SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

3

NOBLE COUNTY
NOB-77-1.57

Scale in Feet
0 500 1000

Begin Work Sta. 15+30
Bridge No. NOB-77-0408
Begin Work Sta. 24+40
End Work Sta. 32+20
Ex. T.R. 5
PC - Sta. 258+39.16
N 45°-09'-03" W
N 22°-05'-33" W
Sta. 197+00
PC - Sta. 197+53.80
Ex. U.S.R. 21
PT - Sta. 220+39.63
DUCK CREEK CHANNEL RELOCATION
Ex. Pennsylvania Railroad
End Work Sta. 36+20
Bridge No. NOB-77-0475
Creek
Ex. C.R. 40
Duck
Ex. Pennsylvania Railroad
Ex. U.S.R. 21

P.I. - Sta. 209+22.53
Δ = 23°-03'-30" Rt.
D_c = 1°-00'
R = 5729.58'
T = 1168.73'
L = 2305.83'
E = 117.99'

P.I. - Sta. 269+40.00
Δ = 5°-30'-00" Lt.
D_c = 0°-15'
R = 22918.31'
T = 1100.84'
L = 2200.00'
E = 26.42'

END PROJECT
Sta. 328+35.75 Bk. =
Sta. 330+00.00 Ah.
I-77-(19)19 I-77-(10)12

Ex. C.R. 40
Begin Work Sta. 5+15
End Work Sta. 29+89.91
Ex. C.R. 7
Begin Work Sta. 29+00
Bridge No. NOB-77-0574
N 27°-35'-33" W
END WORK Sta. 331+50
Elk Run
To be Vacated
PT - Sta. 280+39.16
Sta. 263+00
N 22°-05'-33" W
N 27°-35'-33" W
DUCK CREEK CHANNEL RELOCATION
End Work Sta. 40+50
Duck
Ex. T.R. 343
Ex. Pennsylvania Railroad
Ex. U.S.R. 21
Begin Work Sta. 18+40
Creek
End Work Sta. 26+40

SCHEMATIC PLAN

TYPICAL SECTIONS

TYPE 451

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

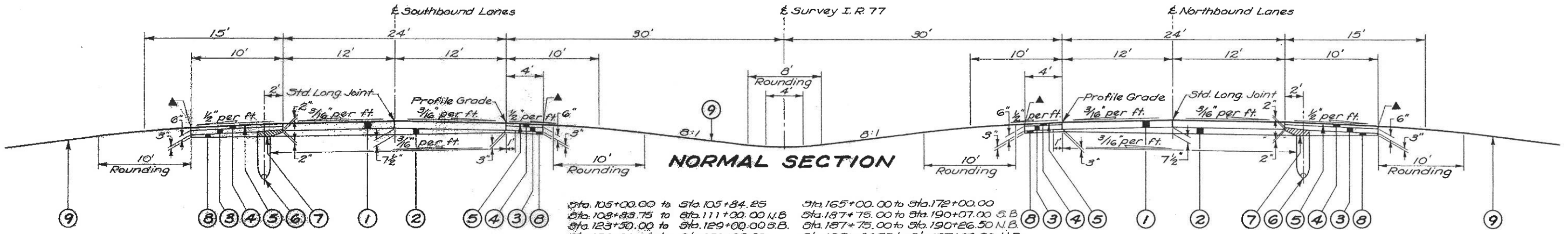
4

NOBLE COUNTY

NOB-77-1.57

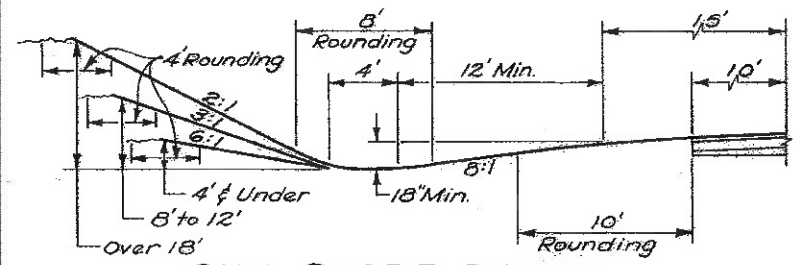
Scale in Feet

0 10 20



NORMAL SECTION

Sta. 105+00.00 to	Sta. 105+84.25	Sta. 165+00.00 to	Sta. 172+00.00
Sta. 108+88.75 to	Sta. 111+00.00 N.B.	Sta. 187+75.00 to	Sta. 190+07.00 S.B.
Sta. 123+50.00 to	Sta. 129+00.00 S.B.	Sta. 187+75.00 to	Sta. 190+26.50 N.B.
Sta. 129+00.00 to	Sta. 131+00.00	Sta. 193+44.75 to	Sta. 197+00.00 N.B.
Sta. 131+00.00 to	Sta. 137+50.00 S.B.	Sta. 193+48.00 to	Sta. 197+00.00 S.B.
Sta. 140+00.00 to	Sta. 143+00.00 S.B.	Sta. 221+25.00 to	Sta. 250+55.70
Sta. 143+00.00 to	Sta. 143+75.00	Sta. 252+11.26 to	Sta. 302+25.00



CUT SLOPE DETAIL

From 4' cut to 8' cut use a variable backslope with the distance from back of ditch to top of cut being a constant 24'.

From 12' cut to 18' cut use a variable backslope with the distance from back of ditch to top of cut being a constant 36'.

LEGEND

1. 451 9" Reinforced Portland Cement Concrete Pavement
2. 310 Subbase (depth as shown), grading "A" or "B," as per plan
3. 304 Aggregate Base (depth as shown)
4. 301 3" Bituminous Aggregate Base, 702.01 (B5-100) or 702.09 RT-12 (See Note in Proposal)
5. 409 Seal Coat using 0.008 Cu. Yd. No. 8 aggregate per Sq. Yd. and 0.25 Gal. bituminous material per Sq. Yd. (See Note in Proposal)
6. 605 6" Shallow Pipe Underdrains
7. Special drainage connection, using No. 8 aggregate (See Note in Proposal)
8. 310 Subbase (Depth as shown)
9. 659 Seeding and Mulching

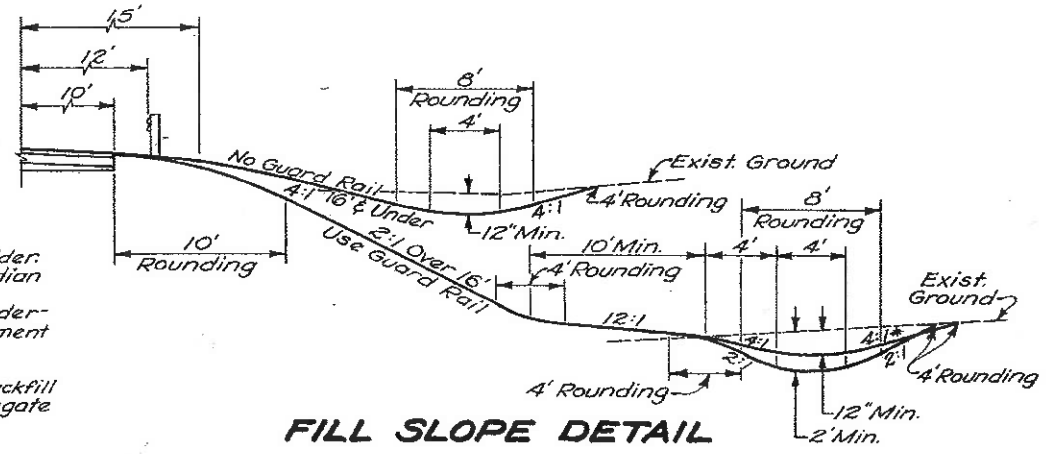
NOTES

Item 605 6" Shallow Pipe Underdrain shall have a minimum of 30" of cover on the median side, and 30" of cover on the outside in fill. The cover is measured from the crown of pipe to the subgrade.

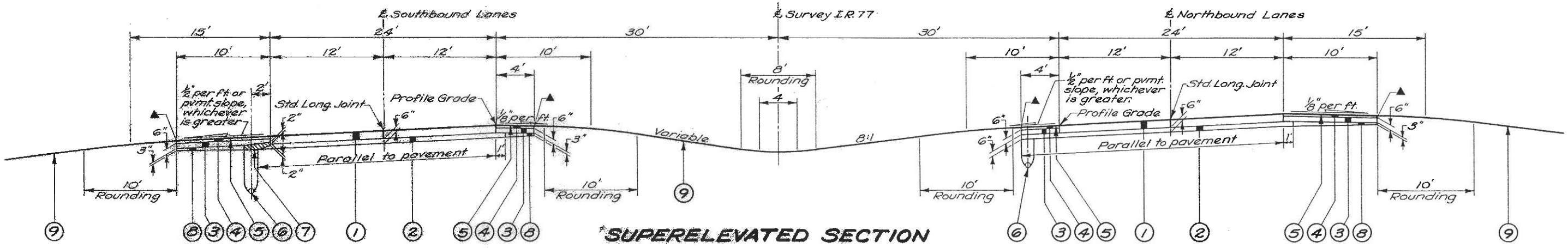
Sequence of operations:
(1) Install pipe underdrain on outside shoulder. Installation of shallow underdrain in median may be deferred until 451 is placed.
(2) Place subbase out to outside edge of underdrain or to one foot beyond edge of pavement where no underdrain is present.
(3) Construct 451
(4) Remove subbase and any contaminated backfill over drain and replace with No. 8 aggregate as shown by (7).
(5) Complete shoulder construction.

* Unless otherwise shown on Cross-Sections.

▲ Drop Earth Shoulder 1" below Paved Berm.
† For Edge Elevations see Superelevation Tables Sheets No. 42 & 43

