1953

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF WATER

DELAWARE-FRANKLIN COUNTY LINE ROAD AND BRIDGE

DELAWARE CO. ROAD NO. 3
GENOA TWP.

FRANKLIN CO. ROAD NO. 20 SEC. B (PT.)
BLENDON TWP.

CONTRACT Nº 173

LINE DATA

BEGIN PROJECT	STA. 133+30
END PROJECT	STA. 166+77
NET LENGTH OF PROJECT	3347.0 LIN FEET OR 0.634 MILES

CONVENTIONAL SIGNS

COUNTY LINE
CENTER LINE
TREES TO BE REMOVED
POLE LINES — TELEPHONE POLE, POWER POLE
GUARD RAIL (EXISTING)
GUARD RAIL (PROPOSED)

INDEX OF SHEETS

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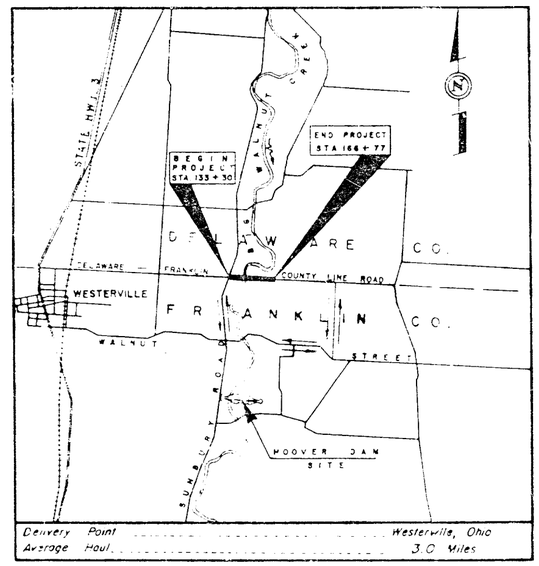
SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

I-15 NO. 1	2-2-53
I-15 NO. 2	2-2-53
G-7.07	1-2-53

APPROVED Paul E. Lauer
DATE 7-12-53 SUPERINTENDENT, DIVISION OF WATER, CITY OF COLUMBUS, OHIO
APPROVED: Fred Morrill
DATE: 7/12/53 DIRECTOR, DEPARTMENT OF PUBLIC SERVICE, CITY OF COLUMBUS, OHIO



Delivery Point ..... Westerville, Ohio
Average Haul ..... 3.0 Miles

LOCATION MAP

0 1/2 1 2 3 4 5
SCALE IN MILES

Portion to be Improved
State Highways
Other Roads
Detours shown thus

SCALES

Plan	1" = 50 Ft
Profile — Horizontal	1" = 50 Ft
Profile — Vertical	1" = 10 Ft
Cross Sections	1" = 10 Ft

APPROVED BY BOARD OF COUNTY COMMISSIONERS
FRANKLIN COUNTY, DATE July 2, 1953
Leong T. Wilson
C. P. Lautenbach
Henry A. Rowe

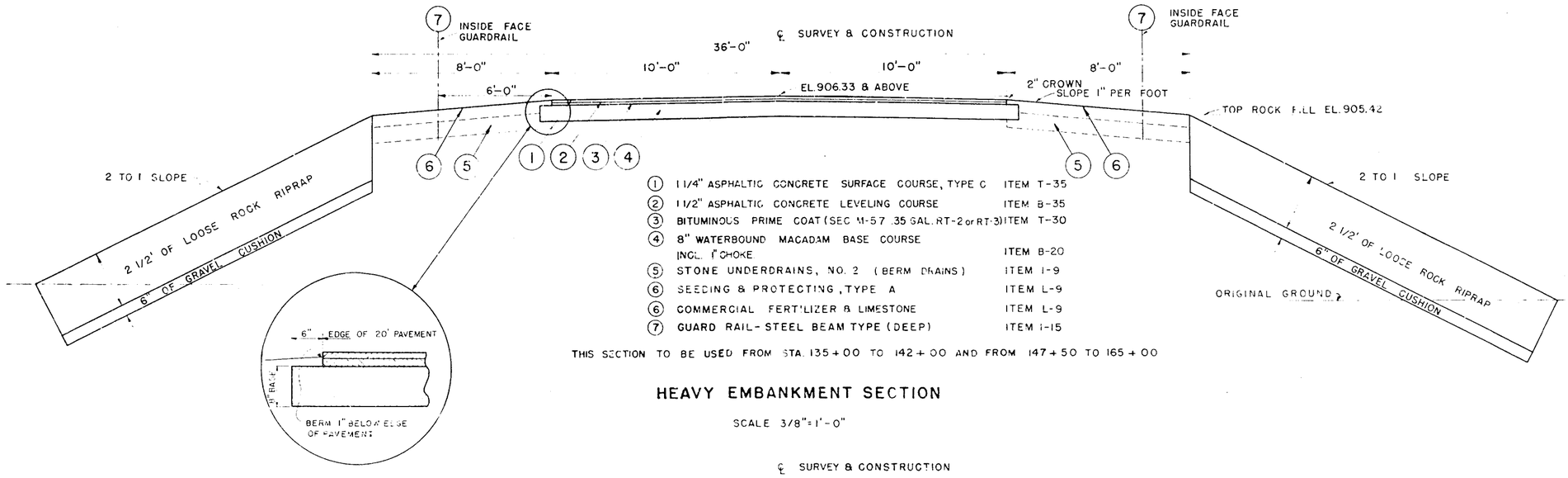
The Standard Construction and Material Specifications of the Department of Highways, State of Ohio dated January 1, 1953 are made a part of the Specifications of the City of Columbus, Ohio prepared by Burgess and Niple, Consulting Engineers, which will govern this improvement.

APPROVED E. Bischoff
Date 6-29-53 Franklin County Deputy Engineer
APPROVED Guy E. Olson
Date 6-29-53 Franklin County Engineer

BURGESS & NIPLE
CONSULTING ENGINEERS
COLUMBUS, OHIO
BY Ben K. Bure

TYPICAL SECTIONS

TYPE T-35

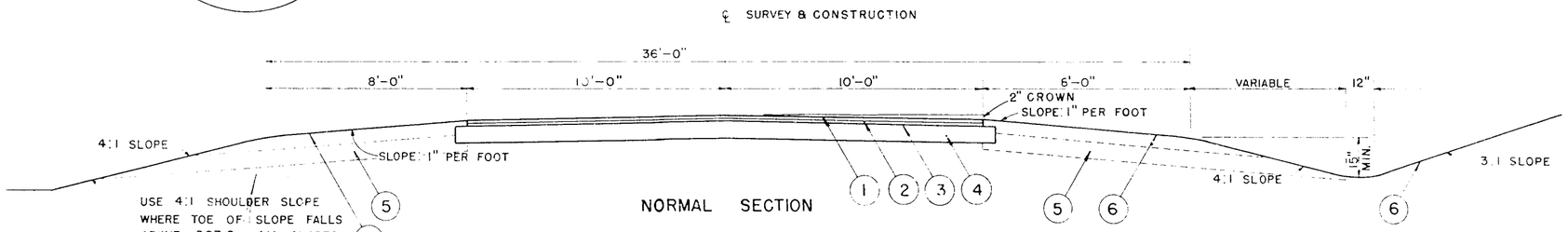


1	1 1/4" ASPHALTIC CONCRETE SURFACE COURSE, TYPE C	ITEM T-35
2	1 1/2" ASPHALTIC CONCRETE LEVELING COURSE	ITEM B-35
3	BITUMINOUS PRIME COAT (SEC M-57 .35 GAL. RT-2 or RT-3)	ITEM T-30
4	8" WATERBOUND MACADAM BASE COURSE INCL. 1" CHOKE	ITEM B-20
5	STONE UNDERDRAINS, NO. 2 (BERM DRAINS)	ITEM I-9
6	SEEDING & PROTECTING, TYPE A	ITEM L-9
6	COMMERCIAL FERT'LIZER & LIMESTONE	ITEM L-9
7	GUARD RAIL - STEEL BEAM TYPE (DEEP)	ITEM I-15

THIS SECTION TO BE USED FROM STA. 135+00 TO 142+00 AND FROM 147+50 TO 165+00

HEAVY EMBANKMENT SECTION

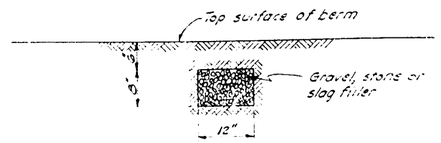
SCALE 3/8" = 1'-0"



NORMAL SECTION

SCALE 3/8" = 1'-0"

THIS SECTION TO BE USED FROM STA 133+30 TO 135+00 AND FROM 165+00 TO 166+77

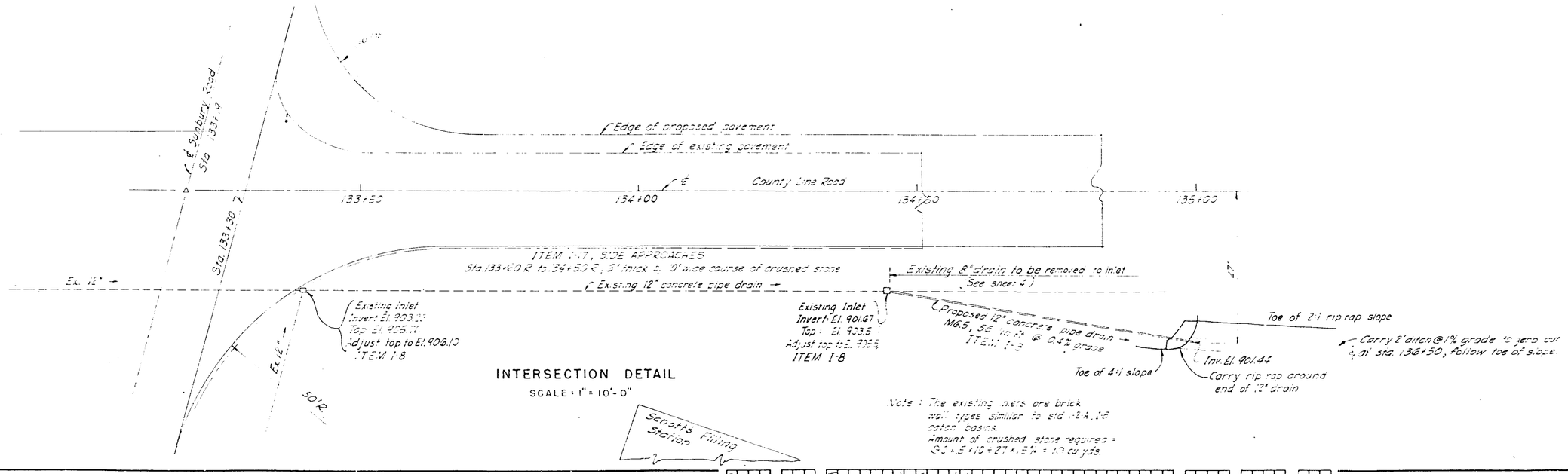


SECTION OF STONE UNDERDRAIN NO. 2

Underdrains to be placed at locations shown on the plans or as directed by the Engineer. Generally, drains shall run from base course to face of slope or to near face of riprap on a grade consistent with berm surface.

HOOVER DAM DATA

TOP SPILLWAY — EL. 890.00
CLEARING LINE — EL. 895.00
TAKE LINE — EL. 900.00



INTERSECTION DETAIL

SCALE 1" = 10'-0"

Note: The existing inlets are brick wall types similar to std. I-2A, I-8 catch basins.
Amount of crushed stone required = 60 x .5 x 10 = 27 x .5% = 13.5 cu. yds.

FINAL SUMMARY

ROADWAY				BRIDGE			
ITEM Nº	DESCRIPTION	QUAN.	UNIT	ITEM Nº	DESCRIPTION	QUAN.	UNIT
E-1	Roadway excavation	3519	Cu. yds.	E-2	Cofferdams, cribs & sheeting	Lump	Sum
E-4	Borrow	2986.71	" "	E-2	Unclassified excavation	1376	Cu. yds.
E-9	Removal of trees & stumps	53	Each	E-2	Rock excavation	254	" "
E-11	Water	2156	M Gal.	S-1	Class "C" Concrete - Superstructure	445	" "
E-12	Pipe removed	2013	Lin. Ft.	S-1	Class "C" Concrete - Abutments	102	" "
B-20	Water bound macadam base	5812	Sq. yds.	S-1	Class "C" Concrete - Pier beams & columns	586	" "
B-35	Asphaltic concrete leveling course (85-100)	313	Cu. yds.	S-1	Class "E" Concrete - Pier footings	448	" "
T-30	Bituminous Prime Coat (RT-2 or RT-3)	2000	Gallons	S-3	Type "C" Waterproofing	1610	Sq. yds.
T-35	Asphaltic concrete surface course Type "C" (85-100)	281	Cu. yds.	S-4	Reinforcing Steel	284,194	Lbs.
I-9	Stone underdrains Nº 2	502	Lin. Ft.	S-7	Structural Steel	413,852	"
I-15	Guard rail, steel beam type (deck)	4812.5	" "	S-8	Field painting of structural steel (two coats)	413,852	"
L-9	Seeding & protecting, Type "A"	5161	Sq. yds.	S-14	Railing (concrete & steel pipe)	1082	Lin. ft.
L-9	Commercial Fertilizer	0.465	Tons	S-16	First test pile	Lump	Sum
L-9	Agricultural Ground Limestone	2323	"	S-18	Steel Piling 12BP53	2,431	Lin. ft.
Special	Loose rock riprap as per plan	38,562	Sq. yds.	S-24	Removal of existing structure	Lump	Sum
Special	6" Gravel Cushion as per plan	37,861	" "				
I-15	Guard rail, removed and disposed of	2132	Lin. ft.	S-3	Type "B" waterproofing	23	Sq. yds.
				Extra	2½" Dowel Holes in Rock	200	Lin. ft.
I-7	Reinforced concrete approach slab	77	Sq. yds.	Extra	Oiling Detour Route	Lump	Sum
I-3	12" Plain cement concrete pipe Sec. M6.5 for Rd'w dr.	90	Lin. ft.	Extra	Temporary Pavement	Lump	Sum
I-8	Inlets adjusted to grade	2	each	Extra	Guard Rail Removed and Replaced	4,763	Lin. ft.
I-17	Side Approaches, Mail Box Turnouts and Berm Material	34	Cu. yds.				

GENERAL NOTES

PUBLIC SAFETY: THE CONTRACTOR SHALL MAINTAIN LIGHTS, SIGNS AND BARRICADES FOR THE PROTECTION OF THE WORK AND THE SAFETY AND CONVENIENCE OF THE TRAVELING PUBLIC AS MORE FULLY DESCRIBED IN SEC. 6807 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

TRAFFIC: TRAFFIC SHALL NECESSARILY BE SUSPENDED ALONG THE PROJECT DURING CONSTRUCTION. AN EAST-WEST DETOUR ROUTE ACROSS THE WALNUT STREET BRIDGE OVER BIG WALNUT CREEK WILL BE MARKED AND MAINTAINED BY FRANKLIN COUNTY DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL NOT INTERRUPT TRAFFIC ALONG SUNBURY ROAD.

FIELD OFFICE: THE CONTRACTOR SHALL HAVE A SUITABLE "FIELD OFFICE" FOR THE EXCLUSIVE USE OF THE ENGINEERS AND INSPECTORS ASSIGNED TO THIS PROJECT. THIS OFFICE SHALL HAVE A MINIMUM OF 200 SQ. FT. OF FLOOR SPACE AND SO ARRANGED, EQUIPPED AND LIGHTED THAT THE ENGINEERS' EMPLOYEES WILL HAVE A CONVENIENT PLACE FOR MAKING THE NECESSARY REPORTS, RECORDS, ETC. AND HAVE A SAFE PLACE FOR THE STORAGE OF INSTRUMENTS, EQUIPMENT, PLANS, AND SUPPLIES. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED DURING THE CONSTRUCTION PERIOD. WHEN THE WORK IS IN PROGRESS DURING COLD WEATHER, THE OFFICE SHALL BE HEATED TO A TEMPERATURE OF AT LEAST 70° FAHRENHEIT, SEE SEC. 5-0.01(b) OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

UTILITIES: AT LEAST 48 HOURS BEFORE BREAKING GROUND THE CONTRACTOR SHALL NOTIFY ALL PUBLIC SERVICE CORPORATIONS HAVING WIRES, POLES, PIPES, CONDUITS OR OTHER STRUCTURES THAT MAY BE AFFECTED BY HIS OPERATIONS. THE SERVICE CORPORATION WILL DO THE NECESSARY UTILITY MOVEMENT INCIDENTAL TO THIS IMPROVEMENT.

TREE REMOVAL AND CLEARING: THE CONTRACTOR SHALL CLEAR A STRIP 150 FOOT WIDE ON EACH SIDE OF THE CENTERLINE OF THE ROADWAY BELOW EL. 900.0. ALL FENCE, BRUSH, TREES, EXISTING GUARDRAIL, EXISTING DRAIN PIPE, DRAINAGE STRUCTURES OF ANY TYPE SHALL BE REMOVED FROM THE RESERVOIR AREA AND SATISFACTORILY DISPOSED OF. TREES AND BRUSH ABOVE EL 900.0 SHALL BE REMOVED ONLY WHEN SPECIFICALLY DESIGNATED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE MADE UNDER BID ITEMS E-1, E-9, E-12, & I-15

DRIVES: THE LOCATION OF NEW DRIVES, AS SHOWN, MAY BE MOVED AT THE DIRECTION OF THE ENGINEER, PROVIDED NO CHANGES OF QUANTITIES ARE INVOLVED.

LOCATION AND SIZE OF EXISTING PIPE: THE LOCATION OF EXISTING PIPE AND UTILITY APPURTENANCES REPRESENT THE BEST INFORMATION OBTAINABLE AT TIME OF SURVEY, BUT THE CITY OF COLUMBUS DOES NOT GUARANTEE THE CORRECTNESS THEREOF.

SALVAGED MATERIALS: SALVAGED MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BECOME THE PROPERTY OF FRANKLIN OR DELAWARE COUNTY. EXISTING GUARD RAIL AND DRAIN PIPE ARE NOT TO BE SALVAGED AND MUST BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

DESIGN SPEED: DESIGN SPEED IS 50 MILES PER HOUR.

SEEDING AND PROTECTING TYPE "A": THE ESTIMATED QUANTITIES OF SEEDING ARE APPROXIMATE AND THE ACTUAL LIMITS WILL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION. THE LIMITS OF SEEDING WILL BE TO TOP OF RIP RAP WHERE SLOPES ARE RIP RAPPED OR OUTSIDE EDGE OF CUT OR FILL ON EARTH FACED SLOPES. APPLICATION OF SEED, OF THE STANDARD MIX, SHALL BE AT THE RATE OF 4 POUNDS PER 1000 SQUARE FEET OF AREA. ALL AREAS ABOVE EL. 900.0 AND OUTSIDE THE LIMIT OF SEEDING THAT HAVE BEEN DISTURBED BY THE CONTRACTOR SHALL BE RESEEDED AND RESTORED TO ITS ORIGINAL CONDITION BY THE CONTRACTOR AT HIS OWN EXPENSE.

COMMERCIAL FERTILIZER: COMMERCIAL FERTILIZER SHALL BE 4-12-4. IT SHALL BE APPLIED ON THE SURFACE TO BE SEEDED AT A RATE OF 20 POUNDS PER 1,000 SQUARE FEET OF AREA.

AGRICULTURAL GROUND LIMESTONE: AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED ON THE SURFACE TO BE SEEDED AT A RATE OF 100 POUNDS PER 1,000 SQUARE FEET OF AREA.

REPLACEMENT: THE CONTRACTOR WILL BE REQUIRED TO REPLACE AT HIS OWN EXPENSE ANY EXISTING PAVEMENT, DRIVES, DRAIN PIPE, FENCE, ETC. NOT LISTED FOR REMOVAL OR REPLACEMENT, THAT HE MAY DAMAGE DURING CONSTRUCTION.

EMBANKMENT: WHERE EMBANKMENT MATERIAL IS PLACED ON THE EXISTING PAVEMENT, THE PAVEMENT SHALL BE SCARIFIED AS DIRECTED BY THE ENGINEER TO PROVIDE AMPLE BOND BETWEEN THE OLD AND NEW MATERIAL. COST OF SCARIFYING SHALL BE INCLUDED IN THE PRICE BID FOR ITEM E-1 EXCAVATION.

RIPRAP: THE RIPRAP SLOPE PROTECTION SHALL BE TOED IN AT THE BOTTOM OF SLOPES AS SHOWN ON THE TYPICAL SECTIONS. RIPRAP SHALL CONSIST OF A THIRTY INCH THICK COURSE OF STONE, MEASURED PERPENDICULAR TO THE FACE OF SLOPE. FINISHED RIPRAP SURFACE SHALL BE PLACED WITHIN A TOLERANCE OF 6 INCHES ABOVE OR BELOW GRADE. SEE SPECIFICATIONS FOR SIZE AND QUALITY OF STONE.

6" GRAVEL CUSHION: THE GRAVEL CUSHION UPON WHICH THE RIPRAP IS PLACED MAY BE EITHER CRUSHED LIMESTONE AND SCREENINGS OR SAND AND GRAVEL. IT SHALL BE PLACED UPON THE SHAPED SUBGRADE IN UNIFORM LAYERS WITHOUT SEGREGATION OF SIZE. IT SHALL BE SHAPED TO FIT THE SUBGRADE AND STRUCK OFF AT PROPER GRADE TO RECEIVE THE RIPRAP. SEE SPECIFICATIONS FOR SIZE AND QUALITY OF STONE.

