M-2 2 M-2

Sheet Number	Total Sheets
1	

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED

SOUTH COUNTY LINE – HORTONVILLE ROAD

MEDINA - C.T.H. "TT" SECTION

C.T.H. "M"

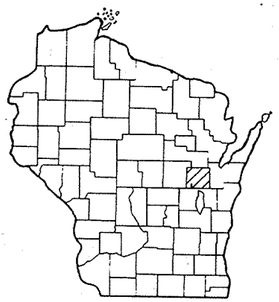
OUTAGAMIE COUNTY

PROJECT IDENTIFICATION NUMBER	FEDERAL PROJECT DESIGNATION
6019-2-73,74	S 0395(4)

Scales
- Plan 1 in. = 100 ft. & 1 in. = 20 ft.
- Profile Hor. 1 in. = 100 ft. Vert. 1 in. = 10 ft. & Hor. 1 in. = 20 ft. Vert. 1 in. = 2 ft.
- Cross Sections Hor. 1 in. = 5 ft. Vert. 1 in. = 5 ft. & Hor. 1 in. = 10 ft. Vert. 1 in. = 10 ft.

RECEIVED
SEP 20 1972
OUTAGAMIE COUNTY
HIGHWAY COMMISSION

Index of Sheets



Design Designation

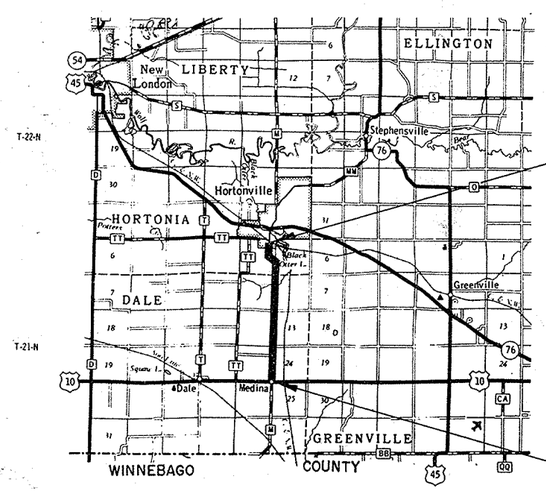
A.D.T. 1972	= 550
A.D.T. 1992	= 970
D.H.V.	= 126
D.	= 50-50
T.	= 9% A.D.T
V.	= 60 M.P.H.

Conventional Signs

State Line
County Line
Township or Range Line
Section Line
New Right of Way Line
Present Right of Way Line
Wire Fence: Woven, Barbed
Lot Line
Corporate or City Limits
Property Line
Traveled Way or P.E.
Railroads
Base or Survey Line

Culverts in Place
Culverts Required
Drop Inlet
Power Pole
Telephone or Telegraph Pole
Right of Way Markers
Reference Stake for Hubs Only
Marsh
Hedge
Trees
Ground Elevation — Datum Line
Grade Elevation — Datum Line

N



END OF PROJECT S 0395 (4) / 6019-2-73,74
STA. 340 + 08
848.5' SOUTH AND 959.2' WEST OF THE NORTHEAST CORNER OF SECTION 2, T. 21 N., R.15 E.

BEGINNING OF PROJECT S 0395 (4)/6019-2-73,74
STA. 134 + 34
N. 0°-24' W. 10.9' FROM THE SOUTHWEST CORNER OF SECTION 24, T. 21 N., R.15 E.

Layout

Scale 0 1 2 Mi.

Net Length of Centerline = 3.624 Mi. (Rural)
" " " " = 0.272 Mi. (Municipal)
Total Net Length of Centerline = 3.896 Mi.

BOOK 907,908

APPROVED FOR CO. HIGHWAY COMMISSION BY
OUTAGAMIE CO., WIS.
7/13/72 DATE — SIGNATURE OF OFFICIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Surveyor D. G. N. — District Checker J.E.B. & J.A.R.
Designer B. L. W. — C O Checker R.A.H.

Correct:
Date 7-21-72 — District Engineer
Recommended for Approval:
Date 8-8-8 — Chief Design Engineer
Approved:
Date 8/8/72 — State Highway Engineer

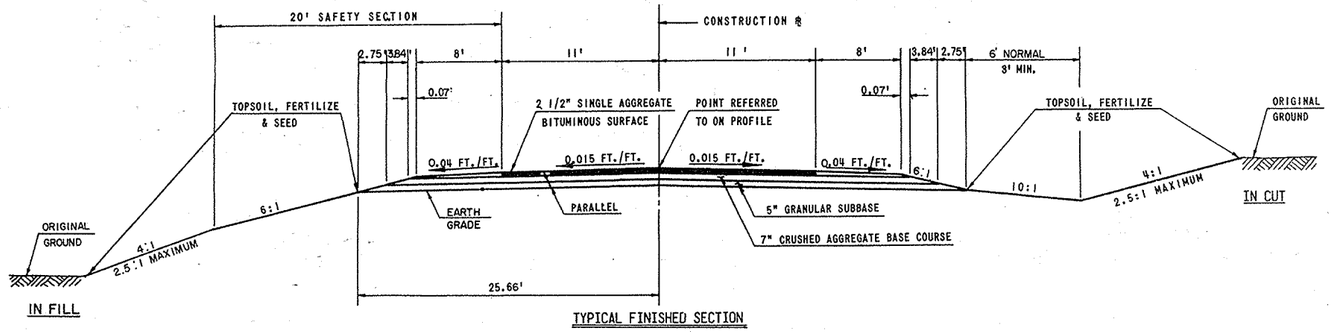
U S DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 8 — WISCONSIN DIVISION

Approved:
Date — Division Engineer

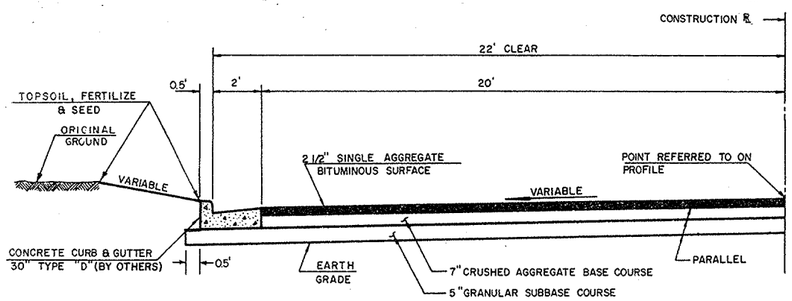
S0395(4) v.m.l. 4/8/72

PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
6019-2-74	2	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

TYPICAL SECTIONS FOR
C.T.H. "M" OUTAGAMIE CO.



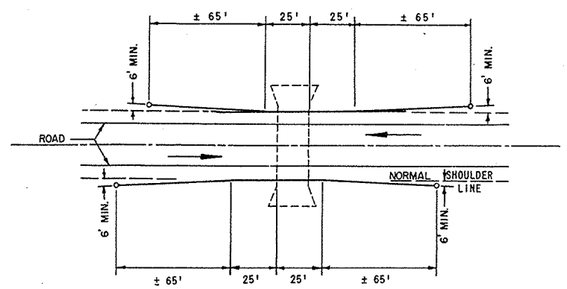
TYPICAL FINISHED SECTION
STA. 135+85 — STA. 326+00



1/2 TYPICAL FINISHED SECTION

STA. 134 + 34 – STA 135 + 85
STA. 135 + 85 – STA. 143 + 50 (LT. SIDE ONLY)
STA. 326 + 00 – STA. 339 + 45

CONSTRUCTION DETAILS



STEEL PLATE BEAM GUARD CLASS "A"
STA. 278 + 40 (SEE S.D.D. NO. 14 B 2 - 2a & 2b)

GENERAL NOTES

ALL EXISTING CULVERT PIPES LOCATED ON THE PROJECT SHALL BE REMOVED, AND REPLACED AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

THE EXACT LOCATION AND LIMITS FOR DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

PRIVATE UTILITY COMPANIES SHALL ADJUST OR MOVE ALL PRIVATELY OWNED FACILITIES TO FIT THE NEW CONSTRUCTION.

CURB AND GUTTER RADII SHOWN ARE TO FRONT FACE OF CURB.

WHEN THE QUANTITY OF THE ITEM BASE COURSE IS MEASURED BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

SALVAGED TOPSOIL SHALL BE PLACED AS REQUIRED TO AN APPROXIMATE DEPTH OF THREE INCHES AT THE TIME OF PLACING.

THE VILLAGES OF MEDINA AND HORTONVILLE SHALL ADJUST OR MOVE ALL MUNICIPALLY OWNED FACILITIES TO FIT THE NEW CONSTRUCTION.

CUBIC YARDS OF FILL AS SHOWN ON THE PLAN SHEETS PERTAINS TO EMBANKMENTS CONSTRUCTED FROM UNCLASSIFIED AND BORROW EXCAVATION AND WAS COMPUTED WITH A SHRINKAGE ALLOWANCE OF 30% - 45% FOR UNCLASSIFIED EXCAVATION AND 15% FOR BORROW EXCAVATION BASED ON THE VOLUME OF THE FILL.

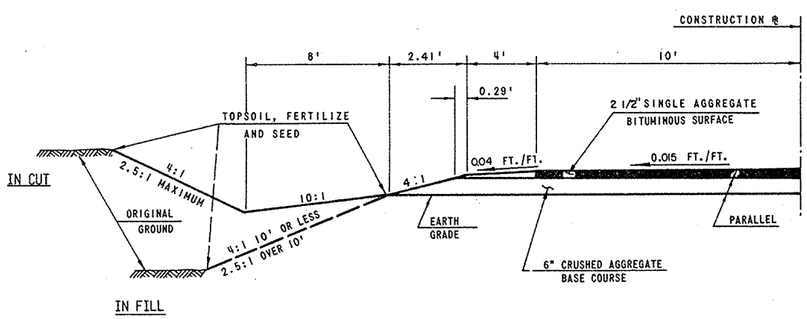
CERTAIN UNDERGROUND UTILITY STRUCTURES HAVE BEEN LOCATED ON THESE PLANS. THESE LOCATIONS SHALL NOT BE TAKEN AS CONCLUSIVE. VERIFICATION AS TO THE LOCATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITY STRUCTURES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT.

ALL CURB AND GUTTER, STORM SEWER, MANHOLES, INLETS AND COVERS AND CONCRETE SURFACE DRAINS AS SHOWN ON THE PLAN ARE NOT PART OF THESE CONTRACTS UNLESS SPECIFICALLY NOTED.

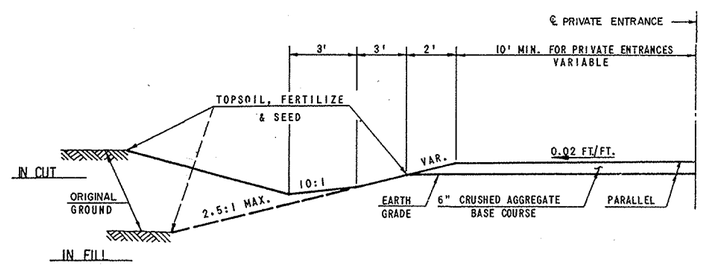
BITUMINOUS SURFACE IS NOT A PART OF THESE CONTRACTS.

UTILITIES LOCATED WITHIN PROJECT

WISCONSIN - MICHIGAN POWER COMPANY
WISCONSIN TELEPHONE COMPANY
MICHIGAN – WISCONSIN PIPE LINE COMPANY
VILLAGE OF HORTONVILLE
WISCONSIN GAS COMPANY



1/2 TYPICAL SECTION FOR SIDE ROADS



1/2 TYPICAL CROSS SECTION FOR PRIVATE ENTRANCES

STANDARD DETAIL DRAWINGS

INLETS TYPE "3" & INLET COVERS ..... 8 C 2 - 2
CONCRETE CURB, GUTTER, COMBINATION CURB & GUTTER, SURFACE DRAIN ..... 8 D 1 - 1
APRON ENDWALLS FOR CULVERT PIPE & PIPE ARCH ..... 8 F 1 - 2
DESIGN & LAYOUT DETAILS FOR SIDE ROAD AT-GRADE INTERSECTIONS ..... 9 A 1 - 1
CLASS "A" STEEL PLATE BEAM GUARD & STEEL PLATE BEAM MEDIAN GUARD ..... 14 B 2 - 2a & 2b
MARKER POST & MARKER POSTS FOR RIGHT OF WAY ..... 15 A 1 - 1
CONSTRUCTION BARRICADE ..... 15 C 1 - 2
LANDMARK REFERENCE MONUMENTS ..... 16 A 1 - 1
MARSH EXCAVATION ..... 23 A 1 - 1
STRUCTURAL PLATE PIPE ARCH & CORRUGATED METAL PIPE ARCH ..... 8 F 2 - 1

ESTIMATE OF QUANTITIES

THIS PROJECT IS TO BE EXECUTED UNDER THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE WISCONSIN DIVISION OF HIGHWAYS — EDITION OF 1969, APPROVED MARCH 3, 1969, FEDERAL AID REQUIRED CONTRACT PROVISIONS APPROVED NOVEMBER 15, 1968, AND SPECIAL PROVISIONS AS ATTACHED TO PROPOSALS.

CONTRACT NO. 1 (6019-2-74)
GRADE, BASE & SUBBASE
CONTRACT NO. 2 (6019-2-73)
PRODUCING & HAULING CRUSHED AGGREGATE BASE COURSE

PROJECT I D.	SHEET NUMBER	TOTAL SHEETS
6019-2-73,74	3	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

CONTRACT	SECTION NO.	STATION TO STATION	NET LENGTH OF CENTER LINE	CLEARING	GRUBBING	REMOVING: CURB & GUTTER	REMOVING: INLETS	REMOVING: SEPTIC TANKS	REMOVING: BUILDING, STA. 148 + 30 RT.	ABANDONING INLETS	ABANDONING WELLS	EXCAVATION: UNCLASSIFIED	EXCAVATION: MARSH	EXCAVATION: BORROW	GRANULAR SUBBASE COURSE, 5-INCH	FINISHING ROADWAY	OBLITERATING OLD ROAD	CULVERT PIPE, CLASS III: 18 - INCH	CULVERT PIPE, CLASS III: 24 - INCH	CULVERT PIPE, CLASS III: 36 - INCH	APRON ENDWALLS FOR CULVERT PIPE: 18 - INCH	APRON ENDWALLS FOR CULVERT PIPE: 24 - INCH	APRON ENDWALLS FOR CULVERT PIPE: 36 - INCH	CORRUGATED METAL CULVERT PIPE, 15-INCH	CORRUGATED METAL PIPE ARCH, 29" X 18"	METAL APRON ENDWALLS FOR PIPE ARCH, 29" X 18"	INLETS, TYPE 3
		ITEM NO.		20102	20105	20405	20416	20417	20418	20443	20444	20503	20505	20801	21205	21301	21401	52003	52005	52009	52061	52063	52067	52104	52138	52164	61123
		UNIT	LIN. FT.	IN. DIA.	IN. DIA.	LIN. FT.	EACH	EACH	L.S.	EACH	EACH	CU. YD.	CU. YD.	CU. YD.	SQ. YD.	L.S.	STA.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	LIN. FT.	LIN. FT.	EACH	EACH
1	1	STA. 134 + 34.00-STA. 325 + 71.20	19.137.08	1.605	1.634		1	1	1		1	62,279	56,819	119,000	103,170	0.93	12	1.022	488	304	68	12	6	7	58	2	1
1	2	STA. 325 + 71.20 - STA. 340 + 08.00	1,436.80			25				2		2,345			7,030	0.07											
1		CONTRACT TOTALS	20,573.88	1,605	1,634	25	1	1	1	2	1	64,624	56,819	119,000	110,200	1	12	1,022	488	304	68	12	6	7	58	2	1
2	1	STA. 134 + 34.00 - STA. 325 + 71.20																									
2	2	STA. 325 + 71.20-STA. 340 + 08.00																									
2		CONTRACT TOTALS																									
		PROJECT TOTALS	20.573.88	1.605	1.634	25	1	1	1	2	1	64,624	56.819	119,000	110,200	1	12	1.022	488	304	68	12	6	7	58	2	1

1836

CONTRACT	SECTION NO.	INLET COVERS, TYPE "H"	ANCHORAGES FOR STEEL PLATE BEAM GUARD	STEEL PLATE BEAM GUARD, CLASS "A"	MARKER POSTS	LANDMARK REFERENCE MONUMENTS	CALCIUM CHLORIDE SURFACE TREATMENT	SALVAGED TOPSOIL	EROSION MAT	FERTILIZER	SEEDING	FIELD OFFICE, TYPE "A"	PRODUCING & HAULING CRUSHED AGGREGATE BASE COURSE	SHAPING & COMPACTING CRUSHED AGGREGATE BASE COURSE
		61167	61406	61408	61421	62101	62301	62505	62802	62901	63002	64201	90001	90001
		EACH	EACH	LIN. FT.	EACH	EACH	TON	SQ. YD.	SQ. YD.	CWT.	LB.	L.S.	TON	TON
1	1	1	4	360	54	21	35	75.580	10.000	34	1.020	0.93		38,000
1	2						5	1,990		1	36	0.07		2,400
1		1	4	360	54	21	40	77,570	10,000	35	1,056	1		40,400
2	1											0.93	38,000	
2	2											0.07	2,400	
2												1	40,400	
		1	4	360	54	21	40	77,570	10.000	35	1.056		40,400	

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
6019-2- 74	3A	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

DETAIL SUMMARY SHEET OF MISCELLANEOUS QUANTITIES

EROSION MAT

STATION - STATION	LOCATION	SQ. YD.
UNDISTRIBUTED	LT. & RT.	2,750
STA. 160 + 00 - STA. 167 + 00	LT. & RT.	1,140
STA. 192 + 00 - STA. 198 + 00	LT.	490
STA. 192 + 00 - STA. 200 + 00	RT.	650
STA. 212 + 00 - STA. 216 + 00	RT.	330
STA. 213 + 00 - STA. 216 + 00	LT.	240
STA. 221 + 00 - STA. 224 + 00	RT.	240
STA. 233 + 00 - STA. 236 + 00	LT. & RT.	490
STA. 240 + 00 - STA. 242 + 00	RT.	160
STA. 260 + 00 - STA. 268 + 00	RT.	650
STA. 260 + 00 - STA. 273 + 00	LT.	1,060
STA. 294 + 00 - STA. 305 + 00	LT.	900
STA. 300 + 00 - STA. 304 + 00	RT.	330
STA. 316 + 50 - STA. 323 + 50	RT.	570

CLEARING & GRUBBING

STATION - STATION	CLEARING IN. DIA.	GRUBBING IN. DIA.
STA. 137 + 00 - STA. 144 + 00	230	230
STA. 144 + 00 - STA. 169 + 00	264	264
STA. 169 + 00 - STA. 203 + 00	265	265
STA. 203 + 00 - STA. 211 + 00	192	192
STA. 211 + 00 - STA. 240 + 00	244	244
STA. 240 + 00 - STA. 266 + 00	204	233
STA. 266 + 00 - STA. 325 + 00	206	206

SEEDING

STATION - STATION	MIXTURE	SQ. YD.	LBS.
STA. 134 + 50 - STA. 325 + 71.2	NO. 1	75.600	1.020
STA. 325 + 71.2 - STA. 340 + 00	NO. 4	2.000	36

MARKER POSTS FOR SHOULDER DELINEATION

STATION - STAION	LOCATION	C. C.	EACH
STA. 144 + 00 - STA. 146 + 00	LT.	50'	5
STA. 223 + 00 - STA. 235 + 00	LT. & RT.	100'	26
STA. 241 + 00 - STA. 247 + 00	LT. & RT.	100'	14
UNDISTRIBUTED	-	-	9

REMOVING CURB & GUTTER

LOCATION	LIN. FT.
RADIUS CORNER BAKKE STREET STA. 339 + 79 LT.	25

REMOVING INLETS

LOCATION	EACH
STA. 134 + 40 RT.	1

REMOVING SEPTIC TANKS

LOCATION	EACH
STA. 148 + 30 RT.	1

EXCAVATION

CONTRACT	LOCATION	UNCLASSIFIED C.Y.	BORROW C.Y.
1	MAIN LINE	64,364 C.Y.	119,000 C.Y.
1	SIDE ROADS	260 C.Y.	

ABANDONING INLETS

LOCATION	EACH
STA. 338 + 67 LT.	1
STA. 339 + 92 LT.	1

ABANDONING WELLS

LOCATION	EACH
STA. 148 + 30 RT.	1

MANHOLES. INLETS. COVERS

NO.	STATION	LOCATION	STRUCTURE	TYPE	COVER	GRATE	FLOWLINE ELEVATION	DEPTH
* 1	STA. 326 + 00	14' LT.	M.H.	1	"J"	-	839.03	3.50'
* 2	STA. 329 + 50	14' LT.	M.H.	1	"J"	-	831.30	3.75'
* 3	STA. 329 + 50	21.5' LT.	INLET	3	"H"	RT.	833.28	2.00'
* 4	STA. 329 + 50	21.5' RT.	INLET	3	"H"	LT.	832.28	2.00'
* 5	STA. 333 + 40	14' LT.	M.H.	1	"J"	-	815.38	3.75'
* 6	STA. 333 + 40	21.5' LT.	INLET	3	"H"	RT.	817.36	2.00'
* 7	STA. 333 + 40	21.5' RT.	INLET	3	"H"	LT.	816.36	2.00'
* 8	STA. 337 + 00	14' LT.	M.H.	1	"J"	-	808.11	3.75'
* 9	STA. 337 + 00	21.5' LT.	INLET	3	"H"	RT.	810.09	2.00'
* 10	STA. 337 + 00	21.5' RT.	INLET	3	"H"	LT.	809.09	2.00'
* 11	STA. 339 + 82	14' LT.	M.H.	1	"J"	-	804.65	3.00'
* 12	STA. 339 + 78	21.5' LT.	INLET	3	"H"	RT.	805.46	2.00'
	STA. 134 + 50	27' RT.	INLET	3	"H"	LT.	815.53	2.40'
*	STA. 136 + 30	21.5' LT	INLET	3	"H"	LT.	815.00	1.24'
*	STA. 140 + 00	21.5' LT	INLET	3	"H"	LT.	820.00	1.50'

STORM SEWERS

	FROM	TO	DIAMETER INCHES	LENGTH IN FT.	TYPE	ELEVATION INLET	ELEVATION DISCHARGE	REMARKS
*	1	2	18	350	R.C.P. CL. III	839.03	831.40	
*	3	2	12	4	"	833.28	833.20	
*	4	2	12	32	"	832.28	831.96	
*	2	5	18	390	"	831.30	815.48	
*	6	5	12	4	"	817.36	817.28	
*	7	5	12	32	"	816.36	816.04	
*	5	8	18	360	"	815.38	808.21	
*	9	8	12	4	"	810.09	810.01	
*	10	8	12	32	"	809.09	808.77	
*	8	11	18	280	"	808.11	804.75	
*	12	11	12	8	"	805.46	805.38	
*	11	13	18	30	"	804.65	804.29	13 - EXISTING M.H.
	INLET	EXISTING	15	7	C.M.C.P.	815.53	815.42	DISCHARGE INTO EXISTING 15" C.M.C.P.
*	INLET	DITCH	12	24	R.C.P. CL. III	815.00	814.70	1 APRON END WALL REQ'D.
*	INLET	DITCH	12	52	R.C.P. CL. III	820.00	819.30	1 APRON END WALL REQ'D.

PIPE CULVERTS

SEC. NO.	STATION	DIAMETER INCHES	LENGTH LIN. FT.	APRON END WALLS	TYPE	℄ ROWY.	P.E. & F.E. LEFT	P.E. & F.E. RIGHT
1	STA. 9 + 65 TOWN ROAD	18	48	2	CL. III	✓		
1	STA. 10 + 45 SCHOOL ROAD	18	54	"	"	✓		
1	STA. 9 + 15 SPRING ROAD	18	40	"	"	✓		
1	STA. 10 + 00 SPRING ROAD	18	40	"	"	✓		
1	30' P.E.'S @ 28'	18	840	60	"		✓	✓
1	STA. 177 + 38	24	72	2	"	✓		
1	STA. 208 + 75	24	58	"	"	✓		
1	STA. 226 + 14	24	116	"	"	✓		
1	STA. 229 + 15	24	114	"	"	✓		
1	STA. 283 + 87	24	58	"	"	✓		
1	STA. 316 + 60	24	70	"	"	✓		
1	STA. 150 + 41	36	80	"	"	✓		
1	STA. 245 + 05	36	124	"	"	✓		
1	STA. 293 + 18	36	100	"	"	✓		
1	STA. 136 + 00	18" X 29"	58	"	C.M.P.A.	✓		

* DENOTES ITEMS WHICH ARE NON-PARTICIPATING, AND WILL BE COMPLETED BY OTHERS.

LANDMARK REFERENCE MONUMENTS

STATION	LOCATION	EACH
STA. 160 + 45.0	SURVEY	3
STA. 186 + 78.0	"	4
STA. 213 + 06.2	"	3
STA. 239 + 17.15	"	4
STA. 265 + 48.15	"	3
STA. 291 + 86.8	"	4

GRANULAR SUBBASE COURSE

STATION - STATION	S.Y.	TON
STA. 134 + 50 - STA. 325 + 71.2	103,170	33,100
STA. 325 + 71.2 - STA. 339 + 45	7,030	2,100

CRUSHED AGGREGATE BASE COURSE

LOCATION	CU. YD.	TON
STA. 134 + 50 - STA. 325 + 71.2	17,652	35,380
SIDE ROADS	285	570
PRIVATE ENTRANCES	1,023	2,050
STA. 325 + 71.2 - STA. 339 + 45	1,222	2,400

STEEL PLATE BEAM GUARD

STATION - STATION	LOCATION	LIN. FT.
STA. 277 + 47 - STA. 279 + 27	RT.	180
STA. 277 + 68 - STA. 279 + 48	LT.	180

Index of Sheets

PLAT OF RIGHT OF WAY REQUIRED FOR

SOUTH COUNTY LINE - HORTONVILLE

C.T.H. "M"

OUTAGAMIE COUNTY

PROJECT IDENTIFICATION NUMBER

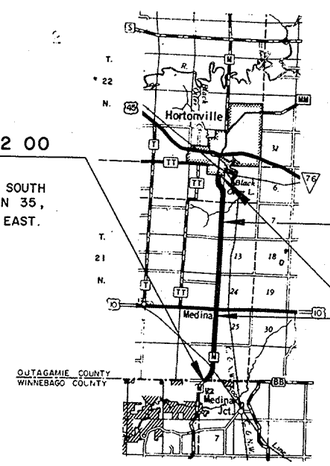
6019 2 00

STANDARD ABBREVIATIONS & CONVENTIONAL SIGNS

ABANDON	ABND.
ACRES REMAINING	AC. REM.
AND OTHERS	ET. AL.
AND WIFE	ET. UX.
BARN	B.
CEMETERY	CEM.
CHANNEL	CH.
CHANNEL CHANGE	CH. CH.
CHICKEN HOUSE	C. H.
COMMERCIAL	COMM.
CORNER	COR.
DEED	DD
ESTATE	EST.
FOUNDATION	FDN.
GARAGE	G.
HOTEL	HO.
HOUSE	H.
IRON PIN	I. P.
LIMITED HIGHWAY EASEMENT	L. H. E.
MONUMENT	MON.
OUTLOT	O. L.
REQUIRED	REQ'D.

NOTE:
BEARINGS SHOWN ON THIS PLAT ARE THE MAGNETIC BEARINGS OF EACH TANGENT TO THE NEAREST MINUTE.

R. 15 E.



N

BEGIN PROJECT 6019 2 00
STATION 25+00
1,783 FEET N. 88°-20' E. OF THE SOUTH ONE QUARTER CORNER OF SECTION 35, TOWNSHIP 21 NORTH, RANGE 15 EAST.

EQUATION:
265+48.15 AHEAD =
265+48.03 BACK

EQUATION:
129 + 96.90 AHEAD =
129 + 97.22 BACK

END PROJECT 6019 2 00
STATION 326 +01
940.62 FEET WEST OF AND 2,255.32 FEET SOUTH OF THE NORTHEAST CORNER OF SECTION 2, TOWNSHIP 21 NORTH, RANGE 15 EAST.

Layout
Scale 0 1 2 Miles

Total Net Length of Centerline = 5.701 Mi.

DATED JUNE 23, 1970

Sheet Number	Total Sheets
4.0	

SCHEDULE OF LANDS AND INTERESTS REQUIRED

6019-2-74/S0395(4) 4

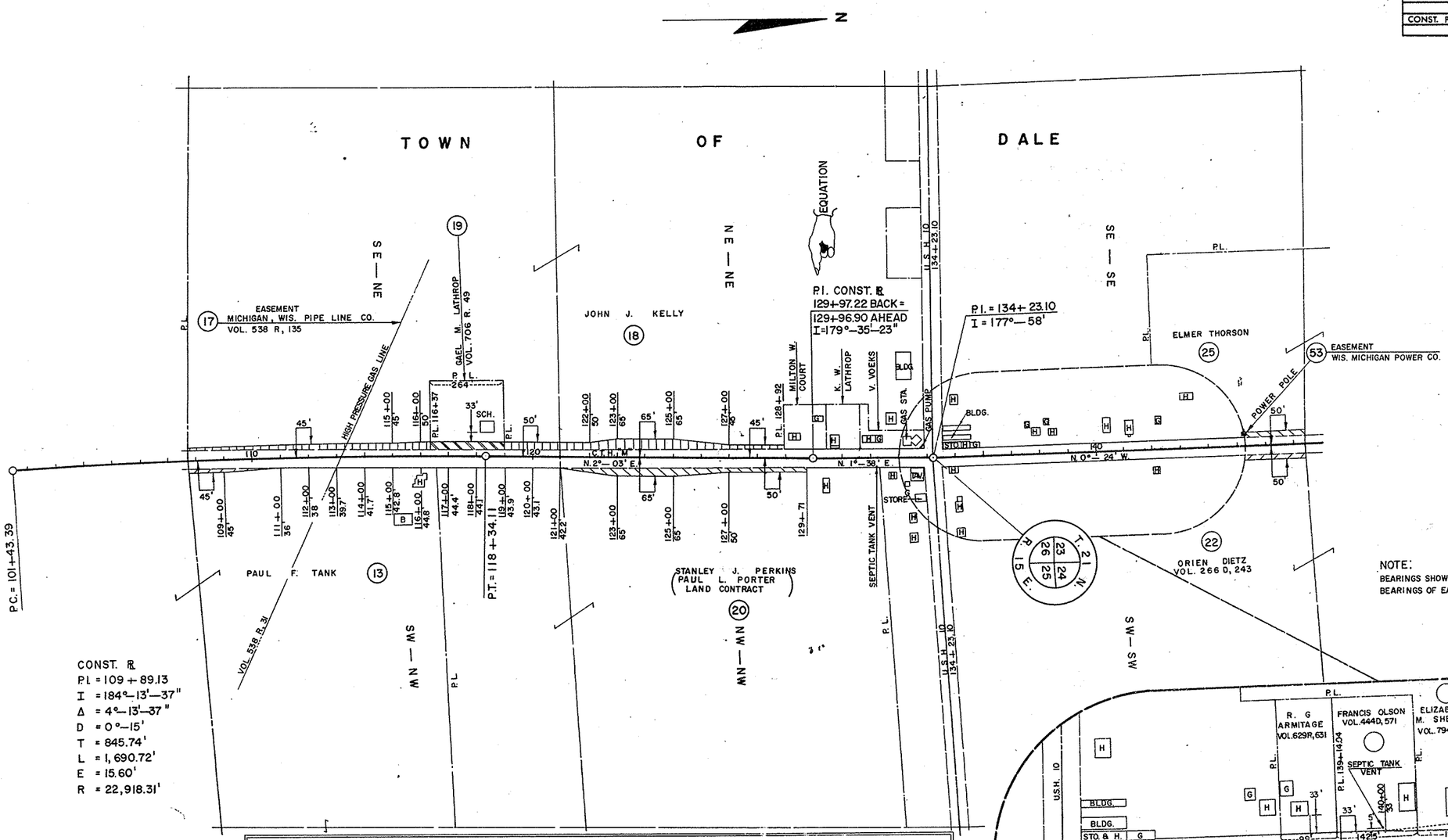
PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES	RODS OF FENCING
1	4.1	GLENN A. WINCKLER	HIGHWAY EASEMENT	0.54	109
2	4.1	A. H. WINCKLER	HIGHWAY EASEMENT	0.03	--
3	4.1	VICTOR W. LUEDTKE	HIGHWAY EASEMENT	0.72	108
4	4.1	SOO LINE RAILROAD COMPANY	AGREEMENT	--	--
5	4.1 & 4.2	ALFRED C. LUEDTKE	HIGHWAY EASEMENT	1.44	279
6	4.2	WAYNE W. HUETTL	HIGHWAY EASEMENT	0.02	--
7	4.2	WISCONSIN MICHIGAN POWER CO.	RELEASE OF RIGHTS	--	--
8	4.2	WILLARD K. HUETTL	HIGHWAY EASEMENT	0.62	81
9	4.2	E. J. WINCKLER	HIGHWAY EASEMENT	0.20	--
10	4.2	WISCONSIN TELEPHONE CO.	RELEASE OF RIGHTS	--	--
11	4.2	SHERMAN M. KLEIN	HIGHWAY EASEMENT	0.78	87
12	4.2	WILLIAM SCHROEDER	HIGHWAY EASEMENT	0.40	--
13	4.2 & 4.3	PAUL F. TANK	HIGHWAY EASEMENT	0.24	55
14	4.2	JARVIS PERKINS	HIGHWAY EASEMENT	0.10	--
15	4.2	STANLEY J. PERKINS	HIGHWAY EASEMENT	0.07	--
16	4.2	SOUTH MEDINA CEMETERY, TRUSTEES	HIGHWAY EASEMENT	0.06	--
17	4.3	MICHIGAN-WIS. PIPE LINE CO.	RELEASE OF RIGHTS	--	--
18	4.3	JOHN J. KELLY	HIGHWAY EASEMENT	0.97	114
19	4.3	GAEL M. LATHROP	HIGHWAY EASEMENT	0.18	--
20	4.3	STANLEY J. PERKINS	HIGHWAY EASEMENT	0.38	54
21	4.3	UTILITY CLEARING SERVICE, INC.	HIGHWAY EASEMENT	0.03	--
22	4.2 & 4.3	ORIEN DIETZ	HIGHWAY EASEMENT	0.80	1.13
23					
24					
25	4.3 & 4.4	ELMER THORSON	HIGHWAY EASEMENT	0.56	--
26	4.4	H.J. ROEGNER	FEE	0.08	--
27	4.4	A.E. HORNIG	HIGHWAY EASEMENT	0.15	--
28	4.4	ERVIN A. GROSNICK	HIGHWAY EASEMENT	0.18	--
29	4.4	BRUCE STEINACKER	HIGHWAY EASEMENT	0.50	--
30	4.4	LAWRENCE A. STEVENS	HIGHWAY EASEMENT	1.18	1.34
31	4.4	ALVIN & ELMER KUTZLEB	HIGHWAY EASEMENT	1.20	80
32	4.4	FRED HUEBNER, JR.	FEE	0.74	58
33	4.5	FLORENCE EARLL	HIGHWAY EASEMENT	0.13	--
34	4.5	KEITH E. BREYER	HIGHWAY EASEMENT	0.13	--
35	4.5	KARL R. SCHROEDER	HIGHWAY EASEMENT	0.39	--
36	4.5	EDGAR E. BECKER	HIGHWAY EASEMENT	0.12	--
37	4.5	WILLIAM PLUGER	HIGHWAY EASEMENT	0.10	15
38	4.5	JUSTIN W. YOUNG	HIGHWAY EASEMENT	1.19	85
39	4.5	RONALD DORSCHNER	HIGHWAY EASEMENT	1.99	80
40	4.5 & 4.6	EDSON W. NICKEL	FEE	2.75	85
41	4.6	ROGER NELSON	HIGHWAY EASEMENT	0.85	74
42	4.6	WILBUR A. BAEHMAN	HIGHWAY EASEMENT	0.32	--
43	4.6	DORA DIESTLER	HIGHWAY EASEMENT	0.52	73
44	4.6	EDWARD M. SCHULTZ	HIGHWAY EASEMENT	0.53	78
45	4.6	MILTON LIPPOLD	HIGHWAY EASEMENT	0.13	19
46	4.6 & 4.7	LEONARD P. BELLILE	HIGHWAY EASEMENT	0.27	26
47	4.7	LAVERNE GETLINGER	FEE	4.59	44
48	4.7	FLAVILLA ZIMMER	HIGHWAY EASEMENT	0.08	17
49	4.7	VALLEY MORTGAGES, INC.	HIGHWAY EASEMENT	0.43	49
50	4.7	WIS TELEPHONE CO. & THE AMERICAN TELEPHONE & TELEGRAPH COMPANY	RELEASE OF RIGHTS	--	--
51					
52	--	---	---	--	--
53	43,44,45,46,47	WIS. MICHIGAN POWER CO.	RELEASE OF RIGHTS	--	--
54	43,44,45,46,47	WIS. TELEPHONE CO.	RELEASE OF RIGHTS	--	--
55	4.3	MICHIGAN-WIS. PIPE LINE CO.	RELEASE OF RIGHTS	--	--

REVISION DATE	
2-16-72	
7-17-72	
7-24-72	

REVISION DATE		PROJECT I.D. 6019 2 00	SHEET NUMBER	TOTAL SHEETS
2-16-72				
7-17-72	N.C.	FEDERAL PROJECT DESIGNATION	4.3	
7-24-72				