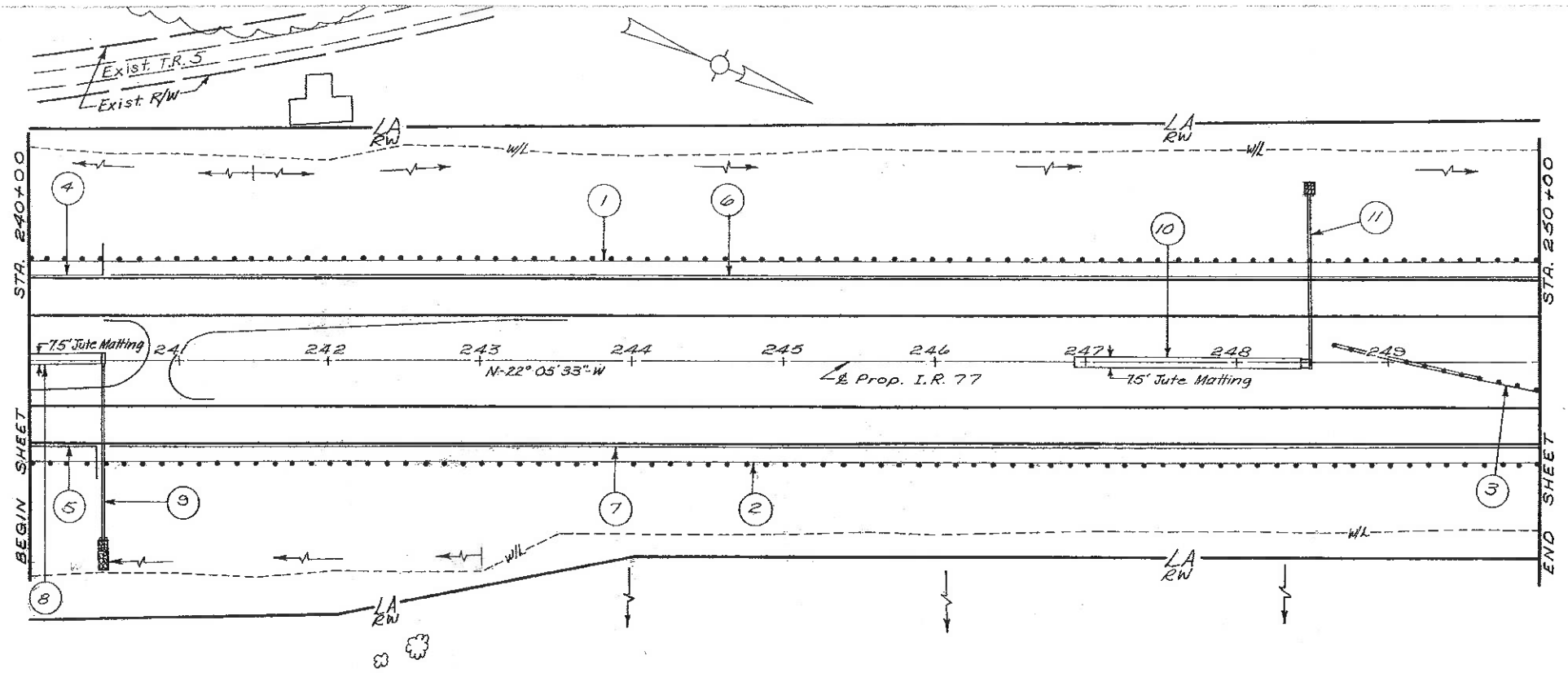


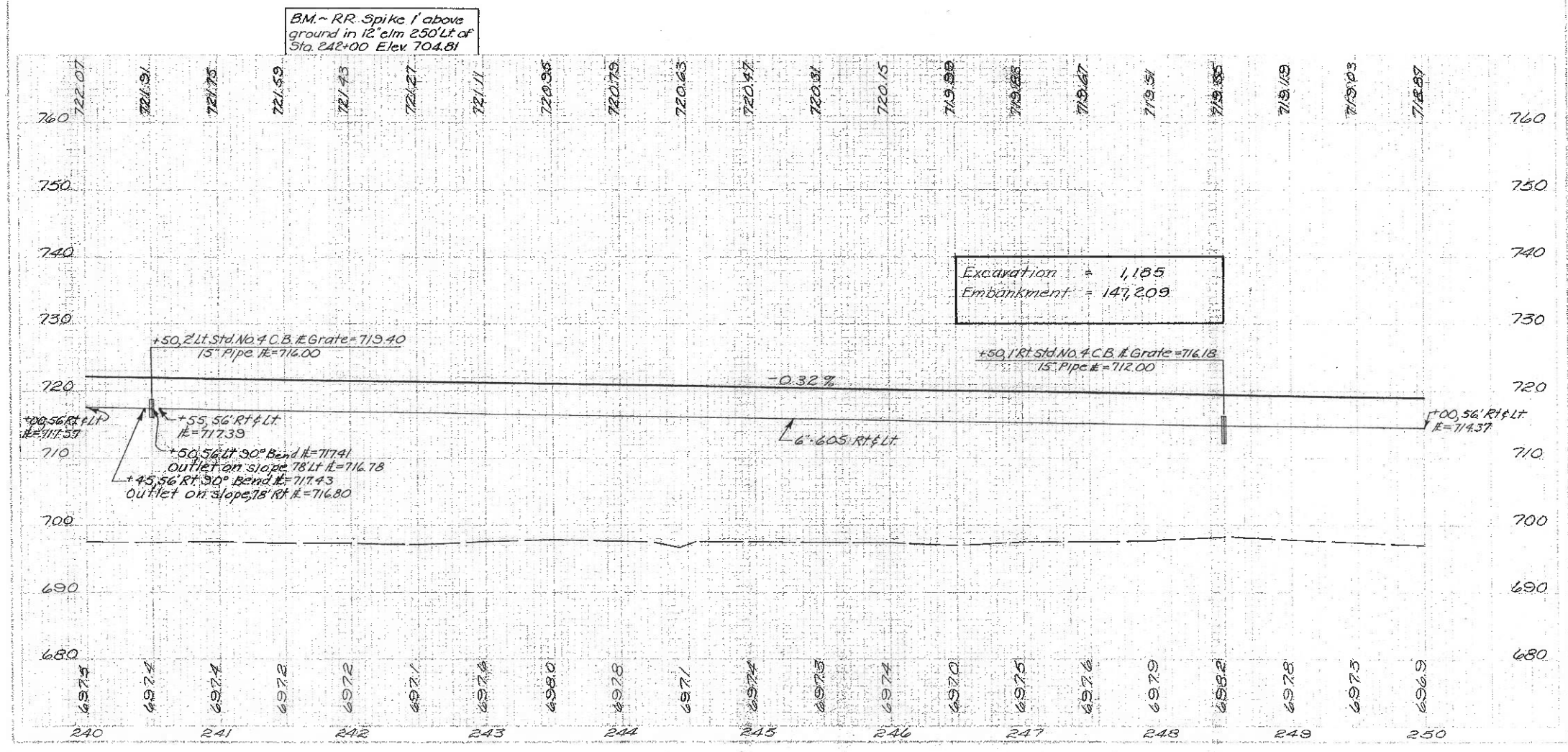
FILL SLOPE DETAIL



*SUPERELEVATED SECTION

Sta. 102+00.00 to	Sta. 105+00.00	Sta. 173+50.00 to	Sta. 175+00.00 N.B.
Sta. 142+75.00 to	Sta. 152+50.00	Sta. 180+50.00 to	Sta. 187+75.00
Sta. 154+75.00 to	Sta. 156+75.00 S.B.	Sta. 197+00.00 to	Sta. 204+00.00
Sta. 172+00.00 to	Sta. 173+50.00	Sta. 219+61.65 to	Sta. 221+25.00



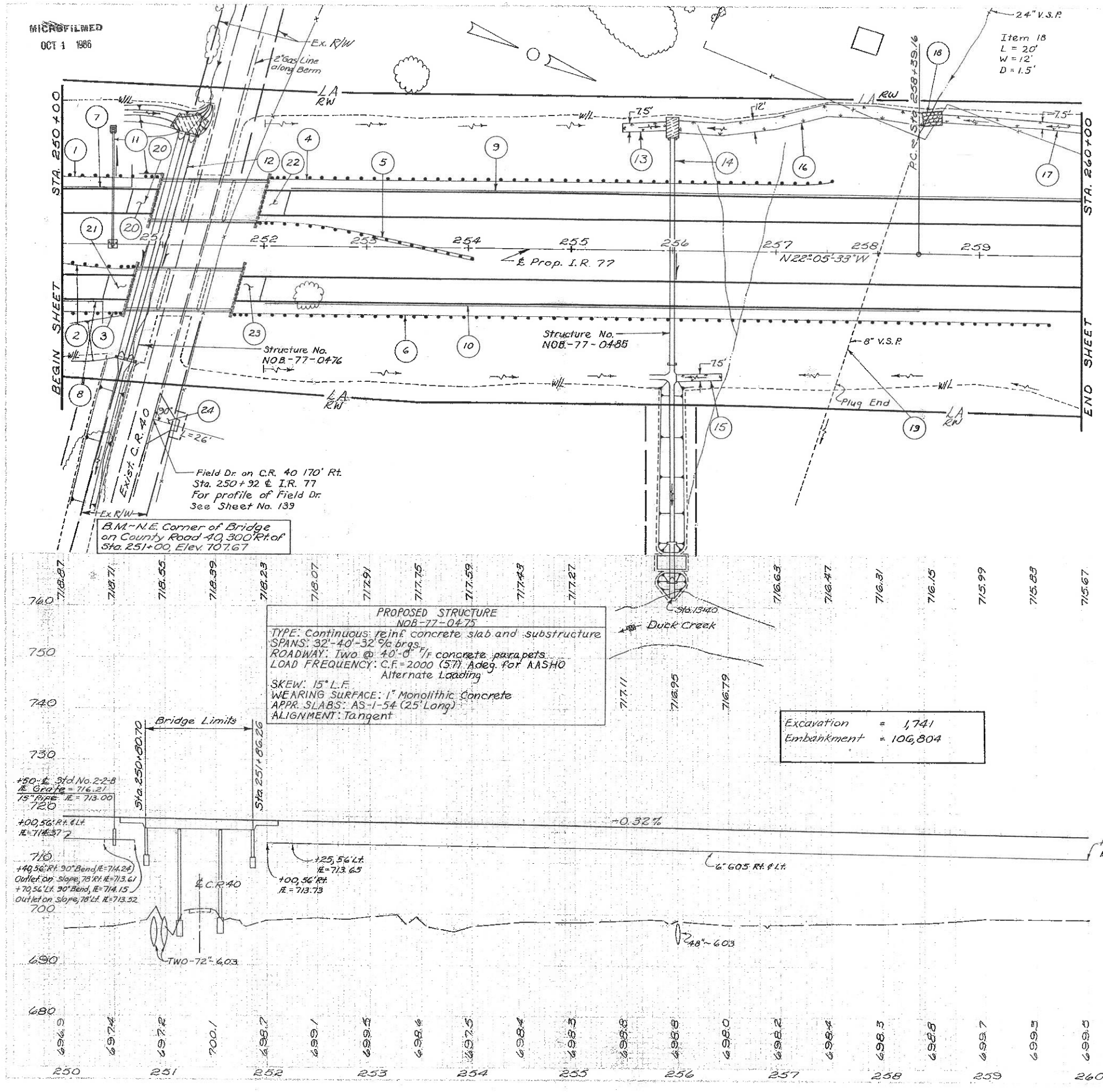


				605 Shallow 6" Lin. Ft.	603 15" Type B Class B Lin. Ft.	603 15" Type F Lin. Ft.	603 6" Type F Lin. Ft.	601 D.R.C.P. Cu. Yds.	602 Conc. Masonry Cu. Yds.	604 Std. No. 4 C.B. Each	667 Sq. Yds.	15" 25° Bend Each	6" 90° Bend Each	606 Type 4 Barrier Lin. Ft.
1	240+00	250+00	Lt.											1000
2	240+00	250+00	Rt.											1000
3	248+64	250+00	Lt.&Rt.											40.5 100
4	240+00	240+50	Lt.	62			10						1	
5	240+00	240+45	Rt.	57			10						1	
6	240+55	250+00	Lt.	945										
7	240+55	250+00	Rt.	945										
8	240+00	240+43	℄								36			
9	240+50		℄&Rt.		69	56		7	0.3	1		2		
10	246+93	248+43	℄								125			
11	248+50		℄&Lt.		71	44		3	0.3	1		2		
				2009	140	100	20	10	0.6	2	161			2040.5 100

STA. 240+00 TO STA. 250+00

NOBLE COUNTY
NOB-77-11.57

134
138

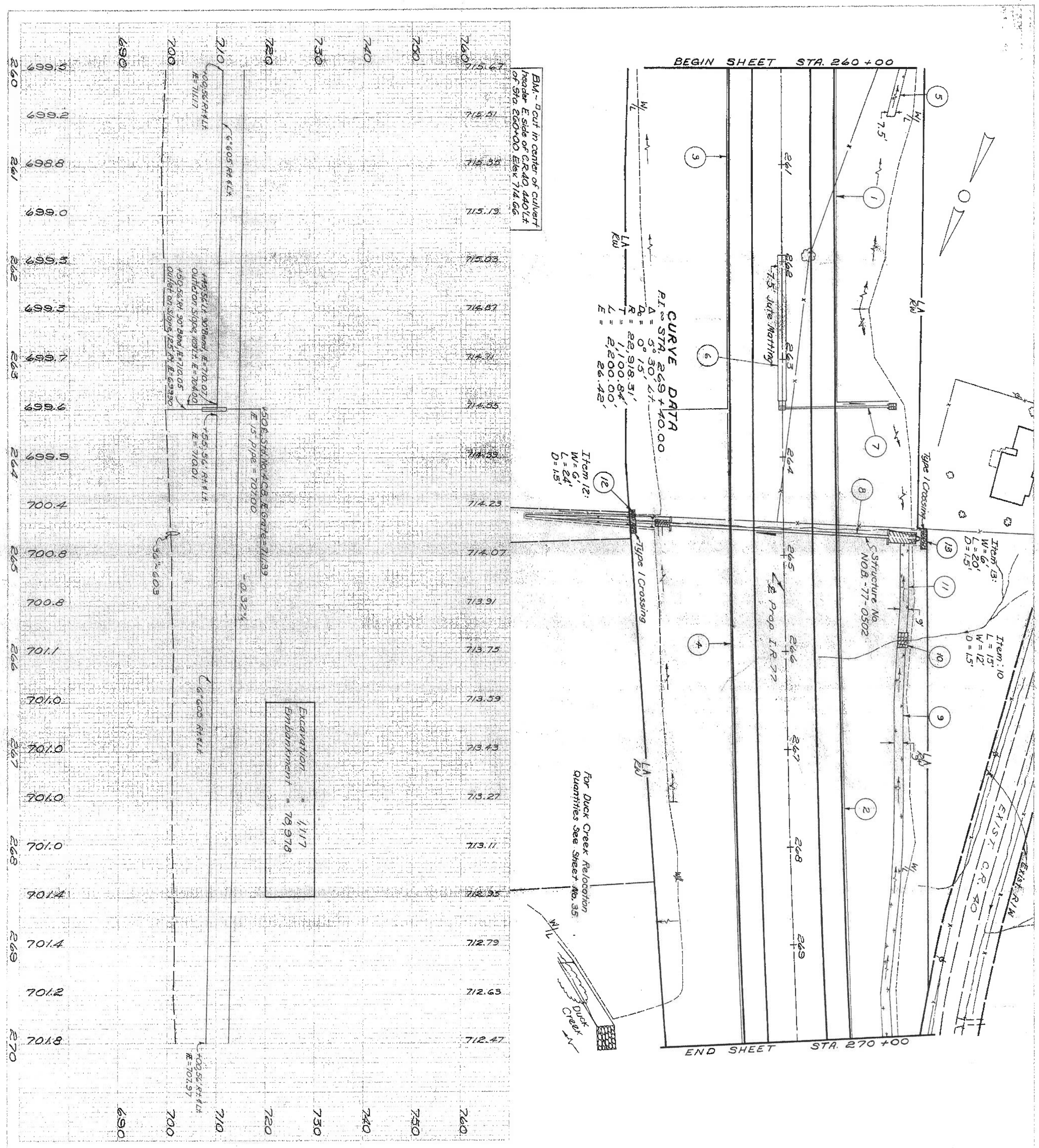


				605	603						601		602	604	660	304	603	606		611	202	
				6" Shallow	72" * Type A Class B	48"** Type A Class B	48" * Type D	15" Type B Class B	15" Type F	6" Type F	Riprap	D.R.C.P.	Conc. Masonry	Std. 2-2B CB	SOD	6"	72" Type A 706.02 Cl. III Class B Bed	Type 4 Barrier	6" 90° Bend	T-13"	Pipe Rem. 15" & Under	
				Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Yds.	Cu. Yds.	Cu. Yds.	Each	Sq. Yds.	Cu. Yds.	Lin. Ft.	Lin. Ft.	Each	Sq. Yds.	Lin. Ft.	
1	250+00	250+95.52	Lt.															95.52				
2	250+00	250+71.94	Rt.															72				
3	250+00	250+61.22	Rt.															63.52				
4	252+05.74	257+55.74	Lt.															550				
5	251+95.02	254+04	Lt.&Rt.															112.5	100			
6	251+71.44	259+71.44	Rt.															800				
7	250+00	250+70	Lt.	82						10									1			
8	250+00	250+40	Rt.	52						10									1			
9	252+25	260+00	Lt.	775																		
10	252+00	260+00	Rt.	800																		
11	250+50		℄&Lt.					71	40			3	0.3	1	11							139
12	250+97		Lt.&Rt.		230						66		11.5		-		230					220
13	255+50	255+93	Lt.												36							
14	256+00		Lt.&Rt.			222	40				28		3.4			6						221
15	256+04	256+50	Rt.												39							
16	256+07	258+50	Lt.												334							
17	258+62	260+00	Lt.												113							
18	258+42	258+62	Lt.									13										
19	258+01		℄																		260	
20	250+64	250+96	Lt.																	67		
21	250+40	250+72	Rt.																	67		
22	251+95	252+26	Lt.																	67		
23	251+71	252+02	Rt.																	67		
24	170' Rt. of 250+92															14						

