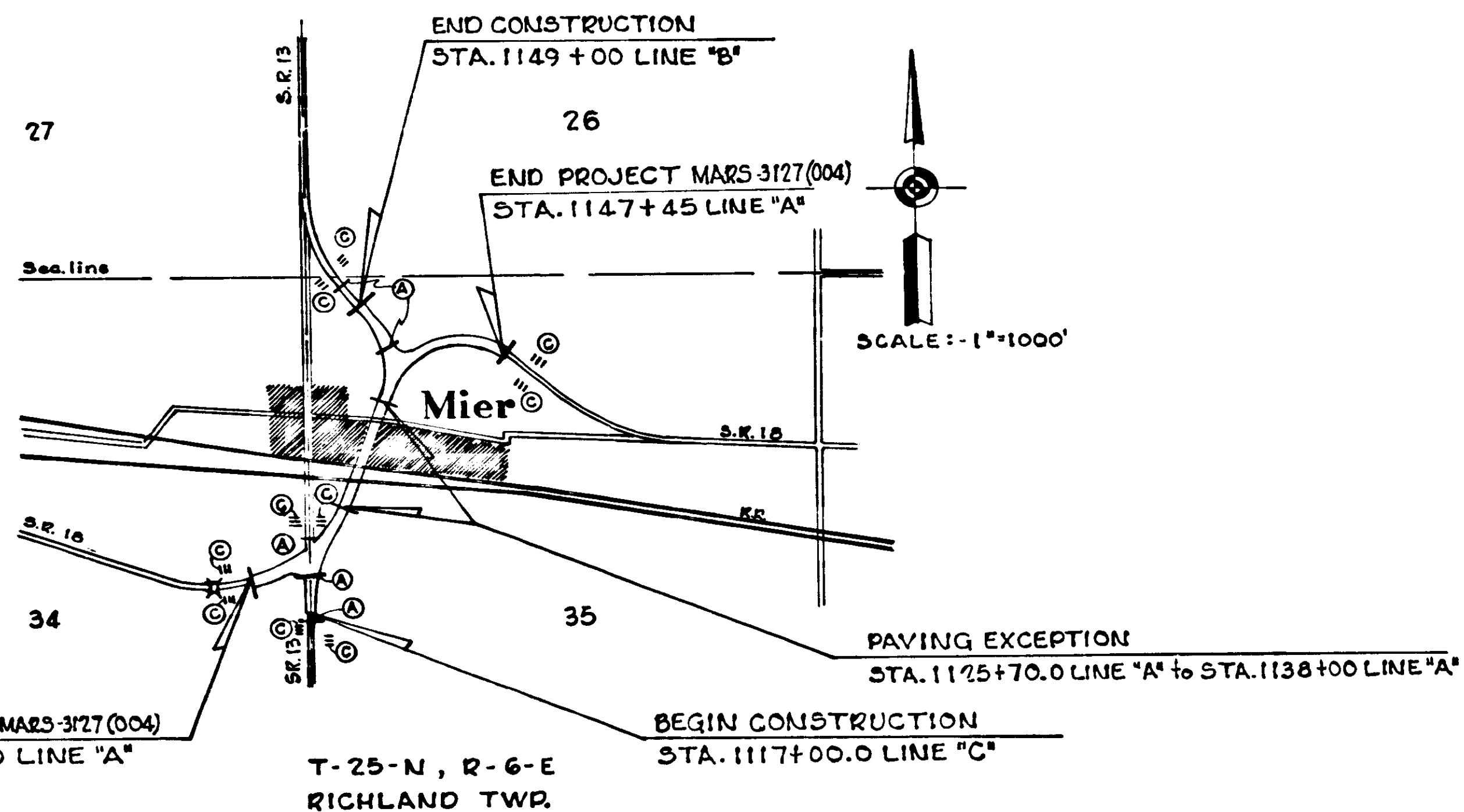


STATE OF INDIANA
INDIANA DEPARTMENT OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY
ST-3127 (A) PE ST-3127 (A) R/W
MARS-PROJECT NO. 3127 (004) CONST.
() UTIL.

SPOT IMPROVEMENT TO THE INTERSECTIONS
OF S. R. 18 AND S. R. 13 NORTH AND SOUTH
OF THE TOWN OF MIER, RICHLAND TOWNSHIP
GRANT COUNTY.

GROSS LENGTH:- 0.614 MI.
NET LENGTH:- 0.381 MI.
SCALES:-
PLAN { LONG:- 1"=100' PROFILE { HORIZ:- 1"=100'
{ TRANS:- 1"=100' { VERT:- 1"=10'
MAX. GRADE 5.00%



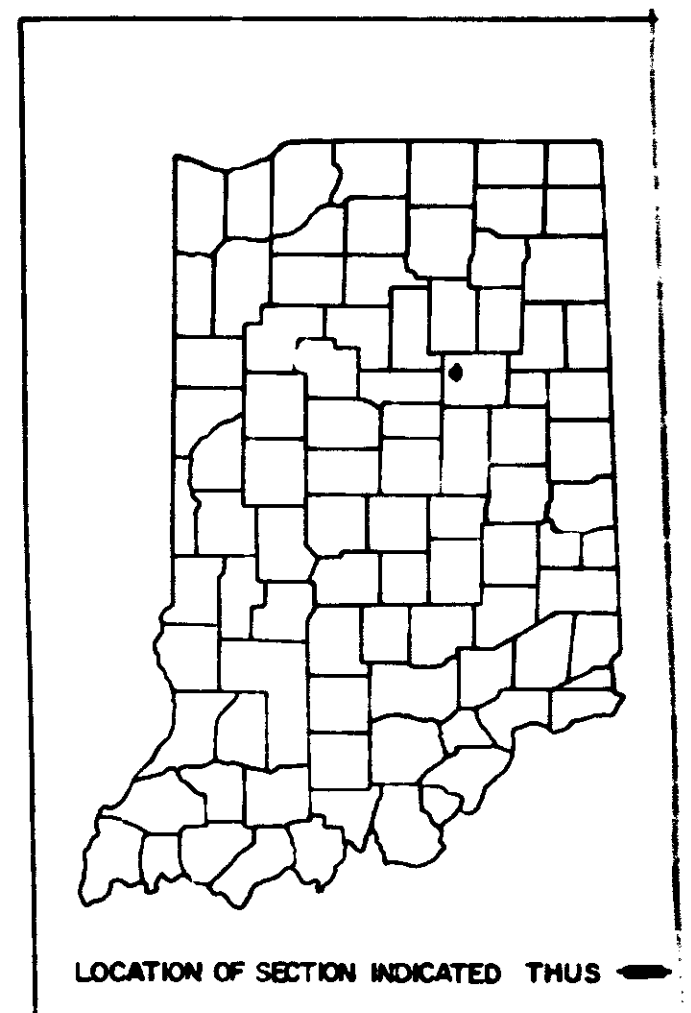
NOTE:-
WHENEVER ST-3127 (A) APPEARS
IN THESE PLANS OR CONTRACT
DOCUMENTS IT SHALL BE
INTERPRETED AS MARS-3127 (004)

T-25-N, R-6-E
RICHLAND TWP.
GRANT CO.

INDIANA STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS DATED 1978
TO BE USED WITH THESE PLANS

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	ST-3127(A)	1981	1	47

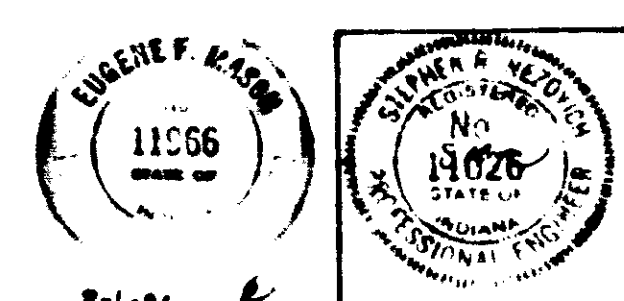
DESIGN DATA	
A.D.T. (1981)	4300 V
A.D.T. (2001) PROJECTED	6402 V
D.H.V. (2001)	640 V
DIRECTIONAL DISTRIBUTION	48-52
TRUCKS D.H.V. (0% A.D.T.)	11
DESIGN SPEED	45 M
ACCESS CONTROL	NONE



LEGEND

- (A) BARRICADE TYPE III - A
- (C) CONSTRUCTION SIGN TYPE "A"

DATE Jan 26, 1982
SECTION LEADER Stephen R. Ferguson
RECOMMENDED FOR APPROVAL 2-18-82
ASSISTANT ENGINEER OF ROAD DESIGN Robert H. Van Allen
RECOMMENDED FOR APPROVAL 3-1-82
ENGINEER OF ROAD DESIGN Ernest J. Mason
APPROVED 3-2-82
CHIEF HIGHWAY ENGINEER INDIANA DEPARTMENT OF HIGHWAYS Frank H. ...



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

ROAD FILE:-
PROJECT NO. ST-3127(A) SHEET NO. 1 TOTAL SHEETS 47

R 14269

UTILITIES

INDIANA MICHIGAN ELECTRIC CO.
ONE SUMMIT SQUARE
P.O. BOX 60
FORT WAYNE, IND.

NATURAL GAS LINE
CENTRAL INDIANA GAS CO.
3242 S. NEBRASKA ST.
MARION, IND.

INDIANA BELL TELEPHONE CO.
220 N. MERIDIAN ST. Rm 1349
INDIANAPOLIS, IND. 46204

INDIANA GAS COMPANY
1630 N. MERIDIAN ST.
INDIANAPOLIS, IND. 46202

REVISIONS

SHEET NO.	DATE	REVISED

R/W INDEX

SHEET NO.	DESIGNATION
1	TITLE SHEET
2	PARCEL LISTING FOR LAND ACQUISITION
3	GENERAL NOTES
4	TYPICAL CROSS SECTIONS
5-6	PLANS & PROFILE
9-10	DETAILS
11	RIGHT-OF-WAY PLAN # 3
12	APPROACH TABLE
13	STRUCTURE DATA

GENERAL NOTES

Standard divided lane sections for Federal Aid Projects as shown on Sheet No. 1 to be used on this project.

Standard ramp sections to be used on this project. Pavement thickness shall be _____ inches.

Standard single lane pavement sections as shown on Sheet No. 1 to be used on this project.

A 1 1/2 inch _____ pavement shall be used.

Typical cross section as shown on Sheets No. 1 to be used on this project.

Standards under _____ as listed in the index on this sheet to be used on this project.

All Ditches of 1% grade and over shall be sodded except where ditch is in rock cut or where Paved Side Ditch is to be constructed.

Sodding shall be placed as shown on Standard and Typical Cross-Sections and on Miscellaneous Standard Sheet "MB".

All Earth Shoulders, Median Area, Cut and Fill slopes shall be plain or mulched seeded except where Sodding is specified.

Overhaul and Added Haul Quantities as shown in the Balances are for information only.

Excavation Quantities as shown include estimated excavation for Public and Private Approaches. See Table on Sheet No. 10.

The final Cross-Sections of the "Grading Contract" shall be the original cross-sections of the "Paving Contract" except that partial or complete cross-sections shall be taken if necessary to determine the actual quantities of Excavation.

Paper Relocation is to be cross-sectioned by the Project Engineer before construction.

Where existing surface is located outside the limits of new construction between Station _____ and Station _____, the Contractor will be required to remove the present roadway surface and base as directed by the Engineer.

For Kinds of Pipe permitted for each size and classification as shown on the Structure Data Sheet, see Miscellaneous Standard Sheets "MP" and "MP-I".

Such part of existing downspout drains that are disturbed by either adding or replacing the curb, shall be replaced and connected as directed by the Engineer. Payment for this work shall be included in the Contract unit price for _____ Curb.

The Contractor must accept the plan quantities of Subbase as given on the Estimate of Quantities Sheet subject to the conditions as set out in 30407 of the Standard Specifications.

The minimum grade for Underdrains shall be 0.20%. Where the profile grade is less than 0.20% special grades for Underdrains shall be established by the Engineer.

County Road _____ shall have 4 "Edge Lines" and "Skip Center Lines" as set out in "Special Provisions" and "Yellow Barrier Lines" shall be placed as shown on plans.

All Limited Access R/W (LA-RW) to be fenced with Chain Line Type Fence (CLTF) or Farm Field Type Fence (FFTF) as specified in the plans.

Curves shall be Super-elevated according to the Standards of _____ (Except "Special" Super-Transitions" shall be detailed on Sheet No. _____).

A Keyway Joint is to be constructed on Median side of each pavement.

Contraction Joints shall be placed at all manholes within pavement limits.

Contraction Joints shall be placed at the beginning and end of all radii of Street and alley intersections.

All Highway Drainage Structures 42" dia and over have been designed on the basis of a 10 year storm frequency. (Except Structure Numbers _____ which have been designed for a _____ year storm frequency.) The elevations of the design headwater for each culvert having a design flood of more than 500 cubic feet per second, are shown on the Plan-Profile Sheets at the culvert locations.

The quantity Crown-Vetch Seeding, shown on the Estimate of Quantities Sheet is to be used at those locations where the slopes are 3:1 or steeper or in an area requiring sand cut or sand fills or as directed by the Engineer.

The quantity of Peat Excavation as shown the plans has been estimated on the basis of theoretical cross-sections by using Method "A" where it applies and Method "B" where it applies.

Prefabricated Joint Material for Cross-overs, Drives, Road Approaches, and Sidewalk will not be paid for directly, the cost thereof to be included in the contract unit price for the various items in the contract.

For Paved side ditch and Sodding Quantities see table on Sheet No. _____.

When Guard Rail Type "A" is called for on this project the Contractor shall use the Steel Beam section only.

When Guard Rail Type "B" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, the Semi-Ellipse Aluminum Tubular Section or the Steel Tubular Section.

When Guard Rail Type "C" is called for on this project the Contractor shall have the option of using either the Semi-Ellipse Aluminum Tubular Section or the Steel Tubular Section.

When Guard Rail Type "D" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, or the Semi-Ellipse Aluminum Tubular Section.

When Guard Rail Type "E" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, the Semi-Ellipse Aluminum Tubular Section or the Steel Tubular Section.

When Guard Rail Type "F" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, the Semi-Ellipse Aluminum Tubular Section or the Steel Tubular Section.

When Guard Rail Type "G" is called for on this project the Contractor shall have the option of using either, the Semi-Ellipse Aluminum Tubular Section or the Steel Tubular Section.

The Engineer may Change the Type of Fence Shown on the Plans upon Receipt of Reasonable, Written Justification from the Property Owner.

Prior to extending existing pipe structures, headwall in place on extended end shall be removed.

Unless otherwise specified the contractor shall have the option of using either Hot Asphaltic Concrete (HAC) or Hot Asphaltic Emulsion (HAE), on all Bituminous Items.

Movement of excavation is shown on Mass Haul Diagram on Sheet No. _____ with the entire project being one balance.

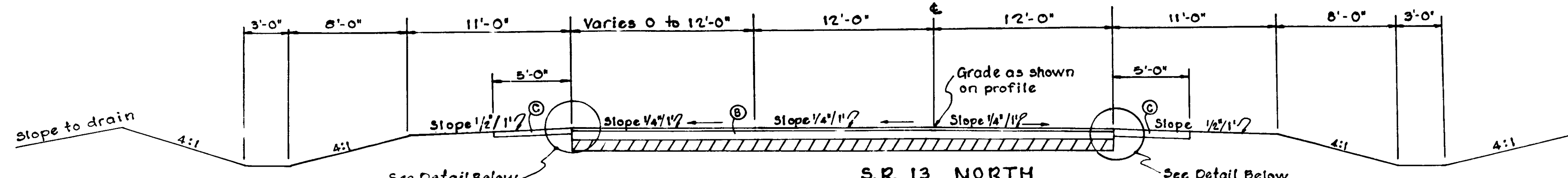
**** Remove trees within R/W as directed by engineer.**

**** REPRESENTS GENERAL NOTES REQUIRED**

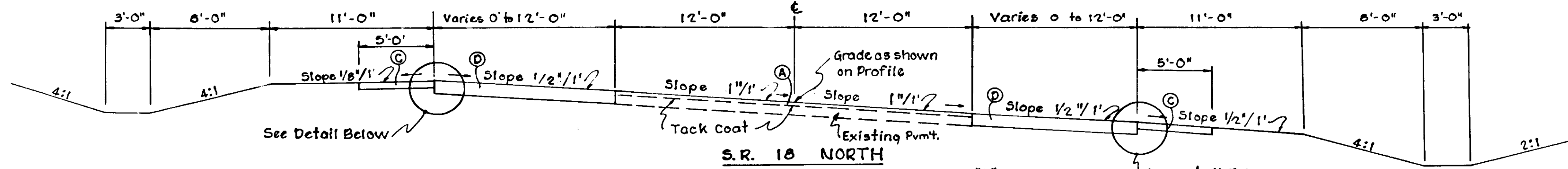
INDEX

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		APPROVAL	REVISION		
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2	INFORMATION SHEET				
3	TYPICAL CROSS SECTION				
PLAT NO 1					
4-7	PLAN AND PROFILE				
8-96	DETAILS				
10-10A, 10B	TRAFFIC SIGN DETAILS 9A, 9B, 9C, 9D, 9E, 9F, 9G				
11	TABLE OF QUANTITIES				
12	STRUCTURE DATA				
13-14	AERIAL MOSAIC				
	ESTIMATE OF QUANTITIES				
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	STD RAMP SECTION				
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	STD PAVEMENT JOINTS SHEET "B"				
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	MISCELLANEOUS STANDARDS SHEET "MA-1"				
	MISCELLANEOUS STANDARDS SHEET "MA-2"				
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	MISCELLANEOUS STANDARDS SHEET "MB-1"				
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	MISCELLANEOUS STANDARDS SHEET "MD-3"				
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20	MISCELLANEOUS STANDARDS SHEET "ME-1"	10-18-82	R-9-1-82		
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	MISCELLANEOUS STANDARDS SHEET "MI"				
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	MISCELLANEOUS STANDARDS SHEET "MI-2"				
	MISCELLANEOUS STANDARDS SHEET "MJ"				
	MISCELLANEOUS STANDARDS SHEET "MJ-1"				
	MISCELLANEOUS STANDARDS SHEET "MJ-2"				
	MISCELLANEOUS STANDARDS SHEET "MJ-3"				
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23	MISCELLANEOUS STANDARDS SHEET "MN"	12-22-80	R-10-1-80		
24	MISCELLANEOUS STANDARDS SHEET "MP"	7-19-83	R-5-2-83		
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	STD R C BOX CULV SK END & WING DET SK				
	STD R C BOX CULV W O F				
	STD R C CULV U F SK				
	STD R C CULV W O F SK				
	STD R C CULV U F SK				
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	GUARD RAIL SHEET GR-4A				
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37	GUARD RAIL SHEET GR-9	*	R-4-1-82		
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43-47	CROSS SECTIONS				
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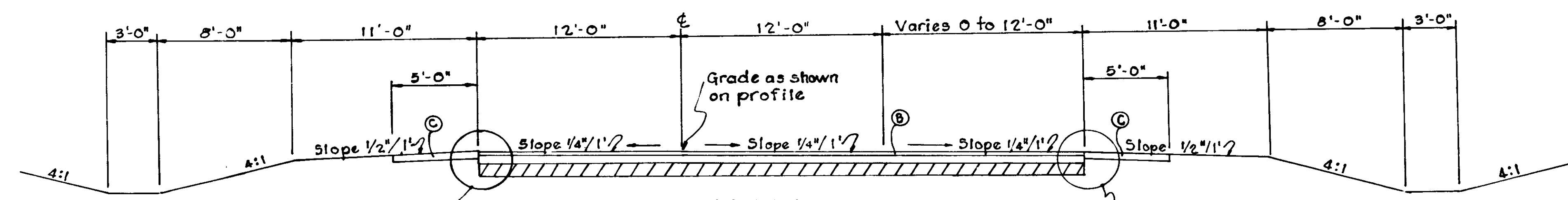
FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	ST-3127(A)	1981	3	47



