

RIGHT-OF-WAY

INDIANA

DEPARTMENT OF TRANSPORTATION

CODE NO. 2934
DES. NO. 7302471, 8902474

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		1	31

DESIGN DATA-U.S. 31	
A.D.T.(1990)	14,720 V.P.D.
A.D.T.(20100) PROJECTED	22,810 V.P.D.
D.H.V.(2010)	2,291 V.P.H.
DIRECTIONAL DISTRIBUTION	52 %
TRUCKS D.H.V. 10 %	A.D.T. 10 %
DESIGN SPEED	70 M.P.H.
ACCESS CONTROL	Partial Limited
ROAD CLASSIFICATION	Rural Principal Arterial
TYPE OF TERRAIN	Level

DESIGN DATA- U.S. 24	
A.D.T.(1990)	7,630 V.P.D.
A.D.T.(20100) PROJECTED	11,830 V.P.D.
D.H.V.(2010)	1,193 V.P.H.
DIRECTIONAL DISTRIBUTION	53 %
TRUCKS D.H.V. 9 %	A.D.T. 16 %
DESIGN SPEED	70 M.P.H.
ACCESS CONTROL	Partial Limited
ROAD CLASSIFICATION	Rural Principal Arterial
TYPE OF TERRAIN	Level

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

~~F-~~ 144-6 ~~(012) P.E.~~
~~NH-~~ 146-5 ~~(001) R/W~~
~~NH-~~ 146-5 ~~(001) CONST~~
~~() UTIL.~~

Beginning at a Point 576.97 Feet North of the Southwest Corner of Section 23, T-27-N, R-3-E, Peru Township, Miami County, and Running in an Easterly Direction 13,836.39 Feet to a Point on Existing U.S. 24, 2,551.57 Feet East of the West Line of Section 19, T-27-N, R-4-E, Peru Township, Miami County.

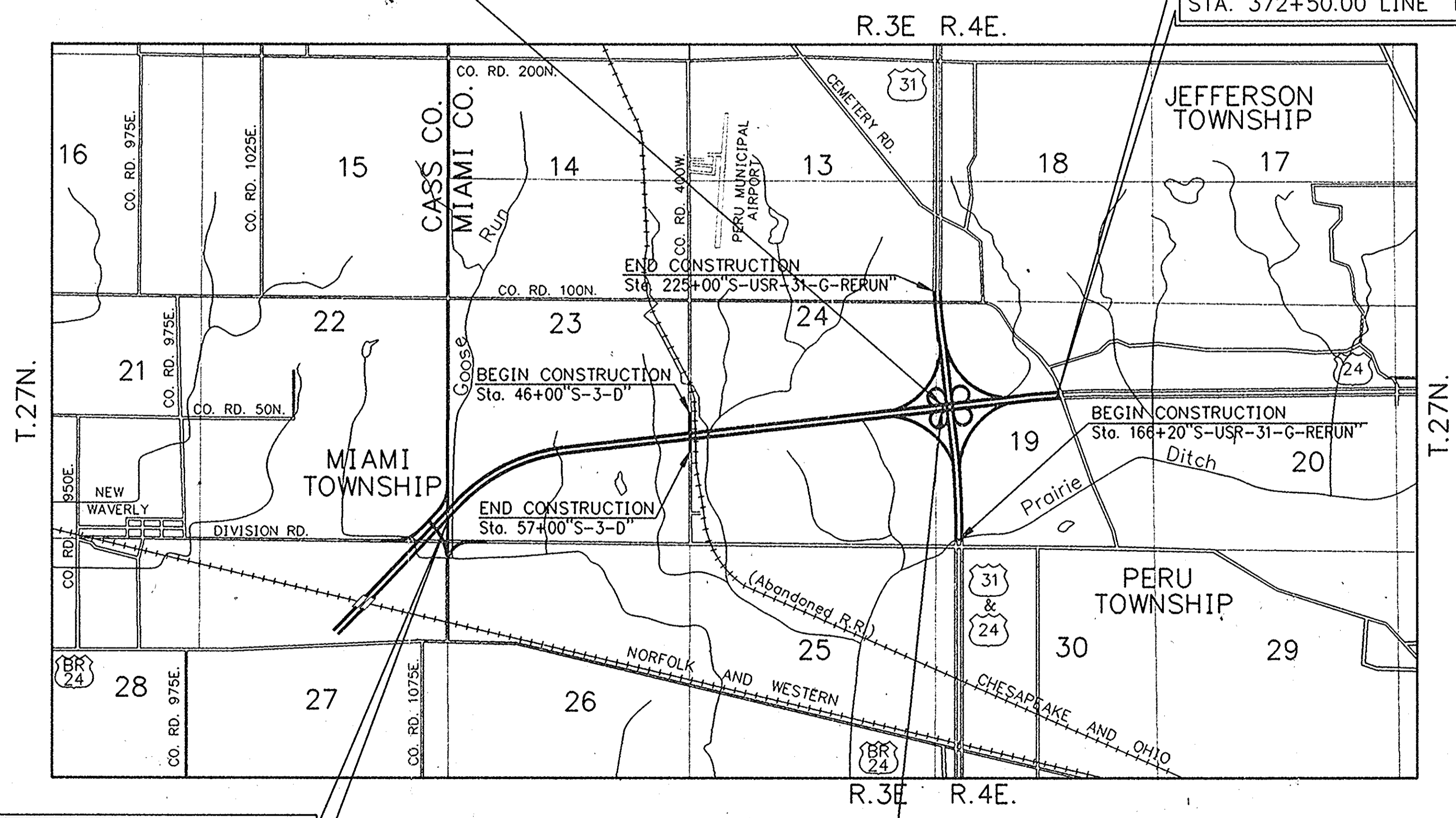
GROSS LENGTH: 2.620 MI.
NET LENGTH: 2.572 MI.

PLAN { LONG: 1" = 100' } PROFILE { HORIZ: 1" = 100' }
 { TRANS: 1" = 100' } { VERT: 1" = 10' }

MAX. GRADE 2.00% - U.S. 24
MAX. GRADE 3.47% - U.S. 31

STR. NO. 3
Bridge No. 24-52-6597B US 24 (WB) over US 31 Paving Exception: Sta. 348+73.10 "D" to Sta. 351+26.60 "D" To be Built in Combination with Road Contract

END NH-PROJECT NO. 146-5(001) STA. 372+50.00 LINE "D"



BEGIN NH-PROJECT NO. 146-5(001) STA. 234+13.61 LINE "D"

STR. NO. 2
Bridge No. 24-52-6597J US 24 (EB) over US 31 Paving Exception: Sta. 348+65.35 "D" to Sta. 351+25.10 "D" To be Built in Combination with Road Contract



LOCATION OF SECTION INDICATED THUS

SCALE: 1" = 2000'

PLANS PREPARED BY

SIECO, INC.

629 WASHINGTON ST.
P.O. BOX 407
COLUMBUS, IN 47202

CERTIFIED BY: _____ PHONE (812) 372-9911 DATE _____

APPROVED: <u>10-6-93</u> DATE	
<i>Jay M. Marks</i> CHIEF DIVISION OF LAND ACQUISITION	
RECOMMENDED FOR APPROVAL: <u>10-25-93</u> DATE	
<i>Bill Best</i> MANAGER, R/W ENGINEERING SECTION	
CONTRACT NO. 2934	STRUCTURE NO.
DES. NO. 7302471, 8902474	PROJECT NO. NH-146-5(001)
YEAR	SHEET TOTAL
	1 31

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 1993
TO BE USED WITH THESE PLANS.

PLOT DATE & TIME: MAY 21, 1993 - 1:31:16.06

UTILITIES

TELEPHONE:	INDIANA BELL TELEPHONE 240 N. MERIDIAN ST. INDIANAPOLIS, IN. 46204 317-265-2727	ELECTRIC:	MIAMI-CASS REMC P.O. BOX 168 PERU, IN. 46970 317-472-3361
PIPELINE:	GULF CENTRAL STORAGE & TERMINAL CO. P.O. BOX 11 WALTON, IN. 46994 219-626-2543	GAS:	NORTHERN IND. PUBLIC SERVICE CO. 1202 W. MAIN PERU, IN. 46970 317-472-3361
RAILROAD:	NORFOLK SOUTHERN CORPORATION (NORFOLK AND WESTERN RAILROAD) 8111 NELSON ROAD FORT WAYNE, IN. 46801 219-493-5301		

GENERAL NOTES

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

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

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

A _____ inch _____ pavement shall be used.

** Typical cross-section as shown on Sheet No. 5-6 to be used on this project.

** Standards under dates as listed in the index on this sheet to be used in 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.

All nonpaved areas shall be sodded.

All Earth Shoulder, 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. _____.

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"

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 shall be included in the Contract unit price for "Curb and Gutter, Concrete".

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 (L.A. R/W) to be fenced with Chain Link Type Fence (C.L.T.F.) or Farm Field Type Fence (F.F.T.F.) as specified in the plans.

Curves shall be Superelevated 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, at 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 and 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 is 3:1 or steeper or in an area requiring sand cut or sand fills or as directed by Engineer.

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

Preformed 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. _____.

Prior to extending existing pipe structures, head wall in place on extended end shall be removed. The Engineer may change the Type of Fence shown on the Plans upon receipt of reasonable, written justification from the Property Owner.

** 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.

** REPRESENTS GENERAL NOTES REQUIRED

INDEX

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(00)		2	31

SHEET NO.	DESIGNATION	F.H.W.A. APPROVAL	DATE APPROVAL "A" or LATEST REVISION "R"
-	TITLE SHEET		
-	INFORMATION SHEET		
-	TYPICAL CROSS SECTION		
-	PLAT NO. 3		
-	MAINTENANCE OF TRAFFIC		
-	PLAN AND PROFILE		
-	SUPERELEVATION TRANSITION		
-	DETAILS		
-	EROSION CONTROL		
-	BRIDGE DETAILS		
-	BRIDGE SUMMARY		
-	MISCELLANEOUS TABLES		
-	SUMMARY OF QUANTITIES AND APPROACH TABLE		
-	SHEET SIGN AND SIGN POST SUMMARY		
-	UNDERDRAIN TABLE		
-	STRUCTURE DATA		
-	MISCELLANEOUS STANDARDS, SHEET "C-1"	*	A DEC. 1992
-	STANDARD PAVEMENT JOINTS SHEET "A"	*	R 3-1-90
-	MISCELLANEOUS STANDARDS, SHEET "MA"	*	R 3-1-90
-	MISCELLANEOUS STANDARDS, SHEET "MA-1"	7-13-88	R 6-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MA-1A"	5-1-90	R 3-1-90
-	MISCELLANEOUS STANDARDS, SHEET "MA-2"	6-4-84	R 4-2-84
-	MISCELLANEOUS STANDARDS, SHEET "MB"	1-26-88	R 11-2-87
-	MISCELLANEOUS STANDARDS, SHEET "MC"	1-11-89	R 9-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MC-1"	1-11-89	R 9-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MC-2"	1-11-89	R 9-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MD"	12-27-82	R 10-1-82
-	MISCELLANEOUS STANDARDS, SHEET "MD-1"	12-27-82	R 10-1-82
-	MISCELLANEOUS STANDARDS, SHEET "MD-2"	5-5-87	R 4-1-87
-	MISCELLANEOUS STANDARDS, SHEET "MD-3"	12-27-82	R 10-1-82
-	MISCELLANEOUS STANDARDS, SHEET "MD-4"	12-27-82	R 10-1-82
-	MISCELLANEOUS STANDARDS, SHEET "ME"	5-19-88	R 4-4-88
-	MISCELLANEOUS STANDARDS, SHEET "ME-1"	4-7-87	A MAR. 1987
-	MISCELLANEOUS STANDARDS, SHEET "ME-2"	6-27-85	R 9-4-84
-	MISCELLANEOUS STANDARDS, SHEET "MH"	6-20-91	R 4-1-91
-	MISCELLANEOUS STANDARDS, SHEET "MH-1"	6-20-91	A APR. 1991
-	MISCELLANEOUS STANDARDS, SHEET "MH-2"	6-20-91	A APR. 1991
-	MISCELLANEOUS STANDARDS, SHEET "MH-3"	6-20-91	R 4-1-91
-	MISCELLANEOUS STANDARDS, SHEET "MJ-1"	6-20-91	R 4-1-91
-	MISCELLANEOUS STANDARDS, SHEET "MJ-2"	*	R 6-3-85
-	MISCELLANEOUS STANDARDS, SHEET "MJ-3"	5-19-88	R 4-4-88
-	MISCELLANEOUS STANDARDS, SHEET "MJ-4"	5-19-88	R 4-4-88
-	MISCELLANEOUS STANDARDS, SHEET "MJ-2A"	5-19-88	R 4-4-88
-	MISCELLANEOUS STANDARDS, SHEET "MP"	9-24-85	R 6-3-85
-	MISCELLANEOUS STANDARDS, SHEET "MP-1"	9-24-85	R 6-3-85
-	MISCELLANEOUS STANDARDS, SHEET "MP-2"	4-9-70	R 2-2-70
-	MISCELLANEOUS STANDARDS, SHEET "MQ"	4-10-84	R 2-1-84
-	MISCELLANEOUS STANDARDS, SHEET "MR"	4-10-84	R 2-1-84
-	MISCELLANEOUS STANDARDS, SHEET "MS"	1-11-89	R 9-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MS-1"	1-22-87	R 12-1-86
-	MISCELLANEOUS STANDARDS, SHEET "MT"	7-19-83	R 5-2-83
-	MISCELLANEOUS STANDARDS, SHEET "MT-1"	*	R 5-1-89
-	MISCELLANEOUS STANDARDS, SHEET "MT-1A"	8-5-88	R 8-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MT-2"	6-28-89	R 5-1-89
-	MISCELLANEOUS STANDARDS, SHEET "MT-3"	8-5-88	R 8-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MT-4"	12-1-88	R 9-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MT-7"	7-19-83	R 5-2-83
-	MISCELLANEOUS STANDARDS, SHEET "MT-9E"	12-1-88	R 9-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MT-9F"	12-1-88	R 9-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MT-9I"	8-5-88	A AUG. 1988
-	MISCELLANEOUS STANDARDS, SHEET "MT-9J"	12-1-88	R 9-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MT-16D"	8-5-88	A AUG. 1988
-	MISCELLANEOUS STANDARDS, SHEET "MT-20"	7-13-88	R 6-1-88
-	MISCELLANEOUS STANDARDS, SHEET "MT-21"	7-13-88	R 6-1-88
-	ST'D. STRUCTURAL CONNECTION FOR EXTENSION SHEET "MU"	6-27-85	R 9-4-84
-	GUARD RAIL SHEET "B-1"	*	A AUG. 1992
-	GUARD RAIL SHEET "E-1"	7-20-92	R DEC. 1991
-	GUARD RAIL SHEET "E-2"	7-20-92	R DEC. 1991
-	GUARD RAIL SHEET "E-3"	7-20-92	R DEC. 1991
-	GUARD RAIL SHEET "E-4"	*	A AUG. 1992
-	GUARD RAIL SHEET "E-4A"	*	A AUG. 1992
-	GUARD RAIL SHEET "E-4B"	*	A AUG. 1992
-	GUARD RAIL SHEET "G-1"	*	A AUG. 1992
-	GUARD RAIL SHEET "G-2"	7-20-92	R DEC. 1991
-	GUARD RAIL SHEET "G-3"	7-20-92	R DEC. 1991
-	GUARD RAIL SHEET "H-1"	*	A AUG. 1992
-	GUARD RAIL SHEET "H-2"	*	A AUG. 1992
-	GUARD RAIL SHEET "T-1"	*	A AUG. 1992
-	GUARD RAIL SHEET "T-1A"	*	A AUG. 1992
-	GUARD RAIL SHEET "T-2"	*	A AUG. 1992
-	GUARD RAIL SHEET "T-3"	*	A AUG. 1992
-	GUARD RAIL SHEET "T-4"	*	A AUG. 1992
-	CONCRETE MEDIAN BARRIER, SHEET "CB-1"	7-20-92	R DEC. 1991
-	STANDARD FOR SUPERELEVATION SHEET 2	1-11-89	R 9-1-88
-	STANDARD DETOUR SIGNS, SHEET 1	10-23-87	R 8-3-87
-	STANDARD DETOUR SIGNS, SHEET 1A	*	A SEP. 1988
-	STANDARD DETOUR SIGNS, SHEET 2	6-20-91	A 4-1-91
-	STANDARD DETOUR SIGNS, SHEET 2A	6-20-91	A 4-1-91
-	STANDARD DETOUR SIGNS, SHEET 3	*	A SEP. 1988
-	STANDARD DETOUR SIGNS, SHEET 3A	*	R 9-1-88
-	STANDARD DETOUR SIGNS, SHEET 4	*	R 9-1-88
-	STANDARD DETOUR SIGNS, SHEET 5	1-11-89	R 9-1-88
-	CROSS SECTIONS	*	R 9-1-88

* F.H.W.A. APPROVAL PENDING

REVISIONS

SHEET NO.	DATE	REVISED
-	3, 4, 17	12-14-93 - MADE Parcel 22 A TOTAL TAKE
-	11, 18	12-27-93 Added Parcel 9A EXCESS LAND
-	17	1-25-94 ADDED TEMP. R/W & BUDS. - PARCEL 12 B
-	3, 18	2-17-94 ELUA. PARCEL 6A & MADE PARCEL 22
-	14, 17, 25	4-28-94 REVISED L.A.R.W. PARCEL 12; ELUA. PARCELS 12A, 17B, 22-25
-	3, 15	5-10-94 Added Parcel 19 SA - SIGN IN FAVOR OF WINSTON ADVERTISING
-	11, 18	6-6-94 REVISED L.A. R/W - PARCELS 4 & 19
-	11, 18	6-13-94 REVISED L.A. R/W - Parcel 5
-	11, 18	10-13-94 ADDED TEMP. R/W & BUDS. REM - PARCEL 4B
-	15	3-20-95 ADDED STRUCTURE - ALI. G. 219 S.I. 15
-	3, 4, 18	4-13-95 Added EXCESS LAND - PARCELS 5 & 20
-	3, 11, 18	11-16-95 Changed Parcels 5 and 20 back to partial takes
-	11, 18	1-23-96 Note: Par 9 has been rev. to include Par. 19

R/W INDEX	
SHEET NO.	DESIGNATION
1	TITLE SHEET
2	INFORMATION SHEET
3	PARCEL LISTING FOR LAND ACQUISITION
4	PLAT NO. 1
5-8	TYPICAL CROSS SECTION
9-18	PLAN AND PROFILES
19-28	DETAILS
29	APPROACH TABLE
30-31	PLAT NO. 3
-	CROSS SECTIONS

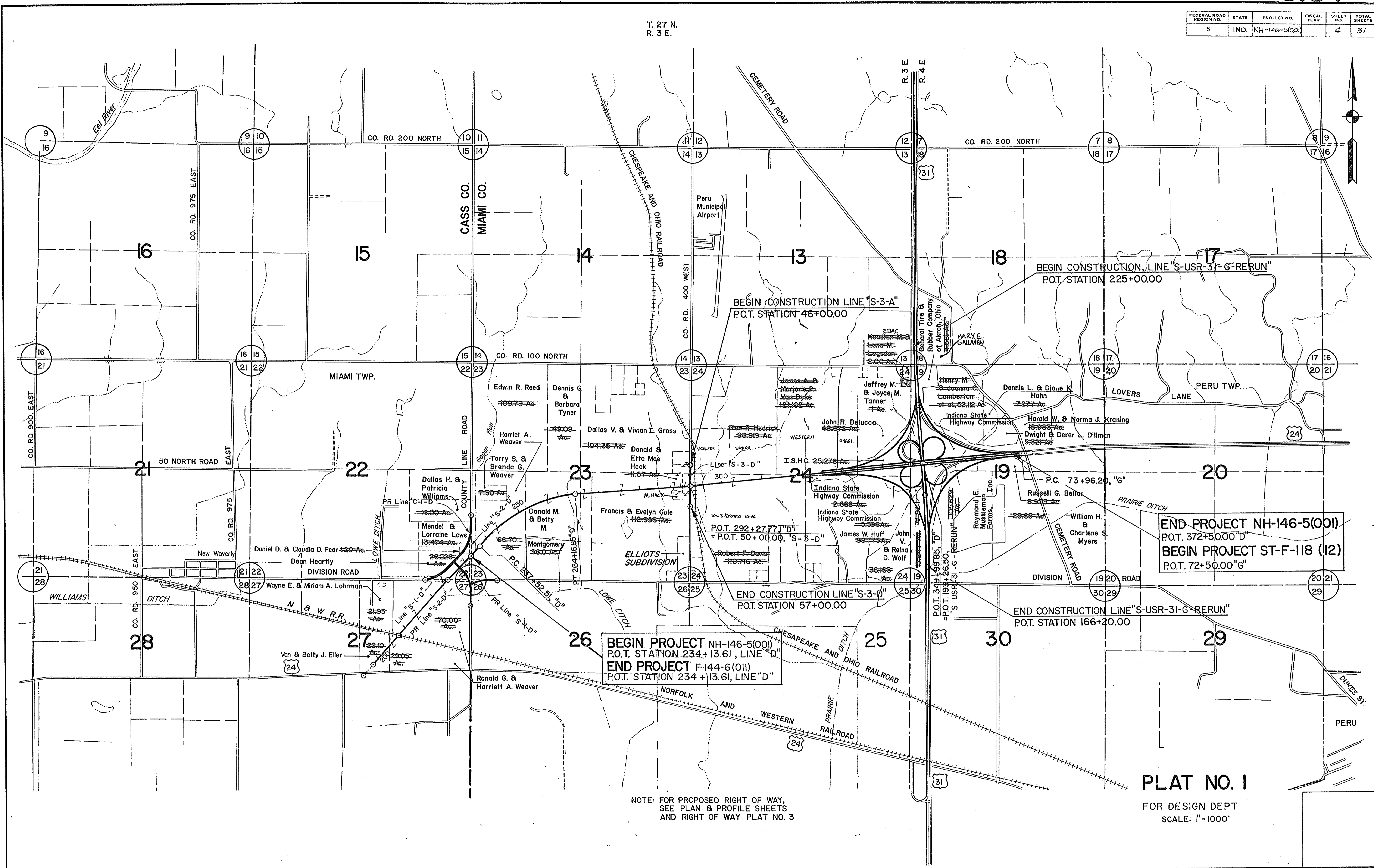
INDOT STANDARDS SHEET INDEX
Revised As Of DECEMBER 1, 1992

