MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

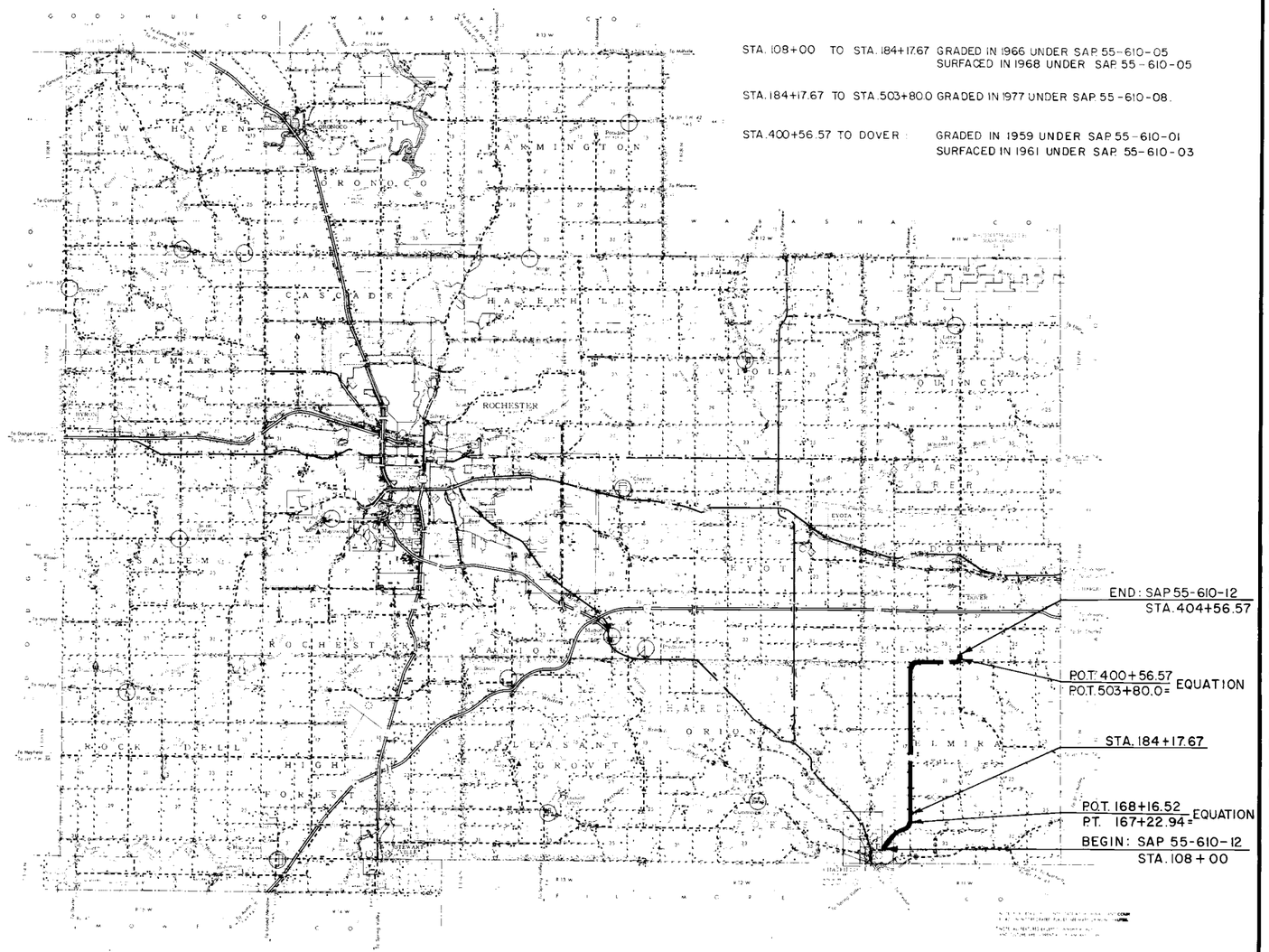
CONSTRUCTION PLAN FOR AGGREGATE BASE, AGGREGATE SHLD, CONCRETE PAV'T. & CONC. OVERLAY

LOCATED ON C.S.A.H. 10 **BETWEEN** CHATFIELD **AND** APPROX. 2 MILES SOUTH OF DOVER **(GEOGRAPHIC DESCRIPTION)**

FROM 1570' W. & 135' S. OF E. 1/4 COR. SEC. 31 T. 105 N. - R. 11 W. **TO** 1471.37' N. OF N.E. COR. SEC. 4 T. 105 N. - R. 11 W. **(LEGAL DESCRIPTION)**

STATE PROJ. NO. ~~STATE PROJ. NO.~~ S.A.P. 55-610-12

GROSS LENGTH		FEET	GROSS LENGTH	39,886.42 FEET	7.554 MILES
BRIDGES-LENGTH		FEET	BRIDGES-LENGTH		FEET MILES
EXCEPTIONS-LENGTH		FEET	EXCEPTIONS-LENGTH		FEET MILES
NET LENGTH		FEET	NET LENGTH	39,886.42 FEET	7.554 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
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY LINE
RIVER OR CREEK (NAME)
DRY RUN
DRAINAGE DITCH (SIZE)
DRAIN TILE
CULVERT
PROP. 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 (TIMBER)
ORCHARD
BRUSH
NURSERY
CATCH BASIN C.B.
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
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 (G)
SAND PIT (S)
BORROW PIT (B)
ROCK QUARRY (Q)
SLOPE EASEMENT SE

UTILITIES SYMBOLS

POWER POLE LINE
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 G — G
WATER MAIN W — W
CONDUIT
TELEPHONE CABLE IN CONDUIT T
ELECTRIC CABLE IN CONDUIT P
TELEPHONE MANHOLE T
ELECTRIC MANHOLE P
BURIED TELEPHONE CABLE T-BUR
BURIED ELECTRIC CABLE P-BUR
AERIAL TELEPHONE CABLE T-AE
SEWER, (SANITARY OR STORM)
SEWER MANHOLE

SCALES

PLAN		100 FEET
PROFILE		100 FEET HORZ. & 20' VERT.
INDEX MAP		10,560 FEET
GENERAL LAYOUT		

STATE AID TITLE SHEET (c) '77 ALL RIGHTS RESERVED

MINN. PROJ. NO.

SPECIFICATIONS REFERENCE

The 1978 Edition of the Minnesota Department of Transportation "Standard Specifications For Highway Construction" Shall Govern.

INDEX

SHEET No. 1 TITLE SHEET & LAYOUT MAP.
SHEET No. 2 ESTIMATE OF QUANTITIES & TYPICAL SECTIONS.
SHEET No. 3 PAVEMENT JOINTS.
SHEET No. 4 TO 11 PLAN AND PROFILE.

DESIGN DESIGNATION

R — ΣN18 [20]

ADT (Current Year)	=	252	Design Speed	50	MPH
ADT (Future Year)	=	403	Based on Stopping		Sight Distance
DHV (Design Hr. Vol.)	=		Height of eye	3.75'	Height of object 0.5'
D (Directional Distr.)	=	%	Design Speed not achieved at:		
T (Heavy Commercial)	=	%	STA.	TO STA.	MPH
SOIL FACTOR		130	STA.	TO STA.	MPH
PROJ. HCADT ONEWAY		16	STA.	TO STA.	MPH
PROJ. TST HCADT ONEWAY		11			

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 3-11-82 REG. NO. 10219 ENGR. J K Nolan

COUNTY Olmsted

Recommended for Approval _____ 3-12 19 82
DISTRICT STATE AID ENGINEER

Recommended for Approval Delvan D. Ottesell 4-14 1982
STATE AID PLANS AND SPECS ENGINEER

Approved 4/14 19 82 _____
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
_____ _____
DIVISION ADMINISTRATOR DATE

STATE AID PROJ. NO. 55-610-12
~~**STATE PROJ. NO.**~~ **SHEET NO.** 1 **OF** 11 **SHEETS**

ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	MUNICIPIAL	RURAL	TOTAL ESTIMATED QUANTITIES	
2021.501	MOBILIZATION	LUMP SUM	0.04	0.96	1	
2105.525	TOPSOIL BORROW (LV)	CU. YD.		196	196	
2112.501	SUBGRADE PREPARATION	ROAD STA.		320	320	
2130.501	WATER	M-GAL.		117	117	
2211.501	AGGREGATE BASE, CLASS 5	TON		17526	17526	
2221.501	AGGREGATE SHOULDERING, CLASS 3	TON		12298	12298	
2221.501	AGGREGATE SHOULDERING, CLASS 2	TON	805	17901	18706	
2301.501	CONCRETE PAVEMENT	SQ.YD.	4267	99963	104230	(P)
2301.511	STRUCTURAL CONCRETE (OVERLAY)	CU.YD.	770	2660	3430	
2301.511	STRUCTURAL CONCRETE	CU. YD.		16573	16573	(P)
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	24	137	161	
2331.516	SHOULDER MIXTURE	TON	368	2104	2472	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	21	86	107	
2531.501	CONCRETE CURB AND GUTTER, DESIGN B-624	LIN. FT.		486	486	
2575.505	SODDING	SQ. YD.		674	674	

(P) PLAN QUANTITY.

CONSTRUCTION NOTES

GRADES:

THE CENTERLINE GRADE FOR PAVING WILL BE ESTABLISHED BY THE OLMSTED COUNTY HIGHWAY DEPT.