BORROW AREAS: ALL BORROW AREAS WILL BE BELOW SPILLWAY ELEVATION 890, NO BORROW ABOVE EL 890 WILL BE MADE UNLESS DIRECTED BY THE ENGINEER.

GUARD RAIL: GUARD RAIL POSTS SHALL BE 6" X 8" BUTT TREATED WOOD POSTS, WITH END ANCHORAGE AS SHOWN ON THE PLANS, EXCEPT AT THE BRIDGE, WHERE THE END POSTS SHALL BE BRACED.

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
PLAN AND PROFILE

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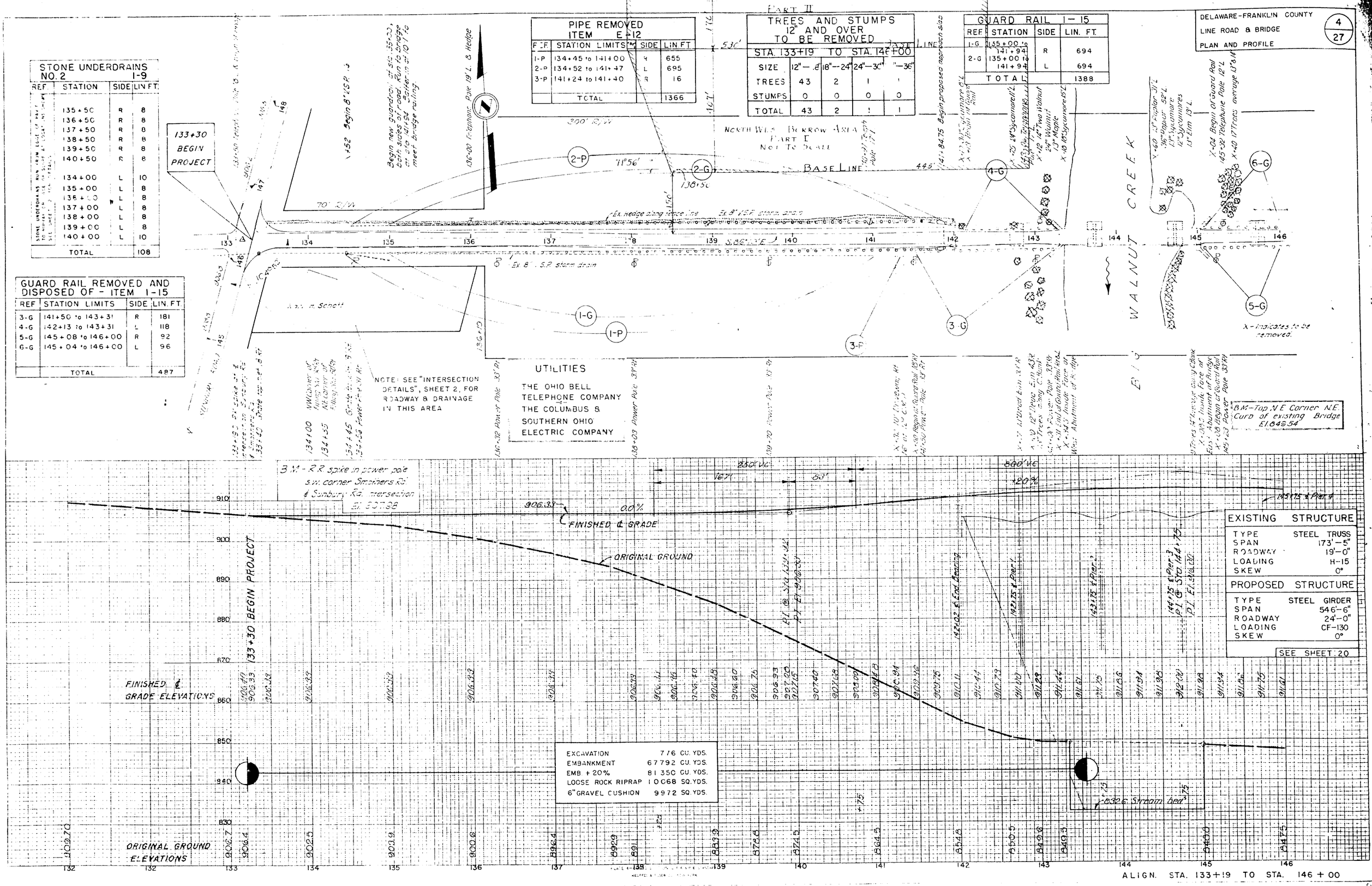
STONE UNDERDRAINS NO. 2 1-9			
REF.	STATION	SIDE	LIN FT.
	135+50	R	8
	136+50	R	8
	137+50	R	8
	138+50	R	8
	139+50	R	8
	140+50	R	8
	134+00	L	10
	135+00	L	8
	136+00	L	8
	137+00	L	8
	138+00	L	8
	139+00	L	8
	140+00	L	10
TOTAL			108

GUARD RAIL REMOVED AND DISPOSED OF - ITEM 1-15			
REF	STATION LIMITS	SIDE	LIN. FT.
3-G	141+50 to 143+31	R	181
4-G	142+13 to 143+31	L	118
5-G	145+08 to 146+00	R	92
6-G	145+04 to 146+00	L	96
TOTAL			487

PIPE REMOVED ITEM E-12			
REF.	STATION LIMITS	SIDE	LIN. FT.
1-P	134+45 to 141+00	R	655
2-P	134+52 to 141+47	L	695
3-P	141+24 to 141+40	R	16
TOTAL			1366

TREES AND STUMPS 12" AND OVER TO BE REMOVED				
STA. 133+19 TO STA. 146+00				
SIZE	12"-18"	18"-24"	24"-36"	"-36"
TREES	43	2	1	1
STUMPS	0	0	0	0
TOTAL	43	2	1	1

GUARD RAIL 1-15			
REF.	STATION	SIDE	LIN. FT.
1-G	135+00 to 141+94	R	694
2-G	135+00 to 141+94	L	694
TOTAL			1388



EXISTING STRUCTURE	
TYPE	STEEL TRUSS
SPAN	173'-5"
ROADWAY	19'-0"
LOADING	H-15
SKEW	0°

PROPOSED STRUCTURE	
TYPE	STEEL GIRDER
SPAN	546'-6"
ROADWAY	24'-0"
LOADING	CF-130
SKEW	0°

SEE SHEET 20

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
PLAN AND PROFILE

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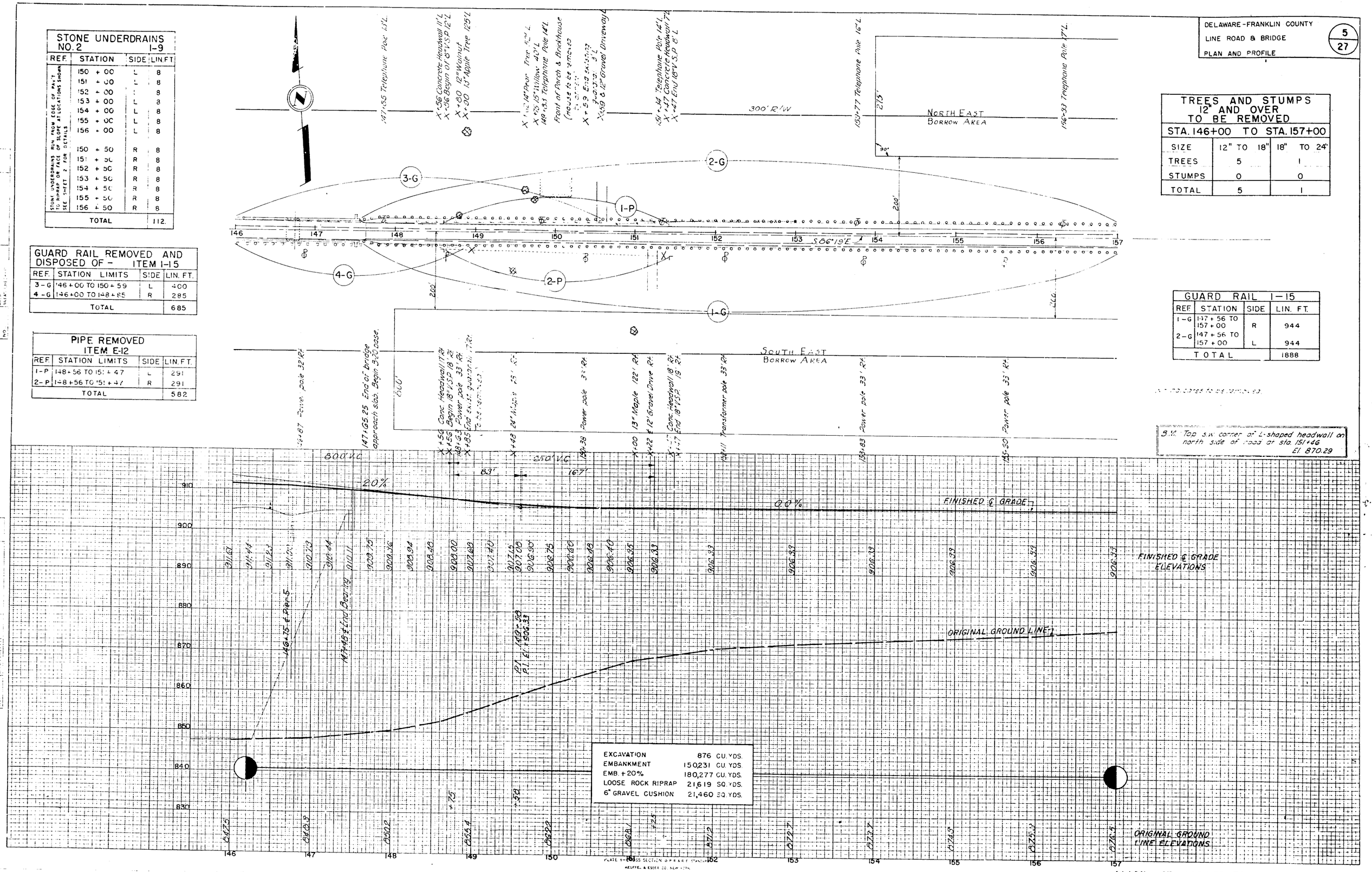
STONE UNDERDRAINS NO. 2 1-9			
REF.	STATION	SIDE	LIN.FT
STONE UNDERDRAINS RUN FROM EDGE OF PAVT TO RIPRAP OR FACE OF SLOPE AT LOCATIONS SHOWN SEE SHEET 2 FOR DETAILS	150 + 00	L	8
	151 + 00	L	8
	152 + 00	L	8
	153 + 00	L	8
	154 + 00	L	8
	155 + 00	L	8
	156 + 00	L	8
	150 + 50	R	8
	151 + 50	R	8
	152 + 50	R	8
	153 + 50	R	8
	154 + 50	R	8
	155 + 50	R	8
	156 + 50	R	8
TOTAL			112.

GUARD RAIL REMOVED AND DISPOSED OF - ITEM 1-15			
REF.	STATION LIMITS	SIDE	LIN. FT.
3-G	146+00 TO 150+59	L	400
4-G	146+00 TO 148+85	R	285
TOTAL			685

PIPE REMOVED ITEM E-12			
REF.	STATION LIMITS	SIDE	LIN.FT.
1-P	148+56 TO 151+47	L	291
2-P	148+56 TO 151+47	R	291
TOTAL			582

TREES AND STUMPS 12" AND OVER TO BE REMOVED		
STA. 146+00 TO STA. 157+00		
SIZE	12" TO 18"	18" TO 24"
TREES	5	1
STUMPS	0	0
TOTAL	5	1

GUARD RAIL 1-15			
REF.	STATION	SIDE	LIN. FT.
1-G	147+56 TO 157+00	R	944
2-G	147+56 TO 157+00	L	944
TOTAL			1888



B.M. Top s.w. corner of L-shaped headwall on north side of road at sta. 151+46 El. 870.29

EXCAVATION	876 CU. YDS.
EMBANKMENT	150,231 CU. YDS.
EMB. +20%	180,277 CU. YDS.
LOOSE ROCK RIPRAP	21,619 SQ. YDS.
6" GRAVEL CUSHION	21,460 SQ. YDS.

ALIGN. STA. 146+00 TO STA. 157+00

PLATE 1-1 CROSS SECTION O.P.R.R.R.T. STANDARD
KEUFFEL & ESSER CO. NEW YORK
M & E Co. No. 348-4C

3656 6/6 1+46+00 To 157+00 4/1 1953 00 00

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
PLAN AND PROFILE

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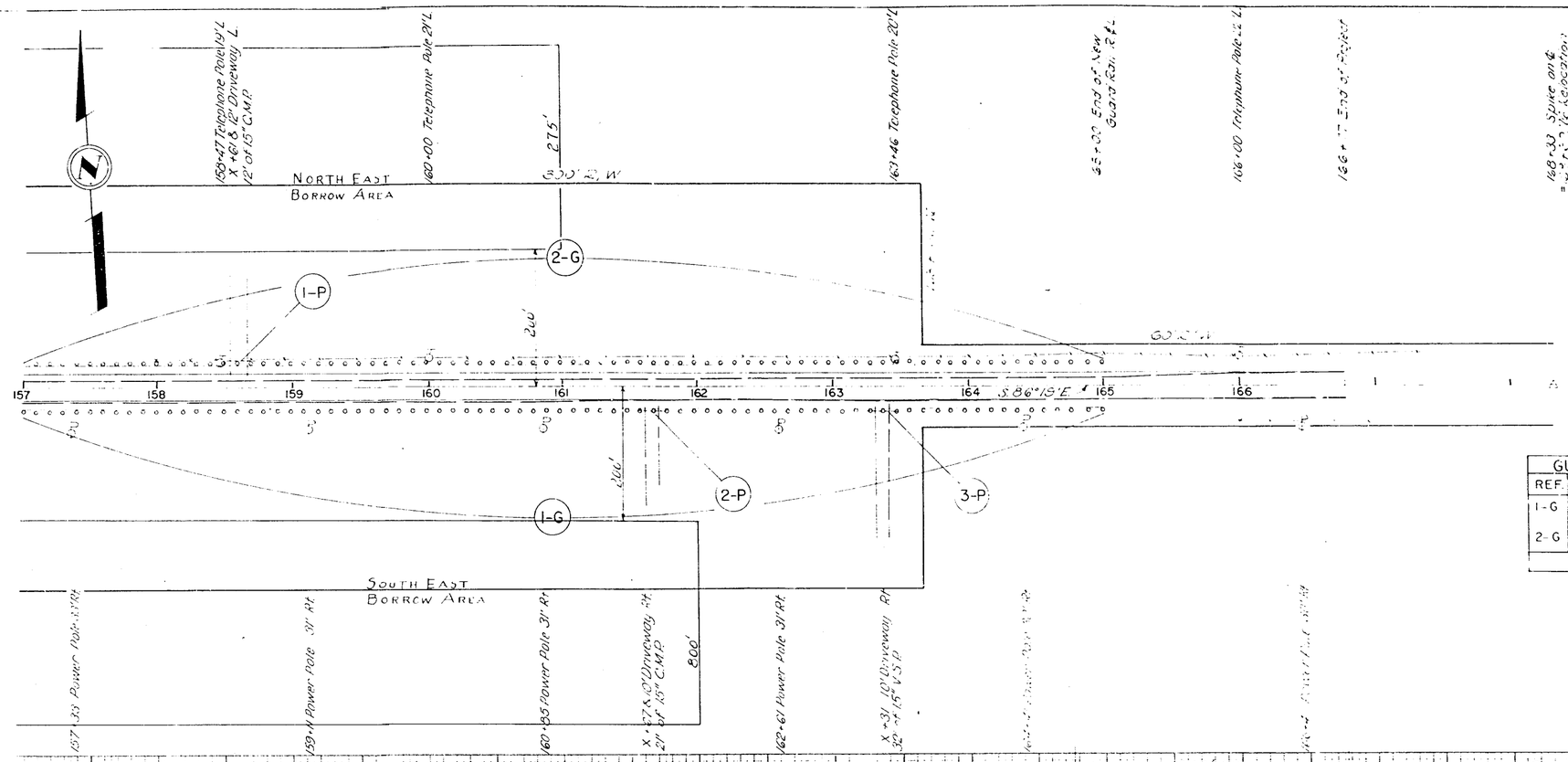
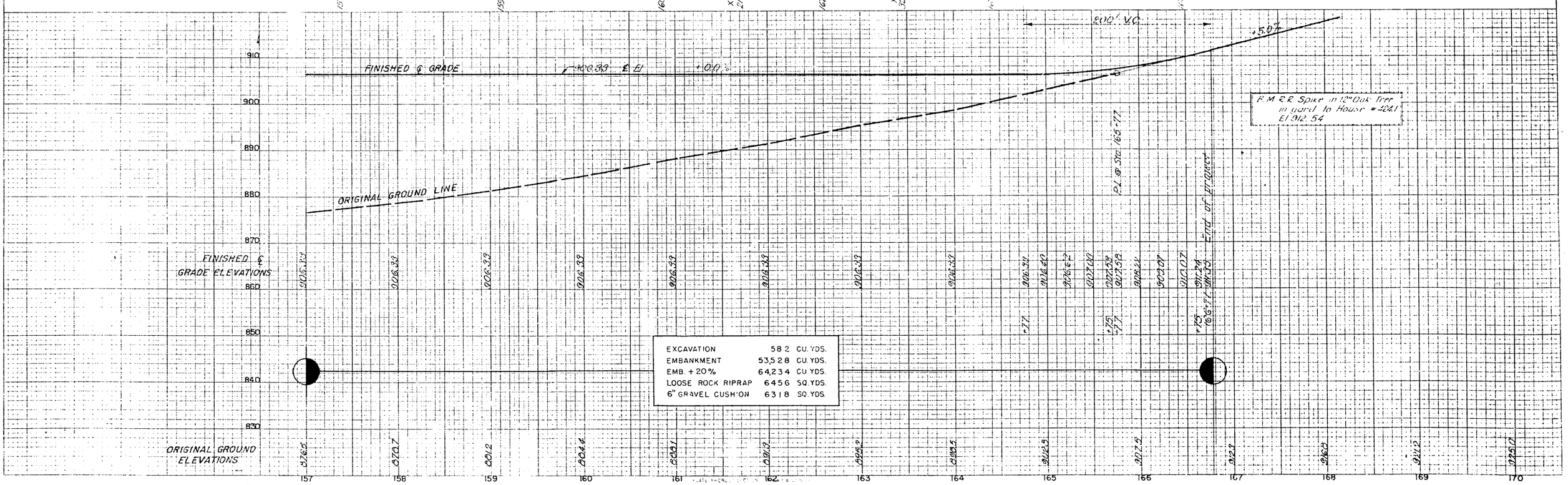
STONE UNDERDRAINS NO. 2 1-9			
REF.	STATION	SIDE	LIN FT
STONE UNDERDRAINS RUN FROM EDGE OF PAVT TO RIPRAP ON FACE OF SLOPE AT LOCATIONS SHOWN SEE SHEET 2 FOR DETAILS	157 + 00	L	8
	158 + 00	L	8
	159 + 00	L	8
	160 + 00	L	8
	161 + 00	L	8
	162 + 00	L	8
	163 + 00	L	8
	164 + 00	L	8
	157 + 50	R	8
	158 + 50	R	8
	159 + 50	R	8
	160 + 50	R	8
	161 + 50	R	8
	162 + 50	R	8
	163 + 50	R	8
	164 + 50	R	8
TOTAL			128

PIPE REMOVED ITEM E-12			
REF.	STATION	SIDE	LIN. FT.
1-P	158 + 21	L	12
2-P	161 + 67	R	21
3-P	163 + 31	R	32
TOTAL			65



GUARD RAIL 1-15			
REF.	STATION	SIDE	LIN. FT.
1-G	157 + 00 TO 165 + 00	R	800
2-G	157 + 00 TO 165 + 00	L	800
TOTAL			1600



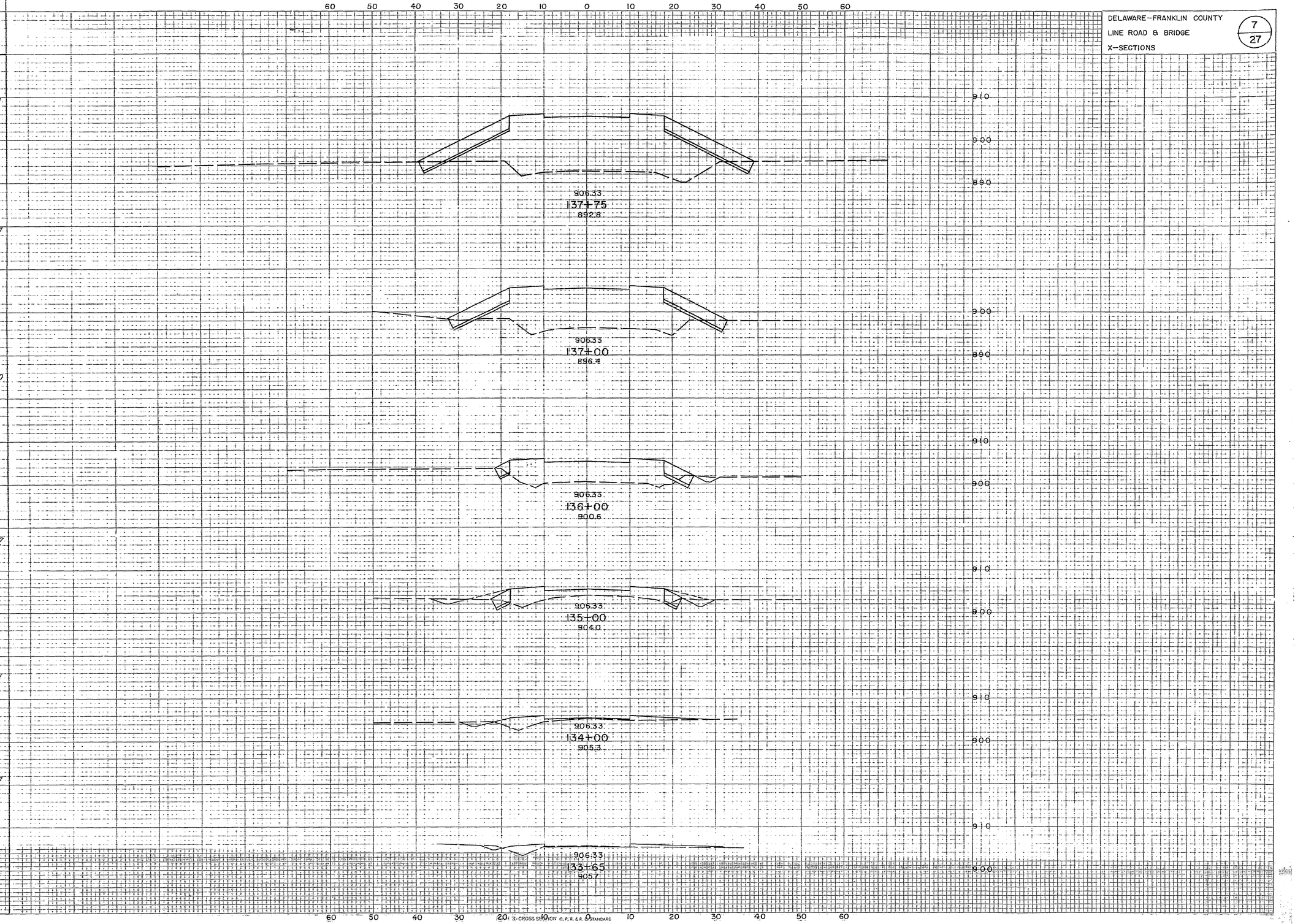
EXCAVATION	582 CU. YDS.
EMBANKMENT	53,528 CU. YDS.
EMB. + 20%	64,234 CU. YDS.
LOOSE ROCK RIPRAP	6456 SQ. YDS.
6" GRAVEL CUSHION	6318 SQ. YDS.