PLAT OF RIGHT OF WAY REQUIRED
C.T.H. "M" OUTAGAMIE COUNTY
SCALE 0 — 400 Ft.
DATE 6-23-70

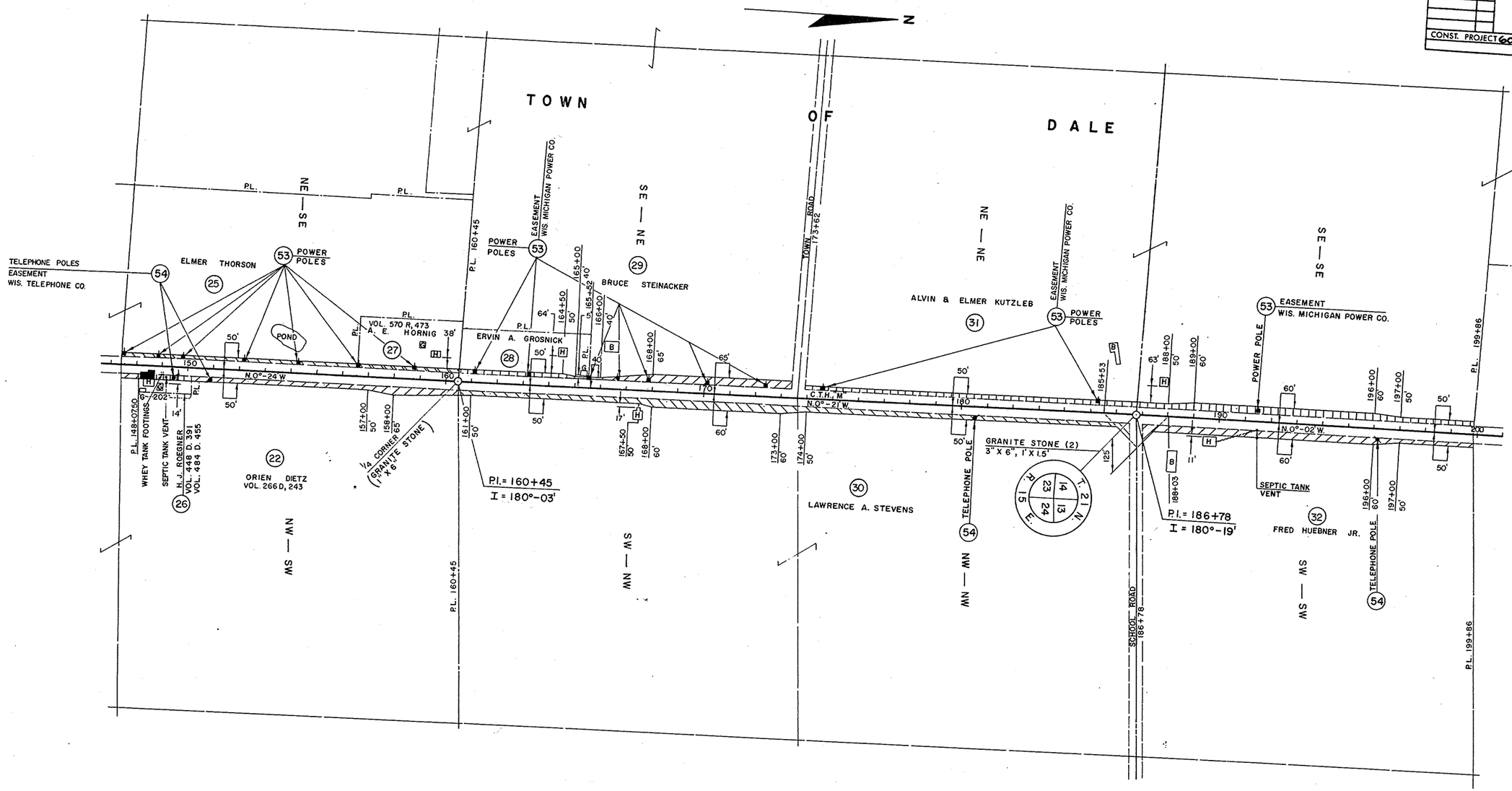
CONST. PROJECT 6019-2-74 / 50395(4) 4.1



REVISION DATE		PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
2-16-72		6019 2 00		
7-17-72	N.C.	FEDERAL PROJECT DESIGNATION	4.4	

PLAT OF RIGHT OF WAY REQUIRED
C.T.H. "M" OUTAGAMIE COUNTY
SCALE 0 — 400 Ft.
DATE ____

CONST. PROJECT 6019-2-74/S0395(4) 4.2

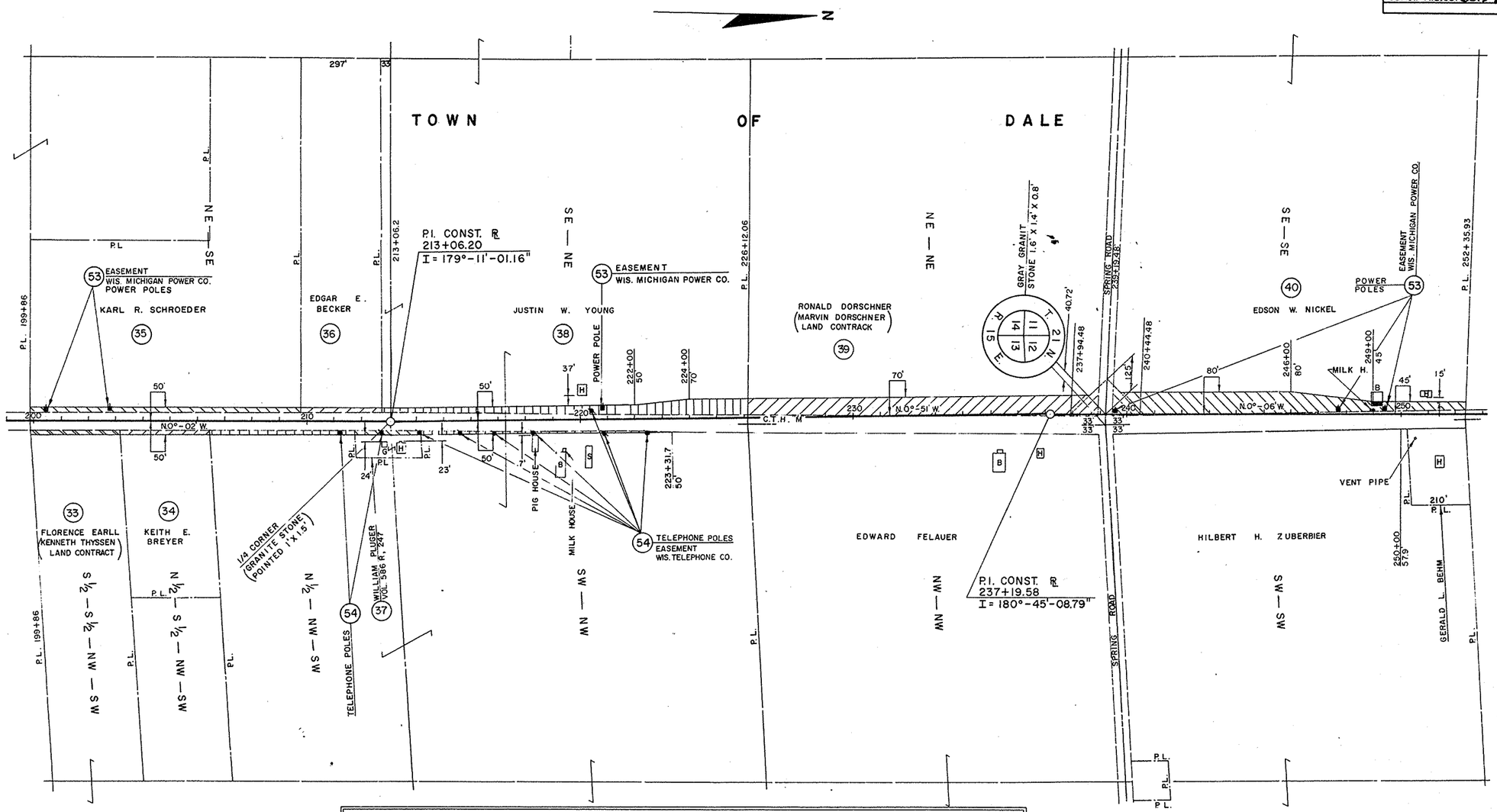


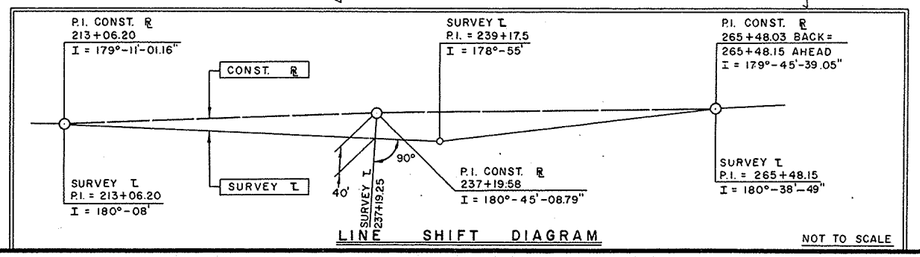
NOTE:
BEARINGS SHOWN ON THIS PLAT ARE THE MAGNETIC BEARINGS OF EACH TANGENT TO THE NEAREST MINUTE.

REVISION DATE		PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
2-16-72		6019 2 00		
7-17-72	N.C.	FEDERAL PROJECT DESIGNATION	4.5	

PLAT OF RIGHT OF WAY REQUIRED
C.T.H. "M" OUTAGAMIE COUNTY
SCALE 0 — 400 Ft.
DATE —

CONST. PROJECT 6019-2-74/S0395(4) 4.3





LINE SHIFT DIAGRAM

NOT TO SCALE

NOTE:
BEARINGS SHOWN ON THIS PLAT ARE THE MAGNETIC BEARINGS OF EACH TANGENT TO THE NEAREST MINUTE.

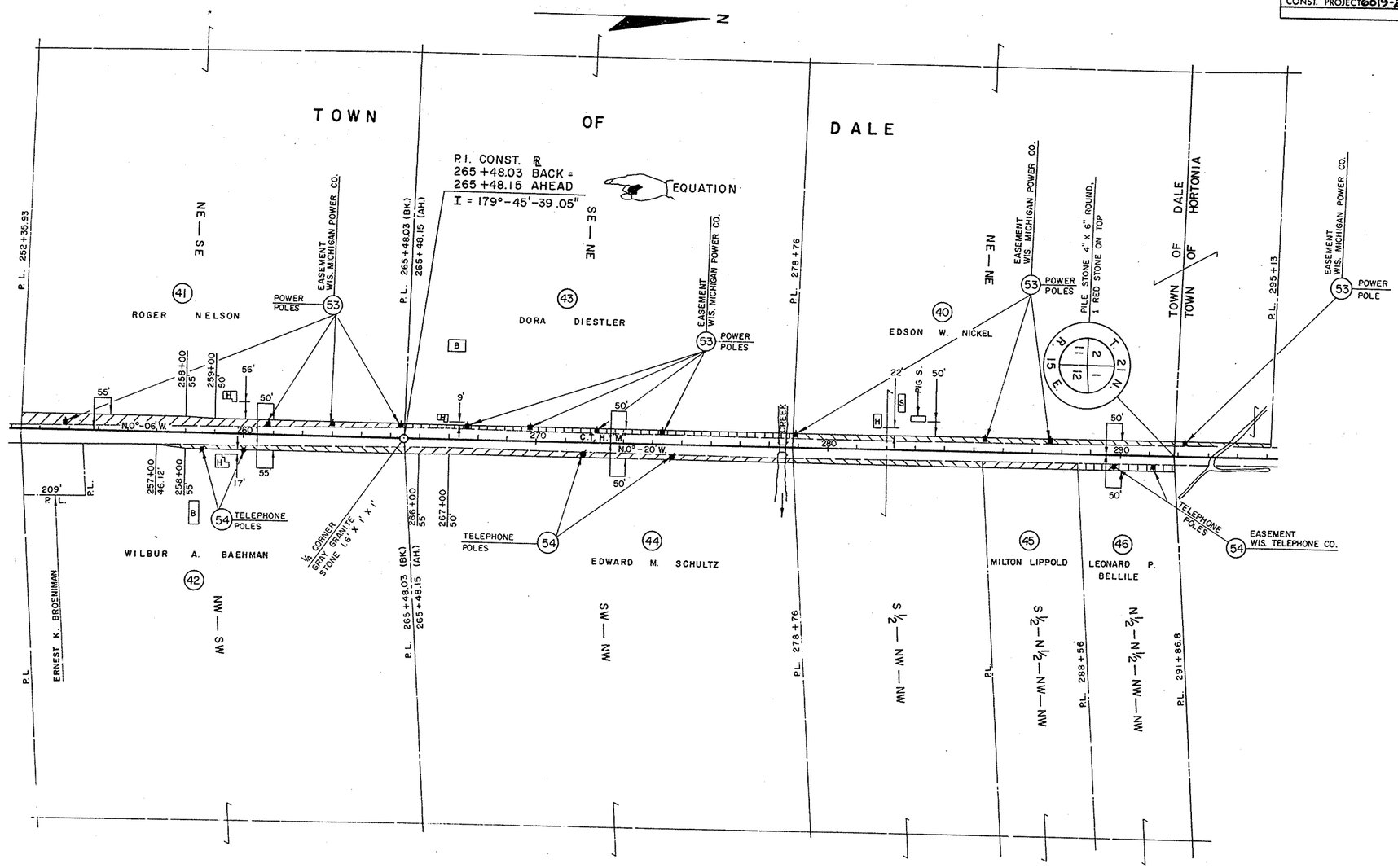
REVISION DATE		PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
2-16-72		6019 2 00		
7-17-72	N.C.	FEDERAL PROJECT DESIGNATION	4.6	

PLAT OF RIGHT OF WAY REQUIRED
C.T.H. "M" OUTAGAMIE COUNTY

SCALE 0 — 400 Ft.

DATE ——

CONST. PROJECT 6019-2-74/S0395(4) 4.4



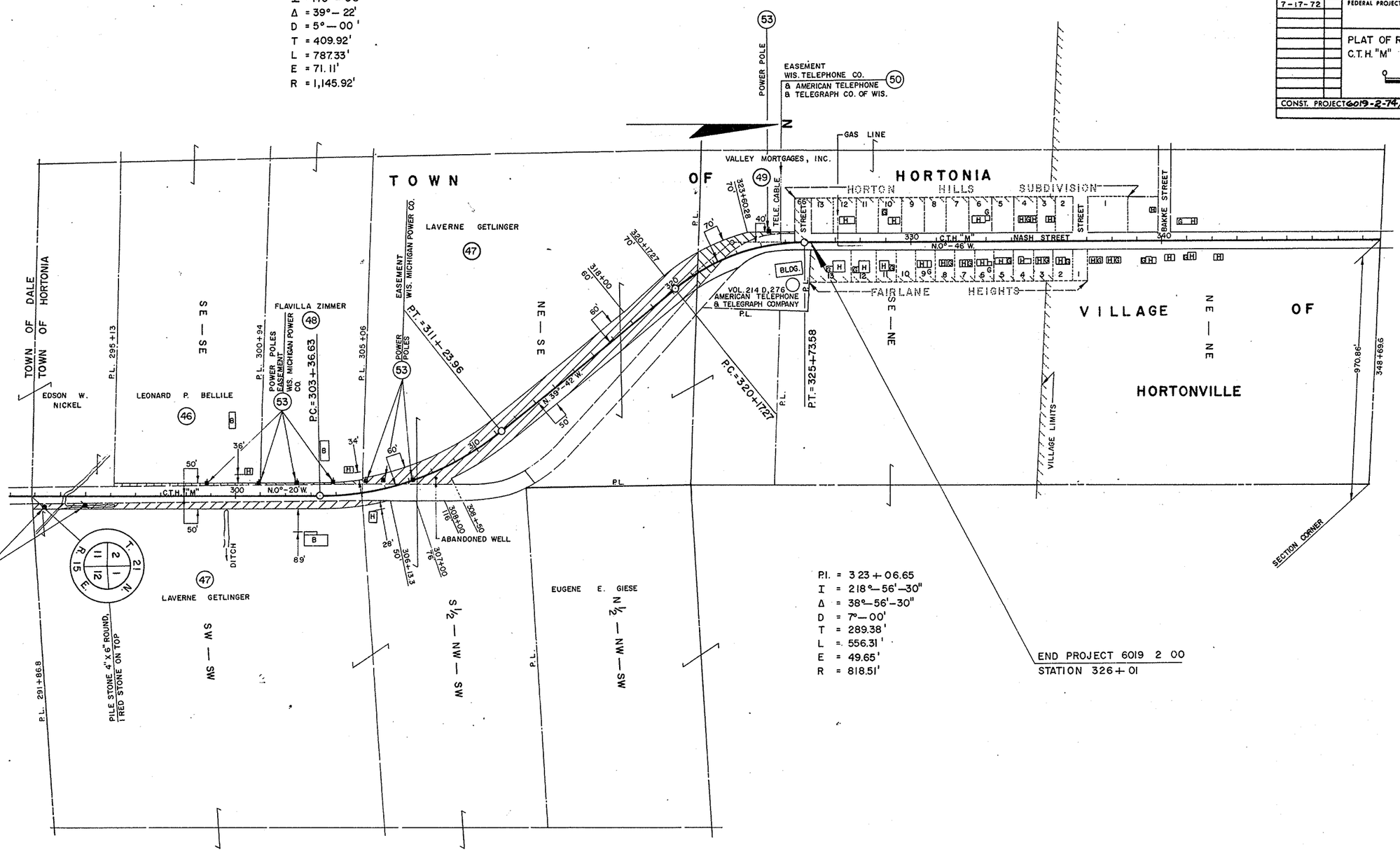
NOTE:
BEARINGS SHOWN ON THIS PLAT ARE THE MAGNETIC BEARINGS OF EACH TANGENT TO THE NEAREST MINUTE.

REVISION DATE		PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
2-16-72		6019 2 00		
7-17-72		FEDERAL PROJECT DESIGNATION	4.7	

PLAT OF RIGHT OF WAY REQUIRED
C.T.H. "M" OUTAGAMIE COUNTY
SCALE 0 — 400 Ft.
DATE —

CONST. PROJECT 6019-2-74/S0395(4) 4.5

P.I. = 307+ 46.55
I = 140°—38'
Δ = 39°— 22'
D = 5°— 00'
T = 409.92'
L = 787.33'
E = 71.11'
R = 1,145.92'



P.I. = 323+06.65
I = 218°—56'—30"
Δ = 38°—56'—30"
D = 7°—00'
T = 289.38'
L = 556.31'
E = 49.65'
R = 818.51'

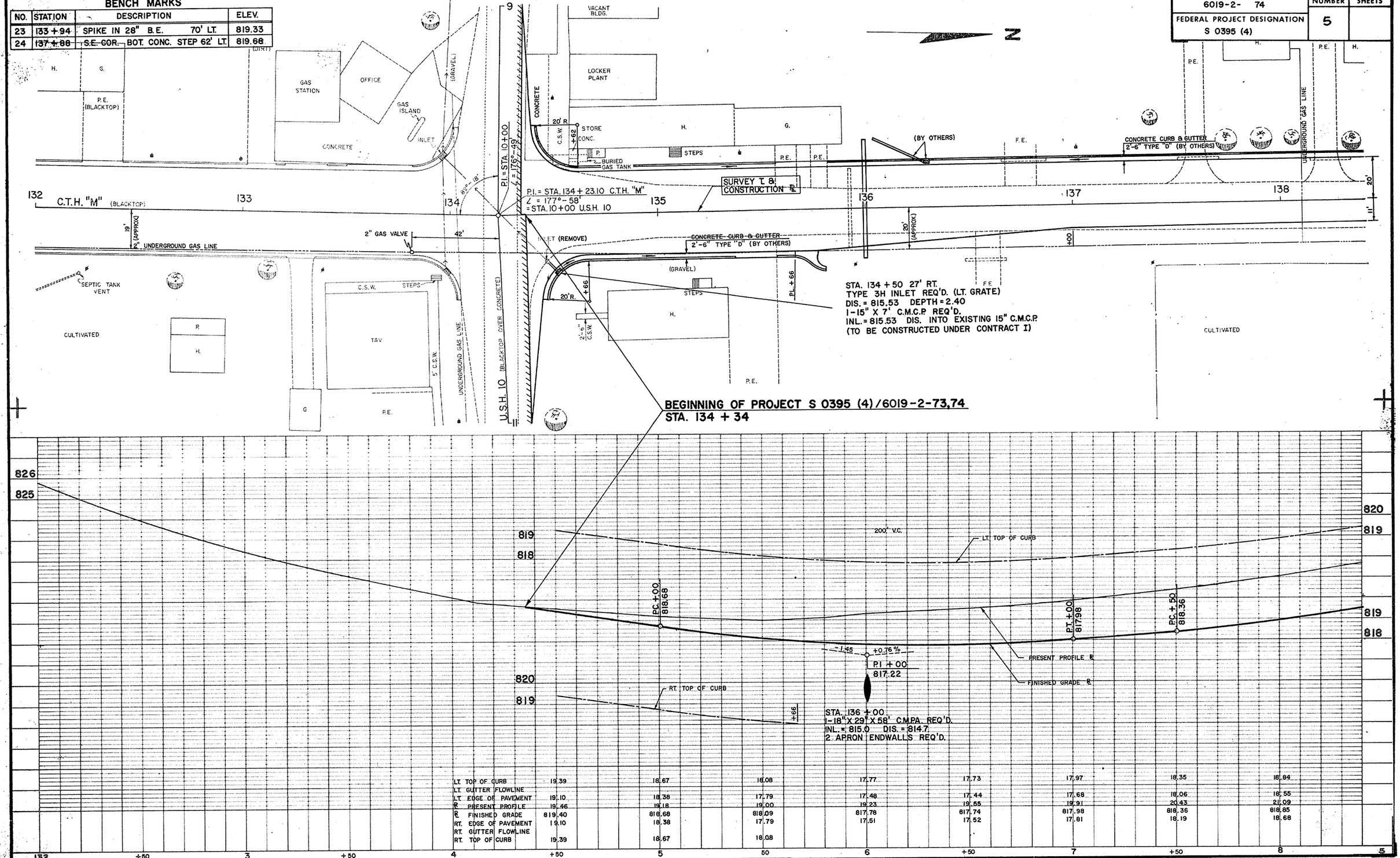
END PROJECT 6019 2 00
STATION 326+01

NOTE:
BEARINGS SHOWN ON THIS PLAT ARE THE MAGNETIC BEARINGS OF EACH TANGENT TO THE NEAREST MINUTE.

PROJECT I. D.	SHEET NUMBER	TOTAL SHEETS
6019-2- 74	5	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
23	133 + 94	SPIKE IN 28" B.E. 70' LT.	819.33
24	137 + 88	S.E. COR. BOT. CONC. STEP 62' LT.	819.68



	132	+50	3	+50	4	+50	5	50	6	+50	7	+50	8	5
LT. TOP OF CURB		19.39			18.67		18.08		17.77		17.73		17.97		18.35		18.84
LT. GUTTER FLOWLINE																	
LT. EDGE OF PAVEMENT		19.10			18.38		17.79		17.48		17.44		17.68		18.06		18.55
℞ PRESENT PROFILE		19.46			19.18		19.00		19.23		19.55		19.91		20.43		21.09
℄ FINISHED GRADE		819.40			818.68		818.09		817.78		817.74		817.98		818.36		818.85
RT. EDGE OF PAVEMENT		19.10			18.38		17.79		17.51		17.52		17.81		18.19		18.68
RT. GUTTER FLOWLINE																	
RT. TOP OF CURB		19.39			18.67		18.08										

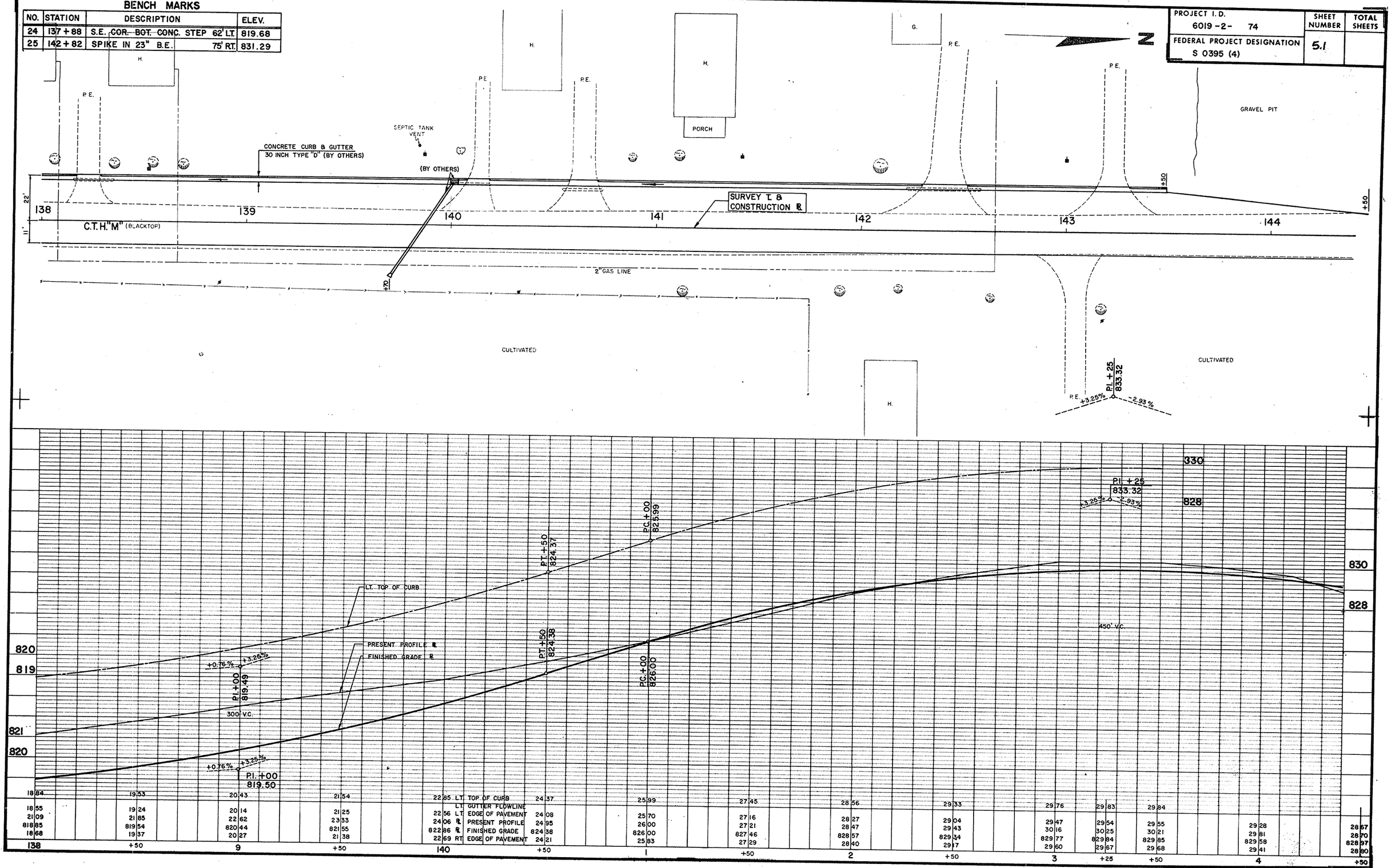
Catalog No. 2130-D120

4/39

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
24	137 + 88	S.E. COR. BOT. CONC. STEP 62' LT.	819.68
25	142 + 82	SPIKE IN 23" B.E. 75' RT.	831.29

PROJECT I. D.	SHEET NUMBER	TOTAL SHEETS
6019 - 2 - 74	5.1	
FEDERAL PROJECT DESIGNATION S 0395 (4)		



	138	+50	9	+50	140	+50	1	+50	2	+50	3	+25	+50	4	+50
LT. TOP OF CURB	18 84	19 53	20 43	21 54	22 85	24 37	25 99	27 45	28 56	29 33	29 76	29 83	29 84		
LT. GUTTER FLOWLINE															
LT. EDGE OF PAVEMENT	18 55	19 24	20 14	21 25	22 56	24 08	25 70	27 16	28 27	29 04	29 47	29 54	29 55	29 28	28 67
℞ PRESENT PROFILE	21 09	21 85	22 62	23 33	24 06	24 95	26 00	27 21	28 47	29 43	30 16	30 25	30 21	29 81	28 70
℞ FINISHED GRADE	818 85	819 54	820 44	821 55	822 86	824 38	826 00	827 46	828 57	829 34	829 77	829 84	829 85	829 58	828 97
RT EDGE OF PAVEMENT	18 68	19 37	20 27	21 38	22 69	24 21	25 83	27 29	28 40	29 17	29 60	29 67	29 68	29 41	28 80

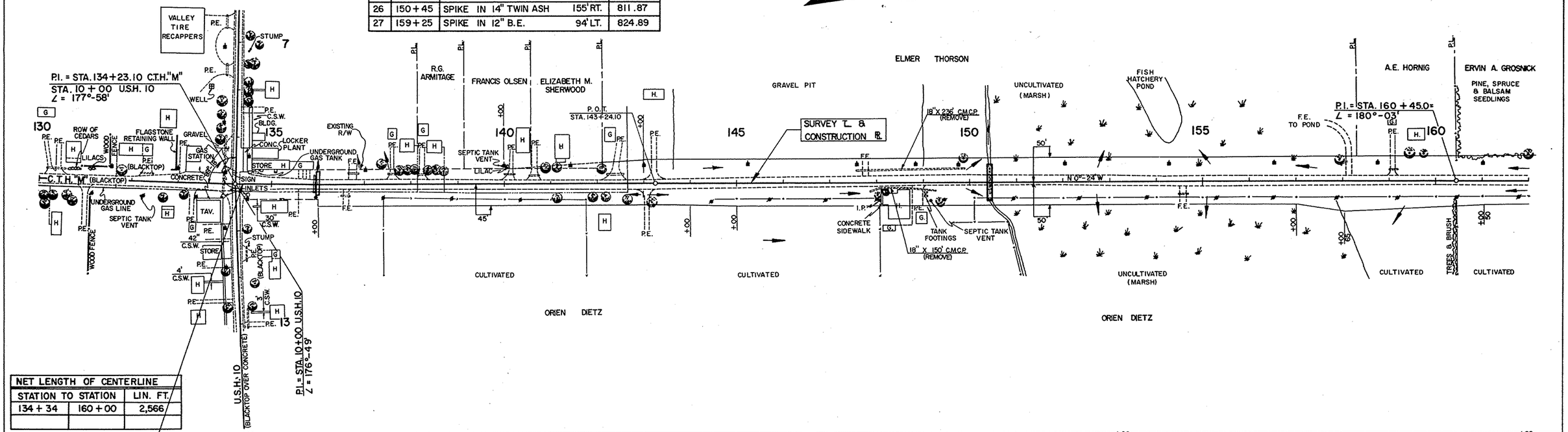
5.1

Catalog No. 2130-D142

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
6019 - 2 - 74	5.2	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO.	STATION	DESCRIPTION		ELEV.
23	133+94	SPIKE IN 28" B.E.	70' LT.	819.33
24	137+88	S.E. COR. BOT. CONC. STEP	62' LT.	819.68
25	142+82	SPIKE IN 23" B.E.	75' RT.	831.29
26	150+45	SPIKE IN 14" TWIN ASH	155' RT.	811.87
27	159+25	SPIKE IN 12" B.E.	94' LT.	824.89



NET LENGTH OF CENTERLINE		
STATION TO STATION		LIN. FT.
134+34	160+00	2,566

UNCL. EXC.	=	5,270 C.Y.
FILL	=	1,588 C.Y.
MARSH EXC.	=	3,496 C.Y.

UNCL. EXC.	=	323 C.Y.
FILL	=	4,391 C.Y.
BORROW	=	10,500 C.Y.
MARSH EXC.	=	5,225 C.Y.

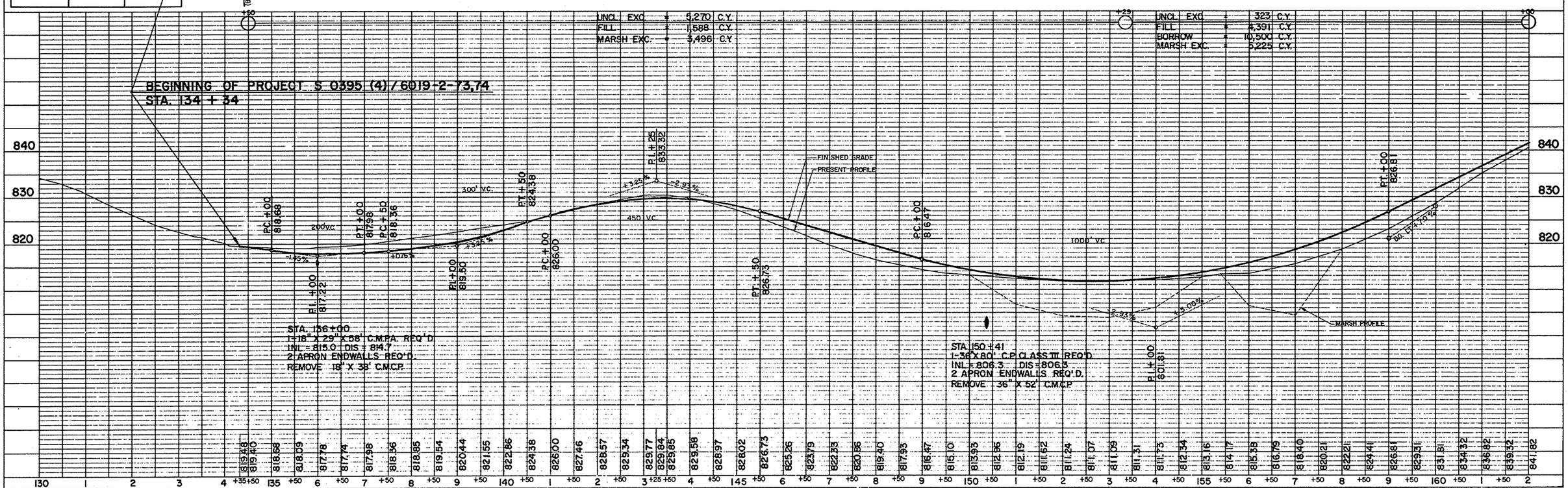
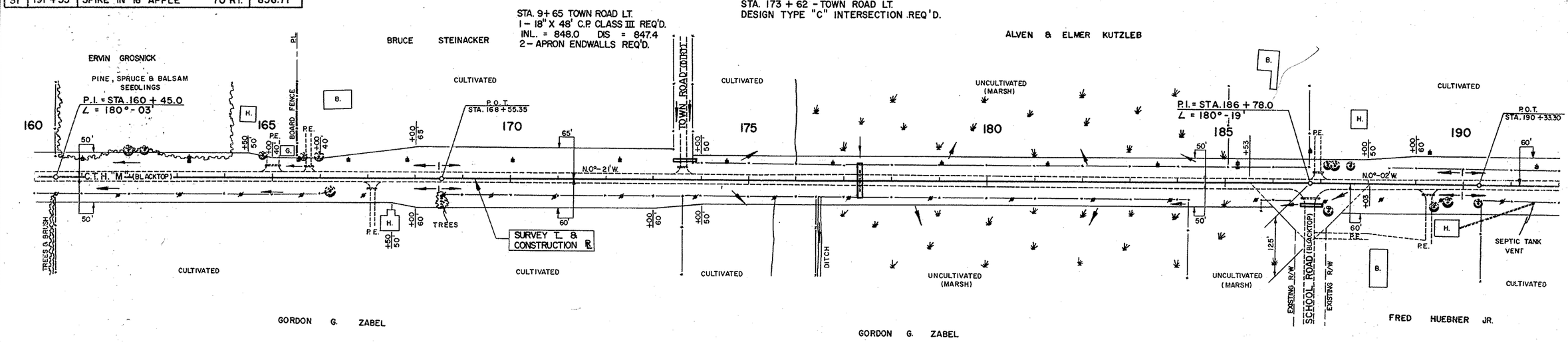


PLATE 1—PLAN PROFILE O. P. R. & R. E. STANDARD

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
6019-2-74	5.3	
FEDERAL PROJECT DESIGNATION S 0395(4)		

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
28	166+30	SPIKE IN 16" APPLE 140' RT.	861.40
29	173+90	SPIKE IN 40" ELM 150' LT.	849.39
30	187+20	SPIKE IN 36" ELM 54' RT.	846.68
31	191+35	SPIKE IN 16" APPLE 70' RT.	856.71



NET LENGTH OF CENTERLINE		
STATION TO STATION		LIN. FT.
160 + 00	190 + 00	3,000

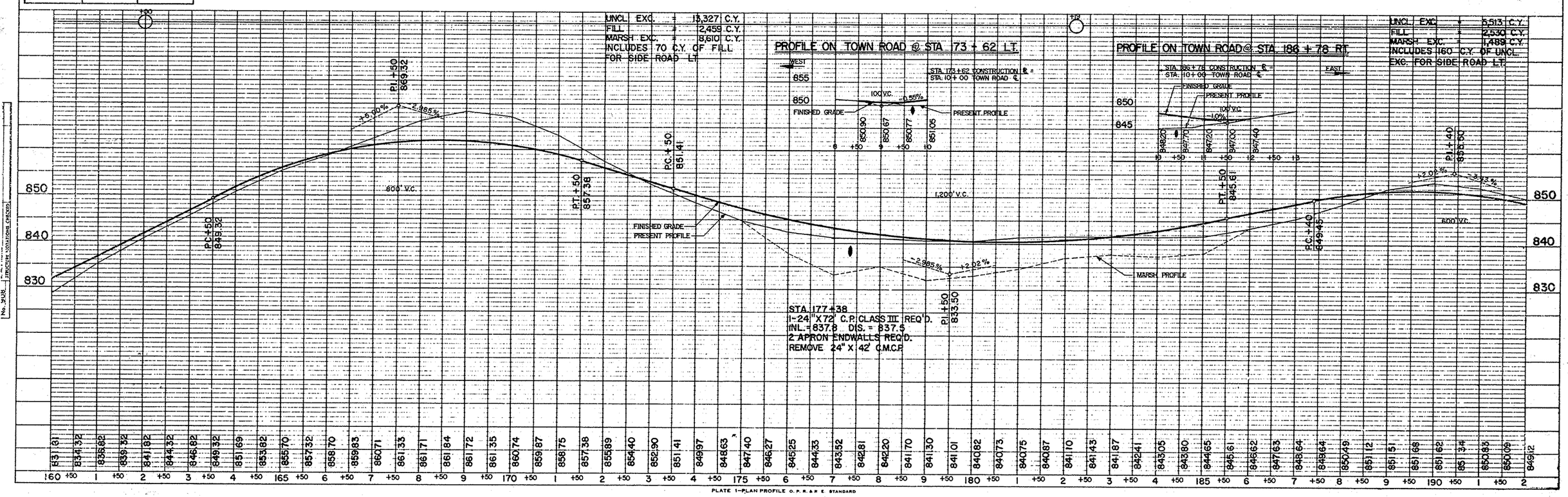
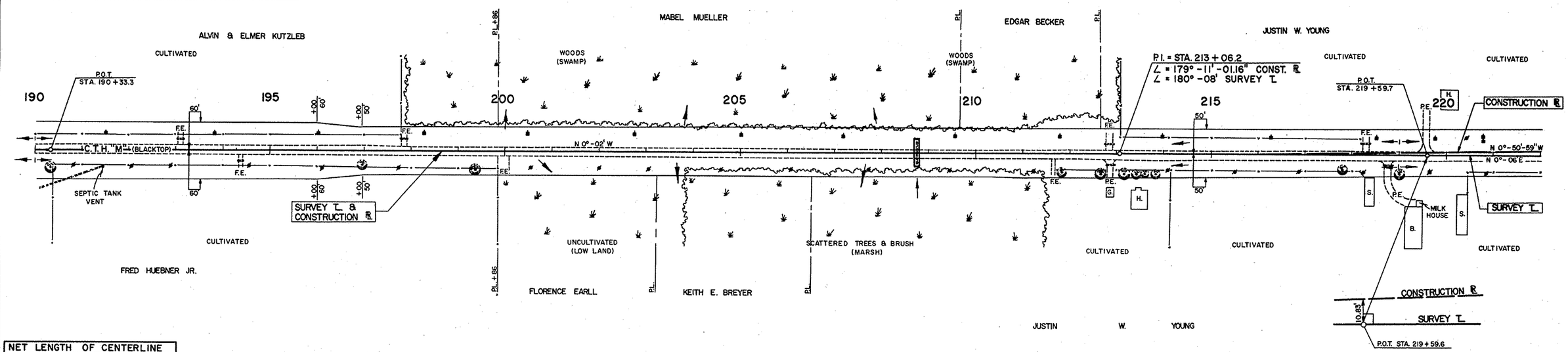