JOINTS:

ALL CONTRACTION JOINTS, ALL LONGITUDINAL JOINTS AND HEADER JOINTS WILL BE INCIDENTAL TO ITEM NO. 2301.501 CONCRETE PAVEMENT AND NO DIRECT COMPENSATION WILL BE MADE THERE FOR.

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 NOTED IN THE PLANS, MODIFIED TO THE EXTENT THAT A DOWELED TRANSVERSE JOINT WILL NOT BE REQUIRED. REINFORCED PANELS WILL BE INCIDENTAL TO ITEM NO. 2301.501 CONCRETE PAVEMENT AND NO DIRECT COMPENSATION WILL BE MADE THERE FOR.

STA: 128+00	19' PANEL	STA: 250+98	13' PANEL	STA: 361+11	15' PANEL		
138+50	18' PANEL	272+45	13'-16'-14'-19'	371+97	13' PANEL		
162+25	19'-13'-16'-14' PANELS		13-15' PANELS	386+96	16' PANEL		
184+17	13' PANEL	301+48	14' PANEL	392+62	16-14' PANELS		
184+75	13' PANEL	318+63	13'-16' PANELS	417+65	19' PANEL		
206+08	13' PANEL	323+12	16-14' PANELS	428+13	19' PANEL		
216+18	19' PANEL	330+65	14-19' PANELS	446+75	19' PANEL		
228+13	14'-16' PANELS	335+61	15' PANEL	455+68	13'-16-14' PANELS		
233+66	12'-15' PANELS	345+08	19' PANEL	466+75	12-15' PANELS		
242+10	19' PANEL	355+39	14'-17'-14' PANELS	489+73	16' PANEL		
				503+70	14.5' PANEL		

CONCRETE PAVEMENTS NON-REINFORCED:

CONCRETE PAVEMENT SHELL BE CONSTRUCTED IN A CORDANCE WITH THE STANDARD DETAIL PLATE NOTED IN THE PLANS, MODIFIED TO THE EXTENT THAT DOWELS WILL NOT BE REQUIRED IN THE FIRST TEN CONTRATION JOINTS AT BEGINNING OF PROJECT AND LAST TEN CONTRACTION JOINTS AT END OF PROJECT.

AGGREGATE BASE:

ITEM NO. 2211.501 AGGREGATE BASE CLASS 5 INCLUDES 11562 TONS FOR ROAD AND 5964 TONS IN CONJUNCTION WITH THE OPERATIONS OF ITEM NO. 2112.501 SUBGRADE PREPARATION.

AGGREGATE SHOULDERING, CLASS 2:

ITEM NO. 2221.501 AGGREGATE SHOULDERING CLASS 2 INCLUDES 2611 TONS FOR 97 ENTRANCES AND APPROACHS AND 16,095 TONS FOR SHOULDERING.

SHOULDER MIXTURE:

ITEM NO. 2331.516 SHOULDER MIXTURE INCLUDES 679 TONS FOR 36 ENTRANCES AND APPROACHES, 1397 TONS FOR BITUMINOUS SHOULDER CONSTRUCTION AND 396 TONS FOR TRANSITIONS AT BEGINNING AND END OF CONCRETE PAVEMENT.

WATER: WATER TO BE USED AS A DUST PREVENTATIVE AS DIRECTED BY THE ENGINEER.

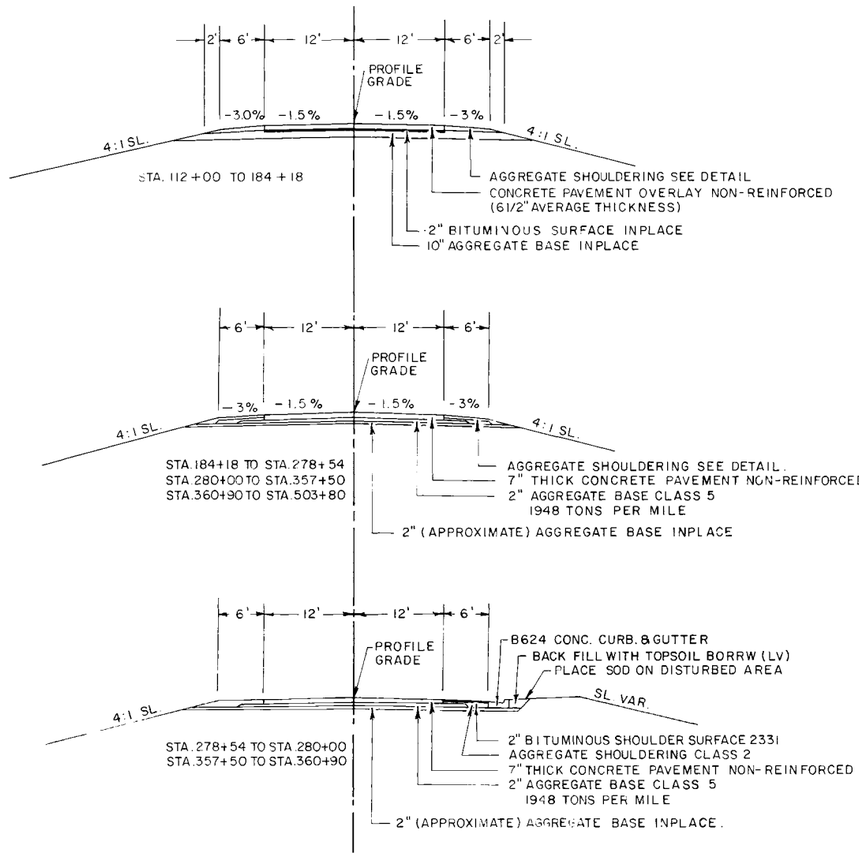
STANDARD PLATES

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

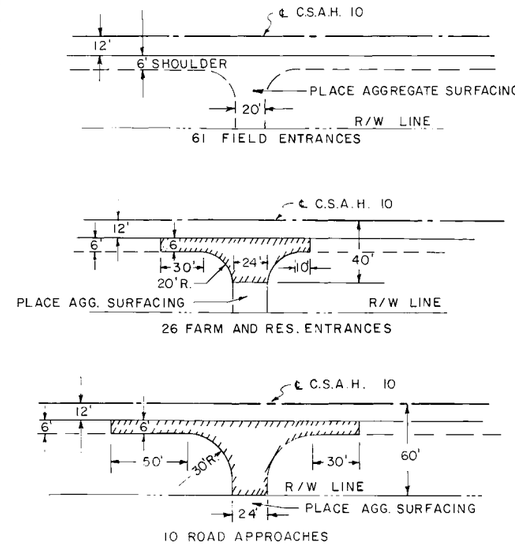
PLATE NO.	DESCRIPTION
0003 A	SPECIFICATION REFERENCE TO STANDARD PLATES.
1016 G	CONCRETE PAVEMENTS NON-REINFORCED.
1070 I	REINFORCED PANEL OVER CULVERTS.
1120 R	CONTRACTION JOINTS
1140 R	LONGITUDINAL JOINTS
1141 B	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
1150 N	CONSTRUCTION OF HEADER JOINTS
7035 J	CONCRETE WALK & CURB RETURNS AT ENTRANCES.
7100 E	CONCRETE CURB AND GUTTERS DESIGN B624
8000 H	STANDARD BARRICADES

TYPICAL SECTIONS

SPECIAL DETAIL

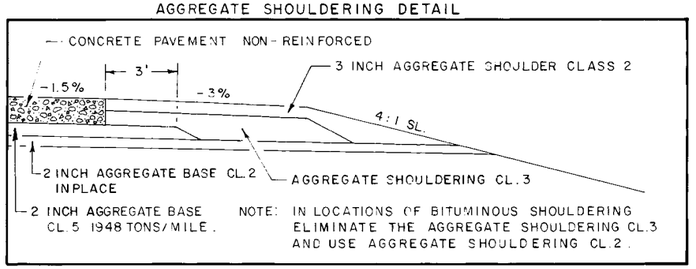


APPROACHES AND ENTRANCES



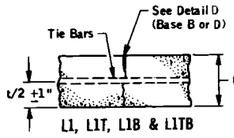
DESIGNATES BITUMINOUS SURFACING

AGGREGATE SHOULDERING DETAIL

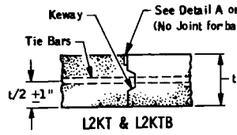


NOTE: ALL DIMENSIONS AND SLOPES SHOWN ON TYPICAL SECTIONS ARE APPROXIMATE.

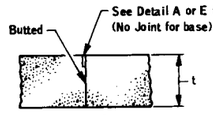
Fed. Proj. No.



