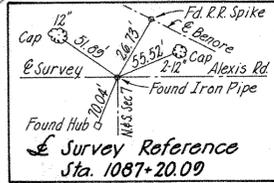
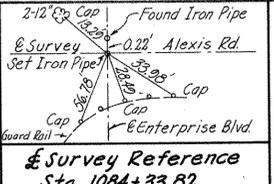
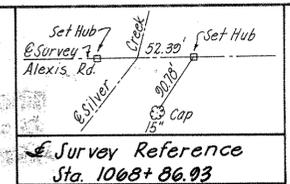
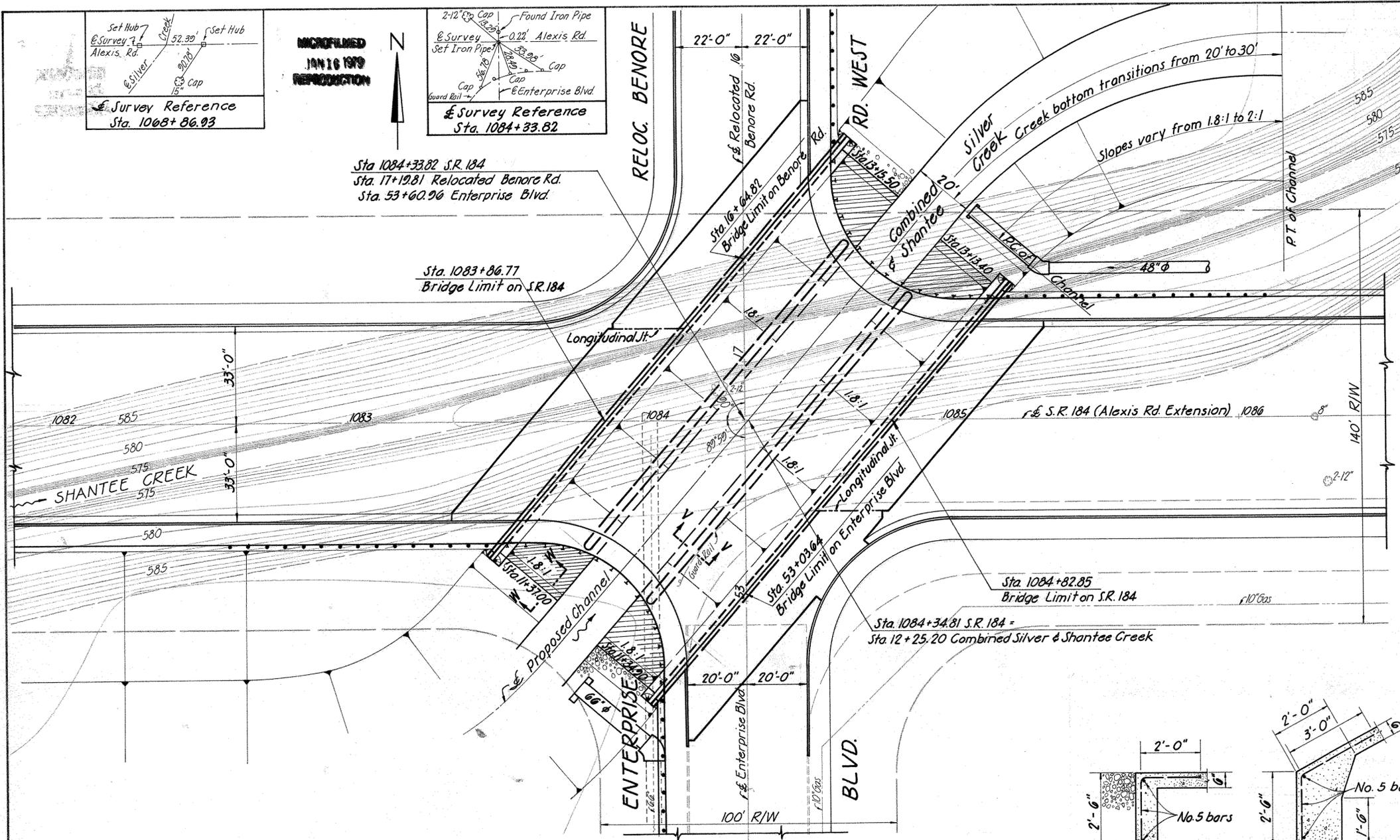


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Sta 1084+33.82 S.R. 184
Sta. 17+19.81 Relocated Benore Rd.
Sta. 53+60.96 Enterprise Blvd.

