

STATE OF INDIANA
INDIANA STATE HIGHWAY COMMISSION

PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY
ST-F-PROJECT 85 (19) P.E.
FT-F PROJECT NO. 85 (28) R/W
(29) CONST.
ST-F-PROJECT 85 (29) UTIL.

BEGINNING AT A POINT APPROXIMATELY 1567 FEET EAST AND 2471.18 FEET SOUTH OF THE NORTHWEST CORNER OF SECTION 14, T29N, R3E AND EXTENDING NORTHERLY 32,950.0 FEET TO A POINT 682' NORTH AND 1044' WEST OF THE SOUTHEAST CORNER OF THE SW 1/4 OF SECTION 16, T30N, R3E IN MIAMI AND FULTON COUNTIES.

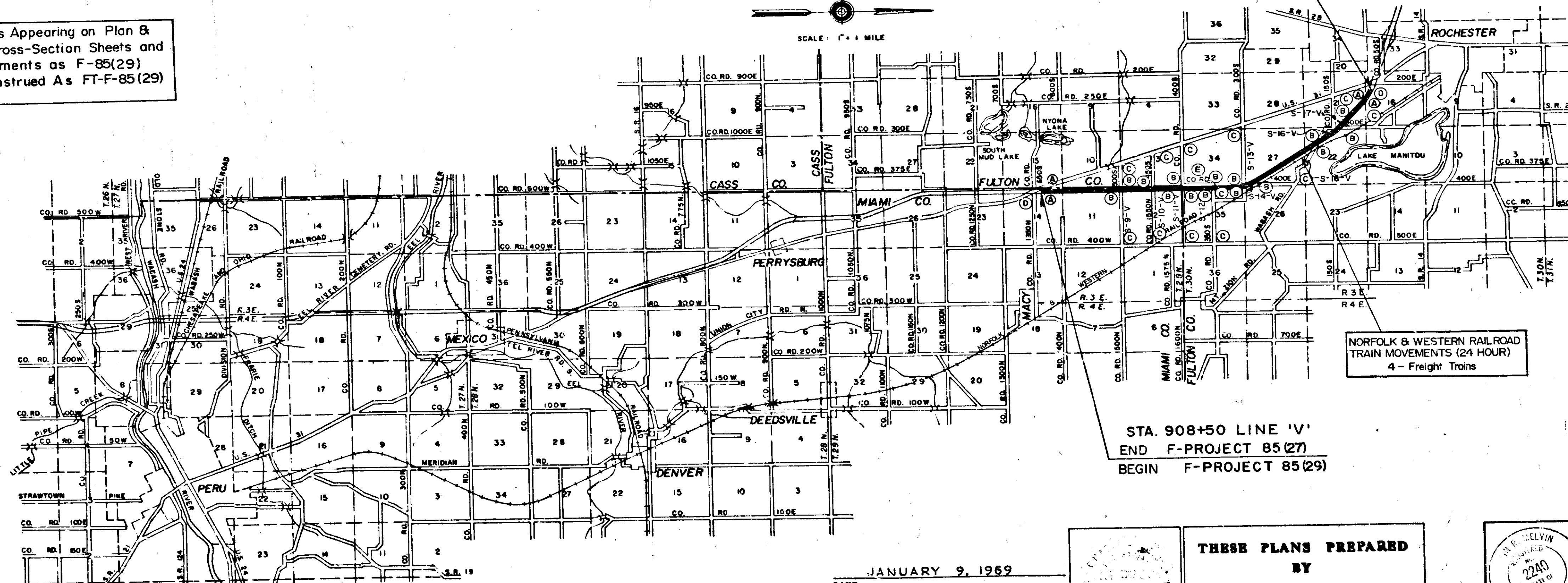
GROSS LENGTH: 6.240 MI.
NET LENGTH: 6.240 MI.

PLAN (LONG: 1"=100' TRANS: 1"=100') PROFILE (HORIZ: 1"=100' VERT: 1"=10')

MAX. GRADE 1.14 %



ALL Project Nos. Appearing on Plan & Profile, Detail, Cross-Section Sheets and Contract Documents as F-85(29) Are To Be Construed As FT-F-85(29)



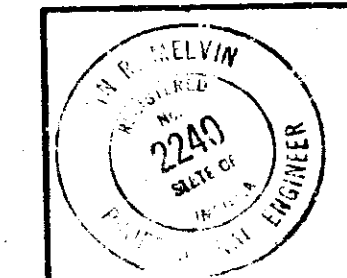
STA. 1238+00 LINE 'V'
END F-PROJECT 85(29)
BEGIN ST-F-PROJECT 85(21)

STA. 908+50 LINE 'V'
END F-PROJECT 85(27)
BEGIN F-PROJECT 85(29)

INDIANA STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS DATED 1971
TO BE USED WITH THESE PLANS.

DATE JANUARY 9, 1969
REGISTERED PROFESSIONAL ENGINEER
STATE OF INDIANA NO. 3653

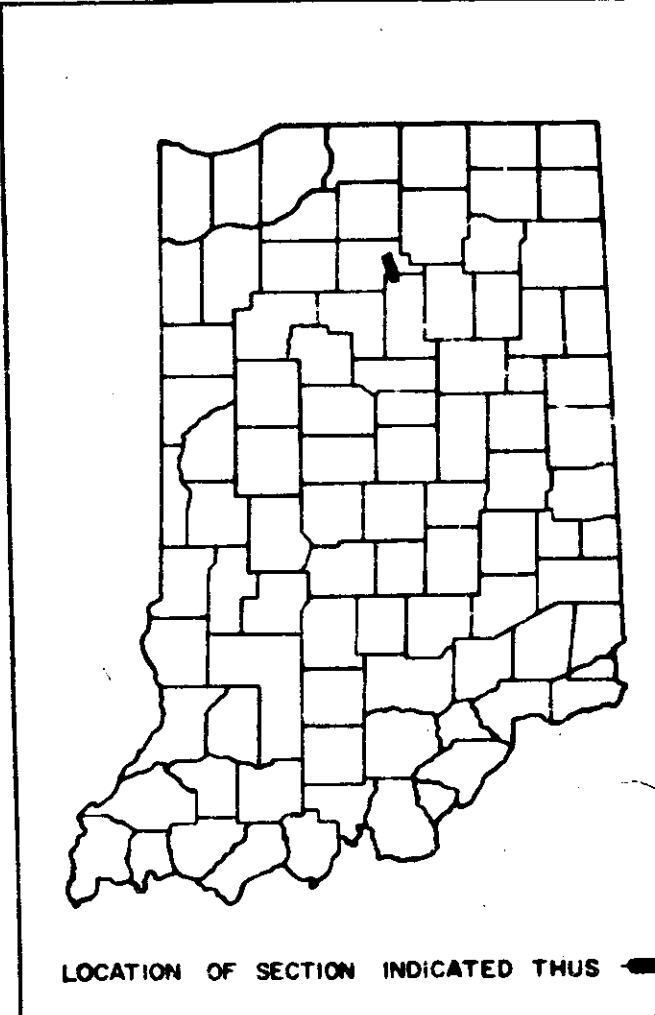
THESE PLANS PREPARED BY
CHAS. W. COLE & SON
INCORPORATED
SOUTH BEND, INDIANA



FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION
APPROVED _____
DIVISION ENGINEER DATE _____
ROAD FILE: _____

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-85(29)		1	157

DESIGN DATA		
ADT (1971)	5250	V.P.D.
ADT (1991) PROJECTED	9950	V.P.D.
D.H.V. (1991)	1239	V.P.H.
DIRECTIONAL DISTRIBUTION	66-34 %	
TRUCKS DHV	8 %	ADT 19 %
DESIGN SPEED	70	M.P.H.
ACCESS CONTROL	PARTIAL	



- LEGEND
- (A) BARRICADE TYPE "III"
 - (B) BARRICADE TYPE "II"
 - (C) CONSTRUCTION SIGN TYPE "A"
 - (D) CONSTRUCTION IDENTIFICATION SIGN
 - (E) STD. SIGN M-29 (PERMANENT)

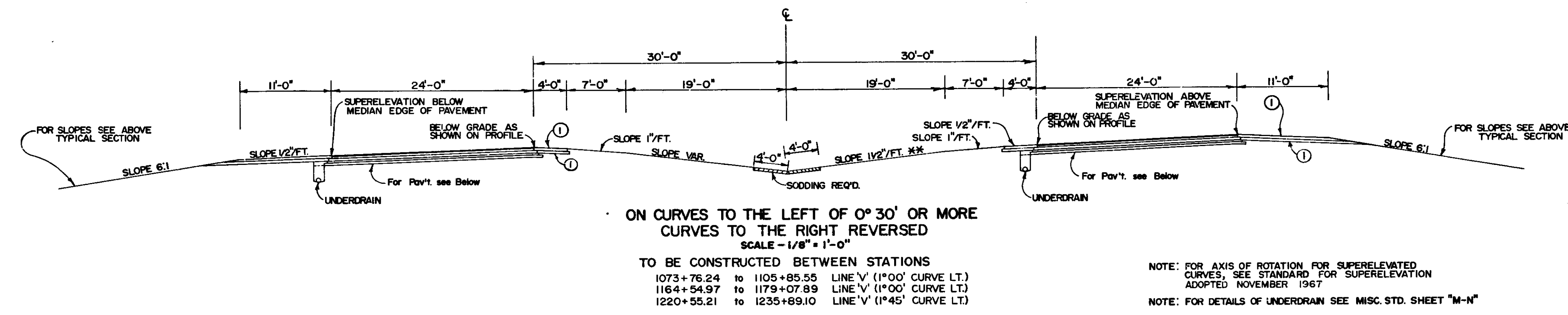
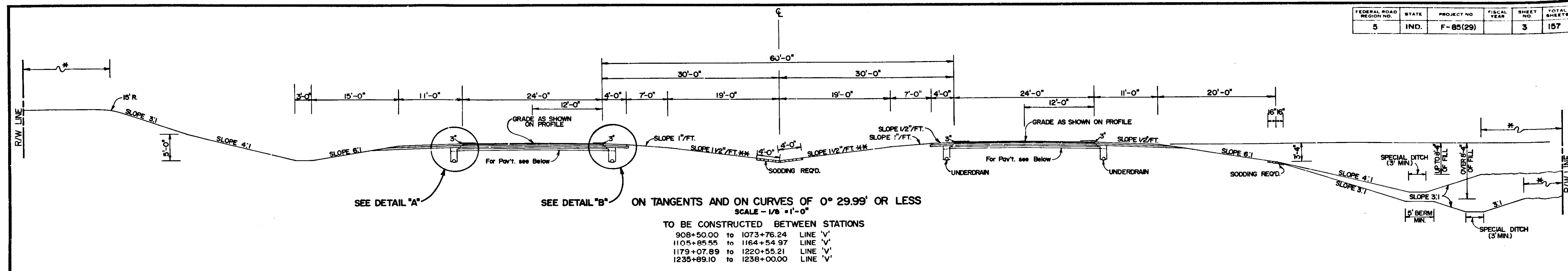
RECOMMENDED FOR APPROVAL 1-12-69
Robert C. Savard
ASSISTANT ENGINEER OF PLANS AND SPECIFICATIONS

RECOMMENDED FOR APPROVAL 2-13-69
James D. ...
ENGINEER OF PLANS AND SPECIFICATIONS - INDIANA STATE HIGHWAY COMMISSION

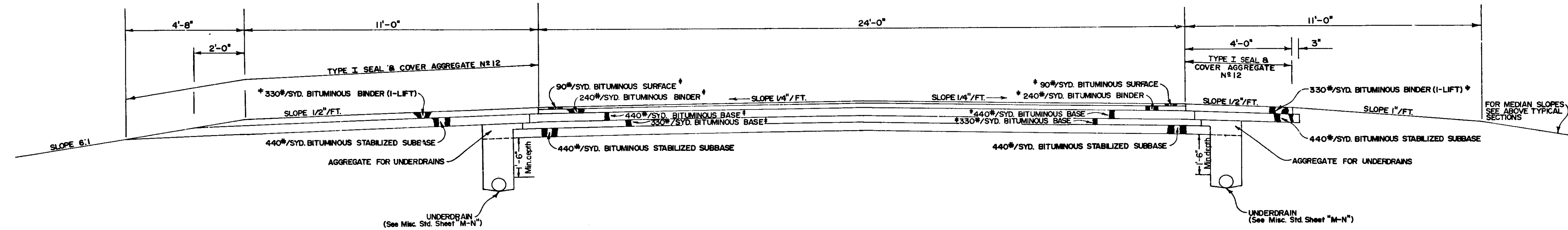
APPROVED 2-19-69
Chas. W. Cole
ENGINEER - INDIANA STATE HIGHWAY COMMISSION

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
F-85(29)	V	1	157	

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-85(29)		3	157



LEGEND
* MINIMUM DESIRABLE DISTANCE 15' FOR 145' R/W (290' TOTAL)
** MINIMUM SLOPE 1" PER FOOT
MAXIMUM SLOPE 2" PER FOOT
① SLOPE 1/2"/FT. FOR 0° 30' TO 1° 29.99'
SLOPE 1/4"/FT. FOR 1° 30' TO 1° 59.99'
SLOPE 0"/FT. FOR 2° 00' AND OVER



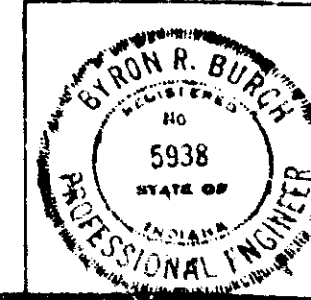
* BITUMINOUS SURFACE TO BE H.A.E. SURFACE TYPE III or H.A.C. SURFACE TYPE B
* BITUMINOUS BINDER TO BE #9 H.A.E. BINDER or H.A.C. BINDER
* BITUMINOUS BASE TO BE #4 OR #5 H.A.E. BASE or H.A.C. BASE

TYPICAL CROSS SECTIONS

SCALE: AS SHOWN

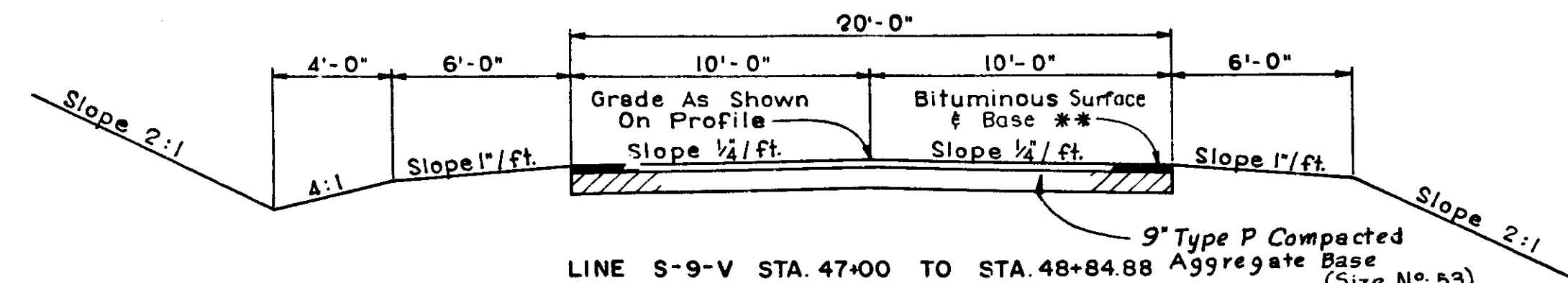
RECOMMENDED FOR APPROVAL 8-14-72

Byron R. Burch
PROFESSIONAL ENGINEER

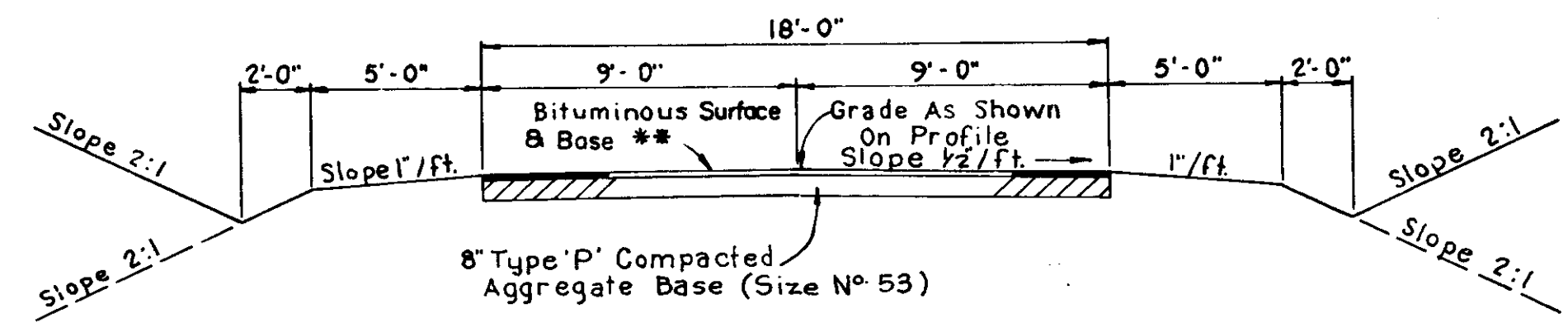


PROJECT NO.	LINE	SHEET	TOTAL SHEETS	FILE
F-85(29)		3	157	

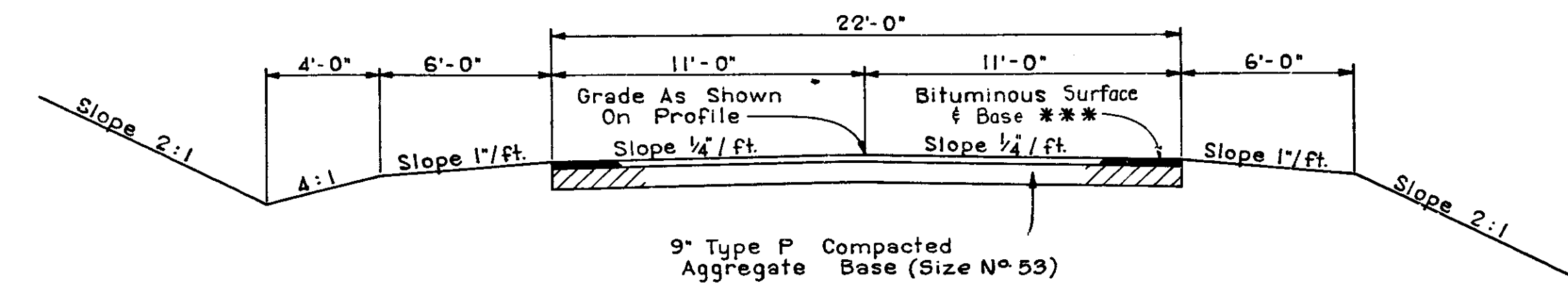
FED. ROAD REGION NO.	STATE	PRO. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-83 (29)		4	157



LINE S-9-V STA. 47+00 TO STA. 48+84.88
 STA. 51+21.39 TO STA. 52+00
 LINE S-10-V STA. 47+50 TO STA. 48+84.88
 STA. 51+15.13 TO STA. 52+00
 LINE S-11-V STA. 47+50 TO STA. 48+79
 STA. 51+21 TO STA. 52+00
 LINE S-12-V STA. 51+21.13 TO STA. 54+00
 LINE S-13-V STA. 48+00 TO STA. 48+61.52
 STA. 51+36.17 TO STA. 52+50
 LINE S-14-V-PR. STA. 50+10.62 TO STA. 55+50
 LINE S-15-V-PR. STA. 45+00 TO STA. 49+27.52

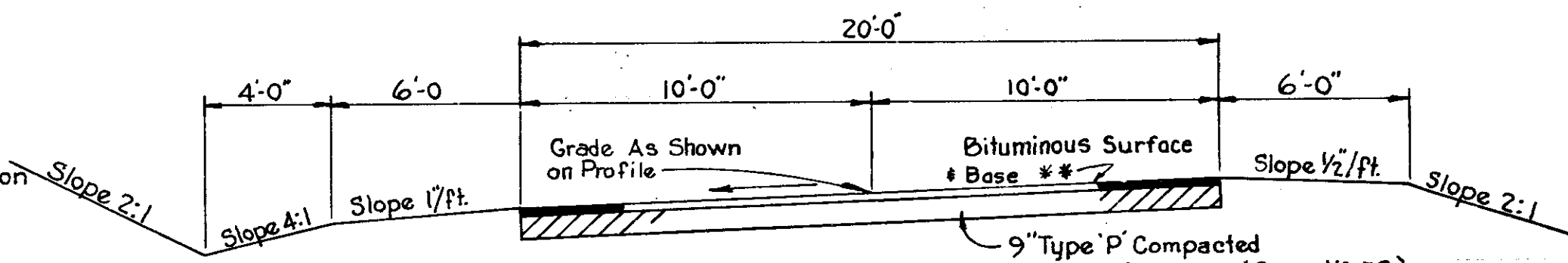


CO. ROAD 400E, RELOCATED
 STA. 1036+81.21 TO STA. 1049+50



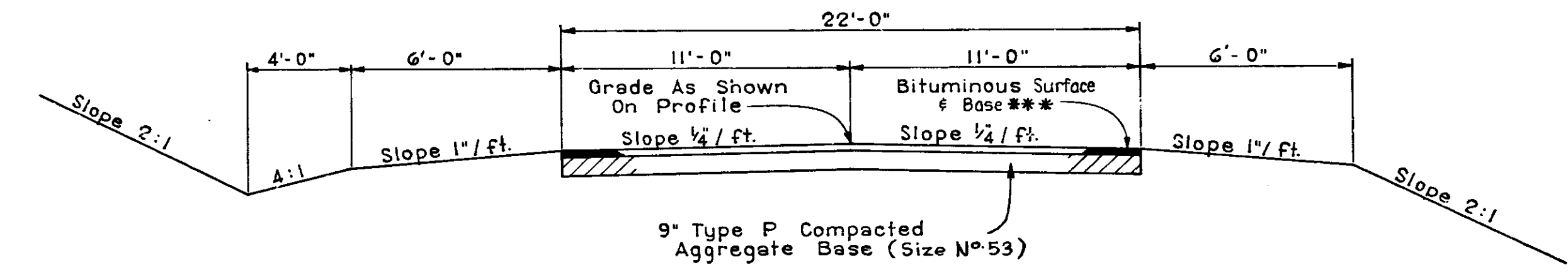
LINE S-17-V -PR-1 STA. 48+00 TO STA. 48+52.13

*** BITUMINOUS SURFACE & BASE
 90% S.Y. Hot Asphaltic Conc. Surface Type B on
 295% S.Y. Hot Asphaltic Conc. Base
 or
 90% S.Y. Hot A.E. Surface Type III on
 295% S.Y. Hot A.E. Base

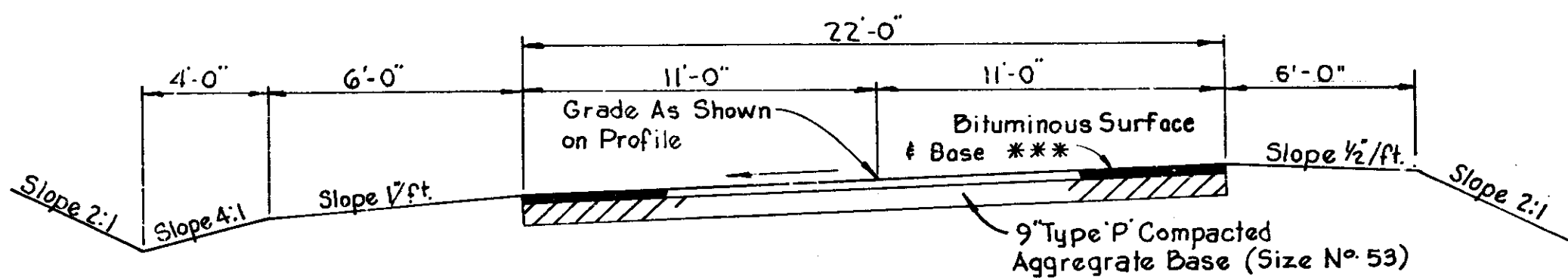


LINE S-14-V-PR. STA. 55+50 TO STA. 58+35.82
 LINE S-16-V-(LT)PR. STA. 45+32.66 TO STA. 48+53

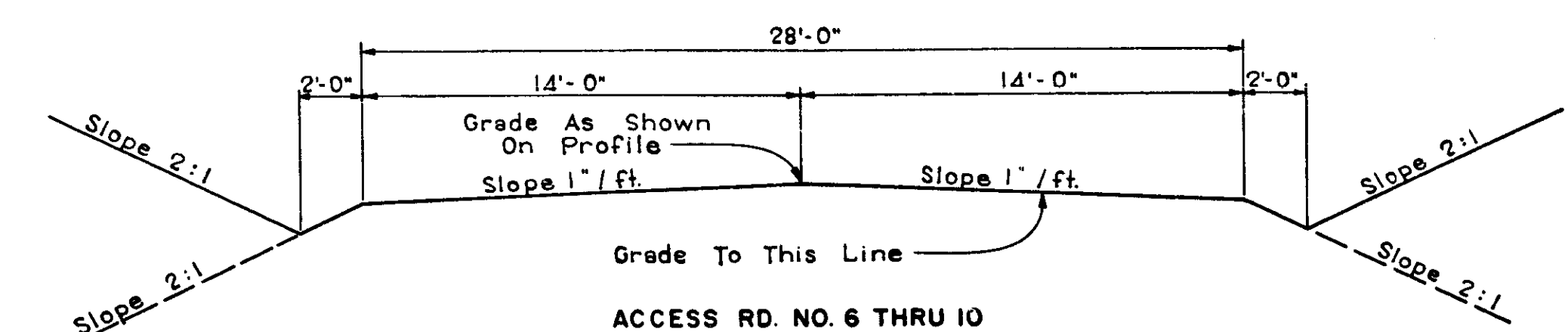
LINE S-17-V-PR-2 STA. 45+00 TO STA. 49+27.52



LINE S-16-V (RT)PR. STA. 51+20.64 TO STA. 51+50

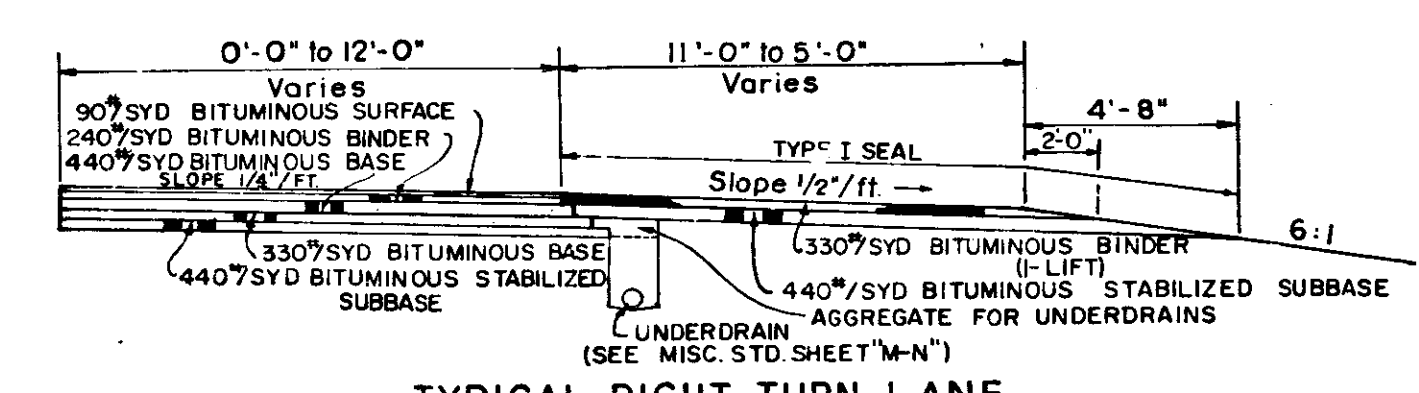


LINE S-17-V-PR.1 STA. 43+49.08 TO STA. 48+00
 LINE S-17-V-RR.1 STA. 51+30 TO STA. 53+72.71
 LINE S-16-V (RT)PR. STA. 51+50 TO STA. 55+89.18



Grade To This Line
 ACCESS RD. NO. 6 THRU 10

(H) Bituminous Mixture For Approaches (See Detail Sheets)
 110% S.Y. Hot Asphaltic Conc. Surface Type B on
 220% S.Y. (or more) Hot Asphaltic Conc. Base.
 Or
 110% S.Y. Hot A.E. Surface Type III on
 220% S.Y. (or more) Hot A.E. Base



TYPICAL RIGHT TURN LANE

TYPICAL CROSS SECTIONS

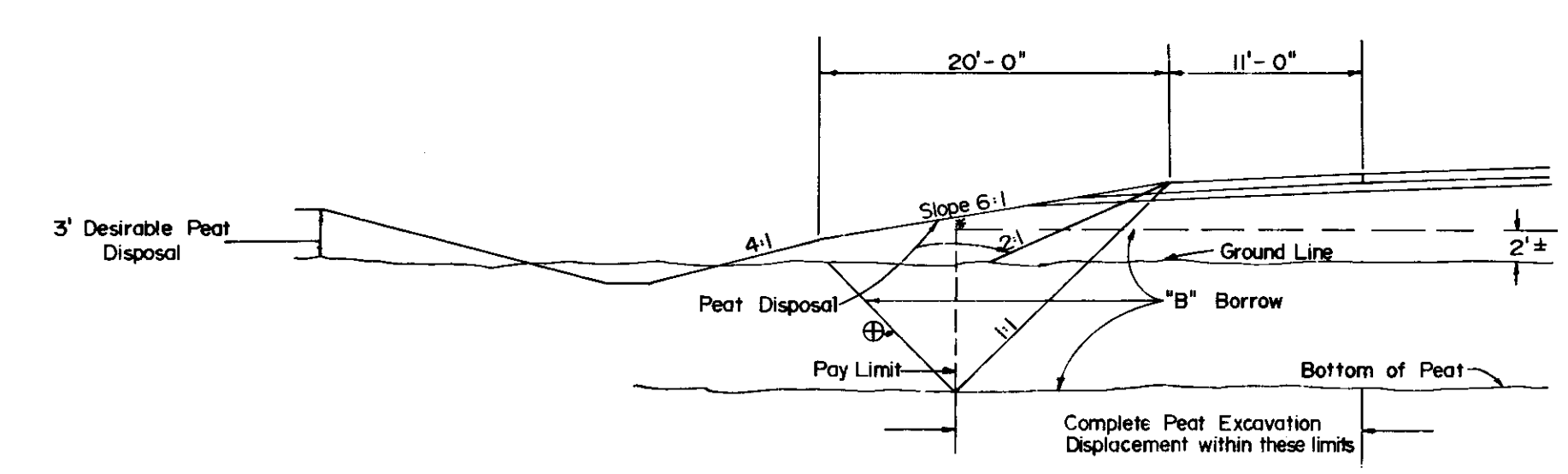
SCALE: 1/4" = 1'-0"

RECOMMENDED FOR APPROVAL *W.A. Behrens* 2-12-69
 ENGINEER OF ROAD DESIGN - INDIANA STATE HIGHWAY COMMISSION

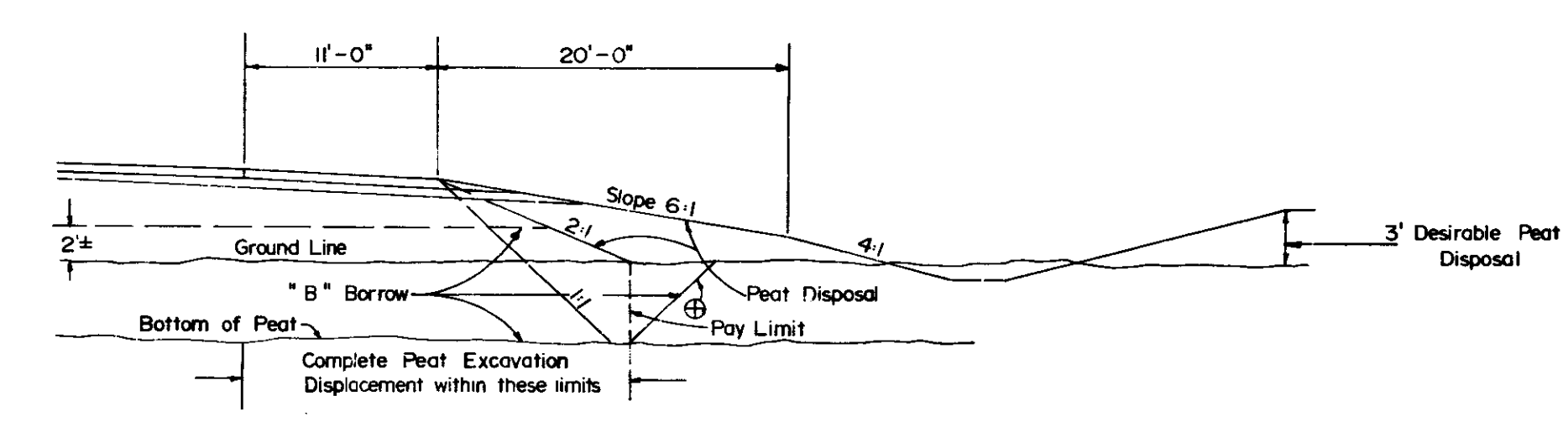
SEE SHEET 5 FOR PEAT EXCAVATION DETAIL

PROJ.	LINE	SHEET	TOTAL
F-83(29)		4	157

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-85(29)		5	157



METHOD 'A'



METHOD 'B'

- * When this point is within a 2:1 slope from shoulder, use Method B
- ⊕ This line not to be shown on Cross Sections 'B' Borrow estimated on basis of 1:1 slope plus 5%

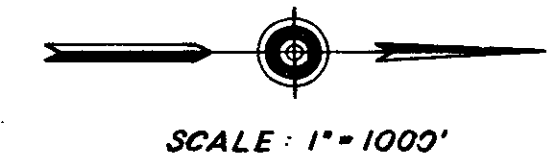
Vertical line for Peat Excavation (Pay Limit) to be established by the 1:1 slope as shown in Method A or by the 2:1 fill slope as shown in Method B. The method selected should provide for the 2:1 fill slope to always be fully supported by the 'B' Borrow.