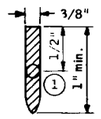
L1, L1T, L1B & L1TB



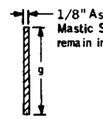
L2KT & L2KTB



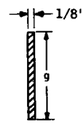
L3 & L3B



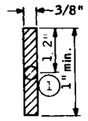
DETAIL A
(Formed & Sealer Spec. 3723)



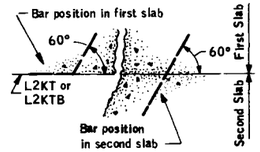
DETAIL B
(Formed & Unsealed)



DETAIL D
(Sawed & Sealer Spec. 3723)
(Base joints unsealed)



DETAIL E
(Sawed & Sealer Spec. 3723)



TIE BAR BENDING DETAIL

TYPE L1 JOINT DEPTHS

Pav't. Thickness	Non-Reinf. Pav't.	Reinforced Pav't.	Concrete Base
t	g	g	g
6"	2"		2"
6-1/2"	2"		2"
7"	2-1/4"		2-1/4"
7-1/2"	2-1/4"		2-1/4"
8"	2-1/2"	2-1/2"	2-1/2"
8-1/2"	2-1/2"	2-1/2"	2-1/2"
9"	2-3/4"	2-3/4"	2-3/4"
10"	3"	3"	3"

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	3723 Unsealed 3723 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 5-297.217.

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 AASHO 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. 3723 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.

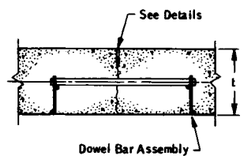
GENERAL NOTES:

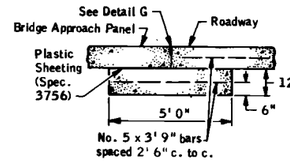
See the following standard plates and standard plan sheet for additional details: Dowel Bar Assembly 1103; Pav't. Keyway 1141; and Concrete Pavement with Skewed Joints 5-297.217.

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

APPROVED June 8, 1981
R. O. Kipp
Director
OFFICE OF ENGINEERING STANDARDS

LONGITUDINAL JOINTS
DESIGN L





CONCRETE SILL
(Included as part of C3S joint)

LEGEND

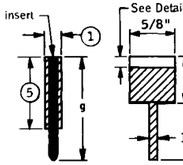
C = Contraction Joint
No. = Joint Reference
-1 = Hot Poured Seal 3723
D = Dowel Bars
S = Concrete Sill
B = Concrete Base

EXAMPLE

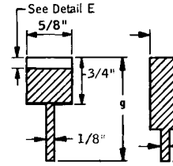
C1DB
- Concrete Base
- Dowel Bars
- Joint Reference
- Contraction Joint

CONTRACTION JOINTS

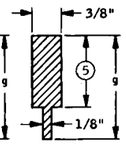
CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITHOUT DOWELS	WITH DOWELS		
C1	C1D	A or C	3721
C1-1	C1D-1	A or B	3723
C1B	C1DB	D or F	Unsealed
C2-1	C2D-1	B	3723
C3S		G	3721
C4	C4D	C	3721
C5-1	C5D-1	E	3723



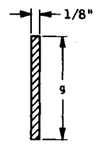
DETAIL A
Formed
(Insert to be removed)



DETAIL B (2)
Sawed or Formed (3)



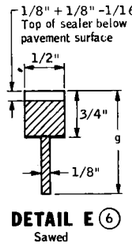
DETAIL C
Sawed



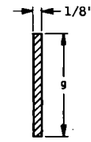
DETAIL D
Formed
Asphaltic mastic strip to remain in place

MIN. CONTRACTION JOINT DEPTHS

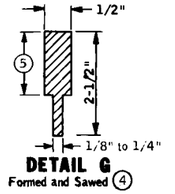
Pav't. Thickness	Non-Reinf. Pav't.	Reinforced Pav't.	Concrete Base
t	g	g	g
6"	1-5/8"		1-1/4"
6-1/2"	1-5/8"		1-1/4"
7"	1-5/8"		1-1/2"
7-1/2"	1-5/8"		1-1/2"
8"	1-5/8"	2"	1-1/2"
8-1/2"	1-5/8"	2"	1-1/2"
9"	1-5/8"	2"	1-1/2"
10"	2"	2-1/2"	2"



DETAIL E (6)
Sawed



DETAIL F
Sawed



DETAIL G
Formed and Sawed (4)

(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.

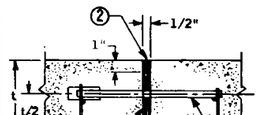
Joint width tolerances: +1/16", -1/32"

GENERAL NOTES:

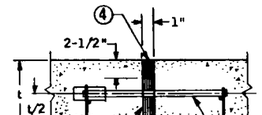
See the following standard plates and standard plan sheet for additional details: Dowel Bar Assembly 1103; Construction of Header Joints 1150, and Concrete Pavement with Skewed Joints 5-297.217.

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

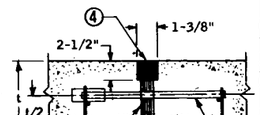
CONTRACTION JOINTS
DESIGN C



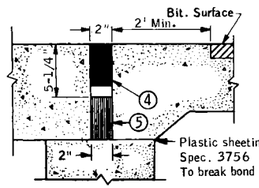
E1D-1 (with dowels) E1-1 (without dowels)
DETAIL A



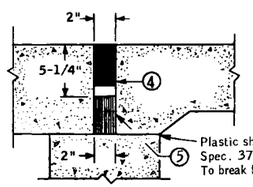
E2D (with dowels) E2 (without dowels)
DETAIL B



E3D (with dowels) E3 (without dowels)
DETAIL C



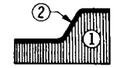
E4B (without dowels)
DETAIL D



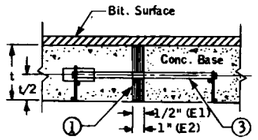
E4 (without dowels)
DETAIL E



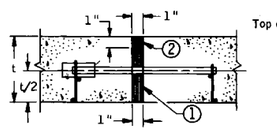
E4-1



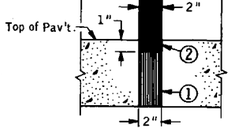
E2-1



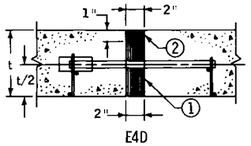
E1DB & E2DB (with dowels) E1B & E2B (without dowels)
DETAIL F



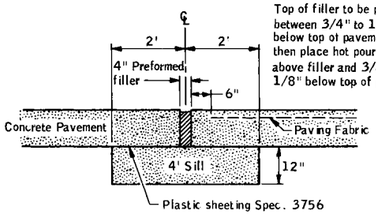
E2D-1 (with dowels) E2-1 (without dowels)
DETAIL G



E4-1 (without dowels)
DETAIL H



E4D
(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 EBS JOINT

(1) Preformed Joint Filler Material - Spec. 3702

(2) Joint Sealer as specified. 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 Sealer - Spec. 3721 Refer to plans for details of sealer

(5) Preformed Joint Filler Material - Spec. 3702 or an approved sheet polystyrene.

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	E2	B	3721
E2D-1	E2-1	G	(2)
E2DB	E2B	F	Unsealed
E3D	E3	C	3721
	E4	E	3721
	E4B	D	3721
	E4-1	H	(2)
E4D		I	(2)

