Record Drawings – Lake Sympson Dam Rehabilitation (Spillway and US62 Bridge)

AGENCY
COMMONWEALTH OF KENTUCKY
DEPARTMENT FOR NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION
BUREAU OF NATURAL RESOURCES
DIVISION OF WATER RESOURCES

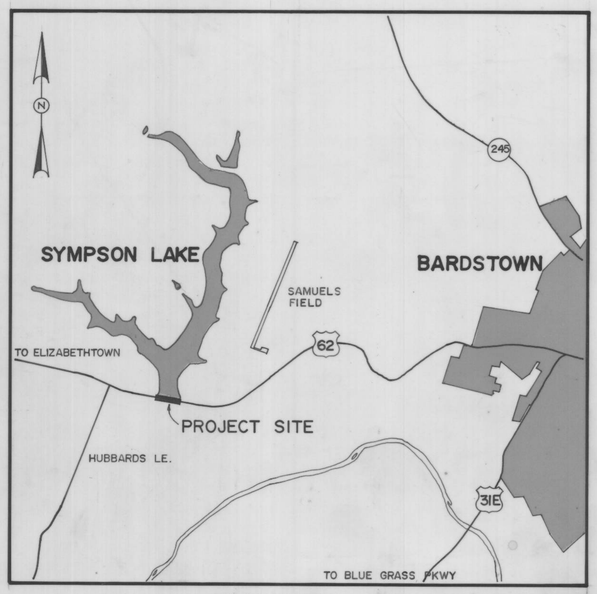
LAKE SYMPSON DAM REHABILITATION

NELSON COUNTY, KENTUCKY

HAZARD CLASSIFICATION "B"



REGIONAL MAP



VICINITY MAP

INDEX

DRWG NO.	HIGHWAY DRAWINGS	DRWG NO.	SPILLWAY DRAWINGS
1.	EST. OF QUANTITIES	12	TEMP. RUNAROUND SECTIONS
2.	GENERAL NOTES	13	ROADWAY PLAN & PROFILE
3.	BRIDGE DETAILS	13A	ROADWAY CROSS SECTIONS
4.	SPILLWAY PLAN	14	SPILLWAY SITE PLAN
5.	ABUTMENT ELEV. & DETAILS	15	OUTLET CHANNEL SITE PLAN
6.	BRIDGE DETAILS	16	SPILLWAY PLAN
7.	FRAMING PLAN	17	SPILLWAY SECTION
8.	SUPERSTRUCTURE PLAN	18	SPILLWAY STRUCTURE
9.	REINFORCING SCHEDULE & BRIDGE CONSTR. ELEVATIONS	19	OUTLET STRUCTURE
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10.	SUBSURFACE EXPLORATION	21	SPILLWAY CROSS SECTIONS
11.	TEMPORARY RUNAROUND	22	SPILLWAY CROSS SECTIONS
		23	SPILLWAY CROSS SECTIONS
		24	CHANNEL CROSS SECTIONS

DAMES & MOORE
CONSULTANTS IN THE ENVIRONMENTAL AND APPLIED EARTH SCIENCES
1015 RICHMOND RD. LEXINGTON, KY. 40502

THE CONTROL OF ACCESS ON THIS PROJECT SHALL BE BY PERMIT

PLANS APPROVED 11-29 19 74 BY Jno. F. Kemper
STATE HIGHWAY ENGINEER

OWNER
COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE
AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