ALIGN. STA 157 + 00 TO STA. 166 + 77

3656 | 6 | 6 | 157+00 To 166+77 | 1 | 9 | 3 | 6 | 6 | 6

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

EMB'MT END AREA SQ. FT.	EMB'MT CU. YDS.	LOOSE ROCK RIPRAP END DIM. LIN. FT.	LOOSE ROCK RIPRAP SQ. YDS.	GRAVEL CUSHION END DIM. LIN. FT.	GRAVEL CUSHION SQ. YDS.	EARTH EXCAV END AREA SQ. FT.	EARTH EXCAV CU. YDS.
	618		134		131		19
62		46		45		21	
	389		373		315		57
387		35		305		20	
	1070		233		222		70
141		55		95		13	
	511		111		100		72
85		95		85		21	
150						14	
	337						41
32						8	
	29						9
15						5	



FINAL SURVEY — SURVEY FOLLOWED ELEVATIONS AREAS AND X-SECTIONS CHECKED — NOTE BOOK — NO — DATE — BY

ORIGINAL SURVEY — SURVEY FOLLOWED ELEVATIONS AREAS AND X-SECTIONS CHECKED — NOTE BOOK — NO — DATE — BY

10-17

3-CROSS SECTION O.P.R.&R. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
K & E Co. No. 346-30

X-SECTIONS STA.133+65 TO STA.137+75

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

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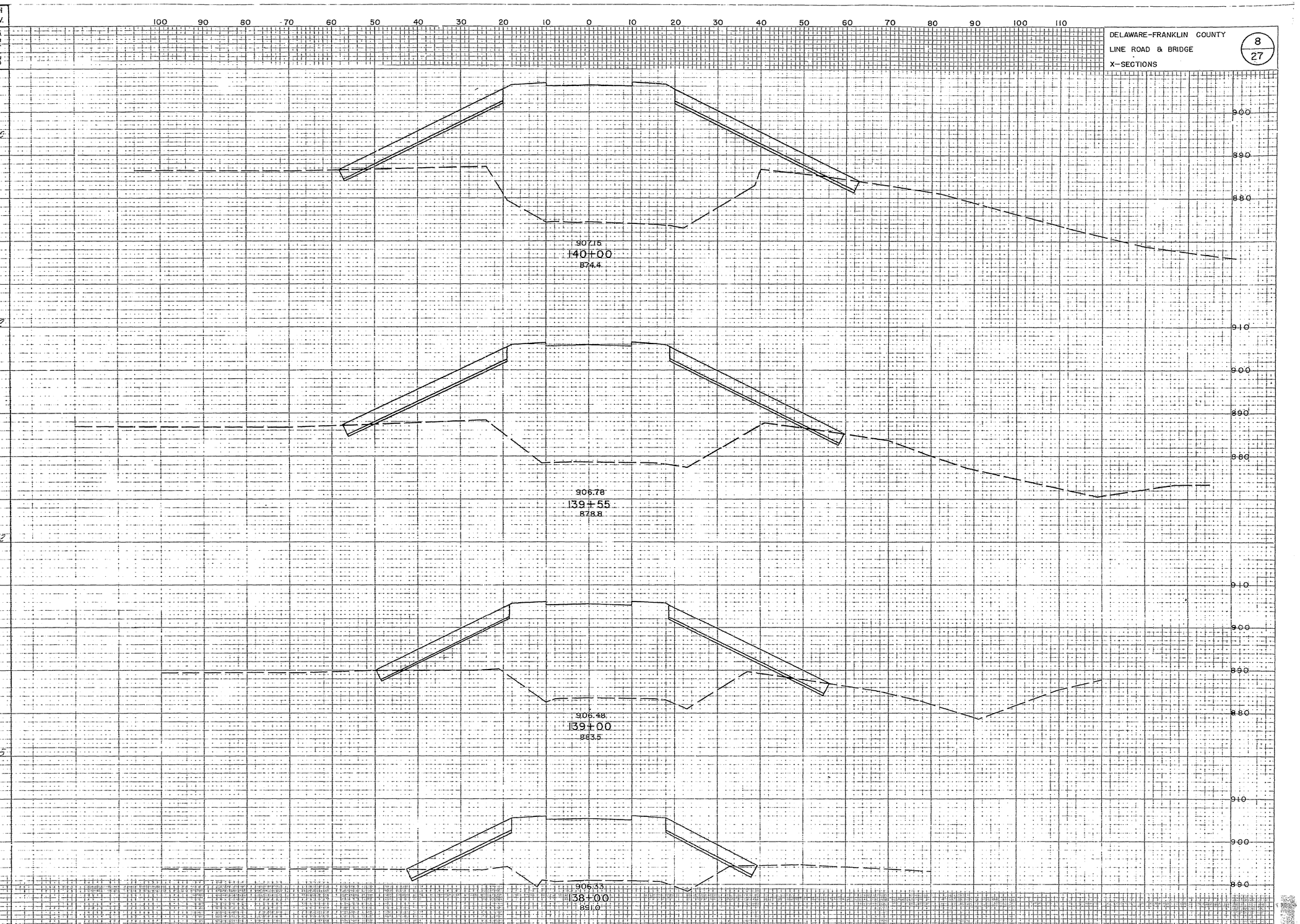
	EMB'MT		LOOSE ROCK RIPRAP		GRAVEL CUSHION		EARTH EXCAV.	
	END AREA SQ. FT.	CU. YDS.	END DIM. LIN. FT.	SQ. YDS.	END DIM. LIN. FT.	SQ. YDS.	END AREA SQ. FT.	CUT YDS.
		1092		1433		429		96
	726		395		88.5		748	
		2332		563		635		42
	1591		87		85.5		255	
		2356		496		438		32
	1213		75.5		74.5		255	
		2575		706		685		55
	714		505		49		203	



FINAL SURVEY

ORIGINAL SURVEY

CROSS SECTION O.P.R.&R. STANDARD
KEUFFEL & ESSER CO., NEW YORK

K & E Co. No. 326-3C

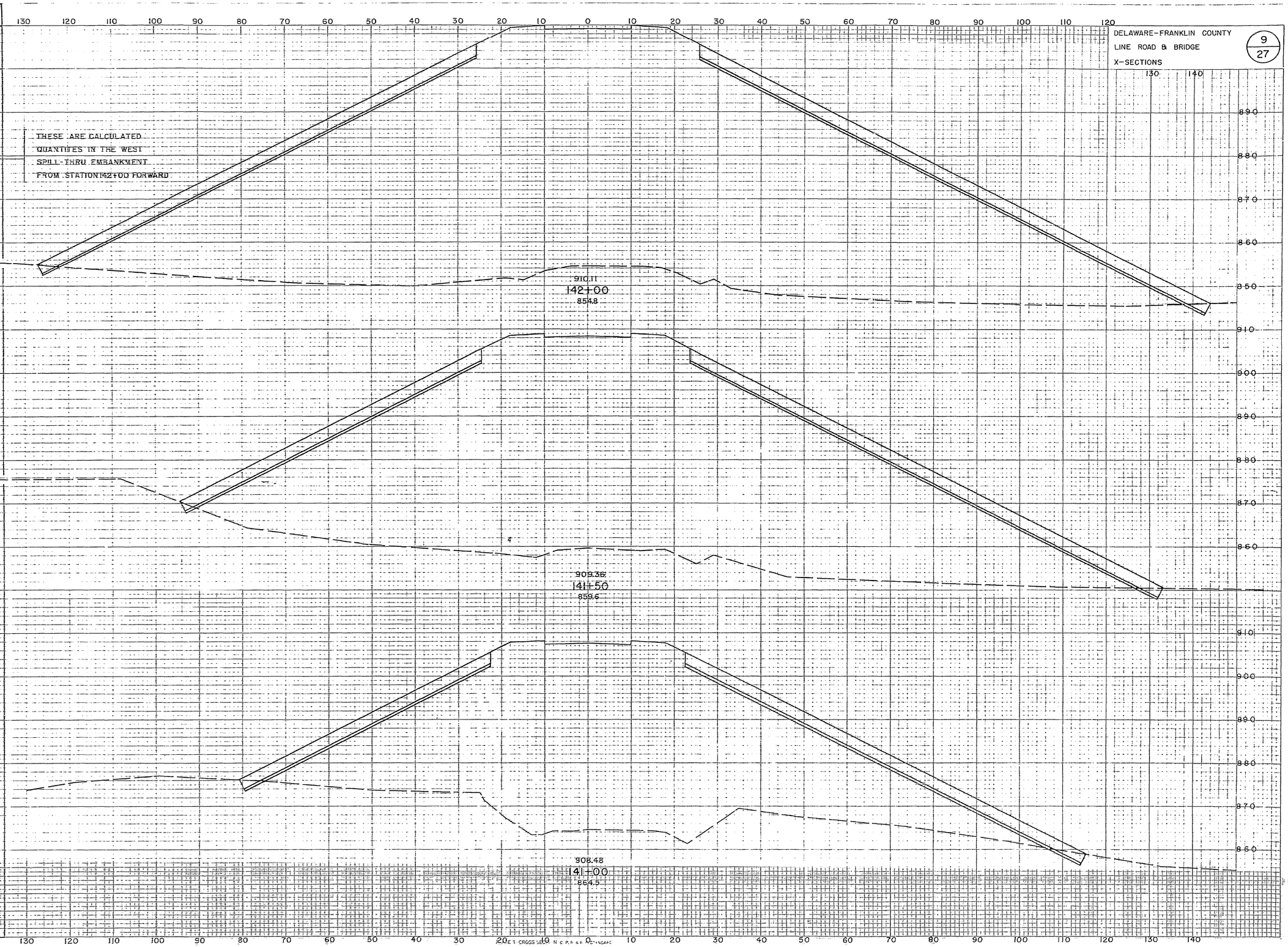
X-SECTIONS STA. 138+00 TO STA. 140+00

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

9
27

EMB'MT END AREA SQ. FT	EMB'MT CU YDS.	LOOSE ROCK RIPRAP END DIM. LIN. FT.	LOOSE ROCK RIPRAP SQ. YDS.	GRAVEL CUSHION END DIM. LIN. FT.	GRAVEL CUSHION SQ. YDS.	EARTH EXCAV END AREA SQ. FT.	EARTH EXCAV CU. YDS.
	4711		3938		3930		170
3930		245		243		165	
	4185		1235		1230		37
5374		1995		1985		165	
	9689		1022		1016		38
4764		1685		167		24	

THESE ARE CALCULATED QUANTITIES IN THE WEST SPILL-THRU EMBANKMENT FROM STATION 142+00 FORWARD



FINAL SURVEY
NOTE BOOK
DATE
BY

ORIGINAL SURVEY
NOTE BOOK
DATE
BY

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

E 3 CROSS SECTIONS N.C.P.R.R. & O. RAILROAD
KEUFFEL & ESSER CO., NEW YORK

K & E CO. NO. 346-31
IMPERIAL

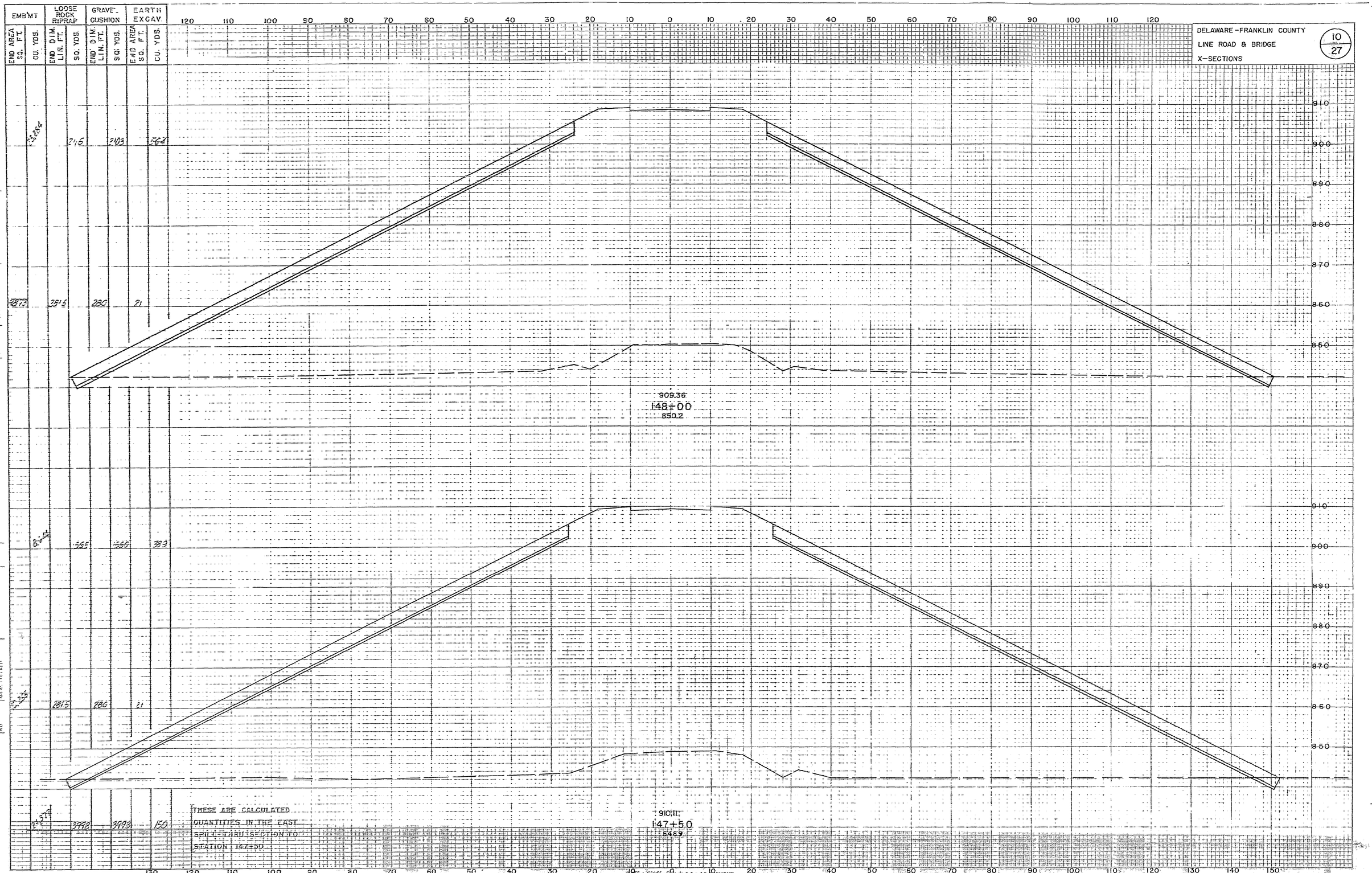
X-SECTIONS STA. 141+00 TO STA. 142+00

111 19

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

10/27

EMB'MT END AREA SQ. FT.	EMB'MT CU. YDS.	LOOSE ROCK RIPRAP END DIM. LIN. FT.	LOOSE ROCK RIPRAP SQ. YDS.	GRAVEL CUSHION END DIM. LIN. FT.	GRAVEL CUSHION SQ. YDS.	EARTH EXCAV END AREA SQ. FT.	EARTH EXCAV CU. YDS.
	5252		2415		2403		562
2873		2815		286		21	
	5225		565		560		389
		2815		286		21	
	3998		3993		150		



THESE ARE CALCULATED
QUANTITIES IN THE EAST
SPILL-THRU SECTION TO
STATION 147+50

ORIGINAL SURVEY
CALCULATED
CHECKED
NOTE BOOKS
MEAS.
CHECKED

FINAL SURVEY
CALCULATED
CHECKED
NOTE BOOKS
MEAS.
CHECKED

DATE
BY

NOTE: CROSS SECTIONS ON 0.2 + & 0.2 - STANDARD
REVISED 6 ES 1/8 1 SEPT. 1956

K & E CO. No. 346-30
Section 4 Inch 2

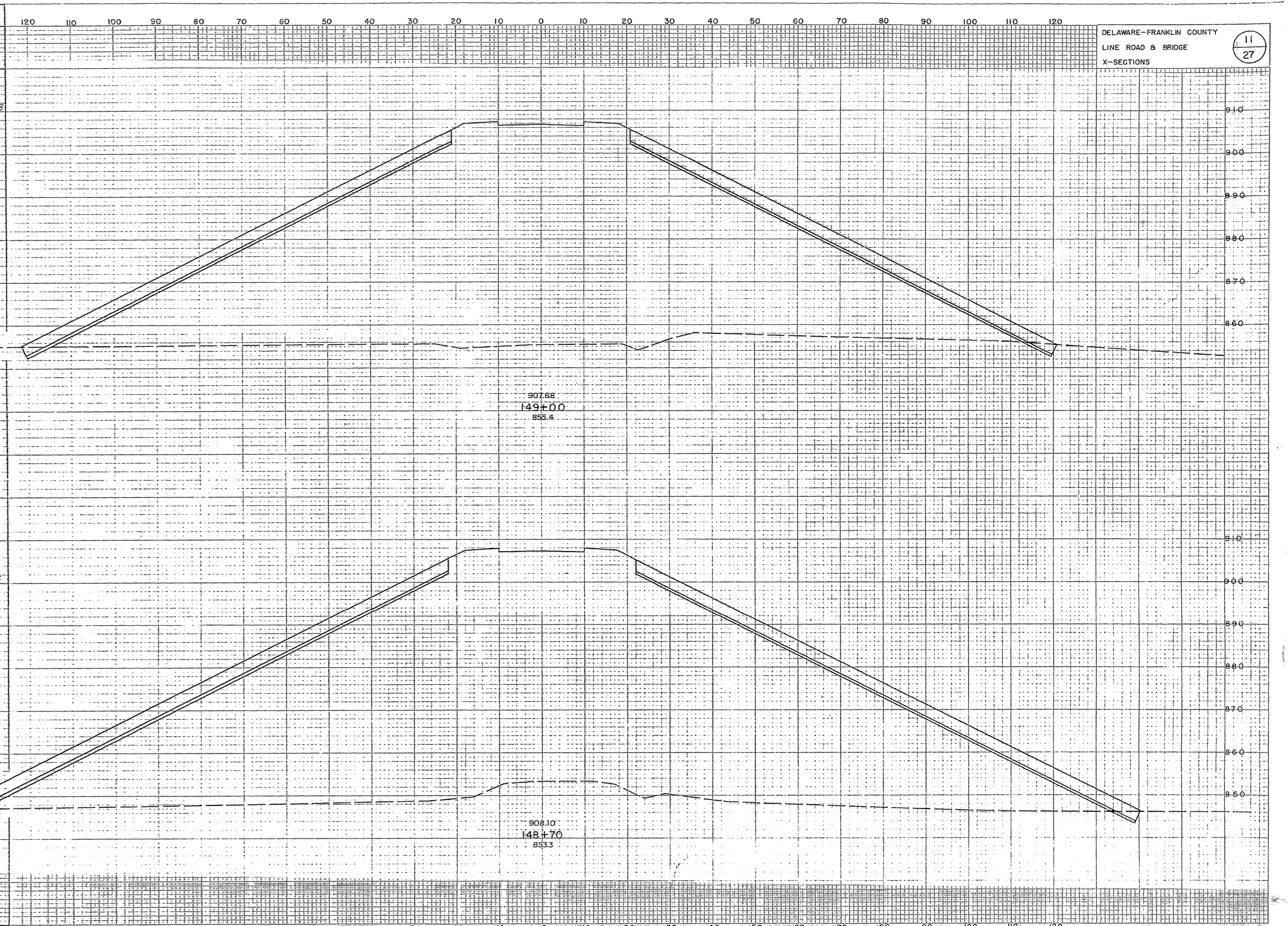
X-SECTIONS STA. 147+50 TO STA. 148+00

M-20

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

11
27

	EMB'MT		LOOSE ROCK RIPRAP		GRAVEL CUSHION		EARTH EXCAV	
	END AREA SQ. FT.	CU. YDS.	END DIM. LIN. FT.	SQ. YDS.	END DIM. LIN. FT.	SQ. YDS.	END AREA SQ. FT.	CU. YDS.
		2035		084		275		263
	6408		2235		2225		725	
		3056		3.0		306		85
	3588		2625		261		225	