PEAT EXCAVATION, BACKFILL & DISPOSAL METHODS

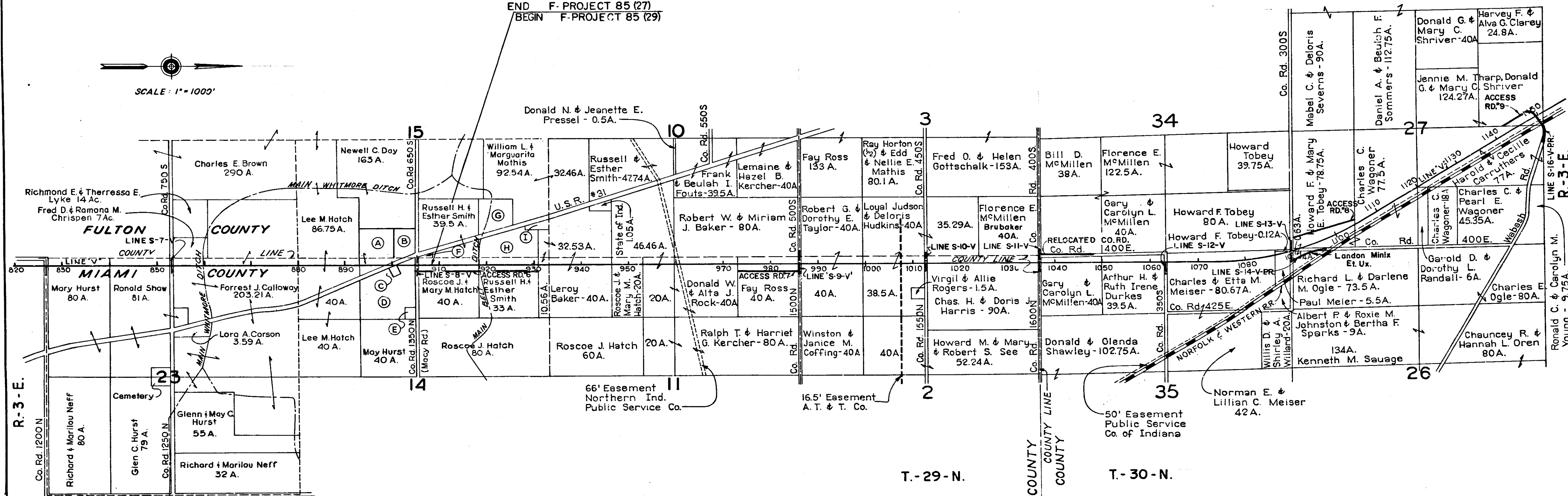
DETAILS

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
F-85(29)		5	157	

FED. ROAD REGION NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F 85(29)		6	157



STA. 908+50 LINE 'V'
 END F-PROJECT 85 (27)
 BEGIN F-PROJECT 85 (29)



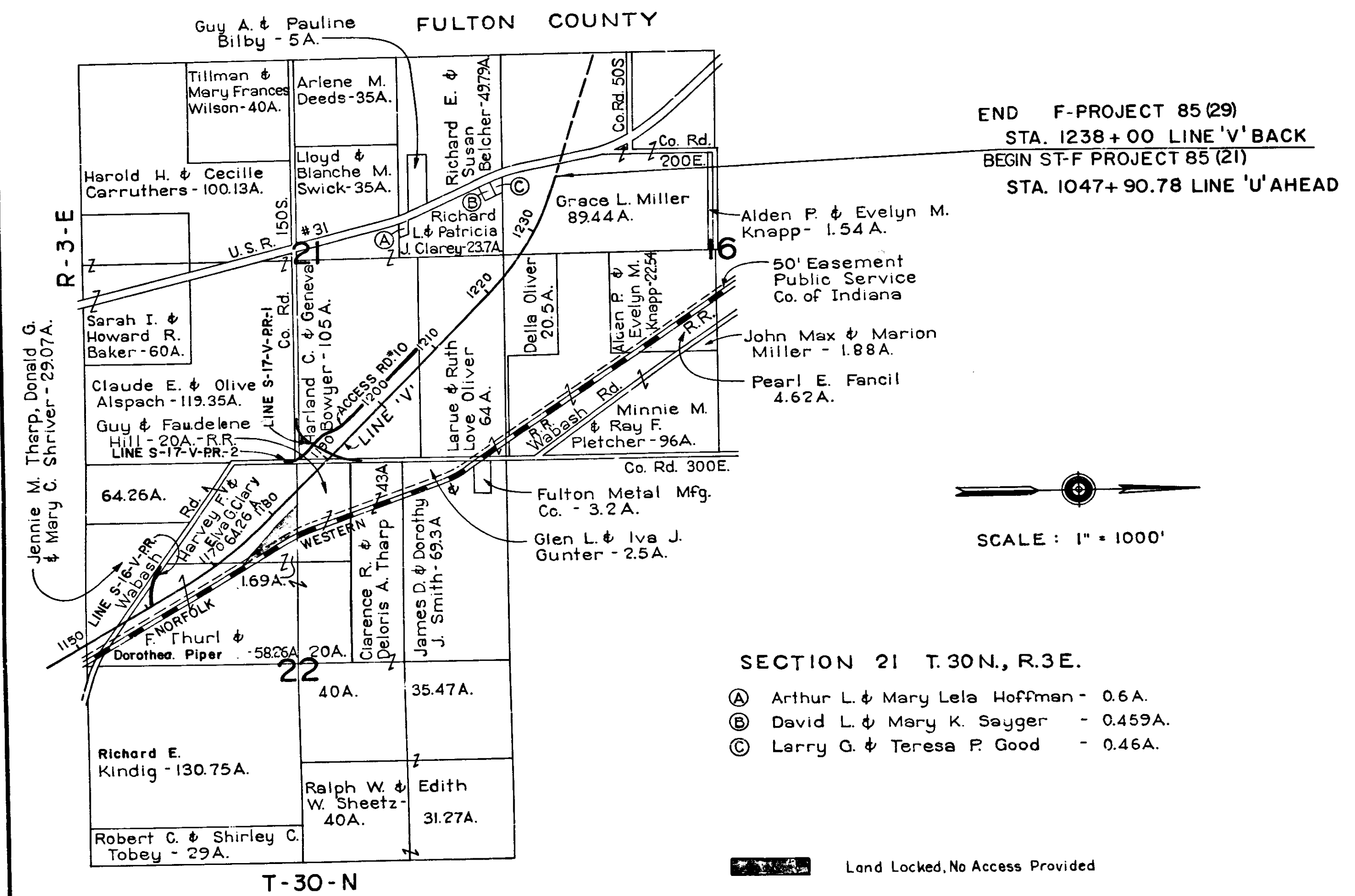
- (A) J.S. Gleason, Administrator Veterans Affairs 17.88 A.
- (B) Charles R. Burns 6.51 A.
- (C) Ralph & Judy Ously 0.5 A.
- (D) Richard & Suzanne & Mickey E. Belcher 31.502 A.
- (E) Emily J. & Madie Oberg 0.998 A.
- (F) Harvey N. & Glenn H. Smith 0.5 A.
- (G) Bloice & Maude Reynolds 11.68 A.
- (H) Robert & Cora L. Burns 16.18 A.
- (I) Mud Creek Church & Cemetery - 1A

PLAT #1
 FOR DESIGN DEPT.
DETAILS

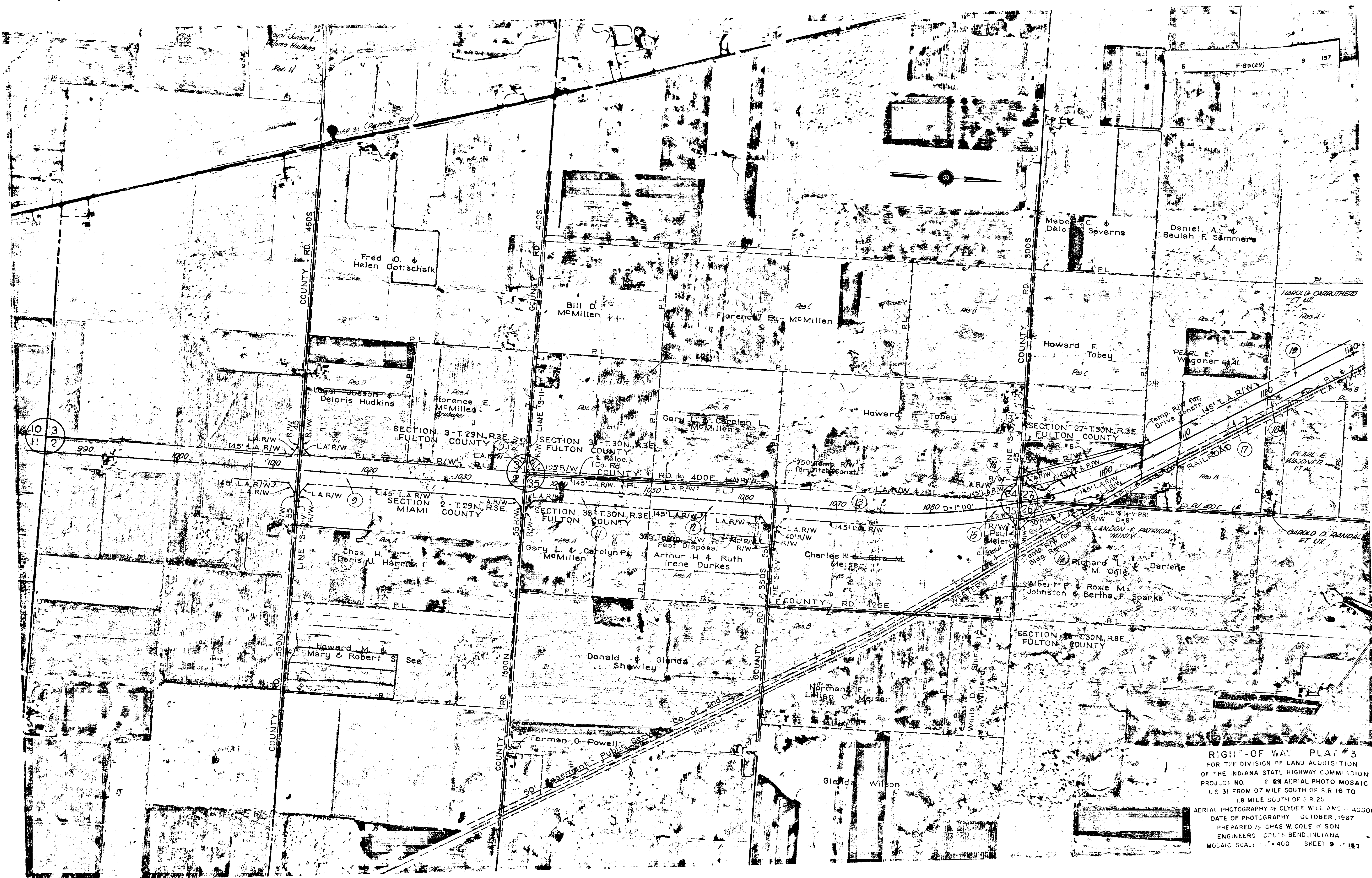
Book 119/69

PROJ.	LINE	SHEET	FILE
F 85(29)	V	6	

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-85 (29)		7	157



PLAT #1
FOR DESIGN DEPT.
DETAILS

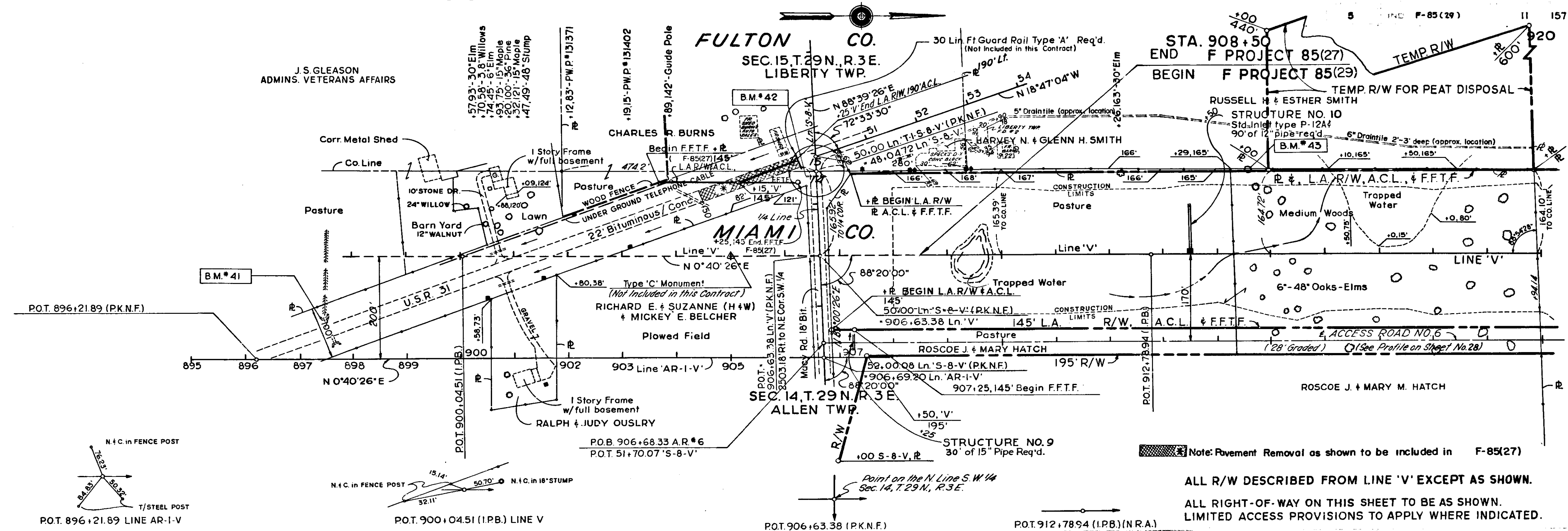


RIGHT-OF-WAY PLAT #3
 FOR THE DIVISION OF LAND ACQUISITION
 OF THE INDIANA STATE HIGHWAY COMMISSION
 PROJECT NO. 23 AERIAL PHOTO MOSAIC
 U.S. 31 FROM 07 MILE SOUTH OF S.R. 16 TO
 18 MILE SOUTH OF S.R. 25
 AERIAL PHOTOGRAPHY BY CLYDE E. WILLIAMS, A-4330C
 DATE OF PHOTOGRAPHY OCTOBER, 1967
 PREPARED BY CHAS. W. COLE & SON
 ENGINEERS, SOUTH BEND, INDIANA
 MOSAIC SCALE 1" = 400' SHEET 9 OF 157

STA. 1238+00 LINE 'V' END F PROJECT 85(28)
= STA. 1047+90.78 LINE 'U' BEGIN F PROJECT 85(20)

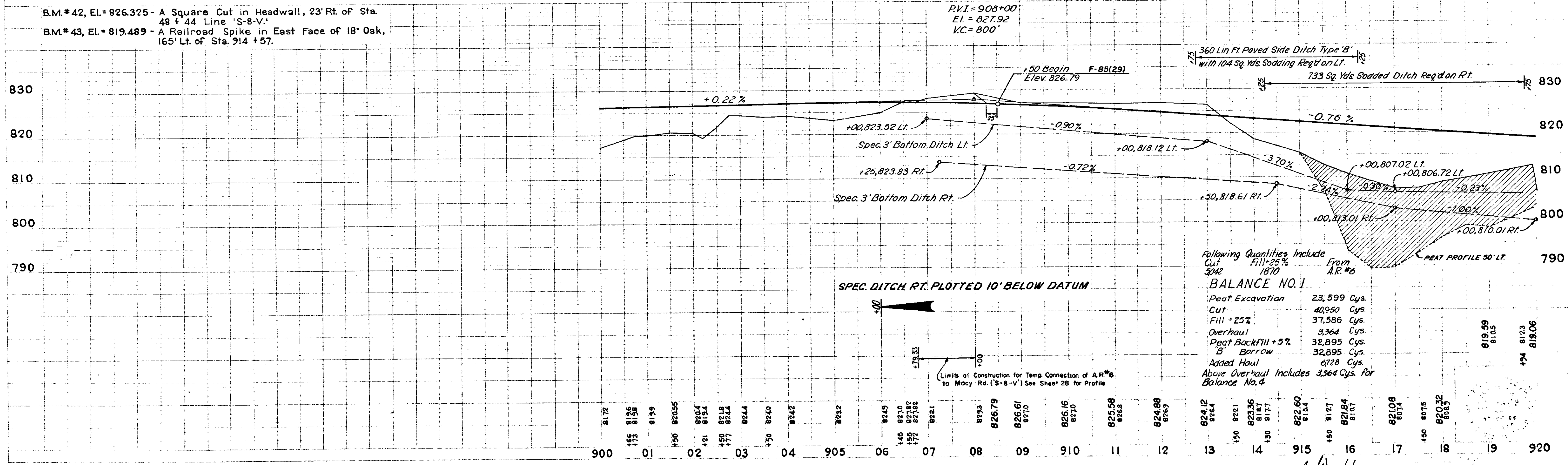


RIGHT-OF-WAY PLAT #3
FOR THE DIVISION OF LAND ACQUISITION
OF THE INDIANA STATE HIGHWAY COMMISSION
PROJECT NO. 85(28) AERIAL PHOTO MOSAIC
U.S. 31 FROM 0.7 MILE SOUTH OF S.R. 16 TO
1.8 MILE SOUTH OF S.R. 25
AERIAL PHOTOGRAPHY BY CLYDE E. WILLIAMS & ASSOC.
DATE OF PHOTOGRAPHY OCTOBER, 1967
PREPARED BY CHAS. W. COLE & SON
ENGINEERS - SOUTH BEND, INDIANA
MOSAIC SCALE 1" = 400' SHEET 10 OF 157



Note: Pavement Removal as shown to be included in F-85(27)
 ALL R/W DESCRIBED FROM LINE 'V' EXCEPT AS SHOWN.
 ALL RIGHT-OF-WAY ON THIS SHEET TO BE AS SHOWN.
 LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

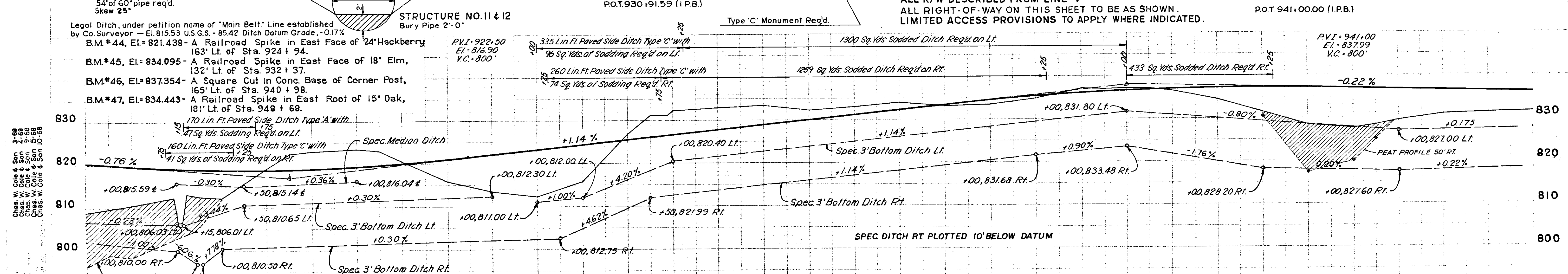
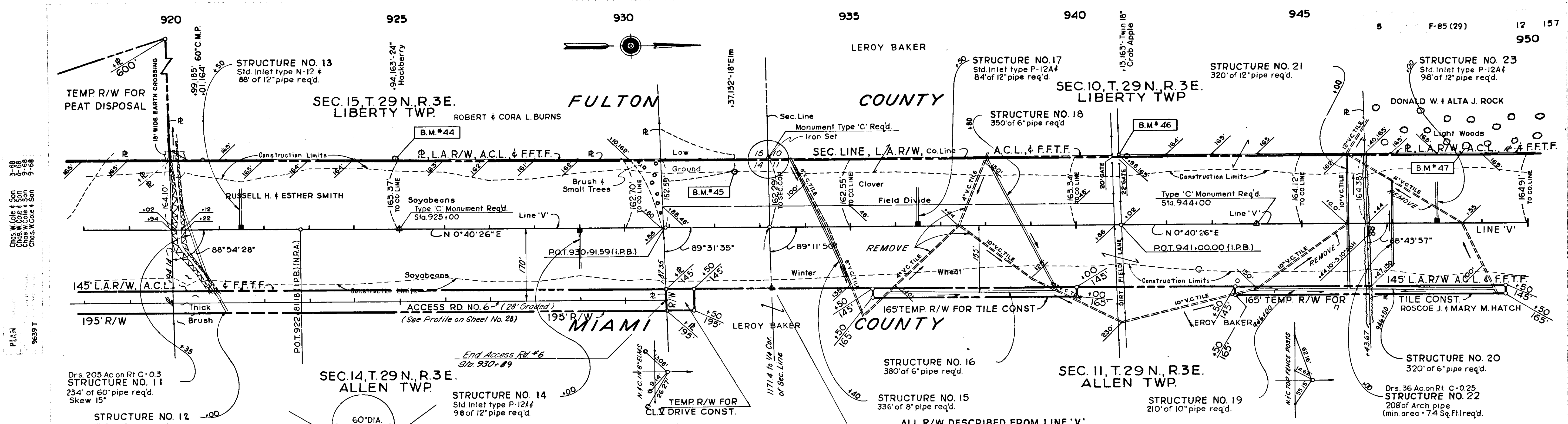
B.M.#42, El.=826.325 - A Square Cut in Headwall, 23' Rt. of Sta. 48 + 44 Line 'S-8-V.'
 B.M.#43, El.=819.489 - A Railroad Spike in East Face of 18" Oak, 165' Lt. of Sta. 914 + 57.



Following Quantities Include
 Cut Fill 25% From A.R.#6
BALANCE NO. 1
 Peat Excavation 23,599 Cys
 Cut 40,950 Cys
 Fill 25% 37,586 Cys
 Overhaul 3,364 Cys
 Peat Backfill 2% 32,895 Cys
 B' Borrow 32,895 Cys
 Added Haul 8,728 Cys
 Above Overhaul Includes 3,364 Cys. for Balance No. 4

PLAN
 9639T

PROFILE
 9640L



BALANCE NO. 2

Peat Excavation	966 Cys.	Adjacent Quantities Include	
Cut	49,880 Cys.	Cut	1438
Fill + 25%	28,402 Cys.	Fill + 25%	886
Overhaul	21,478 Cys.	From A.R. #6	0
Added Haul	5,141 Units	Approaches & Drives	
Peat Backfill + 5%	1,414 Cys.		
'B' Barrow	1,414 Cys.		

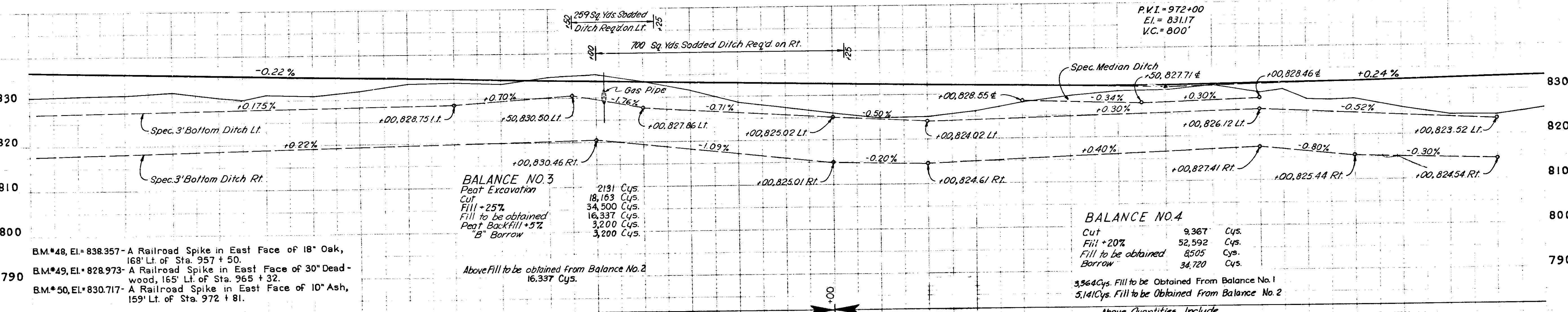
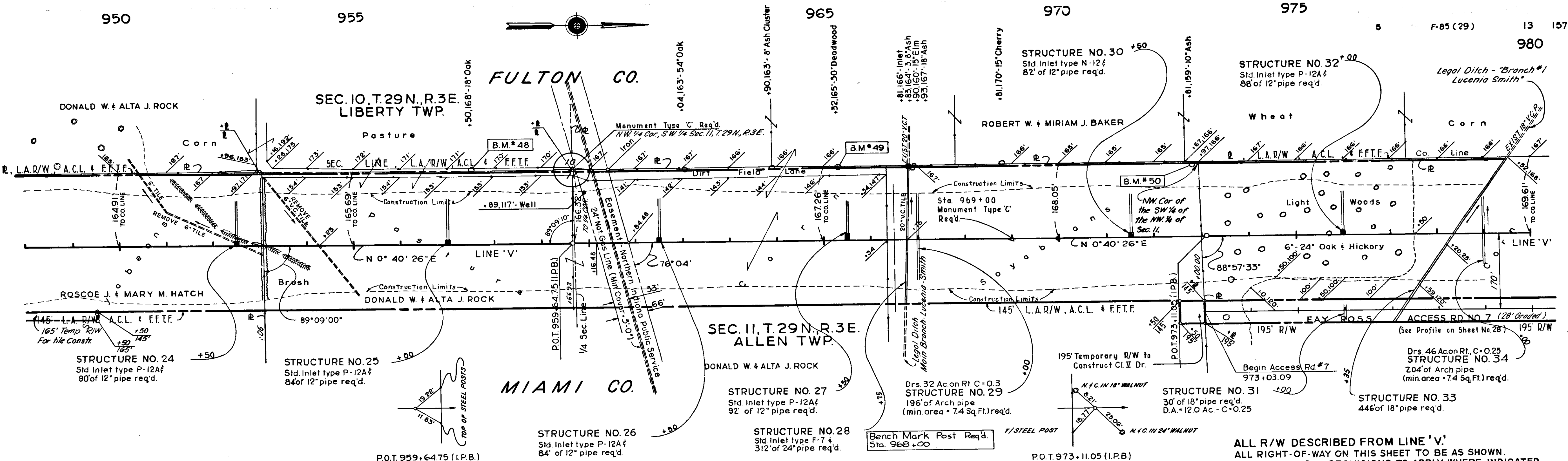
Above overhaul includes 5/41 cys. to Balance No. 4
 16,337 cys. to Balance No. 3
 Above Added Haul 5141 Units to Balance No. 4

820.32	819.59	819.06	818.53	818.00	817.47	816.94	816.41	815.88	815.35	814.82	814.29	813.76	813.23	812.70	812.17	811.64	811.11	810.58	810.05	809.52	808.99	808.46	807.93	807.40	806.87	806.34	805.81	805.28	804.75	804.22	803.69	803.16	802.63	802.10	801.57	801.04	800.51	799.98	799.45	798.92	798.39	797.86	797.33	796.80	796.27	795.74	795.21	794.68	794.15	793.62	793.09	792.56	792.03	791.50	790.97	790.44	789.91	789.38	788.85	788.32	787.79	787.26	786.73	786.20	785.67	785.14	784.61	784.08	783.55	783.02	782.49	781.96	781.43	780.90	780.37	779.84	779.31	778.78	778.25	777.72	777.19	776.66	776.13	775.60	775.07	774.54	774.01	773.48	772.95	772.42	771.89	771.36	770.83	770.30	769.77	769.24	768.71	768.18	767.65	767.12	766.59	766.06	765.53	765.00	764.47	763.94	763.41	762.88	762.35	761.82	761.29	760.76	760.23	759.70	759.17	758.64	758.11	757.58	757.05	756.52	755.99	755.46	754.93	754.40	753.87	753.34	752.81	752.28	751.75	751.22	750.69	750.16	749.63	749.10	748.57	748.04	747.51	746.98	746.45	745.92	745.39	744.86	744.33	743.80	743.27	742.74	742.21	741.68	741.15	740.62	740.09	739.56	739.03	738.50	737.97	737.44	736.91	736.38	735.85	735.32	734.79	734.26	733.73	733.20	732.67	732.14	731.61	731.08	730.55	730.02	729.49	728.96	728.43	727.90	727.37	726.84	726.31	725.78	725.25	724.72	724.19	723.66	723.13	722.60	722.07	721.54	721.01	720.48	719.95	719.42	718.89	718.36	717.83	717.30	716.77	716.24	715.71	715.18	714.65	714.12	713.59	713.06	712.53	712.00	711.47	710.94	710.41	709.88	709.35	708.82	708.29	707.76	707.23	706.70	706.17	705.64	705.11	704.58	704.05	703.52	702.99	702.46	701.93	701.40	700.87	700.34	699.81	699.28	698.75	698.22	697.69	697.16	696.63	696.10	695.57	695.04	694.51	693.98	693.45	692.92	692.39	691.86	691.33	690.80	690.27	689.74	689.21	688.68	688.15	687.62	687.09	686.56	686.03	685.50	684.97	684.44	683.91	683.38	682.85	682.32	681.79	681.26	680.73	680.20	679.67	679.14	678.61	678.08	677.55	677.02	676.49	675.96	675.43	674.90	674.37	673.84	673.31	672.78	672.25	671.72	671.19	670.66	670.13	669.60	669.07	668.54	668.01	667.48	666.95	666.42	665.89	665.36	664.83	664.30	663.77	663.24	662.71	662.18	661.65	661.12	660.59	660.06	659.53	659.00	658.47	657.94	657.41	656.88	656.35	655.82	655.29	654.76	654.23	653.70	653.17	652.64	652.11	651.58	651.05	650.52	649.99	649.46	648.93	648.40	647.87	647.34	646.81	646.28	645.75	645.22	644.69	644.16	643.63	643.10	642.57	642.04	641.51	640.98	640.45	639.92	639.39	638.86	638.33	637.80	637.27	636.74	636.21	635.68	635.15	634.62	634.09	633.56	633.03	632.50	631.97	631.44	630.91	630.38	629.85	629.32	628.79	628.26	627.73	627.20	626.67	626.14	625.61	625.08	624.55	624.02	623.49	622.96	622.43	621.90	621.37	620.84	620.31	619.78	619.25	618.72	618.19	617.66	617.13	616.60	616.07	615.54	615.01	614.48	613.95	613.42	612.89	612.36	611.83	611.30	610.77	610.24	609.71	609.18	608.65	608.12	607.59	607.06	606.53	606.00	605.47	604.94	604.41	603.88	603.35	602.82	602.29	601.76	601.23	600.70	600.17	599.64	599.11	598.58	598.05	597.52	596.99	596.46	595.93	595.40	594.87	594.34	593.81	593.28	592.75	592.22	591.69	591.16	590.63	590.10	589.57	589.04	588.51	587.98	587.45	586.92	586.39	585.86	585.33	584.80	584.27	583.74	583.21	582.68	582.15	581.62	581.09	580.56	580.03	579.50	578.97	578.44	577.91	577.38	576.85	576.32	575.79	575.26	574.73	574.20	573.67	573.14	572.61	572.08	571.55	571.02	570.49	569.96	569.43	568.90	568.37	567.84	567.31	566.78	566.25	565.72	565.19	564.66	564.13	563.60	563.07	562.54	562.01	561.48	560.95	560.42	559.89	559.36	558.83	558.30	557.77	557.24	556.71	556.18	555.65	555.12	554.59	554.06	553.53	553.00	552.47	551.94	551.41	550.88	550.35	549.82	549.29	548.76	548.23	547.70	547.17	546.64	546.11	545.58	545.05	544.52	543.99	543.46	542.93	542.40	541.87	541.34	540.81	540.28	539.75	539.22	538.69	538.16	537.63	537.10	536.57	536.04	535.51	534.98	534.45	533.92	533.39	532.86	532.33	531.80	531.27	530.74	530.21	529.68	529.15	528.62	528.09	527.56	527.03	526.50	525.97	525.44	524.91	524.38	523.85	523.32	522.79	522.26	521.73	521.20	520.67	520.14	519.61	519.08	518.55	518.02	517.49	516.96	516.43	515.90	515.37	514.84	514.31	513.78	513.25	512.72	512.19	511.66	511.13	510.60	510.07	509.54	509.01	508.48	507.95	507.42	506.89	506.36	505.83	505.30	504.77	504.24	503.71	503.18	502.65	502.12	501.59	501.06	500.53	500.00
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November 3, 1961

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Chas. W. Cole & Son
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SEC. 10, T. 29N., R. 3E.
LIBERTY TWP.

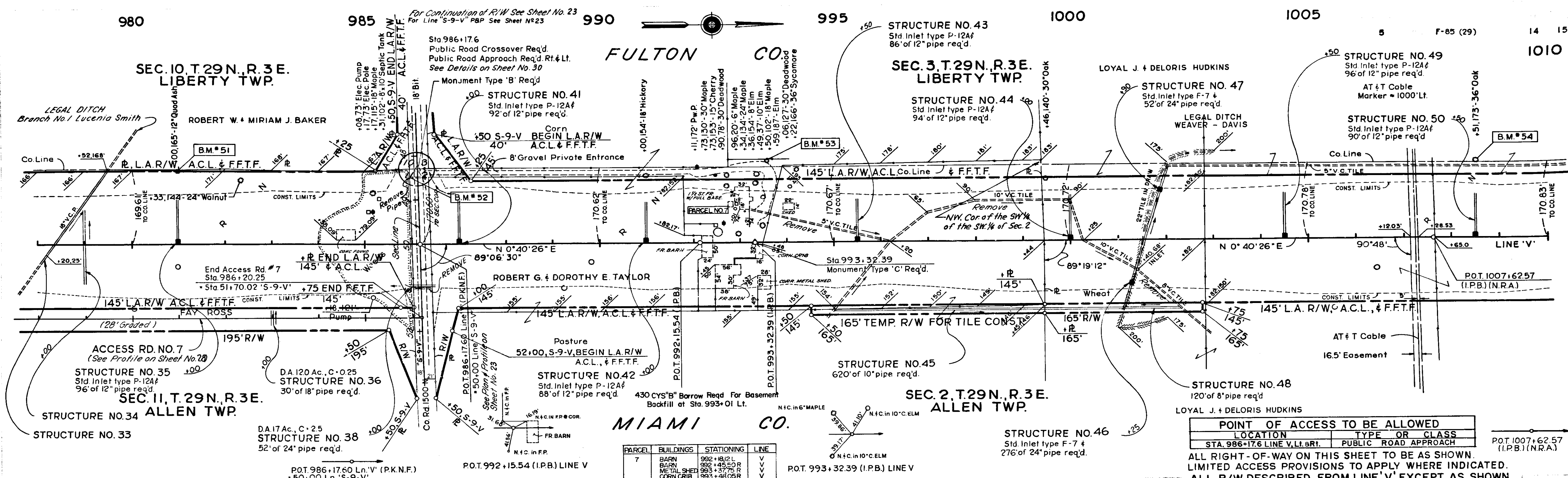
SEC. 3, T. 29N., R. 3E.
LIBERTY TWP.

SEC. 2, T. 29N., R. 3E.
ALLEN TWP.

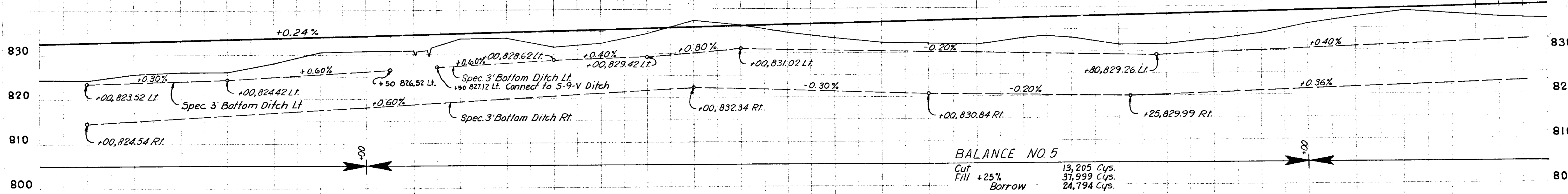
SEC. 11, T. 29N., R. 3E.
ALLEN TWP.

FULTON CO.

MIAMI CO.



PARCEL	BUILDINGS	STATIONING	LINE
7	BARN	988+89.1	<<<<<<
	BARN	992+45.0 R	<<<<<<
	METAL SHED	993+37.5 R	<<<<<<
	CORN CRIB	993+46.0 R	<<<<<<
	HOUSE	993+07.1 L	<<<<<<
	SHED	994+27.2 L	<<<<<<
	SILO	992+50.2 L	<<<<<<

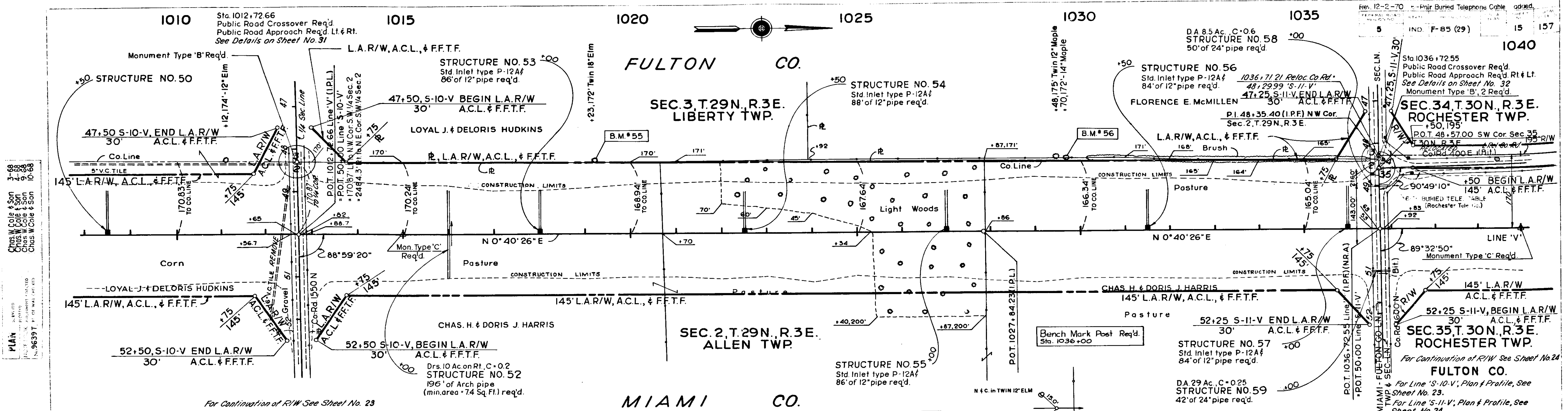


- 790 B.M.#51, El.=824.902 - A Railroad Spike in North Root of 12" Quad Ash, 165' Lt. of Sta. 981+00.
- B.M.#52, El.=828.254 - A Square Cut on Top of Conc. Headwall, 12' Rt. of Sta. 48+48 'S-9-V'.
- B.M.#53, El.=836.698 - A Railroad Spike in East Face of 10" Chinese Elm, 187' Lt. of Sta. 993+59.
- B.M.#54, El.=836.570 - A Railroad Spike in East Face of 36" Oak 173' Lt. of Sta. 1008+51.

