MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR AGGREGATE BASE, SHOULDERS AND CONCRETE PAVING

LOCATED ON C.S.A.H. 22 **BETWEEN** T.H. 63 **AND** C.S.A.H. 9 1/2 MILE N.E. OF ROCHESTER (GEOGRAPHIC DESCRIPTION)

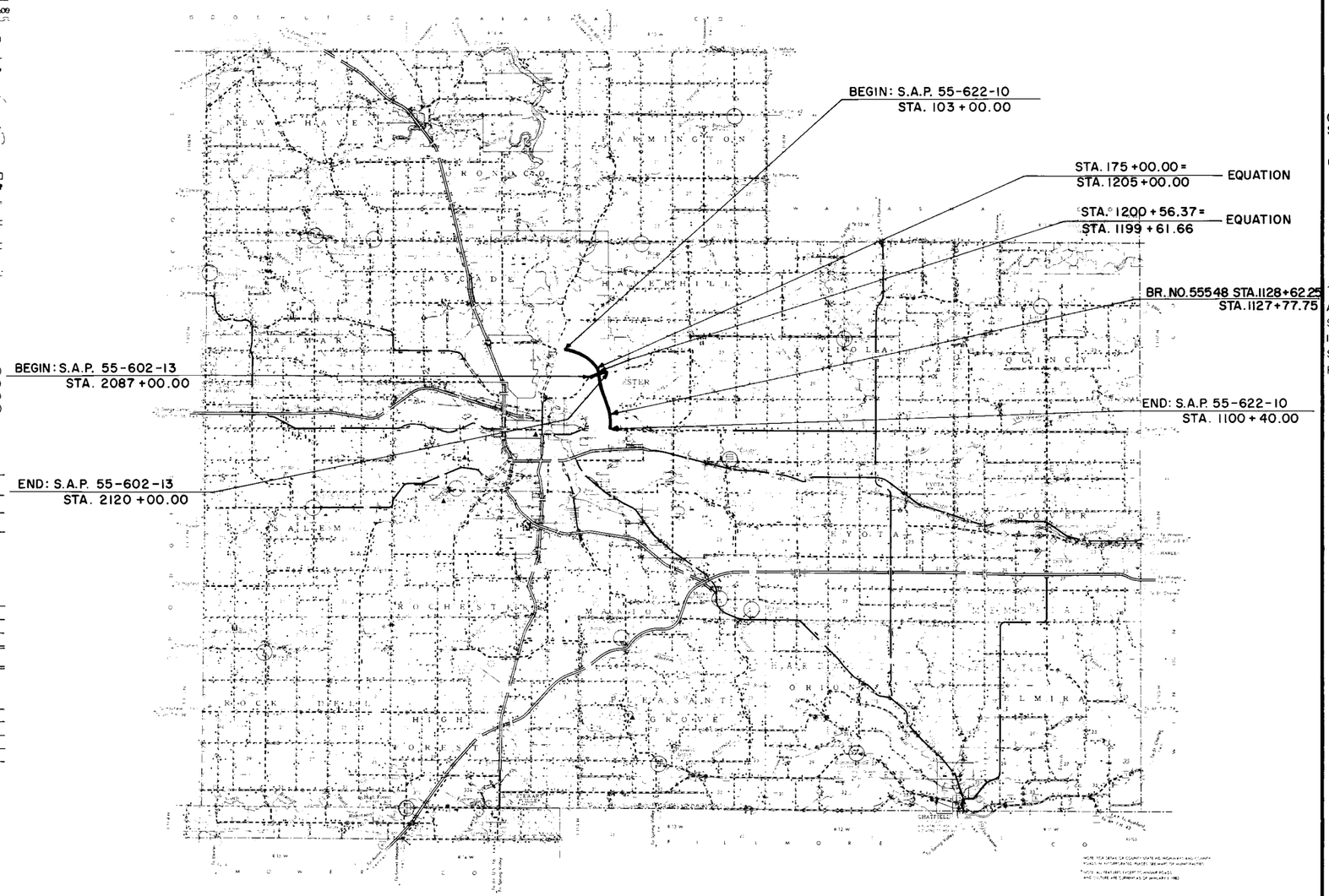
FROM APPROX. 454' N.W. OF CENTER SEC. 24 T107N-R14W **TO** 40' N. OF S.E. COR. SEC. 31 T107N-R13W (LEGAL DESCRIPTION)

~~**STATE PROJ. NO.**~~ S.A.P. 55-602-13

GROSS LENGTH	3300.00 FEET	0.625	MILES
BRIDGES-LENGTH	0 FEET	0	MILES
EXCEPTIONS-LENGTH	0 FEET	0	MILES
NET LENGTH	3300.00 FEET	0.625	MILES

~~**STATE PROJ. NO.**~~ S.A.P. 55-622-10

GROSS LENGTH	17565.29 FEET	3.327	MILES
BRIDGES-LENGTH	84.50 FEET	0.016	MILES
EXCEPTIONS-LENGTH	0 FEET	0	MILES
NET LENGTH	17480.79 FEET	3.311	MILES



PLANS SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
PRESENT RIGHT OF WAY LINE
FENCE OR ASSESS. LINE
PROPERTY LINE (PRIVATE)
VACATED OR ABANDONED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY LINE
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Home)
F. FRAME C. CONCRETE
S. STONE T. TILE
B. BRICK ST. STUCCO
IRON PIPE OR ROD
MONUMENT (STONE CONCRETE OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY
SLOPE EASEMENT

UTILITIES SYMBOLS

POWER POLE, NE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL-TELEPHONE CABLE TERMINAL
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRICAL CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRICAL CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR STORM)
SEWER MANHOLE

ALBERTSON MAPLE S-6485

SCALES

PLAN 0' 50'
PROFILE 0' 50'
INDEX MAP 0' 10,560'
~~CROSS SECTIONS~~

MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET.
SHEET NO. 2	ESTIMATE OF QUANTITIES.
SHEET NO. 3-4	TYPICAL SECTIONS.
SHEET NO. 5	PAVEMENT JOINTS.
SHEET NO. 6-19	PLAN AND PROFILE SHEETS C.S.A.H. 22.
SHEET NO. 20-22	PLAN AND PROFILE SHEETS C.S.A.H. 2.

C.S.A.H. 22 GRADED UNDER S.A.P. 55-622-04 (1987) AND S.A.P. 55-622-07 (1986).

C.S.A.H. 2 GRADED UNDER S.A.P. 55-602-11 (1986).

C.S.A.H. 22 DESIGN DESIGNATION

TRAFFIC PROJECTION YEAR 2000		DESIGN SPEED 55 M.P.H.	
A.D.T. 13,829 (FROM PROJECT EIS)		BASED ON STOPPING SIGHT DISTANCE	
SOIL FACTOR	130%	HEIGHT OF EYE 3.5'	
10 TON DESIGN		HEIGHT OF OBJECT 0.5'	
SHOULDER WIDTH 8 FEET			
PROJ. HCADT EST. 691 (5%)			

C.S.A.H. 2 DESIGN DESIGNATION

R ΣN18 [20]

ADT (Current Year)	= 2895 (1988)	Design Speed	55 MPH
ADT (Future Year)	= 5211 (2008)	Based on	STOPPING Sight Distance
DHV (Design Hr. Vol.)	=	Height of eye	3.5' Height of object 0.5'
D (Directional Distr.)	= %	Design Speed not achieved at:	
T (Heavy Commercial)	= 9.1 %	STA. 101+40.6 TO STA. 105+61	MPH 40
SOIL FACTOR	130 %	STA. TO STA.	MPH
TST HCADT	0.8%	STA. TO STA.	MPH
10 TON DESIGN		MAJOR COLLECTOR	
TRAFFIC LANES	4	PARKING LANES	NONE

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

DATE 1/12/88 REG. NO. 10397 ENGR. Michael Meehan

COUNTY Olmsted

Recommended for Approval [signature] 1-15 1988
DISTRICT STATE AID ENGINEER

Recommended for Approval Julie Stallman 1/29 1988
STATE AID PLANS AND SPECS ENGINEER

Approved 1/29 1988 Sheldon H. Day
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

DIVISION ADMINISTRATOR DATE

STATE AID PROJ. NO. 55-622-10 & 55-602-13

~~**STATE PROJ. NO.**~~ C.S.A.H. 22 & C.S.A.H. 2 OLMSTED COUNTY **SHEET NO.** 1 **OF** 22 **SHEETS**

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	SAP 55-622-10 MUNICIPAL	SAP 55-622-10 RURAL	SAP 55-602-13 MUNICIPAL	SAP 55-602-13 RURAL	TOTAL ESTIMATED QUANTITIES
(1)	2105 . 525	TOPSOIL BORROW (LV)	CU. YD.	670	1414	252	447	2783
(2)	2112 . 501	SUBGRADE PREPARATION	ROAD STA.	41	162	8	23	234
(3)	2130 . 501	WATER	M-GAL.	14	33	3	8	58
(4)	2211 . 501	AGGREGATE BASE CLASS 5	TON	1101	2631	268	670	4670
(5)	2221 . 501	AGGREGATE SHOULDER CLASS 2	TON	1745	6393		630	8768
	2221 . 501	AGGREGATE SHOULDER CLASS 3	TON	297	2602		323	3222
	2301 . 502	CONCRETE PAVEMENT STANDARD WIDTH 9" (P)	SQ.YD.	7085	42110	5038	9377	63610
(6)	2301 . 503	CONCRETE PAVEMENT IRREGULAR WIDTH 9" (P)	SQ.YD.	4081	2914		2400	9395
(7)	2301 . 511	STRUCTURAL CONCRETE (P)	CU. YD.	2807	11262	1267	2948	18284
(8)	2301 . 536	DOWEL BAR ASSEMBLIES	LIN. FT.	6078	24166	2688	5004	37936
	2301 . 541	INTEGRANT CURB DESIGN B6	LIN. FT.		377	1700	1749	3826
	2301 . 553	BRIDGE APPROACH PANELS (P)	SQ. YD.		285			285
	2331 . 504	BITUMINOUS MATERIAL FOR MIXTURE	TON	75	172	13	16	276
(9)	2331 . 508	WEARING COURSE MIXTURE (MOD.)	TON	187		83		270
(10)	2331 . 514	BASE COURSE MIXTURE (MOD.)	TON	439	342	97		878
(11)	2331 . 516	SHOULDER MIXTURE (MOD.)	TON	614	2364	35	252	3265
(12)	2357 . 502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	190	156	44		390
	0504 . 602	ADJUST GATE VALVE AND BOX	EACH	4				4
	2506 . 521	INSTALL CASTINGS	EACH			8	4	12
	2506 . 522	ADJUST FRAME AND RING CASTINGS	EACH	4				4
	2531 . 501	CONCRETE CURB AND GUTTER DESIGN B624	LIN. FT.	880		30		910
(13)	2554 . 501	TRAFFIC BARRIER DESIGN B8307	LIN. FT.		150			150
(13)	2554 . 521	ANCHORAGE ASSEMBLIES - PLATE BEAM FOR BRIDGE	EACH		4			4
(13)	2554 . 523	TWISTED END TREATMENT	EACH		4			4
	0565 . 603	3" RIGID STEEL CONDUIT	LIN. FT.		170		80	250
	2575 . 501	ROADSIDE SEEDING (P)	ACRE	4	22.7		0.3	27
(14)	2575 . 502	SEED MIXTURE 2	POUND	400	2270		30	2700
(15)	2575 . 502	SEED MIXTURE 5	POUND	200	1135		15	1350
(16)	2575 . 505	SODDING	SQ.YD.	6726	17378	1133	1184	26421
(17)	2575 . 511	MULCH MATERIAL TYPE 1	TON	8	45.4		0.6	54
(18)	2575 . 519	DISC ANCHORING (P)	ACRE	4	22.7		0.3	27
(19)	2575 . 532	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	POUND	800	4540		60	5400

(P) PLAN QUANTITY

(1) INCLUDES 864 CU.YDS. BEHIND CURBS AND 1919 CU.YDS. ALONG IN SLOPES.

(2) SUBGRADE PREPARATION ON RAMPS WILL BE MEASURED ON ALIGNMENT SHOWN AND INCLUDING ALL TAPERS.

(3) TO BE USED FOR DUST CONTROL WITHIN THE PROJECT LIMITS AS DIRECTED BY THE ENGINEER.

(4) TO BE USED IN CONJUNCTION WITH THE SUBGRADE PREPARATION.

(5) INCLUDES 648 TONS FOR 22 APPROACHES AND 1456 FOR 8 TURN LANES.

(6) INCLUDES FROM STA. 104+00 TO STA. 112+58.69, ONE RAMP ONTO CSAH 9, ONE ENTERANCE AND ONE EXIT RAMP AT CSAH 2 AND FROM STA. 2114+00 TO 2120+00.

(7) INCLUDES 31 CU.YDS. FOR FIVE HEADERS AND 2 CU.YDS. ADJACENT TO RAILROAD CROSSING AT STA. 1129+22.

(8) MEASUREMENT AND PAYMENT IS BASED ON RIGHT ANGLE LENGTHS NOT ON SKEWED JOINT LENGTHS. DOWEL BARS TO BE PLACED FROM 12' LT. TO 12' RT. OF CENTERLINE (SAP 55-622-10). (SAP 55-602-13) 24' LT. & RT. OF CENTERLINE.

(9) INCLUDES 116 TONS STA. 103 TO STA. 104, 71 TONS ON 16th AVE. N.E. AND 83 TONS FROM STA. 2087+00 TO STA. 2088+50.

(10) INCLUDES 105 TONS ON 16th. Ave. N.E., 676 TONS FOR 9 TURN LANES AND 83 TONS FROM STA. 2087+00 TO STA. 2088+50 AND 14 TONS FOR ONE APPROACH LEFT STA. 2089+70.

(11) INCLUDES 220 TONS FOR 11 APPROACHES AND 676 TONS FOR 9 TURN LANES.

(12) TACK BETWEEN ALL LAYER OF BITUMINOUS.

(13) TO BE CONSTRUCTED AT BRIDGE NO. 55548 STA. 1128+20.

(14) APPLICATION RATE 100 POUNDS PER ACRE AND IN CONJUNCTION WITH SEED MIXTURE 5.

(15) APPLICATION RATE 50 POUNDS PER ACRE, APPLY TO ALL INSLOPES WHERE TOPSOIL BORROW HAS BEEN PLACED BETWEEN STA. 104+00 TO STA. 175+00, STA. 1100+40 TO STA. 1205+00. AND STA. 2107+00 TO STA. 2120+00. APPLY TO MEDIAN FROM STA. 152+00 TO STA. 175+00, STA. 1100+40 TO STA. 1142+50 AND STA. 1195+00 TO STA. 1205+00. APPLY TO NORTH BOUND AND WEST BOUND LANE STA. 106+00 TO STA. 175+00 AND BETWEEN STA. 1111+00 TO STA. 1205+00.