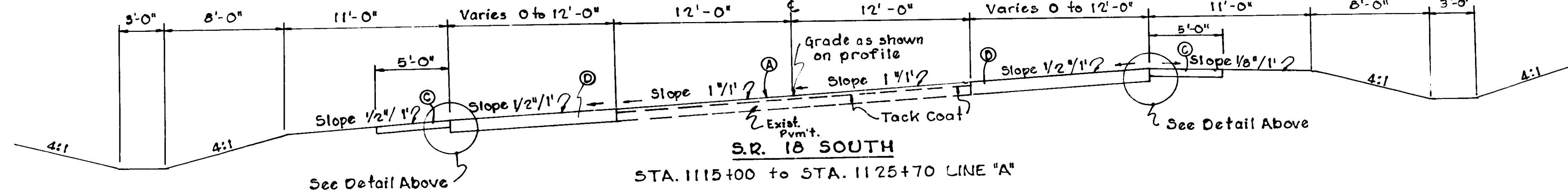
S.R. 13 NORTH
STA. 1142+05.07 to STA. 1149+00 LINE "B"



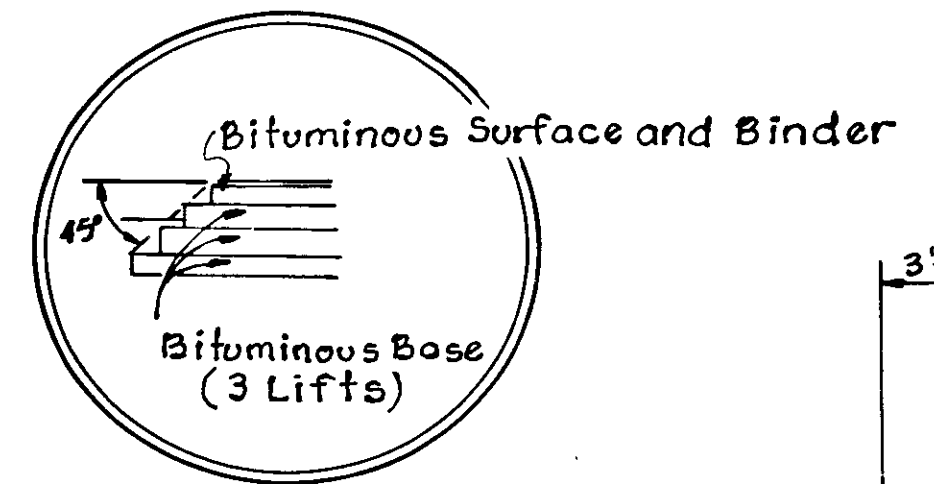
S.R. 18 NORTH
STA. 1138+00 to STA. 1147+45 LINE "A"



S.R. 13 SOUTH
STA. 1117+00 to STA. 1122+01.29 LINE "C"

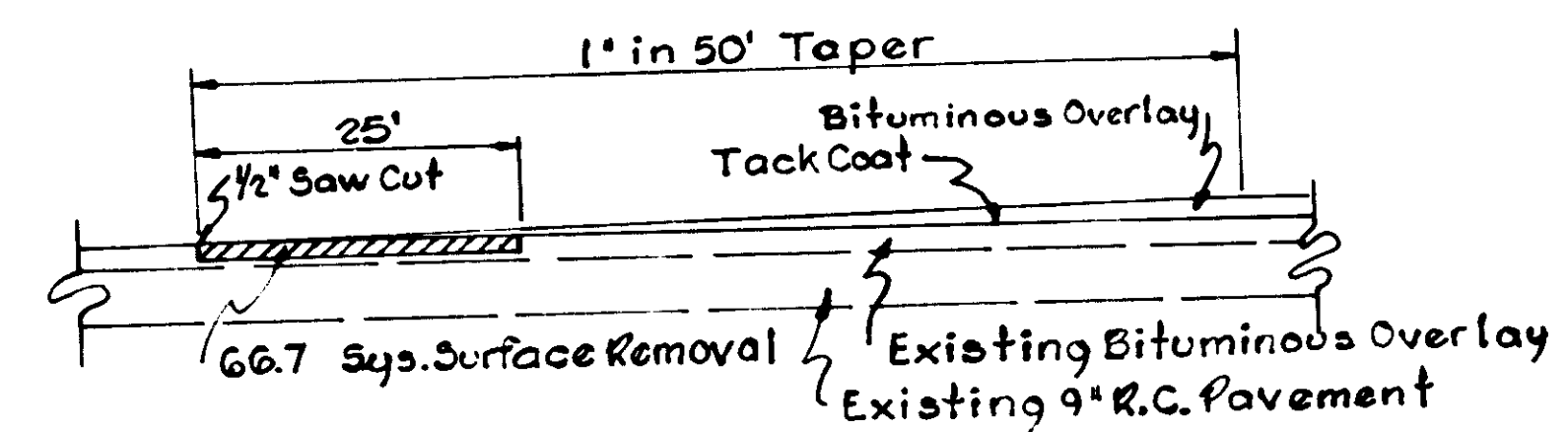


S.R. 18 SOUTH
STA. 1115+00 to STA. 1125+70 LINE "A"

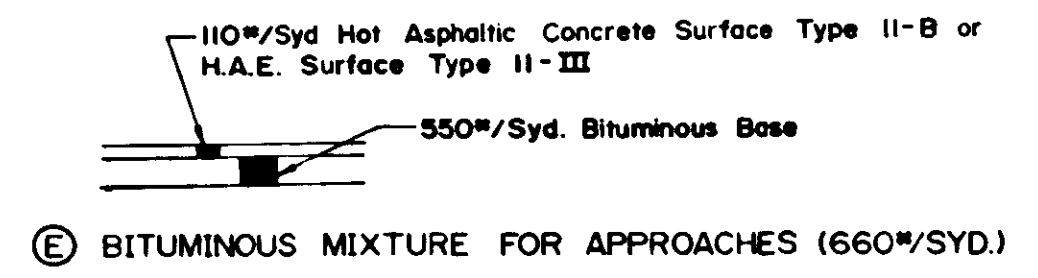


PAVEMENT DETAIL

- LEGEND**
- Ⓐ 330#/Syd. Bituminous Overlay
Includes:
110#/Syd. Bituminous Surface (H.A.C. Type II-B or H.A.E. Type II-III) on
Varies to 220#/Syd. Bituminous Binder No. 8 or 9
 - Ⓑ 110#/Syd. Bituminous Surface (H.A.C. Type II-B or H.A.E. Type II-III) on
1100#/Syd. Bituminous Base
 - Ⓒ 660#/Syd. Bituminous Base No. 5D
with Seal Coat, Type 2
 - Ⓓ 110#/Syd. Bituminous Surface (H.A.C. Type II-B or H.A.E. Type II-III) on
220#/Syd. Bituminous Binder No. 8 or 9 on
1100#/Syd. Bituminous Base
660#/Syd. Bituminous Mixture for Approaches
 - Ⓔ 8 inch Special Subgrade Treatment



TYPICAL BITUM. OVERLAY TERMINATION
Not to Scale



TYPICAL CROSS SECTIONS

SCALE: 1/4" = 1'

RECOMMENDED FOR APPROVAL 3-1-82

Ernest J. Mason

SECTION 34
T-25-N. R-6-E
RICHLAND TWP.
GRANT CO.

Existing Bridge Structure No. 18-27-1432
No Change Req'd

BEGIN PROJECT
Sta. 1115+00.0 LINE "A"
= Sta. 1115+00.0 LINE "A"
(PROJ. F.A. 284 SEC.G)

STRUCTURE NO. 19
178' of 15" Pipe & 1-
End Section Req'd.
Connect to Str.
No. 15

STRUCTURE NO. 11
Existing 15" Pipe
16' of 15" Pipe to
Extend Existing Pipe
4' Lt. and 12' Rt. &
2 End Sections Req'd.

STRUCTURE NO. 12
Existing Inlet & 15"
Pipe Remove Inlet
& Pipe

STRUCTURE NO. 13
Existing 4'x3' Std. R.C.
Box Culvert
No Change Req'd.

BEGIN CONSTRUCTION
Sta. 1117+00.0 LINE "C"

STRUCTURE NO. 14
Existing Inlet & 15" Pipe
Remove Inlet & Pipe Back
& Seal Pipe under Roadway

STRUCTURE NO. 16
Existing Inlet & 6" Pipe
Remove Inlet & Pipe

STRUCTURE NO. 17
Existing 3'x3' Std. R.C.
Box Culvert
No Change Req'd.

STRUCTURE NO. 15
Inlet Type F-7 & 244' of
15" Pipe & 1-End Section Req'd
Connect to Str. No. 19
Sta. 1121+65 to 1129+00
Drains 30 Ac. on Rt. C=0.4

STRUCTURE NO. 18
Existing 24" Pipe
No Change Req'd.

SECTION 35
T-25-N. R-4-E
RICHLAND TWP.
GRANT CO.

ALL EXISTING RIGHT-OF-WAY AND PROPERTY LINES ON THIS SHEET
IS AS SHOWN FROM PROJECT F.A. NO. 284 SEC.G (1936)
PVI. 1115+00.0 (Existing)
El. 807.30
V.C. = 300'

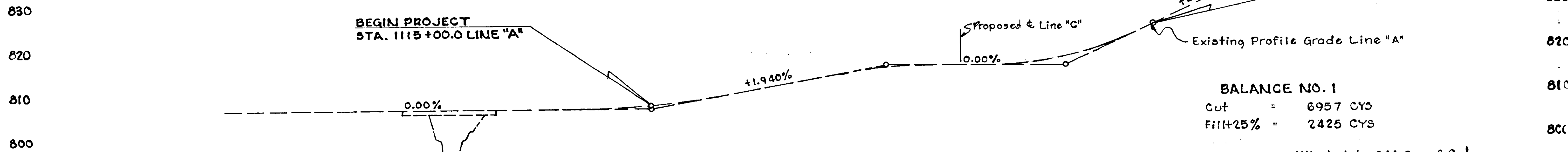
PVI. 1120+00.0 (Existing)
El. 817.00
V.C. = 100'

PVI. 1123+86.25 (Existing)
El. 817.00
V.C. = 200'

S.R. 18 SOUTH

BEGIN PAVING EXCEPTION
Sta. 1125+70 LINE "A"

BEGIN PROJECT
Sta. 1115+00.0 LINE "A"



BALANCE NO. 1

Cut = 6957 CYS
Fill+25% = 2425 CYS

The Above Quantities includes 344 Cys of Cut
and 344 Cys of fill for Benching

PUBLIC RD. APPROACH REQ'D
Sta. 1121+61.87 LT.

FOR DETAIL OF INTERSECTION
SEE SHEET NO. 8

ST-3127(A) 1981 4 47

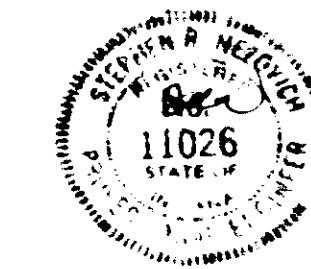


Sta. 1119+60 to Sta. 1121+65
Drains 1/2 Ac. on Rt. C=0.3

P.O.T. STA. 1122+01.29 LINE "C" =
P.O.C. STA. 1121+81.87 LINE "A" =
P.O.T. STA. 4+05.29 "Y-13-NS" (Proj. F.A. 284 SEC.G)

PI = STA. 1120+76.9
CURVE DATA
Line "A"
Δ = 89° 50' Lt.
D = 4° 00'
T = 1428.31'
L = 2245.8'
E = 590.43'
R = 1432.39'

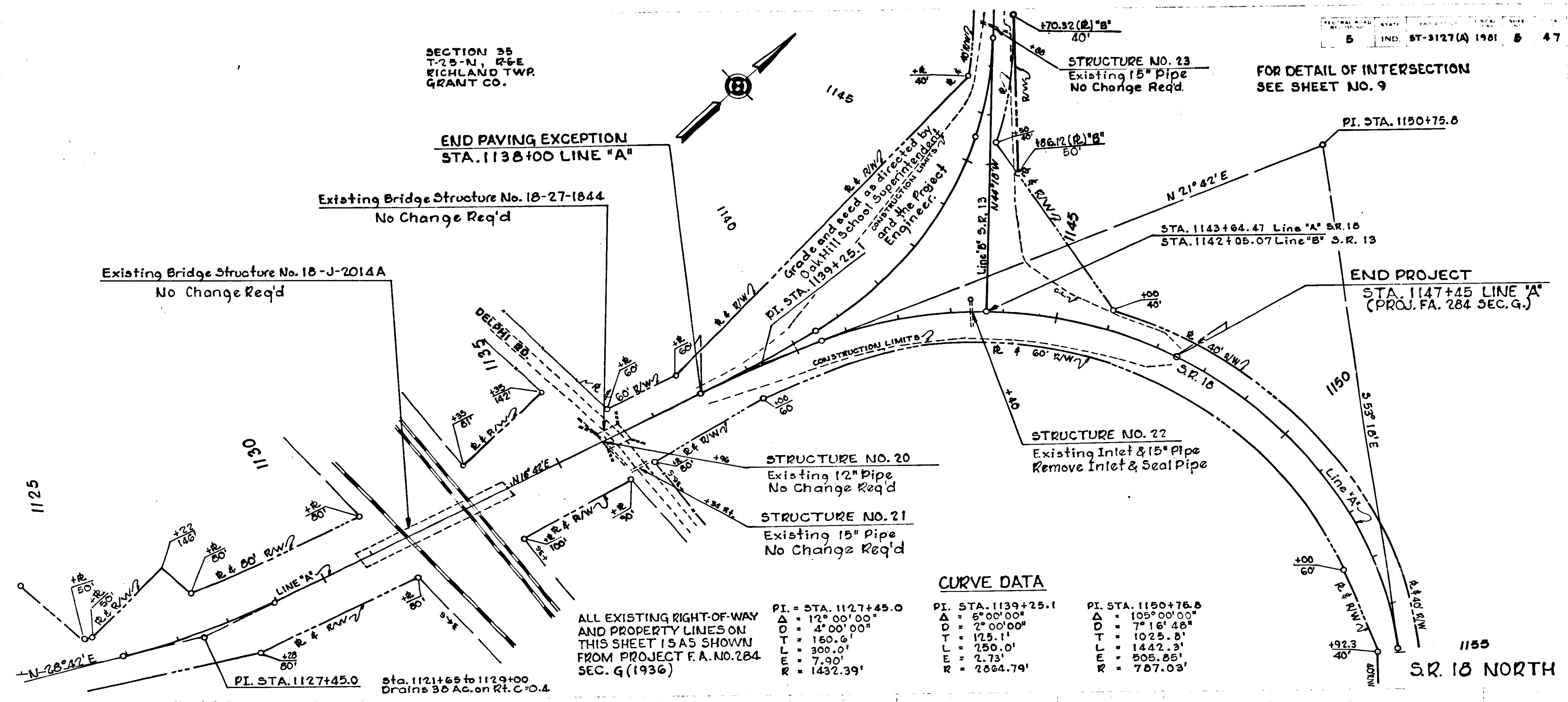
PI = STA. 1120+78.4
CURVE DATA
Line "C"
Δ = 31° 50' R
D = 6° 00'
T = 272.4'
L = 530.5'
E = 38.07'
R = 954.93'



ST-3127(A) A 4 47

SECTION 35
T-25-N R-2-E
RICHLAND TWP.
GRANT CO.