STATE OF KENTUCKY
THEODORE ALAN GLEASON
9282
REGISTERED
PROFESSIONAL ENGINEER

10-159

UPDATE DATE

LETTING DATE

DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

NELSON COUNTY
ELIZABETHTOWN - BARDSTOWN ROAD
U.S. 62 OVER SYMPSON LAKE SPILLWAY

REFERENCES AND ESTIMATE OF QUANTITIES

ITEM	SHEET NO.	CONCRETE CLASS "AA" SUBSTRUCTURE CU. YDS.	CONCRETE CLASS "A A" SUPERSTRUCTURE CU. YDS.	STEEL REINFORCEMENT LBS.	EPOXY COATED STEEL REINFORCEMENT LBS.	STRUCTURAL STEEL (1) LUMP SUM	STRUCTURE EXCAVATION CU. YDS. COMMON	STEEL PILES LIN. FT.	TEST PILES LIN. FT.		PRECAST P.C.I. BEAM TYPE II LIN. FT.	
COVER SHEET	1											
GENERAL NOTES	2											
LAYOUT	3											
SUBSTRUCTURE												
FOUNDATION PLAN	4											
ABUTMENT SECTIONS	5											
ABUTMENT SECTIONS & DETAILS	6											
REINFORCING STEEL SCHEDULE	9											
SUBSTRUCTURE TOTALS		433		136,132		2101						
SUPERSTRUCTURE												
SUPERSTRUCTURE SLAB SECTION	5											
PRESTRESSED CONCRETE BEAMS	7										322.4	
PLAN SUPERSTRUCTURE	8											
REINFORCING STEEL SCHEDULE	9											
SUPERSTRUCTURE TOTALS			90	10,336	7926	540						
SUBSURFACE DATA	10											
BRIDGE TOTALS		433	90	146,468	7926	(1)	IN SPILLWAY QUANT.	NONE	NONE		322.4	

(1) APPROXIMATE WEIGHT OF STRUCTURAL STEEL 2641 LBS.

KY. D.O.T. SPECIAL PROVISIONS

37-79 DRYER DRUM MIXING
38A-79 BUY AMERICA

BILL OF INCIDENTAL MATERIAL

ITEM	NO.	SIZE AND LOCATION

KY. D.O.T. STANDARD DRAWINGS

STANDARD DRAWINGS LISTED BELOW ARE THE CURRENT EDITION AND ARE TO BE USED WITH THESE PLANS.

BJE 001 03
BJE 002 03
BBP 001 04
BJJ 003 03
RBR 001 05
RBR 005 05
RBI 001 02
BDP 001 02
RBR 030-01
BDP 002-03
BDP 003-03
BDP 004-03
BDP 005-03
BDP 006-03
BDP 007-03
RGX 001 01
RBR 015-01
RBR 016-01
RFC 001 02
TSC 261-01
TSC 300-01
BJJ 004 03
RBR 035-01
RGX 010-01
RRE 002-01
TSC 260-05
BGX 006-02

STATE OF KENTUCKY — THEODORE ALAN GLEASON — 9282 — REGISTERED PROFESSIONAL ENGINEER

SHEET 1 OF 24

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN - BARDSTOWN ROAD
STATION 50+45.00 P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

DESIGNED BY C.S.F. DATE
DETAILED BY C.S.H. DATE
TRACED BY DATE
CHECKED BY DATE
CHECKED BY DATE
CHECKED BY DATE
REVISED
REVISED
REVISED

DIETZGEN 11-76

M10-160

UPDATE DATE

LETTING DATE

GENERAL NOTES

SPECIFICATIONS

THE KENTUCKY DEPARTMENT OF TRANSPORTATION, BUREAU OF HIGHWAY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION SHALL APPLY TO THIS PROJECT. CONSTRUCTION OF U.S. 62, INCLUDING SUBGRADE, PAVEMENT, SHOULDERS, BRIDGE AND GUARDRAIL SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE KBH SPECS.

DESIGN LOAD.

THIS BRIDGE IS DESIGNED FOR H620-44 LIVE LOAD AS SPECIFIED IN 1973 AASHO SPECIFICATIONS. THIS BRIDGE IS DESIGNED FOR A WIND LOAD BASED ON A WIND VELOCITY OF 80 MPH.