(16) PLACE SOD IN MEDIAN BOTTOM AND SLOPES FROM STA. 104+00 TO STA. 108+40, STA. 112+00 TO STA. 152+00 AND STA. 1142+50 TO STA. 1195+00. PLACE SOD BEHIND CURBS IN DISTURBED AREA'S FROM STA. 2088+50 TO 2107+00 SOUTH SIDE AND TO STA. 2108+50 NORTH SIDE.

(17) APPLICATION RATE TWO TONS PER ACRE.

(18) DISC ANCHOR ALL AREA'S THAT ARE MULCHED.

(19) APPLICATION RATE 200 POUNDS PER ACRE.

JOINTS:

ALL CONTRACTION JOINTS, ALL LONGITUDINAL JOINTS, ALL EXPANSION JOINTS AND PERMANENT HEADER JOINTS WILL BE INCIDENTIAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

STEEL REINFORCEMENT:

STEEL REINFORCEMENT REQUIRED FOR CONCRETE PAVEMENT BETWEEN STA. 1128+93.5 TO STA. 1129+18.31 WILL BE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

CONCRETE PAVEMENT:

CONCRETE PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL PLATE NOTED IN THE PLANS, MODIFIED TO THE EXTENT THAT C5D-1 CONTRATION JOINTS WILL BE REQUIRED.

REINFORCED PANEL OVER CULVERTS:

REINFORCED CONCRETE PANELS OF THE LENGTH INDICATED AT LOCATIONS LISTED BELOW SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL PLATE. REINFORCED PANELS WILL BE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

STATION:	PANELS:	STATION:	PANELS:	STATION:	PANELS:	STATION:	PANELS:
105+64	13'-16'	140+00	17'	1114+91	13'-16'	2093+00	16'-14'
112+06	16'	149+70	13'-16'-14'-17'-13'-16'-14'	1134+35	13'-16'	2096+00	16'-14'
121+95	17'	152+60	17'	1142+45	14'-17'-13'	2103+00	13'-16'
125+75	15'-17'	157+00	17'	1159+04	16'	2106+00	17'-13'
127+00	17'-17'	165+83	14'-17'-13'	1174+06	14'-17'-13'-16'-14'-17'-13'	2108+45	17'-13'-13'
132+96	12'-13'	1100+90	16'-13'	2089+23	16'-14'	2108+51	17'
135+65	15'-13'-14'-16'-13'	49+03	14'	2090+12	14'-17'	2108+60	16'-14'
						2111+84	17'-13'-16'-14'-17'-13'
						2118+63	17'-13'

STANDARD PLATES

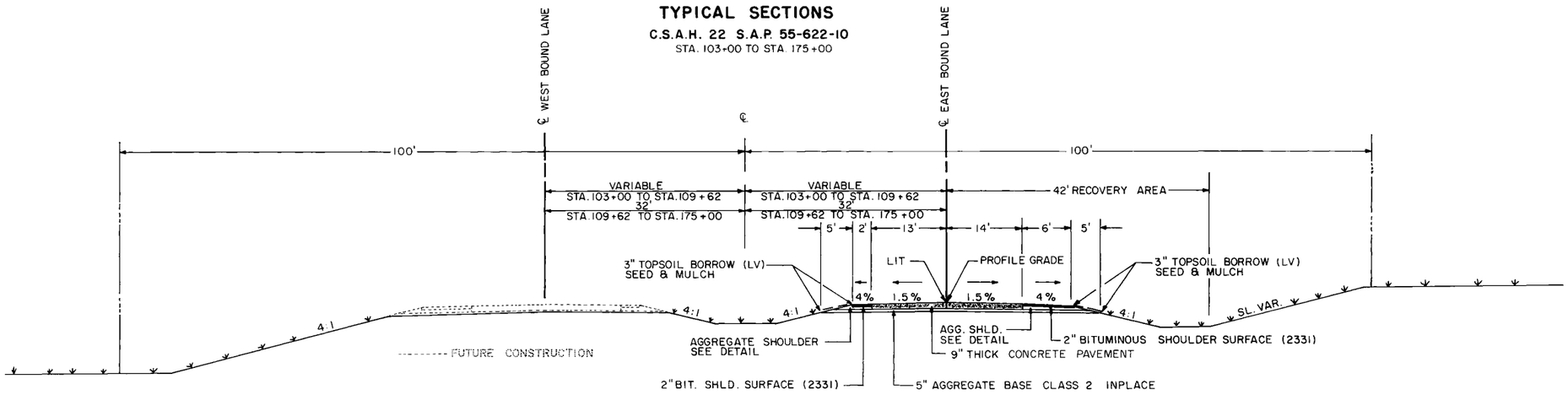
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

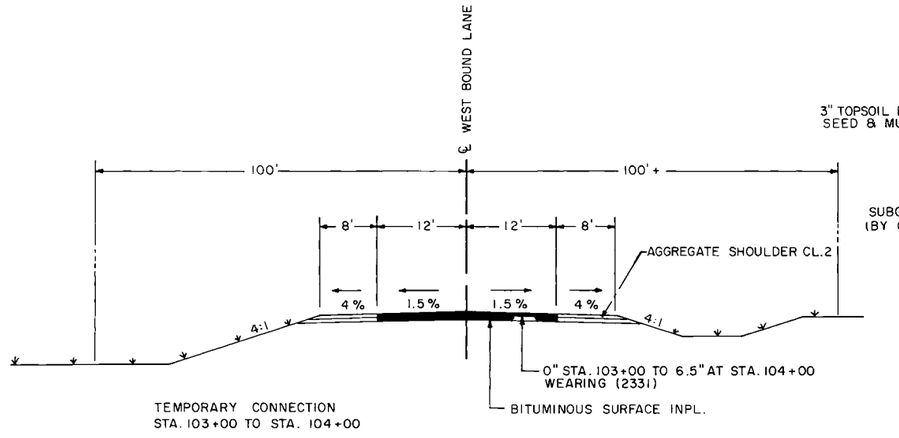
PLATE NO.	DESCRIPTION	PLATE NO.	DESCRIPTION
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES	7110 E	CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
1036 C	BRIDGE APPROACH PANEL (RECTANGULAR)	7111 G	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTING
1015 I	CONCRETE PAVEMENTS	7112 A	INSTALLATION & REINFORCEMENT OF CATCH BASINS & MANHOLES
1016 H	CONCRETE PAVEMENTS NON-REINFORCED (WITH C5D-1 JOINTS)	8000 I	STANDARD BARRICADES
1070 J	REINFORCED PANEL OVER CULVERTS	8003 B	BREAKAWAY SIGN SUPPORT (PLACTIC)
1103 I	TYPICAL DOWELL BAR ASSEMBLY	8307 N	STEEL PLATE BEAM GUARD RAIL
1141 C	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION	8318 C	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES AND BCT'S
1150 N	CONSTRUCTION OF HEADER JOINTS	8319 G	TWISTED END TREATMENT
1210 E	CONCRETE PAVEMENT ADJACENT TO RAILWAY CROSSING	9000 B	APPROACHES AND ENTRANCES
4010 G	CONC. SHORT CONE & ADJUSTING RING		
7000 E	INTEGRANT CURBS		
7035 J	CONCRETE WALK & CURB RETURNS AT ENTRANCES		
7036 C	PEDESTRAIN CURB RAMP		
7100 F	CONCRETE CURB AND GUTTER		

TYPICAL SECTIONS

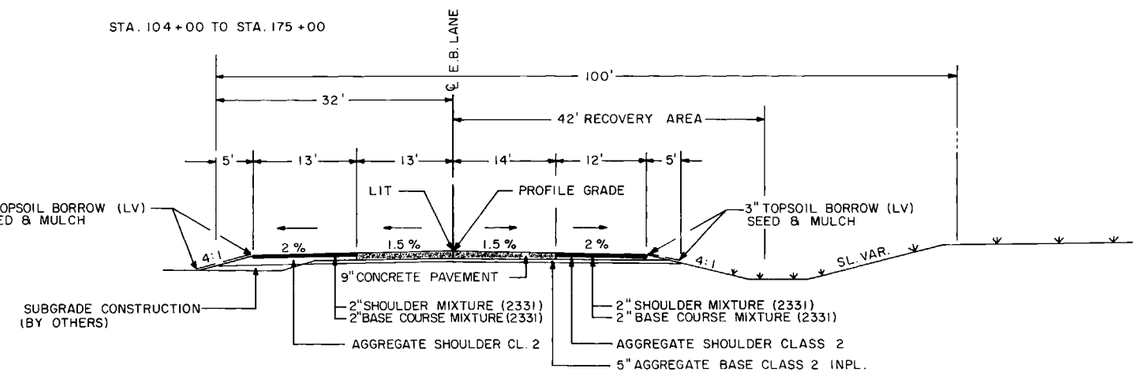
C.S.A.H. 22 S.A.P. 55-622-10

STA. 103+00 TO STA. 175+00





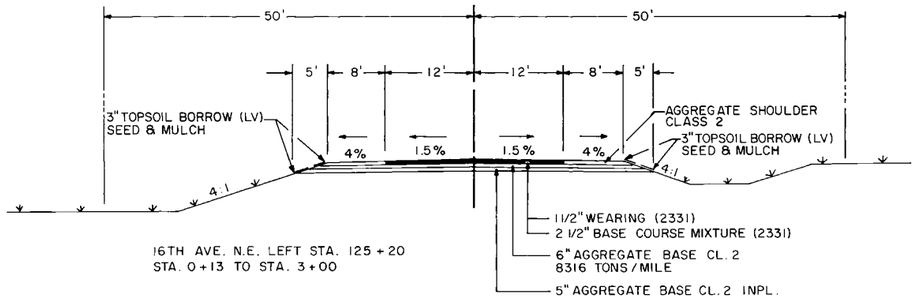
STA. 104+00 TO STA. 175+00



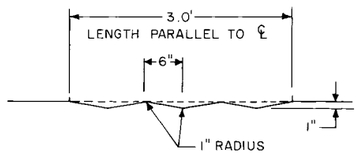
TURN LANE DETAILS

LEFT FROM: STA. 103+00 TO STA. 107+65
STA. 124+90 TO STA. 130+30

RIGHT FROM: STA. 107+60 TO STA. 112+00
STA. 116+80 TO STA. 121+80



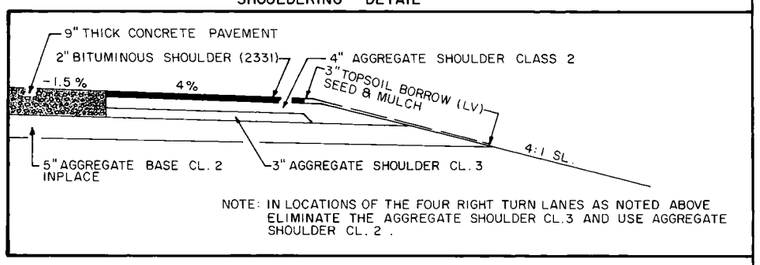
RUMBLE STRIP DETAIL
S.A.P. 55-622-10



NOTE: FOR 15.0' EFFECTIVE PANELS RUMBLE STRIPS SHALL BE SPACED EVERY 60' AND SHALL BE LOCATED AT THE MIDPOINT OF THE 17' PANEL.

RUMUBLE STRIP WILL NOT BE PLACED IN AREA OF TURN LANES AND FUTURE TURN LANES. RUMBLE STRIPS SHALL BE FROM THE 12' LANE LINE OUT.
STRIPS TO BE 1.0' OR 2.0' WIDE.

SHOULDERING DETAIL

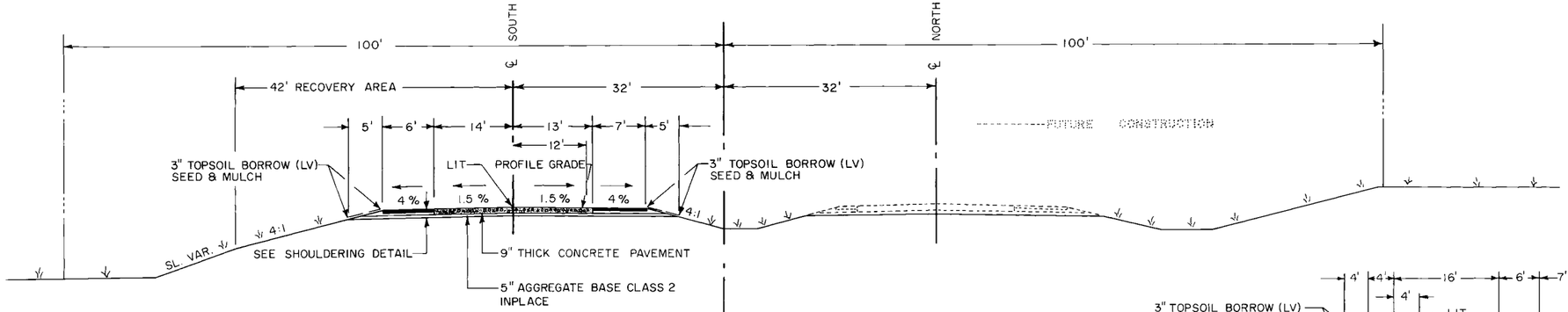


NOTE: IN LOCATIONS OF THE FOUR RIGHT TURN LANES AS NOTED ABOVE ELIMINATE THE AGGREGATE SHOULDER CL.3 AND USE AGGREGATE SHOULDER CL. 2 .

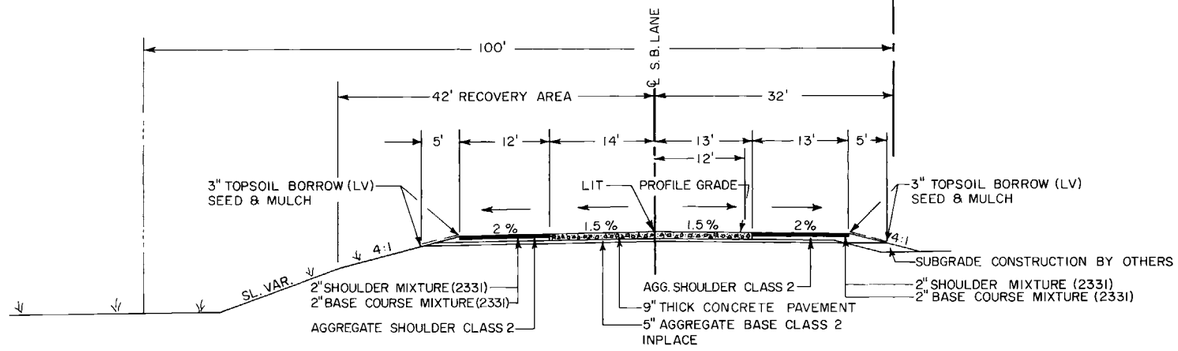
TYPICAL SECTIONS

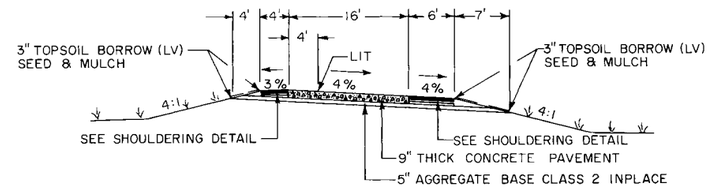
C.S.A.H. 22 S.A.P. 55-622-10

STA. 1100+40 TO STA. 1205+00



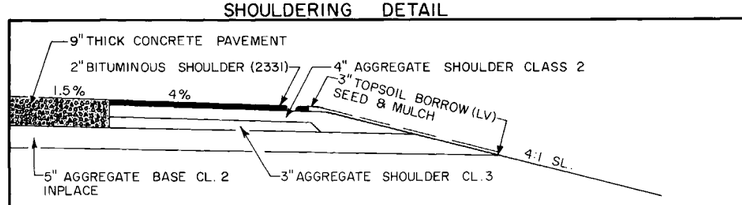
STA. 1100+40 TO STA. 1205+00





TYPICAL RAMP SECTION

SHOULDERING DETAIL



NOTE: IN LOCATIONS OF THE THREE RIGHT TURN LANES AS NOTED ELIMINATE THE AGGREGATE SHOULDER CL. 3 AND USE AGGREGATE SHOULDER CL. 2.