* 706.02
** 706.02 Class IV

NOBLE COUNTY
NOB-77-1.57

STA. 250+00 TO STA. 260+00


BEGIN SHEET STA. 260+00
END SHEET STA. 270+00
CURVE DATA
P.I. = STA. 269+40.00
Δ = 5° 30' Lt.
Dc = 0° 15'
R = 22,918.31'
T = 1,100.84'
L = 2,200.00'
E = 26.42'
B.M. - Cut in center of culvert header E. side of C.R. 40 440' Lt. of Sta. 260+00 Elev. 714.66
Structure No. NOB-77-0502
℄ Prop. I.R. 77
Type I Crossing
7.5' Jute Matting
Item 12: W=6', L=24', D=1.5'
Item 13: W=6', L=20', D=1.5'
Item 10: L=15', W=12', D=1.5'
EXIST. C.R. 40
Exist. R/W
For Duck Creek Relocation Quantities See Sheet No. 35
Duck Creek
Excavation = 1,117
Embankment = 78,978
-0.32%

* 706.02 Class III or 706.08

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	605 Shallow 6" Lin. Ft.	603 36"* Type A Class B Lin. Ft.	603 15" Type B Class B Lin. Ft.	603 6" Type F Lin. Ft.	601 Riprap Sq. Yds.	601 D.R.C.P. Cu. Yds.	602 Conc. Masonry Cu. Yds.	604 Std. No. 4 C.B. Each	660 Sod Sq. Yds.	667 Sq. Yds.	304 Cu. Yds.	6" 90° Bend Each	SEC. SHEET NO.
1	260+00	263+45	Lt.	388			10								1	
2	263+55	270+00	Lt.	645											1	
3	260+00	263+50	Rt.	409			10									
4	263+55	270+00	Rt.	645												
5	260+00	260+50	Lt.									42				
6	261+93	263+43	℄										125			
7	263+50		℄ & Lt.			108			3	0.3	1					145
8	264+77		℄		224			31	8	13.0				194		222
9	266+00	270+00	Lt.									400				
10	265+85	266+00	Lt.						12							
11	264+90	265+85	Lt.									93				
12	264+55	264+79	Rt.						8							
13	264+74	264+94	Lt.						7							

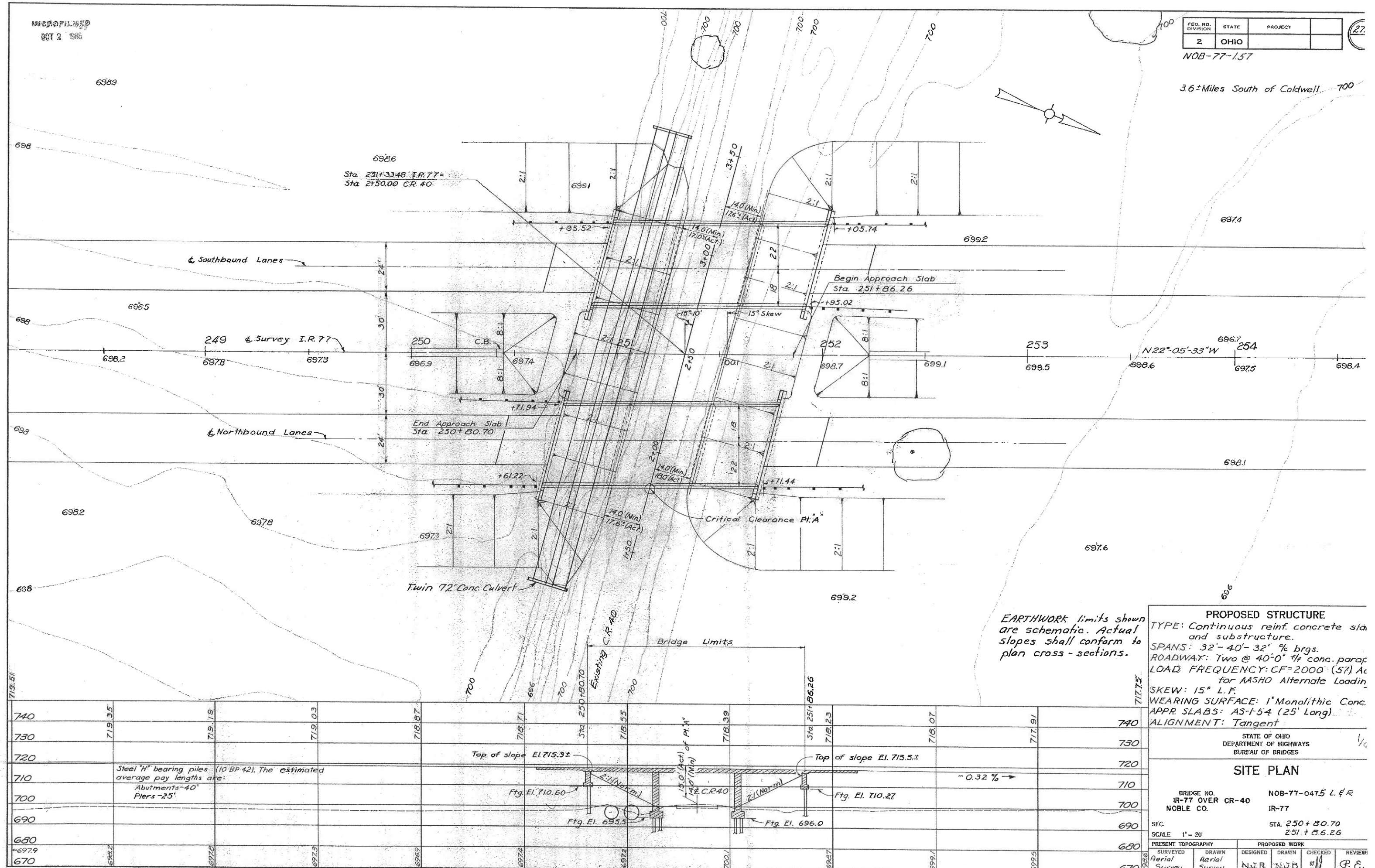
NOBLE COUNTY
NOB-77-1.57

Sta. 260+00 To Sta. 270+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

NOB-77-1.57

3.6± Miles South of Coldwell



Steel "H" bearing piles (10 BP 42). The estimated average pay lengths are:
Abutments-40'
Piers-25'

EARTHWORK limits shown are schematic. Actual slopes shall conform to plan cross-sections.

PROPOSED STRUCTURE

TYPE: Continuous reinf. concrete sla and substructure.
SPANS: 32'-40'-32' ℄ brgs.
ROADWAY: Two @ 40'-0" f/f conc. parap
LOAD FREQUENCY: CF=2000 (57) Ac for AASHO Alternate Loadin
SKEW: 15° L.F.
WEARING SURFACE: 1" Monolithic Conc.
APPR. SLABS: AS-1-54 (25' Long)
ALIGNMENT: Tangent

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. IR-77 OVER CR-40 NOBLE CO.
NOB-77-0475 L ℄ R
IR-77
SEC.
STA. 250+80.70
251+86.26
SCALE 1"=20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	N.J.B.	N.J.B.		P.E.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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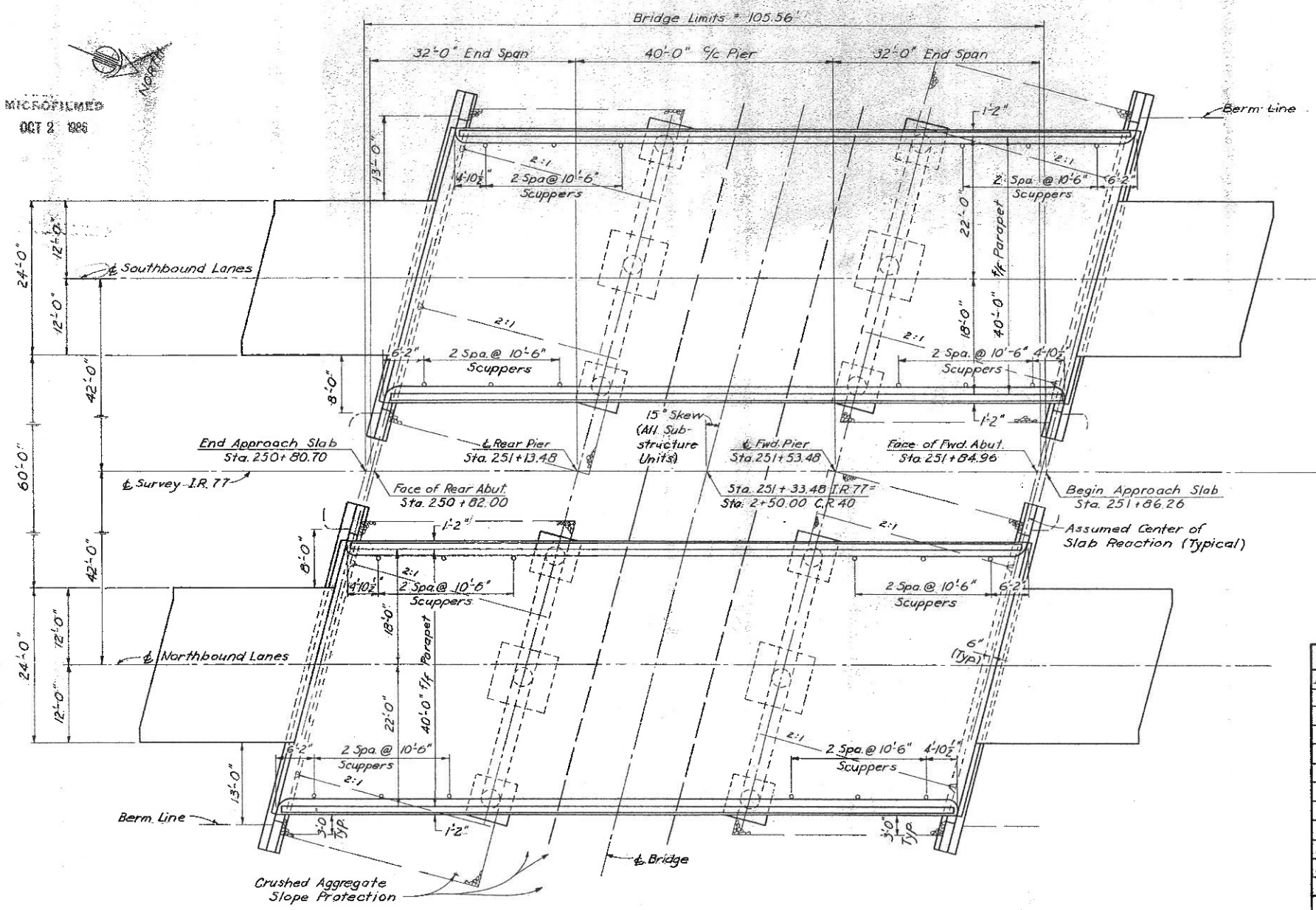
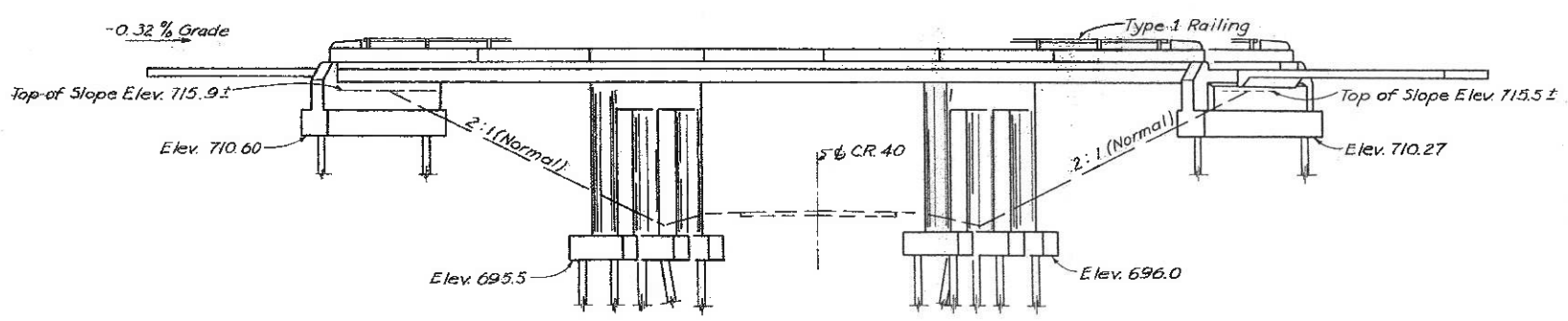
NOB-77-1.57



GENERAL PLAN



ELEVATION

Piling shall be 10 BP 42 steel "H" bearing piles.

Piling not all shown.

GENERAL NOTES

REFERENCE shall be made to Standard Drawing BR-1-65 revised 11-29-65, and to Supplemental Specifications 808 dated 2-7-66 and 825 dated 4-22-65.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions thereof.

DESIGN LOADING - CF 2000(57)
Concrete Class C - basic unit stress 1,333 p.s.i.
Concrete Class E - basic unit stress 1,133 p.s.i.
Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i. Except, spiral reinforcement may be plain, Structural Grade with basic unit stress of 18,000 p.s.i.

PROCEDURE: The embankment shall be placed and compacted up to the finished spill thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments, after which excavation shall be made for the abutment and for piers that are set in the filled area and piles driven.

The abutment piling shall not be driven until these embankments have been in place for a minimum period of 30 days.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

EXCAVATION QUANTITY includes the removal of fill material required for the construction of the abutments and piers.

PILES shall be driven to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

For the abutment piles:
50 tons per pile using a 7000 ft. lb. hammer.
45 tons per pile using an 11000 ft. lb. hammer.
40 tons per pile using a 15000 ft. lb. or greater hammer.

For the pier piles:
55 tons per pile using a 7000 ft. lb. hammer.
50 tons per pile using an 11000 ft. lb. hammer.
45 tons per pile using a 15000 ft. lb. or greater hammer.