DESIGNED: _____ CHECKED: _____
DRAWN: _____ CHECKED: _____
REVISED: DL 5/93 _____ CHECKED: _____
SHEET REVISED: DECEMBER 23, 1992

PLOT DATE & TIME: MAY 21, 1993 - 13:20:09

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		4	31

T. 27 N.
R. 3 E.



BEGIN PROJECT NH-146-5(001)
 P.O.T. STATION 234+13.61, LINE "D"
END PROJECT F-144-6(011)
 P.O.T. STATION 234+13.61, LINE "D"

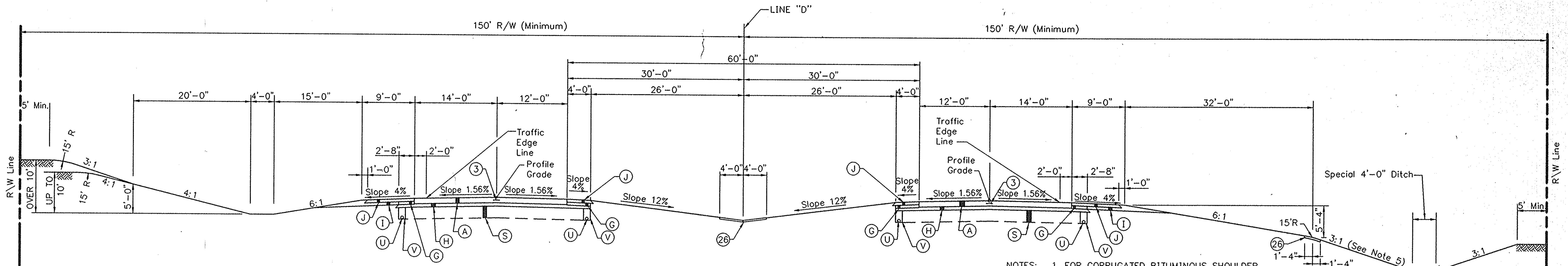
END PROJECT NH-146-5(001)
 P.O.T. STATION 372+50.00 "D"
BEGIN PROJECT ST-F-118 (112)
 P.O.T. STATION 72+50.00 "G"

NOTE: FOR PROPOSED RIGHT OF WAY,
 SEE PLAN & PROFILE SHEETS
 AND RIGHT OF WAY PLAT NO. 3

PLAT NO. 1
 FOR DESIGN DEPT
 SCALE: 1"=1000'

PROJECT NO.	LINE NO.	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	4	31	

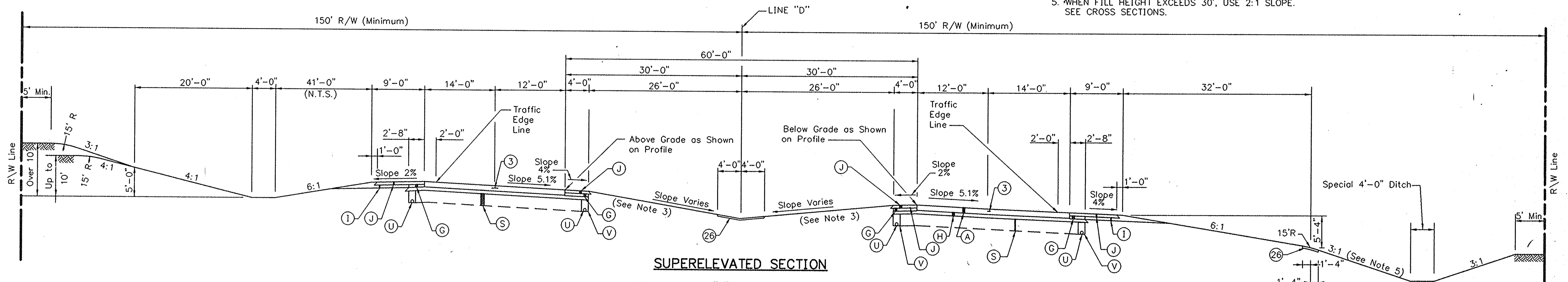
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-145-6(001)		5	31



TANGENT SECTION

STA. 234+13.61 "D" TO STA. 237+52.51 "D"
 STA. 264+16.58 "D" TO STA. 372+50.00 "D"

- NOTES:
1. FOR CORRUGATED BITUMINOUS SHOULDER DETAILS, SEE MISCELLANEOUS STANDARD SHEET "M11".
 2. FOR LOCATION OF TYPE D-1 CONTRACTION JOINTS, SEE SHEET NO. 19.
 3. MINIMUM SLOPE 1" PER FT., MAXIMUM SLOPE 2" PER FT., FOR SPECIAL CENTER DITCH.
 4. FOR DETAILS OF UNDERDRAIN, SEE DETAIL AND MISCELLANEOUS STANDARD SHEET "MN".
 5. WHEN FILL HEIGHT EXCEEDS 30', USE 2:1 SLOPE. SEE CROSS SECTIONS.

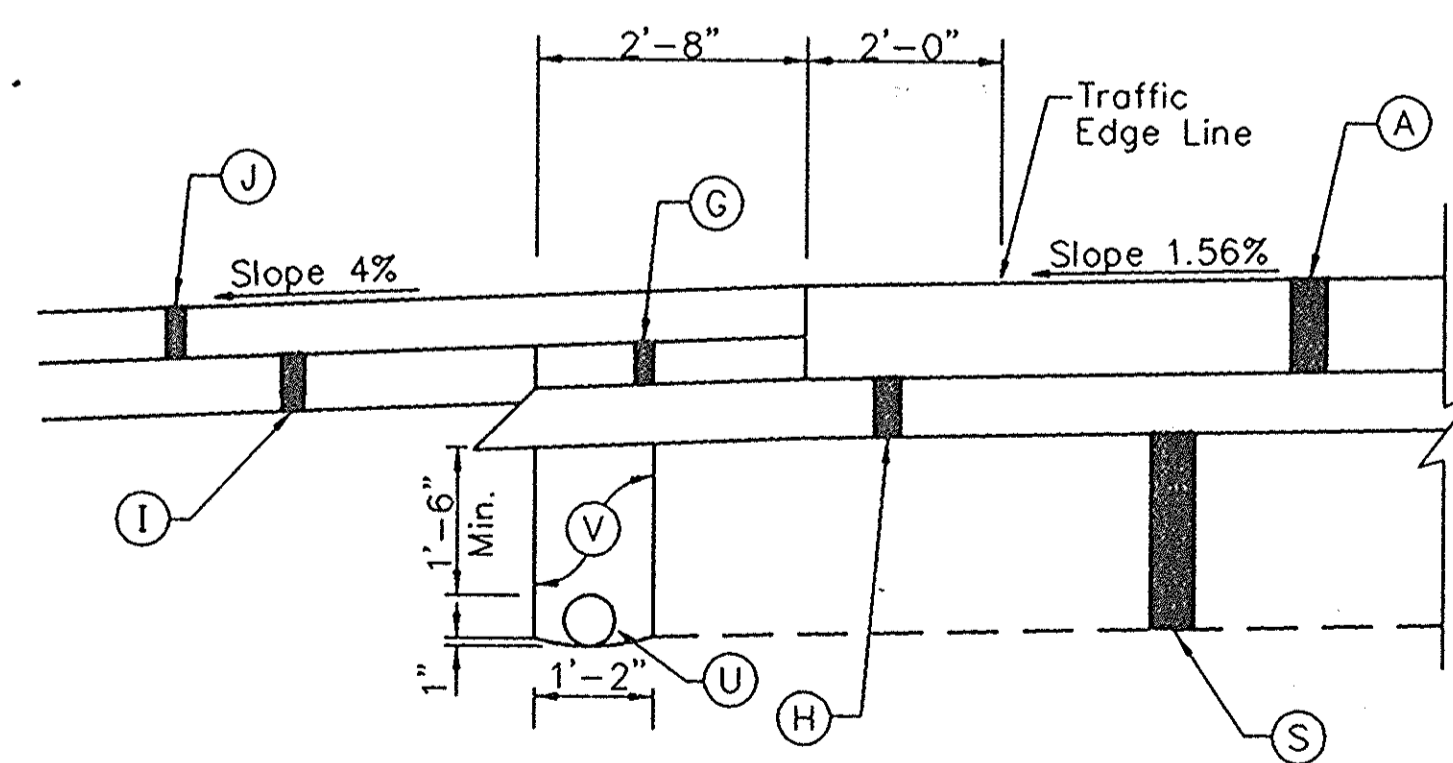


SUPERELEVATED SECTION

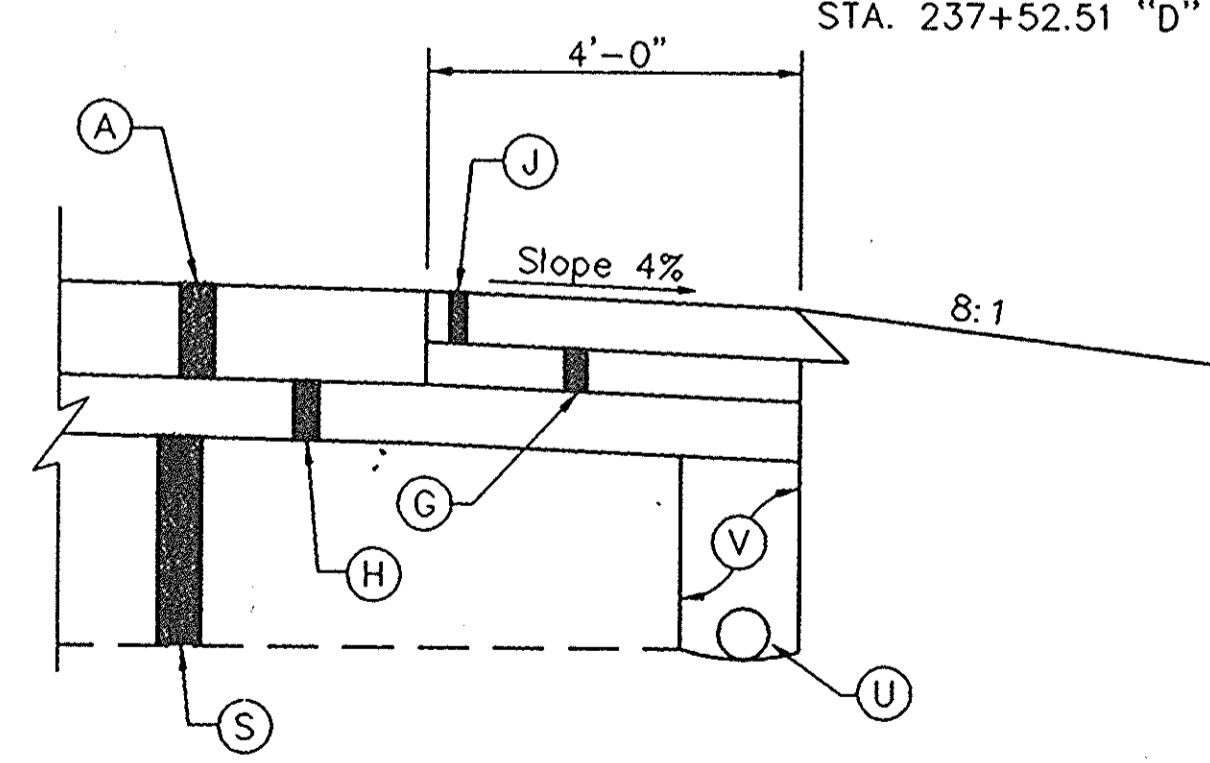
STA. 237+52.51 "D" TO STA. 264+16.58 "D"

LEGEND

- (A) Cement Concrete Pavement, Plain, 14"
- (G) Bituminous Coated Aggregate Base, Size No. 5, 5"
- (H) Subbase for Cement Concrete Pavement, 7"
- (I) Compacted Aggregate Shoulder, 6" Compacted Aggregate, Type "O" for Base 5D, LV, Size No. 53
- (J) Paved Shoulder, 660#/Syd. Bituminous Base 5D, LV with Seal Coat, Type 2
- (S) 24" Special Subgrade Treatment, with 6" Compacted in place
- (U) Pipe, Group "K" for Underdrain
- (V) Aggregate for Underdrain
- (3) Longitudinal Joint
- (26) Sodding, Nursery



UNDERDRAIN DETAIL - OUTSIDE SHOULDER



UNDERDRAIN DETAIL - MEDIAN SHOULDER

Scale: 1/2" = 1'-0"

NOTE: THE CONTRACTOR SHALL BE PAID FOR BACKFILLING THE TRENCH TO THE EXCAVATION AS MADE BUT NOT TO EXCEED 14" IN WIDTH, REGARDLESS OF THE DEPTH OF TRENCH.

U. S. 24

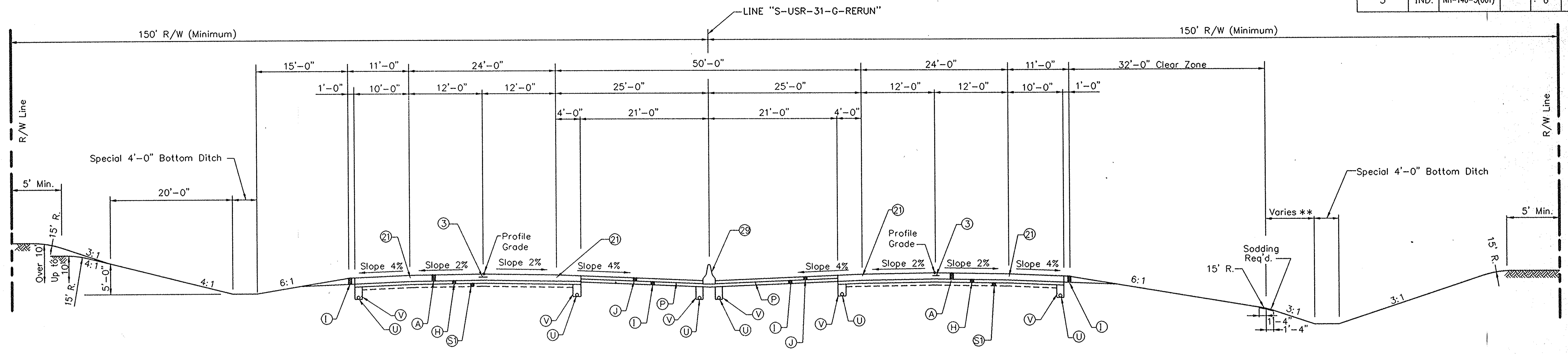
INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS

SCALE: 1/8" = 1'-0"

DESIGN: I.S. 12/92, SFC/SKD
 DRAWN: E.K.A. 12/92, SFC/SKD
 REVISION: D.M. 5/93, SFC/SKD
 SHEET REVISED: JULY 20, 1992
 PLOT DATE & TIME: MAY 21, 1993 - 13:33:41

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		6	31



TANGENT SECTION AND CURVES OF 0° 29.99' OR LESS
 Sta. 166+20.00 to 225+00.00 "S-USR-31-G-RERUN"

- NOTES: 1. FOR LOCATION OF TYPE D-1 CONTRACTION JOINTS, SEE SHEET NO. 20
 2. FOR DETAILS OF UNDERDRAIN, SEE MISCELLANEOUS STANDARD SHEET "MN"

- LEGEND**
- (A) Cement Concrete Pavement, Plain, 12"
 - (H) Subbase for Cement Concrete Pavement, 6"
 - (I) Compacted Aggregate Shoulder
6" Compacted Aggregate for Base 5D, LV, Size No. 53
 - (J) Paved Shoulder
660#/Syd. Bituminous Base 5D, LV with Seal Coat, Type 2
 - (P) Prime Coat
 - (S) 6" Special Subgrade Treatment (Compacted in place)
 - (U) Pipe, Group "K" for Underdrain
 - (V) Aggregate for Underdrain
 - (3) Longitudinal Joint
 - (21) Longitudinal Construction Joint
 - (29) Concrete Median Barrier
 - ** See Cross Sections