DESIGN STRESSES

CLASS A REINFORCED CONCRETE: f_s = 20,000 PSI f'_c = 3000 PSI u (FOR E_o) = 300 PSI
f_c = 1200 PSI u (EMBEDMENT) = 200 PSI n = 10

CLASS AA REINFORCED CONCRETE f_s = 20,000 PSI f'_c 4000 PSI n = 8
f_c = 1600 PSI (OTHER THAN SLAB)
f_c = 1200 PSI (FOR DECK SLAB)

FOR PRESTRESSED GIRDER CONCRETE

f_s = 20,000 PSI
f_c = 2000 PSI
f'_c = 5000 PSI
f'_s = 270,000 PSI FOR PRESTRESSING STRANDS

CONCRETE n = 6

CLASS "AA" CONCRETE IS TO BE USED IN THE ROADWAY SLAB, BARRIERS, AND IN THE SUBSTRUCTURE. PRESTRESSED GIRDER CONCRETE SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

REINFORCEMENT

DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE CLEAR DISTANCES UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS.

BEVELED EDGES

ALL EXPOSED EDGES SHALL BE BEVELED 7/8" UNLESS OTHERWISE SHOWN.

BILL OF INCIDENTAL MATERIAL

THE QUANTITIES SHOWN IN THE BILL OF INCIDENTAL MATERIALS ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ENOUGH MATERIAL TO COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE COST OF THESE ITEMS IS TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "AA" CONCRETE.

PAYMENT FOR STRUCTURAL STEEL

THE LUMP SUM BID FOR STRUCTURAL STEEL SHALL BE FULL PAYMENT FOR ALL STRUCTURAL STEEL, BOLTS, WASHERS, CAST IRON, LEAD PLATES, MOLTEN LEAD, WELDING AND WELDING MATERIALS, FLOOR DRAINS, PAINT AND ALL LABOR AND MATERIALS NECESSARY TO ERECT THE STEEL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE APPROXIMATE WEIGHT OF STRUCTURAL STEEL SHOWN IN THE ESTIMATE OF QUANTITIES DOES NOT INCLUDE OVERRUN OR WELD MATERIAL.

PAINT

ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH SECTION 607.25 OF THE KBH SPECIFICATIONS.

CONSTRUCTION IDENTIFICATION

THE NAMES OF THE PRIME CONTRACTOR AND THE SUB-CONTRACTOR SHALL BE IMPRINTED IN THE CONCRETE WITH ONE INCH LETTERS AT A LOCATION DESIGNATED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENT AND LABOR NECESSARY TO DO THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

SUPERSTRUCTURE SLAB

THE SUPERSTRUCTURE SLAB SHALL BE POURED CONTINUOUSLY FROM OUT TO OUT BEFORE THE CONCRETE IS ALLOWED TO SET. A WATER REDUCING AND SET RETARDING ADMIXTURE IS REQUIRED

PAVEMENT MARKING

PAVEMENT MARKING, USING REFLECTIVE PAVEMENT MARKING AND RAISED PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH KBH - MANUAL OF TRAFFIC CONTROL DEVICES.

PRESTRESSING REINFORCEMENT

PRESTRESSED REINFORCEMENT SHALL BE 1/2" NOMINAL DIAMETER UNCOATED SEVEN WIRE STRESS-RELIEVED STRAND CONFORMING TO THE REQUIREMENTS OF GRADE 270 AASHTO DESIGNATION, M203, CURRENT EDITION.

TENSIONING METHOD

BEAMS SHALL BE PRETENSIONED.

CONSTRUCTION METHOD

NO BOND STRESS SHALL BE TRANSFERRED TO THE CONCRETE, NOR SHALL END ANCHORS BE RELEASED, UNTIL THE CONCRETE HAS ATTAINED A COMPRESSIVE STRENGTH AS SHOWN BY STANDARD CYLINDERS MADE AND CURED IDENTICALLY WITH THE GIRDERS, OF AT LEAST A MINIMUM STRENGTH OF 4400 PSI. CYLINDER STRENGTH SHALL BE 5500 PSI BEFORE BRIDGE IS OPEN TO TRAFFIC. AN INITIAL FORCE SHALL BE APPLIED TO EACH STRAND SUCH AS TO DEVELOP A STRESS OF 189,000 PSI. BEAMS WITH HONEYCOMB OF SUCH EXTENT AS TO EFFECT THE STRENGTH OR RESISTANCE TO DETERIORATION WILL NOT BE ACCEPTED. AN ALLOWANCE OF .0005L SHALL BE MADE FOR SHORTENING OF BEAMS DUE TO SHRINKAGE AND ELASTIC CHANGE.