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 24 tons per pile for the abutment piles and 35 tons per pile for the pier piles.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super	Abuts	Piers	Gen'l
503	433	Cu. Yds.	Unclassified excavation		247	186	
505	Lump	Sum	First test pile				Lump
507	2520	Lin. Ft.	Steel Piles, 10 BP 42		1120	1400	
509	109,072	Lbs.	Reinforcing steel	124,716	12,345	32,011	
511	526	Cu. Yds.	Class "C" concrete, superstructures	526			
511	111	Cu. Yds.	Class "C" concrete, pier caps and columns			111	
511	74	Cu. Yds.	Class "E" concrete, pier footings			74	
511	127	Cu. Yds.	Class "E" concrete, abutments		127		
516	25	Sq. Ft.	½" Preformed expansion joint filler, AASHO, M-153		25		
517	417.50	Lin. Ft.	Railing Type 1	417.50			
518	24	Each	Scuppers, 6" dia. cast or wrought iron pipe	24			
518	79	Cu. Yds.	Porous backfill		79		
601	872	Sq. Yds.	Crushed aggregate slope protection				872
808	526	Units	Water-reducing, set-retarding admixture	526			
825	1080	Sq. Yds.	Concrete surface treatment	1080			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

GENERAL PLAN AND ELEVATION, NOTES AND ESTIMATED QUANTITIES

BRIDGE No. NOB-77-0475 L & R
OVER C.R. 40

NOBLE COUNTY

STA. 250+80.70
STA. 251+86.26

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.E.F.	J.E.F.	R.M.D.	J.V.G.	B.F.G.	8-25-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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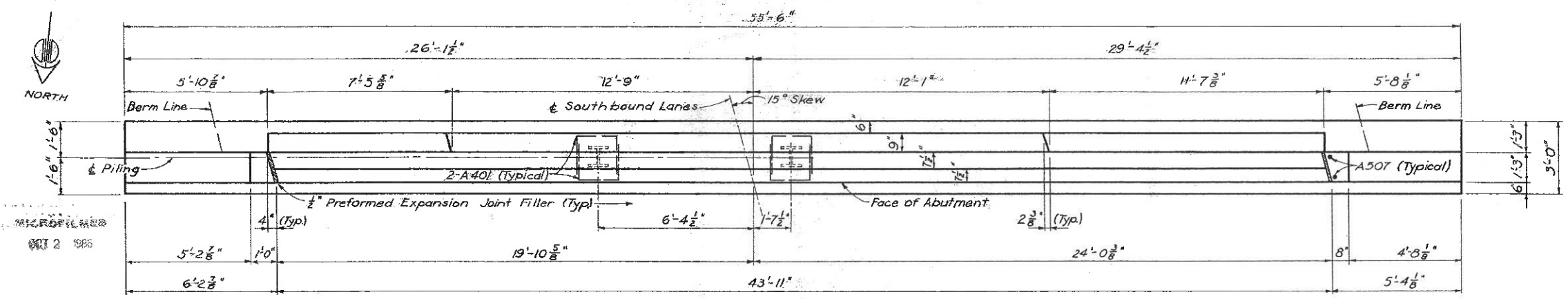
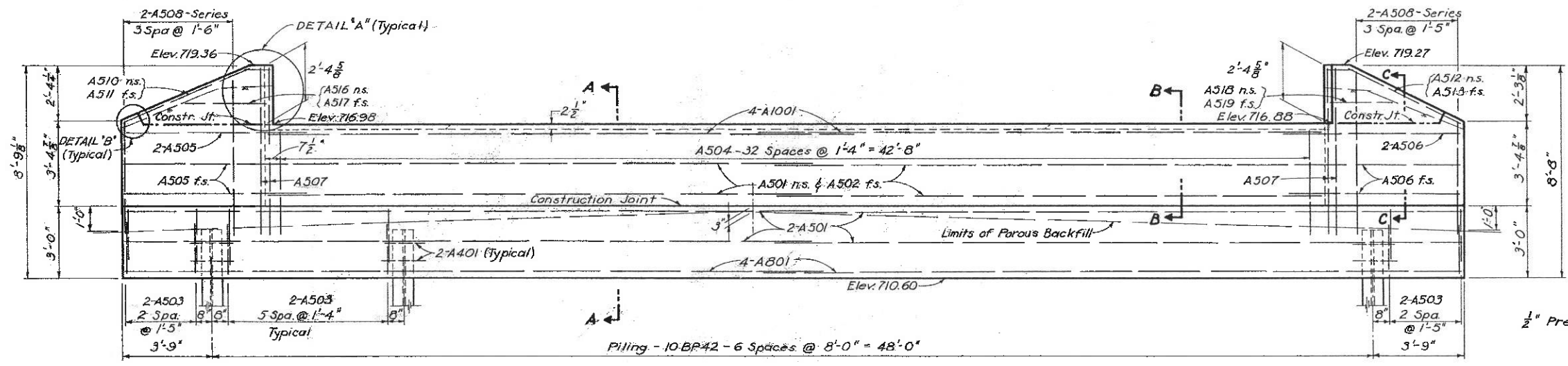
N08-77-1.57

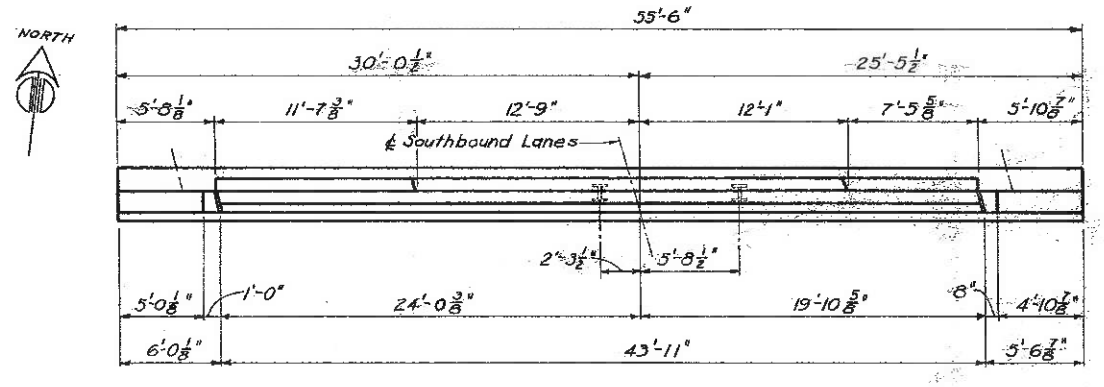


MICROFILMED
OCT 2 1985

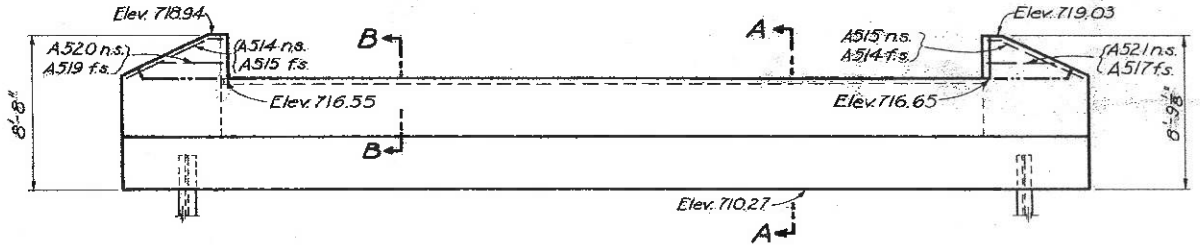
REAR ABUTMENT PLAN



REAR ABUTMENT ELEVATION



FORWARD ABUTMENT PLAN

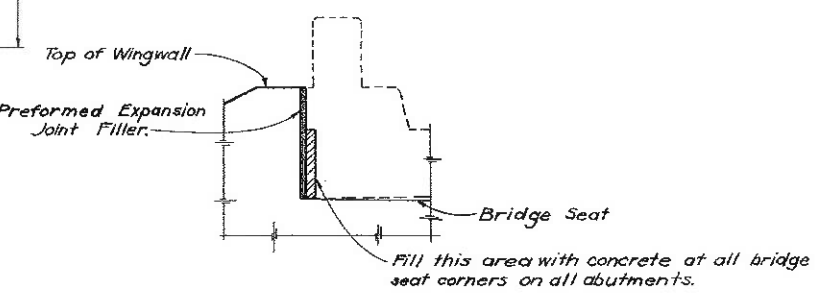


FORWARD ABUTMENT ELEVATION

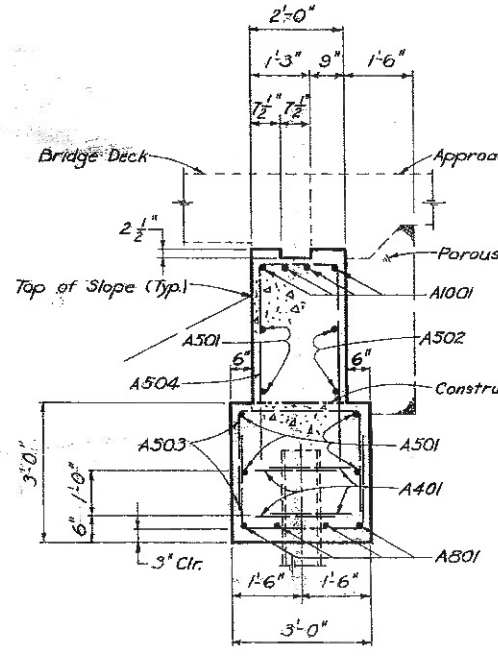
POROUS BACKFILL shall extend upward to the approach slab and to the surface of the earth shoulder, and outward to the surface of the embankment slopes. Excavation therefor, in excess of that required for construction of the footing, shall be considered as paid for in the bid price per Cu. Yd. paid for porous backfill.

CONCRETE shall be Class "E" and payment will be made on this basis, but Class "C" concrete may be used for any or all parts of the abutments.

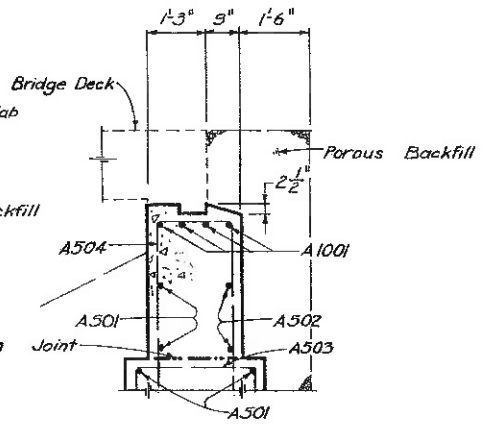
DETAILS and dimensions for the FORWARD ABUTMENT, unless shown otherwise, are the same as for the REAR ABUTMENT except opposite hand.



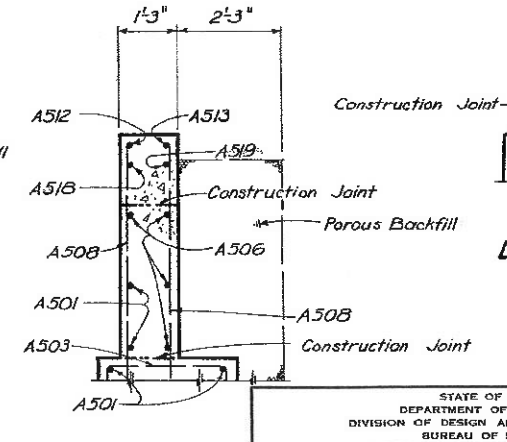
DETAIL "A"



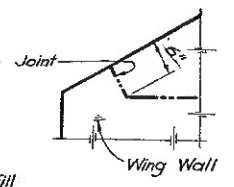
SECTION A-A



SECTION B-B



SECTION C-C



DETAIL "B"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

ABUTMENT DETAILS SOUTHBOUND LANES

BRIDGE No. NOB-77-0475 L & R
OVER C.R. 40

NOBLE COUNTY

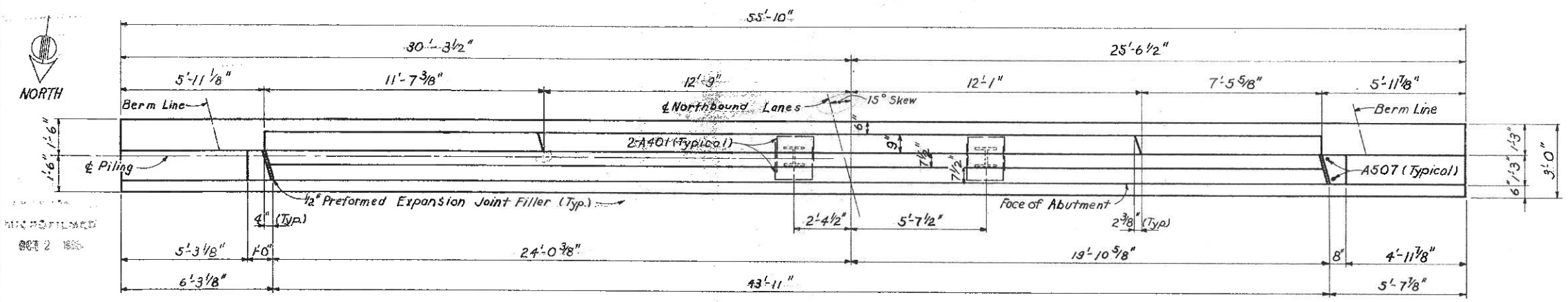
STA. 250 + 80.70
STA. 251 + 86.26

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISE
J.E.F.	J.E.F.	R.M.D.	J.V.G.	BFG	8-25-65	