Sta. 1083+86.77
Bridge Limit on S.R. 184



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

Drainage Area = 15.5 Sq. Miles
Q₂₅ = 1517 cfs

EXISTING STRUCTURE (on Benore Rd.)
TYPE: Concrete beams on concrete substructure
SPAN: 28.5' face to face abutments
ROADWAY: 40'-0" rail to rail
LOADING: Unknown
SKEW: None
WEARING SURFACE: Bituminous material
APPROACH SLABS: None
ALIGNMENT: Tangent
CONDITION: Fair
Existing structure to be removed.*

*Removal of existing structure under Item 202 in Roadway Plans. (See sht. No. 01 and General Summary)

Estimated A.D.T. = 19,100 (1988)

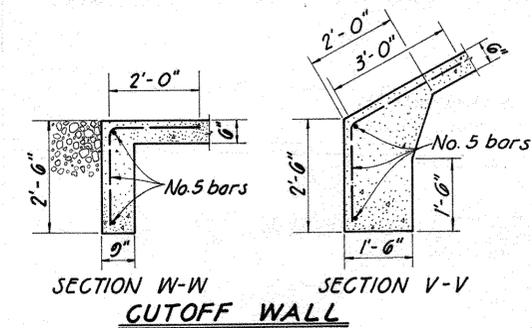
PROPOSED STRUCTURE
TYPE: Continuous reinforced slab with capped pile substructure
SPANS: 22'-0"; 27'-6"; 22'-0" % bearings (28.96'; 36.18'; 28.96' along S.R. 184)
ROADWAY: Varies (118'-5 1/2" along center span; 149'-7 1/2" along rear bridge limit; 149'-7 1/2" along forward bridge limit)
LOADING: HS-20-44
SKEW: 0°00' in respect to stream; 40°33'00" LF in respect to S.R. 184
WEARING SURFACE: 1" Monolithic concrete
APPROACH SLABS: AS-1-67 (25' long along S.R. 184, special design see sht. Nos. 124+125)
ALIGNMENT: S.R. 184 tangent; Lt. facia 50'R curve left; Rt. facia -50'R curve right
SUPERELEVATION: None

Scale: 1" = 20'-0"

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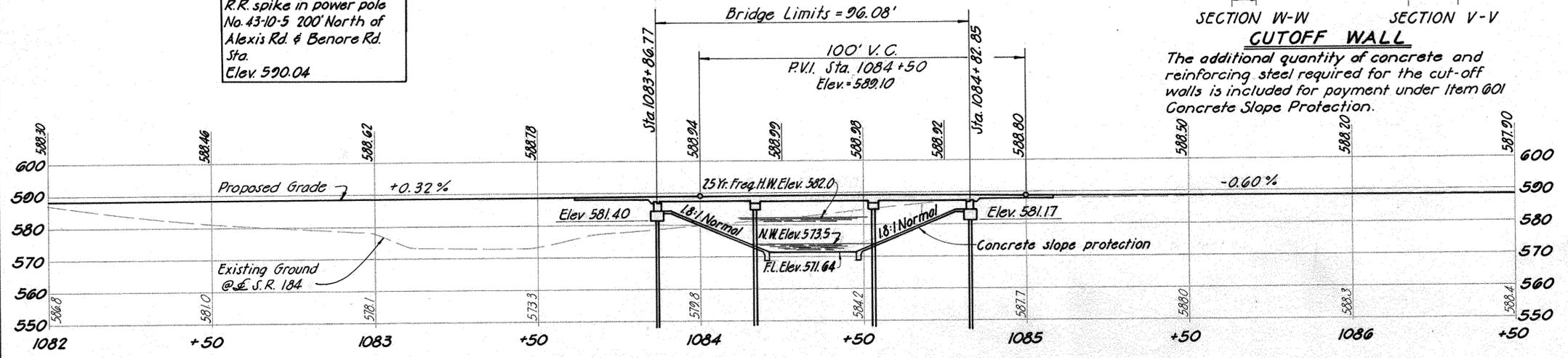
SITE PLAN
Bridge No. LUC-184-0897
S.R. 184 and Relocated Benore Rd. over Combined Shantee and Silver Creeks
Lucas County Sta. 1083+86.77

DESIGNED GRF RWF	TRACED apor	CHECKED J.M.	REVIEWED J.M.	DATE 7-30-70	REVISED
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CUTOFF WALL
The additional quantity of concrete and reinforcing steel required for the cut-off walls is included for payment under Item 601 Concrete Slope Protection.

