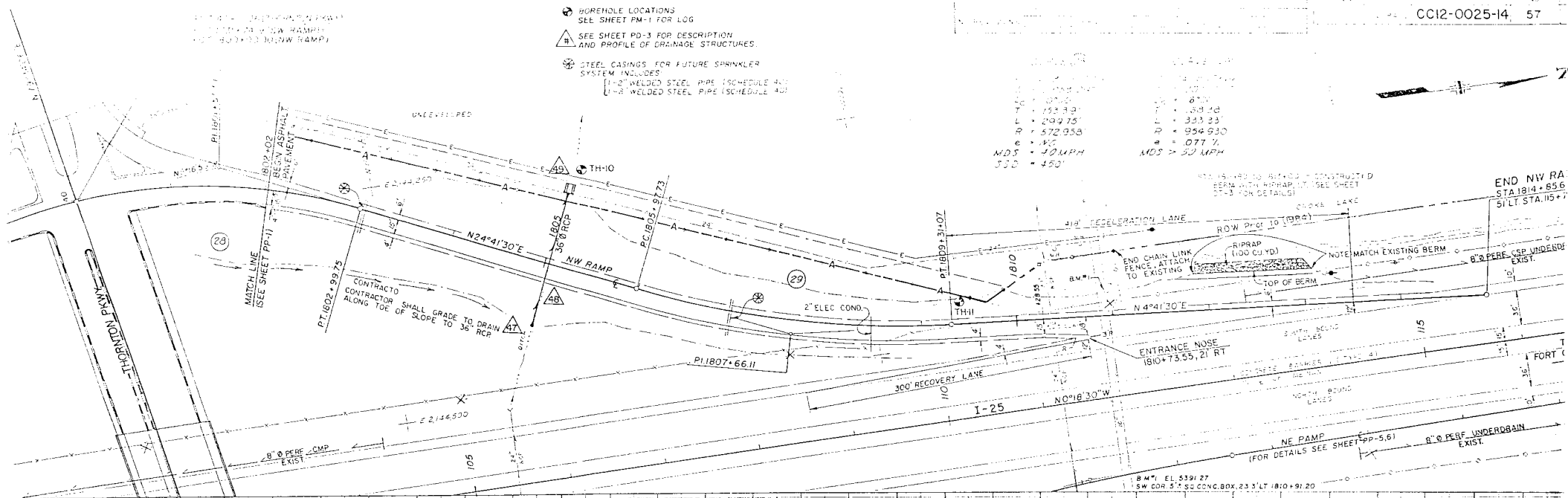
DATE | PROJECT NO. URS 2057 3 | DESIGNED BY S. | DRAWN BY B. | CHECKED BY | SHEET NO. 2 OF 2 SHEETS | DRAWING PP

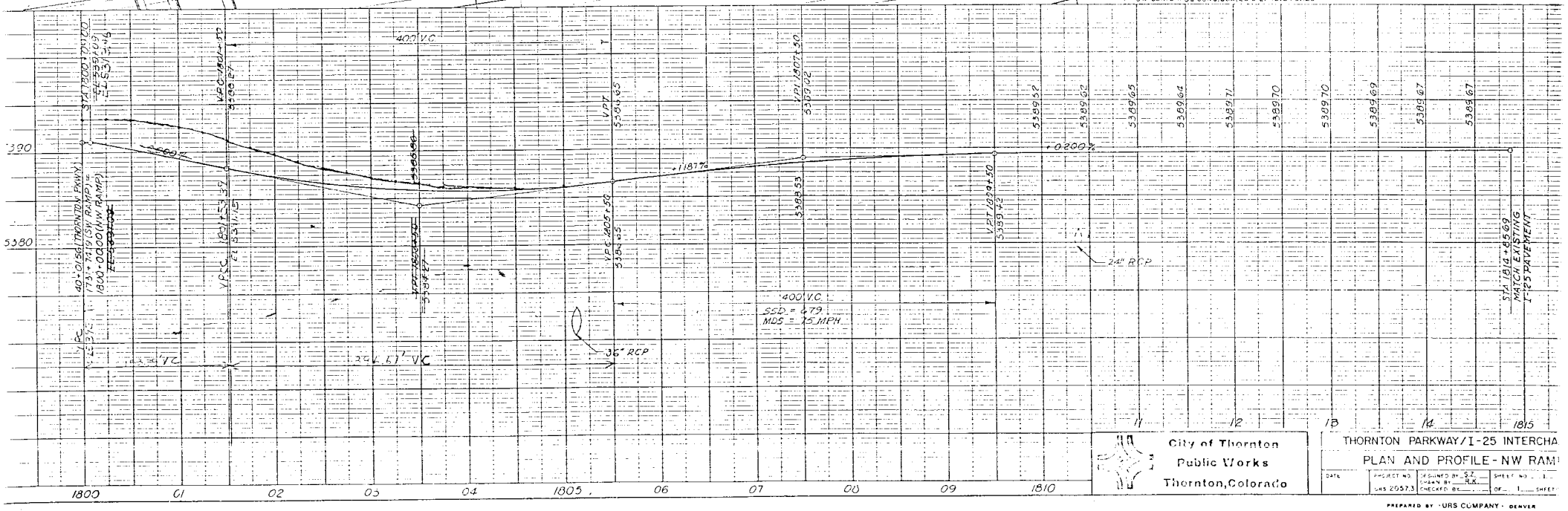
PREPARED BY · URS COMPANY · DENVER

BOREHOLE LOCATIONS SEE SHEET PM-1 FOR LOG

SEE SHEET PD-3 FOR DESCRIPTION AND PROFILE OF DRAINAGE STRUCTURES

STEEL CASINGS FOR FUTURE SPRINKLER SYSTEM INCLUDES:
(1-2" WELDED STEEL PIPE (SCHEDULE 40))
(1-3" WELDED STEEL PIPE (SCHEDULE 40))





City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY/I-25 INTERCHA

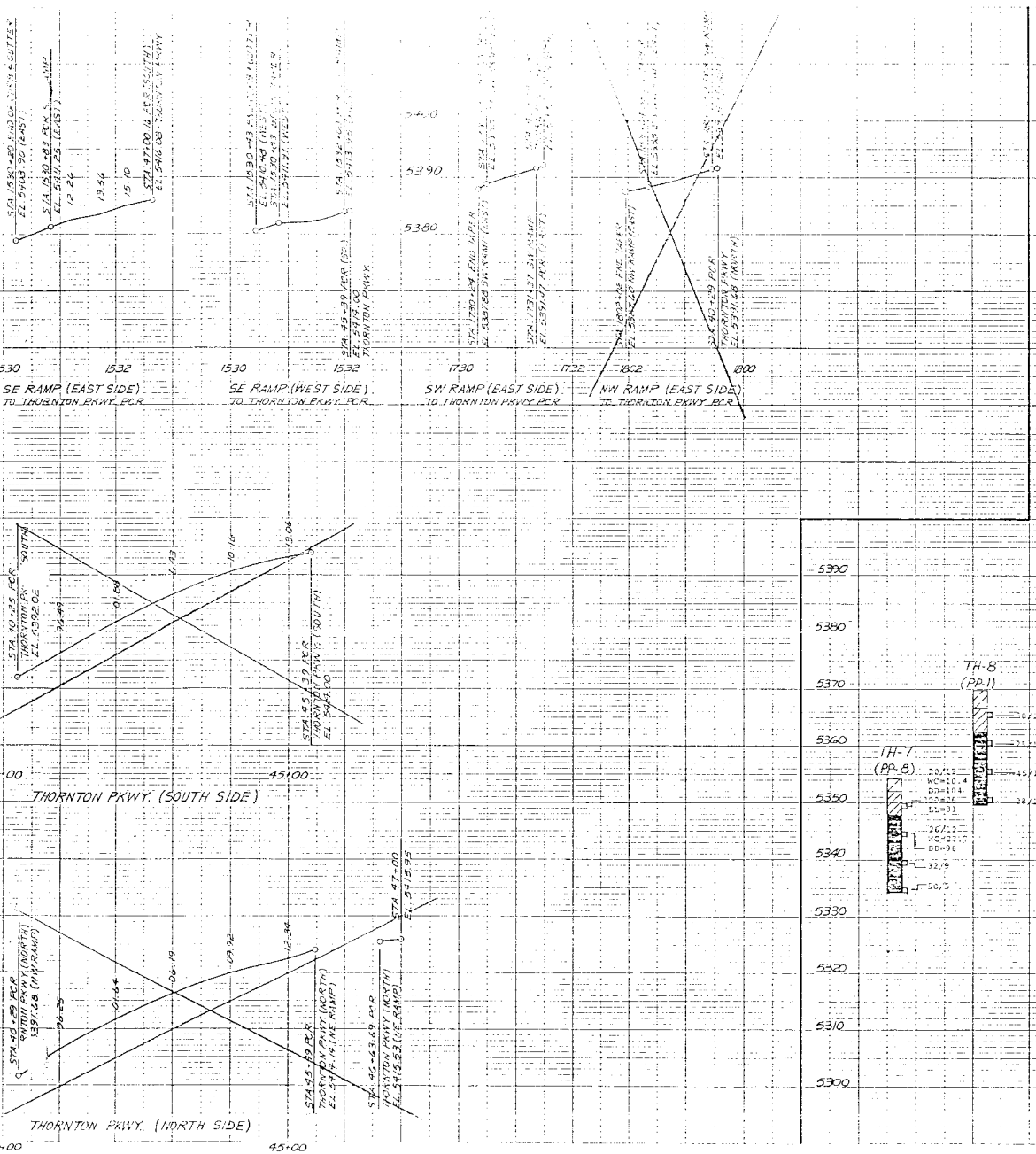
PLAN AND PROFILE - NW RAM

DATE | PROJECT NO. URS 20573 | DESIGNED BY SZ | DRAWN BY RJK | CHECKED BY | SHEET NO. 1 | OF 1 SHEET

PREPARED BY URS COMPANY DENVER

PAN LINE PROFILES

CC12-0025-14



SOILS TESTING

LOGS OF EXPLORATORY BORINGS

ASPHALT AND BASE COURSE

CLAY, SANDY, MEDIUM TO VERY STIFF, SLIGHTLY MOIST, MOIST, BROWN (CL)

FILL, SAND, SILTY (TH-3 AND TH-4), LOOSE TO MEDIUM DENSE, MOIST, BROWN - CLAY SANDY (TH-13), VERY STIFF, MOIST, BROWN

WEATHERED BEDROCK, CLAYSTONE/SANDSTONE, VERY STIFF TO MEDIUM HARD, MOIST, BROWN, LIGHT BROWN, GRAY, OLIVE

DRIVE SAMPLE. THE SYMBOL [illegible] INDICATES THE [illegible] POUND HAMMER FALLING [illegible] WITH A [illegible] INCH DRIVE [illegible] O.D. SAMPLER 12 INCHES.

GRAVEL, CLAYEY, SANDY, DENSE, MOIST, BROWN, (GC)

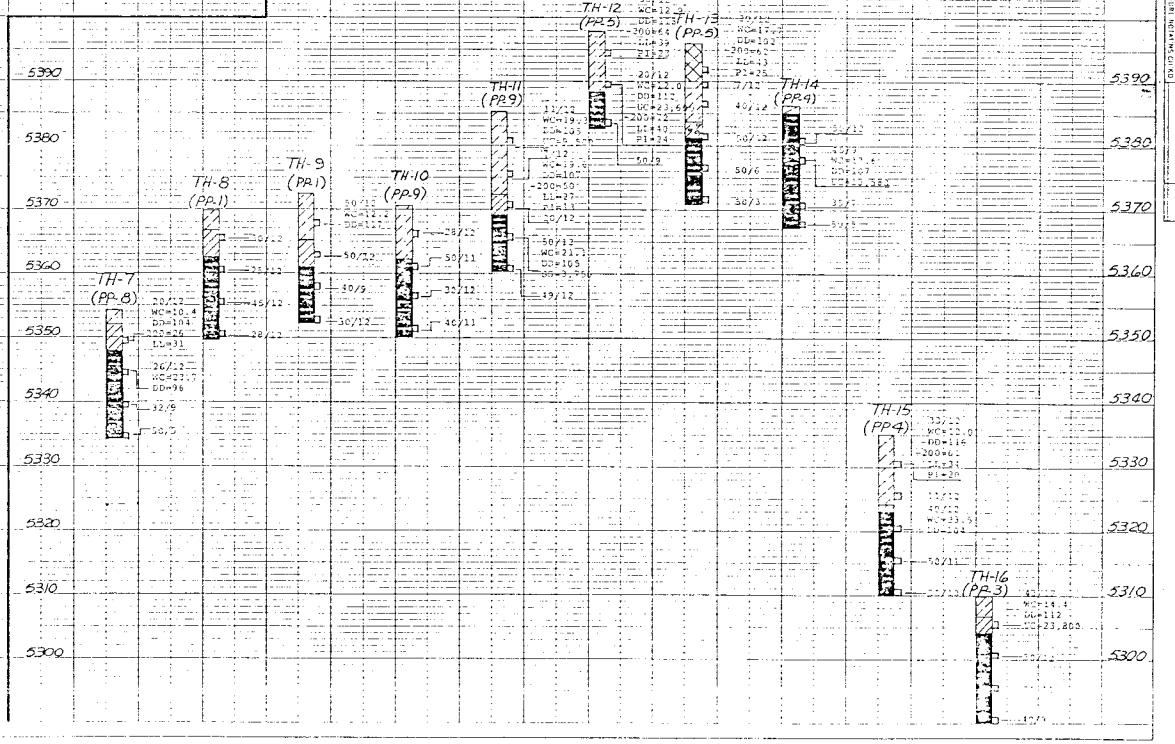
BEDROCK, CLAYSTONE, SANDY, INTERBEDDED SANDSTONE, HARD, VERY HARD, MOIST, BROWN, GRAY, OLIVE, RED-BROWN

INDICATES DEPTH AT WHICH BULK SAMPLE OF STRATA WAS OBTAINED FROM AUGER CUTTINGS.

NOTES:

1. THE BORINGS WERE DRILLED FEBRUARY 16, 17 AND APRIL 15, 1993 WITH A 4-INCH DIAMETER CONTINUOUS FLIGHT POWER AUGER.
2. NO FREE GROUND WATER WAS ENCOUNTERED AT THE TIME OF DRILLING.
3. THESE LOGS ARE SUBJECT TO THE EXPLANATIONS, LIMITATIONS AND CONCLUSIONS AS CONTAINED IN THIS REPORT.
4. EXPLORATORY BORING ELEVATIONS WERE ESTIMATED FROM DRAWINGS SUPPLIED BY URS COMPANY (FIG. 2.).
5. WC - INDICATES NATURAL MOISTURE CONTENT (%)
   DD - INDICATES DRY DENSITY (PCF)
   -200 - INDICATES PERCENT PASSING THE NO. 200 SIEVE
   UC - INDICATES UNCONFINED COMPRESSIVE STRENGTH (PSF)
   LL - INDICATES LIQUID LIMIT (%)
   PI - INDICATES PLASTICITY INDEX (%)
   SS - INDICATES SULFATE CONTENT (PPM)

NOTE: FOR TH1-TH6 SEE BRIDGE PLANS.



PROFILE

PM-1

THORNTON PARKWAY

1 40+40 45' LT.
REQ'D TYPE R INLET
L=10', H=5.50'

2 40+40 LT. TO 40+40 RT.
REQ'D 78' – 18" RCP

3 40+40 35' RT.
REQ'D TYPE R INLET
L=10', H=6.66'

5 47+31 LT. TO 47+31 LT
REQ'D 16'-18" RCP
REQ'D MANHOLE BREAK IN TO PLACE RCP PIPE

6 47+31 52.51' LT.
REQ'D TYPE R INLET
L=10', H=10'

10 47+31 LT. TO 48+40 RT.
REQ'D 114'-18" RCP
REQ'D MANHOLE BREAK IN TO PLACE RCP PIPE

11 48+40 8' RT
REQ'D TYPE R INLET
L=10', H=5'

12 40+40 RT. TO 40+78 RT.
REQ'D 148'-18" RCP
(SEE DETAIL SHEET DS-2)

13 40+78 117' RT.
REQ'D 18" R.C. END SECTION
REQ'D CULVERT OUTLET EROSION PROTECTION
(SEE DETAIL SHEET DS-2)

14 53+81 RT. TO 57+00 RT.
REQ'D 327' – 18" RCP
REMOVE STUBOUT PLUG

15 57+00 [illegible] RT.
REQ'D TYPE R INLET
L=10, H=5'

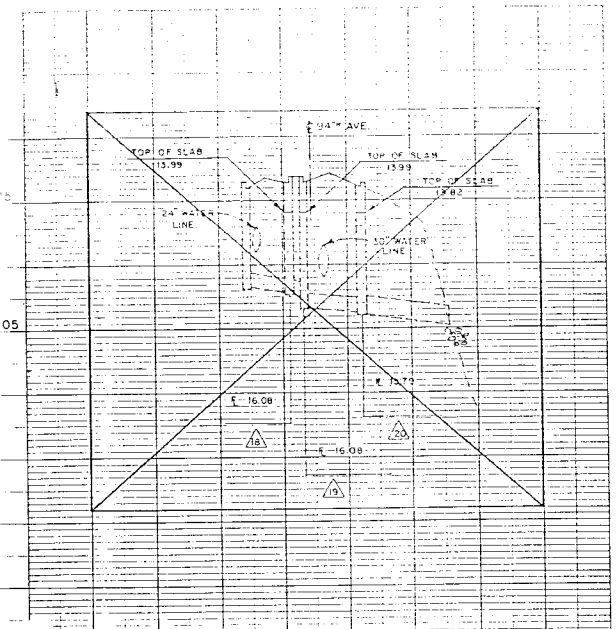
16 57+00 ℄ TO 57+00 RT.
REQ'D 34' – 15" RCP

17 57+00 9' LT.
REQ'D TYPE R INLET (SPECIAL A)
L=10, H=5'

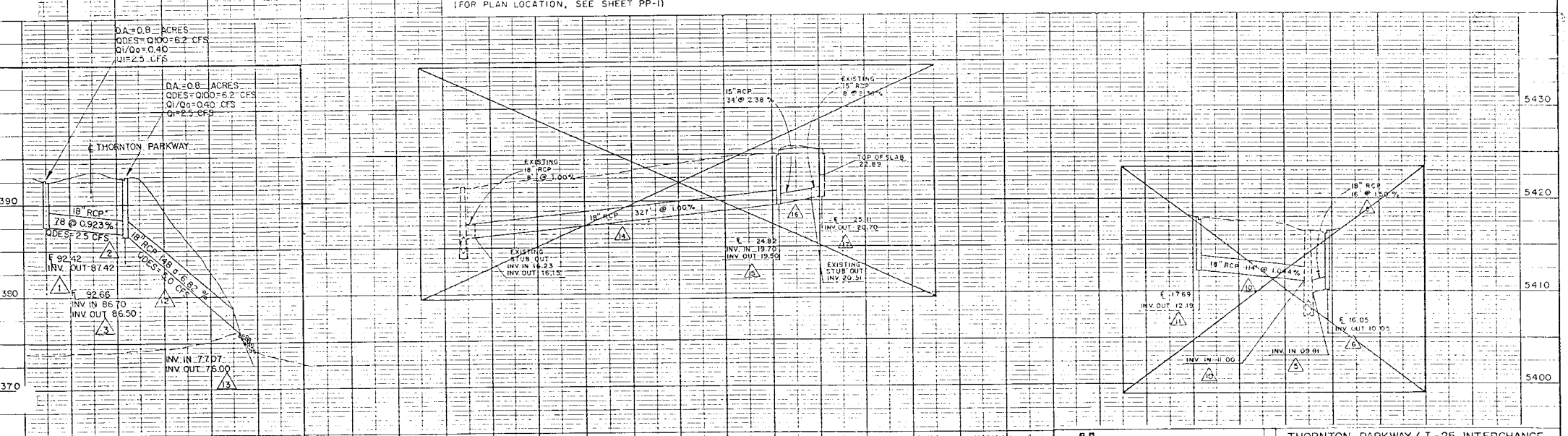
18 73+25 8' LT.
REQ'D TYPE R INLET (SPECIAL A)
L=5', H=10'

19 73+18 2' LT.
REQ'D TYPE R INLET (SPECIAL A)
L=5', H=10'

20 73+23 45' RT.
REQ'D TYPE R INLET (SPECIAL A)
L=10', H=10'



(FOR PLAN LOCATION, SEE SHEET PP-1)



City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
DRAINAGE

DATE	PROJECT NO.	DESIGNED BY A.W. DRAWN BY A.W. CHECKED BY	SHEET NO. 1 OF 3 SHEETS	DRAWING NO.
	URS 20073			PD-1

PREPARED BY URS COMPANY · DENVER

SOUTHEAST RAMP (FOR PLAN LOCATIONS, SEE SHEET PP-3,4)

32 1522+64.20 60.3' LT.
REMOVE 24" R.C. END SECTION
REMOVE 40 LF 24"Ø RCP

34 1522+39.20 97.36' LT.
REQ'D INLET SPECIAL (H=10.45')
(SEE DETAIL SHEET DS-2)

60 1513+00 24' LT.
REQ'D TYPE C INLET (H=5)

61 1513+00 LT TO 1511+55 RT.
REQ'D ~~154'~~ 163 - 18"Ø RCP

64 1511+55 46' RT.
REQ'D 18" Ø RC. END SECTION
REQ'D CULVERT OUTLET EROSION PROTECTION (SEE DETAIL SHEET DS-2)

NORTHEAST RAMP (FOR PLAN LOCATIONS, SEE SHEET PP-5)

22 1601+64.82 27' RT.
REQ'D SLAB BASE MANHOLE (H=10.5')

21 1601+64.82 RT. TO 1603+07.50 RT.
RELAY ~~114'~~ 213' - 24" RCP

22 1603+07.50 36' RT.
REQ'D INLET SPECIAL (H=12.58)

23 1603+07.50 RT. TO 1603+19 LT.
RELAY 76'-24" RCP (SEE DETAIL SHEET DS-2)

24 1603+19 LT. TO 105+45.50 RT.
REQ'D 46' - 24" RCP

25 105+45.50 72' RT.
~~REMOVE~~ 24" R.C. END SECTION

26 1608+91.20 18' LT.
REQ'D TYPE C INLET (H=2.5')

27 1608+94 LT. TO 1608+91.20 RT.
REQ'D ~~38'~~ 32' - 24" RCP.

28 1608+94 16.4' LT.
~~REMOVE~~ 24" RC END SECTION

29 1608+94 16.4' LT.
REQ'D SLAB BASE MANHOLE (H=5.28')

15 REMOVE EXISTING SLAB BASE MANHOLE H=10.5' Ø

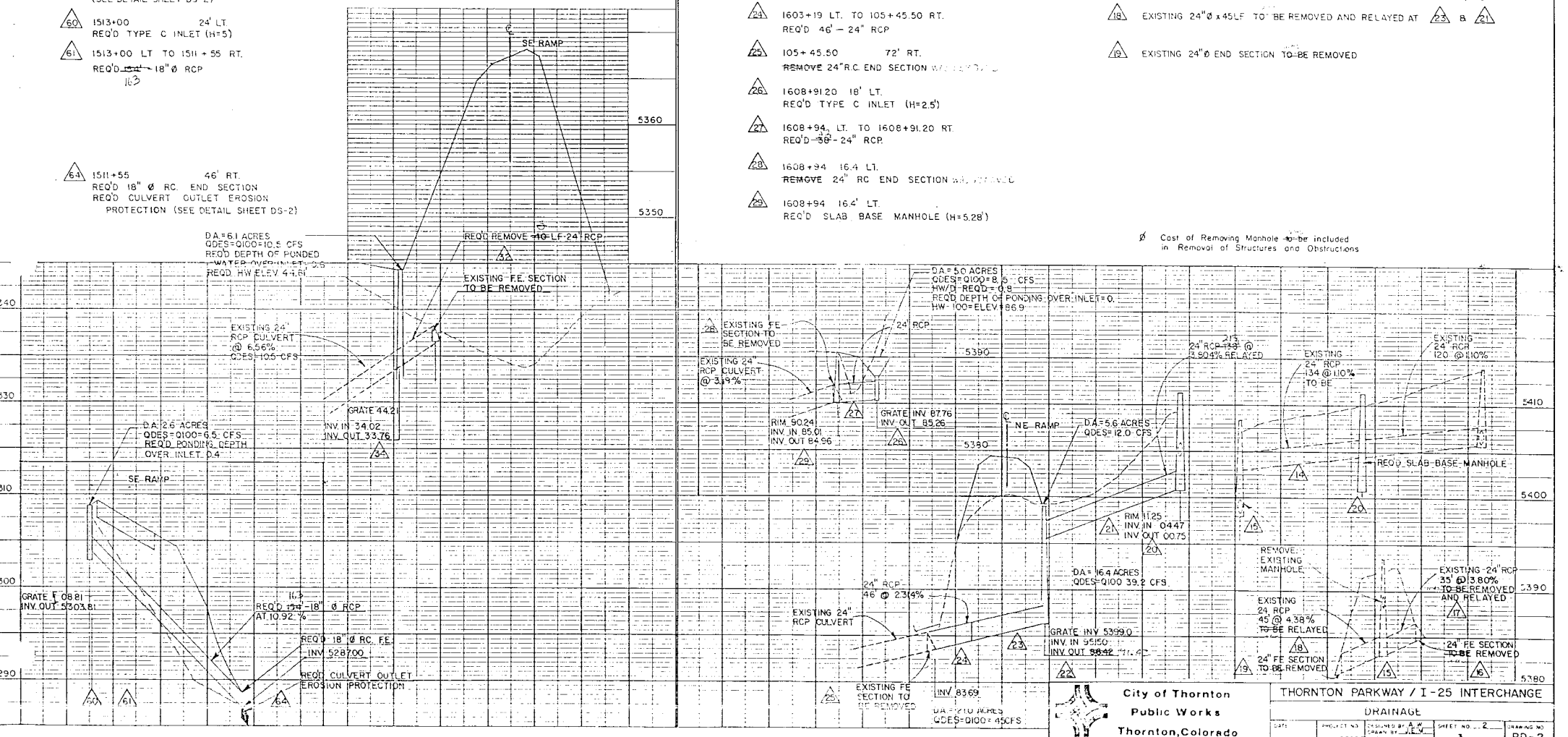
16 EXISTING 24"Ø RC END SECTION TO BE REMOVED

17 EXISTING 24"Ø RCP x 35 LF TO BE REMOVED AND RELAYED AT 23 & 21

18 EXISTING 24"Ø x 45LF TO BE REMOVED AND RELAYED AT 23 & 21

19 EXISTING 24"Ø END SECTION TO BE REMOVED

Ø Cost of Removing Manhole ~~to be~~ included in Removal of Structures and Obstructions



City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

DRAINAGE

DATE	PROJECT NO	DESIGNED BY A.W. / DRAWN BY J.E.V.	SHEET NO. 2 OF 3 SHEETS	DRAWING NO
	URS 20573	CHECKED BY		PD-2

PREPARED BY · URS COMPANY · DENVER

SOUTHWEST RAMP (FOR PLAN LOCATION, SEE SHEET PP-8)

41 1721+48.50 24.8' RT.
REQ'D INLET PROTECTION
REQ'D CULVERT BREAK-IN FOR PLACEMENT OF INLET

42 1721+20.14 LT. TO 1720+96.45 LT.
REQ'D ~~58'~~ 58' – 24" RCP AT 6.56% (VERIFY WATERLINE FIELD ELEV)
REQ'D REMOVE 24"Ø FLARED END SECTION

43 1720+96.45 75.86' LT.
REQ'D SLAB BASE MANHOLE H=8.29'

44 1720+96.45 LT. TO 1720+08 LT.
REQ'D 87' – 30" RCP AT 5.43%

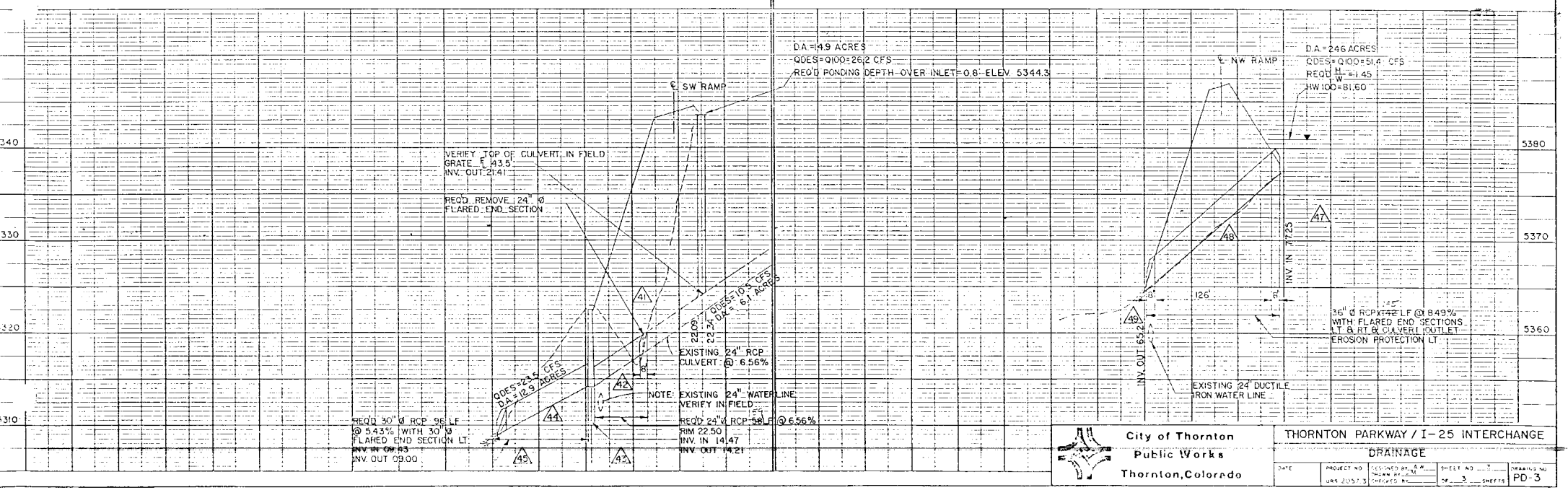
45 1720+00 75' LT.
REQ'D 30"R.C. END SECTION
REQ'D CULVERT OUTLET EROSION PROTECTION
(SEE DETAIL, SHEET DS-2)

NORTHWEST RAMP (FOR PLAN LOCATION, SEE SHEET PP-9)

47 1805+05.50 70' RT
REQ'D 36"R.C. END SECTION

48 1805+06.50 RT. TO 1805+03.50 LT.
REQ'D ~~142'~~ 172' - 36" RCP

49 1805+03.50 80' LT.
REQ'D 36"R.C. END SECTION
REQ'D CULVERT OUTLET EROSION PROTECTION



City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
DRAINAGE

DATE	PROJECT NO	DESIGNED BY	SHEET NO	DRAWING NO
	URS 2057.3	DRAWN BY / CHECKED BY	OF 3 SHEETS	PD-3

PREPARED BY · URS COMPANY · DENVER

TABLE OF CONTENTS

DRAWING NO.	TITLE
SS-1	INDEX & SHEET 1, TABULATION OF SIGNING QUANTITIES
SS-2 - SS-4	TOC LOCATION OF ALL SIGNS
SS-5	TABULATION OF PAVEMENT MARKING
SS-6	CLASS III SIGNS SHEET 1 AND SPACING TABLE FOR PLACING SIGNS ALONG
SS-7	CLASS III SIGNS SHEET 2
SS-8	OVERHEAD SIGNS SHEET 1 AND TABULATION OF POSTS AND PEDESTALS
SS-9	OVERHEAD SIGN SHEET 2
SS-10	OVERHEAD SIGN SHEET 3
SS-11	OVERHEAD SIGN SHEET 4
SS-12	OVERHEAD SIGN SHEET 5
SS-13 & SS-14	DETAILS - SIGN LOCATION
SS-15	DETAILS - SIGN LOCATION AND TABULATION OF OVERHEAD SIGNS
SS-16	DETAILS - INTERSECTION MARKINGS
SS-17 - SS-19	CROSS SECTIONS AT CLASS III AND OVERHEAD SIGN LOCATIONS

GENERAL NOTE:

Public Service Co. - Electric ~~shall~~ provide power sources as noted on Drawing SS-11 and located on Drawings SS-13, SS-14 and SS-15.