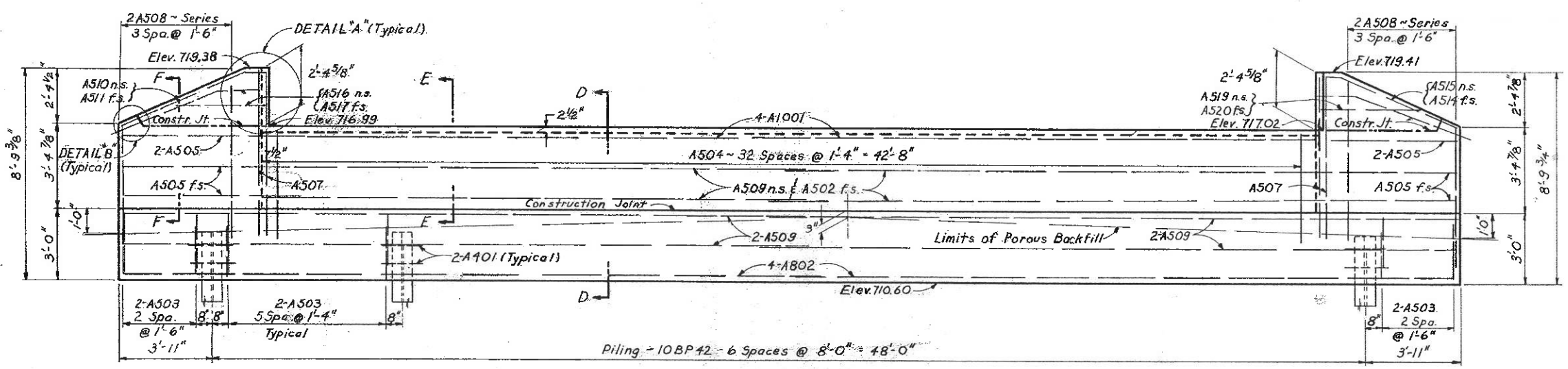
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

275

NOB-77-1.57

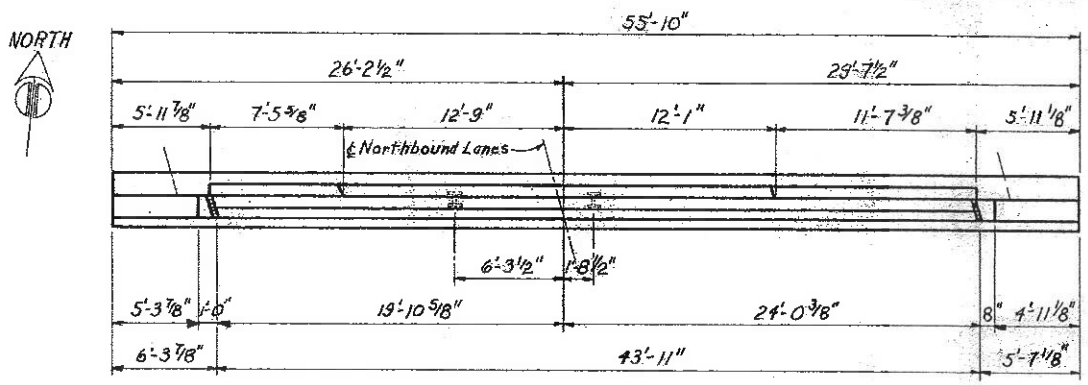


REAR ABUTMENT PLAN

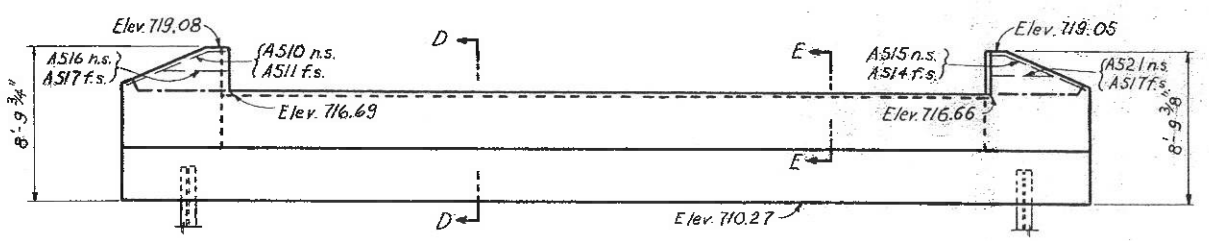


REAR ABUTMENT ELEVATION

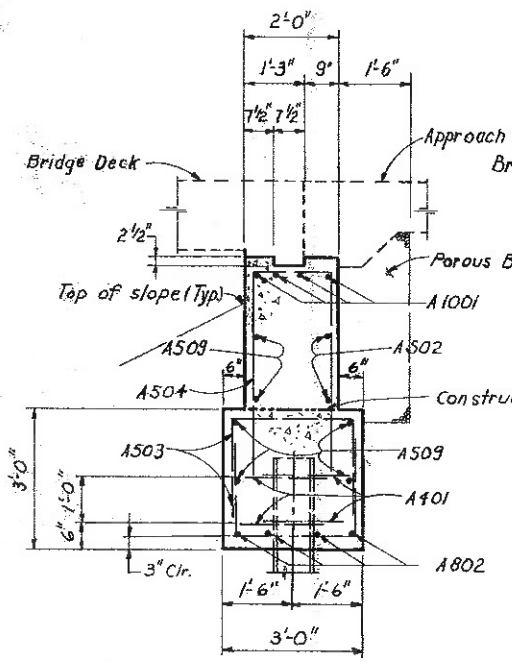
NOTES: For notes and DETAILS "A" & "B," see ABUTMENT DETAILS, SOUTHBOUND LANES Sheet No. 274



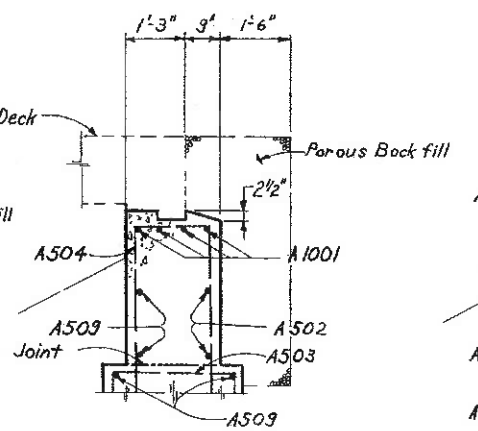
FORWARD ABUTMENT PLAN



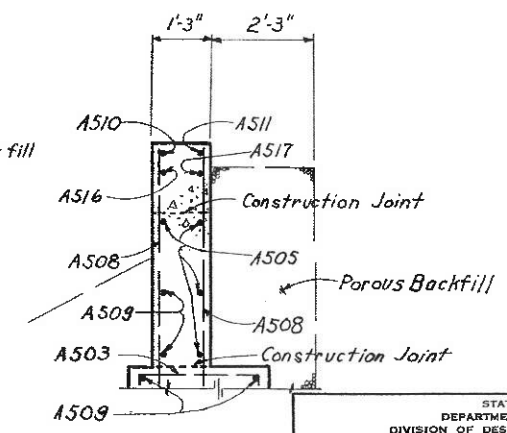
FORWARD ABUTMENT ELEVATION



SECTION D-D



SECTION E-E



SECTION F-F

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

ABUTMENT DETAILS NORTHBOUND LANES

BRIDGE No. NOB-77-0475 L & R
OVER C.R. 40

NOBLE COUNTY

STA. 250+80.70
STA. 251+86.26

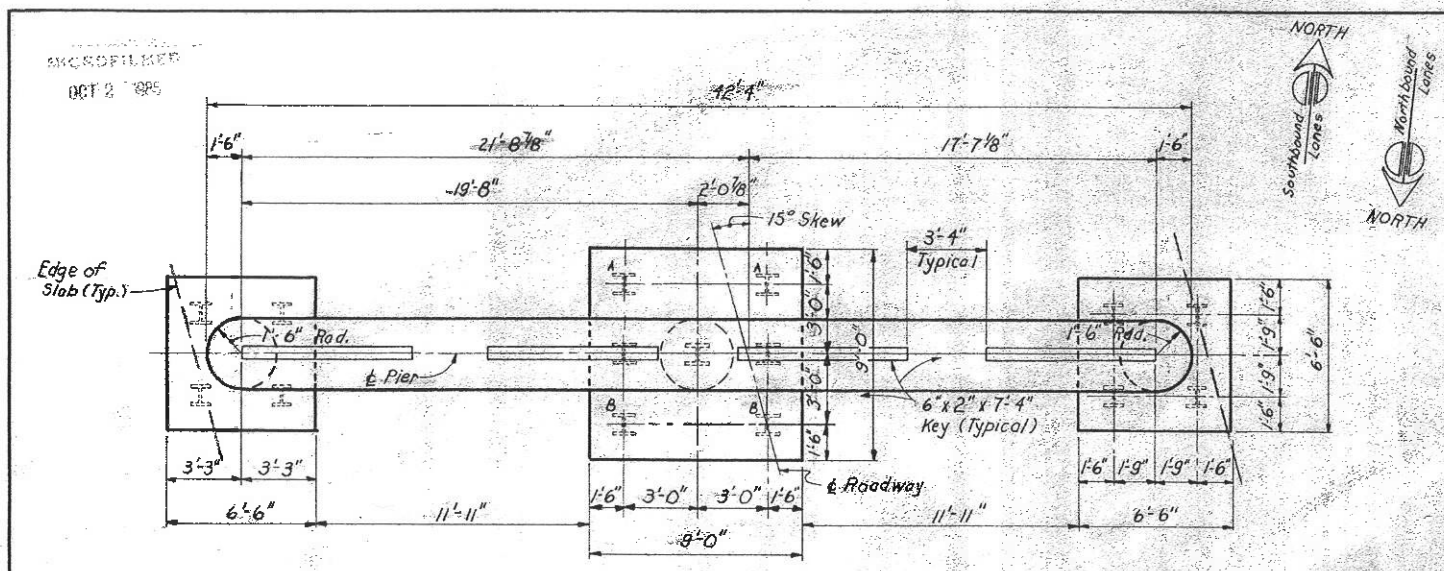
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J E F	J E F	D L S	J.V.G.	BFG	8-25-65	

MICROFILMED
OCT 2 '68

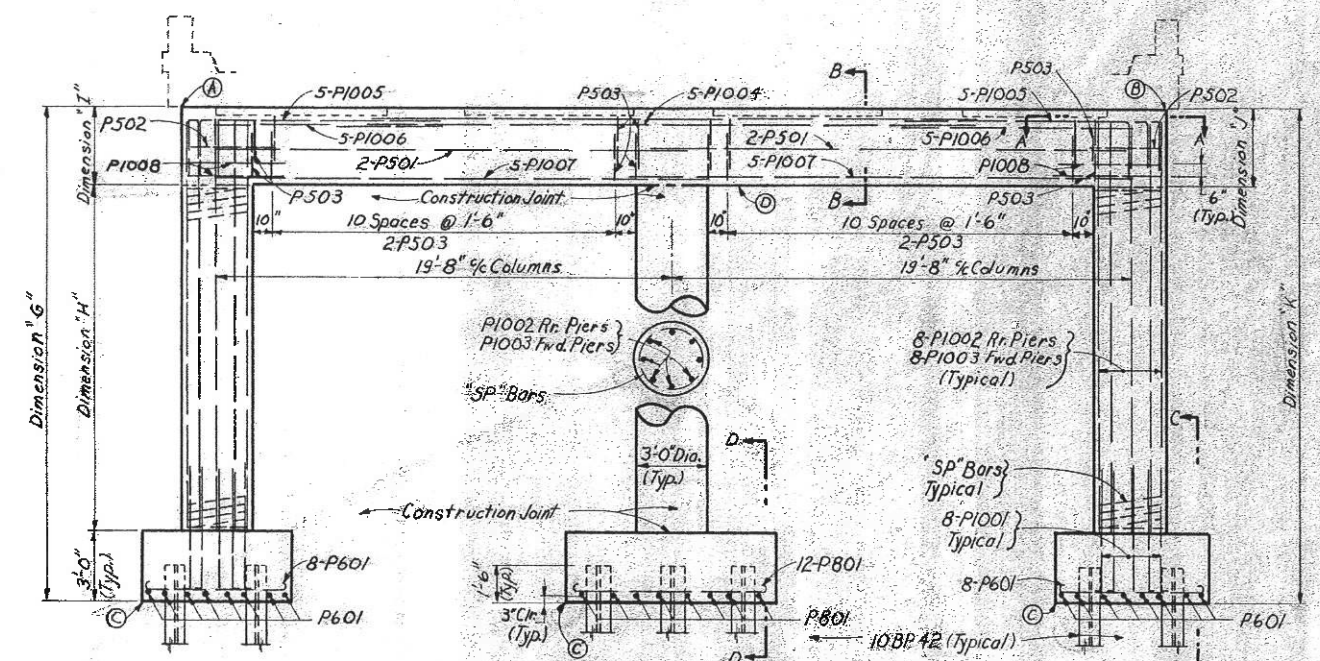
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

276

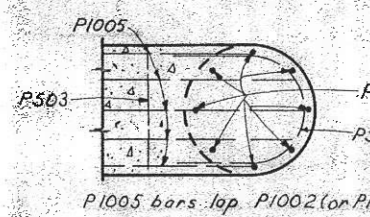
NOB-77-1.57



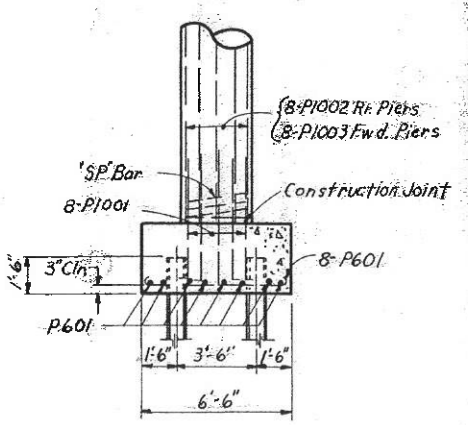
PIER PLAN



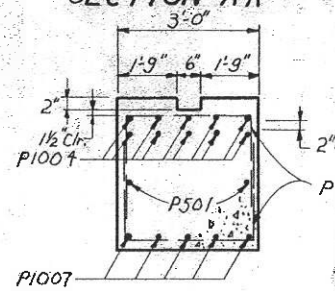
PIER ELEVATION



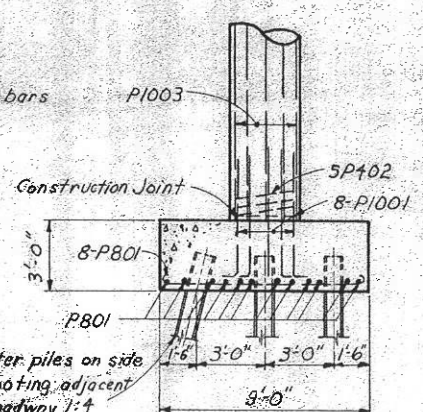
SECTION A-A



SECTION C-C



SECTION B-B



Batter piles on side of footing adjacent to roadway 7:1

SECTION D-D
(Forward Pier - Southbound Lanes Shown)