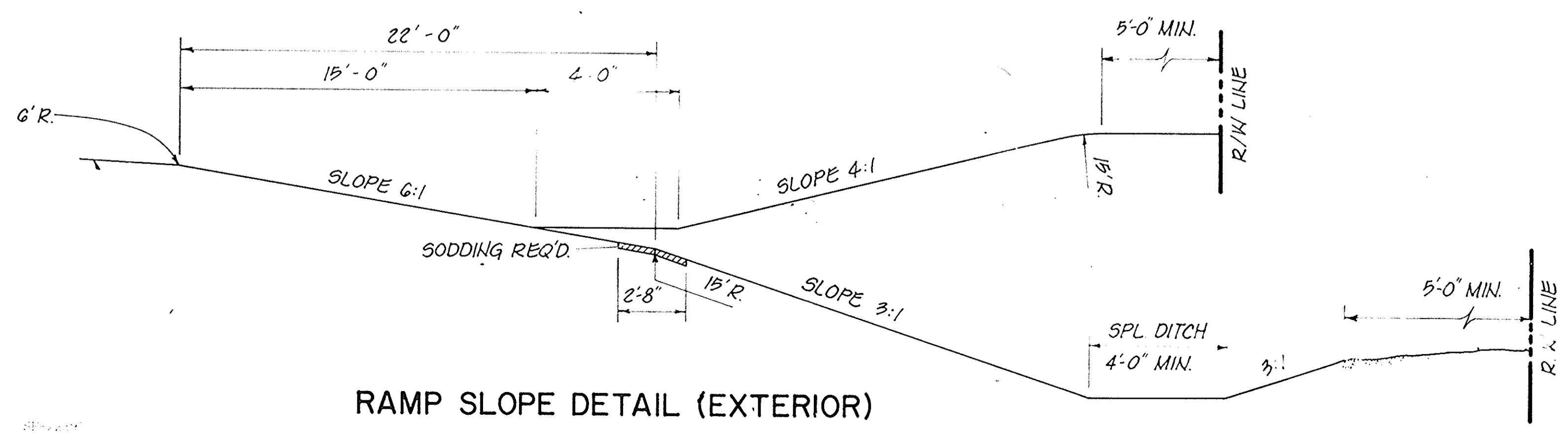
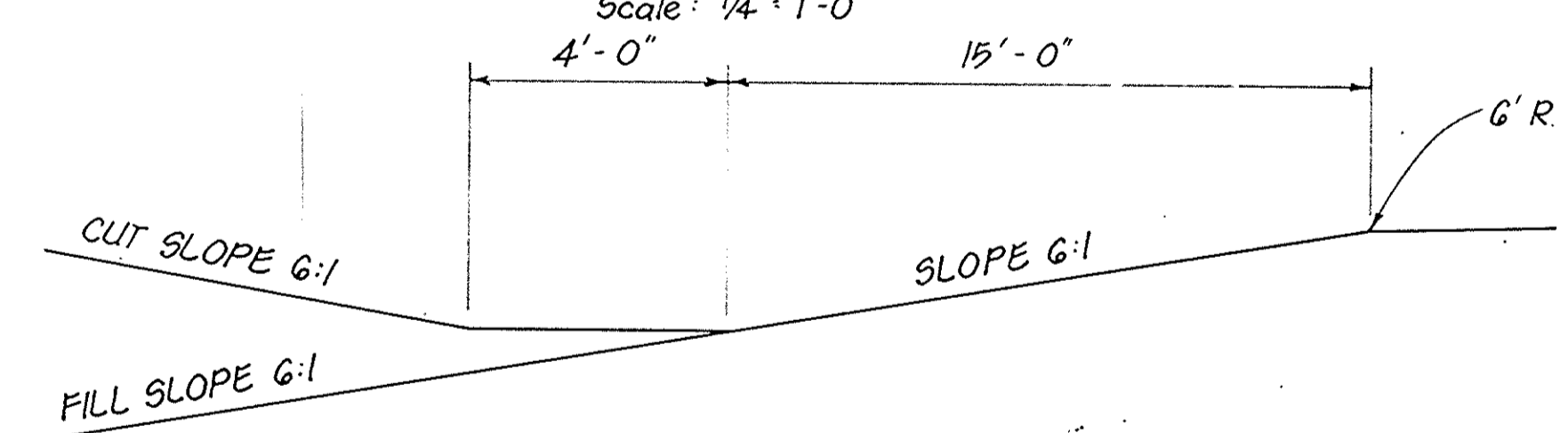
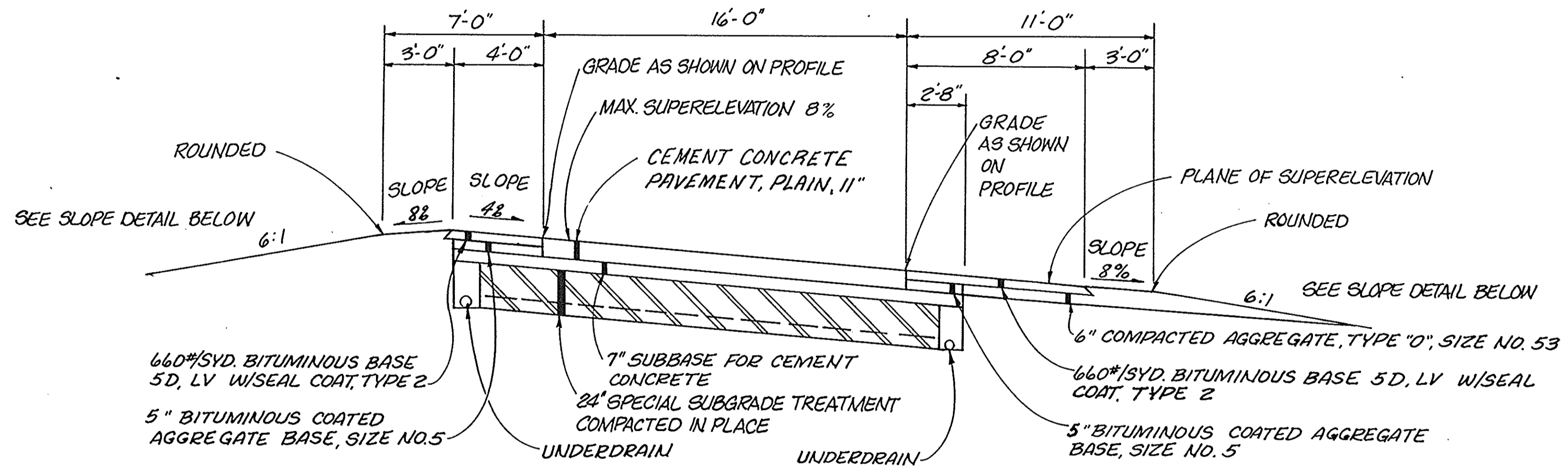
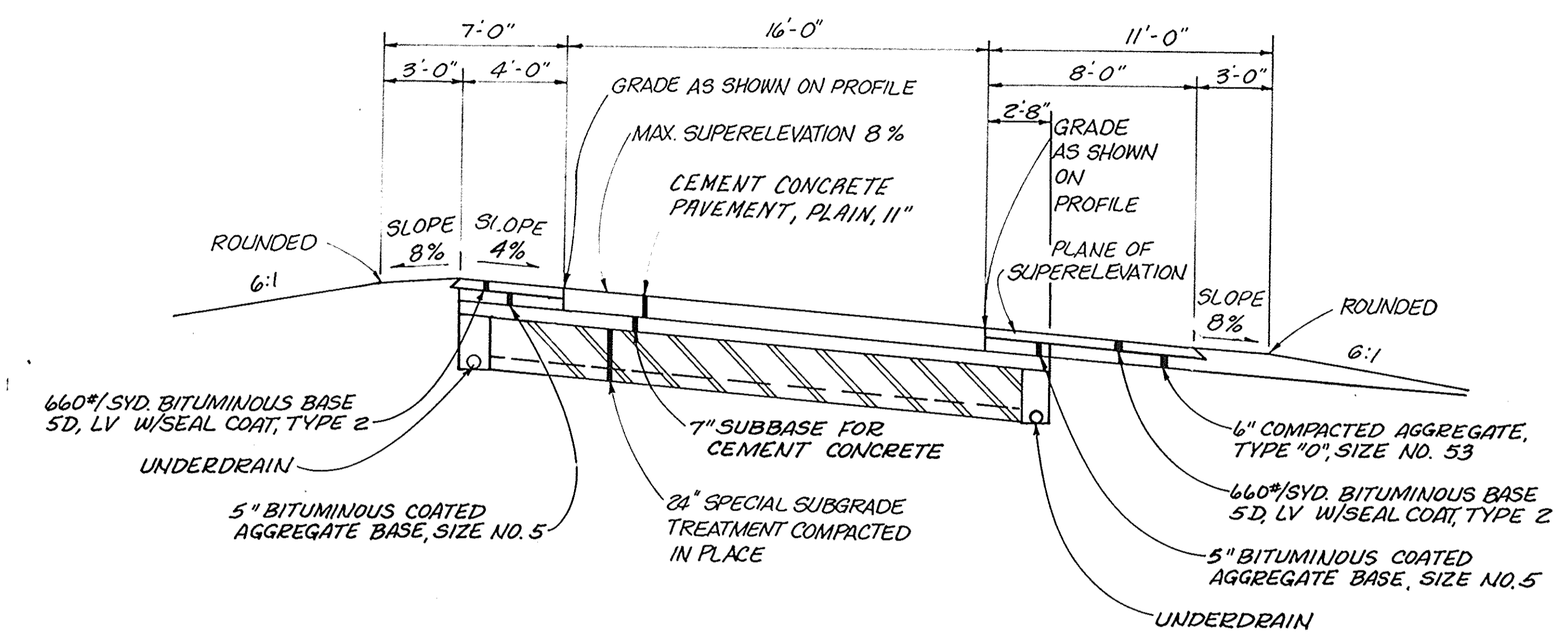
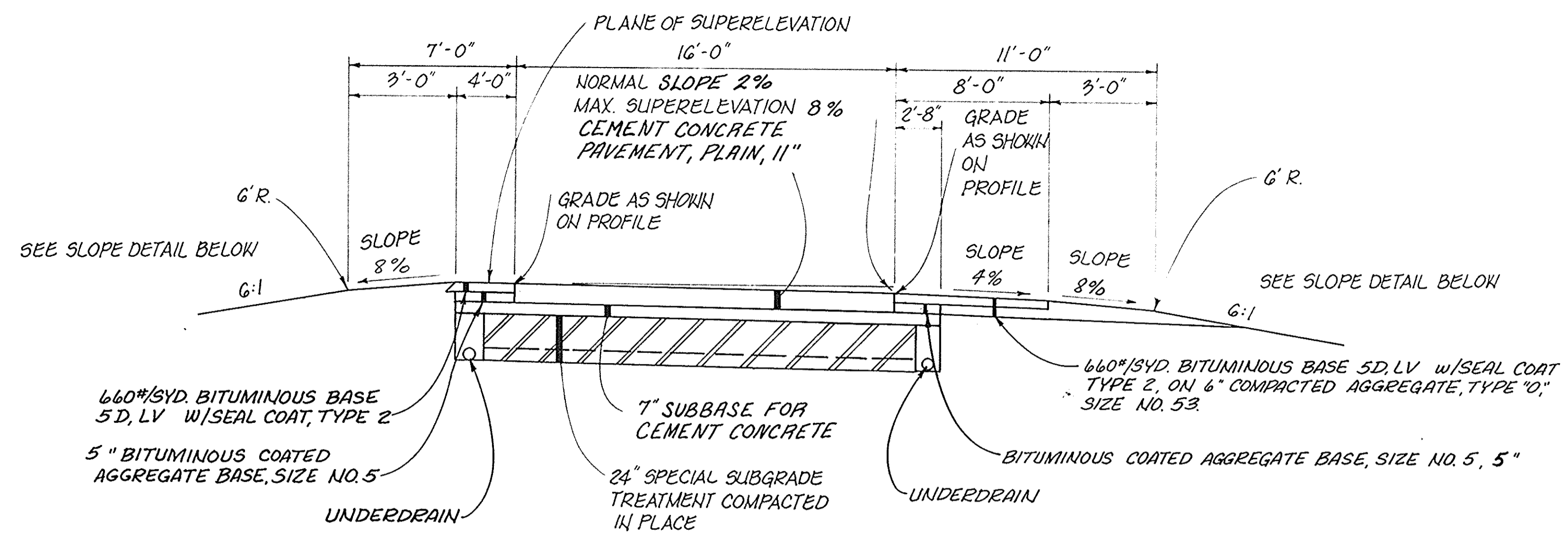
U. S. 31

INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS

SCALE: 1/8" = 1'-0"

CHECKED: [Signature] DATE: [Date]
 DESIGNED: [Signature] DATE: [Date]
 PLOT DATE & TIME: MAY 25, 1993 - 08:30:37
 SHEET REVISED: JULY 20, 1992

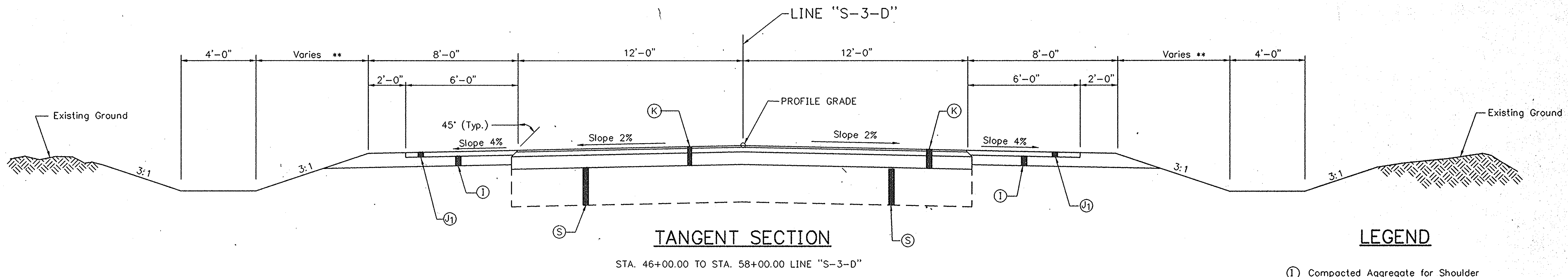
FEDERAL ROAD DIVISION NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		7	31



U.S. 24
INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS
SCALE: AS SHOWN

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	7	31	

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		8	31



LEGEND

- (I) Compacted Aggregate for Shoulder
6" Compacted Aggregate for Base, Type "O"
Size No. 53
- (J) Paved Shoulder
330#/Syd. Bituminous Base 5D, LV
with Seal Coat, Type 2
- (K) Bituminous over Aggregate Pavement
110#/Syd. Bituminous Surface 11, LV on
330#/Syd. Bituminous Base 5, LV on
8" Compacted Aggregate Base, Type "O",
Size No. 53
- (S) 24" Special Subgrade Treatment

** See Cross Sections

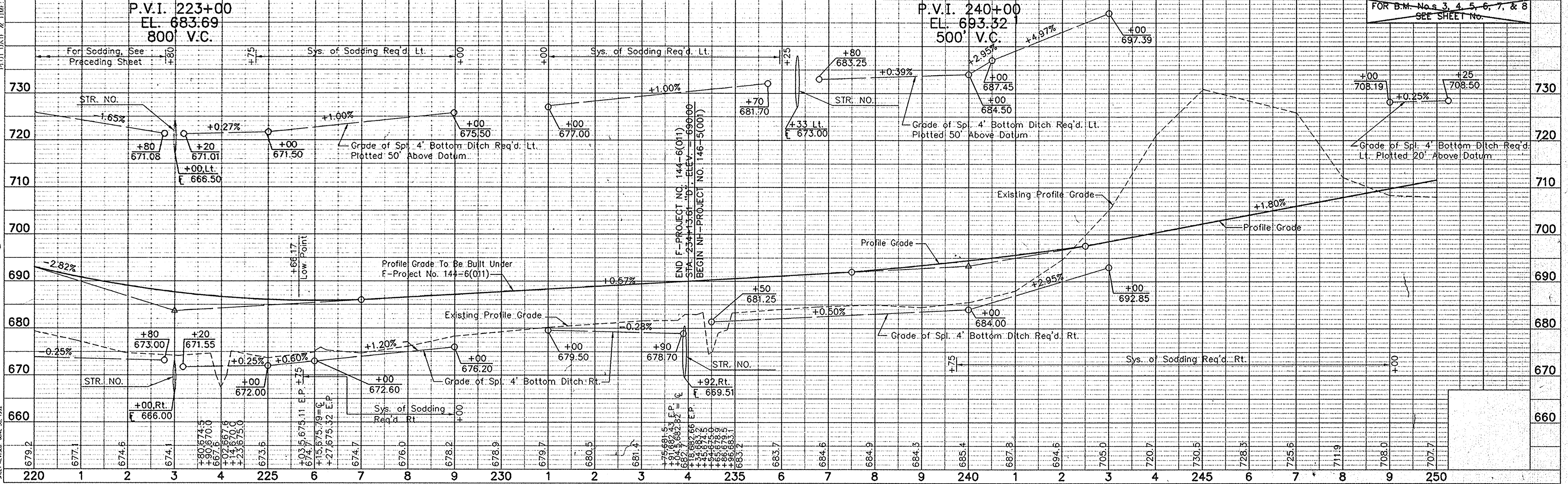
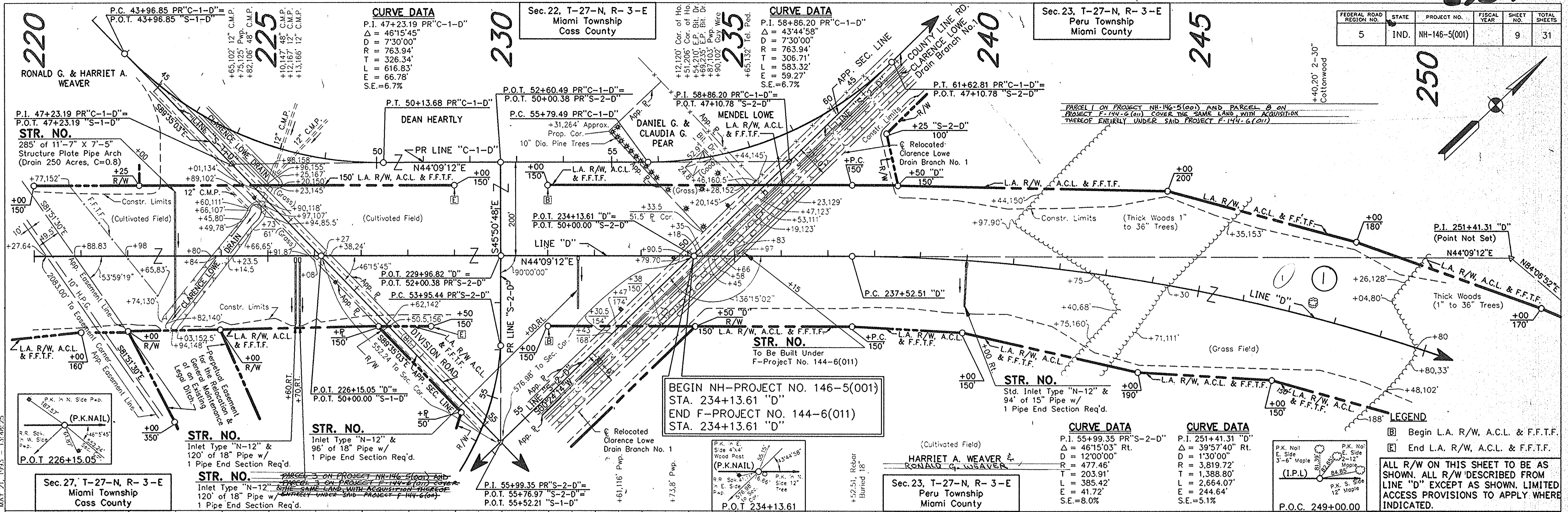
"S-3-D"
INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS

SCALE: 3/8" = 1'-0"

PLOT DATE & TIME: MAY 21, 1993 - 13:46:31

REVISIONS: _____
 DRAWN: S.W. 2/93
 CHECKED: _____
 REVISED: 5/93
 SHEET REVISED: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		9	31



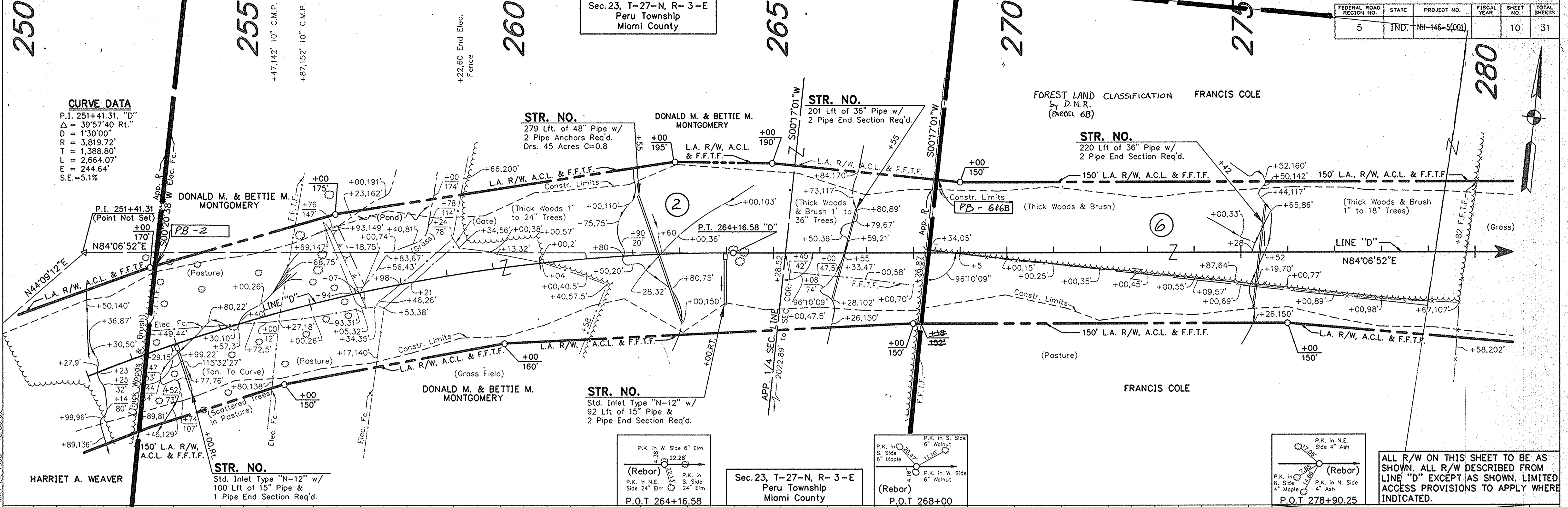
PLAN
 SHEET NO. 17/289
 DATE: MAY 21, 1973
 BY: CERTIFIED ENGINEERING INC. 17/289
 600 E. PHOENIX BLVD. INDIANAPOLIS, IND. 46201
 NOTE BOOK NO. 15000311

PROFILE
 SHEET NO. 17/289
 DATE: MAY 21, 1973
 BY: CERTIFIED ENGINEERING INC. 17/289
 600 E. PHOENIX BLVD. INDIANAPOLIS, IND. 46201
 NOTE BOOK NO. 15000311

PLATE 1 - PLAN - PROFILE D R R STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	9	31	

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		10	31



Sec. 23, T-27-N, R-3-E
Peru Township
Miami County

ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

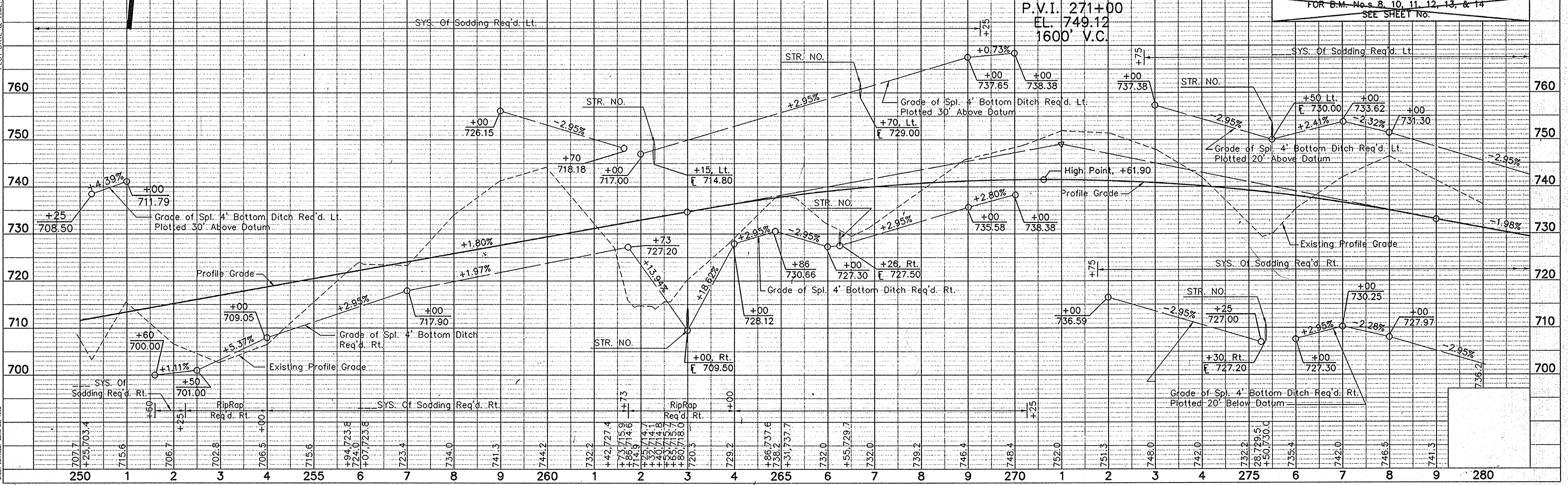


PLATE 1 - PLAN - PROFILE B.R.P. STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	10	31	