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November 6 1941

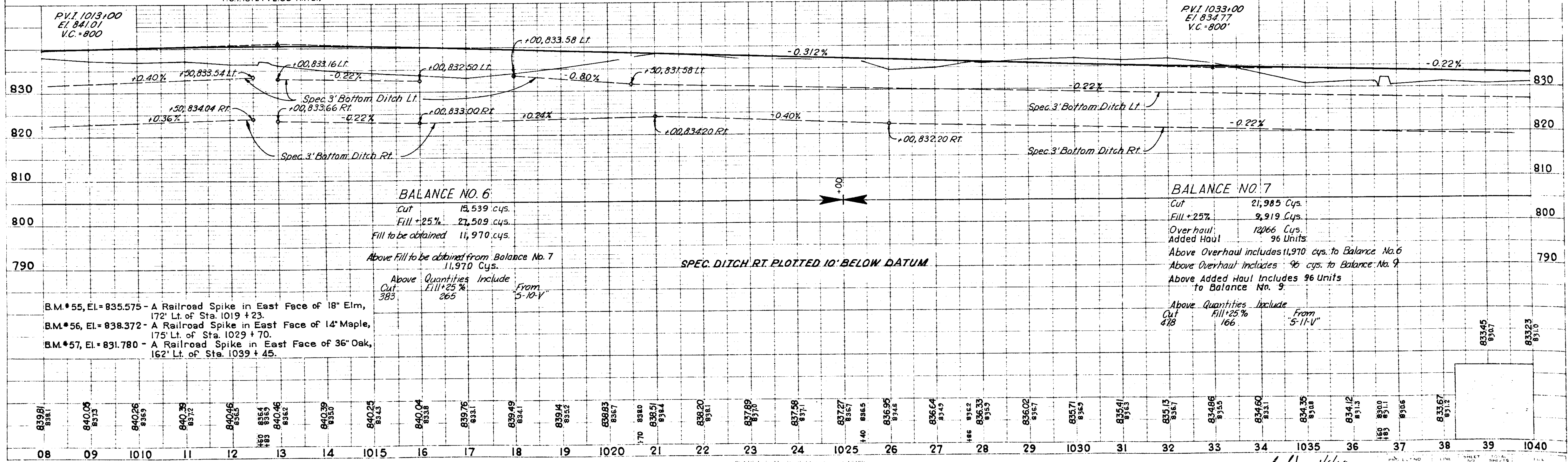
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POINTS OF ACCESS TO BE ALLOWED

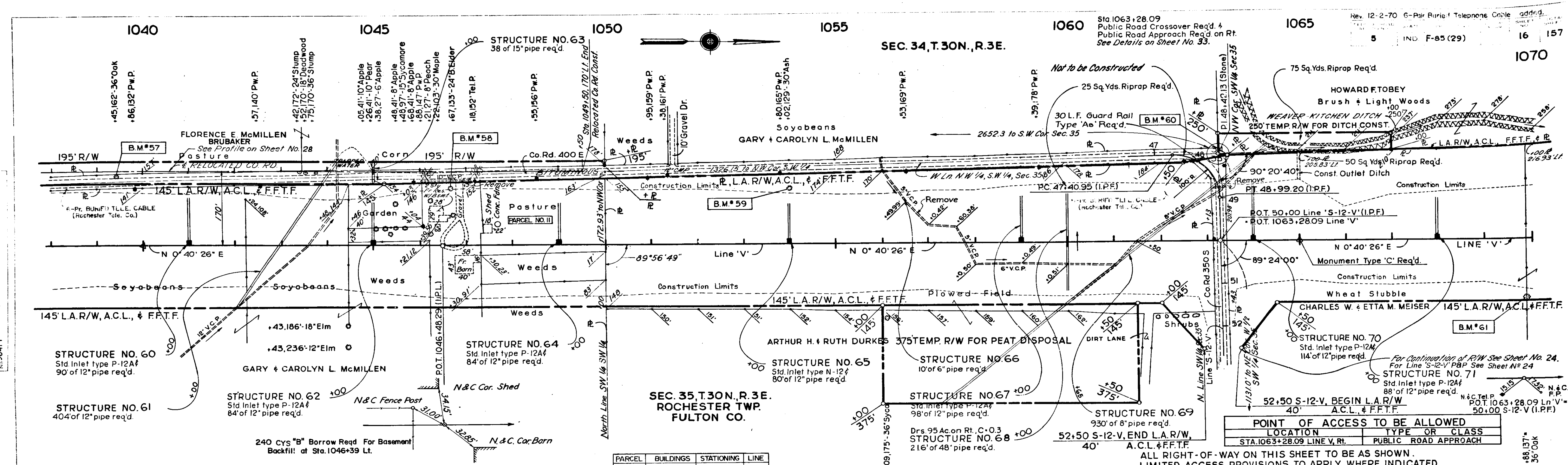
LOCATION	TYPE OR CLASS
STA. 1012+72.66 LINE V, LT. & RT.	PUBLIC ROAD APPROACH
STA. 1036+72.55 LINE V, LT. & RT.	PUBLIC ROAD APPROACH

ALL R/W DESCRIBED FROM LINE 'V' EXCEPT AS SHOWN.
ALL RIGHT-OF-WAY ON THIS SHEET TO BE AS SHOWN.
LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.



Chas. W. Cole & Son
PLANS
No. 96397

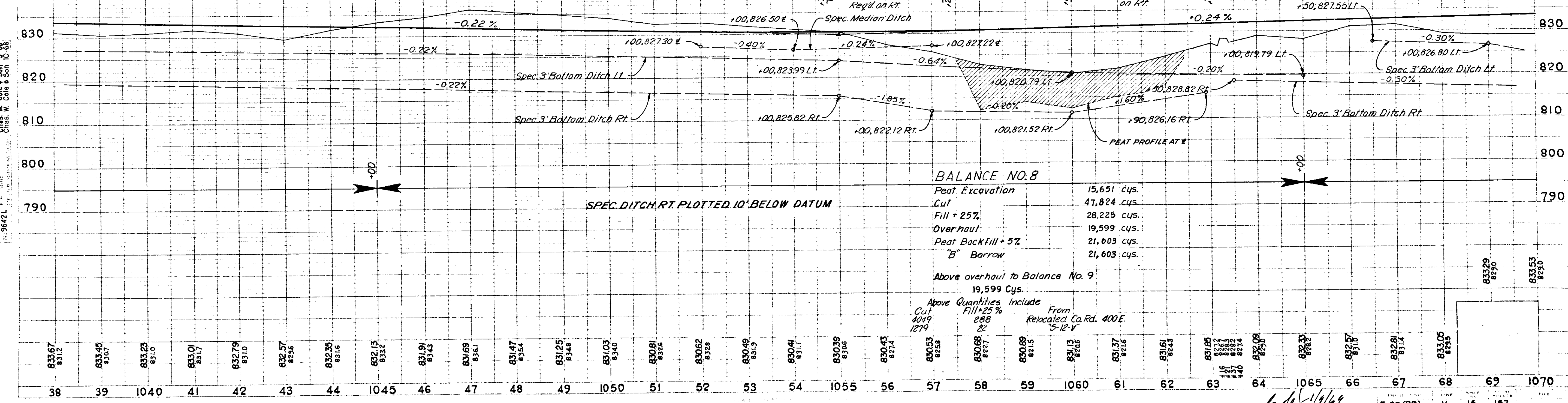
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PLANS
No. 96401

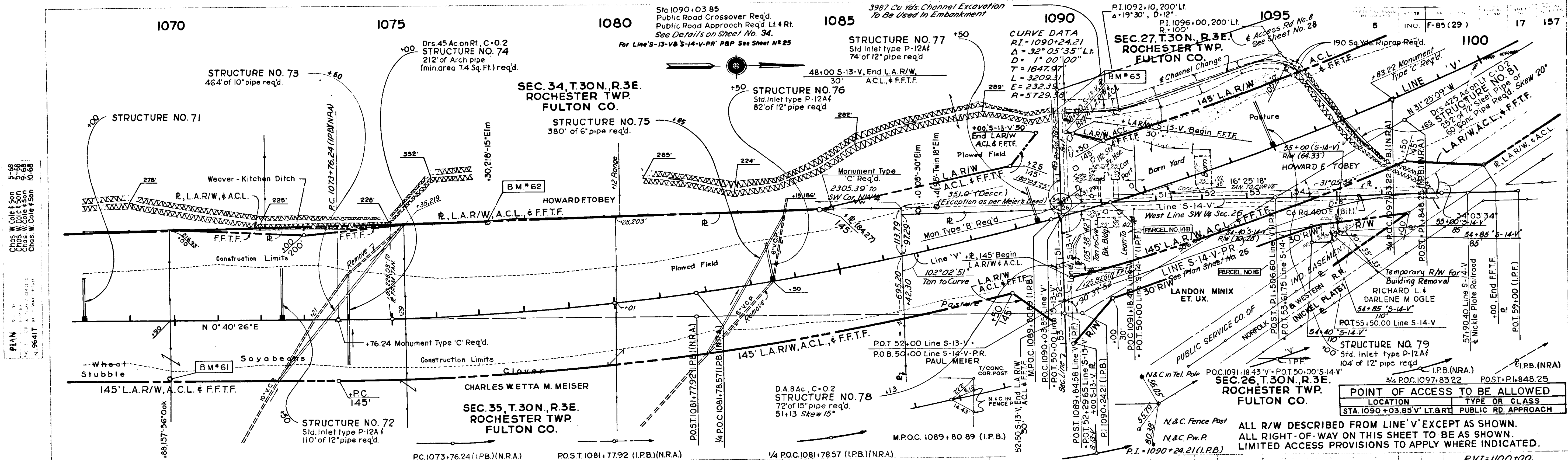


B.M.*57-EI.831.780 R.R. Spike in East Face of 36" Oak ~ 162' Lt. Sta. 1039+45 Line 'V'
 B.M.*58-EI.835.487 R.R. Spike in West Face of 24" Box Elder ~ 133' Lt. Sta. 1046+67 Line 'V'
 B.M.*59-EI.829.916 R.R. Spike in East Face of 30" Ash ~ 129' Lt. Sta. 1054+02 Line 'V'
 B.M.*60-EI.824.594 R.R. Spike in East Face of 24" Hackberry ~ 56' Lt. Sta. 1069+22 Line S-12-V
 B.M.*61-EI.832.879 R.R. Spike in West Face of 36" Oak ~ 137' Rt. Sta. 1069+88 Line 'V'

PARCEL	BUILDINGS	STATIONING	LINE
II	HOUSE*	1046+39.56L	V
	SHED	1046+28.30L	V
	BARN	1047+38.28L	V
		1047+30.23R	V

*Retained by Owner





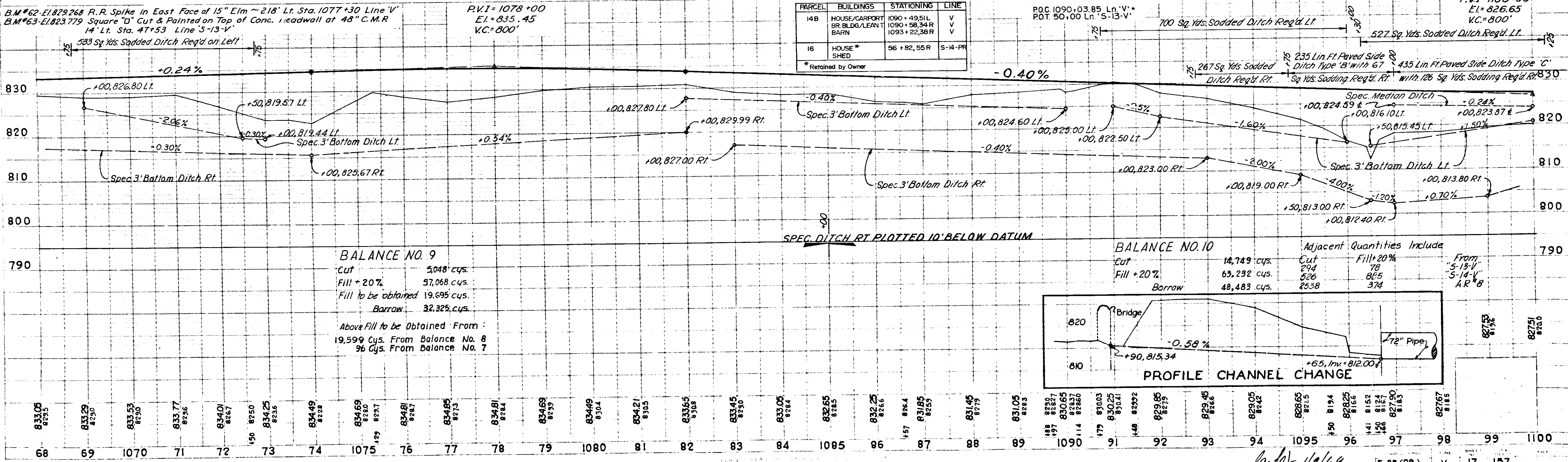
POINT OF ACCESS TO BE ALLOWED

LOCATION	TYPE OR CLASS
STA. 1090+03.85 V LT. BRT	PUBLIC RD. APPROACH

ALL R/W DESCRIBED FROM LINE 'V' EXCEPT AS SHOWN. ALL RIGHT-OF-WAY ON THIS SHEET TO BE AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

PARCEL	BUILDINGS	STATIONING	LINE
14B	HOUSE/CARPORT BR. BLDG./LEAN TO BARN	1090+49.51 L 1090+58.34 R 1093+22.38 R	V V V
16	HOUSE SHED	56+82.55 R	S-14-PR

* Retained by Owner



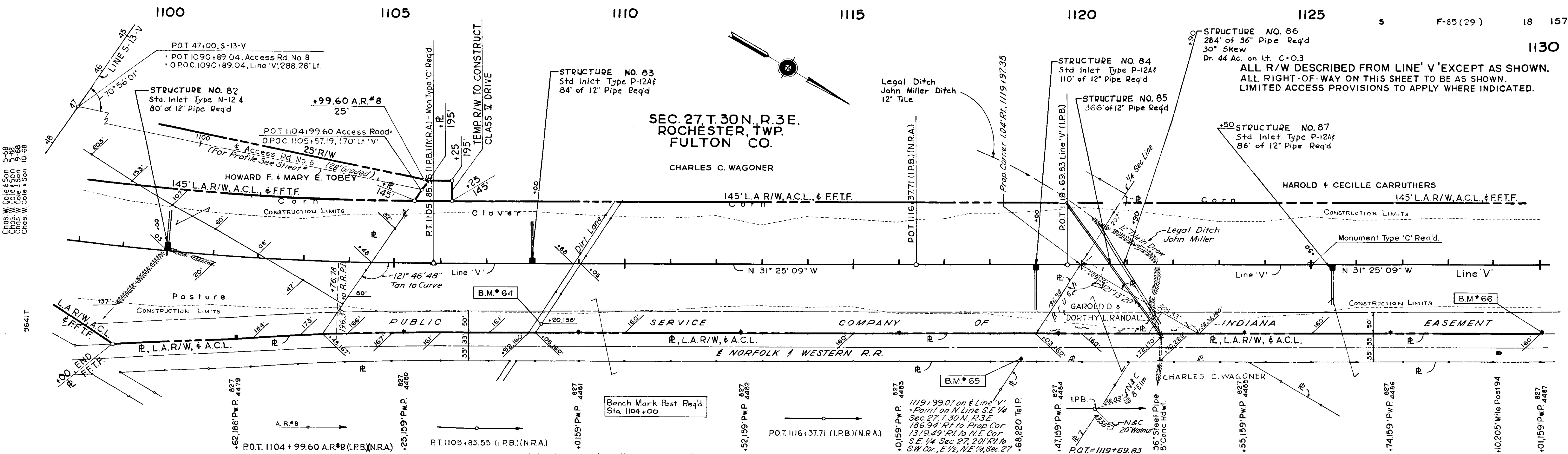
PLAN
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PROFILE
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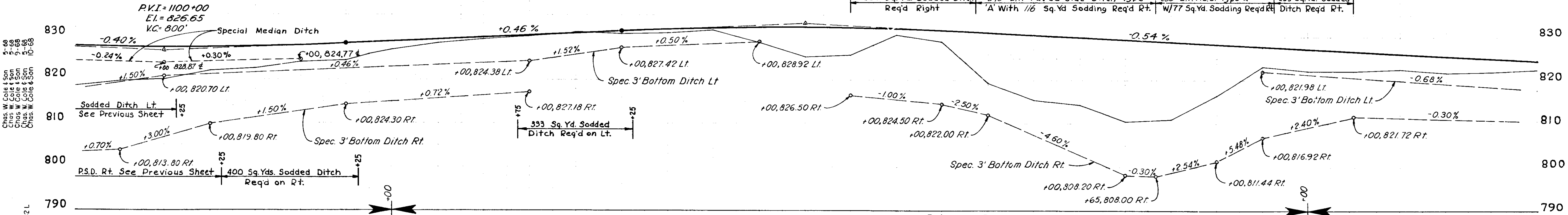
10/16/61

ALL R/W DESCRIBED FROM LINE 'V' EXCEPT AS SHOWN.
 ALL RIGHT-OF-WAY ON THIS SHEET TO BE AS SHOWN.
 LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

SEC. 27, T. 30N, R. 3E.
 ROCHESTER, TWP.
 FULTON CO.
 CHARLES C. WAGONER



BM*64-EI.828.330 Square Cut & Painted on Conc. Found at Fence Cor. ~ 138' Lt.
 Sta. 1108+20 Line 'V'
 BM*65-EI.824.523 R.R. Spike in West Face of Tel. Pole ~ 220' Rt. Sta. 1118+68 Line 'V'
 BM*66-EI.825.806 R.R. Spike in West Face of Power Pole ~ 827' ~ 159' Rt.
 Sta. 1130+01 Line 'V'

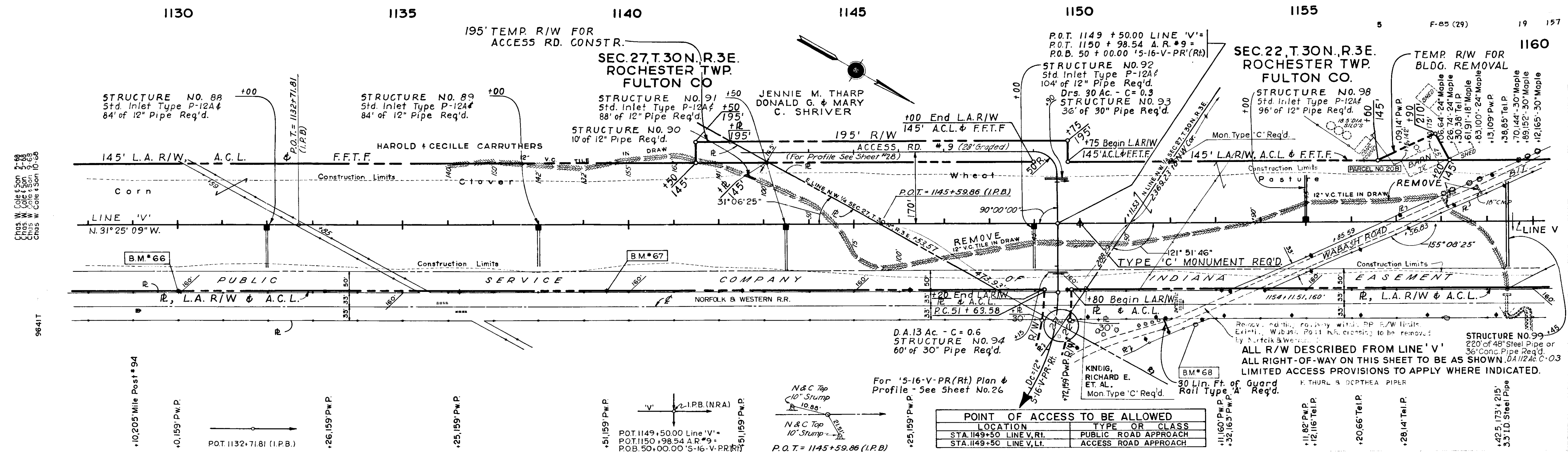


SPEC. DITCH RT. PLOTTED 10' BELOW DATUM

BALANCE NO. 11
 11,676 cys.
 Fill 20% 88,604 cys.
 Borrow 76,928 cys.
 Above Quantities Include
 Cut 12
 Fill 20%
 From Approaches & Drives

827.67 81.85	827.53 81.76	827.51 82.00	827.59 82.20	827.79 82.26	828.08 82.41	828.49 82.45	828.59 82.50	829.41 82.65	829.87 82.74	830.33 83.01	830.88 83.08	831.00 83.10	831.11 83.11	831.25 83.07	831.65 83.08	831.92 83.14	832.07 83.27	832.09 83.25	831.99 83.28	831.76 83.35	831.11 83.41	831.41 83.49	830.84 83.50	830.93 83.55	830.39 83.64	829.85 83.73	829.31 83.80	828.77 83.89	828.23 83.94	827.69 84.01	827.15 84.07	826.61 84.13	826.07 84.19	825.53 84.25	824.99 84.31	824.45 84.37
98	99	1100	01	02	03	04	44	1105	06	07	08	48	49	1110	11	12	13	14	1115	16	49	17	49	18	19	1120	21	22	23	24	1125	26	27	28	29	1130

budget 1/9/69



Chris W. Cole & Son
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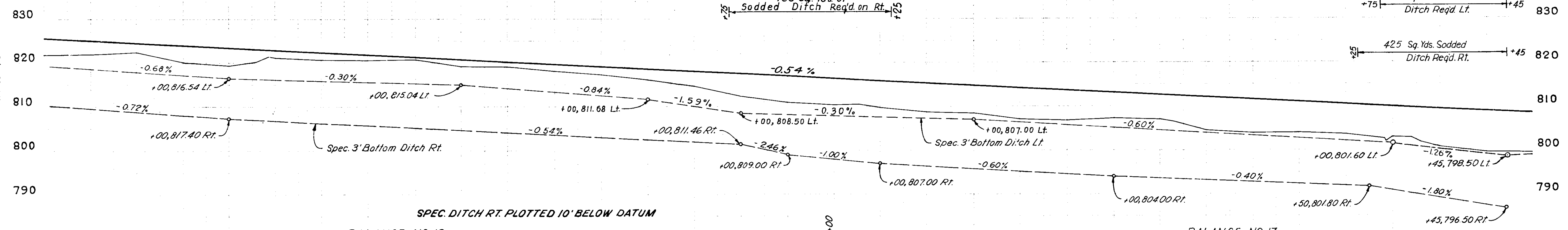
9642L

B.M.#66-E1825806 R.R. Spike in West Face of Power Pole #427 Sta. 1130 + 01 Line 'V'
B.M.#67-E1823305 R.R. Spike in West Face of Power Pole #427 Sta. 1139 + 51 Line 'V'
B.M.#68-E1812286 R.R. Spike in N.W. Face of 18" Box Elder, 61' Lt. Sta. 1152 + 53 Line 'AR-2-V'

POINT OF ACCESS TO BE ALLOWED

LOCATION	TYPE OR CLASS
STA. 1149 + 50 LINE V, RT.	PUBLIC ROAD APPROACH
STA. 1149 + 50 LINE V, LT.	ACCESS ROAD APPROACH

PARCEL	BUILDINGS	STATIONING	LINE
208	BARN SILO	1157 + 12, 146 L	V
		1157 + 50, 10 L	V



BALANCE NO. 12

Cut 15,981 cys.
Fill + 25% 25,441 cys.
Borrow 9,460 cys.

Above Quantities Includes
Cut 205
Fill 10
From A.R. # 12

BALANCE NO. 13

Adjacent Quantities Include
Cut 438
Fill 172
Approaches & Drives Fill to be obtained 15,524 cys.

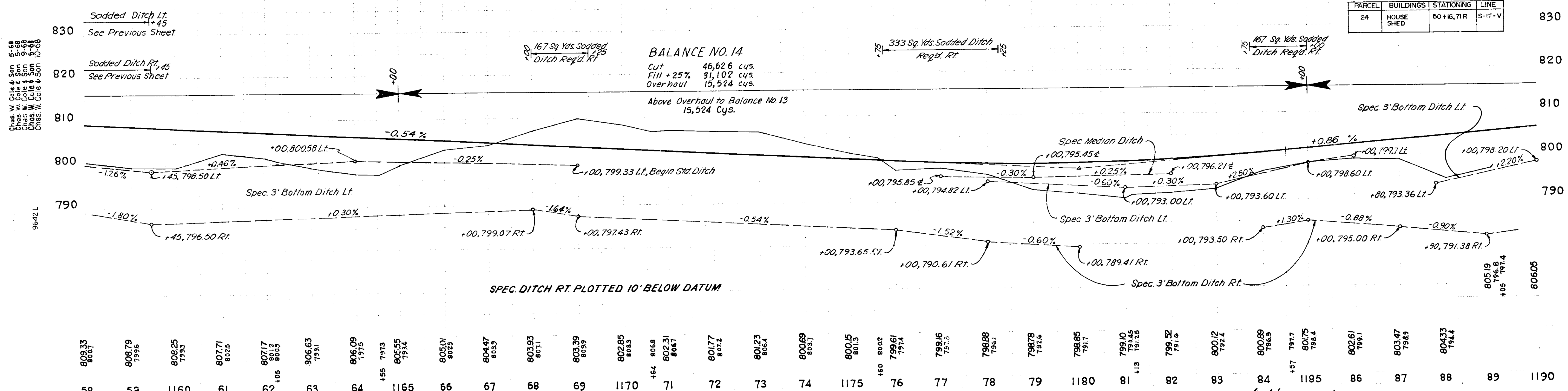
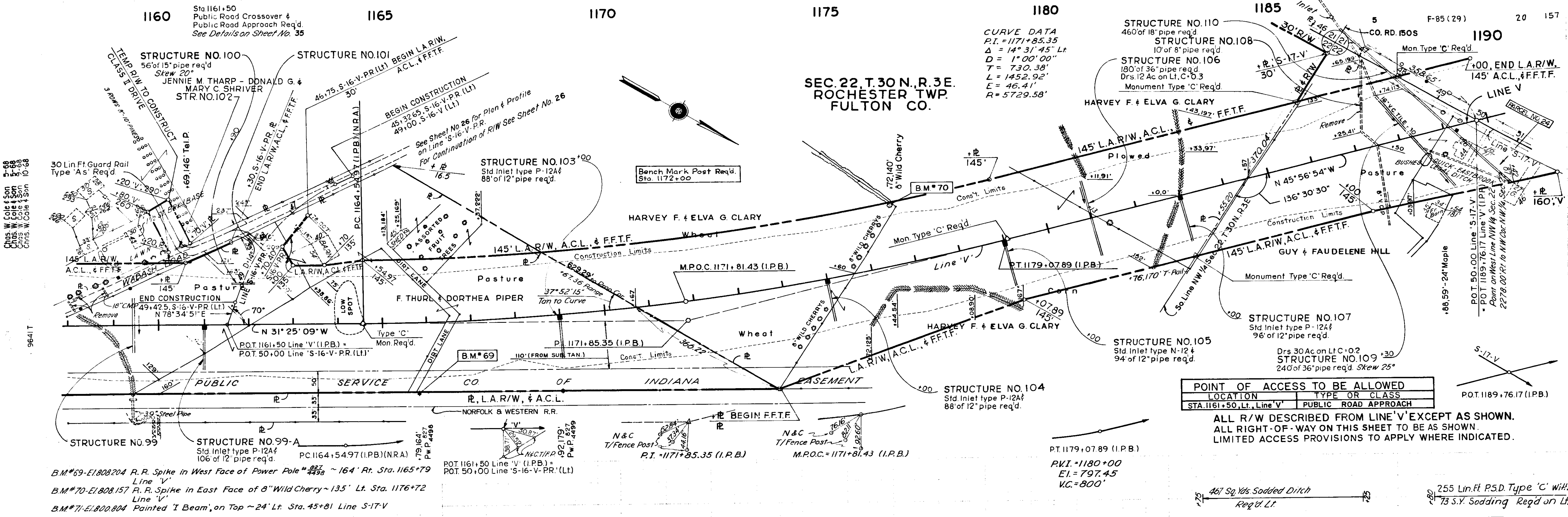
From A.R. #9
From 5-16-V-PR(Rt)
From 5-16-V-PR(Lt)

Cut 7,702 cys.
Fill + 20% 84,848 cys.
Borrow 61,622 cys.

15,524 cys. Fill to be obtained from Balance No. 14

825.53 821.8	824.09 821.9	824.45 822.4	823.91 821.1	823.37 819.4	822.83 821.2	822.29 820.7	821.75 819.8	821.21 818.1	820.67 815.2	820.13 813.1	819.59 811.1	819.05 811.2	818.51 816.1	817.97 814.7	817.43 812.3	816.89 810.5	816.35 810.2	815.81 810.5	815.27 810.8	814.73 808.5	814.19 807.1	813.65 806.8	813.11 807.2	812.57 802.0	812.03 804.6	811.49 805.9	810.95 804.4	810.41 803.6	809.87 802.8	809.33 802.6	808.79 801.7	808.25 800.7
28	29	1130	31	32	33	34	1135	36	37	38	39	1140	41	42	43	44	1145	46	47	48	49	1150	51	52	53	54	1155	56	57	58	59	1160

11/1/69



9642L

PARCEL	BUILDINGS	STATIONING	LINE
24	HOUSE SHED	50+16.71 R	S-17-V

Station	Elevation	Station	Elevation
803.35	803.35	804.79	799.6
808.25	799.5	807.71	802.5
807.17	805.5	806.63	799.1
806.09	799.1	806.09	799.1
805.55	793.4	805.55	793.4
805.01	805.9	804.47	805.9
804.93	807.1	803.93	807.1
803.39	809.9	802.85	809.9
802.31	806.7	802.31	806.7
801.77	801.2	801.77	801.2
800.23	806.4	800.69	806.4
800.15	801.3	800.15	801.3
799.61	799.7	799.61	799.7
799.16	797.6	798.78	797.6
798.85	799.1	798.85	799.1
799.10	799.4	799.10	799.4
799.52	799.6	799.52	799.6
800.12	799.2	800.09	799.2
800.09	798.5	800.09	798.5
800.75	798.4	800.61	799.1
803.47	798.8	803.43	794.4

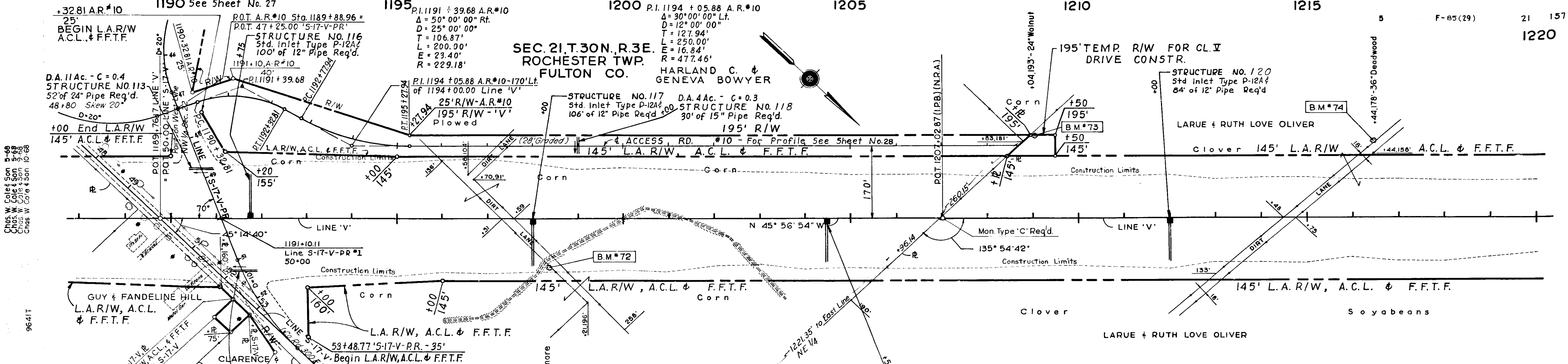
9642L

Station	Elevation	Station	Elevation
58	803.35	62	805.55
59	808.25	63	806.09
60	807.17	64	806.09
61	806.63	65	805.55
62	805.01	66	804.93
63	804.47	67	803.39
64	802.31	68	801.77
65	800.23	69	800.15
70	800.15	71	799.61
71	799.16	72	798.85
72	798.85	73	798.78
73	798.78	74	798.85
74	798.85	75	799.10
75	799.10	76	799.52
76	799.52	77	800.12
77	800.12	78	800.09
78	800.09	79	800.75
79	800.61	80	803.47
80	803.47	81	803.43
81	803.43	82	803.43
82	803.43	83	803.43
83	803.43	84	803.43
84	803.43	85	803.43
85	803.43	86	803.43
86	803.43	87	803.43
87	803.43	88	803.43
88	803.43	89	803.43
89	803.43	90	803.43

1/14/69 F-85(29) V 20 157

Sta. 1191+10.11 Pub. Rd Crossover &
Public Road Approach Req'd Rt. & Lt. See Details on Sheet No. 26
For Continuation of R/W
See Sheet No. 27

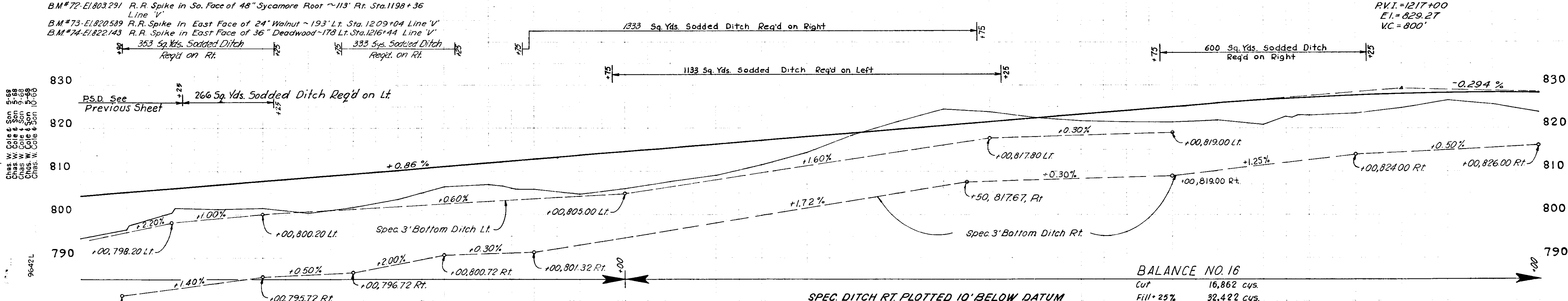
SEC. 21, T. 30N., R. 3E.
ROCHESTER TWP.
FULTON CO.



POINT OF ACCESS TO BE ALLOWED	
LOCATION	TYPE OR CLASS
STA 1191+10.11 Line V, Lt. Rt.	PUBLIC ROAD APPROACH

ALL RIGHT-OF-WAY DESCRIBED FROM LINE 'V' EXCEPT AS SHOWN.
ALL RIGHT-OF-WAY ON THIS SHEET TO BE AS SHOWN.
LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

For '5-17-V-PR' Plan & Profile See Sheet No. 27
 B.M. #72 El. 803.291 R.R. Spike in So. Face of 48' Sycamore Root ~113' Rt. Sta. 1198+36
 B.M. #73 El. 820.539 R.R. Spike in East Face of 24' Walnut ~193' Lt. Sta. 1209+04 Line 'V'
 B.M. #74 El. 822.143 R.R. Spike in East Face of 36' Deadwood ~178' Lt. Sta. 1216+44 Line 'V'



BALANCE NO. 15

Cut	9585 Cys.
Fill +20%	64,536 Cys.
Borrow	54,951 Cys.

Adjacent Quantities Include
 Cut 0
 Fill 1028
 913
 1091

From Approaches & Drives
 16
 166
 458
 693

From '5-17-V-PR' #1
 5-17-V-PR #2
 A.R. #10

BALANCE NO. 16

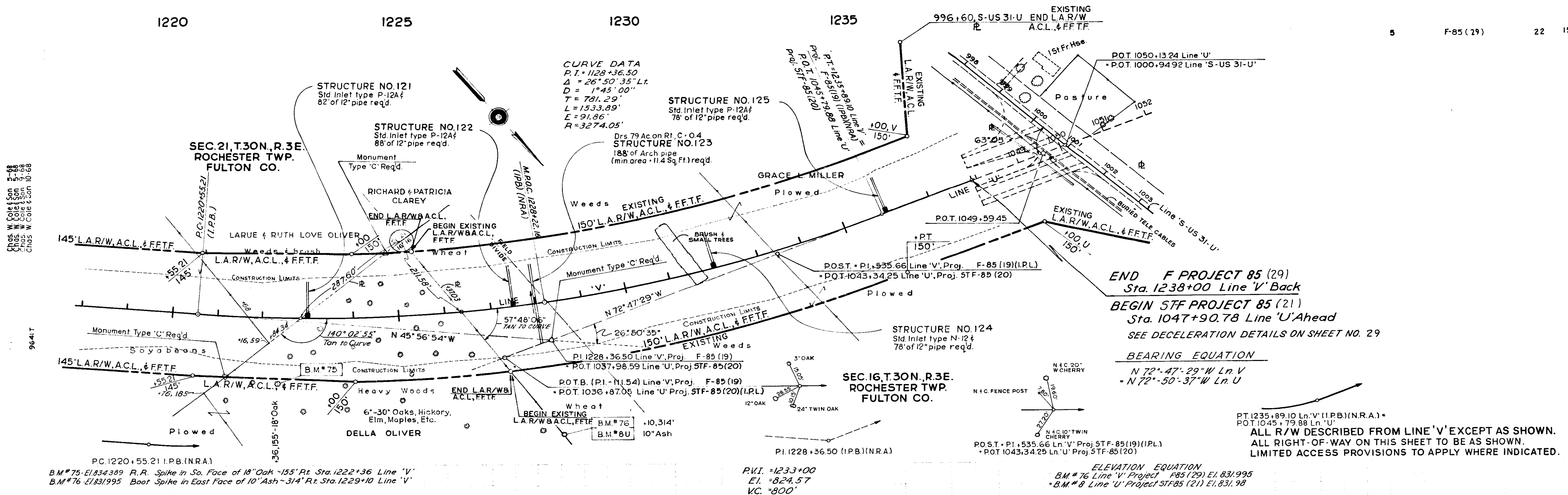
Cut	16,862 cys.
Fill +25%	32,422 cys.
Borrow	15,560 cys.