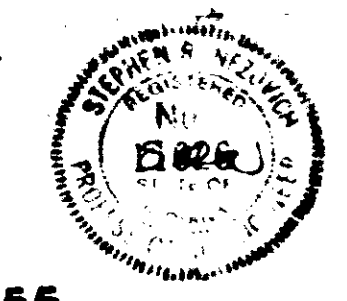
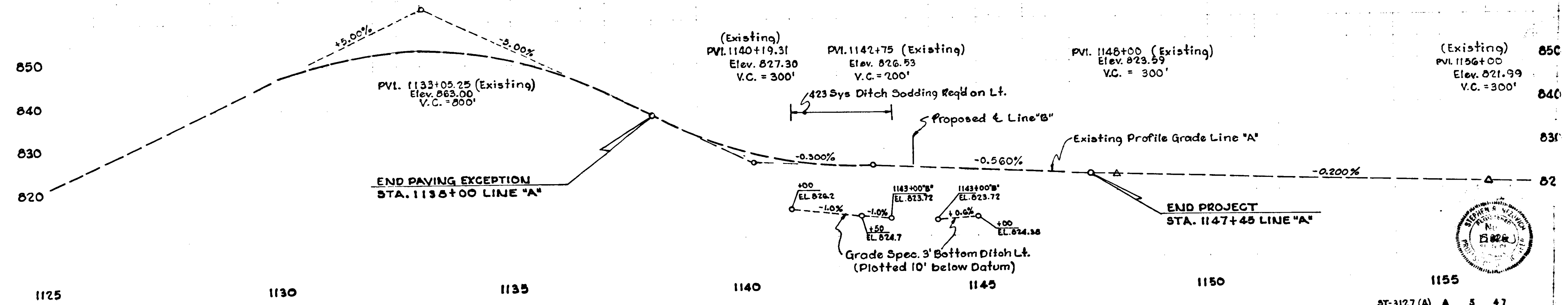
IND 87-3127(A) 1981 5 47



ALL EXISTING RIGHT-OF-WAY
AND PROPERTY LINES ON
THIS SHEET IS AS SHOWN
FROM PROJECT F.A. NO. 284
SEC. G (1936)

CURVE DATA

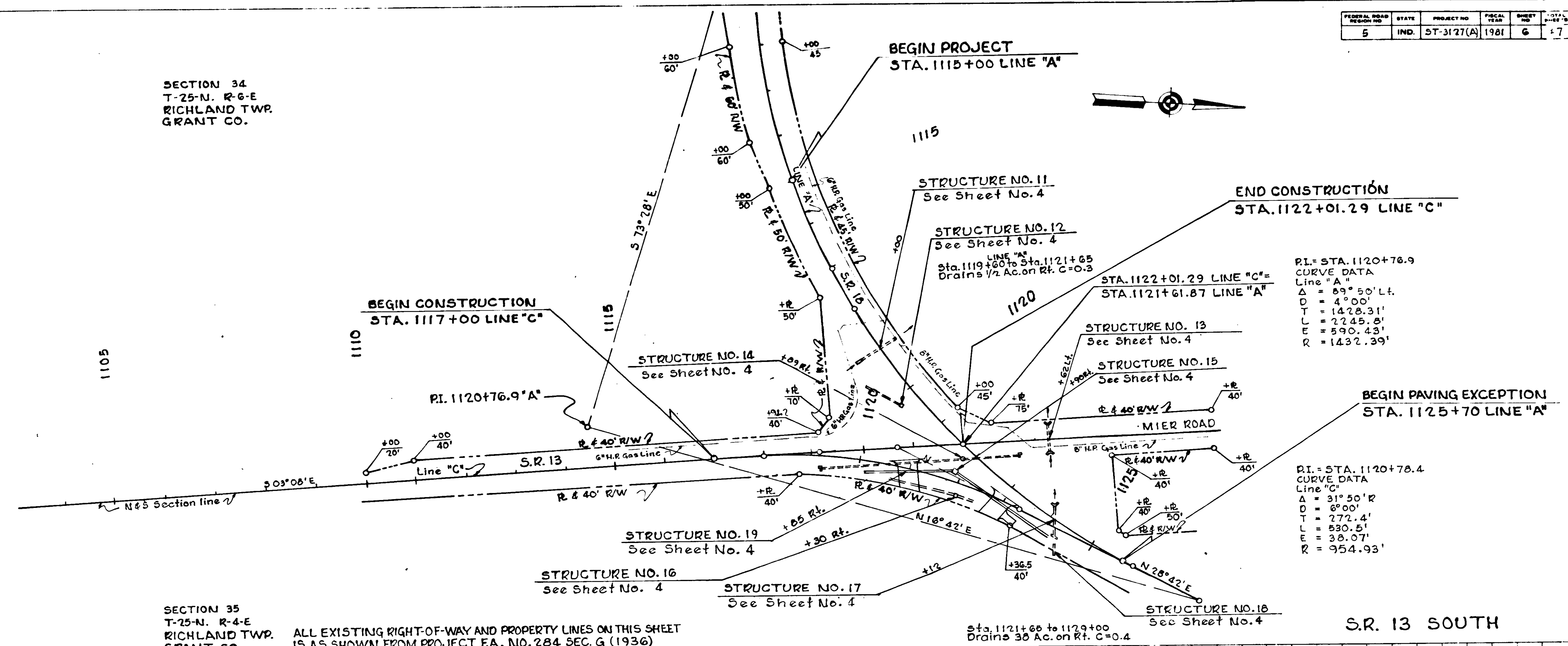
PI. STA. 1127+45.0	PI. STA. 1139+25.1	PI. STA. 1150+76.8
Δ = 12° 00' 00"	Δ = 6° 00' 00"	Δ = 105° 00' 00"
D = 4° 00' 00"	D = 2° 00' 00"	D = 7° 16' 48"
T = 160.6'	T = 125.1'	T = 1025.8'
L = 300.0'	L = 250.0'	L = 1442.3'
E = 7.90'	E = 2.73'	E = 508.85'
R = 1432.39'	R = 2664.74'	R = 787.03'



ST-3127(A) A 5 47

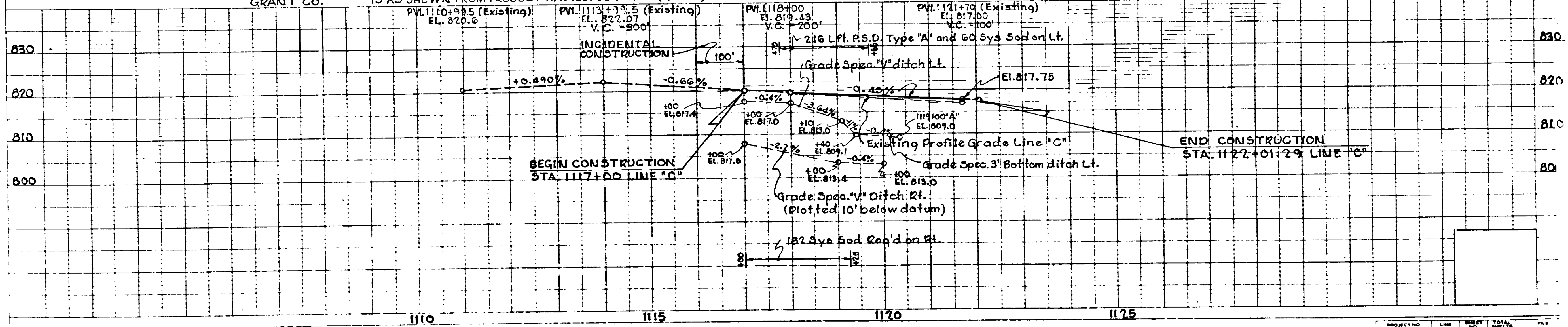
FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	ST-3127(A)	1981	6	17

SECTION 34
T-25-N. R-6-E
RICHLAND TWP.
GRANT CO.



SECTION 35
T-25-N. R-4-E
RICHLAND TWP.
GRANT CO.

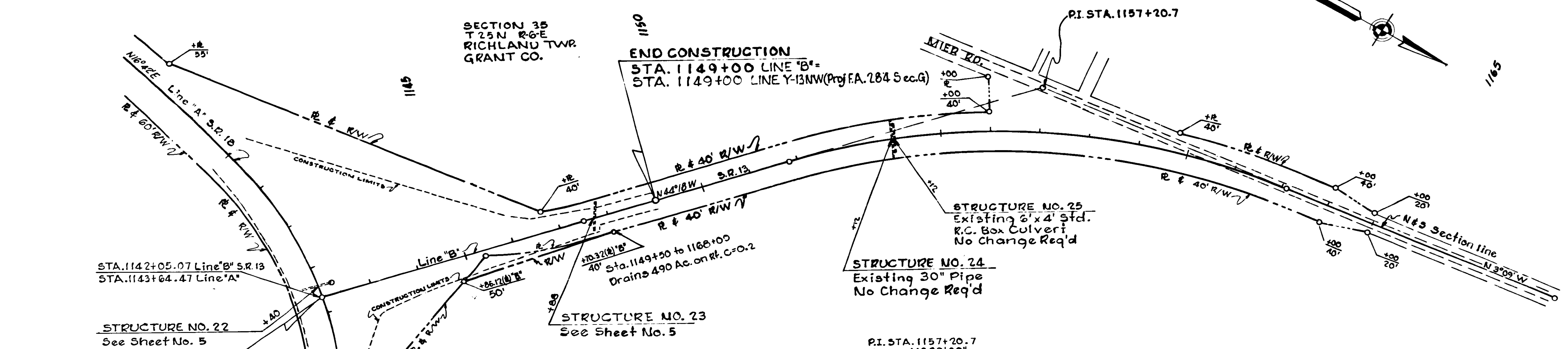
ALL EXISTING RIGHT-OF-WAY AND PROPERTY LINES ON THIS SHEET
IS AS SHOWN FROM PROJECT FA. NO. 284 SEC. G (1936)



November 6, 1981

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	DATE
ST-3127(A)	"C"	6	17	

SECTION 35
T 23 N R 6 E
RICHLAND TWR
GRANT CO.



STRUCTURE NO. 25
Existing 6'x4' Std.
R.C. Box Culvert
No Change Req'd

STRUCTURE NO. 24
Existing 30" Pipe
No Change Req'd

PI. STA. 1157+20.7
 $\Delta = 41^{\circ}09'00''$
 $D = 4^{\circ}00'00''$
 $T = 537.7'$
 $L = 1025.6'$
 $E = 97.60'$
 $R = 1432.39'$

ALL EXISTING RIGHT-OF-WAY
AND PROPERTY LINES ON THIS
SHEET IS AS SHOWN FROM
PROJECT F.A. NO. 284
SEC. G (1936)

S.R. 13 NORTH

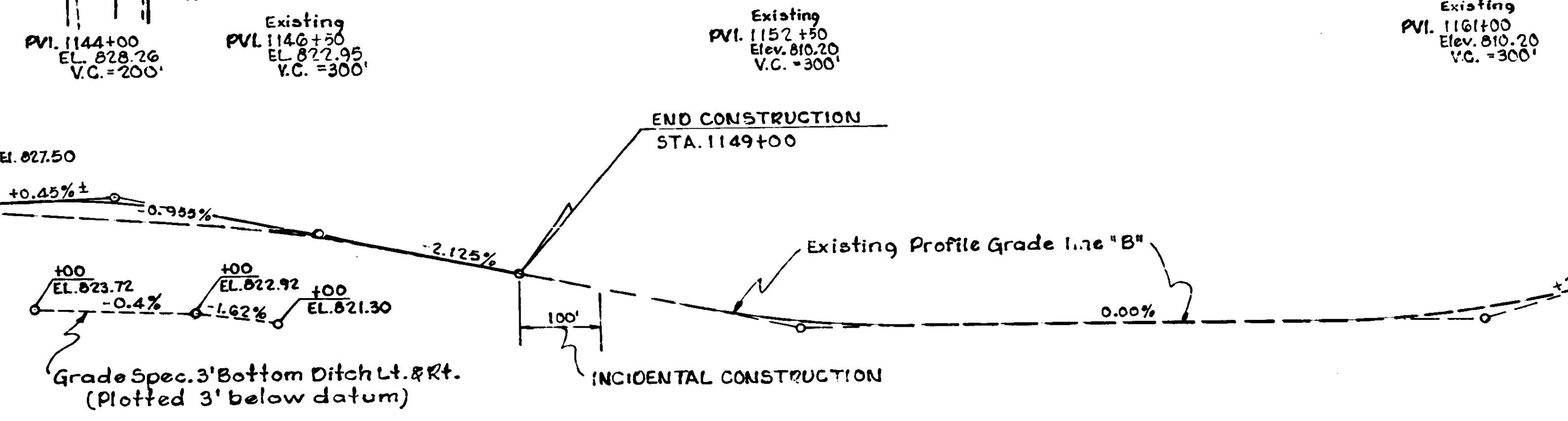
BEGIN CONSTRUCTION
STA. 1142+05.07

END CONSTRUCTION
STA. 1149+00

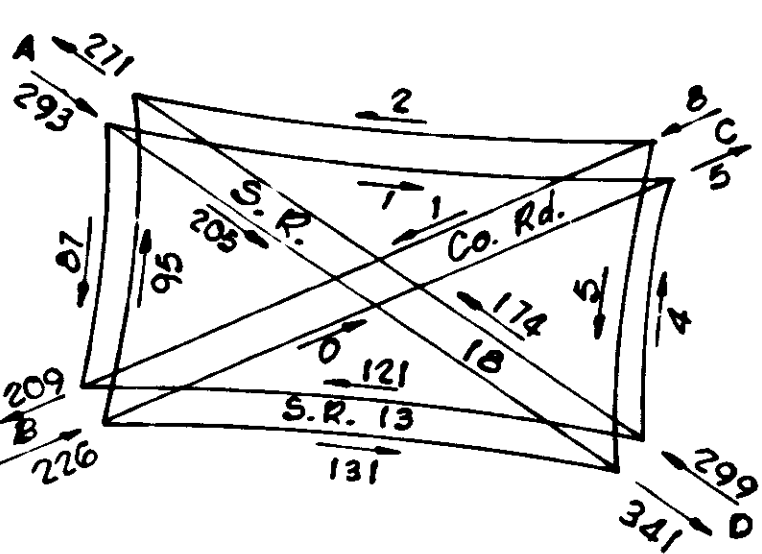
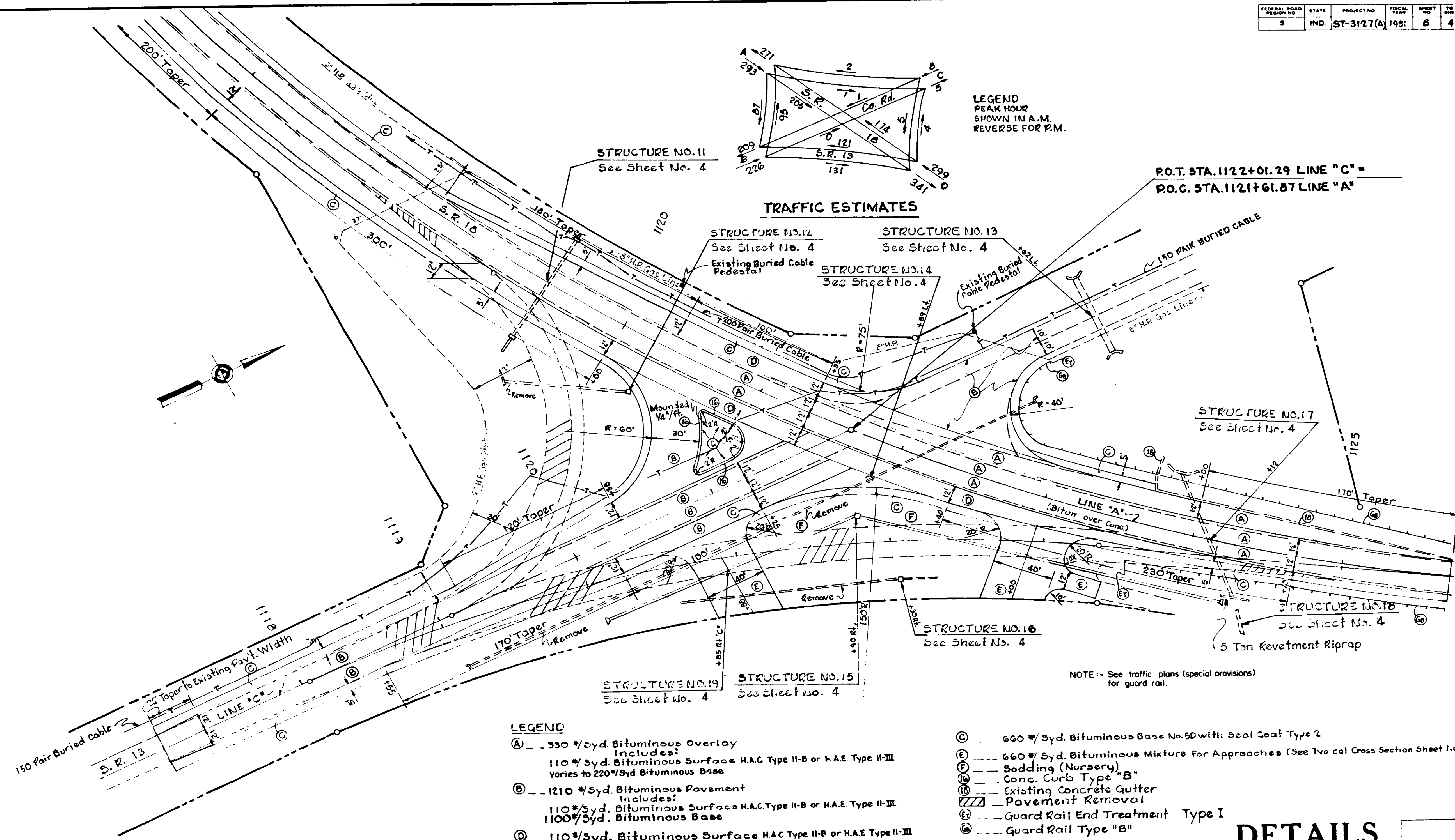
BEGIN CONSTRUCTION
STA. 1142+05.07

820
810
800

820
810
800



FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	ST-3127(A)	1981	6	47



LEGEND
PEAK HOUR
SHOWN IN A.M.
REVERSE FOR P.M.