PLAN

DATE:
 BY:
 CHECKED:
 DESIGNED:
 DRAWN:
 IN CHARGE:
 PROJECT NO.:
 SHEET NO.:
 TOTAL SHEETS:

PROFILE

DATE:
 BY:
 CHECKED:
 DESIGNED:
 DRAWN:
 IN CHARGE:
 PROJECT NO.:
 SHEET NO.:
 TOTAL SHEETS:

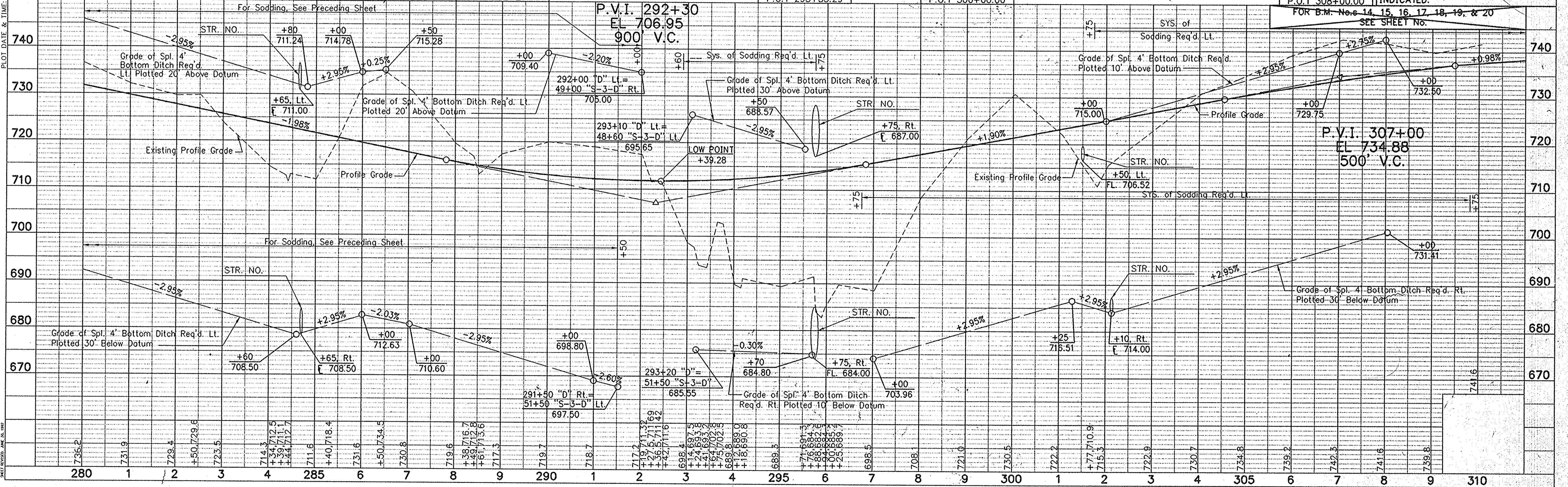
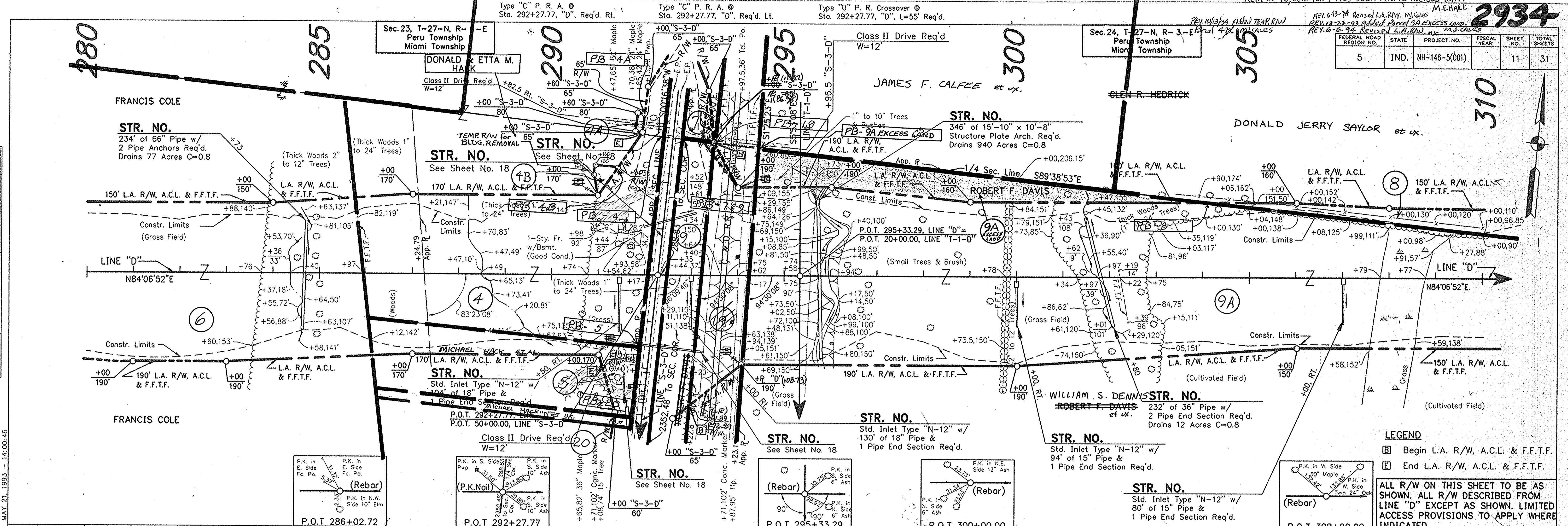
PLOT DATE & TIME: MAY 21, 1993 - 13:50:02

SHEET REVISIONS: JAN. 30, 1992

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		11	31

DATE: 11/27/89
 BY: BOB E. HALL
 CHECKED: BOB E. HALL
 NO. 160031

DATE: 11/27/89
 BY: BOB E. HALL
 CHECKED: BOB E. HALL
 NO. 160031



LEGEND
 [Symbol] Begin L.A. R/W, A.C.L. & F.F.T.F.
 [Symbol] End L.A. R/W, A.C.L. & F.F.T.F.
 ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

PLATE 1 - PLAN - PROFILE
 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	11	31	

Sec. 24, T-27-N, R-3-E
Peru Township
Miami County

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		12	31

DATE: 11/27/89
BY: B. E. PHILLIPS, INC. INC. DR. 7/89
CERTIFIED ENGINEERING
PLAN
NOTE BOOK NO. 1800871

DATE: 6/30/82
BY: B. E. PHILLIPS, INC. INC. DR. 7/89
CERTIFIED ENGINEERING
PROFILE
NOTE BOOK NO. 1800871

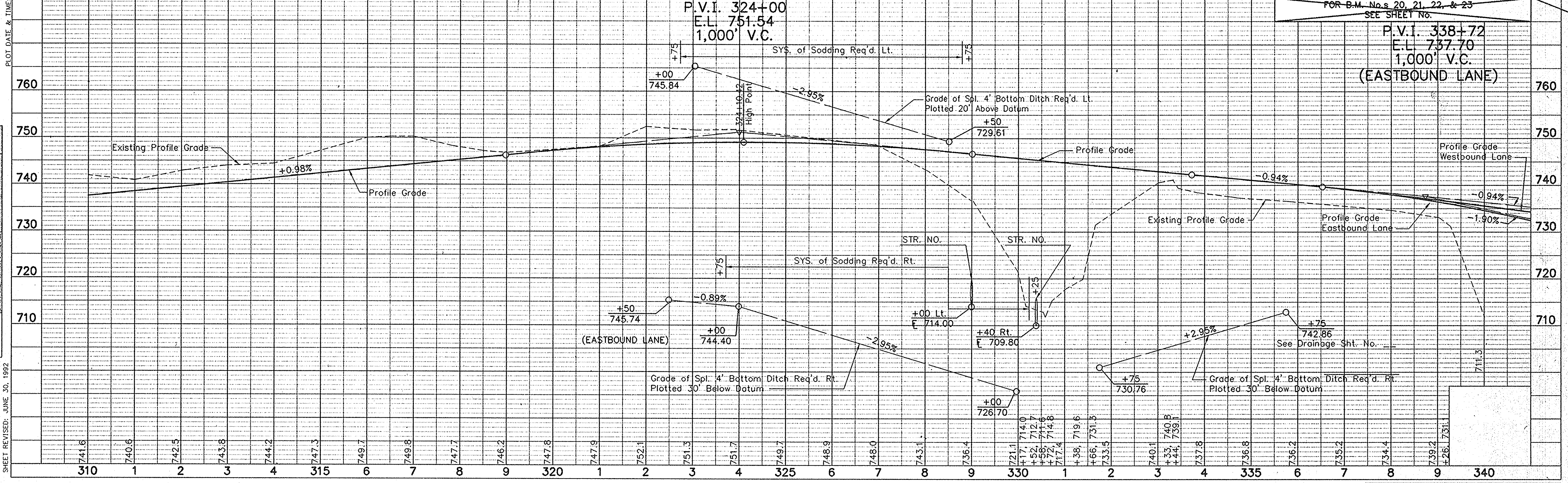
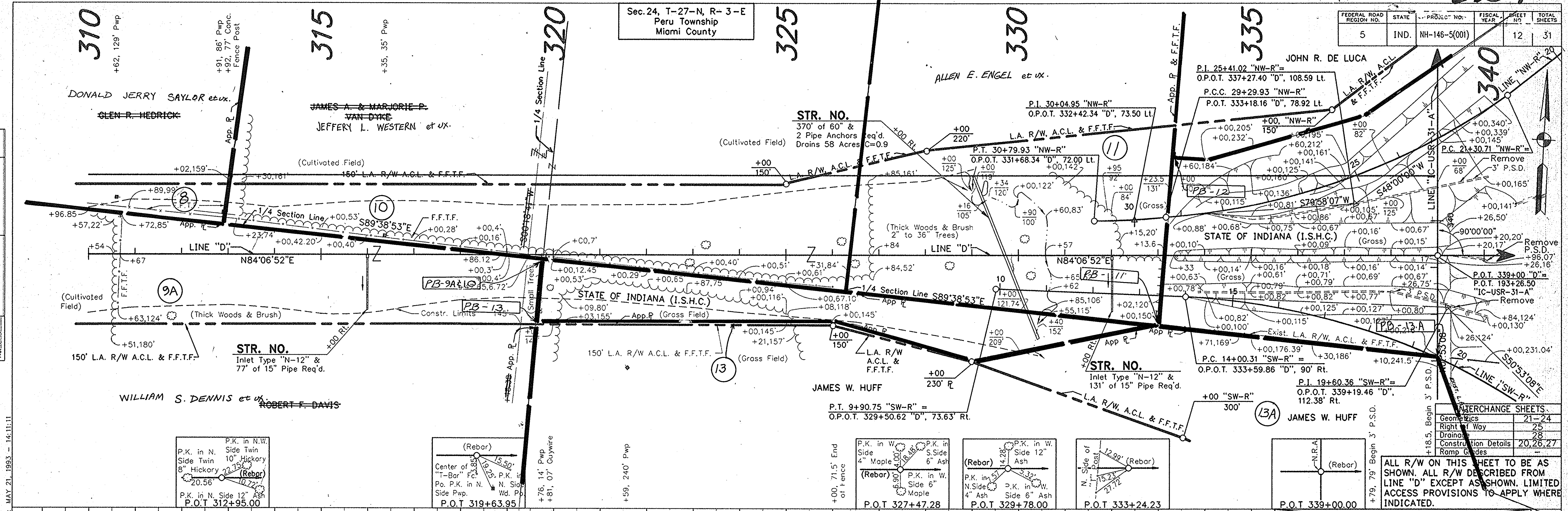
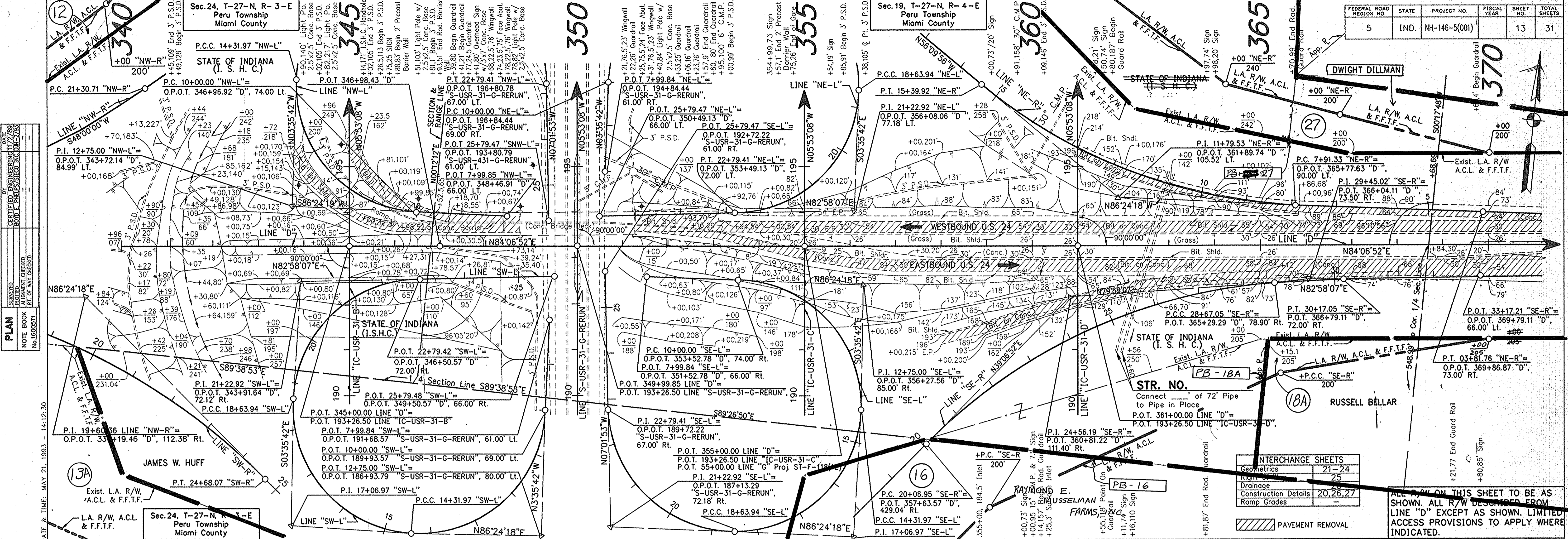


PLATE 1 - PLAN - PROFILE B. E. PHILLIPS, INC. 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	12	31	

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		13	31

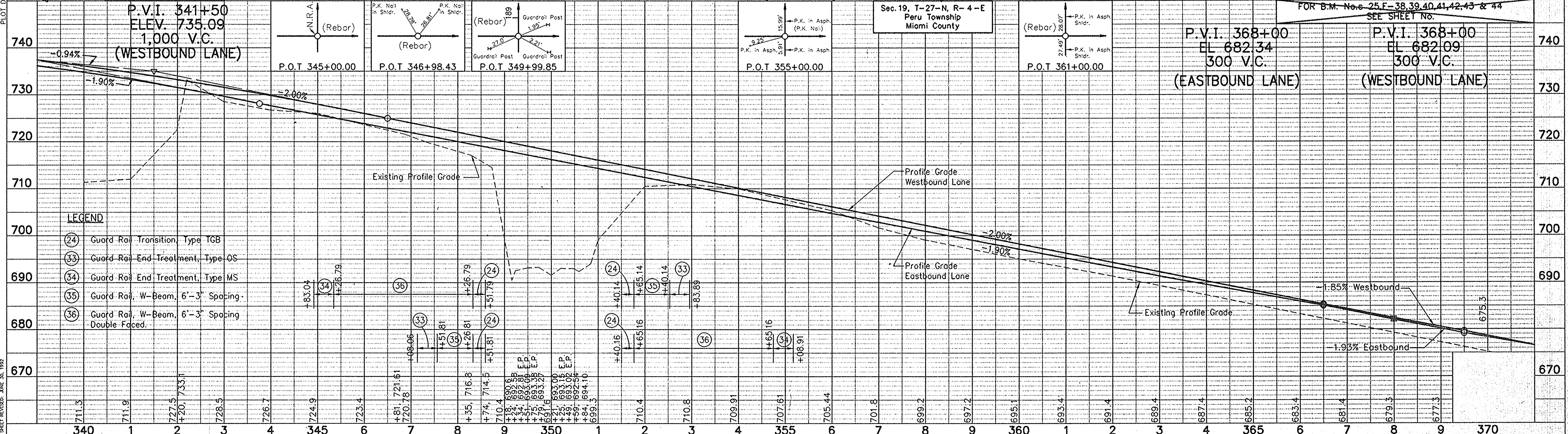


DATE	BY	CHECKED
MAY 21, 1993	J. W. HUFF	J. W. HUFF

PLANNING
NOTE BOOK
NO. 1600071

DATE	BY	CHECKED
MAY 21, 1993	J. W. HUFF	J. W. HUFF

PROFILE
NOTE BOOK
NO. 1600071



LEGEND

- (24) Guard Rail Transition, Type TGB
- (33) Guard Rail End Treatment, Type OS
- (34) Guard Rail End Treatment, Type MS
- (35) Guard Rail, W-Beam, 6'-3" Spacing
- (36) Guard Rail, W-Beam, 6'-3" Spacing Double Faced

INTERCHANGE SHEETS

Geometrics	21-24
Right of Way	25
Drainage	20, 26, 27
Construction Details	20, 26, 27
Ramp Grades	

ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

PLATE 1 - PLAN - PROFILE B. R. STANARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	0	13	31	

Sec. 19, T-27-N, R-4-E
Peru Township
Miami County

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		14	31

DATE: MAY 21, 1993 - 14:14:02

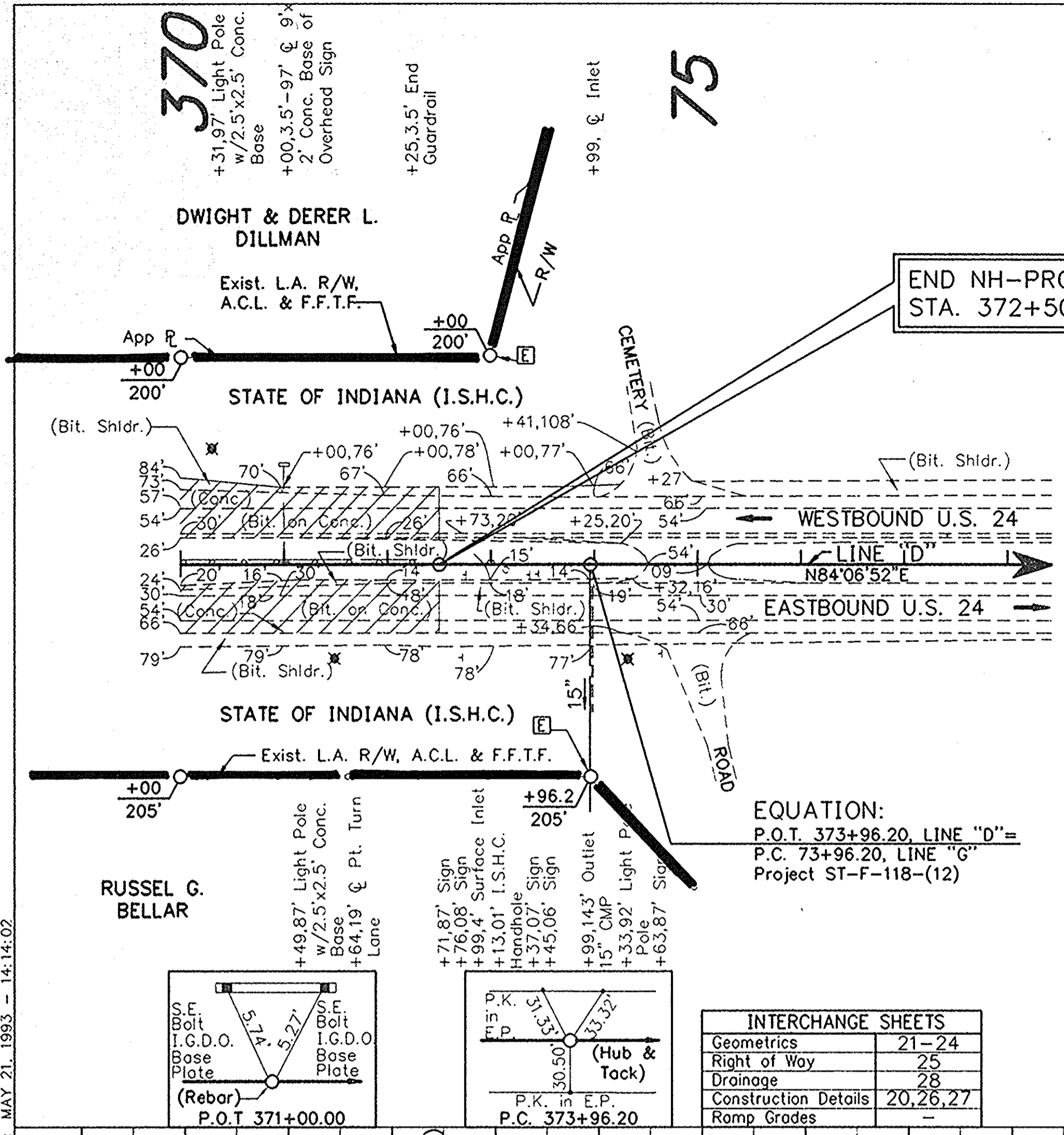
BY: CERTIFIED ENGINEERING INC. 7/89
BOB E. PHIPPS/SICCO INC. 7/89