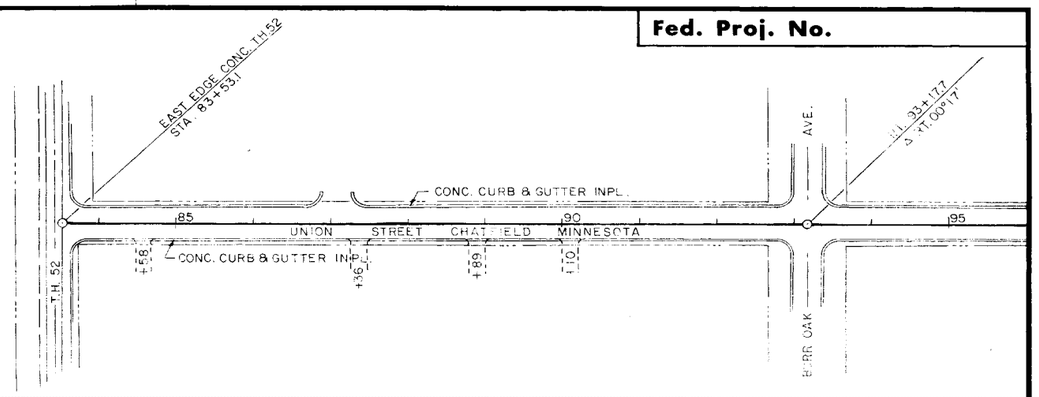
EXPANSION JOINTS
DESIGN E

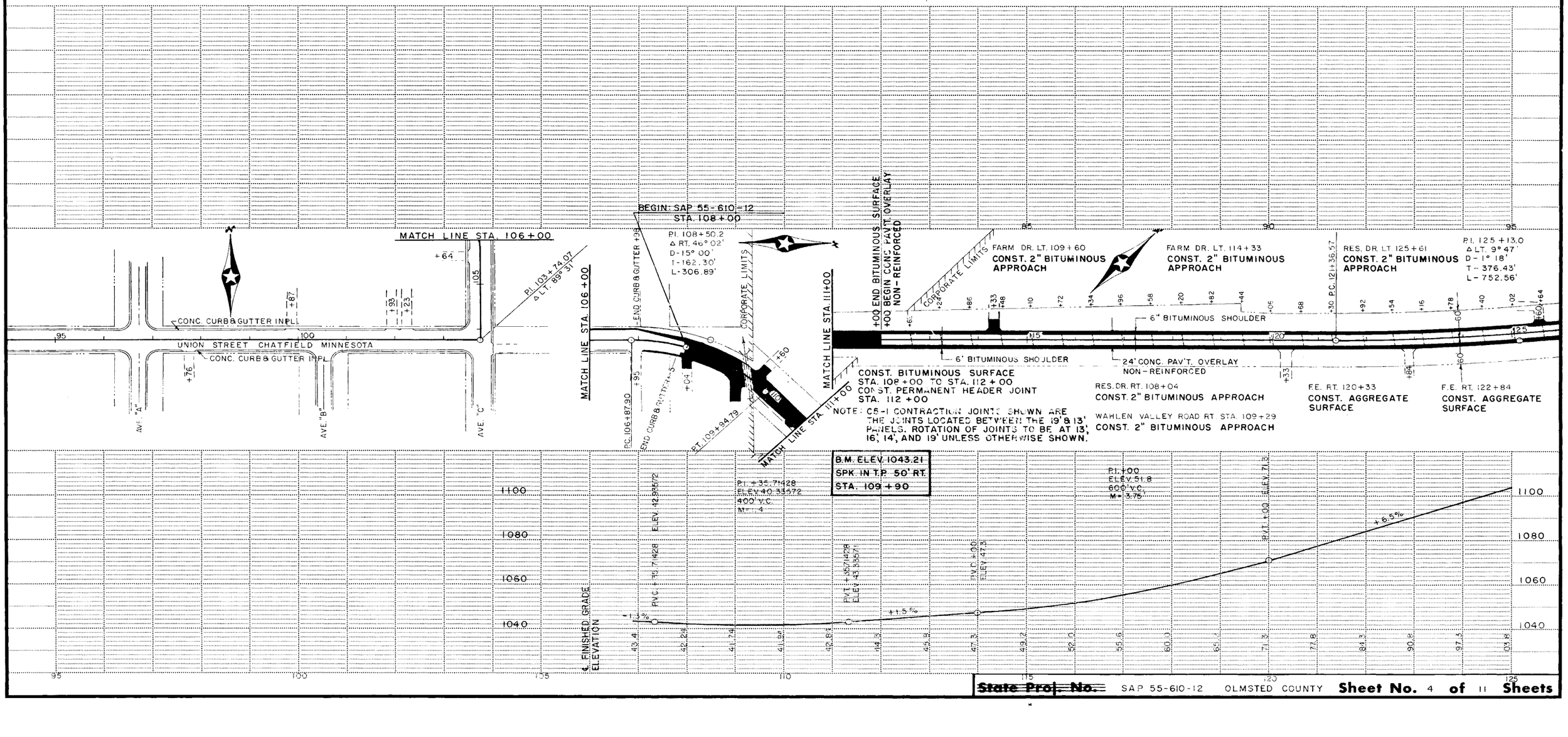
PAVEMENT JOINTS

~~State Proj. No.~~ S.A.P. 55-610-12 OLMSTED COUNTY

Sheet No. 3 of 11 Sheets

Fed. Proj. No.





~~State Proj. No.~~ SAP 55-610-12 OLMSTED COUNTY **Sheet No.** 4 **of** 11 **Sheets**

Fed. Proj. No.

F.E. LT. 125+61
CONST. AGGREGATE SURFACE

P.I. 125+13.0
Δ LT. 9° 47'
D- 1° 18'
T- 376.43'
L- 752.56'

CORPORATE LIMITS

P.T. 128+89.13

FARM DR. LT. 144+27
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

F.E. LT. 148+41
CONST. AGGREGATE SURFACE

F.E. LT. 152+84
CONST. AGGREGATE SURFACE

P.C. 154+02.80

6' BITUMINOUS SHOULDER

6' BITUMINOUS SHOULDER

24' CONC. PAV'T. OVERLAY NON-REINFORCED

MATCH LINE STA. 147+00

NOTE: C5-1 JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 19' UNLESS OTHERWISE SHOWN.

℄ CULV. 128+00
INPL. 24"x56' R.C.P.
CONST. 19' REINFORCED PANEL STA. 127+93 TO STA. 128+12

℄ CULV. 138+50
INPL. 4'x6'x60' TIMBER BOX CULV.
CONST. 18' REINFORCED PANEL STA. 138+44 TO STA. 138+62

P.C. 137+12.51

F.E. RT. 146+22
CONST. AGGREGATE SURFACE

P.I. 142+76.88
Δ RT. 43° 00'
D- 4° 00'
T- 564.37'
L- 1075.0'

P.T. 147+87.51

F.E. RT. 153+75
CONST. AGGREGATE SURFACE

B.M. ELEV. 1128.57
SPK. IN GATE POST 40' LT. STA. 128+70

P.I. 1+00
ELEV 23.3
400' V.C.
M = 0.4

P.V.C. +00 ELEV. 10.5

P.V.T. +00 ELEV. 34.7

+6.5%

+5.7%

P.V.C. +00 ELEV. 127.0

P.V.T. +00 ELEV. 127.0

B.M. ELEV. 1185.18
PAINTED BOLT TOP C.P. RT. STA. 138+80

P.I. 1+00
ELEV 68.9
400' V.C.
M = 0.65

P.V.C. +00 ELEV. 82.9

+12.0%

P.I. 1+23.07692
ELEV. 19.51538
400' V.C.
M = 0.65

P.V.C. +00 ELEV. 160.51538

P.V.T. +23.07692 ELEV. 91.33331

+5.7%

B.M. ELEV. 1236.77
SPK. IN PP. 40' LT. STA. 146+50

P.I. +48.0
ELEV. 72.236
1200' V.C.
M = 15.0

P.V.C. +48.0 ELEV. 158.0

P.I. +23.07692
ELEV. 158.0
400' V.C.
M = 0.65

P.V.T. +23.07692 ELEV. 181.33331

+7.5%

P.I. 161+93.24
Δ LT. 79° 12' 30"
D- 6°00'
T- 790.44'
L- 1320.14'

P.C. 154+02.8

MATCH LINE STA. 161+00

6' BITUMINOUS SHOULDER

6' BITUMINOUS SHOULDER

P.T. 167+22.94

TWP. RD. RT. 159+00
CONST. 2" BITUMINOUS APPROACH

MATCH LINE STA. 161+00

℄ CULV. 162+25
INPL. 48"x148' R.C.P.
CONST. 19', 13', 16', & 14' REINFORCED PANELS STA. 162+56 TO STA. 163+18

EQUATION

P.O.T. 168+16.52

END BITUMINOUS SHOULDERS LT. & RT. STA. 170+00

F.E. LT. 166+50
CONST. AGGREGATE SURFACE

F.E. LT. 184+08
CONST. AGGREGATE SURFACE

STA. 184+18 END CONCRETE PAV'T. OVERLAY BEGIN 7" THICK CONC. PAVEMENT

6' AGGREGATE SHOULDER

24' CONC. PAVEMENT OVERLAY NON-REINFORCED

6' AGGREGATE SHOULDER

RES. DR. RT. 166+48
CONST. 2" BITUMINOUS APPROACH

F.E. RT. 169+75
CONST. AGGREGATE SURFACE

F.E. RT. 179+37
CONST. AGGREGATE SURFACE

F.E. RT. 184+09
CONST. AGGREGATE SURFACE

P.I. 184+17.67
LT. 0°26'

CONST. 13' REINFORCED PANEL STA. 184+11 TO STA. 184+24.

B.M. ELEV. 1243.07
SPK IN PP. 50' RT. STA. 166+15

P.I. +00
ELEV. 31.3
700' V.C.
M = 6.5625

P.V.C. +00 ELEV. 46.436

P.V.T. +80 ELEV. 46.836

P.V.C. +50 ELEV. 46.35

-3.3%

P.I. +00
ELEV. 47.3
200' V.C.
M = 0.225

P.V.T. +50 ELEV. 42.5

P.V.C. +00 ELEV. 44.11

+3.2%

P.V.T. +33.72
ELEV. 49.3333

+2.3%

P.V.C. +27.85714
ELEV. 61.42571

P.I. +22.85714
ELEV. 68.62571
600' V.C.
M = 2.625

P.V.T. +22.85714
ELEV. 86.02571

-1.2%

P.V.C. +46.25
ELEV. 82.465

B.M. ELEV. 1260.82
SPK IN PP. 60' LT. STA. 183+50

P.I. +35.25
ELEV. 60.065
400' V.C.
M = 1.2

℄ CULV. 184+75
INPL. 24"x 60" R.C.P.
CONST 13' REINFORCED PANEL
STA. 184+69 TO STA. 184+82

FARM DR LT 189+00
CONST. 2" BITUMINOUS APPROACH
& RT. TURN LANE

FE LT 205+02
CONST. AGGREGATE
SURFACE

℄ CULV. 206+08
INPL. 24"x 64" R.C.P.
CONST 15' REINFORCED PANEL
STA. 205+81 TO STA. 206+14

FE LT. 211+86
CONST. AGGREGATE
SURFACE

P.I. 216+64.17 LT 0°26' RT.

P.I. 210+43.85 LT 0°07'30" RT.