TURN LANE DETAILS

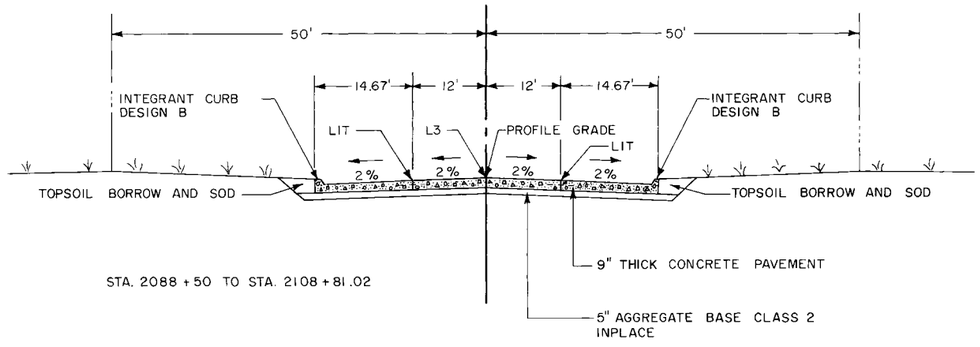
LEFT FROM: STA. 1141+75 TO STA. 1147+10

RIGHT FROM: STA. 1137+20 TO STA. 1142+60
STA. 1194+60 TO STA. 1199+35

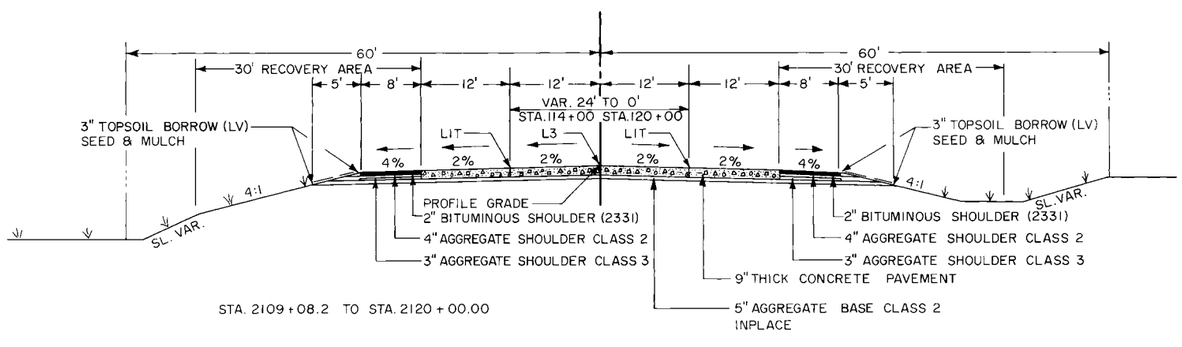
TYPICAL SECTIONS

C.S.A.H. 2 S.A.P. 55-602-13

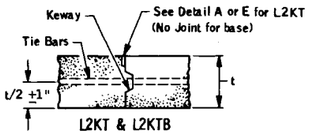
STA. 2088+00 TO STA. 2120+00



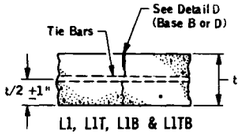
STA. 2088+50 TO STA. 2108+81.02



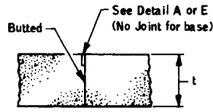
STA. 2109+08.2 TO STA. 2120+00.00



L2KT & L2KTB

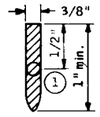


L1, L1T, L1B & L1TB

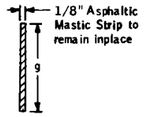


L3 & L3B

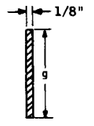
TYPE L1 JOINT DEPTHS		
Pavement Thickness	Concrete Pavement	Concrete Base
t	g	g
6"	2"	2"
6-1/2"	2-1/8"	2"
7"	2-1/4"	2-1/4"
7-1/2"	2-1/2"	2-1/4"
8"	2-5/8"	2-1/2"
8-1/2"	2-7/8"	2-1/2"
9"	3"	2-3/4"
10"	3-1/4"	3"



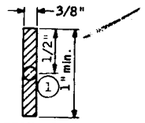
DETAIL A
(Formed & Sealer Spec. 3720)



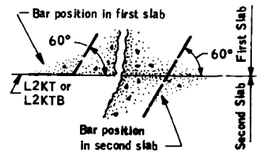
DETAIL B
(Formed & Unsealed)



DETAIL D
(Sawed & Sealer Spec. 3720)
(Base joints unsealed)



DETAIL E
(Sawed & Sealer Spec. 3720)



TIE BAR BENDING DETAIL

LONGITUDINAL JOINTS

CLASS DESIGNATION				JOINT DETAIL	JOINT SEALER SPEC.
Without Tie Bars	With Tie Bars	With Keyway & Tie Bars	Butted		
L1 L1B	L1T L1TB	L2KT L2KTB	L3 L3B	D B or D A or E None	3720 Unsealed 3720 Unsealed

LEGEND

L = Longitudinal Joint
No. = Joint Reference
T = Tie Bars
K = Keyway
B = Concrete Base

EXAMPLE

L2KT
- Tie Bars
- Keyway
- Joint Reference
- Longitudinal Joint

LONGITUDINAL JOINT NOTES

Tie bars for L1TB joints shall be the same size and spacing as shown on standard plan sheet 5-297.216 - .219.

Except when noted otherwise in the plans the tie bar spacing for all L2KT and L2KTB joints shall be 2' 6" c. to c. and bent 60° as shown.

Tie bars in the L2KT and L2KTB joints shall be the same size and length as used for the L1T or L1TB joints when tying pav't. to pav't. or base to base. Tie bars in the L2KT or L2KTB joints shall be No. 4 x 2' 6" when tying curb and gutter to pav't. or base.

All tie bars shall meet the requirements of Grade 60 for AASHTO M-31 or M-53.

Normally, tied pavement widths shall not exceed 30 feet except bridge approach panels and pavement tapers.

Joint width tolerance, +1/16", -1/32".

Spec. 3720 Sealer - Top of sealer flush to -3/16" below top of pavement surface.

(1) Just prior to sealing joint (Detail A&E) a paper rope with a 1/8" larger diameter than the joint opening may be placed 1/2" below the top of the pavement.

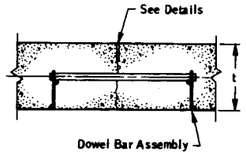
GENERAL NOTES:

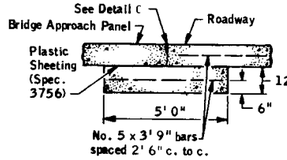
See the following standard plates and standard plan sheet for additional details: Dowel Bar Assembly 1103; Pav't. Keyway 1141; and Concrete Pavement with Skewed Joints 5-297.216-.219.

See paving layouts in the plans for joint class designations to be used and special reinforcement required.

APPROVED June 25, 1985
Raymond A. Kelso
Acting Director
OFFICE OF ENGINEERING STANDARDS

LONGITUDINAL JOINTS
DESIGN L





CONCRETE SILL
(Included as part of C3S joint)

LEGEND

C = Contraction Joint
No. = Joint Reference
-1 = Hot Poured Seal Spec. 3720
D = Dowel Bars
S = Concrete Sill
B = Concrete Base

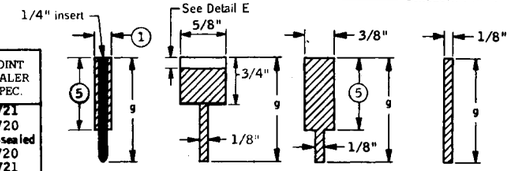
EXAMPLE

C1DB
- Concrete Base
- Dowel Bars
- Joint Reference
- Contraction Joint

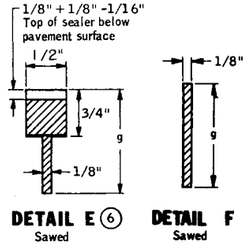
CONTRACTION JOINTS

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITHOUT DOWELS	WITH DOWELS		
C1	C1D	A or C	3721
C1-1	C1D-1	A or B	3720
C1B	C1DB	D or F	Unsealed
C2-1	C2D-1	B	3720
C3S		C	3721
C4	C4D	C	3721
C5-1	C5D-1	E	3720

MIN. CONTRACTION JOINT DEPTHS		
Pavement Thickness	Concrete Pavement	Concrete Base
t	g	g
6"	1-1/2"	1-1/4"
6-1/2"	1-5/8"	1-1/4"
7"	1-3/4"	1-1/2"
7-1/2"	1-7/8"	1-1/2"
8"	2"	1-1/2"
8-1/2"	2-1/8"	1-1/2"
9"	2-1/4"	1-1/2"
10"	2-1/2"	2"



DETAIL A Formed (Insert to be removed) **DETAIL B** (2) Sawed or Formed (3) **DETAIL C** Sawed **DETAIL D** Formed Asphaltic mastic strip to remain in place



DETAIL E (6) Sawed **DETAIL F** Sawed

(1) Design C1 or C1D; Prior to installing preformed joint sealer in the formed joint, (Detail A) the joint shall be widened to a nominal width of 3/8" by sawing along the full length of the formed joint.

Design C1-1 or C1D-1; Prior to sealing formed joint (Detail A) with hot poured joint sealer, the joint shall be widened to a nominal width of 5/8" for a depth of 3/4", +1/8", -1/16", by sawing along the full length of the formed joint. Prior to sealing joint (Detail B) with hot poured joint sealer a strip of paper 5/8" wide shall be placed on the bottom of the 5/8" wide joint.

(2) Design C1-1 or C1D-1, C2-1 or C2D-1: Prior to sealing joint (Detail B) with hot poured joint sealer a strip of paper 5/8" wide shall be placed on the bottom of the 5/8" wide joint.

(3) Design C2-1 or C2D-1: Use insert for forming joint (no sawing permitted).

(4) Use 5/16" x 2" insert for forming joint. Final dimensions shall be obtained by sawing.

(5) Depth shall be 1/4" greater than preformed joint sealer when compressed to fit joint design width.

(6) Design C5-1 or C5D-1: Prior to sealing joint (Detail E) with hot poured joint sealer a strip of paper 1/2" wide shall be placed on the bottom of the 1/2" wide joint.

CONTRACTION JOINT NOTES

In concrete base construction the contraction joints shall be spaced at 30 foot intervals and at right angles to the longitudinal joints except as noted below. Where concrete base is constructed adjacent to existing pavement or base, the contraction joints in the new base shall match those in the existing pavement or base except that the spacing shall not be less than 15 feet nor more than 30 feet.

Joint width tolerances: +1/16", -1/32".

GENERAL NOTES:

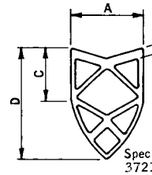
See the following standard plates and standard plan sheet for additional details: Dowel Bar Assembly 1103; Construction of Header Joints 1150, and Concrete Pavement with Skewed Joints 5-297.216 - .219.

See paving layouts in the plans for joint class designation to be used and special reinforcement required.

CONTRACTION JOINTS
DESIGN C

REQUIRED DIMENSIONS

Joint Type	Transverse	Transverse
Nominal Sealer Size	13/16" Use in all 3/8" Joints	1-1/4" Use in all 1/2" Joints
A	0.80" +0.14" -0.05"	1.25" ± 0.13"
B	0.08" ± 0.02"	0.10" ± 0.02"
C	0.60" Min.	1.00" Min.
D	0.80" Min.	1.00" Min.
Web and wall thickness unless noted	0.03" Min.	0.06" Min.

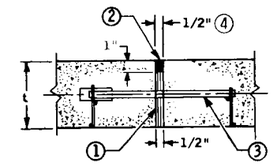


TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

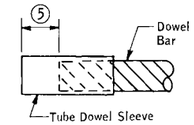
NOTES:
"A" Dimension shall apply at any point throughout "C" depth. The above concrete joint sealers shall be used in 3/8" and 1/2" contraction joints. In its final position, the top corners of the preformed joint sealer shall be placed not less than 1/8" nor more than 5/16" below the pavement surface.

Sharp internal corners will not be permitted. All corners shall be provided with suitable fillet. Currently approved configurations are on file in the Materials Engineering Section, Minnesota Department Of Transportation.

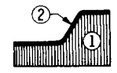
CONTRACTION JOINT SEALER
(PREFORMED ELASTIC TYPE)



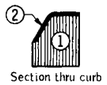
E1D-1 (with dowels) E1-1 (without dowels)
DETAIL A



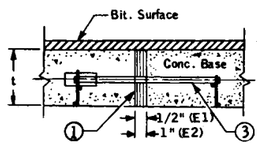
DOWEL BAR SLEEVE DETAIL



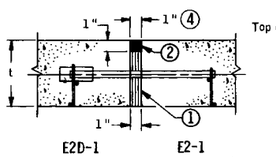
Section thru curb
E2-1



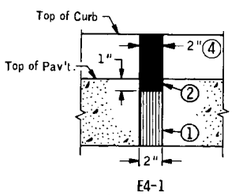
Section thru curb
E4-1



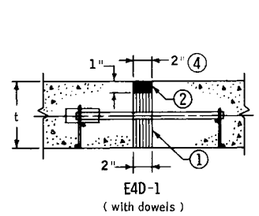
E1DB & E2DB (with dowels) E1B & E2B (without dowels)
DETAIL F



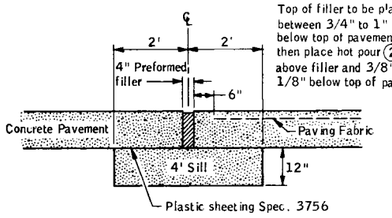
E2D-1 (with dowels) E2-1 (without dowels)
DETAIL G



E4-1 (without dowels)
DETAIL H



E4D-1 (with dowels)
DETAIL I



Top of filler to be placed between 3/4" to 1" below top of pavement, then place hot pour (2) above filler and 3/8" ± 1/8" below top of pav't.