NO. 150027.1

DATE: JUNE 30, 1992

BY: CERTIFIED ENGINEERING INC. 7/89
BOB E. PHIPPS/SICCO INC. 7/89

NO. 150027.1



END NH-PROJECT NO. 146-5(001)
STA. 372+50.00 LINE "D"

EQUATION:
P.O.T. 373+96.20, LINE "D"=
P.C. 73+96.20, LINE "G"
Project ST-F-118-(12)

CURVE DATA
 P.I. P.I. 83+10.00 "D"
 $\Delta = 05^{\circ}22'15"$ Rt.
 $D = 00^{\circ}30'00"$
 $R = 1,1459.16$
 $T = 537.48$
 $L = 1074.16$
 $E = 12.70$
 $S.E. = R.C.$

INTERCHANGE SHEETS

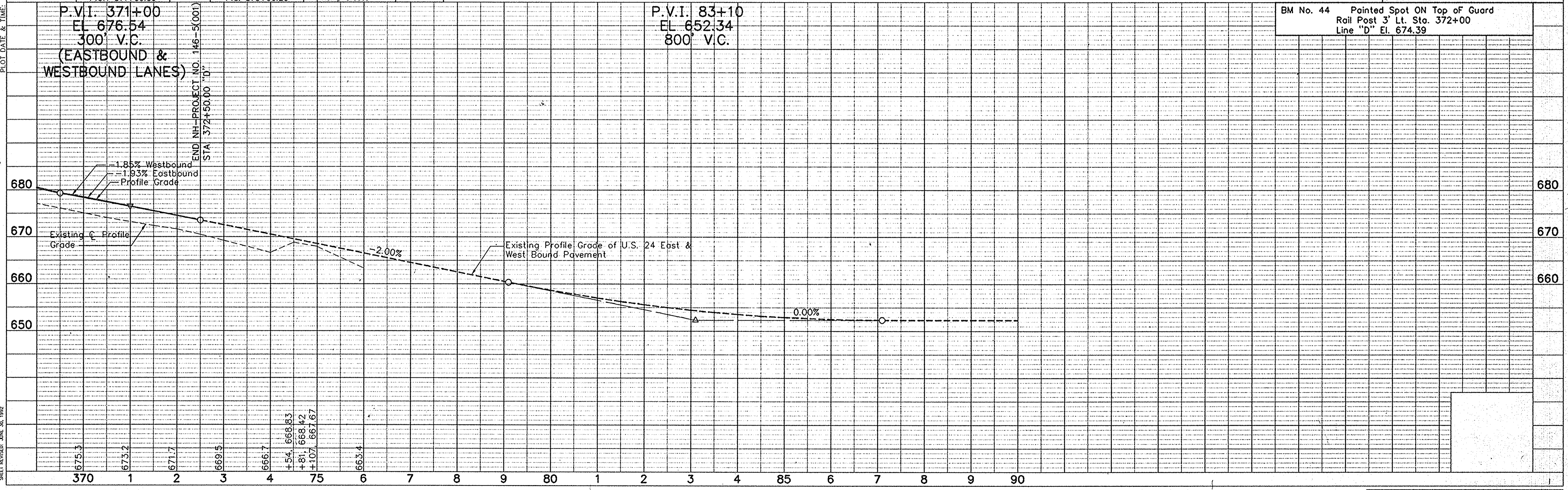
Geometrics	21-24
Right of Way	25
Drainage	28
Construction Details	20, 26, 27
Ramp Grades	-

LEGEND

End L.A. R/W, A.C.L. & F.F.T.F.

Pavement Removal

ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.



BM No. 44 Painted Spot ON Top of Guard
Rail Post 3' Lt. Sta. 372+00
Line "D" El. 674.39

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	14	31	

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		15	31

Sec. 19, T-27-N, R-4-E
Peru Township
Miami County

CURVE DATA

P.I. 176+90.70, "S-USR-31-G-REV"
 $\Delta = 5'49''00''$ LT.
 $D = 0'20'05.16''$
 $R = 17,114.86'$
 $T = 869.50'$
 $L = 1,737.50'$
 $E = 22.07'$
 S.E. = N.C.

PLAN

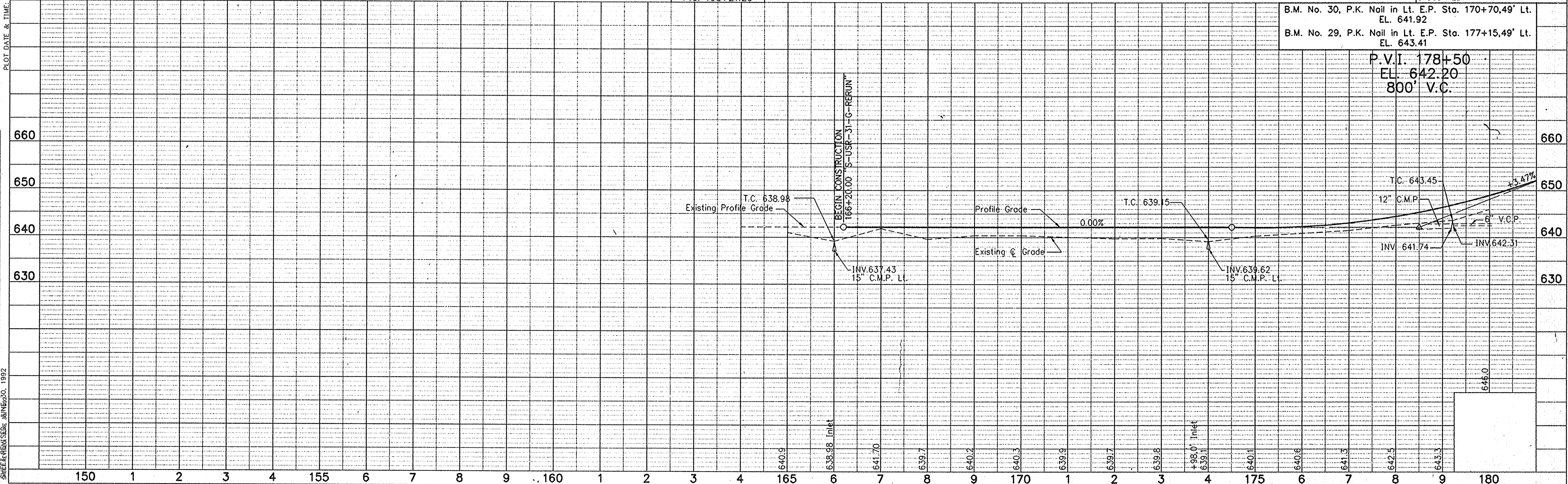
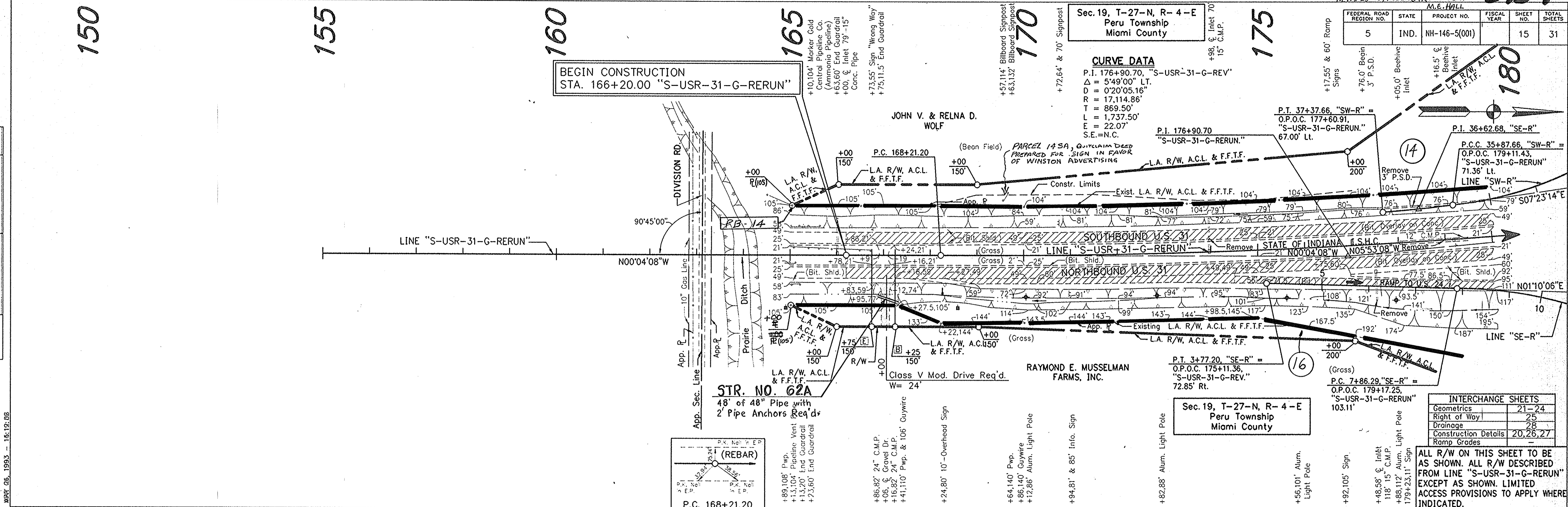
DATE	11/7/88
BY	CERTIFIED ENGINEERING INC. INC. 5788
CHECKED	BOB L. BARKER
DATE	11/7/88
BY	CERTIFIED ENGINEERING INC. INC. 5788
CHECKED	BOB L. BARKER

NOTE BOOK No. 600632

PROFILE

DATE	11/7/88
BY	CERTIFIED ENGINEERING INC. INC. 5788
CHECKED	BOB L. BARKER
DATE	11/7/88
BY	CERTIFIED ENGINEERING INC. INC. 5788
CHECKED	BOB L. BARKER

NOTE BOOK No. 60082



PLOT DATE & TIME: MAY 28, 1993 - 16:19:59

SHEET REQUESTOR: JUNE 20, 1992

PLATE 1 - PLAN - PROFILE B. R. STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"S-USR-31-G-RERUN"	15	31	

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5-(001)		16	31

Sec. 24, T-27-N, R-3-E
Peru Township
Miami County

INTERCHANGE SHEETS	
Geometrics	21-24
Right of Way	25
Drainage	28
Construction Details	20, 26, 27
Ramp Grades	

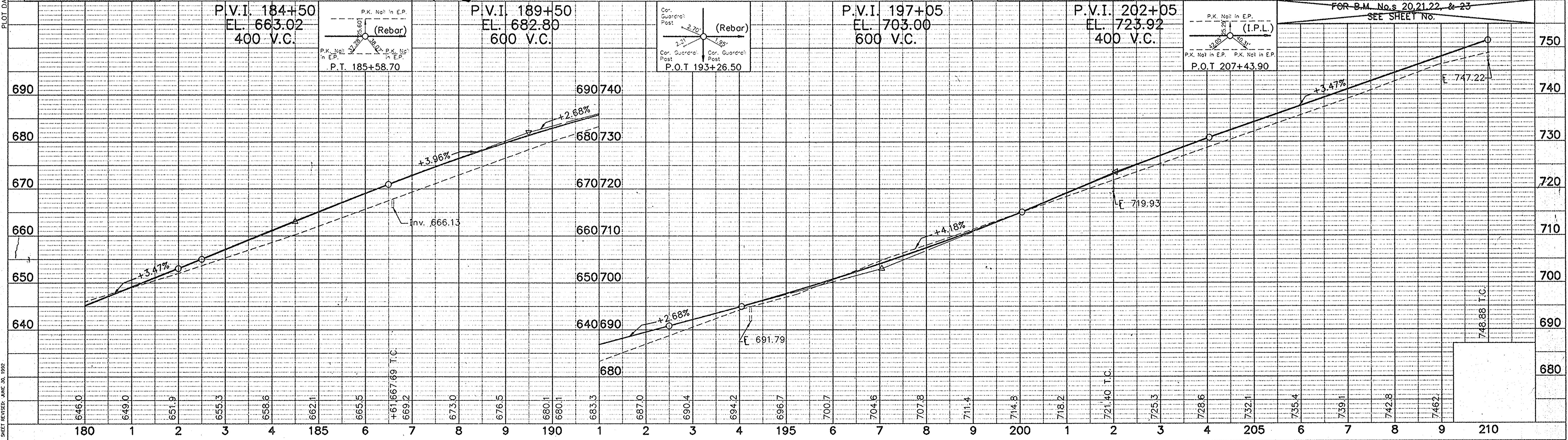
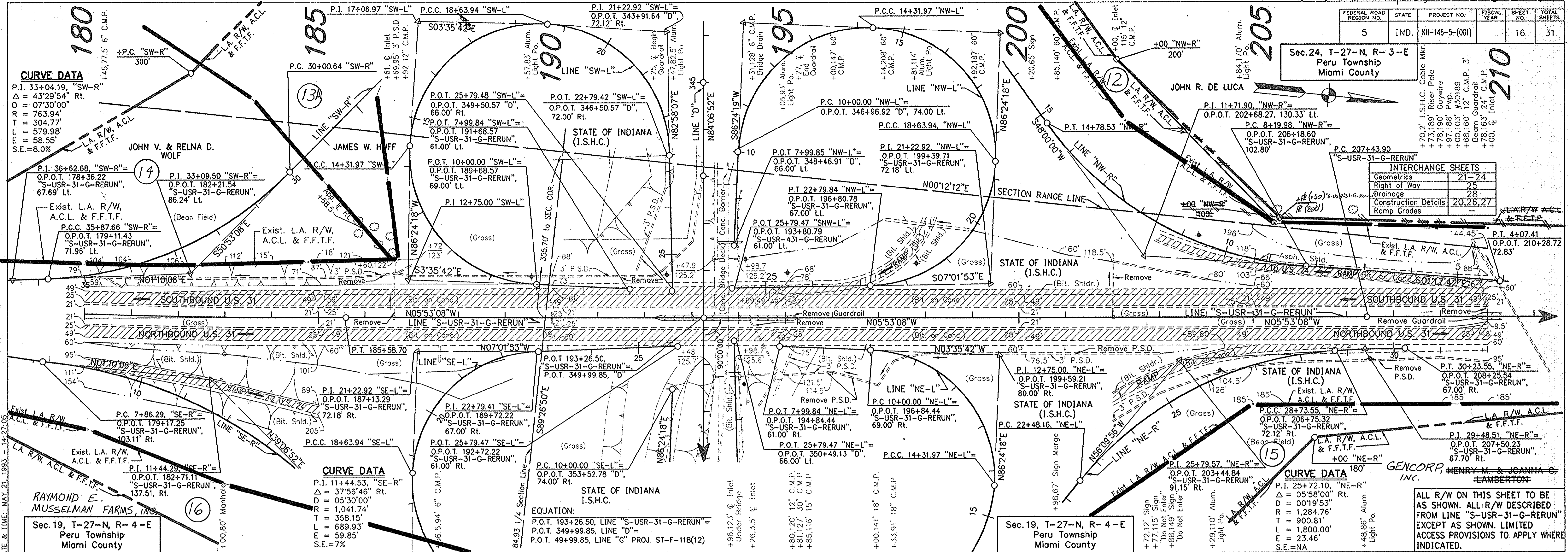


PLATE 1 - PLAN - PROFILE B. & R. STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"S-USR-31-G-RERUN"	16	31	

Sec. 24, T-27-N, R-3-E
Peru Township
Miami County

REVISED added Temp. R/W
PARCEL 413. M.S. CALES
Rev. 12-17-94 Changed Parcel 6A to Parcel 2B. M.S. CALES
REV. 12-22-93 Added Parcel 9A EXCESS LAND
REV. 6-6-94 Revised L.A. R/W, A.C.L. & F.F.T.F. M.S. CALES

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		18	31

REV. 12-23-96, NOTE: PAR. 9 HAS BEEN REV. TO INCLUDE PAR. 19. M.E. HALL

PLAN

DATE: 11/7/89
BY: CERTIFIED ENGINEERING
PROJECT: 17/789
NOTE: BOOK NO. 1860001
NO. OF WAYS CHECKED: 1

PROFILE

DATE: 11/7/89
BY: CERTIFIED ENGINEERING
PROJECT: 17/789
NOTE: BOOK NO. 1860001
STRUCTURE NOTATIONS CHECKED: 1

BEGIN CONSTRUCTION
STA. 46+00.00 "S-3-D"

END CONSTRUCTION
STA. 57+00.00 "S-3-D"

STR. NO.
50' of 15" Pipe w/
2 Pipe End Section Req'd.

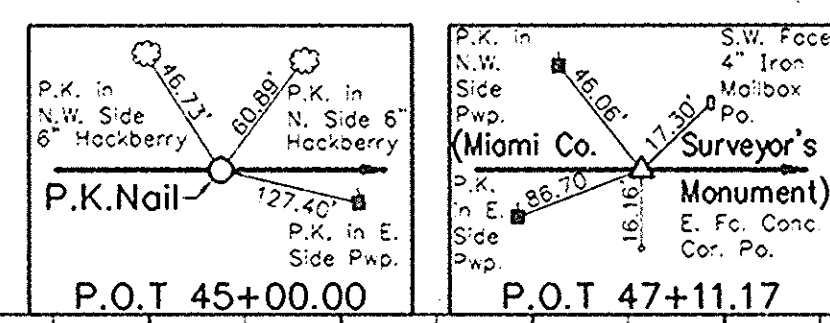
STR. NO.
170' of 36" Pipe w/
2 Pipe End Section Req'd.

STR. NO.
50' of 18" Pipe w/
2 Pipe End Section Req'd.

- LEGEND**
- Ⓜ ROBERT F. DAVIS (Property Owner)
 - Ⓜ WILLIAM S. DENNIS et ux.
 - Ⓜ GLEN R. HEDRICK (Property Owner)
 - Ⓜ JAMES F. CALFEE et ux.
 - Ⓜ Begin L.A. R/W, A.C.L. & F.F.T.F.
 - Ⓜ End L.A. R/W, A.C.L. & F.F.T.F.
 - ▨ Gravel

ALL R/W ON THIS SHEET TO BE AS SHOWN. ALL R/W DESCRIBED FROM LINE "S-3-D" EXCEPT AS SHOWN. LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED.

Sec. 23, T-27-N, R-3-E
Peru Township
Miami County



P.V.I. 48+00
EL. 708.09
250' V.C.

P.V.I. 51+25
EL. 709.66
100' V.C.

P.V.I. 54+25
EL. 695.50
500' V.C.