PLATE 1—PLAN PROFILE O.P.R.&R.E. STANDARD

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
6019-2- 74	54	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO.	STATION	DESCRIPTION		ELEV.
31	191+35	SPIKE IN 16" APPLE	70' RT.	856.71
32	199+60	SPIKE IN 10" ASH	80' LT.	821.96
33	206+03	SPIKE IN 10" CEDAR	64' LT.	822.53
34	212+85	SPIKE IN 10" ASH	98' LT.	828.61
35	219+46	SPIKE IN 34" B.E.	115' LT.	848.17



NET LENGTH OF CENTERLINE		
STATION TO STATION		LIN. FT.
190+00	220+00	3,000

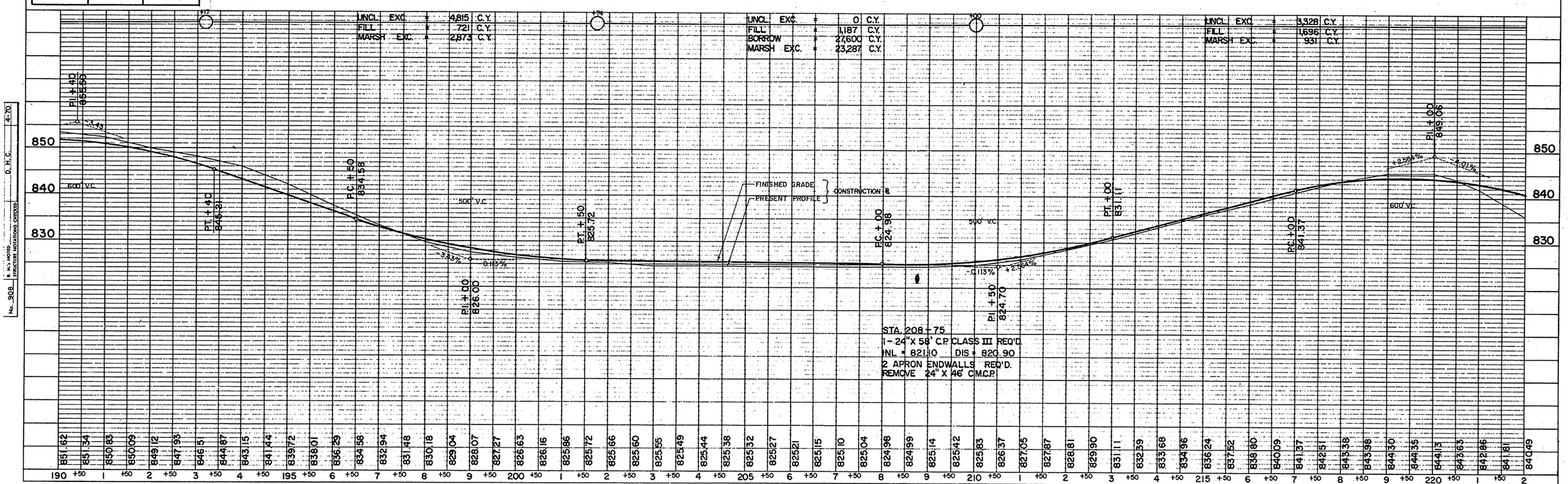
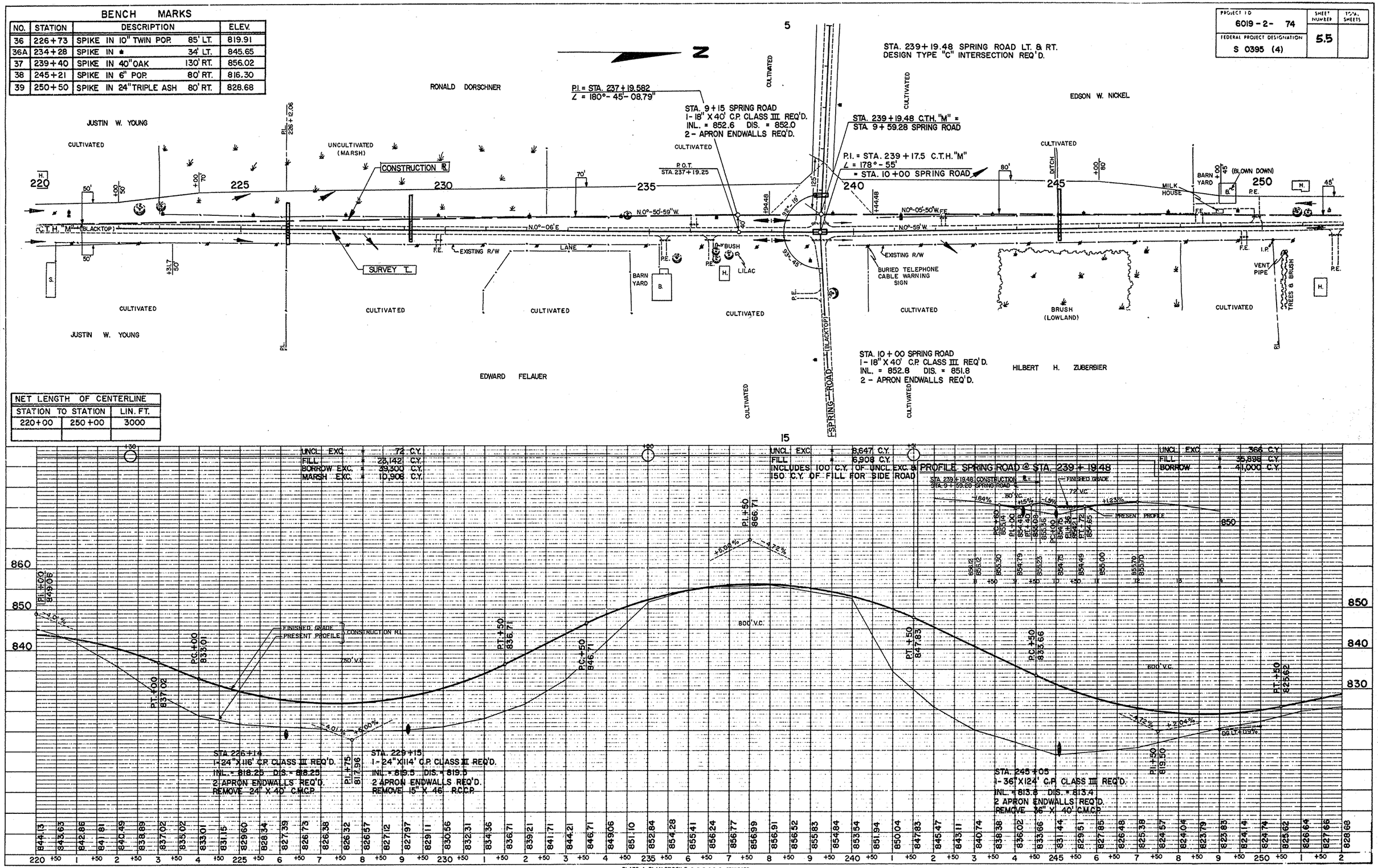


PLATE 1—PLAN PROFILE O.P.R.&R.E. STANDARD

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
6019-2-74	5.5	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO.	STATION	DESCRIPTION		ELEV.
36	226+73	SPIKE IN 10" TWIN POP.	85' LT.	819.91
36A	234+28	SPIKE IN ✱	34' LT.	845.65
37	239+40	SPIKE IN 40" OAK	130' RT.	856.02
38	245+21	SPIKE IN 6" POP.	80' RT.	816.30
39	250+50	SPIKE IN 24" TRIPLE ASH	80' RT.	828.68



NET LENGTH OF CENTERLINE		
STATION TO STATION		LIN. FT.
220+00	250+00	3000

UNCL. EXC. = 72 C.Y.
FILL = 23,142 C.Y.
BORROW EXC. = 39,300 C.Y.
MARSH EXC. = 10,908 C.Y.

UNCL. EXC. = 8,647 C.Y.
FILL = 6,908 C.Y.
INCLUDES 100 C.Y. OF UNCL. EXC. & 150 C.Y. OF FILL FOR SIDE ROAD

UNCL. EXC. = 366 C.Y.
FILL = 35,898 C.Y.
BORROW = 41,000 C.Y.

PROFILE SPRING ROAD @ STA. 239+19.48

STA. 226+14
1-24" X 116' C.P. CLASS III REQ'D.
INL. = 818.25 DIS. = 818.25
2 APRON ENDWALLS REQ'D.
REMOVE 24" X 40' C.M.C.P.

STA. 229+15
1-24" X 114' C.P. CLASS III REQ'D.
INL. = 819.5 DIS. = 819.5
2 APRON ENDWALLS REQ'D.
REMOVE 15" X 46' R.C.C.P.

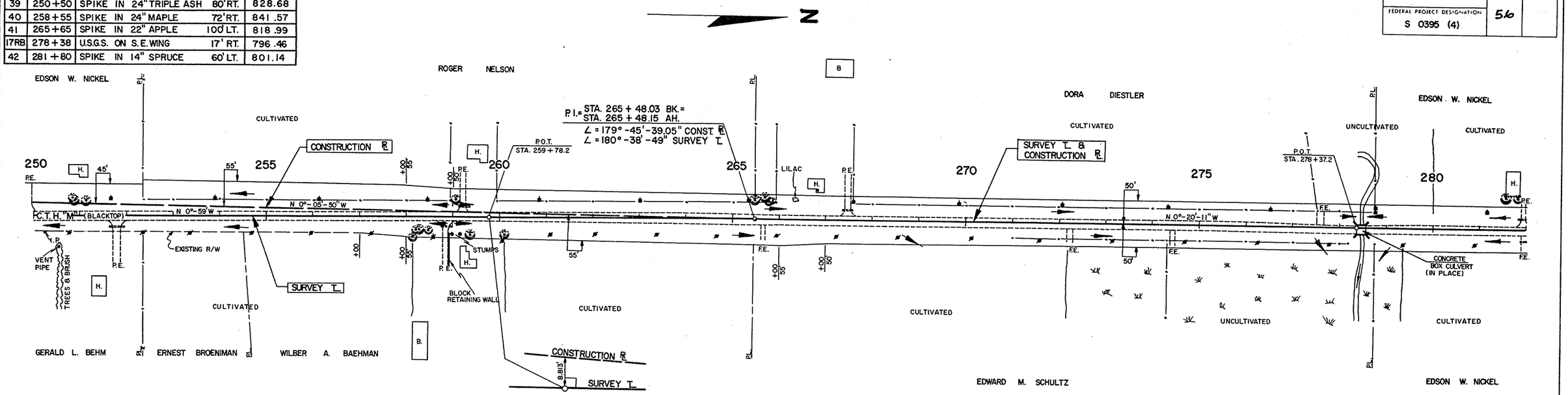
STA. 245+05
1-36" X 124' C.P. CLASS III REQ'D.
INL. = 813.6 DIS. = 813.4
2 APRON ENDWALLS REQ'D.
REMOVE 36" X 40' C.M.C.P.

PLATE 1-PLAN PROFILE O. P. R. & P. E. STANDARD

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
6019 - 2 - 74	5	6
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
39	250+50	SPIKE IN 24" TRIPLE ASH 80' RT.	828.68
40	258+55	SPIKE IN 24" MAPLE 72' RT.	841.57
41	265+65	SPIKE IN 22" APPLE 100' LT.	818.99
17RB	278+38	U.S.G.S. ON S.E. WING 17' RT.	796.46
42	281+80	SPIKE IN 14" SPRUCE 60' LT.	801.14



NET LENGTH OF CENTERLINE		
STATION TO STATION		LIN. FT.
250 + 00	265+48.03	1548.03
265+48.15	280+00	1451.85

UNCL. EXC. = 8,847 C.Y.
FILL = 6,311 C.Y.
WASTE = -65 C.Y.

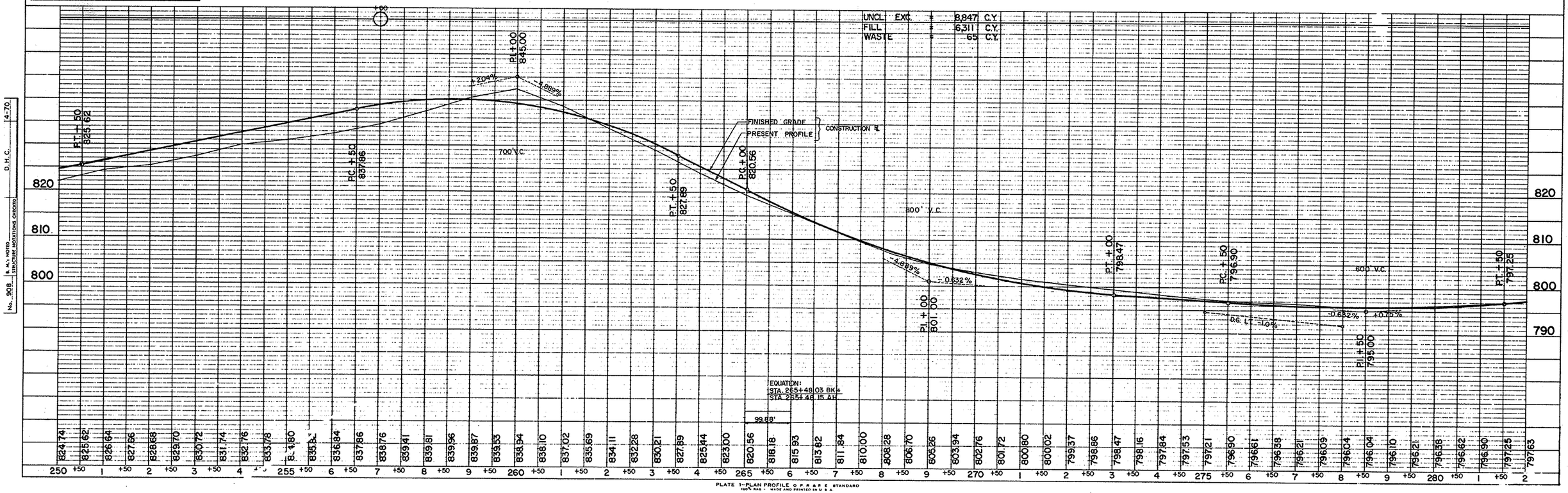


PLATE 1—PLAN PROFILE. O.P.R.&R.E. STANDARD 100% RAG - MADE AND PRINTED IN U.S.A.

No. 907 RT. OF WAY CHECKED

No. 908 S.W. VOTE STRUCTURE ROTATIONS CHECKED D.H.C. 14-70

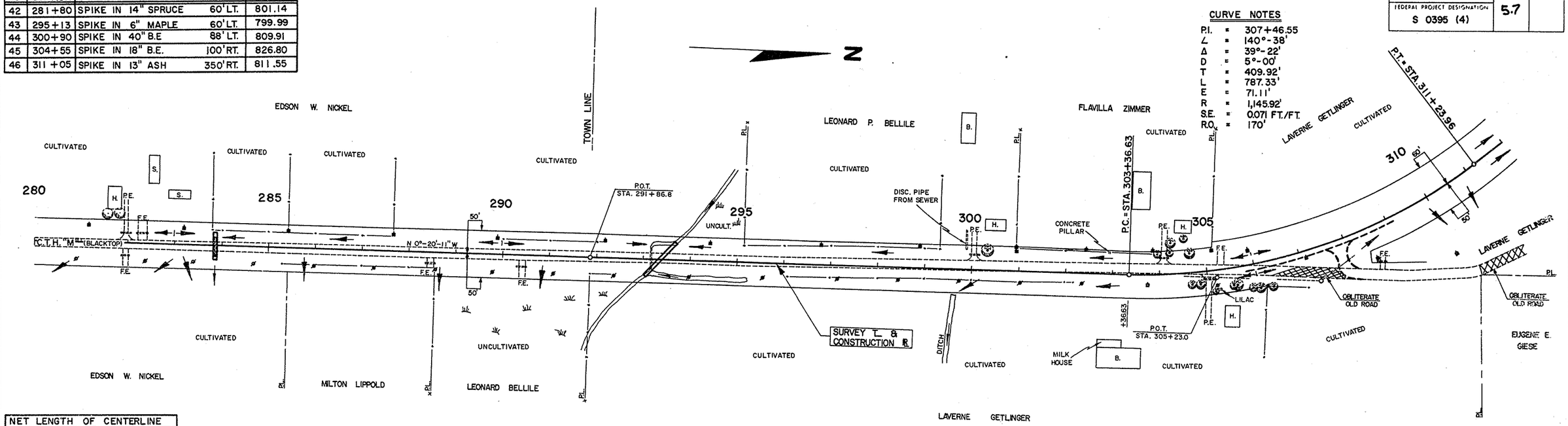
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
6019-2-74	5.7	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO	STATION	DESCRIPTION		ELEV.
42	281+80	SPIKE IN 14" SPRUCE	60' LT.	801.14
43	295+13	SPIKE IN 6" MAPLE	60' LT.	799.99
44	300+90	SPIKE IN 40" B.E	88' LT.	809.91
45	304+55	SPIKE IN 18" B.E.	100' RT.	826.80
46	311+05	SPIKE IN 13" ASH	350' RT.	811.55

CURVE NOTES

P.I. = 307+46.55
∠ = 140°-38'
Δ = 39°-22'
D = 5°-00'
T = 409.92'
L = 787.33'
E = 71.11'
R = 1,145.92'
S.E. = 0.071 FT./FT.
R.O. = 170'



NET LENGTH OF CENTERLINE		
STATION TO STATION		LIN. FT.
280+00	310+00	3,000

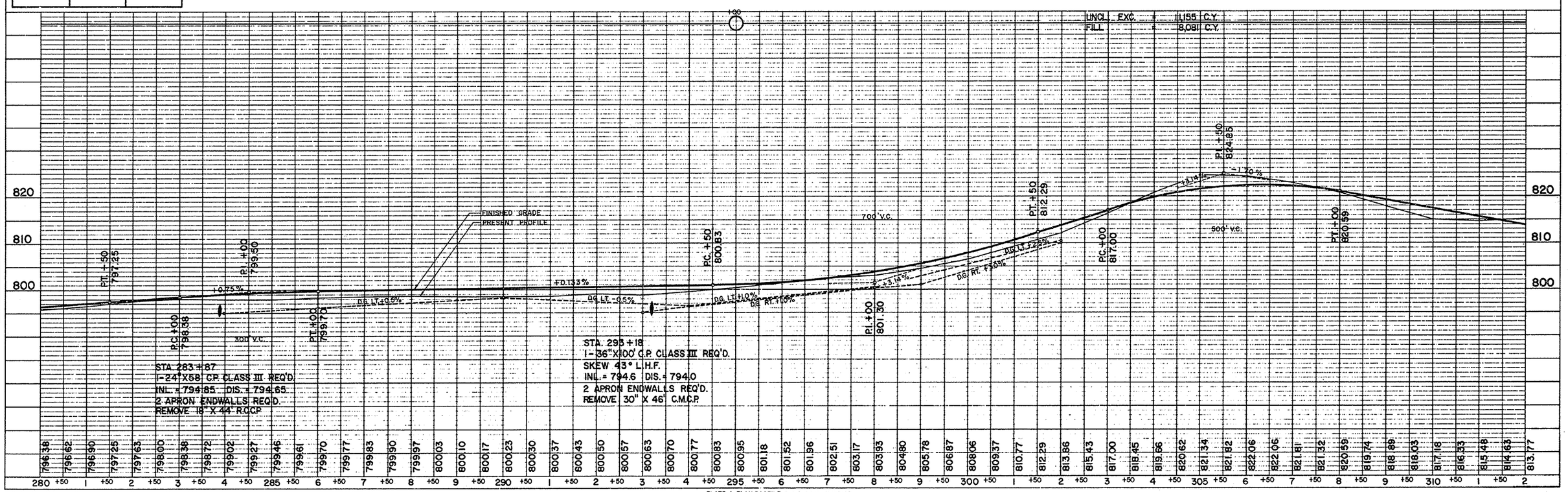
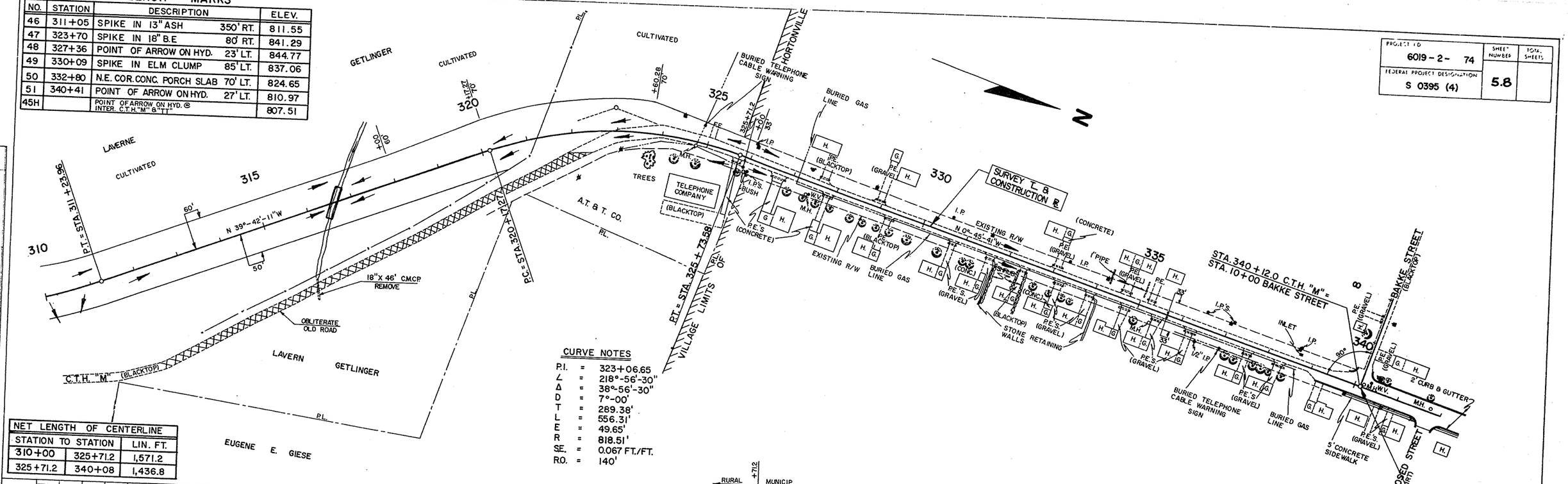


PLATE 1—PLAN PROFILE © P.R.B.R.E. STANDARD

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
6019-2-74	5.8	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO.	STATION	DESCRIPTION		ELEV.
46	311+05	SPIKE IN 13" ASH	350' RT.	811.55
47	323+70	SPIKE IN 18" B.E	80' RT.	841.29
48	327+36	POINT OF ARROW ON HYD.	23' LT.	844.77
49	330+09	SPIKE IN ELM CLUMP	85' LT.	837.06
50	332+80	N.E. COR. CONC. PORCH SLAB	70' LT.	824.65
51	340+41	POINT OF ARROW ON HYD.	27' LT.	810.97
45H		POINT OF ARROW ON HYD. @ INTER. C.T.H. "M" & "TT"		807.51



NET LENGTH OF CENTERLINE

STATION TO STATION		LIN. FT.
310+00	325+71.2	1,571.2
325+71.2	340+08	1,436.8

CURVE NOTES

P.I.	=	323+06.65
∠	=	218°-56'-30"
Δ	=	38°-56'-30"
D	=	7°-00'
T	=	289.38'
L	=	556.31'
E	=	49.65'
R	=	818.51'
SE.	=	0.067 FT./FT.
R.O.	=	140'

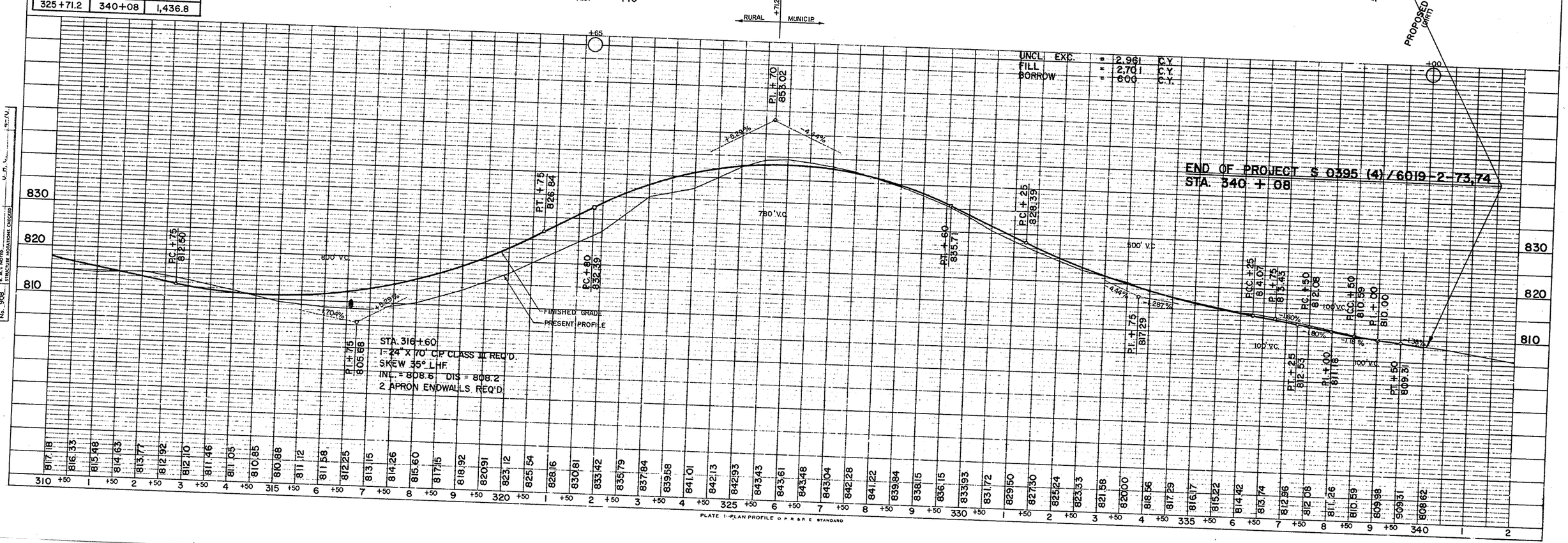


PLATE 1-PLAN PROFILE O.P.R.&R.E. STANDARD

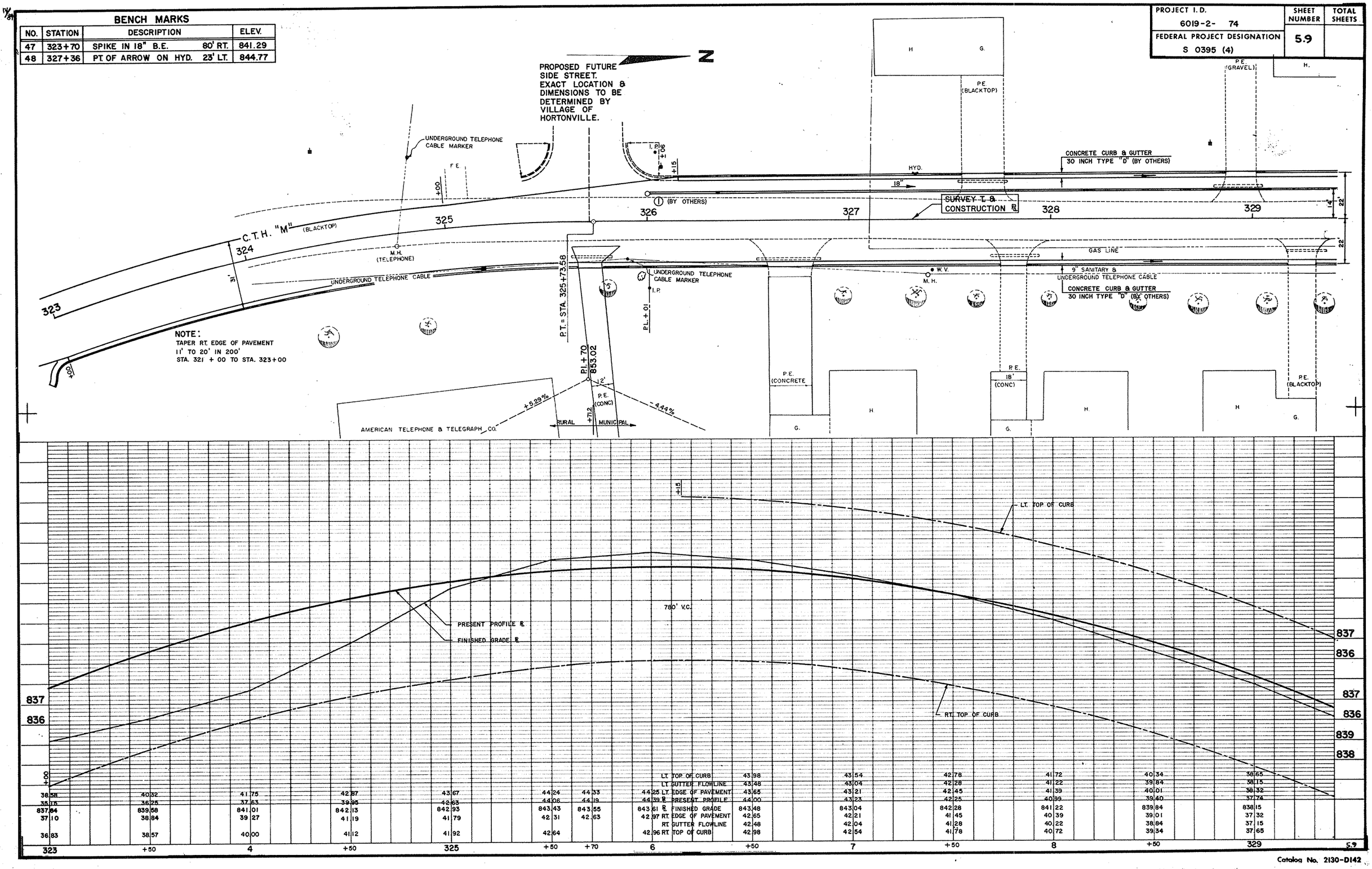
No. 907 RT. OF WAY CHECKED

No. 908 R.W.'S NOTED STRUCTURE NOTATIONS CHECKED

PROJECT I. D.	SHEET NUMBER	TOTAL SHEETS
6019-2- 74	5.9	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
47	323+70	SPIKE IN 18" B.E. 80' RT.	841.29
48	327+36	PT. OF ARROW ON HYD. 23' LT.	844.77

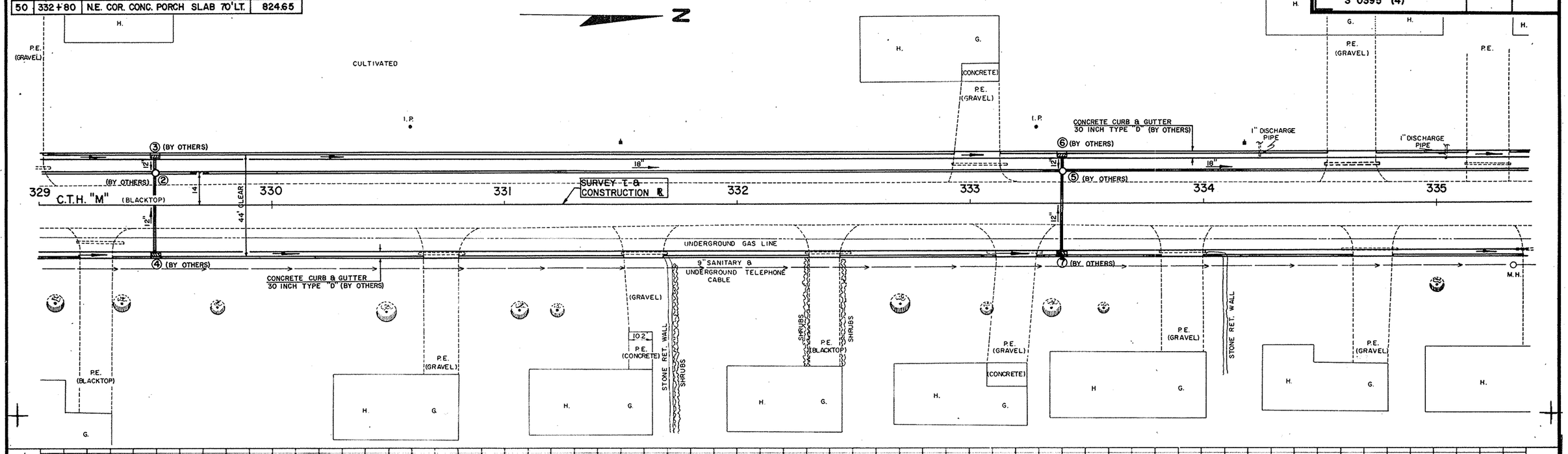


Catalog No. 2130-D142

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
6019-2-74	5.10	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
49	330+09	SPIKE IN ELM CLUMP 85' LT.	837.06
50	332+80	N.E. COR. CONC. PORCH SLAB 70' LT.	824.65



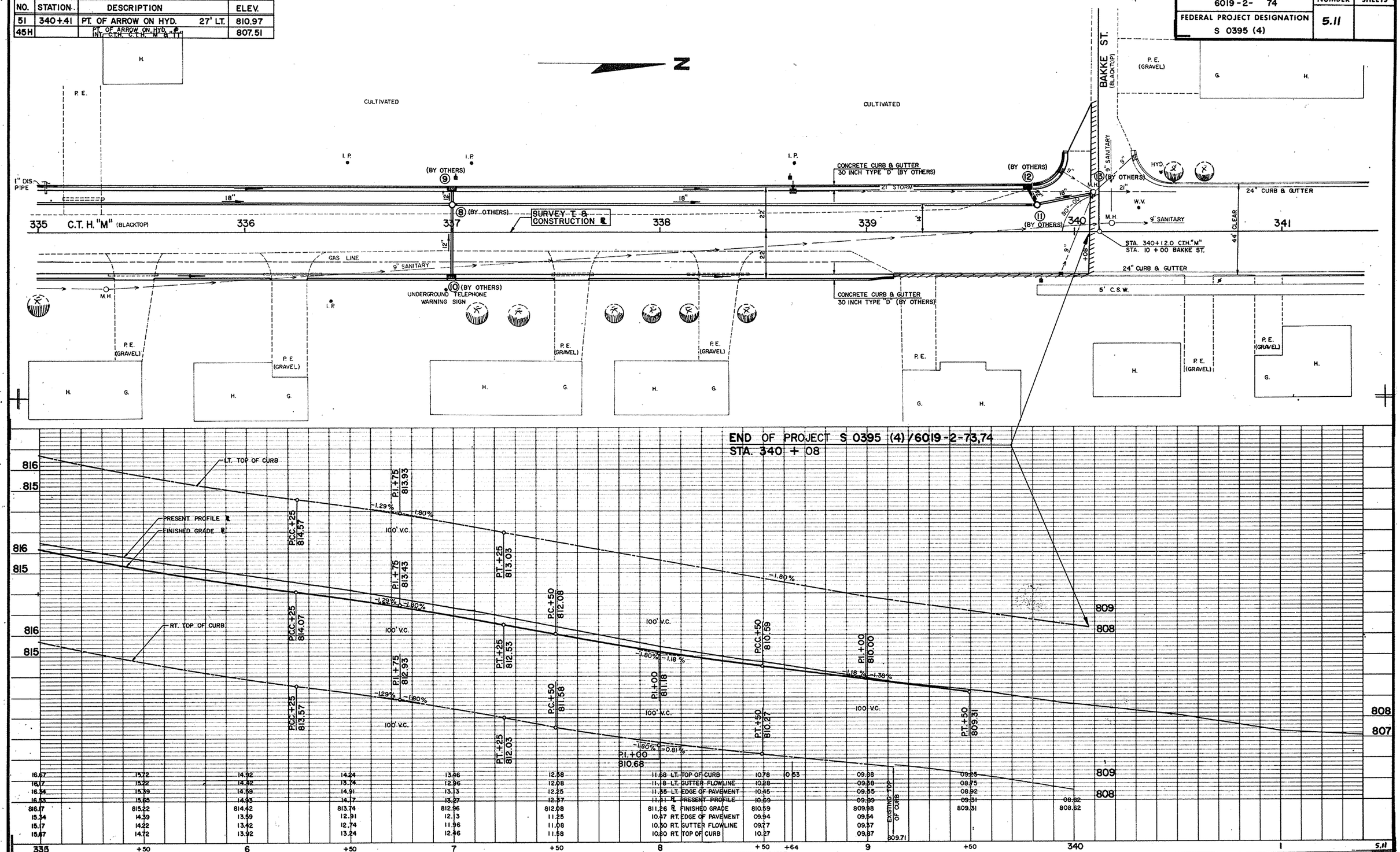
38.65		36.65		34.44		32.22		30.00		27.80		25.74		23.83	LT. TOP OF CURB	22.08		20.50		19.06		17.79		16.67
38.15		36.15		33.94		31.72		29.50		27.30		25.24		23.33	LT. GUTTER FLOWLINE	21.58		20.00		18.56		17.29		16.17
38.32		36.32		34.11		31.89		29.67		27.47		25.41		23.50	LT. EDGE OF PAVEMENT	21.75		20.17		18.73		17.46		16.34
37.75		35.77		33.33		30.62		28.24		26.19		24.40		22.69	℄ PRESENT PROFILE	22.44		20.13		18.73		17.49		16.53
836.15		836.15		833.93		831.72		829.50		827.30		825.24		823.33	℄ FINISHED GRADE	821.58		820.00		818.56		817.29		816.17
37.32		35.32		33.11		30.89		28.67		26.47		24.41		22.50	RT. EDGE OF PAVEMENT	20.75		19.17		17.73		16.46		15.34
37.15		35.15		32.94		30.72		28.50		26.30		24.24		22.33	RT. GUTTER FLOWLINE	50.58		19.00		17.56		16.29		15.17
37.65		35.65		33.44		31.22		29.00		26.80		44.74		22.83	RT. TOP OF CURB	21.08		19.50		18.06		16.79		15.67
329		+50		330		+50		331		+50		332		+50		333		+50		334		+50		335

5.10

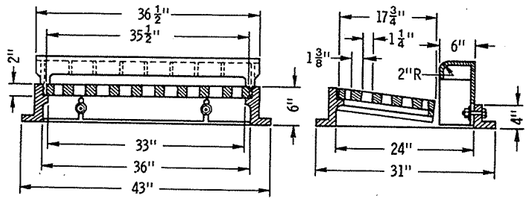
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
6019-2-74	5.11	
FEDERAL PROJECT DESIGNATION S 0395 (4)		

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
51	340+41	PT. OF ARROW ON HYD. 27' LT.	810.97
45H		PT. OF ARROW ON HYD. @ INT. C.T.H. "C.L.H." & "M"	807.51

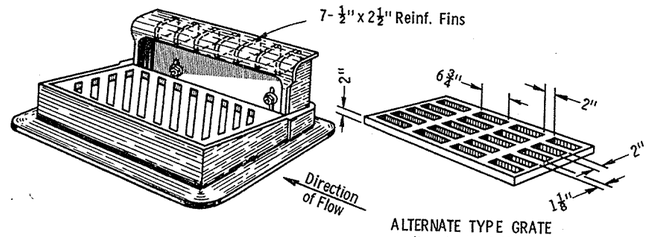


Catalog No. 2130-D143



TYPE "H" - (Approx. Weight 530 Lbs.)