30 days notification ~~prior to~~ WAS given to PSC to mobilize forces to furnish the power sources.

TABULATION OF SIGNING QUANTITIES

ITEM NO.	ITEM	UNIT	FINAL PROJECT TOTALS
202	REMOVAL OF PAVEMENT MARKING	SQ. FT.	976 ~~1000~~
202	REM GROUND SIGN	EA	~~4~~ 3
614	SIGN PANEL (CL I)	SQ. FT.	~~170~~ 214
614	SIGN PANEL (CL II)	SQ. FT.	~~254~~ 243
614	SIGN PANEL (CL III)	SQ. FT.	1467
614	TIMBER SIGN POST (4 x 4)	LIN. FT.	~~235~~ 312
614	TIMBER SIGN POST (6 x 6)	LIN. FT.	~~248~~ 243
614	STEEL SIGN POST (W8x18)	LIN. FT.	39
614	CONC FOOTING (TYPE 3)	EA.	2
614	CONC FOOTING IV (SPREAD)	EA.	2
614	CONC FOOTING VI (SPREAD)	EA.	3
614	CONC FOOTING II-S (SPREAD)	EA.	4
614	BAL BTRFLY STR	EA.	4
614	CANT STR (25<30)	EA.	4
614	CANT STR (30<35)	EA.	1
614	OVERPASS MTD. SIGN BRACKET	EA.	2
614	BARRICADE (3 M-B)	EA.	4
614	BARRICADE (3 M-A) (TEMP)	EA.	~~8~~ 6
614	CONST TRAF SIGN (A)	EA.	~~35~~ 4
614	CONST TRAF SIGN (B)	EA.	~~60~~ 49
614	CONST TRAF SIGN (C)	EA.	~~4~~ 0
614	VERTICAL PANEL	EA.	~~40~~ 111
614	VERTICAL PANEL (LIGHT) (F)	EA.	~~20~~ 8
614	FLASH ARROW PANEL (C TYPE)	EA.	6
614	CONCRETE BARRIER (TEMP)	LIN. FT.	~~1348~~ 970
614	TRAFFIC CONE	EA.	~~200~~ 259
614	DRUM CHANNELIZING DEVICE	EA.	~~24~~ 0
627	PAVEMENT MARKING PAINT	GAL.	~~42~~ 57
627	PREFORMED PLASTIC PAVEMENT MARKING (60 MILS)	SQ. FT.	~~6275~~ 7419

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

SIGNING INDEX AND TAB

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS 2057.3	DRAWN BY / CHECKED BY	OF 1 SHEETS	SS-1

PREPARED BY URS COMPANY - DENVER

AS CONSTRUCTED		
NO REVISIONS	REVISED	DATE

00	12	0025-14	63

TABULATION OF SIGNS

SIGN NO.	SIGN CODE	STATION	SIZE	COLOR	REM. TYPE	REM. SIGN STRUCTURE (EACH)	REPOSTS (GROUND SIGN) (EACH)	MODIFY TIMBER SIGN POST (EACH)	MODIFY STEEL SIGN POST (EACH)	NO. OF POSTS	LENGTH OF POST	POST TYPE (LIN. FT.) 4 x 4 TIMBER	6 x 6 TIMBER	WB x 18 BEAM	BEAM	BEAM	BEAM	BEAM	BEAM	SIGN FOOTING TYPE (EACH) 2	3	4	SIGN PANEL (SQ. FT.) 0-3.33	3.33-5.33	5.33-
1	SEE TABULATION OF OVERHEAD SIGNS																								
2	SEE TABULATION OF OVERHEAD SIGNS																								
3		528+00	SEE TAB SHEET TG-7							2	1-18'-0" 1-21'-0"			39.0							2				
4	SEE TABULATION OF OVERHEAD SIGNS																								
5a	SEE TABULATION OF OVERHEAD SIGNS																								
5b	48R3-7a (R)	539+50	48" x 48"	WHITE		MOUNT ON OVERHEAD STRUCTURE POLE																	16.00		
6		528+00			1																				
7a	SEE TABULATION OF OVERHEAD SIGNS																								
7b	48W13-2(45)	526+25	4' x 5'	YELLOW		MOUNT ON OVERHEAD STRUCTURE POLE																	20.00		
8		525+00			1																				
9	48W4-2(R)	1728+50 SW RAMP	DIAMOND 48" x 48"	YELLOW						1	18'-6"		18.5										16.00		
10	SPECIAL	521+00	9' x 5'	GREEN						2	16'-0"		36.0											45.00	
11	48W4-1(R)	514+50	DIAMOND 48" x 48"	YELLOW						1	18'-6"		18.5										16.00		
12		513+00			1																				
13	36W4-2	S.W. RAMP 1724+00	DIAMOND 36" x 36"	YELLOW						1	15'-0"		15.0										9.00		
13a	30R9-3a	S.W. RAMP	30" x 30"	WHITE						1	16'-0"		16.0										6.25		
13b	30R5-6	1729+25	30" x 30"	WHITE																			6.25		
14	48R11-2	S.W. RAMP 1731+00	48" x 30"	WHITE		BARRICADE TYPE 3M-B																		10.00	
15	48R11-2	CROSS ST.	48" x 30"	WHITE		BARRICADE TYPE 3M-B																		10.00	
16	48R11-2	CROSS ST.	48" x 30"	WHITE		BARRICADE TYPE 3M-B																		10.00	
17	30R5-1	CROSS ST.	30" x 30"	WHITE						1	12'-0"	12.0												6.25	
18	30R5-1	CROSS ST.	30" x 30"	WHITE						1	12'-0"	12.0												6.25	
19	48R11-2	N.W. RAMP 1801+00	48" x 30"	WHITE		BARRICADE TYPE 3M-B																		10.00	

NOTES:

1. SEE PLANS FOR FABRICATION DETAILS OF REGULATORY SIGNS AND WARNING SIGNS, STANDARD S-614-30 AND S-614-31 FOR ROUTE MARKERS, AND STANDARD S-614-32 FOR AUXILIARY MARKERS.
2. PANELS FOR CLASS I SIGNS SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARD S-614-2.
3. PANELS FOR CLASS II SIGNS SHALL HAVE BACKING ZEES AND SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARDS S-614-3 AND S-614-10.
4. PANELS FOR CLASS III SIGNS SHALL BE EITHER LAMINATED ALUMINUM OR SHEET ALUMINUM. SEE STANDARD S-614-4 AND PLANS.
5. CLASS III SIGNS WITH A GREEN OR BLUE BACKGROUND SHALL BE FABRICATED FROM EITHER LAMINATED ALUMINUM OR SHEET ALUMINUM AND SHALL HAVE A REFLECTORIZED BACKGROUND. CLASS III SIGNS WITH A BLACK BACKGROUND SHALL BE FABRICATED FROM EITHER SHEET ALUMINUM OR LAMINATED ALUMINUM AND SHALL HAVE A NONREFLECTORIZED BACKGROUND.
6. LEGEND AND BORDER ON ALL CLASS III SIGNS SHALL BE WHITE CUTOUT ALUMINUM WITH REFLEX REFLECTORS OR APPROVED ALTERNATE.
7. FOR TYPICAL GROUND SIGN PLACEMENT SEE STANDARD S-614-1.
8. FOR DETAILS OF SIGN SUPPORTS FOR GROUND SIGNS SEE STANDARD S-614-5.
9. FOR DETAILS OF FOOTINGS, PEDESTALS, AND SIGN ISLANDS SEE STANDARD S-614-6.
10. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.

040182

TABULATION OF SIGNS

SIGN NO.	SIGN CODE	STATION	SIGN PANEL SIZE	BACKGROUND COLOR	NO. OF POSTS	LENGTH OF POST	4 x 4 TIMBER	6 x 6 TIMBER	[illegible]	[illegible]	[illegible]
20a	36R6-1(L)	CROSS STREET	36"X12"	BLACK	1	14'-0"	14.0		3.00		
20b	36R6-1(R)		36"X12"	BLACK					3.00		
21	36R5-1a	N.W. RAMP 1803+00	36"X24"	RED	1	13'-6"	13.5			6.00	
22a	36R5-1a	N.W. RAMP 1803+00	36"X24"	RED	2	15'-0"	30.0			6.00	
22b	SPECIAL		6'X4'	GREEN							24.00
23	SEE TABULATION	OF OVERHEAD SIGNS									
24	48W3-3	N.W. RAMP 1806+00	48"X48"(DIA)	YELLOW	MOUNT ON STREET LIGHT POLE					16.00	
25	SPECIAL	493+25	9'X5'	GREEN	2	18'-0"		36.0			45.00
26	48W13-2(45)	488+80	4'X5'	YELLOW	MOUNT ON OVERHEAD STRUCTURE POLE					20.00	
27	SEE TABULATION	OF OVERHEAD SIGNS									
28	48W3-3	S.E. RAMP 1524+50	48"X48"(DIA)	YELLOW	1	18'-6"		18.5		16.00	
29	48W3-3	S.E. RAMP 1524+50	48"X48"(DIA)	YELLOW	1	18'-6"		18.5		16.00	
30	SPECIAL	S.E. RAMP 1528+25	6'X4'	GREEN	2	15'-0"	30.0				24.00
31a	30R3-7(L)	S.E. RAMP 1529+50	30"X30"	WHITE	1	14'-0"	14.0		6.25		
31b	36R5-1a		36"X24"	RED						6.00	
32a	30R3-7(R)	S.E. RAMP 1529+50	30"X30"	WHITE	1	14'-0"	14.0		6.25		
32b	36R5-1a		36"X24	RED						6.00	
33	SEE TABULATION	OF OVERHEAD SIGNS									
34	30R3-7(L)	S.E. RAMP 1520+00	30"X30"	WHITE	1	14'-0"	14.0		6.25		
35	30R3-7(R)	S.E. RAMP 1520+00	30"X30"	WHITE	1	14'-0"	14.0		6.25		
36	36R1-2	S.E. RAMP 1531+90	36"(TRIANGLE)	WHITE	1	12'-6"	12.5			3.90	

NOTES:

1. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS ~~SHALL BE~~ WERE DETERMINED BY THE ENGINEER.

TABULATION OF SIGNS

SIGN NO.	SIGN CODE	STATION	PANEL SIZE	REFLECTIVE PANEL COLOR	NO. OF SIGN EACH		NO. OF POSTS	LENGTH OF POST	4 x 4 TIMBER	6 x 6 TIMBER	48x12 BEAM	48x15 BEAM	48x18 BEAM	BEAM	BEAM	BEAM	BEAM	BEAM	BEAM			3	4				3	CLASS I	CLASS II	CLASS III
37	30R5-1	S.E. RAMP 1531+90	30"X30"	WHITE			1	14'-0"	14.0																			6.25		
38	30R5-1	S.E. RAMP 1531+90	30"X30"	WHITE			1	14'-0"	14.0																			6.25		
39a	36R6-1(L)	CROSS STREET	36"X12"	BLACK			1	14'-0"	14.0																			3.00		
39b	36R6-1(R)		36"X12"	BLACK																								3.00		
40		500+00			1																									
41	36R1-2	N.E. RAMP 1601+00	36" (TRIANGLE)	WHITE			1	12'-6"	12.5																				3.90	
42a	30R9-3a	N.E. RAMP 1602+00	30"X30"	WHITE			1	16'-0"		16.0																			6.25	
42b	30R5-6		30"X30"	WHITE																									6.25	
43	48W4-1(R)	494+00	48"X48" (DIA)	YELLOW			1	18'-6"		18.5																			16.00	
44	SEE TABULATION OF OVERHEAD SIGNS																													
45	SEE TABULATION OF OVERHEAD SIGNS																													
46	SEE TABULATION OF OVERHEAD SIGNS																													
47	48R2-1(55)	473+00	4'X5'	WHITE			1	18'-6"		18.5																			20.00	
48	48R3-7a(R)	530+00	48"X48"	WHITE			1	17'-6"		17.5																			16.00	
	~~PROJECT TOTALS~~				~~43~~				~~234.5~~	~~247.5~~			39.0									2						~~102.00~~	~~253.80~~	138.00
49	R4-7	46+00	24"x30"					14'-0	14.0																			5.0		
50	R4-7	47+95	24"x30"					14'-0	14.0																			5.0		
51	R4-7	40+50	24"x30"					14'-0	14.0																			5.0		
52	R3-7(L)	1800+50	30"x30"						12.0																			6.25		
53	R3-7(L)	1803+00	30"x30"						12.0																			6.25		
54	R3-7(R)	47+50	30"x30"	MOUNT ON LUM.																								6.25		
55	R3-7(R)	48+50	30"x30"	MOUNT ON LUM.																								6.25		
56	R3-1(L)	46+00	24"x24"					12.0	12.0																			4.0		
57	W4-2	1604+00	36"x36"					16'-0		16.0																			9.0	
	PROJECT TOTALS				3				312	263			39															146	263	138

NOTES:

1. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS ~~TO BE~~ WERE DETERMINED BY THE ENGINEER.

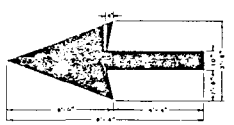
TABULATION OF PAVEMENT MARKINGS

AS CONSTRUCTED		
NO REVISIONS	REVISED	____

PROJECT NUMBER	PARENT	SHEET NO.	TOTAL SHEETS
VIII	0016-0025-14	66	

STATION	LOCATION	EDGE WHITE SOLID 4 INCH	EDGE YELLOW SOLID 4 INCH	LANE WHITE SKIP 5 INCH	CENTER YELLOW SOLID 5 INCH	CENTER YELLOW SKIP 5 INCH	CHANNELIZING WHITE SOLID 10 INCH	CHANNELIZING YELLOW SOLID 10 INCH	CROSSHATCH WHITE SOLID 10 INCH	CROSSHATCH YELLOW SOLID 10 INCH	CROSS-WALK WHITE SOLID 12 INCH	STOP WHITE SOLID 24 INCH
		PAVEMENT MARKING LINES (Linear Feet)										
+ 75 — 526 + 25	I-25 NB	550		550								
+ 25 — 521 + 00	I-25 NB	525					1050					
+ 00 — 518 + 25	I-25 NB	275										
+ 50 — 487 + 00	I-25 NB	550										
+ 00 — 484 + 00	I-25 NB	300		300								
+ 00 — 477 + 50	I-25 NB	650										
+ 50 — 529 + 75	I-25 SB	675										
+ 75 — 525 + 50	I-25 SB	425		425								
+ 50 — 520 + 00	I-25 SB	550										
+ 00 — 493 + 10	I-25 SB	290										
+ 10 — 490 + 40	I-25 SB	270					540					
+ 40 — 488 + 50	I-25 SB	190										
+ 30 — 1514 + 30	S.E. RAMP	100▲	100▲									
+ 30 — 1528 + 00	S.E. RAMP	1370▲	1370▲	1370▲								
+ 00 — 1532 + 10	S.E. RAMP	410▲	410▲				820▲		160			44▲
+ 35 — 1600 + 90	N.E. RAMP	55▲	55▲									
+ 90 — 1609 + 50	N.E. RAMP	860▲	860▲									
+ 50 — 1615 + 00	N.E. RAMP	550▲					550▲					
+ 70 — 1714 + 30	S.W. RAMP	560▲					560▲					
+ 30 — 1727 + 50	S.W. RAMP	1320▲	1320▲									
+ 50 — 1731 + 50	S.W. RAMP	400▲	400▲	400▲								
+ 50 — 1802 + 80	N.W. RAMP	230▲	230▲				230▲		100			27▲
+ 80 — 1810 + 30	N.W. RAMP	750▲	750▲									
+ 12 — 39 + 65	THORNTON PKWY EB			53								24▲
+ — 44 + 90	THORNTON PKWY EB	470					85		170			34▲
+ — 39 + 65	THORNTON PKWY WB			53								
+ 10 — 45 + 50	THORNTON PKWY WB	540		150			300		280			
PROJECT TOTALS												
VEMENT MARKING PAINT		6260		1531			2065		710			
REFORMED PLASTIC PAVEMENT MARKING (60 MILS)		6605	5495	1770			2160					129

STATION	LOCATION	60 MIL PREFORMED PLASTIC PAVEMENT MARKING (Square Feet) LEFT ARROW		TWO		ARROW						
1530 + 00 — 1530 + 20	S.E. RAMP	12.50		20.00								
1531 + 60 — 1531 + 80	S.E. RAMP	12.50		20.00								
1800 + 70 — 1800 + 90	N.W. RAMP	12.50		20.00								
40 + 60 — 40 + 80	THORNTON PKWY WB	25.00		40.00								
42 + 00 — 42 + 20	THORNTON PKWY. WB	25.00		40.00								
44 + 70 — 44 + 95	THORNTON PKWY. EB	12.50		20.00								
1529 + 50	S.E. RAMP					25.00						
1803 + 00	N.W. RAMP					12.50						
PROJECT TOTALS	TOTALS	100.00		160.00		37.50						



PAVEMENT MARKING ARROW DETAIL

NOTE:

FOR DETAILS OF PAVEMENT MARKING LINES AND LINE PLACEMENT, SEE STANDARD S-627-1

IT IS ESTIMATED THAT 1000 SQ. FT. OF REMOVAL OF PAVEMENT MARKING WILL BE REQUIRED FOR THIS PROJECT.

SUMMARY OF PAVEMENT MARKING QUANTITIES

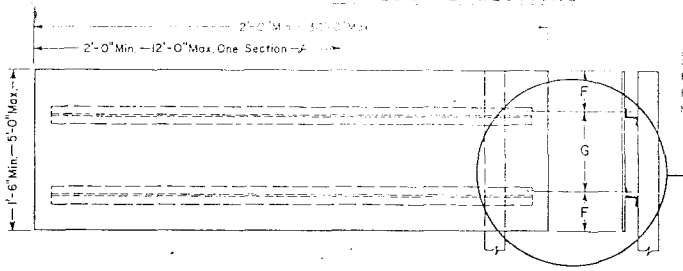
COLOR	PAINT (GAL)	PREFORMED PLASTIC PAVEMENT MARKING (SQ. FT)	PVMT MKG TAPE (SQ. FT)
YELLOW		1832	
WHITE	50	5296	
TOTAL	50 ± 7	7128 ± 7	

CLASS III SIGNS - SHEET 1

NO REVISIONS | REVISED | CC12-0025-14 67

TYPICAL PANEL ELEVATIONS

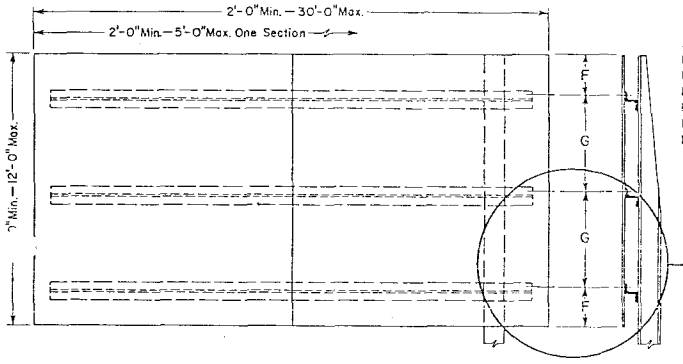
HORIZONTAL SECTIONS



SECTIONS REQUIRED
Height x 2'-0" to 12'-0" = 1 Section
Height x 12'-6" to 24'-0" = 2 Sections
Height x 24'-6" to 30'-0" = 3 Sections

SEE TYPICAL DETAIL ON SHEET 2

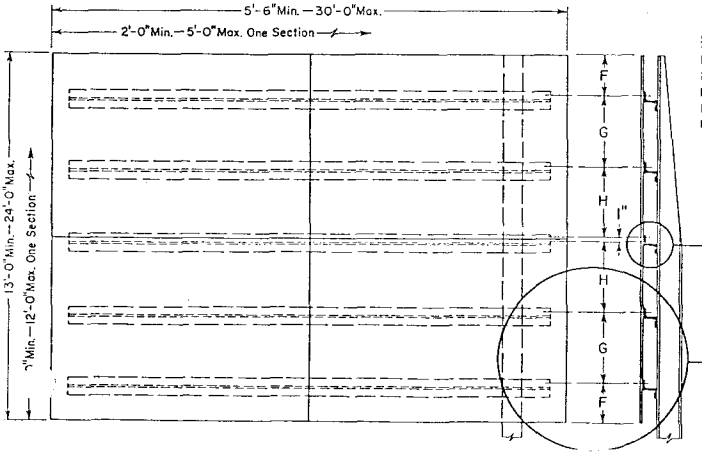
VERTICAL SECTIONS



SECTIONS REQUIRED
Height x 2'-0" to 5'-0" = 1 Section
Height x 5'-6" to 10'-0" = 2 Sections
Height x 10'-6" to 15'-0" = 3 Sections
Height x 15'-6" to 20'-0" = 4 Sections
Height x 20'-6" to 25'-0" = 5 Sections
Height x 25'-6" to 30'-0" = 6 Sections

SEE TYPICAL DETAIL ON SHEET 2

MULTI-VERTICAL SECTIONS



SECTIONS REQUIRED
Height x 5'-6" to 10'-0" = 4 Sections
Height x 10'-6" to 15'-0" = 6 Sections
Height x 15'-6" to 20'-0" = 8 Sections
Height x 20'-6" to 25'-0" = 10 Sections
Height x 25'-6" to 30'-0" = 12 Sections

SEE TYPICAL SEAM CLOSURE ZEE DETAIL ON SHEET 2

SEE TYPICAL DETAIL ON SHEET 2

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS APPLICABLE TO THE PROJECT.
2. SEE THE APPLICABLE STANDARDS FOR SIGN PLACEMENT, FOOTING DETAILS AND POST SPACING TABLE.
3. A (No. 6) 90° COUNTERSUNK ALUMINUM LOCKBOLT FASTENER SHALL BE USED TO FASTEN THE SIGN PANEL TO THE BACKING ZEE. A HEX-HEAD BOLT WITH NUT AND WASHERS SHALL BE USED TO FASTEN THE BACKING ZEE TO A TIMBER POST OR TO A STEEL POST.
4. A FLAT WASHER SHALL BE PLACED BETWEEN THE BOLT HEAD AND THE BACKING ZEE. A LOCK WASHER SHALL BE PLACED UNDER THE NUT ON A STEEL POST OR A BACKING ZEE. A C.I. Ogee WASHER SHALL BE PLACED UNDER THE BOLT HEAD ON A TIMBER POST.
5. THE EXPOSED LOCKBOLT HEADS ON THE FACE OF THE SIGN PANEL SHALL BE COVERED WITH REFLECTIVE SHEETING (TO BE A PART OF THE LOCKBOLT HEAD) TO MATCH THE BACKGROUND COLOR OF THE SIGN.
6. ALL EXPOSED SIGN PANEL SECTION JOINTS, EXCEPT THE MULTI-VERTICAL SECTIONS HORIZONTAL SEAM, SHALL BE COVERED ON THE BACKSIDE OF THE SIGN PANEL WITH AN ALUMINUM CLOSURE STRIP. CLOSURE STRIPS SHALL BE BONDED TO THE SIGN PANEL WITH AN EPOXY RESIN WHICH MEETS THE REQUIREMENTS SPECIFIED IN A.S.T.M. DESIGNATION – D1763, PART 9. ALL BONDED SURFACES SHALL BE CLEAN AND FREE OF ANY FOREIGN MATTER.
7. SIGN PANELS SHALL BE CONSTRUCTED FROM THE LEAST NUMBER OF SECTIONS. THE SECTIONS SHALL BE AS LARGE AS POSSIBLE AND AS NEARLY EQUAL IN SIZE AS POSSIBLE, ACCORDING TO THE LIMITS SHOWN.
8. FOR ADDITIONAL POST AND PANEL INFORMATION SEE THE "TABULATION OF SIGNS" INCLUDED IN THE PLANS.

SPACING TABLE FOR ALUMINUM BACKING ZEES

SIGN NO.	PANEL SIZE	NO. OF ZEES	ZEE SIZE	OVERHANG "F"	SPACING "G"	SPACING "H"
* 1,4,44,46	20' x 7'	3	3" x 2 11/16" x 2.33	1' - 0"	2' - 6"	–
* 2,5,45	12' x 10'	4	3" x 2 11/16" x 2.33	1' - 3"	2' - 6"	–
* 7	15' x 10'	4	3" x 2 11/16" x 2.33	1' - 3"	2' - 6"	–
* 27	15' x 8'	4	3" x 2 11/16" x 2.33	0' - 9"	2' - 2"	–
						–
						–
22b,30	6' x 4'	2	3" x 2 11/16" x 2.33	0' - 11"	2' - 2"	–
10,25	9' x 5'	2	3" x 2 11/16" x 2.33	1' - 3"	2' - 6"	–
* 23	12' x 7'	3	3" x 2 11/16" x 2.33	1' - 0"	2' - 6"	–
* 33	13' x 7'	3	3" x 2 11/16" x 2.33	1' - 0"	2' - 6"	–

*OVERHEAD SIGN PANEL

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

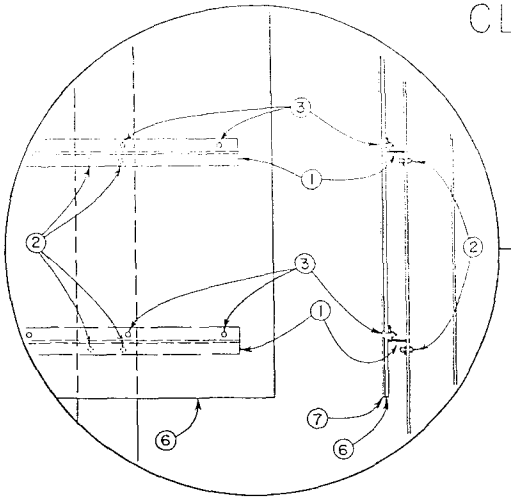
CLASS III SIGNS
SHEET ALUMINUM
PANELS

CLASS III SIGNS - SHEET 2

AS CONSTRUCTED
NO REVISIONS ☐ REVISED ☐ VOID ☐

CC12-0025-14 68

REVISIONS

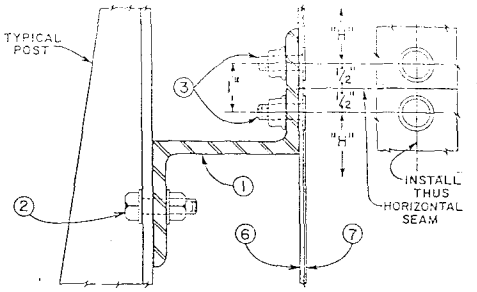


FABRICATION NOTES

1. BACKING ZEE. See "SPACING TABLE". Aluminum Alloy 6061-T6. Each zee to be provided with a $^{9}/_{16}$" x 2" horizontal slot for each post mounting bolt. The length of each zee to be 1" less than the sign panel width.
2. $^{5}/_{8}$" ø HEX-HEAD BOLT. With nut and washers: 2 per backing zee per post are required.
3. $^{5}/_{8}$" ø (No. 6) 90° COUNTERSUNK ALUMINUM LOCKBOLT FASTENER.
4. 2" x 0.080" ALUMINUM CLOSURE STRIP.
5. $^{1}/_{8}$" ø x $^{3}/_{8}$" UNIVERSAL-HEAD, HOLLOW SHANK ALUMINUM RIVET.
6. SHEET ALUMINUM. 0.125" minimum thickness.
7. NON-EXPOSED LENS REFLECTIVE SHEETING. To have a dry (heat activated) adhesive backing.