B.M. No. 16 P.K. Nail in South Side of Pwp. P-249, 26' Lt. Sta. 292+12 Line "D" EL. 715.82

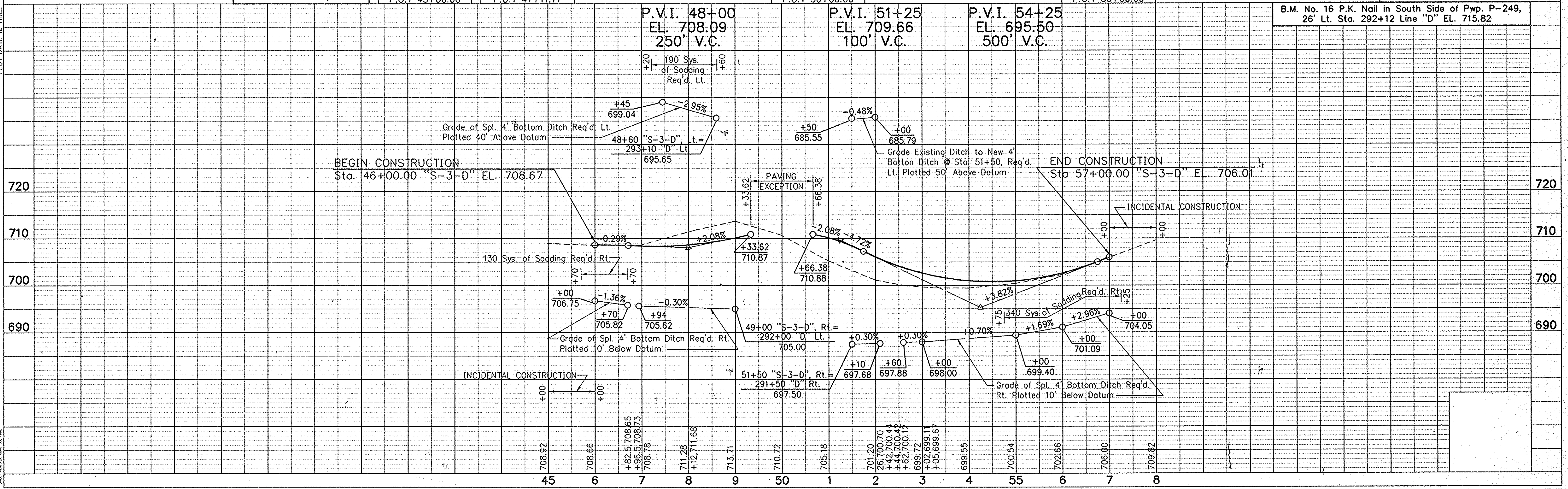
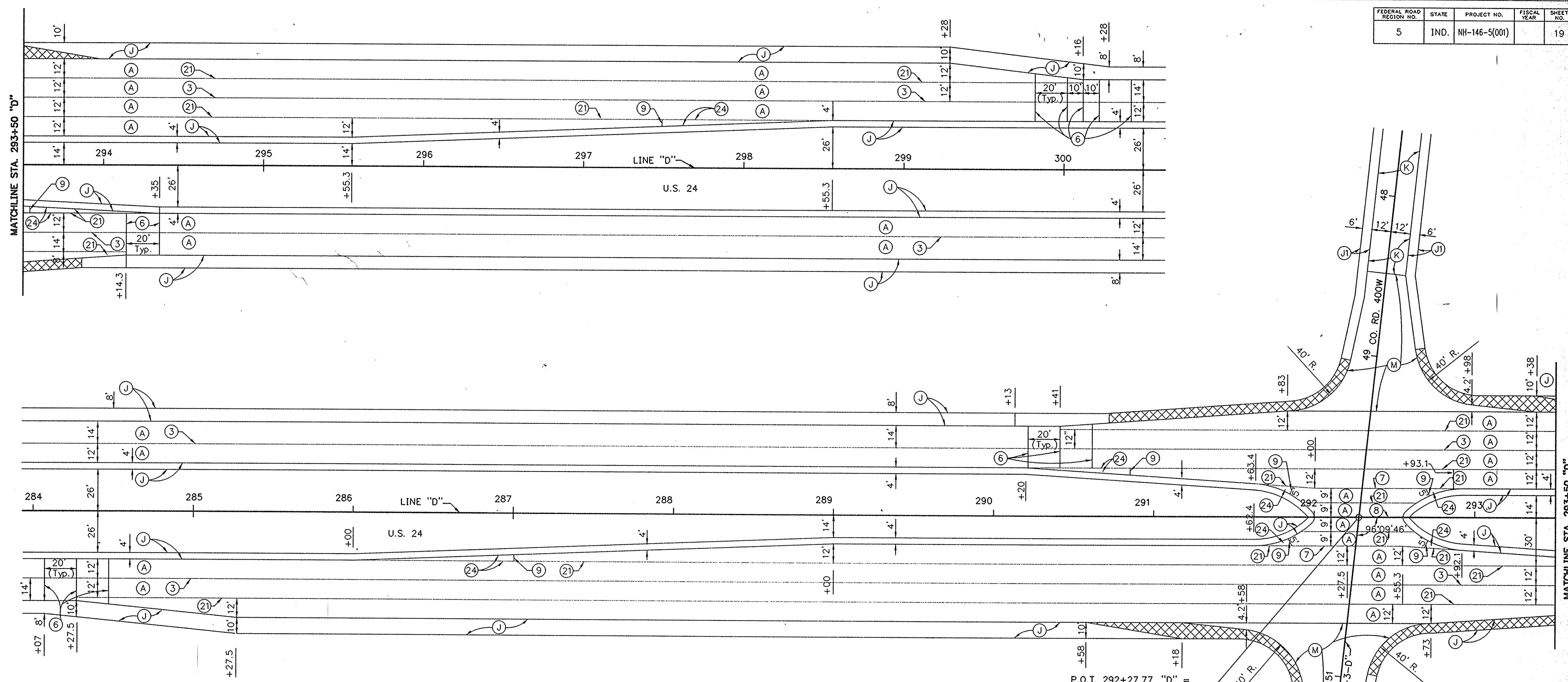


PLATE 1 - PLAN - PROFILE B & R STANDARD 1975

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	S-3-D	18	31	

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		19	31



PLOT DATE & TIME: MAY 21, 1993 - 14:31:08

LEGEND

- (A) Cement Concrete Pavement, Plain, 11"
- (J) Paved Shoulder
660#/Syd. Bituminous Base 5D, LV
with Seal Coat, Type 2 on
6" Compacted Aggregate for Base, "O", Size No. 53
- (J1) Paved Shoulder
330#/Syd. Bituminous Base 5D, LV
with Seal Coat, Type 2 on
6" Compacted Aggregate for Base, "O", Size No. 53
- (K) Bituminous Pavement
110 #/Syd. Bituminous Surface 11, LV on
330 #/Syd. Bituminous Base 5, LV on
8" Compacted Aggregate Base, Type "O", Size No.53
- (M) Bituminous Mixture For Approaches
110 #/Syd. Bituminous Surface 11, LV on
330 #/Syd. Bituminous Base 5, LV on
8" Compacted Aggregate Base, Type "O", Size No.53
- (3) Longitudinal Joint
- (6) Type D-1 Contraction Joint
- (7) Keyway Joint
- (8) 1" Preformed Expansion Joint with Load Transfer
- (9) 1" Preformed Joint Filler
- (21) Longitudinal Construction Joint
- (24) Eor Construction, Type "A"
- (X) Same as Approach Pavement

LEGEND

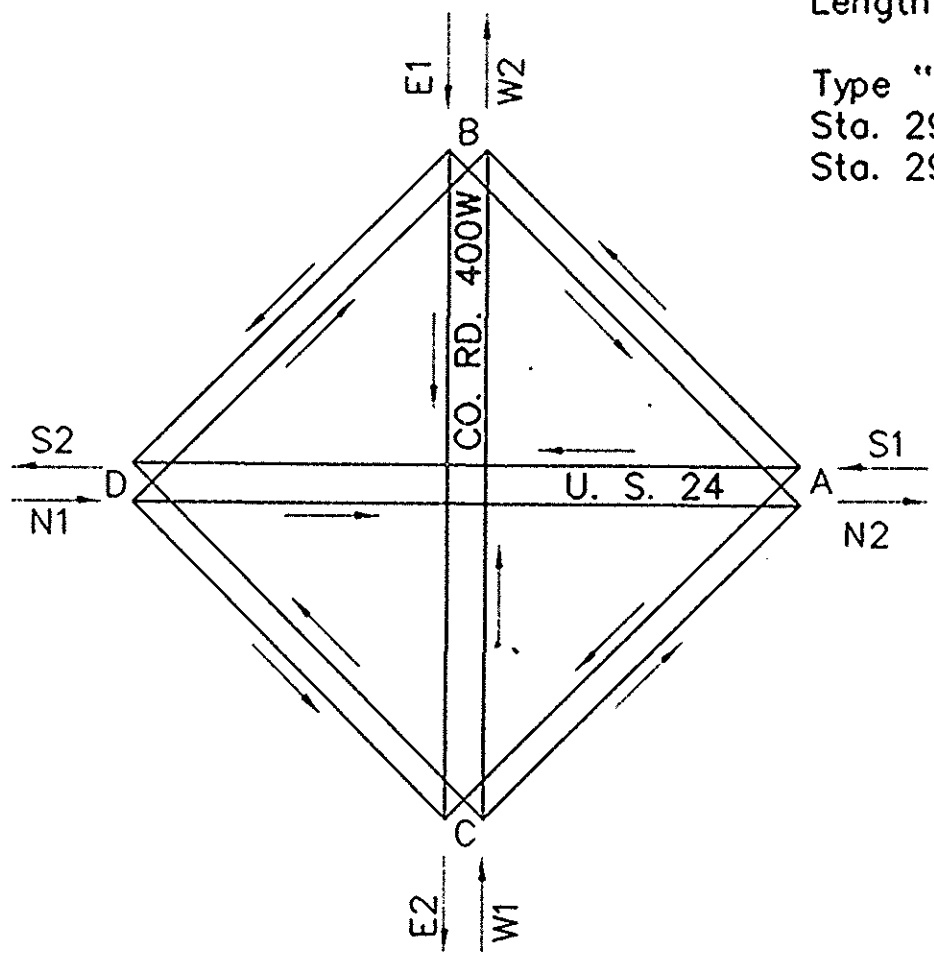
PEAK HOUR SHOWN IN A.M., REVERSE FOR P.M.

	Approach Volumes				Thru Movements		Turning Movements			
	A	B	C	D	A-D	B-C	A-B	A-C	B-D	C-D
2-Way										
	ADT 1987									
	ADT 1990									
	ADT 2010									
	DHV 2010									
	MAJOR FLOW									
	MINOR FLOW									
COMM	DHV %									
	ADT %									

TRAFFIC ESTIMATES

NOTE: Type "U" Public Road Crossover Req'd
Sta. 292+27.77 "D"
Length = 55'

Type "C" Public Road Approach Req'd
Sta. 292+27.77 "D" Lt.
Sta. 292+27.77 "D" Rt.

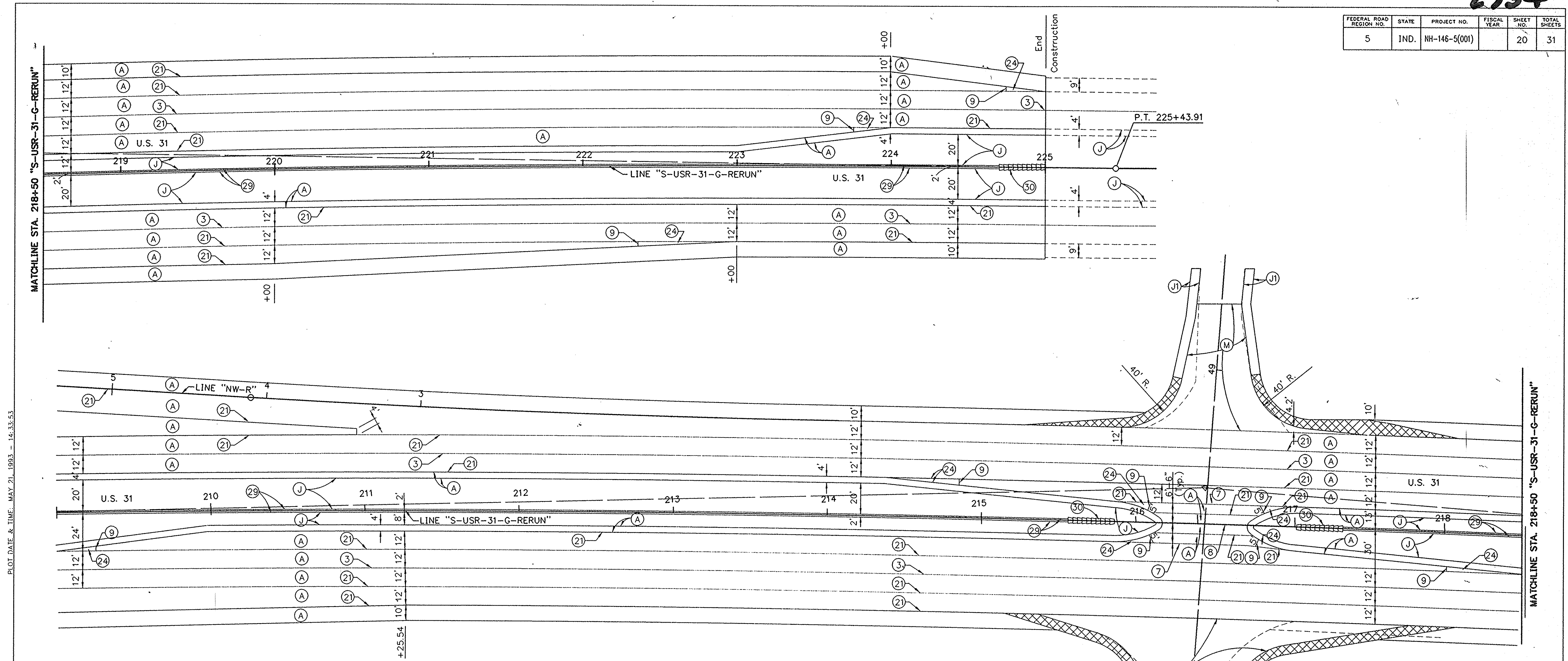


**U.S. 24 AND
CO. RD. 400W
CONSTRUCTION
DETAILS**

SCALE: 1"=30'

DESIGNED: _____ CHECKED: _____
DRAWN: MJC 2/93 CHECKED: _____
REVISED: DJL 5/93 CHECKED: _____
SHEET REVISED: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		20	31



LEGEND

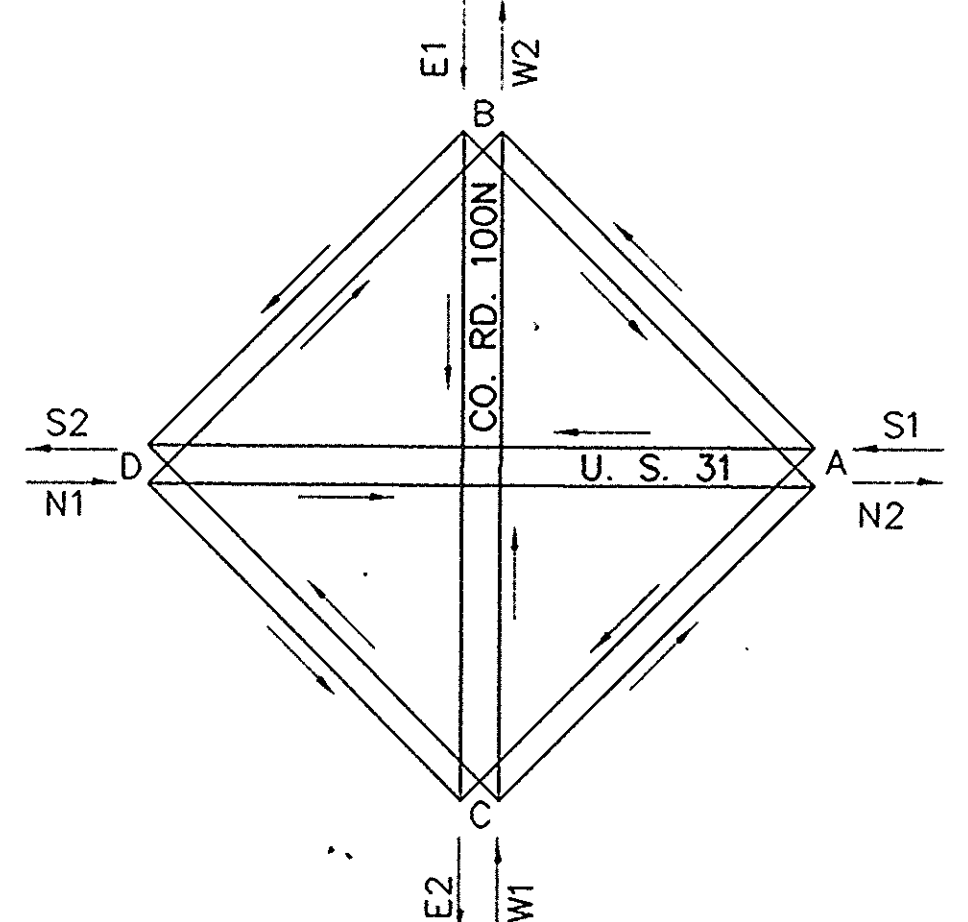
- (A) Cement Concrete Pavement, Plain, 12"
- (J) Paved Shoulder
660#/Syd. Bituminous Base 5D, LV
with Seal Coat, Type 2 on
6" Compacted Aggregate for Base, "O", Size No. 53
- (J1) Paved Shoulder
330#/Syd. Bituminous Base 5D, LV
with Seal Coat, Type 2 on
6" Compacted Aggregate for Base, "O", Size No. 53
- (L) Pavement, Approach Type D
(Same Composition as L)
- (M) Bituminous Mixture For Approaches
110 #/Syd. Bituminous Surface 11, LV on
330 #/Syd. Bituminous Base 5, LV on
8" Compacted Aggregate Base, Type "O", Size No.53
- (3) Longitudinal Joint
- (7) Keyway Joint
- (8) 1" Prefomed Expansion Joint with Load Transfer
- (9) 1" Prefomed Joint Filler
- (21) Longitudinal Construction Joint
- (24) Ear Construction, Type "A"
- (29) Concrete Median Barrier
- (30) G.R.E.A.T. Unit, 9 Bays
- ▨ Same as Approach Pavement

LEGEND

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

	Approach Volumes				Thru Movements		Turning Movements				
	A	B	C	D	A-D	B-C	A-B	A-C	B-D	C-D	
2-Way	ADT 1987										
	ADT 1990										
COMM	ADT 2010										
	DHV 2010										
	MAJOR FLOW										
	MINOR FLOW										
	DHV %										
	ADT %										

TRAFFIC ESTIMATES



NOTE: Type "U" Public Road Crossover Req'd
Sta. 216+44.74 "S-USR-31-G-RERUN"
Length = 55'

Type "C" Public Road Approach Req'd Lt.
Type "D" Public Road Approach Req'd Rt.

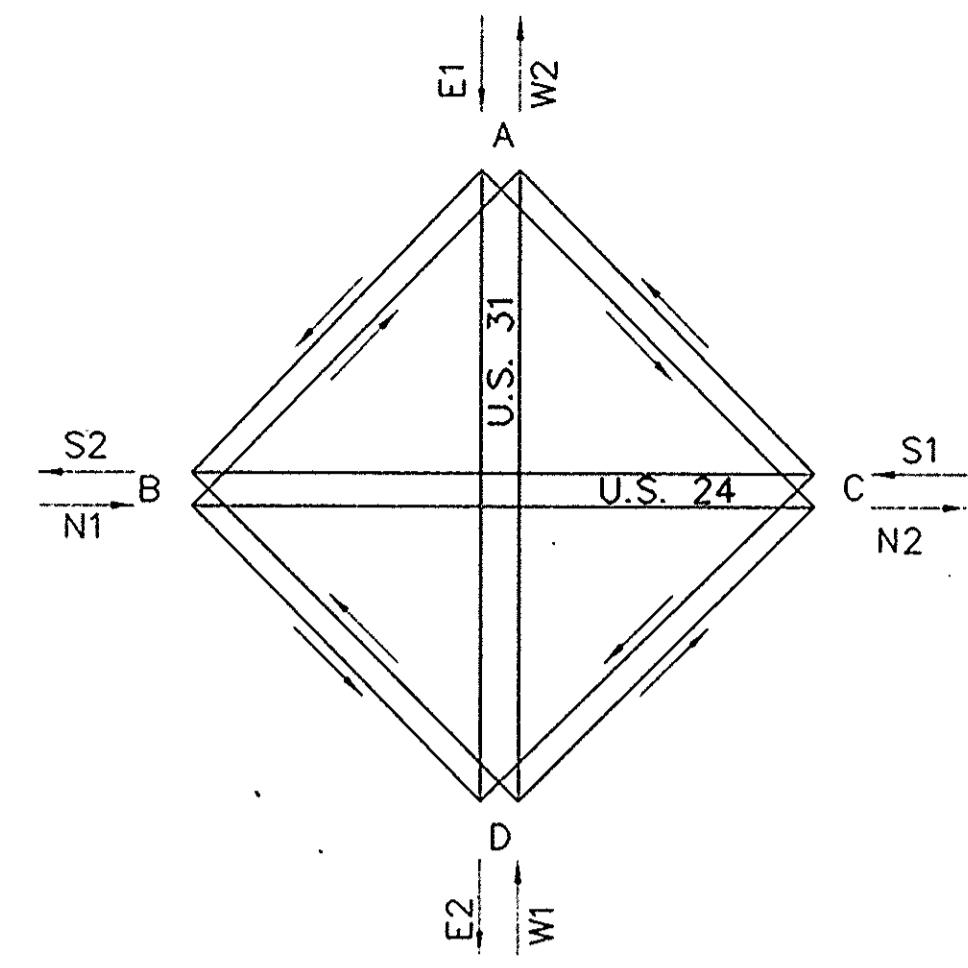
**U.S. 31 AND
CO. RD. 100N
CONSTRUCTION
DETAILS**

SCALE: 1"=30'

REVISIONS: _____
 DRAWN: JAC Z/83
 CHECKED: _____
 SHEET REVISED: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		21	31