FINAL SURVEY
NOTE BOOK
PAGE
DATE
ORIGINAL SURVEY
NOTE BOOK
PAGE
DATE

NOTE: CROSS SECTION G.P.R.R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

K.E.Co No. 346-3C

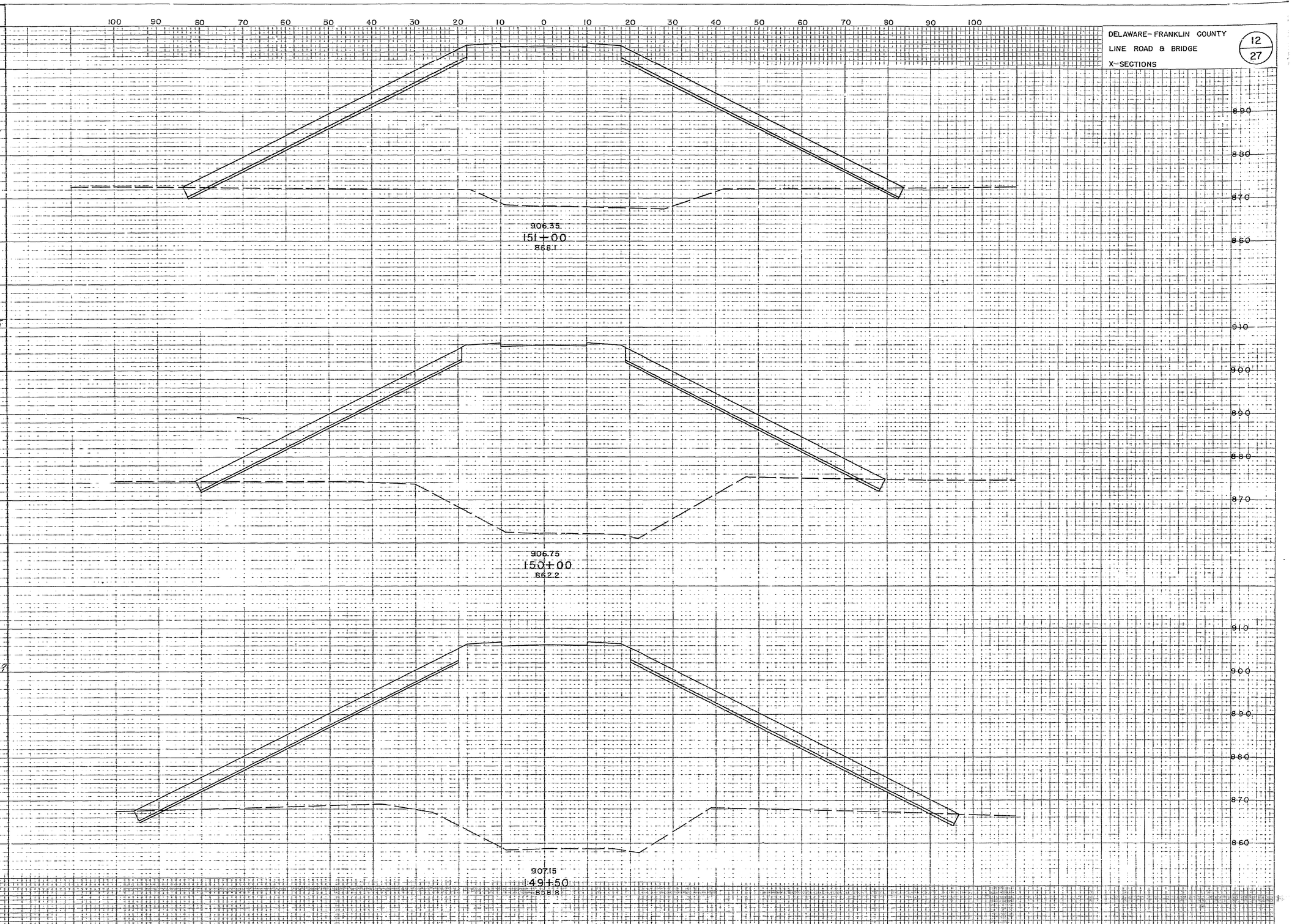
X-SECTIONS STA. 148+70 TO STA. 149+00

M-21

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

12
27

	EMB'MT END AREA SQ. FT.	EMB'MT CU. YDS.	LOOSE ROCK RIPRAP END DIM LIN. FT.	LOOSE ROCK RIPRAP SQ. YDS.	GRAVEL CUSHION END DIM. LIN. FT.	GRAVEL CUSHION SQ. YDS.	EARTH EXCAV END AREA SQ. FT.	EARTH EXCAV CU. YDS.
FINAL SURVEY								
		2123		1656		671		75
	3708		67		66		85	
		2270		575		540		75
	2394		36.5		32.5		21	
ORIGINAL SURVEY		741		761		732		32.9
	2395		36.5		28.5		21	



NOTE 3-CROSS SECTION OF P.R.R. STANDARD
KEUFFEL & ESSER CO. NEW YORK
K.E.E. DO No 348-3C

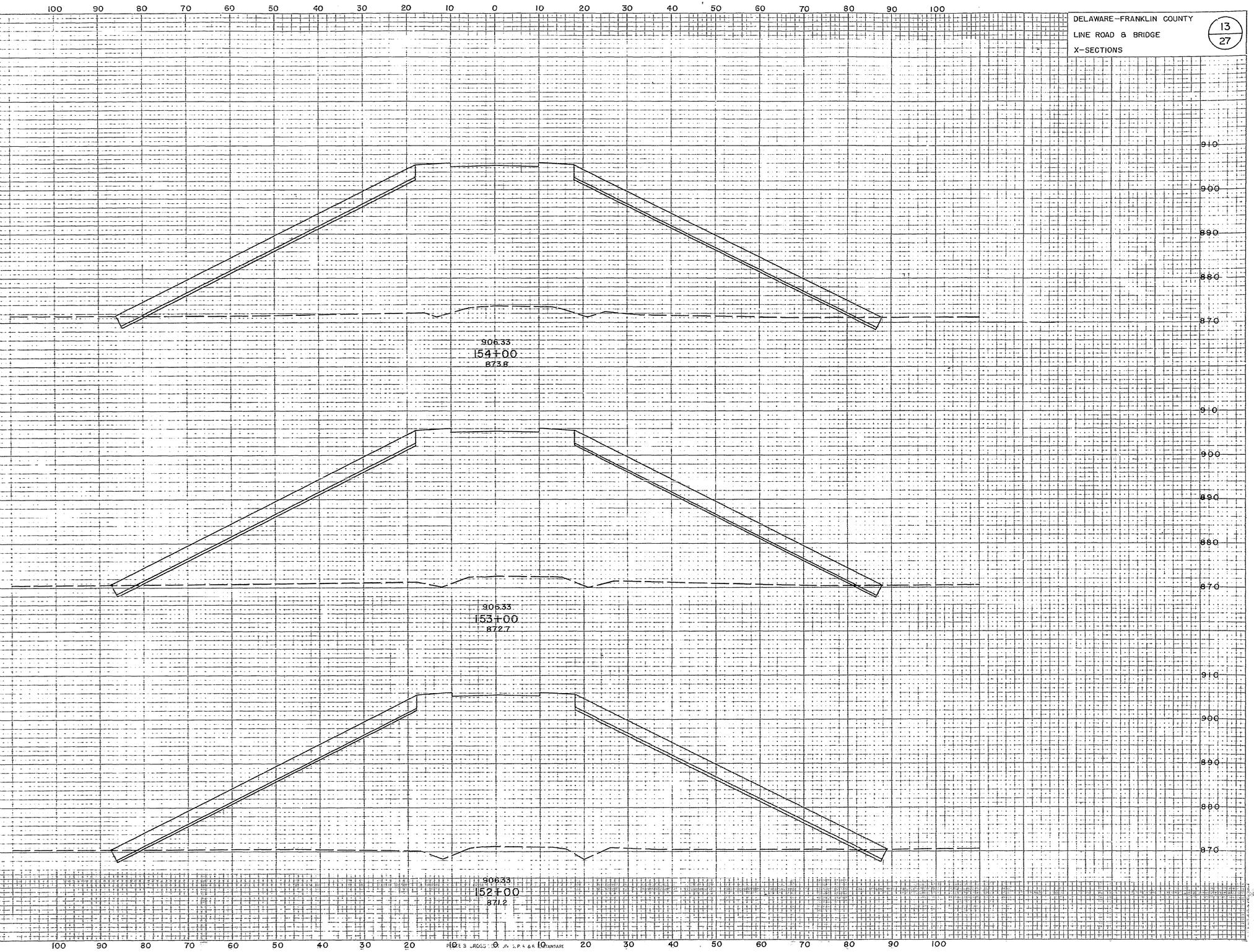
M-22

X-SECTIONS STA. 149+50 TO STA. 151+00

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

13/27

	EMB'MT END AREA SQ. FT.	EMB'MT CU. YDS.	LOOSE ROCK RIPRAP END DIM. LIN. FT.	LOOSE ROCK RIPRAP SQ. YDS.	GRAVEL CUSHION END DIM. LIN. FT.	GRAVEL CUSHION SQ. YDS.	EARTH EXCAV END AREA SQ. FT.	EARTH EXCAV CU. YDS.
FINAL SURVEY		64		164.7		164.1		77.8
	302.1		1.53		1.52		2.1	
FINAL SURVEY		1.54		1.73		1.67.8		7.5
	317.8		3.5		1.52.5		19.5	
ORIGINAL SURVEY		1.54		1.73.1		1.76		7.5
	238		56.5		3.5		7.1	



111-23

X-SECTIONS STA. 152+00 TO STA. 154+00

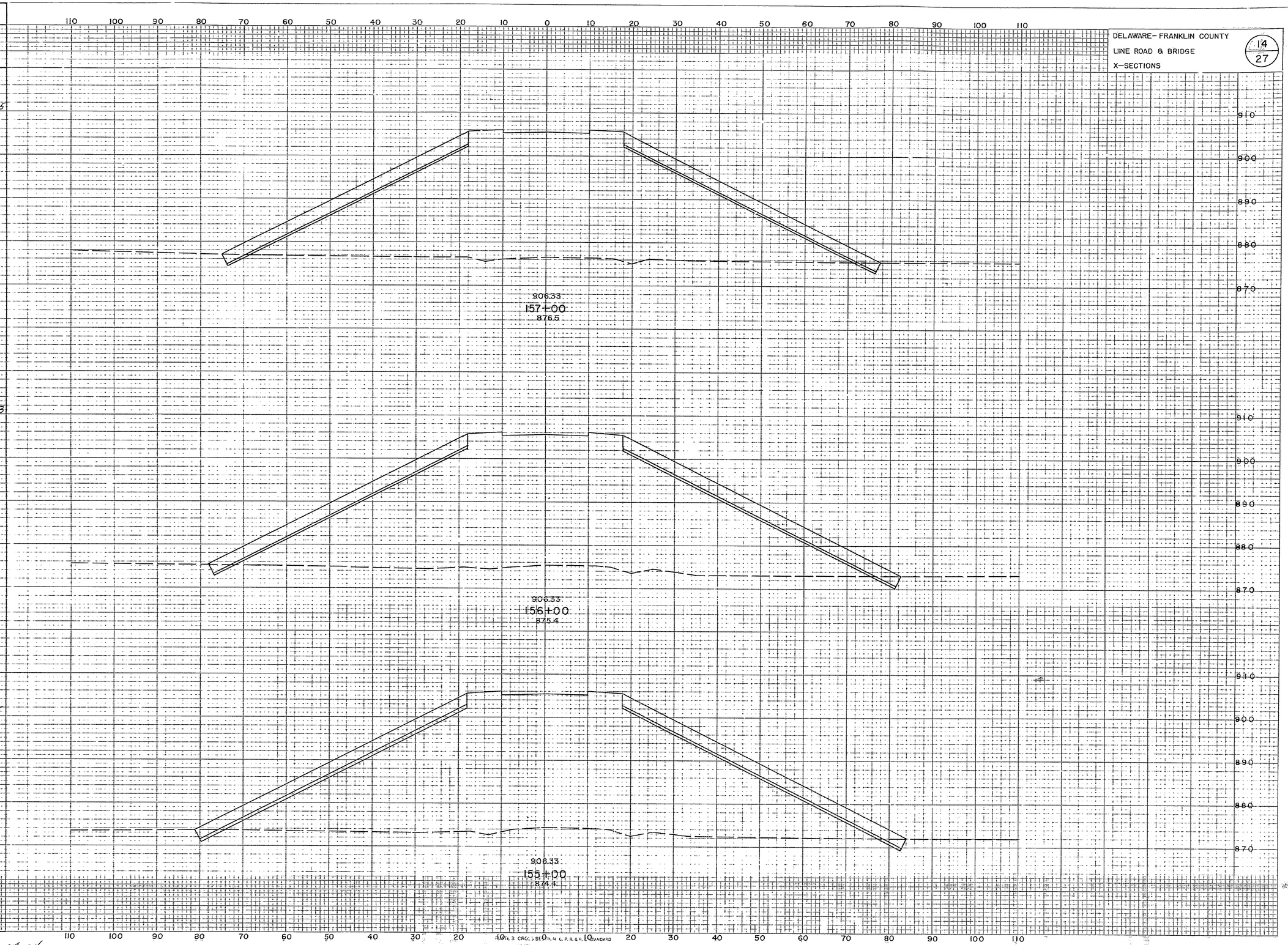
DELAWARE- FRANKLIN COUNTY

LINE ROAD & BRIDGE

X-SECTIONS

14 / 27

EMB'MT END AREA SQ. FT.	EMB'MT CU. YDS.	LOOSE ROCK RIPRAP END DIM. LIN. FT.	LOOSE ROCK RIPRAP SQ. YDS.	GRAVEL CUSHION END DIM. LIN. FT.	GRAVEL CUSHION SQ. YDS.	EARTH EXCAV. END AREA SQ. FT.	EARTH EXCAV. CU. YDS.
	8376		1356		1329		695
7823		129		785		195	
	9863		1285		1476		723
7686		1385		37		75	
	8724		1569		1551		75
7544		1335		625		21	



FINAL SURVEY — COMPUTED BY / CHECKED BY / TEMPLATE AREA — CHECKED — NOTE BOOK — NO. — DATE

ORIGINAL SURVEY — COMPUTED BY / CHECKED BY / TEMPLATE AREA — CHECKED — NOTE BOOK — NO. — DATE

M-24

TYPE 3 CROSS SECTION C. P. R. R. STANDARD
(EUFFEL & ESSER CO., NEW YORK.

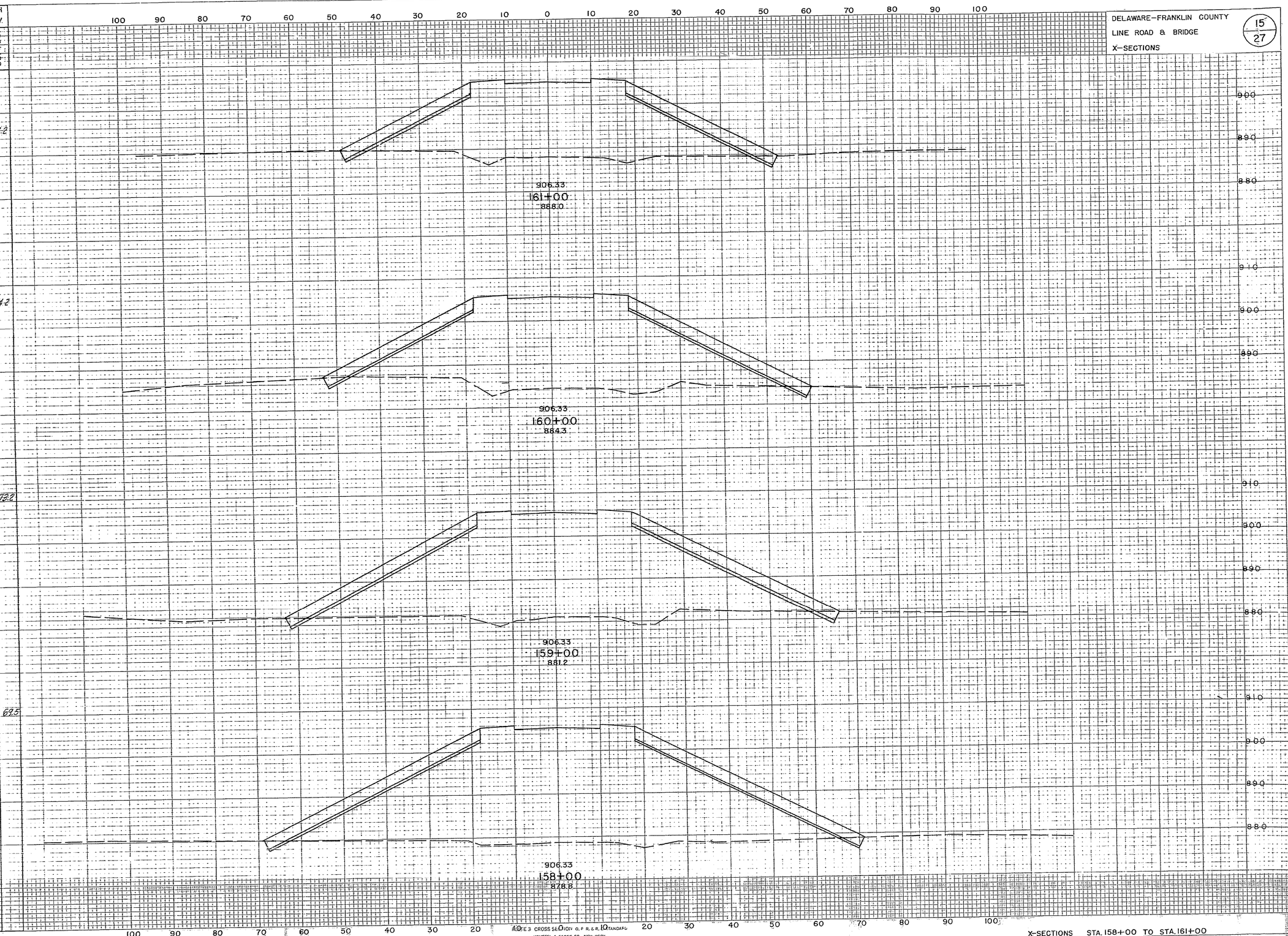
K & E CO. NO. 348-2C

X-SECTIONS STA. 155+00 TO STA. 157+00

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

15/27

	EMB'MT END AREA SQ. FT.	EMB'MT CU. YDS.	LOOSE ROCK RIPRAP END DTM LIN. FT.	LOOSE ROCK RIPRAP SQ. YDS.	GRAVEL CUSHION END DTM LIN. FT.	GRAVEL CUSHION SQ. YDS.	EARTH EXCAV. END AREA SQ. FT.	EARTH EXCAV. CU. YDS.
		3249		702		684		73.2
	914		72.5		71		20	
		4330		882		864		74.2
	1324		86		85		20	
		5650		1650		1538		72.2
	1727		103		102		19.5	
		7037		1323		1308		69.5
	2070		115		112.5		18	



FINAL SURVEY — DATE — BY — NOTE BOOK — NO — SHOWN ON PLOTTED — TERRAIN — SURFACE — AREAS CHECKED

ORIGINAL SURVEY — DATE — BY — NOTE BOOK — NO — SHOWN ON PLOTTED — TERRAIN — SURFACE — AREAS CHECKED

NOTE 3 CROSS SECTION O. F. R. & R. 10 STANDARD

KEUFFEL & ESSER CO. NEW YORK

K. & E. Co. No. 346-3C.

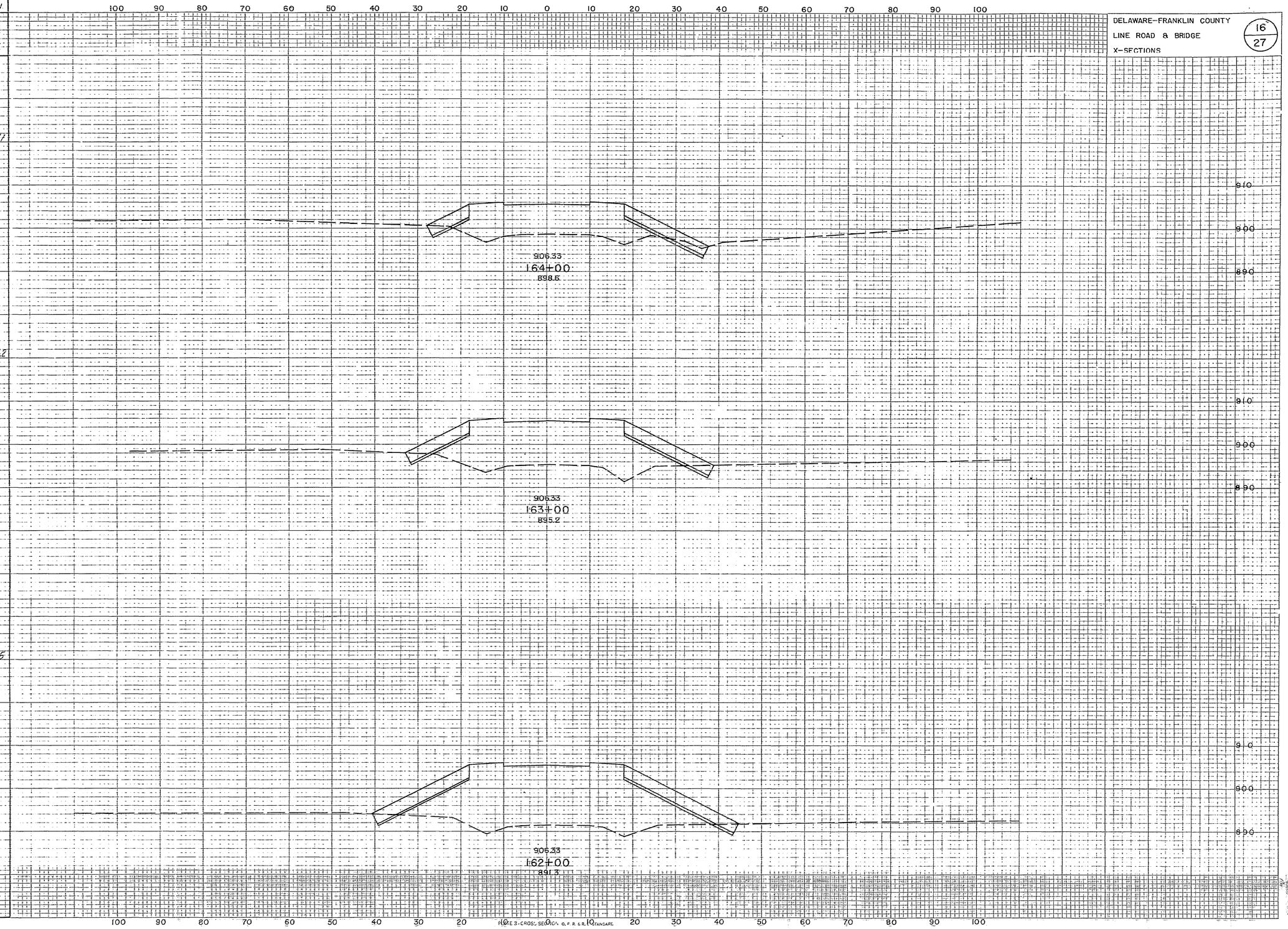
X-SECTIONS STA. 158+00 TO STA. 161+00

M 25

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

16/27

	EMB'MT		LOOSE ROCK RIPRAP		GRAVEL CUSHION		EARTH EXCAV.	
	END AREA SQ. FT.	CU. YDS.	END DIM. LIN. FT.	SQ. YDS.	END DIM. LIN. FT.	SQ. YDS.	END AREA SQ. FT.	CU. YDS.
		509		231		216		491
	302		32		305		255	
		1454		396		578		862
	486		39		275		21	
		2241		516		501		75
	193		54		225		195	



FINAL SURVEY — CHECKED / PLOTTED / TEMPLATE / AREAS CHECKED — NOTE BOOK — NO.