SHOP PLANS

SHOP PLANS SHALL BE IN ACCORDANCE WITH SUB-SECTION 605.05 PART A "." OF THE SPECIFICATIONS. ADDITIONALLY, SHOP PLANS SHALL INCLUDE AN OUTLINE OF THE PROPOSED PRESTRESSING PROCEDURE FOR THE DRAPED STRANDS AND OF THE DETENSIONING PROCEDURE. SHOP PLANS SHALL INCLUDE A DIAGRAM OF CASTING BED LAYOUT. WHEN THE PULL DOWN METHOD IS USED, THE JACKING FORCE FOR DRAPED STRANDS TOGETHER WITH APPROPRIATE COMPUTATIONS SHALL ALSO BE SUBMITTED BY THE FABRICATOR.

ELASTOMERIC BEARING PADS

ELASTOMERIC BEARING PADS SHALL MEET THE REQUIREMENTS OF THE AASHO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, INCLUDING CURRENT INTERIM SPECIFICATIONS. EXCEPT AS MODIFIED ON STANDARD DRAWING BBF-001, CURRENT EDITION. THE COST OF THIS ITEM IS TO BE INCLUDED IN THE PRICE PER LINEAR FOOT FOR PRECAST PRESTRESSED CONCRETE BEAMS.

TEMPORARY SUPPORTS

TEMPORARY SUPPORTS OR SHORING WILL NOT BE PERMITTED UNDER THE GIRDERS WHEN POURING THE CONCRETE FLOOR SLAB OR WHEN TAKING "TOP OF BEAM" ELEVATIONS.

PAYMENT FOR PRECAST CONCRETE BEAMS

THE BASIS OF PAYMENT FOR THE PRESTRESSED CONCRETE BEAMS SHALL BE AT THE CONTRACT UNIT PRICE PER LINEAL FOOT OF BEAM. IN ACCORDANCE WITH THE SPECIFICATIONS.

DEFORMED WIRE FABRIC

DEFORMED WIRE FABRIC MAY BE USED IN THE PRECAST BEAMS IN LIEU OF REINFORCING BARS, PROVIDED AN EQUIVALENT AREA OF STEEL IS FURNISHED. WIRE FABRIC IS TO BE DEFORMED WIRE MESH MADE OF COLD DRAWN WIRE CONFORMING TO ASTM SPECIFICATION A82, CURRENT EDITION.

MEMBRANE CURING COMPOUND

REFER TO KBH SECTION 601.25 STANDARD SPECIFICATIONS

EPOXY COATED STEEL REINFORCEMENT

ALL REINFORCING BARS DESIGNATED BY SUFFIX (E) IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.10 OF THE KENTUCKY BUREAU HIGHWAYS 1979 STANDARD SPECIFICATIONS.

SLAB TEXTURING

THE BRIDGE SLAB SURFACE SHALL BE TEXTURED IN ACCORDANCE WITH SECTION 609.13 OF THE KBH SPECIFICATIONS.

MATERIALS

ASTM SPECIFICATIONS, CURRENT EDITION, AS DESIGNATED BELOW, SHALL GOVERN THE MATERIALS FURNISHED.
A36-75 STRUCTURAL STEEL, 36,000 PSI MIN. YIELD.
A416-74 UNCOATED SEVEN WIRE STRESS-RELIEVED STRAND FOR PRESTRESSED CONCRETE GRADE 270.
A615-75 DEFORMED BARS FOR CONCRETE REINFORCEMENT. USE GRADE 60.
A48-74 (1971) GRAY IRON CASTINGS CLASS 30A.

DETAIL SHEETS

Any standard drawings referred to in the plans, or proposal, that are not attached as half-size sheets, have been included elsewhere in the plans as full-size detail sheets.

