

MICROFILMED
JUL 5 1990

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HAN - 68 - 2.56

MADISON TOWNSHIP
HANCOCK COUNTY

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO	BRF-18 (35)	1 13

HAN - 68 - 2.56
HANCOCK COUNTY

BRF-18 (35)

DESIGN DESIGNATION

Current A.D.T. (1985) = 3890
Design Year A.D.T. (2005) = 6188
D.H.V. = 619
D = 60 %
T = 8 %
V DESIGN SPEED = 55 MPH
Legal Speed Limit = 55 MPH
Exceptions to the design criteria for bridge width &
shoulder width were approved by FHWA on June 23, 1986.

MICROFILMED
MAY 20 1992

CONVENTIONAL SIGNS

County Line -----
Township Line -----
Section Line -----
Corporation Line ----- or -----
Fence Line (existing) - x - (proposed) - x -
Center Line 352 353
Trees (to be removed) (to be removed) (to be removed)
Utility Poles: Telephone (to be removed), Power (to be removed), Light (to be removed)
Limited Access (only) ----- LA -----
Right of Way (only) ----- RW -----
Limited Access & Right of Way ----- LA & RW -----
Existing Right of Way -----
Property Line (in existing fence) - x -
Railroad ----- or -----
Guardrail (existing) ----- (proposed) -----

INDEX OF SHEETS

TITLE SHEET ----- 1
SCHEMATIC PLAN ----- 2
TYPICAL SECTION ----- 3
GENERAL NOTES ----- 4
COMPUTATIONS ----- 6
GENERAL SUMMARY ----- 6
PLAN AND PROFILE ----- 7

SHEET 5 DELETED

LINE DATA

BEGIN PROJECT ----- STA. 135+30.00
END PROJECT ----- STA. 137+50.00
NET LENGTH OF PROJECT ----- 220.00 L.F. = 0.042 MILES
BEGIN WORK ----- STA. 134+75.00
END WORK ----- STA. 138+50.00
NET LENGTH OF WORK ----- 375.00 L.F. = 0.071 MILES

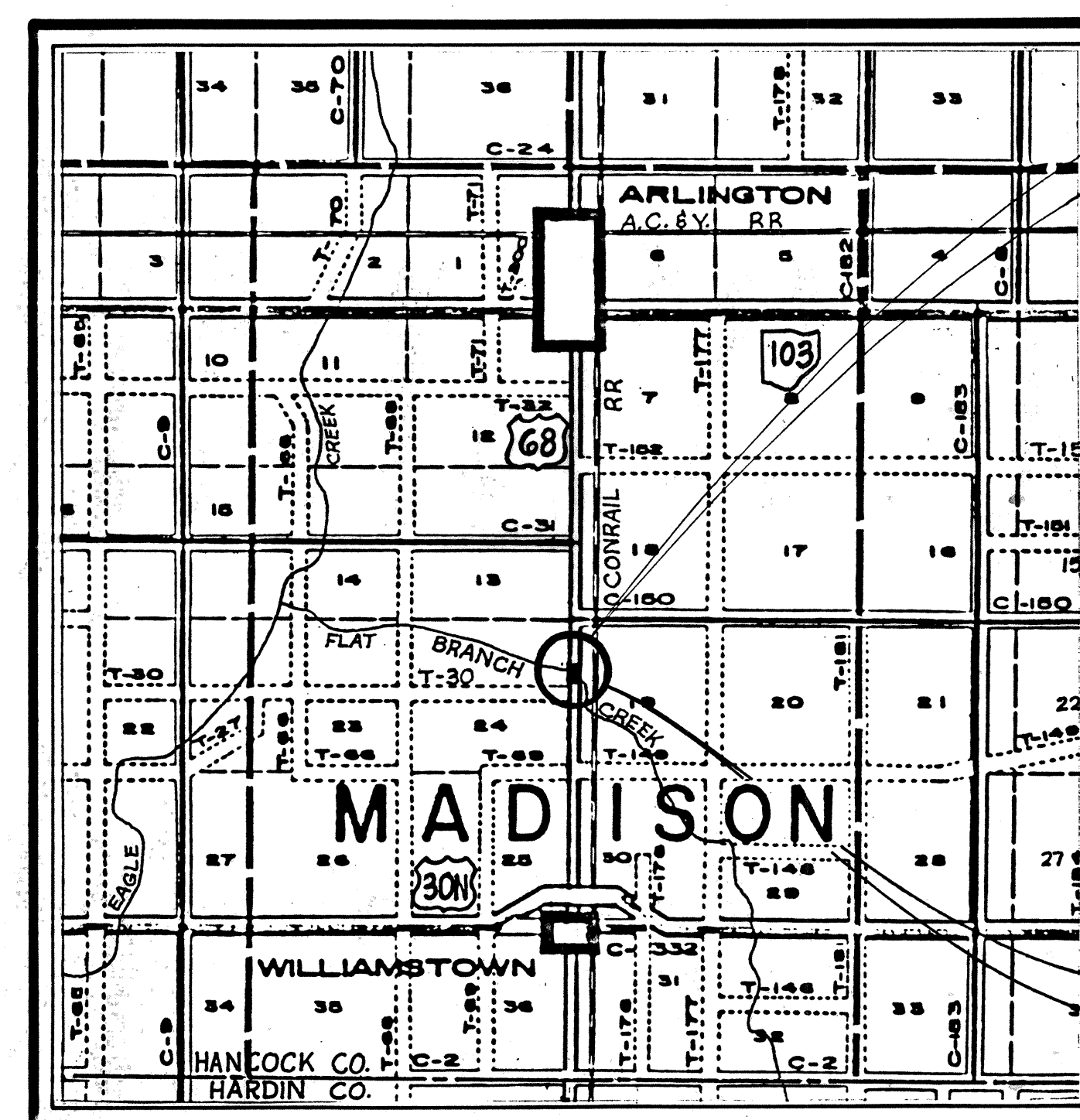
STRUCTURE PLANS REVIEWED BY:
bn Burgess & Niple, Limited
Columbus, Ohio

PLANS PREPARED BY
CHARLES L. BARBER & ASSOCIATES, INC.
CONSULTING ENGINEERS - TOLEDO, OHIO

UNDERGROUND UTILITIES
Two Working Days
BEFORE YOU DIG
Call... 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY



Charles L. Barber 11-5-86
Date



LOCATION MAP

SCALE IN MILES

0 1/4 1/2 3/4 1 2

Portion to be improved -----
State & Federal Routes -----
Other Roads -----

SCALES

Plan -----
Profile ----- Horizontal ----- Vertical -----
Cross Section: Horizontal ----- Vertical -----

END PROJECT
STA. 137+50.00

BEGIN PROJECT
STA. 135+30.00

SUPPLEMENTAL SPECIFICATIONS		
947	10-17-83	
847	10-17-83	
836	11-12-85	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
BP-5	1-11-85	MT-99.10	11-14-86
GR-1	1-11-85		
GR-2B	2-5-82		
GR-3	1-21-85	DBR-2-73	4-10-73
GR-4	2-5-82	AS-1-81	11-27-81
MC-4	7-26-76	PSBD-1-81	9-18-81
MC-11	8-1-78		

1987 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing of the highway to thru traffic and that a detour will be provided as shown on sheet 4.

Approved *James L. Schenck*
Date 11-24-86 District Deputy Director of Transportation

Approved *Walter J. Jennings* / C.D.
Date 12-8-86 Engineer, Bureau of Bridges and Structural Design.

Approved *Wayne H. Kautler*
Date 5-11-87 Chief Engineer, Planning and Design

Approved *Warren J. Smith*
Date 5-11-87 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

DATE

Project: HAN-68-2.58

Date of Letting 19 Contract No.

MICROFILMED
JUL 5 1990

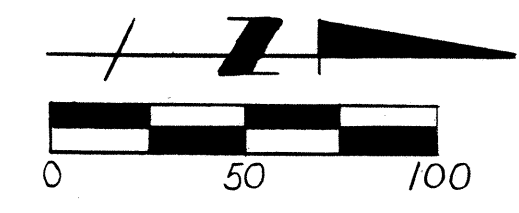
SCHEMATIC PLAN U.S. ROUTE 68

QUANTITIES	
CALC. BY <u>LJS</u>	DATE <u>10/86</u>
CKD. BY <u>RHB</u>	DATE <u>1/86</u>

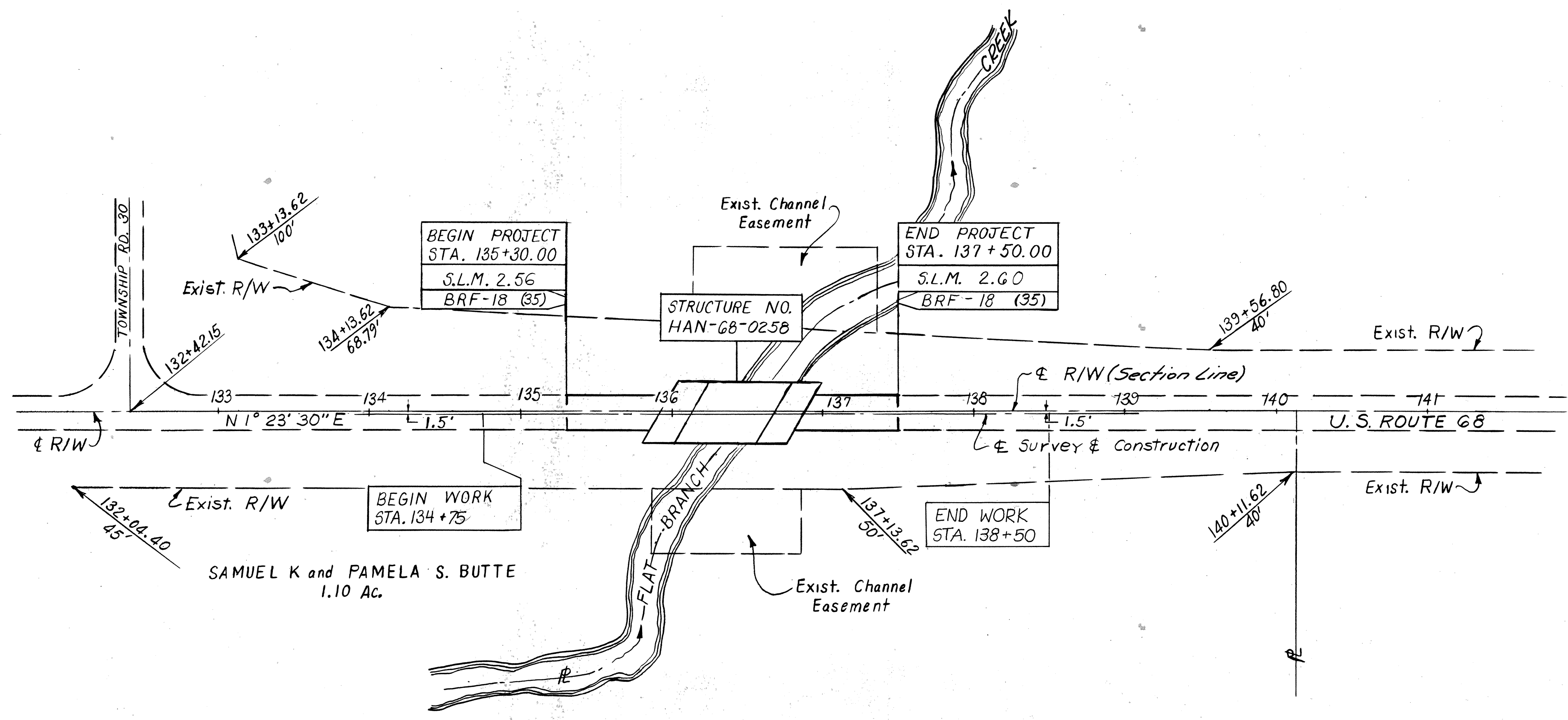
F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

2
13

HAN-68-2.56
HANCOCK COUNTY



ROBERT D. and ROSEMARY E ORWICK
320 Ac.



EXCEPTIONS TO THE 1984 AASHTO DESIGN CRITERIA FOR GRADED
SHOULDER WIDTH AND BRIDGE WIDTH APPROVED BY FHWA ON
JUNE 23, 1986.

HEAROLD E. and DORIS A. WEIHRAUCH
27.90 Ac.