DETAIL E&S JOINT

(1) Preformed Joint Filler Material-Spec. 3702

(2) Joint Sealer Spec. 3720 Top of sealer, flush to 1/8" below top of pavement surface. Top of sealer for curb section E joints flush with surface (0") ± 1/8".

(3) Dowel Bar Assembly See Std. Pl. 1103

(4) Joint width. Joint width is equal to half of the Joint No. in 1/2" intervals (i.e. E1 = 1/2", E2 = 1", E3 = 1-1/2", E4 = 2", E8 = 4").

(5) Space from end of dowel bar to end of sleeve to be equal to expansion joint width.

LEGEND

E = Expansion Joint
No. = Joint Reference
-1 = Hot Poured Seal (2)
D = Dowel Bars
B = Concrete Base

EXAMPLE

E1D-1
- Hot Poured Seal (2)
- Dowel Bars
- Joint Reference
- Expansion Joint

EXPANSION JOINTS

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITH DOWELS	WITHOUT DOWELS		
E1D-1	E1-1	A	(2)
E1DB	E1B	F	Unsealed
E2D-1	E2-1	G	(2)
E2DB	E2B	F	Unsealed
	E4-1	H	(2)
E4D-1		I	(2)

EXPANSION JOINTS
DESIGN E

~~MODIFIED~~ PAVEMENT JOINTS

~~State Proj. No.~~ S.A.P. 55-622-10 & S.A.P. 55-602-13 **Sheet No.** 5 **of** 22 **Sheets**

CONST. BITUMINOUS APPROACH W.B. LANE 0" AT STA. 103+00 TO 6.5" AT STA. 104+00

CONST. 4" BITUMINOUS LEFT TURN LANE STA. 104+00 TO STA. 107+35 W.B. LANE

SHOPKO APPROACH LT. STA. 103+00
CONST. 4" BITUMINOUS RIGHT TURN LANE STA. 103+36 TO STA. 107+45 W.B. LANE

W.B. LANE
P.I. 103+75.93
Δ LT. 9° 06'
D 3.25365°
T 140.14'
L 279'
E 5.57'
R 1760.97'

CONST. PERMANENT HEADER JOINT STA. 104+00 E.B. AND W.B. LANES

BEGIN: SAP 55-622-10
STA 103+00

P.C. 102+35.79 E.B. & W.B. LANES

P.T. 105+15.48 W.B. LANE

P.C. 107+47.69 W.B. LANE

FUTURE

FUTURE

FUTURE WEST BOUND LANE

CORPORATE LIMITS

ROCHESTER

CONST. B624 CONCRETE CURB AND GUTTER L2KT C5D-1

CONST. B624 CONCRETE CURB AND GUTTER LIT OR L2KT C5D-1

M.H. NO. 1

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

NOTE: ROADWAY FROM STA. 94+59.29 TO STA. 104+00 TO BE CONSTRUCTED BY MINN. DEPT. OF TRANSPORTATION IN CONJUNCTION WITH T.H. 63 CONSTRUCTION.

BEGIN TAPER 12' LT. STA. 105+00 EAST BOUND LANE

E.B. LANE
P.I. 106+32.14
Δ LT. 21° 47' 38"
D 2.78294°
T 396.35'
L 783.12'
E 37.81'
R 2058.82'

M.H. NO. 1 RT. STA. 109+15 E.B.L.
INPL. SAN. M.H.
RING ELEV. 1043.87

ADJUST FRAME AND RING CASTING TO ELEV. 1044.60

℄ CULV. & CATCH BASIN STA. 105+64 E.B.L.
CONST. 13' & 16' REINF. PANELS STA. 105+51 TO STA. 105+80 E.B. LANE
NO CHANGE TO CATCH BASIN

- ℄ T.H. 63

6TH. AVE. N.E.

B.M. EL. 1032.86
TOP PROP. COR. CAP
RT. 100' 106+20

P.I. +00 W.B.L. ELEV. 28.5

P.I. +00 W.B.L. ELEV. 31.33

+2.03%

+2.83% W.B. LANE

+2.15% E.B. LANE

+2.39% W.B. LANE

FINISHED ℄ ELEV. WEST BOUND LANE

FINISHED ℄ ELEV. EAST BOUND LANE

	100	104	105	106	107	108	109
FINISHED ℄ ELEV. WEST BOUND LANE	22.6	28.5	31.33	33.63	35.93	38.23	40.53	42.83
FINISHED ℄ ELEV. EAST BOUND LANE		32.65	34.80	36.95	39.10	41.25	43.40	

1050 1040 1030 1020 1010

~~State Proj. No.~~ SAP 55-622-10 CSAH 22 OLMSTED COUNTY **Sheet No.** 6 **of** 22 **Sheets**

W.B. LANE
P.I. 110+02.61
Δ 12° 41' 38"
D 2° 30'
T 254.92'
L 507.76'
E 14.14'
R 2291.83'

SERVICE DRIVE LT. STA. 111+47.5
CONST. 2" BITUMINOUS APPROACH

W-1 22' RT. STA. 111+58.5
8" GATE VALVE & BOX
ELEV. 1047.9
ADJUST GATE VALVE & BOX
TO ELEV. 1048.6

W-2 40' RT. STA. 111+58.5
8" GATE VALVE & BOX ELEV. 1047.9
ADJUST GATE VALVE & BOX
TO ELEV. 1048.6

W-3 31' RT. STA. 111+66.1
8" GATE VALVE & BOX ELEV. 1047.9
ADJUST GATE VALVE & BOX
TO ELEV. 1048.6

℄ CULV. STA. 112+06 E.B. LANE
CONST. 16' REINF. PANEL STA. 111+98 TO
STA. 112+14

℄ CULV. STA. 121+95 E.B. LANE
CONST. 17' REINF. PANEL. STA. 121+88
TO STA. 122+05

W-10 8" GATE VALVE & BOX 48' RT.
STA. 121+36 ELEV. 75.43
ADJUST GATE VALVE & BOX TO ELEV. 1076.18

RES. DR. LT. STA. 121+26
CONST. 2" BITUMINOUS APPROACH

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

P.T. W.B.L. 112+55.45 = EQUATION
P.O.T. E.B.L. 112+58.69

FUTURE WEST BOUND LANE

CORPORATE LIMITS

ROCHESTER

FUTURE TURN LANE STA. 116+70 TO STA. 122+00

SEE "INSET A"

SEE "INSET B"

LIT OR L2KT

LIT

L3

LB

C5D-1

M.H. NO. 1

M.H. NO. 2

M.H. NO. 3

M.H. NO. 4

CENTER SECTION 2+4 T.107 N. R.14 W.

M.H. NO. 2 20' RT. STA. 111+47.5
SAN. SEWER M.H.
RING ELEV. 1047.46
ADJUST FRAME AND RING
CASTING TO ELEV. 1048.36

EQUATION E.B.L. PT. 110+18.91 = E.B.L. POT. 110+09.00

END TAPER STA.
110+75 EAST
BOUND LANE

+47.5 NORTHERN VALLEY DR.

NORTHERN VALLEY DR. STA. 111+47.5
CONST. 4" BITUMINOUS APPROACH AND
RIGHT TURN LANE STA. 107+60 TO
STA. 112+00 E.B. LANE.

M.H. NO. 3 20' RT. STA. 115+62
TOP CASTING ELEV. 1056.84
ADJUST FRAME AND RING
CASTING TO ELEV. 1057.03

APPROACH RT. STA. 121+23.8
CONST. 4" BITUMINOUS APPROACH
AND RIGHT TURN LANE STA.
116+80 TO 121+60.

M.H. NO. 4 19' RT. 119+47
TOP CASTING EL. 1068.38
ADJUST FRAME AND
RING CASTING TO
ELEV. 1068.88

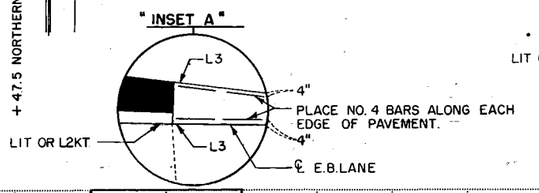
E.B. P.C. 118+82.44

W-2 121+13 (FWD. TAN)
INPL 6" GATE VALVE & BOX 154' RT.
NO CHANGE

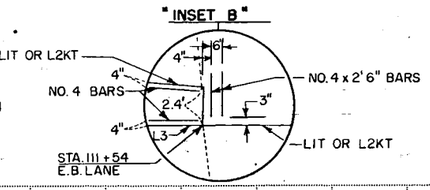
W-10

P.I. 122+79.70 ℄ E.B. LANE
RT. 27° 48' 15"
D 3.569786°
T 397.26'
L 778.88'
E 48.43'
R 1605.02'

"INSET A"



"INSET B"



B.M. EL. 1032.86
TOP PROP. COR. CAP
106+20 RT. 100'

B.M. EL. 1083.72
SPK. IN COR. POST
121+50 LT. 100'

FINISHED ℄ ELEV. W.B. LANE
42.83 45.13 47.43 49.73 51.90 54.05 56.20 58.35 60.83 63.98 67.78 72.23 77.05 81.85 86.65 91.45

FINISHED ℄ ELEV. E.B. LANE
43.40 45.23 47.60 49.75

1100 1090 1080 1070 1060 1050 1040

+2.15% E.B. LANE
+2.3% W.B. LANE
+2.15%
+4.8%

E.B.L. P.T. 110+18.91 = E.B.L. P.O.T. 110+09.00 EQUATION

W.B.L. P.T. 112+55.45 = E.B.L. P.O.T. 112+58.69 EQUATION

P.V.C. +00 ELEV. 58.35

P.V.T. +00 ELEV. 72.23

P.I. +00
ELEV. 62.65
400' V.C.
M = 1.325

109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124

~~State Proj. No.~~ SAP 55-622-10 CSAH 22 OLMSTED COUNTY **Sheet No.** 7 **of** 22 **Sheets**

16th AVE. N.E. LT. STA. 125+20
CONST. 4" BITUMINOUS APPROACH AND RIGHT TURN LANE STA. 124+90 TO STA. 130+20. SEE PLAN SHEET NO. 3 FOR TYPICAL SECTION.

10" TILE STA. 127+00
CONST. 17' & 17' REINF. PANELS STA. 126+83 TO STA. 127+17.

APPROACH LT. STA. 132+35
CONST. AGGREGATE APPROACH

P.C. 1+64.42

CORPORATE LIMITS

16th AVE. N.E.

ROCHESTER

FUTURE WEST BOUND LANE

FUTURE TURN LANE STA. 122+40 TO STA. 126+00

FUTURE TURN LANE STA. 127+75 TO STA. 133+50

FUTURE TURN LANE STA. 127+95 TO STA. 132+90

C5D-1

LIT

EQUTION E.B.L. PT. 126+61.32 = E.B.L. POT. 126+76.83

℄ CULV. STA. 125+75
CONST. 15' & 17' REINF. PANELS STA. 125+60 TO STA. 125+92

APPROACH RT. STA. 132+35
CONST. AGGREGATE APPROACH

℄ CULV. STA. 132+96 E.B. LANE
CONST. 12' & 13' REINF. PANELS STA. 132+84 TO STA. 133+09

℄ CULV. STA. 135+65
CONST. 15', 13', 14', 16' & 13' REINF. PANELS STA. 135+30 TO STA. 136+01

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

B.M. EL. 1095.91
PAINT MARK "X"
APRON LT. 125+75

FINISH ℄ ELEV. EAST BOUND LANE

P.I. 126+61.32 = ℄ E.B.L. EQUTION
P.O.T. 126+76.83

+4.8%

B.M. EL. 1146.28
TOP HUB BETWEEN R/W MARKS LT. 135+50

P.I. + 50
ELEV. 45.91
500' V.C.
M = 1.375

P.V.C. +00 ELEV. 33.91

P.V.T. +00
P.V.C. +00

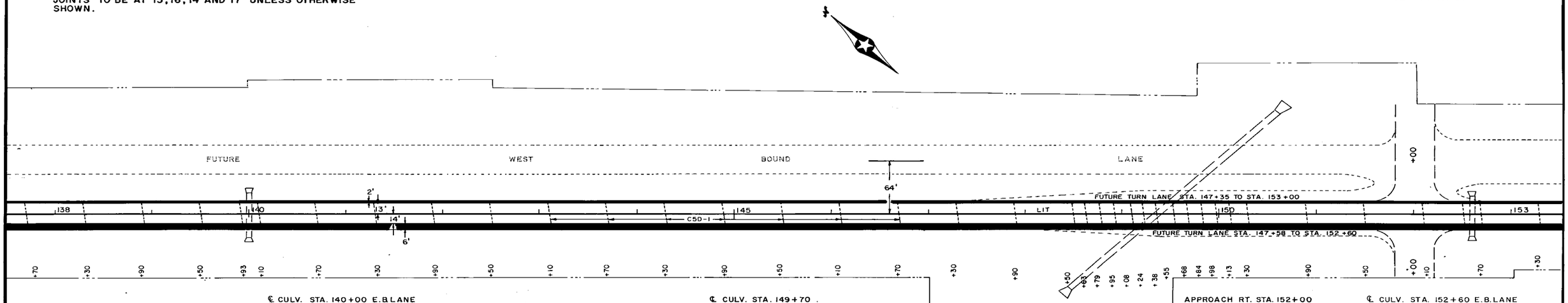
+1.0%

FINISH ℄ ELEV. EAST BOUND LANE

~~State Proj. No.~~ SAP 55-622-10 CSAH 22 OLMSTED COUNTY **Sheet No.** 8 **of** 22 **Sheets**

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

APPROACH LT. STA. 152+00
CONST. AGGREGATE APPROACH

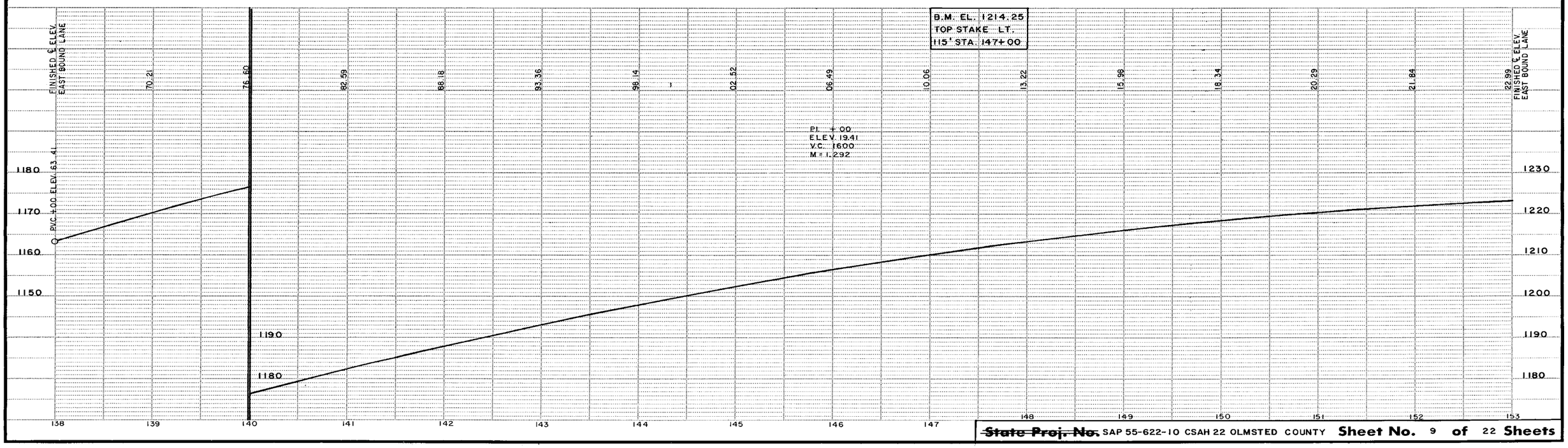


℄ CULV. STA. 140+00 E.B. LANE
CONST. 17' REINF. PANEL STA. 139+93 TO STA. 140+10

℄ CULV. STA. 149+70
CONST. 13', 16', 14', 17', 13', 16' AND 14' REINF. PANELS STA. 148+95 TO STA. 149+98

APPROACH RT. STA. 152+00
CONST. AGGREGATE APPROACH

℄ CULV. STA. 152+60 E.B. LANE
CONST. 17' REINF. PANEL STA. 152+53 TO STA. 152+70



℄ CULV. STA. 165+83
CONST. 14', 17' AND 13' REINF. PANELS
STA. 165+59 TO STA. 166+03.