TYPICAL DETAIL SEAM CLOSURE ZEE

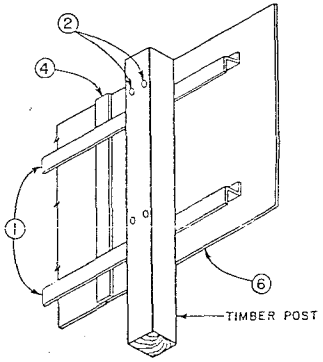
(Multi-Vertical Sections, Horizontal Seam)

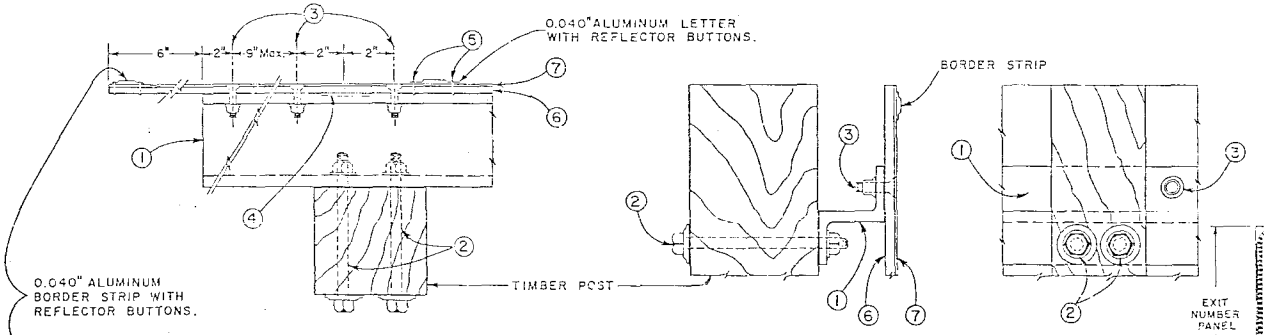


TYPICAL TIMBER POST INSTALLATION

PANEL FABRICATION AND MOUNTING DETAILS

TYPICAL VIEW

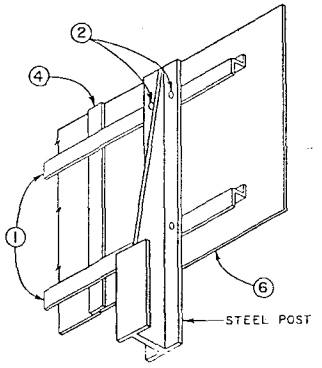


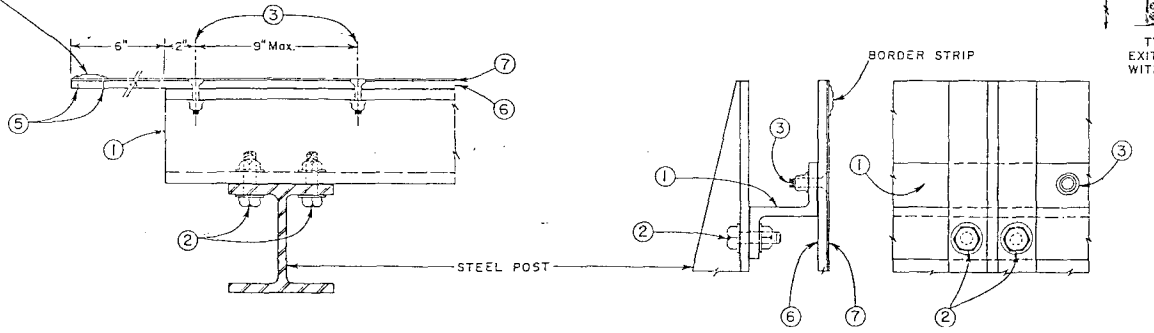


TYPICAL STEEL POST INSTALLATION

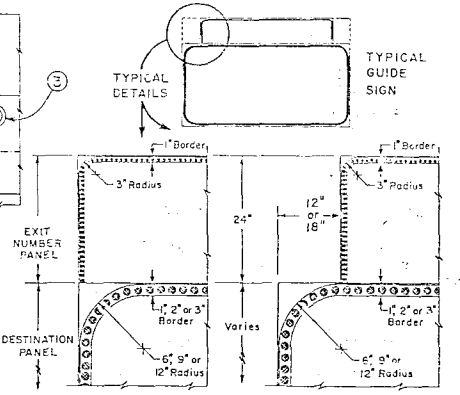
PANEL FABRICATION AND MOUNTING DETAILS

TYPICAL VIEW





TYPICAL BORDER DETAILS EXIT NUMBER PANELS



TYPICAL DETAIL EXIT NUMBER PANEL WITHOUT INDENTATION

TYPICAL DETAIL EXIT NUMBER PANEL WITH INDENTATION

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

CLASS III SIGNS
SHEET ALUMINUM
PANELS

OVERHEAD SIGNS — SHEET 1

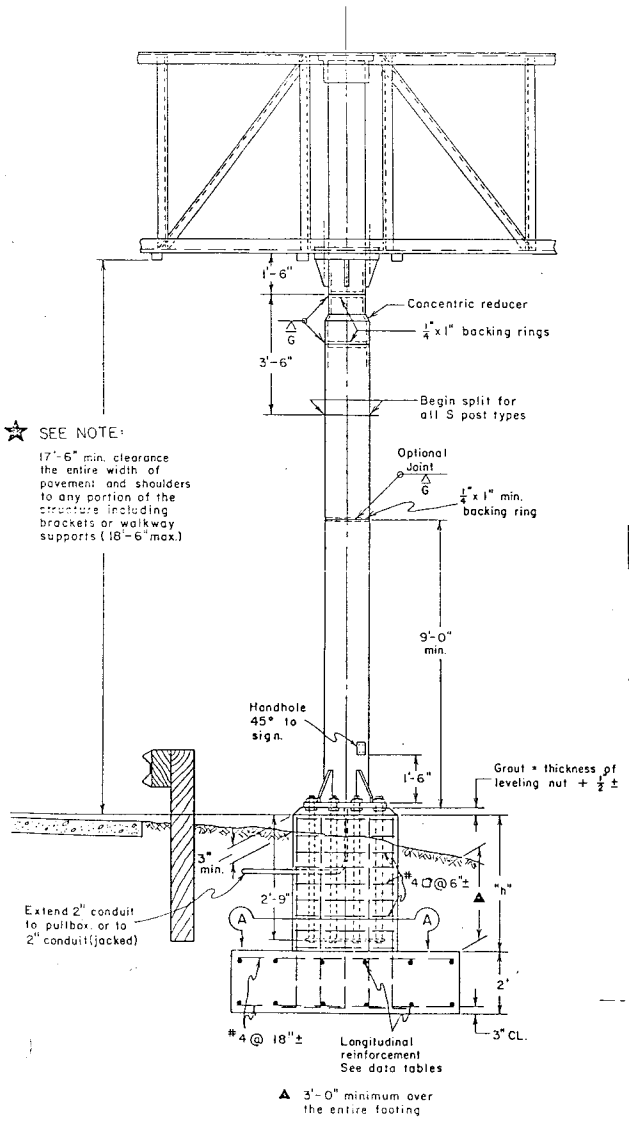
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CCI2-0025-14	69	

AS CONSTRUCTED

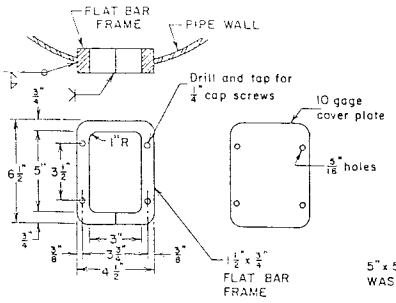
NO REVISIONS

REVISIONS

ELEVATION



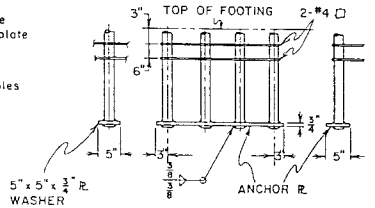
HANDHOLE DETAILS



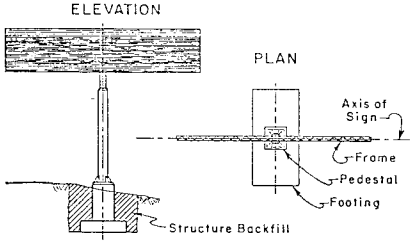
ANCHORAGE DETAILS

SIDE BOLT (Type II thru XII only - 2 Required)

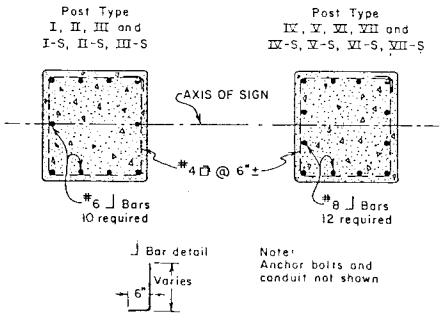
FRONT & BACK BOLTS (All Types - 2 Required shown for 4 bolts and similar for 2 and 3 bolts)



TYPICAL VIEWS



SECTION A-A



Note: Anchor bolts and conduit not shown

GENERAL NOTES

1. All work shall be done in accordance with Standard Specifications applicable to the project and "Standard Specifications For Structural Supports For Highway Signs, Luminaires And Traffic Signals", A.A.S.H.T.O. current issue.
2. Wind loading 35 P.S.F. normal to panel area.
3. UNIT STRESSES:
   a. Structural steel: F_s = 18,000 P.S.I.
   b. Reinforced concrete: F = 20,000 P.S.I.
   c. Footing soil pressure: 1 1/4 TONS / SQ. FT.
   d. Allowable unit stresses due to wind load or wind load in combination with other forces are increased 33 1/3 %.
4. For reinforcement, embedment is clear to outside of bar and is 2" to main reinforcement, except as shown.
5. Base plates, pedestals, and footings, longer sides shall be normal to the axis of sign.
6. Backfill shall be in place prior to erection of post.
7. On single post sign structures, the post shall be raked out of plumb, with the use of the leveling nuts to make the bottom of the sign frame level.
8. Ground one post of each structure.
9. Tapered tube of equivalent size and thickness may be substituted for pipe post
10. For SIGN BRIDGES only, a constant diameter pipe post of the base section size may be used in lieu of the two diameter sections shown.

TABULATION OF POSTS AND PEDESTALS

SIGN NO.	STRUCTURE TYPE	POST TYPE	PEDESTAL HEIGHT "h" ONE POST	TWO POSTS Lt.	TWO POSTS Rt.
1	BUTTERFLY	II-S	5'-8"		
2	CANTILEVER	VI	4'-6"		
4	BUTTERFLY	II-S	7'-2"		
5	CANTILEVER	V	6'-0"		
7	CANTILEVER	VI	4'-6"		
27	CANTILEVER	V	4'-0"		
44	BUTTERFLY	II-S	6'-2"		
45	CANTILEVER	VI	5'-0"		
46	BUTTERFLY	II-S	7'-2"		

* PEDESTAL HEIGHT TO MATCH HEIGHT OF CONCRETE BARRIER POST LENGTH WILL BE REDUCED 2'-8" (THE NORMAL CONCRETE MEDIAN BARRIER HEIGHT TO WHICH THE PEDESTAL IS TO BE BUILT). THIS REDUCTION MAY BE INCREASED IF THE MEDIAN BARRIER IS RAISED ABOVE THE LINE OF SIGHT BETWEEN ROADWAYS FOR "GLARE WALL".

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

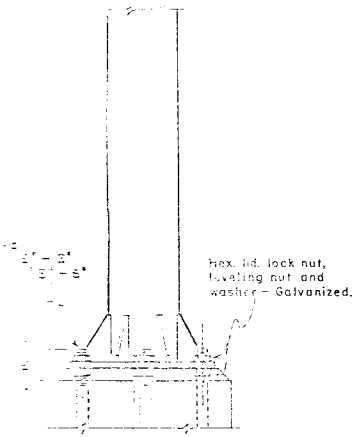
OVERHEAD SIGNS
POSTS & FOOTINGS (SPREAD)

OVERHEAD SIGNS — SHEET 2

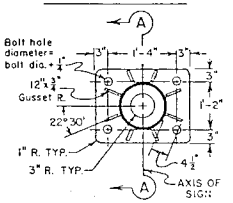
FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	70	

AS CONSTRUCTED
NO REVISIONS | REVISED | BY

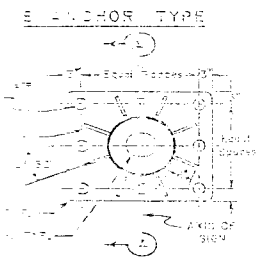
TYPES I-S - VII-S & BASE PLATES



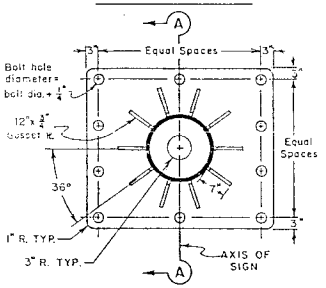
4 ANCHOR TYPE



6 ANCHOR TYPE

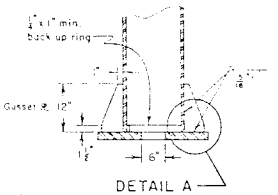


10 ANCHOR TYPE

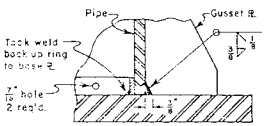


SECTION A-A

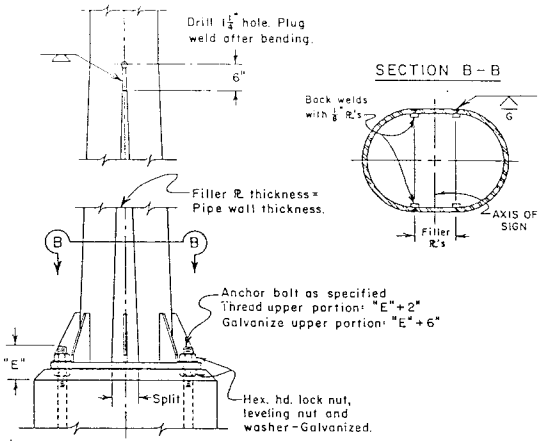
COMMON TO ALL TYPES



DETAIL A

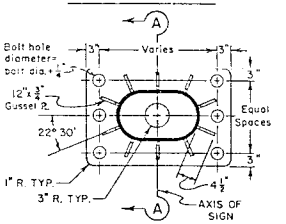


POSTS TYPES I-S - VII-S & BASE PLATES

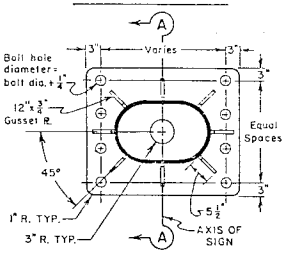


SECTION B-B

6 ANCHOR TYPE



8 ANCHOR TYPE



TYPES X THRU VII DATA TABLE

POST TYPE	REDUCER LENGTH	"E"	BASE PLATE SIZE	ANCHOR BOLTS	PEDESTAL SIZE	FOOTING SIZE	LONGITUDINAL FOOTING REINFORCEMENT TOP	LONGITUDINAL FOOTING REINFORCEMENT BOTTOM
X	7"	5"	1'-10" x 1'-8" x 1 1/2"	4 - 2" φ	2'-5" x 2'-3"	5'-0" x 9'-0"	6 - #4 bars	6 - #4 bars
XI	8"	5 1/2"	2'-1" x 2'-1" x 1 1/2"	8 - 1 3/4" φ	2'-11" x 2'-8"	6'-0" x 10'-0"	6 - #4 bars	6 - #4 bars
XII-1"	8"	5 1/2"	2'-4" x 2'-3" x 3/4"	8 - 2" φ	3'-2" x 2'-10"	7'-0" x 12'-0"	6 - #5 bars	6 - #5 bars
XIII-2"	8"	5 1/2"	3'-1" x 2'-9" x 2"	10 - 2" φ	3'-8" x 3'-4"	7'-0" x 13'-0"	6 - #5 bars	6 - #5 bars
XIV-3"	8"	5 1/2"	3'-7" x 3'-0" x 1 3/4"	10 - 2" φ	3'-10" x 3'-7"	8'-0" x 14'-0"	7 - #5 bars	7 - #6 bars
XV-3"	8"	5 1/2"	3'-7" x 3'-0" x 2"	10 - 2" φ	3'-10" x 3'-7"	9'-0" x 15'-0"	6 - #6 bars	6 - #7 bars
XVI-5"	8"	5"	4'-3" x 3'-11" x 2 1/4"	10 - 2 1/4" φ	4'-3" x 3'-11"	10'-0" x 17'-0"	7 - #6 bars	7 - #8 bars

TYPES I-S THRU VII-S DATA TABLE

POST TYPE	PIPE SIZES BASE SECTION	PIPE SIZES UPPER SECTION	REDUCER LENGTH	"E"	SPLIT	BASE PLATE SIZE	ANCHOR BOLTS	PEDESTAL SIZE	FOOTING SIZE	LONGITUDINAL FOOTING REINFORCEMENT TOP	LONGITUDINAL FOOTING REINFORCEMENT BOTTOM
I-S	10" Std. @ 40.48	8" Std. @ 28.55	7"	6 1/2"	4"	2'-1" x 1'-9" x 1 1/2"	6 - 1 1/2" φ	2'-7" x 2'-3"	5'-0" x 10'-0"	5 - #4 bars	5 - #6 bars
II-S	12" Std. @ 49.56	10" Std. @ 34.24	8"	7 1/2"	5"	2'-5" x 1'-11" x 1 1/2"	6 - 1 3/4" φ	3'-0" x 2'-6"	6'-0" x 11'-0"	6 - #4 bars	6 - #7 bars
III-S	14" O.D. @ 72.09	12" Std. @ 43.77	1'-1"	8 1/2"	5"	2'-9" x 2'-0" x 2"	6 - 2" φ	3'-4" x 2'-7"	7'-0" x 13'-0"	7 - #4 bars	7 - #8 bars
IV-S	16" O.D. @ 82.77	14" O.D. @ 54.57	1'-2"	8 1/2"	6"	2'-11" x 2'-7" x 2"	8 - 2" φ	3'-6" x 3'-2"	8'-0" x 14'-0"	8 - #5 bars	8 - #9 bars
V-S	18" O.D. @ 93.45	16" O.D. @ 62.58	1'-3"	8 1/2"	7"	3'-1" x 2'-9" x 2"	8 - 2" φ	3'-8" x 3'-4"	8'-0" x 16'-0"	8 - #5 bars	8 - #9 bars
VI-S	20" O.D. @ 104.13	18" O.D. @ 70.59	1'-8"	8 1/2"	8"	3'-5" x 2'-9" x 2"	8 - 2" φ	4'-0" x 3'-4"	9'-0" x 17'-0"	9 - #5 bars	9 - #10 bars
VII-S	24" O.D. @ 125.49	20" O.D. @ 78.60	1'-8"	9 1/2"	8"	3'-9" x 3'-3" x 2"	8 - 2 1/4" φ	4'-5" x 3'-11"	10'-0" x 18'-0"	10 - #6 bars	10 - #11 bars

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

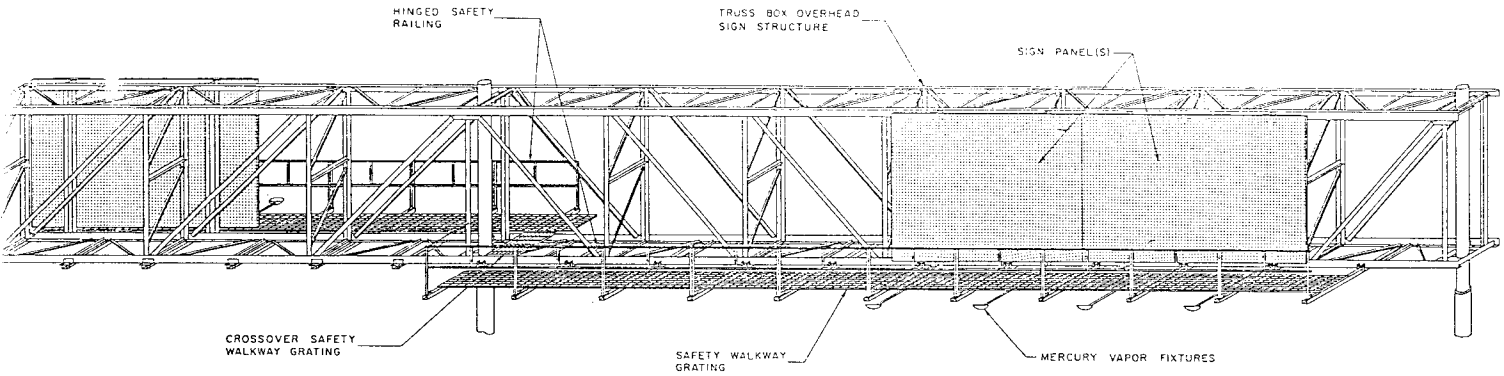
OVERHEAD SIGNS
POSTS &
FOOTINGS (SPREAD)

OVERHEAD SIGNS - SHEET 3

	DIVISION	PROJ. NO.	
	SUBPARTS	CC12-0025-14 71	

REVISIONS

AS CONSTRUCTED
NO REVISION | REVISED | VOID



TYPICAL VIEW OF ASSEMBLED MEMBERS

TYPICAL CANTILEVER SIGN STRUCTURE SHOWN

GENERAL NOTES

1. All work ~~shall be~~ done in accordance with:
   (a) the Standard Specifications applicable to the project.
   (b) the "Manual on Uniform Traffic Control Devices for Streets and Highways" published by the Federal Highway Administration, and the latest revision of the Colorado Supplement thereto.
   (c) AASHO specifications for the design and construction of Structural Supports for Highway Signs.
2. Safety walkway grating ~~shall be~~ welded-type with 1¼" x ⅛" bearing bars at 1 3/16" centers and 3/16" dia. (or equal) crossbars at 4" centers.
3. Brackets ~~to be~~ evenly spaced with a maximum center to center spacing of 5'-6".
4. Bolts, nuts, washers, etc. ~~shall be~~ galvanized or cadmium plated.
5. Walkway grating, brackets and railing ~~shall be~~ painted in accordance with Section 509, wiring ~~shall be~~ in accordance with Section 613.
6. Crossover safety walkway ~~to be~~ used when sign bridges have sign panels facing two directions.

LIGHTING NOTES

1. Fixtures ~~shall be~~ are watertight, dustproof and designed for ease of lamp replacement.
2. ~~Lamp shall be~~ Lamps are 400 watt Mercury Vapor. Lamps and ballasts ~~shall be~~ designed to operate over an ambient temperature range of -25° F to +120° F.
3. Ballasts ~~shall~~ operate from a 120 volt, 60 hz., single phase source with a regulated output of ± 12%. Ballasts ~~shall be~~ housed in a watertight dustproof enclosure.
4. The type, number and spacing of fixtures ~~shall be~~ are per manufactures specifications to maintain a maximum initial illumination of the sign face of 30 foot candles to 60 foot candles with a maximum uniformity ratio (maximum illumination/minimum illumination) of 5:1.
5. Fixture and mounting details ~~will be~~ are subject to approval by the Engineer.

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS
LIGHT FIXTURE
AND
SAFETY WALKWAY
DETAILS

SS-10

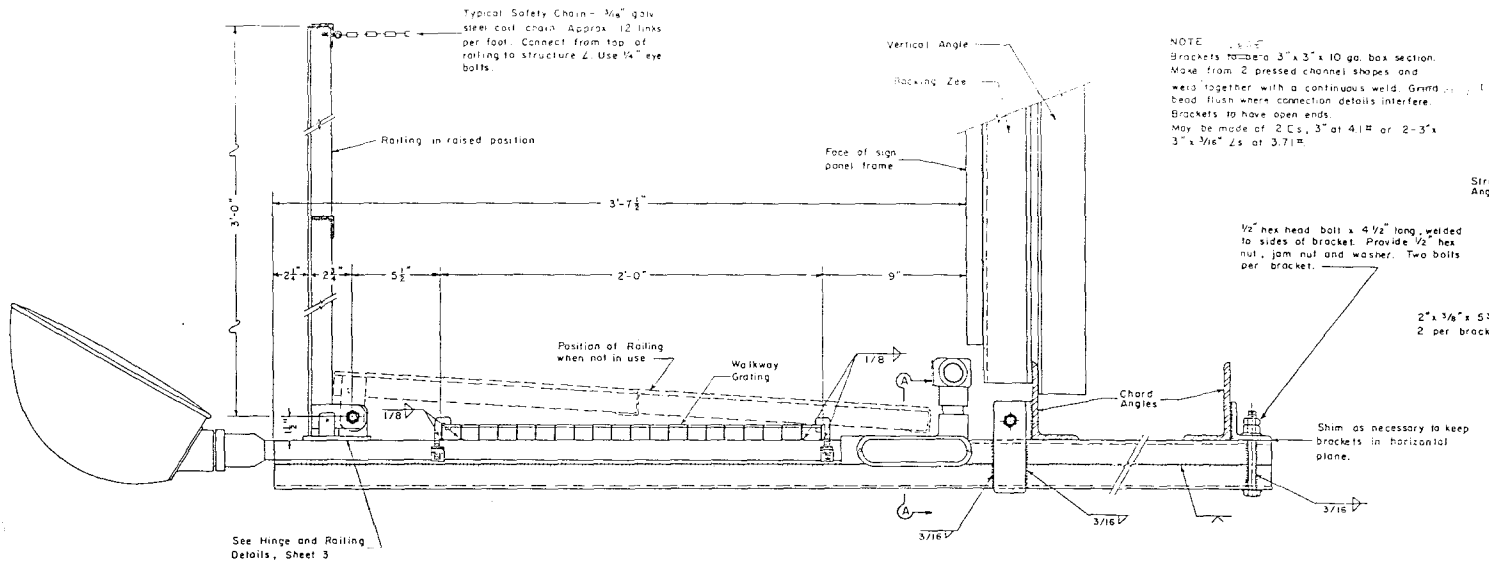
OVERHEAD SIGNS - SHEET 4

FEDERAL HIGHWAY REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CO-2 0025-14	72	

REVISIONS

AS CONSTRUCTED

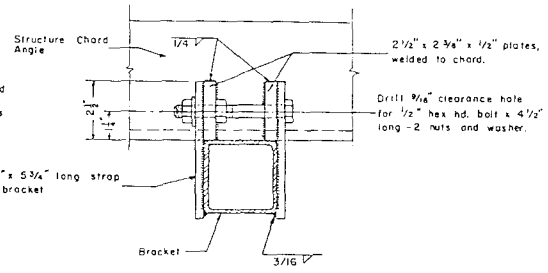
NO REVISIONS ☐ REVISED ☐ VOID ☐



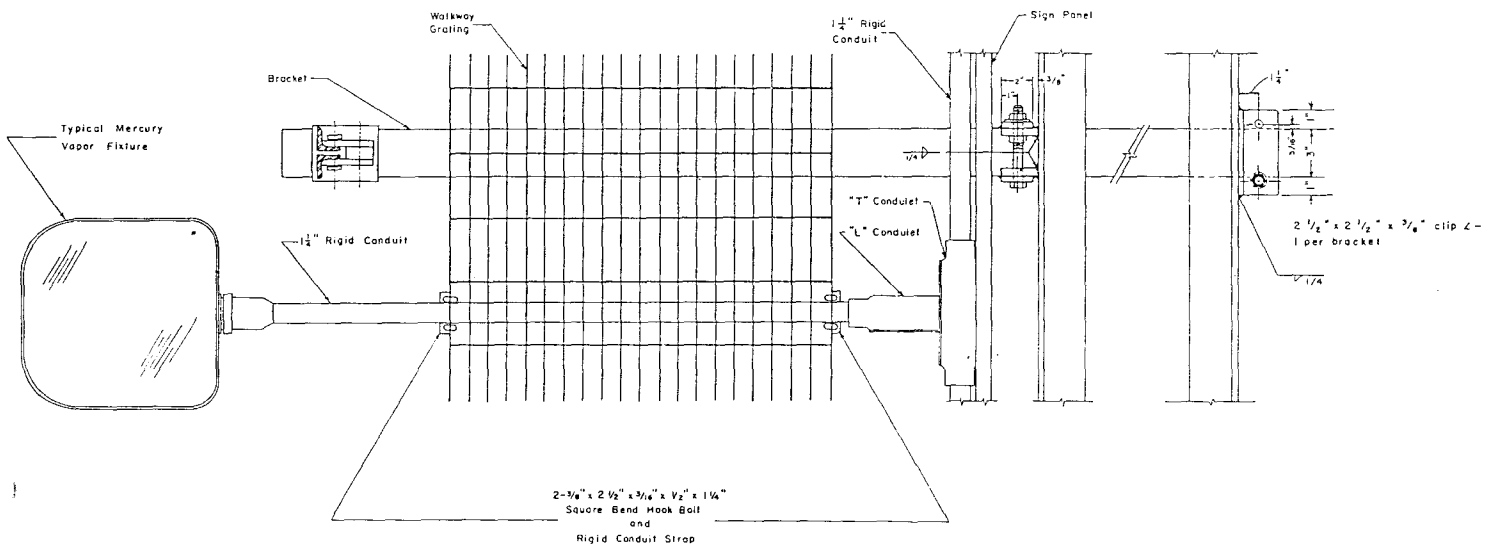
NOTE

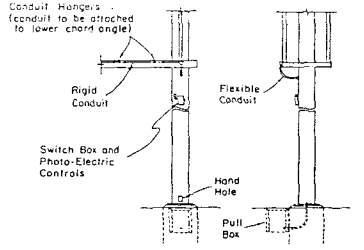
Brackets to be a 3" x 3" x 10 ga. box section. Make from 2 pressed channel shapes and weld together with a continuous weld. Grind [illegible] bead flush where connection details interfere. Brackets to have open ends. May be made of 2 Cs, 3" at 4.1# or 2-3" x 3" x 3/16" ∠s at 3.7#.

1/2" hex head bolt x 4 1/2" long, welded to sides of bracket. Provide 1/2" hex nut, jam nut and washer. Two bolts per bracket.



SECTION A-A





The Contractor is to provide all necessary wiring within the structure down to the hand hole, provide conduit through the footing, conduit jacked under I-25 (where signs are in the median), and direct burial cable to the R.O.W. line.

The Utility Company is to provide the wiring from the power source to the R.O.W. line and is to make connection with the contractor's wiring.