ORIGINAL SURVEY — CHECKED / PLOTTED / TEMPLATE / AREAS CHECKED — NOTE BOOK — NO.

DATE

FORM 3-CROSS SECTION O.P.R.R. STANDARD
KEUFFEL & ESSER CO. NEW YORK

K & E Co. No 346-3C

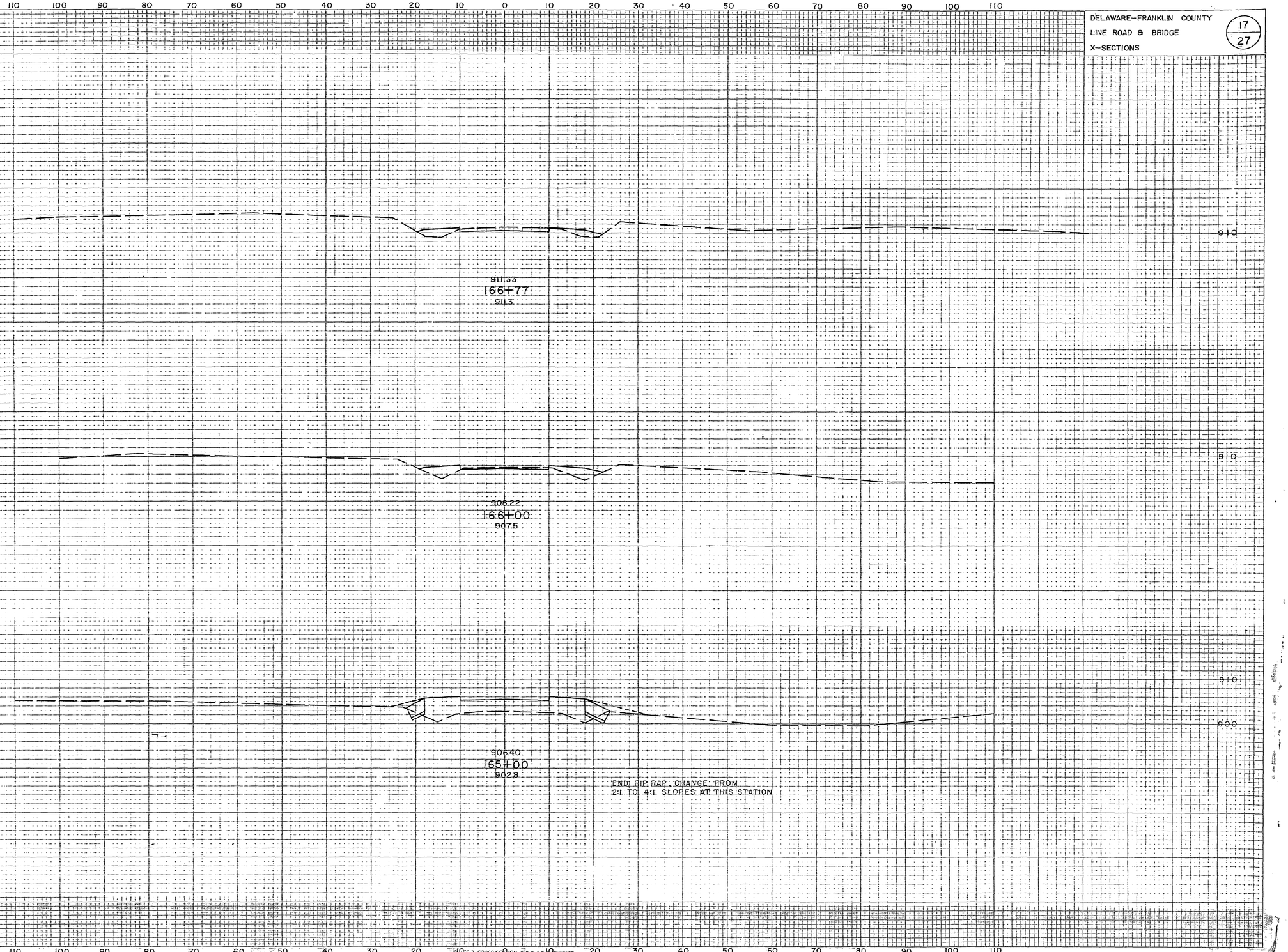
N-26

X-SECTIONS STA. 162+00 TO STA. 164+00

DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
X-SECTIONS

17
27

	EMB'MT END AREA SQ. FT.	EMB'MT CU. YDS.	LOOSE ROCK RIPRAP END DIM. LIN. FT.	LOOSE ROCK RIPRAP SQ. YDS.	GRAVEL CUSHION END DIM. LIN. FT.	GRAVEL CUSHION SQ. YDS.	EARTH EXCAV END AREA SQ. FT.	EARTH EXCAV CU. YDS.
FINAL SURVEY	22						15	
		154						37
	34						5	
		363						9.3
ORIGINAL SURVEY	162		0		0		0	
	29		9.5		2.5		11	



NOTE 3 - CROSS SECTION O.F.R. & R. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

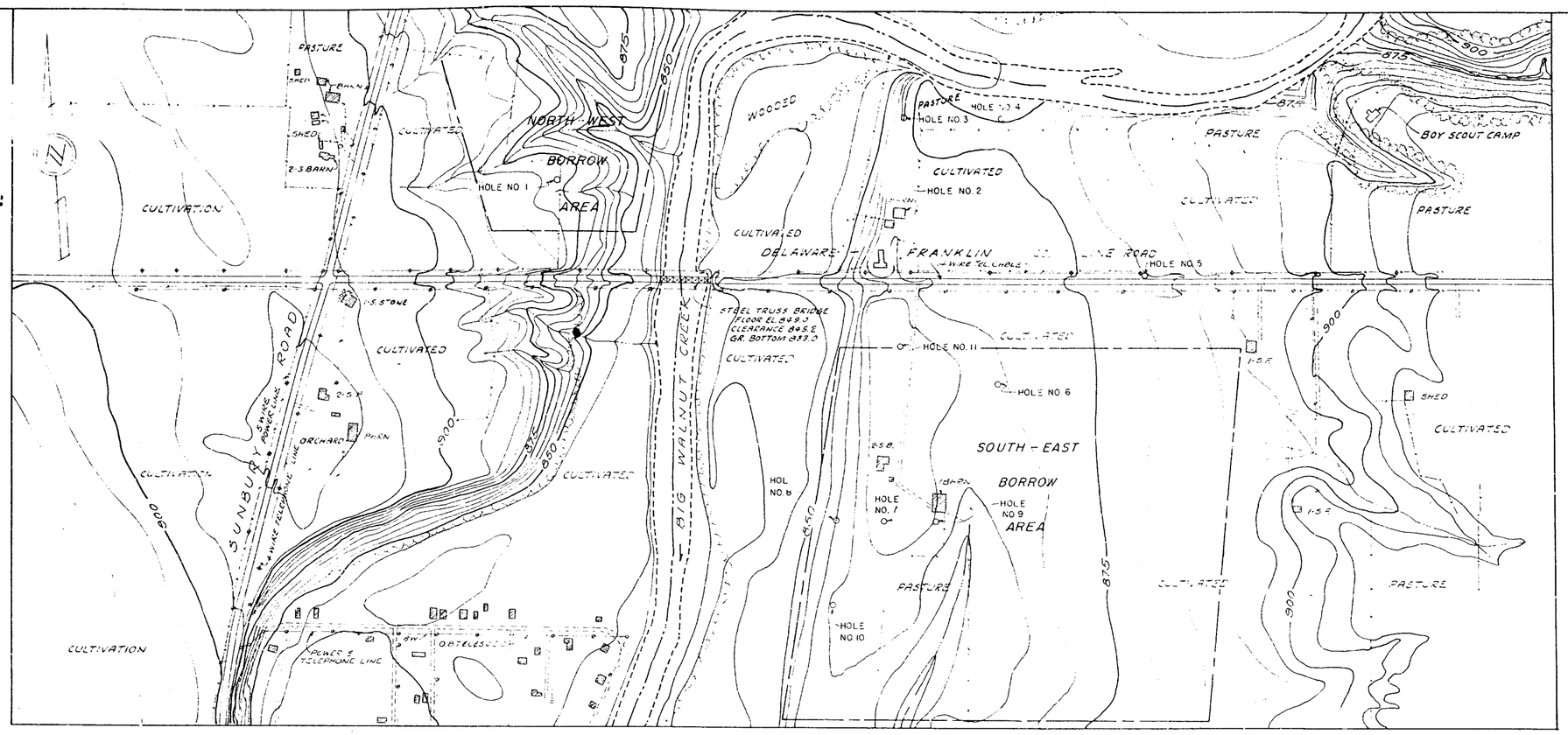
K & E Co. No. 346-3C

M-27

X-SECTIONS STA. 165+00 TO STA. 166+77

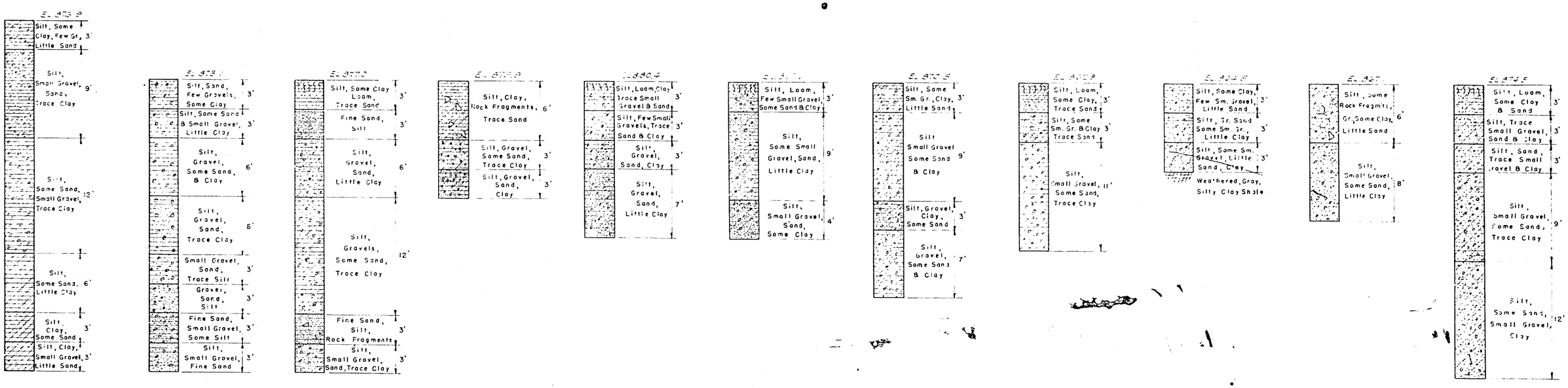
DELAWARE-FRANKLIN COUNTY
LINE ROAD & BRIDGE
BORROW AREAS

18
27



Note - Dry samples taken from the various holes drilled in the borrow areas and bridge foundation areas are stored at the Columbus Waterworks Shops Building at 640 Dublin Ave., Columbus, Ohio. They may be examined there by prospective bidders during regular working hours on any working day prior to the date set for opening bids.

All borrow areas in this project are on City of Columbus property



NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11
STA. 140 + 35	STA. 144 + 85	STA. 151 - 20	STA. 154 + 20	STA. 158 + 20	STA. 154 + 00	STA. 150 + 50	STA. 149 + 00	STA. 152 + 08	STA. 149 + 00	STA. 151 + 00
300' NORTH	300' NORTH	500' NORTH	500' NORTH	20' NORTH	316' SOUTH	745' SOUTH	745' SOUTH	745' SOUTH	1000' SOUTH	200' SOUTH

SCALE: 1" = 5'

3650 010 Borrow Areas 1953 6/26 6/6

Existing Bridge Data

(Existing superstructure to be removed.)
164.6 ft. f/f existing abutment
173.4 ft. out/out floor. Floor El. 848.8±

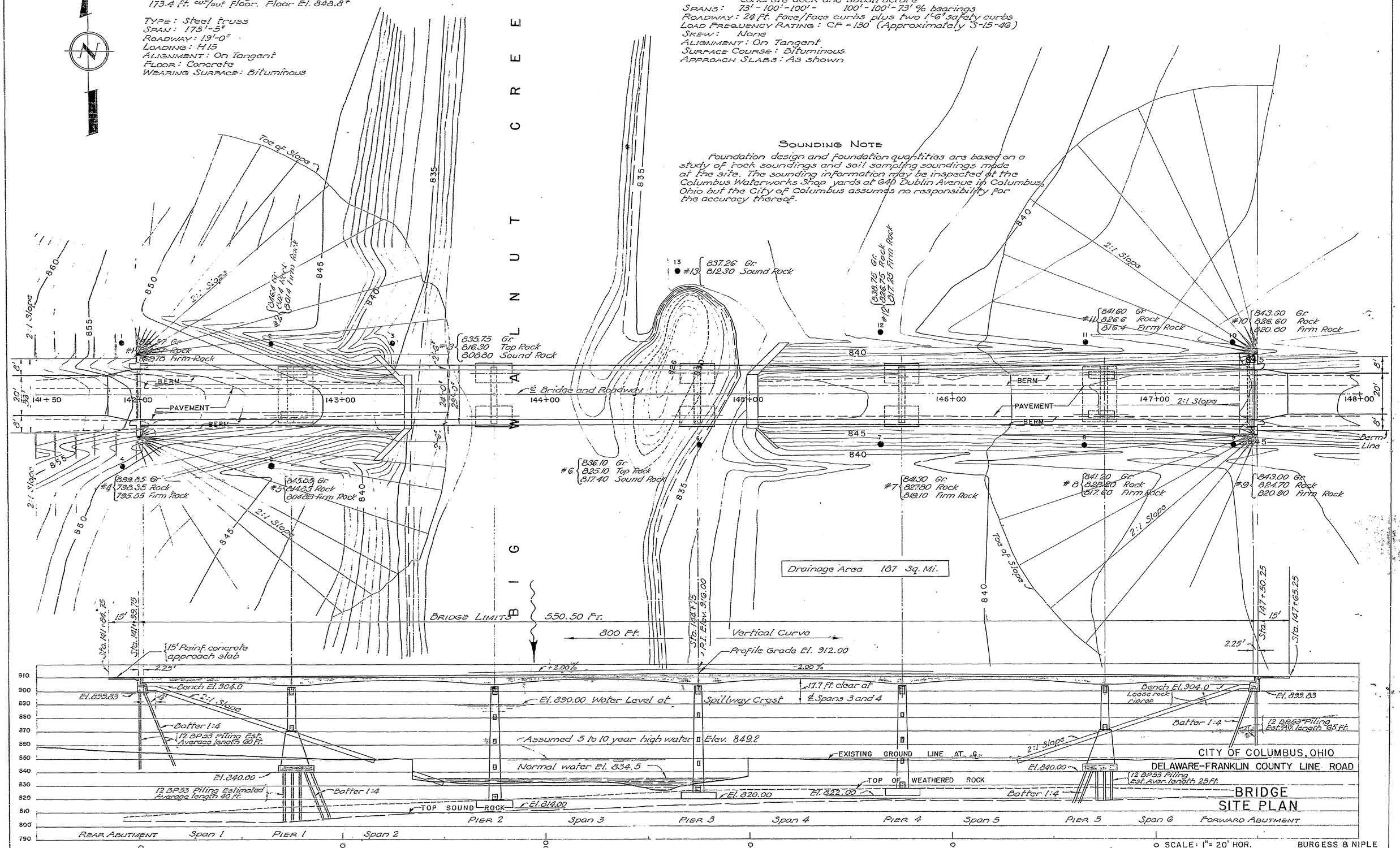
Type: Steel truss
Span: 173'-5"
Roadway: 19'-0"
Loading: H15
Alignment: On Tangent
Floor: Concrete
Wearing Surface: Bituminous

Proposed Structure

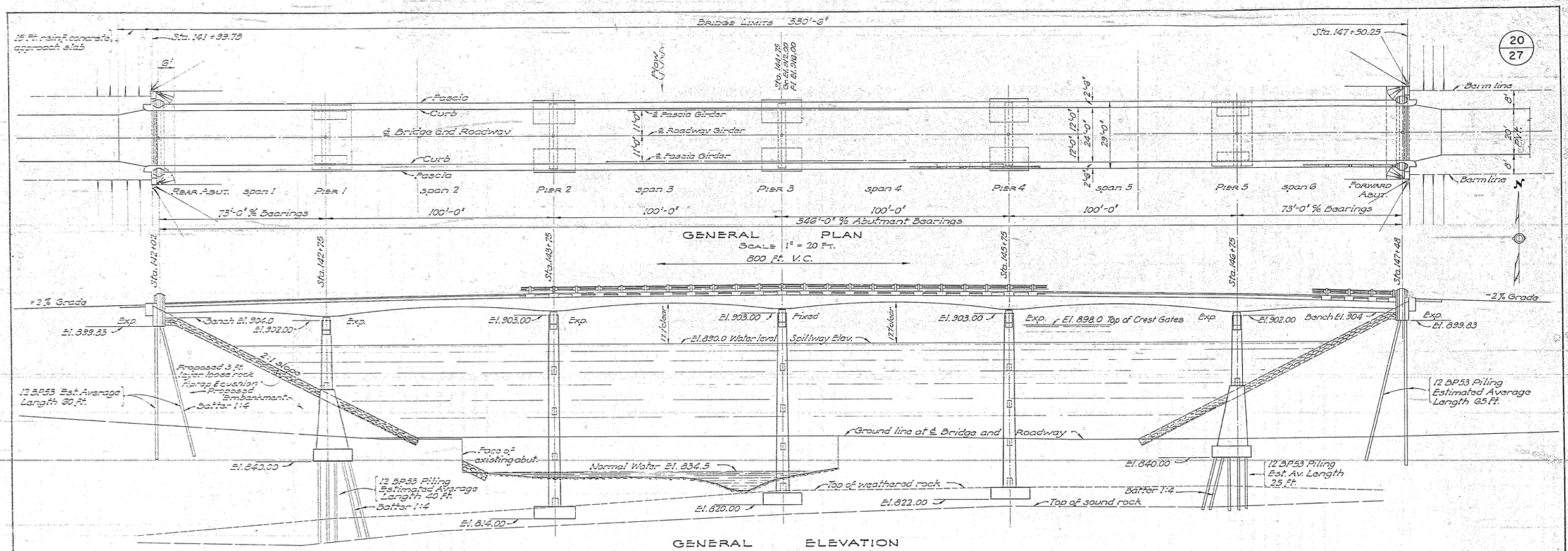
Type: Continuous steel girder with reinforced concrete deck and substructure
Spans: 73'-100'-100'- 100'-100'-73' % bearings
Roadway: 24 ft. face/face curbs plus two 1'-6" safety curbs
Load Frequency Rating: CF = 1.30 (Approximately S-15-40)
Skew: None
Alignment: On Tangent
Surface Course: Bituminous
Approach Slabs: As shown

Sounding Note

Foundation design and foundation quantities are based on a study of rock soundings and soil sampling soundings made at the site. The sounding information may be inspected at the Columbus Waterworks Shop yards at 640 Dublin Avenue in Columbus, Ohio but the City of Columbus assumes no responsibility for the accuracy thereof.