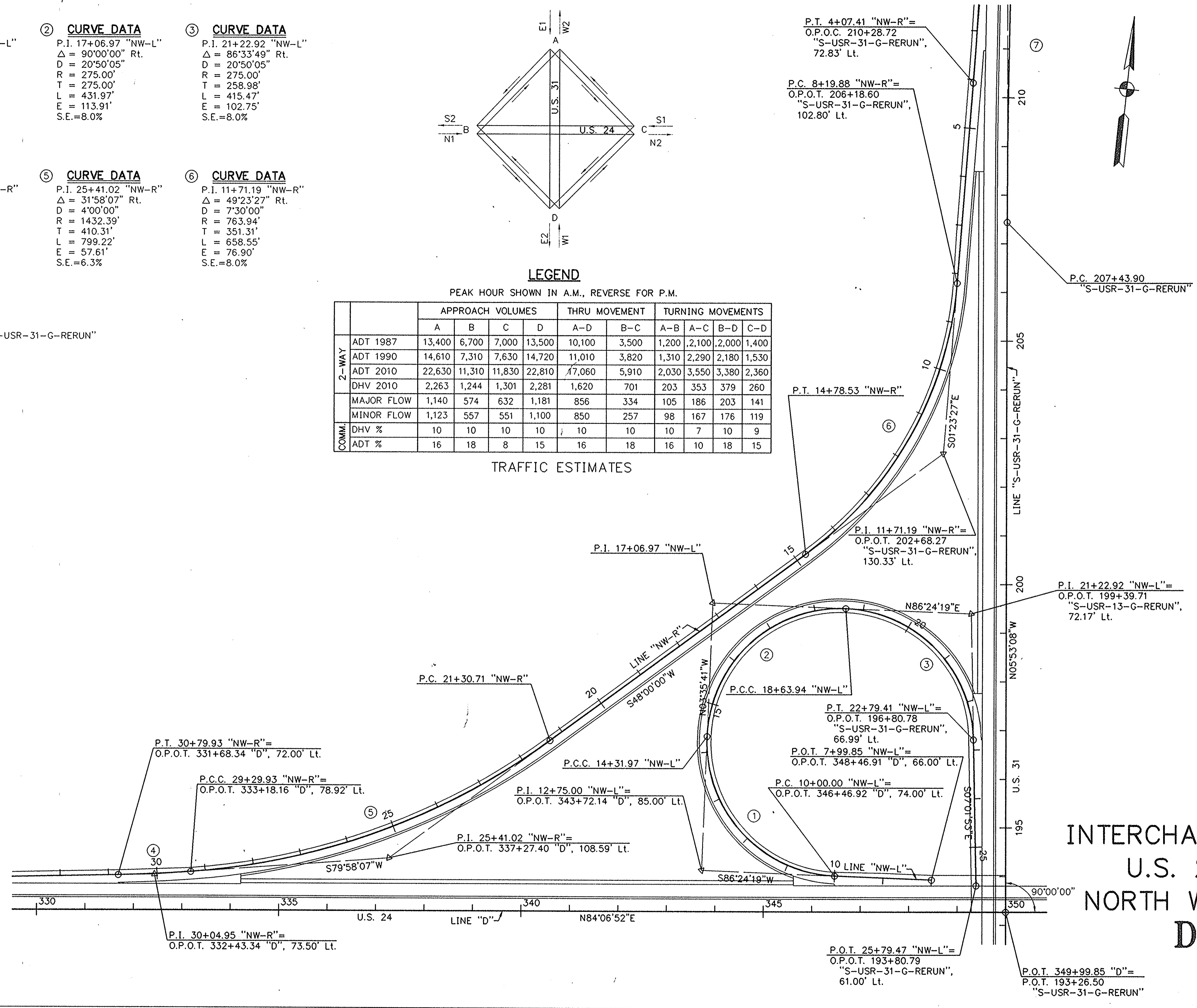
- ① **CURVE DATA**
 P.I. 12+75.00 "NW-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
 D = 20'50'05"
 R = 275.00'
 T = 275.00'
 L = 431.97'
 E = 113.91'
 S.E. = 8.0%
- ② **CURVE DATA**
 P.I. 17+06.97 "NW-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
 D = 20'50'05"
 R = 275.00'
 T = 275.00'
 L = 431.97'
 E = 113.91'
 S.E. = 8.0%
- ③ **CURVE DATA**
 P.I. 21+22.92 "NW-L"
 $\Delta = 86^{\circ}33'49"$ Rt.
 D = 20'50'05"
 R = 275.00'
 T = 258.98'
 L = 415.47'
 E = 102.75'
 S.E. = 8.0%
- ④ **CURVE DATA**
 P.I. 30+04.95 "NW-R"
 $\Delta = 3^{\circ}00'00"$ Rt.
 D = 2'00'00"
 R = 2864.79'
 T = 75.02'
 L = 150.00'
 E = 0.98'
 S.E. = Transition
- ⑤ **CURVE DATA**
 P.I. 25+41.02 "NW-R"
 $\Delta = 31^{\circ}58'07"$ Rt.
 D = 4'00'00"
 R = 1432.39'
 T = 410.31'
 L = 799.22'
 E = 57.61'
 S.E. = 6.3%
- ⑥ **CURVE DATA**
 P.I. 11+71.19 "NW-R"
 $\Delta = 49^{\circ}23'27"$ Rt.
 D = 7'30'00"
 R = 763.94'
 T = 351.31'
 L = 658.55'
 E = 76.90'
 S.E. = 8.0%
- ⑦ **CURVE DATA**
 P.I. 216+44.72 "S-USR-31-G-RERUN"
 $\Delta = 5^{\circ}58'00"$ Rt.
 D = 0'19'53"
 R = 17284.76'
 T = 900.81'
 L = 1800.00'
 E = 23.46'
 S.E. = NC



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

	APPROACH VOLUMES				THRU MOVEMENT		TURNING MOVEMENTS				
	A	B	C	D	A-D	B-C	A-B	A-C	B-D	C-D	
2-WAY	ADT 1987	13,400	6,700	7,000	13,500	10,100	3,500	1,200	2,100	2,000	1,400
	ADT 1990	14,610	7,310	7,630	14,720	11,010	3,820	1,310	2,290	2,180	1,530
	ADT 2010	22,630	11,310	11,830	22,810	17,060	5,910	2,030	3,550	3,380	2,360
	DHV 2010	2,263	1,244	1,301	2,281	1,620	701	203	353	379	260
MAJOR FLOW		1,140	574	632	1,181	856	334	105	186	203	141
	MINOR FLOW	1,123	557	551	1,100	850	257	98	167	176	119
COMM	DHV %	10	10	10	10	10	10	7	10	9	
	ADT %	16	18	8	15	16	18	16	10	18	15

TRAFFIC ESTIMATES



INTERCHANGE GEOMETRICS U.S. 24 & U.S. 31 NORTH WEST QUADRANT DETAILS

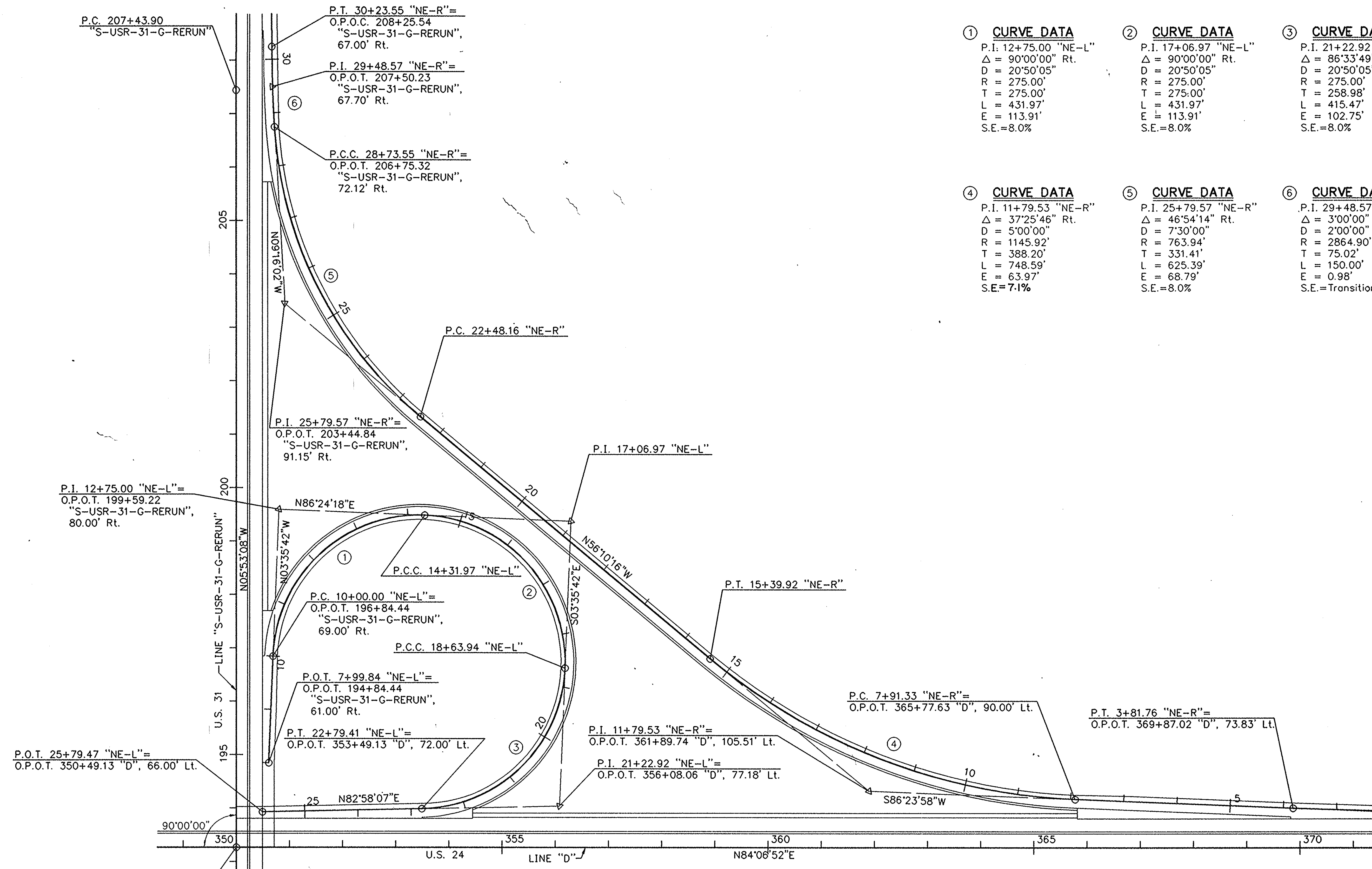
SCALE: 1" = 100'

INTERCHANGE SHEETS	
Geometrics	21-24
Right of Way	25
Drainage	28
Construction Details	20, 26, 27
Ramp Grades	-

DESIGNED BY: J. J. ...
 DRAWN BY: J. J. ...
 CHECKED BY: J. J. ...
 REVISION: ...
 SHEET REVISED: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		22	31

- ① **CURVE DATA**
 P.I. 12+75.00 "NE-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
 $D = 20^{\circ}50'05"$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$
- ② **CURVE DATA**
 P.I. 17+06.97 "NE-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
 $D = 20^{\circ}50'05"$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$
- ③ **CURVE DATA**
 P.I. 21+22.92 "NE-L"
 $\Delta = 86^{\circ}33'49"$ Rt.
 $D = 20^{\circ}50'05"$
 $R = 275.00'$
 $T = 258.98'$
 $L = 415.47'$
 $E = 102.75'$
 $S.E. = 8.0\%$
- ④ **CURVE DATA**
 P.I. 11+79.53 "NE-R"
 $\Delta = 37^{\circ}25'46"$ Rt.
 $D = 5^{\circ}00'00"$
 $R = 1145.92'$
 $T = 388.20'$
 $L = 748.59'$
 $E = 63.97'$
 $S.E. = 7.1\%$
- ⑤ **CURVE DATA**
 P.I. 25+79.57 "NE-R"
 $\Delta = 46^{\circ}54'14"$ Rt.
 $D = 7^{\circ}30'00"$
 $R = 763.94'$
 $T = 331.41'$
 $L = 625.39'$
 $E = 68.79'$
 $S.E. = 8.0\%$
- ⑥ **CURVE DATA**
 P.I. 29+48.57 "NE-R"
 $\Delta = 3^{\circ}00'00"$ Rt.
 $D = 2^{\circ}00'00"$
 $R = 2864.90'$
 $T = 75.02'$
 $L = 150.00'$
 $E = 0.98'$
 $S.E. = \text{Transition}$



INTERCHANGE SHEETS	
Geometrics	21-24
Right of Way	25
Drainage	28
Construction Details	20,26,27
Ramp Grades	-

INTERCHANGE GEOMETRICS

U.S. 24 & U.S. 31

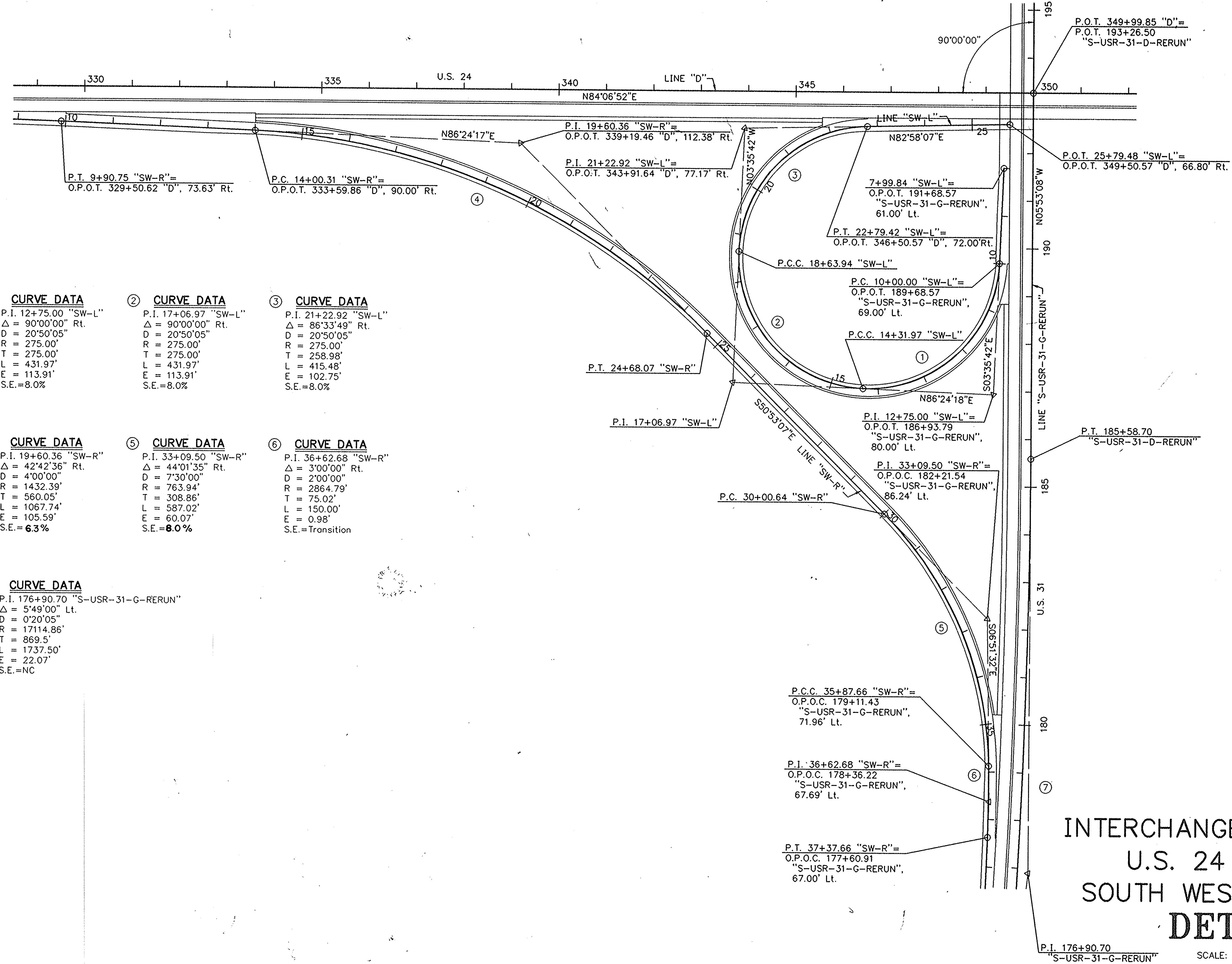
NORTH EAST QUADRANT

DETAILS

SCALE: 1" = 100'

REGIONAL ENGINEER: J. J. ...
 DRAWN: MAY 3, 1993
 REVISION: ...
 SHEET REVISION: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		23	31



- ① **CURVE DATA**
 P.I. 12+75.00 "SW-L"
 Δ = 90°00'00" Rt.
 D = 20°50'05"
 R = 275.00'
 T = 275.00'
 L = 431.97'
 E = 113.91'
 S.E. = 8.0%
- ② **CURVE DATA**
 P.I. 17+06.97 "SW-L"
 Δ = 90°00'00" Rt.
 D = 20°50'05"
 R = 275.00'
 T = 275.00'
 L = 431.97'
 E = 113.91'
 S.E. = 8.0%
- ③ **CURVE DATA**
 P.I. 21+22.92 "SW-L"
 Δ = 86°33'49" Rt.
 D = 20°50'05"
 R = 275.00'
 T = 258.98'
 L = 415.48'
 E = 102.75'
 S.E. = 8.0%
- ④ **CURVE DATA**
 P.I. 19+60.36 "SW-R"
 Δ = 42°42'36" Rt.
 D = 4°00'00"
 R = 1432.39'
 T = 560.05'
 L = 1067.74'
 E = 105.59'
 S.E. = 6.3%
- ⑤ **CURVE DATA**
 P.I. 33+09.50 "SW-R"
 Δ = 44°01'35" Rt.
 D = 7°30'00"
 R = 763.94'
 T = 308.86'
 L = 587.02'
 E = 60.07'
 S.E. = 8.0%
- ⑥ **CURVE DATA**
 P.I. 36+62.68 "SW-R"
 Δ = 3°00'00" Rt.
 D = 2°00'00"
 R = 2864.79'
 T = 75.02'
 L = 150.00'
 E = 0.98'
 S.E. = Transition
- ⑦ **CURVE DATA**
 P.I. 176+90.70 "S-USR-31-G-RERUN"
 Δ = 5°49'00" Lt.
 D = 0°20'05"
 R = 17114.86'
 T = 869.5'
 L = 1737.50'
 E = 22.07'
 S.E. = NC

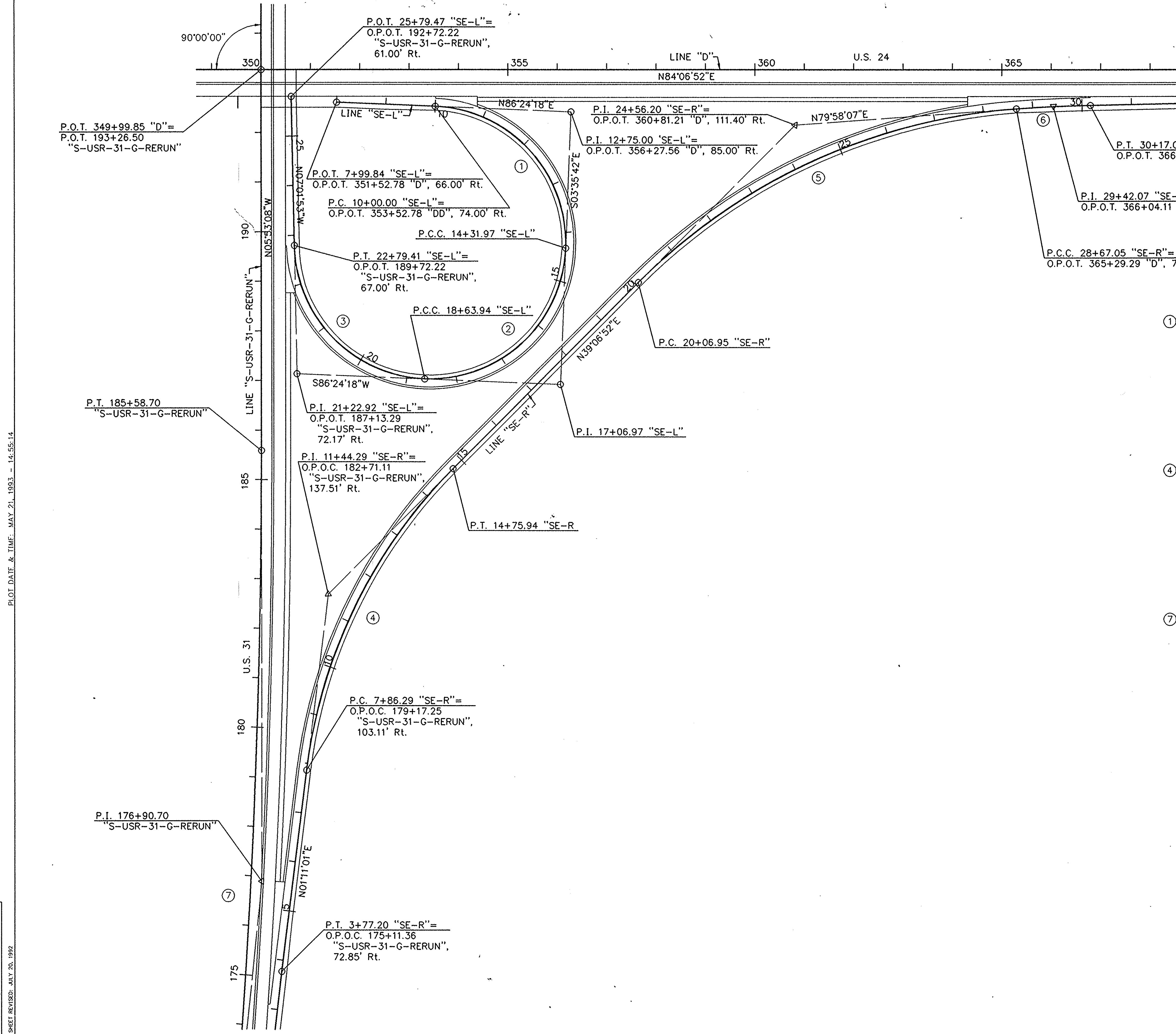
INTERCHANGE SHEETS	
Geometrics	21-24
Right of Way	25
Drainage	28
Construction Details	20,26,27
Romp Grades	-

INTERCHANGE GEOMETRICS U.S. 24 & U.S. 31 SOUTH WEST QUADRANT DETAILS

P.I. 176+90.70
 "S-USR-31-G-RERUN" SCALE: 1" = 100'

PLOT DATE & TIME: MAY 21, 1993 - 14:53:26
 REVISIONS: JULY 20, 1992
 DESIGNED BY: J.S./J.S.
 CHECKED BY: J.S./J.S.
 REVISIONS: J.S./J.S.
 SHEET NO.: 23 OF 31