Above Quantities Include
 Cut 6
 670

From Approaches & Drives
 A.R. #10
 10
 1181

804.33 744	805.09 768	806.05 804	806.91 801	807.77 801.5	808.63 800.5	809.49 801.5	810.35 803.7	811.21 806.3	812.07 806.9	812.93 806.7	813.79 806.8	814.65 806.0	815.51 807.7	816.37 805.1	817.23 811.5	818.09 814.3	818.95 818.5	819.81 821.5	820.67 824.4	821.53 823.8	822.39 822.5	823.25 821.7	824.11 821.4	824.97 821.3	825.83 821.8	826.69 820.8	827.55 822.7	828.41 823.1	829.27 826.4	830.13 823.7	831.00 823.7	
88	89	1190	91	92	93	94	1195	96	97	98	99	1200	01	02	03	04	1205	06	07	08	09	1210	11	12	13	14	1215	16	17	18	19	1220

1/1/69

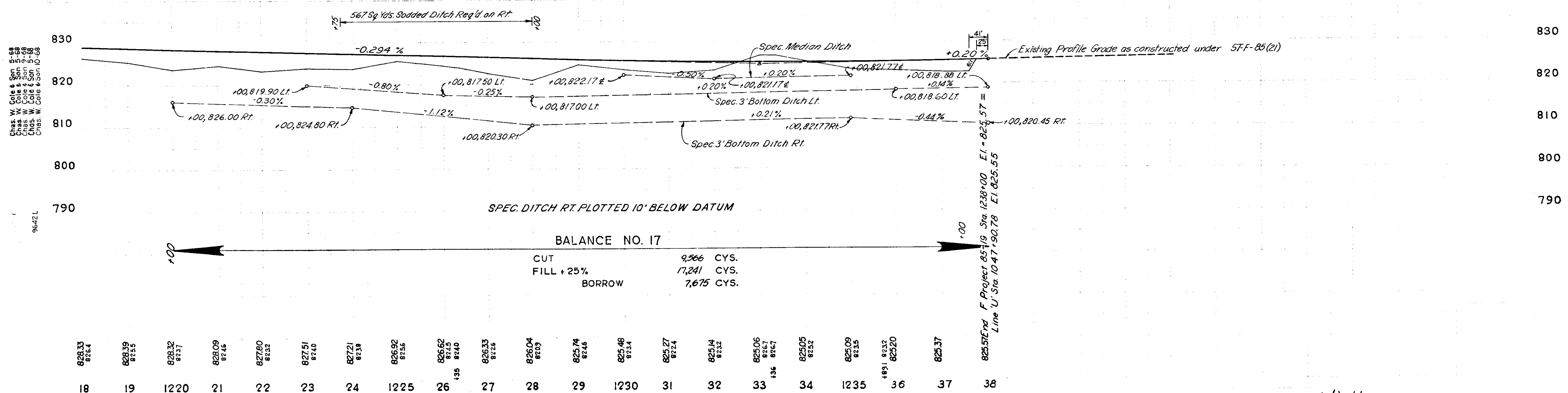


END F PROJECT 85 (29)
Sta. 1238+00 Line 'V' Back
BEGIN STF PROJECT 85 (21)
Sta. 1047+90.78 Line 'U' Ahead
SEE DECELERATION DETAILS ON SHEET NO. 29

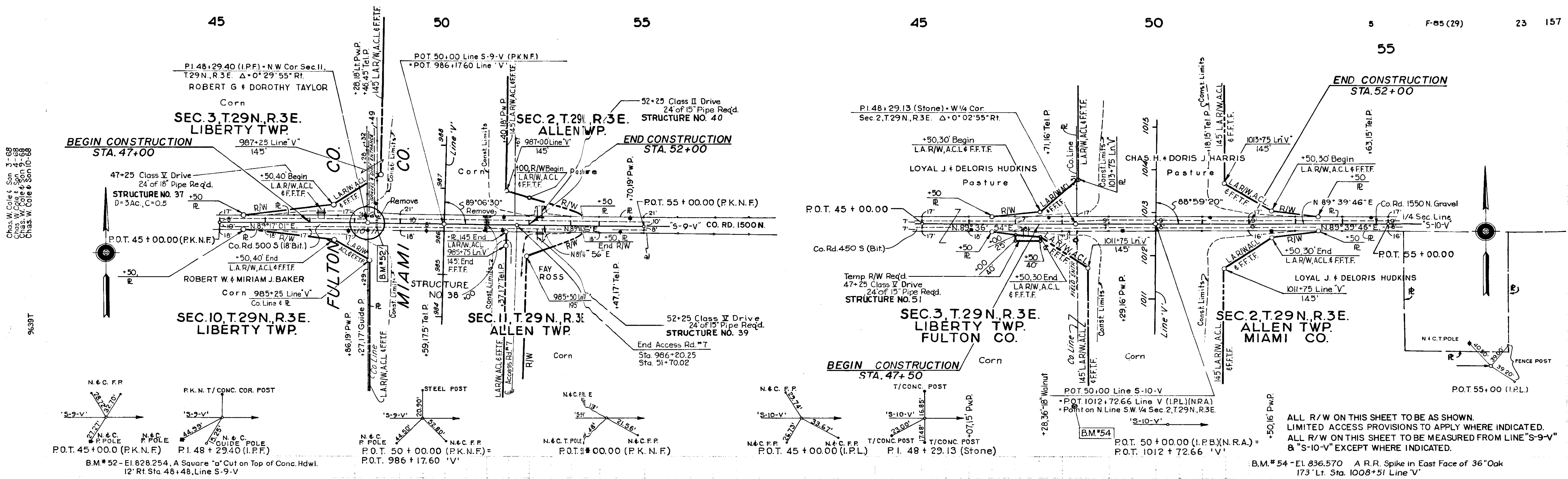
BEARING EQUATION
N 72°-47'-29" W Ln. V
= N 72°-50'-37" W Ln. U

ALL R/W DESCRIBED FROM LINE 'V' EXCEPT AS SHOWN.
ALL RIGHT-OF-WAY ON THIS SHEET TO BE AS SHOWN.
LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

ELEVATION EQUATION
B.M. #76 Line 'V' Project F-85 (29) El. 831.995
B.M. #8 Line 'U' Project STF-85 (21) El. 831.98



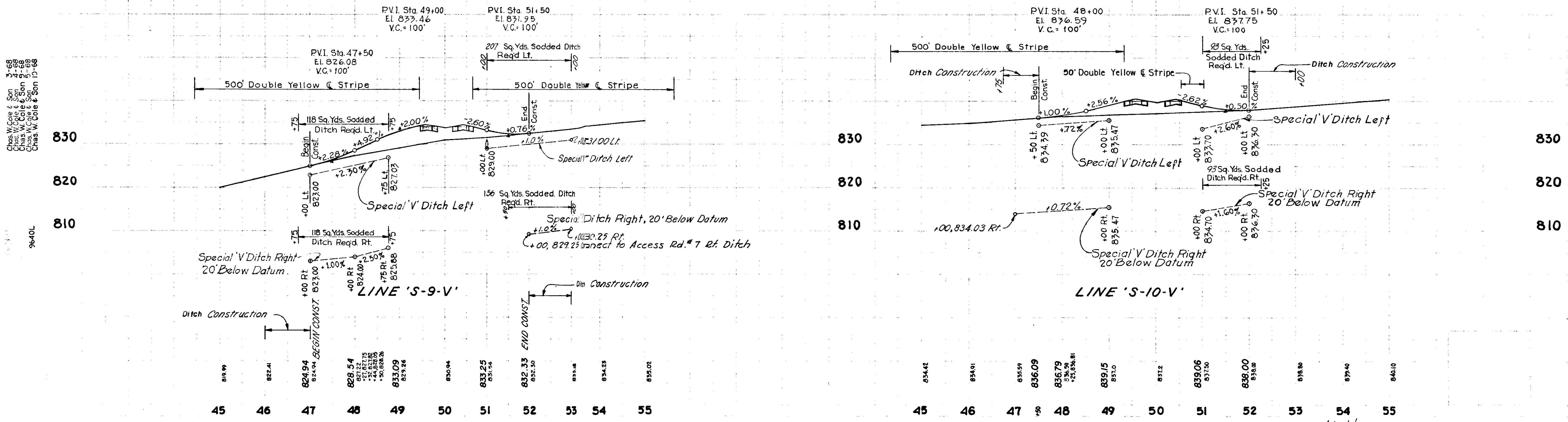
1/14/69 F-85 (29) V 22 157

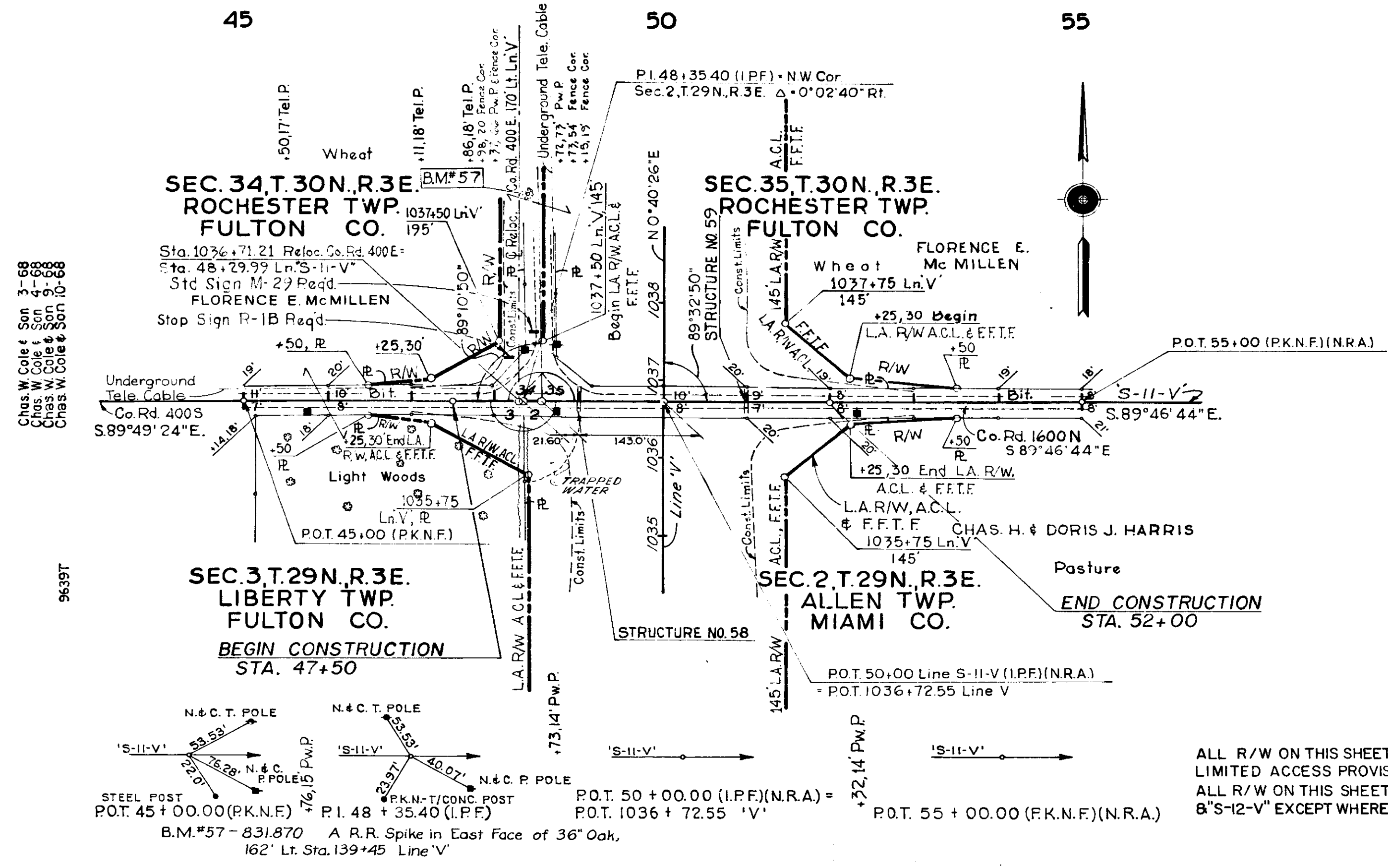


ALL R/W ON THIS SHEET TO BE AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED. ALL R/W ON THIS SHEET TO BE MEASURED FROM LINE "S-9-V" & "S-10-V" EXCEPT WHERE INDICATED.

B.M. #52 - El. 828.254, A Square "a" Cut on Top of Conc. Hdwl. 12' Rt Sta. 48+48, Line S-9-V

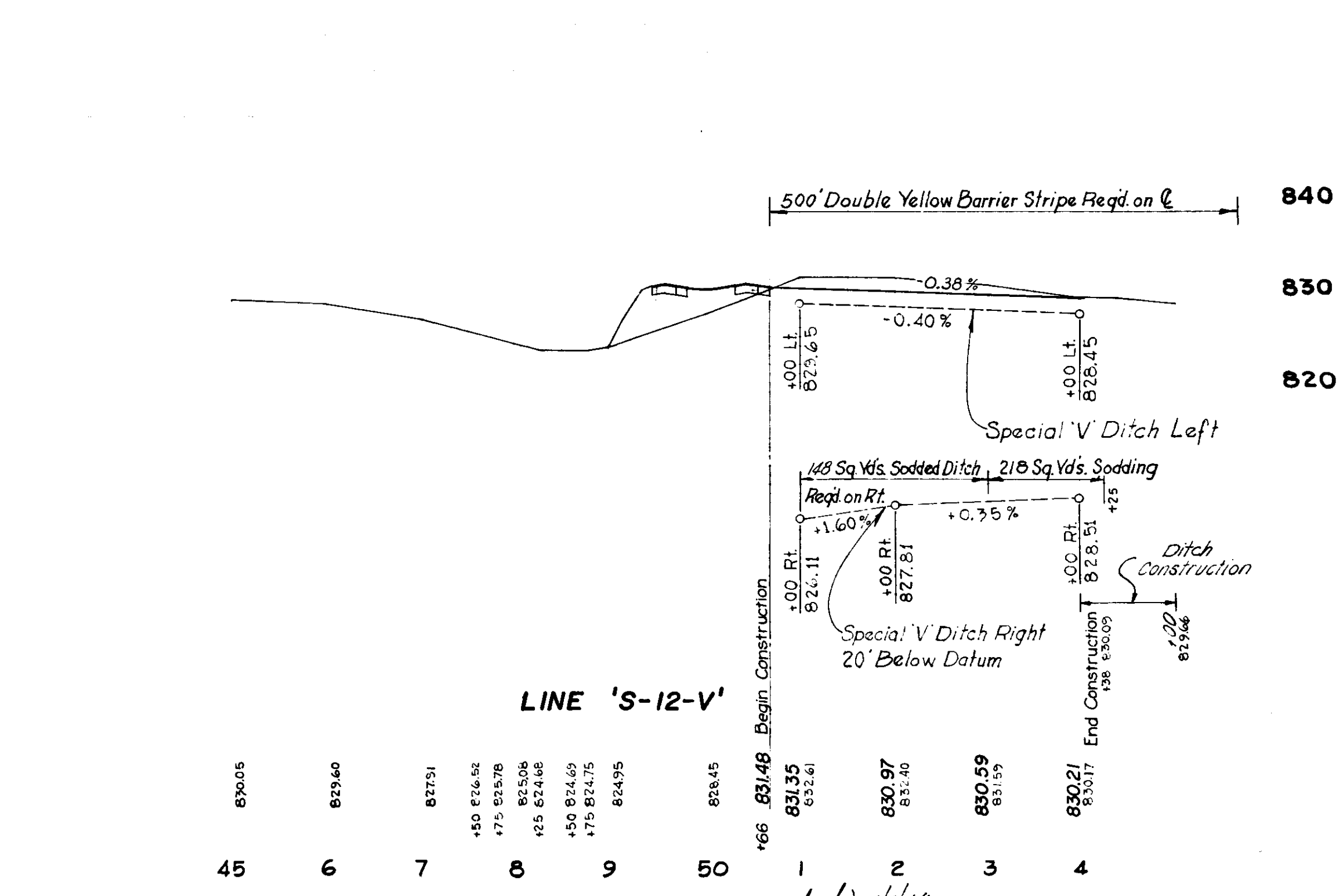
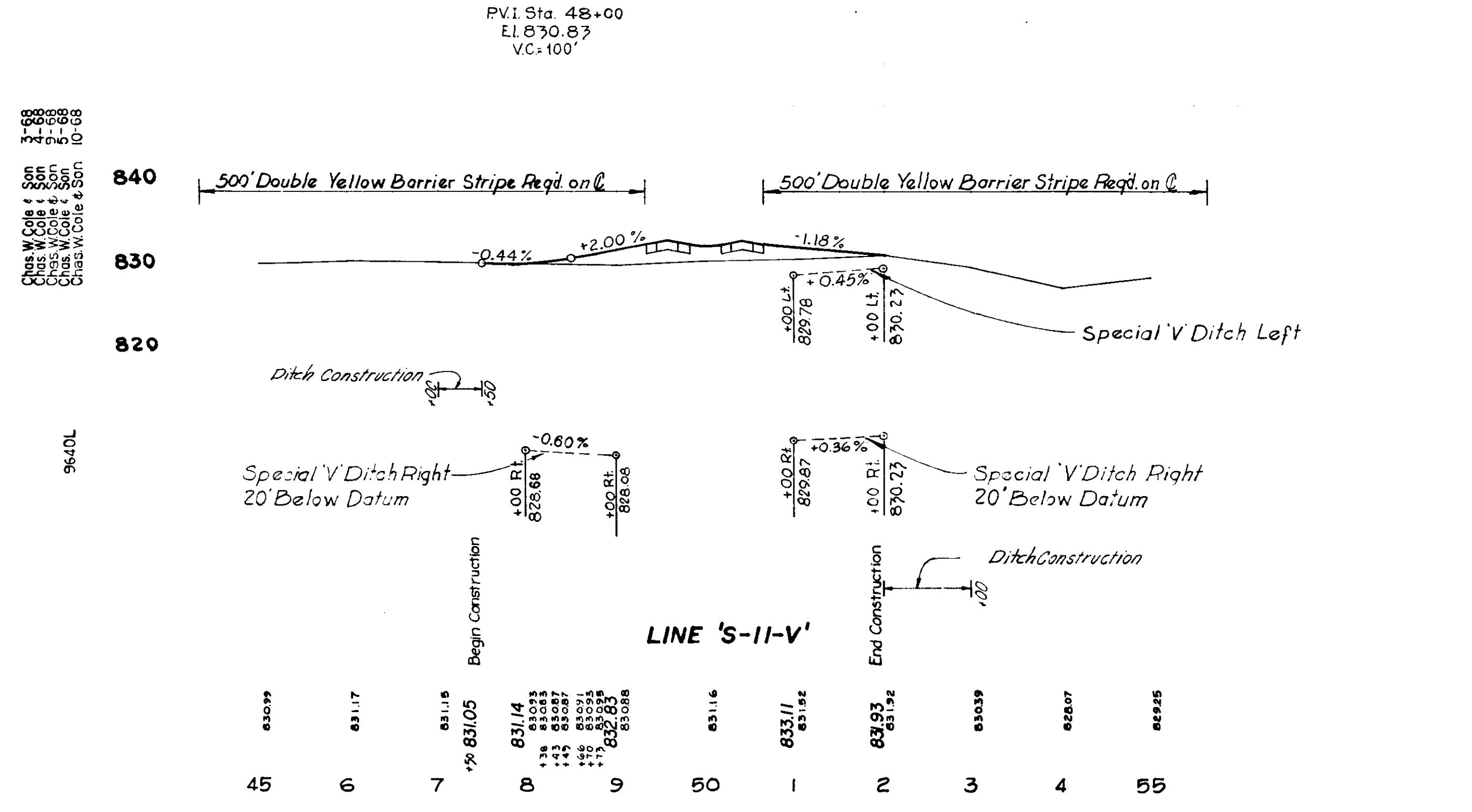
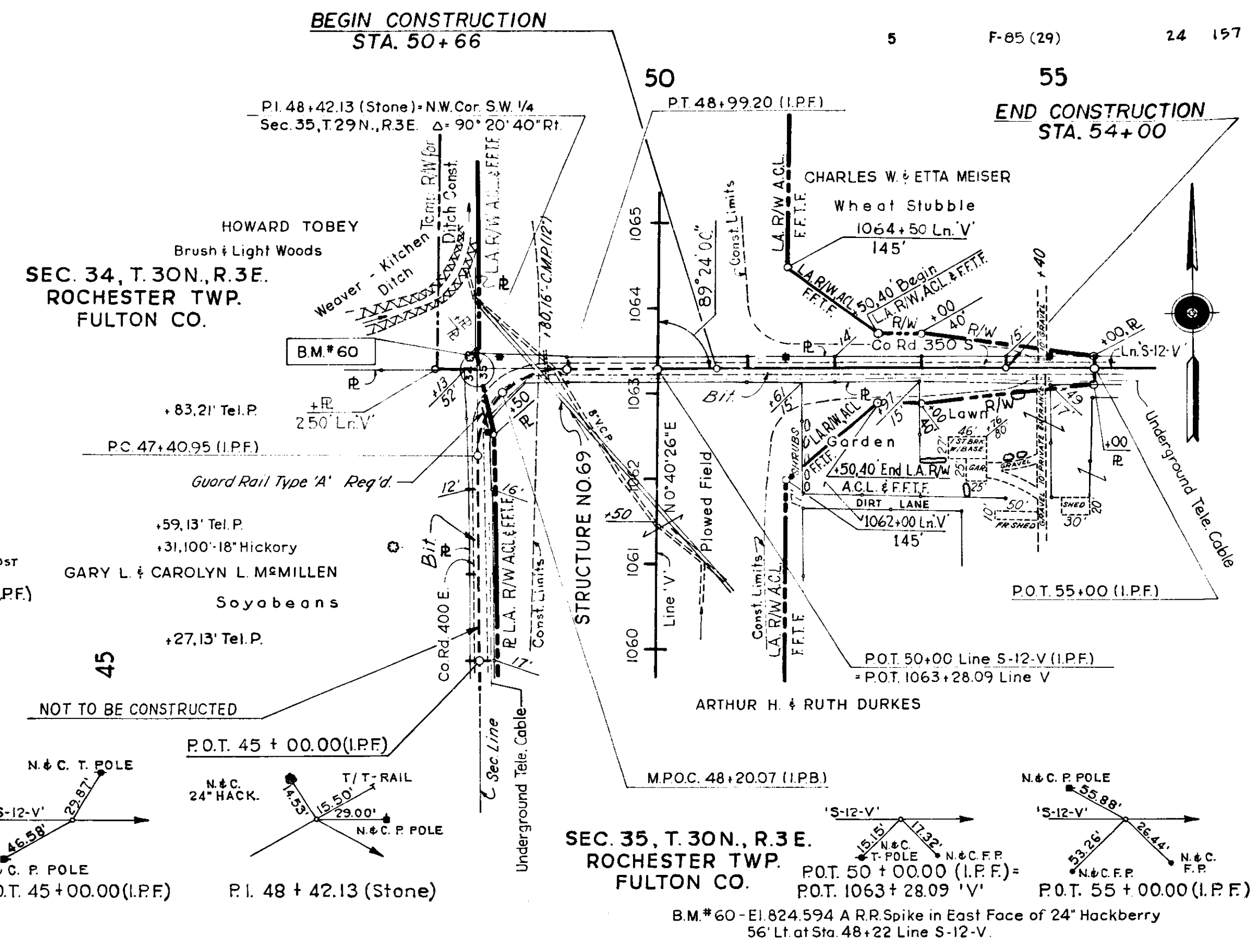
B.M. #54 - El. 836.570 A R.R. Spike in East Face of 36" Oak 173' Lt. Sta. 1008+51 Line "V"



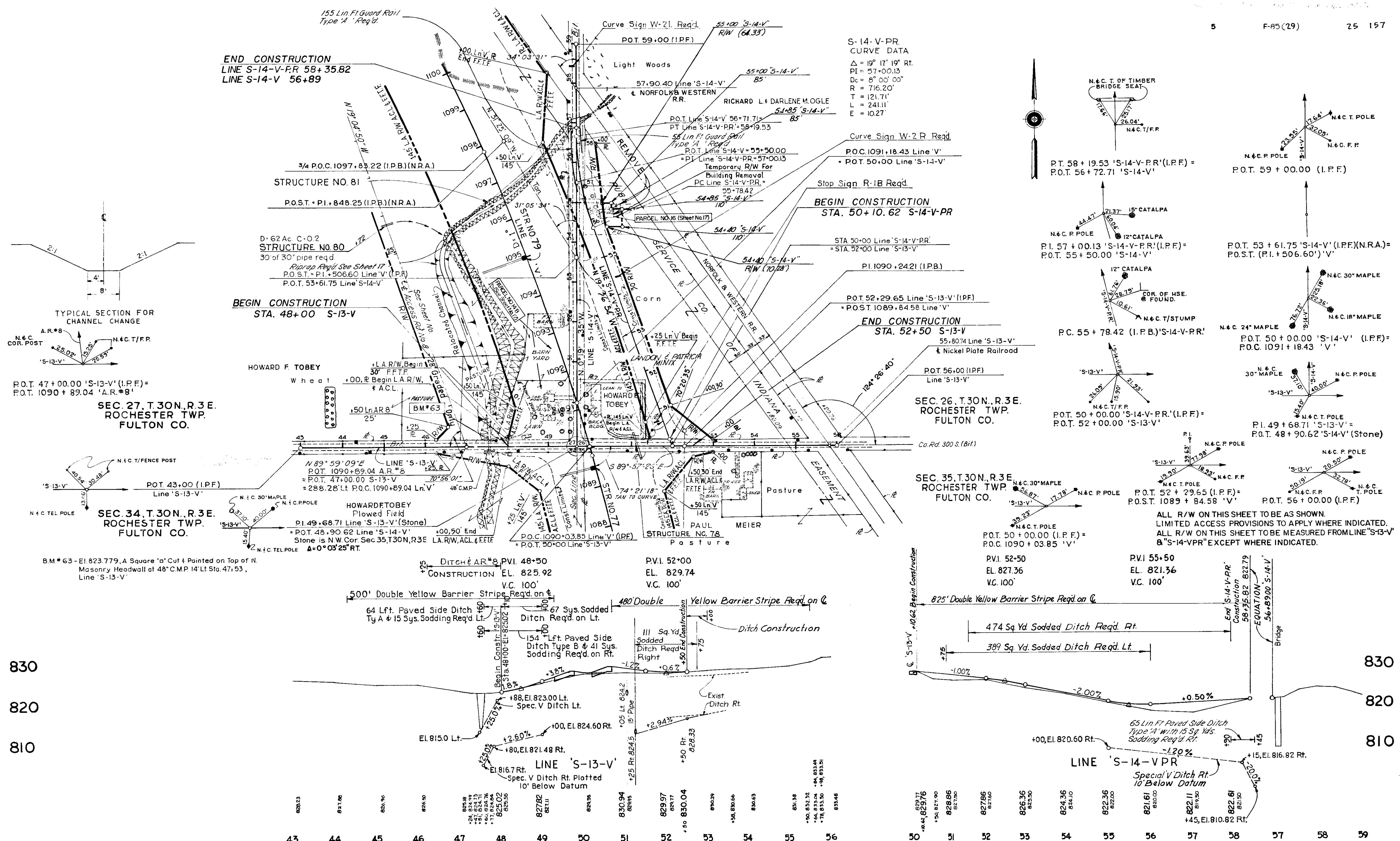


CURVE DATA
 $\Delta = 90^\circ 20' 40''$ Rt.
 $D_c = 57.2958'$
 $R = 100'$
 $T = 101.18'$
 $L = 158.25'$
 $E = 42.25'$

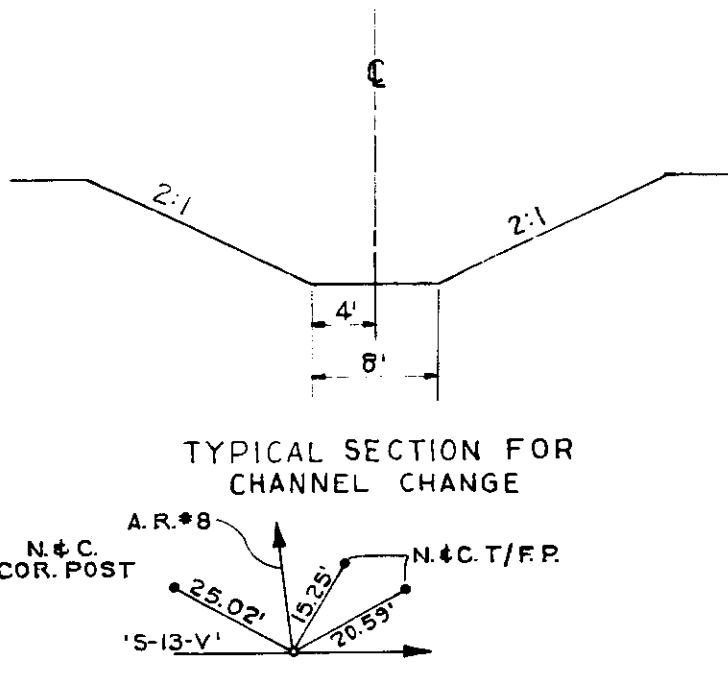
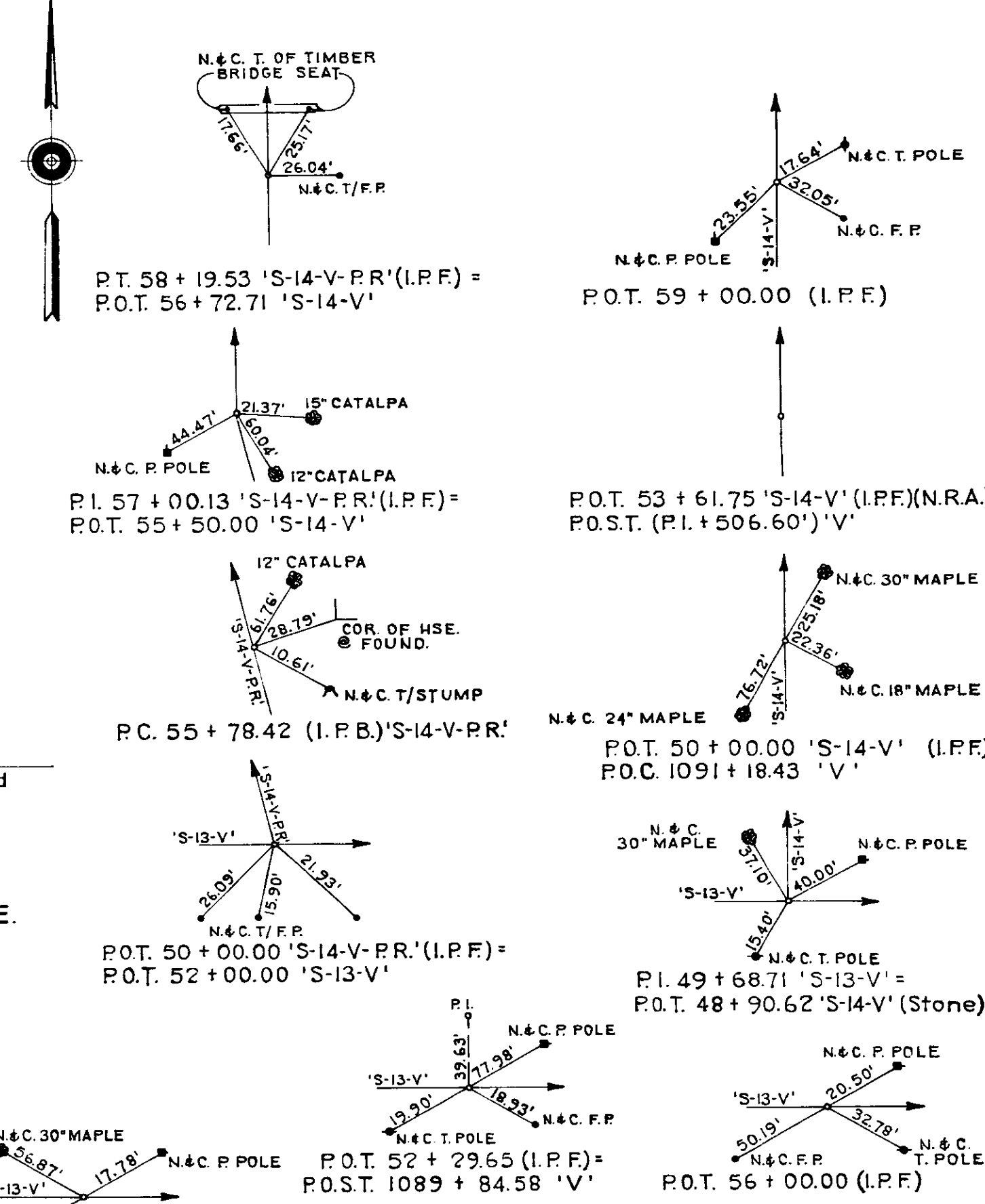
ALL R/W ON THIS SHEET TO BE AS SHOWN.
 LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.
 ALL R/W ON THIS SHEET TO BE MEASURED FROM LINE "S-11-V"
 & "S-12-V" EXCEPT WHERE INDICATED.



1/19/69 F-85 (29) 24 197



S-14-V-PR CURVE DATA
Δ = 19° 11' 19" Rt.
PI = 57+00.13
Dc = 8° 00' 00"
R = 716.20'
T = 121.71'
L = 241.11'
E = 10.27'



END CONSTRUCTION
LINE S-14-V-PR 58+35.82
LINE S-14-V 56+89

BEGIN CONSTRUCTION
STA. 48+00 S-13-V

BEGIN CONSTRUCTION
STA. 50+10.62 S-14-V-PR

END CONSTRUCTION
STA. 52+50 S-13-V

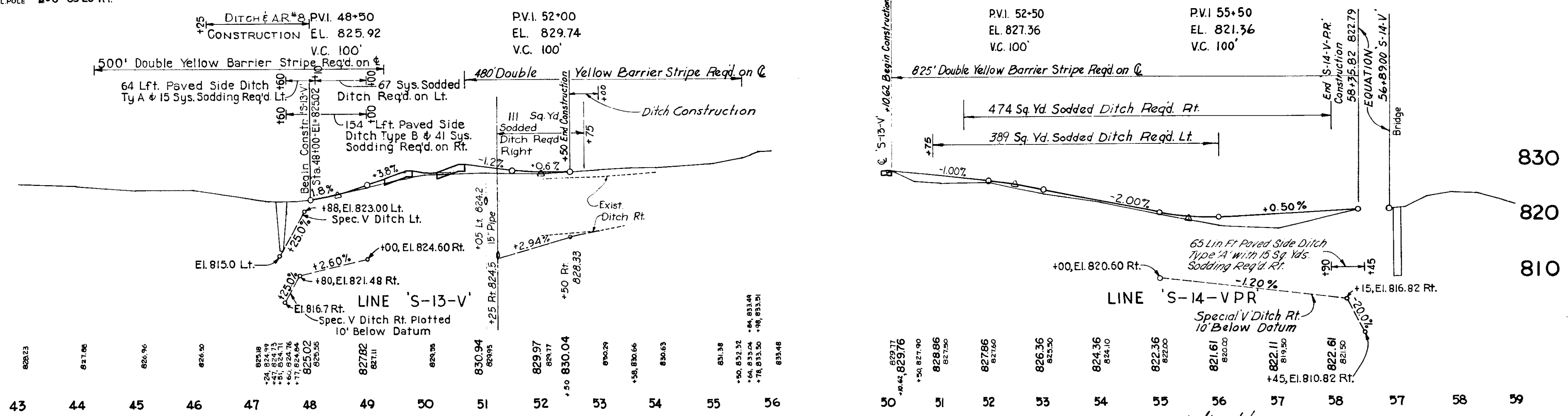
SEC. 26, T.30N., R.3E.
ROCHESTER TWP.
FULTON CO.

SEC. 35, T.30N., R.3E.
ROCHESTER TWP.
FULTON CO.

SEC. 27, T.30N., R.3E.
ROCHESTER TWP.
FULTON CO.

SEC. 34, T.30N., R.3E.
ROCHESTER TWP.
FULTON CO.

ALL R/W ON THIS SHEET TO BE AS SHOWN.
LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.
ALL R/W ON THIS SHEET TO BE MEASURED FROM LINE 'S-13-V'
& 'S-14-V-PR' EXCEPT WHERE INDICATED.



