

REPRODUCTION

APR 24 1980

FHWA REGION	STATE	PROJECT	
5	OHIO		

76
101

LAKE COUNTY
LAK 306-6.15

ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	WINGS	GEN'L
503	1395	CU. YD.	UNCLASSIFIED EXCAVATION		1161	234	
503	LUMP	LUMP	COFFERDAMS, CRIBS AND SHEETING		LUMP	LUMP	
504	1100	SQ. FT.	SHEET PILING LEFT IN PLACE (MIN. SECT. MOD. 38.3 IN. PER FT. OF FOOTING)		1100		
505	LUMP	LUMP	TEST PILE		LUMP		
507	2600	LIN. FT.	STEEL PILES, HP 12 X 53		2600		
506	LUMP	LUMP	PILE TEST LOAD		LUMP		
509	53,677	LB.	REINFORCING STEEL		41,514	12,163	
511	276	CU. YD.	CLASS "C" CONCRETE, FOOTINGS		194	82	
511	390	CU. YD.	CLASS "C" CONCRETE, ABOVE FOOTINGS		331	59	
512	13	SQ. YD.	TYPE "B" WATERPROOFING			13	
514	519,400	LB.	FIELD PAINTING OF NEW STRUCTURAL STEEL, SYSTEM A	519,400			
516	70	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER			70	
518	98	LIN. FT.	8" PERFORATED, HELICAL CORRUGATED STEEL PIPE, INCLUDING SPECIALS, 707.01, BITUMINOUS COATED AS PER 707.04		98		
518	53	LIN. FT.	8" NON-PERFORATED HELICAL CORRUGATED STEEL PIPE, INCLUDING SPECIALS, 707.01, BIT. COATED AS PER 707.04		53		
518	271	LIN. FT.	8" HALF-ROUND PERFORATED ALLOY 707.11 OR GALVANIZED STEEL 707.08 DRAIN PIPE	271			
518	168	CU. YD.	POROUS BACKFILL		122	46	
523	3	HOURS	DYNAMIC PILE TESTS		3		
809	328	SQ. YD.	ASPHALT PORTLAND CEMENT CONCRETE	328			
810	438,800	LB.	STRUCTURAL STEEL FOR STRUCTURES CARRYING RAILROAD TRAFFIC - A36	438,800			
810	80,600	LB.	STRUCTURAL STEEL FOR STRUCTURES CARRYING RAILROAD TRAFFIC - A588	80,600			

NOTE: "GENERAL PLAN" FOR THE CONRAIL BRIDGE AND THE "DRAINAGE PLAN" IS ON SHEET 2 OF 28

GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF "SPECIFICATIONS FOR STEEL RAILWAY BRIDGES" OF THE AMERICAN RAILWAY ENGINEERING ASSOCIATIONS, 1975 EDITION.

CONSTRUCTION AND MATERIAL SPECIFICATIONS: STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DATED JANUARY 1, 1979.

DESIGN DATA:
DESIGN LOADING - COOPER E-80 WITH DIESEL IMPACT.

CONCRETE CLASS "C" - UNIT STRESS 1333 PSI FOR SUBSTRUCTURES.

STRUCTURAL STEEL - ASTM A36-UNIT STRESS 20,000 PSI

DECK PLATES - ASTM A588

REINFORCING STEEL ASTM A615 - UNIT STRESS 20,000 PSI

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 65 TONS PER PILE FOR THE ABUTMENTS.

FOUNDATION BEARING PRESSURE: RETAINING WALL FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2.5 TONS PER SQ. FT.

RAILROAD AERIAL LINES WILL BE RELOCATED BY THE RAILROAD. THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THE RAILROAD IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION SHALL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

UTILITY LINES: ALL EXPENSES INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND THE OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ASPHALT PORTLAND CEMENT CONCRETE

USE:
THIS CONCRETE IS TO BE USED AS A PROTECTION COURSE OVER MEMBRANE WATERPROOFING AND AS A PROTECTION COURSE OVER METAL DECKS OF RAILROAD BRIDGES.