FUTURE

WEST

2'
13'
14'
6'
153
155
C5D-1
LIT
160
64'
EBOUND
LANE
165

+70 +30 +90 +50 +10 +70 +30 +90 +07 +20 +36 +50 +10 +70 +30 +90 +50 +10 +70 +30 +43 +59 +73 +90 +03

E.B.L. P.C. 156+70

℄ CULV. STA. 157+00 E.B. LANE
CONST. 17' REINF. PANEL STA. 156+90
TO STA. 157+07.

PI. 164+98.66 E.B. LANE
Δ RT. 61° 13' 38"
D 4.0914°
T 828.64'
L 1496.486'
E 226.80'
R 1400.39'

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

B.M. EL. 1228.92
TOP STAKE LT.
97' STA. 157+05

FINISHED G. ELEV. EAST BOUND LANE
22.99 23.73 24.27 24.81 25.35 25.89 26.43 26.97 27.51 28.05 28.59 29.13 29.67 30.21 30.75

RY.T. +00 ELEV.

+0.54%

1230
1220
1210

153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 17' UNLESS OTHERWISE SHOWN.

APPROACH LT. STA. 170+67 E.B. LANE
CONST. AGGREGATE APPROACH

"INSERT D"

NO.4 x 2'6" BARS

PLACE NO.4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 4.0'.

STA. 1198+70-STA. 1201+45 & STA. 2108+50.
ALL CONDUIT TO BE 3" RIGID STEEL AS PER MN./DOT 2565.3D AT 2.0± BELOW FINISHED GRADE.
ALL CONDUIT ENDS TO BE CAPPED WITH 3" P.V.C. CAPS OR PLUGS.

℄ CULV. STA. 2108+51 ENTERANCE RAMP
CONST. 17' REINF. PANEL STA 2108+41
TO STA. 2108+58.

CONST. 4" RIGHT TURN LANE
CSAH 2 TO STA. 1194+60

F&I 3" R.S. CONDUIT 60 LIN. FT.

F&I 3" R.S. CONDUIT 60 LIN. FT.

FUTURE TURN LANE STA. 166+50 TO STA. 172+00

FUTURE TURN LANE STA. 165+90 TO STA. 171+30

APPROACH STA. 170+67 E.B. LANE
CONST. AGGREGATE APPROACH

SEE "INSET C"

"INSET C"

① PLACE NO.4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6.0'

EQUATION E.B.L. PT. 171+66.51 = E.B.L. POT. 172+00.71

EQUATION E.B.L. POT. STA. 175+00 = S.B.L. POT. STA. 1205+00

SEE "INSET D"

℄ CULV. STA. 2108+60 EXIT RAMP
CONST. 16' AND 14' REINF. PANELS
STA. 2108+42 TO STA. 2108+72

P.O.T. 1202+48.21
P.T. 2109+75.05

END CURB

EQUATION S.B.L. POT. STA. 1200+51.87 = S.B.L. POT. STA. 1199+57.16

P.I. 2108+60.02
Δ LT. 74°25'54"
D 26°32'36.2"
T 161.91'
L 276.94'
R 213.18'

INTEGRANT CURB

SEE "INSET D"

F&I 3" R.S. 6' CONDUIT 80 LIN. FT.

END INTEGRANT CURB

SEE "INSET D"

P.I. 2108+46.20
Δ RT. 99°36'10"
D 26°55'36.2"
T 215.44'
L 337.11'
R 213.18'

P.T. 2109+67.87
P.O.T. 1196+94.17 =

B.M. EL. 1231.78
SURVEY N.W. COR
INT. 2 & 22

FINISHED & ELEV. EAST BOUND LANE
30.76 31.29 31.73 31.97 32.03 31.96 31.71 31.26 30.67 30.49 29.89 29.29 28.69 28.09 27.46 26.86 26.26

P.V.C. +95.61404
ELEV. 31.26631

P.I. +95.61404
ELEV. 32.88632
600' V.C.
M 0.855

+0.54%

-0.6%

-0.6%

EQUATION E.B.L. PT. 171+66.51 = E.B.L. POT. 172+00.71

EQUATION E.B.L. POT. 175+00 = S.B.L. POT. 1205+00

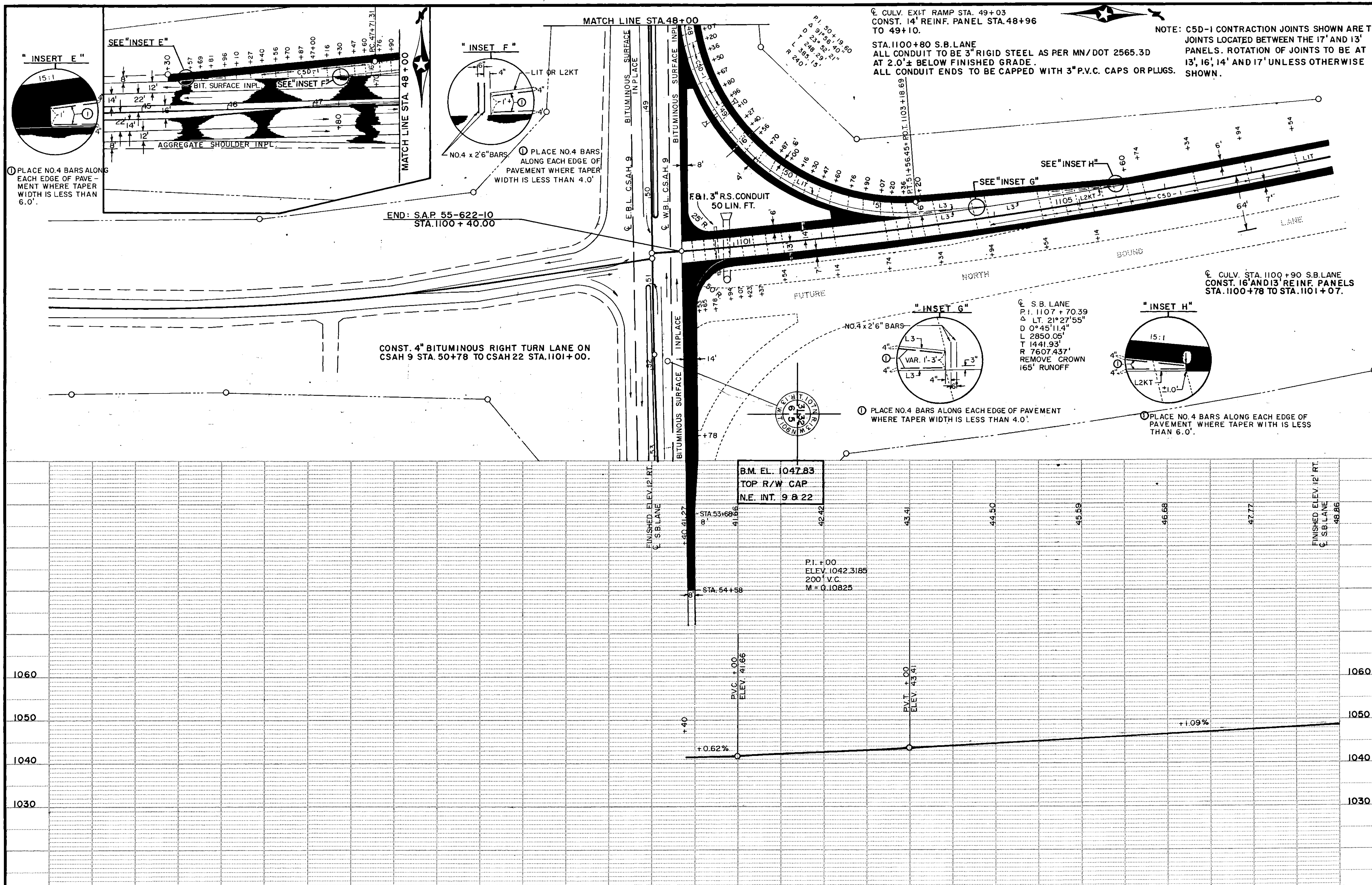
EQUATION S.B.L. POT. STA. 1200+51.87 = S.B.L. POT. STA. 1199+57.16

FINISHED & ELEV. E.B.L.

FINISHED ELEV. 12' RT. ℄ S.B.L.

1240 1230 1220 1210

167 168 169 170 171 172 173 174 1204 1203 1202 1201 1199 1198 1197



℄ CULV. EXIT RAMP STA. 49+03
CONST. 14' REINF. PANEL STA. 48+96 TO 49+10.

STA. 1100+80 S.B. LANE
ALL CONDUIT TO BE 3" RIGID STEEL AS PER MN/DOT 2565.3D AT 2.0'± BELOW FINISHED GRADE.
ALL CONDUIT ENDS TO BE CAPPED WITH 3" P.V.C. CAPS OR PLUGS.

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

① PLACE NO.4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6.0'.

① PLACE NO.4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 4.0'.

CONST. 4" BITUMINOUS RIGHT TURN LANE ON CSAH 9 STA. 50+78 TO CSAH 22 STA. 1101+00.

℄ S.B. LANE
P.I. 1107 + 70.39
Δ LT. 21°27'55"
D 0°45'11.4"
L 2850.05'
T 1441.93'
R 7607.437'
REMOVE CROWN
165' RUNOFF

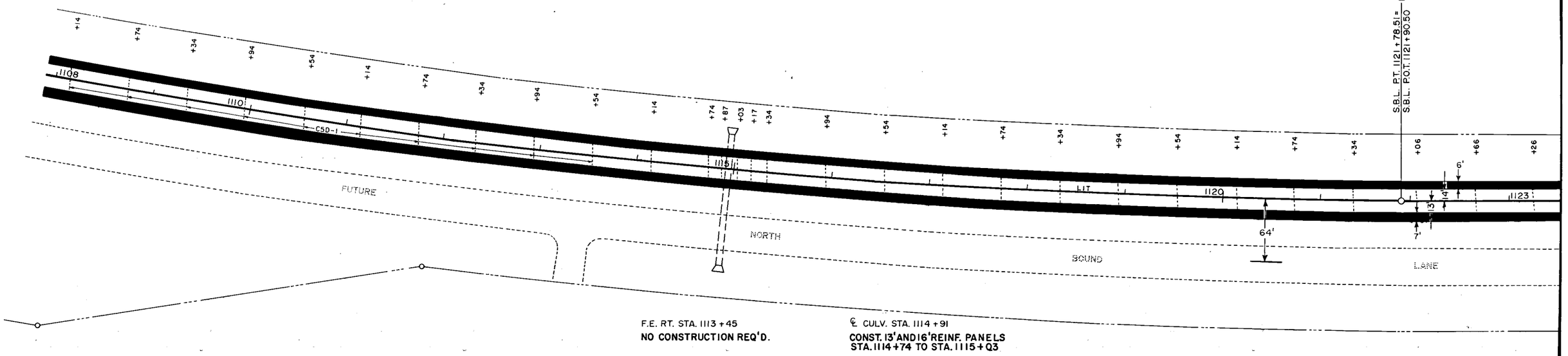
℄ CULV. STA. 1100+90 S.B. LANE
CONST. 16' AND 13' REINF. PANELS STA. 1100+78 TO STA. 1101+07.

① PLACE NO.4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 4.0'.

① PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WITH IS LESS THAN 6.0'.

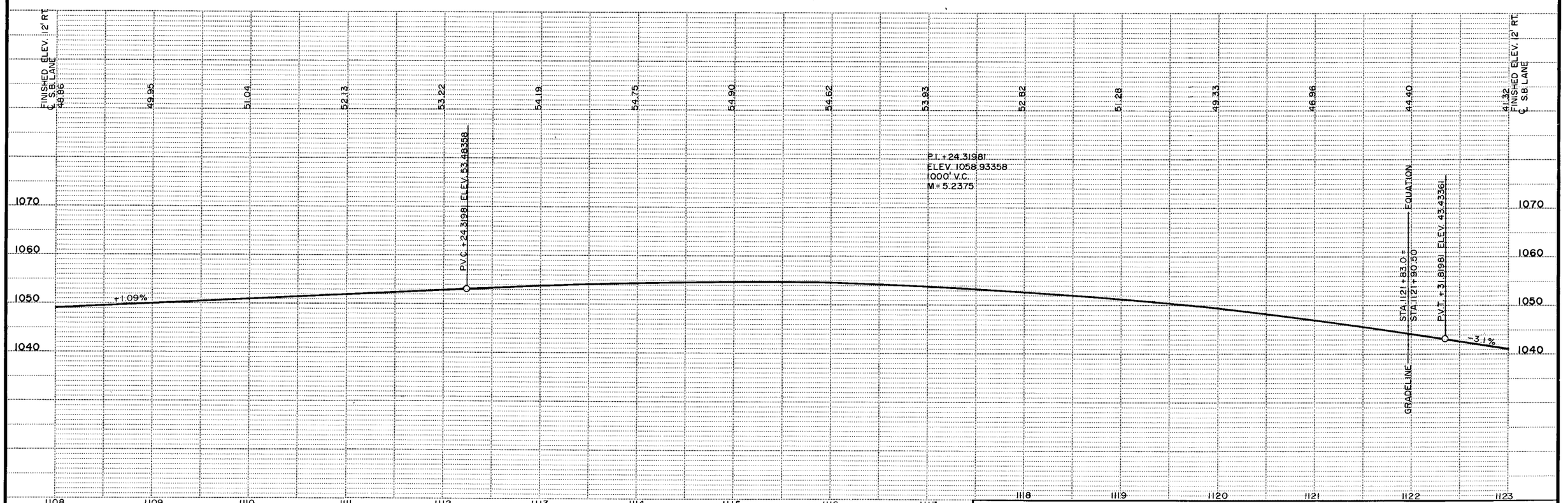
NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

℄ S.B. LANE
P.I. 1107 + 70.39
Δ LT. 21° 27' 55"
D - 0° 45' 11.4"
L - 2850.05'
T - 1441.93'
R - 7607.437'
REMOVE CROWN
165' RUNOFF



F.E. RT. STA. 1113 + 45
NO CONSTRUCTION REQ'D.