BENCH MARK NO. 12
R.R. spike in power pole
No. 43-10-5 200' North of Alexis Rd. & Benore Rd.
Sta. Elev. 590.04



PROFILE ALONG & CONSTRUCTION

All piles 14" φ C.I.P. reinforced concrete. Average estimated pay length 45' at all substructures.

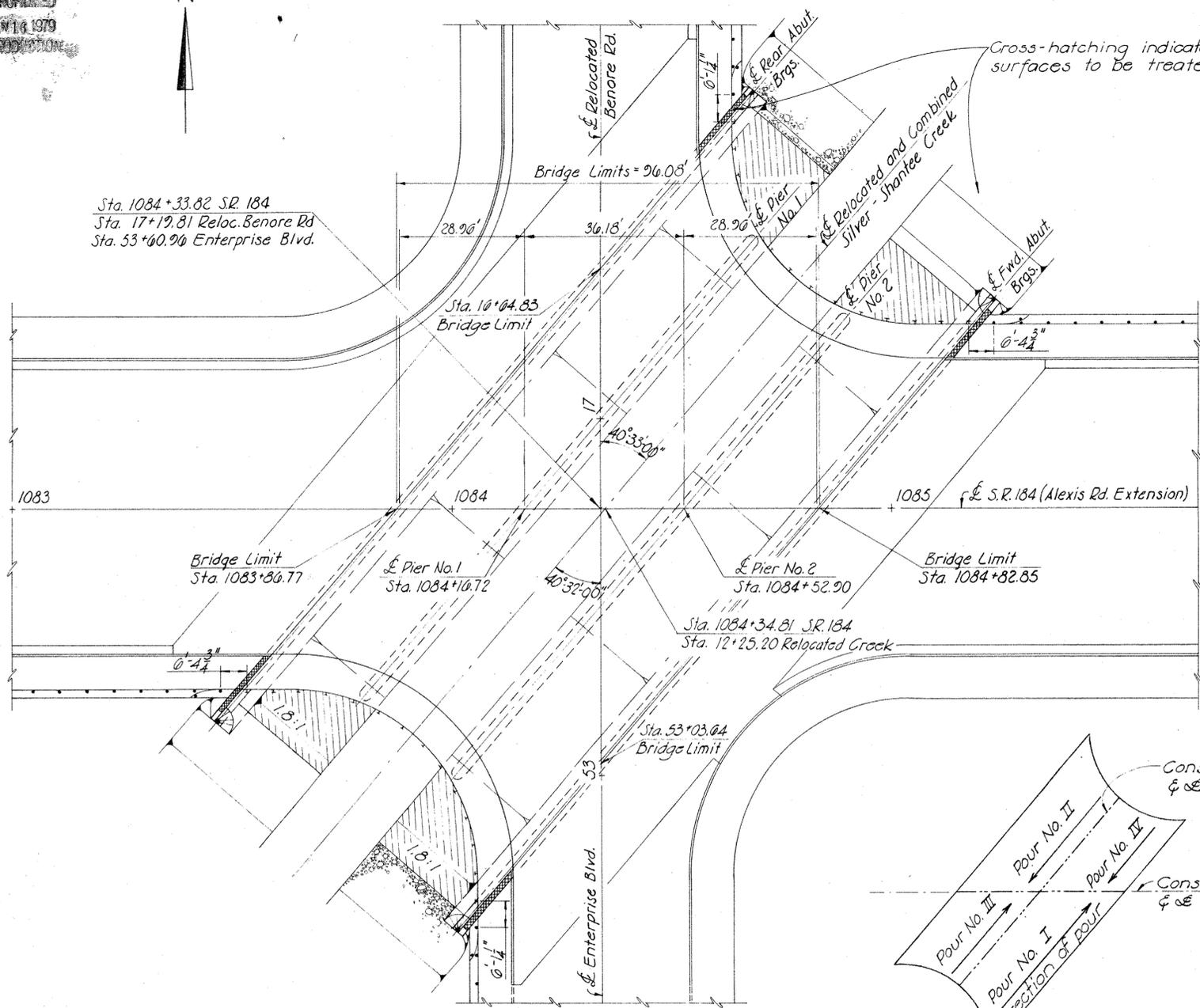
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	OHIO	

LUCAS COUNTY
LUC-184-8.11

222
273



Gross-hatching indicates additional surfaces to be treated per Item 836.