TYPICAL SECTIONS

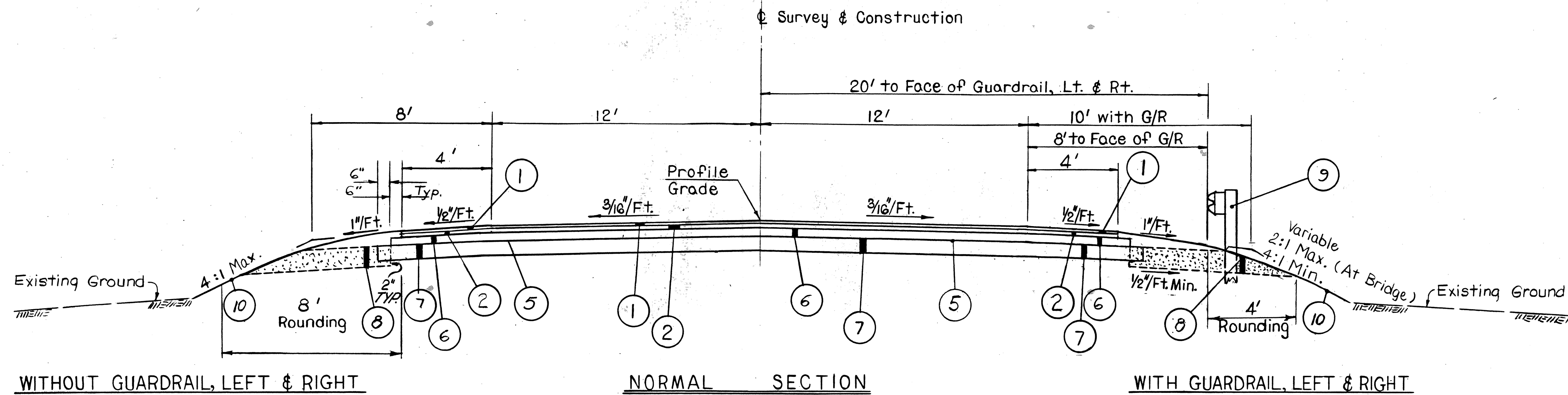
TYPE 404 ON 301

QUANTITIES	
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CKD. BY <u>RHB</u>	DATE <u>10/86</u>

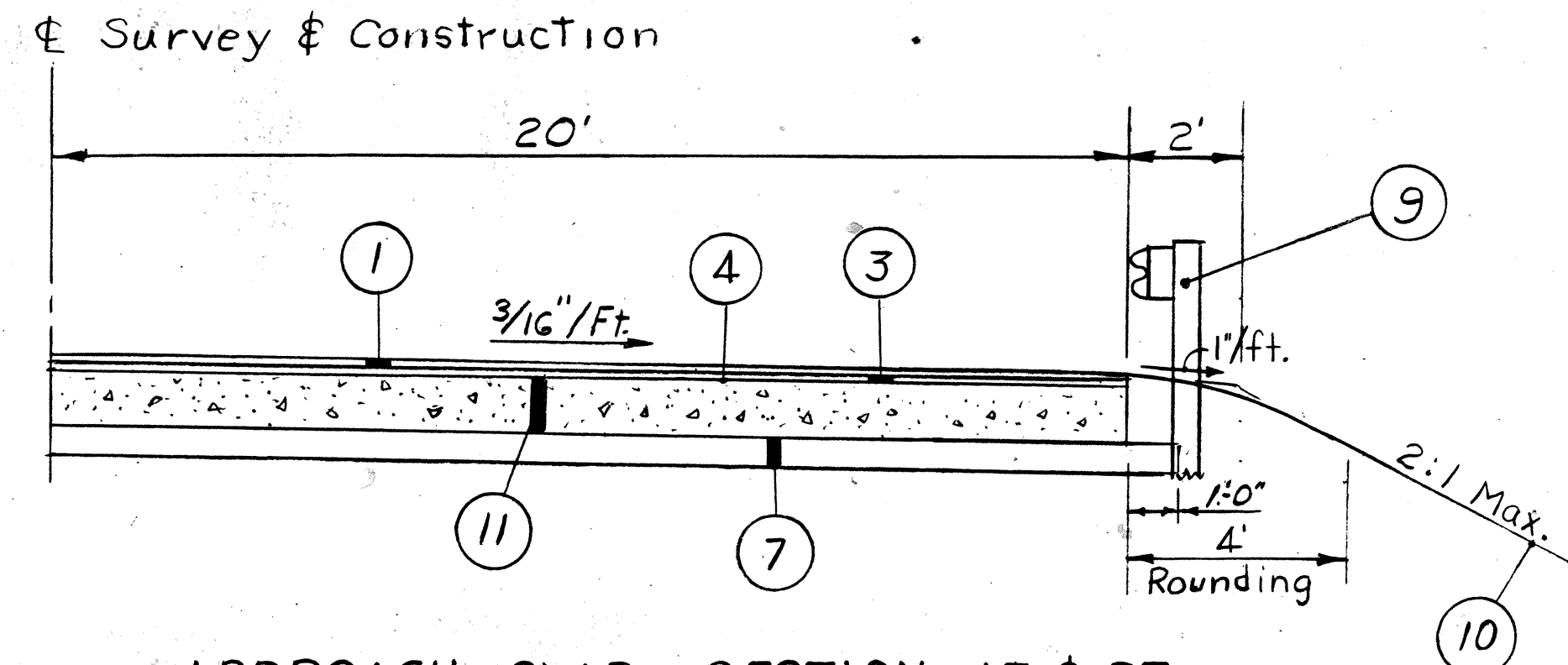
FED. ROAD DIST. NO.	STATE	PROJECT
5	OHIO	BRF-18 (35)

3
13

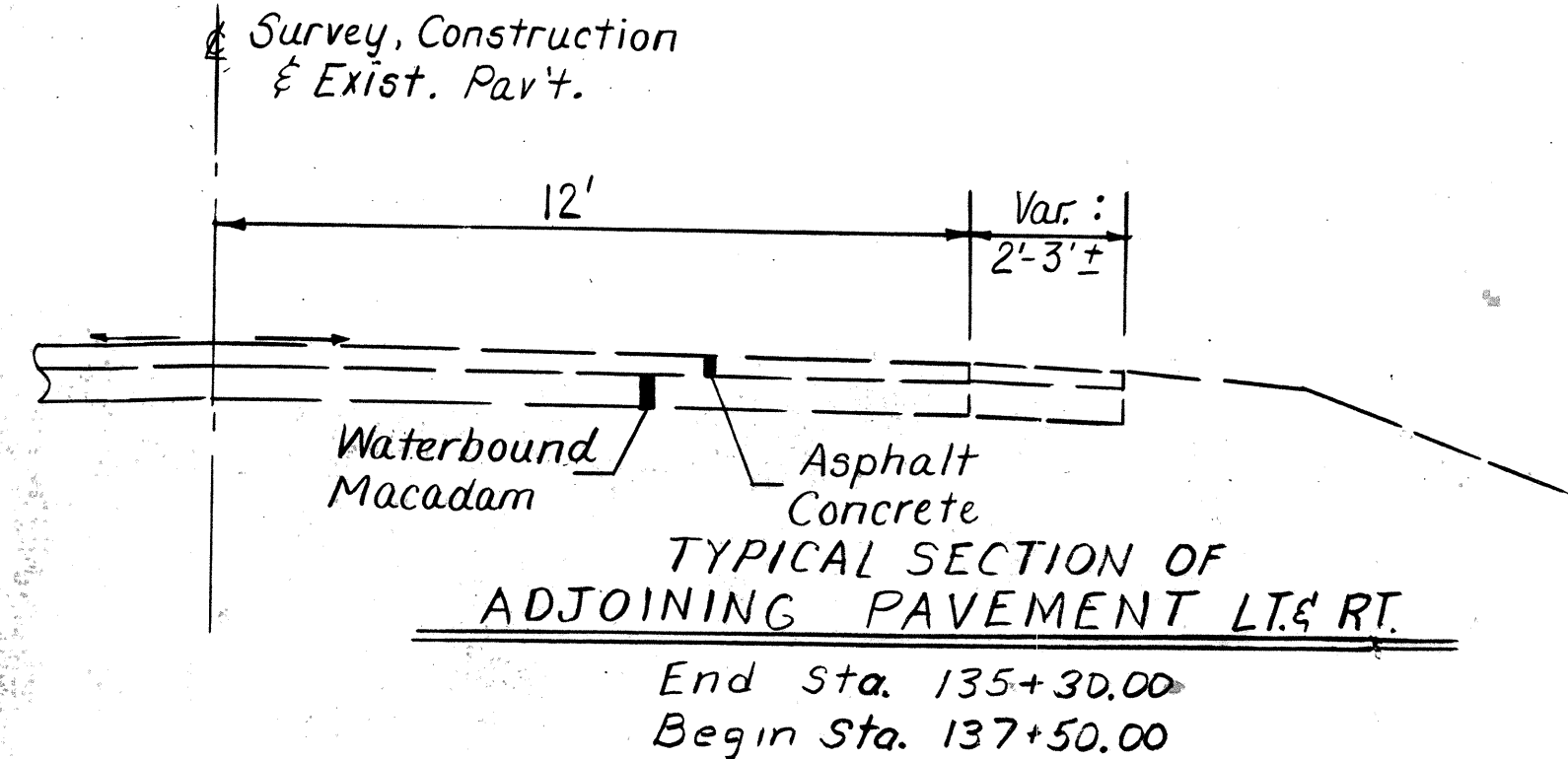
HAN-68-2.56
HANCOCK COUNTY



Sta. 135+30 to Sta. 135+94.28 = 64.28 Lin. Ft.
Sta. 136+85.62 to Sta. 137+50 = 64.38 Lin. Ft.
Total = 128.66 Lin. Ft.



Sta. 135+94.28 to Sta. 136+85.62 = 91.34 Lin. Ft.
Deduct for Sta. HAN-68-0258
Sta. 136+14.28 to Sta. 136+65.62 = 51.34 Lin. Ft.
Total = 40.00 Lin. Ft.



End Sta. 135+30.00
Begin Sta. 137+50.00

- LEGEND
- 1 ITEM 404 1 1/4" ASPHALT CONCRETE, AC-20
 - 2 ITEM 402 1 3/4" ASPHALT CONCRETE, AC-20
 - 3 ITEM 403 1 1/4" ASPHALT CONCRETE, AC-20
 - 4 ITEM 407 TACK COAT, AS PER PLAN
 - 5 ITEM 408 PRIME COAT
 - 6 ITEM 301 5" BITUMINOUS AGGREGATE BASE, AC-20
 - 7 ITEM 304 6" AGGREGATE BASE
 - 8 ITEM 605 AGGREGATE DRAINS
 - 9 ITEM 606 GUARDRAIL, TYPE 5
 - 10 ITEM 659 SEEDING AND MULCHING (SEE GENERAL NOTES)
 - 11 ITEM 611 REINFORCED CONCRETE APPROACH SLABS (13" THICK)

NOTES

- SLOPES AND DITCHES SHALL BE AS INDICATED UNLESS OTHERWISE SHOWN ON THE CROSS-SECTIONS.
- AGGREGATE DRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON EACH SIDE OF THE PAVEMENT AND SHALL HAVE A MINIMUM TRANSVERSE SLOPE OF 1/2 INCH PER FOOT WITH 1 INCH PER FOOT DESIRABLE (SEE STD. DWG. BP-5). AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

AN ESTIMATED QUANTITY OF 80 LIN. FT. HAS BEEN CARRIED TO THE GENERAL SUMMARY.

GENERAL NOTES

QUANTITIES	
CALC. BY <i>LJS</i>	DATE <i>10/86</i>
CKD. BY <i>RHE</i>	DATE <i>10/86</i>

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO	BRF-18 (35)	

4
13

HAN-68-2.56
HANCOCK COUNTY

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON THE U.S. COAST AND GEODETIC SURVEY DATUM.

ITEM 619, FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 300 SQUARE FEET OF FLOOR SPACE. PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

(TELEPHONE)

GENERAL TELEPHONE COMPANY OF OHIO
300 W. GYPSY LANE ROAD
BOWLING GREEN, OHIO 43402
PHONE NO. 419-352-6521

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 O.R.C.

EROSION CONTROL

ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE THIS ITEM. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY AND ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207 STRAW OR HAY BALES 30 EACH

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

FOR BALE INLET FILTERS, SEE STD. DWG. MC-11.

WASTE MASONRY

WASTE MASONRY AND EXCAVATED ROCK, CONFORMING TO 601.07 AND MEETING TYPE D GRADATION, MAY BE PLACED ALONG NEW CHANNEL SLOPES AS DIRECTED BY THE ENGINEER.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

LOCATION OF GUARDRAIL

THE LOCATION OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603, TYPE F, CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL TILE FIELDS WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION, AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603	6" CONDUIT, TYPE B	50 LIN.FT.
ITEM 603	6" CONDUIT, TYPE E	50 LIN.FT.
ITEM 603	6" CONDUIT, TYPE F	50 LIN.FT.

NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY LINE, IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE WORK LIMITS.

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY AND IS TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS AS PER 659.09:

ITEM 659 WATER 3 M-GALS.

STRUCTURE NOTES

FOR STRUCTURE NOTES, SEE SHEET 11.

DETOUR LIMITATION

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT THAT FOR PERIOD NOT TO EXCEED 120 CONSECUTIVE CALENDAR DAYS, THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 4.

MAINTAINING LOCAL TRAFFIC

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY AND ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR MAINTAINING LOCAL TRAFFIC AND DUST CONTROL.

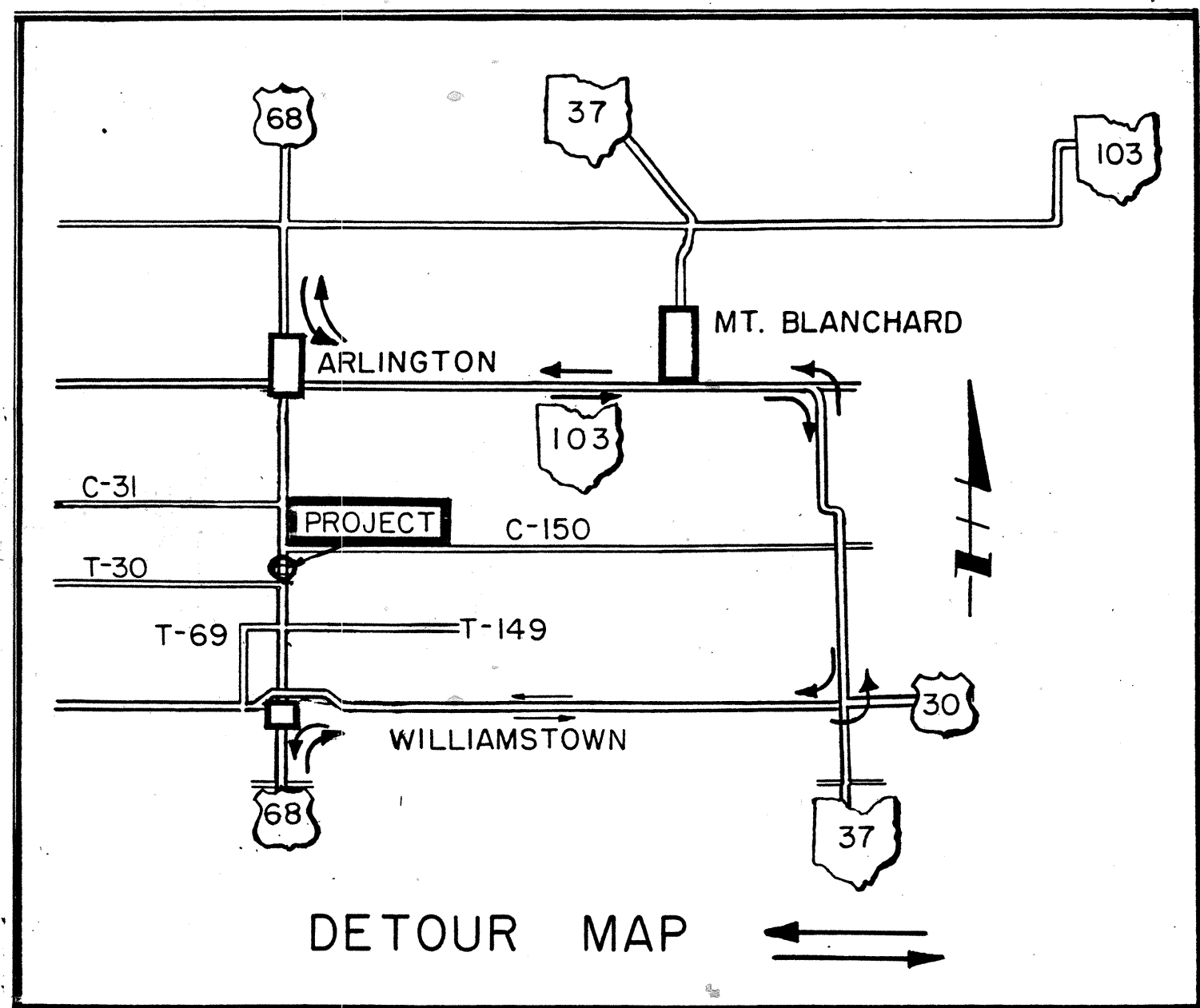
ITEM 410	TRAFFIC COMPACTED SURFACE, TYPE A OR B	25 C.Y.
ITEM 616	CALCIUM CHLORIDE	1.0 TON
ITEM 616	WATER	25 M.G.