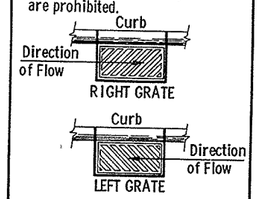
Frame Weight - 220 #
Grate " - 200 #
Box " - 110 #



ALTERNATE TYPE GRATE
(Longitudinal Slots)
Approx. Weight - 200 #

Diagonal Slots shall be oriented to the direction of flow as shown heron. Hence RIGHT and LEFT Grates shall be furnished depending on direction of flow. (See Sketch Below).

Longitudinal slot type grates may be used ONLY where bicycles are prohibited.



INLET COVER

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detailed drawings for proposed alternate designs for Inlets shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All Inlets are designated on the Plans as "Inlets, 3-H". This designation is interpreted to mean that the number, or first digit, designates the masonry portion of the structure, and the following letter designates the type of cover or iron casting to be used therewith to comprise the complete unit "Inlet" in place.

All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

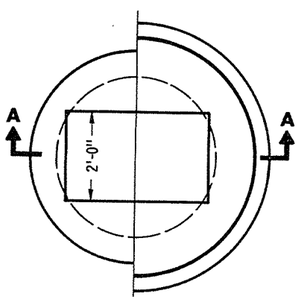
Precast Reinforced Bases and Inlet units may be used in lieu of Cast-in-place bases. When Precast Bases or Inlet units are used, they shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding material shall be compacted and provide uniform support for the entire area of the base.

Square Precast Inlet units shall conform to the requirements of the Catch Basins, Manholes and Inlets Section of the Standard Specifications.

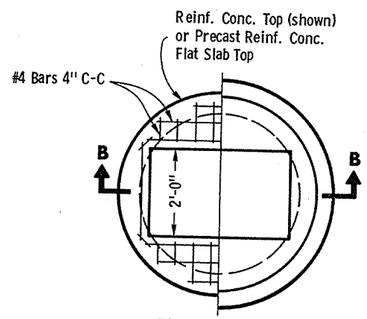
All Precast Reinforced Concrete Grade Rings shall conform to AASHO Designation M 199. Precast Reinforced Concrete Bases shall conform to Flat Slab Top requirements of AASHO Designation.

Adjustment of the cover to grade may be accomplished by the use of mortar and brick or Precast Reinforced Concrete Grade Rings. Maximum adjustment shall be 8 inches.

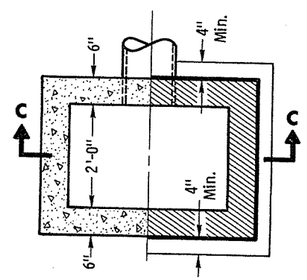
Precast Reinforced Concrete Risers may be placed with tongue or "D" joint ends either up or down.



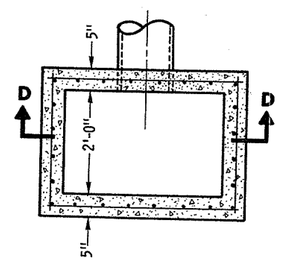
PLAN VIEW



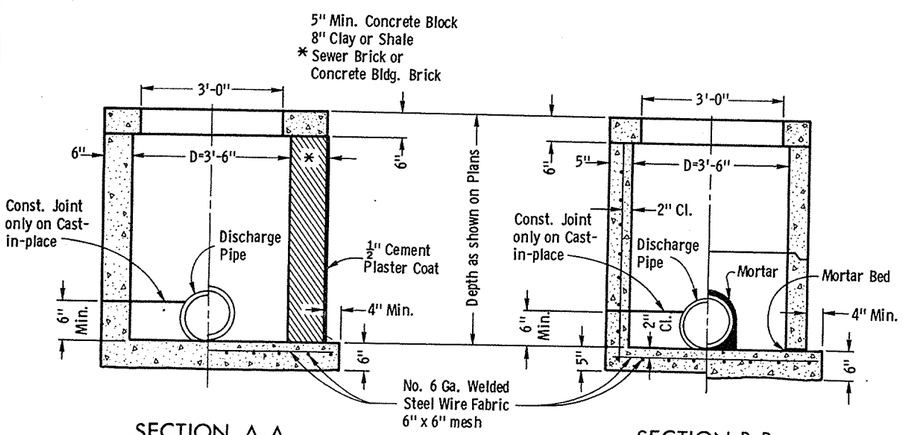
PLAN VIEW



PLAN VIEW



PLAN VIEW

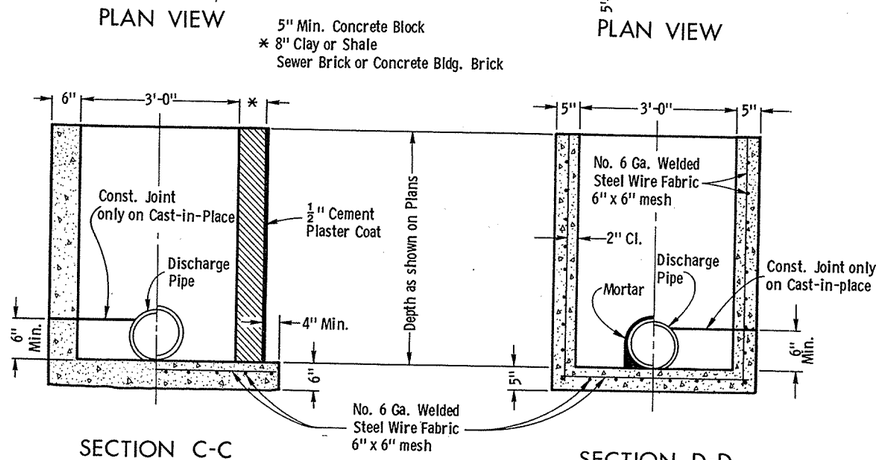


SECTION A-A

MONOLITHIC CONCRETE — CONCRETE BLOCK OR BRICK

SECTION B-B

REINFORCED CONCRETE — PRECAST REINFORCED CONCRETE



SECTION C-C

MONOLITHIC CONCRETE — CONCRETE BLOCK OR BRICK

SECTION D-D

PRECAST REINFORCED CONCRETE — REINFORCED CONCRETE

INLETS TYPE 3

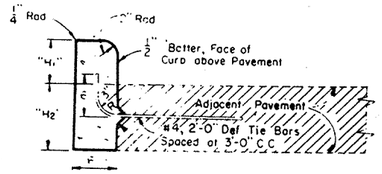
INLETS TYPE 3
AND INLET COVER

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL:
5/3/72 — DATE — CHIEF DESIGN ENGINEER
APPROVED
5/3/72 — DATE — STATE HIGHWAY ENGINEER

S.D.D. 8C 2-2

S.D.D. 8C 2-2

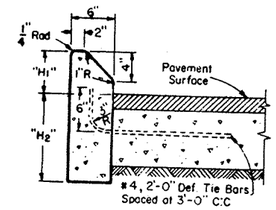


Tie Bar recess positioned in reverse when Concrete Curb is constructed first

"H1" : 9" max and 3 1/2" min. and shall be 6" unless otherwise shown on the plans
"H2" : Same as adjacent pavement thickness for rigid pavement
"H2" : 12" For other than rigid pavement (Tie Bars Omitted)

TYPE "A" (Including Tie Bars) TYPE "D" (Excluding Tie Bars)

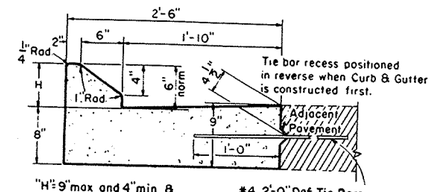
CONCRETE CURB



"H1" = 9" Max and 4" min. and shall be 6" unless otherwise shown on plans.
"H2" = Same as adjacent pavement thickness for rigid pavement and 12" for other than rigid pavement (Tie Bars Omitted)

TYPE "G" (Including Tie Bars) TYPE "J" (Excluding Tie Bars)

CONCRETE CURB (Mountable Type)



"H" = 9" max and 4" min & shall be 6" unless otherwise shown on the plans.

#4, 2'-0" Def Tie Bars or alternate Bolt Type instal. may be used, spaced at 3'-0" C.C.

TYPE "G" (Including Tie Bars) TYPE "J" (Excluding Tie Bars)

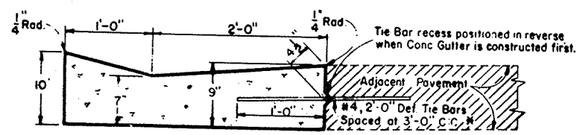
CONCRETE CURB AND GUTTER (Mountable Type)

GENERAL NOTES

Details of construction and materials not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

JOINTS –

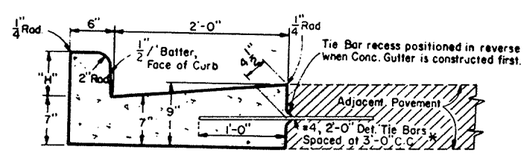
Joints shall not be sealed in concrete curb, concrete gutter, concrete curb and gutter, or concrete surface drains.



* Alternate Tie Bars or Bolt Type installations may be used as shown for Longitudinal Joints.

TYPE "A" (Including Tie Bars) TYPE "D" (Excluding Tie Bars)

CONCRETE GUTTER

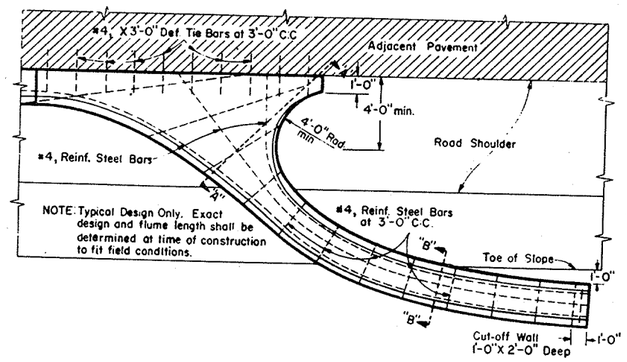


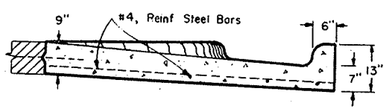
"H" = 9" Max., 3 1/2" Min., and shall be 6" unless otherwise shown on the plans.

* Alternate Tie Bars or Bolt Type installations may be used as shown for Longitudinal Joints

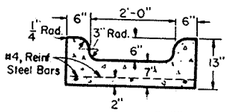
TYPE "A" (Including Tie Bars) TYPE "D" (Excluding Tie Bars)

CONCRETE CURB AND GUTTER (Barrier Type)





SECTION "A"-"A"



SECTION "B"-"B"

CONCRETE INLET OR DISCHARGE FOR CURB AND GUTTER SURFACE DRAIN

CONCRETE CURB, CONCRETE GUTTER CONCRETE CURB AND GUTTER AND CONCRETE SURFACE DRAINS

STATE HIGHWAY COMMISSION OF WISCONSIN

RECOMMENDED FOR APPROVAL

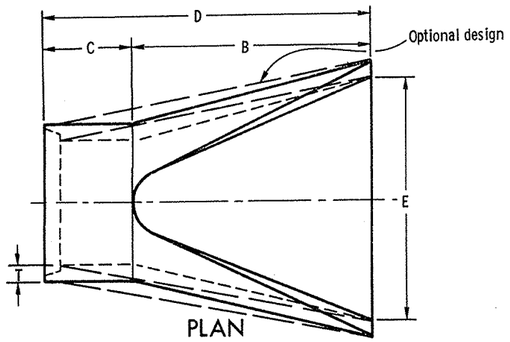
2-5-63 DATE — J. S. Pilf ENGINEER OF DESIGN

APPROVED:

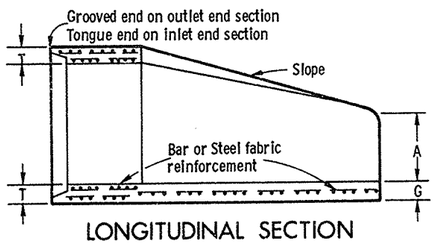
2/6/63 DATE — E. L. Rettiger STATE HIGHWAY ENGINEER

S.D.D. 8D1-1

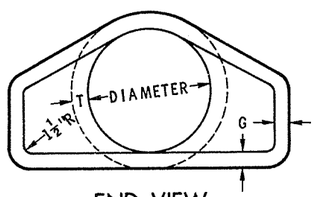
S.D.D. 8D1-1



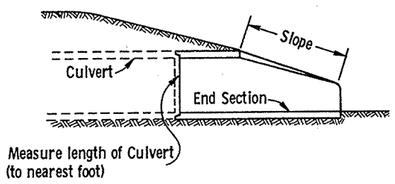
PLAN



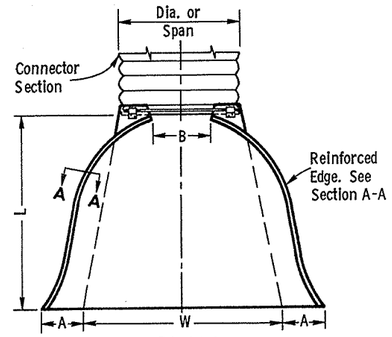
LONGITUDINAL SECTION



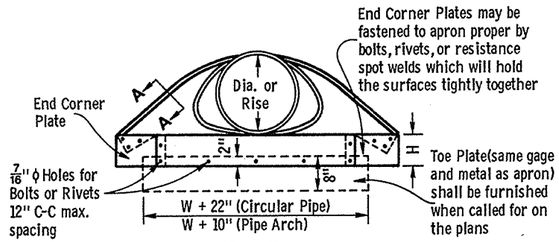
END VIEW



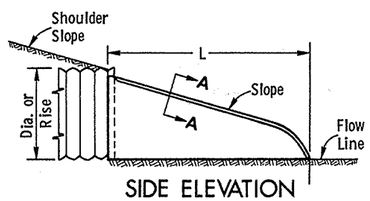
SLOPE DETAIL



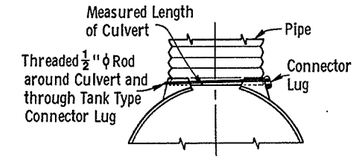
PLAN



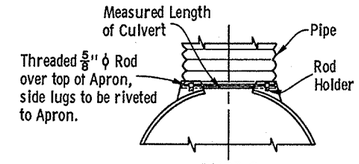
END VIEW



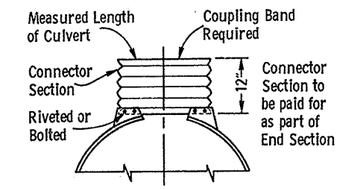
SIDE ELEVATION



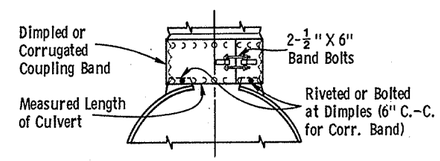
TYPE 1
For 12" thru 24" only (Circular Pipe)



TYPE 2
For 30" and 36" only (Circular Pipe)
For 18" X 11" thru 58" X 36" only (Pipe Arch)



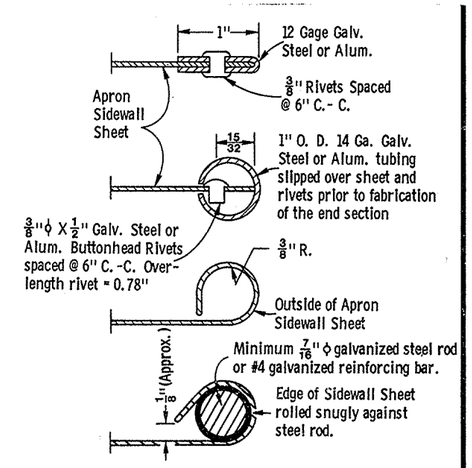
TYPE 3
For 42" thru 84" only (Circular Pipe)
For 65" X 40" & 72" X 44" (Pipe Arch)



TYPE 5
Alternate for
All sizes Corrugated Circular Pipe and Pipe Arch

NOTE: Dimpled Band fits over Outside of Endwall, and Corr. Band fits Inside Endwall. Dimpled Band may be used with Helically Corrugated Pipe

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

Details of construction, materials, and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Variations of the dimensions and designs shown hereon will be permitted providing equivalent capacity and structural integrity are attained, and prior approval of the Engineer is obtained.

Concrete culvert endwalls may not be used with metal or aluminum culvert pipe, nor may metal or aluminum culvert endwalls be used with concrete culvert pipe.

When two or more pipes or pipe arches with apron endwalls are to be laid adjacent to each other, they shall be separated by the following amount:

Pipes: Total width of apron endwall less the diameter of pipe plus 6 inches.
Pipe Arches: Total width of apron endwall less the span dimension of the pipe arch plus 6 inches.

DIA.	APPROX. WEIGHT/ SECTION	APPROX. SLOPE	T	A	B	C	D	E	G
12"	530	3 to 1	2"	4"	24"	$48\frac{7}{8}$"	$72\frac{7}{8}$"	24"	2"
15"	740	3 to 1	$2\frac{1}{4}$"	6"	27"	46"	73"	30"	$2\frac{1}{4}$"
18"	990	3 to 1	$2\frac{1}{2}$"	9"	27"	46"	73"	36"	$2\frac{1}{2}$"
21"	1,280	3 to 1	$2\frac{3}{4}$"	9"	36"	$37\frac{1}{2}$"	$73\frac{1}{2}$"	42"	$2\frac{3}{4}$"
24"	1,520	3 to 1	3"	$9\frac{1}{2}$"	$43\frac{1}{2}$"	30"	$73\frac{1}{2}$"	48"	3"
27"	1,930	3 to 1	$3\frac{1}{4}$"	$10\frac{1}{2}$"	$49\frac{1}{2}$"	24"	$73\frac{1}{2}$"	54"	$3\frac{1}{4}$"
30"	2,190	3 to 1	$3\frac{1}{2}$"	12"	54"	$19\frac{3}{4}$"	$73\frac{3}{4}$"	60"	$3\frac{1}{2}$"
36"	4,100	3 to 1	4"	15"	63"	$34\frac{3}{4}$"	$97\frac{3}{4}$"	72"	4"
42"	5,380	3 to 1	$4\frac{1}{2}$"	21"	63"	35"	98"	78"	$4\frac{1}{2}$"
48"	6,550	3 to 1	5"	24"	72"	26"	98"	84"	5"
54"	8,040	$2\frac{2}{5}$ to 1	$5\frac{1}{2}$"	27"	65"	$33\frac{1}{4}$" ** - 35" *	$98\frac{1}{4}$" ** - 100" *	90"	5"
60"	8,730	2 to 1	6"	30" ** - 35" *	60"	39"	99"	96"	5"
66"	10,630	2 to 1	$6\frac{1}{2}$"	24" ** - 30" *	72" ** - 78" *	21" - 27"	99"	102"	$5\frac{1}{2}$"
72"	12,520	2 to 1	7"	24" ** - 36" *	78"	21"	99"	108"	6"
78"	14,430	2 to 1	$7\frac{1}{2}$"	24" ** - 36" *	78"	21"	99"	114"	$6\frac{1}{2}$"
84"	18,160	$1\frac{1}{2}$ to 1	8"	36"	$90\frac{1}{2}$"	21"	$111\frac{1}{2}$"	120"	$6\frac{1}{2}$"

** Minimum
* Maximum

REINFORCED CONCRETE APRON ENDWALLS

D PIPE DIAM.	MIN. METAL GAGE	MIN. ALUM. GAGE	DIMENSIONS A ± 1"	B MAX.	H ± 1"	L ± $1\frac{1}{2}$"	W ± 2"	APPROX. SLOPE
12"	16	16	6"	6"	6"	21"	24"	$2\frac{1}{2}$ to 1
15"	16	16	7"	8"	6"	26"	30"	"
18"	16	16	8"	10"	6"	31"	36"	"
21"	16	16	9"	12"	6"	36"	42"	"
24"	16	14	10"	13"	6"	41"	48"	"
30"	14	14	12"	16"	8"	51"	60"	"
36"	14	12	14"	19"	9"	60"	72"	"
42"	12	12	16"	22"	11"	69"	84"	"
48"	12	12	18"	27"	12"	78"	90"	$2\frac{1}{4}$ to 1
54"	12	12	18"	30"	12"	84"	102"	2 to 1
60"	10	8	18"	33"	12"	87"	114"	$1\frac{3}{4}$ to 1
66"	10	8	18"	36"	12"	87"	120"	$1\frac{1}{2}$ to 1
72"	10	8	18"	39"	12"	87"	126"	$1\frac{1}{3}$ to 1
78"	8	NA	18"	42"	12"	87"	132"	$1\frac{1}{4}$ to 1
84"	8	NA	18"	45"	12"	87"	138"	$1\frac{1}{6}$ to 1

NOTE: All splices to be lap riveted or bolted

METAL OR ALUMINUM APRON ENDWALLS FOR CIRCULAR PIPES

PIPE – ARCH DIMENSIONS SPAN	RISE	GAGE MIN.	DIMENSIONS A ± 1"	B MAX.	H ± 1"	L ± $1\frac{1}{2}$"	W ± 2"	APPROX. SLOPE
18"	11"	16	7"	9"	6"	19"	30"	$2\frac{1}{2}$ to 1
22"	13"	16	7"	10"	6"	23"	36"	"
25"	16"	16	8"	12"	6"	28"	42"	"
29"	18"	16	9"	14"	6"	32"	48"	"
36"	22"	14	10"	16"	6"	39"	60"	"
43"	27"	14	12"	18"	8"	46"	75"	"
50"	31"	12	13"	21"	9"	53"	85"	"
58"	36"	12	18"	26"	12"	63"	90"	"
65"	40"	12	18"	30"	12"	70"	102"	$2\frac{1}{4}$ to 1
72"	44"	12	18"	33"	12"	77"	114"	"

NOTE: All splices to be lap riveted or bolted

METAL APRON ENDWALLS FOR PIPE ARCHES

CIRCULAR PIPE

For Circumferentially Corrugated Pipe use Endwall Connection Details 1,2,3, or 5 as applicable.

For Helically Corrugated Pipe use Endwall Connection Details 1, 2 or 5.

For Helically Corrugated Pipes with two Circumferential Corrugations at each end use Endwall Connection Details 1,2, or 3

PIPE ARCH

Use Endwall Connection Details 2,3, or 5 as applicable.

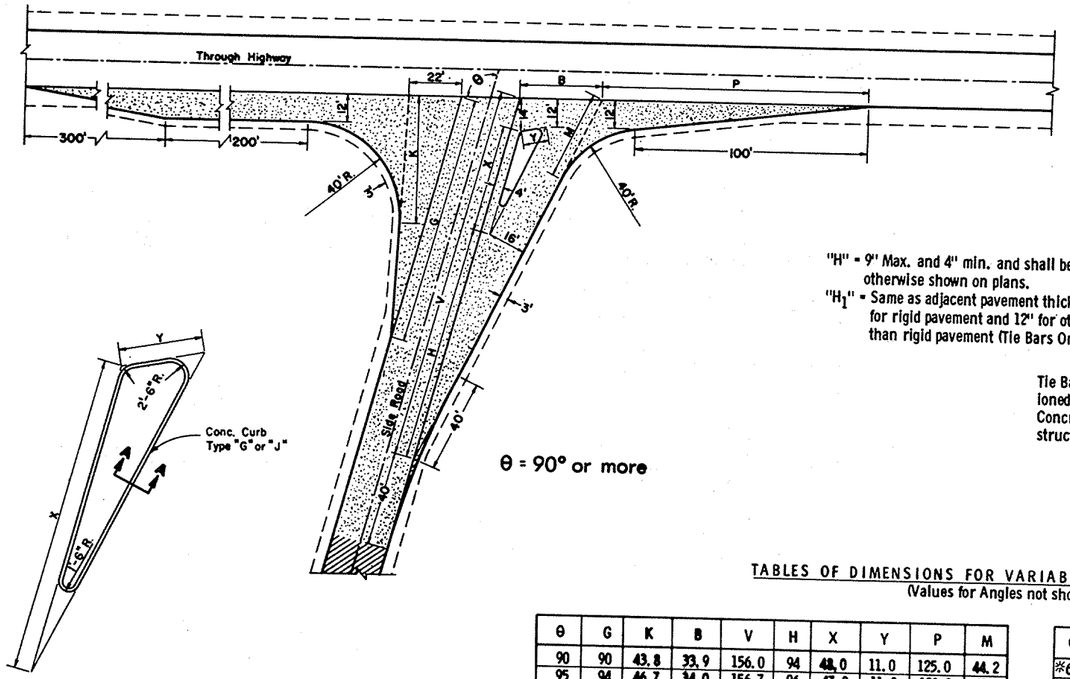
APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL:
4-11-72 — DATE — S. C. Hamied — CHIEF DESIGN ENGINEER
APPROVED
4-11-72 — DATE — S. C. Hicks — STATE HIGHWAY ENGINEER

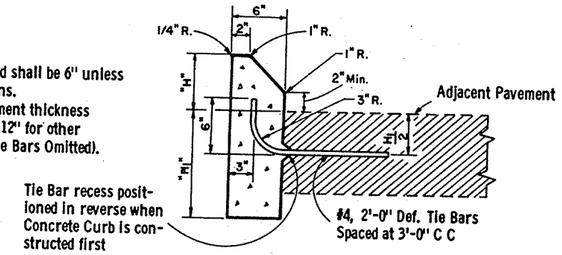
S.D.D. 8F1-2

S.D.D. 8F1-2



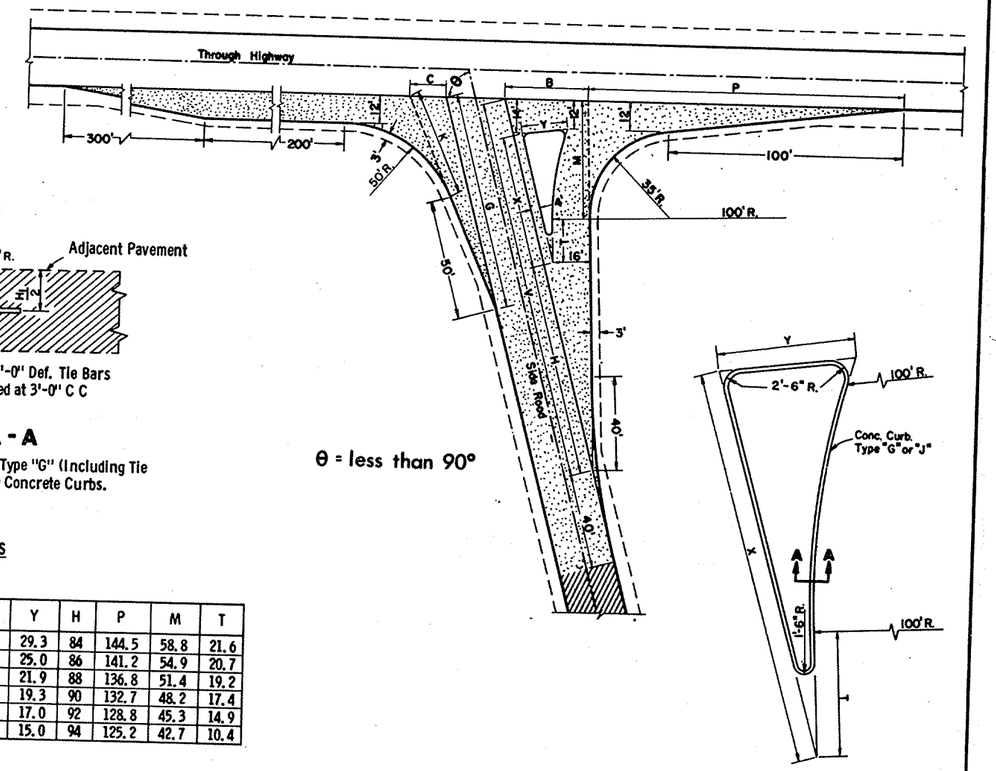
θ = 90° or more

"H" = 9" Max. and 4" min. and shall be 6" unless otherwise shown on plans.
"H_1" = Same as adjacent pavement thickness for rigid pavement and 12" for other than rigid pavement (Tie Bars Omitted).



SECTION **A - A**

Note: To be measured and paid for as Type "G" (Including Tie Bars) or Type "J" (Excluding Tie Bars) Concrete Curbs.



θ = less than 90°

TABLES OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES
(Values for Angles not shown shall be interpolated)

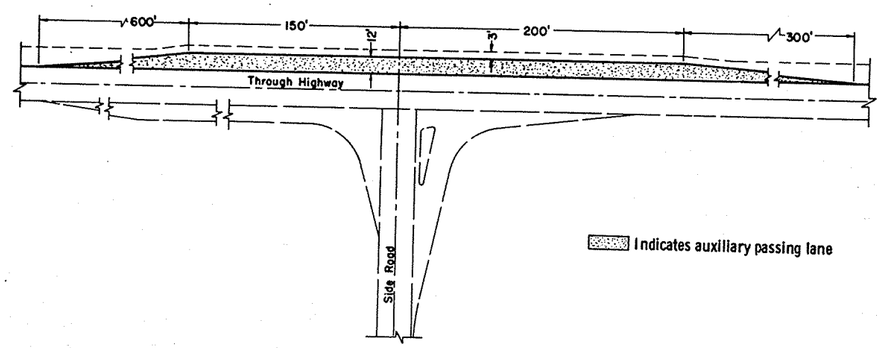
θ	G	K	B	V	H	X	Y	P	M
90	90	43.8	33.9	156.0	94	48.0	11.0	125.0	44.2
95	94	46.7	34.0	156.7	96	47.0	11.0	121.3	41.9
100	98	50.0	34.4	157.4	98	45.9	11.0	117.7	39.7
105	102	53.8	35.2	158.3	100	44.9	11.2	114.2	37.8
110	106	58.2	36.4	159.2	102	43.7	11.4	110.6	36.2
115	110	63.4	38.4	161.8	104	42.6	11.7	107.1	34.8
*120	114	69.4	40.1	161.2	106	41.4	12.2	103.4	33.7

*Maximum angle of intersection

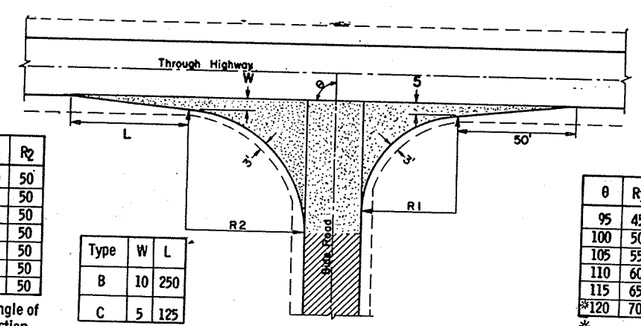
θ	C	G	K	B	V	X	Y	H	P	M	T
*60	19.7	76.3	38.6	41.5	169.9	67.4	29.3	84	144.5	58.8	21.6
65	17.8	82.6	40.6	39.4	166.9	63.6	25.0	86	141.2	54.9	20.7
70	15.8	87.2	43.1	37.4	164.1	59.7	21.9	88	136.8	51.4	19.2
75	15.7	90.9	45.6	35.7	161.4	55.9	19.3	90	132.7	48.2	17.4
80	15.9	94.9	48.3	34.4	158.9	51.9	17.0	92	128.8	45.3	14.9
85	16.2	99.3	51.4	33.4	156.4	48.0	15.0	94	125.2	42.7	10.4

*Desirable Minimum angle of intersection

TYPE "A" SIDE ROAD INTERSECTION DETAILS



PASSING LANE DETAIL



θ	R_1	R_2
*60	40	50
65	40	50
70	40	50
75	40	50
80	40	50
85	40	50
90	40	50

*Min. Angle of Intersection

Type	W	L
B	10	250
C	5	125

θ	R_1	R_2
95	45	49
100	50	48
105	55	47
110	60	46
115	65	45
*120	70	44

*Max. Angle of Intersection

TYPE "B" & "C" SIDE ROAD INTERSECTION DETAILS

GENERAL NOTES

Designs may be used interchangeably in combination or separately for any one complete intersection depending upon intersection angle and surfacing of each approach roadway.

Details on this drawing are for minimum design only, and not applicable to special conditions, as shown elsewhere on the plans.

SIDE ROAD SURFACING NOTE

If the side road is not presently paved, pavement shall be placed to the limits shown. In the case where the construction limits are beyond the paving limits, gravel or crushed stone surfacing shall be placed between the paving limits and construction limits.

If the side road is presently paved, new pavement shall be placed to the limits of design as shown and beyond, if necessary, to meet existing pavement.

If side road is the construction project, the intersection surfacing shall be the same as for the project.

New Pavement
Existing Surface

LAYOUT DETAILS FOR AT-GRADE SIDE ROAD INTERSECTIONS

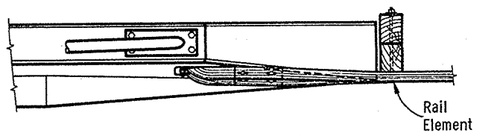
State Highway Commission of Wisconsin

RECOMMENDED FOR APPROVAL: 8/9/67 DATE — E. J. Bartelt, CHIEF DESIGN ENGINEER

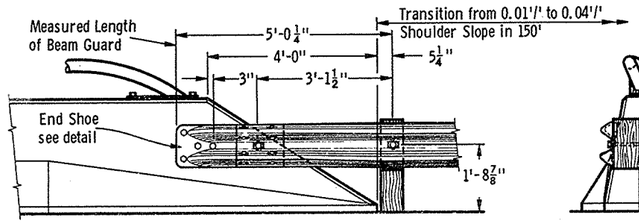
APPROVED: 8/9/67 DATE — STATE HIGHWAY ENGINEER

S.D.D. 9A1-1

S.D.D. 9A1-1



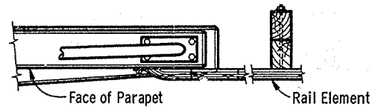
PLAN VIEW



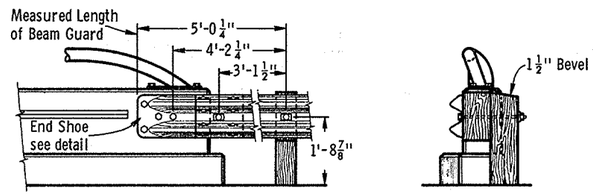
FRONT ELEVATION END ELEVATION

STRUCTURE MOUNTING DETAIL

SLOPING TYPE PARAPET WALL



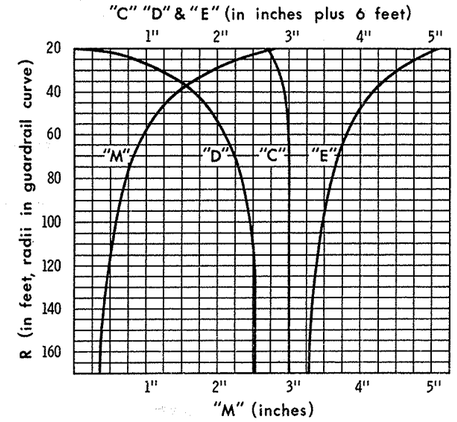
PLAN VIEW

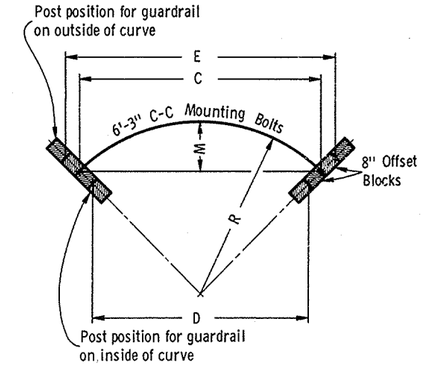


FRONT ELEVATION END ELEVATION

STRUCTURE MOUNTING DETAIL

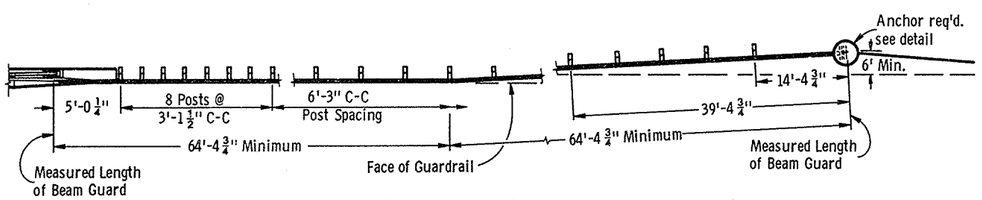
VERTICAL TYPE PARAPET WALL



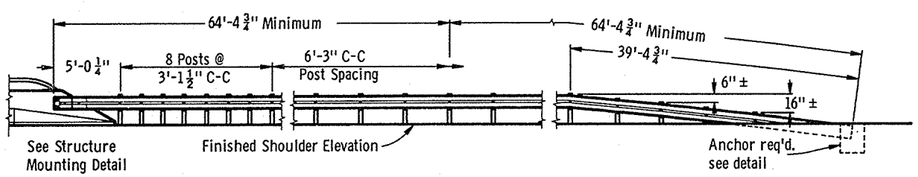


CHORD LENGTHS FOR POST SPACING AND MIDDLE ORDINATES FOR BEAM CURVING

CURVE DATA FOR POST SPACING AND BEAM CURVING

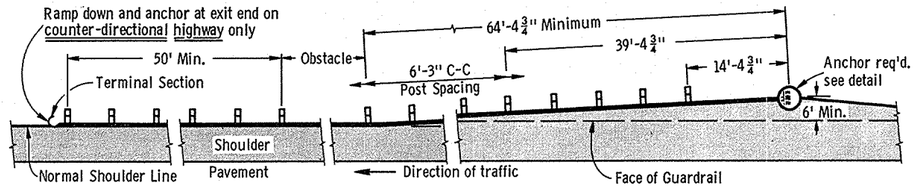


PLAN VIEW



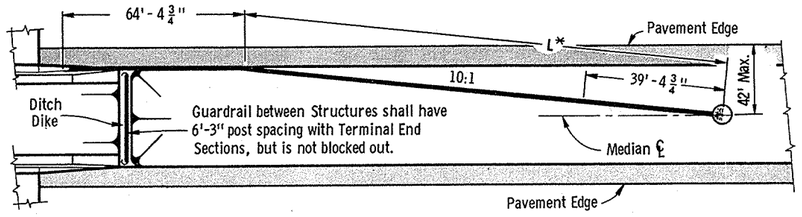
FRONT ELEVATION

TYPICAL OUTSIDE SHOULDER INSTALLATION AT STRUCTURES



PLAN VIEW

TYPICAL INSTALLATION AT LOCATIONS OTHER THAN STRUCTURES



* Variable based on Median width

PLAN VIEW

MEDIAN PROTECTION

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

The exact location of the beginning and end of each Guardrail installation shall be as shown on the plans or as directed by the Engineer.