III-29



GENERAL ELEVATION

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Abutments Rear	Abutments Forward	Piers 1	Piers 2	Piers 3	Piers 4	Piers 5	Super-structure	General
E-2	Lump	Sum	Coffardams, cribs and sheeting									Lump
E-2	1,116	cu.yd.	Unclassified excavation	13	13	230	230	110	370	150		
E-2	193	cu.yd.	Rock excavation				87	63	63			
S-1	445	cu.yd.	Class 'C' concrete, superstructure								445	
S-1	102	cu.yd.	Class 'C' concrete, abutments	51	51							
S-1	539	cu.yd.	Class 'C' concrete, pier beams and columns			118	123	115	112	113		
S-1	363	cu.yd.	Class 'E' concrete, pier footings			85	87	63	63	85		
S-3	28	sq.yd.	Type 'B' waterproofing	14	14							
S-3	1,610	sq.yd.	Type 'C' waterproofing								1,610	
S-4	281,814	lb.	Reinforcing steel	3,130	3,130	30,200	28,900	27,040	24,300	30,200	134,574	340
S-7	405,000	lb.	Structural steel								405,000	
S-8	405,000	lb.	Field painting of structural steel (two coats)								405,000	
S-14	1,082	lin.ft.	Railing (concrete and steel pipe)								1,082	
S-16	Lump	Sum	First test pile									Lump
S-18	3,800	lin.ft.	Steel piling, 12 BP53	420	450	1,200				1,130		
S-24	Lump	Sum	°Removal of existing structures									Lump
F-33	103	cu.yd.	*Asphaltic concrete surface course (Type A or C)								103	
			*This item included with Roadway items in Final Summary									
			°Includes two bridges; see General Notes, this sheet									

GENERAL NOTES

SPECIFICATIONS covering construction and materials are contained in the 'Construction and Material Specifications' of the Ohio Department of Highways. Welding details shall conform to the current specifications of the American Welding Society for 'Welded Highway and Railway Bridges', and the 'Design Specifications for Highway Structures' of the State of Ohio, Department of Highways.

RUBBED SURFACE FINISH is required on the exposed surface of wingwalls, faces of curbs, concrete railing, railing posts, and fascia of sidewalk and roadway slab. The finish on all other exposed surfaces shall be governed by the provisions of Item S-1.

WELDING shall be class 'A' except as shown. Class 'B' welds shown thus B. Any welds shown as field welds may, at the option of the Contractor, be made in the shop.

END FINISH: A butt joint in the end finish, at center line of roadway, will be permitted.

REINFORCING STEEL splice lengths shall be not less than 30 diameters of the smaller bar involved.

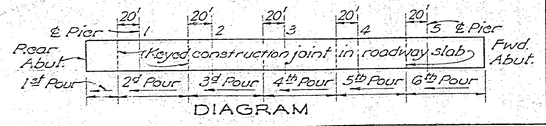
FIELD PAINTING of structural steel, and pipe rail shall be in accordance with Item S-8 of the 'Construction and Material Specifications' of the Ohio Department of Highways, except that both shop & field coats shall be applied by brushing. Spray application will not be permitted.

PILING shall be driven to a minimum bearing capacity of 30 tons for abutments and into rock at piers with a minimum bearing capacity of 50 tons.

EXCAVATION quantity includes the removal of fill material between top of earth bench and bottom of abutment.

REMOVAL OF EXISTING STRUCTURES: This item includes two bridges, one on the County Line Road and the other on Walnut Street, both over Big Walnut Creek. Superstructures shall be reduced to main parts and delivered and stacked at the Franklin County Storage Yard at 970 Dublin Road, Columbus, O. The Walnut St. bridge shall be removed only after County Line Road is re-opened to traffic. The estimated weight of structural steel in the existing County Line bridge is 76 tons, in the Walnut St. bridge 57 tons.

DECK SLAB CONSTRUCTION PROCEDURE: The roadway slab shall be placed in sections between transverse keyed construction joints, in the numerical order and in the direction indicated on the diagram below, in order that the major portion of the dead load deflection may occur prior to placing concrete over each pier. This construction procedure may start at either end of the bridge.



DIAGRAM

CITY OF COLUMBUS, OHIO

DELAWARE-FRANKLIN COUNTY LINE ROAD

BRIDGE

PLAN AND ELEVATION

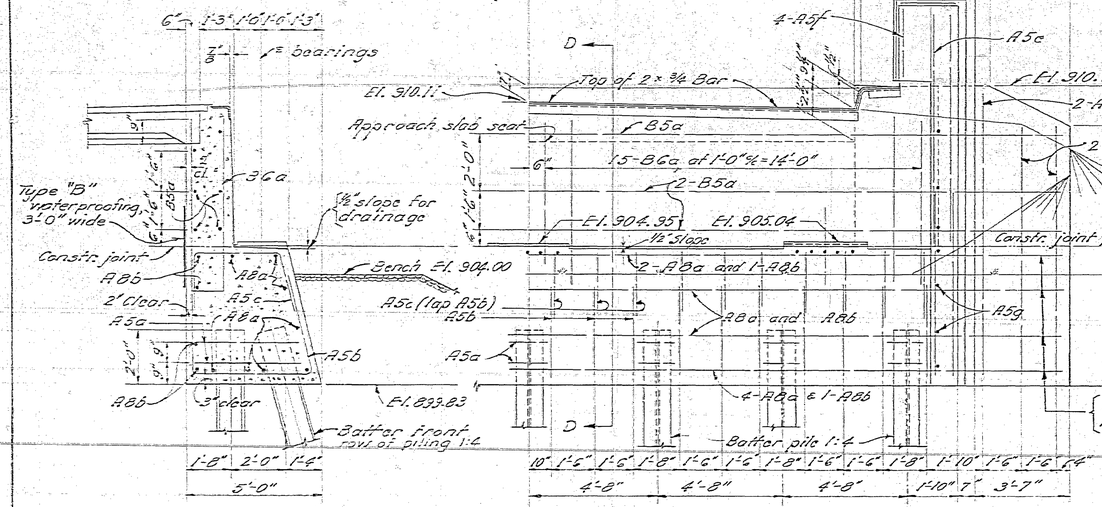
NOTES AND ESTIMATED QUANTITIES

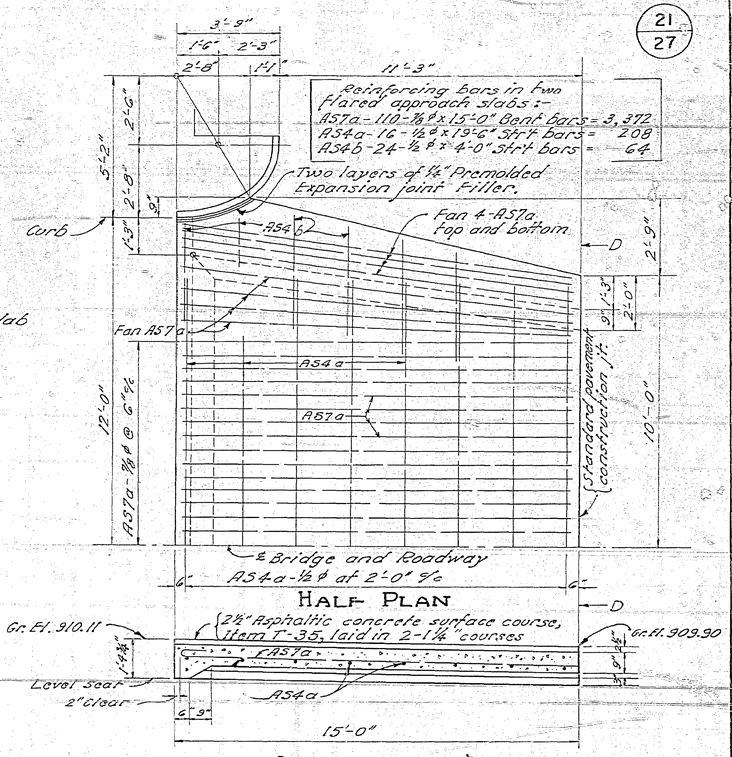
SCALE 1" = 20'

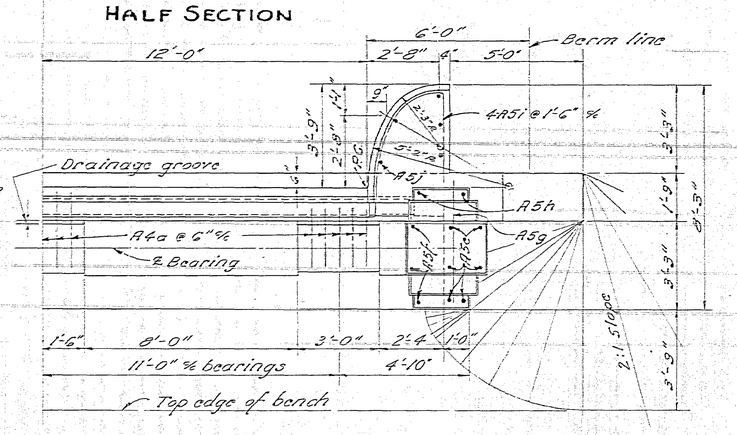
JANUARY 1953

BURGESS & NIPLE
CONSULTING ENGRS.
COLUMBUS, OHIO

M-30







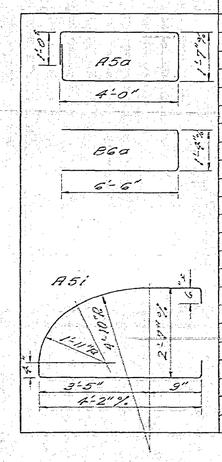
Fill earth fill around abutments shall be made to bottom of riprap grade. Excavation shall then be made for abutment cap, after which piling shall be driven.

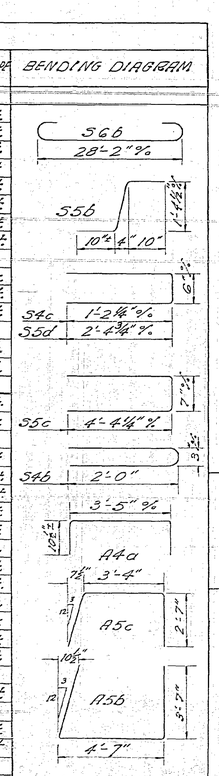
Concrete above bridge seat construction joint shall not be placed until after steel work is erected. Steel end finish shall be used as a template for top of backwall.

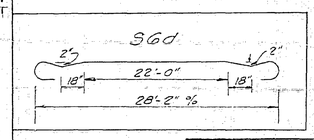
All reinforcing is 2" clear unless otherwise noted.

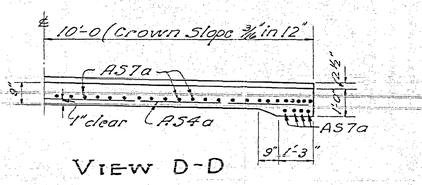
Concrete shall be class "C"

MARK	SIZE	NO.	LENGTH	WEIGHT	SHAPE
SUPERSTRUCTURE					
S6a	¾ ϕ	1010	28'-0"	42,476	St.
S6b	¾ ϕ	292	29'-6"	12,938	Bt.
S6c	¾ ϕ	140	32'-0"	6,729	St.
S6d	¾ ϕ	438	29'-6"	19,408	Bt.
S5a	⅝ ϕ	1159	30'-6"	36,870	St.
S5b	⅝ ϕ	550	2'-9"	1578	Bt.
S5c	⅝ ϕ	220	9'-0"	2065	Bt.
S5d	⅝ ϕ	440	5'-0"	2295	Bt.
S4a	½ ϕ	480	13'-6"	6252	St.
S4b	½ ϕ	1100	4'-1"	3000	Bt.
S4c	½ ϕ	540	2'-8"	963	Bt.
R4a	½ ϕ	208	13'-6"	*	St.
R4b	½ ϕ	16	10'-6"	*	St.
TWO ABUTMENTS					
A8a	1 ϕ	16	31'-0"	1320	St.
A8b	1 ϕ	8	39'-6"	844	St.
A5a	5/8 ϕ	28	11'-0"	321	Bt.
A5b	"	40	11'-6"	480	Bt.
A5c	"	40	8'-3"	344	Bt.
A5d	"	24	6'-4"	159	St.
A5e	"	24	8'-6"	213	St.
A5f	"	16	2'-6"	42	St.
A5g	"	28	4'-6"	131	St.
A5h	"	8	4'-3"	35	St.
A5i	"	16	10'-0"	167	Bt.
A5j	"	20	5'-3"	110	St.
A5k	"	8	10'-6"	88	St.
A5l	5/8 ϕ	16	9'-0"	150	St.
A4a	½ ϕ	30	5'-0"	100	Bt.
B6a	¾ ϕ	60	14'-0"	1262	Bt.
B5a	⅝ ϕ	12	39'-6"	494	St.
* Included with railing for payment					









VIEW D-D

APPROACH SLAB DETAILS

APPROACH SLAB NOTES

CONCRETE shall be class "C"

PREMOLDED EXPANSION JOINT FILLER at the junction of the bridge and approach slab shall be included with the approach slab for payment.

REINFORCING STEEL is included in cost of approach slab per sq. yd for payment.

CITY OF COLUMBUS, OHIO

DELAWARE-FRANKLIN COUNTY LINE ROAD

BRIDGE

ABUTMENT DETAILS

APPROACH SLAB DETAILS

SCALE 3/8" = 1'-0"

JANUARY 1953

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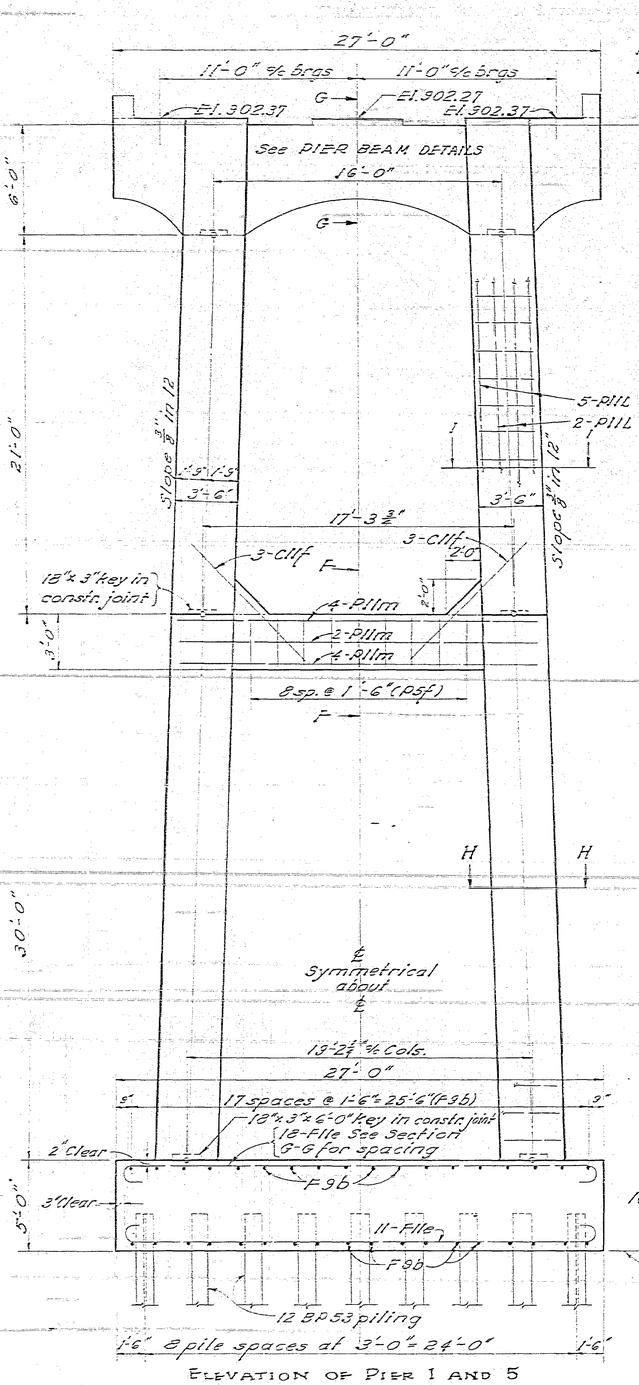
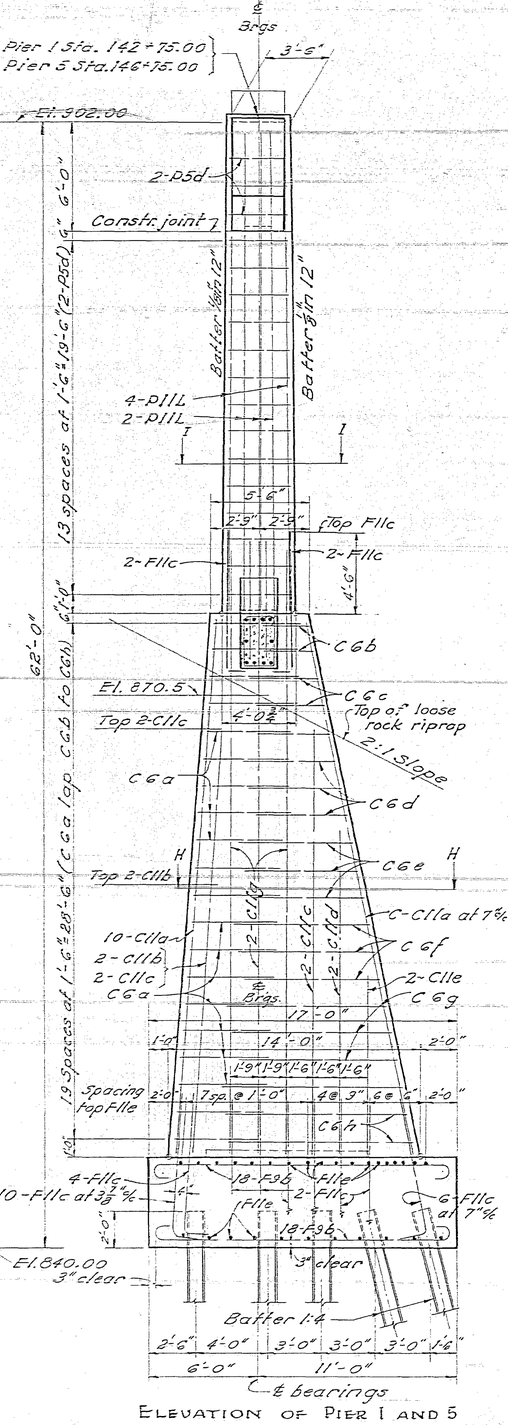


ELEVATION OF PIER 1 AND 5



ELEVATION OF PIER 1 AND 5

REINFORCING STEEL LIST FOR PIERS

Mark	Size	Number Pier 1	2	3	4	Pier 5	Total	Length	Weight	Shape
F11a	1 1/4"		18				18	20'-3"	1937	Bt.
F11b	1 1/4"			18	18		36	19'-3"	3,682	Bt.
F11c	1 1/4"	72	28	28	28	72	228	9'-3"	11,205	Bt.
F11d	1 1/4"		12	12	12		36	15'-0"	2,869	Bt.
F11e	1 1/4"	29				29	58	29'-3"	9,014	Bt.
F9a	1"		32	32	32		96	11'-9"	3,835	Bt.
F9b	1"	36				36	72	18'-9"	4,590	Bt.
P11a	1 1/4"	8	8	8	8	8	40	19'-0"	4,038	Bt.
P11b	"	6	6	6	6	6	30	7'-0"	1,116	Bt.
P11c	"	3	3	3	3	3	15	26'-6"	2,112	St.
P11d	"	4	4	4	4	4	20	8'-6"	903	Bt.
P11e	"		10	10	10		30	23'-0"	3,666	St.
P11f	"		10	10	10		30	21'-9"	3,467	St.
P11g	"		38	38	38		114	21'-0"	12,719	St.
P11h	"		10	10	10		30	20'-0"	3,188	St.
P11i	"		28				28	27'-3"	4,054	St.
P11j	"			28			28	24'-3"	3,608	St.
P11k	"		28		28		56	23'-3"	6,918	St.
P11l	"	28				28	56	25'-0"	7,438	St.
P11m	"	10		28		10	48	20'-3"	5,164	St.
P11n	"				28		28	19'-3"	2,864	St.
P11o	1 1/4"		28	28	28		84	21'-3"	9,484	St.
P5a	5/8"		60	56	52		168	9'-3"	1,621	Bt.
P5b	"		48	44	40		132	8'-9"	1,205	Bt.
P5c	"		48	48	48		144	8'-3"	1,239	Bt.
P5d	"	68	56	56	56	68	304	8'-0"	2,537	Bt.
P5e	"		11	11	11		33	12'-3"	421	Bt.
P5f	"		29	29	29		87	9'-6"	862	Bt.
P5g	"	2	2	2	2	2	10	26'-6"	277	St.
P5h	"	20	20	20	20	20	100	7'-6"	782	Bt.
P5i	"	6	6	6	6	6	36	7'-9"	291	Bt.
P5j	"	6	6	6	6	6	36	8'-3"	310	Bt.
P5k	5/8"	6	6	6	6	6	36	10'-3"	385	Bt.
P4a	1/2"	24	24	24	24	24	120	4'-6"	361	Bt.
P4b	1/2"	6	6	6	6	6	30	5'-6"	110	Bt.
P4c	1/2"	4	4	4	4	4	20	2'-8"	36	St.
C11a	1 1/4"	32				32	64	29'-9"	10,116	St.
C11b	"	4				4	8	15'-0"	638	St.
C11c	"	8				8	16	24'-0"	2,040	St.
C11d	"	4				4	8	18'-0"	765	St.
C11e	"	4				4	8	10'-0"	425	St.
C11f	1 1/4"	6				6	12	9'-0"	575	St.
C11g	1 1/4"	12				12	24	33'-6"	4,272	St.
C6a	3/4"	40				40	80	13'-0"	1,562	Bt.
C6b	"	4				4	8	9'-9"	117	Bt.
C6c	"	6				6	12	11'-3"	203	Bt.
C6d	"	6				6	12	13'-9"	248	Bt.
C6e	"	6				6	12	16'-3"	293	Bt.
C6f	"	6				6	12	18'-9"	338	Bt.
C6g	"	6				6	12	19'-3"	347	Bt.
C6h	3/4"	6				6	12	21'-9"	392	Bt.
REPLACEMENT STEEL LIST										
RE11	1 1/4"						5	8'-3"	219	St.
RE9	1"						1	7'-4"	25	St.
RE8	1"						1	7'-4"	20	St.
RE6	3/4"						5	6'-6"	49	St.
RE5	5/8"						3	6'-1"	19	St.
RE4	1/2"						2	5'-8"	8	St.