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		24	31



- ① **CURVE DATA**
 P.I. 12+75.00 "NW-L"
 $\Delta = 90^{\circ}00'00''$ Rt.
 $D = 20^{\circ}50'05''$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$
- ② **CURVE DATA**
 P.I. 17+06.97 "NW-L"
 $\Delta = 90^{\circ}00'00''$ Rt.
 $D = 20^{\circ}50'05''$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$
- ③ **CURVE DATA**
 P.I. 21+22.92 "NW-L"
 $\Delta = 86^{\circ}33'49''$ Rt.
 $D = 20^{\circ}50'05''$
 $R = 275.00'$
 $T = 258.98'$
 $L = 415.47'$
 $E = 102.75'$
 $S.E. = 8.0\%$
- ④ **CURVE DATA**
 P.I. 11+44.29 "SE-R"
 $\Delta = 37^{\circ}55'51''$ Rt.
 $D = 5^{\circ}30'00''$
 $R = 1041.74'$
 $T = 358.00'$
 $L = 689.65'$
 $E = 59.80'$
 $S.E. = 7.1\%$
- ⑤ **CURVE DATA**
 P.I. 24+56.20 "SE-R"
 $\Delta = 40^{\circ}51'15''$ Rt.
 $D = 4^{\circ}45'00''$
 $R = 1206.25'$
 $T = 449.25'$
 $L = 860.10'$
 $E = 80.94'$
 $S.E. = 6.3\%$
- ⑥ **CURVE DATA**
 P.I. 29+42.07 "SE-R"
 $\Delta = 3^{\circ}00'00''$ Rt.
 $D = 2^{\circ}00'00''$
 $R = 2864.79'$
 $T = 75.02'$
 $L = 150.00'$
 $E = 0.98'$
 $S.E. = \text{Transition}$
- ⑦ **CURVE DATA**
 P.I. 176+90.70 "S-USR-31-G-RERUN"
 $\Delta = 5^{\circ}49'00''$ Lt.
 $D = 0^{\circ}20'05''$
 $R = 17114.86'$
 $T = 869.50'$
 $L = 1737.50'$
 $E = 22.07'$
 $S.E. = \text{NC}$

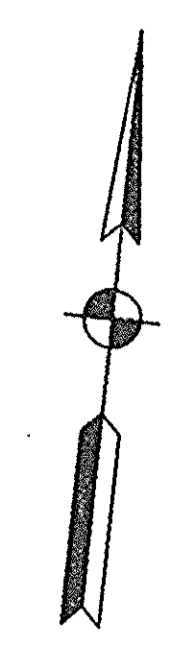
INTERCHANGE SHEETS	
Geometrics	21-24
Right of Way	25
Drainage	28
Construction Details	20,26,27
Ramp Grades	-

INTERCHANGE GEOMETRICS U.S. 24 & U.S. 31 SOUTH EAST QUADRANT DETAILS

SCALE: 1" = 100'

DESIGNED: P.A.G. 3/93 - CHECKED: _____
 DRAWN: M.A.Y. 3/93 - CHECKED: _____
 REVISED: D.H. 5/93 - CHECKED: _____
 SHEET REVISION: JULY 20, 1992

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		25	31



END NH-PROJECT NO. 146-5(001)
 STATION 372+50.00 "D"

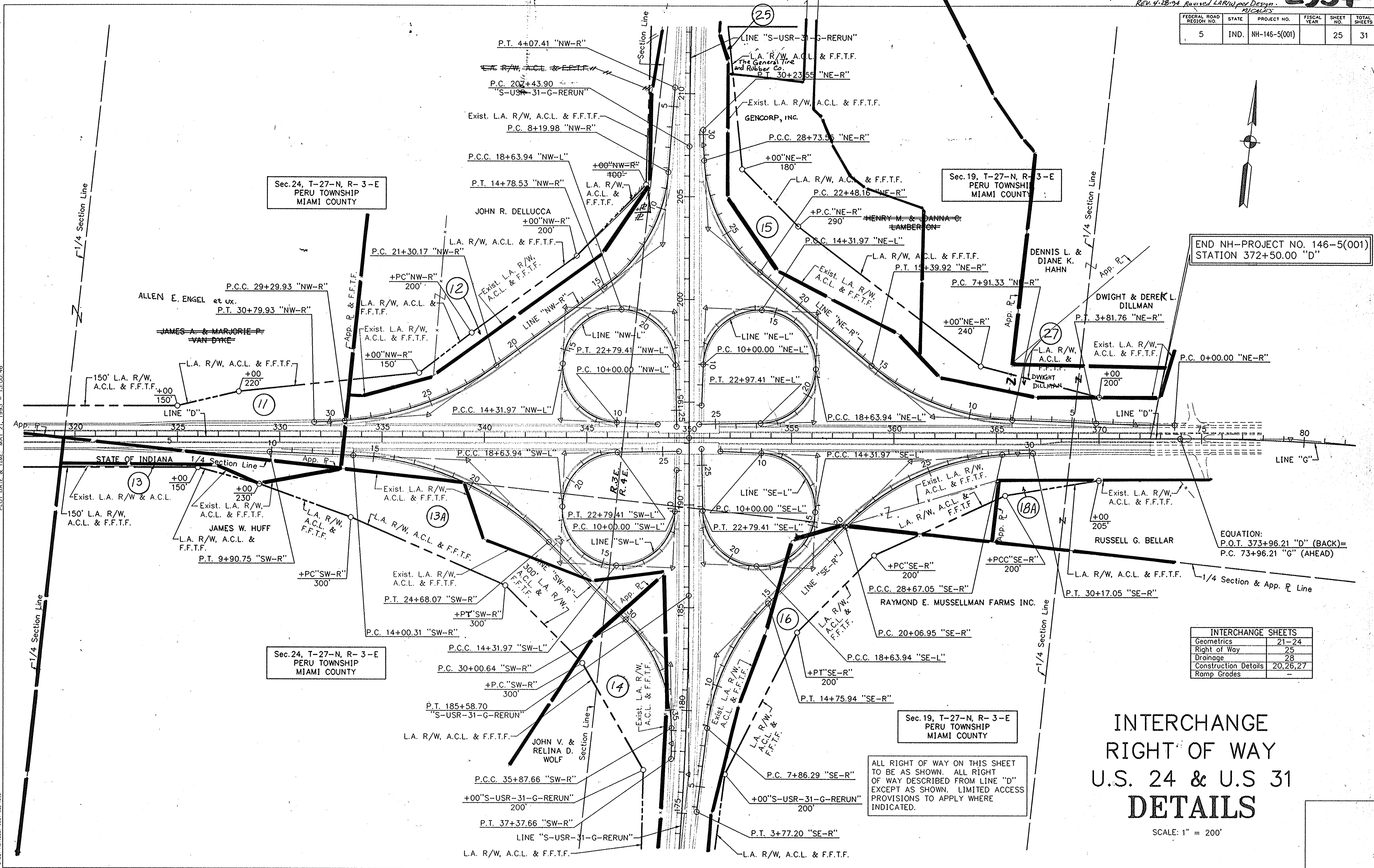
EQUATION:
 P.O.T. 373+96.21 "D" (BACK)=
 P.C. 73+96.21 "G" (AHEAD)

INTERCHANGE SHEETS	
Geometrics	21-24
Right of Way	25
Drainage	28
Construction Details	20,26,27
Ramp Grades	-

INTERCHANGE RIGHT OF WAY U.S. 24 & U.S. 31 DETAILS

SCALE: 1" = 200'

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

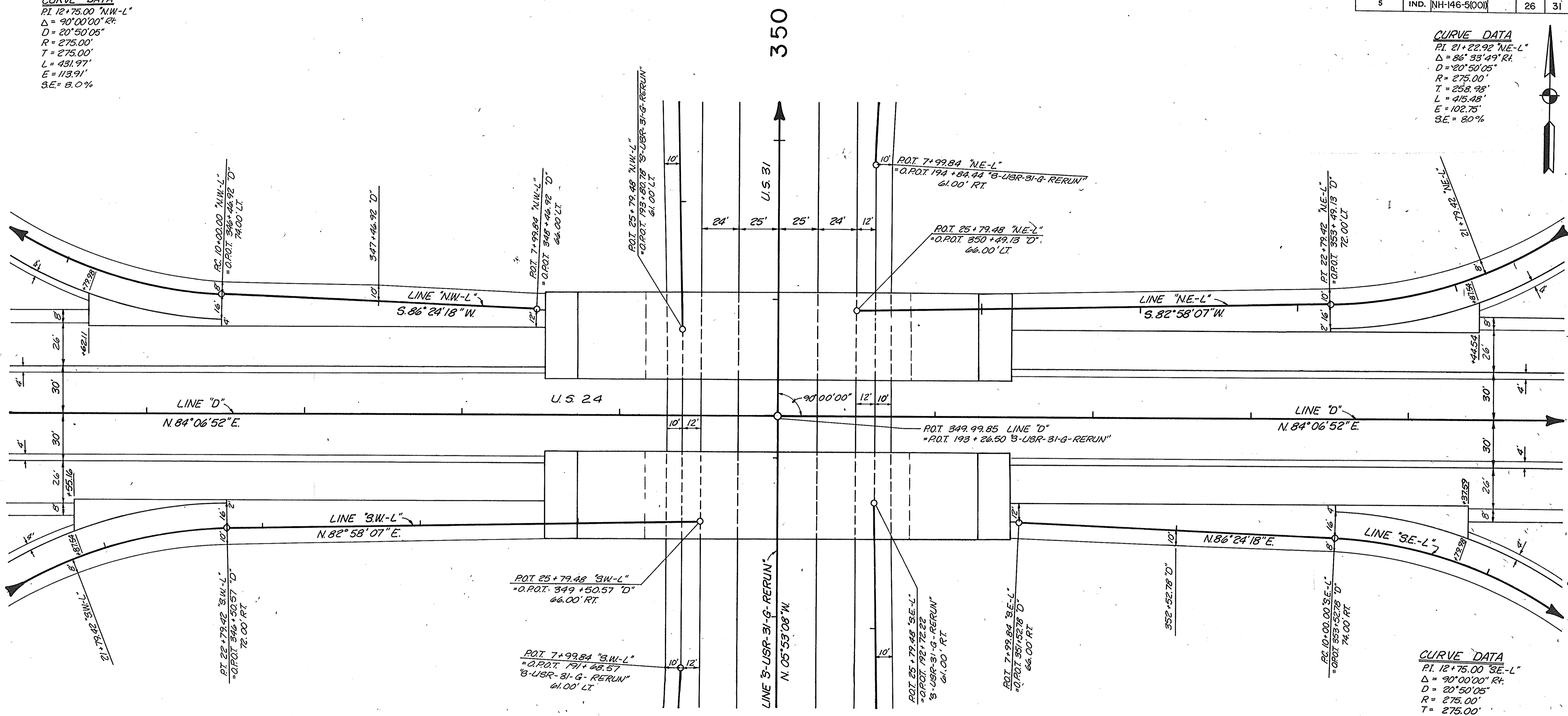
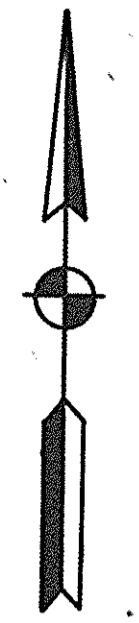


DESIGNED: [] CHECKED: []
 DRAWN: [] JULY 4/93 []
 PLOTTED: [] JULY 20/93 []
 SHEET REVISION: [] JULY 20, 1993 []
 PLOT DATE & TIME: MAY 21, 1993 - 15:00:46

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(00)		26	31

CURVE DATA
 P.I. 12+75.00 "NW-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
 $D = 20^{\circ}50'05"$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$

CURVE DATA
 P.I. 21+22.92 "NE-L"
 $\Delta = 86^{\circ}33'49"$ Rt.
 $D = 20^{\circ}50'05"$
 $R = 275.00'$
 $T = 258.98'$
 $L = 415.48'$
 $E = 102.75'$
 $S.E. = 8.0\%$



CURVE DATA
 P.I. 21+22.92 "SW-L"
 $\Delta = 86^{\circ}33'49"$ Rt.
 $D = 20^{\circ}50'05"$
 $R = 275.00'$
 $T = 258.98'$
 $L = 415.48'$
 $E = 102.75'$
 $S.E. = 8.0\%$

CURVE DATA
 P.I. 12+75.00 "SE-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
 $D = 20^{\circ}50'05"$
 $R = 275.00'$
 $T = 275.00'$
 $L = 431.97'$
 $E = 113.91'$
 $S.E. = 8.0\%$

US 24 & US 31 INTERCHANGE

DETAILS

SCALE: 1" = 30'

PROJECT NO.	LINE	SHEET	TOTAL SHEETS	FILE
NH-146-5(00)	"D"	26	31	

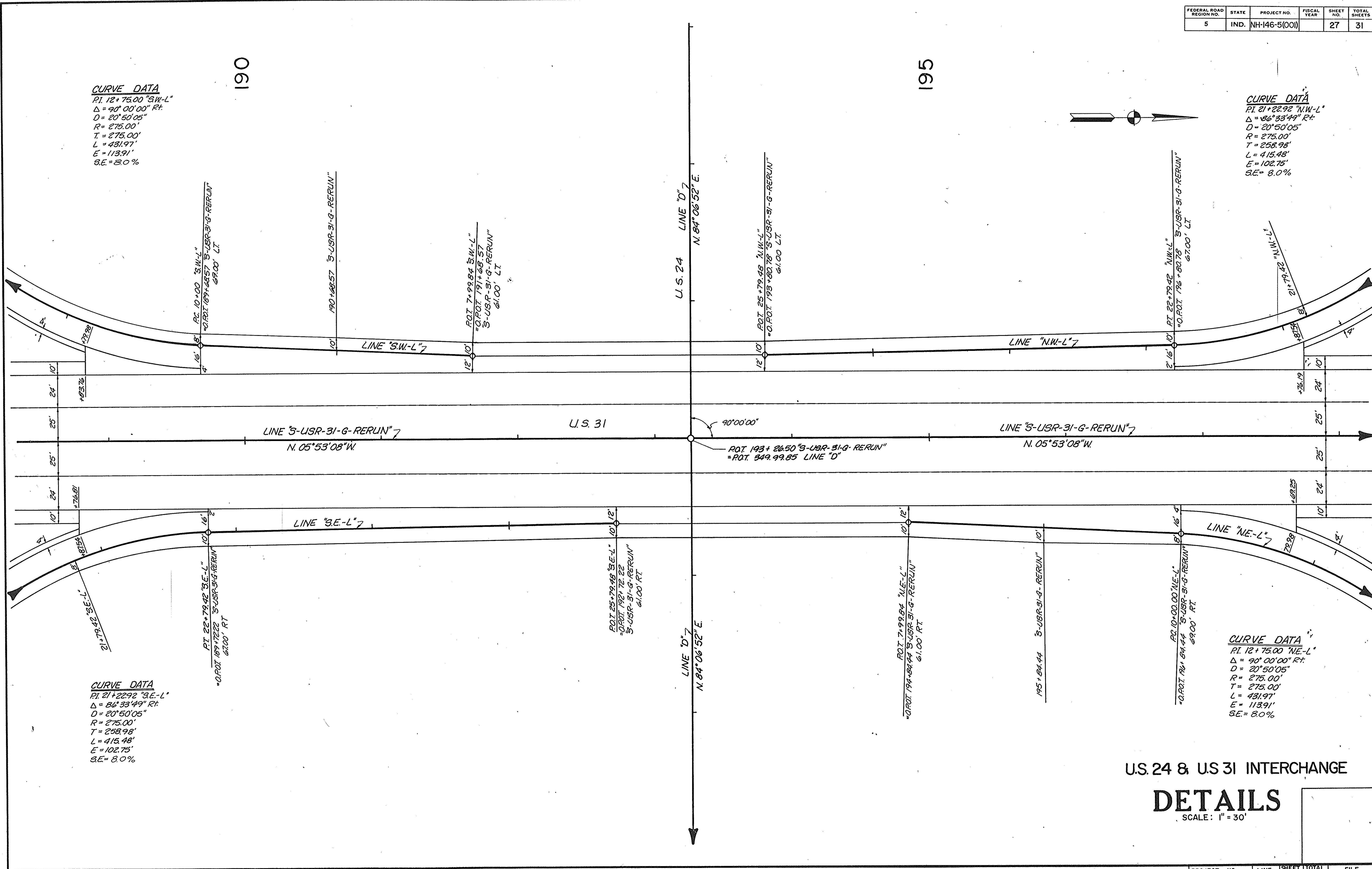
FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(00)		27	31

CURVE DATA
 PI. 12+75.00 "S.W.-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
 D = 20'50.05"
 R = 275.00'
 T = 275.00'
 L = 431.97'
 E = 113.91'
 S.E. = 8.0%

CURVE DATA
 PI. 21+22.92 "N.W.-L"
 $\Delta = 86^{\circ}33'49"$ Rt.
 D = 20'50.05"
 R = 275.00'
 T = 258.98'
 L = 415.48'
 E = 102.75'
 S.E. = 8.0%

CURVE DATA
 PI. 21+22.92 "S.E.-L"
 $\Delta = 86^{\circ}33'49"$ Rt.
 D = 20'50.05"
 R = 275.00'
 T = 258.98'
 L = 415.48'
 E = 102.75'
 S.E. = 8.0%

CURVE DATA
 PI. 12+75.00 "N.E.-L"
 $\Delta = 90^{\circ}00'00"$ Rt.
 D = 20'50.05"
 R = 275.00'
 T = 275.00'
 L = 431.97'
 E = 113.91'
 S.E. = 8.0%



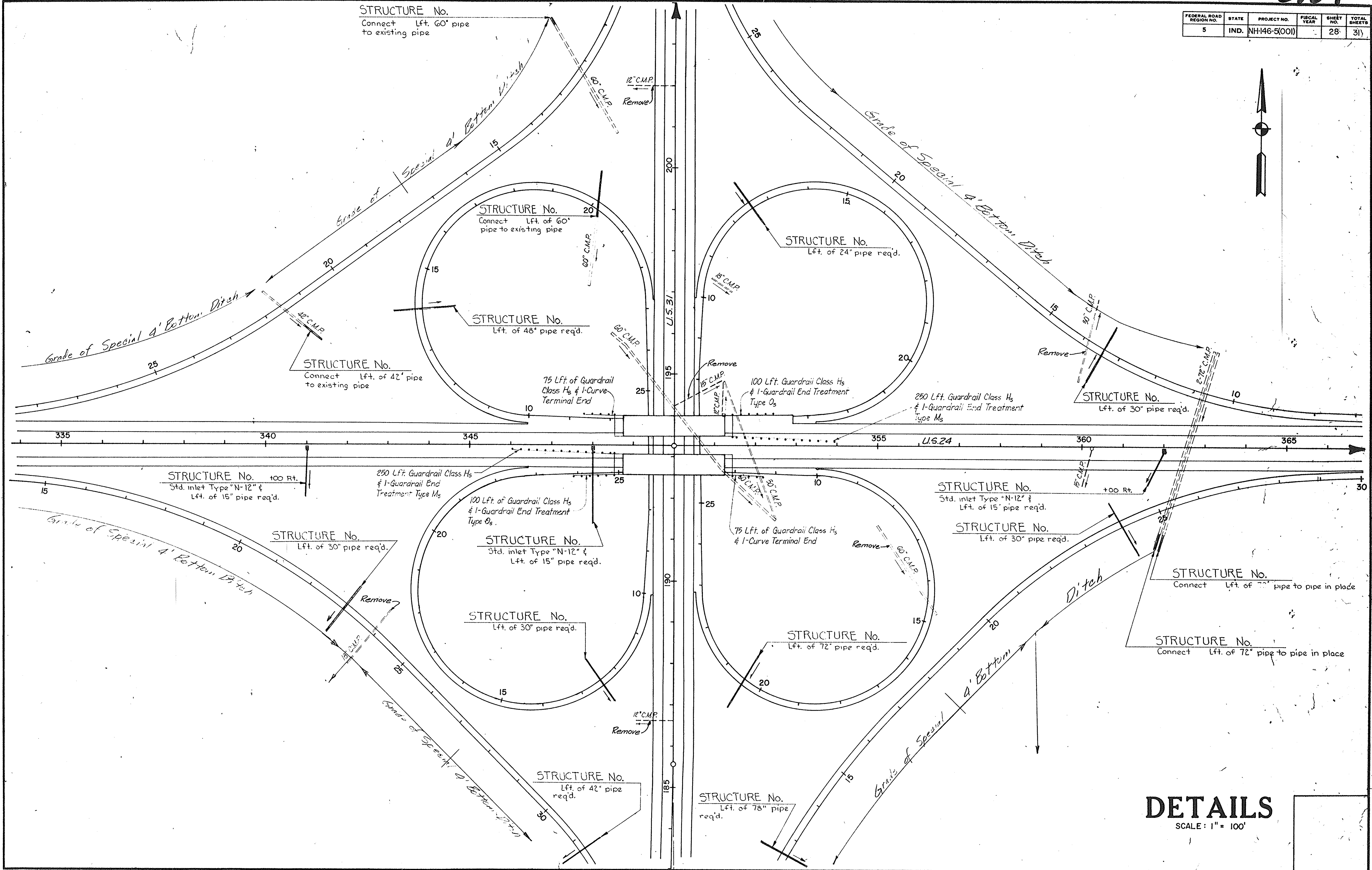
U.S. 24 & U.S. 31 INTERCHANGE

DETAILS

SCALE: 1" = 30'

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(00)		27	31	

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NH-146-5(001)		28	31



DETAILS
SCALE: 1" = 100'

PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
NH-146-5(001)	"D"	28	31	