UTILITY NOTE

There are no utilities involved on this project.

NOTICE - CAUTION - CLASSIFICATION

Without regard to the materials encountered, all roadway and drainage excavation shall be unclassified and shall be designated as "Roadway Excavation." It shall be distinctly understood that any reference to rock, earth, or any other material on the plans or cross sections, whether in numbers, words, letters or lines, is solely for the Bureau's information and is not to be taken as an indication of classified excavation or the quantity of either rock, earth, or any other material involved. The Bidder must draw his own conclusion as to the conditions to be encountered. The Bureau does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the materials encountered are not in accord with the classification shown.

SOILS SUBGRADE NOTE

All soils in the top 12 inches of the Subgrade in cut and fill sections shall have a minimum CBR value of 5 or greater.

BITUMINOUS CONCRETE NOTES

The bituminous material for bituminous concrete shall be AC-20.

BITUMINOUS MATERIALS FOR DETOURS

The bituminous material for bituminous concrete used for temporary detours within the limits of the project, may be either AC-10 or AC-20.

Natural, conglomerate, crushed slag, crushed granite, or crushed sandstone sand is required in the bituminous concrete surface in the proportion of no less than 40% of the total combined coarse and fine aggregate..

PIPE REMOVAL

Contrary to the 1979 Standard Specifications, the removal of pipe, whether shown on the plans or not, is incidental to the Contract.

GUARDRAIL END TREATMENTS

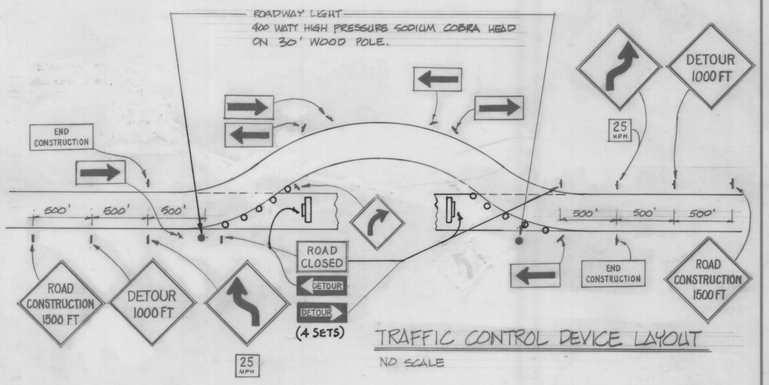
Fill shall be widened where required to accommodate guardrail end treatment type 4, as detailed on the plans. Payment for this work will be at the contract unit price bid per cubic yard for borrow excavation, or embankment-in-place, as applicable. On projects that do not have these pay items, no direct payment will be allowed for this work.

GUARDRAIL POSTS

Only W6 x 8.5 steel posts shall be permitted in the construction of guardrail. Contrary to the plans and standard drawings, other steel posts, wood posts, or concrete posts shall not be permitted.

ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH U.S.D.O.T. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

TRAFFIC ON U.S. 62 SHALL BE MAINTAINED AT ALL TIMES.



TRAFFIC CONTROL DEVICE LAYOUT

NO SCALE

o Drum or Type I Barrier

Type 3 Barrier

SHEET 2 OF 24

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN - BARDSTOWN
ROAD
STATION 50+45.00 P.E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