60' — 6' AGGREGATE SHOULDER — 24' CONCRETE PAVT. — 6' AGGREGATE SHOULDER — 50'

CONST. 13' REINFORCED PANEL
STA. 184+11 TO STA. 184+24

NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19', & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 18', 14', AND 19' UNLESS OTHERWISE SHOWN

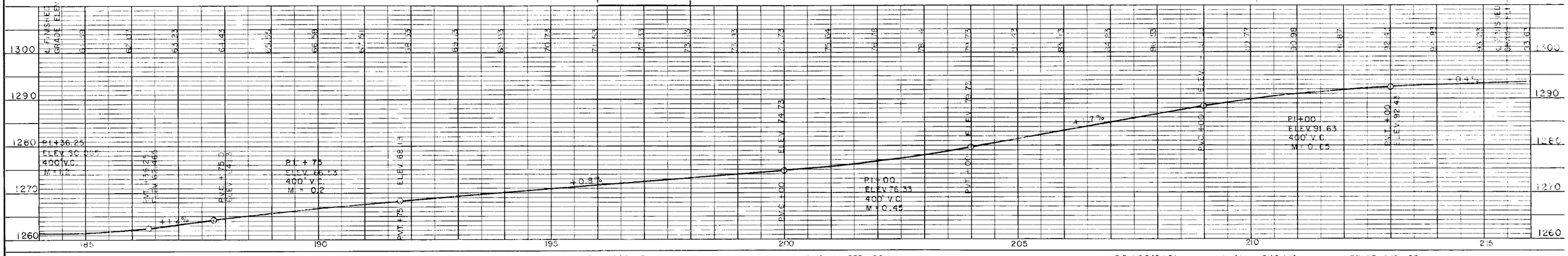
FARM DR RT 194+29
CONST 2" BITUMINOUS APPROACH
& RT. TURN LANE.

FE RT 207+72
CONST. AGGREGATE
SURFACE

FARM DR. 208+45
CONST. 2" BITUMINOUS APPROACH
& RT. TURN LANE

FE RT 211+07
CONST. AGGREGATE
SURFACE

B.M. ELEV. 1267.51
SPK IN P.P. LT
STA. 194+20



℄ CULV. 215+18
INPL. 24'x84' R.C.P.
CONST. 19' REINFORCE PANEL
STA. 216+07 TO STA. 216+26

FARM DR. LT. 220+89
CONST. 2" BITUMINOUS
APPROACH & RT. TURN
LANE.

FE LT. 223+22
CONST. AGGREGATE SURFACE

℄ CULV. 228+13
INPL. 36"x 78' R.C.P.
SKEWED 30°
CONST. 14' & 16' REINFORCED PANELS
STA. 228+00 TO STA. 228+30

℄ CULV. 233+66
INPL. 36"x 64' R.C.P.
SKEWED 15°
CONST. 12' & 15' REINFORCED PANELS
STA. 233+55 TO STA. 233+82

FE LT 242+01
CONST. AGGREGATE
SURFACE

℄ CULV. 242+10
INPL. 24"x 60' R.C.P.
CONST. 19' REINFORCED
PANEL STA. 242+02
TO STA. 242+21

FE LT. 243+50
CONST. AGGREGATE SURFACE

P.I. 236+48.94 LO°01'30" LT.

60' — 6' AGGREGATE SHOULDER — 24' CONCRETE PAVEMENT — 6' AGG. SHLD. — 60'

FARM DR. RT. 218+79
CONST 2" BITUMINOUS
APPROACH & RT. TURN
LANE.

FE RT. 220+96
CONST AGGREGATE SURFACE

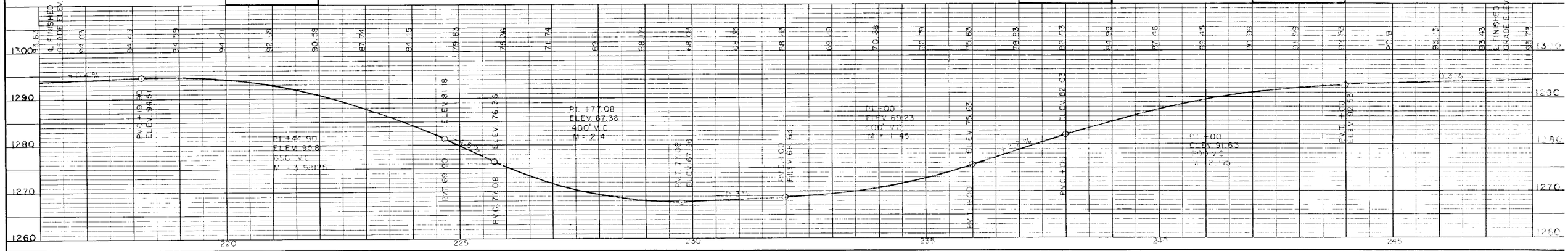
FE RT. 233+04
CONST. AGGREGATE SURFACE

FE RT. 243+57
CONST. AGGREGATE SURFACE

B.M. ELEV. 1293.77
SPK. IN P.P. LT.
STA. 221+35

B.M. ELEV. 1280.73
SPK. IN P.P. LT.
STA. 237+27

B.M. ELEV. 1291.45
SPK IN COR. FE.
POST LT STA 243+27



B.M. & NOTED STRUCTURE NOTATNS CHKD.

NO.

BRUNING NO. 42-162

PLATE 2—PLAN—PROFILE O. P. R. & R. E.
MADE AND PRINTED IN U.S.A.
CHARLES BRUNING COMPANY

SAP 55-610-12 OLMSTED COUNTY SHEET 6 OF 11 SHEETS

FARM DR. LT. 248+21
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

P.E. LT. 253+47
CONST. AGGREGATE SURFACE

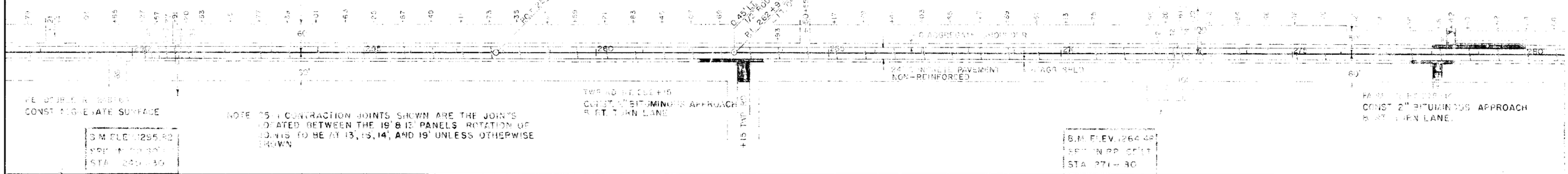
℄ CULV. 250+93
INPL. 30"x64" R.C.P.
CONST. 13' REINFORCED PANEL
STA. 250+80 TO STA. 251+06

P.E. LT. 264+50
CONST. AGGREGATE SURFACE

℄ CULV. 272+93
INPL. 24"x210'0" CMP
SKEWED 13°-01'
CONST. 3'-0" R.C. HEADWALL
REINFORCED PANELS STA. 271+99
TO STA. 272+39

FARM DR. LT. 278+42
CONST. 2" BITUMINOUS APPROACH

CONST. B624 CONC. CURB & GUTTER
LEFT STA. 276+64 TO STA. 281+00 & 2" BITUMINOUS SHOULDER LEFT STA. 278+60 TO STA. 281+00
BACKFILL CURB 62 CU.YDS. TOPSOIL BORROW (LV) 156 SQ.YDS. SOD.



P.E. RT. 248+21
CONST. AGGREGATE SURFACE

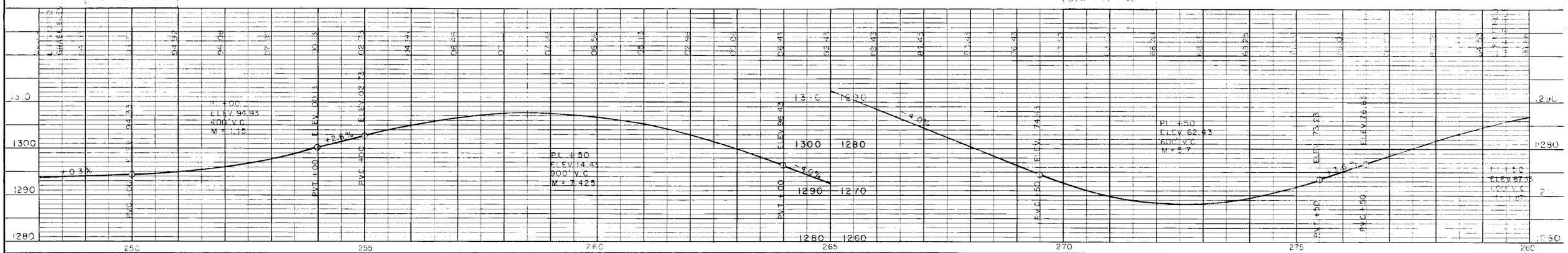
NOTE: (*) CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19'-8 1/2" PANELS. ROTATION OF JOINTS TO BE AT 13', 15', 14', AND 19' UNLESS OTHERWISE SHOWN.