Comp. by: R.W.F.		ESTIMATED QUANTITIES				Chkd. by: J.M.	
Date: 10-15-69						Date: 10-27-69	
ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPERST.	GENERAL
503	372	Cu.Yds.	Unclassified Excavation	372			
505		lump sum	Test pile				lump sum
507	4680	Lin.Ft.	14" dia. Cast-in-place reinforced concrete piles	2010	2070		
509	140,250	Lbs.	Reinforcing Steel	21,073	12,337	106,840	
511	190	Cu.Yds.	Class "C" concrete, abutments	190			
511	48	Cu.Yds.	Class "C" concrete, pier caps		48		
511	520	Cu.Yds.	Class "C" concrete, superstructure			520	
517	100.88	Lin.Ft.	Railing (two deep beam rails with steel posts & bolts)			100.88	
518	57	Cu.Yds.	Porous backfill	57			
518	10	Each	Scuppers (4" dia. cast or wrought iron pipe 1'-0" long)			10	
601	1133	Sq.Yds.	Concrete Slope protection				1133
625			See sheet for lighting summary				
808	520	Units	Chemical admixtures for concrete, Type A, B, or D			520	

GENERAL NOTES

GENERAL NOTES which apply to all the structures under this contract are listed under Typical General Notes on Sheet No. 1111 LUC-184-0830. Additional notes which are for this specific structure are as follows:

CAMBER of 3/8" shall be provided in all spans (in addition to any required for conformance with the profile of the highway) to allow for dead load deflection. This is the amount of camber required before falsework is released. To obtain this, proper allowance shall be made for the deflection of falsework members.

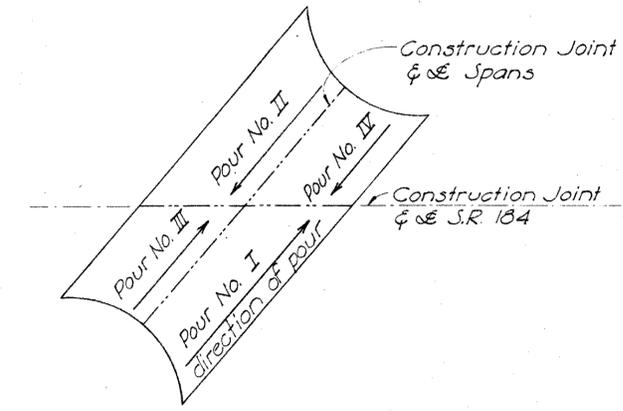
PLACEMENT OF SUPERSTRUCTURE CONCRETE shall follow the sequence indicated in the adjoining diagram. To minimize the effects of initial shrinkage, at least 48 hours shall elapse between the adjacent pours.

EMBANKMENT CONSTRUCTION: At the Rear Abutment the embankment shall be constructed to the level of the subgrade in the area of the existing creek bed. Excavation shall then be made for the abutment and for the bench.

ABUTMENT EXCAVATION QUANTITY: At the Rear Abutment the excavation quantity, in addition to 503.11, includes the removal of embankment above the bench. At the Forward Abutment the quantity, in addition to 503.11, includes the removal of material bounded by the proposed bench, by the front vertical plane described in 503.11 and by the finished slope of the cut.

PILES shall be driven to a minimum bearing capacity of 30 tons per pile for the abutments and piers.

PIER PILE casings shall have a thickness of metal not less than No. 7 gauge and the tapered portion, if any, shall not extend above the surface of the concrete slope protection. Painting of the piles shall extend to at least one foot below the proposed surface of the concrete slope protection.

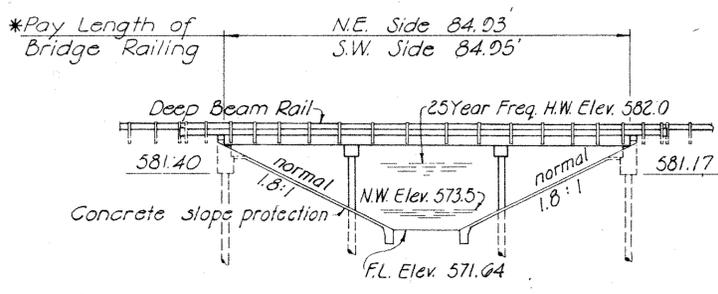


SUPERSTRUCTURE PLACEMENT SEQUENCE

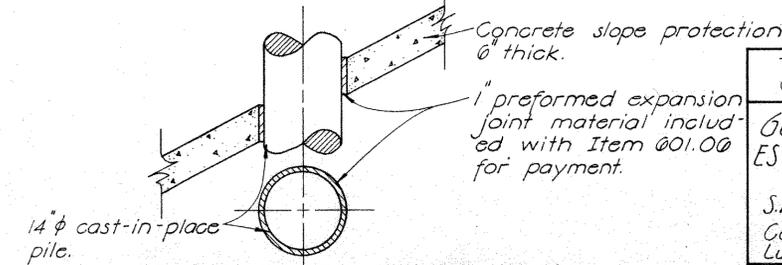
NOTE: The final bridge deck elevations shall conform to the elevations shown in "Relocated Benore Road West and East Intersection Details" (Roadway sheet No. 110). Due to variations of pavement slopes within the bridge deck area, the slab can not be machine finished.