Bending Diagrams

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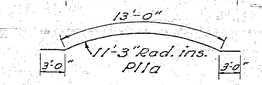
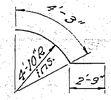
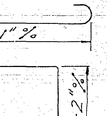
F11a 17'-6" ℄
F11b 16'-6" ℄
F11e 26'-6" ℄
F9a 9'-6" ℄
F9b 16'-6" ℄

F11c 7'-10" ℄
F11d 13'-7" ℄

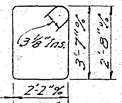




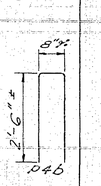
P11d 7'-1" ℄



P5a 3'-2 1/4" ℄
P5b 2'-11 1/4" ℄
P5c 2'-8 1/4" ℄
P5d 2'-6 3/4" ℄

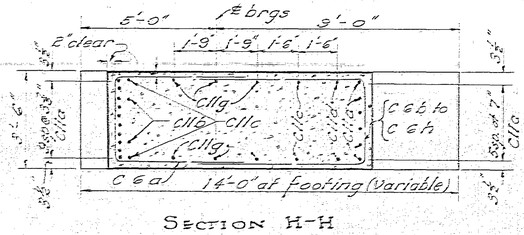


P5e 2'-2" ℄
P5f 1'-8" ℄

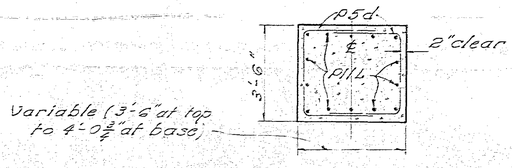


P4a 1'-0" ±
P5h 2'-6 3/4" ℄
P5i 2'-8 1/4" ℄
P5j 2'-11 1/4" ℄
P5k 3'-11 1/4" ℄

C6a 5'-1" ℄
C6b 3'-5 1/2"
C6c 4'-2 1/2"
C6d 5'-1 1/2"
C6e 6'-8 1/2"
C6f 7'-11 1/2"
C6g 8'-2 1/2"
C6h 9'-5 1/2"



SECTION H-H



SECTION I-I

Minimum clearance of reinforcing shall be 2" unless otherwise shown.

CITY OF COLUMBUS, OHIO
DELAWARE-FRANKLIN COUNTY LINE ROAD
BRIDGE
PIERS NOS. 1 AND 5
STEEL LISTS FOR PIERS

SCALE 1/4" = 1'-0"
JANUARY 1953

BURGESS & NIPLE
CONSULTING ENGRS.
COLUMBUS, OHIO

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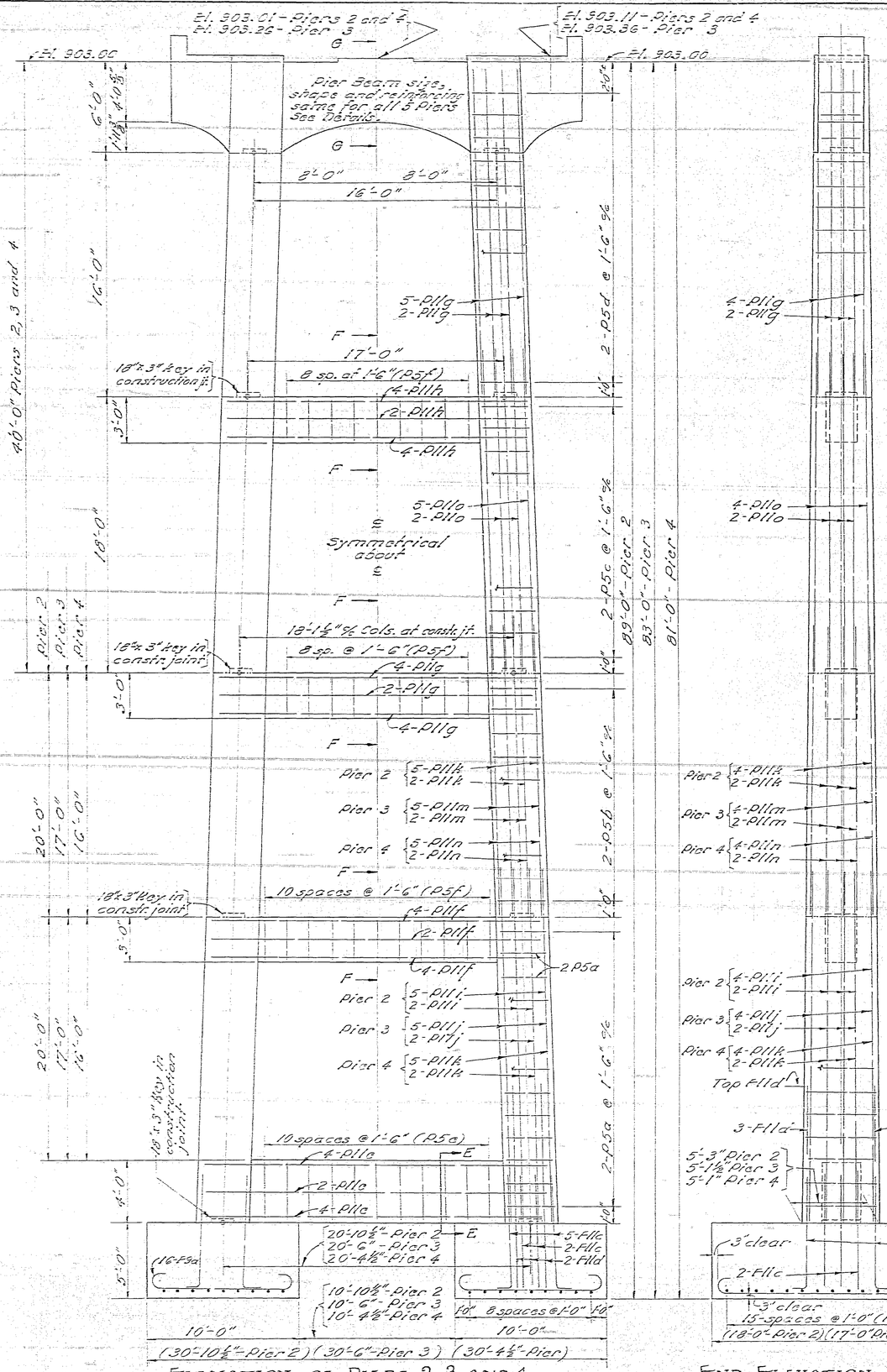

ELEVATION OF PIERS 2, 3, AND 4 (PIER 4 SHOWN)

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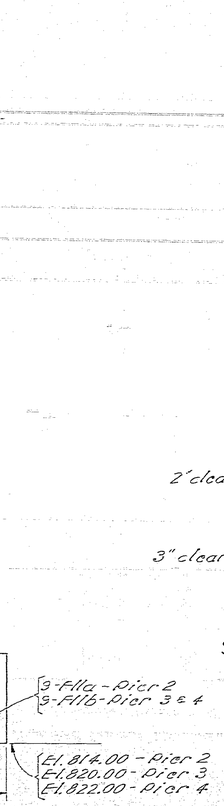
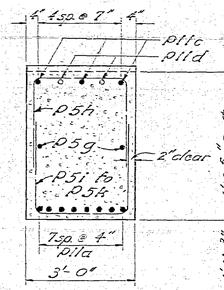
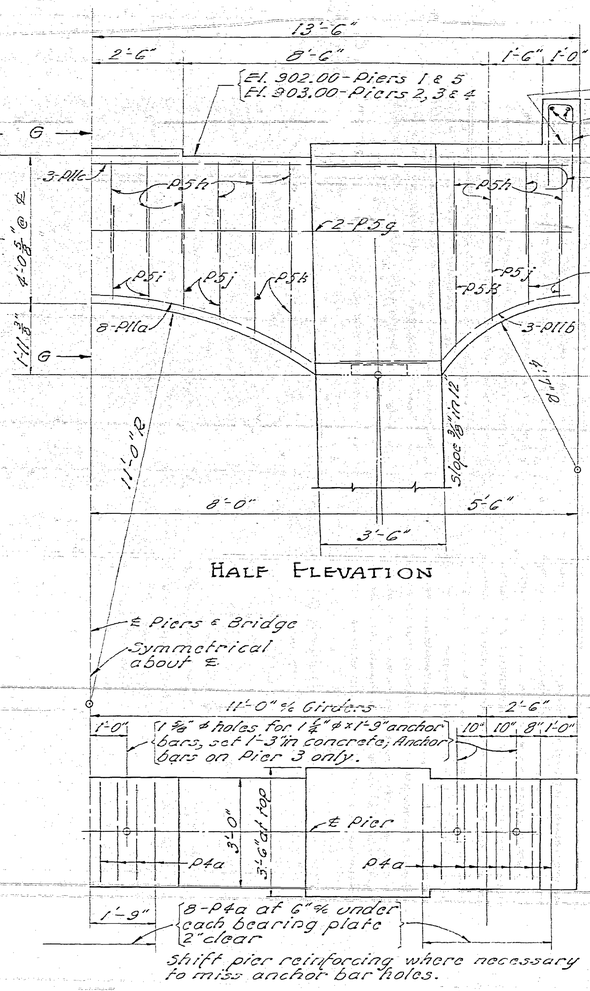
SCALE: 1/4" = 1'-0"



END ELEVATION OF PIERS 2, 3 AND 4

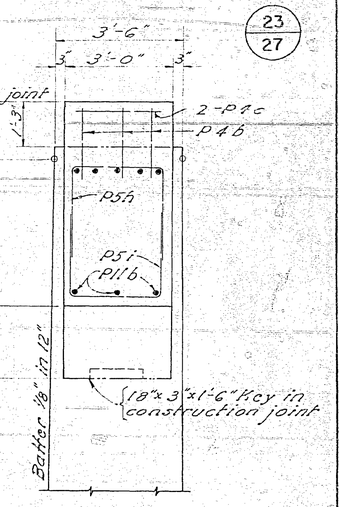


SECTION G-G



HALF ELEVATION

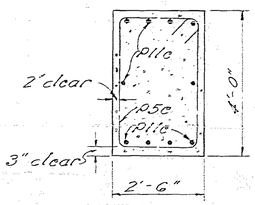
HALF PLAN



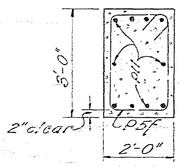
END VIEW

PIER BEAM DETAILS

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



SECTION E-E



SECTION F-F

Minimum clearance of reinforcing shall be 2" unless otherwise shown.

CITY OF COLUMBUS, OHIO

DELAWARE-FRANKLIN COUNTY LINE ROAD

BRIDGE

PIERS 2, 3 AND 4

SCALE AS SHOWN

JANUARY 1953

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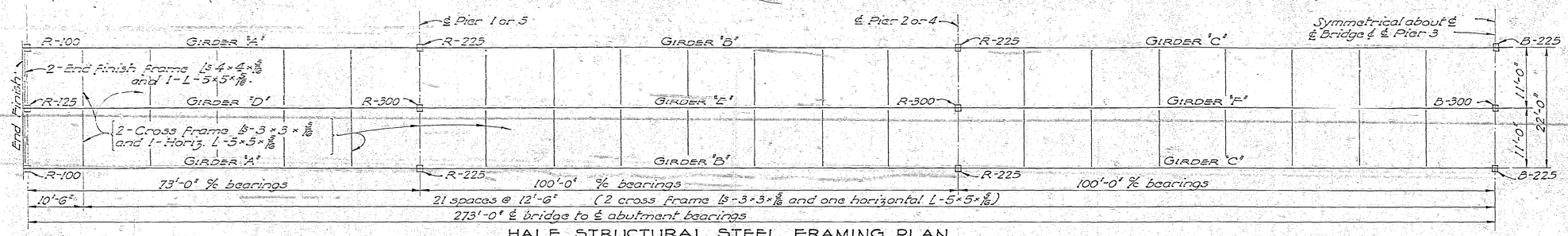
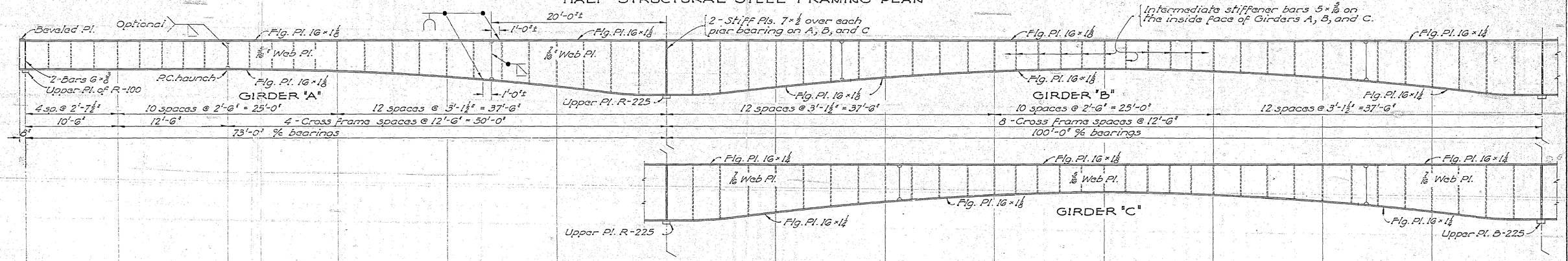
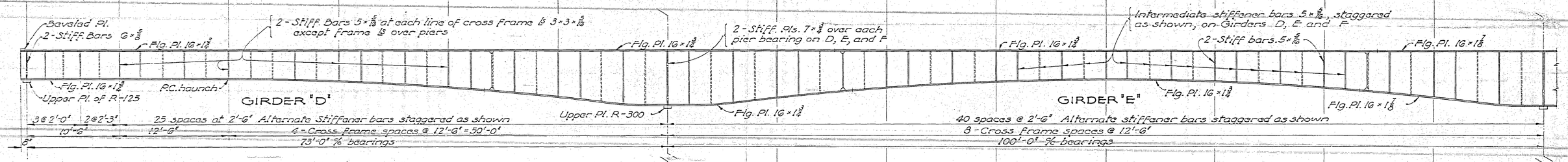
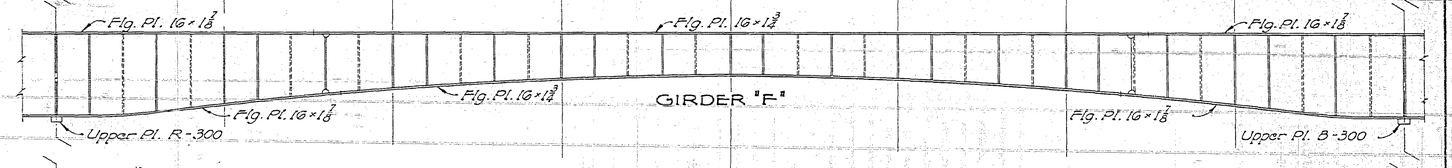
COLUMBUS, OHIO

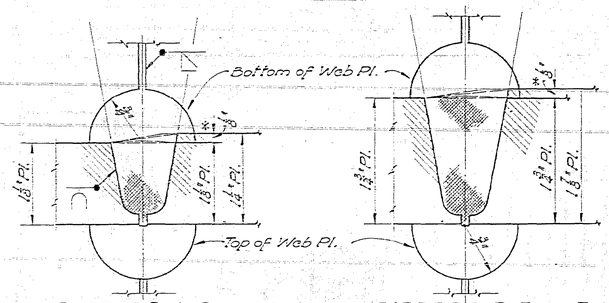


HALF STRUCTURAL STEEL FRAMING PLAN



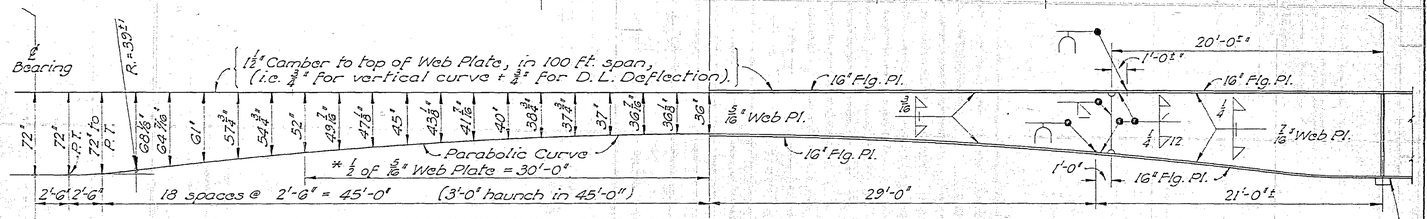






FULL SIZE SECTIONS OF FLANGE BUTT WELDS

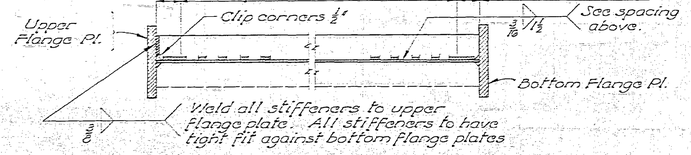
* The web plate depth, as shown for a parabolic haunch, may be increased up to 8" where necessary to keep lower surfaces of flange plates in the same plane.



TEMPLATE FOR PARABOLIC HAUNCH FOR WEB PLATES

TYPICAL GIRDER WELDING DIAGRAM (EXCEPT STIFFENERS)

4 1/2"	1 1/2" welds @ 6" %	4 1/2"	5 × 5/16 Intermediate Stiff. bars
4 1/2"	6 spaces @ 4 1/2"	4 1/2"	6 × 3/8 Stiff. bar
6"	6 spaces @ 4"	6"	6 × 5/8 Stiff. bar
4 1/2"	14 spaces @ 4 1/2"	4 1/2"	7 × 1/2 Stiff. Pl.
4 1/2"	14 spaces @ 4 1/2"	4 1/2"	7 × 3/8 Stiff. Pl.



STIFFENER WELDING DETAILS

The Field splices shown on the girder details may be made in the shop and a new field splice made in each girder over each pier without staggering flange and web splices. If field splices are made over the piers, the 2 - 7 × 1/2 or 2 - 7 × 3/8 bearing stiffener plates over each pier bearing shall be changed to two pairs of 6 × 7/16 stiffener bars, 8" % over each pier bearing.