TWIN CULV. 262+15
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

P.E. RT. 278+64
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

B.M. ELEV. 1255.80
SPK. IN P.P. RT.
STA. 252+30

B.M. ELEV. 1264.48
SPK. IN P.P. RT.
STA. 271+30

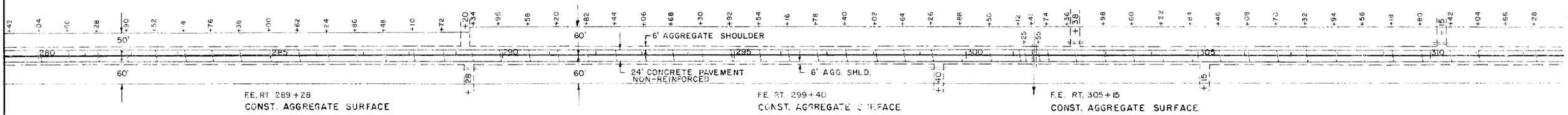


P.E. LT. 289+20
CONST. AGGREGATE SURFACE

℄ CULV. 301+48
INPL. 24"x8' R.C.P.
CONST. 14' REINFORCED PANEL
STA. 301+41 TO STA. 301+55

P.E. LT. 302+38
CONST. AGGREGATE SURFACE

P.E. LT. 310+15
CONST. AGGREGATE SURFACE

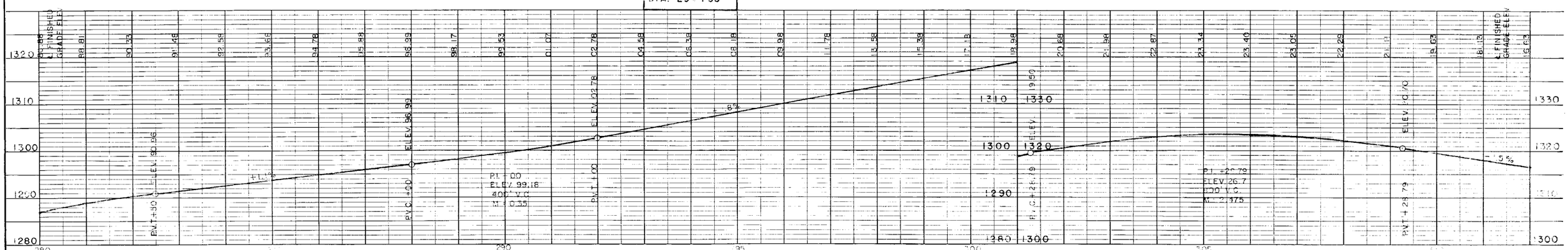


P.E. RT. 289+28
CONST. AGGREGATE SURFACE

P.E. RT. 299+40
CONST. AGGREGATE SURFACE

P.E. RT. 305+15
CONST. AGGREGATE SURFACE

B.M. ELEV. 1304.60
SPK. IN P.P. LT.
STA. 294+55



BRUNING NO. 42-162

PLATE 2—PLAN—PROFILE O. P. R. B. R. E.
MADE AND PRINTED IN U. S. A.
CHARLES BRUNING COMPANY

SAP 55-610-12 OF MOTLEY COUNTY SHEET 2 OF 11 SHEETS

TWP. RD. LT. 315+70
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

℄ CULV. 318+63
INPL. 42"x78" R.C.P.
CONST. 13'-9" REINFORCED PANELS STA. 316+42 TO STA. 318+77.

℄ CULV. 323+12
INPL. 36"x90" R.C.P. SKEWED 30°
CONST. 16' & 14' REINFORCED PANELS STA. 322+96 TO STA. 323+31.

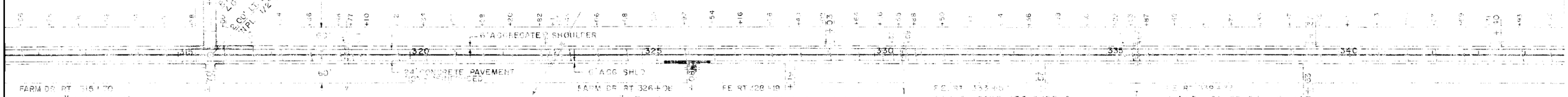
F.E. LT. 329+03
CONST. AGGREGATE SURFACE

℄ CULV. 330+65
INPL. 30"x82" R.C.P.
CONST. 14' & 15' REINFORCED PANELS STA. 330+55 TO STA. 330+80.

℄ CULV. 335+61
INPL. 37"x75" R.C.P.
CONST. 15' REINFORCED PANEL STA. 335+46 TO STA. 336+68.

F.E. LT. 339+37
CONST. AGGREGATE SURFACE

F.E. LT. 343+40
CONST. AGGREGATE SURFACE



FARM DR. RT. 315+70
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

THE CONSTRUCTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19'-8 1/2" PANELS. EXPANSION JOINTS TO BE AT 13', 16', 14' AND 10' UNLESS OTHERWISE SHOWN.

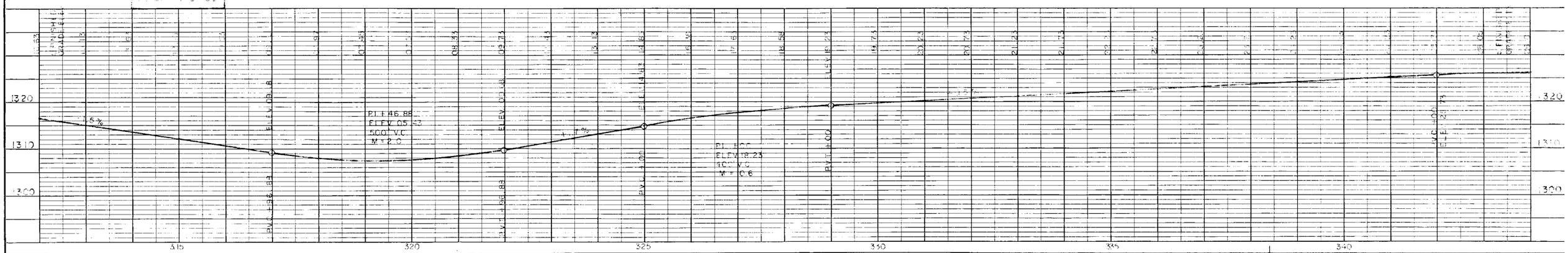
B.M. ELEV. 1314.77
SPK. IN PP. 55' LT.
STA. 315+55

RES. DR. RT. 326+08
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

F.E. RT. 328+19.14
CONST. AGGREGATE SURFACE

F.E. RT. 332+46
CONST. AGGREGATE SURFACE

F.E. RT. 339+73
CONST. AGGREGATE SURFACE



℄ CULV. 345+08
INPL. 24"x86' R.C.P.
CONST. 19' REINFORCED PANEL STA. 344+98 TO STA. 345+17.

RES. DR. LT. 354+35
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

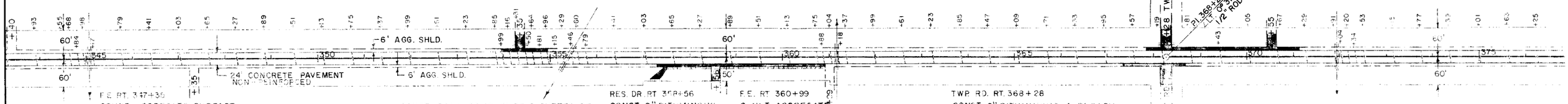
℄ CULV. 358+39
INPL. 48"x114' R.C.P. SKEWED 30°
CONST. 14', 17', & 14' REINFORCED PANELS. STA. 355+15 TO STA. 355+60.

℄ CULV. 361+11
INPL. 24"x60' R.C.P.
CONST. 14' REINFORCED PANEL STA. 361+04 TO STA. 361+18

TWP. RD. LT. 368+28
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

FARM DR. RT. 345+50
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

℄ CULV. 371+97
24"x 70' R.C.P.
CONST. 15' REINFORCED PANEL STA. 371+31 TO STA. 372+04.



F.E. RT. 347+35
CONST. AGGREGATE SURFACE

CONST. B624 CONC. CURB & GUTTER RT. STA. 357+50 TO STA. 360+90 & 2" BITUMINOUS SHOULDER FROM STA. 357+50 TO STA. 360+90
BACKFILL CURB 134 CU. YDS. TOPSOIL BORROW (LV) 450 SQ. YDS. 605
CONST. BITUMINOUS SPILLWAY RT. STA. 357+50
BITUMINOUS QUANTITY INCLUDED IN SHOULDER MIXTURE.