TRAFFIC ESTIMATES

LEGEND

- (A) 330 #/Syd. Bituminous Overlay
Includes:
110 #/Syd. Bituminous Surface H.A.C. Type II-B or H.A.E. Type II-III
Varies to 220 #/Syd. Bituminous Base
- (B) 1210 #/Syd. Bituminous Pavement
Includes:
110 #/Syd. Bituminous Surface H.A.C. Type II-B or H.A.E. Type II-III
1100 #/Syd. Bituminous Base
- (C) 110 #/Syd. Bituminous Surface H.A.C. Type II-B or H.A.E. Type II-III
220 #/Syd. Bituminous Binder No. 8 or 9
1100 #/Syd. Bituminous Base
- (D) 660 #/Syd. Bituminous Base No. 5D with Seal Coat Type 2
- (E) 660 #/Syd. Bituminous Mixture for Approaches (See Typical Cross Section Sheet 1-0-3)
- (F) Sodding (Nursery)
- (G) Conc. Curb Type "B"
- (H) Existing Concrete Gutter
- (I) Pavement Removal
- (J) Guard Rail End Treatment Type I
- (K) Guard Rail Type "B"

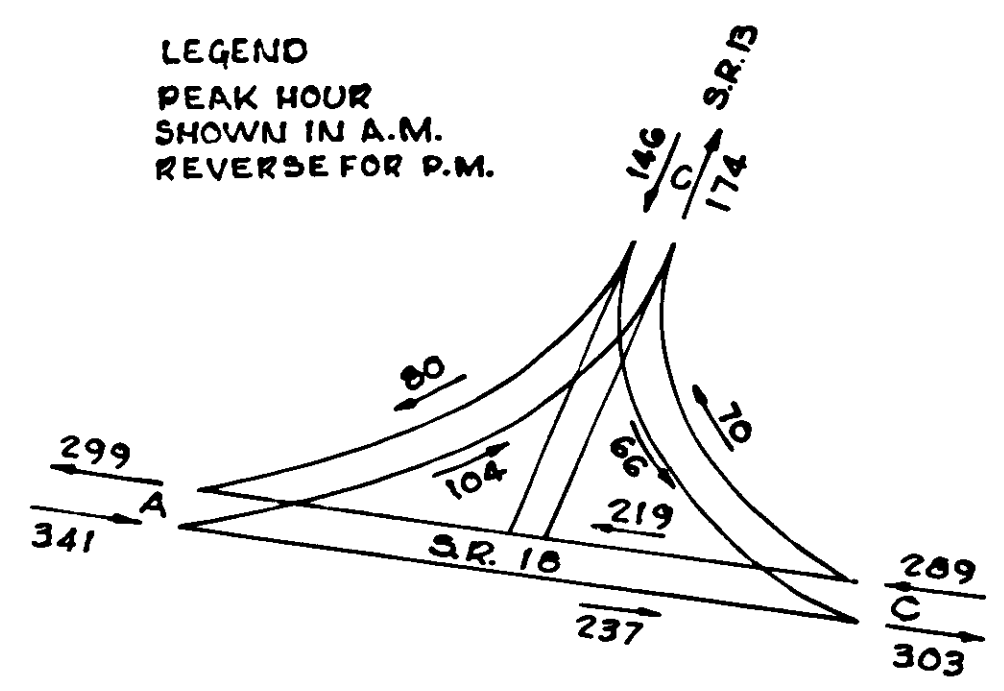
SOUTH INTERSECTION SR 18 AND SR 13

DETAILS

Scale: 1" = 30'

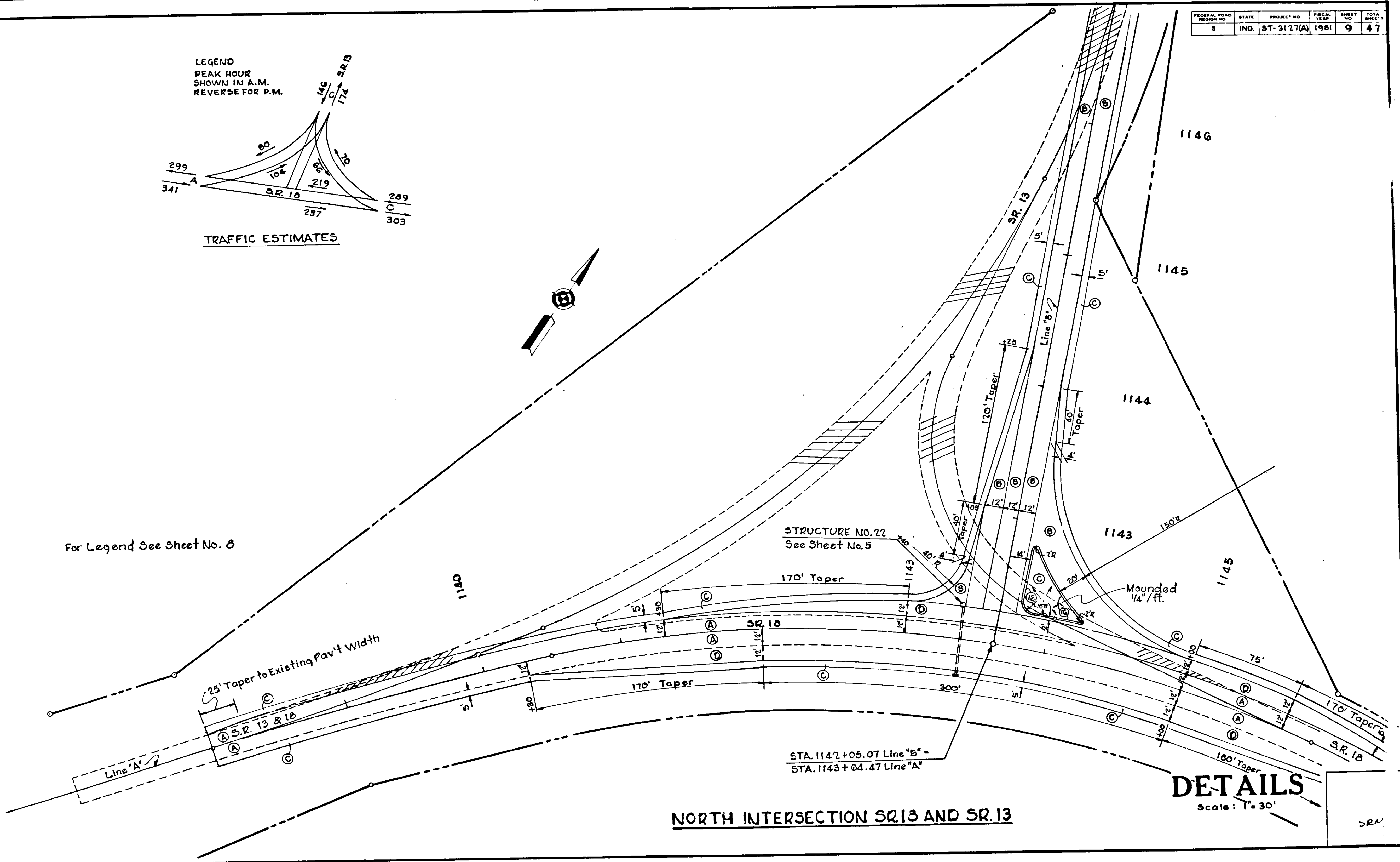
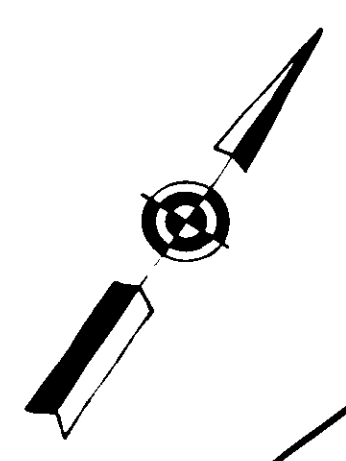
Sheet No. 6 of 47

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	ST-3127(A)	1981	9	47



TRAFFIC ESTIMATES

For Legend See Sheet No. 8



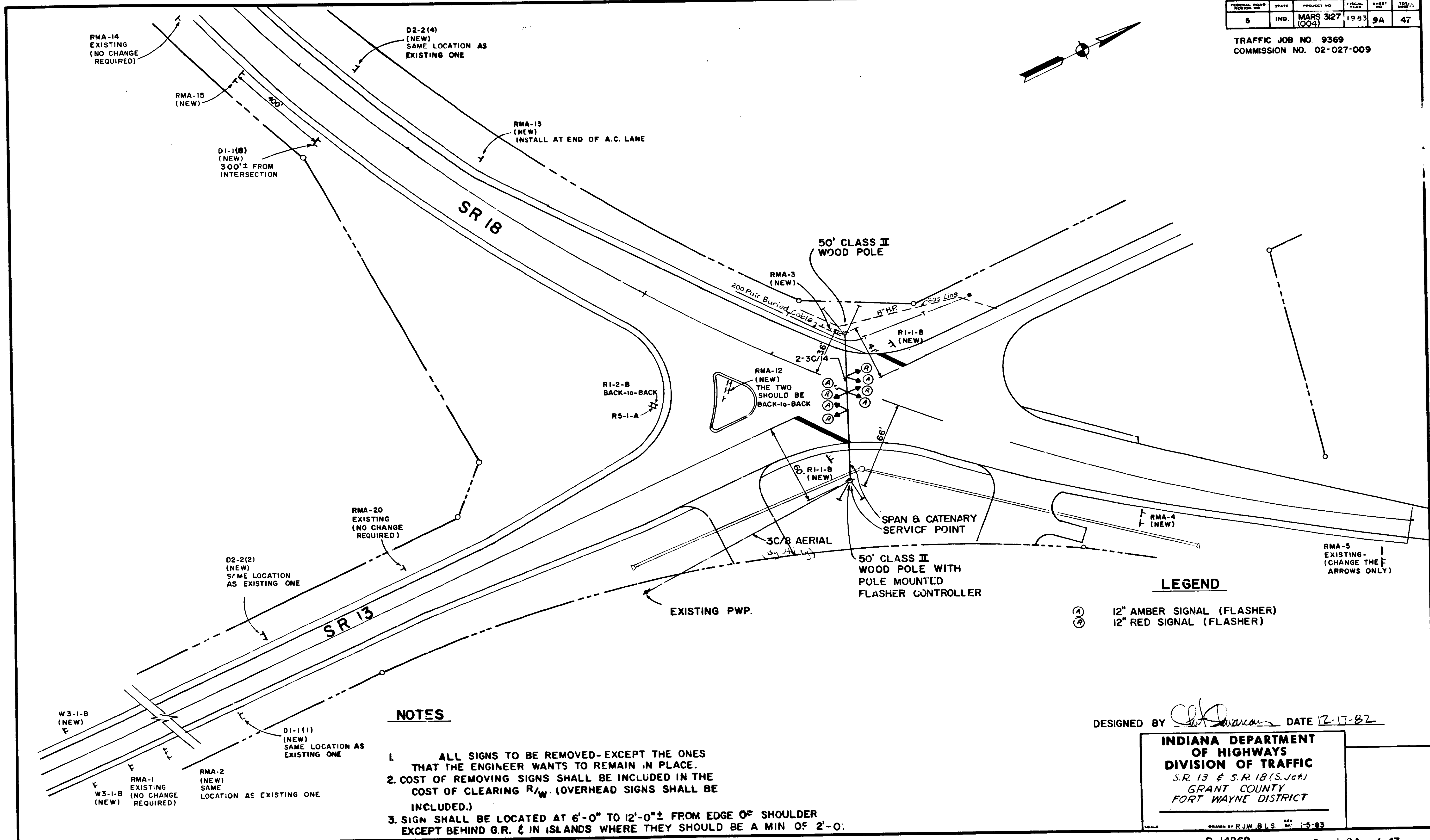
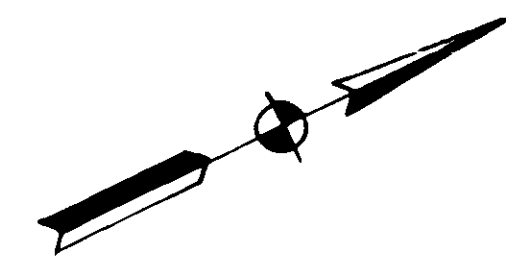
NORTH INTERSECTION SR 13 AND SR 18

DETAILS
Scale: 1" = 30'

SEA

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	MARS 3127 (004)	1983	9A	47

TRAFFIC JOB NO. 9369
 COMMISSION NO. 02-027-009



LEGEND

- (A) 12" AMBER SIGNAL (FLASHER)
- (B) 12" RED SIGNAL (FLASHER)

NOTES

1. ALL SIGNS TO BE REMOVED-EXCEPT THE ONES THAT THE ENGINEER WANTS TO REMAIN IN PLACE.
2. COST OF REMOVING SIGNS SHALL BE INCLUDED IN THE COST OF CLEARING R/W. (OVERHEAD SIGNS SHALL BE INCLUDED.)
3. SIGN SHALL BE LOCATED AT 6'-0" TO 12'-0"± FROM EDGE OF SHOULDER EXCEPT BEHIND G.R. & IN ISLANDS WHERE THEY SHOULD BE A MIN. OF 2'-0."

DESIGNED BY *[Signature]* DATE 12-17-82

INDIANA DEPARTMENT OF HIGHWAYS
DIVISION OF TRAFFIC
 S.R. 13 & S.R. 18 (S.Jct.)
 GRANT COUNTY
 FORT WAYNE DISTRICT

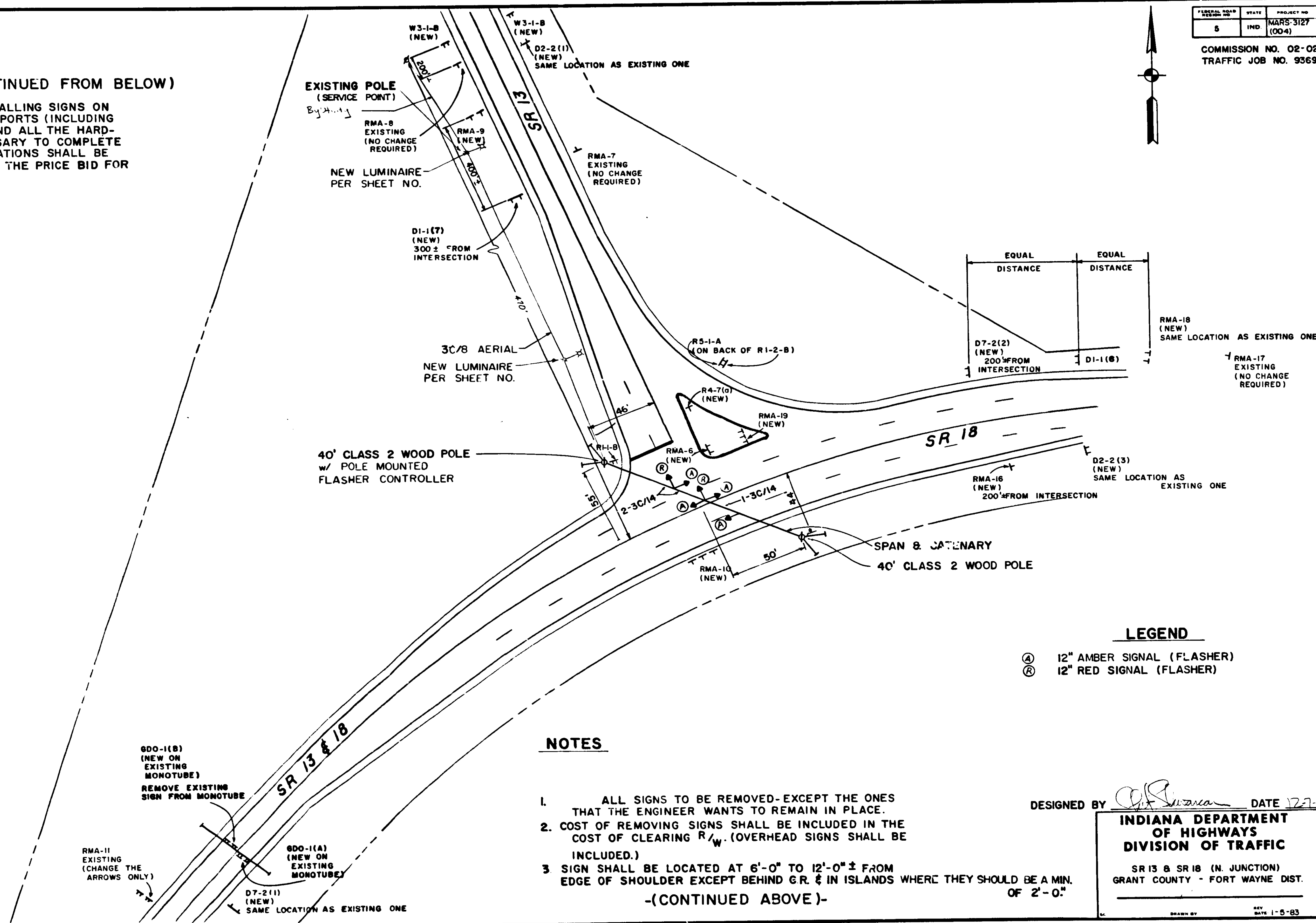
SCALE DRAWN BY R.J.W. B.L.S. REV. DATE 1-5-83

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	MARS-3127 (004)	1983	9B	47

COMMISSION NO. 02-027-008
TRAFFIC JOB NO. 9369

NOTES (CONTINUED FROM BELOW)

4. COST OF INSTALLING SIGNS ON EXISTING SUPPORTS (INCLUDING MONOTUBE) AND ALL THE HARDWARE NECESSARY TO COMPLETE THE INSTALLATIONS SHALL BE INCLUDED IN THE PRICE BID FOR SHEET SIGNS



NOTES

1. ALL SIGNS TO BE REMOVED-EXCEPT THE ONES THAT THE ENGINEER WANTS TO REMAIN IN PLACE.
 2. COST OF REMOVING SIGNS SHALL BE INCLUDED IN THE COST OF CLEARING R/W. (OVERHEAD SIGNS SHALL BE INCLUDED.)
 3. SIGN SHALL BE LOCATED AT 6'-0" TO 12'-0" ± FROM EDGE OF SHOULDER EXCEPT BEHIND G.R. & IN ISLANDS WHERE THEY SHOULD BE A MIN. OF 2'-0"
- (CONTINUED ABOVE)-

- LEGEND**
- Ⓐ 12" AMBER SIGNAL (FLASHER)
 - Ⓑ 12" RED SIGNAL (FLASHER)

DESIGNED BY *C. J. Swartz* DATE *12-7-82*

**INDIANA DEPARTMENT OF HIGHWAYS
DIVISION OF TRAFFIC**

SR 13 & SR 18 (N. JUNCTION)
GRANT COUNTY - FORT WAYNE DIST.