TYPICAL ELECTRICAL CONNECTION DETAIL

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS
LIGHT FIXTURE
AND
SAFETY WALKWAY
DETAILS

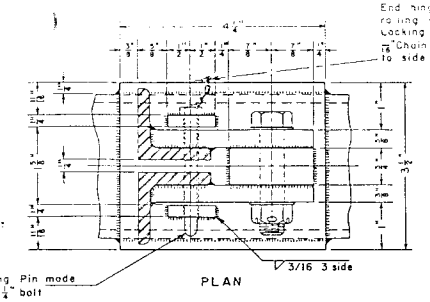
OVERHEAD SIGNS - SHEET 5

FEDERAL ROAD REGION NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC12-0025-14	73	

REVISIONS

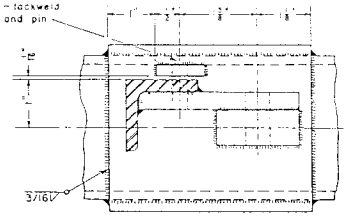
AS CONSTRUCTED

NO REVISION | REVISED | VOID



PLAN

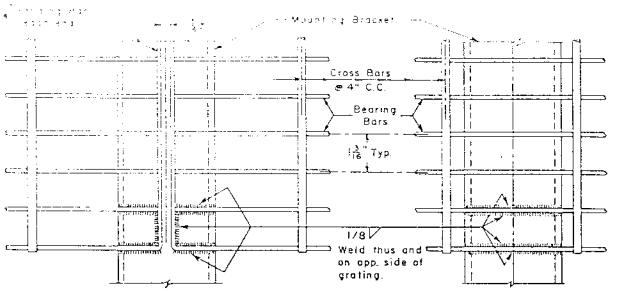
TYPICAL INTERIOR HINGE



NOTE: For dimensions not shown see Typical Interior Hinge

PLAN

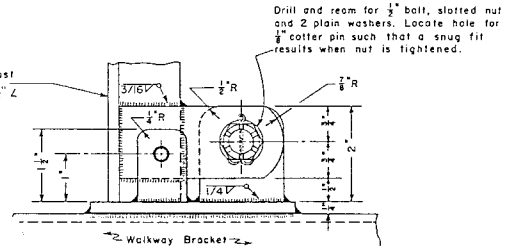
TYPICAL EXTERIOR HINGE



DISCONTINUOUS

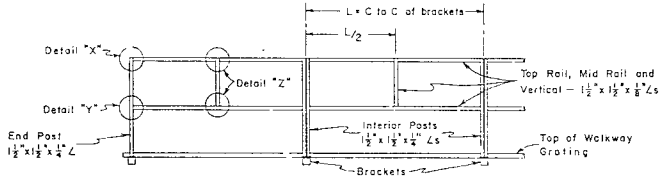
CONTINUOUS

TYPICAL WALKWAY GRATING

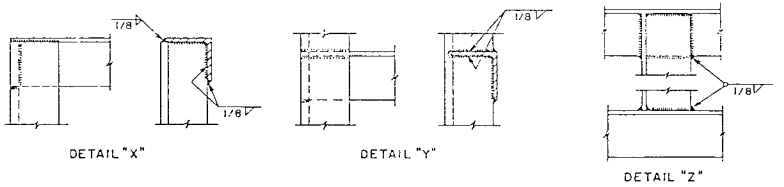


ELEVATION

TYPICAL INTERIOR HINGE



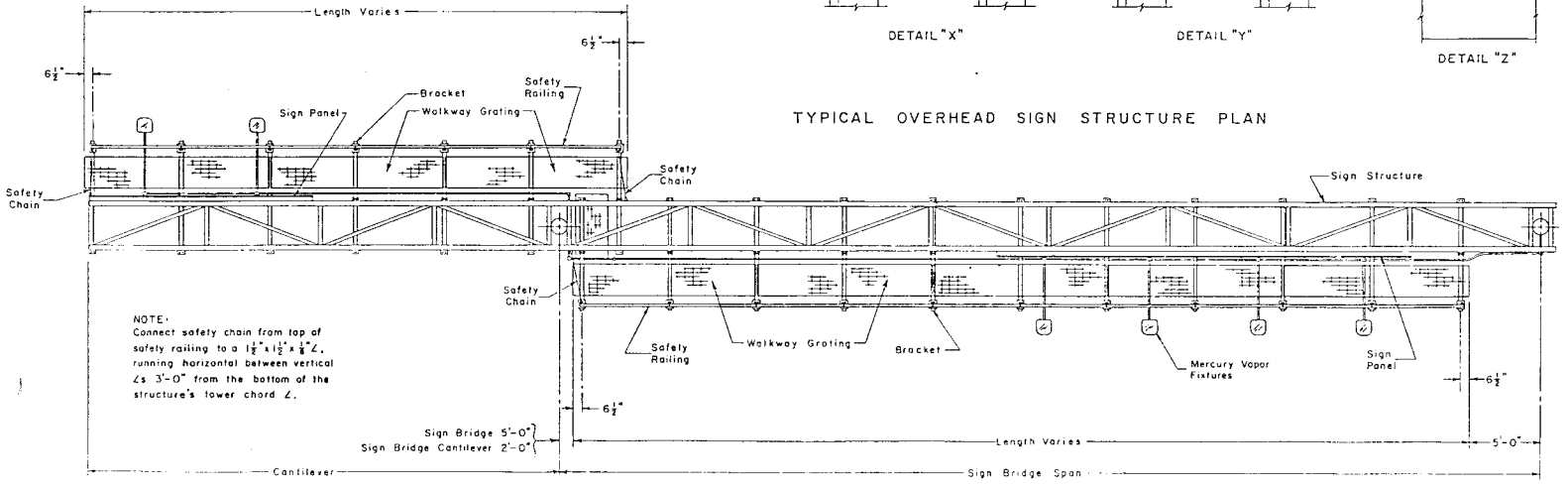
TYPICAL SAFETY RAILING ELEVATION AND DETAILS



DETAIL "X"

DETAIL "Y"

DETAIL "Z"



NOTE:
Connect safety chain from top of safety railing to a 1 1/2" x 1 1/2" x 1/8" ∠, running horizontal between vertical ∠s 3'-0" from the bottom of the structure's tower chord ∠.

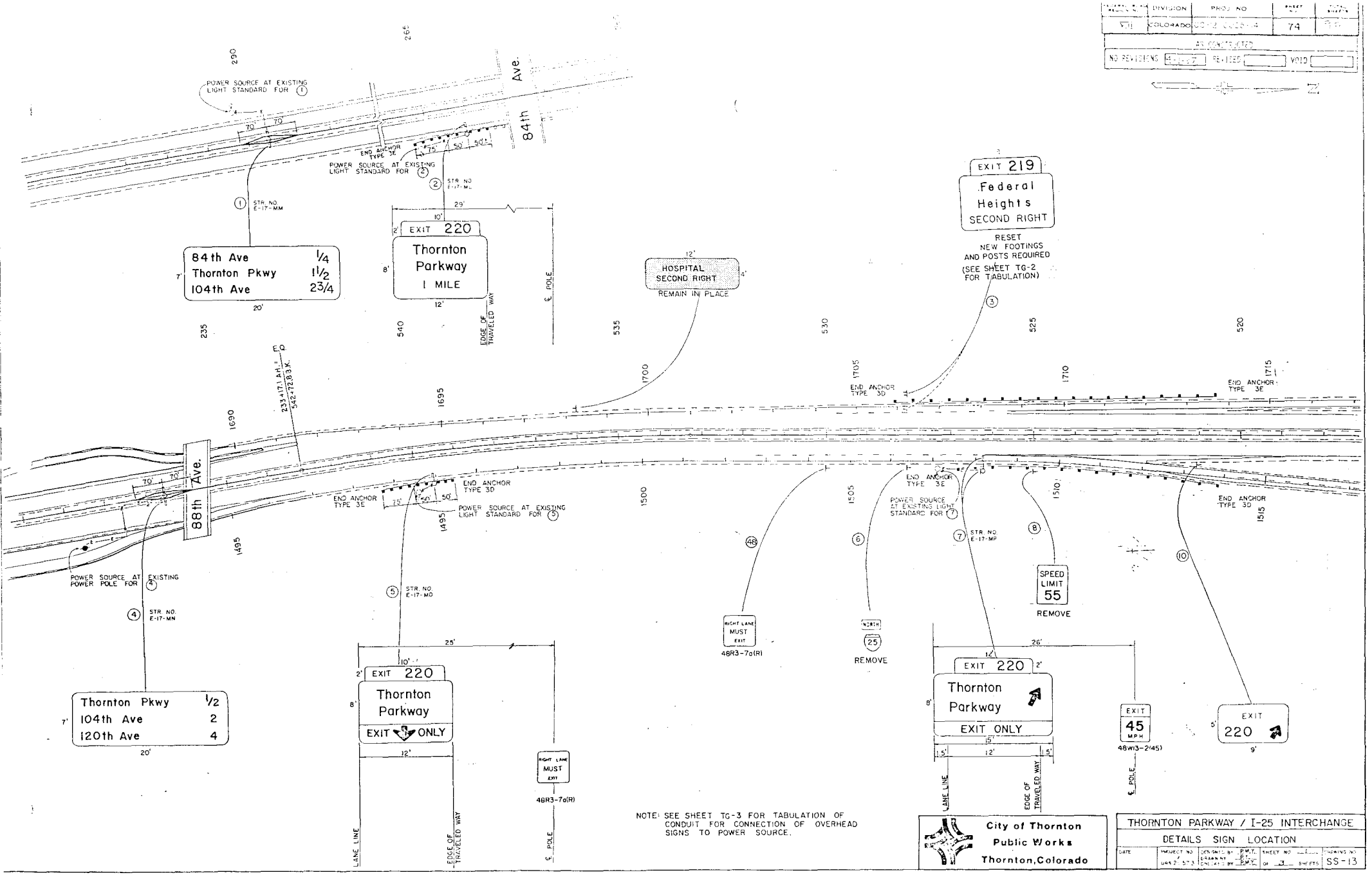
TYPICAL OVERHEAD SIGN STRUCTURE PLAN

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS
LIGHT FIXTURE
AND
SAFETY WALKWAY
DETAILS

REGION NO.	DIVISION	PROJ. NO	SHEET NO.	TOTAL SHEETS
VII	COLORADO	[illegible]	74	[illegible]

AS CONSTRUCTED

NO REVISIONS [illegible] REVISED [illegible] VOID [illegible]



City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

DETAILS SIGN LOCATION

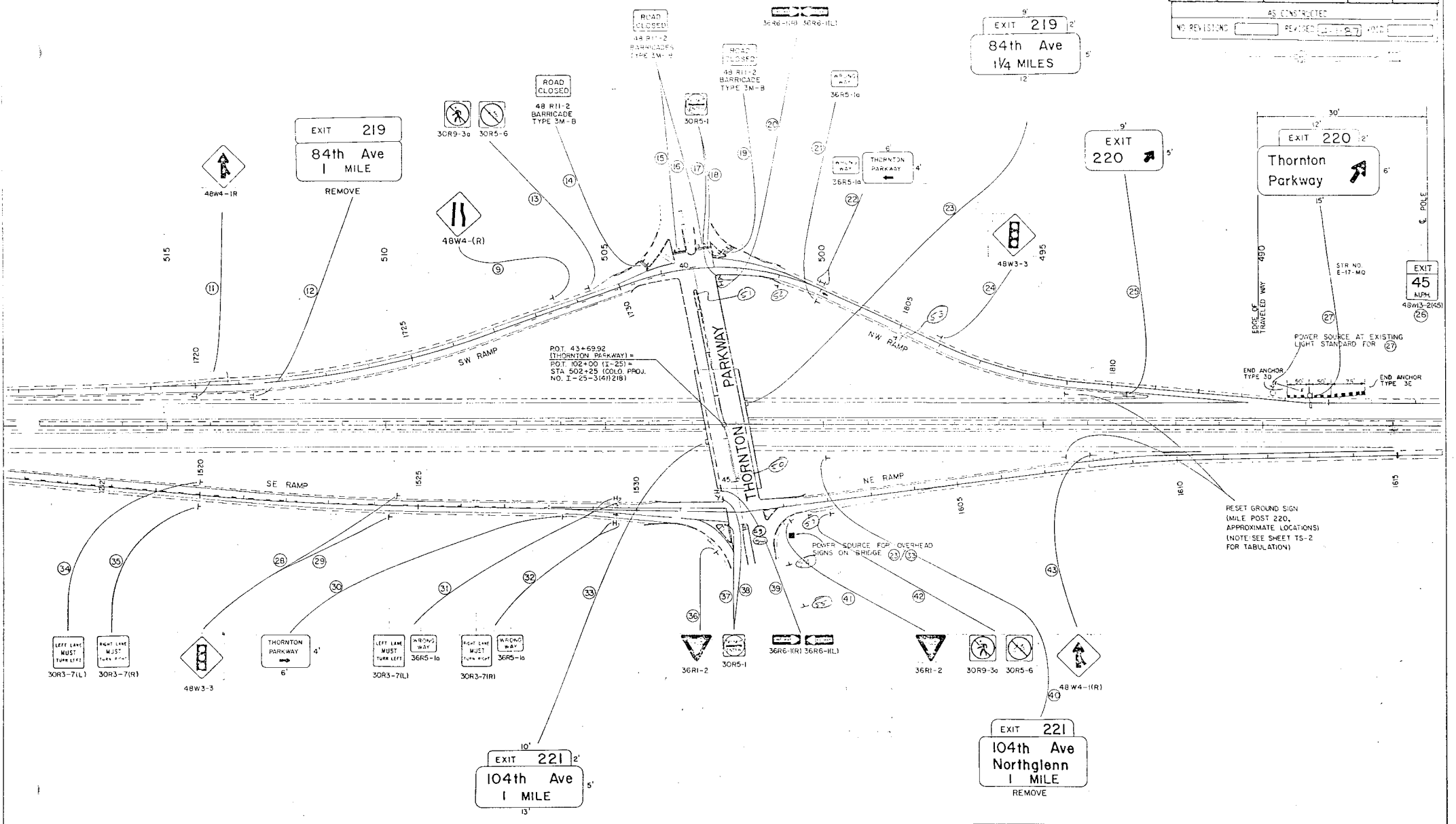
DATE	PROJECT NO	DESIGNED BY	SHEET NO	DRAWING NO
	URA 2 / 573	DRAWN BY	OF 3 SHEETS	SS-13
		CHECKED BY		

THORNTON PARKWAY (EXIT 220)

FEDERAL AID REG. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CO [illegible]	75	94

AS CONSTRUCTED

NO REVISIONS | REVISED [illegible] | NOTE



NOTE: SEE SHEET TG-3 FOR TABULATION OF CONDUIT AND DIRECT BURIAL CABLE FOR CONNECTION OF OVERHEAD SIGNS TO POWER SOURCE.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

DETAILS SIGN LOCATION

DATE | PROJECT NO. | DESIGNED BY | DRAWN BY | CHECKED BY | SHEET NO. 2 OF 3 SHEETS | DRAWING NO. SS-14

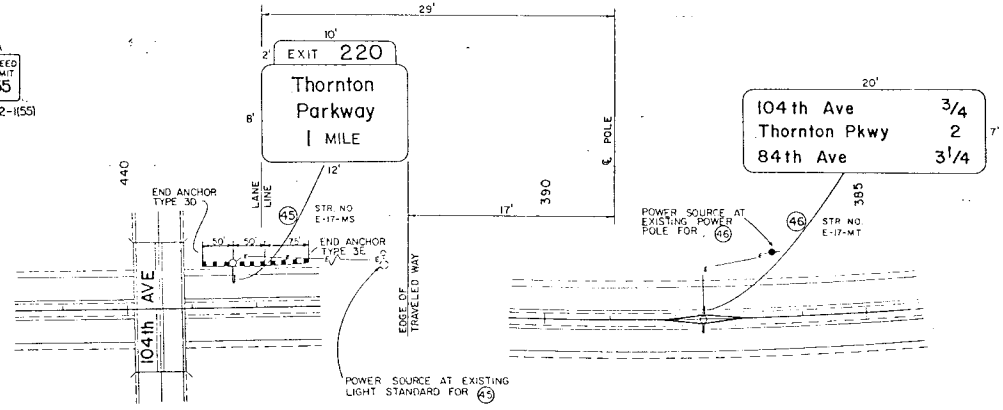
FEDERAL HIGHWAY REGION NO.	DIVISION	PROJ NO	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 12-0025-4	76	93

AS CONSTRUCTED

NO REVISIONS [ ] REVISED [ ] VOID [ ]

TABULATION OF OVERHEAD SIGNS

SIGN NUMBER	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	NUMBER OF POSTS	TYPE OF POST	STRUCTURE TYPE	FRAME SIZE	STRUCT. NUMBER	PANEL SIZE CLASS III (SQ. FT.)	PANEL SIZE CLASS I (SQ. FT.)	TYPE OF FOOTING
1	289+50	20'x 7'	GREEN	1	II-S	BUTTERFLY	20'	E-17-MM	140		II-S (SPREAD)
2	264+00	12x8+10x2	GREEN	1	VI	CANTILEVER	29'	E-17-ML	116		VI (SPREAD)
4	236+50	20'x 7'	GREEN	1	II-S	BUTTERFLY	20'	E-17-MN	140		II-S (SPREAD)
5	539+50	12x8+10x2	GREEN	1	V	CANTILEVER	25'	E-17-MO	116	30	V (SPREAD)
7	526+25	15x8+12x2	GREEN	1	VI	CANTILEVER	26'	E-17-MP	144	37.5	VI (SPREAD)
23	501+60	12x5+9x2	GREEN		—	BRIDGE BRACKET	—		78		—
27	488+80	15x6+12x2	GREEN	1	V	CANTILEVER	30'	E-17-MQ	114		V (SPREAD)
33	502+70	13x5+10x2	GREEN	—	—	BRIDGE BRACKET	—		85		—
44	466+00	20'x 7'	GREEN	1	II-S	BUTTERFLY	20'	E-17-MR	140		II-S (SPREAD)
45	438+30	12x8+10x2	GREEN	1	VI	CANTILEVER	29'	E-17-MS	116		VI (SPREAD)
46	387+50	20x7	GREEN	1	II-S	BUTTERFLY	20'	E-17-MT	140		II-S (SPREAD)
PROJECT TOTALS									1329	67.5	



NOTE: SEE SHEET TG-3 FOR TABULATION OF CONDUIT AND DIRECT BURIAL CABLE FOR CONNECTION OF OVERHEAD SIGNS TO POWER SOURCE.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

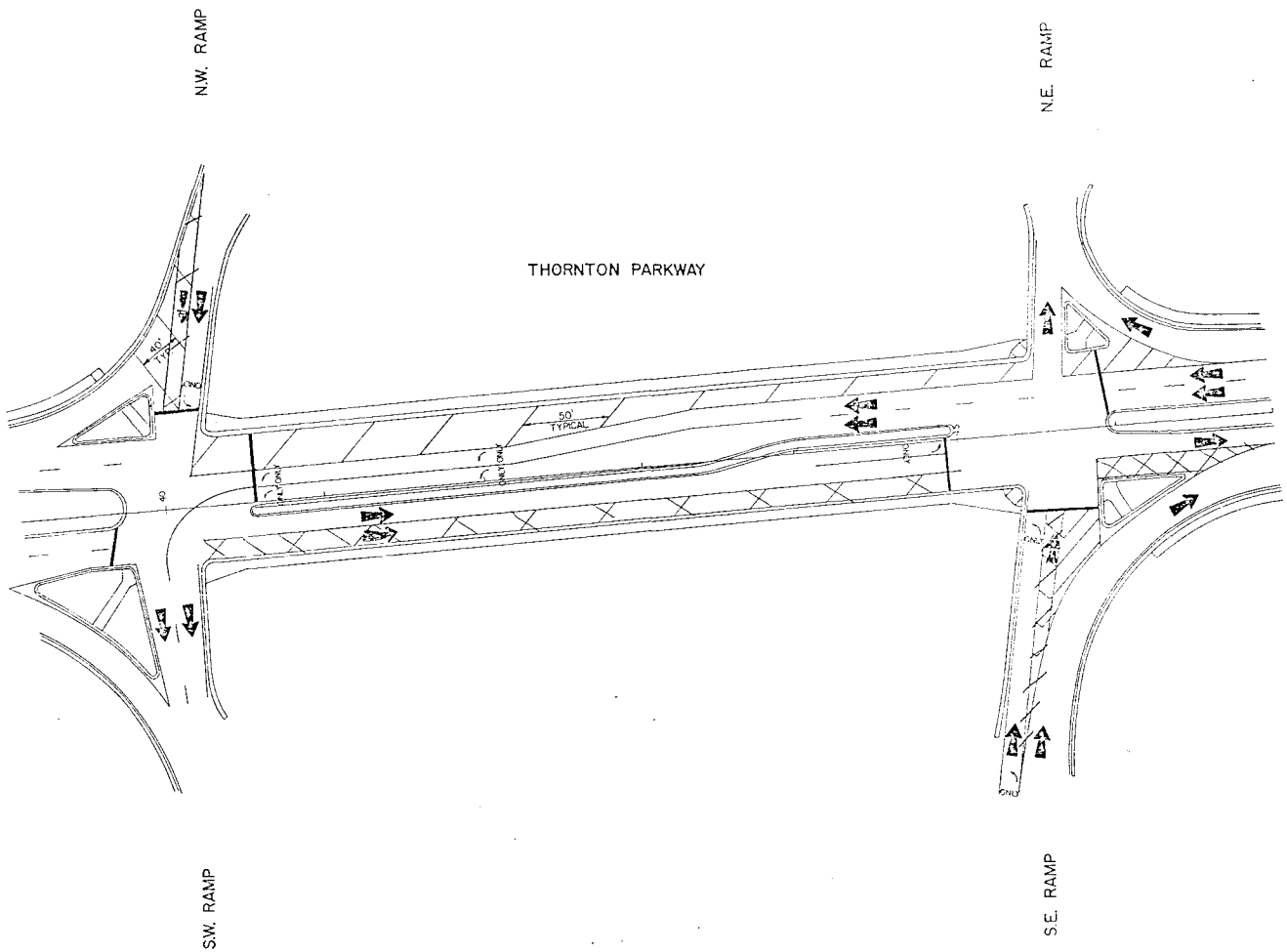
DETAILS SIGN LOCATION

DATE	PROJECT NO.	DESIGNED BY P.M.T. / DRAWN BY P.K. / CHECKED BY P.M.T.	SHEET NO. 3 OF 3 SHEETS	DRAWING NO. SS-15
	HR0057.3			

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	77	99

AS CONSTRUCTED

NO REVISIONS ☐ REVISED 9-1-97 VOID ☐



City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE

DETAILS – INTERSECTION MARKINGS

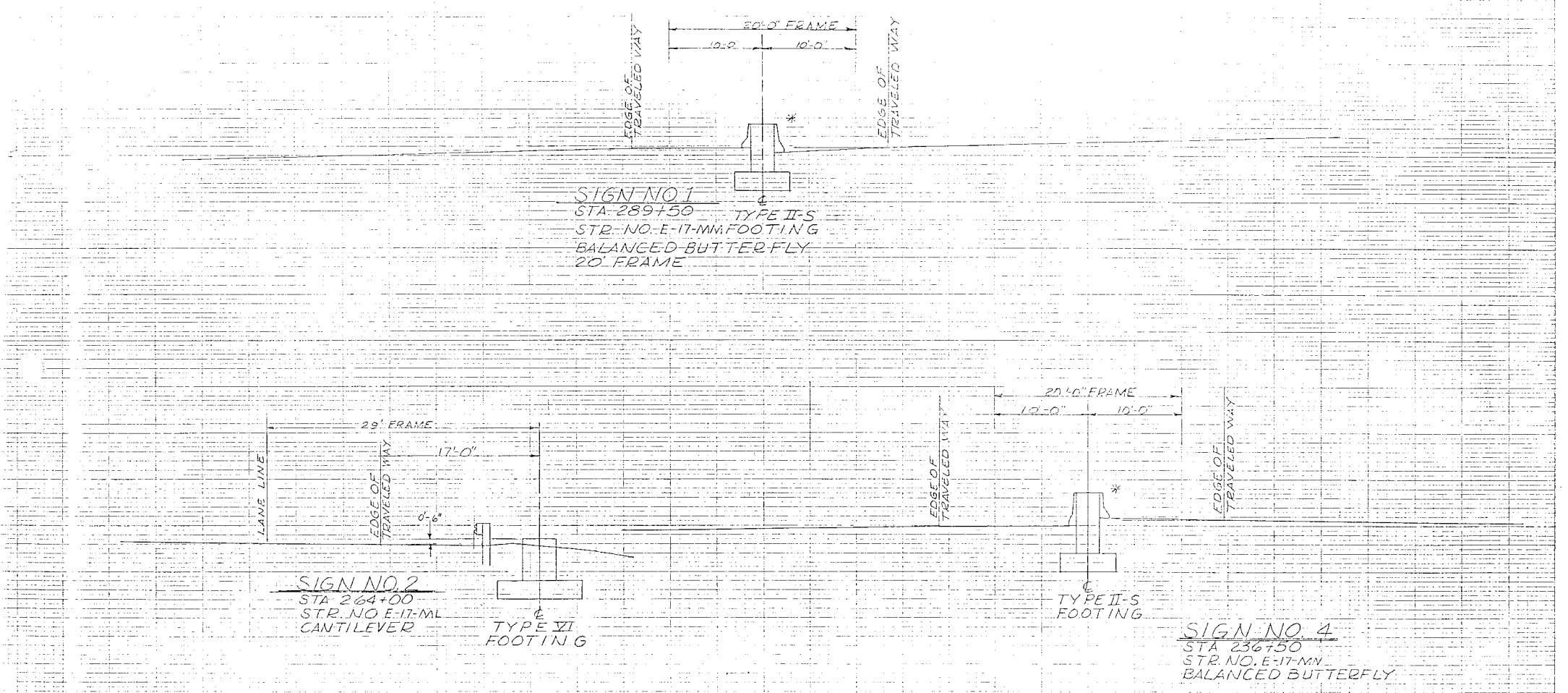
DATE	PROJECT NO	DESIGNED BY / DRAWN BY / CHECKED BY	SHEET NO	DRAWING NO
	UHS 20573	PMT / PY / PMT	1 OF 1 SHEETS	SS-16

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

REGIONAL PROGRAM	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VII	06	CC12-0025-14	73	

AS CONSTRUCTED

NO REVISIONS | REVISED | VOID



* NORMAL BARRIER HEIGHT SHOWN MAY BE INCREASED TO RAISE THE MEDIAN BARRIER ABOVE THE LINE OF SIGHT BETWEEN THE ROADWAYS FOR "GLARE WALL".

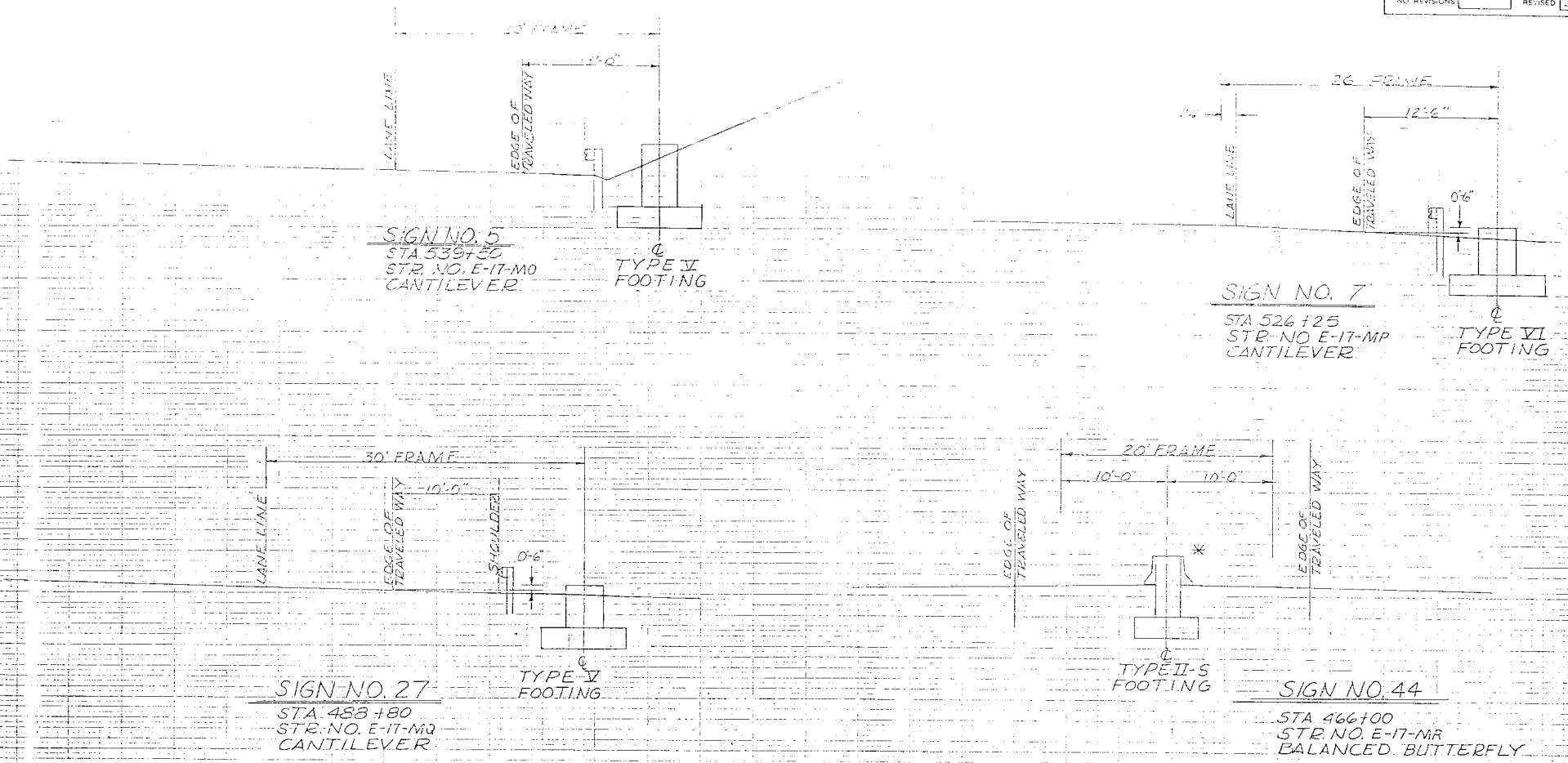
SHEET TOTALS		
	EXCAVATION	CU. YDS.
	EXCAVATION	CU. YDS.
	EMBANKMENT	CU. YDS.

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

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VII	COLO.	CC12-0025-14	79	[illegible]

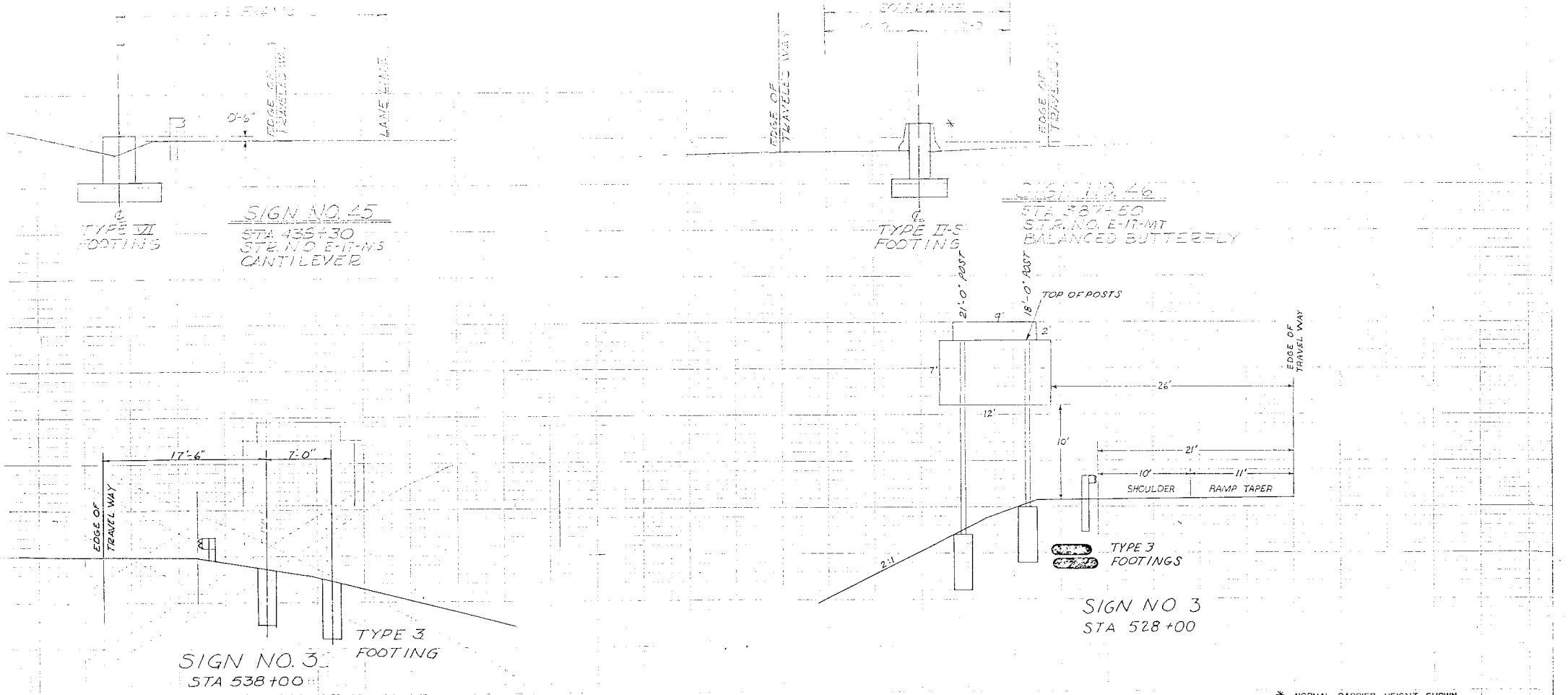
AS CONSTRUCTED

NO REVISIONS ☐ REVISED [illegible] VOID ☐



* NORMAL BARRIER HEIGHT SHOWN ~~MAY BE~~ NOT INCREASED TO RAISE THE MEDIAN BARRIER ABOVE THE LINE OF SIGHT BETWEEN THE ROADWAYS FOR "GLARE WALL"

SHEET TOTALS	EXCAVATION	CU. YDS.
	EMBANKMENT	CU. YDS.