Square anchor alternates will be permitted. Square anchors shall be a minimum of 24 inches x 24 inches.

The shoulder widening to accommodate the anchored end of the Guardrail shall be accomplished at a rate of widening not to exceed 50 to 1.

Upon approval of the Engineer, the 6 foot anchor offset may be reduced to nothing for replacement installations where existing conditions will not permit the desirable offset. However, when no offset greater than or equal to 3 feet can be provided, the minimum length of guardrail in advance of an obstacle (obstacle to anchor) shall be 150 feet.

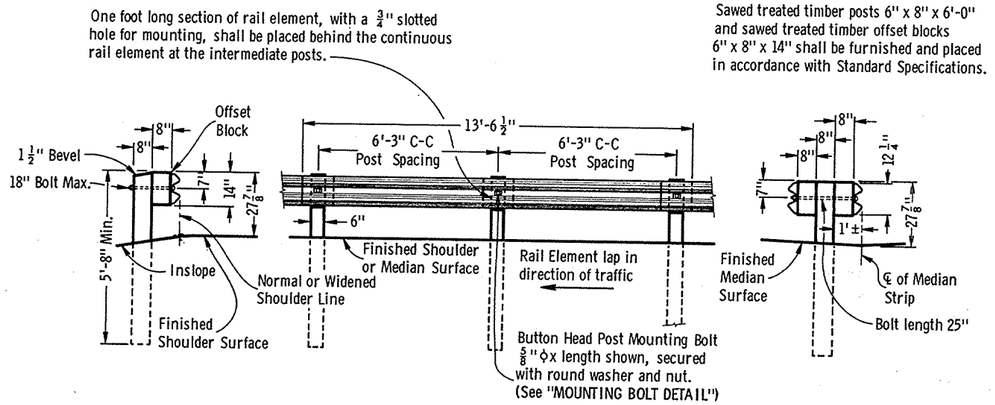
The "Post Footing Details At Piers" shall be used when guardrail posts are over structure footings and less than 3 feet-6 inches of earth is provided over the top of the footing.

NOTE: This Standard Detail Drawing consists of two plates, and both plates are required when this Standard is called for in the plans.

CLASS "A"
STEEL PLATE BEAM GUARD &
STEEL PLATE BEAM MEDIAN GUARD

State of Wisconsin
Department of Transportation
Division of Highways

S.D.D. 14 B 2-2a



END ELEVATION

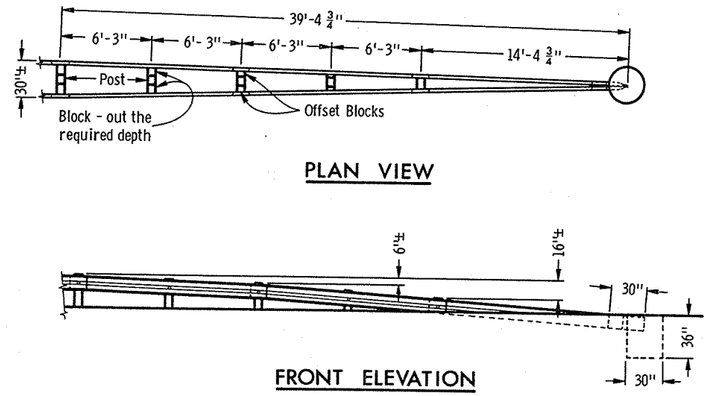
FRONT ELEVATION

END ELEVATION

STEEL PLATE BEAM GUARD

STEEL PLATE BEAM MEDIAN GUARD

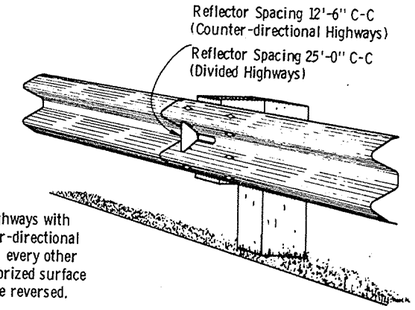
STEEL PLATE BEAM GUARD OR STEEL PLATE BEAM MEDIAN GUARD



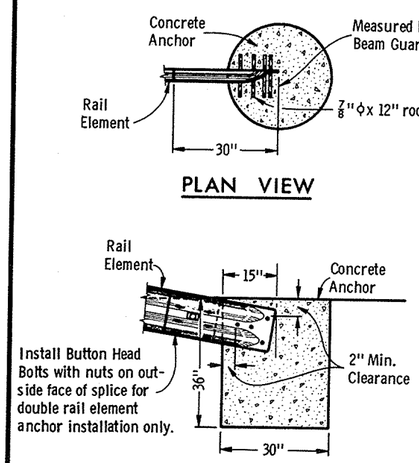
PLAN VIEW

FRONT ELEVATION

ANCHOR DETAIL FOR DOUBLE RAIL ELEMENT INSTALLATION



TYPICAL INSTALLATION

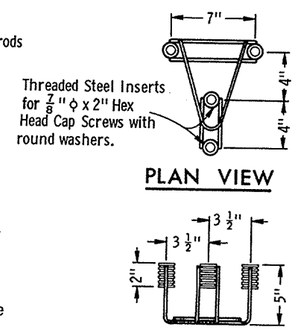


PLAN VIEW

SECTION VIEW

ANCHOR DETAIL

SINGLE RAIL ELEMENT INSTALLATION

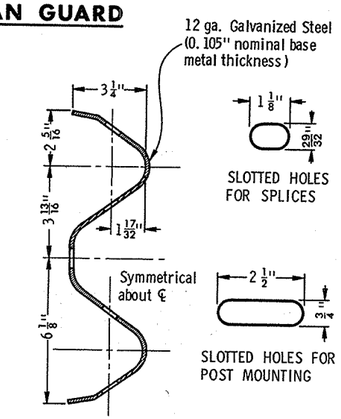


PLAN VIEW

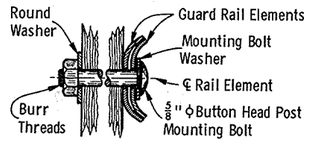
ELEVATION

4 BOLT INSERT ASSEMBLY

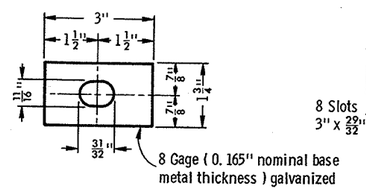
NOTE: Installation of 4 Bolt Insert Assembly (with Cap Screws inserted) to be part of Bridge Contract.



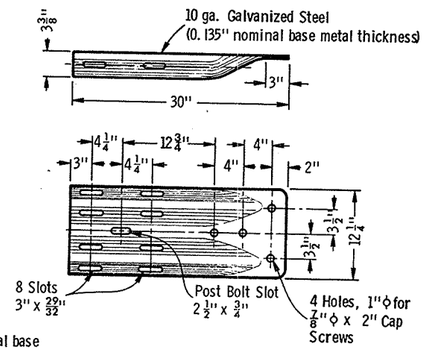
SECTION THRU RAIL ELEMENT



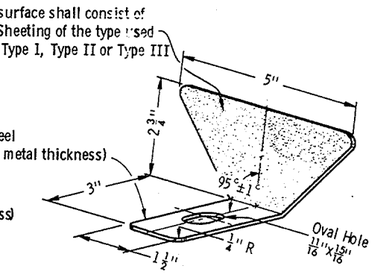
MOUNTING BOLT DETAIL



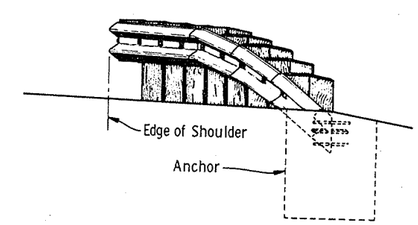
MOUNTING BOLT WASHER



END SHOE DETAIL



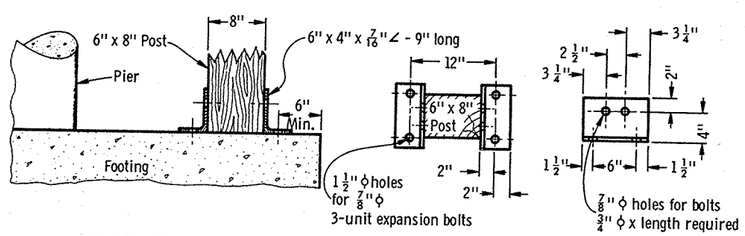
REFLECTOR DETAIL



TYPICAL TERMINAL END ELEVATION

The reflectorized surface shall consist of Silver Reflective Sheeting of the type used as background on Type I, Type II or Type III signs.

NOTE: This Standard Detail Drawing consists of two plates, and both plates are required when this Standard is called for in the plans.

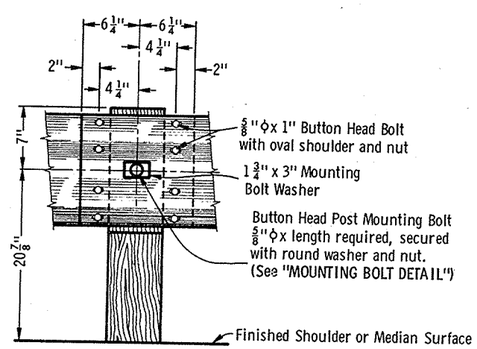


SECTION VIEW

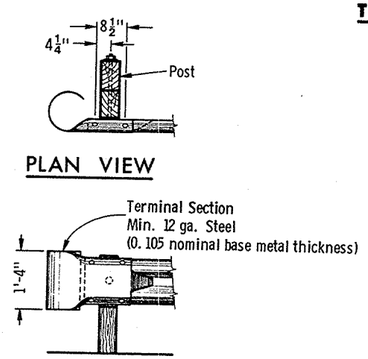
PLAN VIEW

ELEVATION

POST FOOTING DETAIL AT PIERS



RAIL ELEMENT SPLICING AND POST MOUNTING DETAIL



PLAN VIEW

FRONT ELEVATION

TERMINAL SECTION DETAILS

CLASS "A"
STEEL PLATE BEAM GUARD &
STEEL PLATE BEAM MEDIAN GUARD

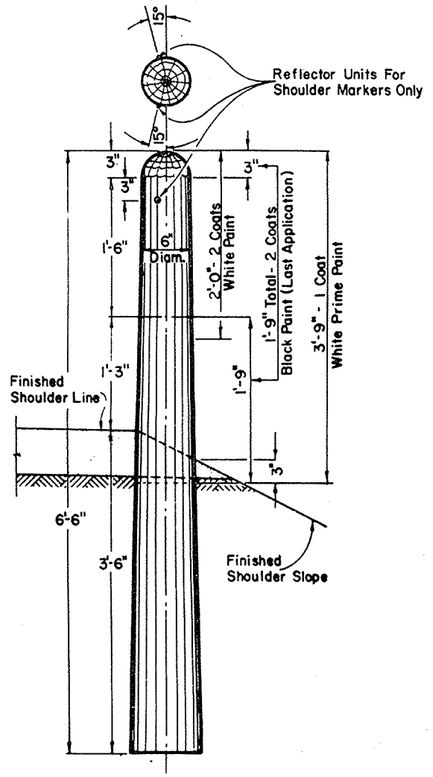
State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL:
3/7/72 DATE — CHIEF DESIGN ENGINEER

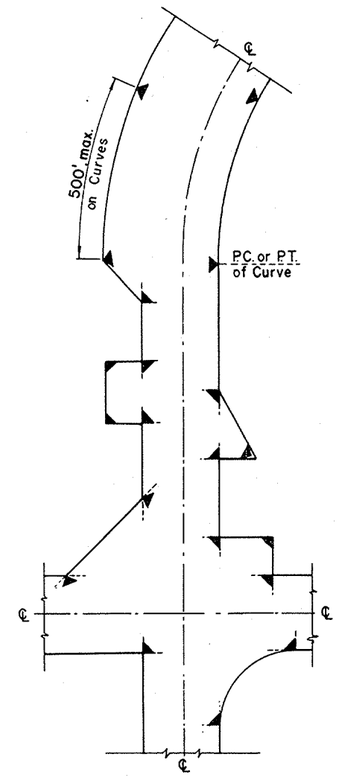
APPROVED:
3/22/72 DATE — STATE HIGHWAY ENGINEER

S.D.D. 14 B 2-2b

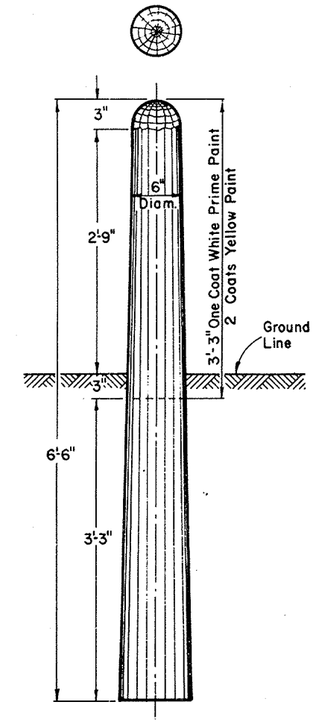
S.D.D. 14 B 2-2b



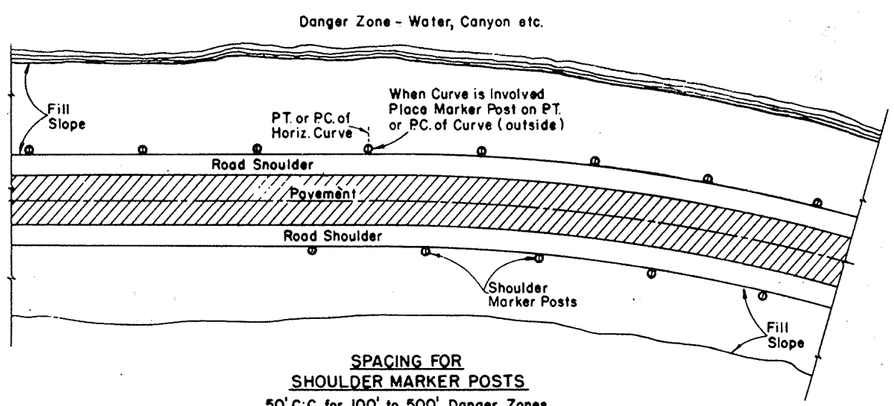
MARKER POST FOR ROAD SHOULDERS



LOCATION DIAGRAM SHOWING TYPICAL LOCATIONS OF MARKER POSTS FOR RIGHT OF WAY



MARKER POST FOR RIGHT OF WAY



SPACING FOR SHOULDER MARKER POSTS

50' C:C for 100' to 500' Danger Zones
100 C:C for Over 500' Danger Zones

LOCATION DIAGRAM SHOWING RELATIVE LOCATIONS OF SHOULDER MARKER POSTS

MARKER POSTS FOR ROAD SHOULDERS

MARKER POST FOR RIGHT OF WAY

GENERAL NOTES

Details of construction not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

MARKER POSTS FOR RIGHT OF WAY

Right of Way Marker Posts shall be erected in advance of grading operations. Posts shall be placed at the outer limits of the highway Right of Way, but entirely within the Right of Way, and shall be so placed that the outer edge of the posts shall be tangent to the Right of Way line or lines extended. The exact location of all Right of Way posts will be staked in the field by the Engineer.

REFLECTOR UNITS

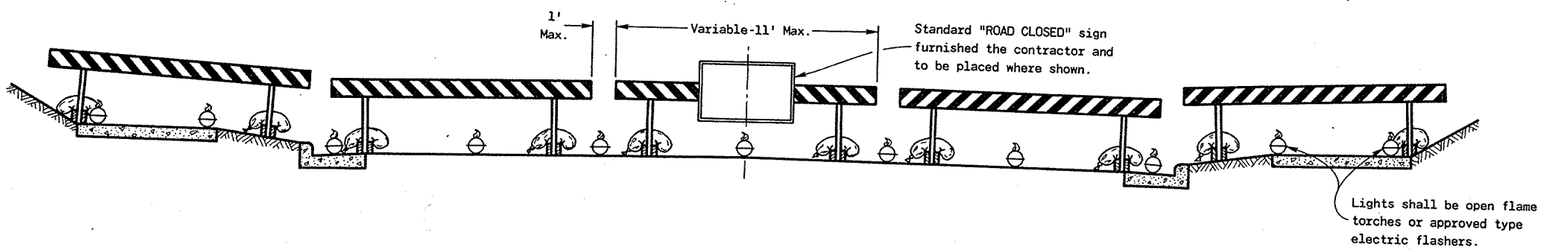
Reflector Units shall be installed in road shoulder marker posts only. Reflector Units shall have plastic crystal lens 7/8" in diameter. Unit assembly shall be a minimum of 7/8" in length. Reflector Units shall be furnished with flared expanding metal clips for wood mounting. Units shall be mounted in tightest fit possible and securely stayed in posts.

MARKER POSTS & MARKER POSTS FOR RIGHT OF WAY

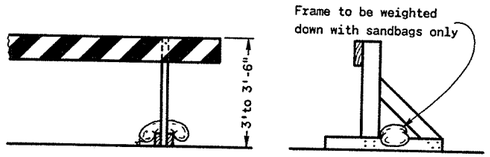
State Highway Commission of Wisconsin

RECOMMENDED FOR APPROVAL
7/6/66 DATE — E. J. Bystek CHIEF DESIGN ENGINEER
APPROVED
7/8/66 DATE — STATE HIGHWAY ENGINEER

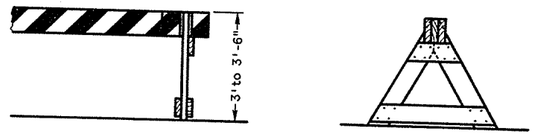
S.D.D. 15A1-1



TYPICAL INSTALLATION SHOWING RIGID BARRICADES

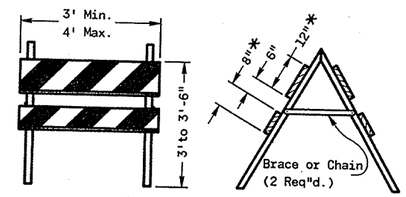


ALTERNATE TYPE INSTALLATION (RIGID)

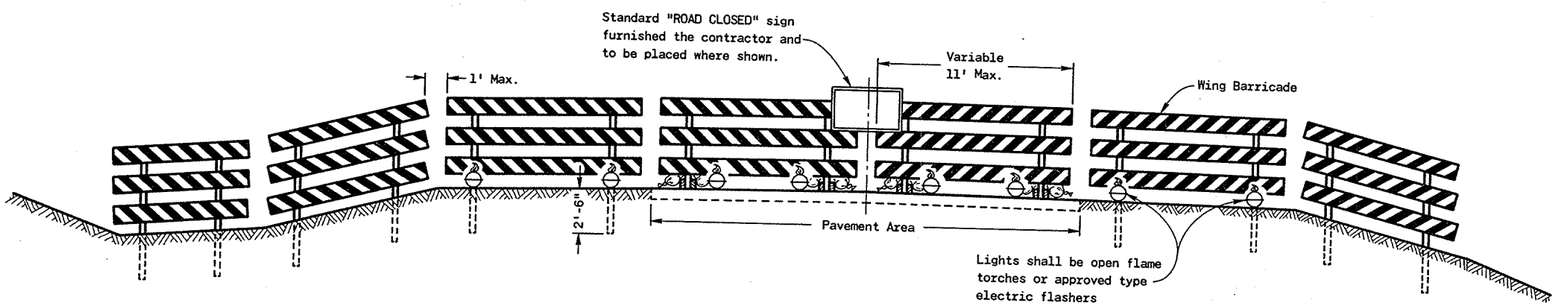


ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)

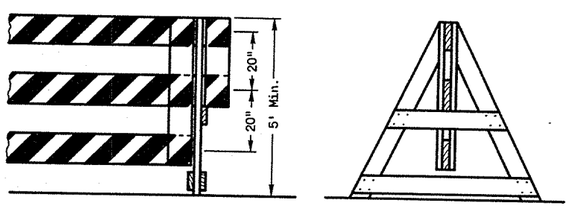
CLASS I BARRICADES



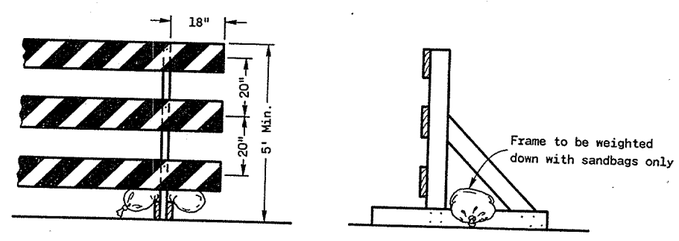
CLASS II BARRICADE



TYPICAL INSTALLATION SHOWING FIXED AND RIGID BARRICADES



ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)



ALTERNATE TYPE INSTALLATION (RIGID)

CLASS III BARRICADES

GENERAL NOTES

The contractor shall construct, place and maintain barricades as shown on the drawing and as required by the Standard Specifications or applicable Special Provisions.

CLASS I OR CLASS II BARRICADES:
Class I or II Barricades shall be used only where the hazard to traffic is relatively small, and for the more or less continuous delimiting of a restricted roadway, or for temporary daytime use.

CLASS III BARRICADE:
Class III Barricades shall be of variable length as indicated, and long barricades shall be assembled from these units. The Class III Barricade is the type normally required for major operations, where the barricade will remain in place for extended periods. Class III Barricades shall be used at points where the road is closed to traffic. Gates or movable sections of a barricade shall be provided when necessary, for access of equipment or other authorized vehicles.
Wing Barricades are Class III Barricades erected on the shoulder on one or both sides of the pavement to give traffic the perceptive effect of a narrowing or restricted roadway. The ends closest to traffic of all three members of a Wing Barricade shall be in a verticle line. If used in a series, they should start at the outer edge of the shoulder and be brought progressively closer to the pavement.Wing Barricades may be used as a mounting for the advance warning or guide signs or for flashers. When used on two-way roadways, the back of the Wing Barricade shall be painted white.

MATERIAL AND FABRICATION:
Barricades may be constructed of wood, metal or other suitable material.
Lumber shall be of a grade structurally sound and sufficiently rigid to satisfactorily support and maintain the purpose and intent of a barricade facility.
Metal or other suitable material shall be sufficiently rigid to satisfactorily support and maintain the purpose and intent of a barricade facility.
The fabrication of the barricade shall be in accord with good pertinent woodworking and metalworking practices.

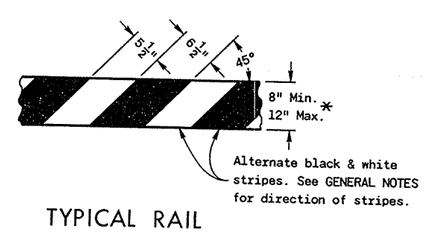
PAINTING:
All barricades shall have alternate $6\frac{1}{2}$ inch black and $5\frac{1}{2}$ inch white stripes at a 45 degree angle.
Black stripes shall be painted with weather resistant and durable black paint. White stripes shall be primed, followed by a coat of white reflectorized paint or shall consist of reflective wide angle sheeting.

DIRECTION OF DIAGONAL STRIPES:
Where a barricade extends entirely across the roadway with no vehicle access provision, the stripes shall slope downward toward the highway centerline.
Where vehicle access is permitted, the stripes shall slope downward in the direction toward which vehicles must turn in detouring.
Where both right and left turns are provided for, the stripes shall slope downward in both directions from the center.
The stripes on Wing Barricades shall slope downward toward the roadway.

LIGHTING:
Lighting devices for barricades shall conform to the requirements of the Standard Specifications.

MEASUREMENT AND PAYMENT:
All barricades, unless otherwise provided for in the plans and/or Special Provisions shall be furnished, placed and maintained as noted above, and no additional compensation will be allowed, but shall be construed to be included in the price bid for other items.

* Nominal dimensions when barricade is constructed of lumber.



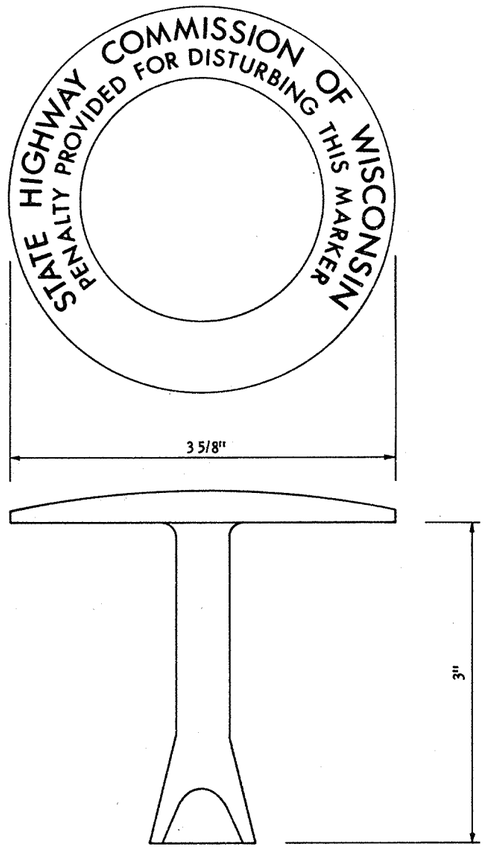
TYPICAL RAIL
Applies to all Classes & Alternate Types of Barricades

CONSTRUCTION BARRICADE

State of Wisconsin
Department of Transportation
Division of Highways

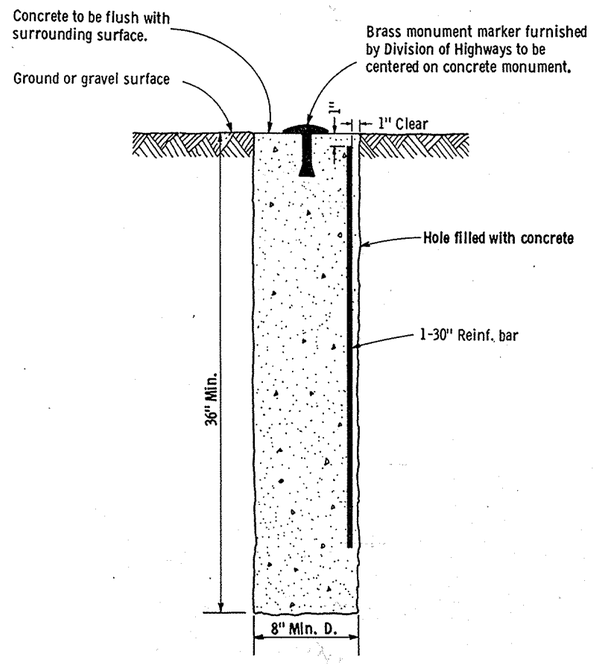
RECOMMENDED FOR APPROVAL:
6-7-72 DATE — CHIEF DESIGN ENGINEER
APPROVED
6-9-72 DATE — STATE HIGHWAY ENGINEER

S.D.D. 15C 1-2



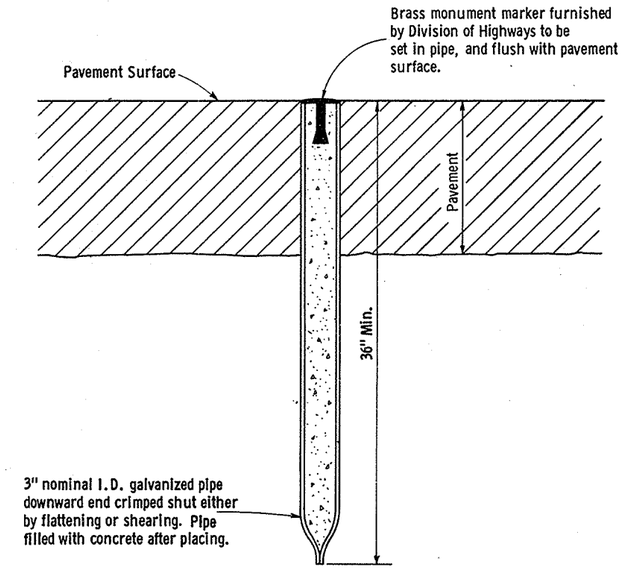
BRASS MONUMENT MARKER

To be furnished to contractor by Division of Highways



TYPE "A"

To be used only when monument is required outside of pavement surface.



TYPE "B"

To be used only when monument is required to be located within the limits of a pavement surface.

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the Standard Specifications and the applicable Special Provisions.

Monuments conforming to Type "A" or Type "B", as shown hereon, shall be placed at the direction of the engineer.

LANDMARK REFERENCE MONUMENTS

State of Wisconsin
Department of Transportation
Division of Highways

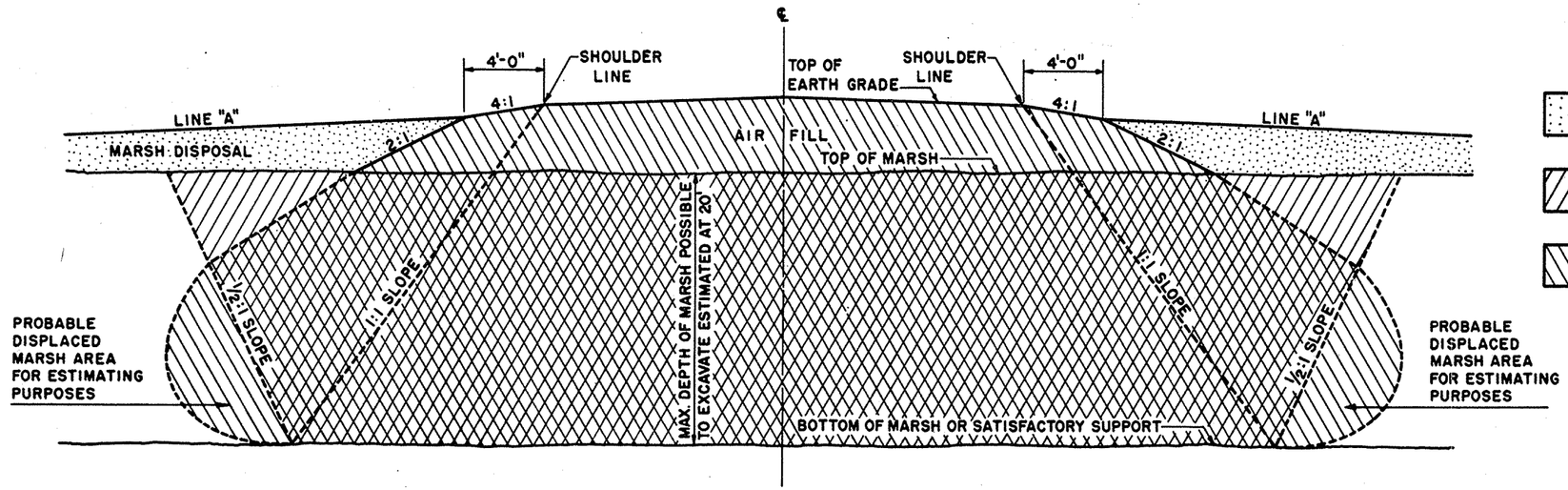
RECOMMENDED FOR APPROVAL:

1/25/68 — DATE — E. J. Ruckit — CHIEF DESIGN ENGINEER

APPROVED:

2/8/68 — DATE — H. J. Zimmerman — STATE HIGHWAY ENGINEER

S.D.D. 16A1-1



COMPLETE MARSH EXCAVATION

MARSH DISPOSAL PERMITTED IN THIS AREA UNLESS OTHERWISE PROVIDED IN THE CONTRACT

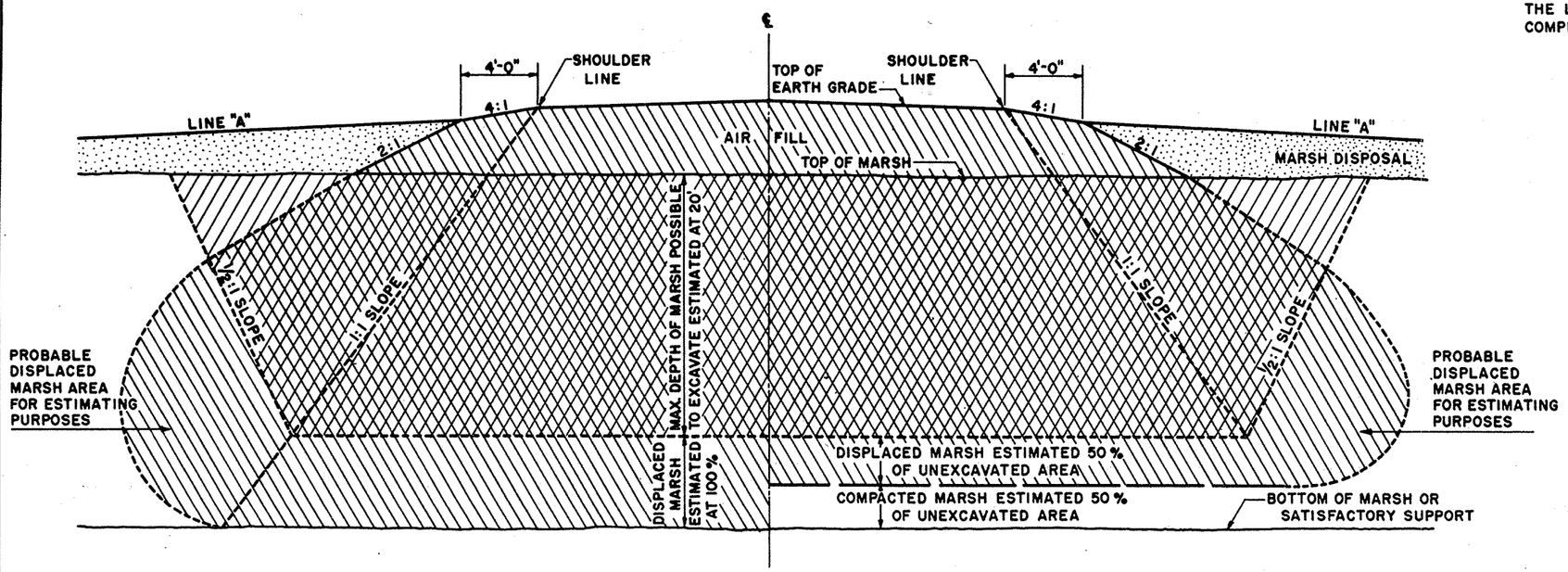
EXCAVATION

BACKFILL

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ANY MATERIAL TEMPORARILY PLACED ABOVE THE LINE MARKED "LINE A" IS TO BE REMOVED UPON COMPLETION OF THE AIR FILL.



PARTIAL EXCAVATION PLUS 100% DISPLACEMENT

PARTIAL EXCAVATION PLUS 50% DISPLACEMENT

MARSH EXCAVATION

STATE HIGHWAY COMMISSION OF WISCONSIN

RECOMMENDED FOR APPROVAL:

DATE 2/11/52 — CONSTRUCTION ENGINEER

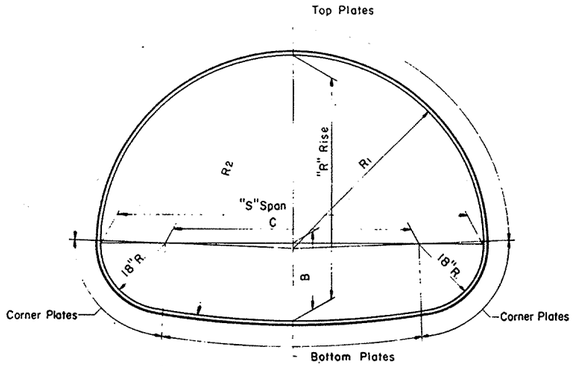
APPROVED:

DATE 2/11/52 — STATE HIGHWAY ENGINEER

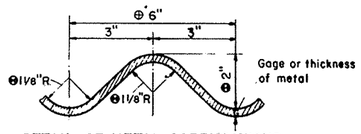
DRAWN LJD
CHECKED

S. D. D. 23A1-1

S. D. D. 23A1-1



STRUCTURAL PLATE PIPE ARCH



DETAIL OF METAL CORRUGATIONS

CORRUGATION DIMENSION TOLERANCES
⊖-Tol. 1/4"
⊕-Tol. ± 1/8"
⊖-Min. 1 1/16"

GENERAL NOTES

Details of construction not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications, and the applicable Special Provisions.

TOLERANCES

Pipe Arch size dimensions are subject to manufacturing tolerances and the ratio of rise (R) to span (S) shall not exceed a tolerance of 5% plus or minus.