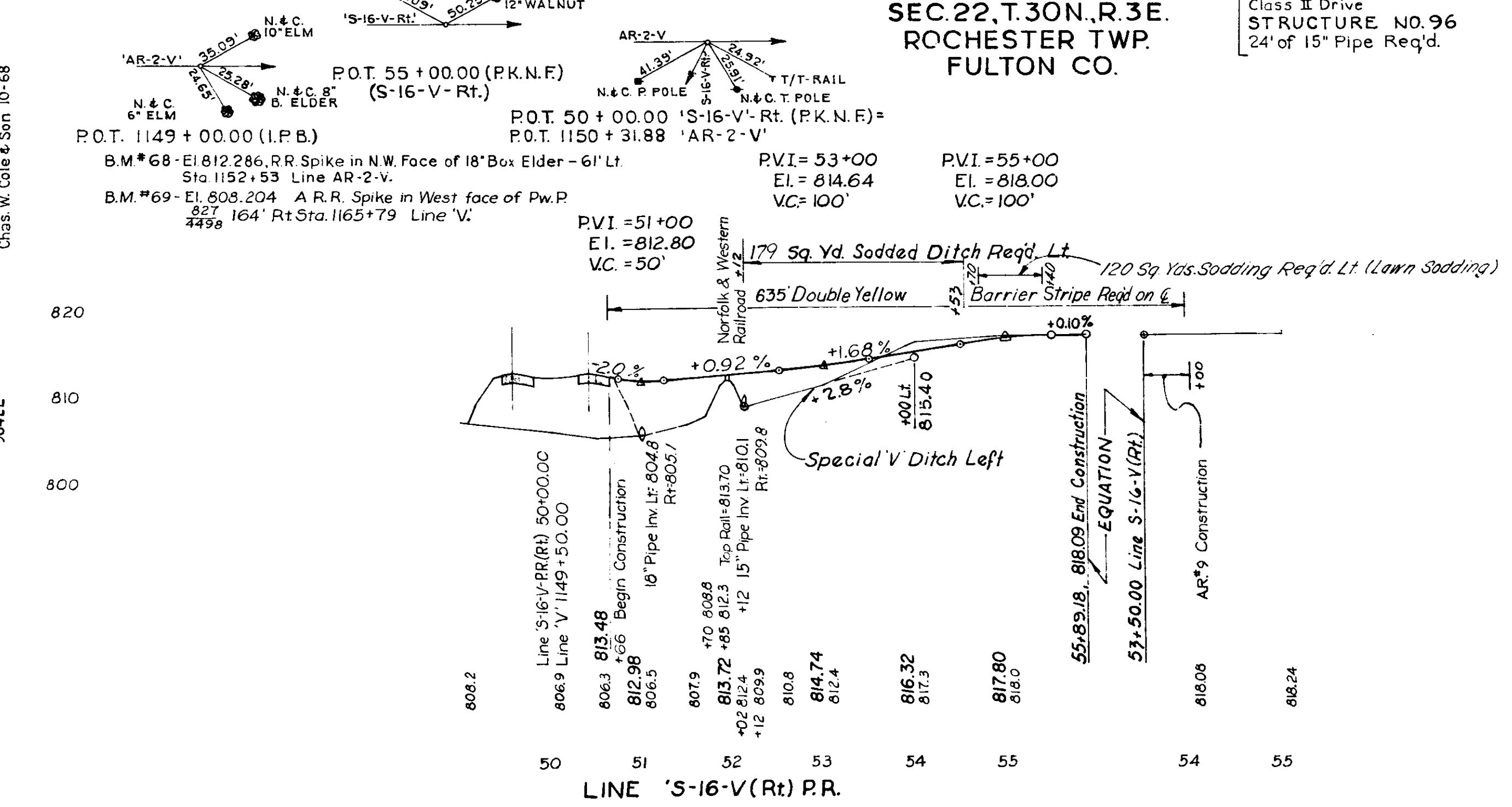
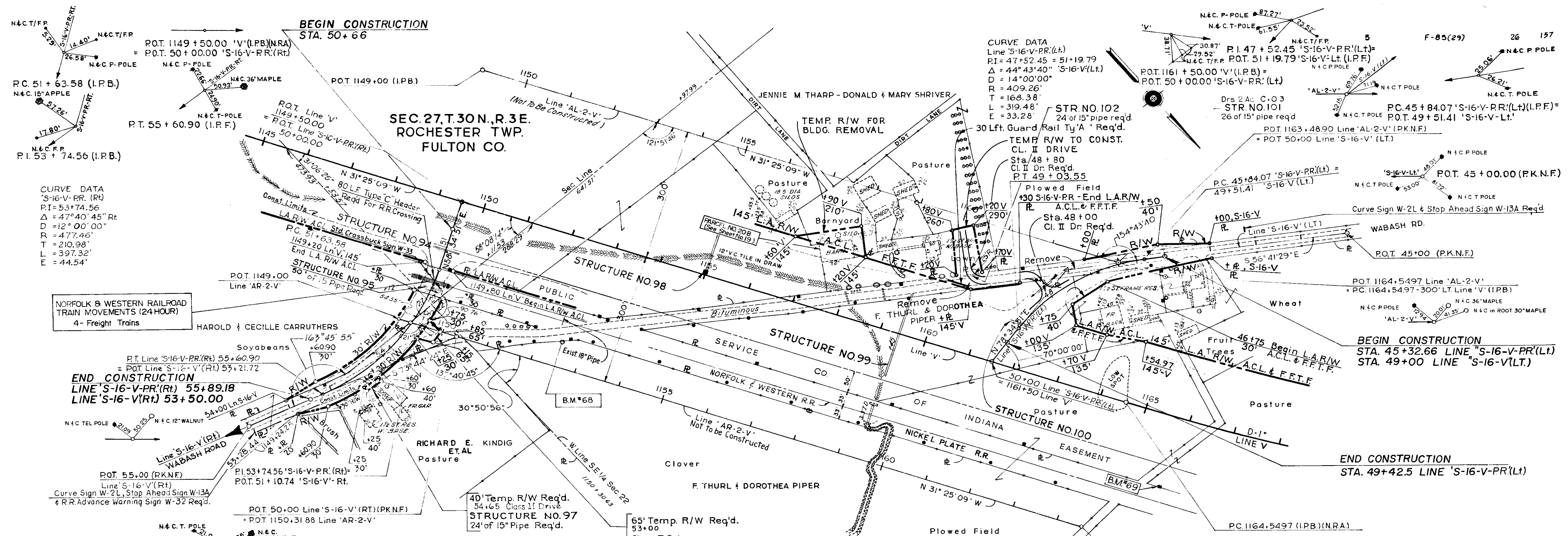
8/20/64

Chris W. Cole & Son
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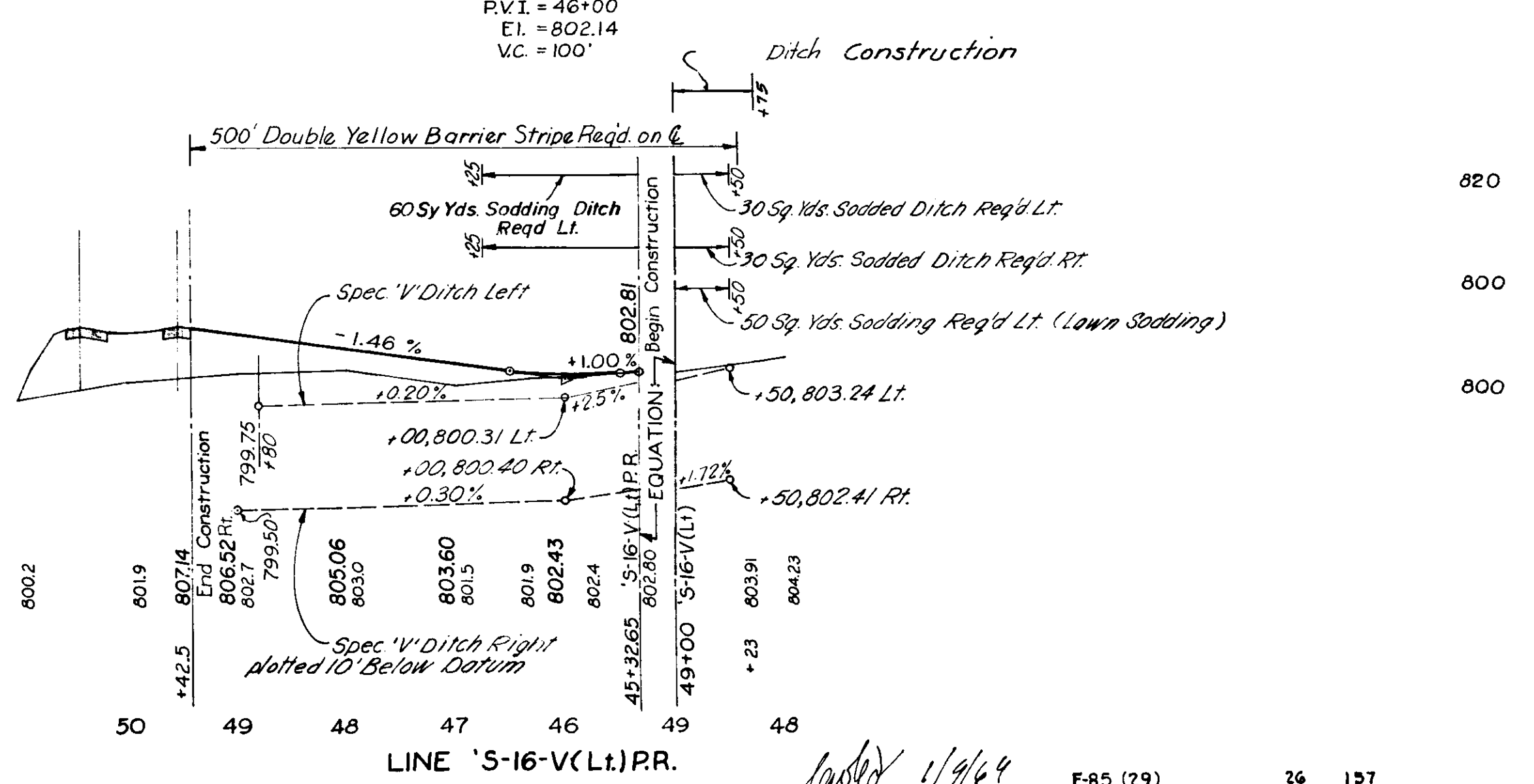
9641T

Chris W. Cole & Son
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9642L



ALL R/W ON THIS SHEET TO BE AS SHOWN.
 LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.
 ALL R/W ON THIS SHEET TO BE MEASURED FROM LINE 'S-16-VPR'
 EXCEPT WHERE INDICATED.



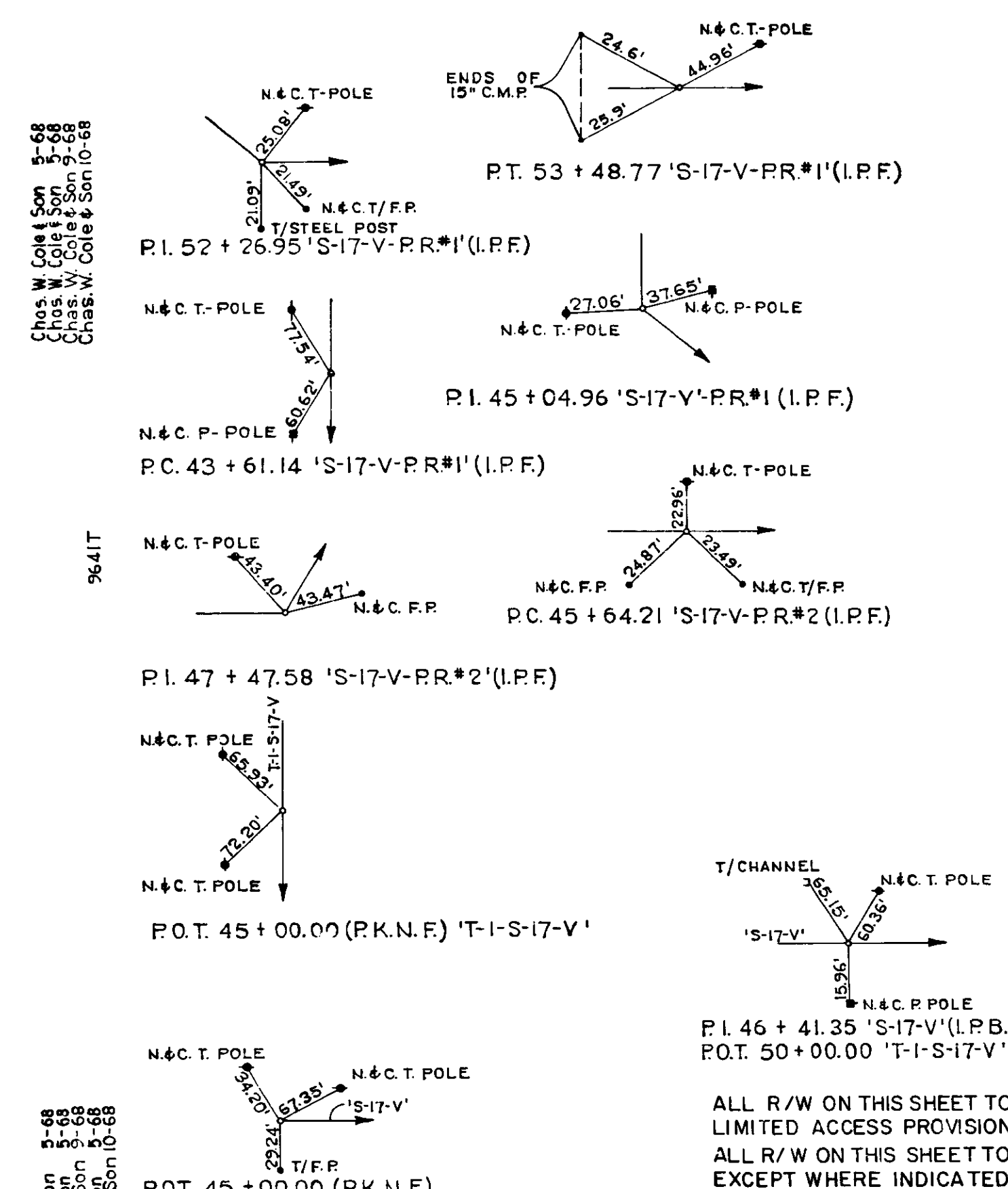
F-85 (29) 26 157
 Line 'S-16-V-PR'(Lt) & Line 'S-16-V-PR'(Rt)

CURVE DATA

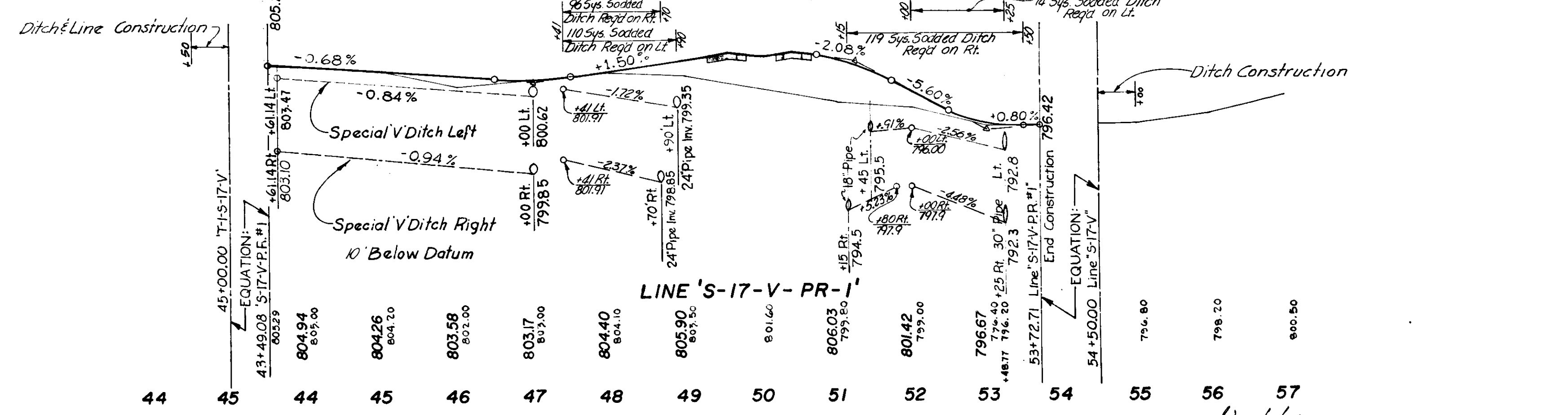
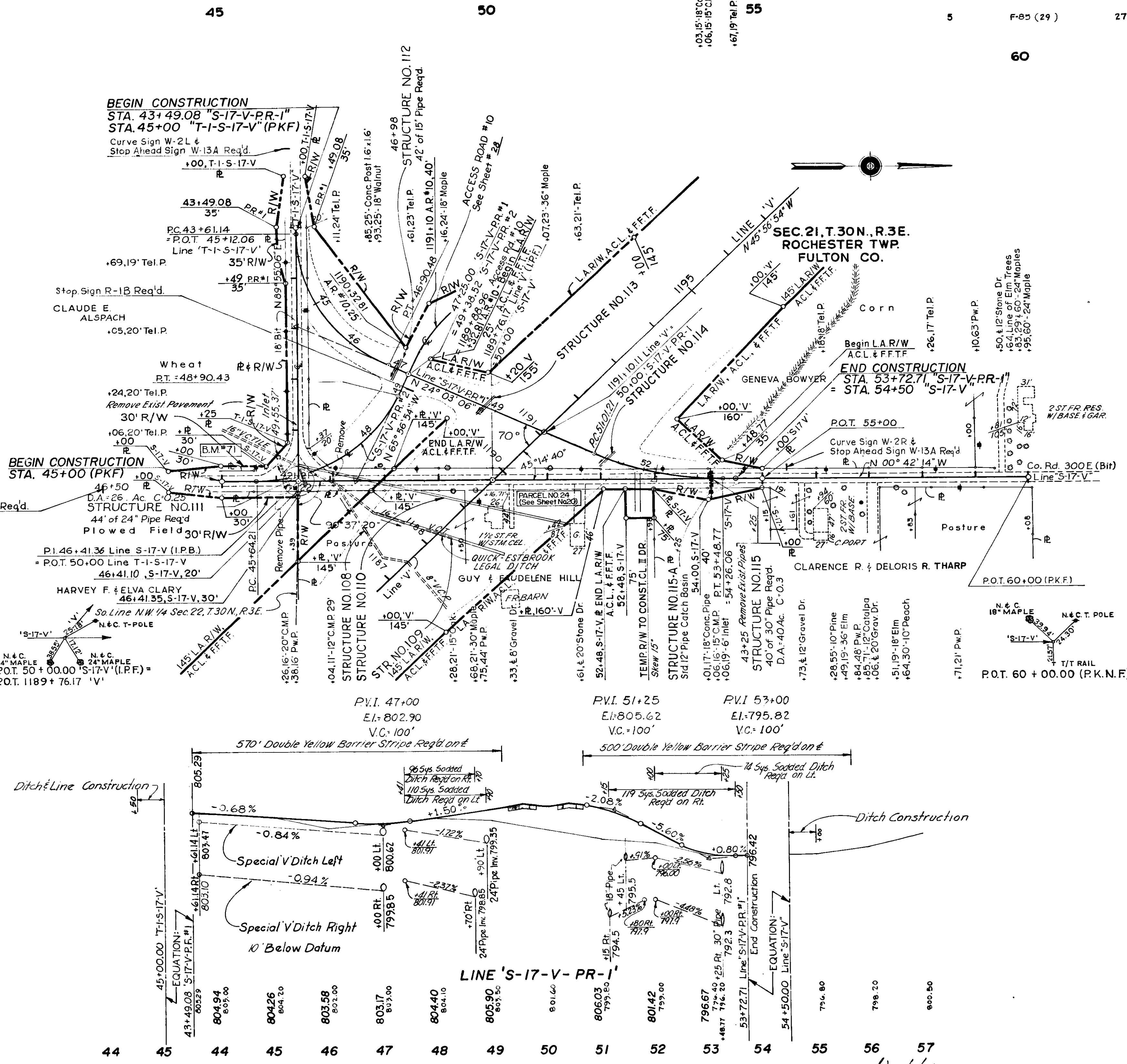
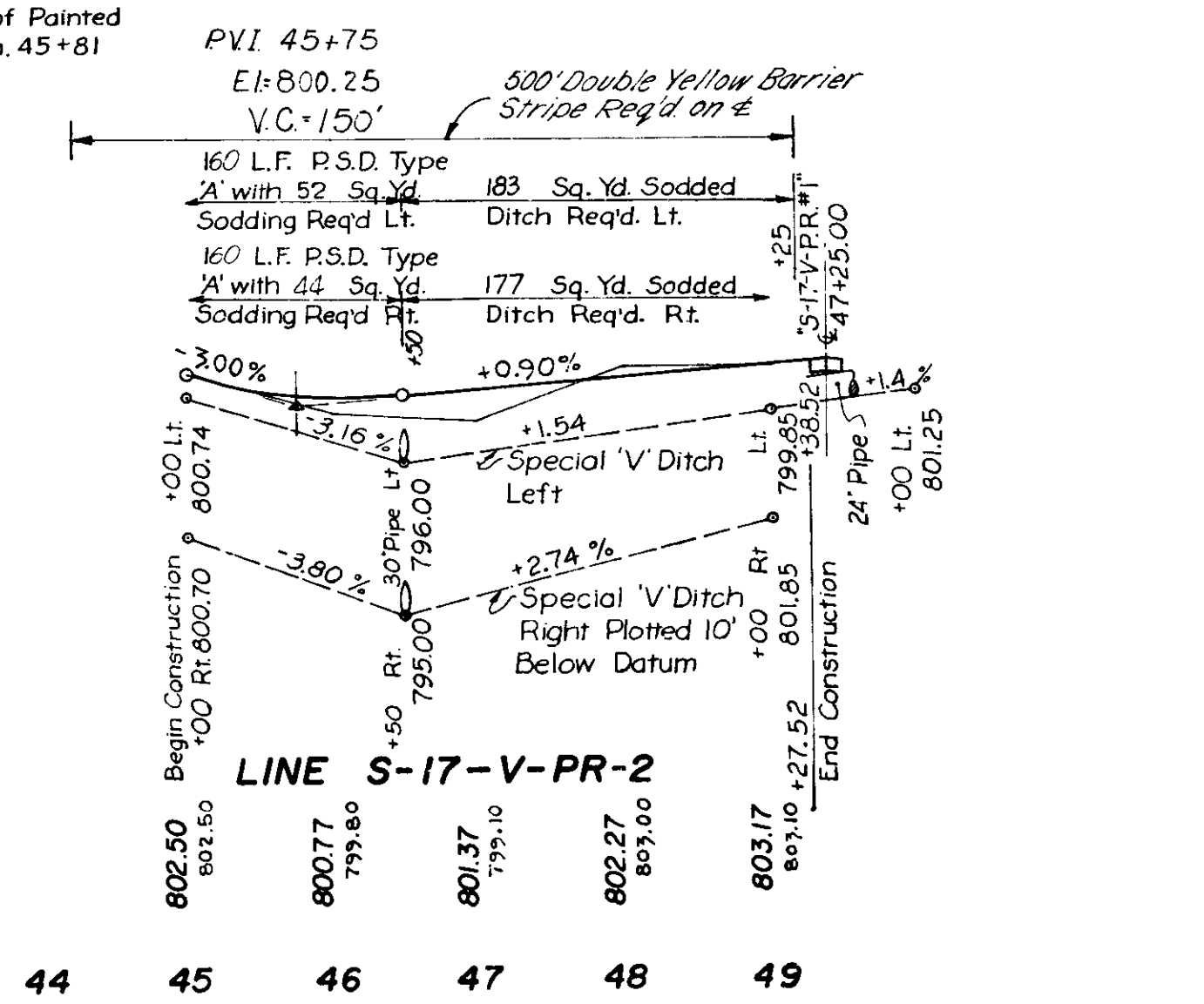
Line 'S-17-V-PR-1'
 PI = 45+46.71 = 46+97.63 'T-I-S-17-V'
 $\Delta = 65^\circ 52' 00''$ Lt.
 $D = 20^\circ 00' 00''$
 $R = 286.48'$
 $T = 185.57'$
 $L = 329.34'$
 $E = 54.85'$

Line 'S-17-V-PR-1'
 PI = 52+26.95 = 53+00.32 'S-17-V'
 $\Delta = 24^\circ 45' 20''$ Lt.
 $D = 10^\circ 00' 00''$
 $R = 572.96'$
 $T = 125.74'$
 $L = 247.56'$
 $E = 13.64'$

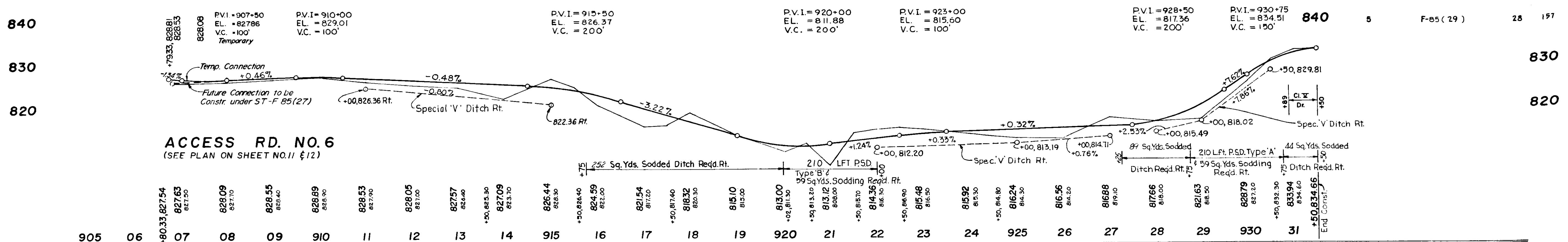
Line 'S-17-V-PR-2'
 PI = 47+47.58
 $\Delta = 65^\circ 14' 40''$ Lt.
 $D = 20^\circ 00' 00''$
 $R = 286.48'$
 $T = 183.37'$
 $L = 326.22'$
 $E = 53.66'$



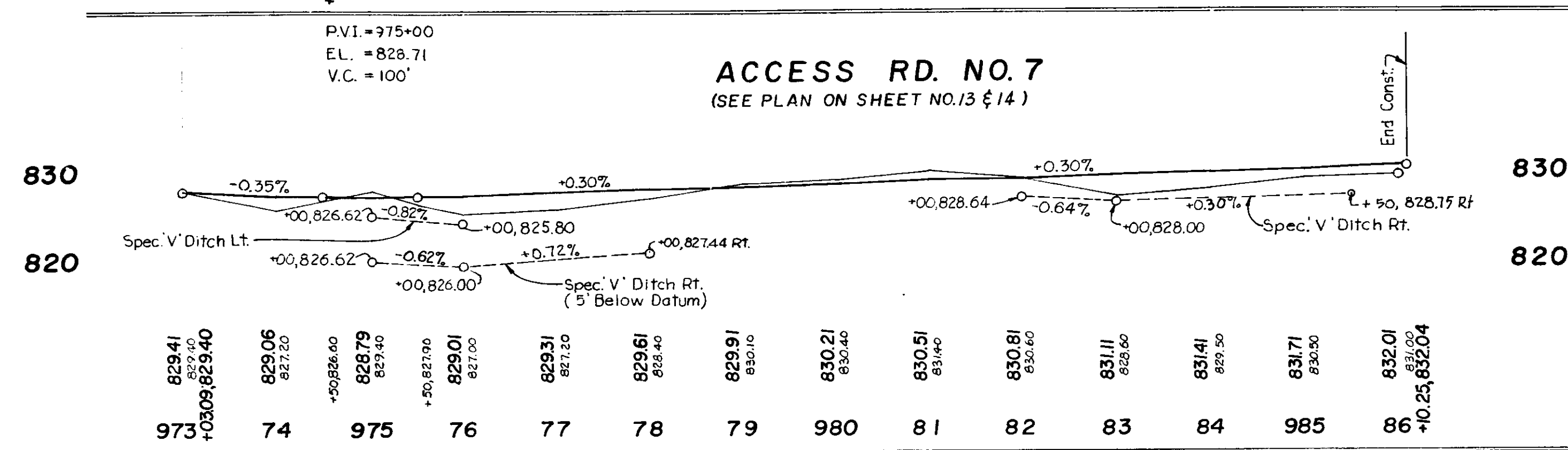
ALL R/W ON THIS SHEET TO BE AS SHOWN.
 LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.
 ALL R/W ON THIS SHEET TO BE MEASURED FROM LINE 'S-17-V-PR-1, 2'
 EXCEPT WHERE INDICATED.



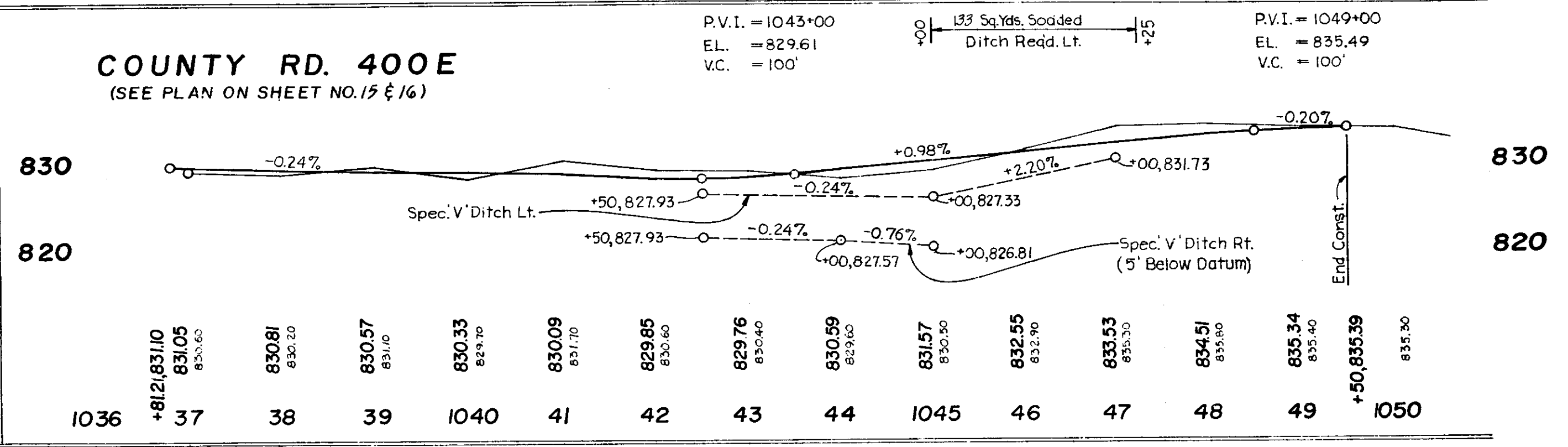
Chas. W. Cole & Son, Inc.
 Civil Engineers
 100 N. 1st St., St. Paul, Minn. 55101
 Chas. W. Cole & Son, Inc.
 Civil Engineers
 100 N. 1st St., St. Paul, Minn. 55101
 Chas. W. Cole & Son, Inc.
 Civil Engineers
 100 N. 1st St., St. Paul, Minn. 55101



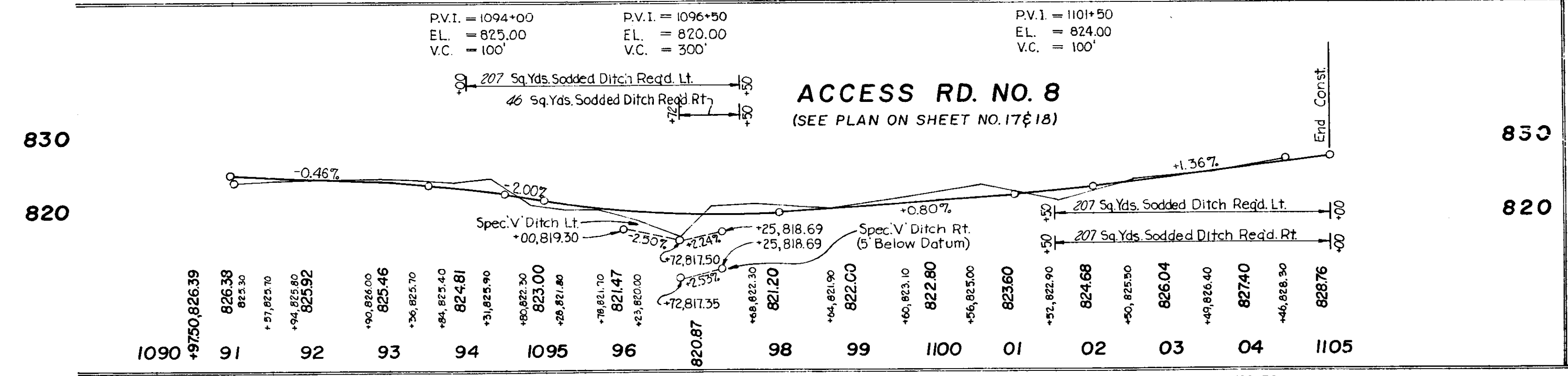
ACCESS RD. NO. 6
(SEE PLAN ON SHEET NO. 11 & 12)



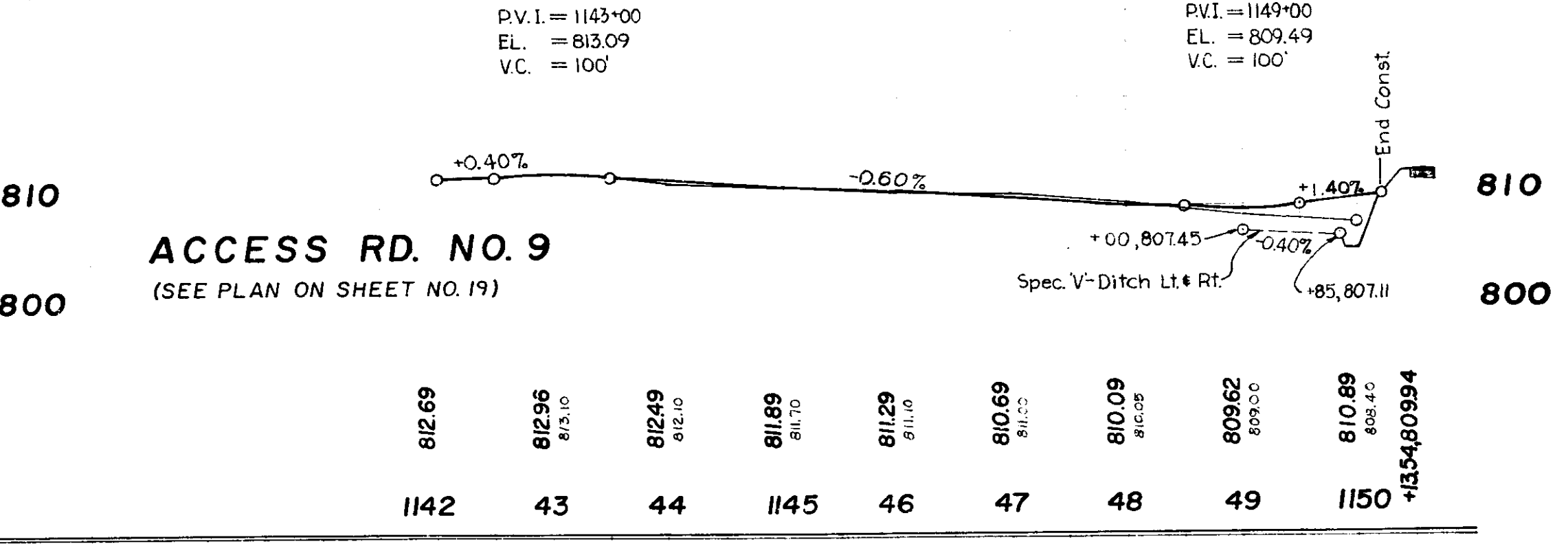
ACCESS RD. NO. 7
(SEE PLAN ON SHEET NO. 13 & 14)



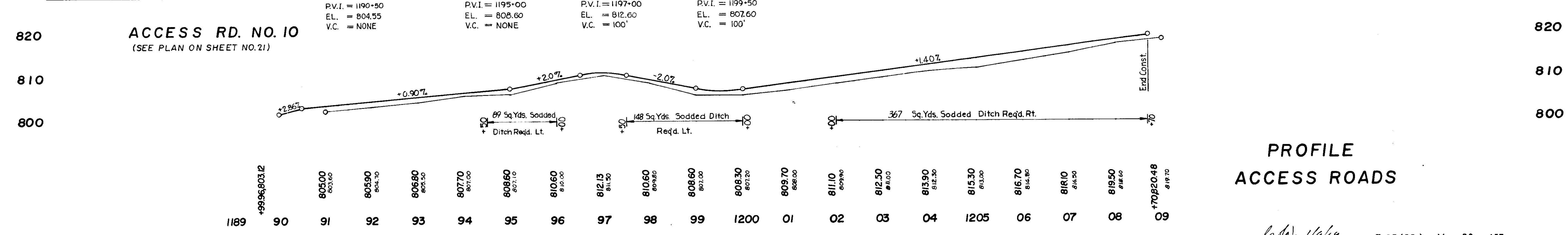
COUNTY RD. 400E
(SEE PLAN ON SHEET NO. 15 & 16)



ACCESS RD. NO. 8
(SEE PLAN ON SHEET NO. 17 & 18)

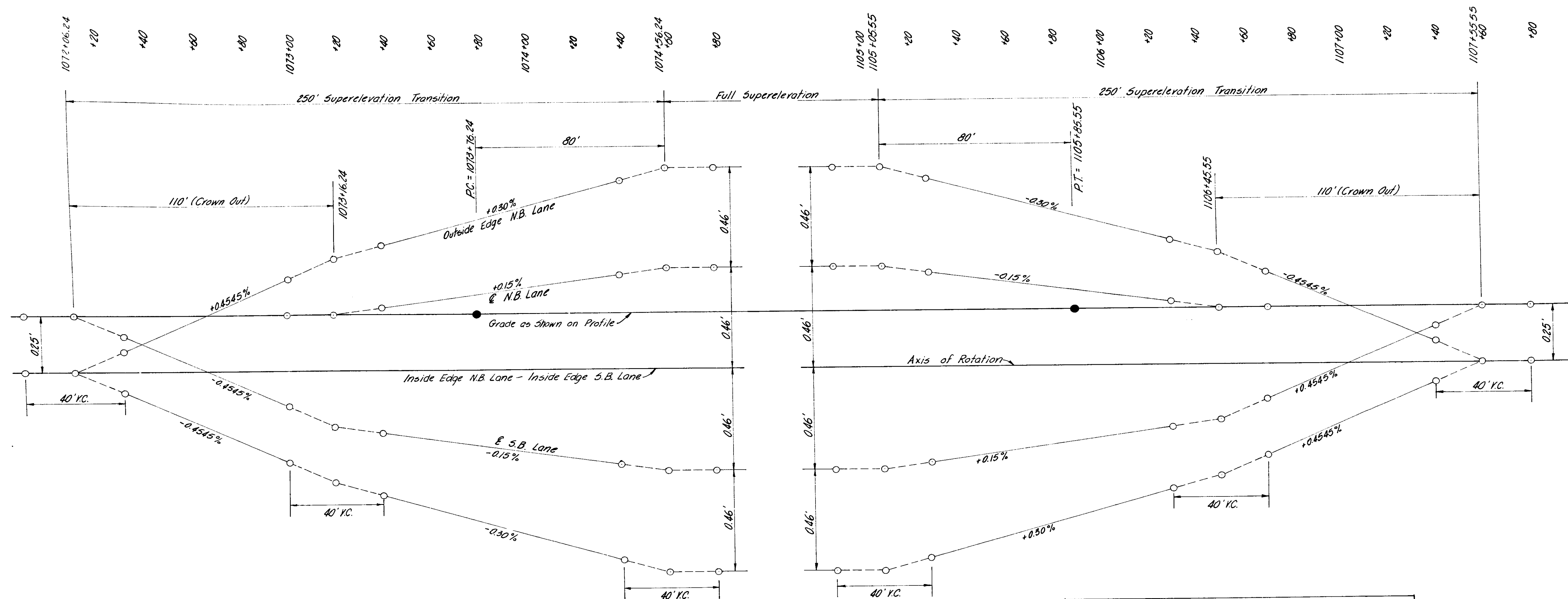


ACCESS RD. NO. 9
(SEE PLAN ON SHEET NO. 19)



ACCESS RD. NO. 10
(SEE PLAN ON SHEET NO. 21)