℄ CULV. STA. 1114 + 91
CONST. 13' AND 16' REINF. PANELS
STA. 1114 + 74 TO STA. 1115 + 03

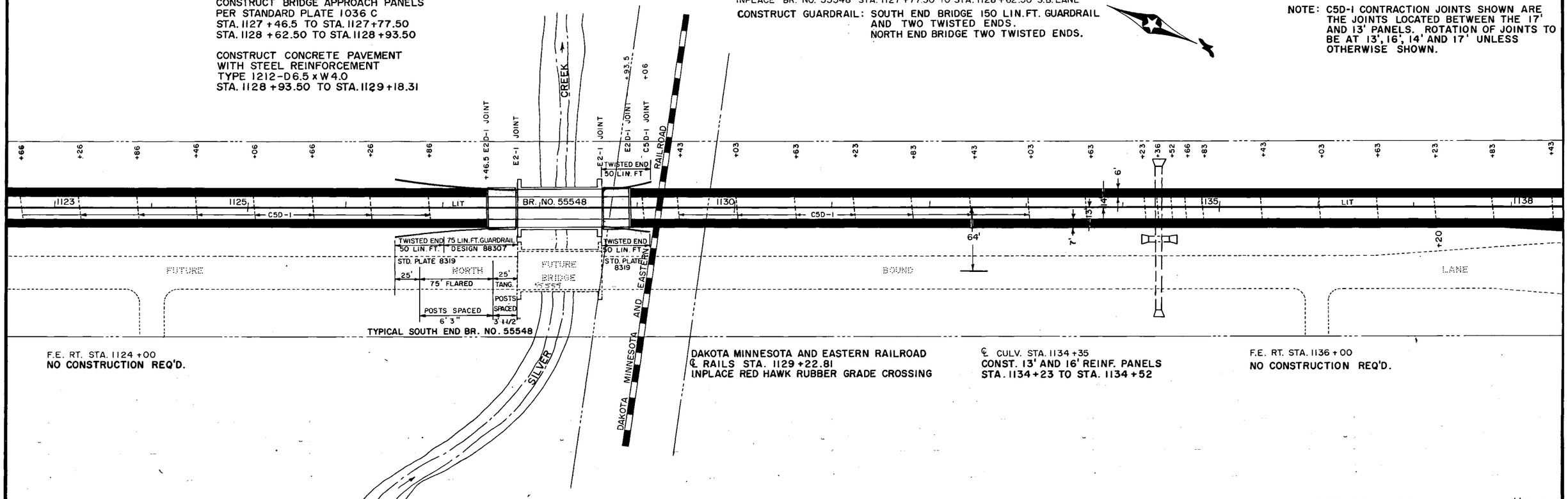


CONSTRUCT BRIDGE APPROACH PANELS
PER STANDARD PLATE 1036 C
STA. 1127 +46.5 TO STA. 1127+77.50
STA. 1128 +62.50 TO STA. 1128 +93.50

CONSTRUCT CONCRETE PAVEMENT
WITH STEEL REINFORCEMENT
TYPE 1212-D6.5 x W4.0
STA. 1128 +93.50 TO STA. 1129 +18.31

INPLACE BR. NO. 55548 STA. 1127 +77.50 TO STA. 1128 +62.50 S.B. LANE
CONSTRUCT GUARDRAIL: SOUTH END BRIDGE 150 LIN. FT. GUARDRAIL
AND TWO TWISTED ENDS.
NORTH END BRIDGE TWO TWISTED ENDS.

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.



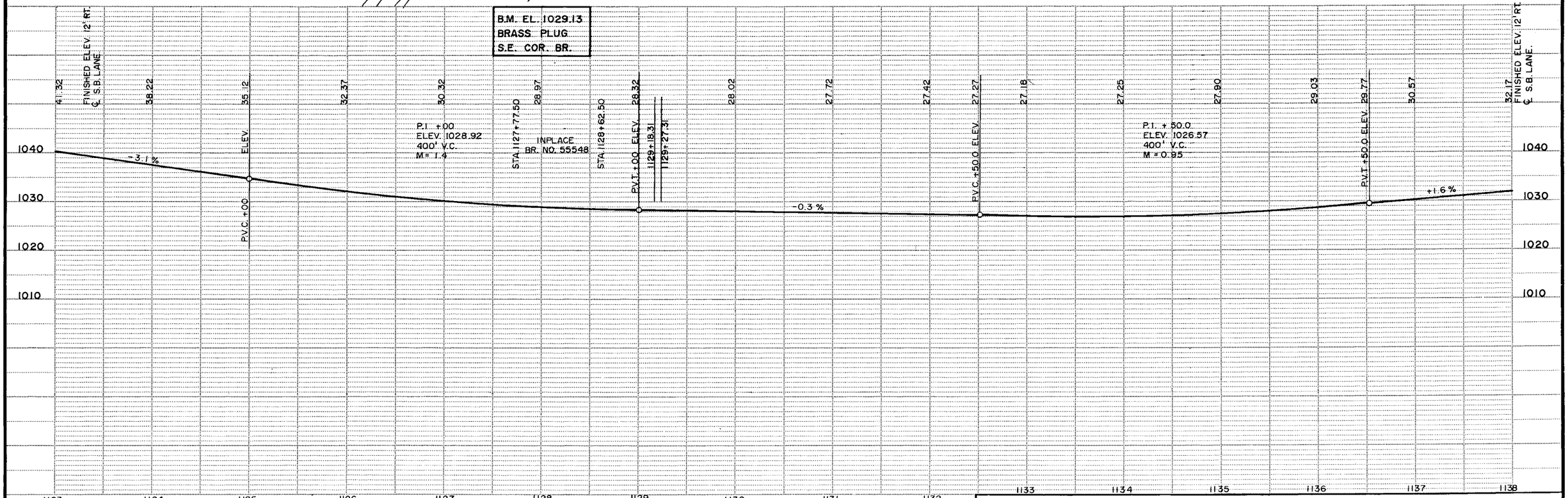
TYPICAL SOUTH END BR. NO. 55548

F.E. RT. STA. 1124 +00
NO CONSTRUCTION REQ'D.

DAKOTA MINNESOTA AND EASTERN RAILROAD
℄ RAILS STA. 1129 +22.81
INPLACE RED HAWK RUBBER GRADE CROSSING

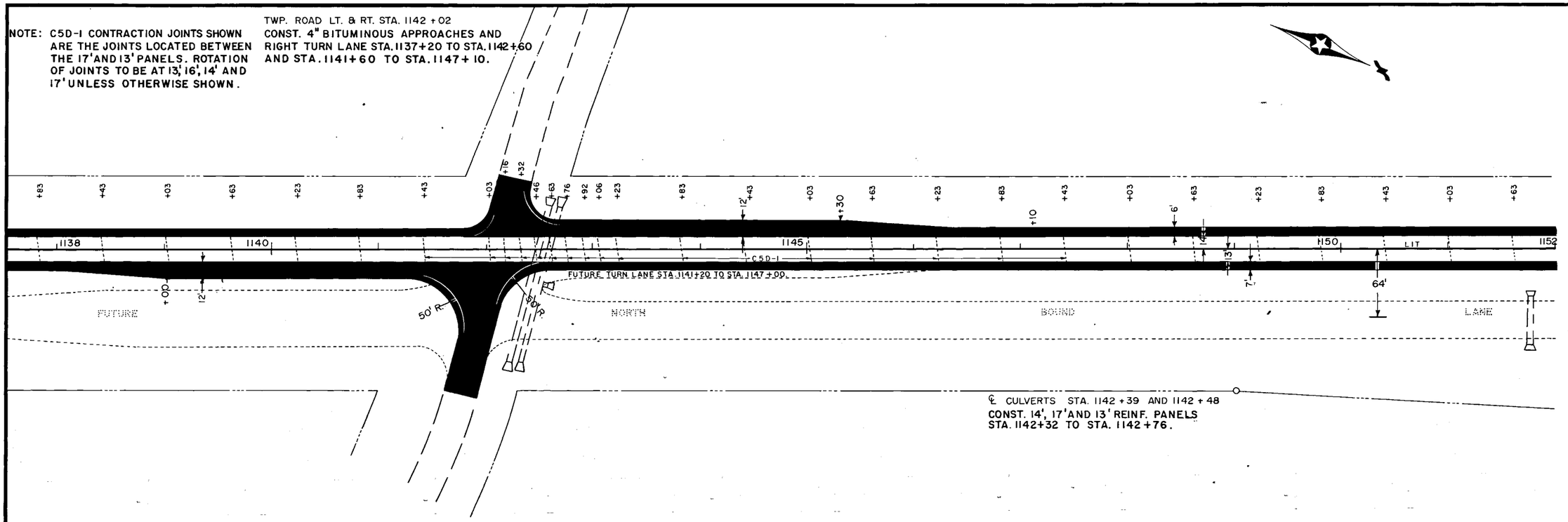
℄ CULV. STA. 1134 +35
CONST. 13' AND 16' REINF. PANELS
STA. 1134+23 TO STA. 1134 +52

F.E. RT. STA. 1136 + 00
NO CONSTRUCTION REQ'D.

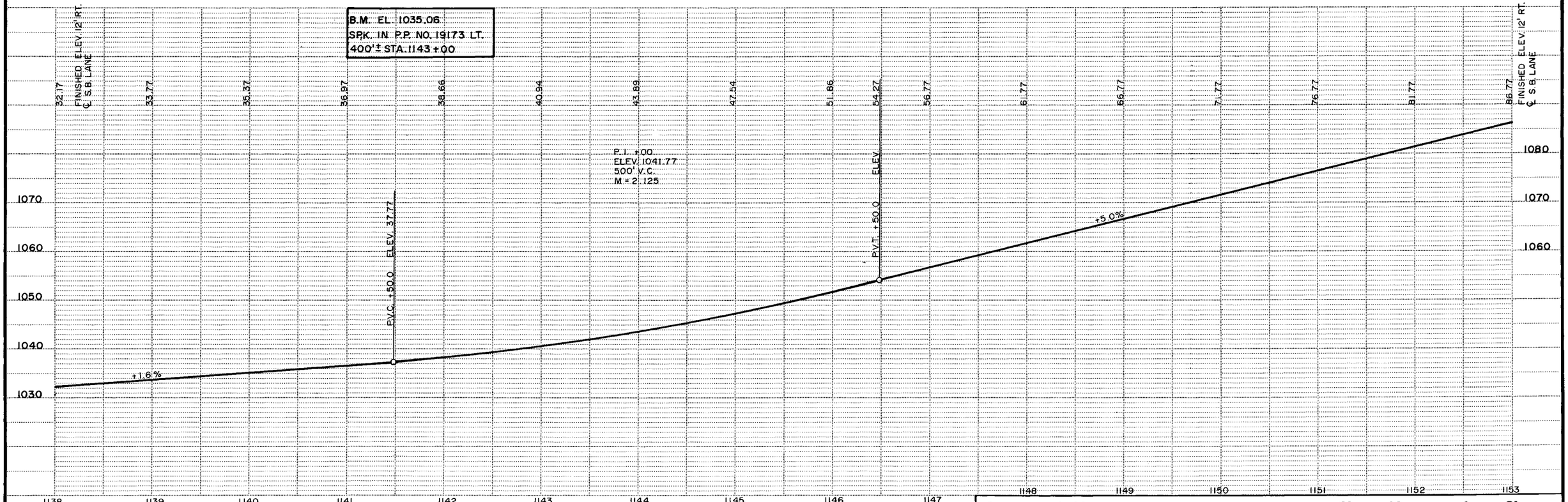


NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

TWP. ROAD LT. & RT. STA. 1142 + 02
CONST. 4" BITUMINOUS APPROACHES AND RIGHT TURN LANE STA. 1137+20 TO STA. 1142+60 AND STA. 1141+60 TO STA. 1147+10.



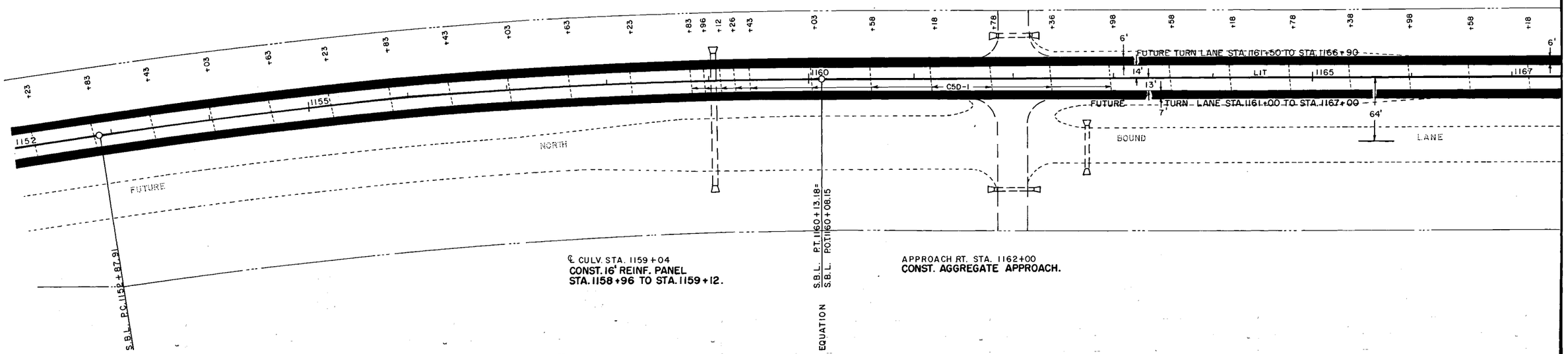
℄ CULVERTS STA. 1142+39 AND 1142+48
CONST. 14', 17' AND 13' REINF. PANELS
STA. 1142+32 TO STA. 1142+76.