STATE OF KENTUCKY · THEODORE ALAN GLEASON · 9282 · REGISTERED PROFESSIONAL ENGINEER

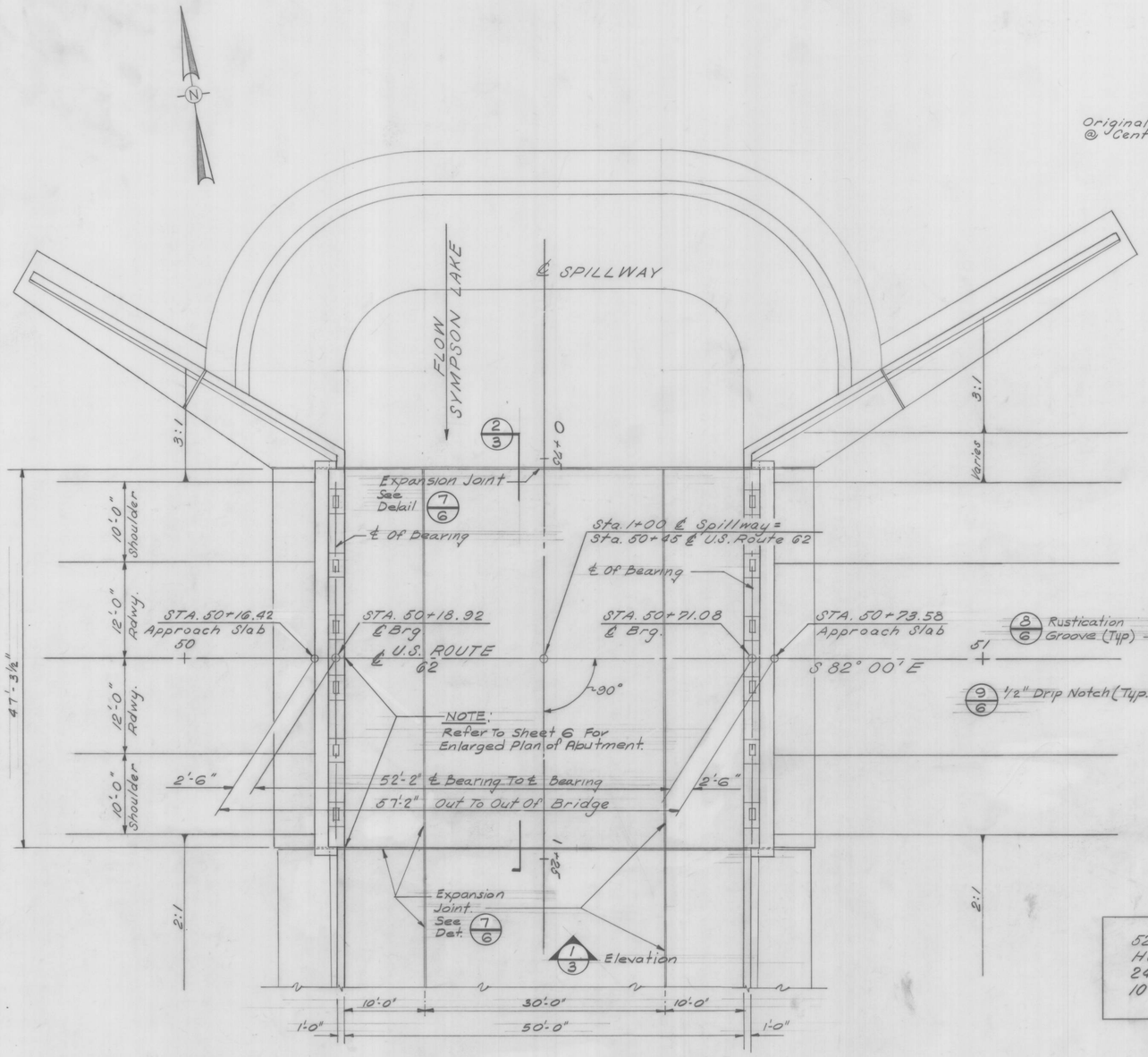
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DIETZGEN 11-76