407 TACK COAT, AS PER PLAN

THE TACK COAT AND COVER AGGREGATE OPERATION SHALL BE DETERMINED AS PER 407.05 AND 407.06 OF THE CMS. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY. COVER AGGREGATE SHALL BE PROVIDED AS DEEMED NECESSARY BY THE ENGINEER; HOWEVER, ALL COSTS FOR MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE REQUIRED COVER AGGREGATE SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR ITEM 407, TACK COAT, AS PER PLAN.

PERMANENT PAVEMENT MARKINGS

Permanent pavement markings shall be installed by ODOT. The District Traffic Engineer shall be notified at least 5 working days prior to opening the road to allow for scheduling of the pavement marking installation. A quantity of 0.04 miles of Temporary Center Lines, Class II is carried to the General Summary to be used as directed by the Engineer. The road shall not be opened to traffic without either the permanent or temporary pavement markings in place.



SYMBOL LEGEND

(All Symbols are oriented with Top of Sheet)

	NEW FULL DEPTH PAVEMENT
	NEW FULL DEPTH SHOULDERS (SAME BUILDUP AS PAV'T.)
	NEW APPROACH SLABS
	ROCK CHANNEL PROTECTION

Continue

COMPUTATIONS

PAVEMENT AREA

135+30 TO 135+94.28		
64.28' x 24.00'	=	1542.72 S.F.
136+85.62 TO 137+50		
64.38' x 24.00'	=	1545.12 S.F.
TOTAL =		3087.84 S.F.
		343.1 S.Y.

SHOULDER AREA

135+30 TO 136+01.28, LT.		
71.28' x 4.00'	=	285.12 S.F.
135+30 TO 135+87.28, RT.		
57.28' x 4.00'	=	229.12 S.F.
136+92.62 TO 137+50, LT.		
57.38' x 4.00'	=	229.52 S.F.
136+78.62 TO 137+50, RT.		
71.38' x 4.00'	=	285.52 S.F.
- SHOULDER TAPERS		- 60.00 S.F.
TOTAL =		969.28 S.F.
		107.70 S.Y.
TOTAL AREA =		450.8 S.Y.

ITEM 611, APPROACH SLABS

(2)(20)(40) ÷ 9	=	177.8 S.Y.
USE		178 S.Y.

ITEM 404, 1 1/4" ASPHALT CONCRETE, AC-20

(AREA OF PAV'T. + SHOULDER AREA + APPROACH SLAB) x 1 1/4" ÷ 36		
(343.1 + 107.7 + 177.8) 1 1/4" ÷ 36	=	21.83 C.Y.
628.6 x 1 1/4" ÷ 36	USE	22 C.Y.

ITEM 403, 1 1/4" ASPHALT CONCRETE, AC-20

AREA APPROACH SLABS x 1 1/4" ÷ 36		
177.8 x 1 1/4" ÷ 36	=	6.17 C.Y.
USE		6 C.Y.

ITEM 402, 1 3/4" ASPHALT CONCRETE, AC-20

(AREA OF PAV'T. + SHOULDER AREA) x 1 3/4" ÷ 36		
(343.1 + 107.7) x 1 3/4" ÷ 36	=	21.91 C.Y.
450.8 x 1 3/4" ÷ 36	USE	22 C.Y.

ITEM 407, TACK COAT

AREA APPROACH SLABS x 0.075		
177.8 x 0.075	=	13.34 GAL.
USE		14 GAL.

ITEM 408, PRIME COAT

(AREA 6" AGGREGATE BASE - APPR. SLAB AREA) x 0.40		
(666.1 - 177.8) x 0.40	=	195.32 GAL.
USE		195 GAL.

ITEM 301, 5" BITUMINOUS AGGREGATE BASE: AC-20

(AREA OF PAV'T.) + (LENGTH OF SHOULDERS x 1.0) x 5" ÷ 36		
450.8 + (128.66 x 1.0 ÷ 9) x 5" ÷ 36		
(450.8 + 14.3) x 5" ÷ 36		
465.1 x 5" ÷ 36	=	64.6 C.Y.
USE		65 C.Y.

ITEM 304, 6" AGGREGATE BASE

[(AREA OF PAV'T.) + (LENGTH OF SHOULDERS x 2.0) + (APPR. SLAB)] x 6" ÷ 36		
[450.8 + (128.66 x 2.0 ÷ 9) + (2 x 20 x 42 ÷ 9)] x 6 ÷ 36		
450.8 + 28.6 + 186.7) x 6 ÷ 36	=	111.02 C.Y.
666.1 x 6" ÷ 36	USE	111 C.Y.

ITEM 203, SUBGRADE COMPACTION

AREA OF PAVEMENT	=	343.1 S.Y.
AREA OF PAVED SHOULDERS	=	107.7 S.Y.
AREA OF APPROACH SLABS	=	177.8 S.Y.
TOTAL =		628.6 S.Y.
USE		629 S.Y.

ITEM 659, COMMERCIAL FERTILIZER

SEEDING AREA x 9 x 20		
1000 x 2000		
1396 x 9 x 20	=	0.13 TONS
1000 x 2000		

ITEM 202, REINFORCED CONCRETE APPROACH SLABS REMOVED, 9" THICK

(REF. 1-PR = 260 S.F. ÷ 9) + (REF. 2-PR = 260 S.F. ÷ 9)	=	57.8 S.Y.
28.9 S.Y. + 28.9 S.Y.	USE	58 S.Y.

ITEM 614 TEMPORARY CENTER LINES, CLASS II

[(137+50) - (135+30)] ÷ 5280	=	0.04 MI.
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QUANTITIES
CALC. BY <u>LJS</u> DATE <u>10/86</u>
CKD. BY <u>RHB</u> DATE <u>10/86</u>

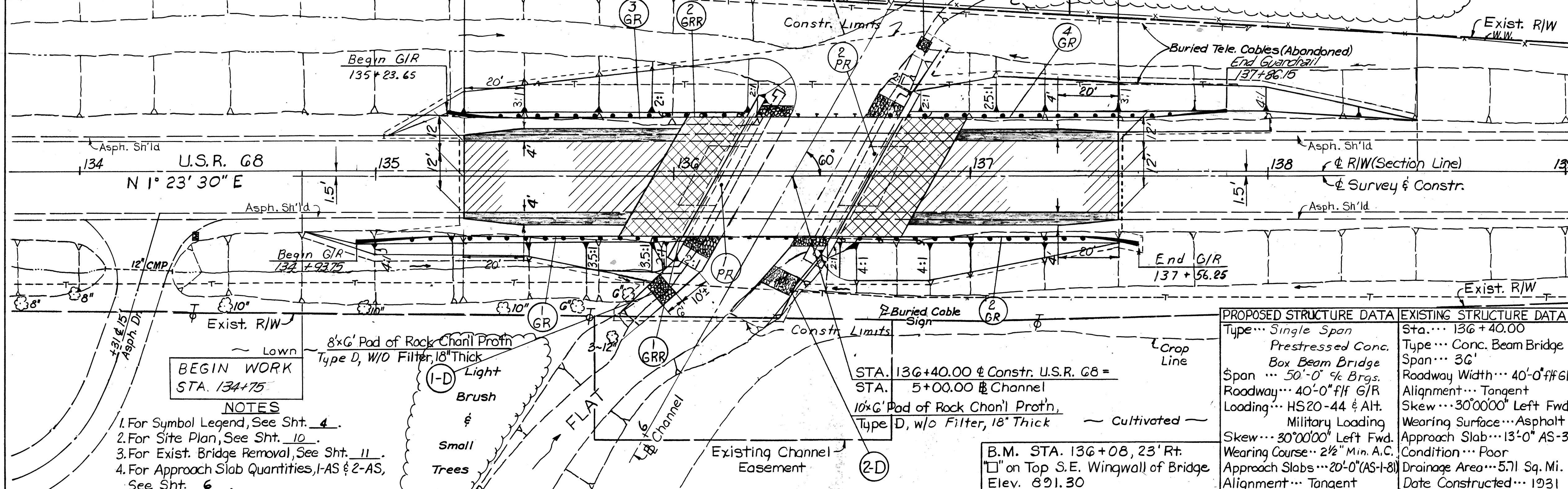
F.H.W.A. REGION	STATE	PROJECT
5	OHIO	BRF-18(35)

HAN-68-2.56
HANCOCK COUNTY

6
13

GENERAL SUMMARY

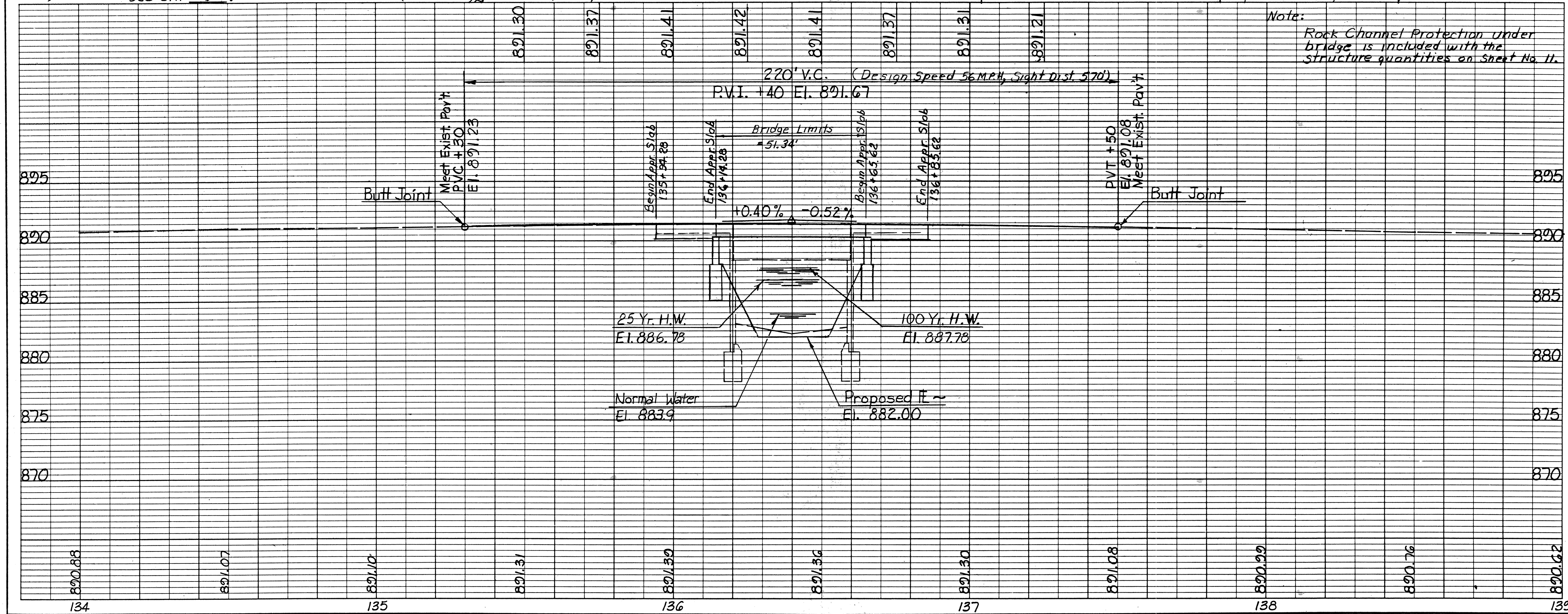
ITEM	QUANTITY	UNIT	DESCRIPTION	SHT. NO.
ROADWAY				
201	Lump	—	Clearing and Grubbing	
202	175.00	L.F.	Guardrail Removed	7
202	58	S.Y.	Pavement Removed	6
203	467	C.Y.	Excavation Not Including Embankment Construction	8
203	185	C.Y.	Embankment	8
203	629	S.Y.	Subgrade Compaction	6
606	3/250	L.F.	Guardrail, Type 5	7
606	4	Ea.	Bridge Terminal Assembly, Standard Type B	7
606	4	Ea.	Anchor Assembly, Standard Type A	7
410	25	C.Y.	Traffic Compacted Surface, Type A or B	4
616	1	Ton	Calcium Chloride	4
616	25	M.Gal.	Water	4
614	0.04	Mile	Temporary Center Lines, Class II	6
DRAINAGE				
603	50	L.F.	6" Conduit, Type B	4
603	50	L.F.	6" Conduit, Type E	4
603	50	L.F.	6" Conduit, Type F	4
605	80	L.F.	Aggregate Drains	3
PAVEMENT				
301	65	C.Y.	Bituminous Aggregate Base, AC-20	6
304	111	C.Y.	Aggregate Base	6
402	22	C.Y.	Asphalt Concrete, AC-20	6
403	6	C.Y.	Asphalt Concrete, AC-20	6
404	22	C.Y.	Asphalt Concrete, AC-20	6
407	14	Gal.	Tack Coat as per plan	6
408	195	Gal.	Bituminous Prime Coat	6
611	178	S.Y.	Reinforced Concrete Approach Slabs (T=13")	6
EROSION CONTROL				
601	9	C.Y.	Rock Channel Protection Type D Without Filter	7
659	1396	S.Y.	Seeding and Mulching	8
659	0.13	Ton	Commercial Fertilizer	6
659	3	M.Gal.	Water	4
207	30	Ea.	Hay or Straw Bales	4
For Bridge Quantities HAN-68-0258, See Sheet 11.				
614	Lump	—	Maintaining Traffic	4
619	Lump	—	Field Office	4
623	Lump	—	Construction Layout Stakes	
624	Lump	—	Mobilization	