* NORMAL BARRIER HEIGHT SHOWN MAY BE INCREASED TO RAISE THE MEDIAN BARRIER ABOVE THE LINE OF SIGHT BETWEEN THE ROADWAYS FOR "GLARE WALL"

TABULATION OF TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	UNIT	PROJECT TOTALS (FINAL)
503	DRILLED CAISSON 36 INCH	LIN FT	~~[illegible]~~ 28
601	CONCRETE CL A (MISC)	CU YD	45.49
602	REINFORCING STEEL	LB	~~[illegible]~~
613	1 IN ELEC COND	LIN FT	~~[illegible]~~
613	2 IN ELEC COND	LIN FT	~~[illegible]~~ 53
613	2 IN ELEC COND (P)	LIN FT	~~[illegible]~~ 5
613	WIRING	LUMP SUM	1
614*	TRAFFIC SIGNAL CONTROLLER (SOLID STATE) (FULL-ACTUATED)(5-PHASE)(SPECIAL)	EA	2
614	LOOP DETECTOR WIRE	LIN FT	~~[illegible]~~ 620
614	LOOP DETECTOR WIRE (PREFAB)(SPECIAL)	LIN FT	~~[illegible]~~ } Deleted by 105 dated 9-22-86
614	LOOP DETECTOR WIRE (PROBE)(SPECIAL)	EA	~~[illegible]~~ } Deleted by 105 dated 9-22-86
614	TRAFFIC SIGNAL POLE STEEL (1-MAST ARM) (SPECIAL)	EA	6
614	TRAFFIC SIGNAL POLE STEEL (2-MAST ARM)(SPECIAL)	EA	1
614	TRAFFIC SIGNAL PEDESTAL POLE STEEL (SPECIAL)	EA	2
614	TRAFFIC SIGNAL VEHICLE DETECTOR AMPLIFIER (LOOP TYPE) (2-CHANNEL)(SPECIAL)	EA	16

*NOTE: THIS ITEM ~~SHALL BE~~ WILL BE PAID FOR AS "TRAFFIC SIGNAL EQUIPMENT- 1 LUMP SUM"

INDEX OF SHEETS

DRAWING NO.	TITLE
TP-1	INDEX OF SHEETS AND TABULATION OF TRAFFIC SIGNAL QUANTITIES
TP-2	TABULATION OF MODULAR SUPPORTS (FOR INFORMATION ONLY) AND SIGNAL SEQUENCE CHART
TP-3	PLAN - TRAFFIC SIGNAL INSTALLATION FOR THE EAST RAMPS
TP-4	SCHEMATIC DIAGRAM - EAST RAMPS
TP-5	DETAILS - SUPPORT LOCATION - EAST RAMPS
TP-6	DETAILS - ILLUMINATED SIGNS AND PUSHBUTTON LOCATIONS
TP-7	PLAN - TRAFFIC SIGNAL INSTALLATION FOR THE WEST RAMPS
TP-8	SCHEMATIC DIAGRAM - WEST RAMPS
TP-9	DETAILS - SUPPORT LOCATION - WEST RAMPS
TP-10	DETAILS - ILLUMINATED SIGNS AND PUSHBUTTON LOCATIONS
TP-11	DETAILS AND GENERAL NOTES FOR MODULAR SUPPORTS AND ILLUMINATED SIGNS
TP-12	DETAILS - CABINETS, LOOPS AND PULL BOXES
TP-13	DETAILS - FOUNDATIONS AND PROBE INSTALLATION
TP-14	DETAILS - PREFABRICATED LOOP

GENERAL NOTE:

Public Service Co. - Electric shall provide power sources for traffic signals at locations as shown on Drawings TP-3 and TP-7.

Mountain Bell shall provide a telephone interconnect for the traffic signals to the locations as shown on Drawing TP-3.

Both Utility Companies shall be given at least 30 days notification to mobilize forces to provide their respective facilities.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
SIGNALS - INDEX AND TAB

DATE | PROJECT NO. URS 2057.3 | DESIGNED BY ____ DRAWN BY ____ CHECKED BY ____ | SHEET NO. 1 OF 14 SHEETS | DRAWING NO. TP-1

PREPARED BY URS COMPANY - DENVER

(FOR INFORMATION ONLY)

TABULATION OF SIGNAL QUANTITIES

THORNTON PARKWAY - WEST RAMPS

MODULAR SUPPORTS

ITEM NO.	ITEM DESCRIPTION	SPECIFICATION NO.	UNIT	QUANTITY
E13	1 INCH ELECTRICAL CONDUIT		LIN. FT.	10
E13	2 INCH ELECTRICAL CONDUIT		LIN. FT.	2990
E13	2 INCH ELECTRICAL CONDUIT (PLASTIC)		LIN. FT.	275
E13	WIRING		LUMP SUM	0.5
614	TRAFFIC SIGNAL CONTROLLER (SOLID STATE) FULL-ACTUATED (5-PHASE)(SPECIAL)		EA.	1
614	LOOP DETECTOR WIRE		LIN.FT.	225
614	LOOP DETECTOR WIRE (PREFAB)(SPECIAL)		LIN.FT.	1540
614	LOOP DETECTOR WIRE (PROBE)(SPECIAL)		EA.	4
614	TRAFFIC SIGNAL POLE STEEL (1-MAST ARM) (SPECIAL)		EA.	3
614	TRAFFIC SIGNAL POLE STEEL (2-MAST ARM) (SPECIAL)		EA.	1
614	TRAFFIC SIGNAL PEDESTAL STEEL (SPECIAL)		EA.	1
614	TRAFFIC SIGNAL VEHICLE LOOP DETECTOR AMPLIFIER (LOOP TYPE) (2-CHANNEL)(SPECIAL)		EA.	7

SIGNAL SEQUENCE CHART
INTERSECTION
THORNTON PARKWAY - WEST RAMPS
MODULAR SUPPORT
THORNTON, COLORADO
(FOR INFORMATION ONLY)

PHASE	CLEAR STEP NO.	SIGNAL INDICATIONS 7,8,10	1,2,4	17,18	9,12,13	15	5,6,11,14	3,16
ø1+ø2 (VEH)		G	G	R	R	R	DW	DW
Clear to ø2+ø3	1	Y	G	R	R	R	DW	DW
	2	R	G	R	R	R	DW	DW
Clear to Other øs	1	Y	Y	R	R	R	DW	DW
	2	R	R	R	R	R	DW	DW
ø2+ø3 (VEH)		R	G	←G→	R	R	DW	DW
Clear to ø1+ø2	1	R	G	←Y→	R	R	DW	DW
	2	R	G	R	R	R	DW	DW
Clear to Other øs	1	R	Y	←Y→	R	R	DW	DW
	2	R	R	R	R	R	DW	DW
ø4 (VEH)		R	R	R	G	R	DW	DW
Clear to Other øs	1	R	R	R	Y	R	DW	DW
	2	R	R	R	R	R	DW	DW
ø5 (VEH)		R	R	R	R	←G→	DW	DW
Clear to Other øs	1	R	R	R	R	←Y→	DW	DW
	2	R	R	R	R	R	DW	DW
ø2+ø3 (PED)		G	G	R	R	R	W	DW
Clear to ø2+ø3	1	G	G	R	R	R	FDW	DW
	2	Y	G	R	R	R	DW	DW
	3	R	G	R	R	R	DW	DW
Clear to Other øs	1	G	G	R	R	R	FDW	DW
	2	Y	Y	R	R	R	DW	DW
	3	R	R	R	R	R	DW	DW
ø4 (PED)		R	R	R	G	R	W	DW
Clear to Other øs	1	R	R	R	G	R	FDW	DW
	2	R	R	R	Y	R	DW	DW
	3	R	R	R	R	R	DW	DW
FLASHING		Y	Y	R	R	R	BLK	BLK

LEGEND: R - Red, G - Green, Y - Yellow, W - Walk; DW - Dont Walk, FDW - Flashing Dont Walk, VEH - Vehicle Actuation, PED - Pedestrian Actuation, BLK - Blank

FUTURE

WALK DISPLAY ON DEMAND ONLY

SUMMARY
INTERNALLY ILLUMINATED SIGNS
THORNTON PARKWAY - WEST RAMPS
(FOR INFORMATION ONLY)
GUIDE SIGNS

SIGN NO.	SUPPORT NO.	SIZE	AREA SQ FT	REMARKS
G-5	1	8'-0"x3'-6"	28.00	
G-6	3	8'-0"x3'-6"	28.00	
G-7	4	6'-0"x3'-6"	21.00	
G-8	5	8'-0"x3'-6"	28.00	
REGULATORY SIGNS & LOGO				
LOGO	1	3'-0"x3'-0"	9.00	
R3-1	2	2'-0"x2'-0"	4.00	
LOGO	3	3'-0"x3'-0"	9.00	
R3-5	4	2'-6"x3'-0"	7.50	
R3-8	5	2'-6"x2'-6"	6.25	
TOTAL			140.75	
SIGN PANEL CLASS III HIGH BRIGHTNESS ENCAPSULATED TYPE REFLECTIVE SHEETING				
LOGO	5	3'-0"x3'-0"	9	
G-9	5	3'-0"x4'-0"	12	
G-10	5	8'-0"x4'-0"	32	
TOTAL			59	

NOTE: GUIDE SIGN LAYOUTS AVAILABLE FROM CITY OF THORNTON

(FOR INFORMATION ONLY)

TABULATION OF SIGNAL QUANTITIES

THORNTON PARKWAY - EAST RAMPS

MODULAR SUPPORTS

ITEM NO.	ITEM DESCRIPTION	SPECIFICATION NO.	UNIT	QUANTITY
E13	1 INCH ELECTRICAL CONDUIT		LIN. FT.	20
E13	2 INCH ELECTRICAL CONDUIT		LIN. FT.	2500
E13	2 INCH ELECTRICAL CONDUIT (PLASTIC)		LIN. FT.	225
E13	WIRING		LUMP SUM	0.5
614	TRAFFIC SIGNAL CONTROLLER (SOLID STATE) FULL-ACTUATED (5-PHASE) (SPECIAL)		EA.	1
614	LOOP DETECTOR WIRE		LIN. FT.	1350
614	LOOP DETECTOR WIRE (PREFAB)(SPECIAL)		LIN. FT.	950
614	LOOP DETECTOR WIRE (PROBE)(SPECIAL)		EA.	10
614	TRAFFIC SIGNAL POLE STEEL (1-MAST ARM) (SPECIAL)		EA.	3
614	TRAFFIC SIGNAL PEDESTAL STEEL (SPECIAL)		EA.	1
614	TRAFFIC SIGNAL VEHICLE LOOP DETECTOR AMPLIFIER (LOOP TYPE) (2-CHANNEL)(SPECIAL)		EA.	9

SUMMARY
INTERNALLY ILLUMINATED SIGNS
THORNTON PARKWAY - EAST RAMPS
(FOR INFORMATION ONLY)
GUIDE SIGNS

SIGN NO.	SUPPORT NO.	SIZE	AREA SQ FT	REMARKS
G-1	1	8'-0"x3'-6"	28.00	
G-2	1	8'-0"x3'-6"	28.00	
G-3	2	6'-0"x3'-6"	21.00	
G-4	3	8'-0"x3'-6"	28.00	
REGULATORY SIGNS & LOGO				
LOGO	1	3'-0"x3'-0"	9.00	
R3-2	2	2'-6"x2'-6"	6.25	
R-5	3	2'-0"x2'-6"	5.00	ATTACHED TO SIGNAL
LOGO	3	2'-6"x2'-6"	6.25	
R3-1	4	2'-0"x2'-0"	4.00	
TOTAL			135.50	

SIGNAL SEQUENCE CHART
INTERSECTION
THORNTON PARKWAY - EAST RAMPS
STANDARD & MODULAR SUPPORTS
THORNTON, COLORADO
(FOR INFORMATION ONLY)

PHASE	CLEAR STEP NO.	SIGNAL INDICATIONS 12,14	1,2,4	11	3,6,7	9	5,8,15,16	10,13
ø1-ø2 (VEH)		G	G	G	R	R	DW	DW
Clear to ø1+ø3	1	G	Y	G	R	R	DW	DW
	2	G	R	G	R	R	DW	DW
Clear to Other øs	1	Y	Y	R	R	R	DW	DW
	2	R	R	R	R	R	DW	DW
ø1+ø3 (VEH)		G	R	←G→	R	R	DW	DW
Clear to ø1+ø2	1	G	R	←Y→	R	R	DW	DW
	2	G	R	R	R	R	DW	DW
Clear to Other øs	1	Y	R	←Y→	R	R	DW	DW
	2	R	R	R	R	R	DW	DW
ø4 (VEH)		R	R	R	G	R	DW	DW
Clear to Other øs	1	R	R	R	Y	R	DW	DW
	2	R	R	R	R	R	DW	DW
ø5 (VEH)		R	R	R	R	G	DW	DW
Clear to Other øs	1	R	R	R	R	Y	DW	DW
	2	R	R	R	R	R	DW	DW
ø2 (PED)		G	G	R	R	R	W	DW
Clear to ø1+ø3	1	G	G	R	R	R	FDW	DW
	2	G	Y	R	R	R	DW	DW
	3	G	R	R	R	R	DW	DW
Clear to Other øs	1	G	G	R	R	R	FDW	DW
	2	Y	Y	R	R	R	DW	DW
	3	R	R	R	R	R	DW	DW
ø4 (PED)		R	R	R	G	R	W	DW
Clear to Other øs	1	R	R	R	G	R	FDW	DW
	2	R	R	R	Y	R	DW	DW
	3	R	R	R	R	R	DW	DW
FLASHING		Y	Y	R	R	R	BLK	BLK

LEGEND: R - Red, G - Green, Y - Yellow, W - Walk; DW - Dont Walk, FDW - Flashing Dont walk, VEH - Vehicle Actuation, PED - Pedestrian Actuation, BLK - Blank

WALK DISPLAY ON DEMAND ONLY

City of Thornton

SUMMARIES-MODULAR SUPPORTS

THORNTON PARKWAY

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	UR52057.3	DRAWN BY / CHECKED BY	1 OF 14 SHEETS	TP-2

CC12-0025-14 83

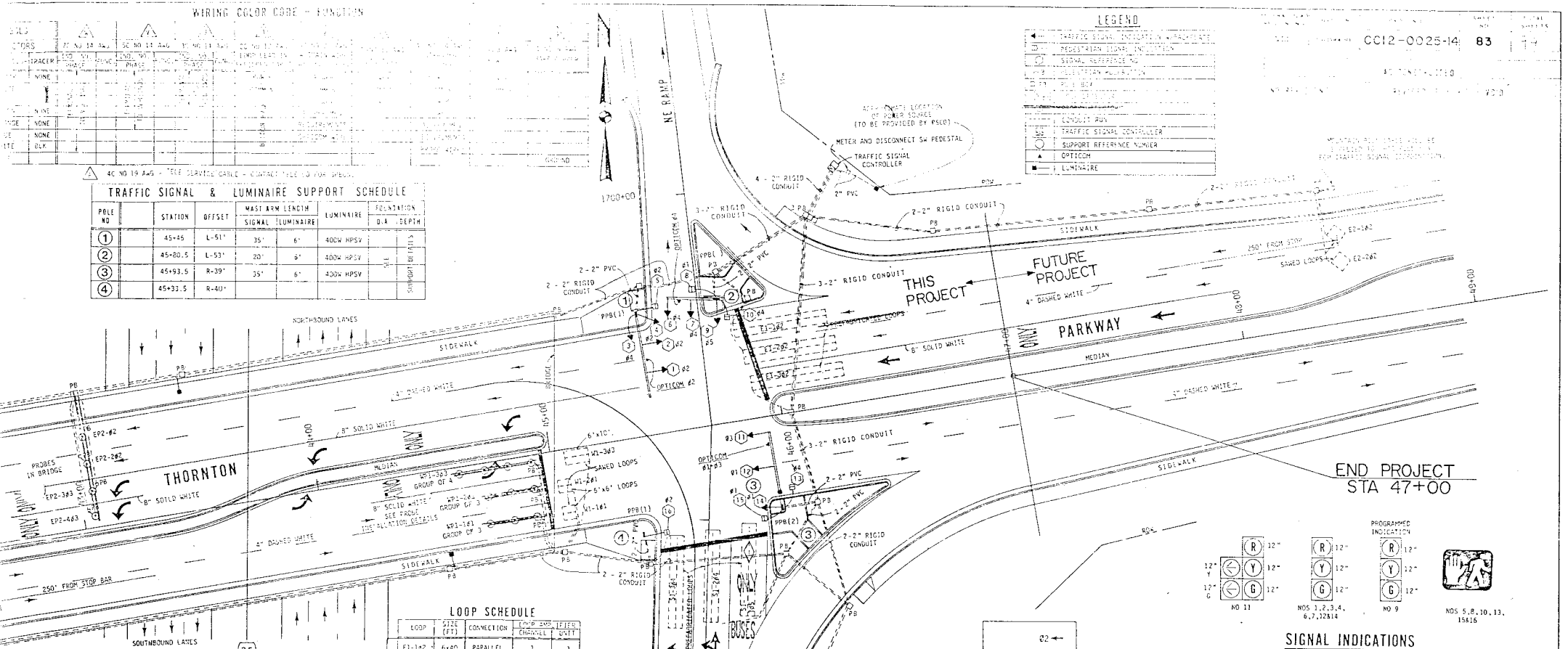
WIRING COLOR CODE - FUNCTION

COLOR	TRACER	12C NO 14 AWG (1) IND. NO. PHASE	FUNC.	12C NO 14 AWG (2) IND. NO. PHASE	FUNC.	12C NO 14 AWG (3) IND. NO. PHASE	FUNC.	7C NO 14 AWG (4) IND. NO. PHASE	FUNC.
BLACK	NONE		S		S		S		
WHITE	NONE		C		C		C		
RED	NONE	1,2,4/ø2	R	6,7/ø4	R	12,14/ø1	R		
GREEN	NONE	1,2,4/ø2	G	6,7/ø4	G	12,14/ø1	G		
ORANGE	NONE	1,2,4/ø4	Y	6,7/ø4	Y	12,14/ø1	Y		
BLUE	NONE		S		S		S		
WHITE	BLK.		S		S	11/ø3	S		
RED	BLK.	3/ø4	R	9/ø5	R	11/ø3	R		
ORANGE	BLK.	3/ø4	Y	9/ø5	Y	11/ø3	Y		
BLUE	BLK.		S		S	11/ø3	S		
WHITE	WHITE		S		S	11/ø3	S		

(1) 4C NO 19 AWG - TEEE SERVICE CABLE - COMPACT FEEDER FOR DETECTORS

TRAFFIC SIGNAL & LUMINAIRE SUPPORT SCHEDULE

POLE NO		STATION	OFFSET	MAST ARM LENGTH SIGNAL	MAST ARM LENGTH LUMINAIRE	LUMINAIRE	FOUNDATION DIA	FOUNDATION DEPTH
1		45+46	L-51'	35'	6'	400W HPSV	SEE SUPPORT DETAILS	
2		45+80.5	L-53'	20'	6'	400W HPSV		
3		45+93.5	R-39'	35'	6'	400W HPSV		
4		45+33.5	R-40'					



LOOP SCHEDULE

	LOOP	SIZE (FT)	CONNECTION	LOOP AMPLIFIER CHANNEL	LOOP AMPLIFIER UNIT
P	E1-1ø2	6x40	PARALLEL	1	1
P	E1-2ø2	6x40	PARALLEL	1	1
P	E1-3ø2	6x40	ONE	2	1
S	E2-1ø2	6x6	ONE	1	2
S	E2-2ø2	6x6	ONE	2	2
P	S1-1ø3	6x40	ONE	1	3
P	S1-2ø3	6x40	ONE	2	3
P	S1-3ø3	6x40	ONE	1	4
S	S2-1ø3	6x6	ONE	1	5
S	S2-2ø3	6x6	ONE	2	5
S	W1-1ø1	6x6	PARALLEL	1	6
S	W1-2ø1	6x6	PARALLEL	1	6
S	W1-3ø1	6x10	ONE	2	6
S	W2-1ø1	6x6	ONE	1	7
S	W2-2ø1	6x6	ONE	2	7

P-PREFABRICATED LOOPS
S-SAWED LOOPS

TWO (2), 2 CHANNEL LOOP AMPLIFIER UNITS REQUIRED, EXTEND-DELAY
*1 SPARE, UNIT NO 2

PROBE SCHEDULE

PROBE	CONNECTION	LOOP AMPLIFIER CHANNEL	LOOP AMPLIFIER UNIT
WP1-1ø1	GROUP OF 3	1	1
WP1-2ø1	GROUP OF 3	2	1
WP1-3ø	GROUP OF 4	1	2
	SPARE	2	2*

SEVEN (7) CHANNEL LOOP AMPLIFIER UNITS REQUIRED (EXTEND-DELAY) *1 SPARE, UNIT 4

WIRING COLOR CODE - PHASE & FUNCTION

COLOR	TRACER	12C NO 14 AWG (1) IND. NO. PHASE	FUNC.	12C NO 14 AWG (2) IND. NO. PHASE	FUNC.	12C NO 14 AWG (3) IND. NO. PHASE	FUNC.	7C NO 14 AWG (1) IND. NO. PHASE	FUNC.	7C NO 14 AWG (2) IND. NO. PHASE	FUNC.	7C NO 14 AWG (3) IND. NO. PHASE	FUNC.	7C NO 14 AWG (4) IND. NO. PHASE	FUNC.	3C NO 14 AWG PED PUSHBUTTON	FUNC.
BLACK	NONE		S		S		S		S		S		S		S	PPB	EW
WHITE	NONE		C		C		C		C		C		C		C		C
RED	NONE	1,2,4/ø2	R	6,7/ø4	R	12,14/ø1	R	5/ø2	OW	8/ø1	OW	13/ø4	OW	16/ø2	OW	PPB	NS
GREEN	NONE	1,2,4/ø2	G	6,7/ø4	G	12,14/ø1	G	5/ø2	W	8/ø1	W	13/ø4	W	16/ø2	W		
ORANGE	NONE	1,2,4/ø4	Y	6,7/ø4	Y	12,14/ø1	Y		S	10/ø3	OW	15/ø1	OW		S		
BLUE	NONE		S		S		S		S	10/ø3	W	15/ø1	W		S		
WHITE	BLK.		S		S	11/ø3	S		S		S		S		S		
RED	BLK.	3/ø4	R	9/ø5	R	11/ø3	R										
ORANGE	BLK.	3/ø4	Y	9/ø5	Y	11/ø3	Y										
BLUE	BLK.		S		S	11/ø3	S										
WHITE	WHITE		S		S	11/ø3	S										

SIGNAL INDICATIONS

NO 11 — NOS 1,2,3,4, 6,7,12&14 — NO 9 (PROGRAMMED INDICATION) — NOS 5,8,10,13, 15&16

INTERSECTION MOVEMENTS

SIGNAL PHASING (FUTURE)

EMERGENCY PREEMPTION

DIRECTIONAL PHASE SELECTION

NOTE: PAVEMENT MARKINGS SHOWN ON THIS PLAN ARE "FUTURE ONLY". SEE SHEET SS-16 FOR "INTERSECTION MARKINGS".

M1

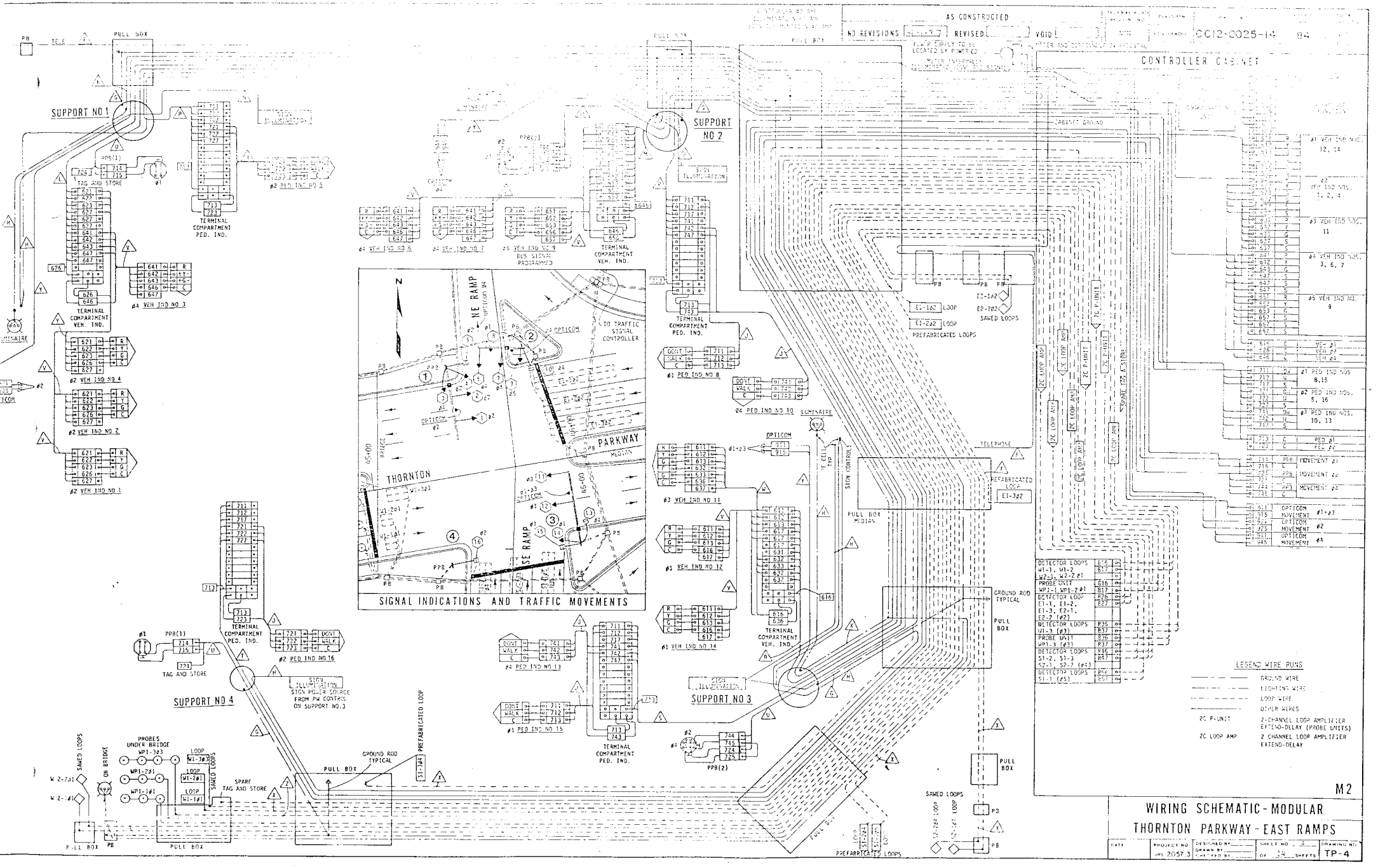
City of Thornton

PLAN - TRAFFIC SIGNAL INSTALLATION

MODULAR SIGNAL SUPPORTS

THORNTON PARKWAY - EAST RAMPS

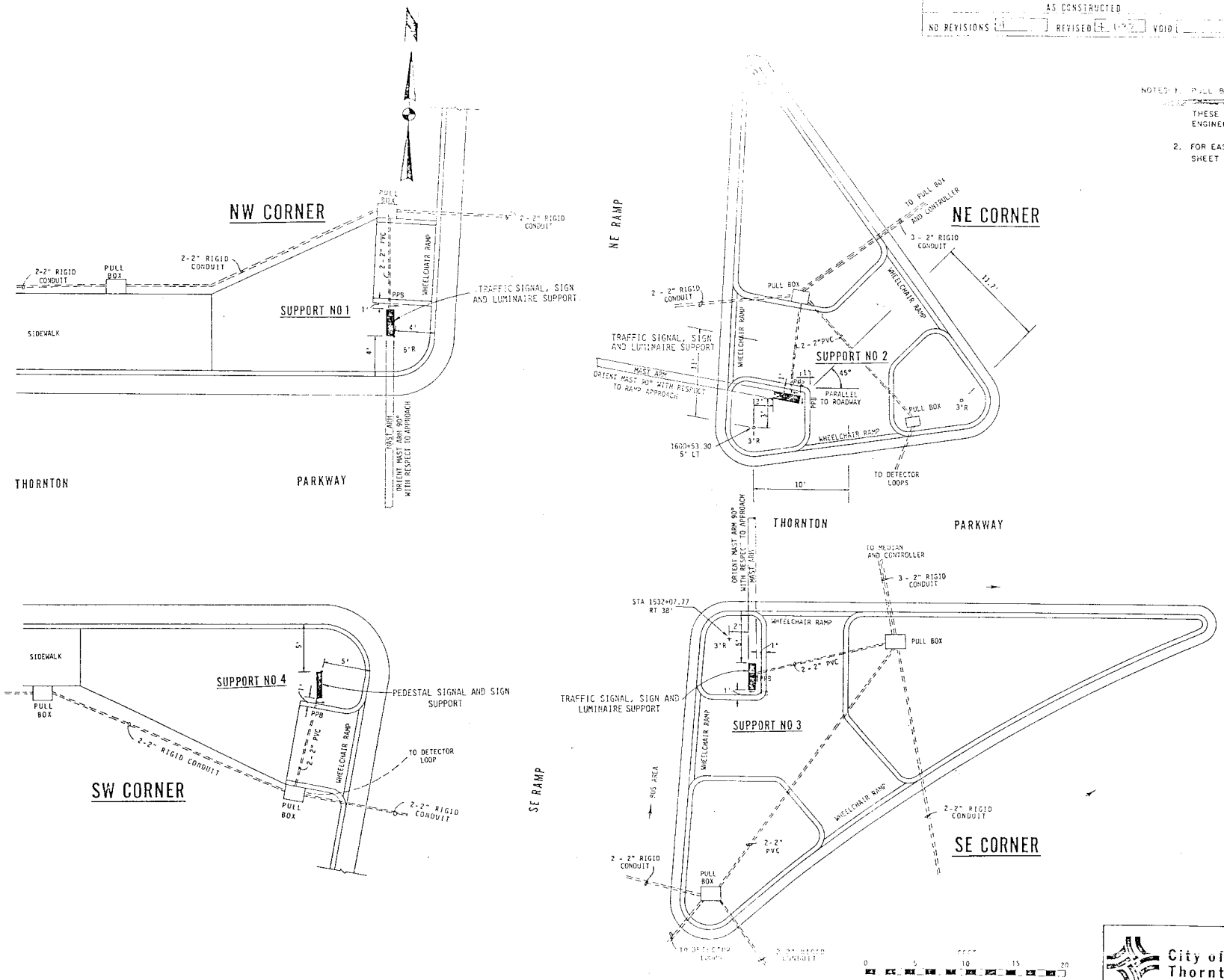
DATE	PROJECT NO	DESIGNED BY / DRAWN BY / CHECKED BY	SHEET NO 3 OF 14 SHEETS	DRAWING NO
	2057.3			TP-3


AS CONSTRUCTED
NO REVISIONS
REVISED
VOID
CC12-0025-14
84
CONTROLLER CABINET
SUPPORT NO 1
SUPPORT NO 2
SUPPORT NO 3
SUPPORT NO 4
PULL BOX
TAG AND STORE
TERMINAL COMPARTMENT PED. IND.
TERMINAL COMPARTMENT VEH. IND.
SIGN ILLUMINATION
SIGN POWER SOURCE FROM PW CONTROL ON SUPPORT NO.3
PREFABRICATED LOOP
GROUND ROD TYPICAL
SAWED LOOPS
PREFABRICATED LOOPS
PROBES UNDER BRIDGE
ON BRIDGE
SPARE TAG AND STORE
TELEPHONE
OPTICOM
SIGN CONTROLLER
PULL BOX MEDIAN
NE RAMP
SE RAMP
THORNTON
PARKWAY
TO TRAFFIC SIGNAL CONTROLLER
SIGNAL INDICATIONS AND TRAFFIC MOVEMENTS
LEGEND WIRE RUNS
GROUND WIRE
LIGHTING WIRE
LOOP WIRE
OTHER WIRES
2C P-UNIT 2-CHANNEL LOOP AMPLIFIER EXTEND-DELAY (PROBE UNITS)
2C LOOP AMP 2 CHANNEL LOOP AMPLIFIER EXTEND-DELAY
M2
WIRING SCHEMATIC - MODULAR
THORNTON PARKWAY - EAST RAMPS
PROJECT NO HPS 2057.3
TP-4

AS CONSTRUCTED					
NO REVISIONS	REVISED	VOID		CCI2-0025-14	85

NOTES: 1. PULL BOXES AND TRAFFIC SIGNAL CONTROLLER WERE POSITIONED BEHIND THE SIDEWALK. THESE LOCATIONS WERE DETERMINED BY THE ENGINEER.