DRAWN BY _____ DATE 1-5-83

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND		1964, 9 C	47	

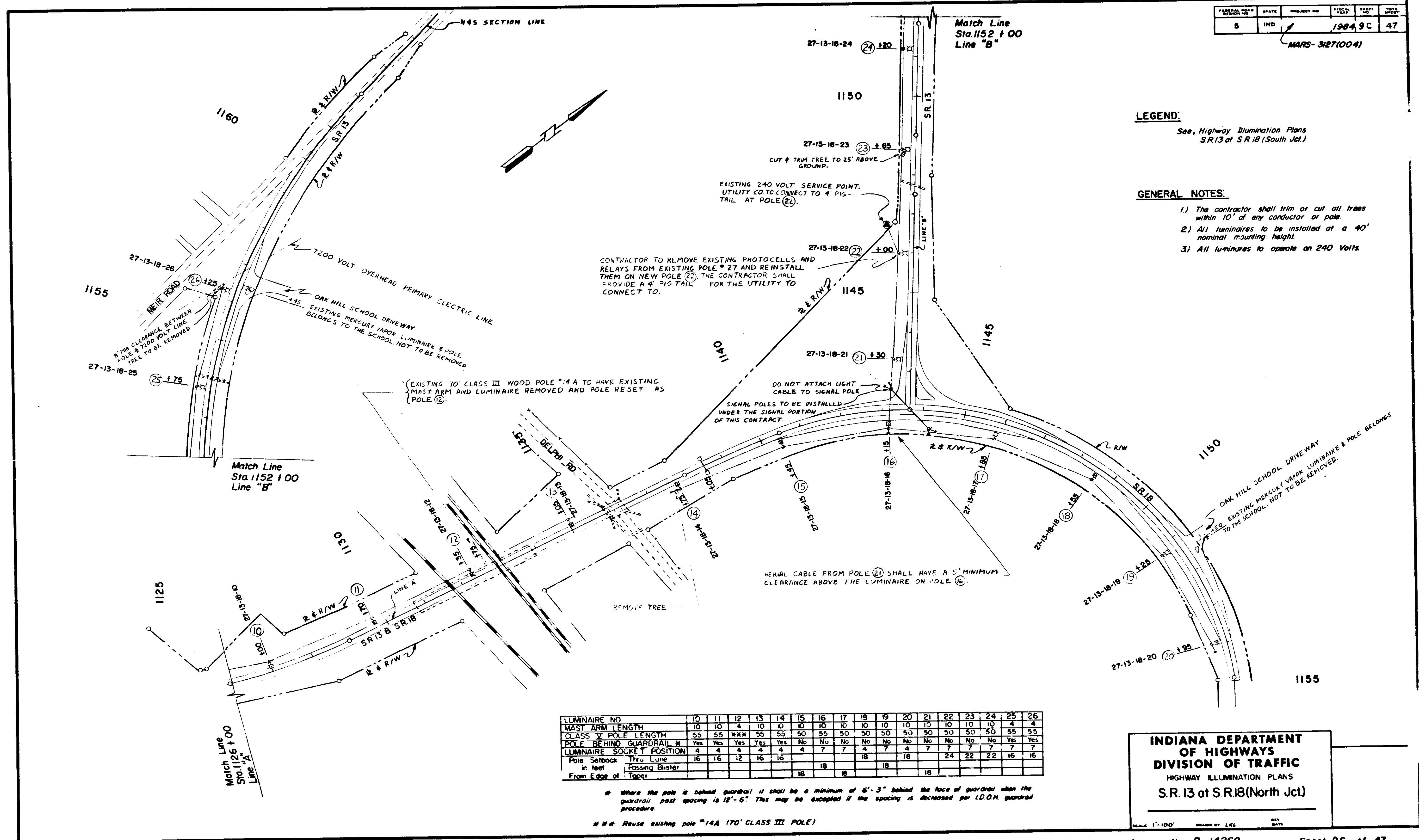
MARS-3127(004)

LEGEND:

See, Highway Illumination Plans
S.R.13 at S.R.18 (South Jct.)

GENERAL NOTES:

- 1) The contractor shall trim or cut all trees within 10' of any conductor or pole.
- 2) All luminaires to be installed at a 40' nominal mounting height.
- 3) All luminaires to operate on 240 Volts.



LUMINAIRE NO	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
MAST ARM LENGTH	10	10	4	10	10	10	10	10	10	10	10	10	10	10	10	4	4
CLASS V POLE LENGTH	55	55	***	55	55	50	55	50	50	50	50	50	50	50	50	55	55
POLE BEHIND GUARDRAIL	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes	Yes
LUMINAIRE SOCKET POSITION	4	4	4	4	4	4	7	7	4	7	4	7	7	7	7	7	7
Pole Setback	16	16	12	16	16				18	18			24	22	22	16	16
in feet																	
From Edge of Taper																	

* Where the pole is behind guardrail it shall be a minimum of 6'-3" behind the face of guardrail when the guardrail post spacing is 12'-6". This may be accepted if the spacing is decreased per I.D.H. guardrail procedure.

*** Reuse existing pole #14A (70' CLASS III POLE)

INDIANA DEPARTMENT OF HIGHWAYS
DIVISION OF TRAFFIC
HIGHWAY ILLUMINATION PLANS
S.R.13 at S.R.18(North Jct.)

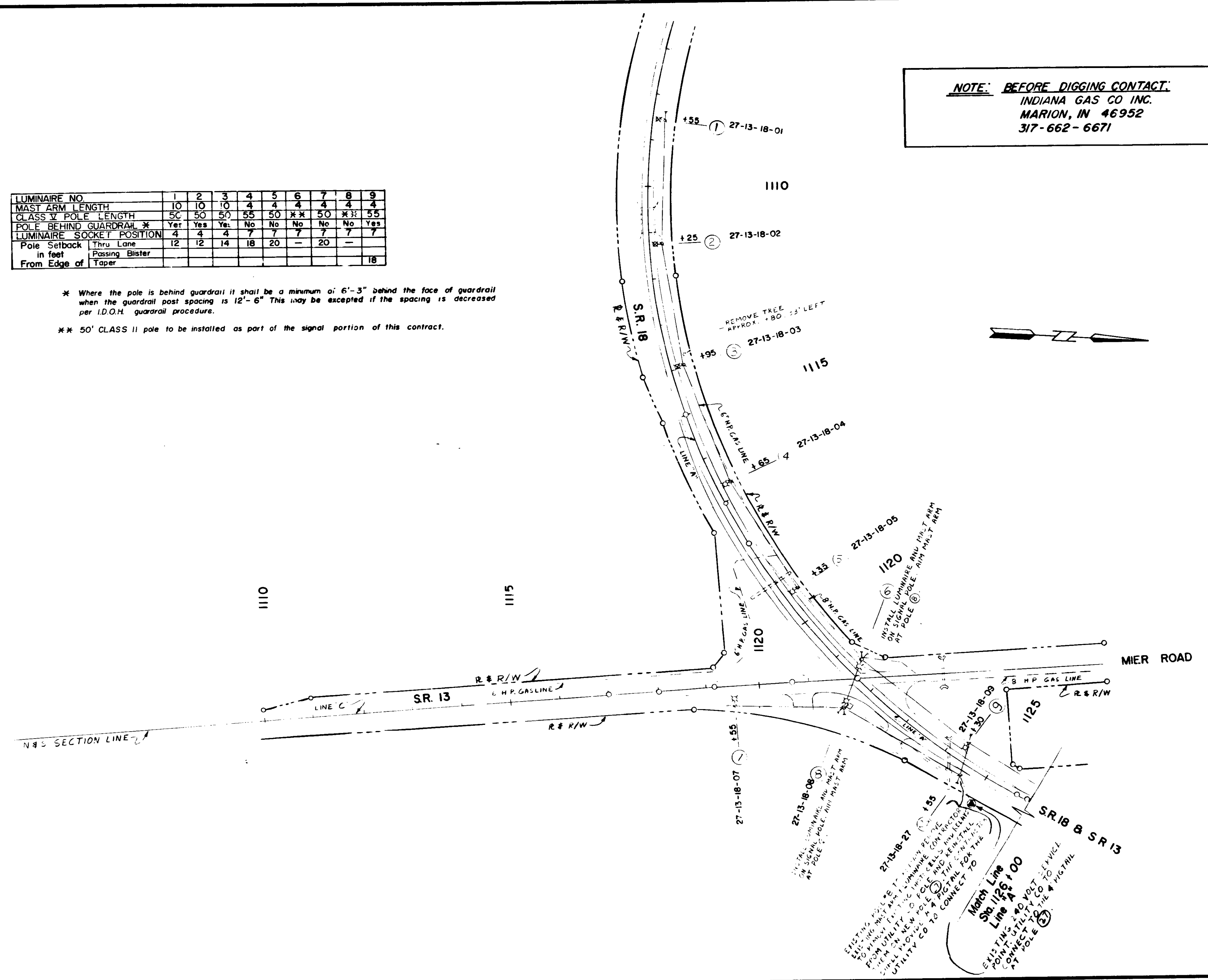
FEDERAL ROAD DISTRICT	STATE	PROJECT NO.	TOTAL SHEETS	SHEET NO.
5	IND.	1984 9 D	47	47

MARS-3127(1004)

NOTE: BEFORE DIGGING CONTACT.
 INDIANA GAS CO. INC.
 MARION, IN 46952
 317-662-6671

LUMINAIRE NO.	1	2	3	4	5	6	7	8	9	
MAST ARM LENGTH	10	10	10	4	4	4	4	4	4	
CLASS V POLE LENGTH	50	50	50	55	50	50	50	50	55	
POLE BEHIND GUARDRAIL *	Yes	Yes	Yes	No	No	No	No	No	Yes	
LUMINAIRE SOCKET POSITION	4	4	4	7	7	7	7	7	7	
Pole Setback	Thru Lane		12		14		18		20	
in feet	Passing Bistler		12		14		18		20	
From Edge of Taper									18	

* Where the pole is behind guardrail it shall be a minimum of 6'-3" behind the face of guardrail when the guardrail post spacing is 12'-6". This may be excepted if the spacing is decreased per I.D.O.H. guardrail procedure.
 ** 50' CLASS II pole to be installed as part of the signal portion of this contract.



LEGEND

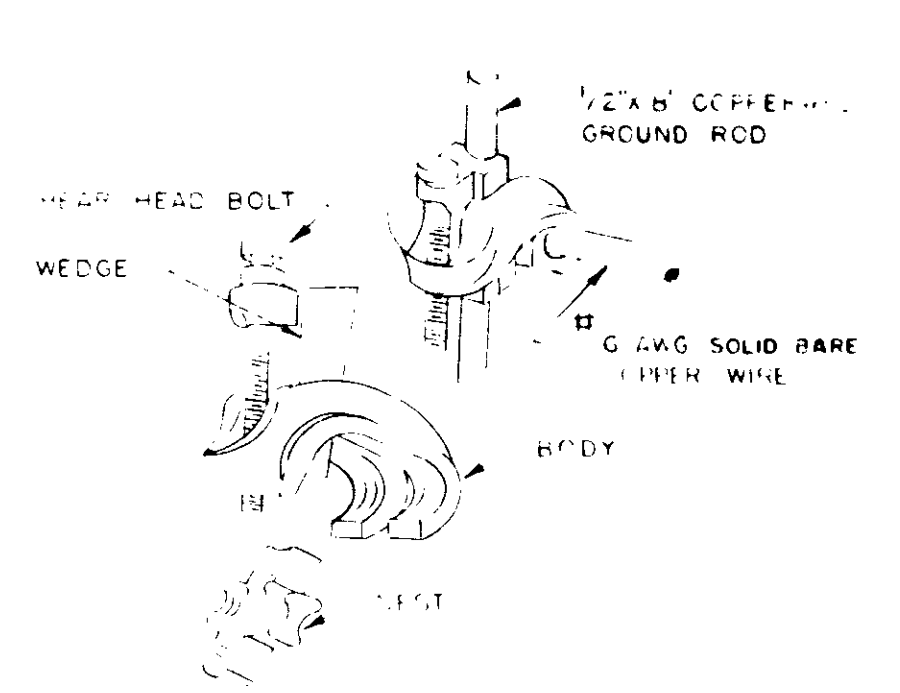
- 400 Watt HPS Roadway Luminaire GE Type M-400A with lamp set in socket position "7" to produce output characteristics of GE Photometric Curve No 35-175820.
- ✕ 400 Watt HPS Roadway Luminaire GE Type M-400A with lamp set in socket position "4" to produce output characteristics of GE Photometric Curve No 35-175817.
- (with vertical line) Symbols for light standard having a wood pole shaft.
- Overhead sign structure
- Signal cable span
- Guy cable
- ⊕ Tree
- Aerial cable—two conductor

GENERAL NOTES:

- 1) The contractor shall trim or cut all trees within 10' of any conductor or pole.
- 2) All luminaires to be installed at a 40' nominal mounting height.
- 3) All luminaires to operate on 240 Volts.

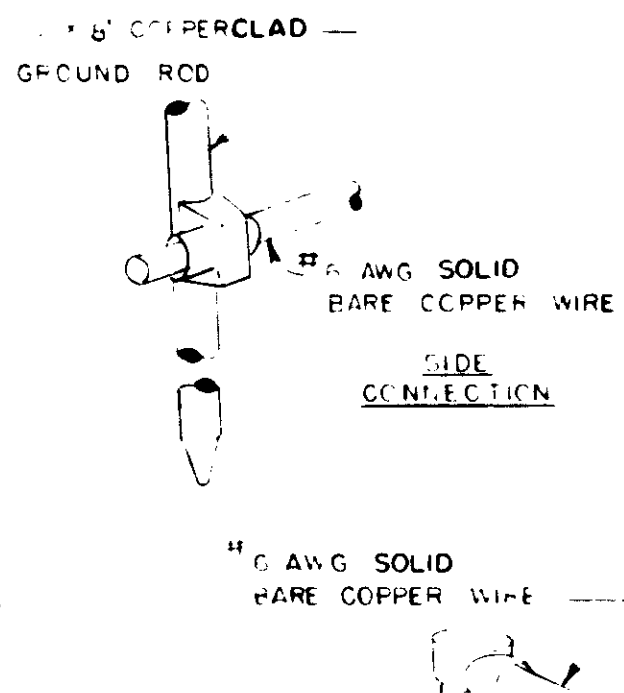
INDIANA DEPARTMENT OF HIGHWAYS
DIVISION OF TRAFFIC
 HIGHWAY ILLUMINATION PLANS
 SR. 13 at SR. 18 (South Jct)