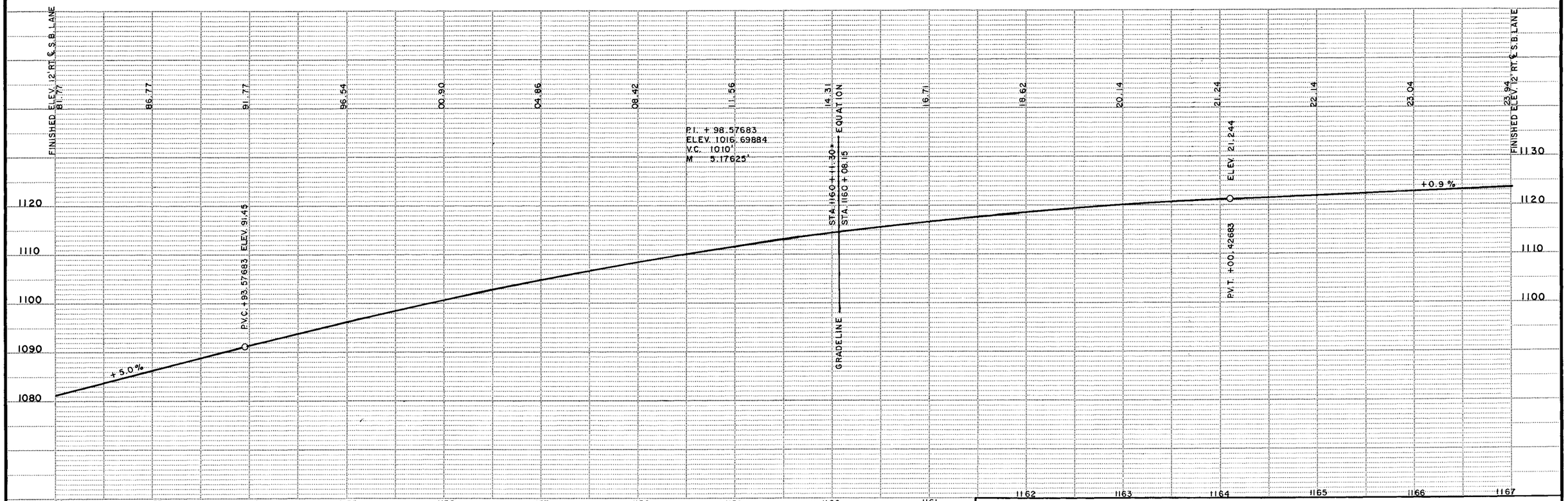


NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

℄ S.B. LANE
P.I. 156 + 51.29
Δ RT. 9° 00' 11"
D 1° 14' 28.8"
T 363.38'
L 725.27'
R 4615.66'

APPROACH LT. STA. 1162+00
CONST. AGGREGATE APPROACH.





~~State Proj. No.~~ S.A.P. 55-622-10 CSAH 22 OLMSTED COUNTY **Sheet No.** 16 **of** 22 **Sheets**

℄ CULV. STA. 1174+06 SKEWED 15°
CONST. 14', 17', 13', 16', 14', 17' AND 13' REINF.
PANELS STA. 1173+47 TO STA. 1174+51

APPROACH LT. STA. 1180+00
CONST. AGGREGATE APPROACH

+58 +18 +78 +38 +98 +58 +18 +78 +38 +98 +58 +18 +31 +47 +61 +78 +91 +07 +21 +38 +51 +67 +81 +98 +58 +18 +78 +38 +98 +58 +18 +78 +38 +98 +58 +18

1167 1170 1175 1180 1182

C5D-1

LIT

FUTURE TURN LANE STA. 1179+40 TO STA. 1185+00

FUTURE TURN LANE STA. 1179+10 TO STA. 1185+40

6'

12'

13'

7'

64'

FUTURE NORTH BOUND LANE

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

APPROACH RT. STA. 1180+00
CONST. AGGREGATE APPROACH

B.M. EL. 1140.59
SPK. WOOD POST
STA. 169+40 RT. 150'

FINISHED ELEV. 12' RT. ℄ S.B. LANE

23.94 24.84 25.74 26.64 27.54 28.53 30.16 32.52 35.60 39.42 43.96 49.23 55.14 61.14 67.14 73.14

P.V.C. +50.0 ELEV. 27.89

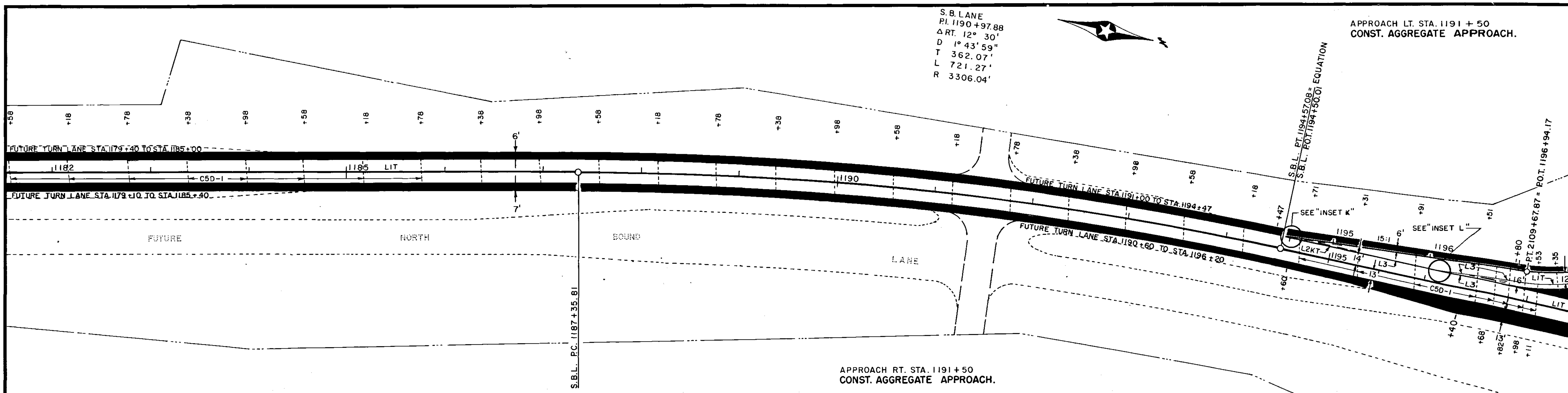
P.I. +00
ELEV. 1131.14
700' V.C.
M = 4.4625

P.V.T. +50.0 ELEV. 52.14

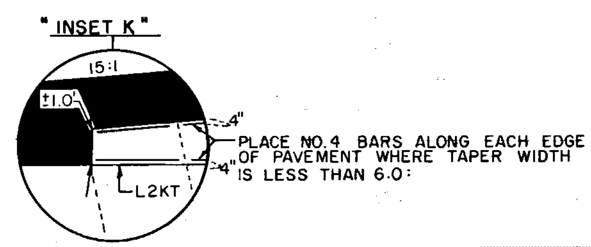
1160 1150 1140 1130 1120

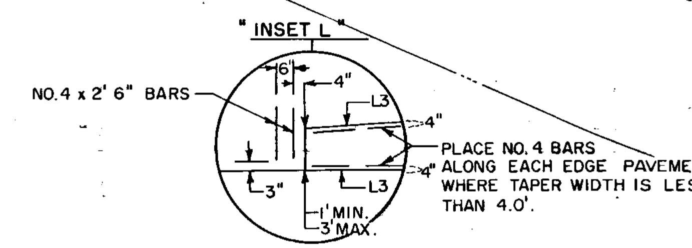
1167 1168 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182

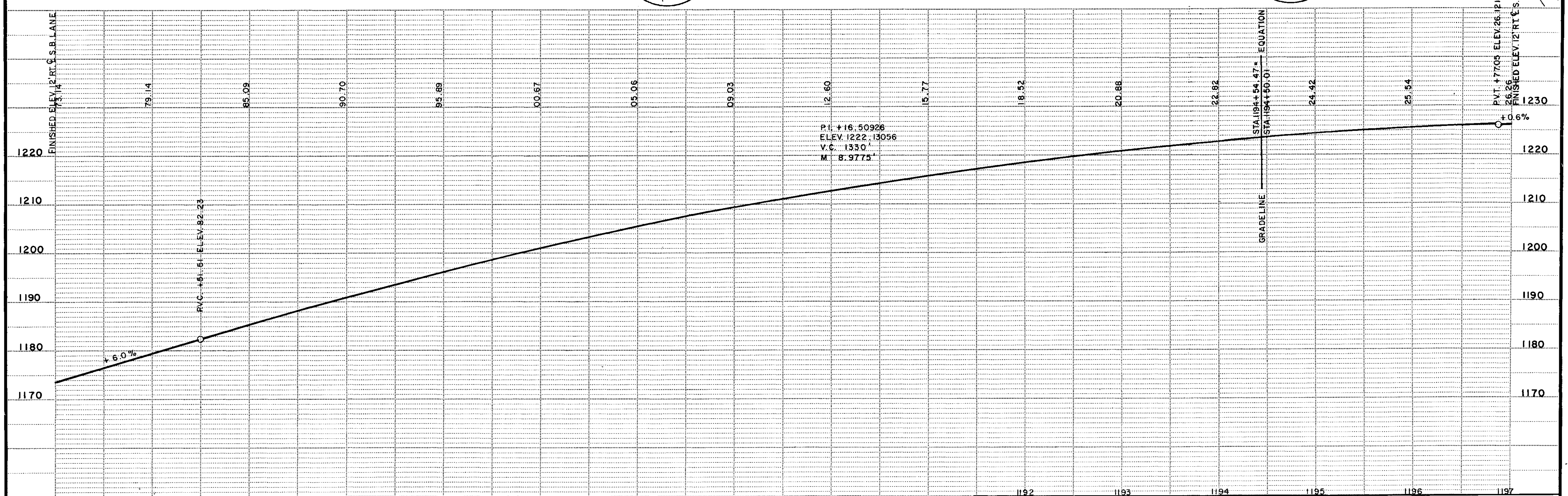
~~State Proj. No.~~ S.A.P. 55-622-10 OLMSTED COUNTY CSAH 22 **Sheet No.** 17 **of** 22 **Sheets**



NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.







STA. 2107+00 END INTEGRANT CURB

P.C. 2106+98.11

SEE "INSET D"

P.I. 108+46.20
Δ RT 90°56'11"
D 26°50'24"
T 237.18
R 213.18

F&I 3" R.S. CONDUIT 80 LIN. FT.

STA. 2108+50 END INTEGRANT CURB

P.T. 2109+67.87=P.O.T. 1196+94.17

P.I. 108+57.16 EQUATION
Δ RT 90°00'00"
D 26°50'24"
T 237.18
R 213.18

P.T. 2109+75.05=
P.O.T. 1202+48.21

S.B.L. P.O.T. 1199+57.16
E.B.L. P.O.T. 1201+51.87

SEE "INSET D"

SEE "INSET C"

S.B.L. P.O.T. 1205+00
E.B.L. P.O.T. 1175+00 EQUATION

C.S.A.H. 22

F&I 3" R.S. CONDUIT 60 LIN. FT.

FUTURE NORTH BOUND LANE

FUTURE WEST BOUND LANE

C.S.A.H. 2

"INSET D"

NO. 4 x 2'6" BARS

PLACE NO.4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 4.0'.

"INSET C"

① PLACE NO.4 BARS ALONG EACH OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6.0'.

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13',16',14' AND 17' UNLESS OTHERWISE SHOWN.

B.M. EL. 1231.78
TOP R/W MARKER
N.W. COR. INT. 2822

FINISHED ELEV. 12' RT. ℄ S.B. LANE

FINISHED ELEV. 12' RT. ℄ S.B. LANE

FINISHED ELEV. ℄ E.B. LANE

FINISHED ELEV. ℄ E.B. LANE

ELEV. 27.83768

ELEV. 27.83768

P.V.T. 1+29.81404
ELEV. 31.09112

+0.6%

+0.6%

S.B.L. P.O.T. 1199+57.16 =

S.B.L. P.O.T. 1200+51.87

S.B.L. P.O.T. 1205+00= EQUATION
E.B.L. P.O.T. 1175+00

C.B. 32 25' LT. STA. 2089+23
INSTALL CASTING
CONST. 16' & 14' REINFORCED PANELS STA. 2089+23 TO 2089+53.

C.B. 33 25' RT. STA. 2089+50
INSTALL CASTING

C.B. 34 25' RT. STA. 2090+12
INSTALL CASTING

C.B. 35 25' LT. STA. 2090+12
INSTALL CASTING
CONST. 14' & 17' REINFORCED PANELS STA. 2089+99 TO 2090+30.

C.B. 36 25' LT. STA. 2093+00
INSTALL CASTING
CONST. 16' & 14' REINFORCED PANELS STA. 2092+83 TO 2093+13.

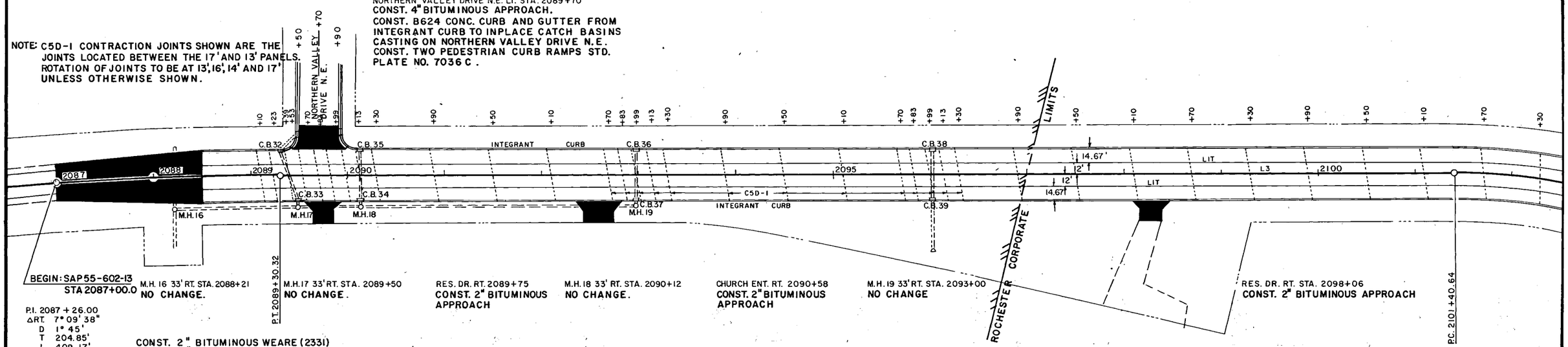
C.B. 37 25' RT. STA. 2093+00
INSTALL CASTING

C.B. 38 25' LT. STA. 2096+00
INSTALL CASTING
CONST. 16' & 14' REINFORCED PANELS STA. 2095+83 TO 2096+13.