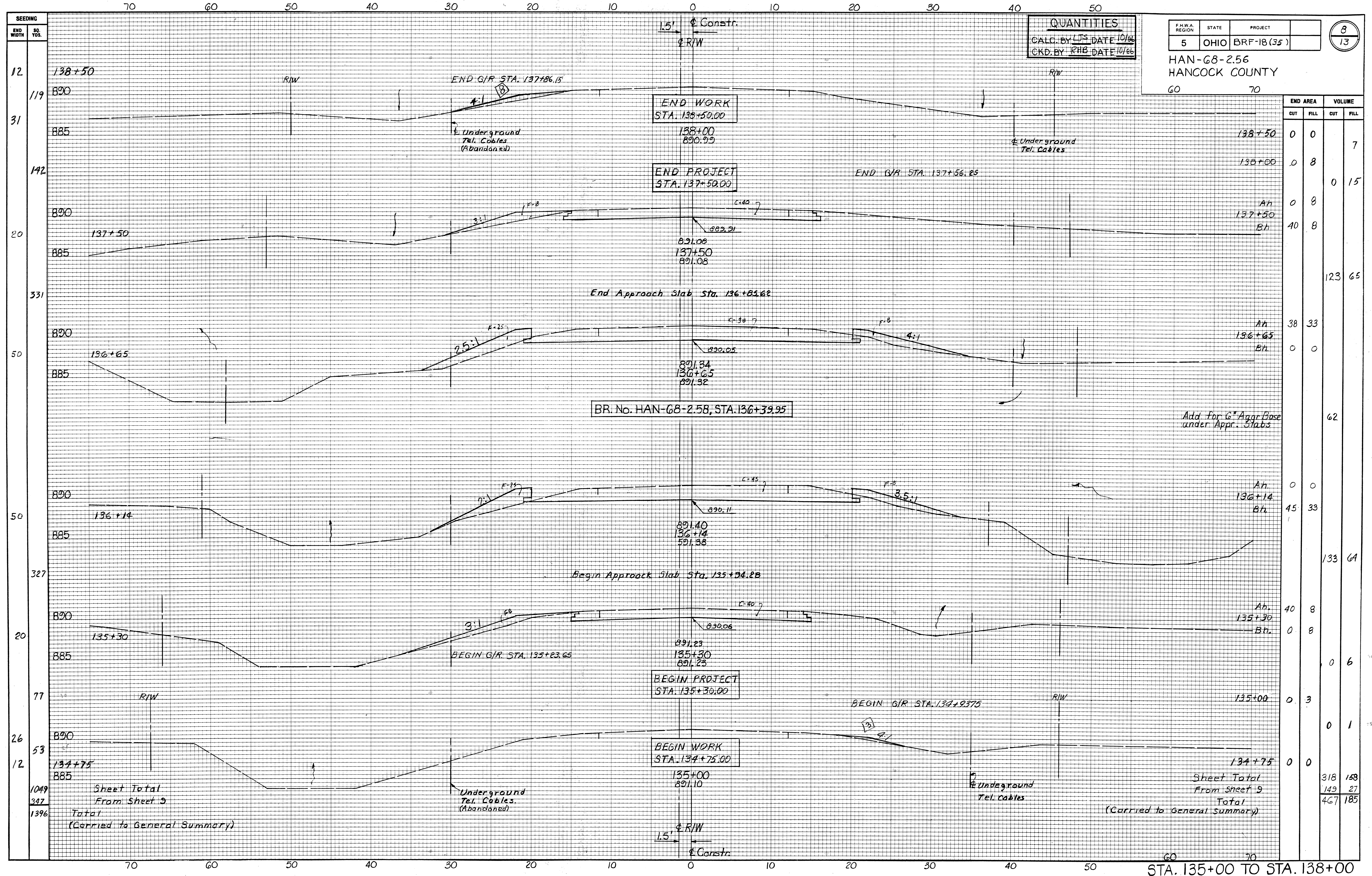


1. For Symbol Legend, See Sht. 4.
2. For Site Plan, See Sht. 10.
3. For Exist. Bridge Removal, See Sht. 11.
4. For Approach Slab Quantities, 1-AS & 2-AS
See Sht. 6.

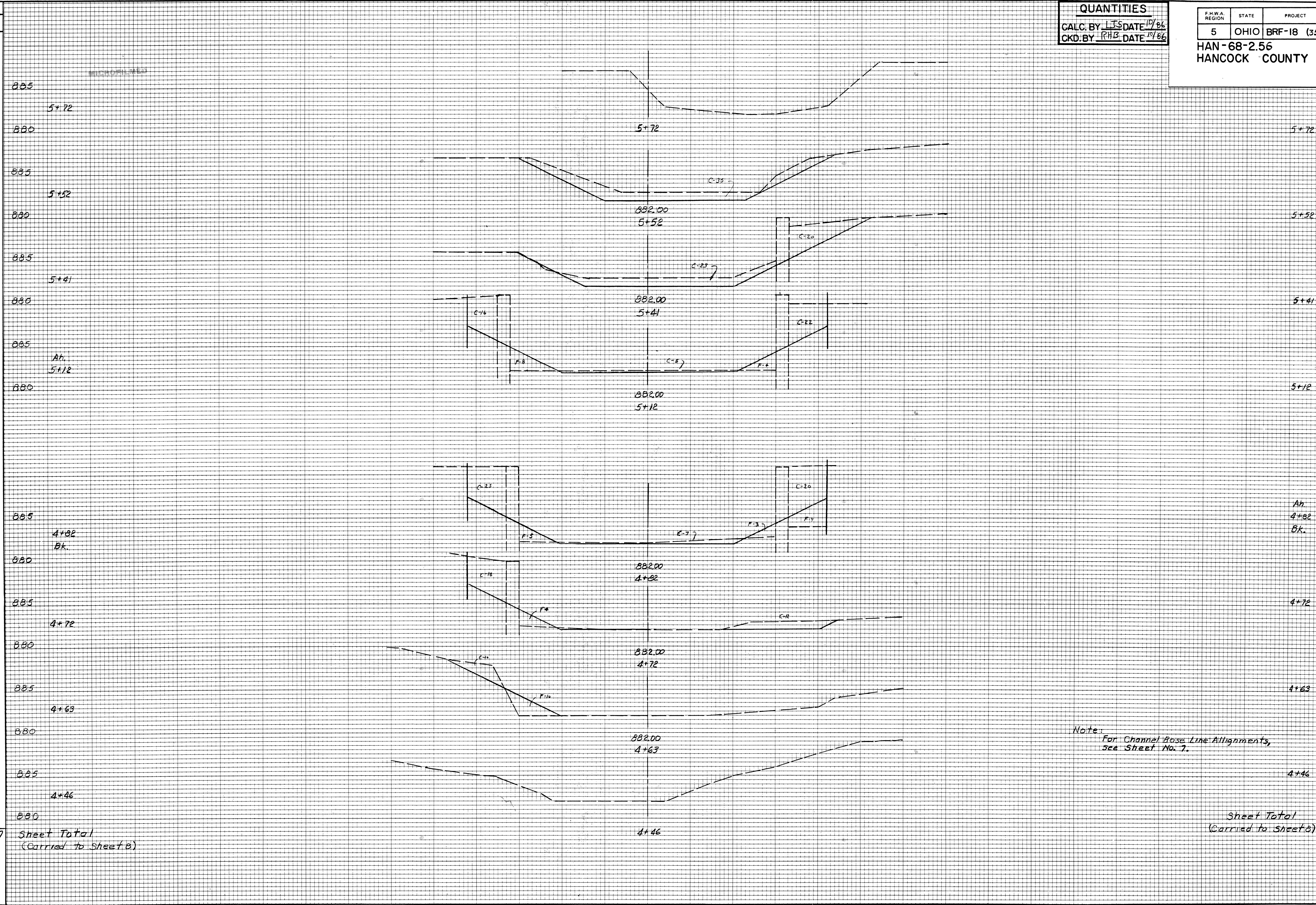
PROPOSED STRUCTURE DATA	EXISTING STRUCTURE DATA
Type... <i>Single Span</i>	Sta... 136 + 40.00
<i>Prestressed Conc.</i>	Type... Conc. Beam Bridge
<i>Box Beam Bridge</i>	Span... 36'
Span ... 50'-0" $\frac{1}{2}$ Brgs.	Roadway Width... 40'-0" $\frac{1}{2}$ ffl
Roadway... 40'-0" ffl G/R	Alignment... Tangent
Loading... HS20-44 & Alt.	Skew ... 30°00'00" Left Fwd
<i>Military Loading</i>	Wearing Surface... Asphalt
Skew... 30°00'00" Left Fwd.	Approach Slab... 13'-0" AS-3
Wearing Course... 2½" Min. A.C.	Condition ... Poor
Approach Slabs ... 20'-0" (AS-18)	Drainage Area... 5.71 Sq. Mi.
Alignment... Tangent	Date Constructed... 1931

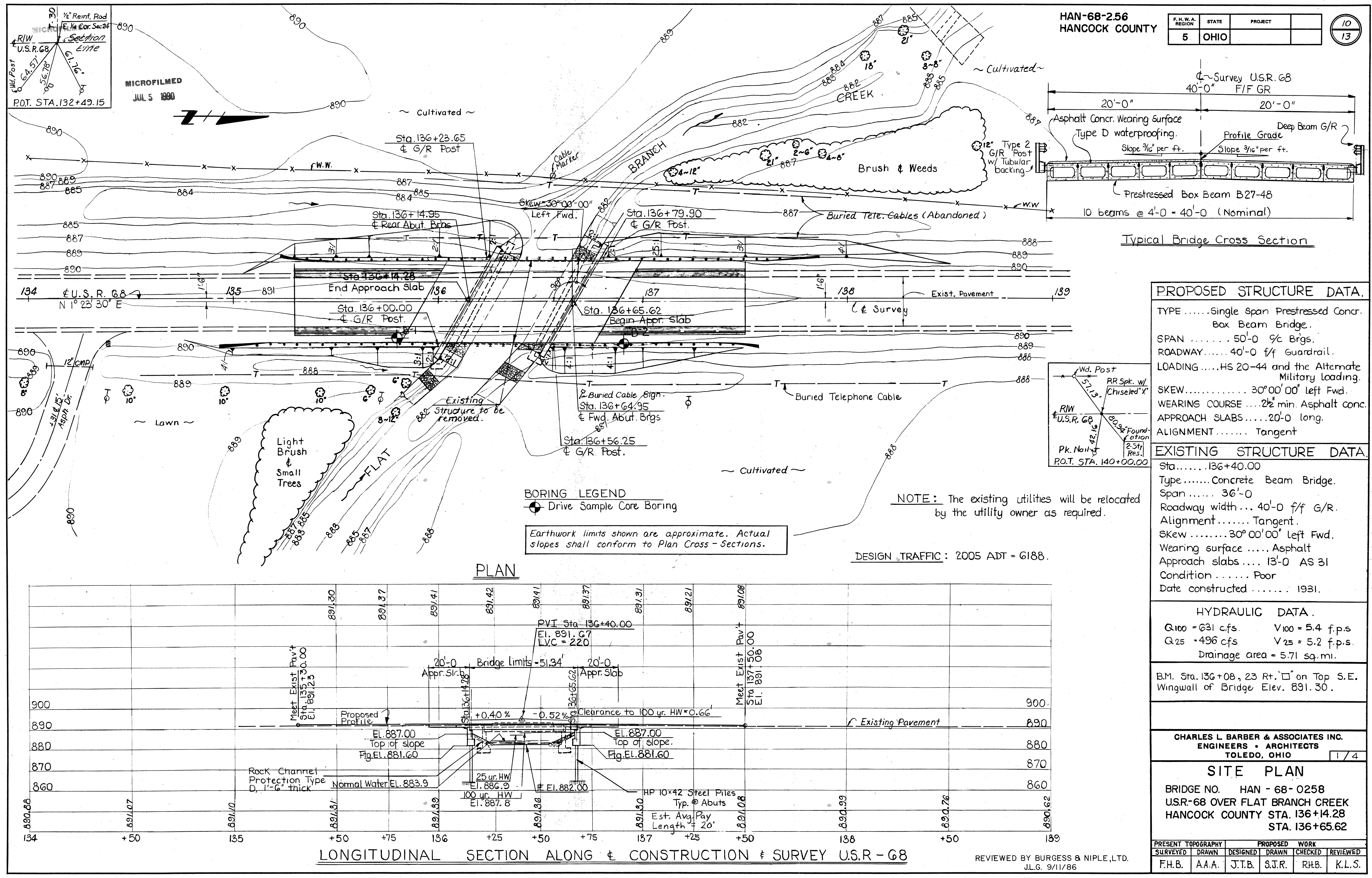
Note: Rock Channel Protection under bridge is included with the structure quantities on Sheet No. 11.

[illegible]



SEEDING	
END WIDTH	SQ. YDS.
20	
67	
40	
50	
42	
140	
45	
45	
39	
25	
23	
20	
28	
10	
347	





HAN-68-256
HANCOCK COUNTY

F. H. W. A. REGION	STATE	PROJECT
5	OHIO	

10
13

Typical Bridge Cross Section

PROPOSED STRUCTURE DATA.

TYPE Single Span Prestressed Concr.
Box Beam Bridge.
SPAN 50'-0" 9/16 Brgs.
ROADWAY 40'-0" f/f Guardrail.
LOADING HS 20-44 and the Alternate
Military Loading.
SKEW 30° 00' 00" left Fwd.
WEARING COURSE 2 1/2" min. Asphalt conc.
APPROACH SLABS 20'-0" long.
ALIGNMENT Tangent

EXISTING STRUCTURE DATA.