Metal corrugation dimension tolerances shall not exceed pertinent dimensions shown elsewhere on this drawing.

EMBANKMENT—Minimum for ℄ Culverts

For Flexible Type Pavement, the minimum depth of embankment or cover over top of Pipe Arch (finished construction) shall be "S"/10 or 1'-0" minimum.

For Rigid Type Pavement, the minimum depth of embankment over top of Pipe Arch shall be "S"/14 or a minimum of 6" cushion between pipe and pavement.

EMBANKMENT—Maximum for ℄ Culverts

The maximum depth of embankment shall be 15 feet (finished construction).

Adequate cover protection for Pipe Arches shall be provided at all times during construction operations to preclude any damage to structures.

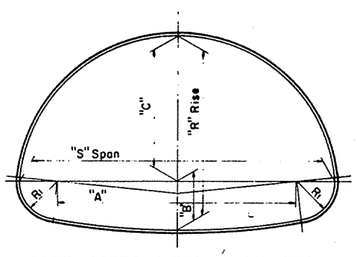
Strutting of Pipe Arches will not be required during construction unless specifically called for on the plans or the applicable Special Provisions.

TABLE OF PROPERTIES
STRUCTURAL PLATE PIPE ARCH

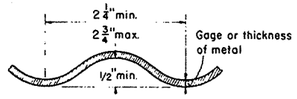
SPAN Nominal Size	Dimensions taken from inside crests of corrugations: Fabricators Size Min. Acceptable "S" Span — "R" Rise	R/S Ratio	Area Sq.Ft.	B In.	C In	R1 In.	R2 In.	Table of Metal Gages — Minimum Acceptable, H-20 LOADING, Depth of Embankment in Feet: 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
6 Feet	6'-1" x 4'-7"	.75	22	21.0	37.0	36.7	76.4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
7 "	7'-0" x 5'-1"	.73	28	21.4	48.0	42.3	104.5	10	12	12	12	12	12	12	12	12	12	12	12	12	10	10
8 "	7'-11" x 5'-7"	.70	35	21.7	59.0	47.7	138.4	10	10	10	12	12	12	12	12	12	12	12	10	10	10	10
9 "	8'-10" x 6'-1"	.69	43	21.8	70.0	53.0	179.2	10	10	10	10	10	10	10	10	10	10	10	10	10	8	8
10 "	9'-9" x 6'-7"	.67	52	21.9	81.0	58.3	228.0	8	8	10	10	10	10	10	10	10	10	10	8	8	8	7
11 "	10'-11" x 7'-1"	.65	61	25.1	95.0	65.8	180.8	8	8	8	10	10	10	10	10	10	8	8	8	7	7	5
12 "	11'-10" x 7'-7"	.64	71	25.2	106.0	71.1	217.0	7	8	8	8	8	8	8	8	8	8	8	7	5	5	3
13 "	12'-10" x 8'-4"	.65	85	24.0	118.0	77.2	315.2	5	7	8	8	8	8	8	8	8	7	7	5	5	3	1
14 "	13'-11" x 8'-7"	.62	93	28.9	131.0	84.4	220.8	5	5	7	7	8	8	8	7	7	5	5	3	3	1	1
15 "	14'-10" x 9'-1"	.61	105	28.9	142.0	89.5	254.9	3	5	5	7	7	7	7	5	3	3	1	1	–	–	
16 "	15'-10" x 9'-10"	.62	122	27.4	154.0	95.4	339.1	1	3	5	5	7	7	7	5	3	3	1	1	–	–	–
16.5 "	16'-7" x 10'-1"	.61	131	28.7	163.0	99.8	333.8	–	1	3	3	5	5	5	3	1	1	1	–	–	–	–

Note: For sizes of Structural Plate Pipe Arch between those shown in the table, the gage shall be interpolated (based on table data) where possible ; otherwise the gage of the next larger size shown in the table shall be used.

STRUCTURAL PLATE PIPE ARCH



CORRUGATED METAL PIPE ARCH
(Riveted)



DETAIL OF METAL CORRUGATIONS

GENERAL NOTES

Details of construction not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications, and the applicable Special Provisions.

TOLERANCES

Tolerance from the dimensions detailing size and shape will be permissable providing equivalent capacity and strength are attained.

EMBANKMENT—Minimum for ℄ Culverts

For Flexible Type Pavement, the minimum depth of embankment or cover over top of Pipe Arch (finished construction) shall be "S"/10 or 9" minimum.

For Rigid Type Pavement, the minimum depth of embankment over top of Pipe Arch shall be "S"/14 or a minimum of 3" cushion between pipe and pavement.

EMBANKMENT—Maximum for ℄ Culverts

The maximum depth of embankment shall be 10 feet (finished construction).

Adequate cover protection for Pipe Arches shall be provided at all times during construction operations to preclude any damage to structures.

TABLE OF DIMENSIONS
CORRUGATED METAL PIPE ARCH

CORRUGATED METAL PIPE ARCH: Gage (Min. Acceptable)	"S" Span Inches	"R" Rise Inches	"A" Inches	"B" Inches	"C" Inches	R1 Inches	R/S Ratio	Area Sq.Ft.	Round Pipe of Approx. Equal Periphery: Area Sq.Ft.	Diam. Inches
16	18	11	10	4 1/2	6 1/2	3 1/2	.61	1.1	1.23	15
16	22	13	14	4 3/4	8 1/4	4	.59	1.6	1.77	18
16	25	16	17	5 1/4	10 3/4	4	.64	2.2	2.41	21
14	29	18	20	5 1/2	12 1/2	4 1/2	.62	2.8	3.14	24
14	36	22	26	6 1/4	15 3/4	5	.61	4.4	4.91	30
12	43	27	32	7	20	5 1/2	.63	6.4	7.07	36
12	50	31	38	8	23	6	.62	8.7	9.62	42
12	58	36	44	9 1/4	26 3/4	7	.62	11.4	12.57	48
12	65	40	49	10 1/2	29 1/2	8	.62	14.3	15.90	54
10	72	44	54	11 3/4	32 1/4	9	.61	17.6	19.64	60

NOTE: All Dimensions measured from inside crest of corrugations.

CORRUGATED METAL PIPE ARCH

STRUCTURAL PLATE PIPE ARCH
CORRUGATED METAL PIPE ARCH

STATE HIGHWAY COMMISSION OF WISCONSIN

RECOMMENDED FOR APPROVAL:

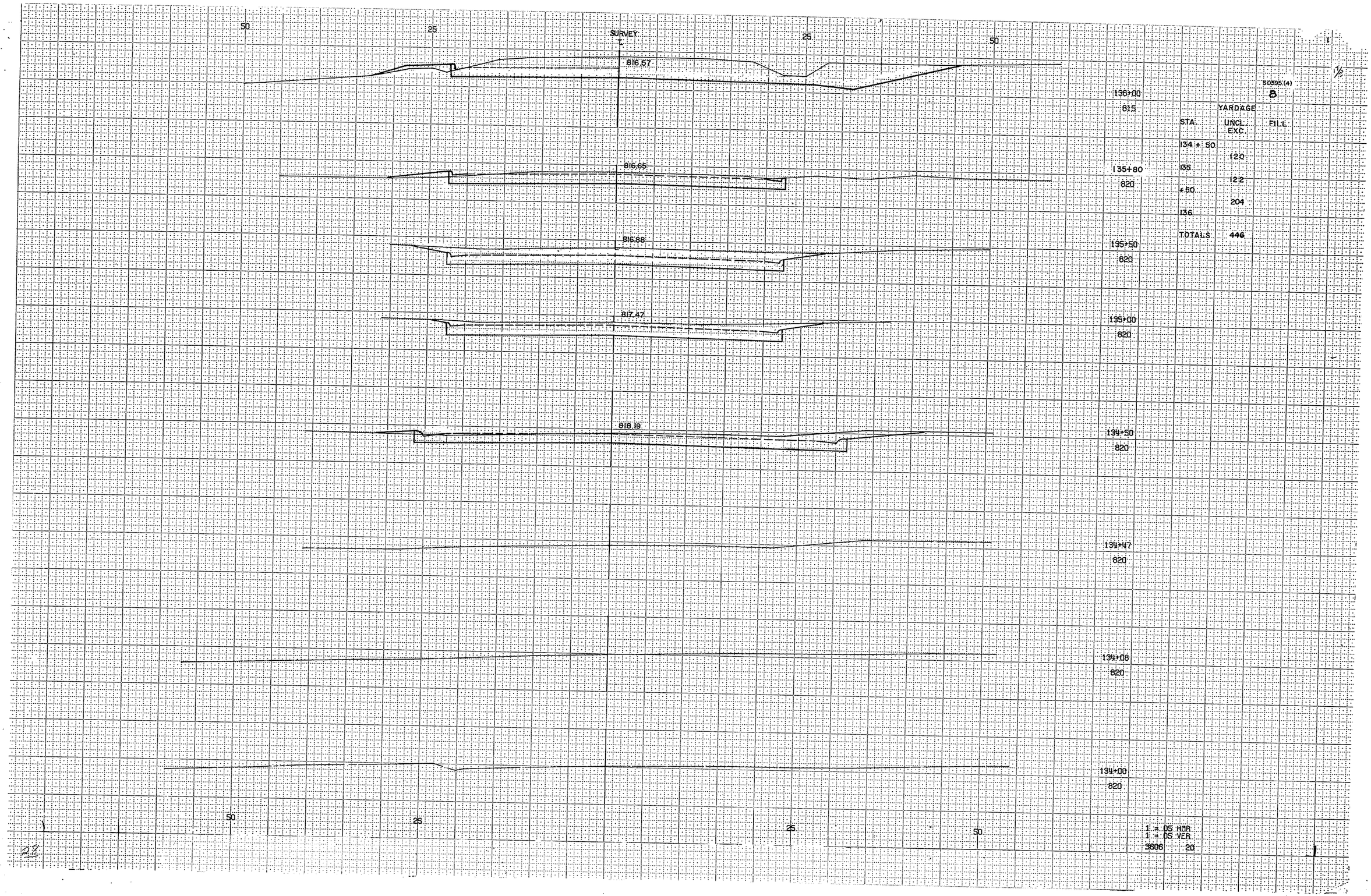
2-5-63 — DATE — ENGINEER OF DESIGN

APPROVED:

2/6/63 — DATE — STATE HIGHWAY ENGINEER

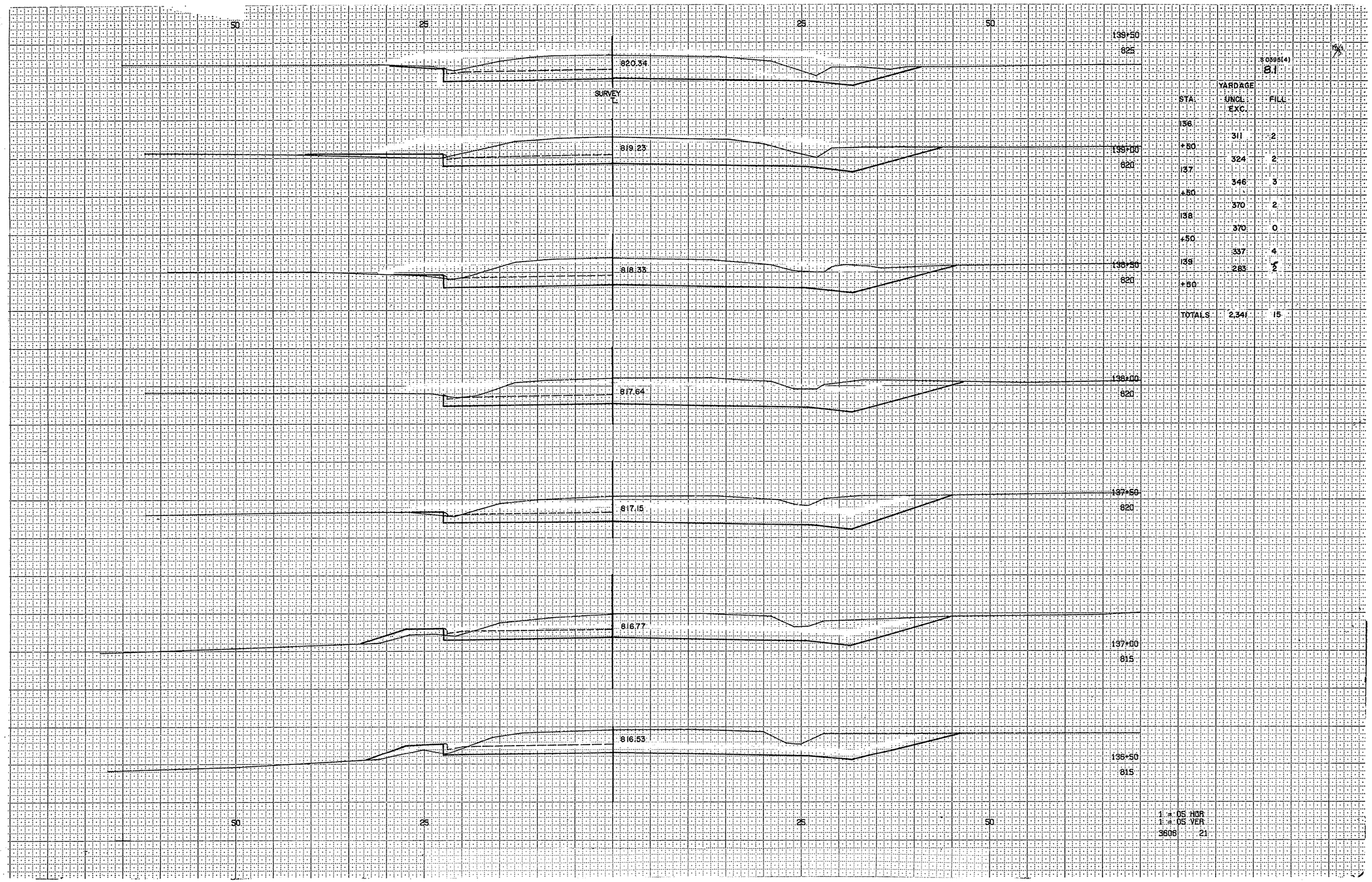
S.D.D. 8F 2-1

S.D.D. 8F 2-1



S0395 (4)
8

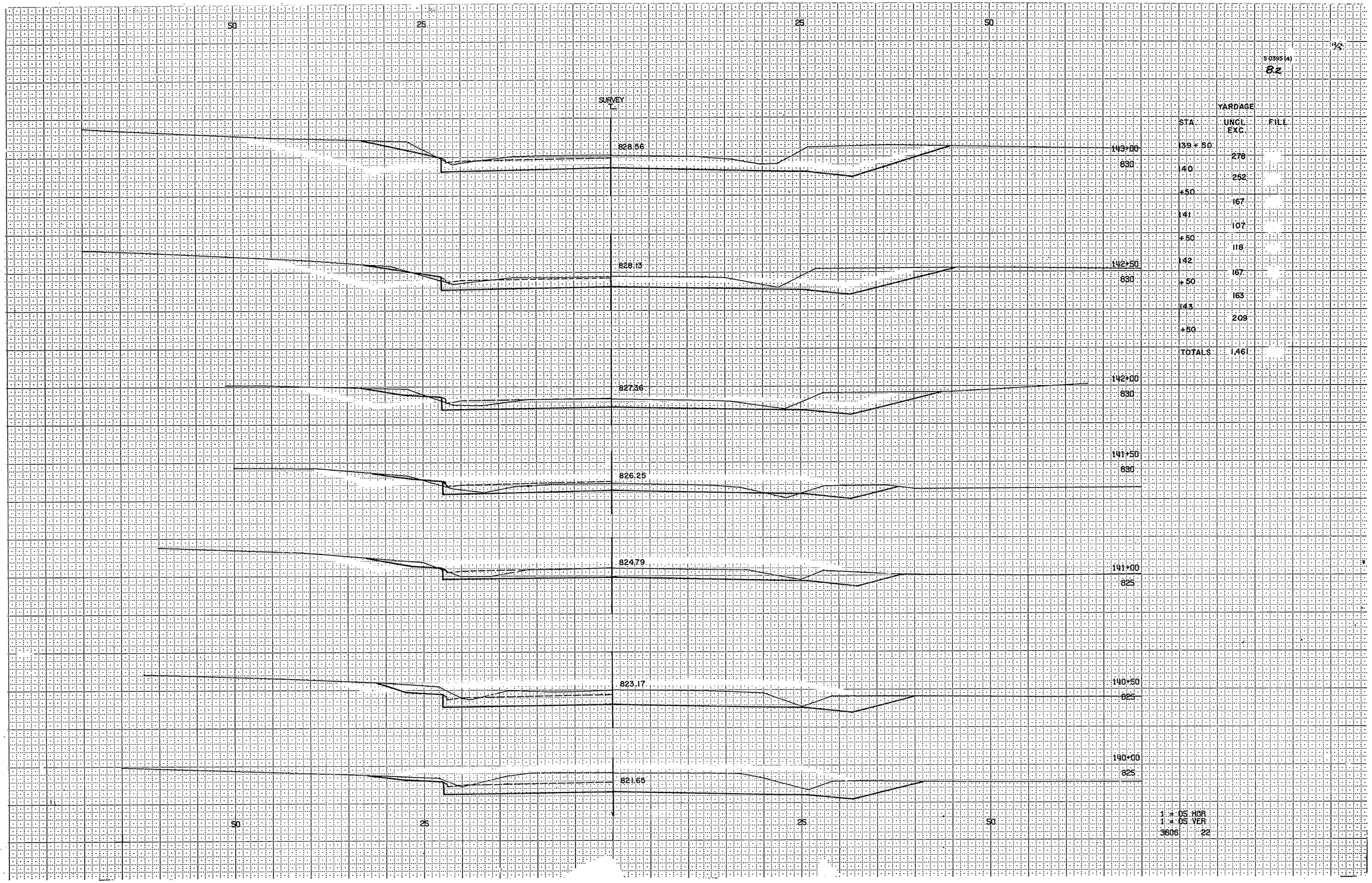
STA.	YARDAGE UNCL. EXC.	FILL
134 + 50		
	120	
135		
	122	
+ 50		
	204	
136		
TOTALS	446	



8 0395(4)
8.1

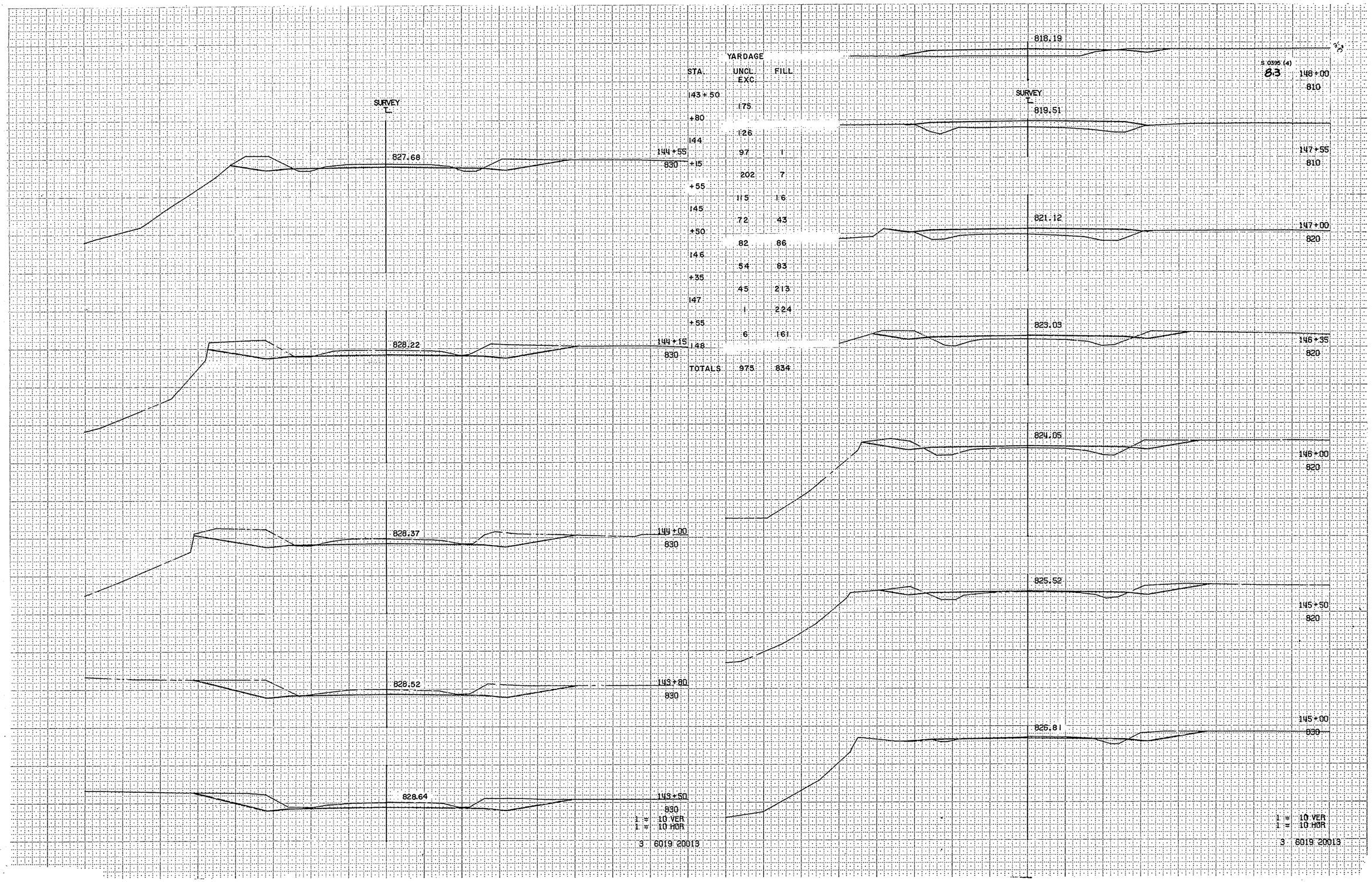
STA.	YARDAGE UNCL. EXC.	FILL
136		
	311	2
+50		
	324	2
137		
	346	3
+50		
	370	2
138		
	370	0
+50		
	337	4
139		
	283	2
+50		
TOTALS	2,341	15

S 0395 (4)
8z



STA.	YARDAGE UNCL. EXC.	YARDAGE FILL
139 + 50		
	278	
140		
	252	
+50		
	167	
141		
	107	
+50		
	118	
142		
	167	
+50		
	163	
143		
	209	
+50		
TOTALS	1,461	

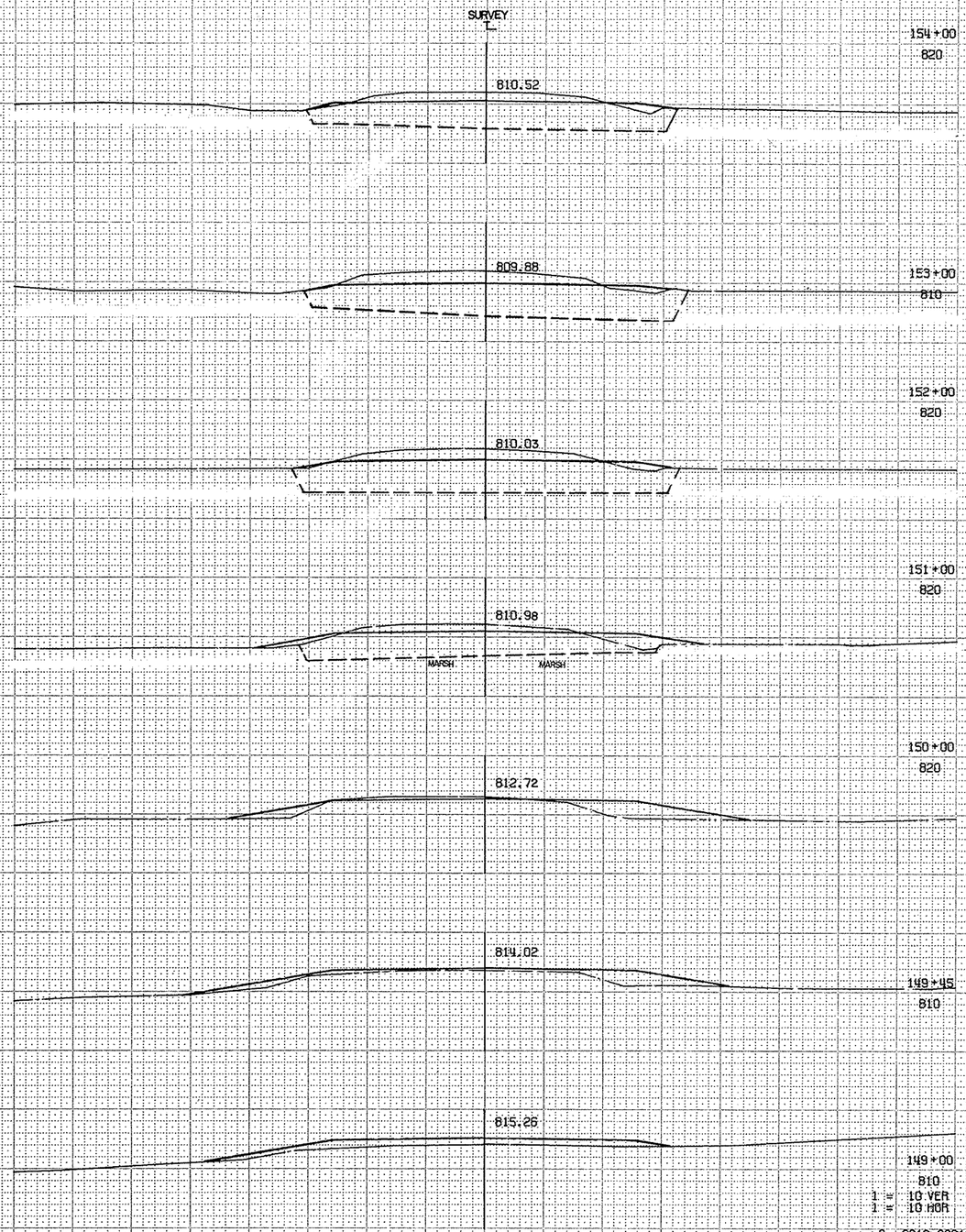
1 = 05 HOR
1 = 05 VER
3606 22



STA.	YARDAGE UNCL. EXC.	FILL
143+50		
	175	
+80		
	126	
144		
	97	1
+15		
	202	7
+55		
	115	16
145		
	72	43
+50		
	82	86
146		
	54	83
+35		
	45	213
147		
	1	224
+55		
	6	161
148		
TOTALS	975	834

S 0395 (4)
83

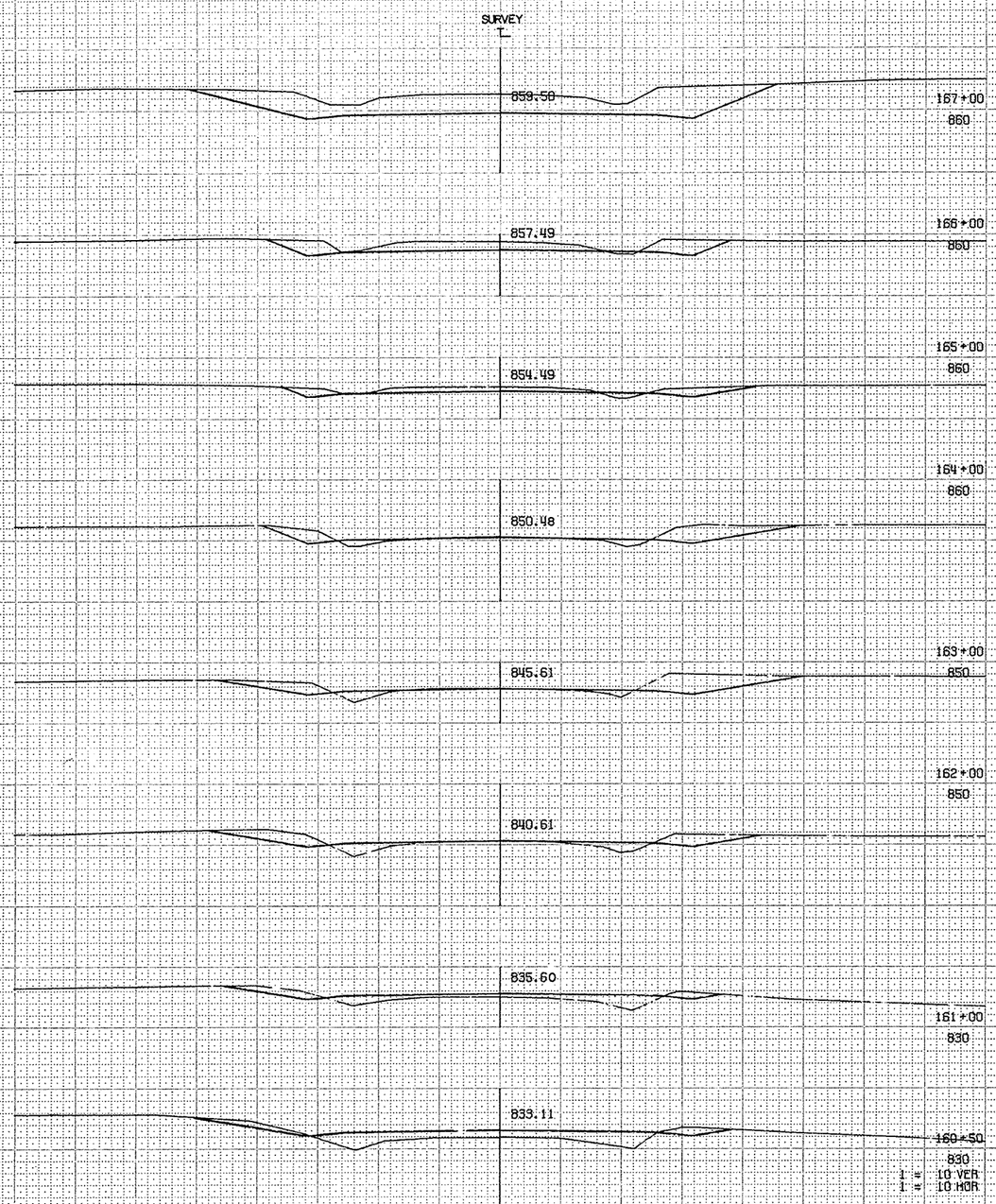
S 0395 (4)
8.4



YARDAGE

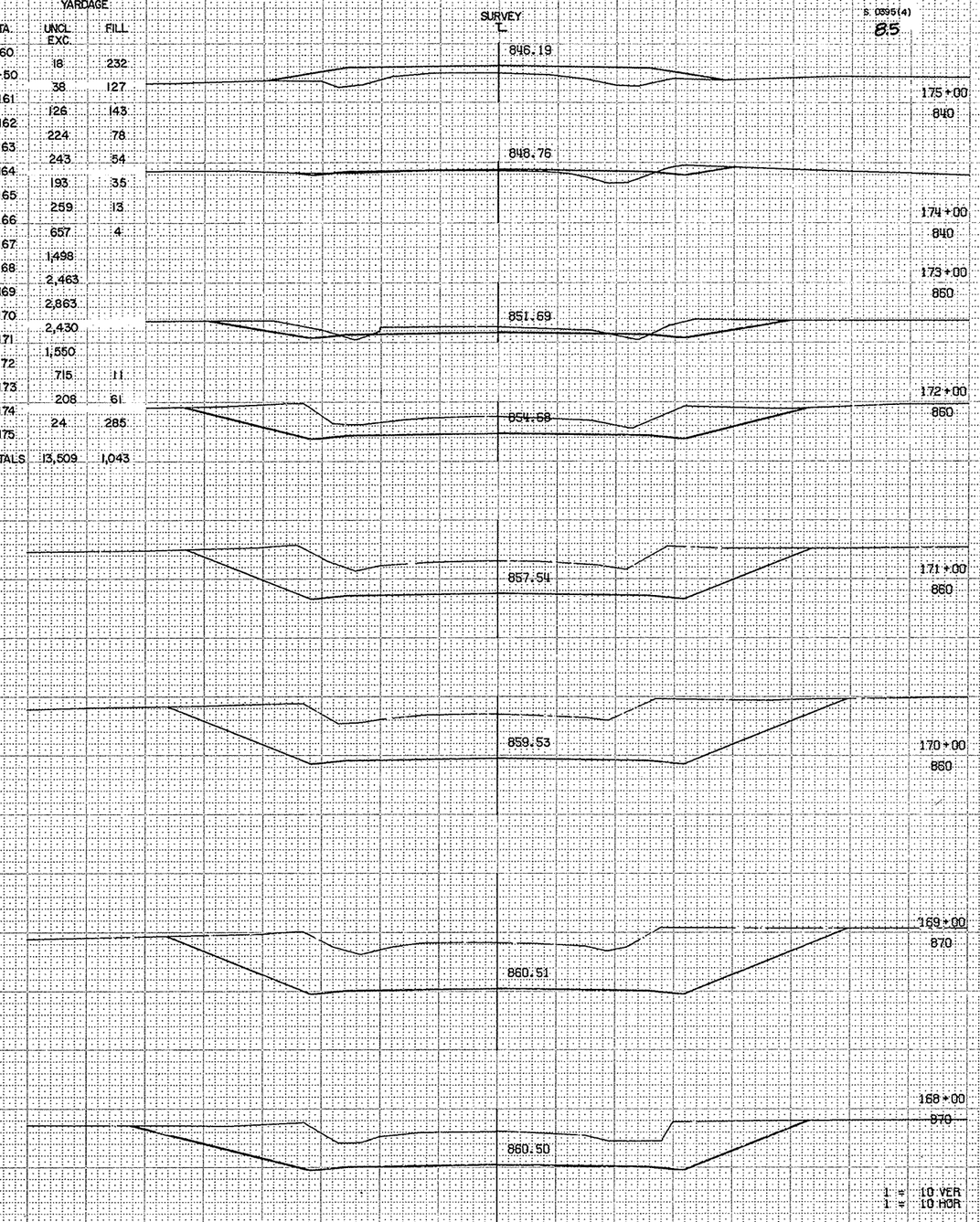
STA.	UNCL. EXC.	FILL	MARSH
148	13	287	
149		121	
+45	12	124	
150	22	131	469
151		44	1,198
152		24	1,454
153		28	1,294
154	56	44	570
155	47	24	
+40	38	102	480
156		507	2,028
157		1,011	1,228
158		1,261	
159		920	
160			
TOTALS	188	4,628	8,721

S 0395(4)
8.5



YARDAGE

STA.	UNCL. EXC.	FILL
160		
+50	18	232
161	38	127
162	126	143
163	224	78
164	243	54
165	193	35
166	259	13
167	657	4
168	1,498	
169	2,463	
170	2,863	
171	2,430	
172	1,550	
173	715	11
174	208	61
175	24	285
TOTALS	13,509	1,043