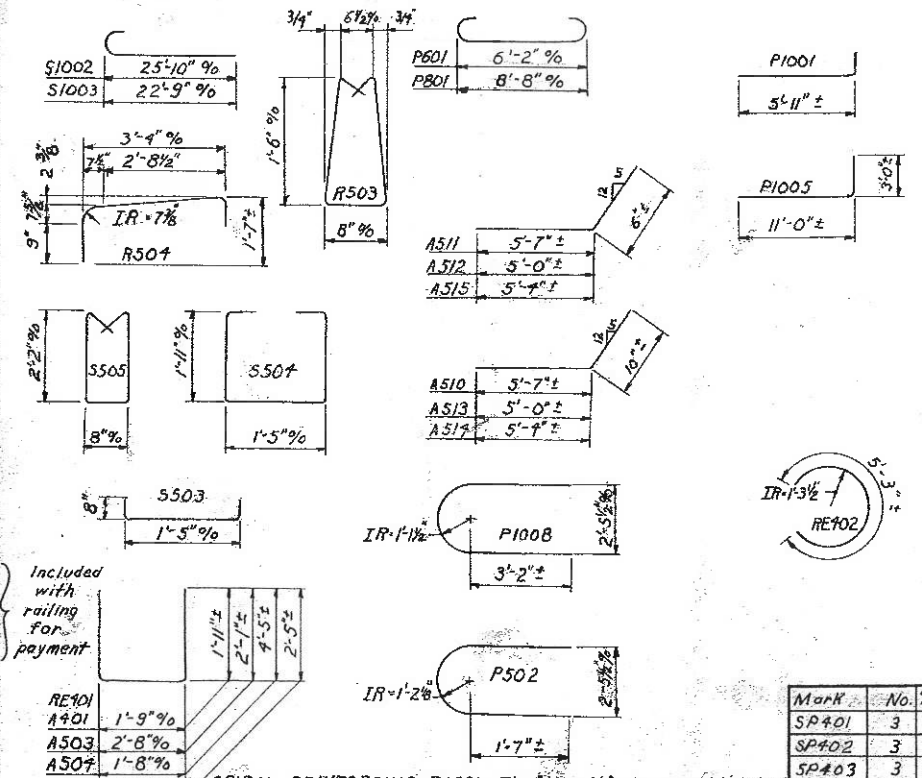
REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
Superstructure				
S1001	210	37'-2"	33,584	S
S1002	68	27'-3"	7,973	B
S1003	68	24'-2"	7,071	B
S1004	34	24'-4"	3,560	S
S1005	34	18'-8"	2,731	S
S1006	156	30'-5"	20,418	S
S1007	76	15'-5"	5,042	S
S1008	76	11'-10"	3,870	S
S901	40	22'-0"	2,992	S
S701	396	2.2'-7"	18,279	S
S601	80	20'-5"	2,453	S
S602	40	14'-2"	851	S
S603	268	22'-6"	9057	S
S501	24	23'-2"	580	S
S502	12	21'-2"	265	S
S503	476	2'-6"	1,271	B
S504	476	6'-0"	2,979	B
S505	304	5'-7"	1770	B
Railing				
R501	32	18'-0"	—	S
R502	80	13'-2"	—	S
R503	24	9'-2"	—	B
R504	16	5'-9"	—	B
Abutments				
A1001	32	23'-5	3,225	S
A801	16	28'-10"	1,232	S
A802	16	29'-0"	1,239	S
A501	24	28'-5"	711	S
A502	8	22'-7"	188	S
A503	336	6'-7"	2,307	B
A504	132	10'-3"	1,411	B
A505	24	7'-7"	190	S
A506	8	7'-3"	60	S
A507	16	6'-10"	114	S
A508	16 Series of 4	4'-6" to 6'-9"	375	S
A509	24	28'-7"	715	S
A510	3	6'-5"	20	B
A511	3	6'-1"	19	B
A512	1	5'-6"	6	B
A513	1	5'-10"	6	B
A514	4	6'-2"	26	B

Varies by increments of 9"

Included with railing for payment

BENDING DIAGRAMS



SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509. 1½ closed coils shall be provided at the ends of each spiral unit.
Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A700 is a No. 7 size bar and A1014 is a No. 10 size.

Mark	No.	Length	Weight	Shp.
Abutments (continued)				
A515	4	5'-10"	27	B
A516	3	4'-8"	15	S
A517	5	9'-9"	23	S
A518	1	3'-10"	4	S
A519	3	4'-2"	13	S
A520	2	4'-6"	9	S
A521	2	4'-0"	8	S
A401	112	5'-5"	405	B
Piers				
P1001	96	7'-0"	2,892	B
P1002	48	17'-10"	3,683	S
P1003	48	17'-3"	3,563	S
P1004	40	26'-9"	1,532	S
P1005	40	13'-8"	2,352	B
P1006	40	9'-8"	1,664	S
P1007	40	21'-3"	3,658	S
P1008	16	10'-0"	689	B
P801	80	10'-10"	2,314	B
P601	128	7'-6"	1,472	B
P501	16	20'-6"	342	S
P502	8	6'-11"	58	B
P503	208	7'-3"	1,573	B

Spiral Reinforcement

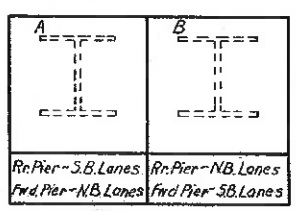
Mark	No.	Core Diam. to Spiral	Length	Pitch	No. of turns	Weight
SP401	3	32"	14'-9⅛"	4½	43	831
SP402	3	32"	14'-2"	4½	41	792
SP403	3	32"	14'-10¾"	4½	43	831
SP404	3	32"	14'-3¼"	4½	41	795

Replacement Bars

RE1001	6	7'-2"	—	S
RE901	1	6'-10"	—	S
RE801	1	6'-6"	—	S
RE701	1	6'-2"	—	S
RE601	1	5'-11"	—	S
RE501	1	5'-7"	—	S
RE401	1	5'-5"	—	B
RE402	1	5'-3"	—	B

DESCRIPTION		ELEVATIONS				DIMENSIONS					"SP" Bars
Location		A	B	C	D	Dim. "G"	Dim. "H"	Dim. "I"	Dim. "J"	Dim. "K"	
Southbound Lanes	Rear Pier	716.79	716.89	695.50	713.29	21'-3½"	14'-9½"	3'-6"	3'-7¼"	21'-4¾"	SP401
	Forward Pier	716.66	716.76	696.00	713.16	20'-8"	14'-2"	3'-6"	3'-7⅛"	20'-9⅛"	SP402
Northbound Lanes	Rear Pier	716.93	716.90	695.50	713.40	21'-5⅛"	14'-10¾"	3'-6⅜"	3'-6"	21'-4¾"	SP403
	Forward Pier	716.80	716.77	696.00	713.27	20'-9⅝"	14'-3¼"	3'-6⅜"	3'-6"	20'-9¼"	SP404

CONCRETE shall be class "C" for pier caps and columns, and shall be "class "E" for pier footings.



BATTERED PILES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

PIER DETAILS
REINFORCING STEEL LIST
BRIDGE No. NOB-77-0475LER
OVER C.R. 40

NOBLE COUNTY

STA. 250+80.70
STA. 251+86.26

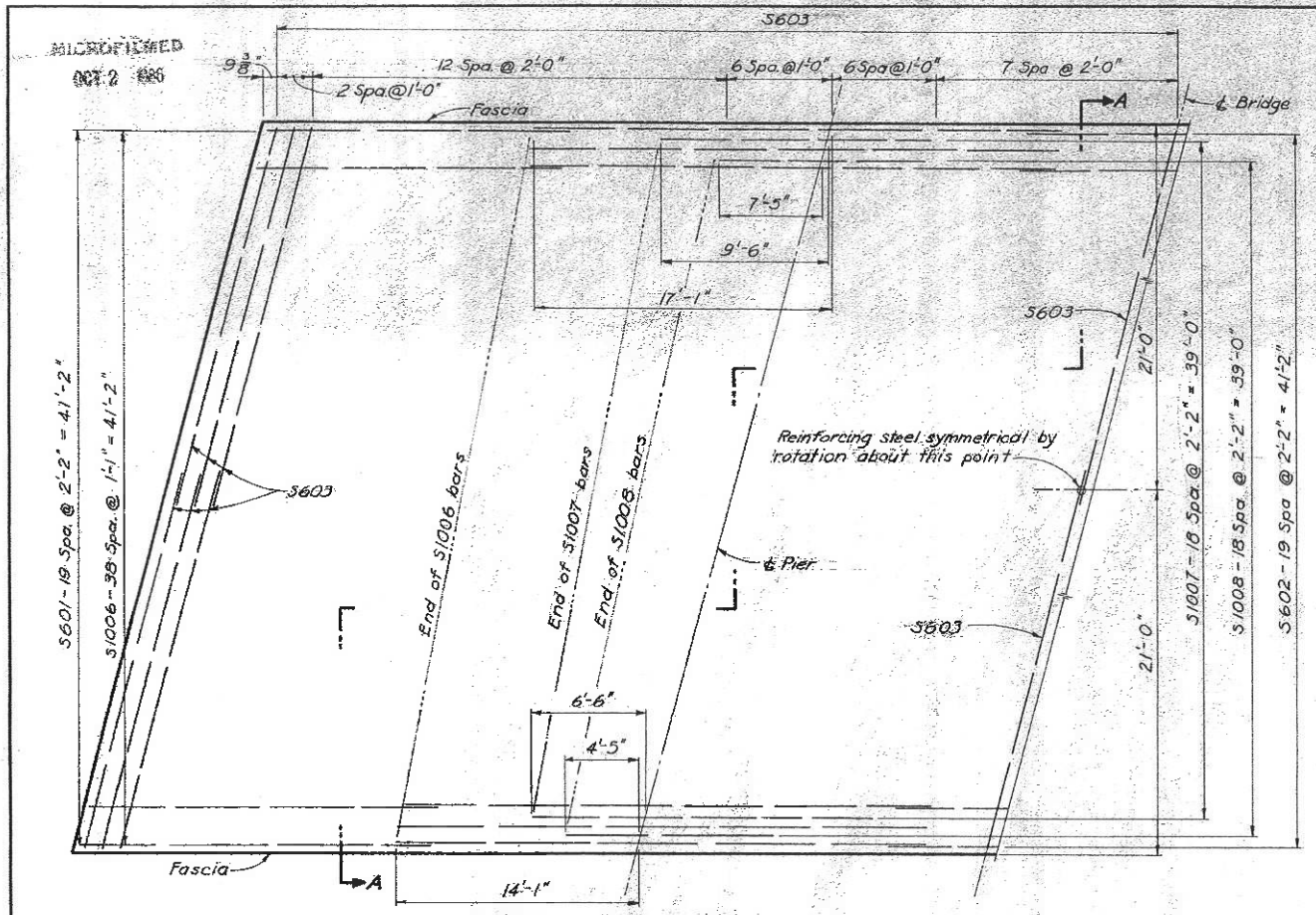
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.E.F.	J.E.F.	D.L.S.	J.V.G.	B.F.G.	8-25-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