Sta. 136+40.00
Type Concrete Beam Bridge.
Span 36'-0"
Roadway width ... 40'-0" f/f G/R.
Alignment Tangent.
Skew 30° 00' 00" left Fwd.
Wearing surface Asphalt
Approach slabs 13'-0" AS 31
Condition Poor
Date constructed 1931.

HYDRAULIC DATA.

Q100 = 631 cfs. V100 = 5.4 f.p.s.
Q25 = 496 cfs V25 = 5.2 f.p.s.
Drainage area = 5.71 sq. mi.

B.M. Sta. 136+08.23 Rt. on Top S.E.
Wingwall of Bridge Elev. 891.30.

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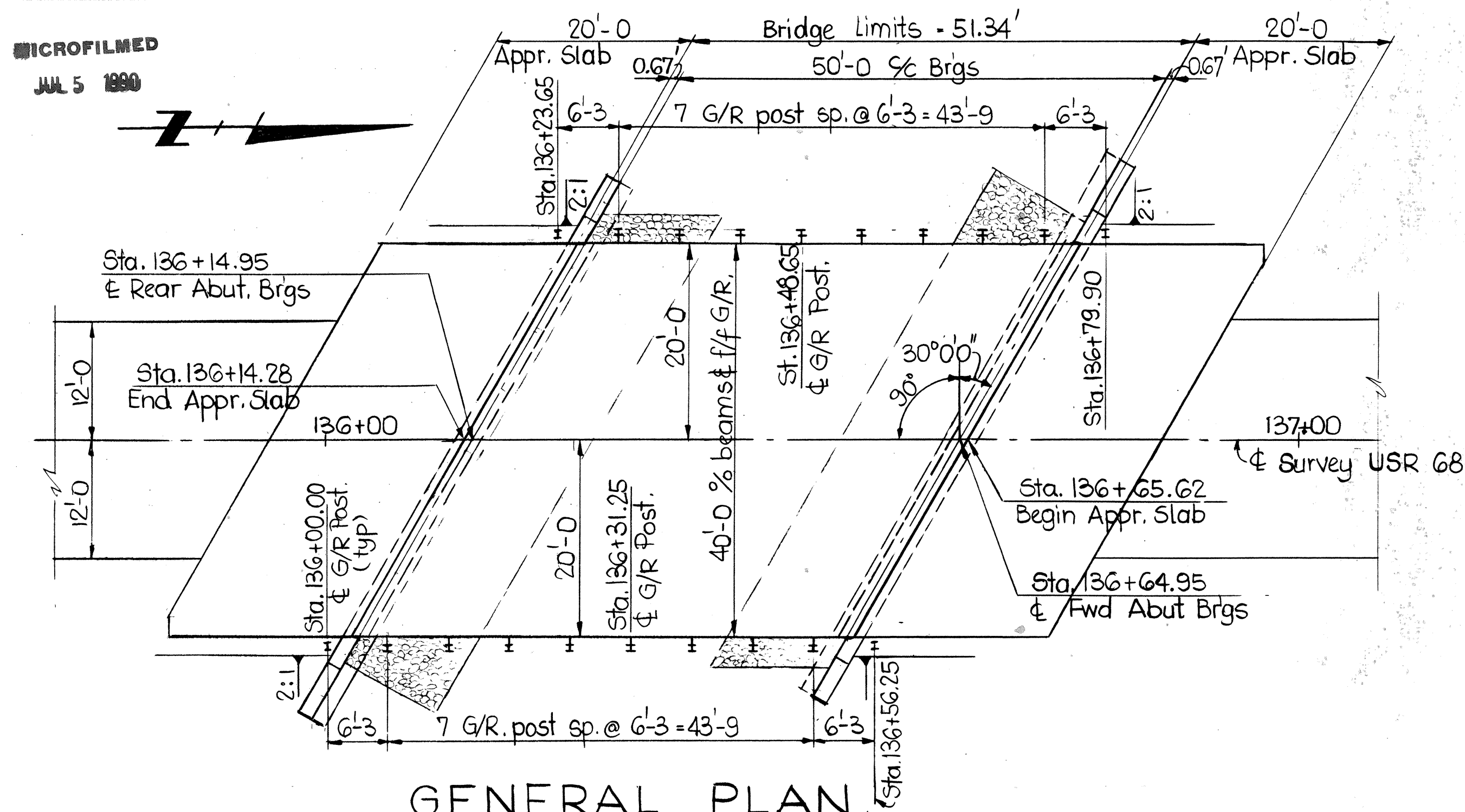
SITE PLAN

BRIDGE NO. HAN - 68-0258
U.S.R.-68 OVER FLAT BRANCH CREEK
HANCOCK COUNTY STA. 136+14.28
STA. 136+65.62

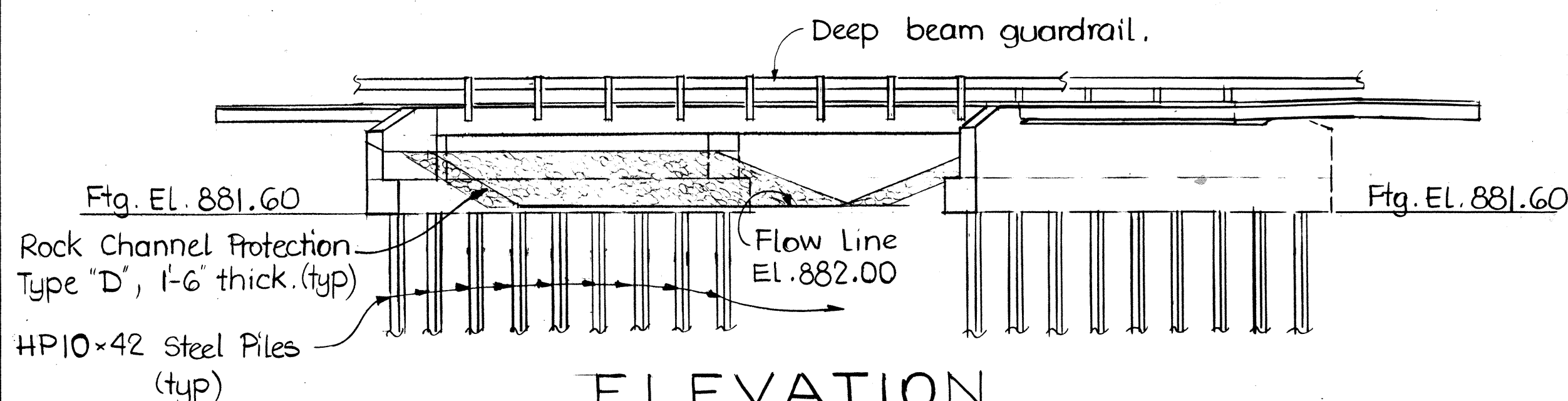
PRESENT TOPOGRAPHY		PROPOSED WORK	
SURVEYED	DRAWN	DESIGNED	DRAWN
F.H.B.	A.A.A.	J.T.B.	S.J.R.
		CHECKED	REVIEWED
		R.H.B.	K.L.S.

REVIEWED BY BURGESS & NIPLE, LTD.
J.L.G. 9/11/86

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JUL 5 1980



GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT.	DESCRIPTION	SUPER	ABUTS	GEN'L	AS BUILT
202	Lump	Sum	Structure removed			Lump	
403	10	Cu.yd.	Asphalt concrete (AC-20)	10			
404	8	Cu.yd.	Asphalt concrete (AC-20)	8			
503	140	Cu.yd.	Unclassified excavation		140		
505	Lump	Sum	Pile driving equipment mobilization.			Lump	
507	360	Lin.ft	HP10x42 Steel piles.		360		
509	8,601	Lb.	Reinforcing steel, Grade 60		8,601		
511	88	Cu.yd.	Class "C" concrete, Abutments. (See Proposal Note)		88		
512	249	Sq.yd.	Type "D" waterproofing	249			
515	10	Each	Prestressed concrete bridge members (See Proposal Note)	10			
516	193	Sq.ft	1" Preformed expansion joint filler.		193		
516	6	Sq.ft	1/2" Preformed expansion joint filler.		6		
516	40	Each	1"x7"x14" elastomeric bearing pads.	40			
516	28	Sq.ft	1/8" preformed bearing pads, 711.21.	28			
516	93	Lin.ft	Joint sealer		93		
517	112.50	Lin.ft.	Railing (deep beam rail with steel tubular backup and steel posts & bolts)	112.50			
518	39	Cu.yd	Porous backfill.		39		
601	60	Cu.yd	Rock channel protection type "D", without Filter			60	
Special	78	Sq.ft	Steel drip strip.	78			
Special	31	Sq.yd	Sealing of concrete surfaces. (See Proposal Note).	31			

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5	OHIO	

11
13

HAN-68-2.56
HANCOCK COUNTY.

GENERAL NOTES

- REFERENCE SHALL BE MADE TO STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, STANDARD DRAWINGS:
DBR - 2 - 73 DATED 4/10/73
AS - 1 - 81 DATED 11/27/81
PSBD - 1 - 81 DATED 9/18/81
- DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1983, 1984 AND 1985 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.
- DESIGN DATA:
DESIGN LOADING - HS 20-44 AND THE ALTERNATE MILITARY LOADING
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. FOR SUBSTRUCTURE
CONCRETE FOR PRE-STRESSED CONCRETE BEAMS - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS $f'_c = 5500$ P.S.I. MINIMUM COMPRESSIVE STRENGTH AT TIME OF INITIAL PRESTRESS $f'_{ci} = 4000$ P.S.I.
REINFORCING STEEL - ASTM A615, A616, OR A617, GRADE 60, MINIMUM YIELD STRENGTH 60,000 P.S.I.
PRESTRESSING STEEL - ASTM A416, GRADE 270, 1/2" DIAMETER, SEVEN-WIRE, UNCOATED, STRESS-RELIEVED STRAND
 $A_s = 0.153$ SQ. IN.
 $f'_s = 270,000$ P.S.I.
INITIAL STRESS $0.7 f'_s = 189,000$ P.S.I.
STRESS AT RELEASE $0.63 f'_s = 170,000$ P.S.I. (ASSUMED AT SECTION OF MAXIMUM MOMENT)
DECK PROTECTION METHOD - TYPE D WATERPROOFING, ASPHALT CONCRETE WEARING SURFACE AND STEEL DRIP STRIP

- DRIP STRIP:
PRIOR TO APPLYING DECK MEMBRANE WATERPROOFING, A BENT DRIP STRIP SHALL BE INSTALLED ALONG THE EDGES OF THE DECK AS SHOWN. THE STRIPS SHALL BE FASTENED AT 1'-6" C/C MAXIMUM WITH 1 1/4"x5/32"x1/4" FLAT HEAD DRIVE PIN AND WASHER. (LENGTH x SHANK DIA. x HEAD DIA.) OR #10 GALVANIZED SCREWS AND EXPANSION ANCHORS, SUBJECT TO THE APPROVAL OF THE ENGINEER. THE STRIPS SHALL BE PLACED THE FULL LENGTH OF THE DECK, ENDING AT THE FACE OF THE ABUTMENT WINGWALL. WHERE SPLICES ARE REQUIRED, A 3" (MIN.) LAP SHALL BE USED WITH A FASTENER THROUGH THE LAP. STEEL FOR GALVANIZED STRIPS SHALL BE 8"x0.105" AND SHALL MEET THE REQUIREMENTS OF ASTM A568. GALVANIZING SHALL BE IN ACCORDANCE WITH 711.02. STAINLESS STEEL SHALL BE 20 GAUGE ASTM A167, TYPE 304, MILL FINISH. PAYMENT SHALL BE AT THE CONTRACT PRICE BID FOR ITEM SPECIAL, SQ.FT., STEEL DRIP STRIP, WHICH SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.
- PILES SHALL BE DRIVEN TO BEDROCK. THE BEARING CAPACITY SHALL BE CONSIDERED OBTAINED BY REFUSAL ON HARD BEDROCK OR BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH. THE DESIGN LOAD IS 41 TONS PER PILE.
- UTILITY LINES:
ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.
- ITEM SPECIAL, SEALING OF CONCRETE SURFACES:
A CONCRETE SEALER, SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES: FASCIA BOX BEAMS TO THE LIMITS SHOWN ON SHEET 4/4. SEE THE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIALS REQUIREMENTS AND APPLICATION PROCEDURES.

12. MORTAR FOR SHEAR KEYS:
THE MORTAR AS DESCRIBED HEREIN SHALL BE USED IN LIEU OF THE MORTAR DESCRIBED ON SHEET 1 OF 4 IN PSBD-1-81 STANDARD DRAWING. THE GROUT FOR THE JOINTS (KEYWAYS) BETWEEN THE PRESTRESSED BEAMS SHALL BE A NONSHRINKING MORTAR. IT SHALL BE NONMETALLIC AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 5500 POUNDS PER SQUARE INCH ACCORDING TO THE CORPS OF ENGINEERS SPECIFICATION CRD-C621-82 B WHEN PREPARED TO A MODERATE FLUIDITY (124-145% FLOW TABLE FLOW).
THE GROUT SHALL BE: UPON MULTI-PURPOSE CONSTRUCTION GROUT
SIKAGROUT 212
MASTERFLOW 713
SET NON-SHRINK
THE GROUTED JOINT SHALL BE PREPARED, PLACED, AND CURED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

- REMOVAL OF EXISTING STRUCTURE:
WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED IN ACCORDANCE WITH SPEC. 202.03 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.
- EMBANKMENT CONSTRUCTION:
THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE. EXCAVATION MAY THEN BE MADE FOR THE ABUTMENTS AND PILES DRIVEN.
- ELASTOMERIC BEARING PADS SHALL BE OF 60 DUROMETER HARDNESS AND SHALL CONFORM TO SPEC. 711.23.
- SHOP DRAWINGS:
SHOP DRAWINGS FOR THE PRESTRESSED CONCRETE BOX BEAMS SHALL BE PREPARED BY THE MANUFACTURER INDICATING ALL PERTINENT DIMENSIONS ALONG WITH REINFORCING AND PRESTRESSING STEEL DETAILS. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE ANY BEAMS ARE MANUFACTURED.