Approach guard rail posts shall be located after the bridge guard rail is in place.

*That portion of the lower guard rail which projects beyond the bridge limits shall be included with the bridge railing for payment.



ELEVATION



CONCRETE SLOPE PROTECTION DETAIL AT PILES

T. C. BIEBESHEIMER ENGINEERING CO.		2	0
CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIO			
GENERAL PLAN & ELEVATION			
ESTIMATED QUANTITIES & GENERAL NOTES			
Bridge No. LUC-184-0897			
S.R. 184 and Relocated Benore Rd. over			
Combined Shantee and Silver Creeks			
Lucas County Sta. 1083+86.77			
DESIGNED	TRACED	CHECKED	REVIEWED
G.R.F.	R.V.N.	J.M.	J.L.B.
R.W.F.			7-30-70

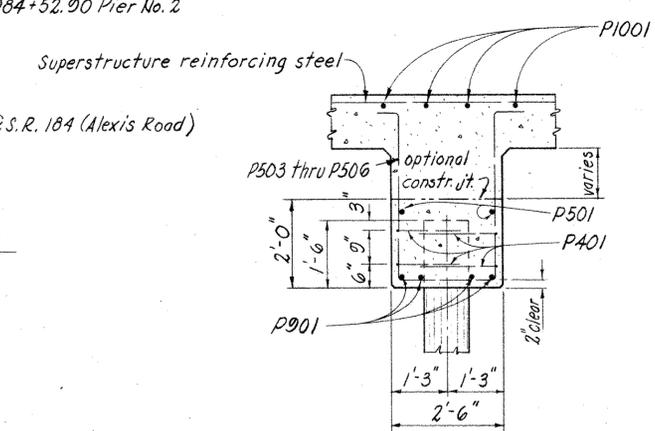
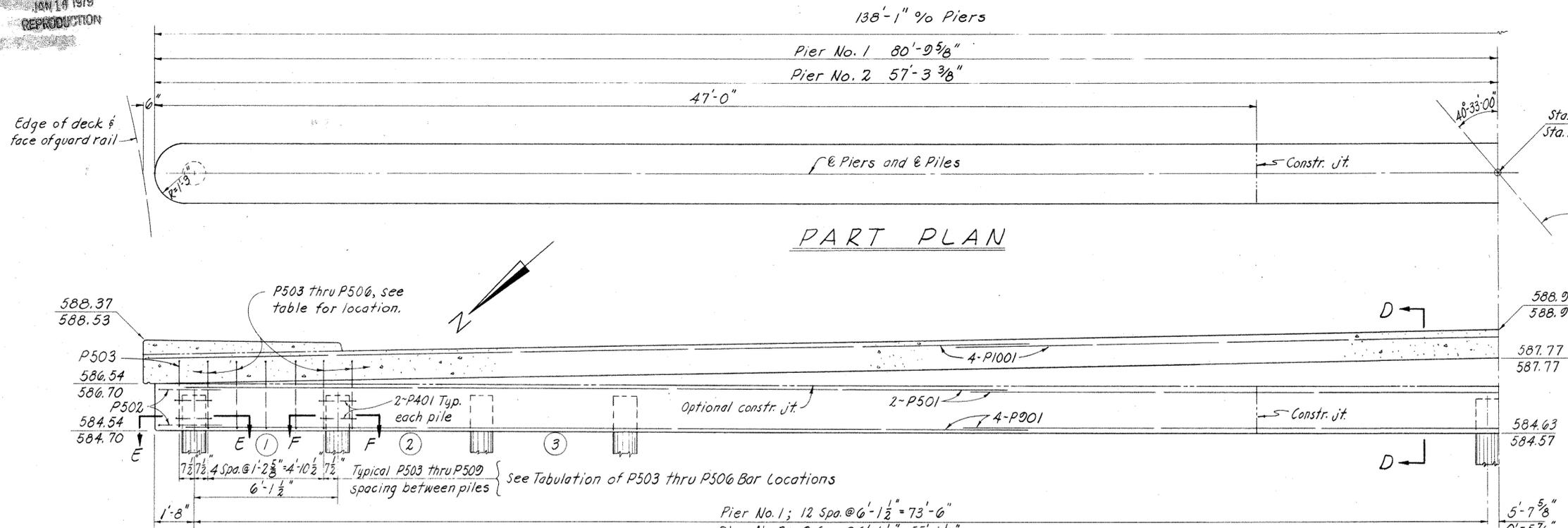
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	OHIO	