2. FOR EAST RAMP INTERSECTION DETAILS, SEE SHEET DS-2.



M3

City of Thornton

CORNER DETAILS - MODULAR SUPPORTS

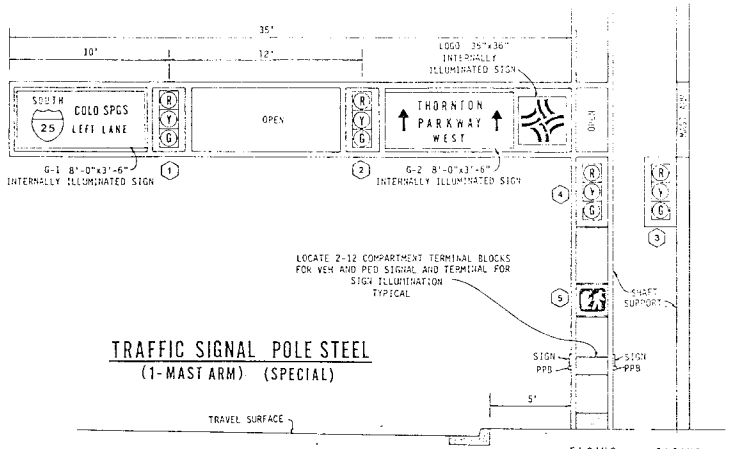
THORNTON PARKWAY - EAST RAMPS

DATE	PROJECT NO	DESIGNED BY S.Z.	SHEET NO 5	DRAWING NO
	UMS 2057.3	DRAWN BY	OF 14 SHEETS	TP-5
		CHECKED BY		

CC12-C025-14 86

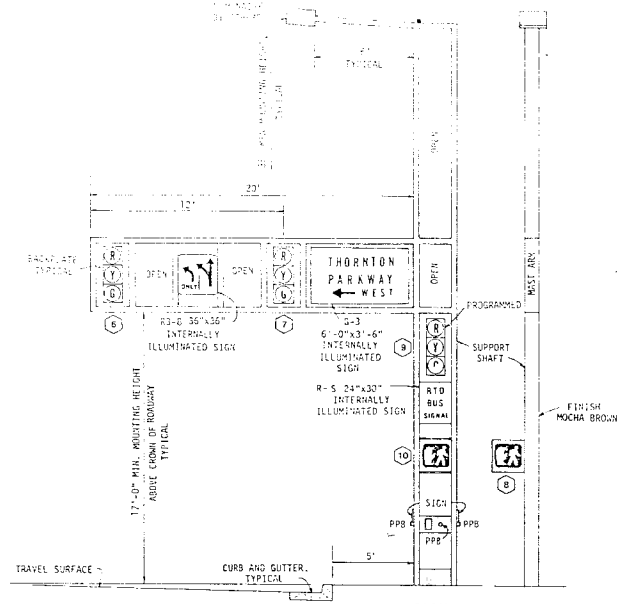
AS CONSTRUCTED

NO REVISIONS REVISED



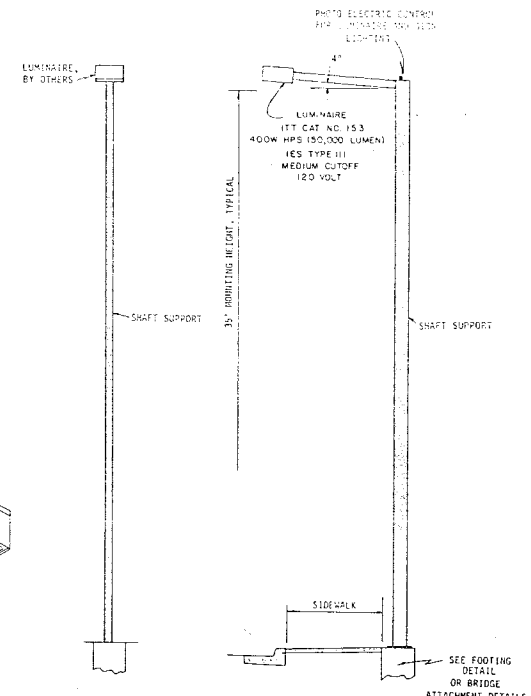
TRAFFIC SIGNAL POLE STEEL
(1-MAST ARM) (SPECIAL)

SUPPORT NO 1

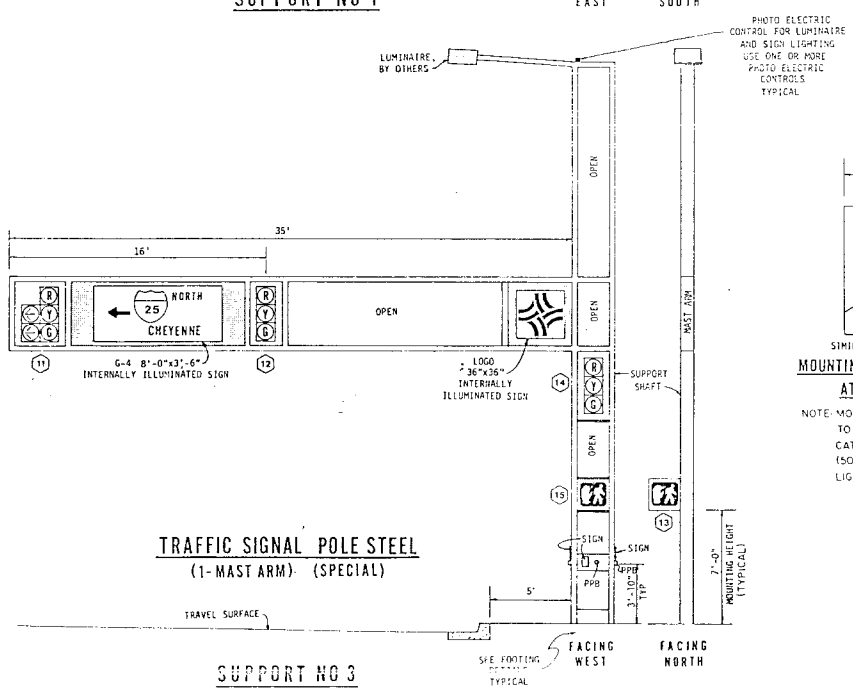


SUPPORT NO 2

TRAFFIC SIGNAL POLE STEEL
(1-MAST ARM) (SPECIAL)

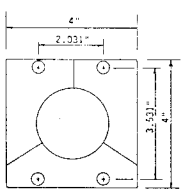


TYPICAL
LUMINAIRE SUPPORTS AND LUMINAIRES
(~~10.56~~ FURNISHED & INSTALLED BY OTHERS)



TRAFFIC SIGNAL POLE STEEL
(1-MAST ARM) (SPECIAL)

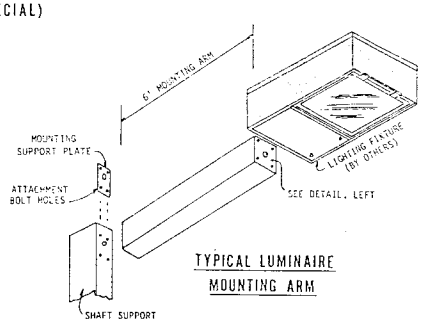
SUPPORT NO 3



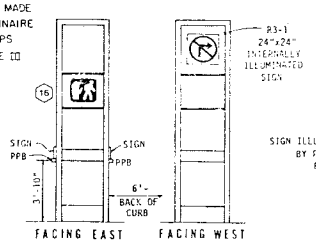
SIMILAR TO ITT CAT. NO. 153-1

MOUNTING ARM/LIGHTING FIXTURE ATTACHMENT DETAILS

NOTE: MOUNTING ARM ~~SHALL BE~~ WERE MADE TO ACCOMODATE ITT LUMINAIRE CAT. NO. 153 400 WATT HPS (50,000 LUMEN) IES TYPE III LIGHTING FIXTURE.



TYPICAL LUMINAIRE MOUNTING ARM

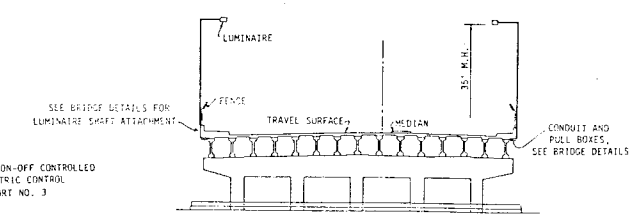


SIGN ILLUMINATION ON-OFF CONTROLLED BY PHOTO ELECTRIC CONTROL FROM SUPPORT NO. 3

SUPPORT NO 4

TRAFFIC SIGNAL PEDESTAL POLE STEEL (SPECIAL)

FEET
0 1 2 3 4 6 8 10
SCALE



BRIDGE - LUMINAIRE SUPPORTS

M4

City of Thornton

MODULAR SUPPORT DETAILS
THORNTON PARKWAY - EAST RAMPS

DATE	PROJECT NO	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO 6 OF 14 SHEETS	DRAWING NO
	URS2057 3					TP-6

AS CONSTRUCTED					
NO REVISIONS	REVISED	VOID	FEDERAL HIGHWAY REGION NO VIII	DIVISION COLORADO	PROJECT NO CC12-0025-14

WIRING COLOR CODE – FUNCTION

	1	2	3	4	5	6	7	8	9
	12 AWG TELE SERVICE CABLE	3C NO 14 AWG IND. NO. / PHASE	FUNC	3C NO 14 AWG IND. NO. / PHASE	FUNC	22 AWG 10 LEAD-IN	3C NO 10 AWG W/DRAIN WIRE SHIELDED CABLE	2 - NO 8 AWG LIGHTING	2 - NO 8 AWG STRANDED CABLE
PROJECT									
NONE	CONTRACT					POWER	POWER	POWER	POWER
NONE						COMMON	COMMON	COMMON	COMMON
NONE							POWER	POWER	POWER
NONE							AS PER MFG REQUIREMENTS		AS PER MFG REQUIREMENTS
NONE							OPTICOM WIRE		
NONE									
BLK.							(PROBE WIRE)		
									GROUND

(F) AC NO 19 AWG - TELE SERVICE CABLE - CONTACT TELE CO FOR SPECS.

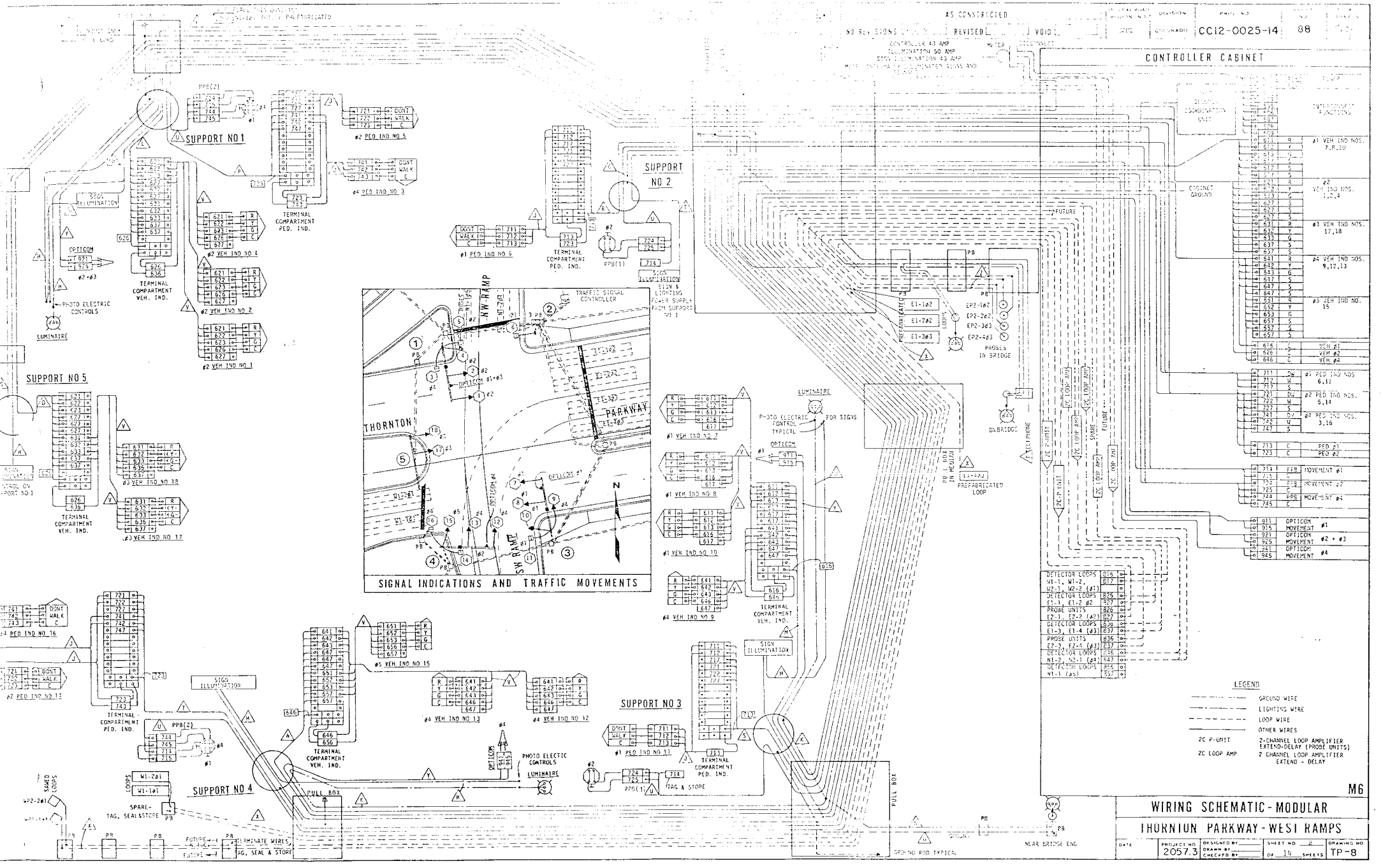
SEE WIRING SCHEMATIC

TRAFFIC SIGNAL & LUMINAIRE SUPPORT SCHEDULE

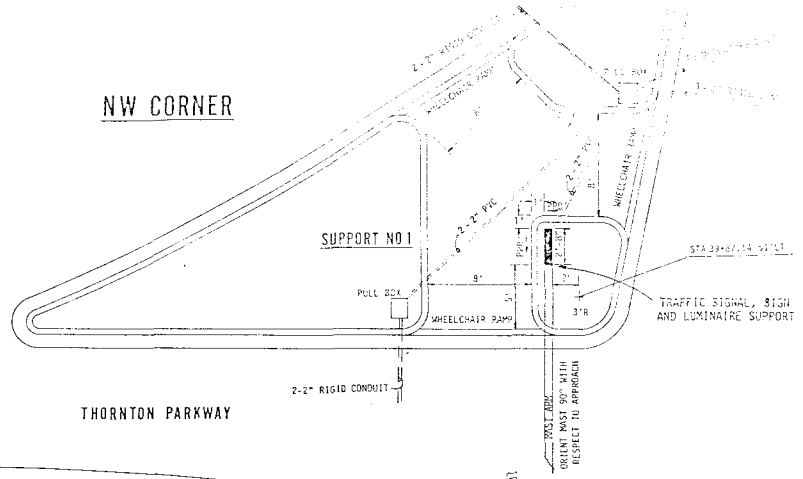
POLE NO		STATION	OFFSET	MAST ARM LENGTH SIGNAL	MAST ARM LENGTH LUMINAIRE	LUMINAIRE	FOUNDATION DIA.	FOUNDATION DEPTH
1		39+84.5	L-55'	25'	6'	400W HPSV		
2		40+36.0	L-54'					
3		40+26.5	R-42'	25'	6'	400W HPSV	SEE MODULAR	SUPPORT DETAILS
4		39+80.5	R-42.5'	25'	6'	400W HPSV		
5		39+59.5	L-3'	12'-12'				

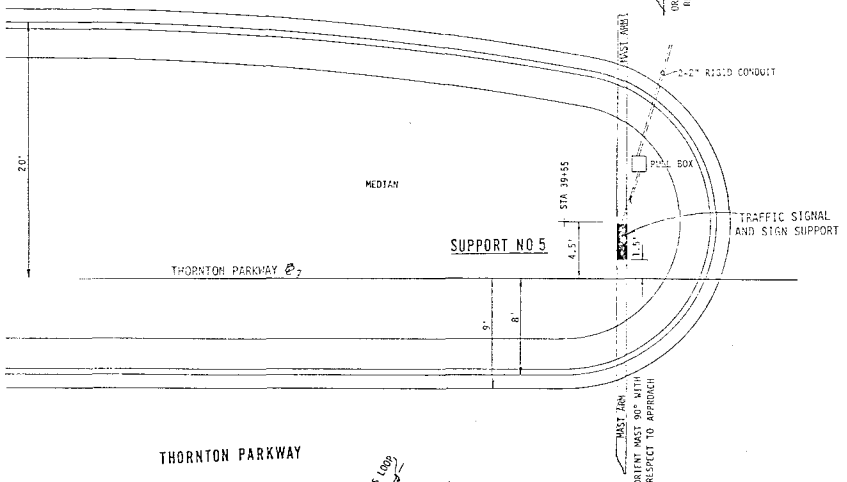
LOOP SCHEDULE

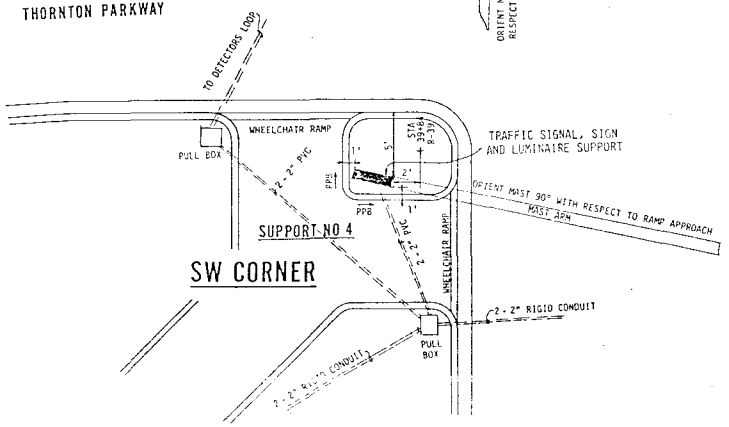
VIDEO LOOP P-PREFABRICATED LOOP						
P-1	6x6	ONE		1		1
P-2	6x6	ONE		1		2
P-3	6x6	ONE		1		3


AS CONSTRUCTED
NO REVISIONS
REVISED
VOID
CC12-0025-14
88
CONTROLLER CABINET
SUPPORT NO 1
SUPPORT NO 2
SUPPORT NO 3
SUPPORT NO 4
SUPPORT NO 5
TERMINAL COMPARTMENT PED. IND.
TERMINAL COMPARTMENT VEH. IND.
PHOTO ELECTRIC CONTROLS
LUMINAIRE
OPTICOM
SIGN ILLUMINATION
SIGN & LIGHTING POWER SUPPLY FROM SUPPORT NO 1
TRAFFIC SIGNAL CONTROLLER
THORNTON
PARKWAY
NW RAMP
SW RAMP
SIGNAL INDICATIONS AND TRAFFIC MOVEMENTS
PROBES IN BRIDGE
ON BRIDGE
PREFABRICATED LOOP
FOR SIGNS
TAG & STORE
PULL BOX
SPARE-TAG, SEAL & STORE
TERMINATE WIRES, TAG, SEAL & STORE
GROUND ROD TYPICAL
NEAR BRIDGE END
LEGEND
GROUND WIRE
LIGHTING WIRE
LOOP WIRE
OTHER WIRES
2C P-UNIT 2-CHANNEL LOOP AMPLIFIER EXTEND-DELAY (PROBE UNITS)
2C LOOP AMP 2 CHANNEL LOOP AMPLIFIER EXTEND - DELAY
M6
WIRING SCHEMATIC - MODULAR
THORNTON PARKWAY - WEST RAMPS
PROJECT NO 2057.3
SHEET NO 2 OF 14 SHEETS
DRAWING NO TP-8

AS CONSTRUCTED					
NO REVISIONS	REVISED	VOID	FEDERAL HIGHWAY REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
			VIII	COLORADO	CC12-0025-14	89	3[illegible]

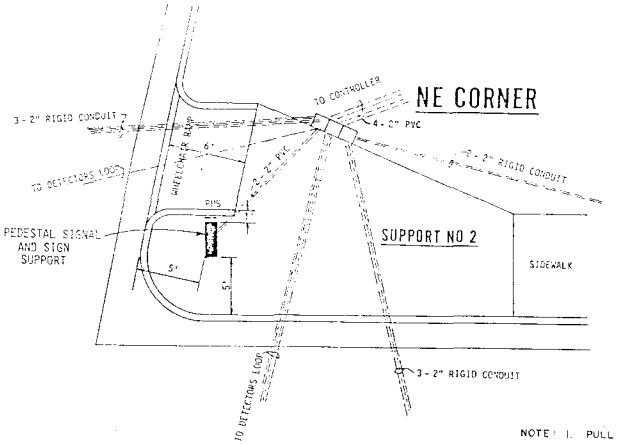






NW RAMP

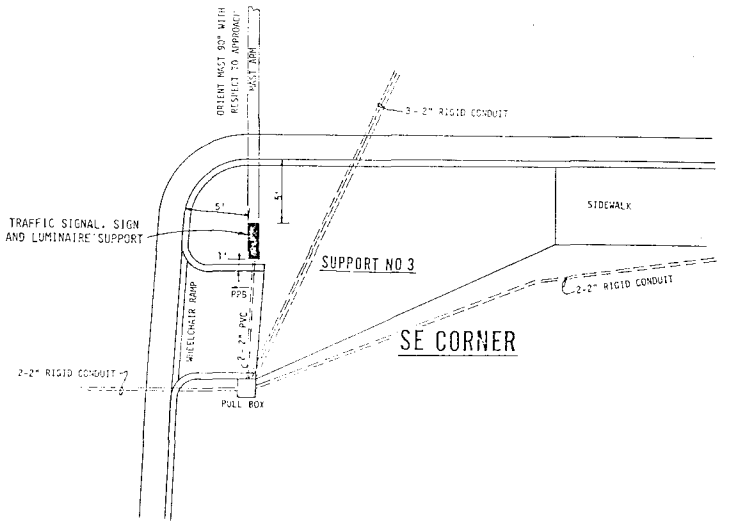
SW RAMP



THORNTON PARKWAY

NOTE: 1. PULL BOXES AND TRAFFIC SIGNAL CONTROLLER ~~SHALL BE~~ POSITIONED BEHIND THE SIDEWALK. THESE LOCATIONS ~~WILL BE~~ DETERMINED BY THE ENGINEER.