CITY OF COLUMBUS, OHIO

DELAWARE-FRANKLIN COUNTY LINE ROAD

BRIDGE

GIRDER DETAILS

STRUCTURE FRAMING PLANS

SCALE 3/16" = 1'-0"

JANUARY 1953

BURGESS & NIPLE CONSULTING ENGRS. COLUMBUS, OHIO

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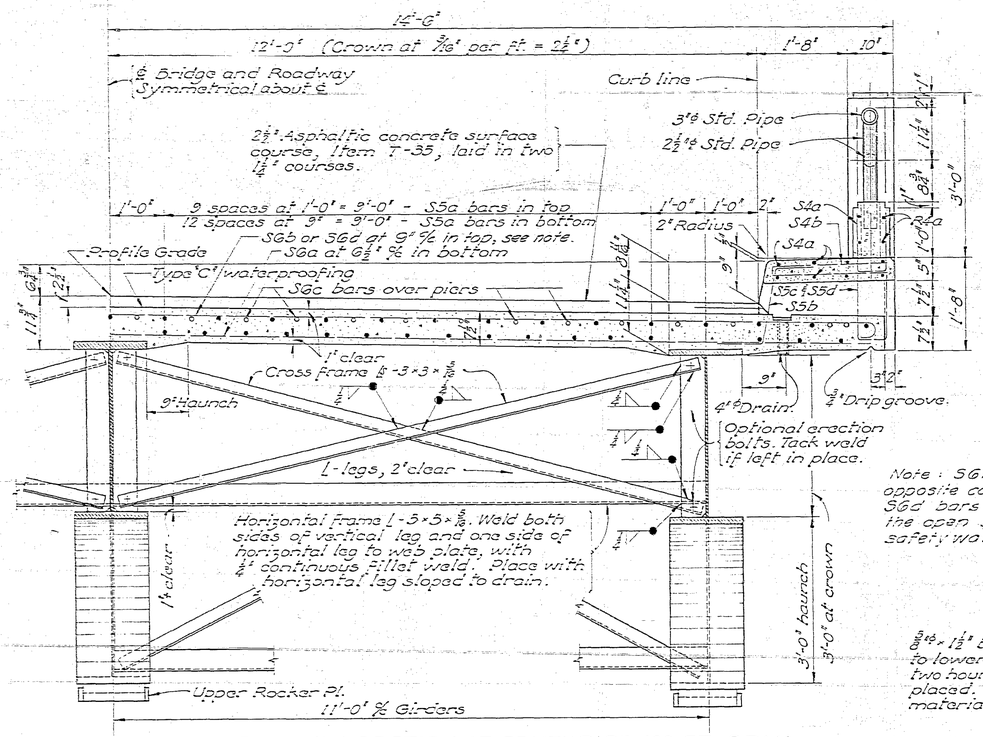
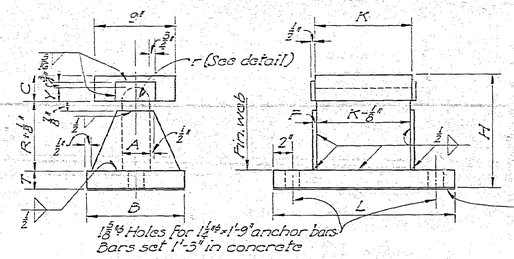


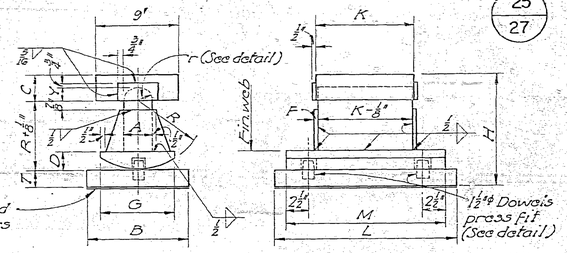
TYPICAL HALF ROADWAY SECTION AT CENTER OF 100 FT. SPAN

Note: S6b bars are placed opposite concrete railing posts; S6d bars are placed opposite the open scuppers under safety walk.



STRUCTURAL STEEL BOLSTER

See table below for additional dimensions



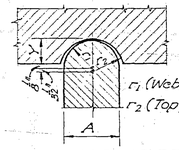
STRUCTURAL STEEL ROCKER

See table below for additional dimensions

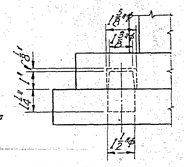
Note: Top plate of rocker or bolster shall be attached to bottom flange plate with 3/8" fillet weld all around.

Bolster No.	Rocker No.	F	B	L	H	T	R	C	A	Y	K	D	G	M	Weight each-lb. Bolster	Weight each-lb. Rocker	No. Req'd.	Total Lb. Weight
	R-100	1/2	10	18	10 7/8	1 3/4	6 1/2	2 1/2	2 1/2	1 3/16	9	2	7 1/2	16		255	4	1020
	R-125	1/2	11	20	12 5/8	2	7 1/2	3	3	1 7/16	10 1/2	2	8	17 1/2		345	2	690
	R-225	5/8	17	24	17 1/8	2 1/2	11	3 1/2	3	1 7/16	13	2 3/4	9	21		690	8	5520
B-225		5/8	17	24	17 1/8	2 1/2	11	3 1/2	3	1 7/16	13	2 3/4	9	21	600		2	1200
	R-300	3/4	20	28	19 1/8	3	12 1/2	3 1/2	3 1/2	1 11/16	14	3 1/4	12	24 1/2		1040	4	4160
B-300		3/4	20	28	19 1/8	3	12 1/2	3 1/2	3 1/2	1 11/16	14	3 1/4	12	24 1/2	880		1	880

Weights given are for rocker or bolster complete (including sheet lead).

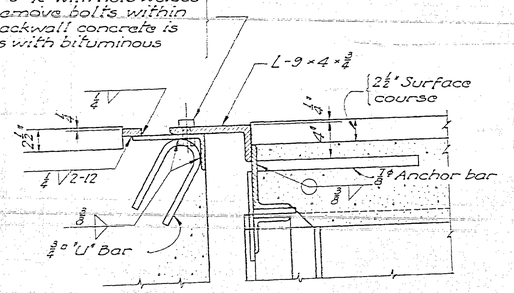


TOP BEARING DETAIL



DOWEL DETAIL

3/8" ϕ × 1 1/2" Bolts at 2'-0" % with nuts welded to lower angle. Remove bolts within two hours after backwall concrete is placed. Fill holes with bituminous material.



PART SECTION A-A

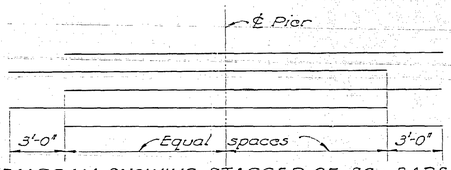
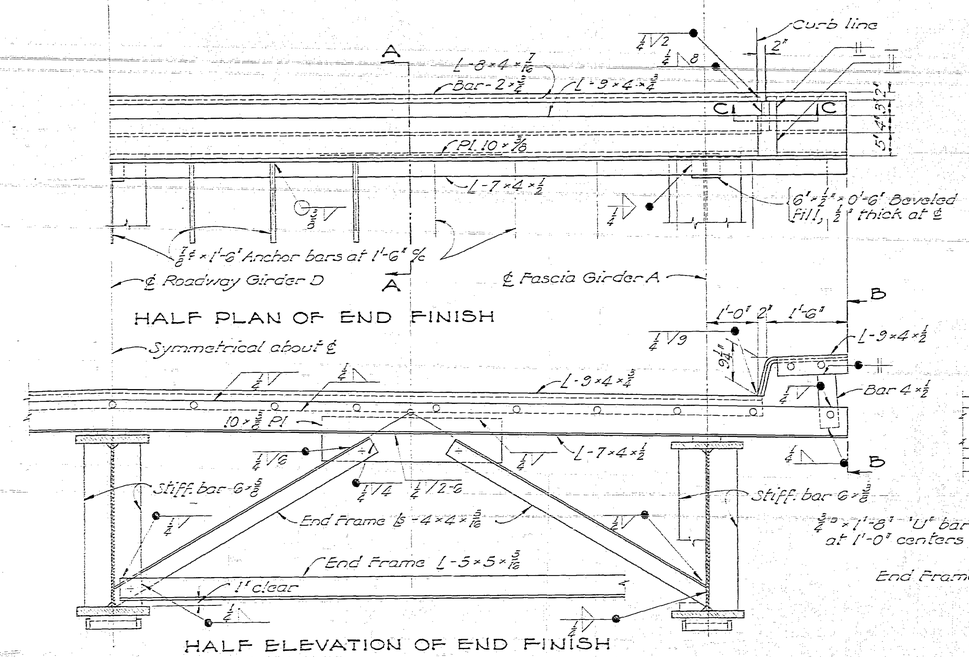


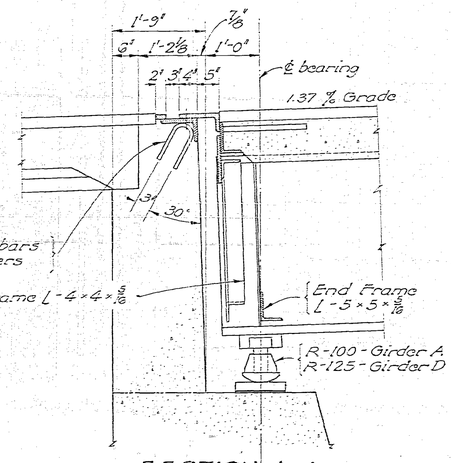
DIAGRAM SHOWING STAGGER OF S6c BARS OVER PIERS



HALF PLAN OF END FINISH

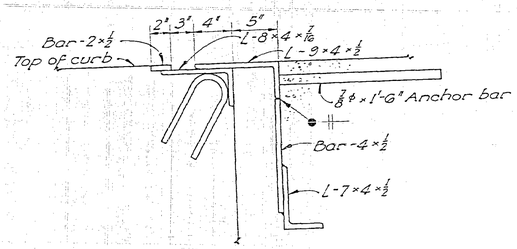
HALF ELEVATION OF END FINISH

Scale: 3/4" = 1'-0"

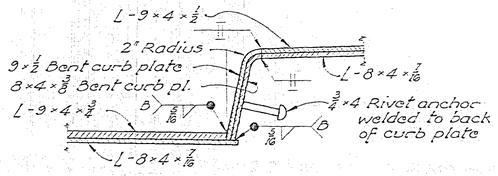


SECTION A-A

Scale: 3/4" = 1'-0"



VIEW B-B



SECTION C-C

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

CITY OF COLUMBUS, OHIO

DELAWARE-FRANKLIN COUNTY LINE ROAD

BRIDGE ROADWAY SECTION

END FINISH DETAILS

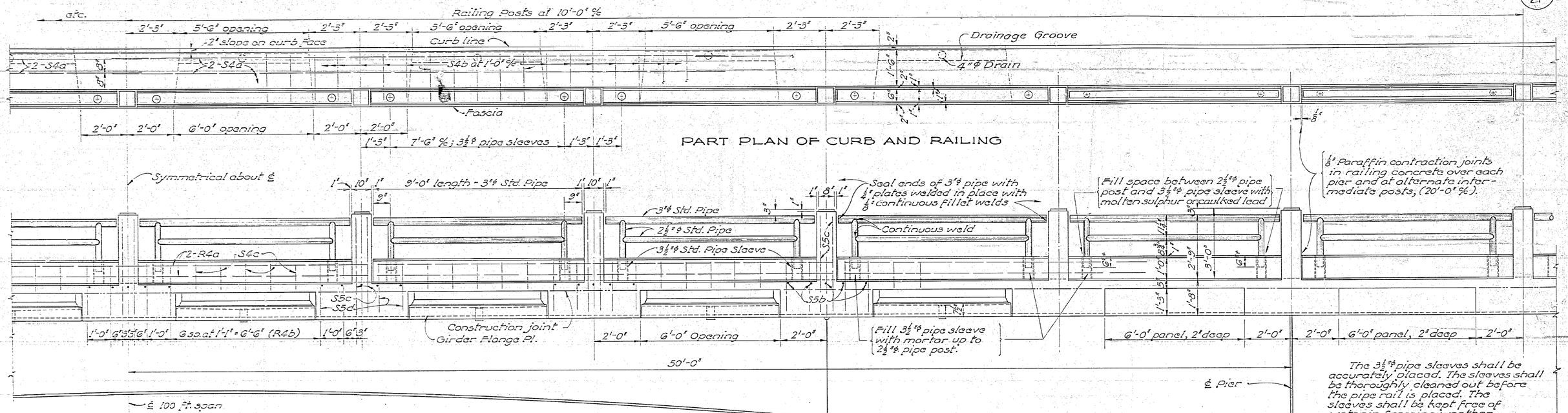
ROCKERS AND BOLSTERS

SCALE AS SHOWN

JANUARY 1953

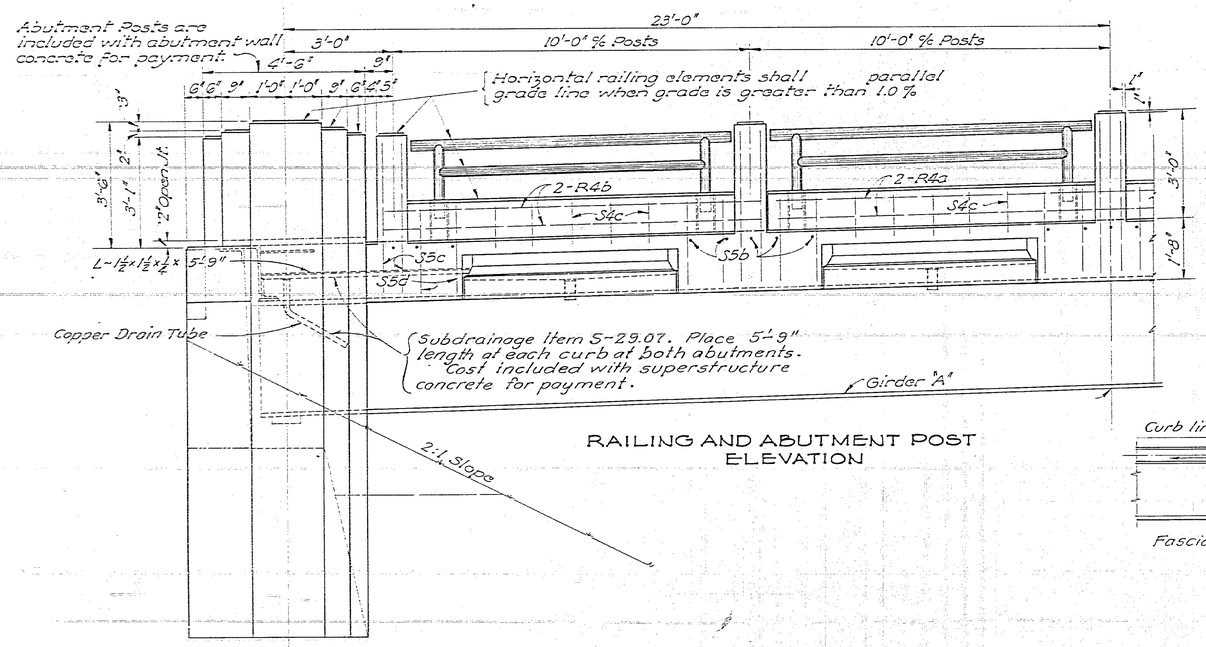
BURGESS & NIPLE
CONSULTING ENGRS.
COLUMBUS, OHIO

M-35

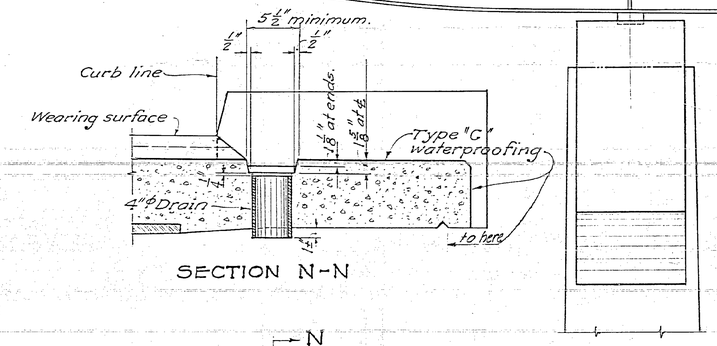


PART PLAN OF CURB AND RAILING

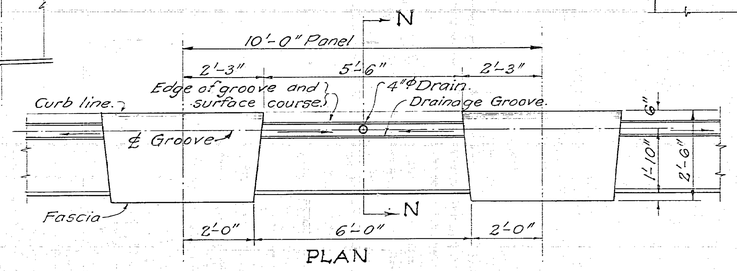
PART ELEVATION OF FASCIA, FASCIA GIRDER AND RAILING



RAILING AND ABUTMENT POST ELEVATION



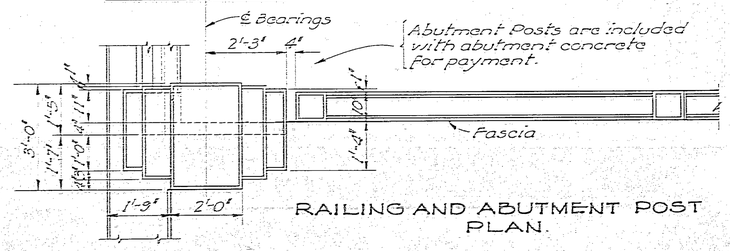
SECTION N-N



PLAN

DRAINAGE DETAIL

4"φ Drains shall be Transite Pipe or approved equal. Cost of drains included with superstructure concrete for payment.



RAILING AND ABUTMENT POST PLAN.

CITY OF COLUMBUS, OHIO
DELAWARE-FRANKLIN COUNTY LINE ROAD
BRIDGE
RAILING DETAILS

SCALE 1/2" = 1'-0"
JANUARY 1953

BURGESS & NIPLE
CONSULTING ENGRS.
COLUMBUS, OHIO

M-36

RECAPITULATION OF QUANTITIES

			EARTHWORKS					E-9	GUARD RAIL		E-12	I-9	I-3	I-8	I-17	
SHEET NO	STATION FROM	STATION TO	E-1 EXCAVATION CUBIC YARDS	EMBANKMENT CUBIC YARDS	EMBANKMENT + 20% CUBIC YARDS	SPECIAL ITEM LOOSE ROCK RIPRAP SQUARE YARDS	SPECIAL ITEM 6" GRAVEL CUSHION SQUARE YARDS	TREES & STUMPS 12" AND OVER TO BE REMOVED EACH	I-15 STEEL BEAM TYPE (DEEP) LIN. FT.	I-15 REMOVED AND DISPOSED OF LIN. FT.	PIPE REMOVED LIN. FT.	STONE UNDERDRAINS NO. 2 LIN. FT.	ROADWAY DRAINAGE 12" M 6.5 LIN. FT.	INLETS ADJUSTED TO GRADE EACH	SIDE APPROACHES, MAILBOX TURNOUT & BERM MATERIAL CUBIC YARDS	
4	133+19	146+00	776	67,792	81,350	10,068	9,972	47	1388	487	1366	108				
5	146+00	157+00	876	150,231	180,277	21,619	21,460	6	1888	685	582	112				
6	157+00	166+77	582	53,528	64,234	6,456	6,318	0	1600		65	128				
2	INTERSECTION DETAIL												56	2	19	
TOTAL			2,234	271,551	325,861	38,143	37,750	53	4876	1172	2013	348	56	2	19	

EMBANKMENT + 20 % - EXCAVATION = 323,627 C.Y. NET BORROW
WATER @ 5 GAL. PER CU. YD. OF EMBANKMENT = 1358 M. GALLONS.

CALCULATION OF QUANTITIES

PAVEMENT ITEMS	QUANTITY	UNIT
ITEM B-20 WATERBOUND MACADAM BASE		
Sta. 133+30.0 to 141+84.75 : A = 854.75 × 21 ÷ 9 = 1994.42 sq. yds.		
Sta. 147+65.25 to 166+77.00 : A = 1911.75 × 21 ÷ 9 = 4460.75 " "		
Intersection turn-out (by planimeter) A = 72.0 " "		
6527.17 " "	6527	SQ. YDS.
ITEM T-30 BITUMINOUS PRIME COAT		
AT .35 Gallons per sq. yd of B-20 Base		
Q = .35 × 6527 = 2284.5 gallons	2285	GALLONS
ITEM B-35 ASPHALTIC CONCRETE LEVELING COURSE		
Sta. 133+30 to 141+84.75 : Q = 854.75 × 20 × 0.125 ÷ 27 = 79.14 cu. yds.		
Sta. 147+65.25 to 166+77.00 : Q = 1911.75 × 20 × 0.125 ÷ 27 = 177.01 " "		
Intersection turnout (by planimeter) = 2.95 " "		
Total B-35 in 1½" crse. on B-20 Base = 259.10 " "		
Two approach slabs: A = [(25.5+20) 2 × 15 ÷ 9] 2 = 75.8 sq. yds.		
Bridge deck: Sta 141+99.75 to 147+50.25 = 550.5 × 24 ÷ 9 = 1468 sq. yds.		
For 1¾" thick course, V = (1468.0 + 75.8) × 1.25 ÷ 36 = 53.60 " "		
Total 312.70 " "	313	CU. YDS.
ITEM T-35 ASPHALTIC CONCRETE SURFACE COURSE		
Amount on B-20 Base = 259.10 × 1.25 ÷ 1.50 = 215.92 cu. yds.		
Amount on approach slabs & bridge deck = 53.60 " "		
Total = 269.52 " "	270	CU. YDS.
ITEM I-7 REINFORCED CONCRETE APPROACH SLAB		
Area of two approach slabs = [(25.5+20) 2 × 15 ÷ 9] × 2 = 75.8 sq. yds.	75.8	SQ. YDS.

ROADWAY ITEMS	QUANTITY	UNIT
ITEM L-9 SEEDING & PROTECTING, TYPE "A"		
Sta. 133+30 to 134+45 A = 115 × 12 ÷ 9 = 153.3 sq. yds.		
Sta. 134+45 to 135+00 A = 55 × 26 ÷ 9 = 158.9 " "		
Sta. 135+00 to 141+95 A = 695 × 16 ÷ 9 = 1235.6 " "		
Sta. 147+55 to 165+00 A = 1745 × 16 ÷ 9 = 3102.2 " "		
Sta. 165+00 to 166+77 A = 177 × 26 ÷ 9 = 511.4 " "		
Total = 5161.4 " "	5161	SQ. YDS.
ITEM L-9 COMMERCIAL FERTILIZER		
Area of application same as for Seeding & Protecting		
Applied at a rate of 20 lbs. per 1000 sq. ft.		
Weight = 5161 × 9 ÷ 1000 × 20 = 928.98 lbs = 0.465 tons	0.465	TONS
ITEM L-9 AGRICULTURAL GROUND LIMESTONE		
Area of application same as for Seeding & Protecting		
Applied at a rate of 100 lbs. per 1000 sq. ft.		
Weight = 5161 × 9 ÷ 1000 × 100 = 4644.9 lbs. = 2.323 tons	2.323	TONS

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