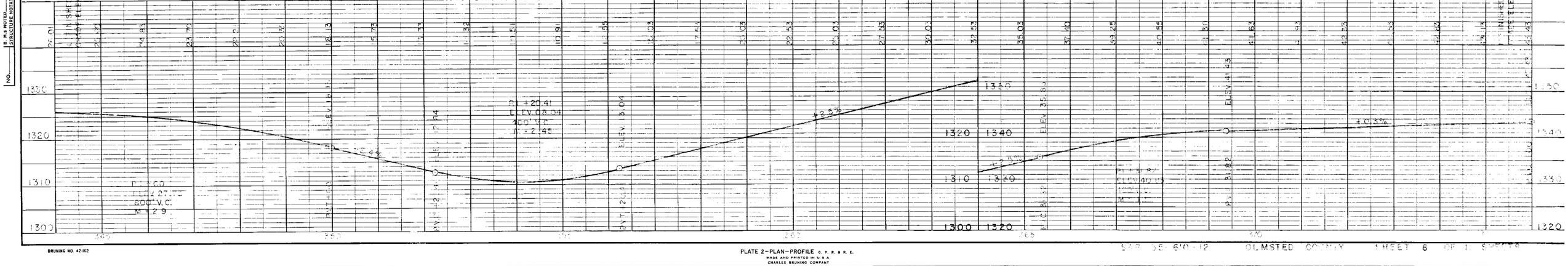
RES. DR. RT. 358+56
CONST. 2" BITUMINOUS APPROACH

F.E. RT. 360+99
CONST. AGGREGATE SURFACE

TWP. RD. RT. 368+28
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE

B.M. ELEV. 1314.00
SPK. IN PP. 55' LT.
STA. 352+50

B.M. ELEV. 1343.37
SPK. IN PP. 55' LT.
STA. 369+14



BRUNING NO. 42-162

PLATE 2—PLAN—PROFILE C. P. R. & R. E.
MADE AND PRINTED IN U. S. A.
CHARLES BRUNING COMPANY

S.A.P. 55-610-12 OLMSTED COUNTY SHEET 6 OF 7 SHEETS

DOUBLE F.E. LT. 377+91
CONST. AGGREGATE SURFACE

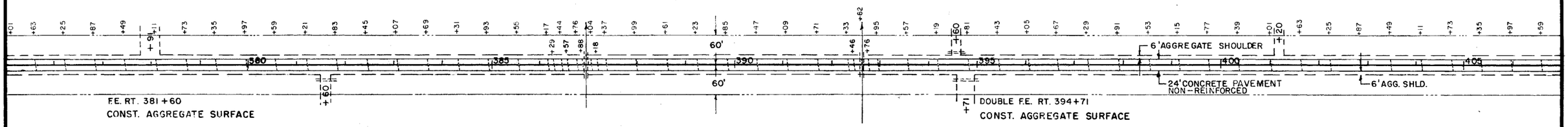
℄ CULV. 386+96
INPL. 30"x 62' R.C.P.
CONST. 16' REINFORCED PANELS
STA. 386+88 TO STA. 387+04.

℄ CULV. 392+62
INPL. 30"x 62' R.C.P.
CONST. 16' & 14' REINFORCED
PANELS STA. 392+46
TO STA. 392+76

F.E. LT. 394+60
CONST. AGGREGATE SURFACE

F.E. LT. 401+20
CONST. AGGREGATE
SURFACE

Fed. Proj. No.

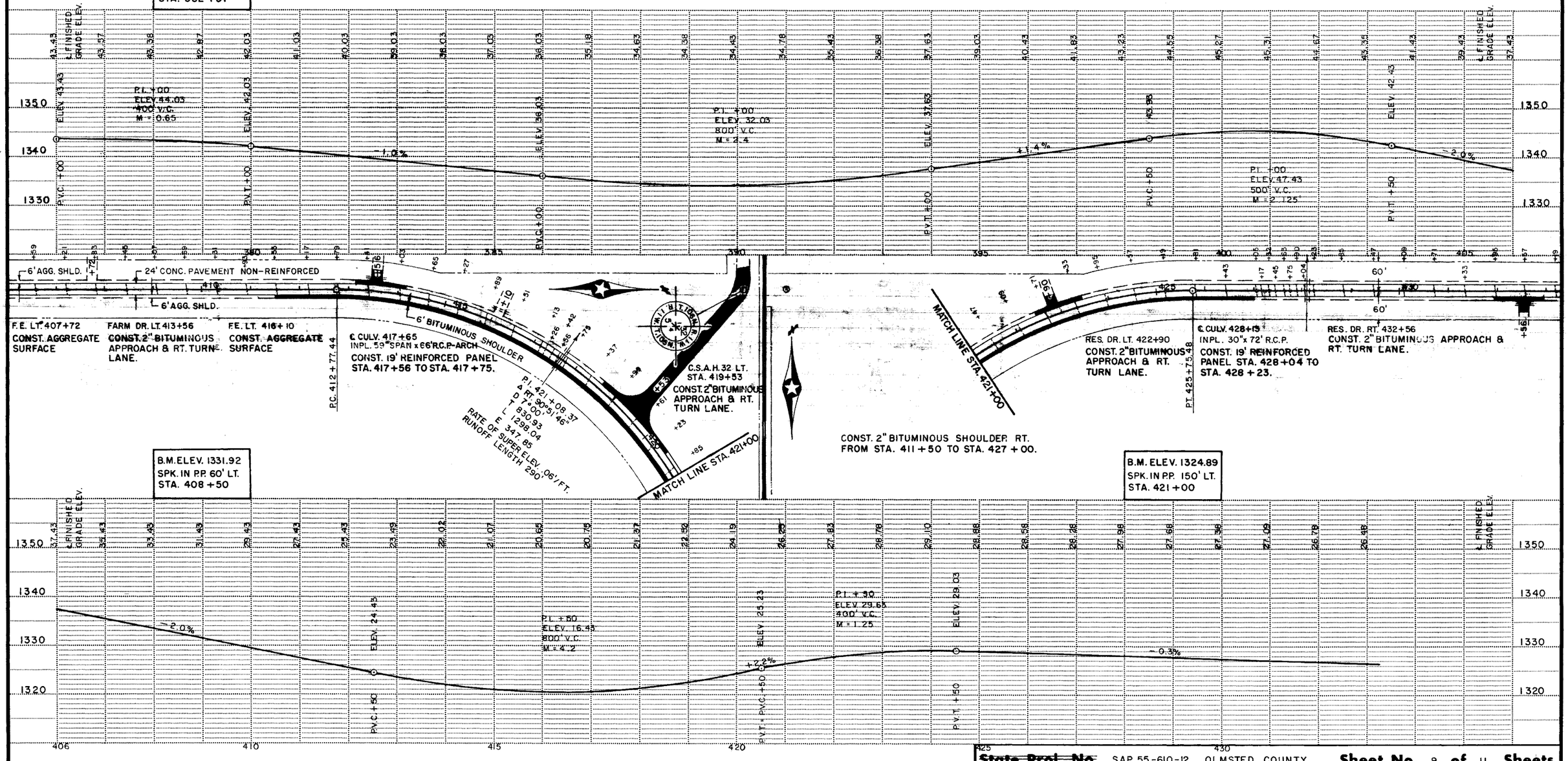


F.E. RT. 381+60
CONST. AGGREGATE SURFACE

DOUBLE F.E. RT. 394+71
CONST. AGGREGATE SURFACE

NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 19' UNLESS OTHERWISE SHOWN.

B.M. ELEV. 1038.85
SPK. IN P.P. 63' LT.
STA. 382+37



F.E. LT. 407+72
CONST. AGGREGATE SURFACE

FARM DR. LT. 413+56
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

F.E. LT. 416+10
CONST. AGGREGATE SURFACE

CONST. 2" BITUMINOUS SHOULDER RT.
FROM STA. 411+50 TO STA. 427+00.

B.M. ELEV. 1331.92
SPK. IN P.P. 60' LT.
STA. 408+50

B.M. ELEV. 1324.89
SPK. IN P.P. 150' LT.
STA. 421+00

Fed. Proj. No.

T.W.P. RD. LT. 443+81
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

℄ CULV. 446+75
INPL. 24"x62'R.C.P.
CONST. 19' REINFORCED PANEL STA. 445+64 TO STA. 445+83.

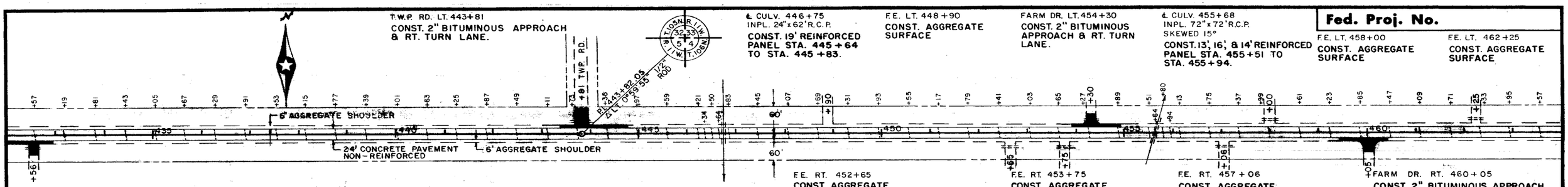
F.E. LT. 448+90
CONST. AGGREGATE SURFACE

FARM DR. LT. 454+30
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

℄ CULV. 455+68
INPL. 72"x72'R.C.P.
SKEWED 15°
CONST. 13', 16', & 14' REINFORCED PANEL STA. 455+51 TO STA. 455+94.

F.E. LT. 458+00
CONST. AGGREGATE SURFACE

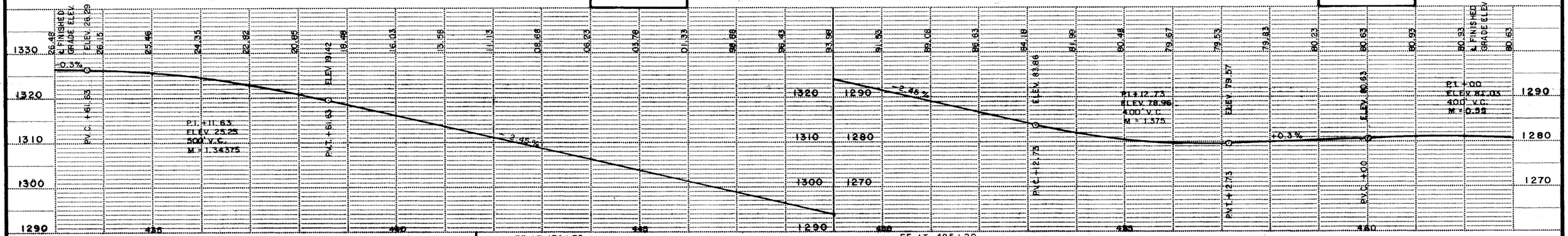
F.E. LT. 462+25
CONST. AGGREGATE SURFACE



NOTE: C5-1 CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 19' & 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 19' UNLESS OTHERWISE SHOWN.