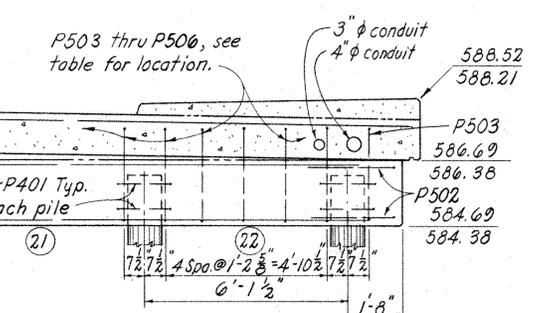
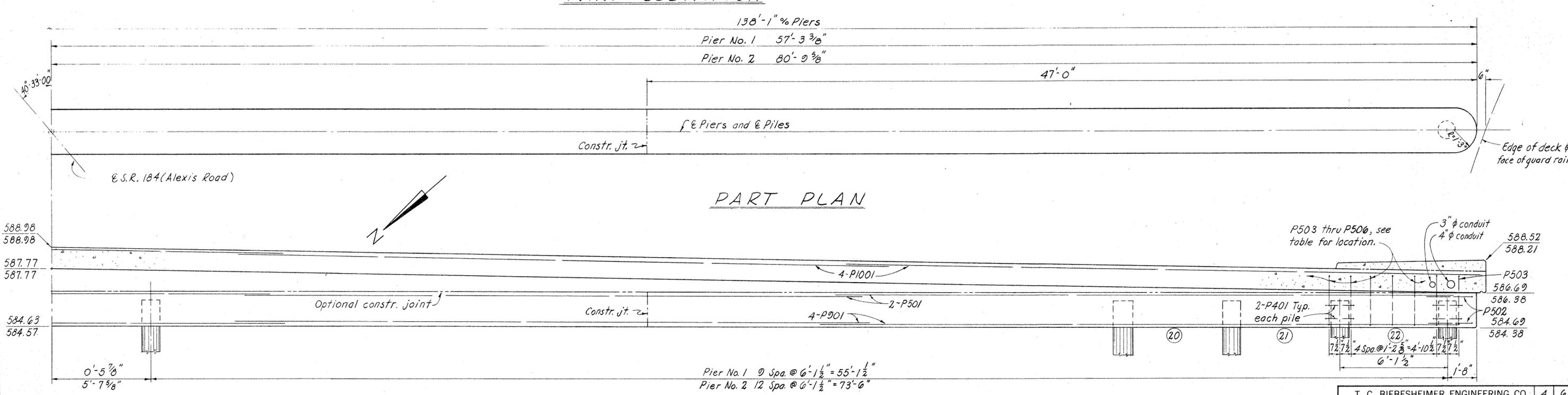
224
275

LUCAS COUNTY
LUC-184-8.11

Note: For slab dimensions and reinforcing, see "Superstructure Details" sht. No. 5/6



Note: All piles 14" ϕ cast in place
Pier No. 1 } All elevations & dimensions
Pier No. 2 }



PART ELEVATION

P503 thru P506 Bar Locations

Pile Spaces	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒
Pier No. 1	P503	P503	P503	P503	P504	P504	P505	P505	P505	P506	P506	P506	P506	P506	P505	P505	P505	P505	P504	P504	P503	P503
Pier No. 2	P503	P503	P504	P504	P505	P505	P505	P506	P506	P506	P506	P505	P505	P505	P505	P504	P504	P504	P504	P503	P503	P503

T. C. BIEBESHEIMER ENGINEERING CO. 4 6
CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIO

PIER DETAILS
Bridge No. LUC-184-0897
S.R. 184 and Relocated Benore Rd. over
Combined Shantee and Silver Creeks
Lucas County Sta. 1083+86.77

DESIGNED G.R.F. R.W.F.	TRACED R.W.F.	CHECKED J.M.	REVIEWED J.M.	DATE 7-30-70	REVISION
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rev 5-19-71