C.B. 39 25' RT. STA. 2096+00
INSTALL CASTING

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

NORTHERN VALLEY DRIVE N.E. LT. STA. 2089+70
CONST. 4" BITUMINOUS APPROACH.
CONST. B624 CONC. CURB AND GUTTER FROM INTEGRANT CURB TO INPLACE CATCH BASINS CASTING ON NORTHERN VALLEY DRIVE N.E.
CONST. TWO PEDESTRIAN CURB RAMPS STD. PLATE NO. 7036 C.



BEGIN: SAP 55-602-13
STA 2087+00.0
M.H. 16 33' RT. STA. 2088+21
NO CHANGE.

M.H. 17 33' RT. STA. 2089+50
NO CHANGE.

RES. DR. RT. 2089+75
CONST. 2" BITUMINOUS APPROACH

M.H. 18 33' RT. STA. 2090+12
NO CHANGE.

CHURCH ENT. RT. 2090+58
CONST. 2" BITUMINOUS APPROACH

M.H. 19 33' RT. STA. 2093+00
NO CHANGE

RES. DR. RT. STA. 2098+06
CONST. 2" BITUMINOUS APPROACH

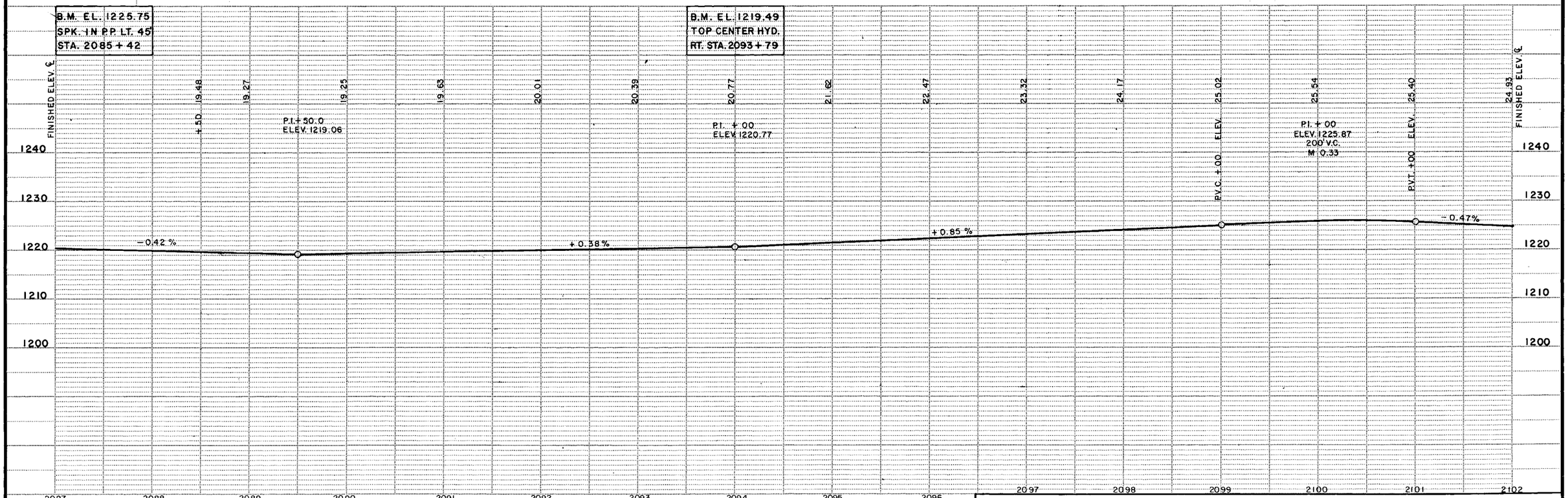
P.I. 2087 + 26.00
ΔRT. 7° 09' 38"
D 1° 45'
T 204.85'
L 409.17'
E 6.40'

P.T. 2089+30.32

P.C. 2101+40.64

CONST. 2" BITUMINOUS WEARE (2331)
CONST. 2" BITUMINOUS BASE (2331)
36' WIDE AT STA. 2087+00 TO
54' WIDE AT STA. 2088+50

STA. 2088+50 BEGIN CONCRETE PAVEMENT
CONSTRUCT PERMANENT HEADER JOINT.



C.B. 40 25' LT. STA. 2103+00
INSTALL CASTING
CONST. 13' AND 16' REINFORCE PANELS STA. 2102+90 TO STA. 2103+19

C.B. 42 25' LT. STA. 2106+00
INSTALL CASTING
CONST. 17' AND 13' REINF. PANELS STA. 2105+85 TO 2106+15

C.B. 43 27.8' RT. STA. 2106+00
INSTALL CASTING

C.B. 41 25' RT. STA. 2103+00
INSTALL CASTING

P.I. 103+60.77
ΔRT. 42° 02'
D 10° 00'
T 220.13'
L 420.34
E 40.83'
REMOVE CROWN
170' RUNOFF
R 572.96'

M.H. 20 33' RT. 2103+00
NO CHANGE.

M.H. 21 33' RT. STA. 2104+
NO CHANGE.

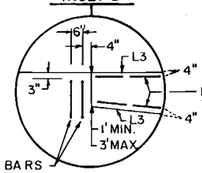
M.H. 22 35.8' RT. STA. 2106+00
NO CHANGE.

NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

℄ CULV. STA. 2108+45 SKEWED 8°
CONST. 17', 13' AND 13' REINF. PANELS.
STA. 2108+25 TO STA. 2108+68

℄ CULV. 2111+84 SKEWED 30°
CONST. 17, 13, 16, 14, 17, AND 13' REINF. PANELS
STA. 2111+31 TO STA. 2112+21.

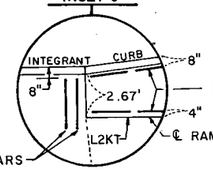
"INSET D"



PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 4.0'

NO. 4 x 2'6" BARS

"INSET J"



PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6.0'

NO. 4 x 2'6" BARS

SEE "INSET J"

SEE "INSET D"

F.&I. 3" R.S. CONDUIT 60 LIN. FT.

F.&I. 3" R.S. CONDUIT 80 LIN. FT.

EQUATION PT 2105+60.98 = P.O.T. 2105+72.93

PC 2106+30.76

PT 2109+67.87 = P.O.T. 1196+94.17

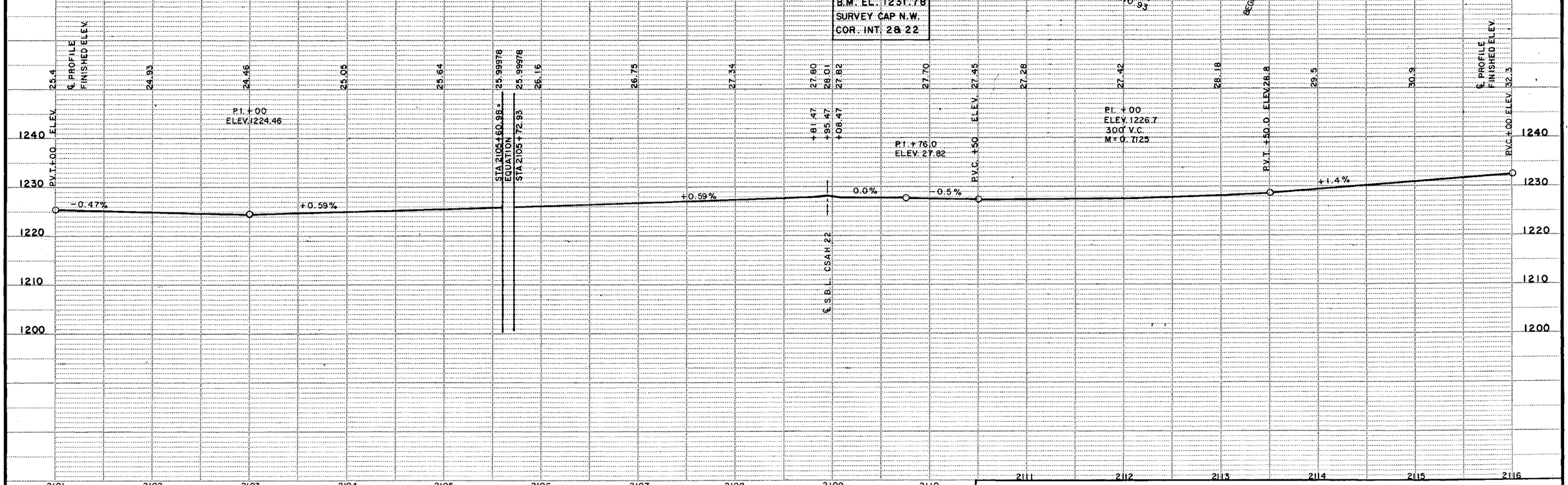
PC 2111+39.58

P.I. 2115+03.46
ΔRT. 88° 28' 30"
D 1° 10'
T 363.88'
L 726.43'
E 13.47'
REMOVE CROWN
140' RUNOFF
R 4910.93

BEGIN TAPER STA. 2114+00

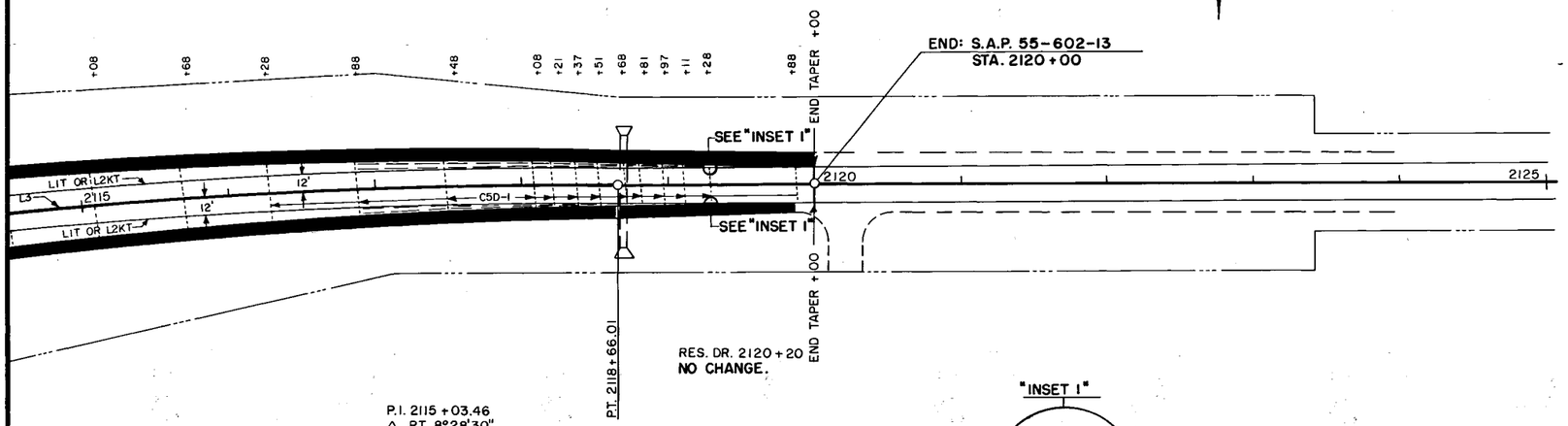
BEGIN TAPER STA. 2114+00

B.M. EL. 1231.78
SURVEY CAP N.W.
COR. INT. 28 & 22



℄ CULV. 2118+68
CONST. 17' AND 13' REINFORCED PANELS
STA. 2118+51 TO STA. 2118+81

END CONCRETE PAVEMENT STA. 2120+00
CONSTRUCT PERMANENT HEADER JOINT.

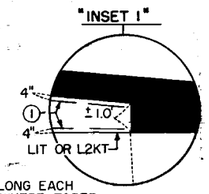


RES. DR. 2120+20
NO CHANGE.

P.I. 2115+03.46
Δ RT. 8°28'30"
D 1°10'
T 363.88'
L 726.43'
E 13.47'
R 4910.93'

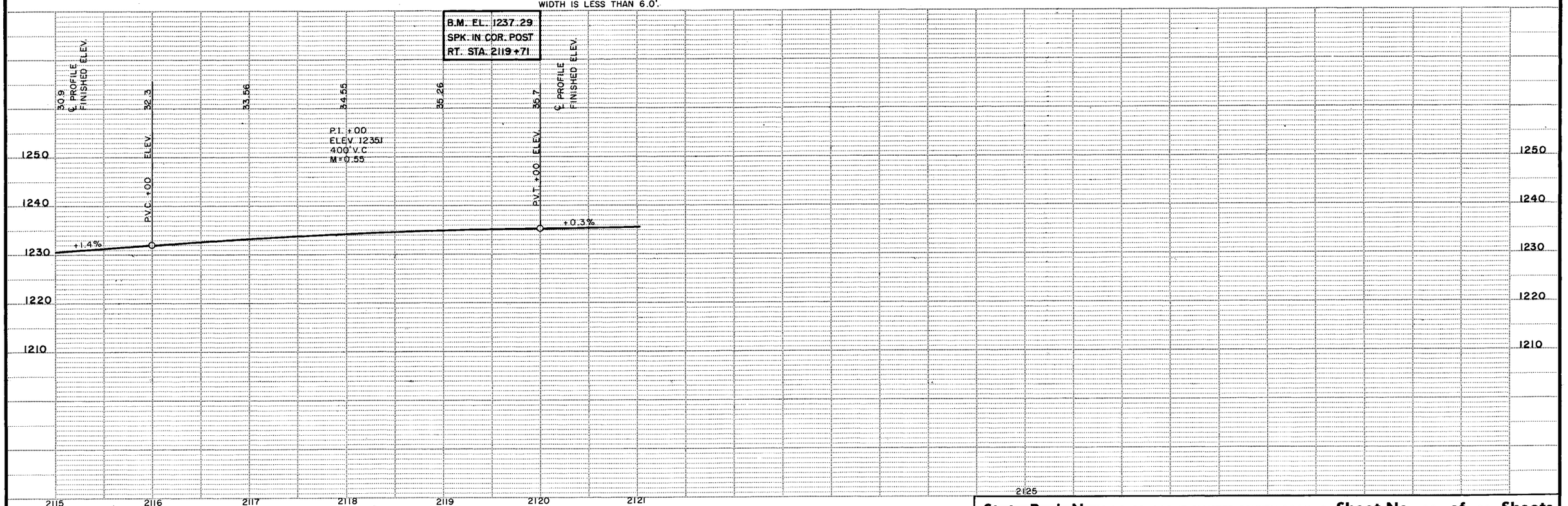
NOTE: C5D-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN.

"INSET 1"



① PLACE NO.4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6.0'.

B.M. EL. 1237.29
SPK. IN COR. POST
RT. STA. 2119+71



~~State Proj. No.~~ S.A.P. 55-602-13 OLMSTED COUNTY C.S.A.H. 2 **Sheet No.** 22 **of** 22 **Sheets**