- NON SHRINKING MORTAR: MORTAR OR GROUT FOR KEYWAYS BETWEEN PRESTRESSED CONCRETE BOX BEAMS, FOR TIE ROD RECESSES AND FOR ANCHOR DOWEL HOLES SHALL BE A NON-SHRINKING NON METALLIC MORTAR HAVING A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 5000 p.s.i. ACCORDING TO THE CORPS OF ENGINEERS SPECIFICATION CRD-C621-83 WHEN PREPARED TO A MODERATE FLUIDITY (124-145% FLOW TABLE FLOW). THE MORTAR OR GROUT SHALL ALSO MEET ALL OTHER REQUIREMENTS OF SPECIFICATION CRD-C621-83. THE MORTAR SHALL BE PREPARED, PLACED AND CURED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AGAINST SURFACES AS SPECIFIED BELOW.

PREPARATION OF CONCRETE SURFACES IN CONTACT WITH NON-SHRINKING MORTAR: THE KEYWAY SURFACES SHALL BE GIVEN A MEDIUM SANDBLAST AT THE PLANT WITHIN FOUR DAYS BEFORE THE BEAMS LEAVE THE PLANT. BEFORE MORTARING, THE KEYWAYS SHALL BE THOROUGHLY CLEAN OF ALL DIRT, DUST AND OTHER FOREIGN MATTER. THE KEYWAY SURFACES SHALL BE WETTED, BUT NO FREE WATER SHALL BE ALLOWED TO REMAIN IN THE KEYWAYS.

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2/4

GENERAL PLAN, ELEVATION,
NOTES & ESTIMATED QUANTITIES

BRIDGE NO. HAN-68-0258
USR-68 OVER FLAT BRANCH CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISD
E.W.K	E.W.K		K.L.S	R.H.B	JUL 86	

Rev 6-11-87

PLAN - REAR & FWD ABUT.

ELEVATION - (Dimensions).

All piles are HP10x42 Steel Piles

ELEVATION - (Reinforcement)

FOOTING PLAN

SECTION A-A

Dimensions

SECTION B-B

Reinforcement.

SECTION C-C

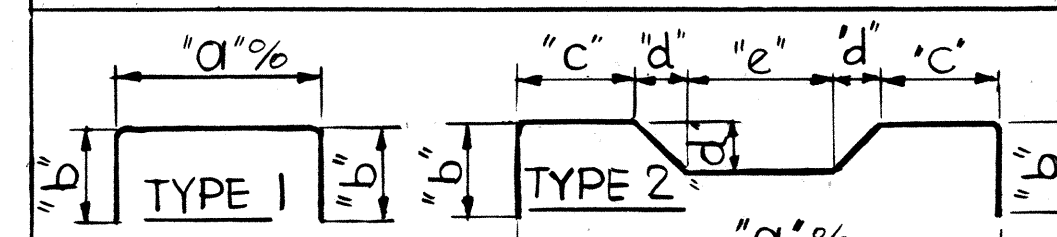
Reinforcement.

HAN-68-256
HANCOCK COUNTY.

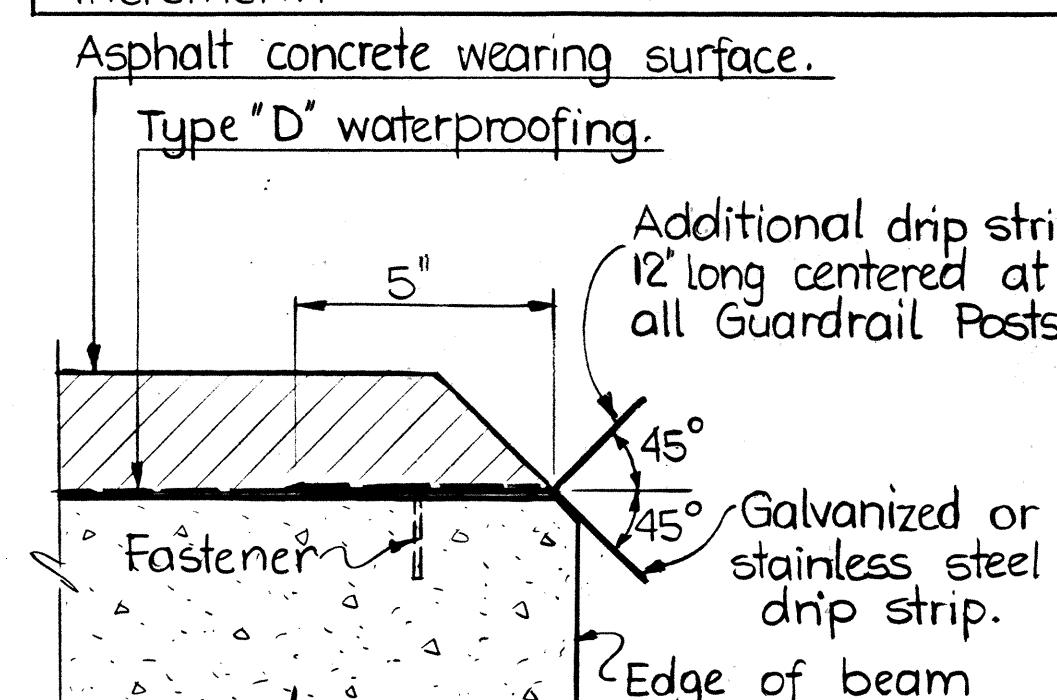
BENT REINFORCING BARS.

MARK	TYPE	"a"	"b"	"c"	"d"	"e"
"A"	1	44"	14"			
"B"	1	16' to 432"	14"			
"C"	1	16' to 432"	14"			
"D"	1	44"	14"			
"E"	2	44"	14"	13"	2 1/2"	13"
"F"	2	44"	14"	7"	2 1/2"	25"

BENDING DIAGRAM.



The "a" dim. of "B" & "C" bars has a 6/8 increment.

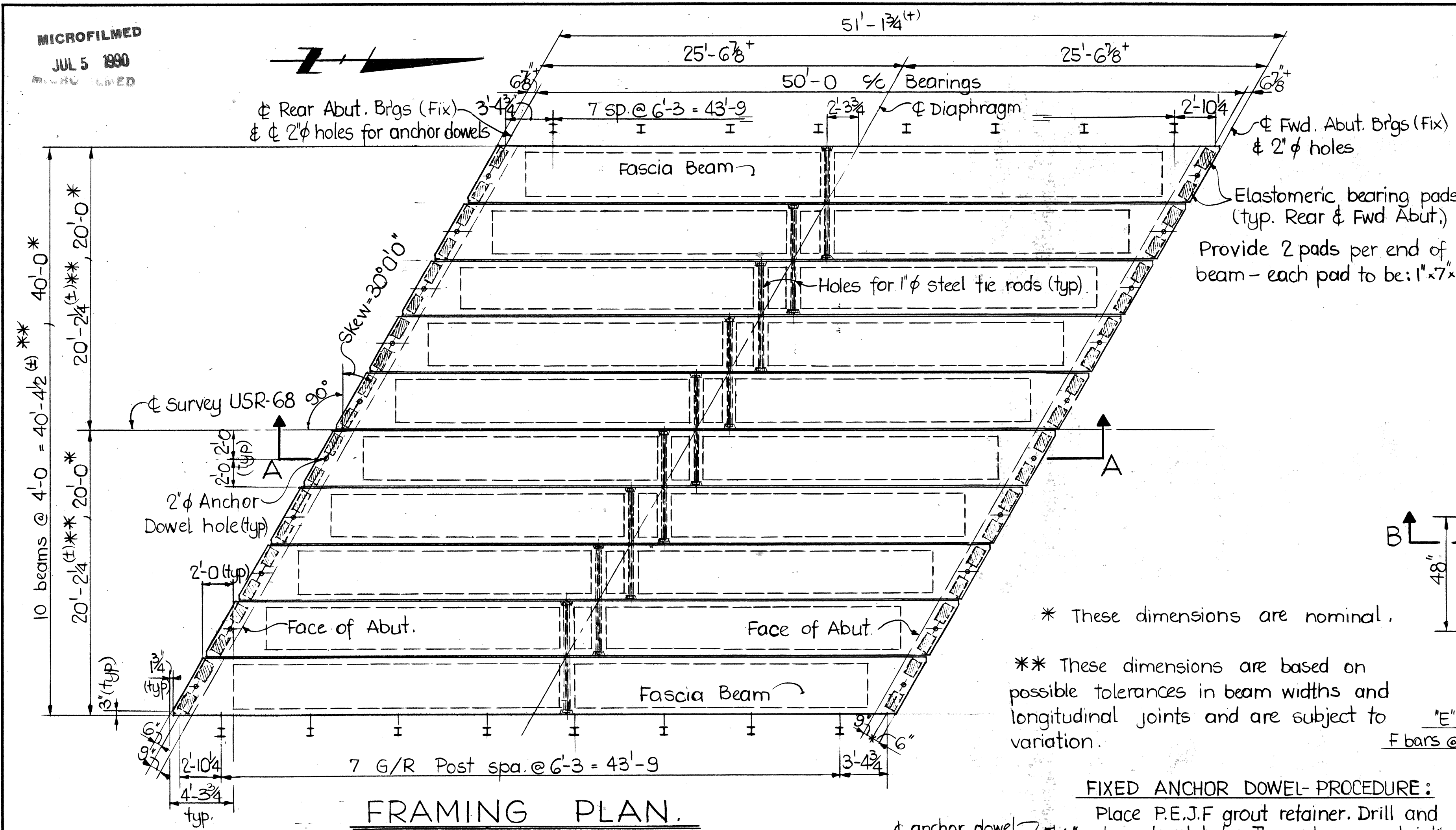


DRIP STRIP DETAIL

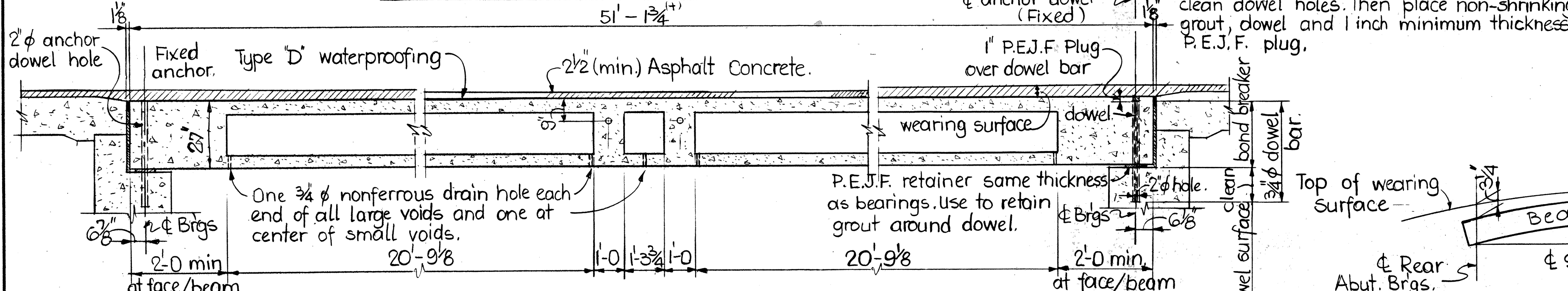
(See General Notes)

ASPHALT CONCRETE SURFACE COURSE shall consist of a variable thickness of 403 and a 1/4" thickness of 404. The 403 shall be placed in two operations. The first course shall be of 1/4" uniform thickness. The second course shall be feathered to place the surface parallel to and 1/4" below final pavement surface elevation.

BRIDGE BEAM WIDTH NOTE:
The fabricator may change the width of beams on the bridge, if there is some advantage in doing so. However, the bridge width must remain the same, bearings will be redesigned by a professional engineer and there will be no additional cost to the State. The revised plans must be submitted for approval by the Director.

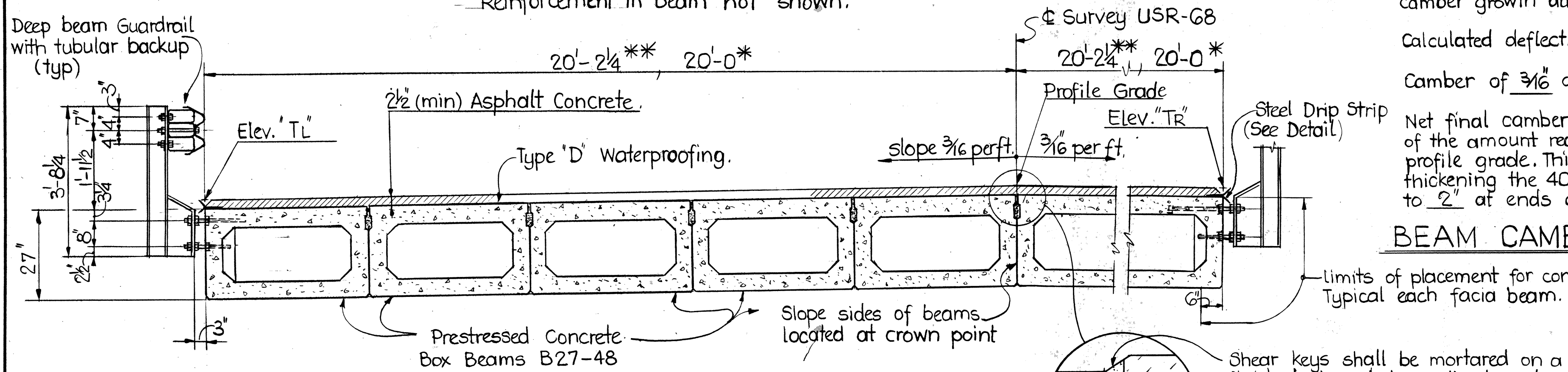


FRAMING PLAN.



SECTION A-A

Reinforcement in beam not shown.