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	MARS-3127 (004)	1983	9E	47

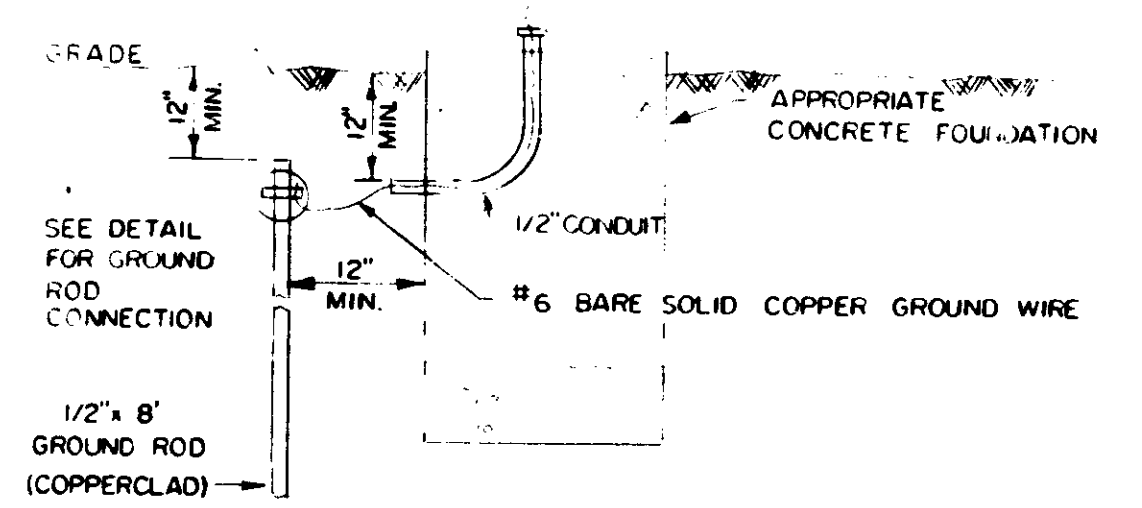


GROUNDING GRID COLLECTOR

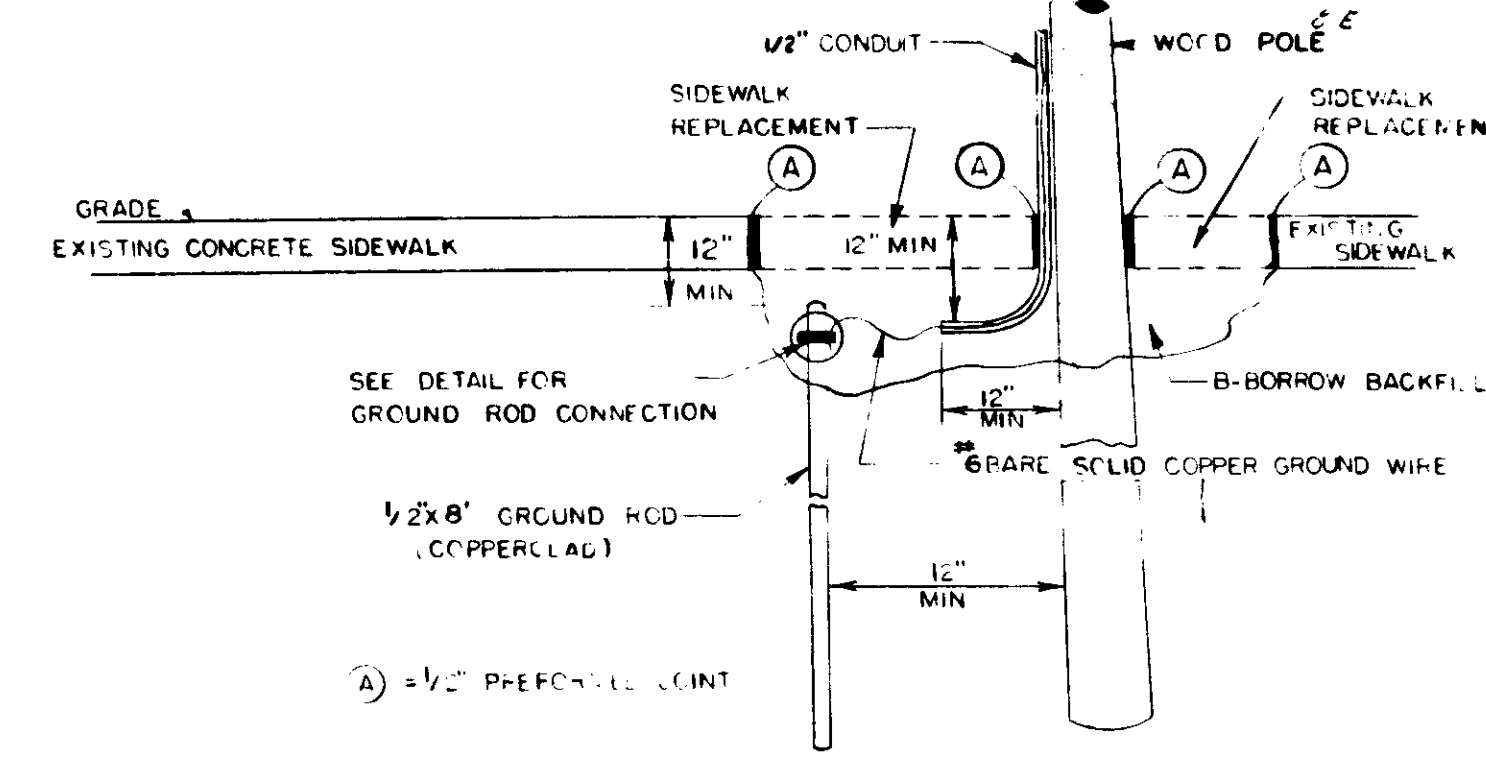
TYPICAL GROUND ROD CONNECTION



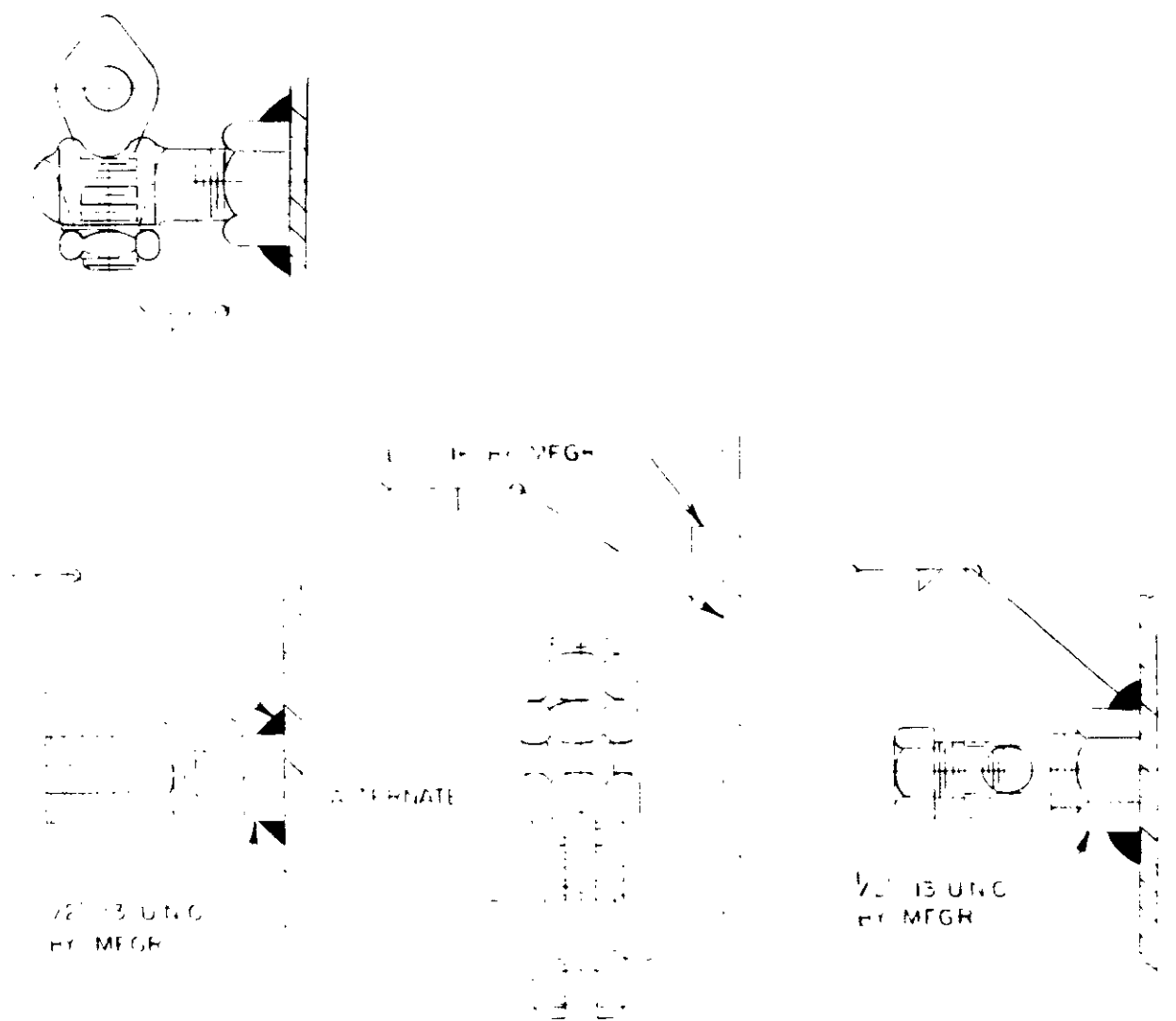
EXOTHERMIC WELD PROCESS



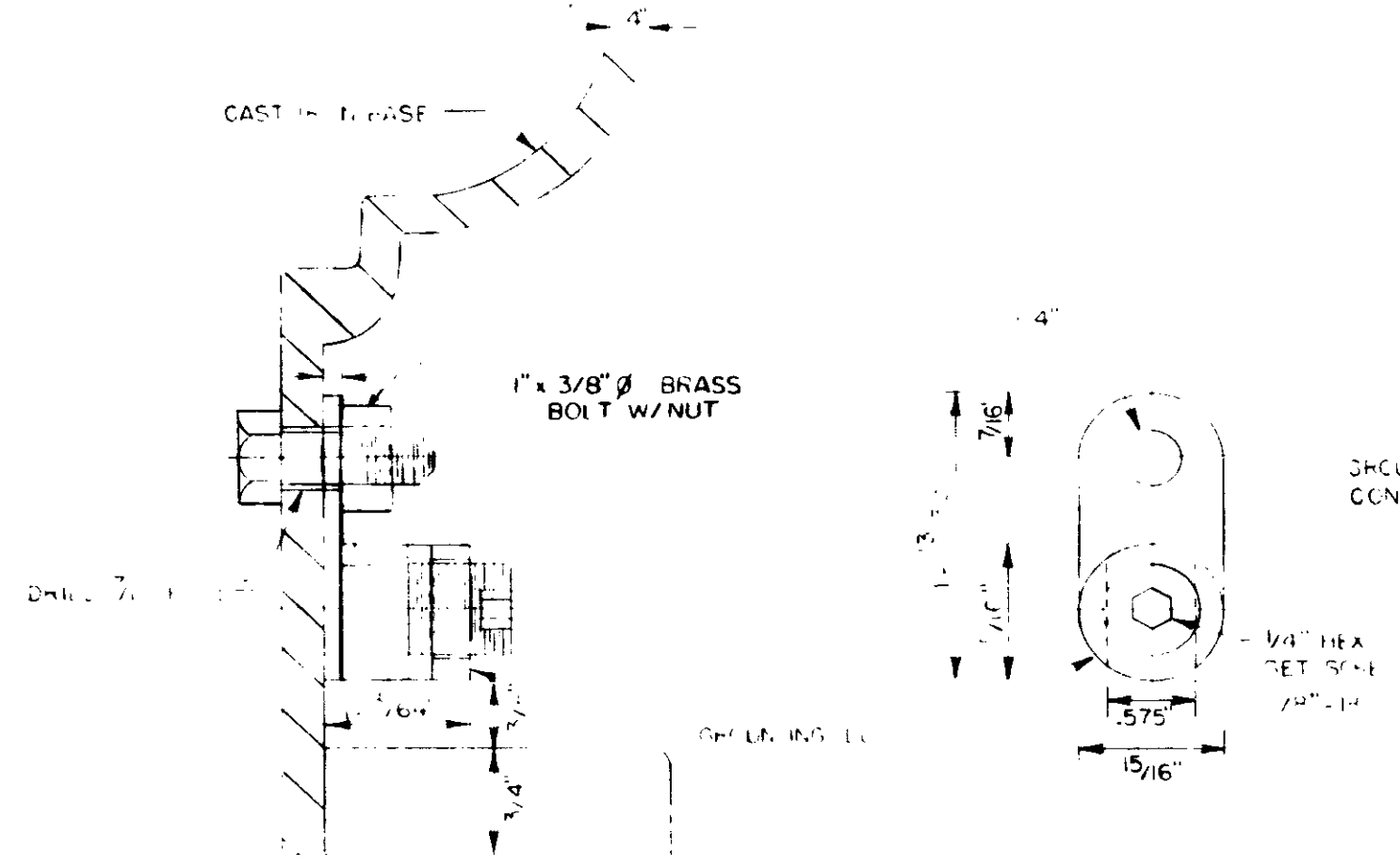
TYPICAL DETAIL GROUND ROD IN EARTH



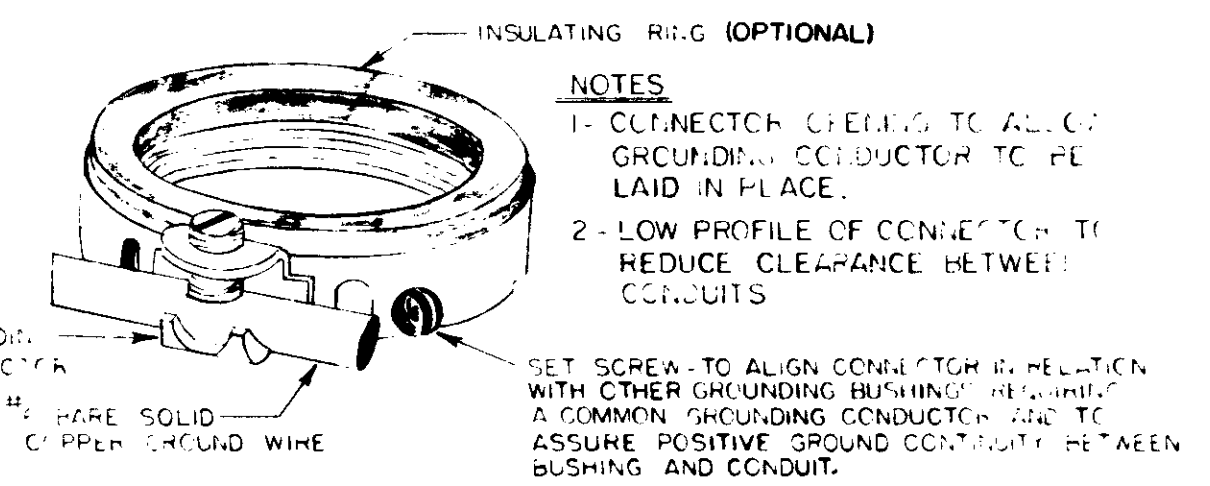
TYPICAL DETAIL GROUND ROD IN SIDEWALK



GROUNDING POST DETAIL (FABRICATED IN SHOP)



GROUNDING LUG DETAIL (FIELD CONNECTION)



GROUNDING BUSHING (THREADED)

- NOTES
- CONNECTOR CREATING TO ADJUST GROUNDING CONDUCTOR TO BE LAID IN PLACE.
 - LOW PROFILE OF CONNECTOR TO REDUCE CLEARANCE BETWEEN CONDUITS.
- SET SCREW TO ALIGN CONNECTOR IN RELATION WITH OTHER GROUNDING BUSHING. REQUIRE A COMMON GROUNDING CONDUCTOR AND TO ASSURE POSITIVE GROUND CONTACT BETWEEN BUSHING AND CONDUIT.

GENERAL

IF ROCK IS ENCOUNTERED ATTEMPT TO DRIVE THE GROUND ROD AT 30° FROM VERTICAL. IF REFUSED, ATTEMPT TO DRIVE AT 45° FROM VERTICAL. IF REFUSED BURY IN A TRENCH THAT IS AT LEAST 2 1/2' DEEP.

INDIANA STATE HIGHWAY COMMISSION
DIVISION OF TRAFFIC
GROUNDING DETAIL

Michael J. Jones
ENGINEER OF ELECTRICAL SYSTEMS
SCALE: NONE DATE: _____

MAY 11 1983

1	INC	MAR-3127 (604)	1983	9F	47
---	-----	-------------------	------	----	----

LEGEND:

- ◻ FLAGMAN
- WORK SITE
- ◻ FLASHING ARROW BOARD
- ▬ TYPE I OR II BARRICADES OR CONES (SEE NOTE #6)
- ◻ POLICE CAR (OPTIONAL)
- ▬ SIGN AND SUPPORTS
- L MINIMUM LENGTH OF TAPER
- ⊙ LOW INTENSITY FLASHING YELLOW LIGHT (TYPE "A")

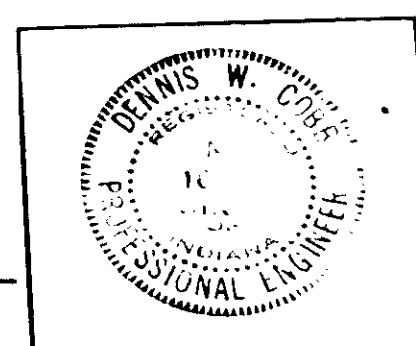
- L = SXW FOR SPEEDS OF 45 OR MORE
- L = WS² FOR SPEEDS OF 40 OR LESS
- 60
- S = POSTED SPEED OR 85TH PERCENTILE SPEED
- W = WIDTH OF OFFSET

NOTES:

1. THE "FLAGMAN AHEAD" SIGN (W20-7, 48" x 48") MAY BE SUBSTITUTED FOR THE SYMBOL SIGN (W20-7a-A).
2. ALL DISTANCES SHOWN ARE TYPICAL, EXCEPT FOR MINIMUM DISTANCES, AND MAY BE VARIED BASED ON FIELD CONDITIONS.
3. IN URBAN AREAS, THE ARROW BOARD SHALL NOT BE PLACED ON THE SIDEWALK WHERE SIDEWALKS EXIST, THE ARROW BOARD SHALL BE PLACED AT A DISTANCE OF 1/3 L FROM THE BEGINNING OF THE TAPER.
4. A FLASHING ARROW BOARD MAY BE SUBSTITUTED FOR THE FLAGMAN.
5. FOR THOSE APPLICATIONS NOT SHOWN ON THIS SHEET, REFER TO THE MISCELLANEOUS STANDARD DETOUR SHEETS.
6. TYPE I OR II BARRICADES OR CONES (SEE MUTCD OR NMUTCD FOR PROPER APPLICATION).
7. APPROVED LIGHTS SHALL MARK BARRICADES, DRUMS AND CONTINUOUSLY AT NIGHT.

Date	Revisions	Initial
1-3-83	NOTE # 6	J.E.H.
1-20-83	NOTE # 7 & LEGEND	J.E.H.