PROFILE ACCESS ROADS

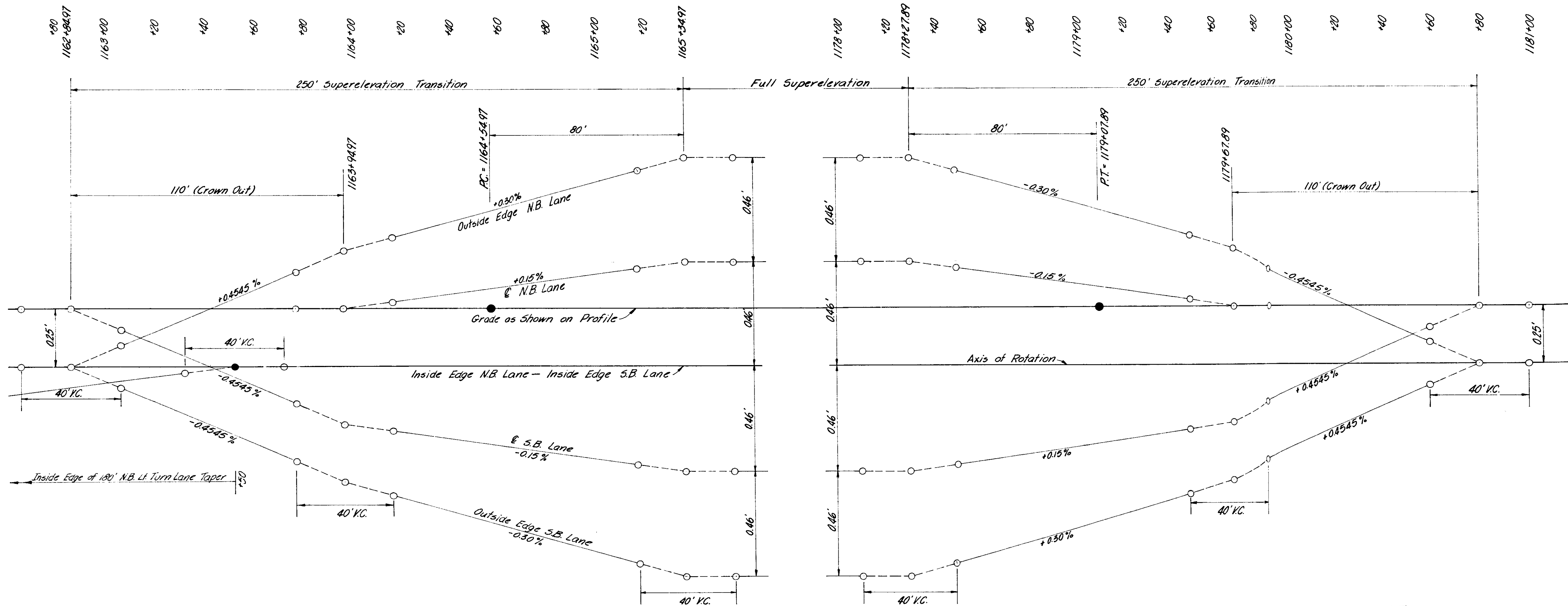


SUPERELEVATION TRANSITION FOR 100' CURVE LT.
Rate of Superelevation = 0.038'

STATION	OFFSET DIST. FROM PROFILE GRADE					
	SOUTHBOUND LANE			NORTHBOUND LANE		
	Outside Edge	℄	Inside Edge	Inside Edge	℄	Outside Edge
1071+50	-0.25'	0	-0.25'	-0.25'	0	-0.25'
1072+00	-0.26'	-0.01'	-0.25'	-0.25'	0.00	-0.25'
+50	-0.45'	-0.20'	-0.25'	-0.25'	0.00	-0.05'
1073+00	-0.67'	-0.43'	-0.25'	-0.25'	0.00	+0.18'
+50	-0.85'	-0.55'	-0.25'	-0.25'	+0.05'	+0.35'
1074+00	-1.00'	-0.69'	-0.25'	-0.25'	+0.13'	+0.50'
+50	-1.14'	-0.10'	-0.25'	-0.25'	+0.20'	+0.64'
1075+00	-1.11'	-0.11'	-0.25'	-0.25'	+0.21'	+0.67'

STATION	OFFSET DIST. FROM PROFILE GRADE					
	SOUTHBOUND LANE			NORTHBOUND LANE		
	Outside Edge	℄	Inside Edge	Inside Edge	℄	Outside Edge
1104+50	-1.17'	-0.71'	-0.25'	-0.25'	+0.21'	+0.67'
1105+00	-1.16'	-0.71'	-0.25'	-0.25'	+0.21'	+0.66'
+50	-1.04'	-0.64'	-0.25'	-0.25'	+0.14'	+0.54'
1106+00	-0.89'	-0.57'	-0.25'	-0.25'	+0.07'	+0.39'
+50	-0.73'	-0.47'	-0.25'	-0.25'	0.00	+0.23'
1107+00	-0.50'	-0.25'	-0.25'	-0.25'	0.00	0.00
+50	-0.29'	-0.04'	-0.25'	-0.25'	0.00	-0.21'
1108+00	-0.25'	0	-0.25'	-0.25'	0	-0.25'

Scale
1"=20' Horizontal
1"=0.2' Vertical



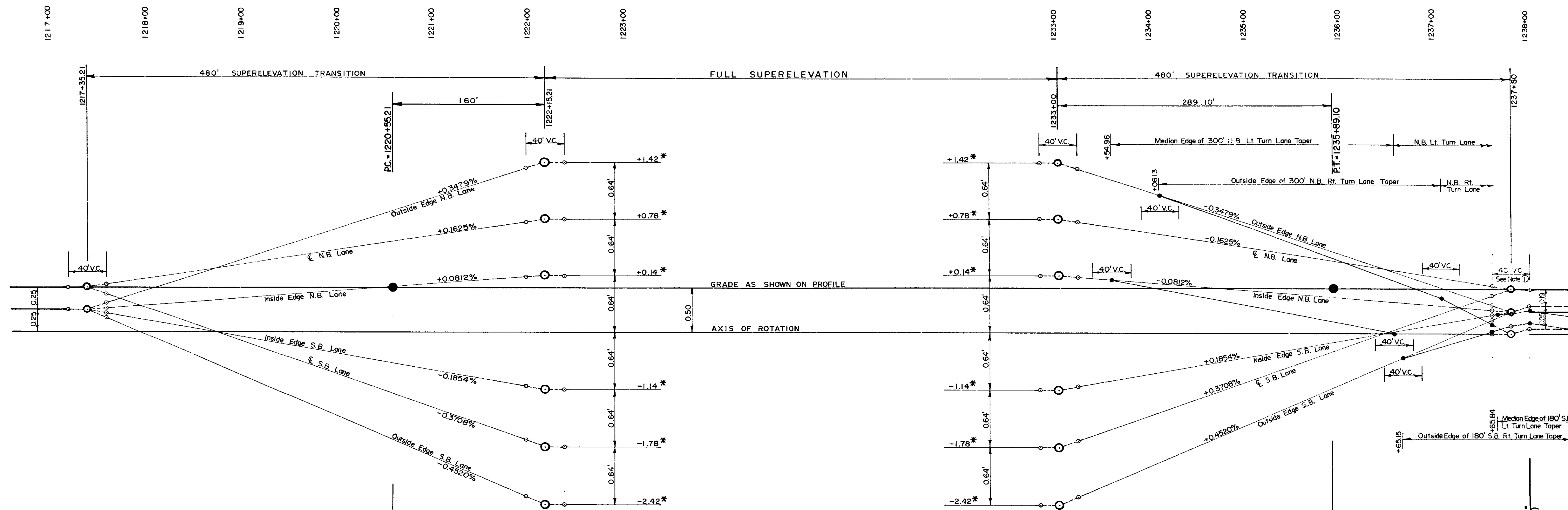
SUPERELEVATION TRANSITION FOR 1°00' CURVE LT.
Rate of Superelevation = 0.038'

STATION	OFFSET DIST. FROM PROFILE GRADE					
	SOUTHBOUND LANE			NORTHBOUND LANE		
	Outside Edge	℄	Inside Edge	Inside Edge	℄	Outside Edge
1162+50	-0.25'	0	-0.25'	-0.50'	-0.25'	0
1163+00	-0.32'	-0.01'	-0.25'	-0.32'	-0.25'	0.00
1163+50	-0.35'	-0.30'	-0.25'	-0.25'	0.00	0.05'
1164+00	-0.76'	-0.90'	-0.25'	-0.25'	0.01'	0.26'
1164+50	-0.92'	-0.98'	-0.25'	-0.25'	0.08'	0.42'
1165+00	-1.07'	-0.66'	-0.25'	-0.25'	0.16'	0.57'
1165+50	-1.17'	-0.11'	-0.25'	-0.25'	0.21'	0.67'
1166+00	-1.17'	-0.11'	-0.25'	-0.25'	0.21'	0.67'

f = Tangent Value

STATION	OFFSET DIST. FROM PROFILE GRADE					
	SOUTHBOUND LANE			NORTHBOUND LANE		
	Outside Edge	℄	Inside Edge	Inside Edge	℄	Outside Edge
1178+00	-1.11'	-0.71'	-0.25'	-0.25'	0.21'	0.67'
1178+50	-1.10'	-0.69'	-0.25'	-0.25'	0.18'	0.60'
1179+00	-0.95'	-0.60'	-0.25'	-0.25'	0.10'	0.45'
1179+50	-0.80'	-0.53'	-0.25'	-0.25'	0.03'	0.30'
1180+00	-0.60'	-0.35'	-0.25'	-0.25'	0.00	0.10'
1180+50	-0.38'	-0.13'	-0.25'	-0.25'	0.00	-0.12'
1181+00	-0.25'	0	-0.25'	-0.25'	0	-0.25'

Scale
1"=20' Horizontal
1"=20' Vertical



SUPERELEVATION TRANSITION FOR 1°-45' CURVE LT.
RATE OF SUPERELEVATION = 0.053'

STATION	OFFSET DIST. FROM PROFILE GRADE					
	SOUTHBOUND LANE			NORTHBOUND LANE		
	Outside Edge	℄	Inside Edge	Inside Edge	℄	Outside Edge
1217+00	-0.25'	0	-0.25'	-0.25'	0	-0.25'
+50	-0.32'	-0.06'	-0.28'	-0.24'	+0.02'	-0.20'
1218+00	-0.54'	-0.24'	-0.37'	-0.20'	+0.11'	-0.02'
+50	-0.77'	-0.43'	-0.46'	-0.16'	+0.19'	+0.15'
1219+00	-0.99'	-0.61'	-0.56'	-0.12'	+0.27'	+0.32'
+50	-1.22'	-0.80'	-0.65'	-0.08'	+0.35'	+0.50'
1220+00	-1.45'	-0.98'	-0.74'	-0.03'	+0.43'	+0.67'
+50	-1.67'	-1.17'	-0.83'	+0.01'	+0.51'	+0.85'
1221+00	-1.90'	-1.35'	-0.93'	+0.05'	+0.59'	+1.02'
+50	-2.12'	-1.54'	-1.02'	+0.09'	+0.67'	+1.19'
1222+00	-2.35'	-1.72'	-1.11'	+0.13'	+0.75'	+1.37'
+50	-2.42'	-1.78'	-1.14'	+0.14'	+0.78'	+1.42'

STATION	OFFSET DIST. FROM PROFILE GRADE									
	SOUTHBOUND LANE					NORTHBOUND LANE				
	Right Turn Lane Outside Edge	Outside Edge Pavement	℄ Pavement	Inside Edge Pavement	Left Turn Lane Median Edge	Left Turn Lane Median Edge	Inside Edge Pavement	℄ Pavement	Outside Edge Pavement	Right Turn Lane Outside Edge
1233+50		-2.42'	-1.78'	-1.14'			+0.14'	+0.18'	+1.42'	
1233+00		-2.40'	-1.76'	-1.13'			+0.14'	+0.17'	+1.40'	
+54.96		-2.17'	-1.58'	-1.04'		+0.10' ‡	+0.10'	+0.69'	+1.23'	
1234+00		-1.97'	-1.41'	-0.95'		+0.01'	+0.05'	+0.62'	+1.07'	
+65.13		-1.94'	-1.39'	-0.94'		0.00	+0.05'	+0.61'	+1.05'	+1.05' ‡
1235+00		-1.52'	-1.04'	-0.77'		-0.19'	-0.02'	+0.46'	+0.72'	+0.69'
+89.10		-1.11'	-0.77'	-0.60'		-0.37'	-0.09'	+0.31'	+0.41'	+0.34'
1236+00		-1.02'	-0.63'	-0.57'		-0.41'	-0.11'	+0.28'	+0.34'	+0.27'
+54.96		-0.82'	-0.46'	-0.48'		-0.50' ‡	-0.15'	+0.20'	+0.19'	+0.09'
+65.15		-0.77' ‡	-0.71'	-0.43'		-0.50' ‡	-0.16'	+0.19'	+0.15'	+0.05'
1237+06.13		-0.64'	-0.58'	-0.27'		-0.50'	-0.19'	+0.12'	+0.01'	-0.11'
+09		-0.63'	-0.57'	-0.26'		-0.50'	-0.19'	+0.12'	0.00	-0.12'
+60		-0.47'	-0.34'	-0.01'		-0.50'	-0.23'	+0.03'	-0.18'	-0.39'
+65.34						-0.28' ‡				
1238+00		-0.38'	-0.19'	0		-0.19'	-0.24'	-0.44'	-0.19'	-0.44'

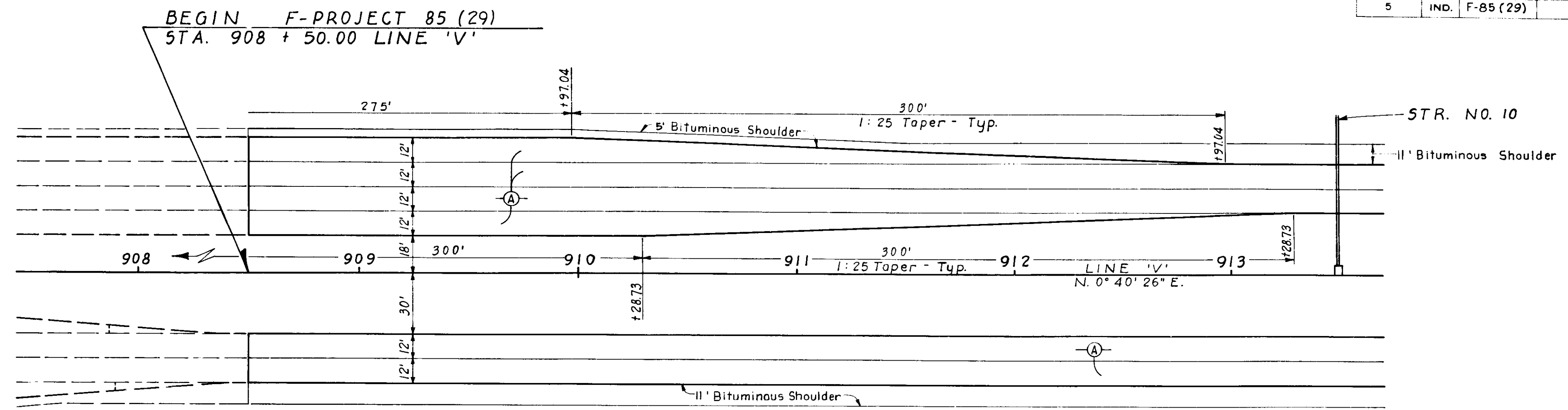
‡ Tangent Value

- NOTES:**
- ① 40' Pavement Transition from Bituminous Concrete Section to Continuously Reinforced Concrete Section
 - * Values with Respect to Profile Grade

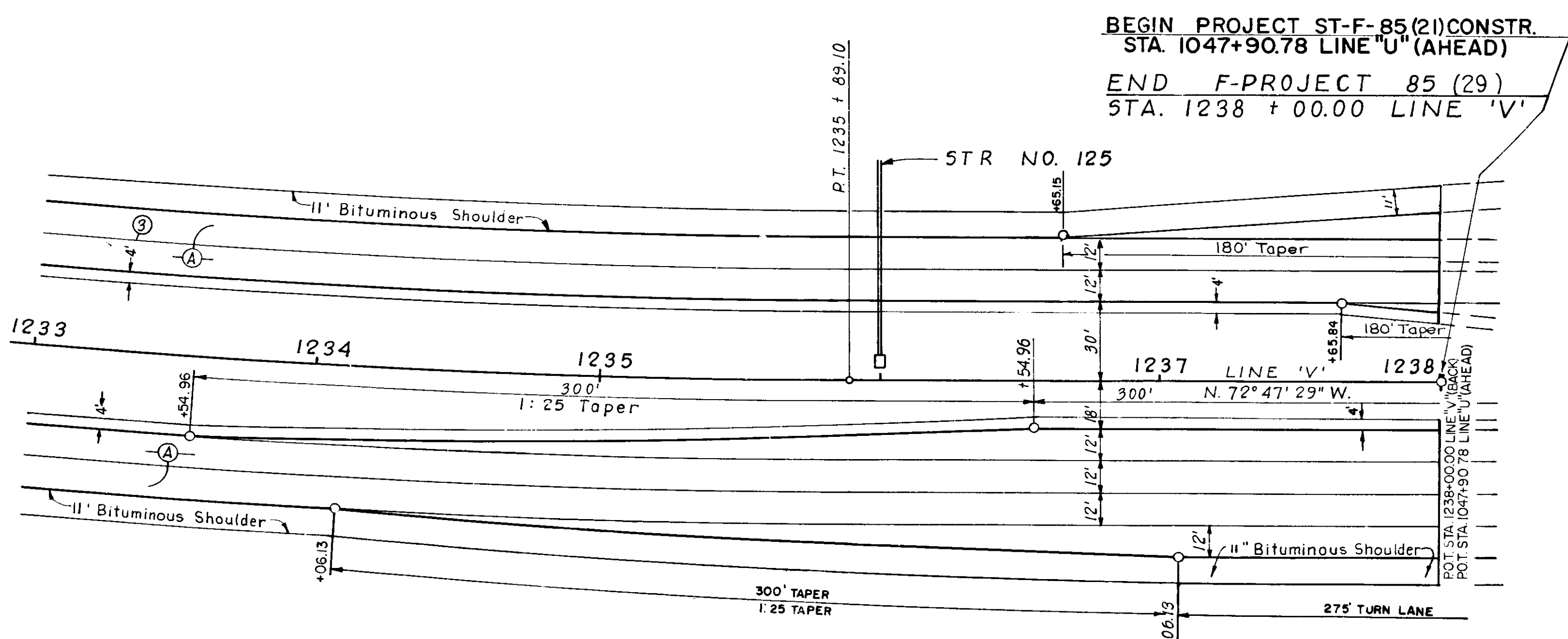
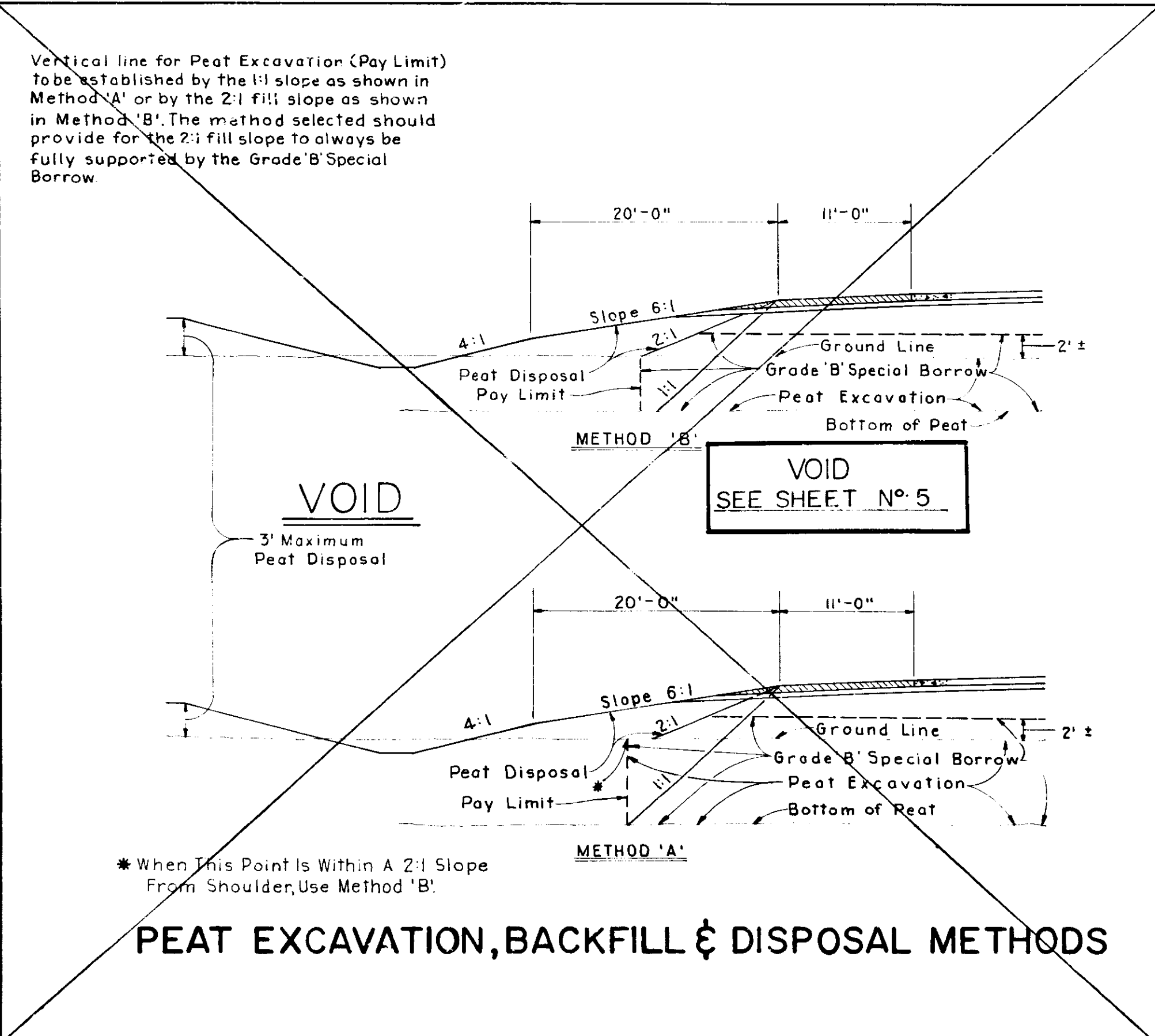
SCALE
Vert. 1" = 0.50'
Horiz. 1" = 50'

STA. 1238+00 BS (29)
END OF PROJECT
BEGIN STA. 1047+80.78

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-85 (29)		29	157



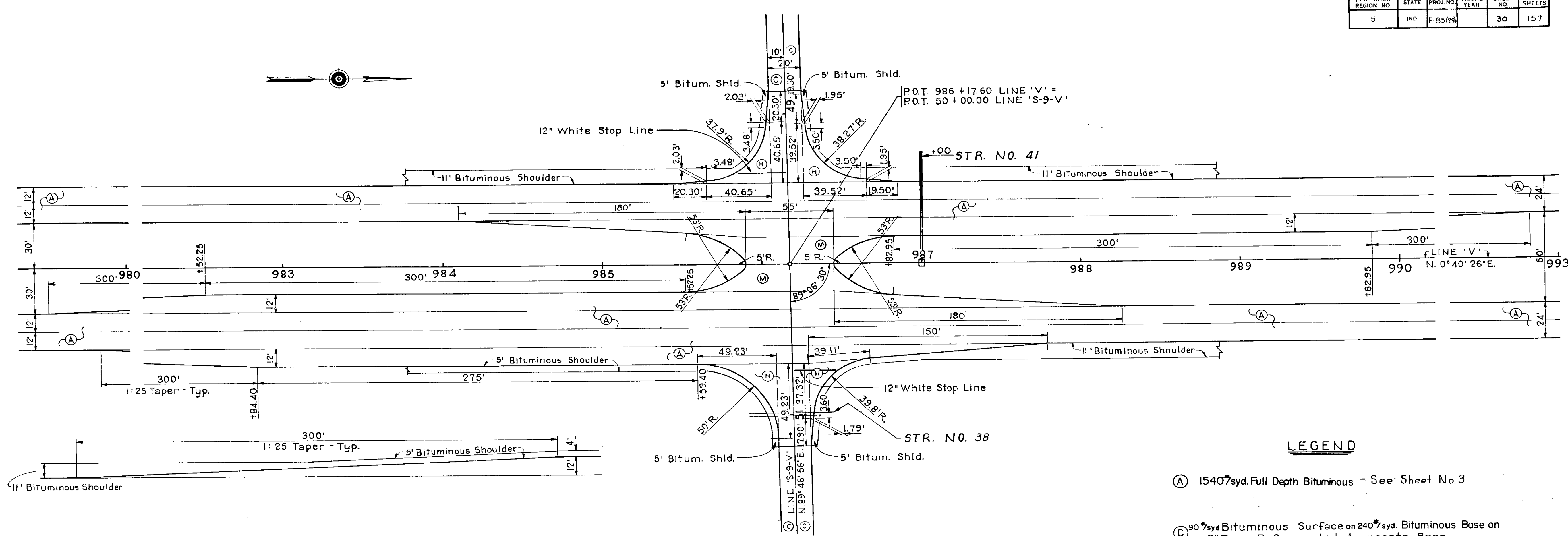
NOTE
For Legend See Sheet No. 30



DECELERATION TAPERS
DETAILS
SCALE: 1" = 30'

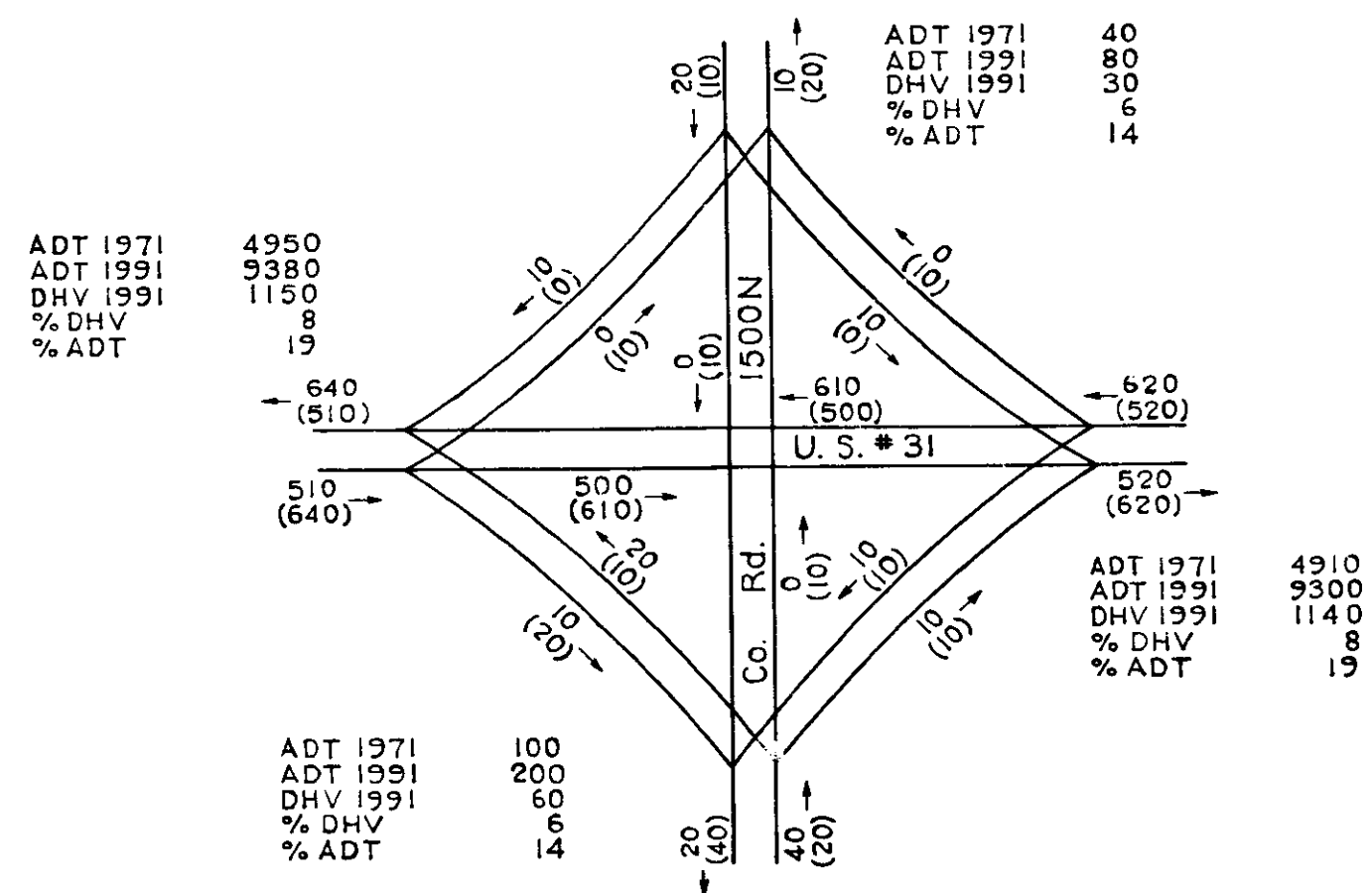
PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS
F-85 (29)	V	29	157

FED. ROAD REGION NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-85(29)		30	157



LEGEND

- (A) 1540⁷syd Full Depth Bituminous - See Sheet No. 3
- (C) 90⁷syd Bituminous Surface on 240⁷syd Bituminous Base on 9" Type P Compacted Aggregate Base.
- (D) 30⁷syd Bituminous Surface on 240⁷syd Bituminous Base on 8" Type P Compacted Aggregate Base.
- (F) 90⁷syd Bituminous Surface on 295⁷syd Bituminous Base on 9" Type P Compacted Aggregate Base.
- (M) Bituminous Mixture for Crossover (1100⁷/syd.)
- (H) 330⁷syd Bituminous Mixture for Approaches on (See Sheet No. 4) 440⁷syd Bituminous Stabilized Subbase



DESIGN FOR HOURLY VOLUME ESTIMATED FOR 1991 AT COUNTY RD. 1500N.
DIRECTIONAL DHV
20 A.M. FLOW
(40) P.M. FLOW

LINE 'V' & LINE 'S-9-V'
(Co. Rd. 1500N)

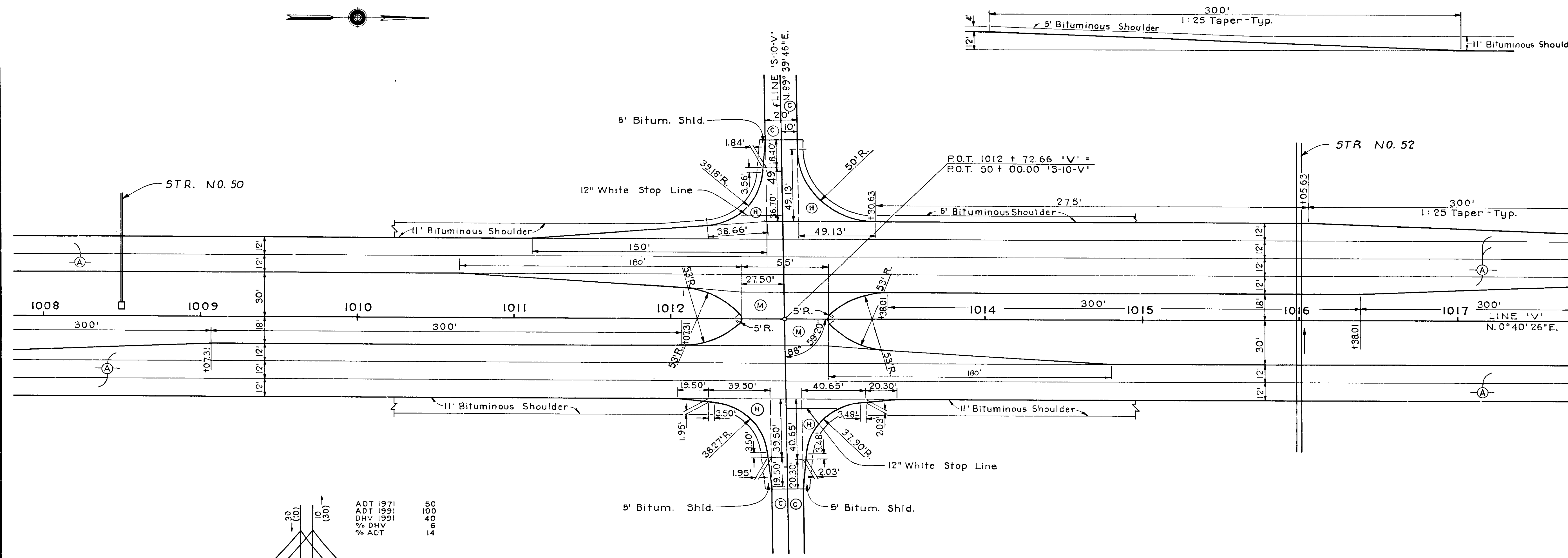
DETAILS

SCALE: 1" = 30'

Handwritten signature/initials

PROJ.	LINE	SHEET	FILE
F-85(29)	S-9-V	30	

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND	F-85 (29)		31	157



ADT 1971	ADT 1991	DHV 1991	% DHV	% ADT
4910	9300	1140	19	
620 (520)	510 (600)	530 (600)		
520 (620)	510 (600)	530 (600)		
ADT 1971	ADT 1991	DHV 1991	% DHV	% ADT
30	30	30	6	14

ADT 1971	ADT 1991	DHV 1991	% DHV	% ADT
4890	9260	1130	19	

NOTE
For Legend See Sheet No. 30

LINE 'V' & LINE 'S-10-V'
Co. Rd. 1550N

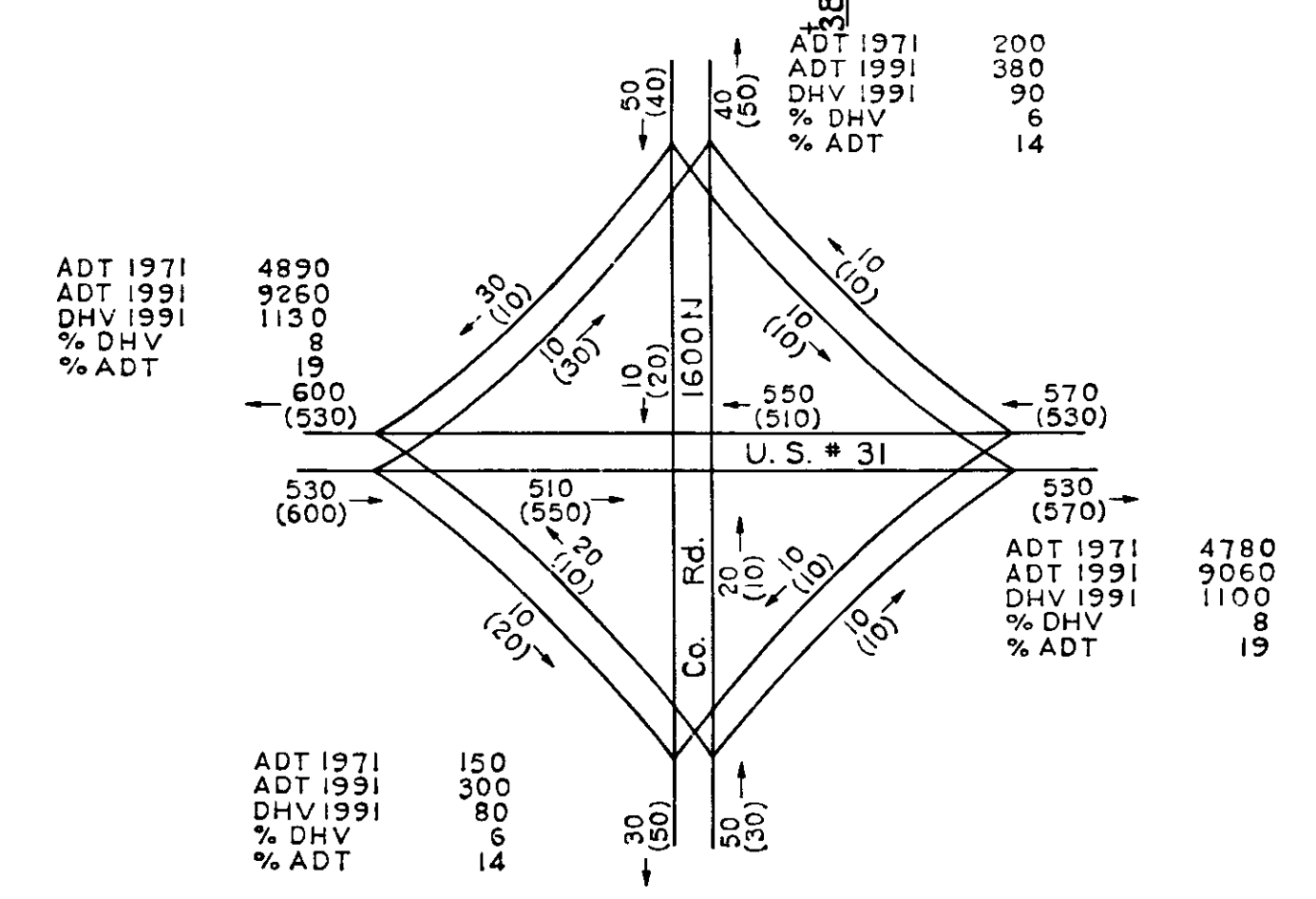
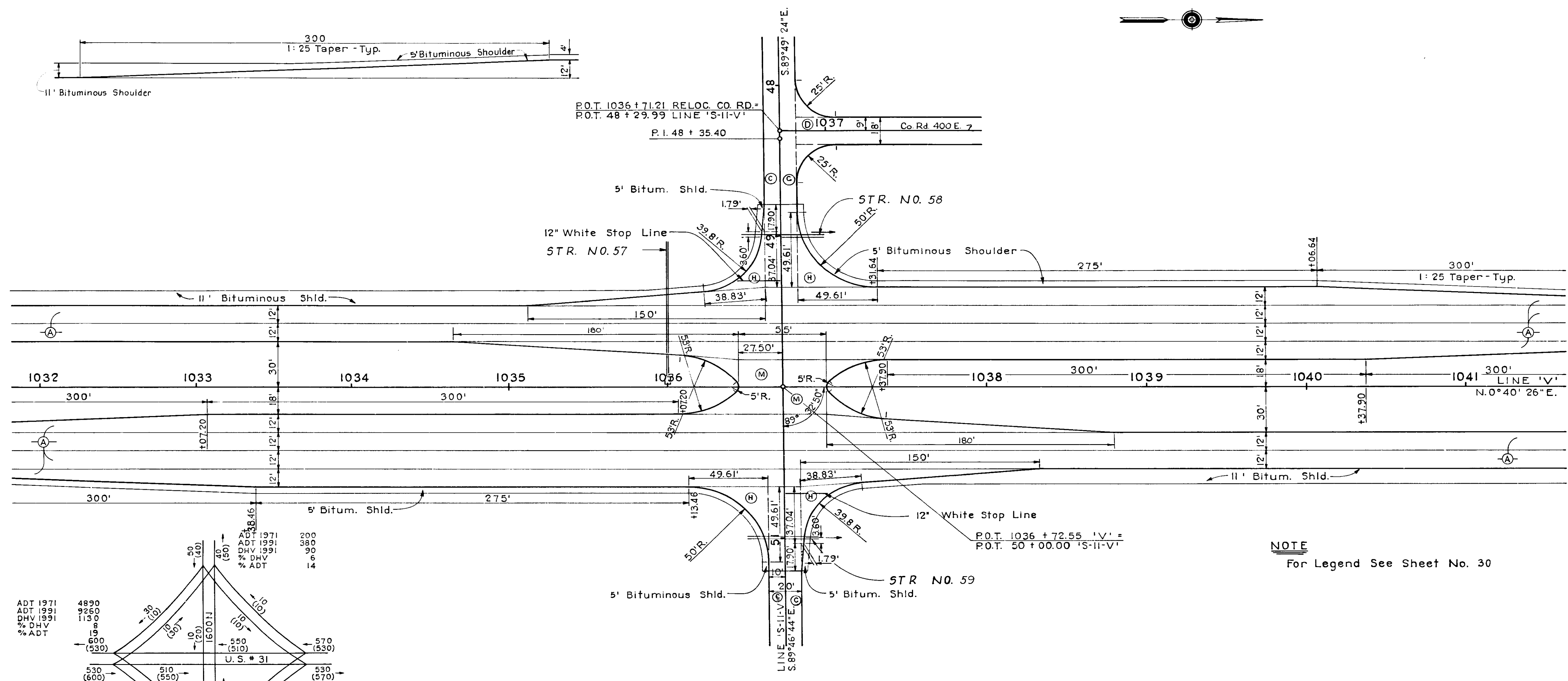
DETAILS