MATERIALS:

- EMULSIFIED ASPHALT SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATIONS SS-A-674b.
- FINE AGGREGATE SHALL BE AS SPECIFIED FOR CONCRETE.
- COARSE AGGREGATE SHALL BE AS SPECIFIED FOR CONCRETE WITH THE FOLLOWING GRADATION:

SIEVE SIZE (INCHES)	PERCENT PASSING BY WEIGHT
3/4"	100
1/2"	90-100
3/8"	40-70
NO. 4	0-15

MIX:

THE ASPHALT CONCRETE SHALL BE PROPORTIONED BY VOLUME, 1 PART PORTLAND CEMENT, 2 PARTS FINE AGGREGATE, 3 PARTS COARSE AGGREGATE, 1 1/2 PARTS EMULSIFIED ASPHALT TYPE SS-1- AND MINIMUM AMOUNT OF WATER REQUIRED TO MAKE A WORKABLE MIX. THE DRY MATERIALS SHALL FIRST BE THOROUGHLY MIXED THEN THE WATER ADDED TO PRODUCE A UNIFORM MIXTURE AFTER WHICH THE EMULSIFIED ASPHALT IS ADDED AND MIXING CONTINUED UNTIL OF UNIFORM COLOR.

APPLICATION:

WORK SHALL BE DONE ONLY WHEN THE TEMPERATURE WILL BE ABOVE 40°F FOR A PERIOD OF AT LEAST 24 HOURS AFTER STARTING APPLICATION. SURFACE TO BE COVERED SHALL BE THOROUGHLY CLEANED AND GIVEN A UNIFORM PRIMER OR BOND COATING OF EMULSIFIED ASPHALT TYPE RS-1, USING NOT LESS THAN 1 GAL./80 SQ. FT.

THE ASPHALT CONCRETE SHALL THEN BE SCREEDED OVER THE PRIMED AREA TO THE THICKNESS INDICATED ON THE DRAWINGS. AFTER THE CONCRETE HAS SET SUFFICIENTLY TO ALLOW A MAN TO WALK UPON IT WITHOUT INDENTATION BUT PRIOR TO FINAL SET, IT SHALL BE GIVEN A UNIFORM COATING OF EMULSIFIED ASPHALT TYPE RS-2 APPLIED AT THE RATE OF ONE GALLON PER 50 SQ. FT. THIS FINAL COATING SHALL BE COVERED WITH CLEAN SAND. THE CONCRETE SHALL BE REINFORCED WITH WIRE FABRIC WHICH SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATION DESIGNATION A-185-58T. THE MINIMUM GAGE OF THE WIRES SHALL BE NO. 10 AND THE WIRE SHALL HAVE A MAXIMUM SPACING OF 4" IN BOTH DIRECTIONS.

METHOD OF MEASUREMENT: THE YARDAGE TO BE PAID FOR SHALL BE THE NUMBER OF CU. YDS. AS DETERMINED BY CALCULATIONS FROM PLAN DIMENSIONS, IN PLACE, COMPLETED AND ACCEPTED.

BASIS OF PAYMENT: THE YARDAGE AS PROVIDED ABOVE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD BID FOR "ITEM SPECIAL ASPHALT PORTLAND CEMENT CONCRETE" WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING, PLACING, FINISHING AND CURING, AND ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

BUTYL RUBBER MEMBRANE SHALL MEET THE REQUIREMENTS OF A.R.E.A. "SPECIFICATIONS FOR MEMBRANE WATERPROOFING" CHAPTER 29, PART 2, PB, 3E AND SHALL BE INSTALLED PER PC.3B.

REFERENCE SHALL BE MADE TO STATE OF OHIO, DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS: 809 DATED 1-1-71, 810 DATED 1-1-71 AND 827 DATED 1-1-71.

FRANKLIN CONSULTANTS INC. 116 / 28					
Consulting Engineers					
COLUMBUS.			OHIO		
ESTIMATED QUANTITIES & GENERAL NOTES					
BRIDGE NO. LAK - 306 - 0638					
S. R. 306 UNDER CONRAIL					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
AM	GKS	GKS	SM	Jf	10/22/79
					11-14-80