TRAFFIC SIGN DETAILS

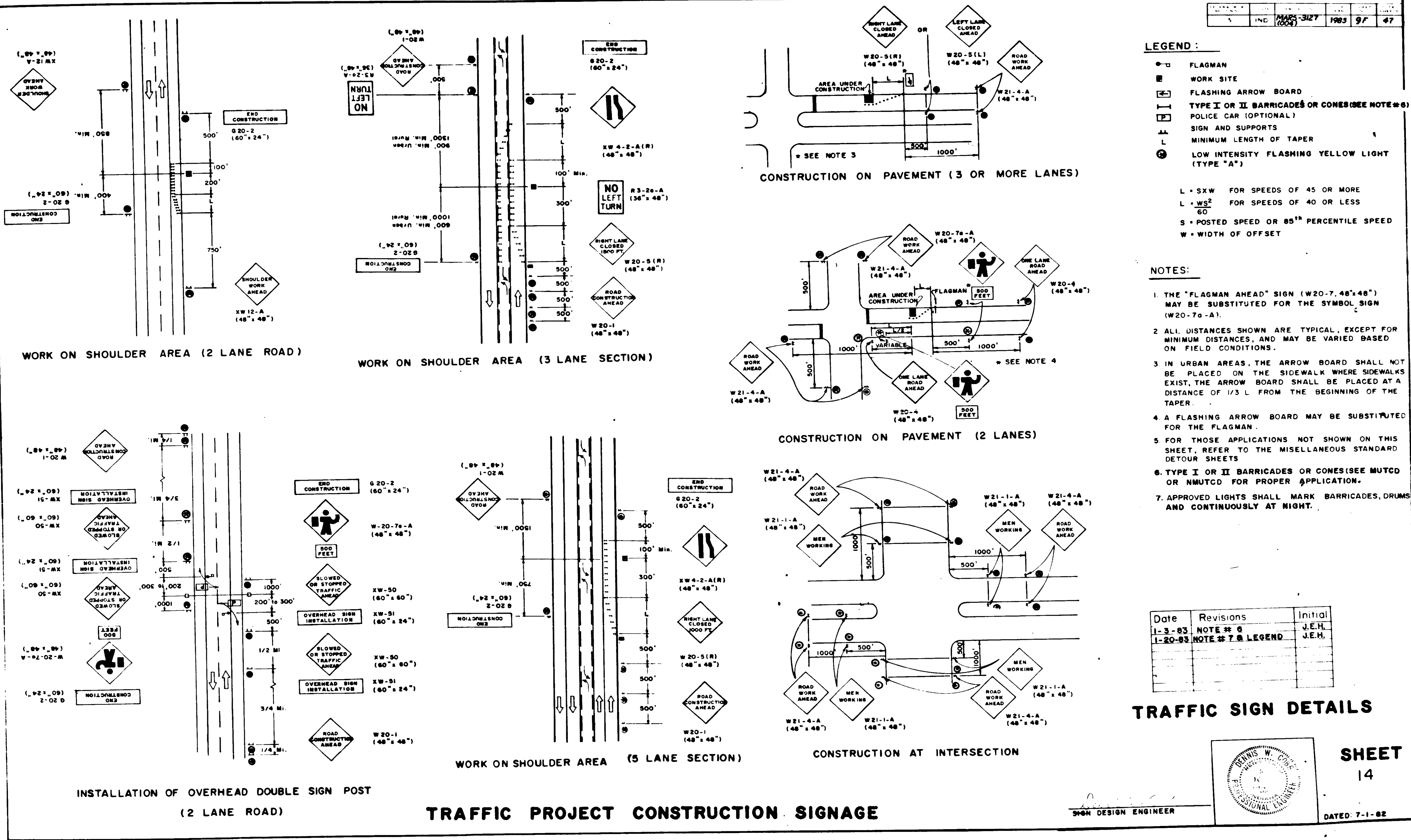


SHEET
14

DATED: 7-1-82

5048 DESIGN ENGINEER

TRAFFIC PROJECT CONSTRUCTION SIGNAGE



WORK ON SHOULDER AREA (2 LANE ROAD)

WORK ON SHOULDER AREA (3 LANE SECTION)

CONSTRUCTION ON PAVEMENT (3 OR MORE LANES)

CONSTRUCTION ON PAVEMENT (2 LANES)

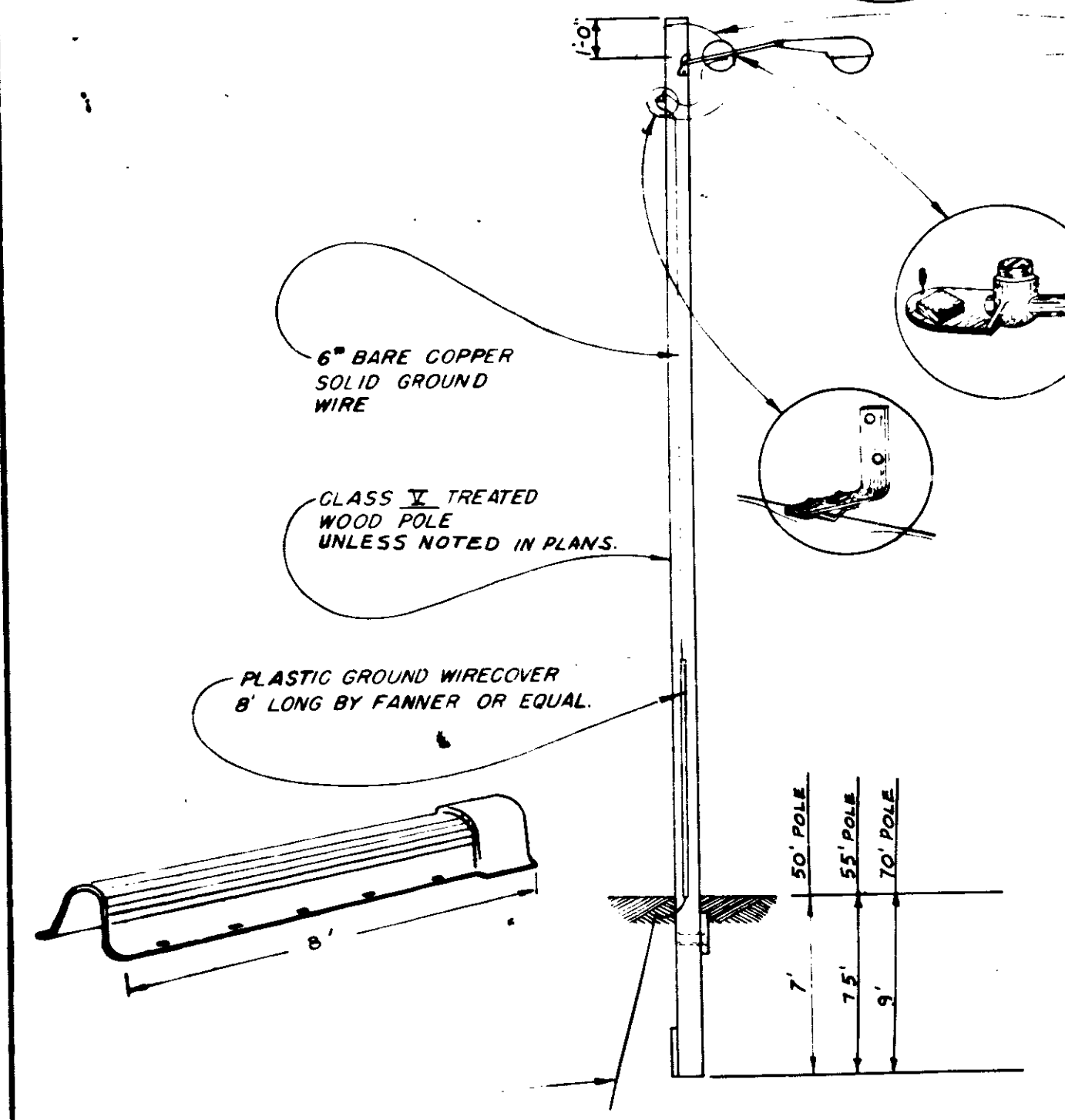
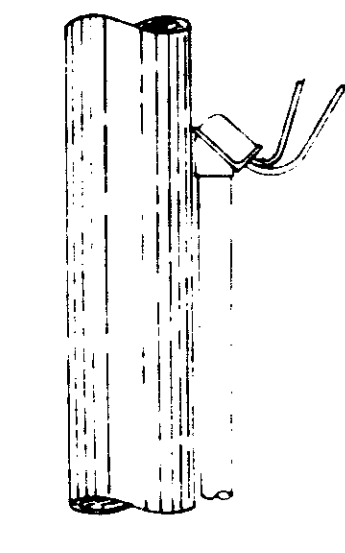
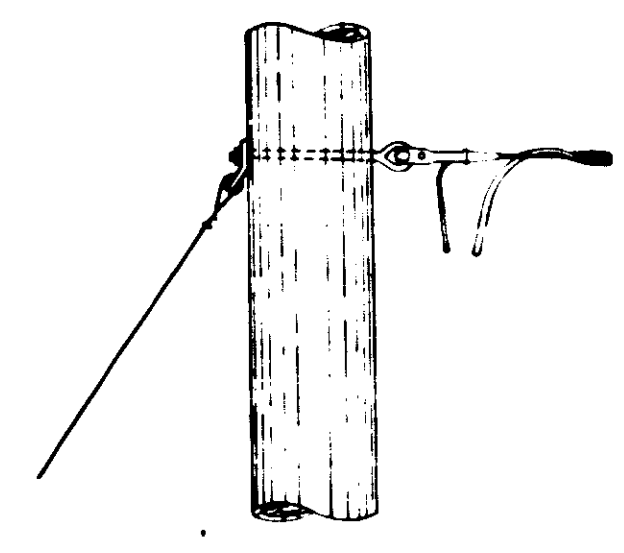
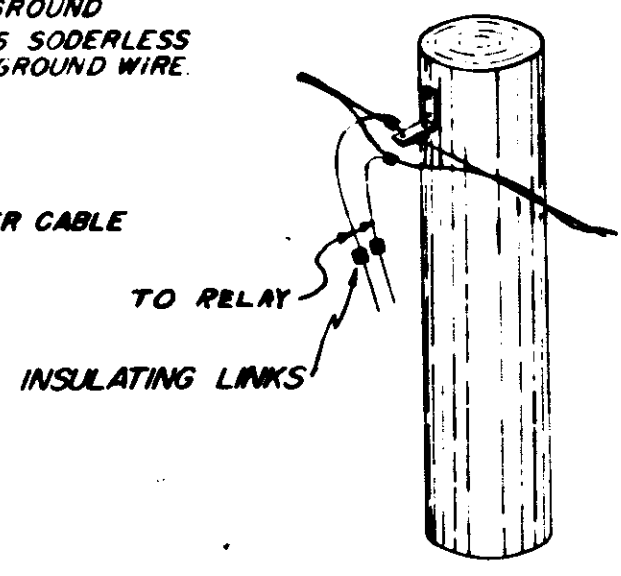
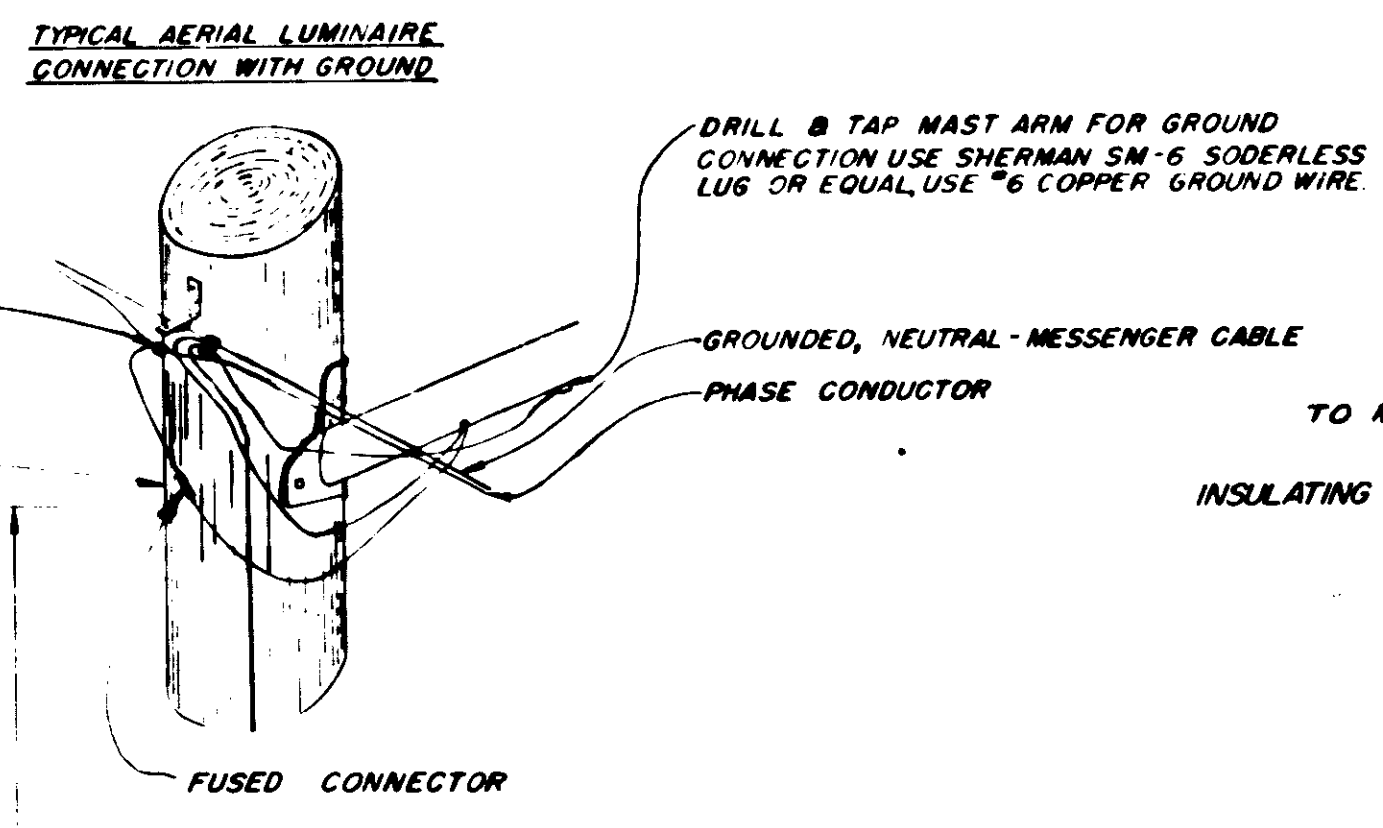
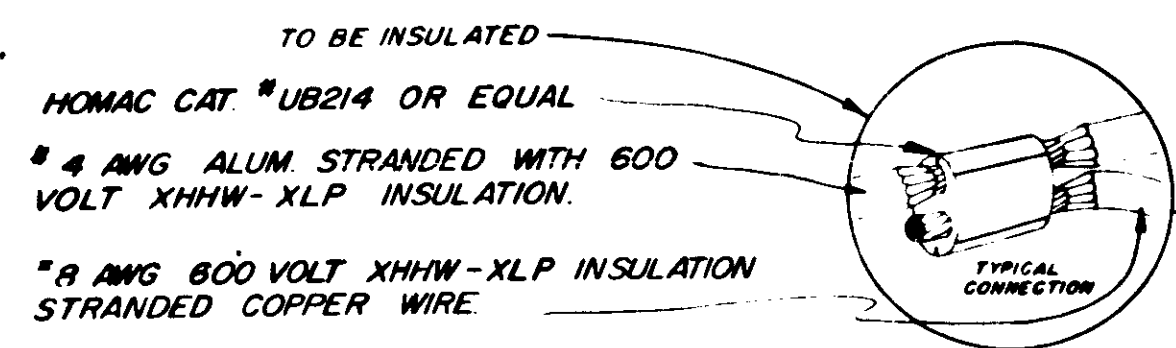
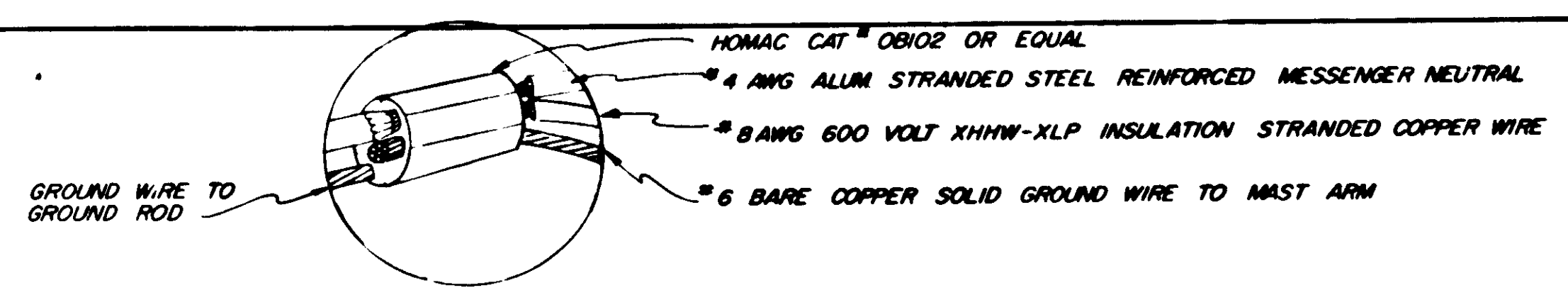
CONSTRUCTION AT INTERSECTION

WORK ON SHOULDER AREA (5 LANE SECTION)

INSTALLATION OF OVERHEAD DOUBLE SIGN POST (2 LANE ROAD)

FED. ROAD REG. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IND		1964	96	47

MARS-3127(004)