1 = 10 VER
1 = 10 HOR

3 6019 20013

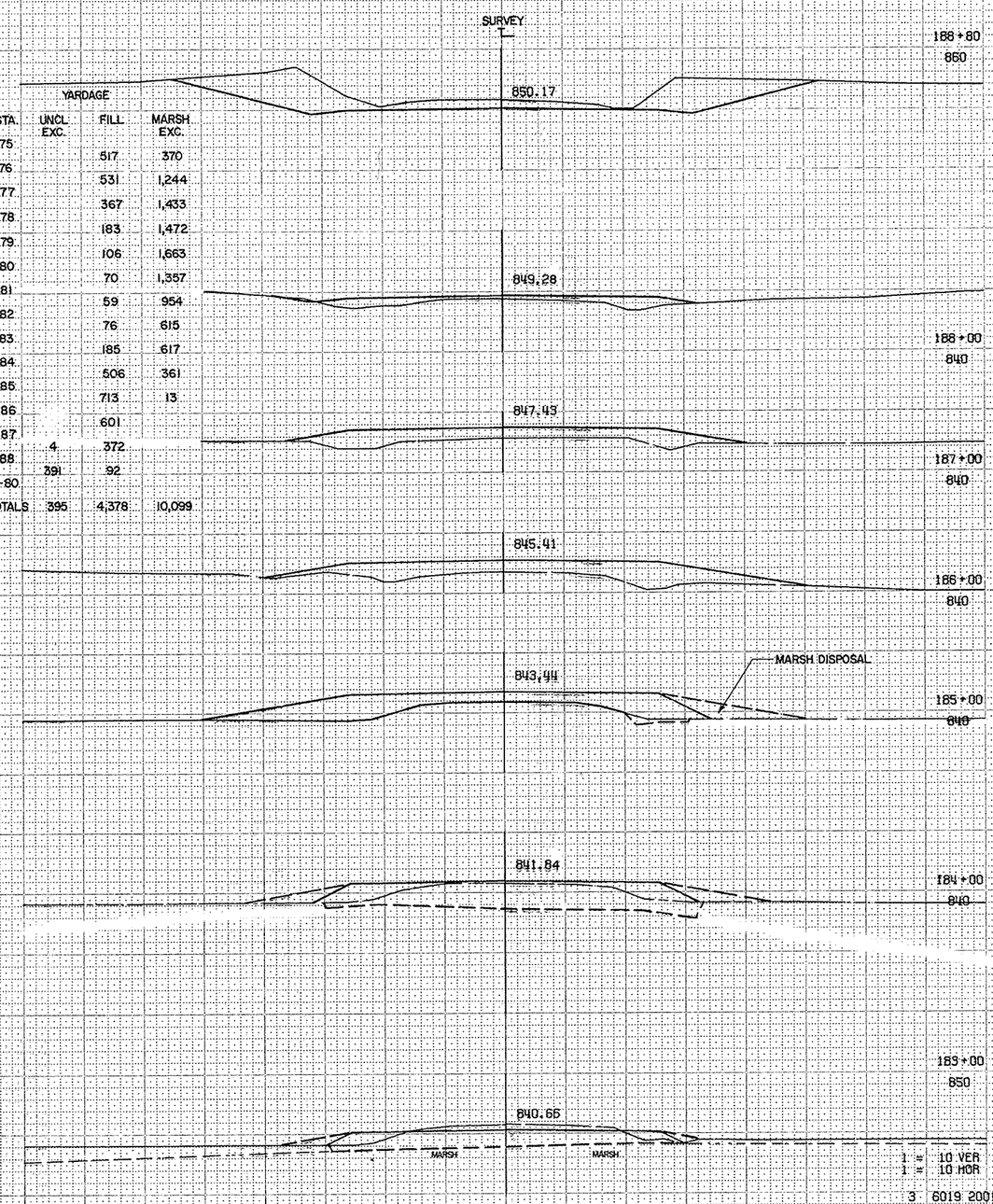
1 = 10 VER
1 = 10 HOR

3 6019 20013

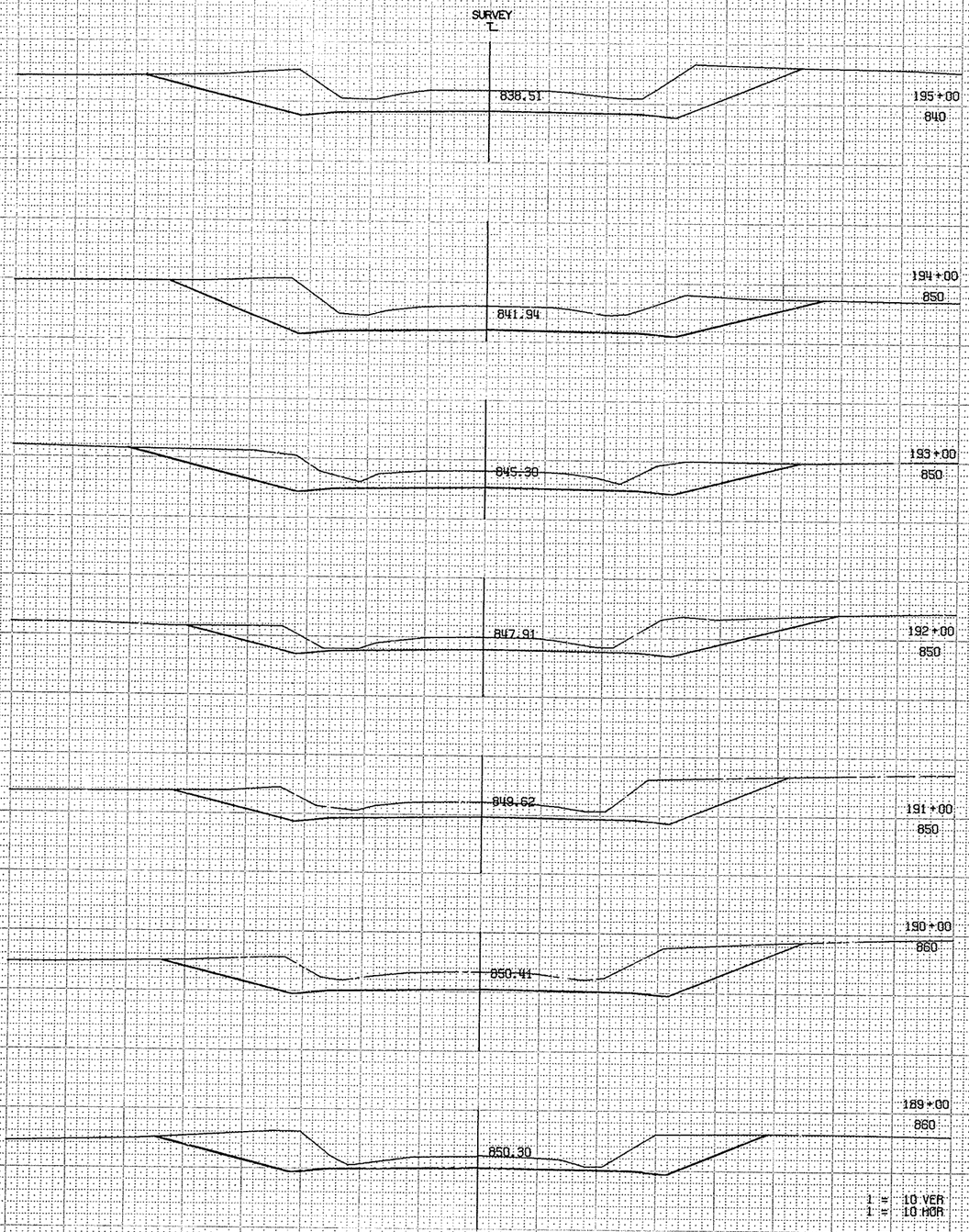
S.0395 (4)
8.6

YARDAGE

STA.	UNCL. EXC.	FILL	MARSH EXC.
175		517	370
176		531	1,244
177		367	1,433
178		183	1,472
179		106	1,663
180		70	1,357
181		59	954
182		76	615
183		185	617
184		506	361
185		713	13
186		601	
187	4	372	
188	391	92	
+80			
TOTALS	395	4,378	10,099



S 0395(4)
8.7

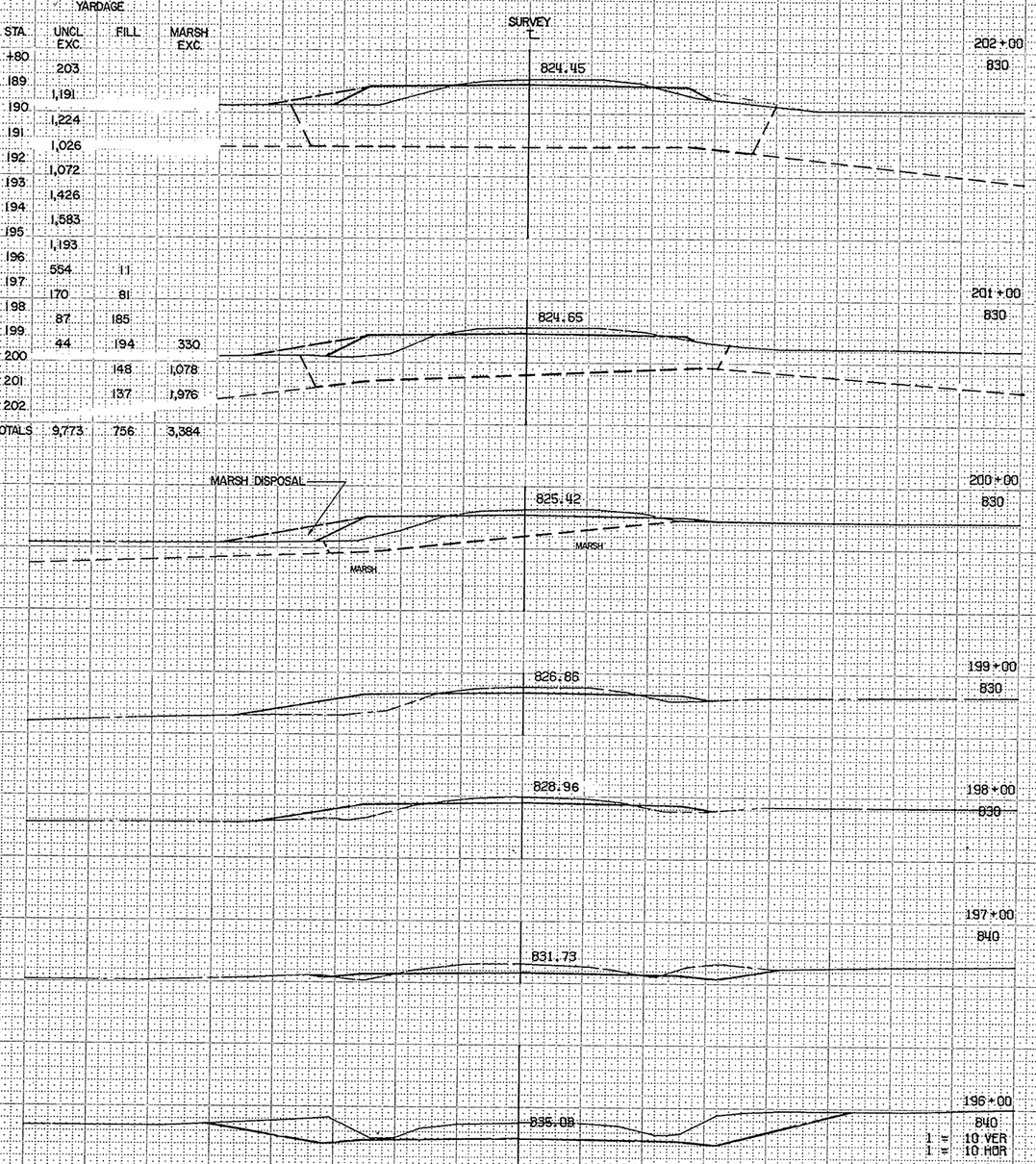


1 = 10 VER
1 = 10 HOR

3 6019 20013

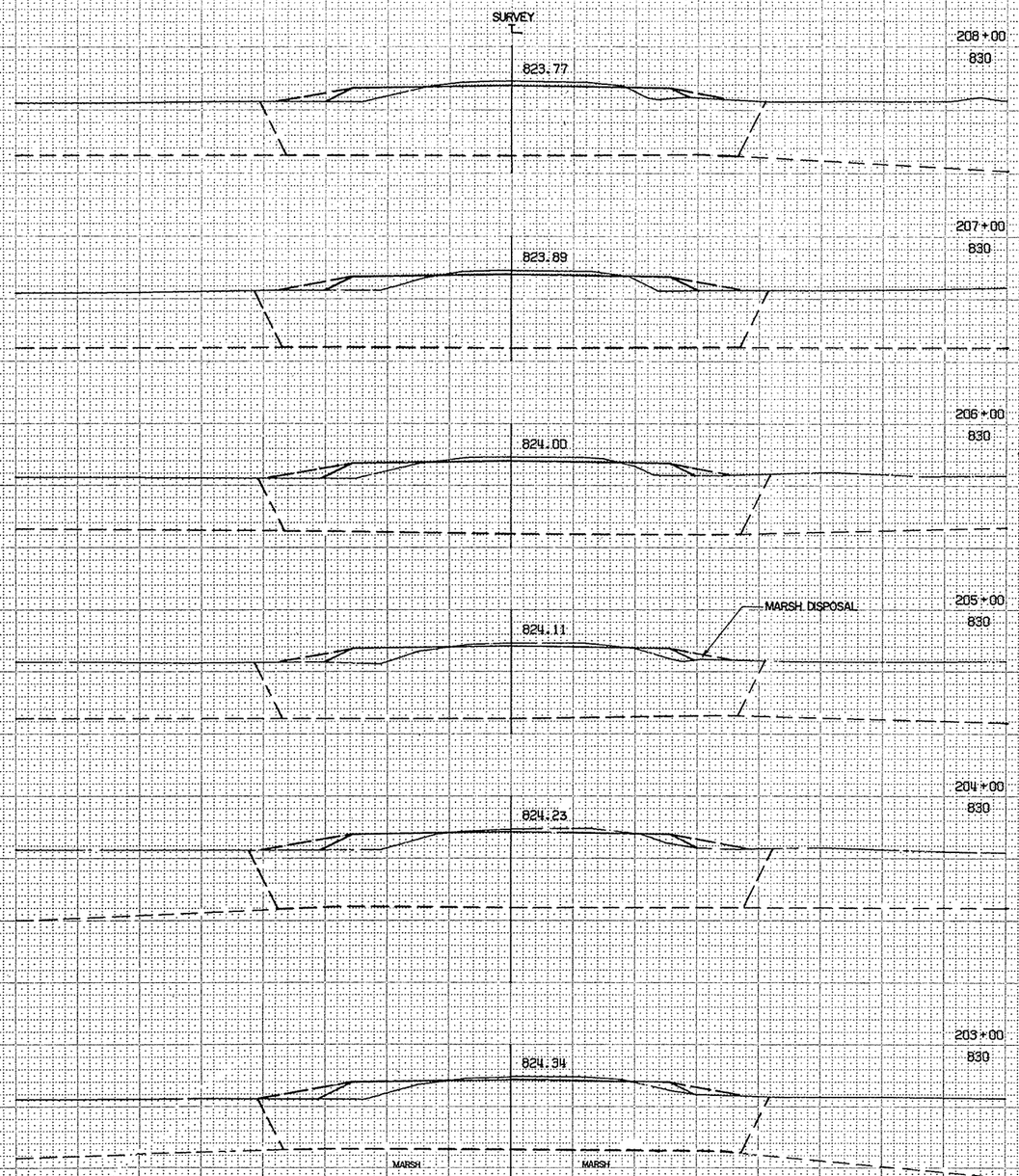
YARDAGE

STA.	UNCL. EXC.	FILL	MARSH EXC.
+80	203		
189	1,191		
190	1,224		
191	1,026		
192	1,072		
193	1,426		
194	1,583		
195	1,193		
196	554	11	
197	170	81	
198	87	185	
199	44	194	330
200		148	1,078
201		137	1,976
202			
TOTALS	9,773	756	3,384



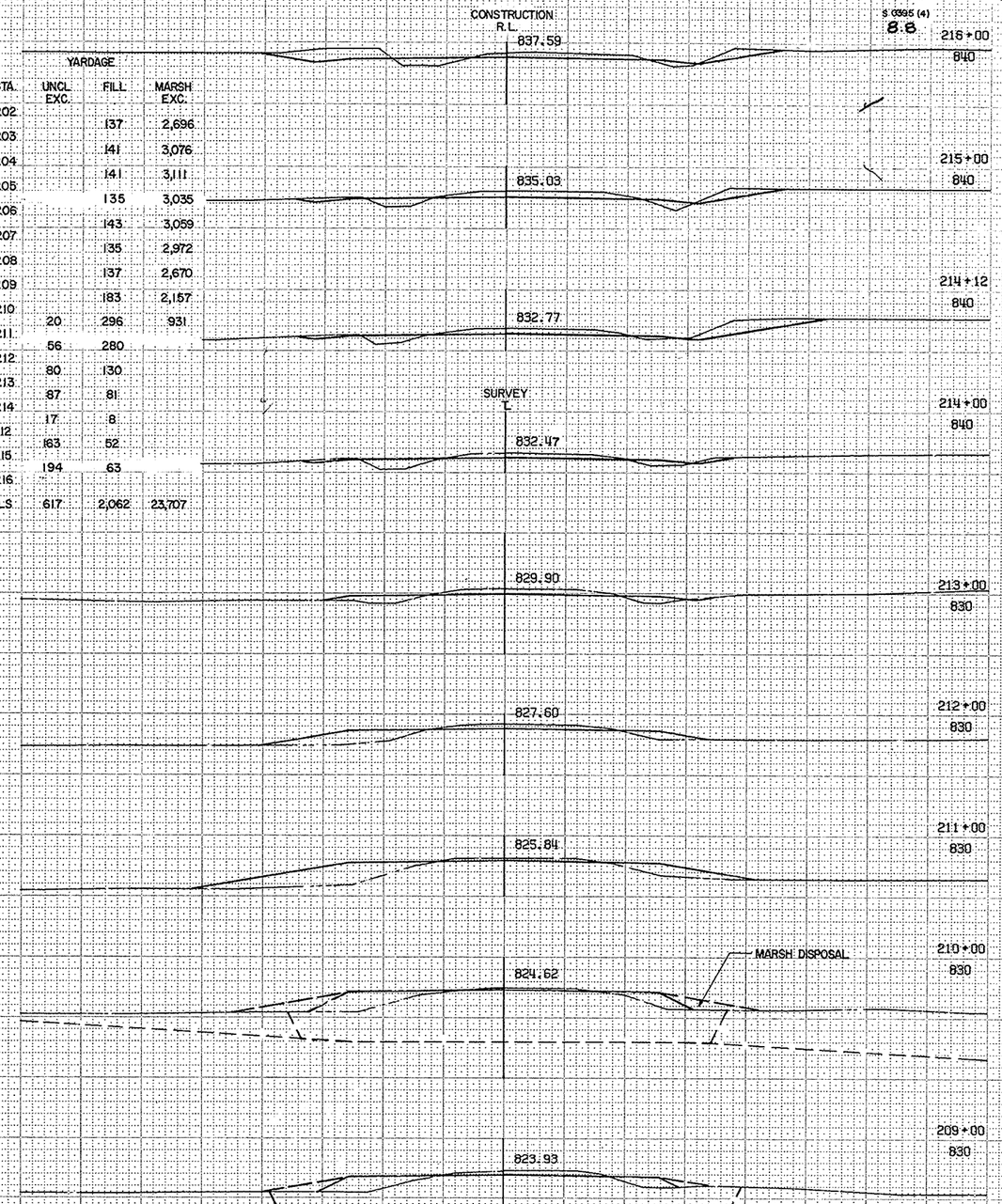
1 = 10 VER
1 = 10 HOR

3 6019 20013



YARDAGE

STA.	UNCL. EXC.	FILL	MARSH EXC.
202		137	2,696
203		141	3,076
204		141	3,111
205		135	3,035
206		143	3,059
207		135	2,972
208		137	2,670
209		183	2,157
210	20	296	931
211	56	280	
212	80	130	
213	87	81	
214	17	8	
+12	163	52	
215	194	63	
216			
TOTALS	617	2,062	23,707



S 0395 (4)
8.8

3 6019 20013

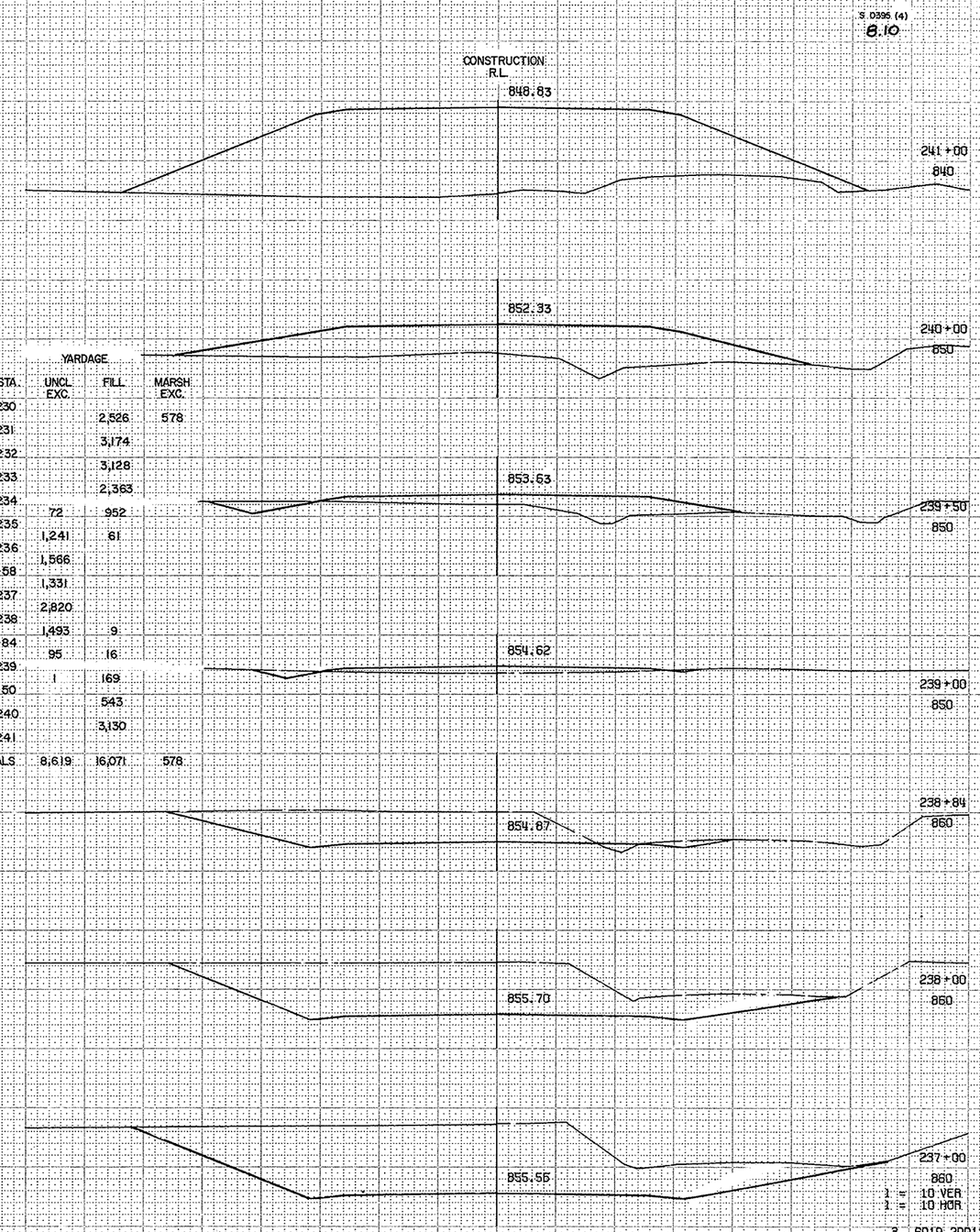
3 6019 20013

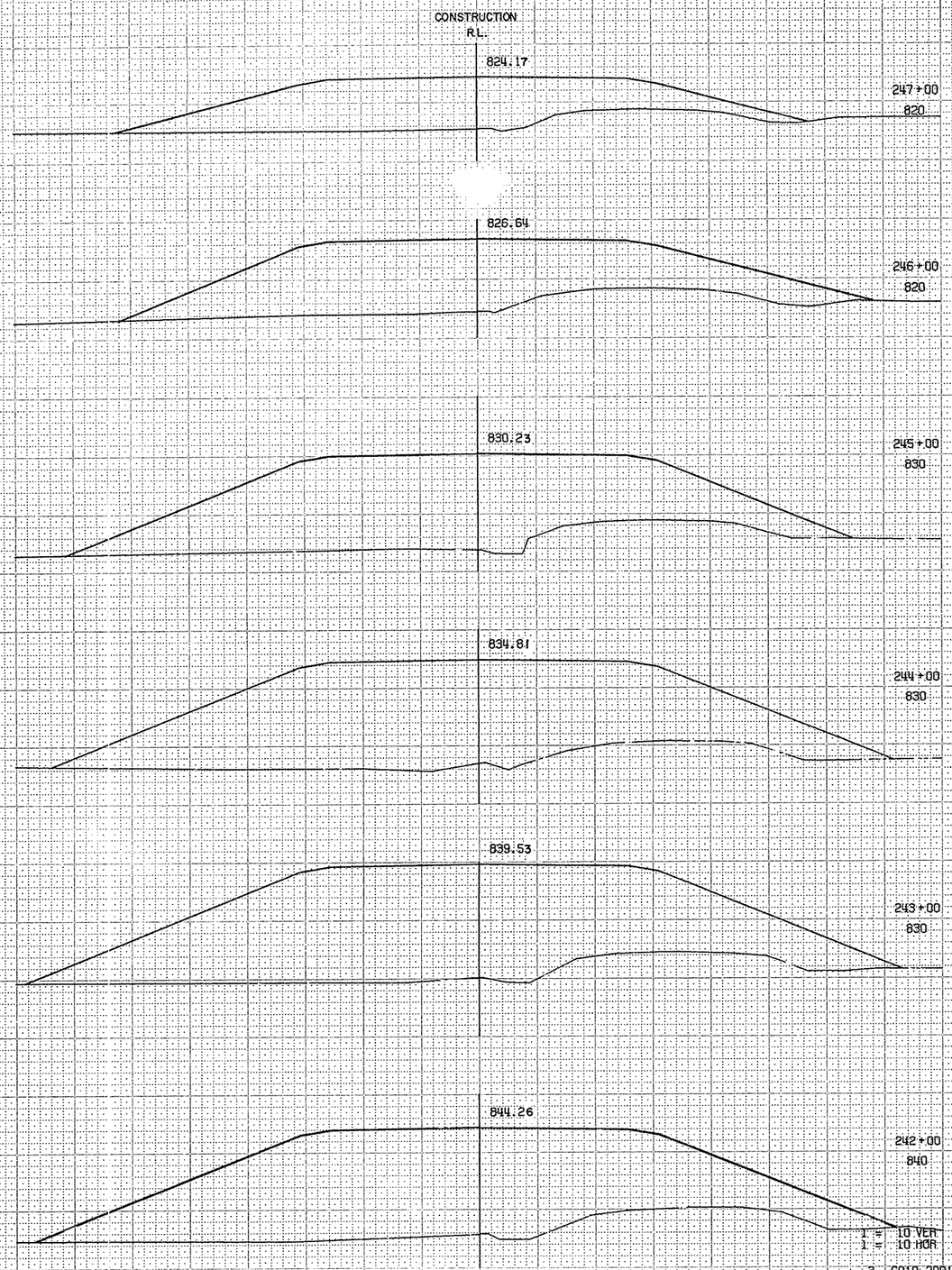
STA.	YARDAGE UNCL. EXC.	FILL	MARSH EXC.
216	213	48	
217	254	22	
218	559	4	
219	976		
220	408		
+45	227	11	
221	74	356	
222		1,150	
223		2,139	
224		2,108	746
225		1,328	1,641
226		976	1,815
227		895	1,987
228		1,102	2,315
229		1,646	1,826
230			
TOTALS	2,711	11,785	10,330

S.0395 (4)
8.10

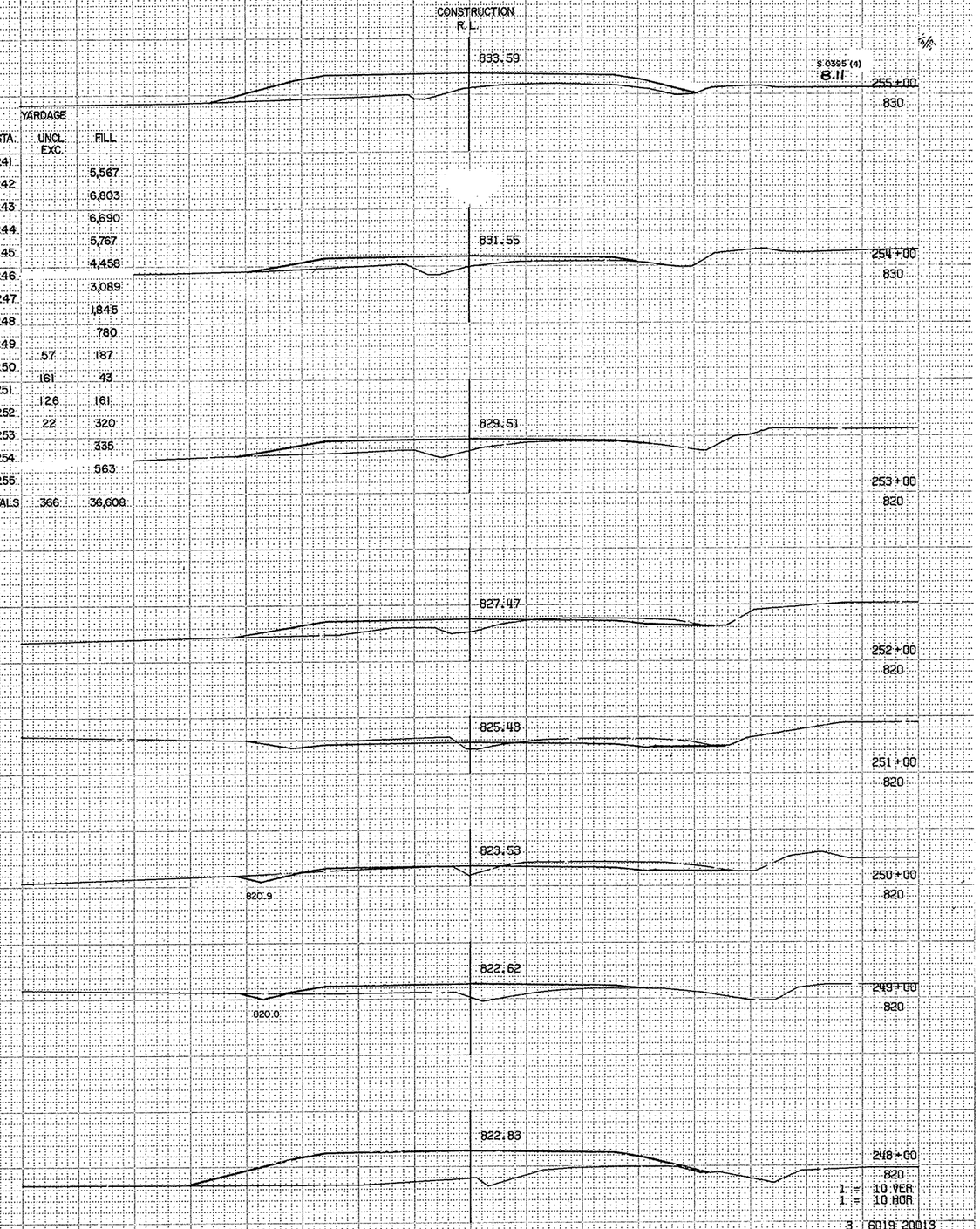
YARDAGE

STA.	UNCL. EXC.	FILL	MARSH EXC.
230		2,526	578
231		3,174	
232		3,128	
233		2,363	
234	72	952	
235	1,241	61	
236	1,566		
+58	1,331		
237	2,820		
238	1,493	9	
+84	95	16	
239	1	169	
+50		543	
240		3,130	
241			
TOTALS	8,619	16,071	578





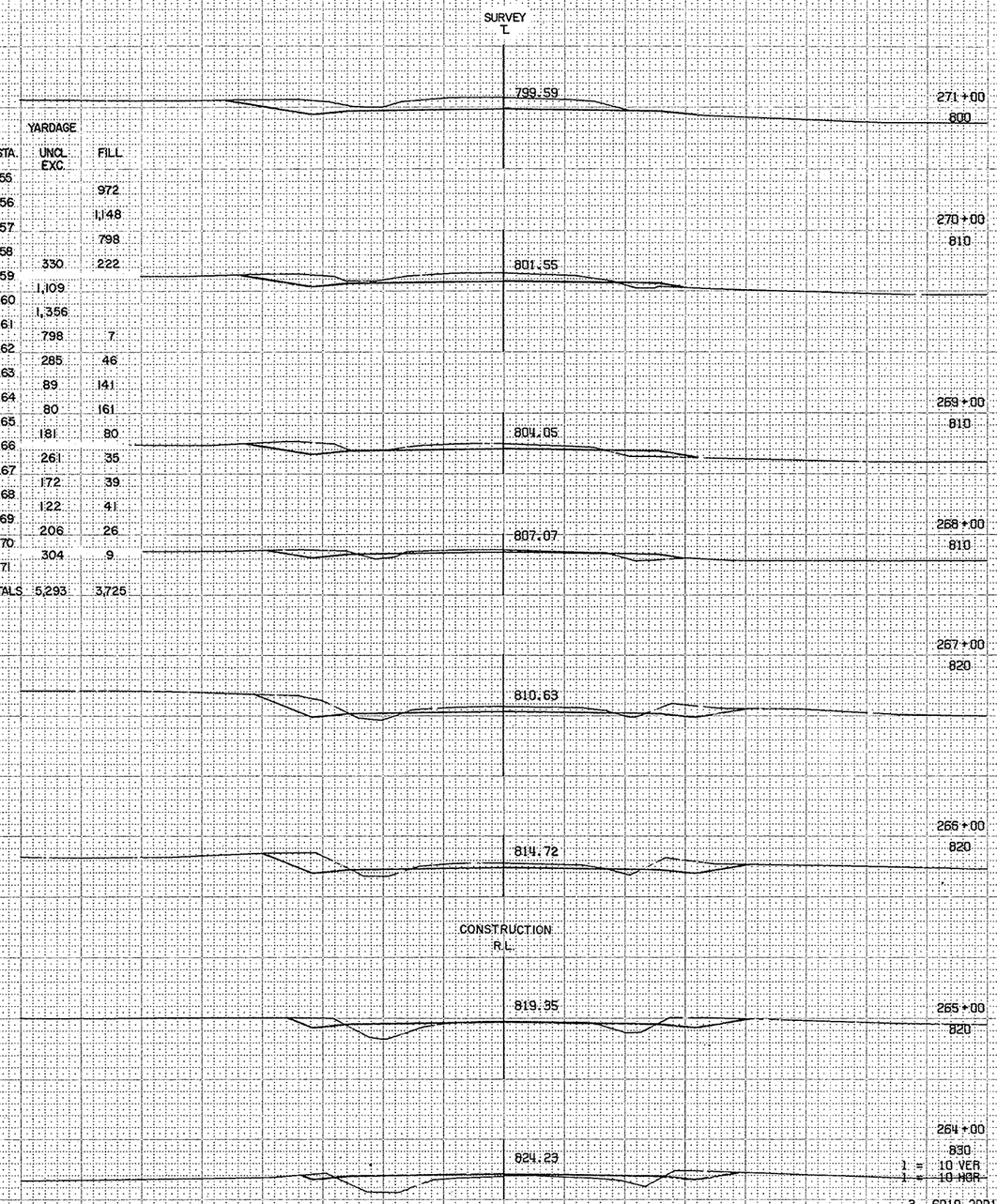
STA.	YARDAGE UNCL. EXC.	FILL
241		5,567
242		6,803
243		6,690
244		5,767
245		4,458
246		3,089
247		1,845
248		780
249	57	187
250	161	43
251	126	161
252	22	320
253		335
254		563
255		
TOTALS	366	36,608

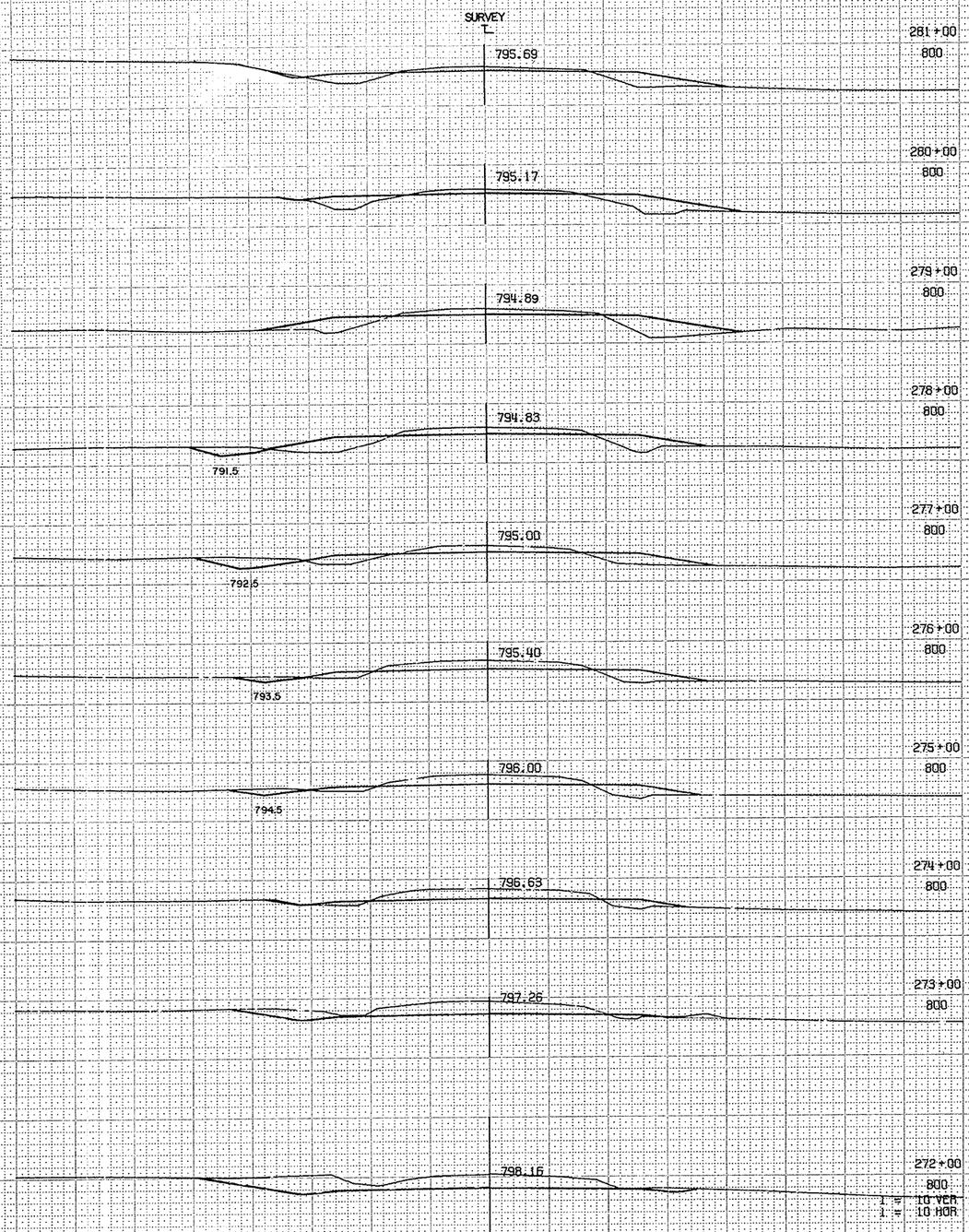


S.0395 (4)

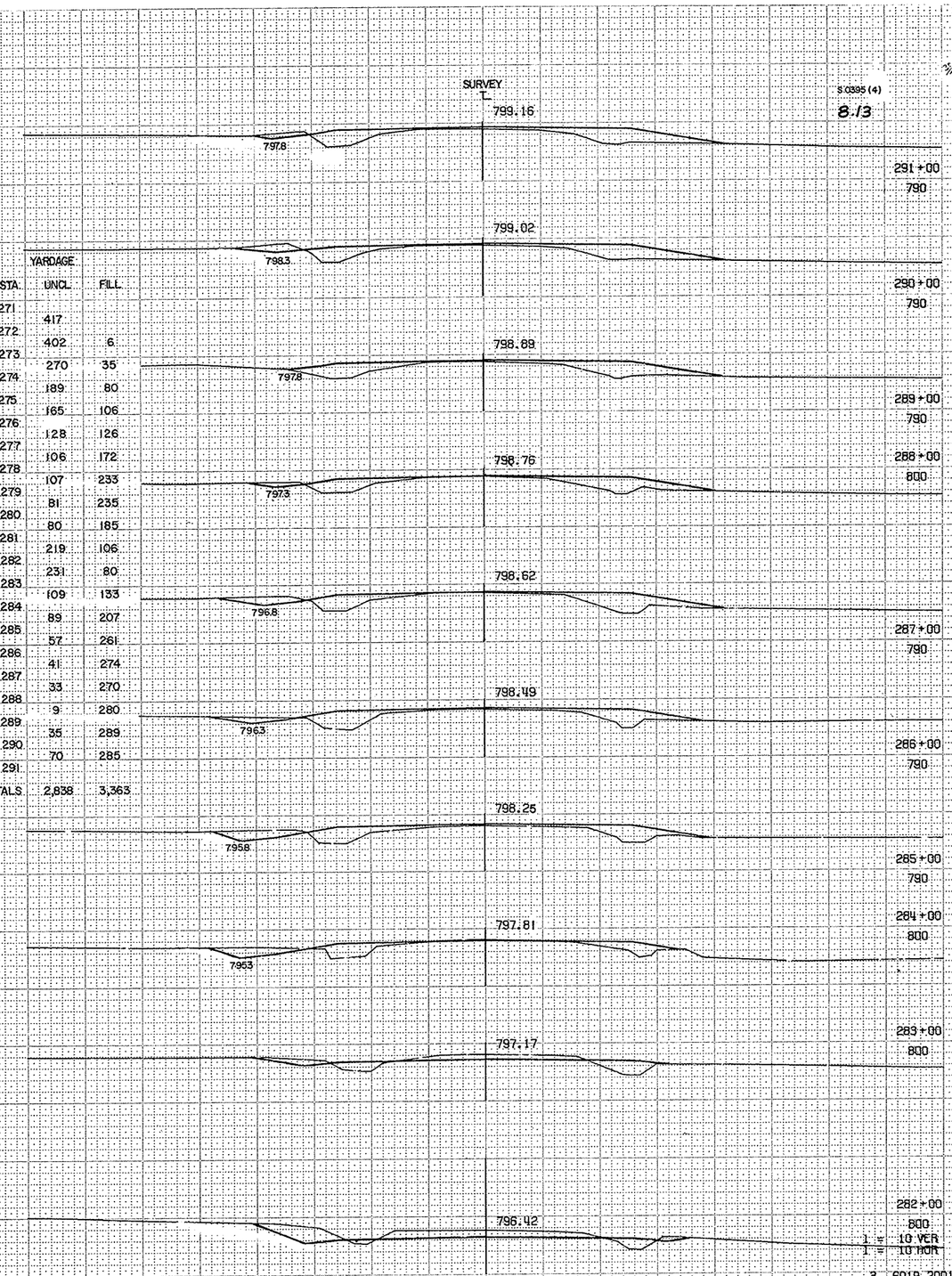
8.12

STA.	YARDAGE UNCL. EXC.	FILL
255		
256		972
257		1,148
258		798
259	330	222
260	1,109	
261	1,356	
262	798	7
263	285	46
264	89	141
265	80	161
266	181	80
267	261	35
268	172	39
269	122	41
270	206	26
271	304	9
TOTALS	5,293	3,725