B.M. ELEV. 1303.03
SPK. IN P.P. 50' LT.
STA. 444+12

B.M. ELEV. 1282.44
SPK. IN P.P. 58' LT.
STA. 460+00



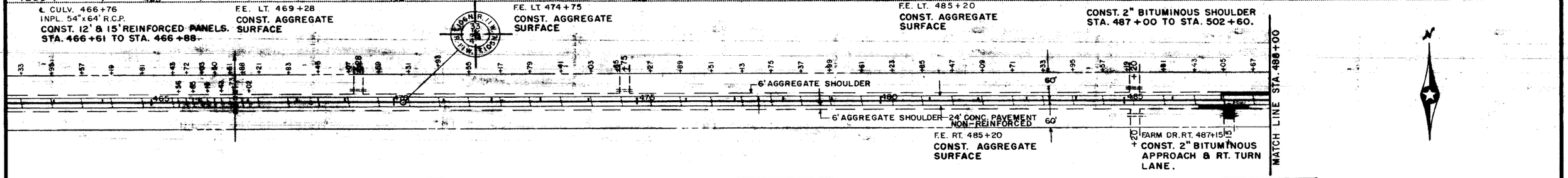
℄ CULV. 466+76
INPL. 54"x64' R.C.P.
CONST. 12' & 15' REINFORCED PANELS. STA. 466+61 TO STA. 466+88.

F.E. LT. 469+28
CONST. AGGREGATE SURFACE

F.E. LT. 474+75
CONST. AGGREGATE SURFACE

F.E. LT. 485+20
CONST. AGGREGATE SURFACE

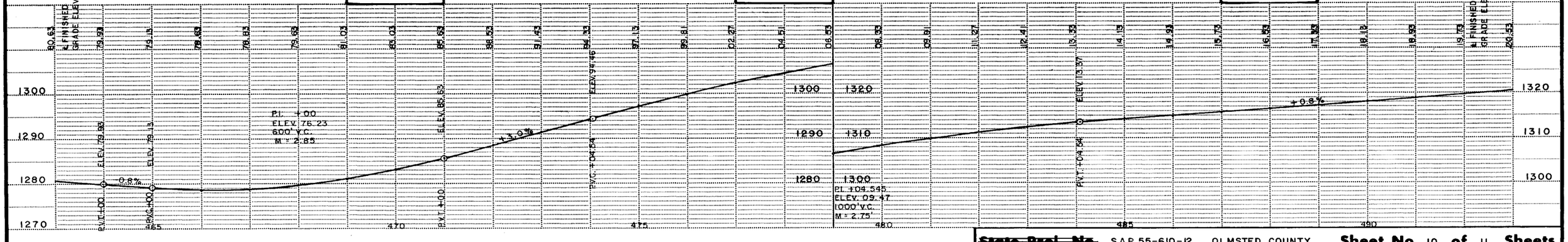
CONST. 2" BITUMINOUS SHOULDER STA. 487+00 TO STA. 502+60.



B.M. ELEV. 1283.99
SPK. IN P.P. 60' LT.
STA. 471+00

B.M. ELEV. 1302.58
SPK. IN P.P. 60' LT.
STA. 479+25

B.M. ELEV. 1312.85
SPK. IN P.P. 40' LT.
STA. 487+21



State Proj. No. SAP 55-610-12 OLMSTED COUNTY **Sheet No.** 10 **of** 11 **Sheets**

Fed. Proj. No.

C.S.A.H. 30 494+98
CONST. 2" BITUMINOUS APPROACH & RT. TURN LANE.

P.C. 488+41.64

PI. 496+55.39
Δ LT. 89° 39'56"
D 7° 00'
T 813.75
L 1280.94

F.E. LT. 499+55
CONST. AGGREGATE SURFACE

PT 501+22.58

℄ CULV. 503+82
INPL. 24"x 78' C.S.P.
CONST. 14.5' REINFORCED PANEL & 30" TEMPORARY HEADER JOINT STA. 503+63 TO STA. 503+80.

STA. 503+80.00
POT 503+80.0
POT 400+56.57 =
END CONCRETE PAVEMENT
BEGIN BITUMINOUS SURFACE

6' BITUMINOUS SHOULDER
24' CONCRETE PAVEMENT NON-REINFORCED
6' AGGREGATE SHOULDER

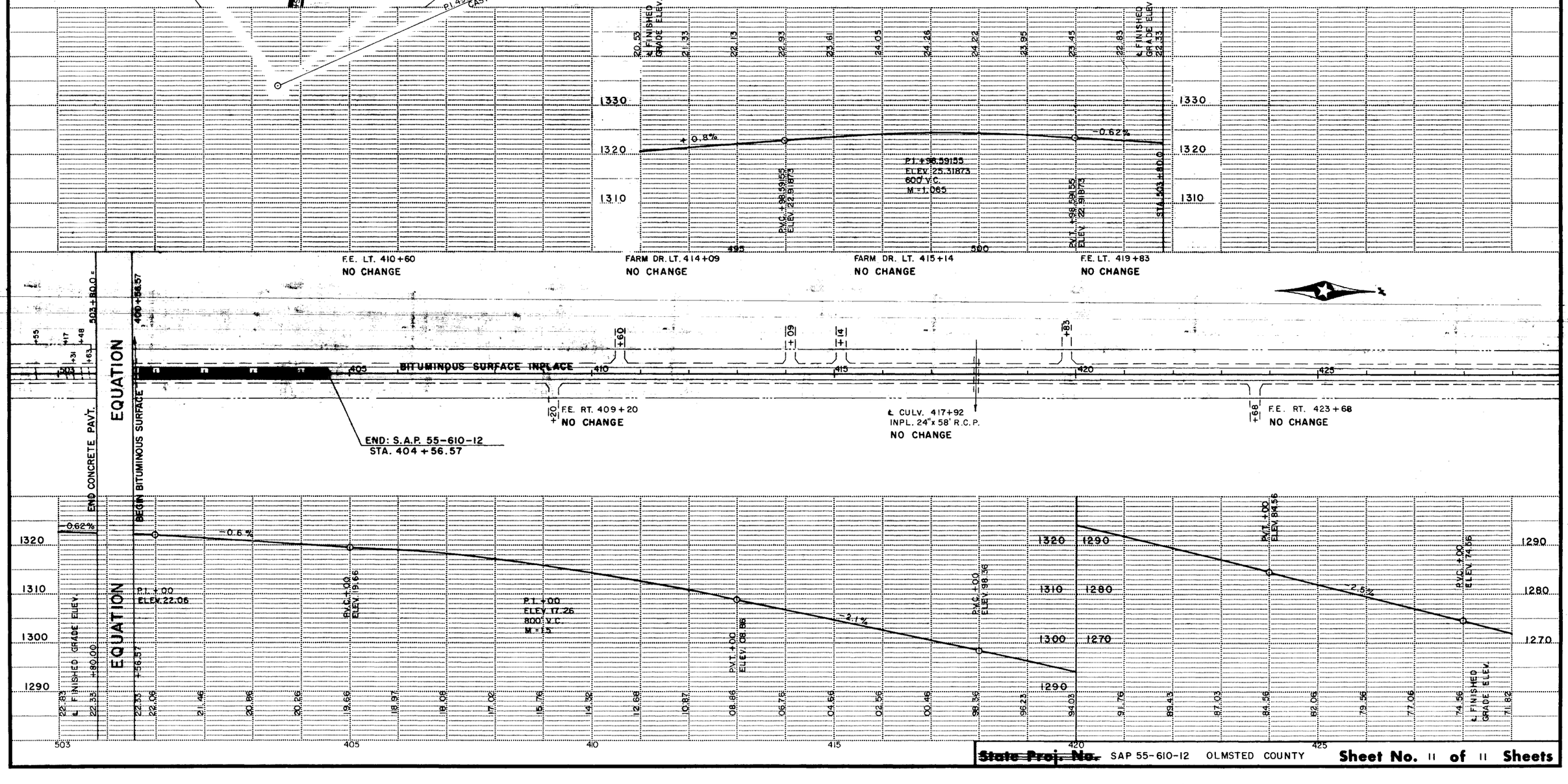
℄ CULV. 489+73
INPL. 30"x 70' R.C.P.
CONST. 16' REINFORCED PANEL. STA. 489+66 TO STA. 489+82

T.106N. R.11W. SEC. 34 S.W. 1/4 S.W. 1/4 S.E. 1/4 1105 M.

F.E. RT. 499+55
CONST. AGGREGATE SURFACE

T.S.A.H. 30

PI. 496+55.39 ℄ LT. 89°39'56"
CAST IRON MONUMENT



State Proj. No. SAP 55-610-12 OLMSTED COUNTY **Sheet No.** 11 **of** 11 **Sheets**