SECTION E-E

SECTION F-F

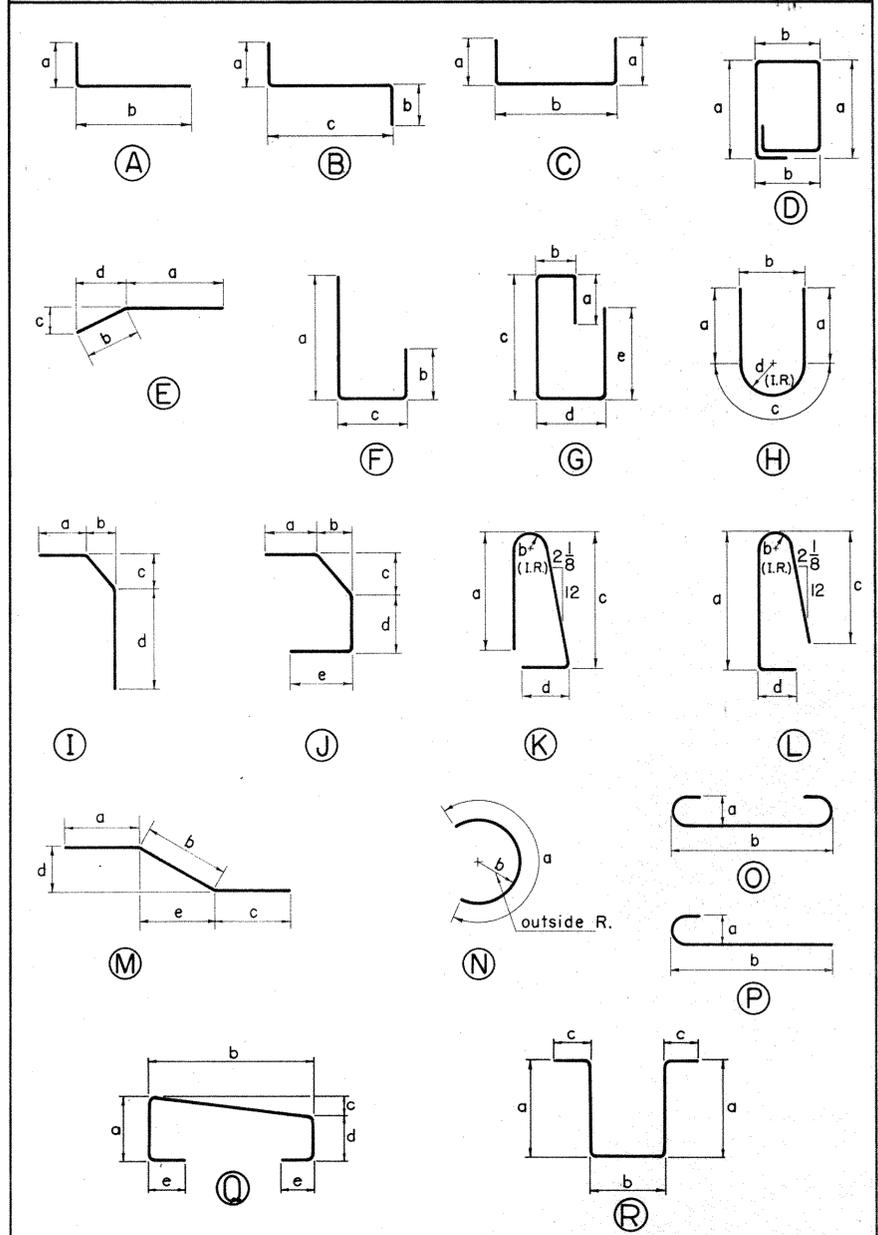
REINFORCING STEEL LIST

ABUTMENTS									
MARK	NO.	LENGTH	TYPE	a	b	c	d	e	WEIGHT
A401	232	5'-3"	C	2'-0"	1'-5"				813
A501	48	32'-9"	J						1040
A502	570	6'-8"	C	2'-2"	2'-7"				4005
A503	24	30'-3"	S						757
A504	10	10'-5"	S						174
A505	4	4'-11"	C	1'-7"	2'-0"				21
A506	4	8'-2"	I	1'-7"	1'-11"	0'-7"	4'-9"		34
A507	4	9'-5"	I	1'-7"	2'-11"	1'-1"	4'-10"		39
A508	24	9'-5"	C	3'-9"	2'-2"				230
A509	204	8'-11"	I	3'-9"	1'-8"				1897
A510	24	12'-4"	I	5'-10"	0'-11"				309
A511	28	7'-2"	C	3'-3"	0'-11"				209
A512	2	17'-3"	S						30
A513	2	15'-11"	I						33
A514	2	14'-7"	I						30
A515	2	13'-7"	S						28
A801	48	33'-0"	J						4293
A1001	48	31'-7"	J						4519
TOTAL ABUTMENTS									21,073