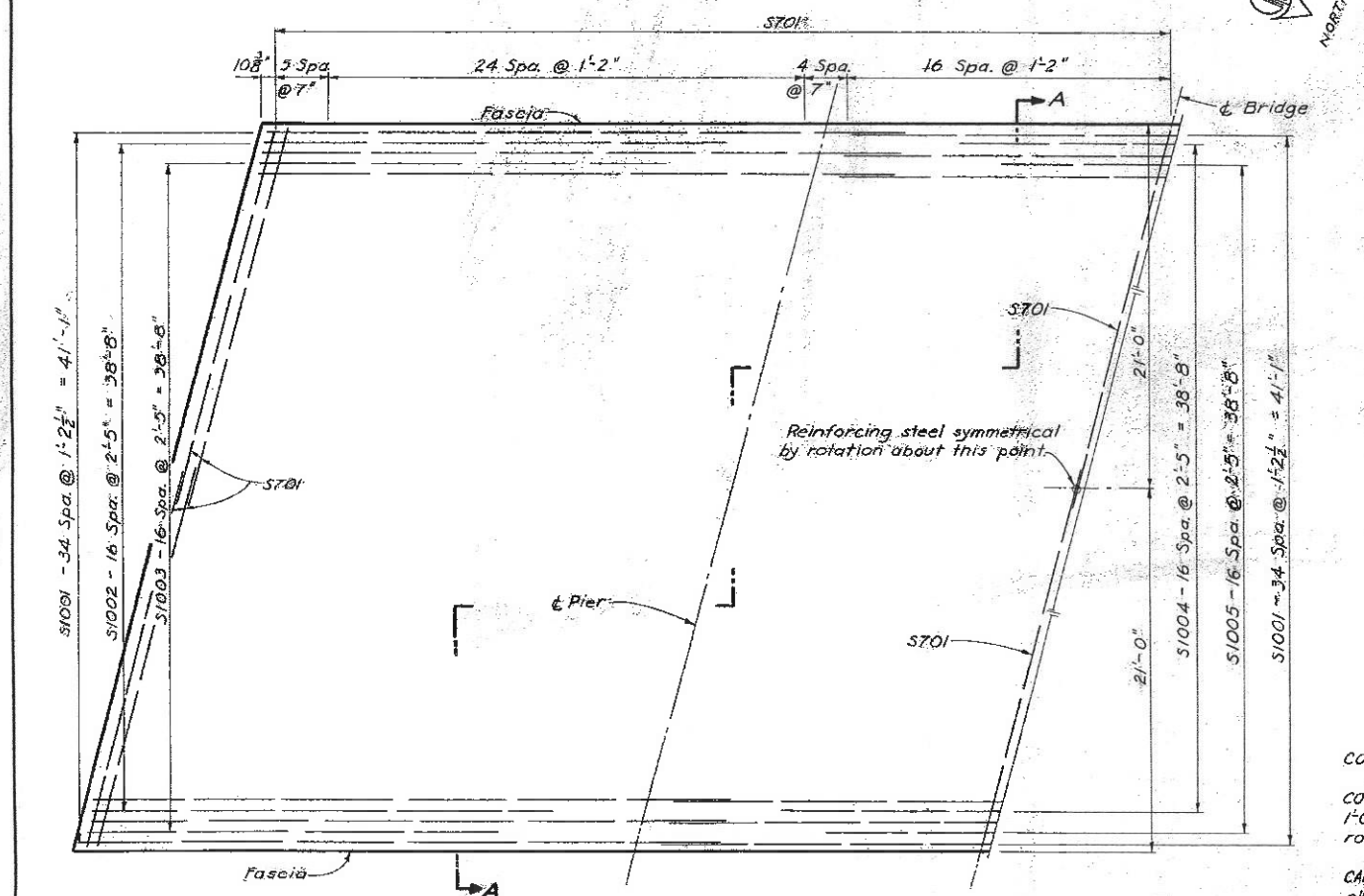
277

NOB-77-1.57

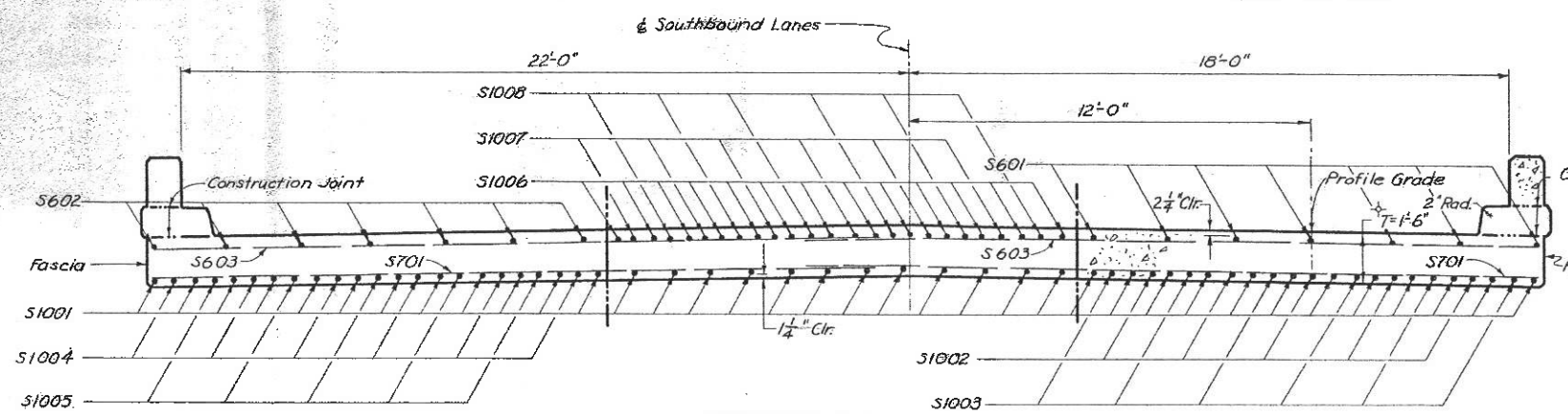
Reinforcing steel, curb and parapet details and all other superstructure details are the same for the Northbound Lanes and Southbound Lanes unless shown otherwise on this sheet.



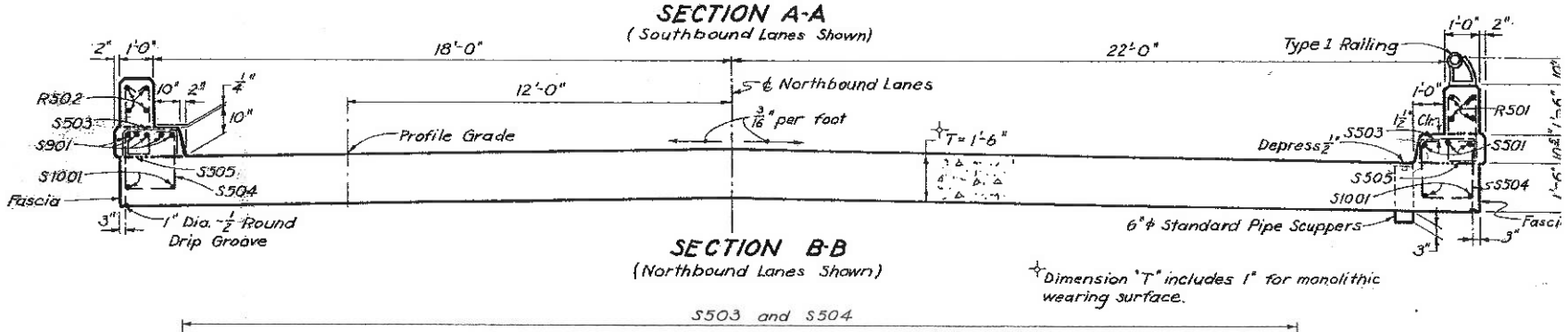
PART PLAN - TOP STEEL



PART PLAN - BOTTOM STEEL

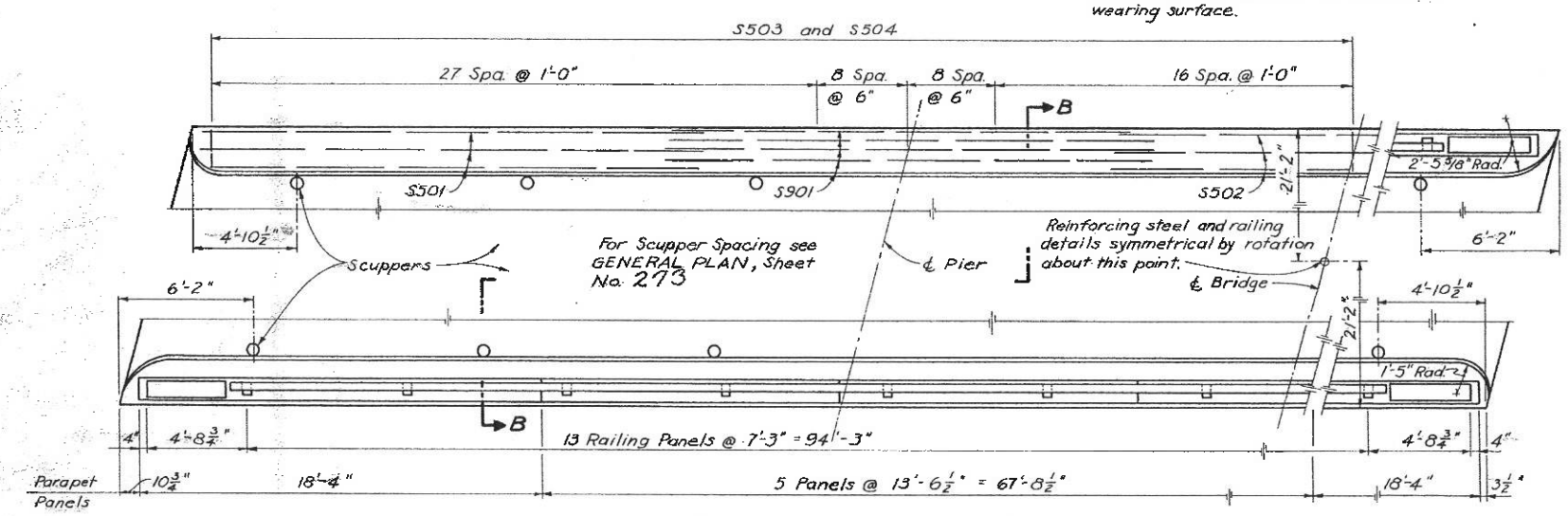


SECTION A-A
(Southbound Lanes Shown)

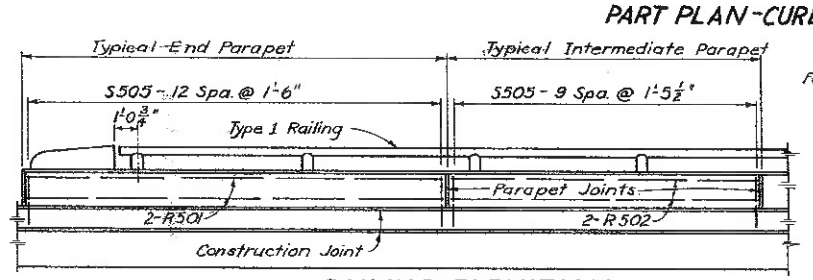


SECTION B-B
(Northbound Lanes Shown)

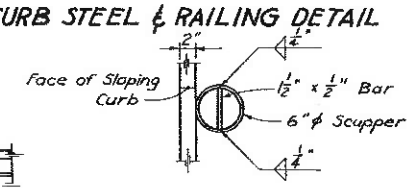
*Dimension "T" includes 1" for monolithic wearing surface.



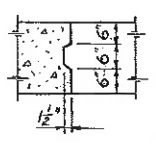
PART PLAN - CURB STEEL & RAILING DETAIL



RAILING ELEVATION
(For Additional Railing Notes & Details, See Std. Dwg. BR-1-65)



SCUPPER PLAN



CONSTRUCTION JOINT

CONCRETE shall be Class "C"

CONSTRUCTION JOINT : One construction joint in the bridge slab shall be placed on the transverse centerline of the middle span or 1'-0"± off the transverse centerline if necessary to miss transverse reinforcing bars. One longitudinal joint, on the centerline of roadway will be permitted. A horizontal construction joint shall be placed between each curb and the top of the slab.

CAMBER of 1/800 span shall be provided in each span to allow for dead load deflection of the deck slab. This deflection, plus the deflection of the falsework, is the total amount of camber required before the falsework is released.

CURBS shall be placed after the shoring under the slab has been released sufficiently to permit the slab spans to attain full dead load deflection.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS

BRIDGE No. NOB-77-04.75 L & R
OVER C.R. 40

NOBLE COUNTY

STA. 250 + 80.70
STA. 251 + 66.26

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISE
E F	E F	R.M.D.	J.V.G.	BFG	8-25-65	

MICROFILMED

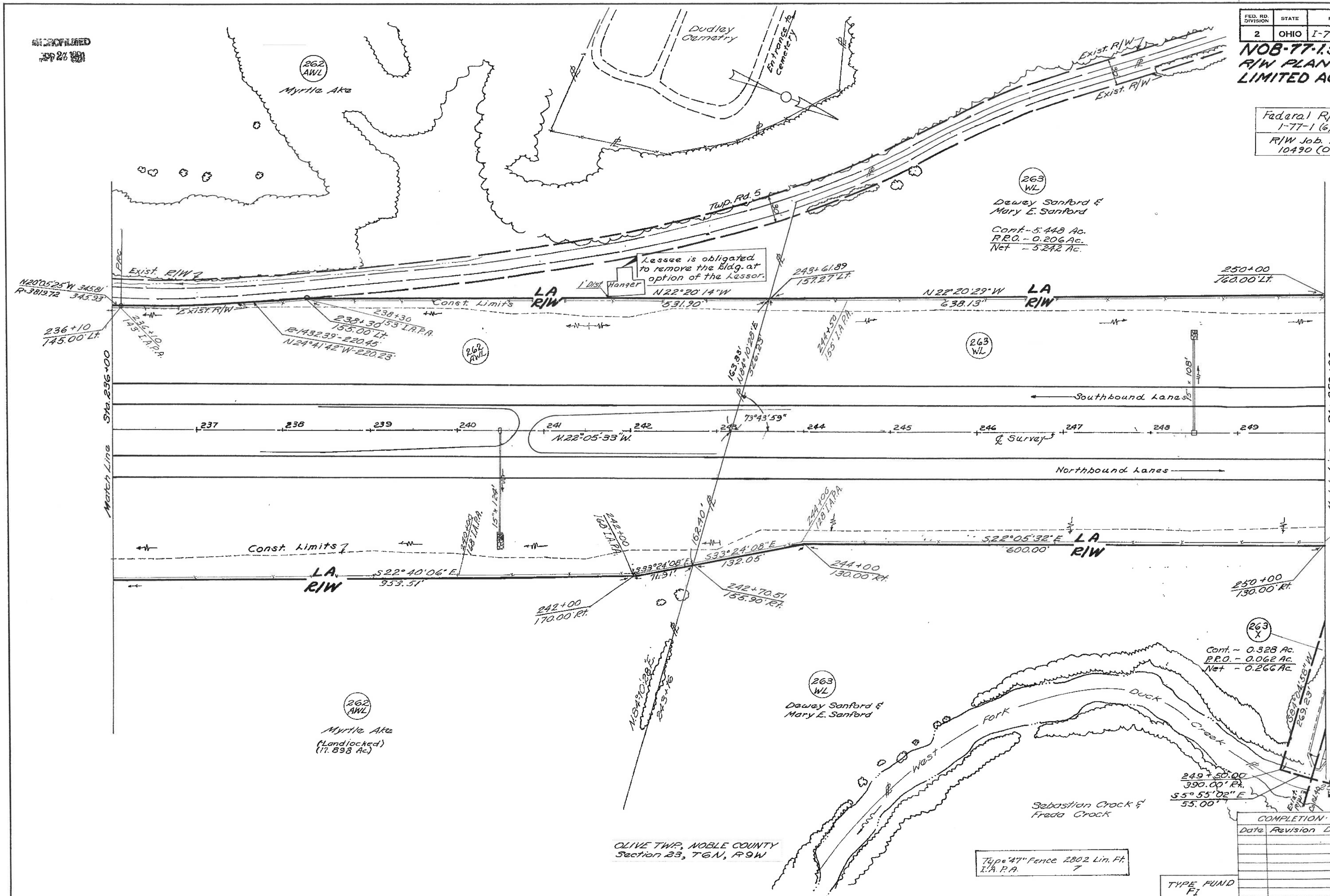
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-77-1(9)19	