2. FOR WEST RAMP INTERSECTION DETAILS, SEE SHEET DS-1.



M7

FEET 0 5 10 15 20

SCALE

City of Thornton

CORNER DETAILS - MODULAR SUPPORTS

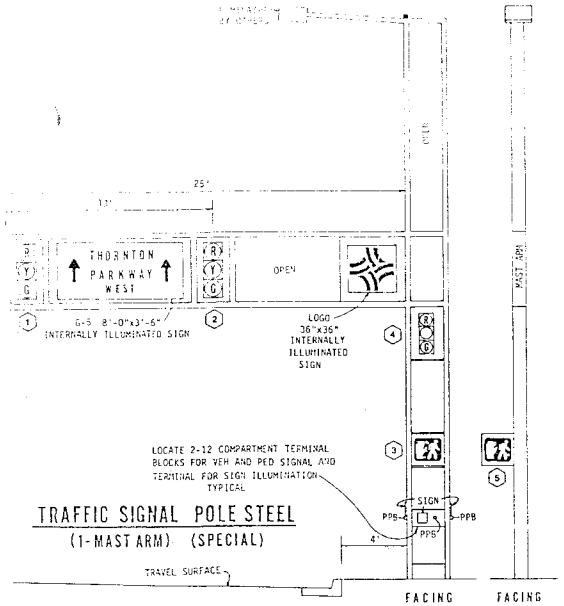
THORNTON PARKWAY - WEST RAMPS

DATE	PROJECT NO	DESIGNED BY / DRAWN BY / CHECKED BY	SHEET NO. 9 OF 14 SHEETS	DRAWING NO
	2057.3			TP-9

FEDERAL ROAD REGION NO	DIVISION	PROJ NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	CC12-0025-14	90	[illegible]

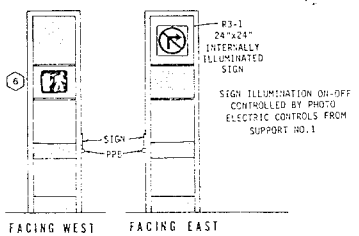
AS CONSTRUCTED

NO REVISIONS 9-27 REVISED ____ VOID ____



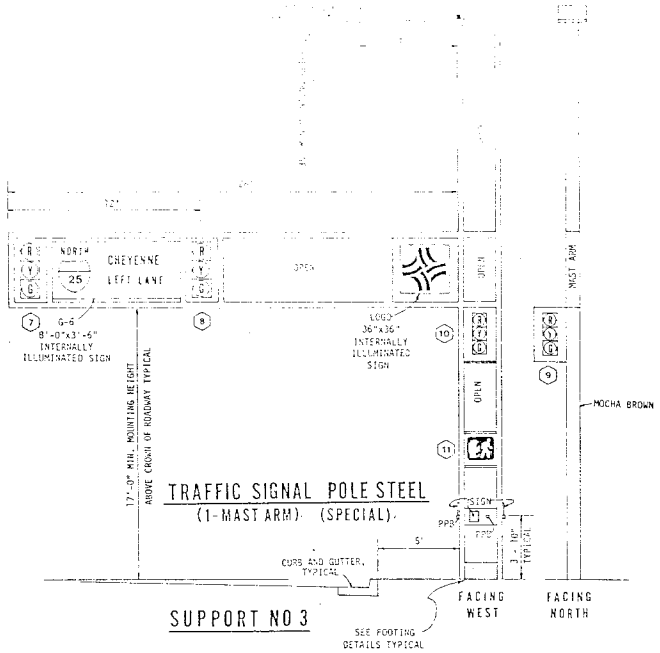
TRAFFIC SIGNAL POLE STEEL
(1-MAST ARM) (SPECIAL)

SUPPORT NO 1



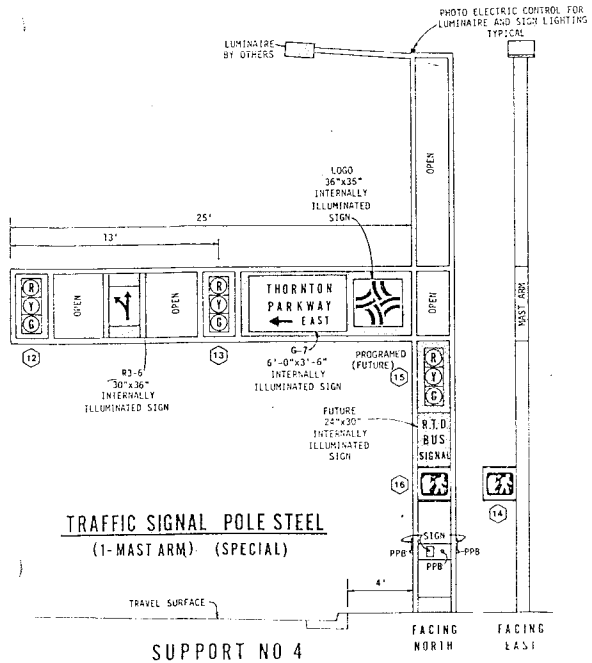
SUPPORT NO 2

TRAFFIC SIGNAL PEDESTAL POLE STEEL
(SPECIAL)



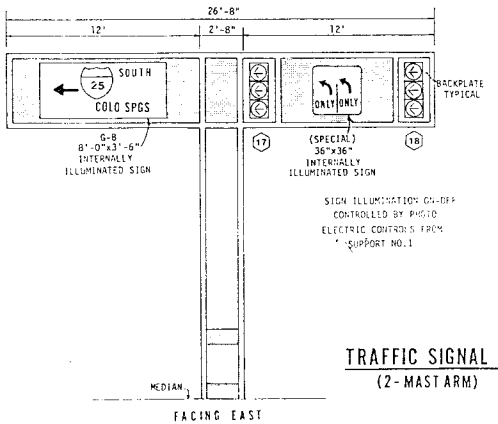
TRAFFIC SIGNAL POLE STEEL
(1-MAST ARM) (SPECIAL)

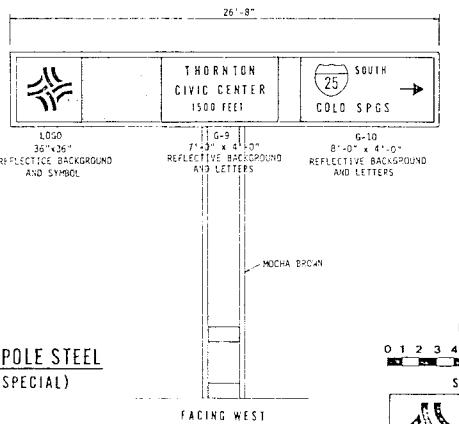
SUPPORT NO 3



TRAFFIC SIGNAL POLE STEEL
(1-MAST ARM) (SPECIAL)

SUPPORT NO 4





TRAFFIC SIGNAL POLE STEEL
(2-MAST ARM) (SPECIAL)

SUPPORT NO 5

FEET
0 1 2 3 4 6 8 10
SCALE

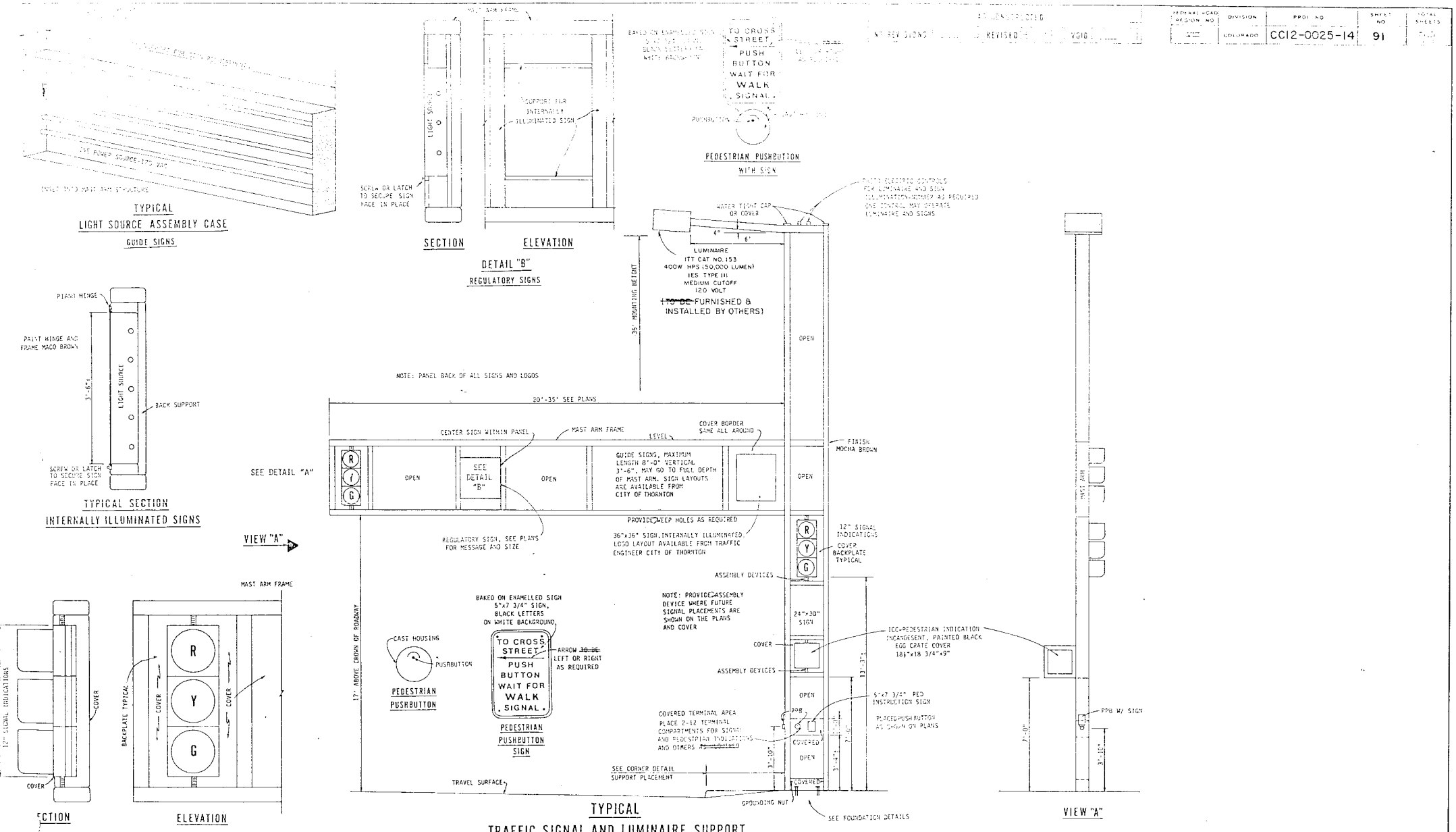
M8

City of Thornton

MODULAR SUPPORT DETAILS
THORNTON PARKWAY - WEST RAMPS

DATE	PROJECT NO	DESIGNED BY ____ DRAWN BY ____ CHECKED BY ____	SHEET NO 10 OF 14 SHEETS	DRAWING NO
	2057.3			TP-10

FEDERAL AID PROJECT NO.	DIVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
	COLORADO	CC12-0025-14	91	



TYPICAL

TRAFFIC SIGNAL AND LUMINAIRE SUPPORT

MODULAR

TRAFFIC SIGNAL POLE STEEL

(1-MAST ARM) (SPECIAL)

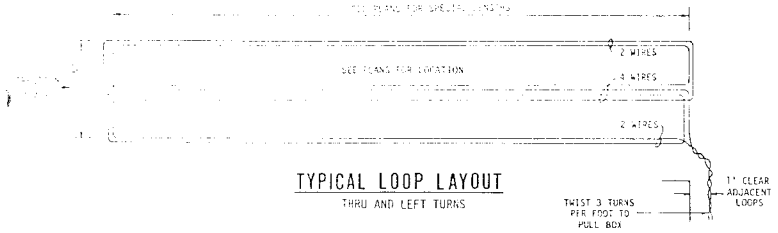
M9

City of Thornton

MISC DETAILS - MODULAR SUPPORTS

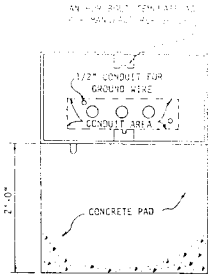
THORNTON PARKWAY

DATE	PROJECT NO.	DESIGNED BY	SHEET NO. 11	DRAWING NO.
	2057.3	DRAWN BY	OF 14 SHEETS	TP-11
		CHECKED BY		

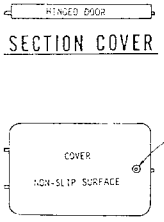


TYPICAL LOOP LAYOUT

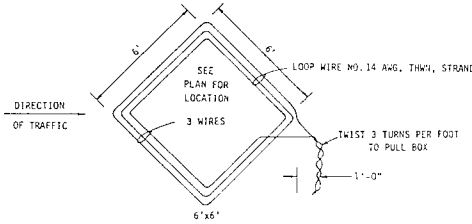
THRU AND LEFT TURNS



PLAN

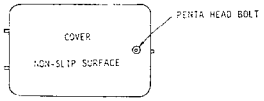


SECTION COVER

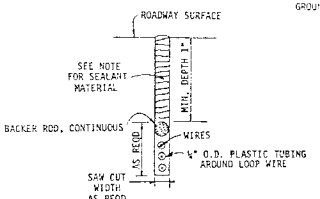


LOOP LAYOUT

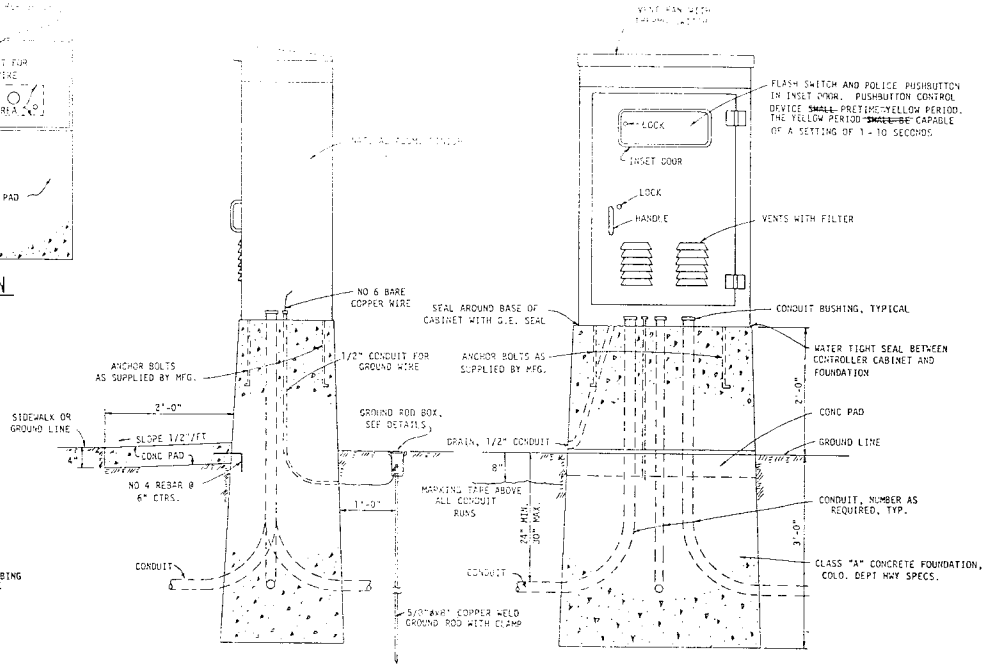
SAMPLING LOOP



PLAN COVER



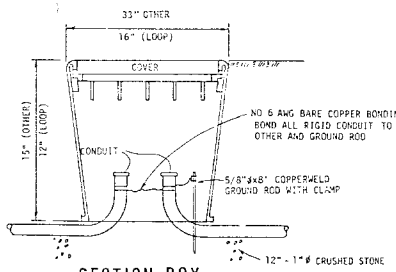
TYPICAL LOOP SLOT DETAILS



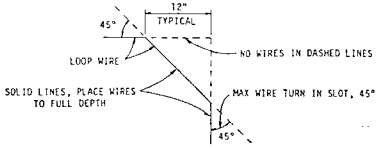
SIDE ELEVATION

FRONT ELEVATION

CONTROLLER CABINET & BASE

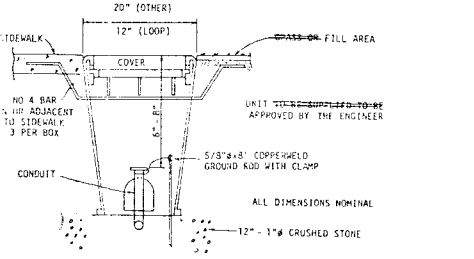


SECTION BOX



SAWED CORNER DETAILS

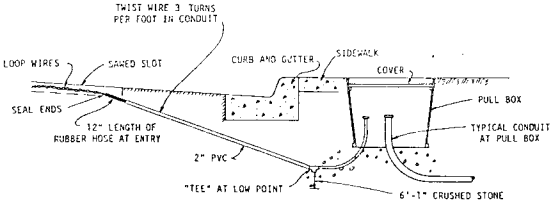
PULL BOX ~~TO BE~~ WAS CONSTRUCTED OF HIGH DENSITY POLYETHYLENE OR APPROVED EQUAL



SECTION BOX

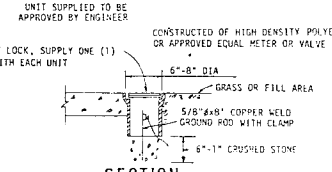
PULL BOX DETAILS

NOTE: IN ALL CONDUIT RUNS, PLACE A PULL CORD OF 1/4" DIA. NYLON CORD WITH 2' MINIMUM EACH TERMINAL.



TYPICAL DETAILS

LOOP LEAD-IN TO PULL BOX



SECTION

GROUND ROD BOX

LOOP INSTALLATION NOTES

1. THE SLOT ~~SHALL BE~~ WAS BLOWN CLEAN OF ALL LOOSE MATERIALS, WITH HIGH PRESSURE AIR AND WATER WITH "NELSON" NOZZLE.
2. LOOP WIRE ~~SHALL BE~~ WAS CAREFULLY PUSHED INTO THE SLOT WITH A BLUNT INSTRUMENT TO AVOID DAMAGE TO THE INSULATION.
3. RESISTANCE OF WIRE LOOP TO GROUND ~~SHALL BE~~ WAS CHECKED AFTER THE WIRE IS PLACED IN THE SLOT, BEFORE AND AFTER THE SLOT IS SEALED. IF A RESISTANCE OF LESS THAN 10 MEGOHMS ~~IS~~ WAS RECORDED, REPLACE WIRING AND TEST AGAIN.
4. FAULTY WIRE INSTALLATION ~~SHALL BE~~ WAS REPLACED.
5. ~~SOLDER~~ WAS STAKED AND ~~MADE~~ WATERPROOF SPLICES FOR ALL LEAD-IN RUNS.
6. LOOPS ~~SHALL BE~~ WERE CONNECTED AS SHOWN ON THE "LOOP SCHEDULE."
7. ~~MAKE~~ WAS AND RECORD VERTICAL COMPONENT OF EARTH'S MAGNETIC FIELD AT EACH PROBE SITE. PROVIDE DATA TO CITY TRAFFIC ENGINEER OF CITY OF THORNTON.
8. AFTER THE LOOP ~~HAS BEEN~~ WAS TESTED, THE SLOT ~~SHALL BE~~ WAS SEALED WITH A HIGH GRADE SEALANT.

   THIS SEALANT ~~SHALL BE~~ WAS A ONE (1) PART FORMULA ONLY, MADE SPECIFICALLY FOR SEALING TRAFFIC SIGNAL LOOPS.

   THIS SEALANT SHALL REMAIN PERMANENTLY FLEXIBLE AND BE NON-SHRINKING TO ASSURE MAXIMUM PROTECTION AFTER INSTALLATION.

   SEALANT ~~SHALL~~ WAS COMPLETELY ENCAPSULATED THE LOOP WIRE COVERING IN A TOUGH RUBBER-LIKE ENVIRONMENT FOR PROTECTION AGAINST MOISTURE, WIRE DAMAGE, AND FALSE SIGNAL CALLS THROUGH WIRE MOVEMENT.

   SEALANT COMPOSITION ~~SHALL~~ WAS NOT CONTAIN ANY SAND OR OTHER ABRASIVE MATERIALS.

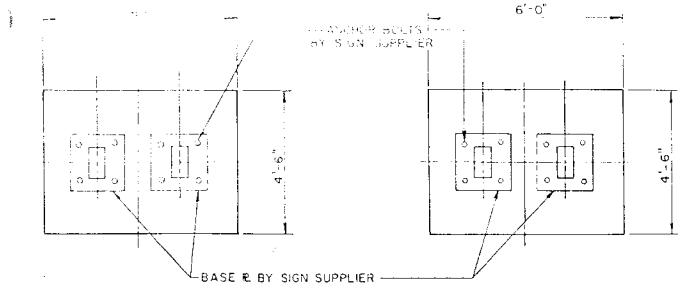
MS1

City of Thornton

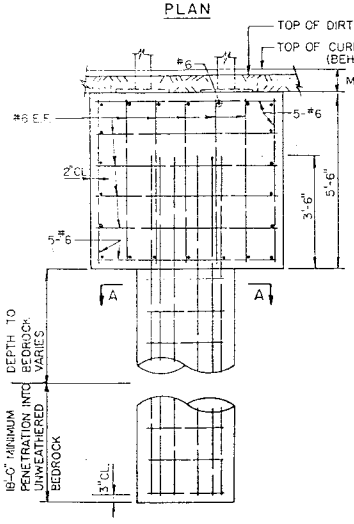
CABINET & MISC. DETAILS

THORNTON PARKWAY - EAST RAMPS & WEST RAMPS

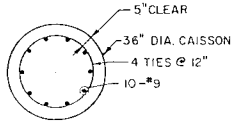
DATE	PROJECT NO	DESIGNED BY / DRAWN BY / CHECKED BY	SHEET NO 12 OF 14 SHEETS	DRAWING NO
	2057.3			TP-12



PLAN

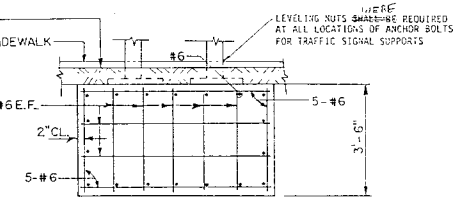


ELEVATION

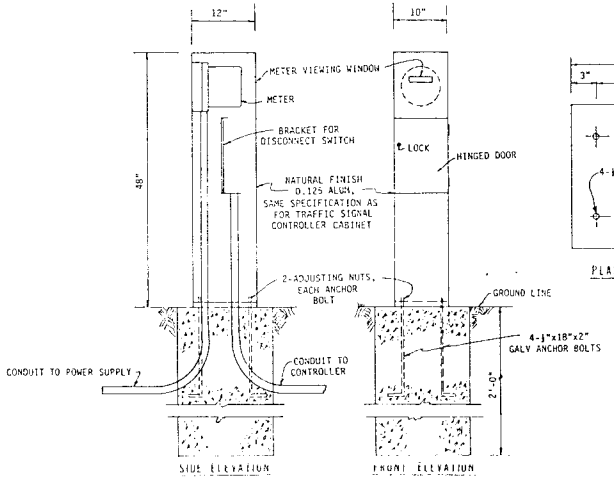


SECTION A-A

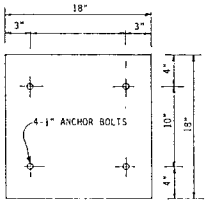
FOUNDATION FOR MODULAR SUPPORT
SUPPORT NO. 1,2,&3 EAST RAMP
SUPPORT NO. 1,3,4,&5 WEST RAMP



FOUNDATION FOR MODULAR SUPPORT
SUPPORT NO. 4 EAST RAMP
SUPPORT NO. 2 WEST RAMP



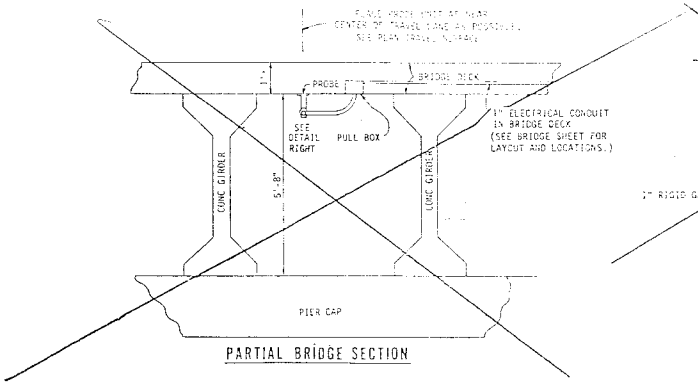
METER AND DISCONNECT SWITCH PEDESTAL



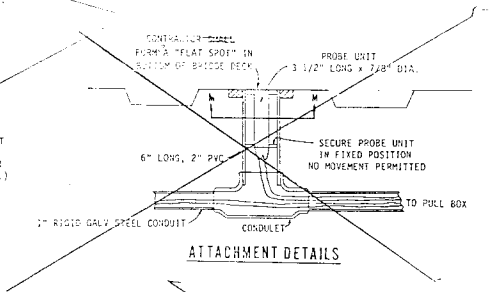
PLAN - FOUNDATION

~~NOTES~~

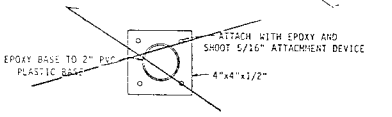
1. ~~[illegible]~~
2. ~~[illegible]~~
3. ~~[illegible]~~
4. ~~[illegible]~~
5. ~~SEE BRIDGE SHEET B-1 FOR CONDUIT AND PULL BOX LOCATIONS.~~



PARTIAL BRIDGE SECTION



ATTACHMENT DETAILS



SECTION M-M

~~DETAILS PROBE PLACEMENT~~

* TABULATION OF STRUCTURAL QUANTITIES

ITEM NO.	ITEM	UNIT	PROJECT TOTALS
503	DRILLED CAISSON 36 INCH	LIN. FT.	~~225~~ 231
601	CONCRETE CLASS A (MISC.)	CU. YD.	~~16~~ 17.1
602	REINFORCING STEEL	LB.	~~2636~~ 3776

* THESE QUANTITIES ARE CARRIED OVER TO SHEET TP-1

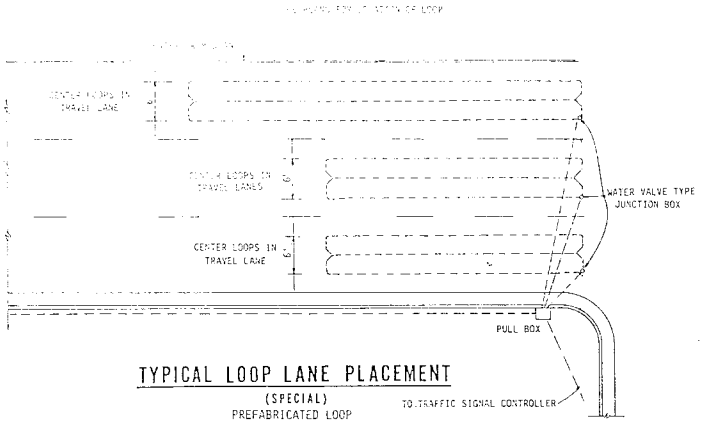
MS2

City of Thornton

MISC DETAILS

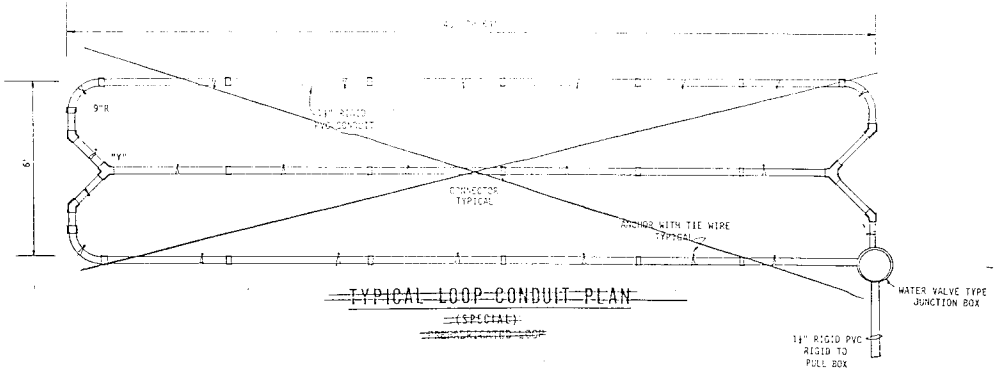
THORNTON PARKWAY

DATE	PROJECT NO.	DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO. 13 OF 34 SHEETS	DRAWING NO.
	2057.3					TP-13



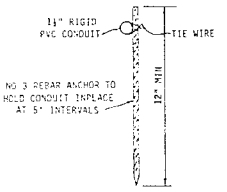
TYPICAL LOOP LANE PLACEMENT

(SPECIAL)
PREFABRICATED LOOP

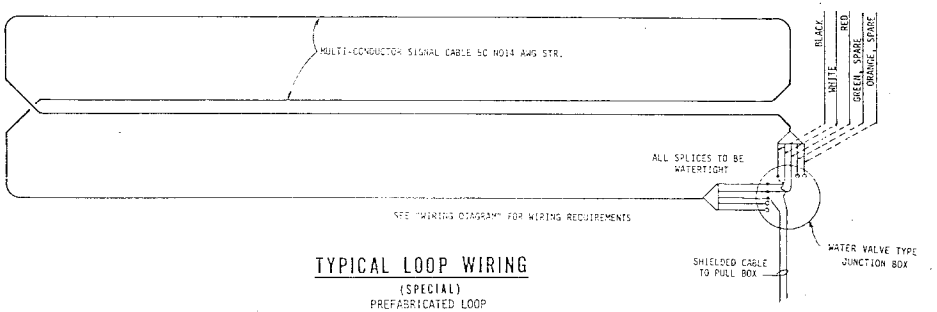


~~TYPICAL LOOP CONDUIT PLAN~~

~~(SPECIAL)~~
~~PREFABRICATED LOOP~~

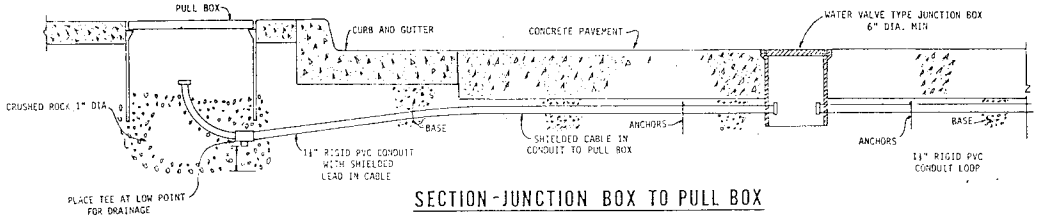


ANCHOR DETAIL



TYPICAL LOOP WIRING

(SPECIAL)
PREFABRICATED LOOP
3-TURN LOOP



SECTION-JUNCTION BOX TO PULL BOX

(SPECIAL)
PREFABRICATED LOOP

MS-3

City of Thornton

PREFABRICATED LOOP DETAILS
THORNTON PARKWAY

DATE	PROJECT NO	DESIGNED BY / DRAWN BY / CHECKED BY	SHEET NO OF SHEETS	DRAWING NO
	20573			TP-14

GENERAL NOTES

1. THE CONTRACTOR ~~SHALL~~ WILL ~~PROVIDE~~ [illegible] TO MINIMIZE TRAFFIC DELAYS DURING [illegible] CONTROL PLANS WITH THE CONSENT OF THE OPERATOR. THE CONTROL PLANS ARE SUBJECT TO REVIEW BY THE ENGINEER.
2. FULL REMOVAL OF CONFLICTING EXISTING UTILITIES WILL ~~BE~~ BE MADE TOTAL AFTER PLACEMENT OF REPLACEMENT UTILITIES LINES IN THE NEW BRIDGE. THIS WORK IS ~~TO BE~~ COORDINATED WITH THE PUBLIC SERVICE COMPANY.
3. THE CONTRACTOR ~~SHALL MAKE~~ ARRANGEMENTS TO SCHEDULE CITY OF THORNTON UNIFORMED POLICE OFFICERS WITH RADIO EQUIPPED VEHICLES FOR NIGHTTIME I-25 CLOSURES. FORTY-EIGHT (48) HOUR ADVANCED NOTICE ~~WILL BE~~ REQUIRED FOR SCHEDULING.

DETOUR PLAN-OPTION 1

[illegible] FOR CONSTRUCTION OF BRIDGE WIDENING [illegible] NECESSARY FOR PLACEMENT OF BRIDGE [illegible] ~~SHALL~~ ADHERE TO THE FOLLOWING [illegible]

NOTE: [illegible]

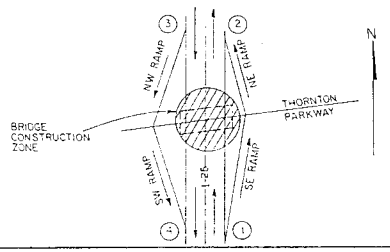
NORTH BOUND TRAFFIC ~~SHALL~~

1. TRAFFIC ~~SHALL EXIT~~ AT THE SOUTHEAST RAMP.
2. THEN, RE-ENTER I-25 USING THE NORTHEAST RAMP.

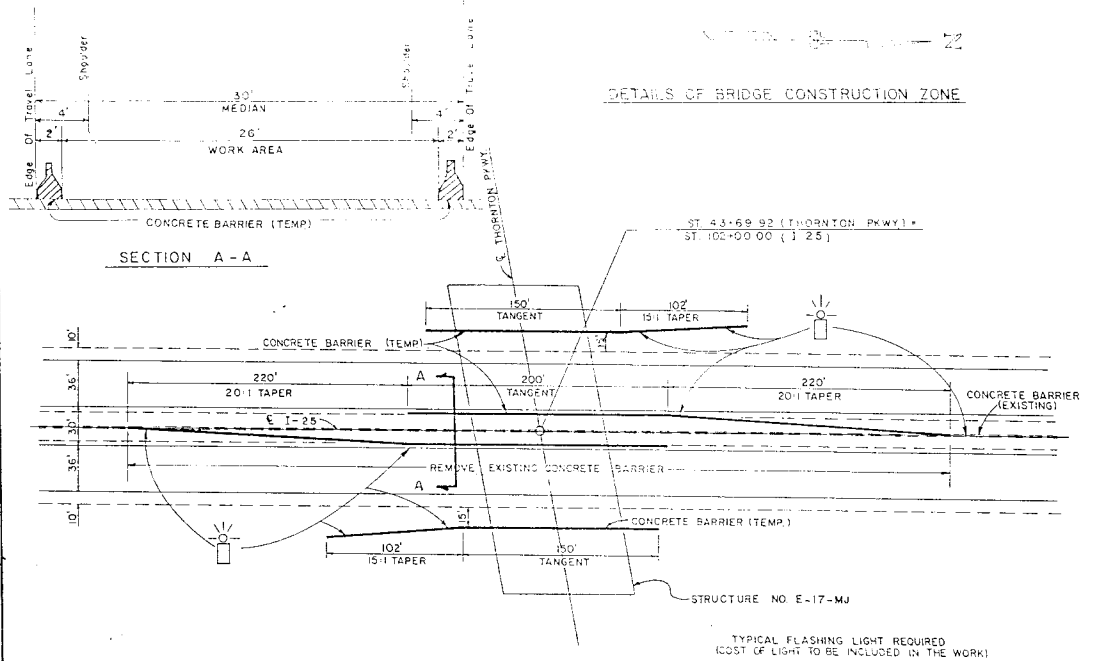
SOUTH BOUND I-25 TRAFFIC ~~SHALL~~

1. TRAFFIC ~~SHALL EXIT~~ AT THE NW RAMP;
2. THEN, ~~REENTER~~ I-25 USING THE SW RAMP.

THE CONTRACTOR ~~SHALL COORDINATE~~ THE DETOUR OPERATION WITH THE APPROVAL OF THE ENGINEER.