SCALE: 1" = 30'

Handwritten signature/initials

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS
F-85 (29)	S-10-V	31	157

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F. 85 (29)		32	157



DESIGN HOURLY VOLUME ESTIMATED FOR 1991 AT COUNTY RD. 1600N
DIRECTIONAL DHV
30 A.M. FLOW
(50) P.M. FLOW

NOTE
For Legend See Sheet No. 30

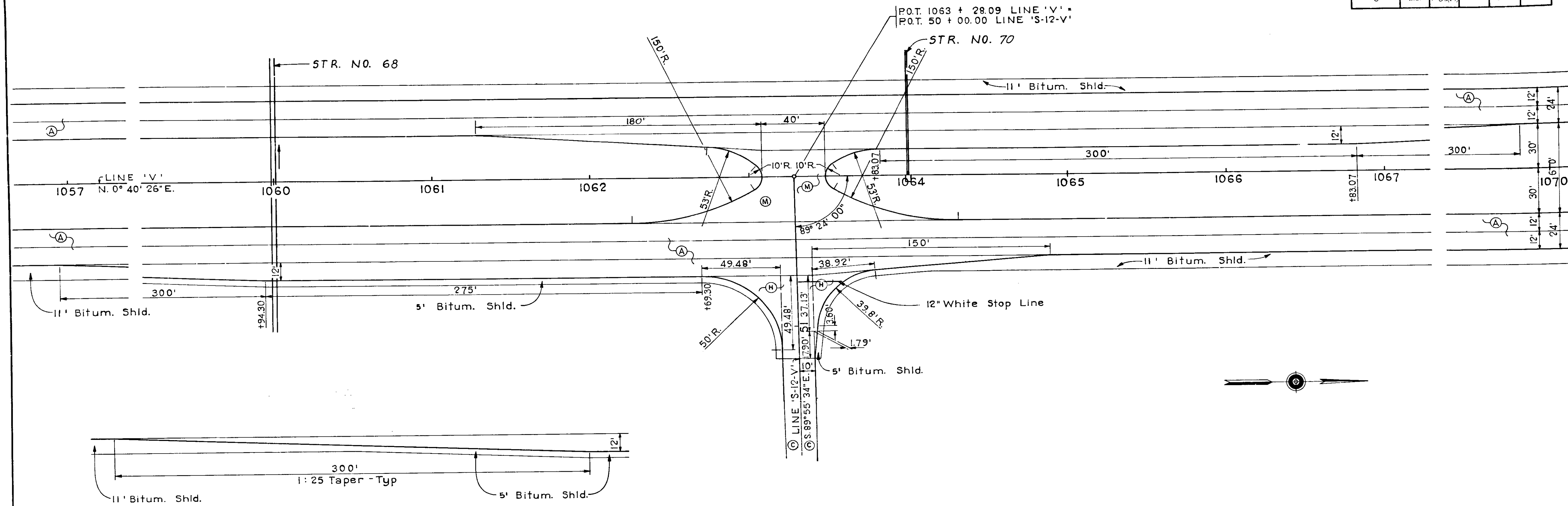
LINE 'V' & LINE 'S-II-V'
Co. Rd. 1600N

DETAILS
SCALE: 1" = 30'

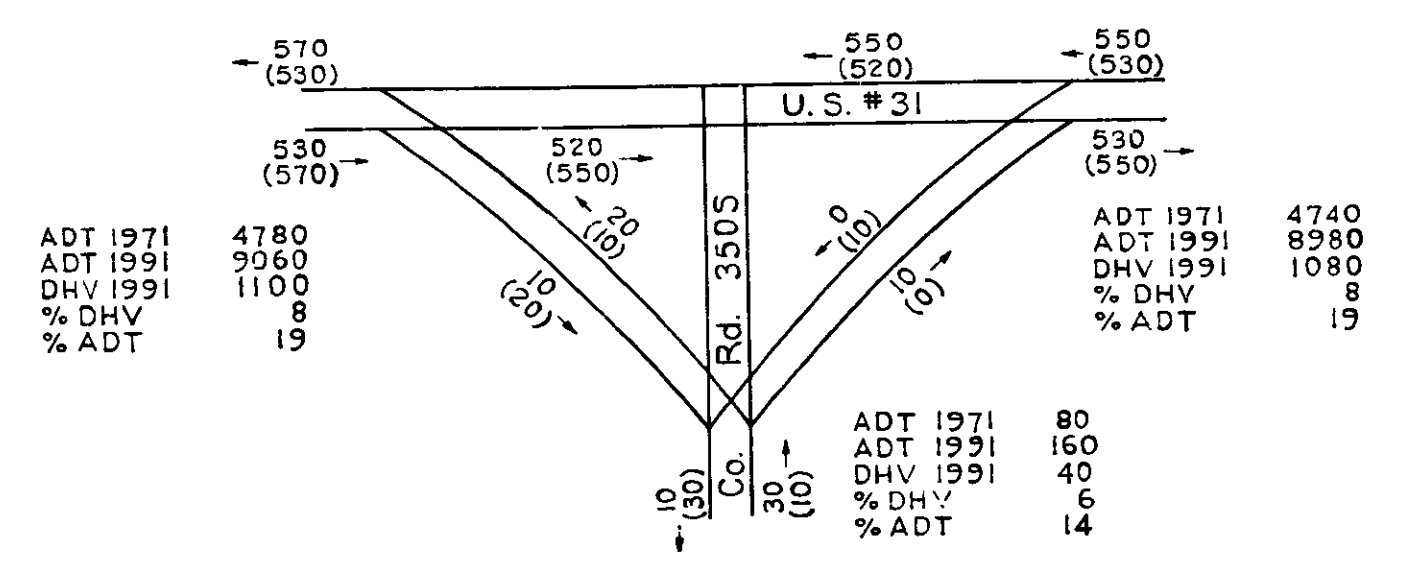
Handwritten signature and date: [Signature] 11/9/64

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
F-85 (29)	S-II-V	32	157	

FED. ROAD REGION NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND	F-84(2)		33	157



NOTE
For Legend See Sheet No. 30



DESIGN HOURLY VOLUME ESTIMATED
FOR 1991 AT COUNTY RD. 350S.
DIRECTIONAL DHV
10 A.M. FLOW
(20) P.M. FLOW

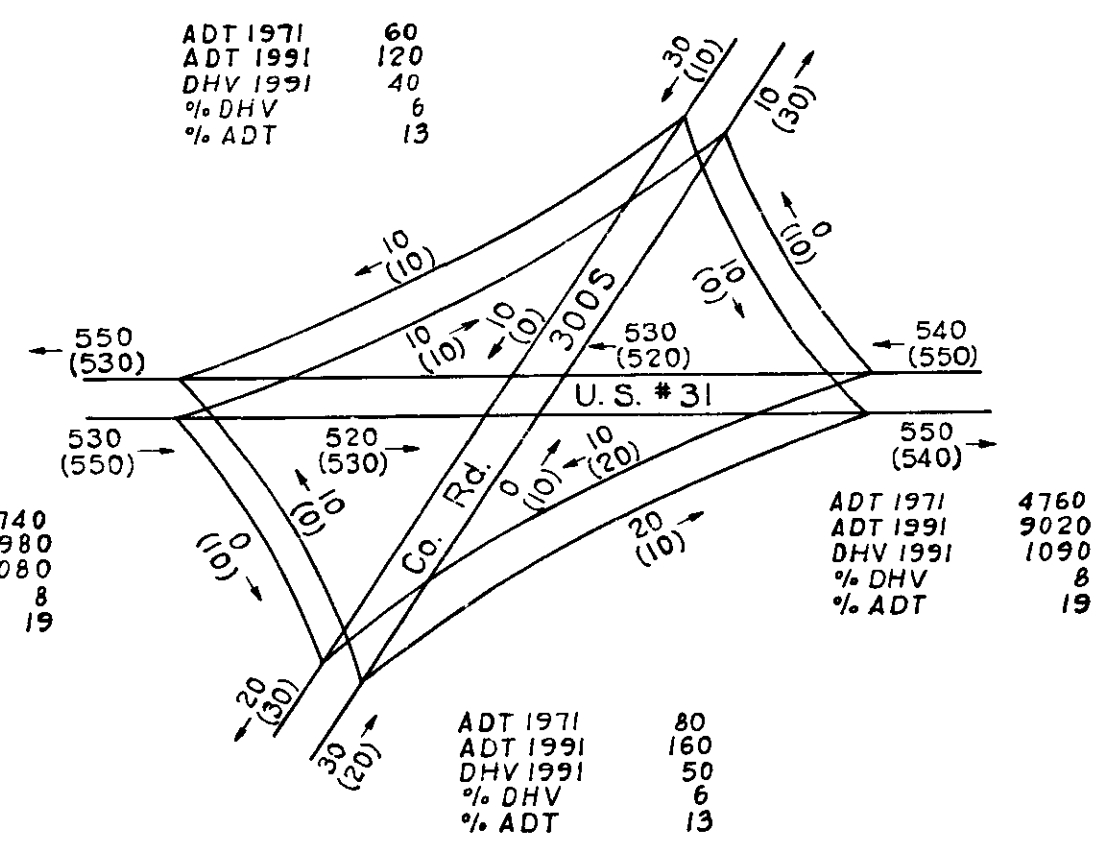
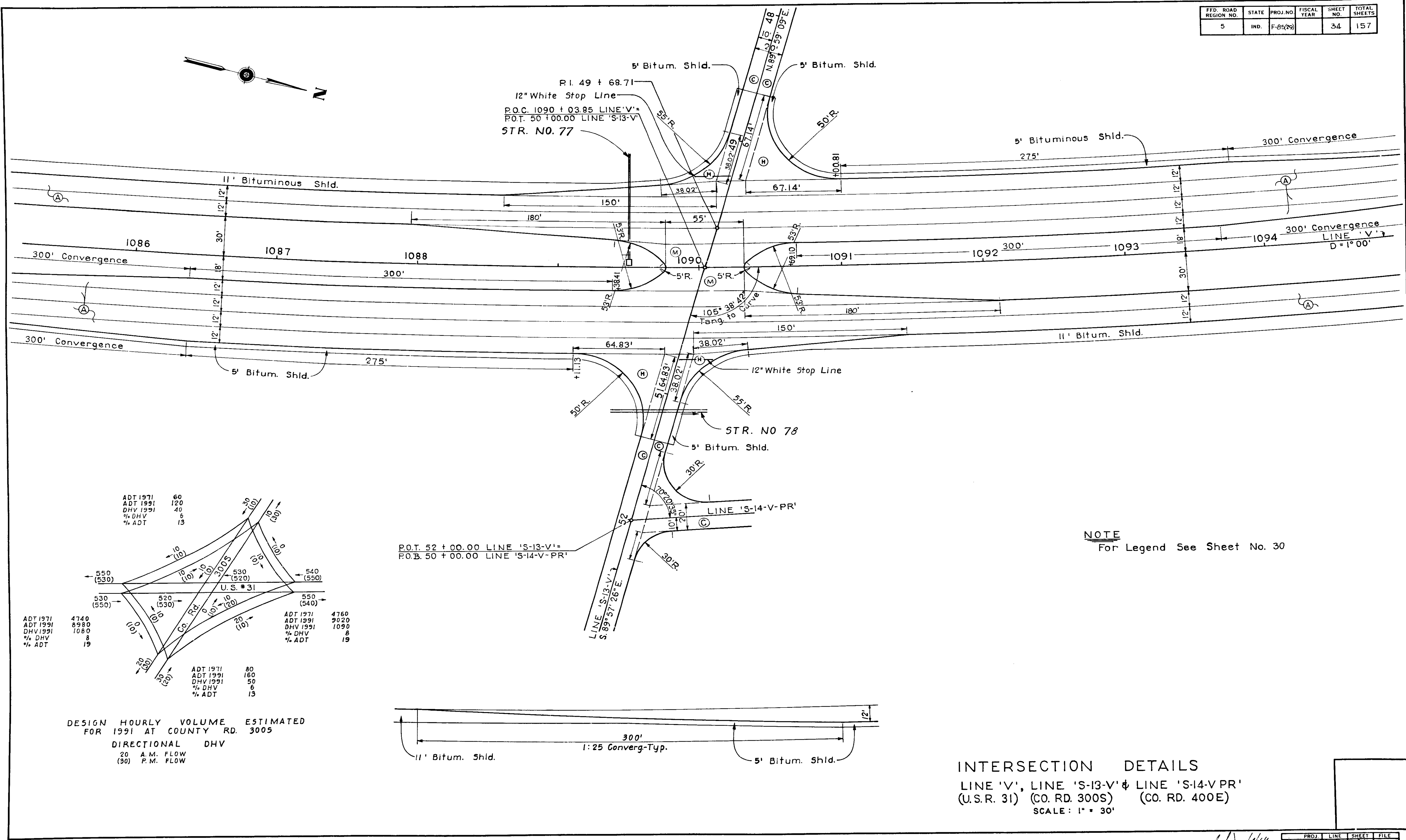
LINE 'V' & LINE 'S-12-V'
(Co. Rd. 350S)

DETAILS
SCALE: 1" = 30'

1/1/69

PROJ.	LINE	SHEET	FILE
F-84(2)	S-12-V	33	

FFD. ROAD REGION NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-85(29)		34	157

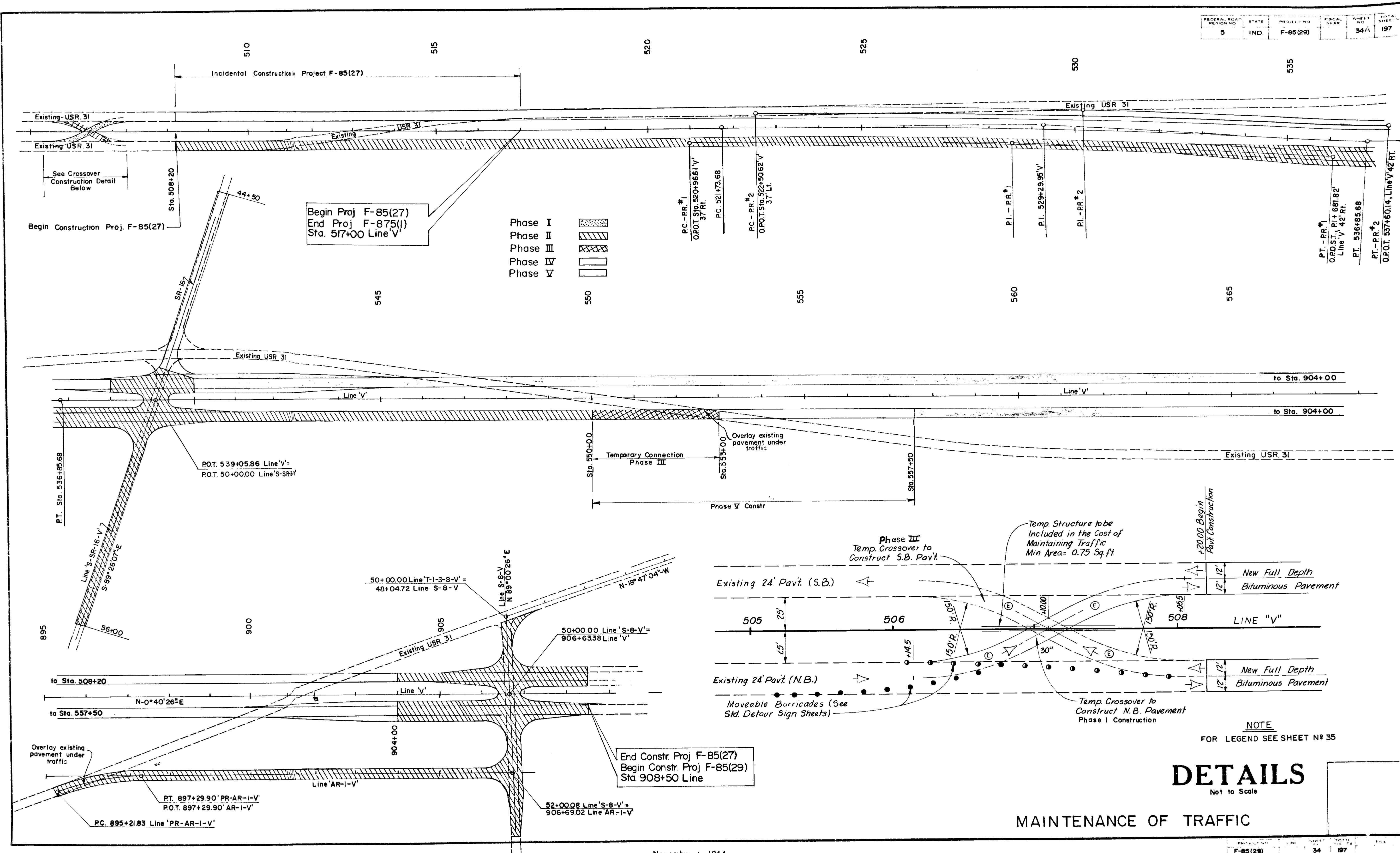


DESIGN HOURLY VOLUME ESTIMATED FOR 1991 AT COUNTY RD. 300S
 DIRECTIONAL DHV
 20 A.M. FLOW
 (30) P.M. FLOW

NOTE
 For Legend See Sheet No. 30

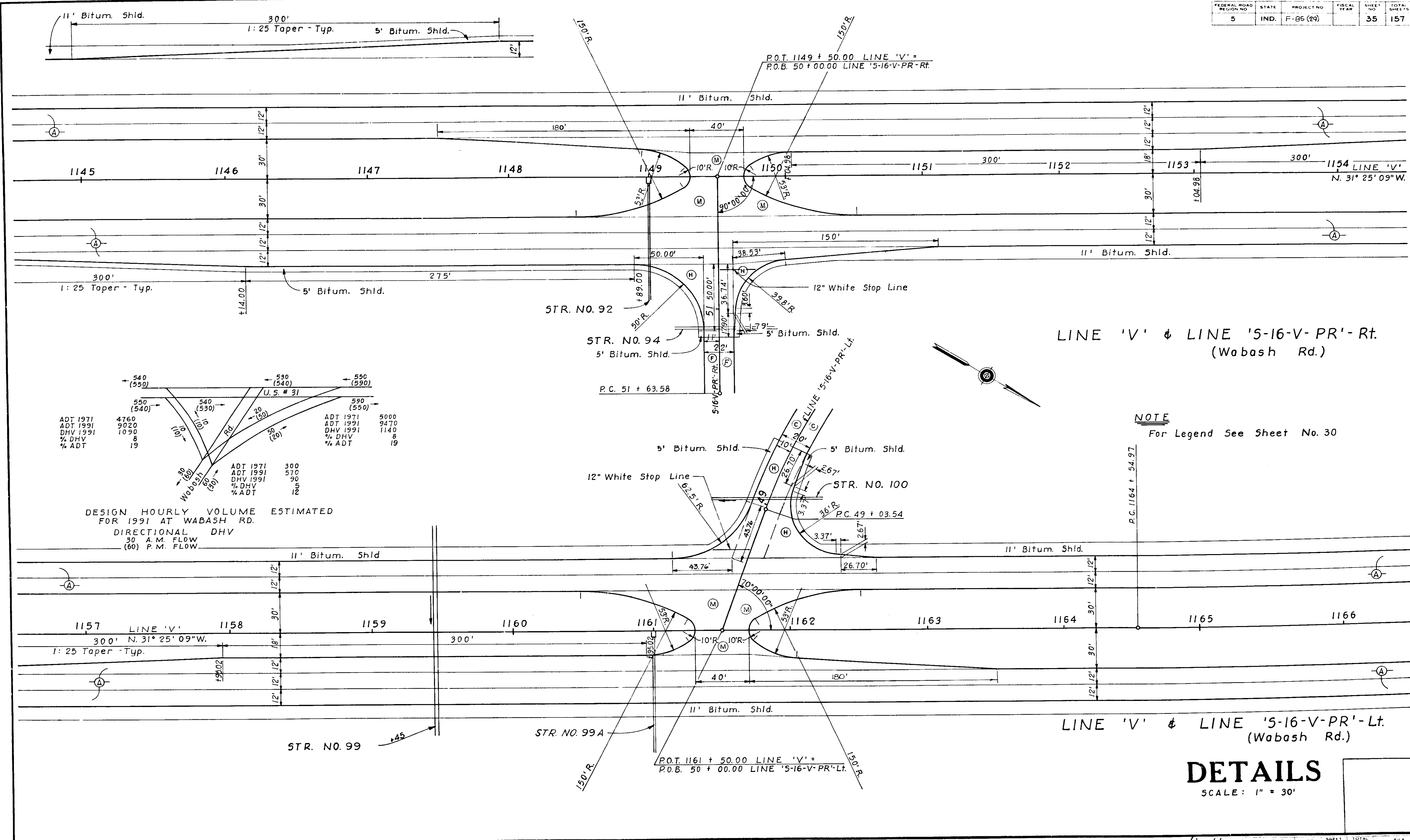
INTERSECTION DETAILS
 LINE 'V', LINE 'S-13-V' & LINE 'S-14-V-PR'
 (U.S.R. 31) (CO. RD. 300S) (CO. RD. 400E)
 SCALE: 1" = 30'

PROJ.	LINE	SHEET	FILE
F-85(29)	S-13-V	34	



November 6, 1964

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-65 (29)		35	157



DESIGN HOURLY VOLUME ESTIMATED FOR 1991 AT WABASH RD. DIRECTIONAL DHV 30 A.M. FLOW (60) P.M. FLOW

ADT 1971	4760	ADT 1971	300
ADT 1991	9020	ADT 1991	510
DHV 1991	1090	DHV 1991	90
% DHV	8	% DHV	5
% ADT	19	% ADT	12

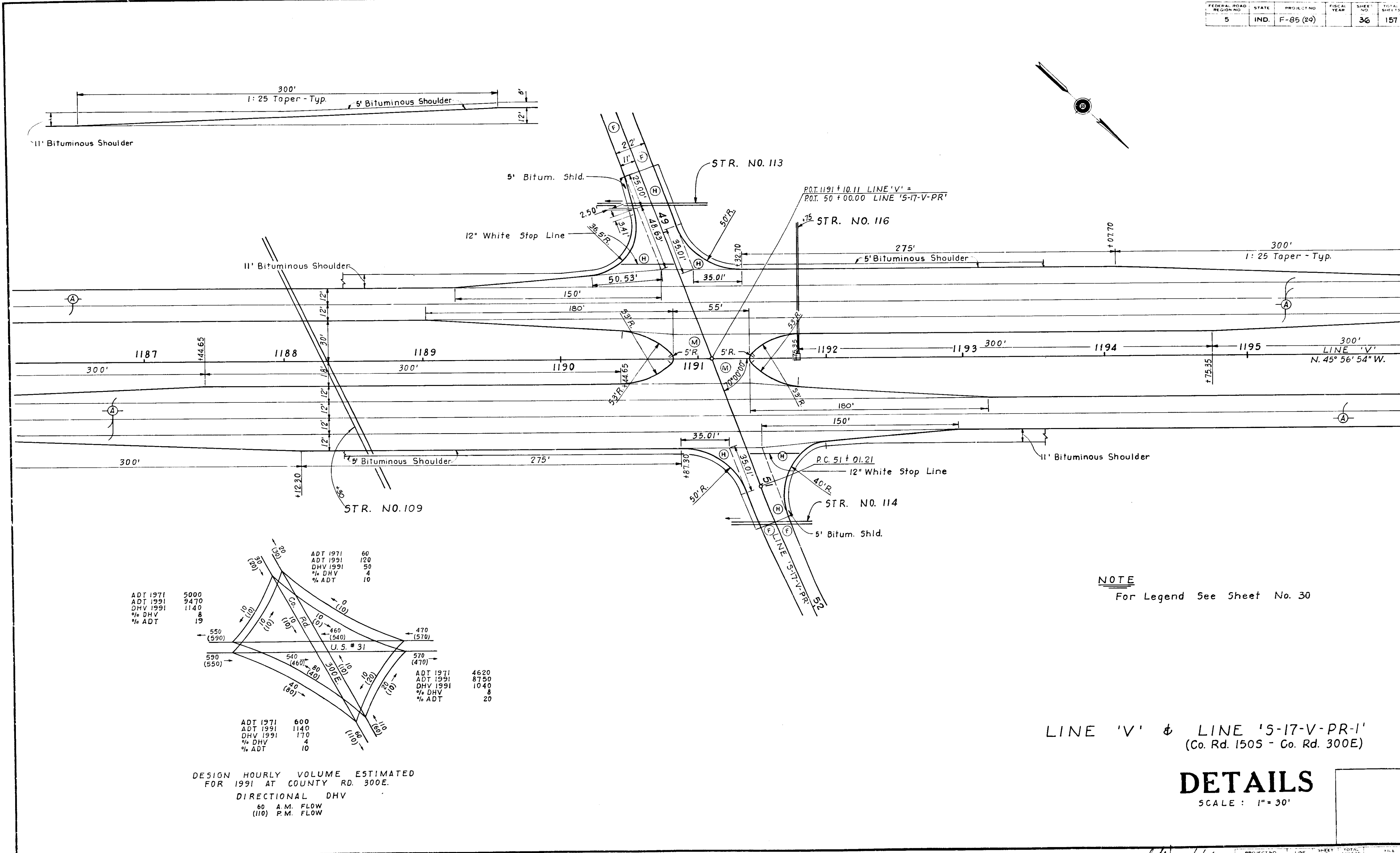
LINE 'V' & LINE '5-16-V-PR'-Rt.
(Wabash Rd.)

LINE 'V' & LINE '5-16-V-PR'-Lt.
(Wabash Rd.)

NOTE
For Legend See Sheet No. 30

DETAILS
SCALE: 1" = 30'

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-85 (29)		36	157



ADT 1971	5000	ADT 1971	60
ADT 1991	9470	ADT 1991	120
DHV 1991	1140	DHV 1991	50
% DHV	8	% DHV	4
% ADT	19	% ADT	10

ADT 1971	4620	ADT 1971	600
ADT 1991	8750	ADT 1991	1140
DHV 1991	1040	DHV 1991	170
% DHV	8	% DHV	4
% ADT	20	% ADT	10

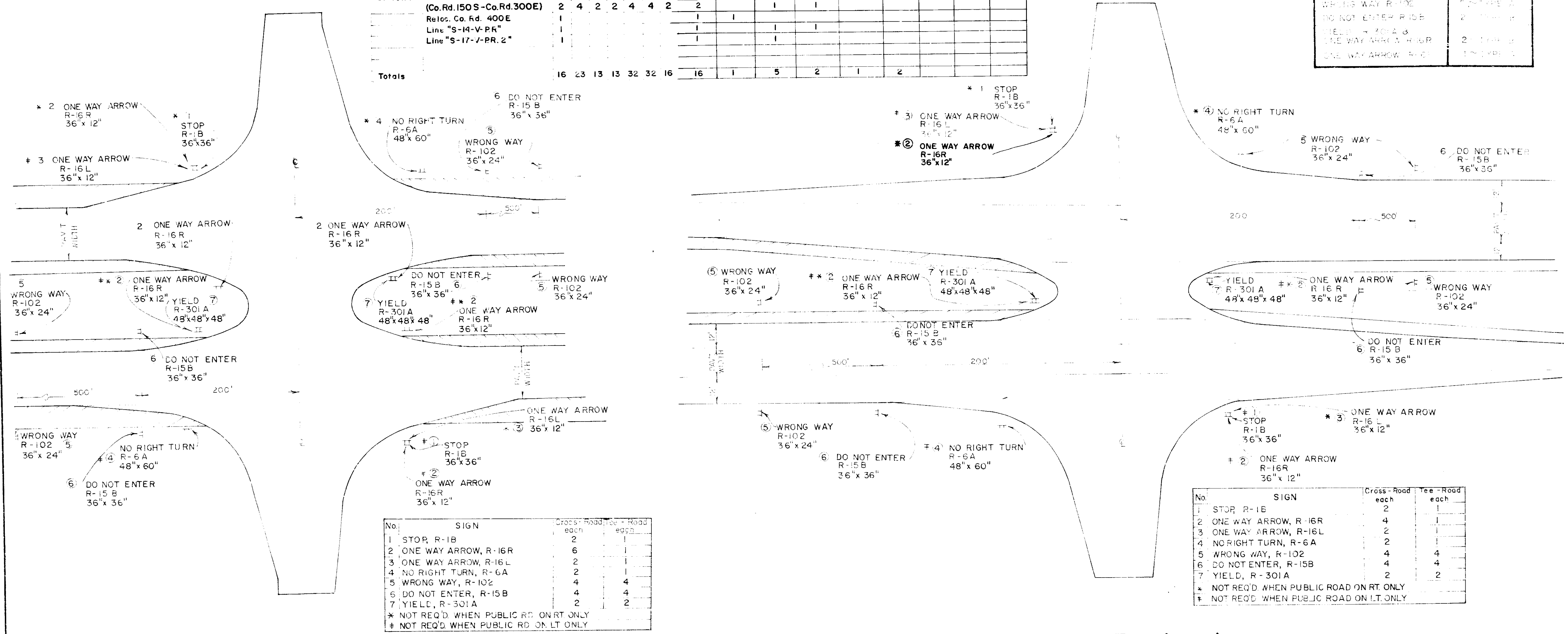
DESIGN HOURLY VOLUME ESTIMATED FOR 1991 AT COUNTY RD. 300E.

DIRECTIONAL DHV

60 A.M. FLOW
(110) P.M. FLOW

STA	DESCRIPTION OF INTERSECTION	TYPE OF SIGNS EACH							Additional Sign(See Plan & Profile for Location)					
		1	2	3	4	5	6	7	STOP Ahead W-15A	No Outlet Lead End M-29	Curve W-2A L	Curve W-2A R	R.R. Advance Warning W-31	STD. Crossbuck W-33
986+17.6	LINE "S-9-V" (Co. Rd. 1500N)	2	4	2	2	4	4	2						
1012+72.66	LINE "S-10-V" (Co. Rd. 1550N)	2	4	2	2	4	4	2						
1036+72.55	LINE "S-11-V" (Co. Rd. 1600N)	2	4	2	2	4	4	2						
1063+28.09	LINE "S-12-V" (Co. Rd. 350S)	1	1	1	1	4	4	2						
1090+03.85	LINE "S-13-V" (Co. Rd. 300S)	2	4	2	2	4	4	2						
1149+50.00	LINE "S-16-V-PR"-Rt. (Wabash Road)	1	1	1	1	4	4	2					2	
1161+50.00	LINE "S-16-V-PR"-Lt. (Wabash Road)	1	1	1	1	4	4	2						
1191+10.11	LINE "S-17-V-PR" (Co. Rd. 150S - Co. Rd. 300E)	2	4	2	2	4	4	2						
	Reloc. Co. Rd. 400E	1							1	1				
	Line "S-14-V-PR"	1							1	1				
	Line "S-17-V-PR. 2"	1							1	1				
Totals		16	23	13	13	32	32	16	16	1	5	2	1	2

SIGN	POST SIZE
WRONG WAY R-102	2' x 4' TYPE B
ONE WAY ARROW R-16R	2' x 4' TYPE B
NO RIGHT TURN R-6A	2' x 4' TYPE B
WRONG WAY R-102	2' x 4' TYPE B
DO NOT ENTER R-15B	2' x 4' TYPE B
YIELD R-301A	2' x 4' TYPE B
ONE WAY ARROW R-16R	2' x 4' TYPE B
ONE WAY ARROW R-16L	1' x 4' TYPE B



County Road and Crossover without Turn Lanes
(NOT APPLICABLE)

County Road and Crossover with Turn Lanes

DETAILS
SIGNS AT PUBLIC ROAD CROSSINGS

PAVED SIDE DITCH & SODDING SUMMARY TABLE

FROM STATION	TO STATION	LOCATION LEFT MEDIAN RIGHT	PAVED SIDE DITCH				SODDING					SEE SHEET NO.			
			ACTUAL LENGTH	CUT OFF WALLS (Equivalent Length)	LUGS (Equivalent Length)	TOTAL EQUIVALENT PAY LENGTHS				FOR PAVED SIDE DITCH	FOR DITCHES		FOR MEDIAN	FOR SHOULDER	FOR LAWN
						TYPE "A"	TYPE "B"	TYPE "C"	TYPE "D"						
LFT.	EACH	EACH	LFT.	LFT.	LFT.	LFT.	SYS.	SYS.	SYS.	SYS.	SYS.				
LINE "V"															
908+50	985+86	X								6876		11			
911+50	939+50	X								830		11			
912+75	916+25	X	350	2			360		104		733	11			
914+25	919+75	X										11			
915+50	930+50	X									444	11			
913+75	921+25	X	140	4				41				12			
920+15	921+75	X	160	2		170		47				12			
928+00	931+25	X	325	2				96				12			
928+25	930+75	X	250	2				74				12			
930+75	939+25	X							1259			12			
931+25	941+00	X							1300			12			
941+00	944+25	X							433			12			
941+75	957+50	X									467	12			
942+50	955+57	X									385	12			
950+50	961+25	X										13			
960+00	965+25	X							700			13			
961+00	985+60	X										13			
962+50	970+50	X										14			
974+50	985+80	X										14			
980+43	1012+41	X								2304		14			
986+85	1012+50	X									760	15			
994+50	1012+40	X									530	15			
1013+00	1036+30	X									690	15			
1013+04	1036+41	X								2077		15			
1013+15	1018+50	X									99	15			
1037+04	1063+04	X								2311		16			
1037+50	1065+50	X									830	16			
1054+75	1057+25	X							333			16			
1055+50	1063+25	X									230	16			
1060+00	1062+90	X							387			16			
1063+52	1089+72	X								2329		17			
1067+50	1077+00	X									281	17			
1068+75	1072+75	X							533			17			
1069+50	1081+50	X									356	17			
1082+50	1089+30	X									201	17			
1090+30	1125+50	X									1043	17			
1090+35	1149+26	X										17			
1090+75	1096+00	X								700		17			
1091+50	1101+00	X									281	17			
1092+75	1094+75	X								267		17			
1094+75	1097+00	X	225	2		235		67				17			
1096+30	1100+25	X							527			17			
1097+00	1101+25	X	425	2			435	126				17			
1101+25	1104+25	X							400			18			
1107+00	1108+50	X								44		18			
1107+75	1110+25	X							333			18			
1114+50	1149+10	X								1025		18			
1115+60	1117+75	X								367		18			
1117+75	1121+65	X	390	1		395		116				18			
1121+65	1124+25	X	260	1		265		77				18			
1124+25	1126+00	X								233		18			
1130+50	1149+30	X									557	19			
1140+75	1143+75	X							333			19			
1142+75	1146+25	X							466			19			
1149+70	1163+50	X								409		19			
1149+74	1161+26	X								1024		19			
1149+85	1191+05	X									1221	19			
1156+25	1159+45	X							425			19			
1156+75	1159+45	X							360			19			
1161+74	1190+78	X								2581		19			
1168+00	1169+25	X							167			20			
1175+75	1178+25	X							333			20			
1181+00	1183+50	X									74	20			
1182+75	1186+25	X								467		20			
1183+75	1185+00	X							107			20			

PAVED SIDE DITCH & SODDING SUMMARY TABLE

FROM STATION	TO STATION	LOCATION LEFT MEDIAN RIGHT	PAVED SIDE DITCH				SODDING					SEE SHEET NO.			
			ACTUAL LENGTH	CUT OFF WALLS (Equivalent Length)	LUGS (Equivalent Length)	TOTAL EQUIVALENT PAY LENGTHS				FOR PAVED SIDE DITCH	FOR DITCHES		FOR MEDIAN	FOR SHOULDER	FOR LAWN
						TYPE "A"	TYPE "B"	TYPE "C"	TYPE "D"						
LFT.	EACH	EACH	LFT.	LFT.	LFT.	LFT.	SYS.	SYS.	SYS.	SYS.	SYS.				
CONT. LINE "V"															
1186+50	1190+00	X										11			
1187+80	1130+25	X	245	2			255			73		20			
1193+90	1192+25	X									353	21			
1190+25	1192+25	X									266	21			
1190+75	1205+50	X										21			
1191+41	1238+00	X								4141		21			
1190+00	1204+50	X									437	21			
1193+75	1196+25	X									333	21			
1197+75	1207+75	X									1333	21			
1199+75	1208+25	X									1133	21			
1211+00	1217+50	X										21			
1213+00	1220+00	X									193	21			
1223+75	1223+00	X									207	21			
1225+00	1229+50	X										21			
1226+00	1233+50	X									133	21			
1236+00	1238+00	X									222	21			
1211+75	1216+25	X									59	21			
"S-9-V"															
46+75	48+75	X									118	23			
46+75	48+75	X									118	23			
51+00	53+00	X									207	23			
51+50	53+00	X									137	23			
"S-10-V"															
51+00	52+25	X									186	23			
"S-12-V"															
51+00	53+00	X									148	24			
53+00	54+25	X										218	24		
"S-13-V"															
47+60	48+10	X	50	2	1	64				15		25			
47+60	49+00	X	140	2	1	154				41		25			
48+10	49+00	X									67	25			
51+25	52+75	X									111	25			
"S-14-V-PR"															
50+75	56+00	X									389	25			
51+50	57+30	X									474	25			
57+90	54+45	X	55	2		65				15		25			
"S-16-V(R)PR"															
52+12	54+53	X									179	26			
54+70	55+40	X										120	26		
"S-16-V(L)PR"															
45+33	46+25	X									60	26			
45+33	46+25	X									60	26			
"S-16-V(L)I"															
48+50	49+00	X									30	26			
48+50	49+00	X									30	26			
"S-17-V-PR I"															
47+41	48+70	X									96	27			
47+41	48+90	X									110	27			
52+00	53+25	X									74	27			

* TEMPORARY R/W REQUIRED FOR CONSTRUCTION BEYOND R/W LINE.
 * APPROACHES REQUIRING GRADES OVER 10% WILL BE SPECIAL CASES.