305/316

NOB-77-1.57 (SLM = 1.57 - 6.65)
R/W PLAN
LIMITED ACCESS

19/30

Federal R/W No. I-77-1 (6)
R/W Job. No. 10490 (O)



Dudley Cemetery
Entrance to Cemetery
Myrtle Ake
Exist. R/W
Twp. Rd. 5
Lessee is obligated to remove the Bldg. at option of the Lessor.
1 Dist. Hanger
Dewey Sanford & Mary E. Sanford
Cont. - 5.448 Ac.
P.R.O. - 0.206 Ac.
Net - 5.242 Ac.
N20°05'25"W 345.81'
R-3819.72 345.93'
236+10 145.00' Lt.
236+10 143' I.A.P.A.
R-1432.39 - 220.45
N24°41'42"W - 220.23
238+30 155.00' Lt.
238+30 153' I.A.P.A.
Const. Limits
LA R/W
N22°20'14"W 531.90'
243+61.89 157.27' Lt.
244+50 155' I.A.P.A.
N22°20'29"W 638.13'
250+00 160.00' Lt.
163.83' N84°10'28"E 326.23'
Match Line Sta. 236+00
Match Line Sta. 250+00
Southbound Lanes
Northbound Lanes
15" x 108'
15" x 124'
73°43'59"
N.22°05'33"W.
℄ Survey
237
238
239
240
241
242
243
244
245
246
247
248
249
S22°40'06"E 953.51'
240+00 168' I.A.P.A.
242+00 168' I.A.P.A.
242+00 170.00' Rt.
S33°24'08"E 71.91'
162.40'
S33°24'08"E 132.05'
242+70.51 155.90' Rt.
244+00 128' I.A.P.A.
244+00 130.00' Rt.
S22°05'32"E 600.00'
250+00 128' I.A.P.A.
250+00 130.00' Rt.
N.84°10'28"E. 243+16
Myrtle Ake (Landlocked) (17.898 Ac.)
Cont. - 0.328 Ac.
P.R.O. - 0.062 Ac.
Net - 0.266 Ac.
S84°04'58"W 269.23'
West Fork Duck Creek
249+50.00 390.00' Rt.
S5°55'02"E 55.00'
Sebastian Crock & Freda Crock
OLIVE TWP, NOBLE COUNTY Section 23, T6N, R9W
Type "47" Fence 2802 Lin. Ft.
I.A.P.A. 7
0 25 50 100
Scale

COMPLETION DATE 10-29-65

Date	Revision Description

TYPE FUND FI

19/30

R/W PLAN Sta. 236+00 to Sta. 250+00

Federal R/W No. I-77-1 (6)
R/W Job No 10490 (0)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-77-1(9)19	

304/316

NOB-77-1.57 (SLM = 1.57 - 6.65)
R/W PLAN
LIMITED ACCESS

18/30

Note: All Utilities Have A General Easement.

Type "47" Fence 1803 Lin. Ft.
E.P.A. 2
I.A.P.A. 3
Fill Terminal 2

Note: Twp. Rd. #5, Parcel 262 transferred to Noble Co. Commissioners. Director's Journal Vol. 7, Pg. 275, July 19, 1978. Recorded Vol 148, Pgs 1 thru 11, August 25, 1978.

25 0 25 50 100
Scale

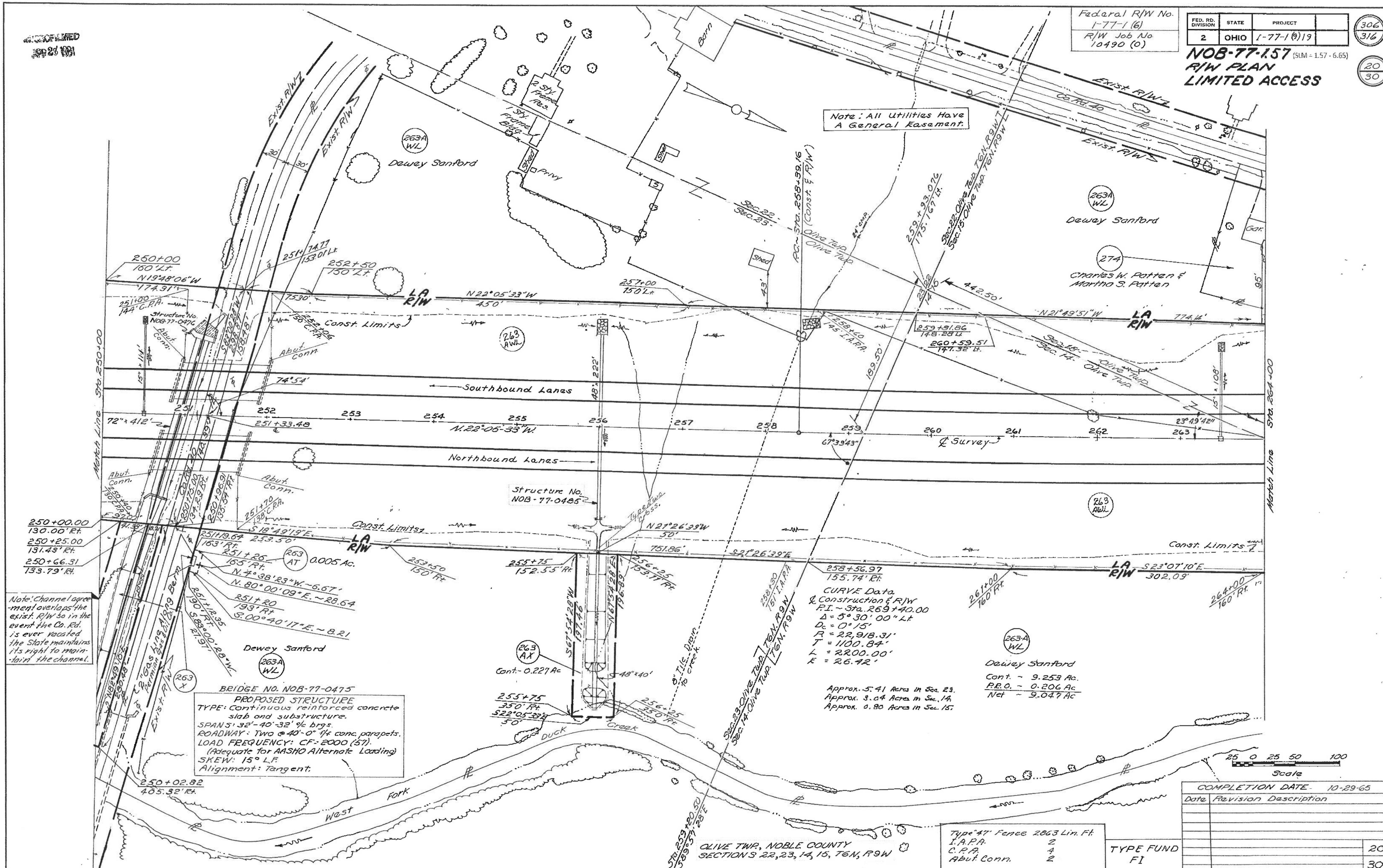
COMPLETION DATE 10-29-65

Date	Revision Description
1-24-66	Parcels 262T & 276-T added.
8-28-78	Added transfer of R/W note T.W.S.

TYPE FUND
FI

18
30

R/W PLAN Sta. 222+00 to Sta. 236+00


Federal R/W No. I-77-1 (6)
R/W Job No. 10490 (O)
FED. RD. DIVISION 2 | STATE OHIO | PROJECT I-77-1(9)19
306/316
NOB-77-1.57 (SLM = 1.57 - 6.65)
R/W PLAN
LIMITED ACCESS
20/30
Note: All Utilities Have A General Easement.
Dewey Sanford
Charles W. Patten & Martha S. Patten
Southbound Lanes
Northbound Lanes
Structure No. NOB-77-0485
Const. Limits
Match Line Sta. 250+00
Match Line Sta. 264+00
Note: Channel agreement overlaps the exist. R/W so in the event the Co. Rd. is ever vacated the State maintains its right to maintain the channel.
BRIDGE NO. NOB-77-0475
PROPOSED STRUCTURE
TYPE: Continuous reinforced concrete slab and substructure.
SPANS: 32'-40'-32' c/c brgs.
ROADWAY: Two @ 40'-0" f/f conc. parapets.
LOAD FREQUENCY: CF-2000 (57).
(Adequate for AASHO Alternate Loading)
SKEW: 15° L.F.
Alignment: Tangent.
CURVE Data
℄ Construction & R/W
P.I. ~ Sta. 269+40.00
Δ = 5°30'00" Lt.
Dc = 0°15'
R = 22,918.31'
T = 1100.84'
L = 2200.00'
E = 26.42'
Approx. 5.41 Acres in Sec. 23.
Approx. 3.04 Acres in Sec. 14.
Approx. 0.80 Acres in Sec. 15.
Dewey Sanford
Cont. ~ 9.253 Ac.
P.R.O. ~ 0.206 Ac.
Net ~ 9.047 Ac.
OLIVE TWP, NOBLE COUNTY
SECTIONS 22, 23, 14, 15, T6N, R9W
Type "47" Fence 2863 Lin. Ft.
I.A.P.A. 2
C.P.A. 4
Abut. Conn. 2
TYPE FUND FI
COMPLETION DATE 10-29-65
Date | Revision Description
Scale
20
30
R/W PLAN Sta. 250+00 to Sta. 264+00

MICROFILMED
JAN 28 1966

Federal R/W NO.
I-77-1 (6)
R/W Job No.
10490 (0)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-77-1(9)19	

307/316

21/30

NOB-77-1.57 (SLM = 1.57 - 6.65)
R/W PLAN
LIMITED ACCESS

CURVE DATA
℄ Construction & R/W
P.I. ~ Sta. 269+40.00
Δ ~ 5°30'00" Lt.
Dc ~ 0°15'
R ~ 22,918.31'
T ~ 1100.84'
L ~ 2200.00'
E ~ 26.42'

Note : All Utilities Have A General Easement.

Paul & Helen Clark

Wayne R. Pickenpaugh & Murl Pickenpaugh (264 WL)

Charles W. Patten & Martha S. Patten (274)

Exist. R/W
Exist. Co. Rd. 40
Exist. R/W
Duck Creek
West Fork

1 Story Stucco Res.
Fr. Bldg.
Shed
Frame Bldg.
2 Sty. Frame Res.
Barn
0.009 Ac.
Garage
Frame Bldg.
Abut. Conn.

Sta. 264+00
Sta. 278+00
Match Line
Warren Line

264+78.62 148.66 Lt.
264+78.05 137.62 Lt.
264+71 148.80' Rt.
137.80'
Structure No. NOB 0502
Type One Crossing
264+50 135' C.P.A.
135' C.P.A.
N 22°36'36" W 468.65'
Const. Limits
269+50 135' Lt.
271+00 106' Lt.
N 22°05'04" W
272+38.50 115.00 Lt.
N 32°57'40" W
272+38.50 25.00 Rt.
272+38.50 115.00 Lt.
N 55°30'02" W 11.37'
R = 1273.24' 137.69
N 44°02'20" W 182.49
182.19
272+63.00 103.98' Lt.
R = 914.29' ~ 25.60'
S 34°07'25" E ~ 25.60'
N 46°30'22" E 14.38'
273+50 140' C.P.A.
274+38 90' I.A.P.A.
274+90 142' C.P.A.
274+72 155' Lt.
N 20°35'20" W 358.78'
274+90 95' C.P.A.
278+00 115' Lt.
278+00 113' C.P.A.
Const. Limits
Southbound Lanes
Northbound Lanes
264+69.45 30.74' Rt.
264+63.08 30.74' Rt.
264+88 182' I.A.P.A.
264+80 155.68' Rt.
264+80 280' Rt.
264+56.91 280' Rt.
264+47 283' Rt.
263 A-WL
263 AY
264 iZ
0.057 Ac.
0.026 Ac.
Dewey Sanford
N 70°02'44" E 126.27
S 40°16'49" E 10.47'
N 49°43'20" E 124.32
S 26°39'57" E 23.38
S 26°40'02" E 8.14'
N 26°40'02" W 17.06'
63.61'
264+00 160' Rt.
264+55 156.99' Rt.
267+20.80 144.37' Rt.
268+30 140.08' Rt.
975.65
S 65°25'05" W 183.32'
268+30 330' Rt.
P.I. Sta. 269+40.00 ~ I-77
= Sta. 19+38.32 ~ ℄ Channel Relocation
297.92'
Foot Bridge
Creek
Duck
Channel Duck Creek.
℄ Relocated
S 27°31'36" E 1898.18'
Const. Limits
278+00 300.57'
Structure No. 0519 NOB 00677
278+78 125' C.P.A.
278+00 125' Rt.
S 26°40'02" E
345.31'
Maint. Opening
271+00 30' I.A.P.A.
Abut. Conn.
273+38 113' C.P.A.
℄ Survey
℄ Abandoned
15' x 103'
16' x 186'
Section 15
Section 14
Sta. 264+01.00
N 6°19'52" E
264 WL
264 X
7.977 Ac.
Approx. 7.567 Acres in Sec. 15.
Approx. 0.41 Acres in Sec. 14.
Wayne R. Pickenpaugh & Murl Pickenpaugh
14.796 Ac.
Approx. 14.416 Acres in Sec. 15.
Approx. 0.38 Acres in Sec. 14.
Toledo, Columbus, & Ohio River R.R. operated by the Penna. R.R.
Gale

OLIVE TWP., NOBLE COUNTY
Sections 14 & 15, T6N, R9W

Type "47" Fence	2931 Lin. Ft.
E. P.A.	1
C. P.A.	8
I. A. P.A.	5
Type One Crossing	2
Type Two Crossing	0
36' Future Maint. Opening	1
Abut. Connections	4

25 0 25 50 100
Scale

COMPLETION DATE 10-29-65

Date	Revision Description
3-22-66	Line changed E side 264 X, off set Rt. 278+00

TYPE FUND F-1

21/30

R/W PLAN Sta. 264+00 to Sta. 278+00