HALF TRANSVERSE SECTION

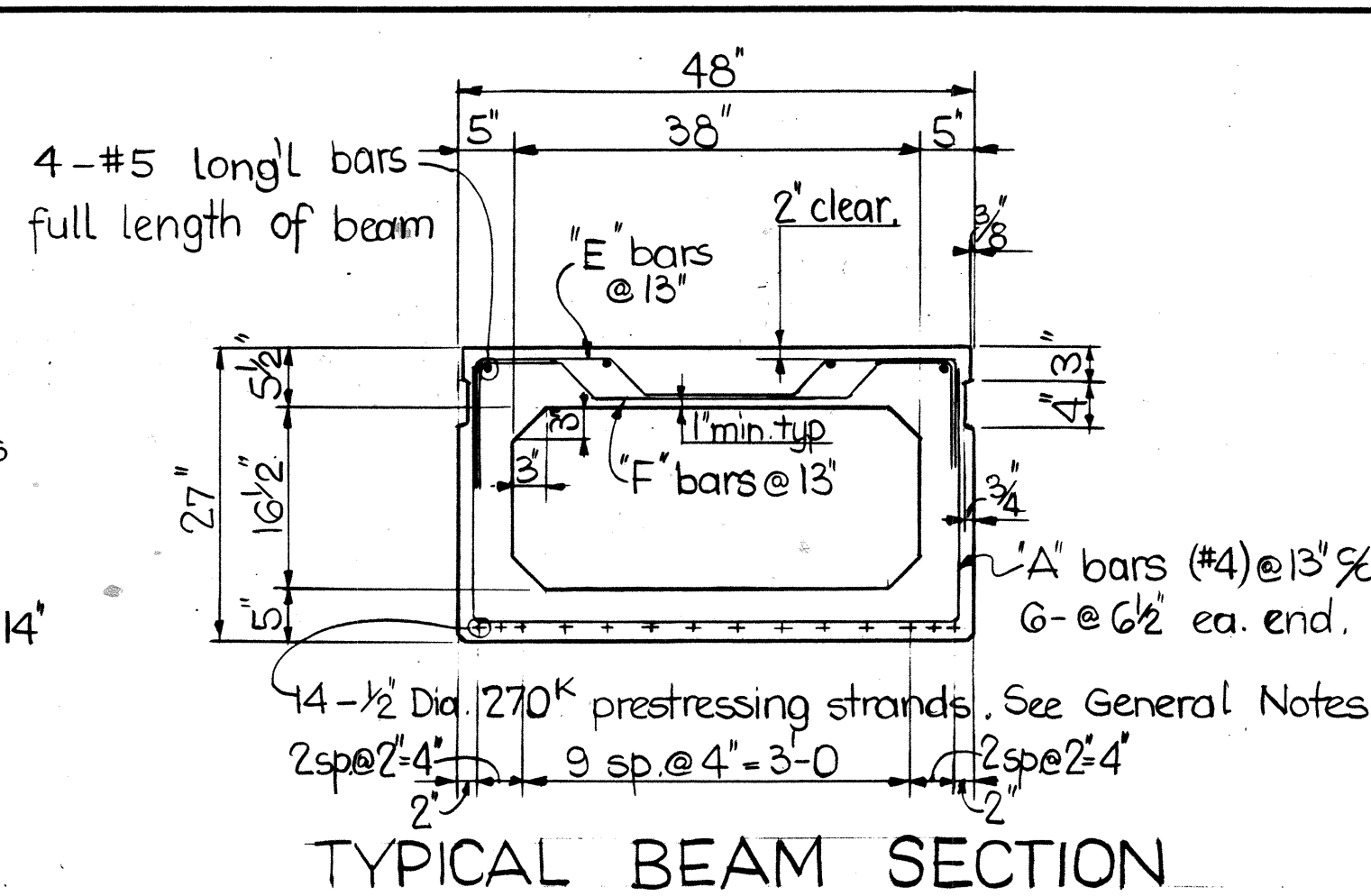
The requirements of Sec. 511.15, rubbed finished, shall apply to the exterior faces of fascia beams.

* These dimensions are nominal.

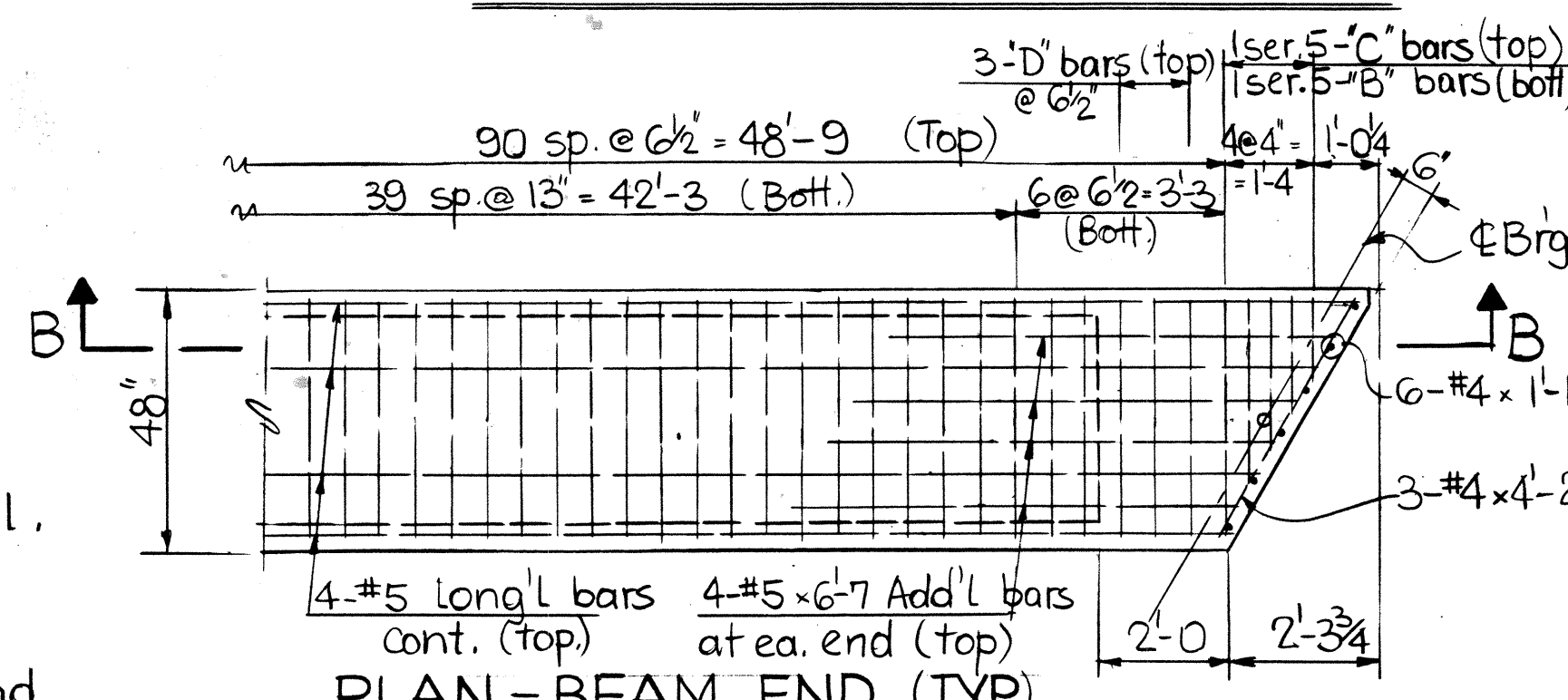
** These dimensions are based on possible tolerances in beam widths and longitudinal joints and are subject to variation.

FIXED ANCHOR DOWEL PROCEDURE:

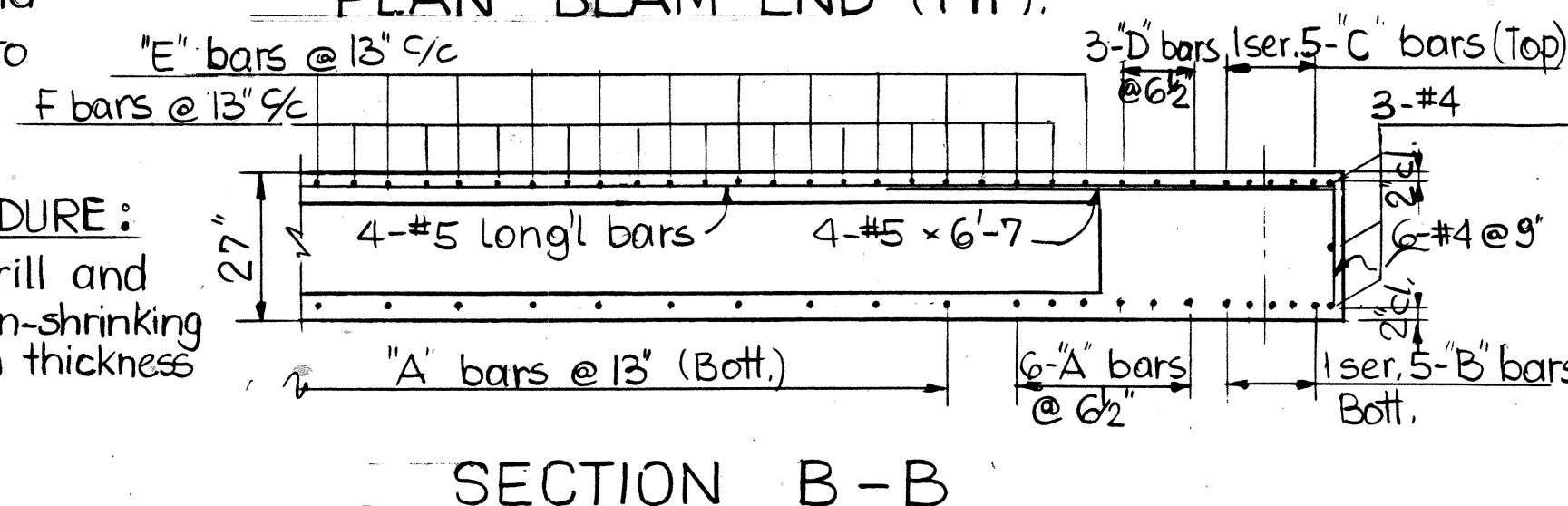
Place P.E.J.F. grout retainer. Drill and clean dowel holes. Then place non-shrinking grout, dowel and 1 inch minimum thickness P.E.J.F. plug.



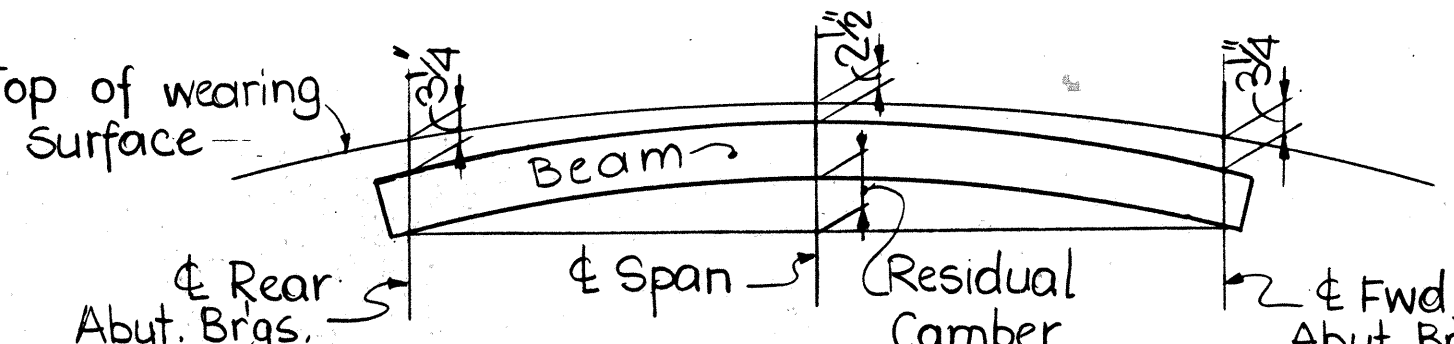
TYPICAL BEAM SECTION



PLAN - BEAM END (TYP.)



SECTION B-B



BEAM CAMBER & WEARING SURFACE DEPTH.

Calculated camber at time of paving, including allowance for camber growth due to creep, is 1".
Calculated deflection due to weight of surface course & railing is 1/16".
Camber of 3/16" at center of spans is required for vertical curve.
Net final camber (residual) of beams is 15/16". This is 3/4" in excess of the amount required to place the top of the beam parallel to profile grade. This excess amount shall be compensated for by thickening the 403 leveling course from 1/4" at center of spans to 2" at ends of spans.

Limits of placement for concrete sealer. Typical each fascia beam.

FINAL ELEV. "TL" & "TR" (TOP OF WEARING SURFACE)					
	Brigs	Span			Brigs
	Rear	1/4	1/2	3/4	Fwd
	Abut.				Abut.
Final Elevation "TL"	891.11	891.11	891.10	891.08	891.05
Final Elevation "TR"	891.10	891.11	891.12	891.11	891.09

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TOLEDO, OHIO

SUPERSTRUCTURE

BRIDGE NO. HAN-68-0258
USR-68 OVER FLAT BRANCH CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.W.K.	E.W.K.		K.L.S.	R.H.B.	JUL 86	

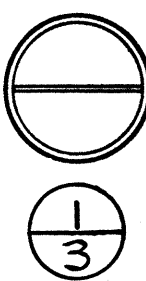
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HAN-68-2.56
HANCOCK COUNTY

GENERAL INFORMATION



GEOLOGY OF THE SITE

THE STRUCTURE IS LOCATED IN A GLACIAL GROUND MORAIN E AREA OF NORTHWESTERN OHIO. SOILS CONSIST OF MOSTLY UNDIFFERENTIATED GLACIAL DRIFT OVERLYING MONROE LIMESTONE BEDROCK DEPOSITS ASSOCIATED WITH THE DEVONIAN AGE.