40' MINIMUM
45' MAXIMUM

ELEVATION OF ROAD EDGE

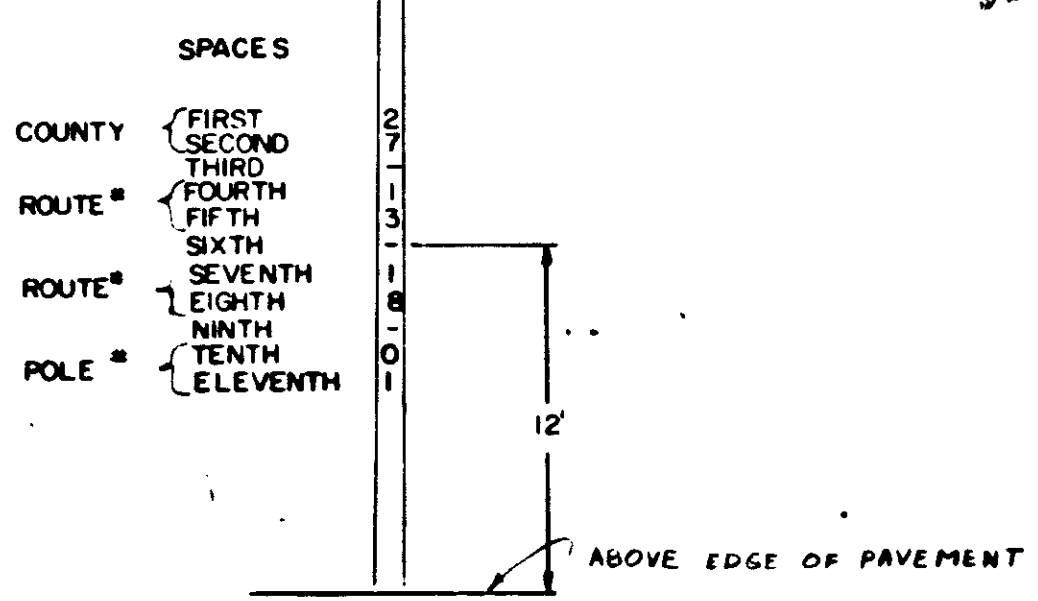
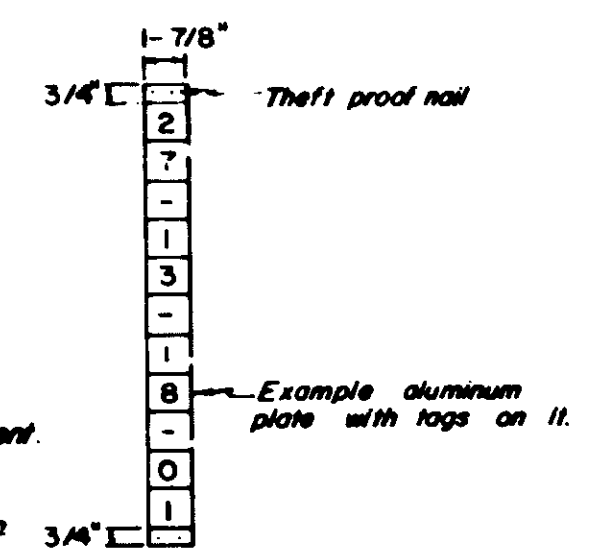
INSTALL 2" X 10" X 6'-0" DRESS-SOFTED PLANK 12" BELOW GROUND SURFACE WITH INNER FACE DIRECTLY AGAINST POLE SURFACE OUTER FACE TO BE PLACED AGAINST UNDISTURBED EARTH AS NEAR AS PRACTICABLE TO BE INSTALLED AT ALL HIGHWAY LIGHTING POLES

CHANGE POLE KEY ANCHOR #P487 OR EQUAL TO BE INSTALLED IN LOOSE OR SWAMPY SOIL LOCATION

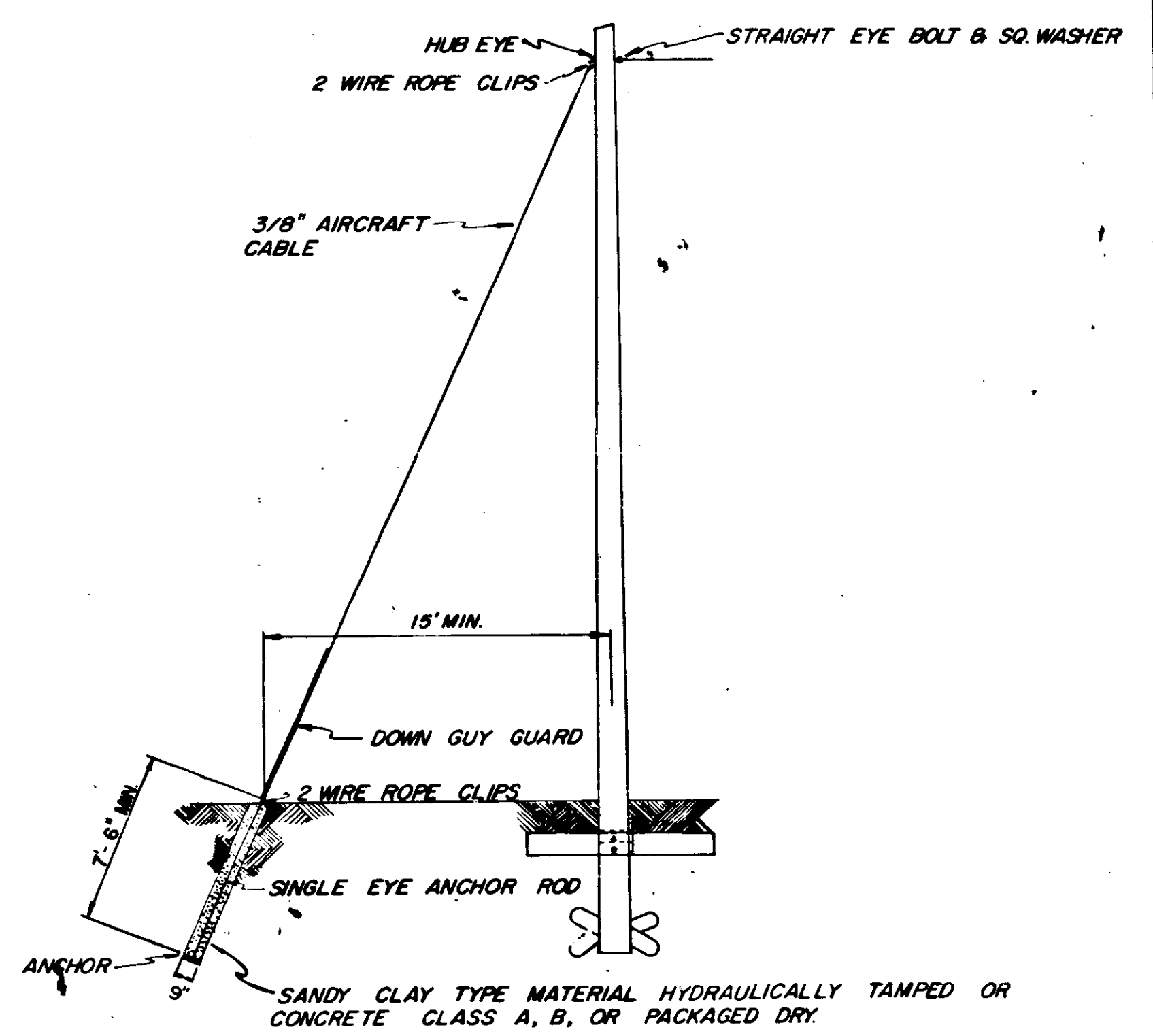
1/2" X 8" COPPERWELD GROUND ROD, DRIVE TO 6" BELOW NORMAL GROUND SURFACE MAKE CONNECTION WITH GROUND WIRE WITH APPROVED CLAMP TO BE INSTALLED AT EACH END OF LIGHTING CIRCUIT AND AT EACH 3" LIGHT ALONG THE CIRCUIT.

NOTES:

- 1) All numbers to be installed 45° from center line facing vehicular traffic.
- 2) Numeral/letter to be 1-1/2" x 2-1/2" black on reflective silver background pressure sensitive.
- 3) The dash which is the sixth space down is a fixed location, located 12" above the edge of pavement.
- 4) All dashes must be included in the number for proper identification.
- 5) The number on the drawing should read Twentyseven dash thirteen dash eighteen dash zero one.



POLE NUMBERING SYSTEM



INDIANA DEPT OF HIGHWAY
HIGHWAY ILLUMINATION
MISCELLANEOUS DETAILS
HIGHWAY LIGHTING ENGINEER
DATE: _____ DRAWN BY: *[Signature]*

No. 18314

SUMMARY OF QUANTITIES AND APPROACH TABLE

LOCATION (STATION)	DESCRIPTION (APPROACH TYPE OR CLASS)	WIDTH "W" FEET	LENGTH "L" FEET	DISTANCE BEYOND R/W LINE FEET	RADII "R" FEET	GRADE (LESS THAN 10% NOT SHOWN)		EXCAVATION CYS		BITUM. MIXT. FOR APPROACHES %	BITUMINOUS MATERIAL FOR ROADS LBS PER SYD.					BITUMINOUS BASE "50" TONS	SEAL COAT TYPE "2" TONS	BITUMINOUS MATERIAL FOR: TONS			TYPE "P" COMPACTED AGGREGATE FOR BASE NO. 55 SYS.				TYPE "P" COMPACTED AGGREGATE FOR SURFACE NO. 75 SYS.		CALCIUM CHLORIDE TONS	COVER AGGREGATE TONS	REINF. CEMENT CONC. PAVEMENT SYS.	REINF. CONC. PAVEMENT SYS.	BITUMINOUS STABILIZED SUBBASE SYS.	SUBBASE CYS.	SURFACE BEYOND R/W LINE			REMARKS					
						1 %	2 %	CUT	FILL		SYS.	SYS.	SYS.	SYS.	SYS.			SYS.	SYS.	SYS.	SYS.	SYS.	SYS.	SYS.	SYS.	SYS.							SYS.	TYPE "P" COMP. AGG. BASE	BITUM.		CONCRETE				
LINE "A" SOUTH INTERSECTION																																									
1115+00 to 1125+70	S.R. 18	24						1324	769		4580	1380	4590		267	808																									
1121+61.87 R.F.	S.R. 18	24			60-180			1296	291		2129	2169		224	678																									LINE "C"	
1121+61.87 L.F.	Public Rd.	20			40-75			175	60		577	590																													
1122+00 R.F.	CL. IV	40	54		20-20			0	24	237																															
1122+20.51 R.F.	CL. II	12	30		15-15			0	10	46																															
LINE "A" NORTH INTERSECTION																																									
1136+00 to 1147+45	S.R. 18	24						1622	418		3747	1289	3753		310	939																									
1143+64.47 L.F.	S.R. 18	24			40-150			1991	43		2387	2450		329	995																										LINE "B"
LINE "C"																																									
1120+85 R.F.	CL. IV	40	61		20-20			5	30	219																															
TOTALS								6613	1665	502	13420	7874	8348		1180	3420																									

800

SIGN SUMMARY SHEET

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	MARS-3127	1983	105	105

(004)

SIGN DESIGNATION			SIGN DESIGNATION			SIGN DESIGNATION			SIGN DESIGNATION			SIGN CODE	SIGN SIZE	THICKNESS (IN.)	TOTAL AREA (SQ. FT.)
PLAN NO.	SIGN CODE	SQ. FT.	PLAN NO.	SIGN CODE	SQ. FT.	PLAN NO.	SIGN CODE	SQ. FT.	NO. REQ'D.	SIGN CODE	SQ. FT.				
RMA-1	EXISTING														
RMA-2	MI-6 (18)	4													
	M6-4 (S)	2.2													
	MI-6 (18)	4													
	M5-1 (S) (R)	2.2													
RMA-3	M3-4 (S)	2													
	MI-6 (18)	4													
	M3-2 (S)	2													
	MI-6 (18)	4													
	M6-1 (S)	2.2													
	M3-1 (S)	2													
	MI-6 (13)	4													
	M6-1 (S)	2.2													
RMA-4	M3-1 (S)	2													
	MI-6 (13)	4													
	M3-2 (S)	2													
	MI-6 (18)	4													
RMA-5	EXISTING														
RMA-6	M3-1 (S)	2													
	MI-6 (13)	4													
	M6-1 (S)	2.2													
	M3-2 (S)	2													
	MI-6 (18)	4													
	M6-2 (S) (R)	2.2													
RMA-7	EXISTING														
RMA-8	M2-1 (S)	2.2													
	MI-6 (18)	4													
RMA-9	M3-3 (S)	2													
	MI-6 (13)	4													
	M5-1 (S) (L)	2.2													
	MI-6 (18)	4													
	M6-4 (S)	2.2													
RMA-10	M3-2 (S)	2													
	MI-6 (18)	4													
	M6-1 (S)	2.2													
	M3-4 (S)	2													
	MI-6 (18)	4													
	M6-1 (S)	2.2													
	M3-3 (S)	2													
	MI-6 (13)	4													
	M6-1 (S)	2.2													
RMA-11	EXISTING														
RMA-12	M3-3 (S)	2													
	MI-6 (13)	4													
	M6-1 (S)	2.2													
	M3-4 (S)	2													
	MI-6 (4)	4													
	M6-3 (S)	2.2													
	M3-1 (S)	2													
	MI-6 (13)	4													
	M6-3 (S)	2.2													
	M3-2 (S)	2													
	MI-6 (18)	4													
	M6-3 (S)	2.2													
	M3-3 (S)	2													
	MI-6 (13)	4													
	M6-1 (S)	2.2													
RMA-13	M3-4 (S)	2													
	MI-6 (18)	4													
RMA-14	EXISTING														
RMA-15	MI-6 (18)	4													
	M6-3 (S)	2.2													
	MI-6 (13)	4													
	M6-6 (S)	2.2													
RMA-16	M3-2 (S)	2													
	MI-6 (18)	4													
RMA-17	EXISTING														
RMA-18	MI-6 (18)	4													
	M6-3 (S)	2.2													
	MI-6 (13)	4													
	M6-6 (S)	2.2													

RMA-19
M3-4 (S) 2
MI-6 (18) 4
M6-3 (S) 2.2
MI-6 (13) 4
M6-3 (S) 2.2
M3-1 (S) 2
MI-6 (13) 4
M6-1 (S) 2.2

IGDO-1A
D1-1 (2) 14
M3-1-B (S) 4.5
MI-6-A (13) 9.0
M5-1-A (S)(R) 4.4
M3-2-B (S) 4.5
MI-6-A (18) 9.0
M6-3-A (S) 4.4
D1-1 (3) 14

IGDO-1B
D1-1 (4) 14
M3-3-B (S) 4.5
MI-6-A (13) 9.0
M5-1-A (S)(R) 4.4
M3-4-B (S) 4.5
MI-6-A (18) 9.0
M6-3-A (S) 4.4
D1-1 (5) 14

D1-1 (1) 40
D1-1 (6) 40
D1-1 (7) 40
D1-1 (8) 40

D2-2 (1) 36
D2-2 (2) 32
D2-2 (3) 32
D2-2 (4) 32

D7-2 (1) 17.4
D7-2 (2) 17.4

TOTAL 362.8 232.6 * 54 *

CODE 76015 76020 76030

TOTAL	NO. REQ'D.	SIGN CODE	SQ. FT.	THICKNESS OF METAL	TOTAL AREA (SQ. FT.)
	3	RI-1-B		0.080	48.0
	2	RI-2-B		0.100	21.6
	2	R5-1-A		0.125	18.0
	4	W3-1-B		0.080	64.0
	TOTAL				151.6
	CODE				76035

* INDICATES TYPE I REFLECTIVE SHEETING. ALL OTHER IS TYPE II REFLECTIVE SHEETING.

* DENOTES ENGINEERING GRADE

BEGIN PROJECT
STATION 114900

SECTION 35
TOWNSHIP 26 N
RANGE 26 E

SECTION 35
TOWNSHIP 26 N
RANGE 26 E

END CONSTRUCTION
STATION 114907

SECTION 35
TOWNSHIP 26 N
RANGE 26 E

END CONSTRUCTION
STATION 114900 LINE

END PROJECT
STATION 114900

ESTIMATE OF QUANTITIES (CONT.)

STRUCTURE SUMMARY

CIRCULAR PIPE LINEAL FEET

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	ST-3127 (A)	1981	14	47

KIND	THICKNESS	SIZE						LINEAL FEET
		4"	6"	8"	10"	12"	15"	
STEEL							0.064	
STRUCT. PLATES	TOP & SIDES							
STEEL	BOTTOM							
GROUP "D"	TOP & SIDES						422	
GROUP	BOTTOM							
GROUP								
GROUP								
GROUP								
GROUP								
GROUP								
REINFORCED CONCRETE								
EXTRA STRENGTH REINF. CONC.								
HEAVY DUTY REINF. CONC.								
VITRIFIED CLAY CULVERT								
CORR. STEEL								
FULLY BITUM. COATED CORR. STEEL							16	
FULLY BITUM. COATED CORR. STEEL WITH PAVED INVERT								
FULLY BITUMINOUS COATED PERFORATED CORR. STEEL								
DRAINTILE CLASS STANDARD		50	50	30				
DRAINTILE CLASS EXTRA								
DRAINTILE CLASS HEAVY DUTY								

* STRUTTED

STRUCTURE SUMMARY (CONT.)

PIPE ARCHES LINEAL FEET

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	
THICKNESS	TOP & SIDES																				
STRUCT. PLATES	BOTTOM																				
STEEL	TOP & SIDES																				
	BOTTOM																				
THICKNESS																					
GROUP G-																					
GROUP G-																					
GROUP G-																					
GROUP H-																					
GROUP H-																					
GROUP H-																					
CORR. STEEL PIPE ARCH																					
STRUCT. PLATE STEEL PIPE ARCH																					
BIT. COAT. CORR. STEEL PIPE ARCH																					
BIT. COAT. CORR. STEEL PIPE ARCH WITH PAVED INVERT																					
REINF. ELLIPTICAL CONCRETE																					

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

PIPE-GROUP "K" FOR UNDERDRAINS	6"	LINEAL FEET
PIPE-FULLY BIT. COATED NON PERFORATED CORR. STEEL (THICKNESS 0.052) FOR UNDERDRAINS	6"	LINEAL FEET
AGGREGATE FOR UNDERDRAINS		CYS

AUTO DRAINAGE GATES		
SIZE	HEAD	EACH

CASTINGS ADJUSTED TO GRADE	REINF. CONCRETE SPRING BOXES
EACH	EACH

ITEM	UNIT	QUANTITY
CONCRETE CLASS "A" IN STRUCTURES	CYS	0.2
REINFORCING STEEL FOR STRUCTURES	LB	
CONCRETE CLASS "A" FOR INTEGRAL CURB WALK	CYS	

CASTINGS FURNISHED AND ADJUSTED TO GRADE		
TYPE	#	EACH

INLETS				CATCH BASIN	
TYPE	EACH	TYPE	EACH	TYPE	EACH
F-7	1				

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

MANHOLES		PIPE CATCH BASINS		RECONSTRUCTED STRUCTURE	
TYPE	EACH	SIZE	EACH	MANHOLE	LINEAL FEET
				CATCH BASIN	
				INLET	

PIPE END SECTION			
SIZE	EACH	SIZE	EACH
12"		18" X 11"	
15"	4	22" X 13"	
18"		25" X 18"	
24"		29" X 18"	
30"		36" X 22"	
36"		45" X 27"	