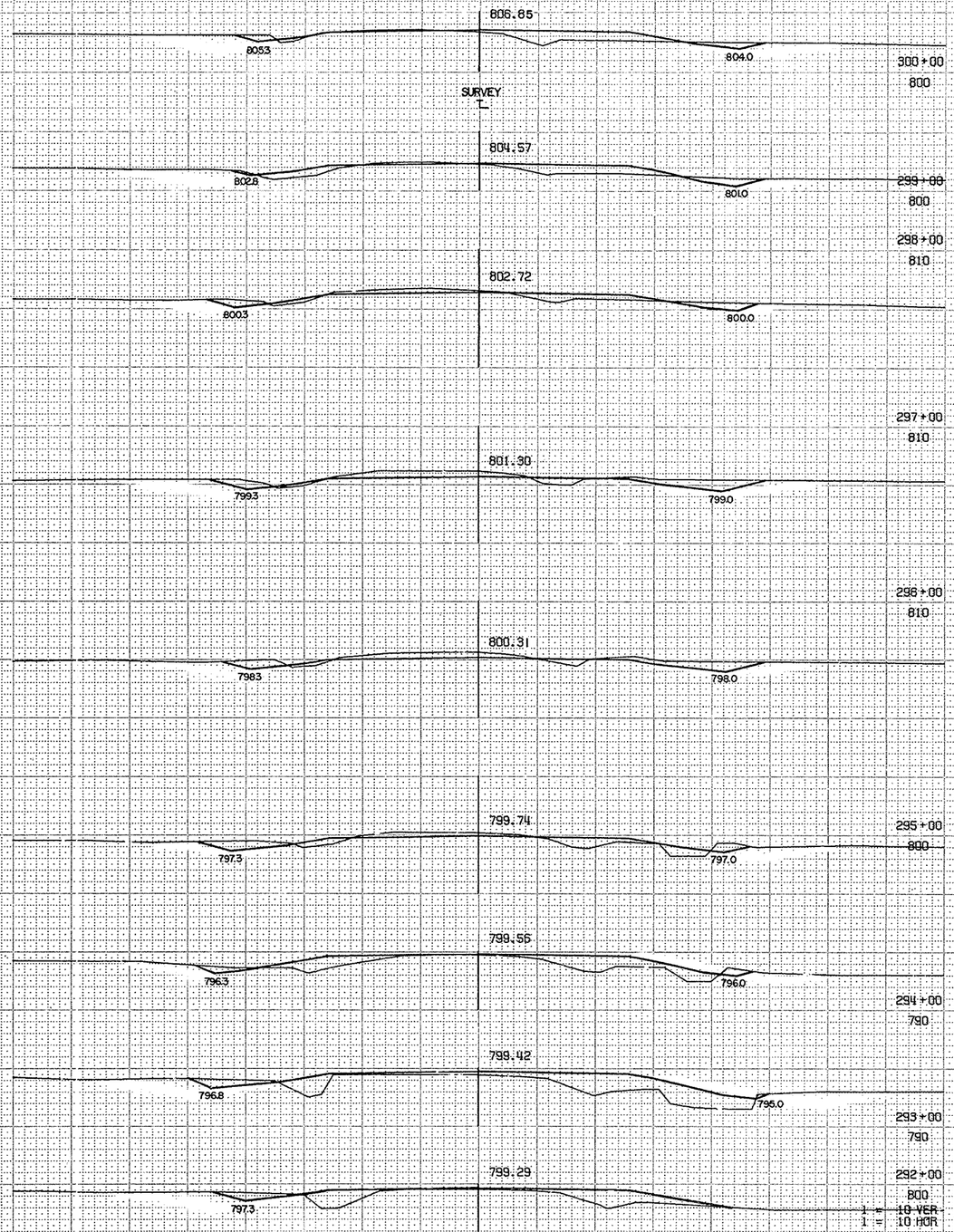


STA.	YARDAGE UNCL.	YARDAGE FILL
271		
	417	
272		
	402	6
273		
	270	35
274		
	189	80
275		
	165	106
276		
	128	126
277		
	106	172
278		
	107	233
279		
	81	235
280		
	80	185
281		
	219	106
282		
	231	80
283		
	109	133
284		
	89	207
285		
	57	261
286		
	41	274
287		
	33	270
288		
	9	280
289		
	35	289
290		
	70	285
291		
TOTALS	2,838	3,363

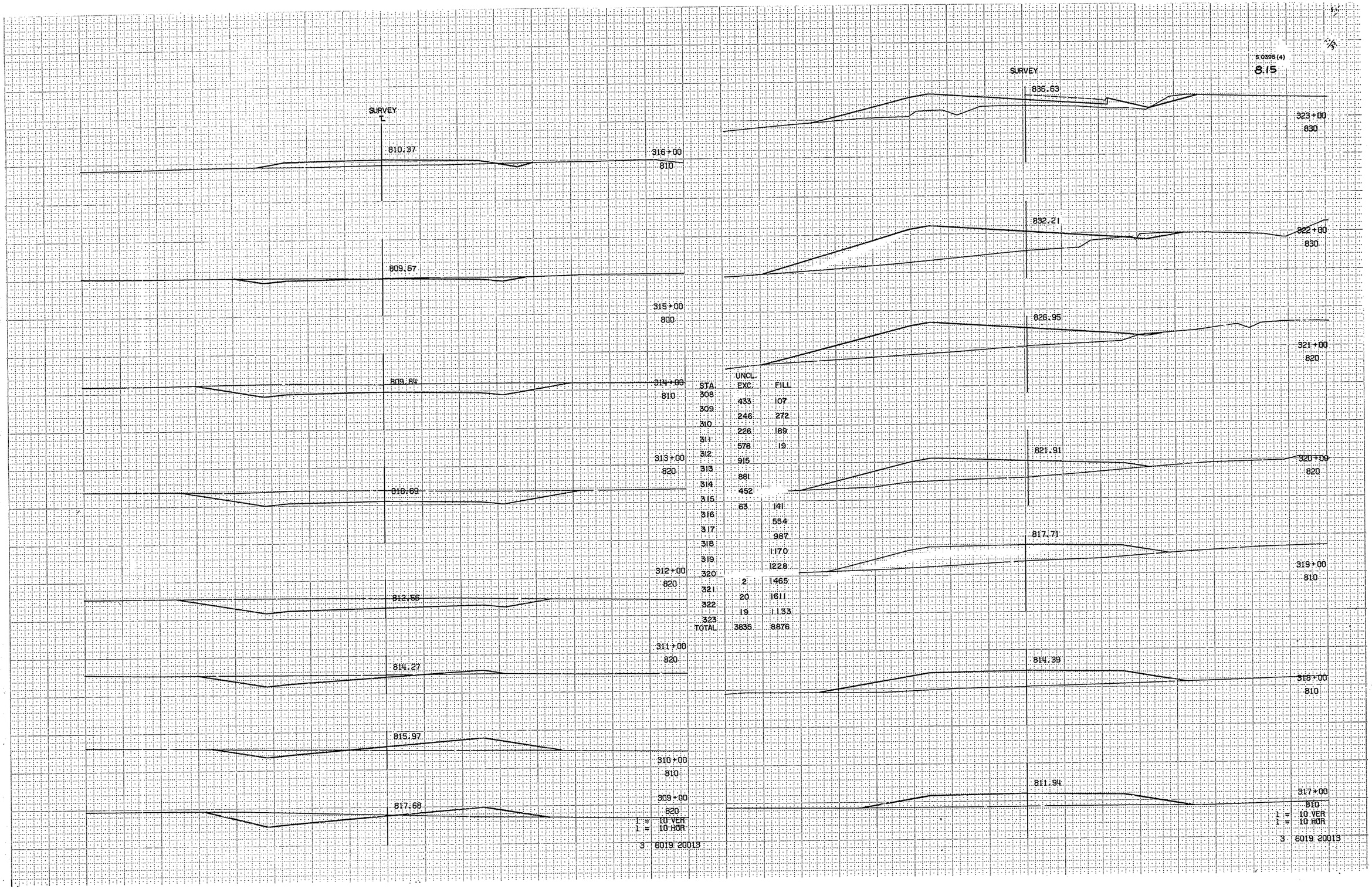


S 0395 (4)

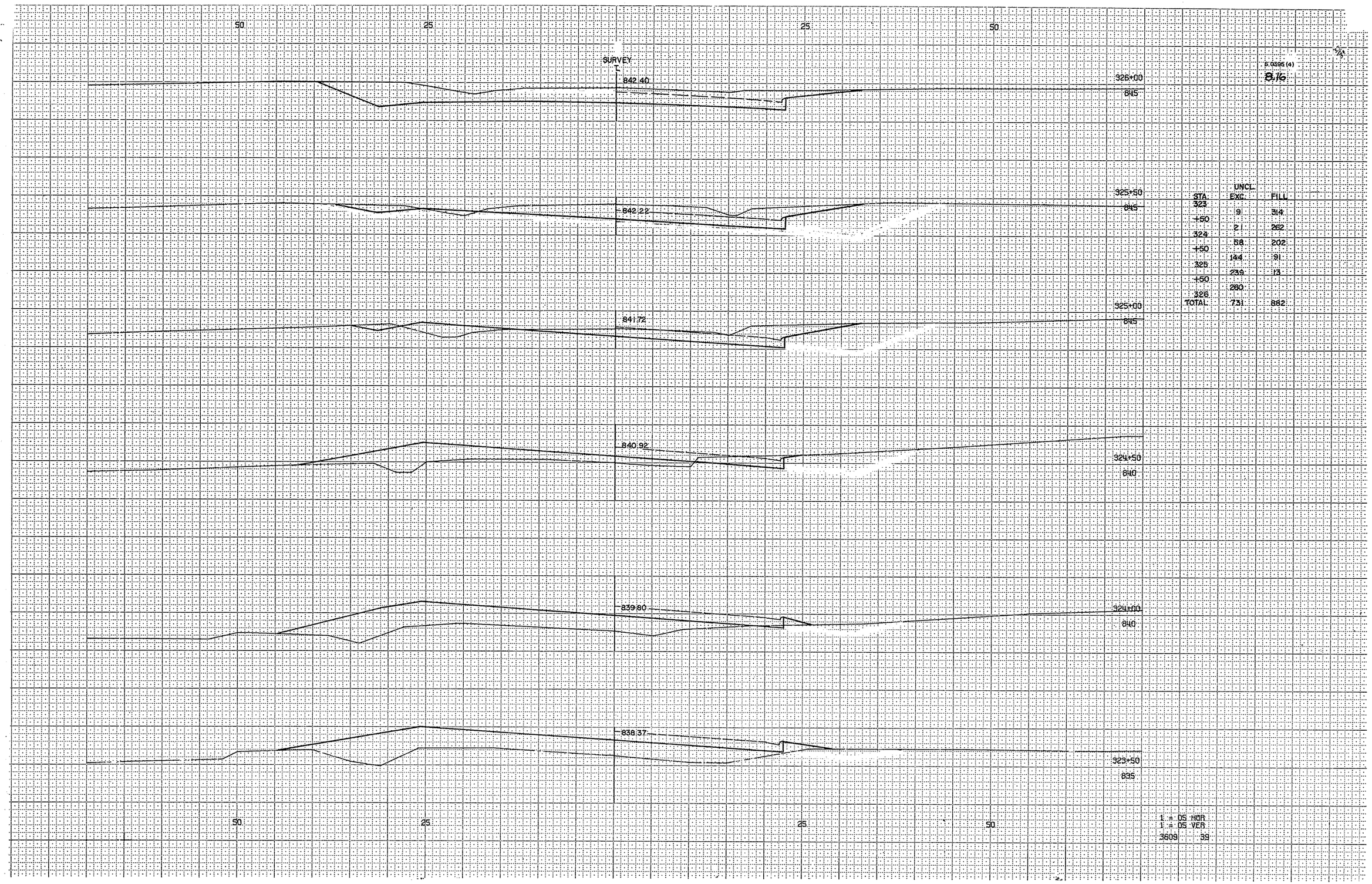
8.13



STA.	YARDAGE UNCL. EXC.	FILL
291		
	113	289
292		
	207	400
293		
	194	424
294		
	202	230
295		
	326	81
296		
	394	39
297		
	296	69
298		
	178	141
299		
	204	174
300		
	363	133
301		
	493	104
302		
	370	65
303		
	600	15
304		
	1,187	
305		
	1,322	
306		
	983	39
307		
	630	44
308		
TOTALS	8,062	2,247



STA	UNCL. EXC.	FILL
308	433	107
309	246	272
310	226	189
311	578	19
312	915	
313	861	
314	452	
315	63	141
316		554
317		987
318		1170
319		1228
320	2	1465
321	20	1611
322	19	1133
323		
TOTAL	3835	8876



STA.	UNCL. EXC.	FILL
323		
+50	9	314
324	2	262
+50	58	202
325	144	91
+50	239	13
326	280	
TOTAL	731	882

B 0395 (4)

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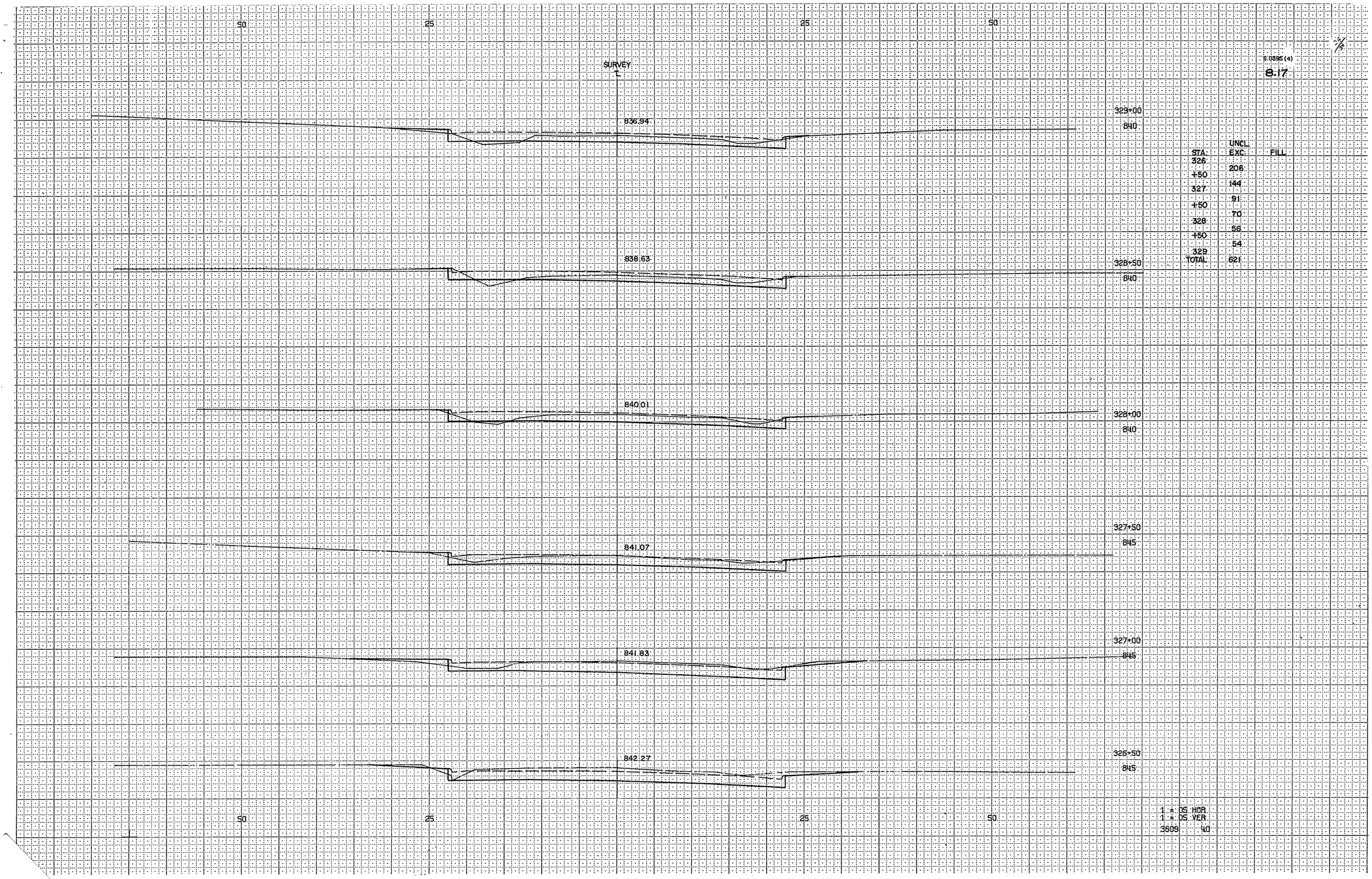
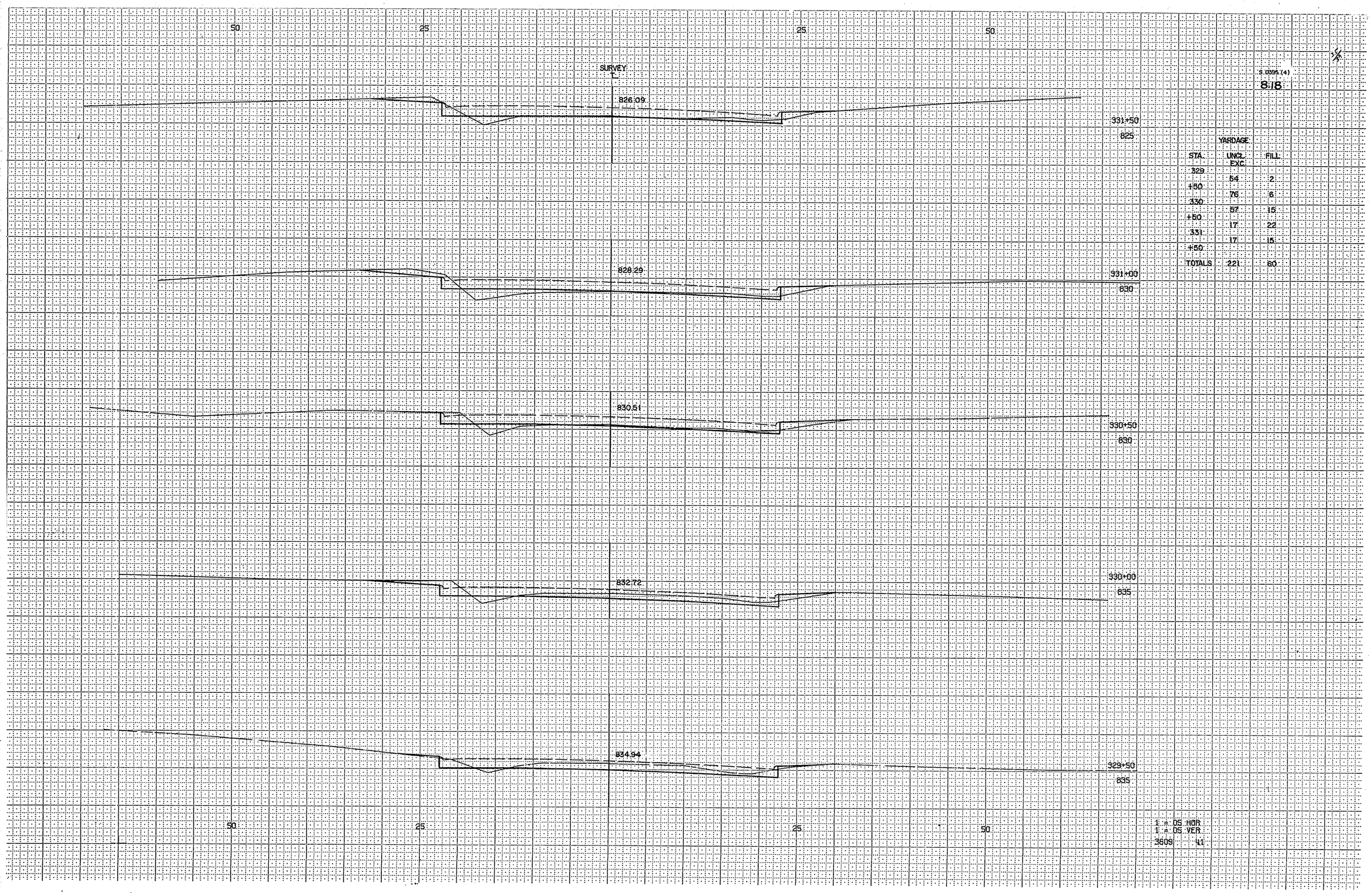
S.0395 (4)

8.17



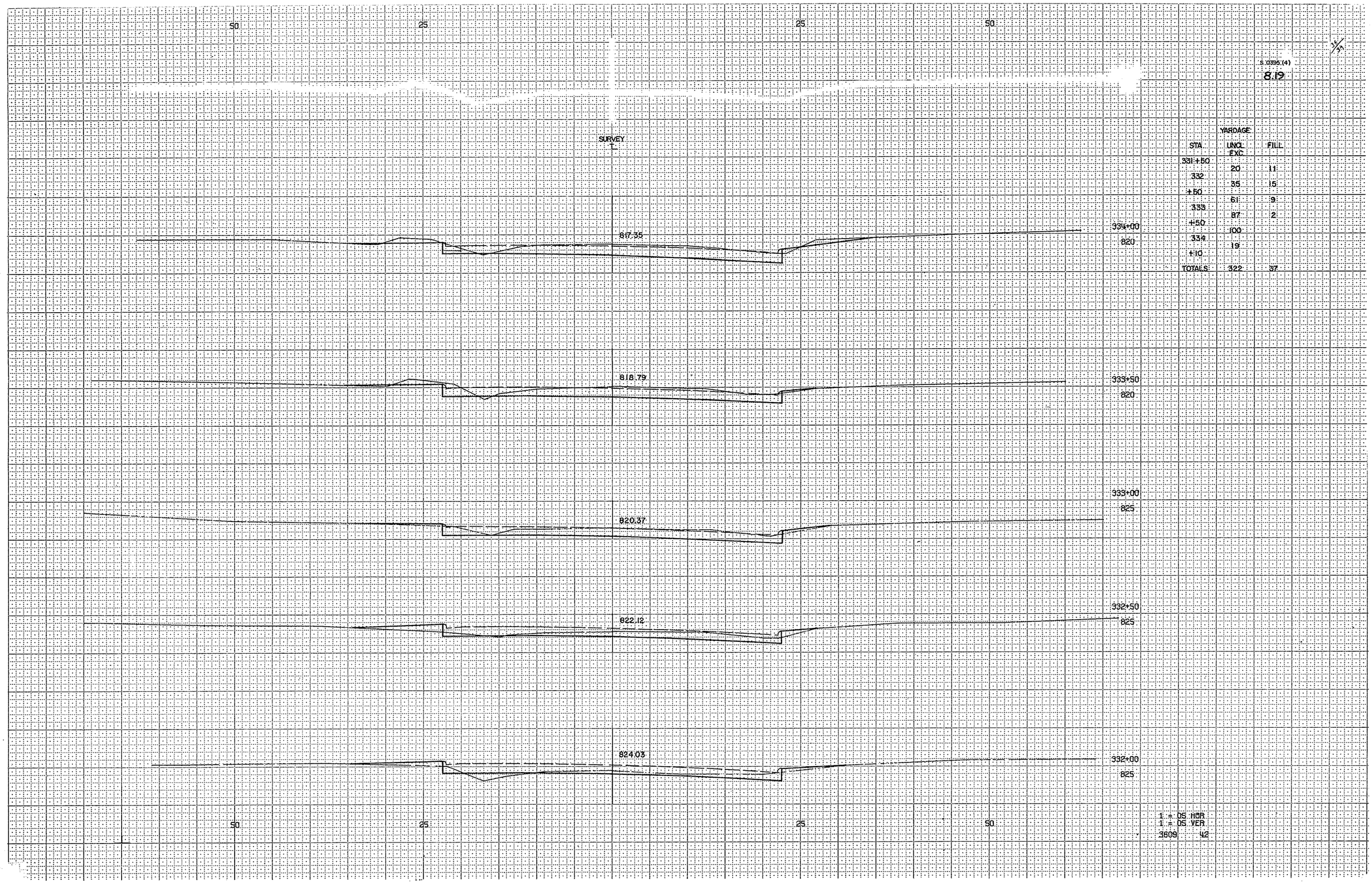
STA.	UNCL. EXC.	FILL
326	206	
+50	144	
327	91	
+50	70	
328	56	
+50	54	
329 TOTAL	621	



S.0395.(4)

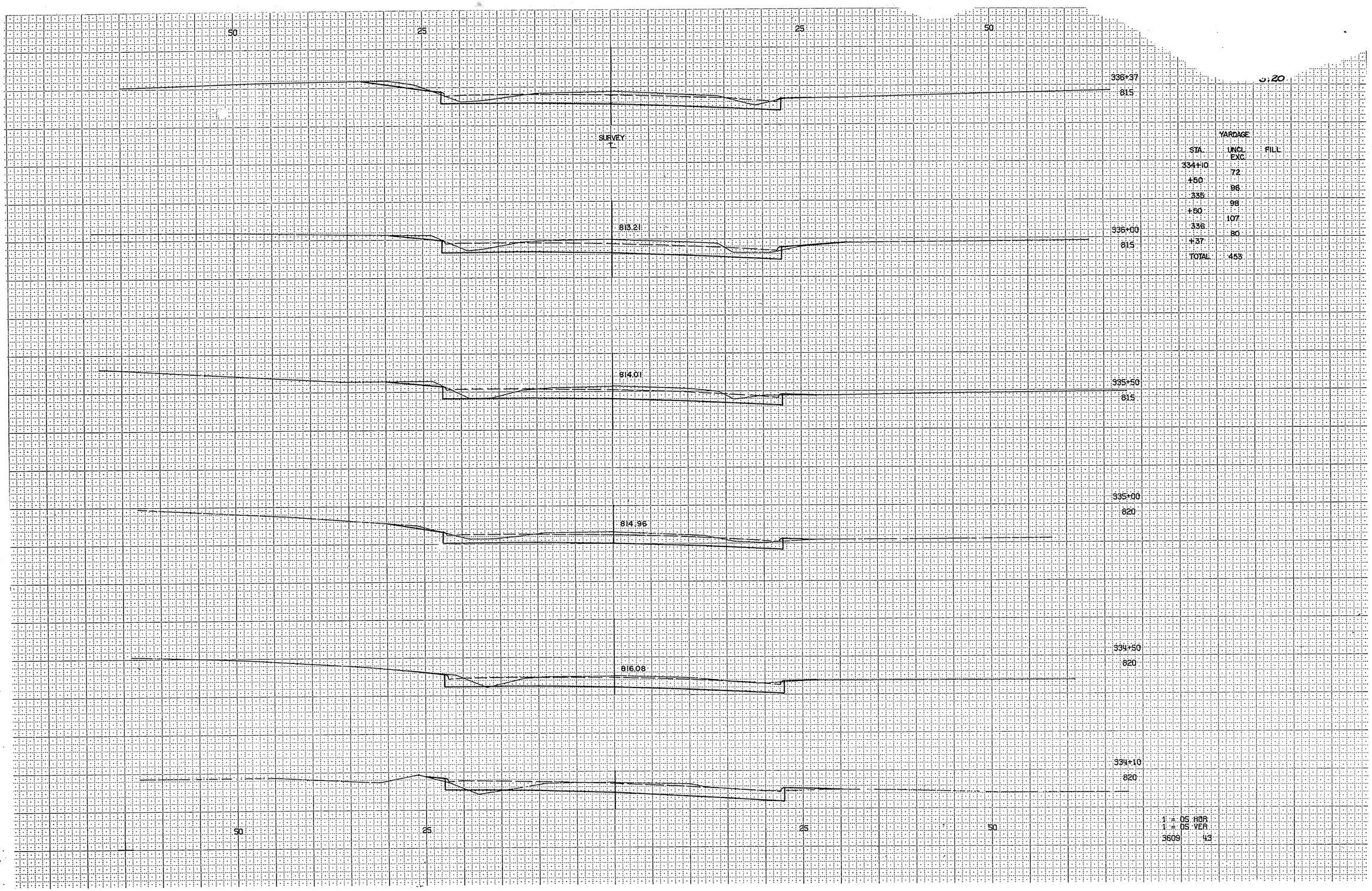
8.18

STA.	YARDAGE UNCL. EXC.	FILL
329 +50	54	2
330 +50	76	6
331 +50	57	15
TOTALS	17	22
	221	60



S.0355.(4)
8.19

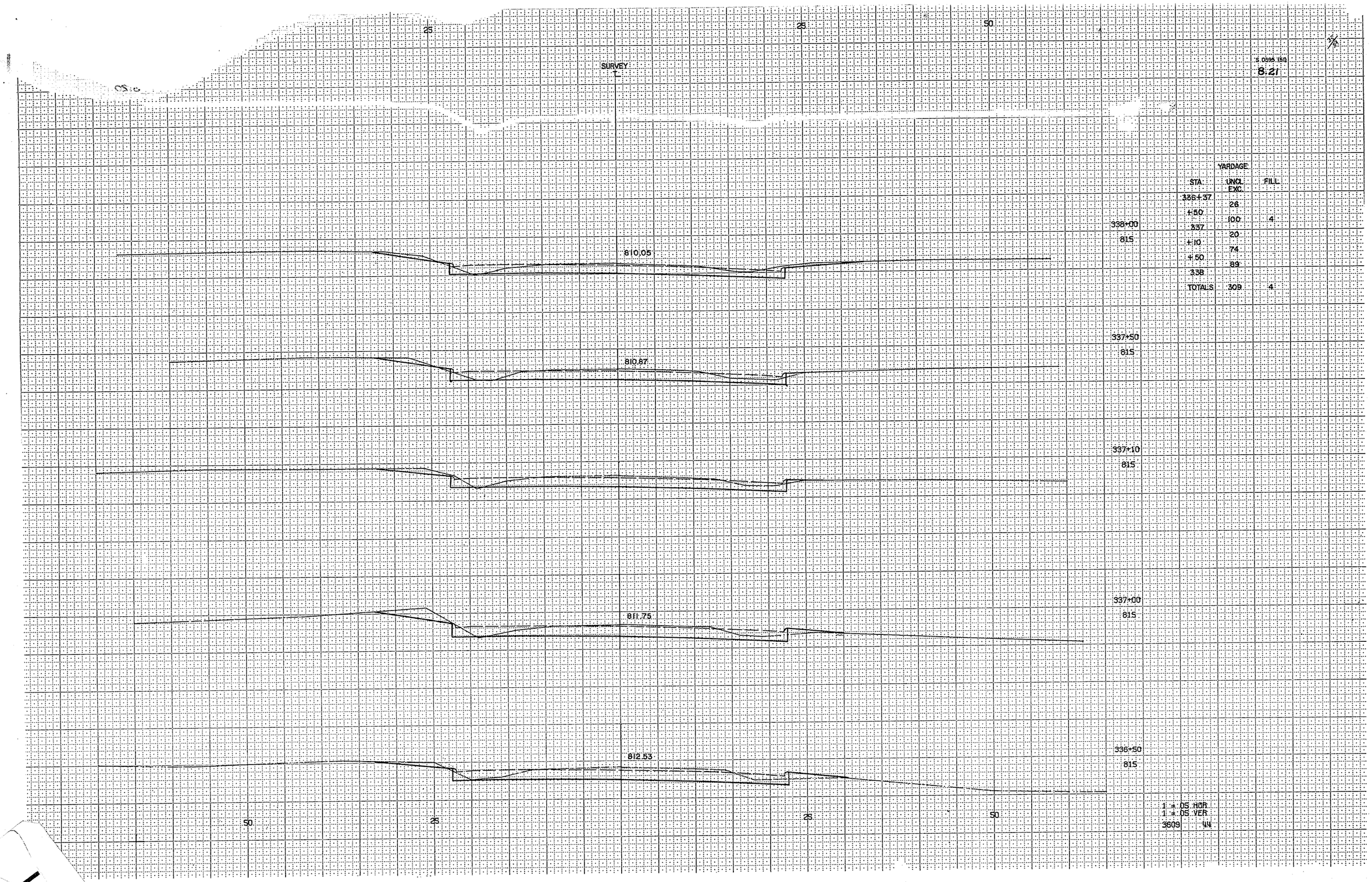
STA	YARDAGE UNCL EXC	FILL
331+50	20	11
332	35	15
+50	61	9
333	87	2
+50	100	
334	19	
+10		
TOTALS	322	37



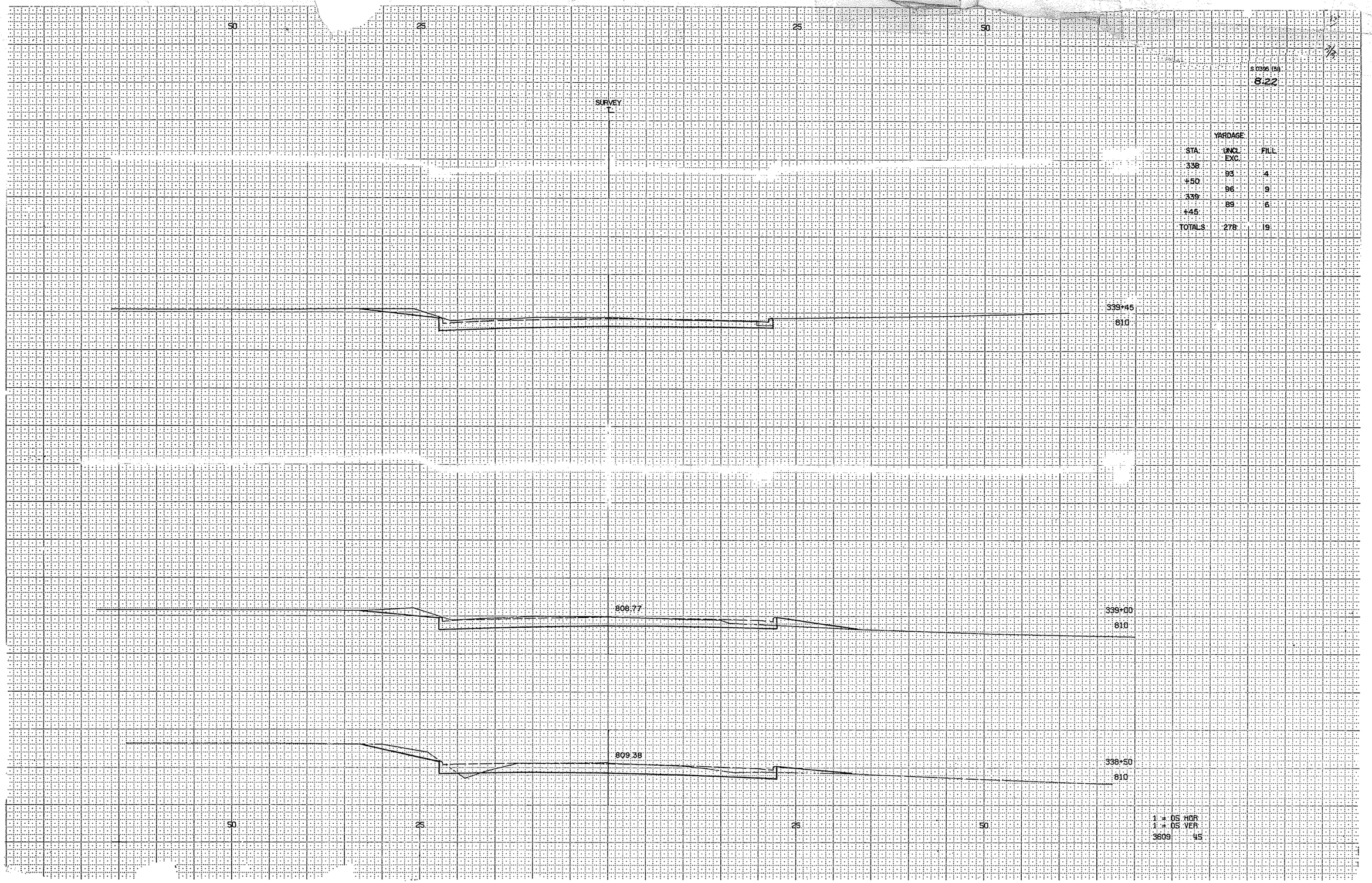
3:20

YARDAGE

STA.	UNCL. EXC.	FILL
334+10	72	
+50	96	
335	98	
+50	107	
336	80	
+37		
TOTAL	453	



STA.	YARDAGE UNCL. EXC.	FILL
338+37	26	
+50	100	4
337	20	
+10	74	
+50	89	
338		
TOTALS	309	4



S.D396 (59)

8.22

STA.	YARDAGE UNCL. EXC.	FILL
338 +50	93	4
	96	9
339 +45	89	6
TOTALS	278	19