EXPLORATION

TWO EXPLORATORY BORINGS WERE MADE BY MEANS OF A TRUCK-MOUNTED DRILLING RIG UTILIZING 4-INCH NOMINAL DIAMETER DRILLING BIT AND ROTARY WASH METHODS. THE BORINGS WERE DRILLED ON JANUARY 31 AND FEBRUARY 3, 1986.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE TEST BORINGS INDICATE A GENERALLY UNIFORM PATTERN OF SUBSOIL STRATIFICATION. THE SITE IS BLANKETED WITH FILL DEPOSITS ABOUT 2.5 TO 9.5 FEET THICK. THE FILL IS COMPOSED OF CRUSHED STONE OR MEDIUM STIFF TO STIFF BROWN TO GREY SANDY CLAY OR SILT AND CLAY WITH SOME SAND AND TRACE OF GRAVEL. UNDERLYING THE FILL IS A NATIVE SOIL LAYER OF STIFF TO VERY STIFF BROWN SILT AND CLAY WITH SOME SAND AND TRACE OF GRAVEL WHICH WAS ENCOUNTERED DOWN TO AN 11 TO 13.5 FOOT DEPTH (ELEVATION 877 TO 879). BELOW THIS LAYER IS A STRATA OF HARD GREY SILT AND CLAY WITH SOME SAND AND TRACE OF GRAVEL WHICH WAS FOUND DOWN TO A 24 TO 25 FOOT DEPTH (ELEVATION 865 TO 866). BENEATH THIS STRATA AND EXTENDING THROUGHOUT THE REMAINDER OF EACH BORING IS A BEDROCK DEPOSIT OF MEDIUM HARD GREY FRACTURED THIN BEDDED SHALEY DOLOMITE WITH THIN LAYERS OF SHALE.

GROUNDWATER WAS ENCOUNTERED IN BOTH TEST BORINGS AT AN 8-FOOT DEPTH (ELEVATION 882). WATER LEVELS WERE FOUND TO RISE TO A 6.3 TO 7 FOOT DEPTH (ELEVATION 884) AT COMPLETION OF THE DRILLING OPERATION WHICH UTILIZED WATER TO ADVANCE THE BORINGS.

-  Auger Boring Location - Plan View.
-  Press and/or Drive Sample and/or Core Boring Location - Plan View.
- TR Top of Rock
-  Capped Pile
-  Footing
-  Footing on Pile

-  Coal
-  Weathered Mudstone
-  Mudstone
-  Weathered Shale
-  Shale
-  Claystone
-  Siltstone

LEGEND

-  Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y/Z Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
 - X = Number of Blows First 6 inches.
 - Y = Number of Blows Second 6 inches.
 - Z = Number of Blows Third 6 inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

-  Weathered Sandstone
-  Sandstone
-  Leached Dolomite
-  Dolomite
-  Leached Limestone
-  Limestone
-  Boulders or Cobbles

Drive Sample/Press Sample/Core Borings

Drive sample borings are made by means of a mechanically-powered rotary-type drilling machine, employing a 2" O.D., 1-3/8" I.D. split spoon sampling device, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampling device 18 inches is considered the standard penetration test.

Drive/press sample borings are made by means of a mechanically-powered rotary-type drilling machine, employing a 2" O.D., 1-3/8" I.D. split spoon sampling device, and 3" O.D. thin wall press sampling device. The press sampler is advanced by continuous uniform pressure, applied by the drilling machine.

Core borings are made by means of a mechanically-powered rotary-type drilling machine, employing a NMX core barrel with industrial diamond cutting head.

The boring log sheets display a graphic plot of the information obtained, including depth and elevation of the sample, type of sample, the standard penetration test readings in three 6-inch increments, depth and elevation of press sample, field number assigned to sample, sample description-based on laboratory tests utilizing the Casagrande AC classification system-and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing, if performed on undisturbed samples, will appear graphically on separate enclosures. Rock samples are displayed on the log sheets including depth and elevation of the sample, amount of recovery and a visual classification based on type, color, degree of hardness, grain size, deterioration, bedding, acid reaction and other qualifying factors.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be utilized, a wash sample is procured and visually classified, in order to determine the general characteristics of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions						
Boulders	6"	3"	20 mm	0.42 mm	0.074 mm	0.005 mm
	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
			No.10 sieve	No.40 sieve	No.200 sieve	

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for this project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans covering construction of the project.

CHARLES L. BARBER & ASSOCIATES INC.
ENGINEERS • ARCHITECTS
TOLEDO, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO HAN-68-0258
U.S.R. 68 OVER FLAT BRANCH CREEK

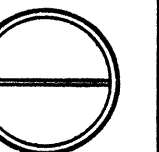
PLAN AND PROFILE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

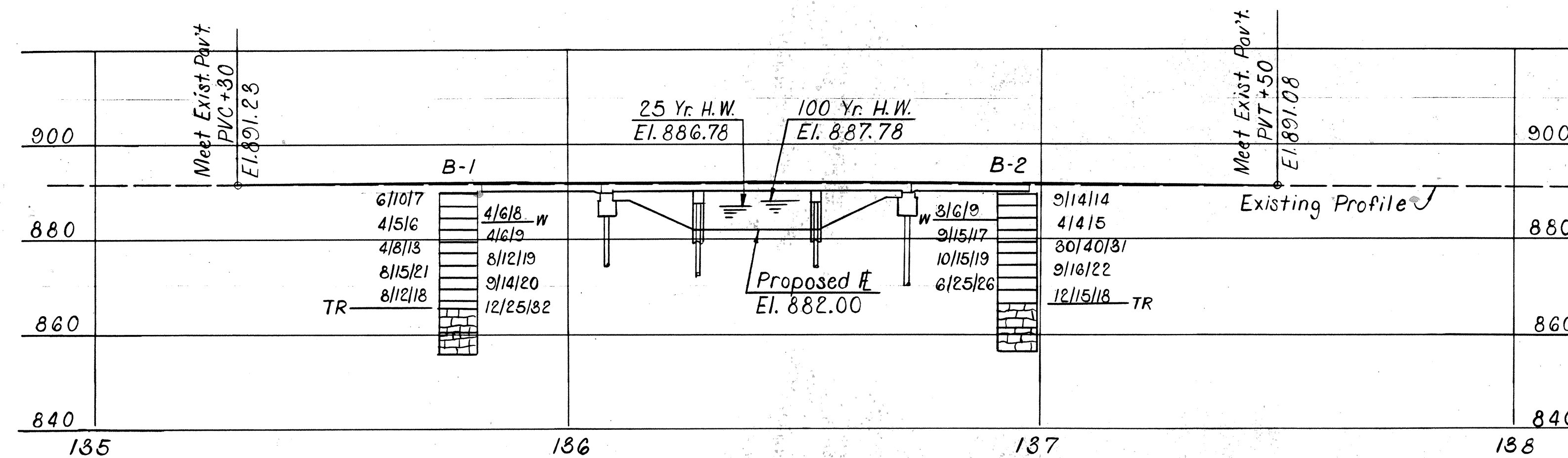
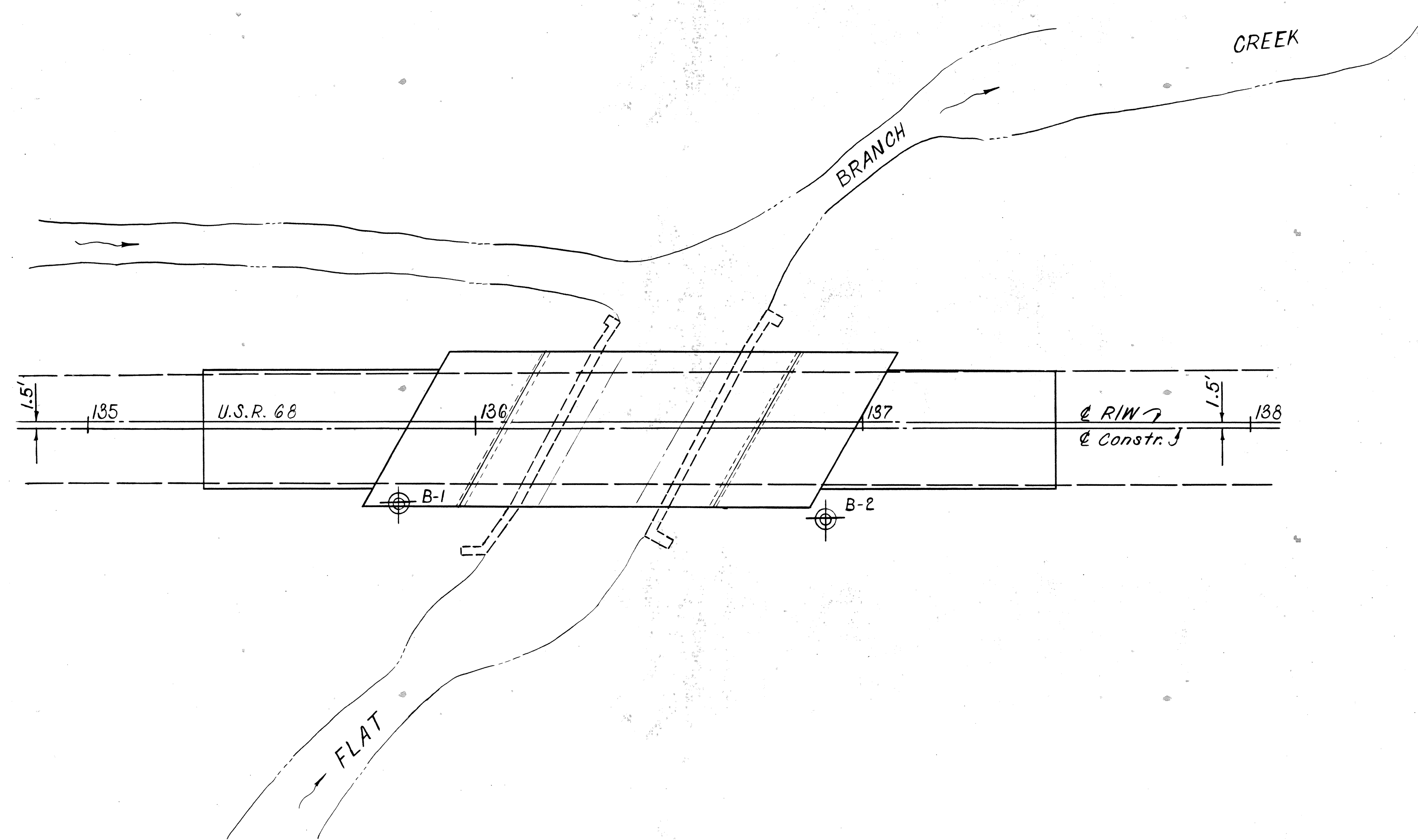
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5	OHIO		

HAN-68-2.56
HANCOCK COUNTY



2
3



CHARLES L. BARBER & ASSOCIATES INC. ENGINEERS • ARCHITECTS TOLEDO, OHIO						
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO HAN-68-0258 U.S.R. 68 OVER FLAT BRANCH CREEK						
PLAN AND PROFILE						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.T.B.	A.A.A.		E.W.K.	R.H.B.		

MICROFILMED
JUL 5 1990

LOG OF BORINGS

Date Started 2/3/86 Sampler Type SS Dia. 2" Water Elev. 883.5
Date Completed 2/3/86 Casing Length Dia.
Boring No. 1 Station & Offset 135+80, 19' Rt. Surface Elev. 890.5

Elev.	Depth	Std. Pen. (N)	Rec. ft	Loss ft	Description	Sample No.	Physical Characteristics								SHTL Class
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
890.5	0				CRUSHED STONE										
889.5	2					1									
	4	6/10/7			FILL: STIFF BROWN SILTY CLAY										
887.0	4					2									
	6	4/6/8													
884.5	6														
	8	4/5/6			MEDIUM STIFF TO STIFF GREYISH BROWN SILTY CLAY	3	23	10	16	26	25	39	22	27	A-6b
882.0	8					4									
	10	4/6/9			STIFF BROWN SILT AND CLAY										
879.5	12					5	7	8	13	34	38	33	17	20	A-6b
	14	4/8/13				6									
874.5	16														
	18	8/12/19				7	8	8	12	33	39	30	15	14	A-6a
872.0	18				HARD GREY SILTY CLAY										
	20	9/14/20				8									
869.5	22					9	12	8	12	31	37	27	11	16	A-6a
867.0	24					10									
865.5	26	12/25/32			TOP OF ROCK										
	28		2.65	2.35	MEDIUM HARD GREY FRACTURED THIN BEDDED SHALEY DOLOMITE										
860.5	30														
	32														
	34		4.6	0.40											
855.5	36				BOTTOM OF BORING										
	38														
	40														
	42														
	44														
	46														
	48														
	50														
	52														
	54														
	56														
	58														
	60														
	62														
	64														
	66														
	68														
	70														
	72														
	74														
	76														
	78														
	80														

LOG OF BORINGS

Date Started 1/31/86 Sampler Type SS Dia. 2" Water Elev. 884.0
Date Completed 1/31/86 Casing Length Dia.
Boring No. 2 Station & Offset 136+90, 23' Rt. Surface Elev. 890.4

Elev.	Depth	Std. Pen. (N)	Rec. ft	Loss ft	Description	Sample No.	Physical Characteristics								SHTL Class
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
890.4	0														
889.4	2	9/14/14			FILL: VERY STIFF DARK BROWN SANDY CLAY	1									
	4														
886.9	4	3/6/9			STIFF BROWN SILTY CLAY	2	3	4	16	30	47	47	29	25	A-7-6
884.4	6					3									
	8	4/4/5			VERY STIFF BROWN SILTY CLAY										
881.9	8					4									
	10	9/15/17													
879.4	12					5	7	8	12	37	36	28	15	15	A-6a
	14	30/40/31			HARD GREY SILT AND CLAY										
876.9	14					6	7	9	13	36	35	30	11	15	A-6a
874.4	16					7									
	18	9/16/22													
871.9	20					8	9	9	13	33	36	28	12	17	A-6a
869.4	22	6/25/26				9									
	24	12/15/18			TOP OF ROCK										
866.4	26														
	28				MEDIUM HARD GREY FRACTURED THIN BEDDED SHALEY DOLOMITE										
861.4	30		5.0	0.0											
	32														
	34		5.0	0.0	BOTTOM OF BORING										
856.4	36														
	38														
	40														
	42														
	44														
	46														
	48														
	50														
	52														
	54														
	56														
	58														
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	64														
	66														
	68														
	70														
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	78														
	80														

CHARLES L. BARBER & ASSOCIATES INC.
ENGINEERS • ARCHITECTS
TOLEDO, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO HAN-68-0258
U.S.R. 68 OVER FLAT BRANCH CREEK

PLAN AND PROFILE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.T.B.	AAA		EWK	R.H.B.		