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-65(29)		41	157

MISCELLANEOUS QUANTITIES

PAVEMENT STRIPING (4' Lft. Strip)					RIPRAP TABLE		MONUMENTS		
Line	Solid Double Yellow Barrier	Solid White Edge Lt. & R.	Stopping Bars #	Sheet #	Location	SYS	Line	Type 'B' Location	Type 'C' Location
S-9-V	500	500	78	23	1060+00 Lt.	25	S-9-V	48+29 (Sec. Cor.)	
S-9-V	500	300	78	23	1065+00 Lt.	75	S-10-V	48+30 (1/4 Sec. Line)	
S-10-V	500	400	78	23	1065+00 Lt.	50	S-11-V	48+29.99 (Sec. Cor.)	
S-10-V	50	300	78	23	1096+50 Lt.	190	S-11-V	48+57 (Sec. Cor.)	
S-11-V	500	400	78	24	Undistributed	100	S-13-V	49+69 (Sec. Cor.)	
S-11-V	500	300	78	24					
S-12-V	500	700	78	24					
S-13-V	500	300	78	25					
S-13-V	480	350	78	25					
S-14-V PR.	825	700	25	25					
S-16-V PR (lt.)	635	1050	78	26					
S-16-V PR (rt.)	500	850	78	26					
S-17-V PR. 1	570	1200	78	27					
S-17-V PR. 1	500	650	78	27					
S-17-V PR. 2	500	900	27	27					
Sub-Total	7560	9900	1014						
x 2 =									
Grand-Total	15120								
Grand-Total		26,034 Lft.							

GUARD RAIL TABLE		
Line	Location	Type 'A'
V	906+25 ¹ 190 Lt.	30
V	1063+00 ² 200 Lt.	30
V	1152+00 ² 245 Rt.	30
V	1160+00 ² 150 Lt.	30
S-14-V PR.	57+00 ² 15' Lt.	155
S-14-V PR.	58+00 ² 15' Rt.	55
Total		330 Lft.

BENCH MARK POST	
Location	SYS
968+00 Line 'V'	
1036+00 Line 'V'	
1104+00 Line 'V'	
1172+00 Line 'V'	
Total	4 each

Line	Type 'B' Location	Type 'C' Location
V		925+00
V		933+22 Lt. (Sec. Cor.)
V		933+22 Rt. (Sec. Line)
V		944+00
V		959+69 Lt. (1/4 Sec. Cor.)
V		969+00
V		993+32.39 (P.O.T.)
V		1015+00
V		1040+00
V		1065+00
V		1073+76.24 (P.C.)
V		1085+10 ² Lt.
V		1097+83.22 (1/4 P.O.C.)
V		1105+85.55 (P.T.)
V		1125+00
V		1150+00
V		1150+13 ² Rt. (1/4 Sec. L.)
V		1152+00 ² Lt. (1/4 Sec. Line)
V		1164+54.97 (P.C.)
V		1179+07.89 (P.T.)
V		1183+00 ² Rt. (1/4 Sec. Line)
V		1186+00 ² Lt. (1/4 Sec. Line)
V		1207+02.87 (P.O.T.)
V		1221+30 ² Rt. (1/4 Sec. Line)
V		1224+80 ² Lt. (1/4 Sec. Line)
V		1228+36.50 Rt. (P.I.)
V		1188+35 ² Lt. (1/4 Sec. Line)
Total	'B' 5 each	'C' 27 each

APPROACH TABLE

LOCATION	DESCRIPTION	CUT	FILL	WIDTH	RADI	LENGTH	DESIGN DATA AND QUANTITIES BASED ON MAX. OF 10% GRADE EXCEPT AS NOTED **		BITUMINOUS MIXTURE FOR APPROACHES		TYPE 'P' COMPACTED AGGREGATE BASE		BITUM. SURFACE		BITUM. BASE		SEC. DETAIL SHEET NO.		
							FT	TON	SYS	TONS	3"	TON	90"	TON	240"	TON			
Access Rd. #6																			
906+79.33	Temp. Conn. to Exst. Loc. Rd.	▲	▲			20-20													
930+89	Class V Dr.	159		12		51												11-12	
"S-9-V"																			
47+25 Lt.	Class V Dr.			12	12	25-15	25												
52+25 Lt.	Class II Dr. †			7	12	25-15	25	54	8.9				54	9.0	0.08			23	
52+25 Rt.	Class V Dr.			7	12	25-15	25												
51+70.02	Rd. App. for A.R. #7 ▲					20-20													
Access Rd. #7																			
972+90 Rt.	Class V Dr.	18		2	12	13												13	
"S-10-V"																			
47+25 Rt.	Class V Dr.			7	12	25-15	25											23	
"S-11-V"																			
1036+81.21 Lt.	Co. Rd. 400E ▲					25-25												24	
"S-12-V"																			
	No Drives																		
"S-13-V"																			
47+00	Rd. App. for A.R. #8 ▲					20-20													
52+00	Pub. Rd. App. for "S-14-V-PR" ▲					30-30													
Access Rd. #8																			
1105+00 Rt.	Class V Dr.	12		12		15												18	
"S-16-V-PR"(Rt.)																			
53+00 Lt.	Class II Dr. †			4	12	25-15	35	67	11.1				67	11.2	0.10			19	
54+65 Lt.	Class II Dr. †			4	12	25-15	25	54	8.9				54	9.0	0.08				
Access Rd. #9																			
1142+40 Lt.	Class V Dr.	15		12		40													
1149+50 Lt. Line 'V'	Rd. App. for A.R. #9 ▲					20-20												19	
"S-16-V-PR"(Lt.)																			
48+00 Rt.	Class II Dr. †			50	12	25-15	75	130	21.5				130	21.7	0.19				
48+80 Rt.	Class II Dr. †	25		25	12	25-15	115						153	25.5	0.22	153	6.9	18.4	26
"S-17-V-PR-1"																			
47+25 Rt.	Pub. Rd. App. for "S-17-V-PR.2" ▲					25-25													
47+25 Lt.	Rd. App. for A.R. #10 ▲					20-20													
51+90 Rt.	Class II Dr. †			63	12	25-15	67	107	17.7				107	17.8	0.16			27	
"S-17-V-PR-2"																			
	No Drives																		
Access Rd. #10																			
1208+70 Lt.	Class V Dr.	6		8	12	40												21	
† Mail Box Approach				6 each		46 sys x 6"		270	44.6				270	45.0	0.39				
TOTALS								112.7					140	1.22	6.9	18.4			

* 3 ea. 4" Stripes @ 26' each (See Detail Sheets for Location)

▲ See Table of Quantities Sheet # 42 for Quantities

* If Contractor elects to use metal pipes, gages as shown are to be used.

STRUCTURE DATA

† Length includes 5' for each Tee & Wye and 2' for each Bend & Elbow as noted in the Remarks column.

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-85(29)		44	157

STRUCTURE NUMBER	LOCATION	SIZE INCHES	GROUP	DESCRIPTION See Std. Sheet "MP" for acceptable types of pipe within each group.	LENGTH FEET	SKEW	COVER	FLOW LINE		CONCRETE CLASS A' CUYDS	"B" BORROW CUYDS	METHOD BACKFILL	GAGES OR THICKNESS		REMARKS	ACCUV. PIPE EACH	PLAN ON SHEET NO.	
								UP STREAM ELEV.	DOWN STREAM ELEV.				* STEEL	* ALUMINUM				
LINE "V"																		
79	1095+00	12	A	STD. INLET TYPE P-12A	104		6	824.23	817.95			A	16		1	17		
ACCESS RD. NO. 8																		
80	1096+72LT	30	D		30		2	817.00	816.85			B	16	12	2	25		
LINE "V"																		
81	1096+65	72		F.B.C.C.S. OR R.C.	252	20°	11	812.00	811.00	4.31		A	12			17		
82	1100+00	12	A	STD. INLET TYPE N-12	80		4	822.83	820.95			A	16		1	18		
83	1108+00	12	A	" " " " P-12A	84		4	824.74	824.43			A	16		1	18		
84	1119+00	12		" " " " P-12A	114		5	825.59	817.65			A	16		1	18	2-11" 15' BENDS	
85	1120+65	12	L	F.B.C.C.S.	366						111					18		
86	1120+90	36	A		784	30°	18	811.50	808.00			A	16		2	18		
87	1125+50	12	A	STD. INLET TYPE P-12A	86		5	827.04	820.77			A	16		1	18		
88	1132+00	12	A	" " " " " "	84		4	818.53	817.65			A	16		1	19		
89	1138+00	12	A	" " " " " "	84		4.5	815.29	814.41			A	16		1	19		
90	1142+70LT	12		C.S.	10							A	16			19	CONNECT TO F. TILE ON LT.	
91	1143+50	12	A	STD. INLET TYPE P-12A	88		6	812.32	810.48			A	16		1	19		
92	1149+00	12	A	" " " " " "	104		5	810.38	805.45			A	16		1	19		
ACCESS RD. NO. 9																		
93	1148+90	30	D		36		1.5	806.18	806.02			B	16	10	2	19		
S-16-V-P.R. RIGHT																		
94	51+15	30	A		60		6	805.08	804.72			A	16		2	19		
95	52+12	15	A		50		4	810.10	809.80			A	16		2	26		
96	53+00LT	15	D		24		1	812.94	812.26			B	16	12	2	26		
97	54+65LT	15	D		24		1.5	816.47	816.07			B	16	14	2	26		
LINE "V"																		
98	1155+00	12	A	STD. INLET TYPE P-12A	96		6	806.28	803.05			A	16		1	19		
99	1159+45	48		F.B.C.C.S. OR R.C.	220		8	798.50	796.50	2.83		A	16			19		
99A	1161+00	12	A	STD. INLET TYPE P-12A	106		5	803.32	797.22			A	16		1	20		
S-16-V-P.R. LEFT																		
100	48+90	15	A		56	20°	6	799.75	799.49			A	16		2	20		
101	48+00RT	15	D		26		3	799.84	799.76			B	16	16	2	26		
102	48+75RT	15	D		24		2	800.39	799.71			B	16	16	2	26		
LINE "V"																		
103	1169+00	12	A	STD. INLET TYPE P-12A	88		5	798.55	797.68			A	16		1	20		
104	1175+00	12	A	" " " " " "	88		6	795.31	794.44			A	16		1	20		
105	1179+00	12	A	" " " " " N-12	94		6	794.41	790.26			A	16		1	20		
106	1181+00	36	A		180		5	792.00	790.00			A	16		2	20		
107	1183+00	12	A	STD. INLET TYPE P-12A	96		6	794.80	791.50			A	16		1	20		
108	1187+40LT	8		C.S.	10							A	16			20	CONNECT TO FIELD TILE IN PLACE	
109	1188+30	36	A		240	25°	10	793.36	791.38			A	16		2	20		
110	1189+15	18	L		460						230					20		
S-17-V-P.R. 2																		
111	46+50	24	A		44		4	796.00	795.00			A	16		2	27		

STRUCTURE NUMBER	LOCATION	SIZE INCHES	GROUP	DESCRIPTION See Std. Sheet "MP" for acceptable types of pipe within each group.	LENGTH FEET	SKEW	COVER	FLOW LINE		CONCRETE CLASS A' CUYDS	"B" BORROW CUYDS	METHOD BACKFILL	GAGES OR THICKNESS		REMARKS	ACCUV. PIPE EACH	PLAN ON SHEET NO.	
								UP STREAM ELEV.	DOWN STREAM ELEV.				* STEEL	* ALUMINUM				
S-17-V-P.R. 1																		
112	46+98	15	A		42		2	800.64	799.85			A	16		2	27		
113	48+80	24	A		52	20°	5	799.35	798.85			A	16		2	21		
114	51+30	24	A		70	20°	9	795.60	794.60			A	16		2	21		
115	53+25	30	A		40		1.5	792.80	792.60			A	12		2	27		
115A	53+25RT			STD. 12" PIPE C.B.												27		
LINE "V"																		
116	1191+75	12	A	STD. INLET TYPE P-12A	100		5	803.46	800.20			A	16		1	21		
117	1198+00	12	A	" " " " " "	106		7	808.49	801.57			A	16		1	21		
ACCESS RD. NO. 10																		
118	1199+00LT	15	D		30		2	806.00	805.40			B	16	16	2	21		
LINE "V"																		
119	1204+50	12	A	STD. INLET TYPE P-12A	84		4	812.93	812.60			A	16		1	21		
120	1212+00	12	A	" " " " " "	84		5	820.13	819.25			A	16		1	21		
121	1223+00	12	A	" " " " " "	82		4	823.07	820.15			A	16		1	22		
122	1227+50	12	A	" " " " " "	88		4	821.12	817.38			A	16		1	22		
123	1228+00			MIN. A = PIPE ARCH 11.45ft. 6ft	188		5	820.30	817.40	2.44		A	16			22		
124	1232+00	12	A	STD. INLET TYPE N-12	78		3	820.13	817.90			A	16		1	22		
125	1236+00	12	A	" " " " " P-12A	78		4	820.36	818.81			A	16		1	22		
UNDISTRIBUTED QUANTITIES																		
		6	L		1800								462					
		8	L		900								241					
		10	L		750								208					
		12	L		400								121					
		15	L		400								200					
		18	L		450								293					
		24	L		450								360					
		6		Drain tile - Class Standard	1800								462					
		8		Drain tile - Class Standard	1000								268					
		10		Drain tile - Class Standard	750								208					
		12		Drain tile - Class Standard	600								182					
		15		Drain tile - Class Extra	600								300					
		18		Drain tile - Class Extra	400								260					
		24		Drain tile - Class Extra	300								240					
		6		F.B.C.C.S.	600								154				18	
		8		F.B.C.C.S.	300								80				16	
		10		F.B.C.C.S.	250								69				16	
		12		F.B.C.C.S.	200								61				16	
		15		F.B.C.C.S.	200								100				16	
		18		F.B.C.C.S.	150								98				16	
		24		F.B.C.C.S.	150								120				16	
		6		F.B.C. Perf. C.S.	400								103				18	

LEGEND FOR ABBREVIATIONS

- F.B.C.C.S.----- FULLY BITUMINOUS COATED CORRUGATED STEEL.
- F.B.C.C.A.A.----- FULLY BITUMINOUS COATED CORRUGATED ALUMINUM ALLOY.
- C.S.----- CORRUGATED STEEL.
- C.A.A.----- CORRUGATED ALUMINUM ALLOY.
- S.P.S.----- STRUCTURAL PLATE STEEL.
- R.C.----- REINFORCED CONCRETE (CLASS III)
- F.B.C.C.S.A.----- FULLY BITUMINOUS COATED CORRUGATED STEEL ARCH.
- F.B.C.C.A.A.A.----- FULLY BITUMINOUS COATED CORRUGATED ALUMINUM ALLOY ARCH.
- C.S.A.----- CORRUGATED STEEL ARCH.
- C.A.A.A.----- CORRUGATED ALUMINUM ALLOY ARCH.
- S.P.S.A.----- STRUCTURAL PLATE STEEL ARCH.

lasted 1/4/66

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
F-85(29)	V	44	157	

ESTIMATE OF QUANTITIES

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
5	IND.	F-85(2)	45	157

GRADING			
CODE NO.	DESCRIPTION	UNIT	QUANTITY
01001	MOBILIZATION	L.S.	1
01002	CLEARING RIGHT-OF-WAY	L.S.	1
01005	CLEARING	L.S.	
01010	GRUBBING	L.S.	
01015	CLEARING & GRUBBING	L.S.	
02245	TREE REMOVAL 6 INCH EA.	EA.	
02250	TREE REMOVAL 10 INCH EA.	EA.	
02255	TREE REMOVAL 18 INCH EA.	EA.	
02260	TREE REMOVAL 30 INCH EA.	EA.	
02265	TREE REMOVAL 48 INCH EA.	EA.	
02270	TREE REMOVAL 60 INCH EA.	EA.	
02285	REMOVAL OF PRESENT STRUCTURE	L.S.	
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL (7)	L.S.	1
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL (11)	L.S.	1
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL (14B)	L.S.	1
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL (16)	L.S.	1
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL (20B)	L.S.	1
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL (24)	L.S.	1
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL ()	L.S.	
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL ()	L.S.	
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL ()	L.S.	
03000	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL ()	L.S.	
04245	BREAKING PAVEMENT	SYS.	
04240	REMOVAL OF PAVEMENT	SYS.	
04280	LINEAR GRADING	MILE	
04200	COMMON EXCAVATION	CYS.	354,708
04210	ROCK EXCAVATION	CYS.	
04220	UNCLASSIFIED EXCAVATION	CYS.	
04200	PEAT EXCAVATION	CYS.	42,347
04215	CASED TEST HOLE	LFT.	140
04220	HOLE FOR TESTING OR FOR DYNAMITING 2 INCH	LFT.	
04225	HOLE FOR TESTING OR FOR DYNAMITING 4 INCH	LFT.	
04290	SETTLEMENT PLATES	EA.	
04295	PIEZOMETERS	EA.	
04300	SAND DRAINS	LFT.	
04300	BORROW	CYS.	366,518
04300	BORROW	CYS.	66,645

PAVEMENT			
CODE NO.	DESCRIPTION	UNIT	QUANTITY
04000	REPAIRING	MILE	
04010	PORTLAND CEMENT CONCRETE FOR PATCHING	SYS.	
04015	COMPACTED AGGREGATE FOR PATCHING	TON	
04020	BITUMINOUS MIXTURE FOR PATCHING	TON	
04025	WIDENING WITH BITUMINOUS MIXTURE	TON	
04030	WIDENING WITH CEMENT CONCRETE	SYS.	
04035	WIDENING WITH COMPACTED AGGREGATE	TON	
04040	PORTLAND CEMENT CONCRETE BASE	SYS.	
04045	TYPE P COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON	5749
04055	TYPE O COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON	
04065	TYPE P COMPACTED AGGREGATE FOR SURFACE (SIZE NO. 73)	TON	
04075	TYPE O COMPACTED AGGREGATE FOR SURFACE (SIZE NO. 73)	TON	
04085	TYPE P COMPACTED AGGREGATE FOR SHOULDER (SIZE NO. 73)	TON	
04095	TYPE O COMPACTED AGGREGATE FOR SHOULDER (SIZE NO. 73)	TON	
04105	PIRE CALCIUM CHLORIDE	TON	
04115	PIRE CALCIUM CHLORIDE (FOR SHOULDERS)	TON	
04125	HOT ASPHALT EMULSION (AE) BASE	TON	
04135	HOT ASPHALT EMULSION (AE) BINDER	TON	
04145	HOT ASPHALT EMULSION (AE) SURFACE	TON	
04155	HOT ASPHALT CONCRETE BASE	TON	
04165	HOT ASPHALT CONCRETE BINDER	TON	
04175	HOT ASPHALT CONCRETE SURFACE	TON	
04255	BITUMINOUS BASE	TON	76,655
04256	BITUMINOUS BASE NO. 5	TON	
04265	BITUMINOUS BINDER	TON	42,045
04275	BITUMINOUS SURFACE	TON	9338
04285	BITUMINOUS MIXTURE FOR SHOULDERS	TON	
04295	BITUMINOUS MIXTURE FOR APPROACHES	TON	661
04300	BITUMINOUS MIXTURE FOR CROSSOVERS	TON	1484
04335	FILLING CRACKS & JOINTS IN CONCRETE PAVEMENT OR BASE	TON	
04345	SEALING CRACKS & JOINTS IN BITUMINOUS PAVEMENT	TON	
04355	BITUMINOUS MATERIAL FOR SEAL COAT	TON	176
04365	BITUMINOUS MATERIAL FOR PRIME COAT	TON	323
04375	BITUMINOUS MATERIAL FOR TACK COAT	TON	106
04385	COVER AGGREGATE	TON	
04386	COVER AGGREGATE NO. 12	TON	1396
04395	AGGREGATES FOR SHOULDER DRAINS	TON	
05000	CONTINUOUSLY REINFORCED CEMENT CONCRETE PAVEMENT 6 IN	SYS.	
05010	CONTINUOUSLY REINFORCED CEMENT CONCRETE PAVEMENT 7 IN	SYS.	
05020	CONTINUOUSLY REINFORCED CEMENT CONCRETE PAVEMENT 8 IN	SYS.	
05030	CONTINUOUSLY REINFORCED CEMENT CONCRETE PAVEMENT 9 IN	SYS.	
05040	CONTINUOUSLY REINFORCED CEMENT CONCRETE PAVEMENT 10 IN	SYS.	
05050	CONCRETE PAVEMENT REINFORCED 6 IN	SYS.	
05060	CONCRETE PAVEMENT REINFORCED 7 IN	SYS.	
05070	CONCRETE PAVEMENT REINFORCED 8 IN	SYS.	
05080	CONCRETE PAVEMENT REINFORCED 9 IN	SYS.	
05090	CONCRETE PAVEMENT REINFORCED 10 IN	SYS.	
05100	CONCRETE PAVEMENT, HIGH EARLY STRENGTH 7 IN	SYS.	
05110	CONCRETE PAVEMENT, HIGH EARLY STRENGTH 8 IN	SYS.	
05120	CONCRETE PAVEMENT, HIGH EARLY STRENGTH 9 IN	SYS.	
05130	CONCRETE PAVEMENT, HIGH EARLY STRENGTH 10 IN	SYS.	
05140	CONCRETE PAVEMENT, PLAIN 6 IN	SYS.	
05150	CONCRETE PAVEMENT, PLAIN 7 IN	SYS.	
05160	CONCRETE PAVEMENT, PLAIN 8 IN	SYS.	
05170	CONCRETE PAVEMENT, PLAIN 9 IN	SYS.	
05180	CONCRETE PAVEMENT, PLAIN 10 IN	SYS.	
05210	CONCRETE PAVEMENT, PLAIN HIGH EARLY STRENGTH 8 IN	SYS.	
05220	CONCRETE PAVEMENT, PLAIN HIGH EARLY STRENGTH 9 IN	SYS.	
05230	CONCRETE PAVEMENT, PLAIN HIGH EARLY STRENGTH 10 IN	SYS.	
05240	CONTRACT JOINT, TYPE D-1	LFT.	
05250	1/2 INCH PREFORMED JOINT MATERIAL	LFT.	
05260	1 INCH PREFORMED JOINT MATERIAL	LFT.	
05270	1 1/2 INCH PREFORMED JOINT MATERIAL	LFT.	
05280	EXPANSION JOINT, PREFORMED WITH LOAD TRANSFER 1 IN	LFT.	
05290	REINFORCING STEEL FOR PAVEMENT	LBS.	
05300	ANCHOR BOLTS	EACH	
05310	TERMINAL JOINTS	LFT.	
05320	CEMENT CONCRETE PAVEMENT FOR PRIVATE DRIVES	SYS.	
05330	CEMENT CONCRETE PAVEMENT FOR COMMERCIAL DRIVES	SYS.	
05340	CEMENT CONCRETE PAVEMENT FOR CROSSOVER	SYS.	
05390	SALVAGED ROAD MATERIAL	CYS.	

CODE NO.	DESCRIPTION	UNIT	QUANTITY
04405	SUBBASE	CYS.	
04406	BITUMINOUS STABILIZED SUBBASE	TON	74,657
06000	GUARD RAIL, TYPE A	LFT.	330
06005	GUARD RAIL, TYPE B	LFT.	
06010	GUARD RAIL, TYPE C	LFT.	
06015	GUARD RAIL, TYPE D	LFT.	
06020	GUARD RAIL, TYPE E	LFT.	
06025	GUARD RAIL, TYPE F	LFT.	
06030	GUARD RAIL, TYPE G	LFT.	
06035	RESET GUARD RAIL	LFT.	
06040	47 IN FENCE, FARM FIELD	LFT.	52,981
06045	48 IN FENCE, CHAIN LINK	LFT.	
06050	GATE, FARM FIELD	EACH	
06055	GATE, CHAIN LINK	EACH	
06060	RESETTING FENCE, FARM FIELD	LFT.	
06065	RESETTING FENCE, CHAIN LINK	LFT.	
06070	CONCRETE SIDEWALK	SYS.	
06075	BITUMINOUS SIDEWALK	TON	
06080	RECONSTRUCTED SIDEWALK	SYS.	
06085	RE-LAID SIDEWALK	SYS.	
06090	CURB, INTEGRAL	LFT.	
06095	CURB, INTEGRAL CONCRETE, TYPE B	LFT.	
06100	CURB, INTEGRAL CONCRETE, TYPE C	LFT.	
06120	CURB, CONCRETE	LFT.	
06121	CURB, CONCRETE, TYPE B	LFT.	
06130	CURB, BITUMINOUS	LFT.	
06140	CURB & GUTTER, COMBINED	LFT.	
06145	CURB & GUTTER, COMBINED, TYPE B	LFT.	
06150	CURB & GUTTER, COMBINED, TYPE C	LFT.	
06170	GUTTER, STANDARD LIP	LFT.	
06175	CONCRETE GUTTER	LFT.	
06176	CEMENT CONCRETE GUTTER	CYS.	
06185	CONCRETE GUTTER, REINFORCED	LFT.	
06195	RESET CURB	LFT.	
06200	CENTER CURB, CONCRETE, TYPE A	LFT.	
06205	CENTER CURB, CONCRETE, TYPE B	LFT.	
06210	CENTER CURB, CONCRETE, TYPE C	LFT.	
06215	CENTER CURB, CONCRETE, TYPE D	LFT.	
06240	CENTER CURB, CONCRETE, TYPE A	SYS.	
06245	CENTER CURB, CONCRETE, TYPE B	SYS.	
06250	CENTER CURB, CONCRETE, TYPE C	SYS.	
06255	CENTER CURB, CONCRETE, TYPE D	SYS.	
06270	CENTER CURB, BITUMINOUS, TYPE A	LFT.	
06285	CENTER CURB, BITUMINOUS, TYPE B	LFT.	
06290	SPECIAL CENTER CURB, BITUMINOUS, TYPE A	LFT.	
06295	SPECIAL CENTER CURB, BITUMINOUS, TYPE B	LFT.	
06300	CENTER CURB, BITUMINOUS, TYPE A	SYS.	
06305	CENTER CURB, BITUMINOUS, TYPE B	SYS.	
06310	SPECIAL CENTER CURB, BITUMINOUS, TYPE A	SYS.	
06315	SPECIAL CENTER CURB, BITUMINOUS, TYPE B	SYS.	
06320	CURB REMOVAL	LFT.	
06330	PAVED SIDE DITCH, TYPE A	LFT.	2047
06340	PAVED SIDE DITCH, TYPE B	LFT.	1105
06345	PAVED SIDE DITCH, TYPE C	LFT.	1645
06350	PAVED SIDE DITCH, TYPE D	LFT.	100
06355	PAVED SIDE DITCH, TYPE E	LFT.	
06360	PAVED SIDE DITCH, TYPE F	LFT.	
06365	PAVED SIDE DITCH, TYPE G	LFT.	
06370	PAVED SIDE DITCH, TYPE H	LFT.	
06375	PAVED SIDE DITCH, TYPE J	LFT.	
06380	PAVED SIDE DITCH, TYPE K	LFT.	
06385	PAVED SIDE DITCH, TYPE L	LFT.	
06390	PAVED SIDE DITCH, TYPE M	LFT.	

CODE NO.	DESCRIPTION	UNIT	QUANTITY
06395	RIPRAP	SYS.	440
06400	DUMPED RIPRAP	TON	
06405	REPLETMENT RIPRAP	TON	
06410	HAND-LAID RIPRAP 6 IN	SYS.	
06415	HAND-LAID RIPRAP 12 IN	SYS.	
06420	GROUTED RIPRAP 6 IN	SYS.	
06425	GROUTED RIPRAP 12 IN	SYS.	
06430	PLACING HAND-LAID RIPRAP 6 IN	SYS.	
06435	PLACING GROUTED RIPRAP 6 IN	SYS.	
06445	PLACING GROUTED RIPRAP 12 IN	SYS.	
06455	SLOPEWALL	SYS.	
06460	CONCRETE SLOPEWALL 4 IN	SYS.	
06465	CONCRETE SLOPEWALL 5 IN	SYS.	
06470	CONCRETE HEADER, TYPE A	LFT.	
06475	CONCRETE HEADER, TYPE B	LFT.	
06480	CONCRETE HEADER, TYPE C	LFT.	80
06481	CEMENT CONCRETE HEADER	LFT.	
06485	RECONSTRUCTED CONCRETE HEADER	LFT.	
06490	RIGHT-OF-WAY MARKER	EACH	79
06495	RESET RIGHT-OF-WAY MARKER	EACH	
06500	MONUMENT, TYPE A	EACH	
06505	MONUMENT, TYPE B	EACH	5
06510	MONUMENT, TYPE C	EACH	27
06515	MONUMENT, TYPE D	EACH	
06520	RE-ESTABLISHED MONUMENT	EACH	
06525	CASTING ADJUSTED TO GRADE, MONUMENT	EACH	
06530	BENCH-MARK POST	EACH	4
06535	RESET BENCH-MARK POST	EACH	
06540	AGRICULTURAL LIMESTONE (1)	TON	135
06545	FERTILIZER (2)	TON	108
06548	MULCHING MATERIAL (URBAN)	TON	
06550	MULCHING MATERIAL (3)	TON	536
06551	MULCHING MATERIAL (WOOD CELLULOSE FIBER)	TON	
06552	PLANT SEEDING	LBS.	
06554	SEED MIXTURES (URBAN)	LBS.	
06555	SEED MIXTURES (172.95 AC.)	LBS.	19,025
06556	TEMPORARY SEED MIXTURES (URBAN)	LBS.	
06557	TEMPORARY SEED MIXTURES (95 AC.)	LBS.	10,450
06560	CROWN VETCH SEEDING (4.28 AC.)	LBS.	43
06565	MULCHED SEEDING	SYS.	
06567	WATER	MG.	1687
06570	TOP SOIL	CYS.	
06574	SODDING (URBAN)	SYS.	
06575	SODDING	SYS.	65,506
06580	STEEL PIPE (CONDUIT) 2 IN	LFT.	
06585	STEEL PIPE (CONDUIT) 3 IN	LFT.	
06595	NON-METALLIC PIPE (CONDUIT) 2 IN	LFT.	
06600	NON-METALLIC PIPE (CONDUIT) 3 IN	LFT.	
06610	HANDHOLE FOR STREET OR ALLEY	EACH	
06615	HANDHOLE FOR SIDEWALK	EACH	
06618	RUMBLE STRIP	LFT.	
(1) INCLUDES FOR TEMP. SEEDING	TON		48
(2) INCLUDES FOR TEMP. SEEDING	TON		38
(3) INCLUDES FOR TEMP. SEEDING	TON		190

MISCELLANEOUS			
CODE NO.	DESCRIPTION	UNIT	QUANTITY
06620	STANDARD BARRICADE, TYPE III	EACH	19
06625	STANDARD BARRICADE, TYPE B	EACH	
06630	PERMANENT BARRICADE, TYPE III	EACH	
06635	PERMANENT BARRICADE, TYPE B	EACH	
06640	CONSTRUCTION SIGN, TYPE A	EACH	13
06645	CONSTRUCTION SIGN, TYPE B	EACH	2
06650	STOP SIGN, TYPE R-1A	EACH	
06652	DO NOT PASS SIGN, TYPE R-11-A	EACH	
06655	YIELD SIGN, TYPE R-301	EACH	
06657	PASS WITH CARE SIGN, TYPE R-12A	EACH	
06660	CURVE SIGN, TYPE W-2AR	EACH	2
06665	CURVE SIGN, TYPE W-2AL	EACH	5
06670	REVERSE CURVE SIGN, TYPE W-4AR	EACH	
06675	REVERSE CURVE SIGN, TYPE W-4AL	EACH	
06680	LARGE ARROW SIGN, TYPE W-11A	EACH	
06685	STOP AHEAD SIGN, TYPE W-13A	EACH	16
06690	FRONTAGE ROAD SIGN, TYPE M-26	EACH	
06695	NO OUTLET DEAD END SIGN, TYPE W-29	EACH	1
06700	RAILROAD ADVANCE WARNING SIGN, TYPE W-32A	EACH	1
06705	RAILROAD CROSSBUCK SIGN, TYPE W-33	EACH	2

ESTIMATE OF QUANTITIES (CON'T.)

STRUCTURE SUMMARY

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND	F-85(29)		46	157

KIND	SIZE	CIRCULAR PIPE: LINEAL FEET																			
		4"	6"	8"	10"	12"	15"	18"	24"	30"	36"	48"	60"	72"	36" R.C.	48" R.C.	60" R.C.	72" R.C.	36" R.C.	48" R.C.	60" R.C.
GAGE	STEEL			18	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
GAGE STRUCT. PLATES	STEEL																				
	TOP & SIDES																				
	BOTTOM																				
	TOP & SIDES																				
	BOTTOM																				
GROUP -A-								4710		220			310	40	60	704					
GROUP -D-										268		84			66						
GROUP -L-										2535		1236	1214	1170	400	1356	1100				
REINFORCED CONCRETE																					
EXTRA STRENGTH REINF. CONC.																					
HEAVY DUTY REINF. CONC.																					
VITRIFIED CLAY CULVERT																					
CORR STEEL				10	10		10														
FULLY BITUM COATED CORR. STEEL				600	880	250	873	200	150	150					216	288					
FULLY BITUM COATED CORR. STEEL or R.C.																			220	252	
FULLY BITUM COATED CORR. STEEL WITH PAVED INVERT																					
DRAINTILE																					
FULLY BITUMINOUS COATED PERFORATED CORR. STEEL				400	350																
DRAINTILE, CLASS STANDARD				2504		1122	1987	600													
DRAINTILE, CLASS EXTRA																					

*STRUTTED

STRUCTURE SUMMARY (CON'T.)

KIND	MIN AREA SQ. FT. #	PIPE ARCHES: LINEAL FEET																			
		STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL
GAGE STRUCT. PLATES	STEEL	74	114																		
	TOP & SIDES																				
	BOTTOM																				
	TOP & SIDES																				
	BOTTOM																				
GAGE	STEEL	16	16																		
GROUP G-																					
GROUP G-2		1016	188																		
GROUP G-																					
GROUP H-																					
GROUP H-																					
GROUP H-																					
CORR STEEL																					
STRUCT. PLATE STEEL																					
BIT COAT CORR STEEL PIPE ARCH																					
BIT COAT CORR STEEL PIPE ARCH																					
REINF ELLIPTICAL CONCRETE																					
BIT COAT CORR STEEL PIPE ARCH WITH PAVED INVERT																					

(*) "SPAN" AND "RISE" WHEN OTHER THAN GROUP "G" OR GROUP "H" IS SPECIFIED.

PIPE GROUP "K" FOR UNDERDRAINS	6"	120,380	LN. FT.
PIPE FULLY BIT. COATED NON PERFORATED CORR. STEEL FOR UNDERDRAINS	GA 18 6"	6110	LN. FT.
AGGREGATE FOR UNDERDRAINS		14,446	CYS

AUTO DRAINAGE GATES		
SIZE	HEAD	EACH

ITEM	UNIT	QUANTITY
CONCRETE CLASS "A" IN STRUCTURES	CYS	21
REINFORCING STEEL FOR STRUCTURES	LB	
CONCRETE CLASS "F" FOR STRUCTURES	CYS	
CONCRETE CLASS "F" FOR INTEGRAL CURB WALK	CYS	

CASTINGS FURNISHED AND ADJUSTED TO GRADE		
TYPE	SIZE	EACH

INLETS				CATCH BASINS	
TYPE	EACH	TYPE	EACH	TYPE	EACH
F-7	3				
N-12	6				
P-12A	50				

INLETS USING CASTING IN PLACE		CATCH BASINS USING CASTING IN PLACE	
TYPE	EACH	TYPE	EACH

MANHOLES		PIPE CATCH BASINS		RECONSTRUCTED	
TYPE	EACH	SIZE	EACH	SIZE	LN. FT.
		12"	1		
				MANHOLE	
				CATCH BASIN	
				INLET	

PIPE END SECTION			
SIZE	EACH	SIZE	EACH
12"	56		
15"	28		
18"	6		
24"	12		
30"	8		
36"	6		

END STR