DETAILS OF BRIDGE CONSTRUCTION ZONE



SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES

SIGNS					
SIGN CODE	LEGEND	DIMENSIONS	PANEL SIZE A	PANEL SIZE B	PANEL SIZE C
24 M 4-8 24 M 4-9 (25) 21 M 6-1	DETOUR I 25 SHIELD MARKER ARROW	24" x 12" 24" x 24" 21" x 15"	~~8~~		
24 M 4-8 24 M 3-1a 24 M 1a (25)	DETOUR NORTH I 25 SHIELD	24" x 12" 24" x 12" 24" x 24"	~~4~~		
24 M 4-8 24 M 3-3a 24 M 1a (25)	DETOUR SOUTH I 25 SHIELD	24" x 12" 24" x 12" 24" x 24"	~~4~~		
48 W 20-1	ROAD CONST. / (DIST.)	48 x 48		~~16~~ 12	
(1) 48 W 20-5( )	( ) LANE / CLOSED / (DIST.)	48" x 48"		12 ~~8~~	
48 W 4-2(R)	RIGHT LANE TRANSITION	48" x 48"		4	
48 W 4-2(L)	LEFT LANE TRANSITION	48" x 48"		6	
48 W 20-2	DETOUR / (DIST.)	48" x 48"		~~8~~ 4	
48 W 20-7a	FLAGGER SYMBOL	48" x 48"	~~4~~	8	
48 W 20-50	~~BE PREPARED / TO STOP~~	48" x 48"	~~4~~		
60 G 20-2	END / CONSTRUCTION	60" x 24"		2	
~~Relocated on Overhead~~ * ~~48 W 20-1 SPEED LIMIT 40 MPH~~				1	~~4~~ 0
~~48 W 4-2 ROAD / CLOSED~~		48" x 30"		~~8~~	
~~TYPE 2 BARRICADES "40 MPH"~~			~~20~~ 4		
		TOTALS	~~36~~	~~35~~ 40	~~4~~

* Flag-Speed Limit Signs

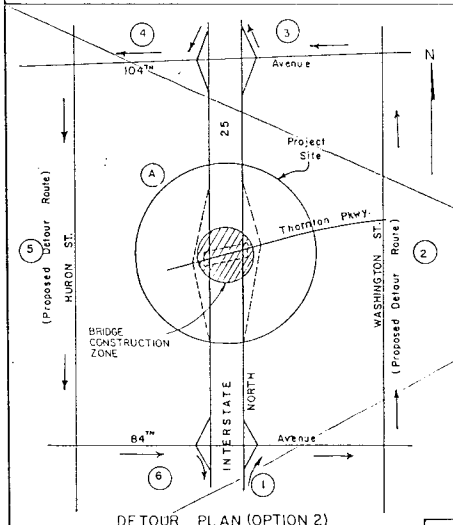
NOTE: All Signs used for night closures work ~~shall~~ used High Intensity sheeting

- OTHER DEVICES

ITEM	QUANTITY
BARRICADE (3 M-A) (TEMP.)	~~8~~ 6
VERTICAL PANEL	~~40~~ 111
FLASHING ARROW PANEL (C TYPE)	6
CONCRETE BARRIER (TEMP.)	~~748~~ 970
TRAFFIC CONE (28 INCH)	~~200~~ 259
VERTICAL PANEL (LIGHT) (F)	~~20~~ 8
~~Center Diamond Parking Garage~~	~~24~~ 4

(1) W20-5( ) ADVANCE WARNING SIGNS ~~ARE TO BE~~ FURNISHED WITH INTERCHANGEABLE PLAQUES READING "RIGHT", "LEFT" AND "CENTER" AT NO ADDITIONAL COST.

NOTE: THESE QUANTITIES ARE CARRIED TO THE "TABULATION OF SIGNING QUANTITIES" ON SHEET SS-1.



DETOUR PLAN (OPTION 2)
(NO Scale)

DETOUR PLAN-OPTION 2

DETOUR OPERATION DURING PLACEMENT OF BRIDGE GIRDERS

LANE CLOSURES ON I-25 WILL BE NECESSARY FOR PLACEMENT OF BRIDGE GIRDERS ACROSS I-25 AND WILL TAKE PLACE BETWEEN THE FOLLOWING NIGHT-TIME HOURS ONLY:

- 12:00 MIDNIGHT TO 4:30 A.M. -

THE PROPOSED DETOUR ROUTES SHALL BE AS FOLLOWS (SEE DETOUR PLAN LEFT):

NORTHBOUND I-25 LANE CLOSURES

1. - TRAFFIC SHALL EXIT AT 84TH AVENUE AND PROCEED EAST ON 84TH AVENUE;
2. THEN, NORTH ON WASHINGTON STREET TO 104TH AVENUE;
3. - THEN, WEST ON 104TH AVENUE TO I-25 ENTRANCE RAMP TO I-25 NORTHBOUND.

SOUTHBOUND I-25 LANE CLOSURES

4. - TRAFFIC SHALL EXIT AT 104TH AVENUE AND PROCEED WEST ON 104TH AVENUE;
5. - THEN, SOUTH ON HURON STREET TO 84TH AVENUE;
6. - THEN, EAST ON 84TH TO I-25 ENTRANCE RAMP TO I-25 SOUTHBOUND.

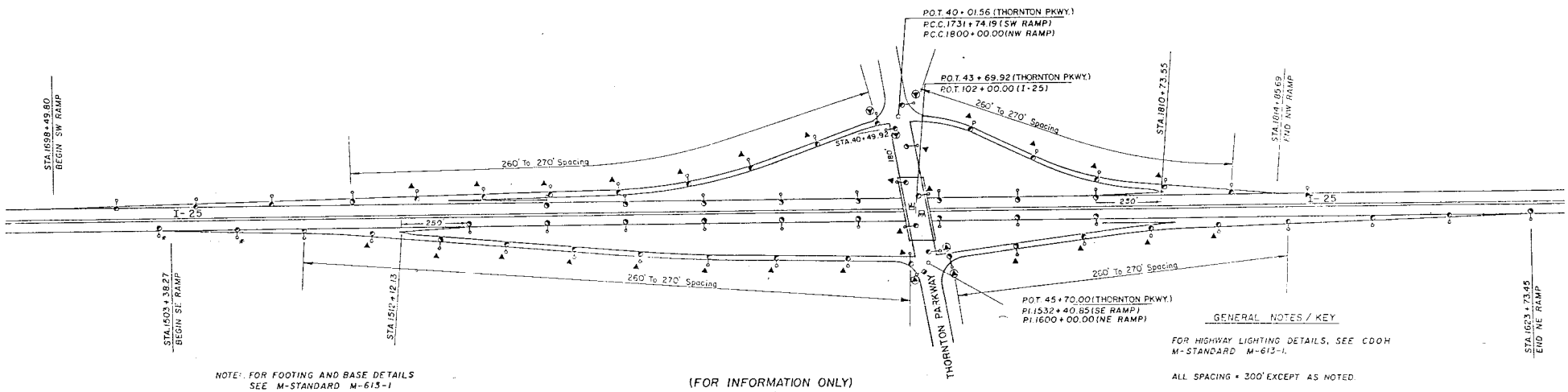
THE CONTRACTOR SHALL COORDINATE THE DETOUR OPERATION WITH THE APPROVAL OF THE ENGINEER.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
DETAILS - CONST. TRAFFIC CONTROL

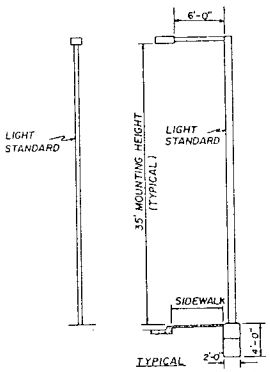
DATE	PROJECT NO.	DESIGNED BY P.M.C. / DRAWN BY P.T. / CHECKED BY P.M.T.	SHEET NO. 1 OF 1 SHEETS	DRAWING NO.
	UR52057.3			CS-1

PREPARED BY - UPS COMPANY - DENVER

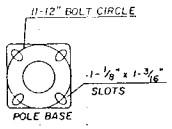


NOTE: FOR FOOTING AND BASE DETAILS SEE M-STANDARD M-613-1

ALL TRANSFORMER BASES AND BREAKAWAY SUPPORT COUPLINGS ~~SHALL~~ MEET THE BREAKAWAY REQUIREMENTS STATED IN THE LATEST EDITION OF AASHTO'S STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRS, AND TRAFFIC SIGNALS.



TYPICAL
LIGHT STANDARD METAL (35')
MODULAR POLE



BOLT CIRCLE DETAIL

(FOR INFORMATION ONLY)

TABULATION OF LIGHTING QUANTITIES

ITEM NUMBER	ITEM	LOCATION						TOTALS	UNIT
		NW RAMP	NE RAMP	SW RAMP	SE RAMP	I-25	THORNTON PKWY.		
FA	DIRECT-BURIAL CABLE	1486	2373	3324	2903	4540	500	15,126	LIN. FT.
FA	LUMINAIRE HIGH PRESSURE SODIUM (MODULAR POLE) ▲	4	4	7	8	–	11	34	EACH
FA	LUMINAIRE HIGH PRESSURE SODIUM (STANDARD POLE)	–	–	–	–	28	–	28	EACH
FA	LUMINAIRE HIGH PRESSURE SODIUM (WALL TYPE) (12,000 LUMEN)	–	–	–	–	2	–	2	EACH
FA	LIGHT STANDARD METAL (40 FT.)	–	–	–	–	28	–	28	EACH
FA	LIGHT STANDARD METAL (35 FT.) (MODULAR POLE)	4	4	7	8	–	5	28	EACH
FA	CONCRETE FOUNDATION PAD	4	4	7	8	28	2	53	EACH
FA	RESET LIGHT STANDARD							2	EACH
FA	FURNISH AND INSTALL POWER LINES FOR STREET LIGHTS							1	FA

GENERAL NOTES / KEY

FOR HIGHWAY LIGHTING DETAILS, SEE CDOH M-STANDARD M-613-1.

ALL SPACING = 300' EXCEPT AS NOTED.

ALL OVERHEAD LUMINAIRES SHALL BE 50,000 LUMEN HIGH PRESSURE SODIUM TYPE II

Ⓦ WALL TYPE LUMINAIRES SHALL BE MOUNTED UNDER STRUCTURE AND SHALL BE 12,000 LUMEN.

▲ INDICATES 50,000 LUMEN LUMINAIRE ON A 35' MODULAR POLE

Ⓐ INDICATES 50,000 LUMEN LUMINAIRE ON A TRAFFIC SIGNAL POLE

* INDICATES LIGHT STANDARD AND LUMINAIRE TO BE RESET.

SEE PP SHEETS FOR CONDUIT LOCATIONS

THIS SHEET INCLUDED FOR INFORMATION ONLY.

ALL WORK BY P.S.CO who shall be given 30 days notification to mobilize work forces.

City of Thornton
Public Works
Thornton, Colorado

THORNTON PARKWAY / I-25 INTERCHANGE
LIGHTING PLAN AND TABULATION

DATE | PROJECT NO. | DESIGNED BY D.S. | DRAWN BY D.K. | CHECKED BY S.E. | SHEET NO. 1 OF 1 SHEETS | DRAWING NO. LP-1

PREPARED BY URS COMPANY - DENVER

STANDARD M-412-2

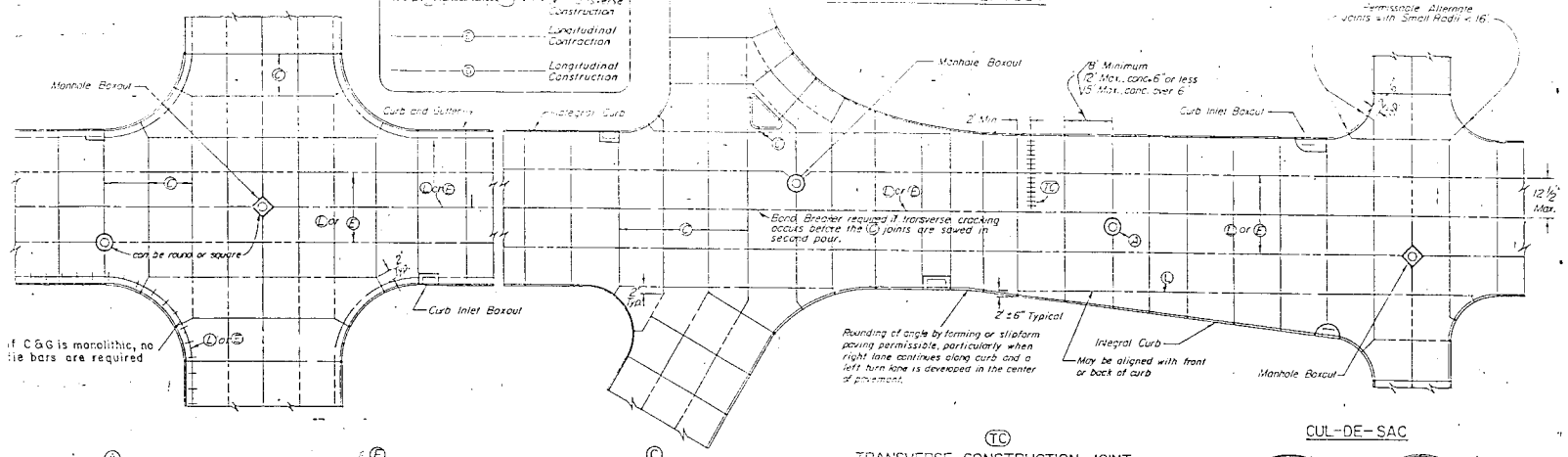
(SPECIAL THIS PROJECT)

REGION NO.	STATE FUND NO.	PROJ. NO.	TOTAL SHEETS
VII			

JOINT LEGEND

- Expansion
- Transverse Contraction
- Longitudinal Transverse Construction
- Longitudinal Contraction
- Longitudinal Construction

TYPICAL JOINT LAYOUT



GENERAL NOTES

All work shall be done in accordance with the standard specifications applicable to the project.

The typical joint layout shown is intended to be used as a standard for the joint layout for the project. If the Contractor requires variations from this standard or the project has unusual or irregular conditions not covered herein, he shall prepare a proposed joint layout for the variations and unusual conditions for approval by the Engineer.

Longitudinal joints shall be coincident with lane marks as it possible, and have maximum spacing of 12.5'. The longitudinal joint closest to the curb shall be tied (⊸) if there is no backfill behind the curb.

Place transverse joints perpendicular to the centerline of pavement and extend through the curb or curb and gutter.

Immediately after sawing, joints shall be cleaned of cement slurry with a pressurized water jet cleaner acceptable method. Joints shall also be cleaned with compressed air just ahead (100' or less) of placing backer rod and poured joint material. The Engineer may require other methods if necessary to clean joint.

Place 1/2" min. expansion joint filler in top 6 inches of curb at intersection return radius points.

The Contractor shall, unless otherwise shown on the plans, select and use either a boxout or bond breaker at catch basins, manholes and other roadway appurtenances of similar or larger size. Small appurtenances, such as valve and monument boxes, will not require a boxout or bond breaker.

Preferred transverse joint locations are: more than 5 feet from a large appurtenance with no boxout; or at the midpoint of round boxouts or appurtenances; or at the corner of rectangular boxouts or appurtenances.

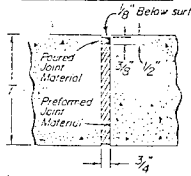
Where a longitudinal joint is located one foot or more clear of an appurtenance edge a bond breaker may be used. With 2 feet or more clearance either a bond breaker or boxout may be used. With less than these clearances, use the "Typical 2' Radial Joint" as shown in the details. Use of square or round boxout, or bond breaker is appropriate when the appurtenance is centered on a longitudinal joint.

The final finish requirements of subsection 412.15(f) shall apply except that transverse tined grooves shall not be required where the profile grade is flatter than 5%. Tined grooves will not be required within 2 feet of curbs.

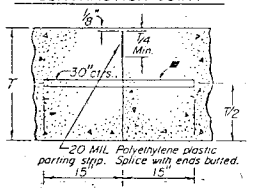
~~Curb inlets may be constructed on vertical slopes if it will facilitate continuous slipform paving.~~

■ Deformed reinforcing bars No. 4 when T ≤ 8", No. 5 when T > 8"

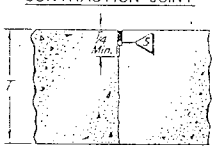
Ⓐ EXPANSION JOINT



Ⓔ ALTERNATE LONGITUDINAL CONTRACTION JOINT

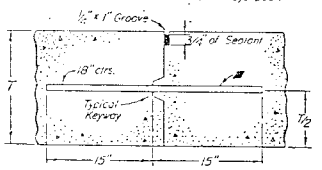


Ⓒ TRANSVERSE CONTRACTION JOINT

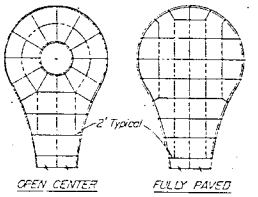


(TC) TRANSVERSE CONSTRUCTION JOINT

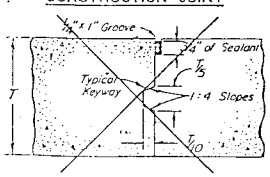
Required when pour has been interrupted more than 30 minutes and at end of a days pour.



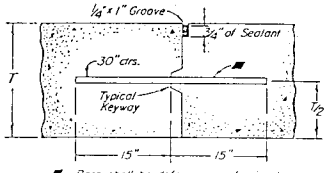
CUL-DE-SAC



Ⓓ LONGITUDINAL CONSTRUCTION JOINT

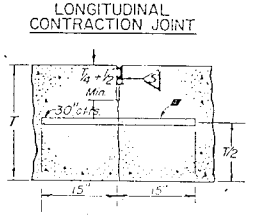


Ⓛ LONGITUDINAL CONSTRUCTION JOINT

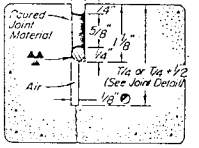


■ — Bars shall be deformed reinforcing bars. No. 4 when T ≤ 8 and No. 5 when T > 8.

Ⓔ LONGITUDINAL CONTRACTION JOINT



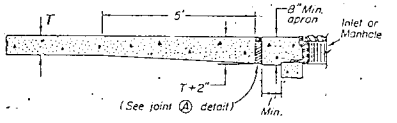
(S) SAWED JOINT



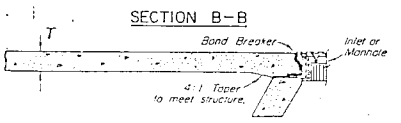
▲▲ Backer rod of open or closed cell polyurethane strand as approved.

◐ ~~Maybe~~ 1/4" saw cut for it's full depth with joint material and backer rod at same depth shown.

SECTION A-A

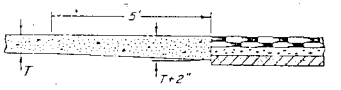


SECTION B-B

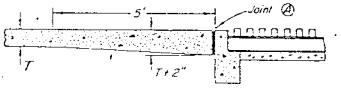


Bond Breaker shall be composed of plastic sheet, building paper or other approved material to prevent bonding.

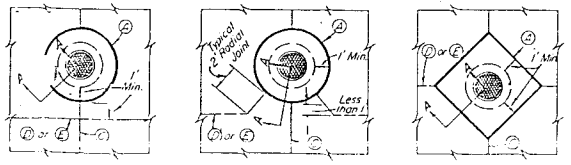
CONCRETE TO FLEXIBLE PAVEMENT TRANSITION



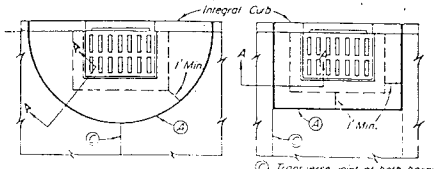
PAVEMENT AT CATTLEGUARD OR R.R. CROSSING



MANHOLE BOXOUT

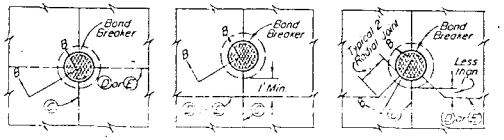


CURB INLET BOXOUT



(C) Transverse joint at both boxout corners if boxout is 8' or longer.

BOND BREAKER



STATE DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS
STATE OF COLORADO

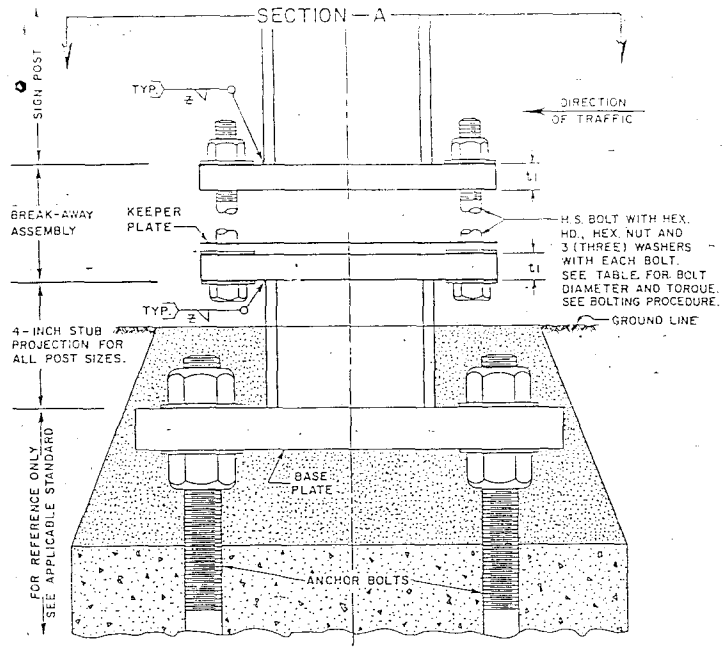
CONCRETE PAVEMENT
—URBAN AREA—

DATE REVISED	APPROVED BY: DATE: DESIGN ENGINEER	STANDARD PLAN NO.
	DATE: FEBRUARY 17, 1984	M-412-2 SHEET 1 OF 1

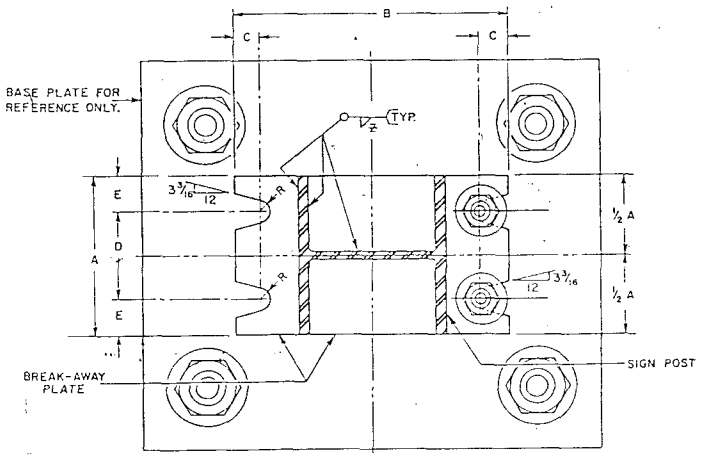
STANDARD S-614-5

(SHEET 1 OF 2 SHEETS) JANUARY 1982 (SPECIAL FOR THIS PROJECT)

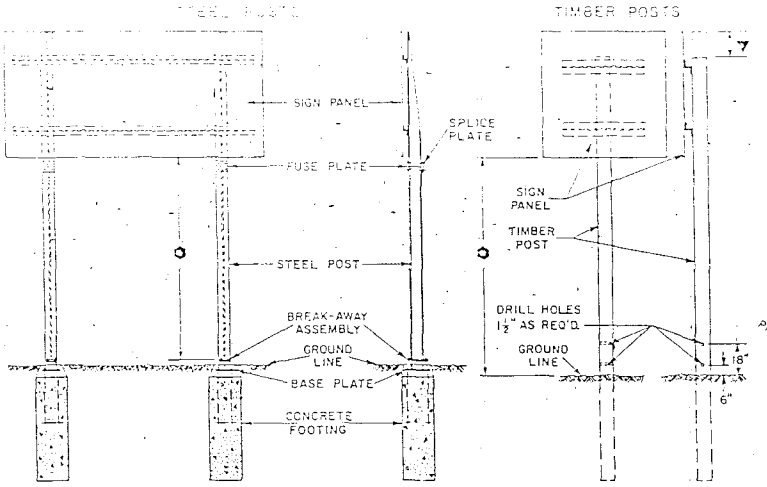
TYPICAL ELEVATION STEEL POST ASSEMBLY



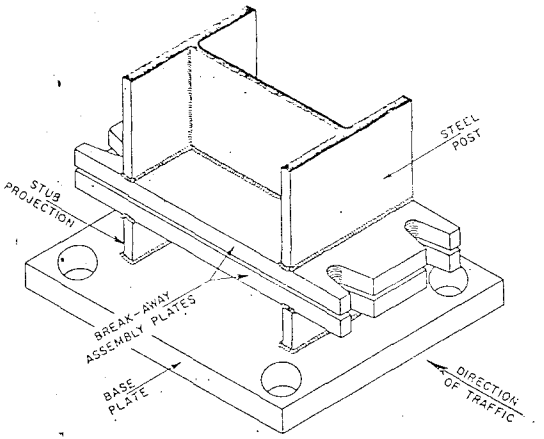
TYPICAL SECTION -A-



TYPICAL BREAK-AWAY SIGN SUPPORT INSTALLATIONS



TYPICAL PROJECTED VIEW STEEL POST ASSEMBLY



GENERAL NOTES

1. All work ~~shall be~~ done in accordance with the Standard Specifications applicable to the Project.
2. Design conforms with AASHTO "Specifications for the Design and Construction of Structural Supports for Highway Signs".
3. All structural steel ~~shall~~ conform to ASTM – A 36 and Section 509 of the Standard Specifications.
4. Steel fuse plates and splice plates ~~shall~~ conform to ASTM – A36.
5. All high strength bolts, nuts and washers ~~shall~~ conform to ASTM – A325. Washers used in the Break-Away Plate and Fuse Plate assemblies ~~shall be~~ of sufficient strength to prevent any deflection or "cupping" into the slotted grooves under bolt torquing.
6. All bolts other than high strength bolts ~~shall~~ conform to ASTM – A307.
7. All bolts, nuts, and washers ~~shall be~~ galvanized as per ASTM-A153 or ASTM-A164.
8. All holes except at fuse plate ~~may be~~ drilled ~~or sub-punched and reamed~~.
9. All steel cuts ~~shall preferably~~ be saw cuts; however, flame cutting will be permitted provided all edges are ground. Remove all burrs. Metal ~~shall~~ not project beyond the plane of the plate face.
10. A "Keeper Plate" of thin (28-gage) galvanized sheet metal, fabricated to match break-away plate dimensions but with holes rather than slots, ~~shall be~~ used to restrain bolt loosening due to wind vibration.
11. High strength bolts in the break-away assembly ~~shall be~~ tightened only to the torque shown in the table. ~~DO NOT OVERTIGHTEN.~~
12. The "STUB POST" and one "BREAK-AWAY PLATE" ~~are~~ considered part of the footing. The other "BREAK-AWAY PLATE" and all nuts, bolts, washers and keeper plate for fastening the break-away plates ~~are~~ considered to be a part of the post.
13. Timber posts ~~shall be in~~ accordance with Section 614 of the Standard Specifications as to Size, Alternate Size, Grade, Species, Treatment, and Break-Away Holes.
14. For all base plate and footing work see the applicable Standard included in the plans.
15. For additional information, refer to "Tabulation of Signs" and "Cross Sections for Class III Signs" included in the plans.
16. Timber post flush with top of sign panel for direct mount and 3 3/16" minimum above bolt for backing zee mount.
17. Minimum post length from bottom of sign panel to break-away assembly or ground line shall be 7' (in no case shall a backing zee be placed below the fuse plates).

BREAK-AWAY PLATE DATA TABLE

POST SIZE \ DIMENSION	BOLT SIZE AND TORQUE	A	B	C	D	E	t1	WELD Z	R	STUB POST LENGTH
W 12 x 40	7/8" ø x 3 3/4" 1,135 In. Lb.	8"	19 1/4"	1 5/8"	4"	2"	1 1/4"	3/8"	13/32"	0'-4"
W 12 x 35	3/4" ø x 3 1/2" 750 In. Lb.	6 1/2"	17"	7/8"	3 1/2"	1 1/2"	1"	5/16"	13/32"	0'-4"
W 10 x 26		5 3/4"	14 7/8"	7/8"	3 1/4"	1 1/4"	1"	5/16"	13/32"	0'-4"
W 10 x 22		5 3/4"	14 5/8"	7/8"	3 1/4"	1 1/4"	1"	5/16"	13/32"	0'-4"
W 8 x 21		5 1/4"	12 5/8"	7/8"	2 3/4"	1 1/4"	1"	5/16"	13/32"	0'-4"
W 8 x 18	5/8" ø x 2 3/4" 450 In. Lb.	5 1/4"	12"	3/4"	3"	1 1/8"	3/4"	1/4"	11/32"	0'-4"
W 6 x 15		6"	10"	3/4"	3 1/4"	1 1/8"	3/4"	1/4"	11/32"	0'-4"
W 6 x 12		5"	10"	3/4"	2 3/4"	1 1/8"	3/4"	1/4"	11/32"	0'-4"

BOLTING PROCEDURE FOR BREAK-AWAY PLATE ASSEMBLY

1. Assemble post to stub with bolts – one flat washer on each bolt top and bottom, and one flat washer and the keeper plate between the break-away plates.
2. Tighten all bolts to a "snug tight" condition with a 12" to 15" wrench to bed washers and to clean bolt threads, then loosen each bolt in turn and retighten in a systematic order to the prescribed torque. (See Break-Away Plate Data Table)
3. Burr threads at junction with nut to prevent nut loosening.

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS
BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS

Designed By: J.J.B.
Made By: F.J.B.
Checked By:
Approved By: Staff Traffic & Safety Projects Engineer