PIERS									
MARK	NO.	LENGTH	TYPE	a	b	c	d	e	WEIGHT
P401	184	4'-8"	C	1'-9"	1'-5"				373
P501	10	33'-1"	J						385
P502	8	6'-5"	H	1'-7"	2'-0"	3'-3"	0'-11"		54
P503	59	8'-2"	R	2'-8"	2'-1"	std.			503
P504	50	8'-10"	I	3'-0"					401
P505	75	9'-0"	I	3'-4"					743
P506	40	10'-2"	R	3'-8"	2'-1"	std.			424
P901	32	30'-0"	J						3914
P1001	32	30'-11"	J						5080
TOTAL PIERS									12,337

SUPERSTRUCTURE									
MARK	NO.	LENGTH	TYPE	a	b	c	d	e	WEIGHT
J501	248	14'-0"	J						3751
J502	110	12'-0"	I						1312
J503	228	30'-0"	I						7134
J504	52	20'-0"	I						1112
J505	10	10'-0"	I						107
J506	12	24'-4"	I						305
J507	12	10'-0"	I						207
J508	2	12'-0"	I						25
J509	series of 29	20'-11"	J	vary by 0'-8" increments					1401
J510	170	2'-11"	C	1'-0"	1'-2"				535
J511	170	7'-7"	J						1392
J512	170	3'-2"	C	1'-0"	1'-5"				501
J513	2	24'-4"	J						51
J514	2	25'-2"	I						52
J515	2	20'-3"	I						55
J516	2	27'-2"	I						57
J517	2	27'-10"	J						58
J518	series of 8	10'-1"	Q	1'-5"	0'-9"	0'-3"	1'-2"	std.	118
J519	series of 0	10'-0"	Q	1'-5"	0'-8"	0'-3"	1'-2"	std.	89
J520	2	13'-4"	Q	1'-5"	10'-0"	0'-3"	1'-2"	std.	28
J521	2	14'-10"	G	1'-5"	11'-0"	0'-3"	1'-2"	std.	31
J801	248	30'-0"	J						11174
J802	02	21'-10"	I						2033
J803	series of 37	18'-0"	I	vary by 0'-5" increments					2334
J804	10	21'-11"	J						527
J801	437	23'-11"	J						30240
J802	134	19'-0"	P	std.	18'-5"				8977
J803	140	17'-0"	P	std.	16'-5"				8542
J804	07	17'-11"	J						3205
J805	73	13'-0"	J						2080
J806	4	12'-7"	P	std.	11'-0"				134
J807	4	12'-0"	J						128
J808	10	11'-0"	I						470
J901	248	18'-0"	I						15799
J902	114	9'-9"	I						3777
J903	110	5'-0"	J						2108
TOTAL SUPERSTRUCTURE									100,849
SPIRAL BARS									
MARK	NO.	CORE DIA.	% SPIRAL	LENGTH	PITCH	NOTURNS	WEIGHT		
TOTAL (included with piers)									

BENDING DIAGRAMS



S = indicates straight bar. std. = indicates a standard bend.
All dimensions are out to out unless otherwise indicated.

REPLACEMENT BARS					
MARK	NO.	LENGTH	TYPE	a	b
RE1100		8'-6"	S		
RE1000	2	8'-2"	S		
RE900	1	7'-10"	S		
RE800	3	7'-6"	S		
RE700		7'-2"	S		
RE600	1	6'-11"	S		
RE500	2	6'-7"	S		
RE400	1	5'-3"	C	2'-0"	1'-5"

TOTAL WEIGHT OF ALL BARS:
140,259

T. C. BIEBESHEIMER ENGINEERING CO. **6/0**
CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIO

REINFORCING STEEL LIST

Bridge No. LUG-184-0897
S.R. 184 and Relocated Benore Rd. over
Combined Shantee and Silver Creeks
Lucas County Sta. 1083+86.79

DESIGNED R.W.F.	TRACED R.V.N.	CHECKED J.M.	REVIEWED J.M.	DATE 7-30-70	REVISED
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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 bar.