UPDATE DATE

LETTING DATE

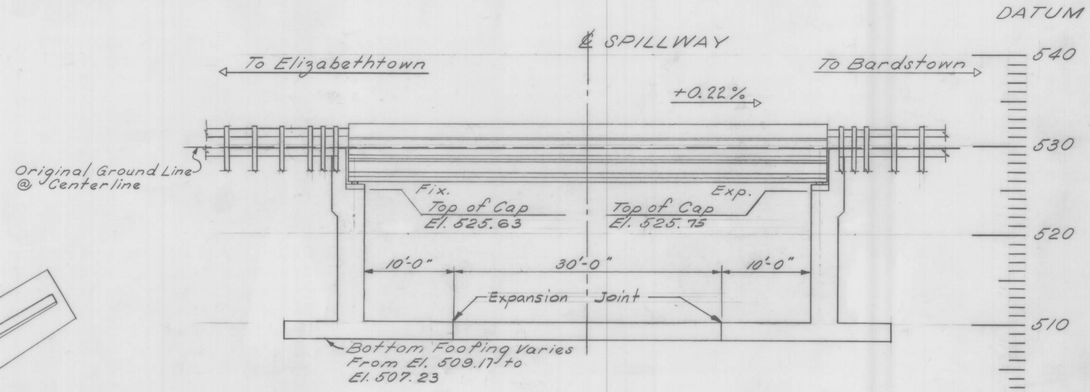


PLAN

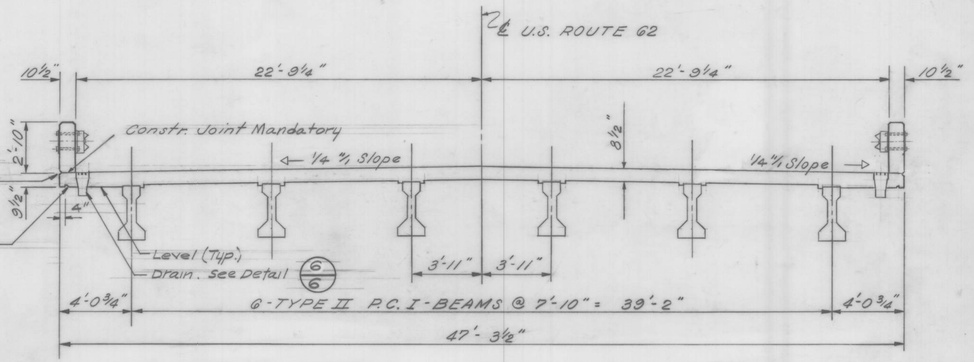
(Superstructure Removed)

NOTE:
Refer To Sheet 4 For Enlarged Plan of Spillway Below Bridge.

Refer To Sheet 8 For Plan of Bridge Superstructure



1/3 ELEVATION



2/3 TYPICAL SECTION

NOTE:
Refer To Sheet 5 For Enlarged Section Showing Reinforcing Steel.

52.17'-P.C.I.B. Continuous for Live Load
HS-20-44 Loading
24'-0" Roadway
10'-0" Shoulder ~ Both Sides

SHEET 3 OF 24

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
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STATE OF KENTUCKY · THEODORE ALAN GLEASON · 9282 · REGISTERED PROFESSIONAL ENGINEER

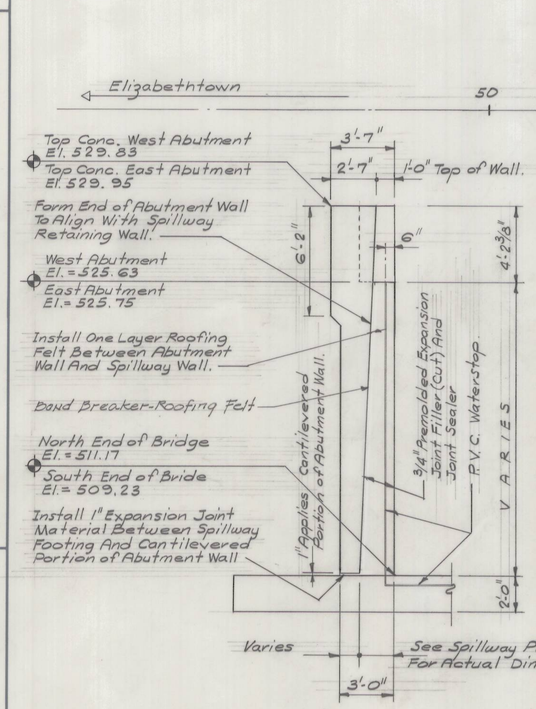
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DATE REVISED
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DATE REVISED

M10-162

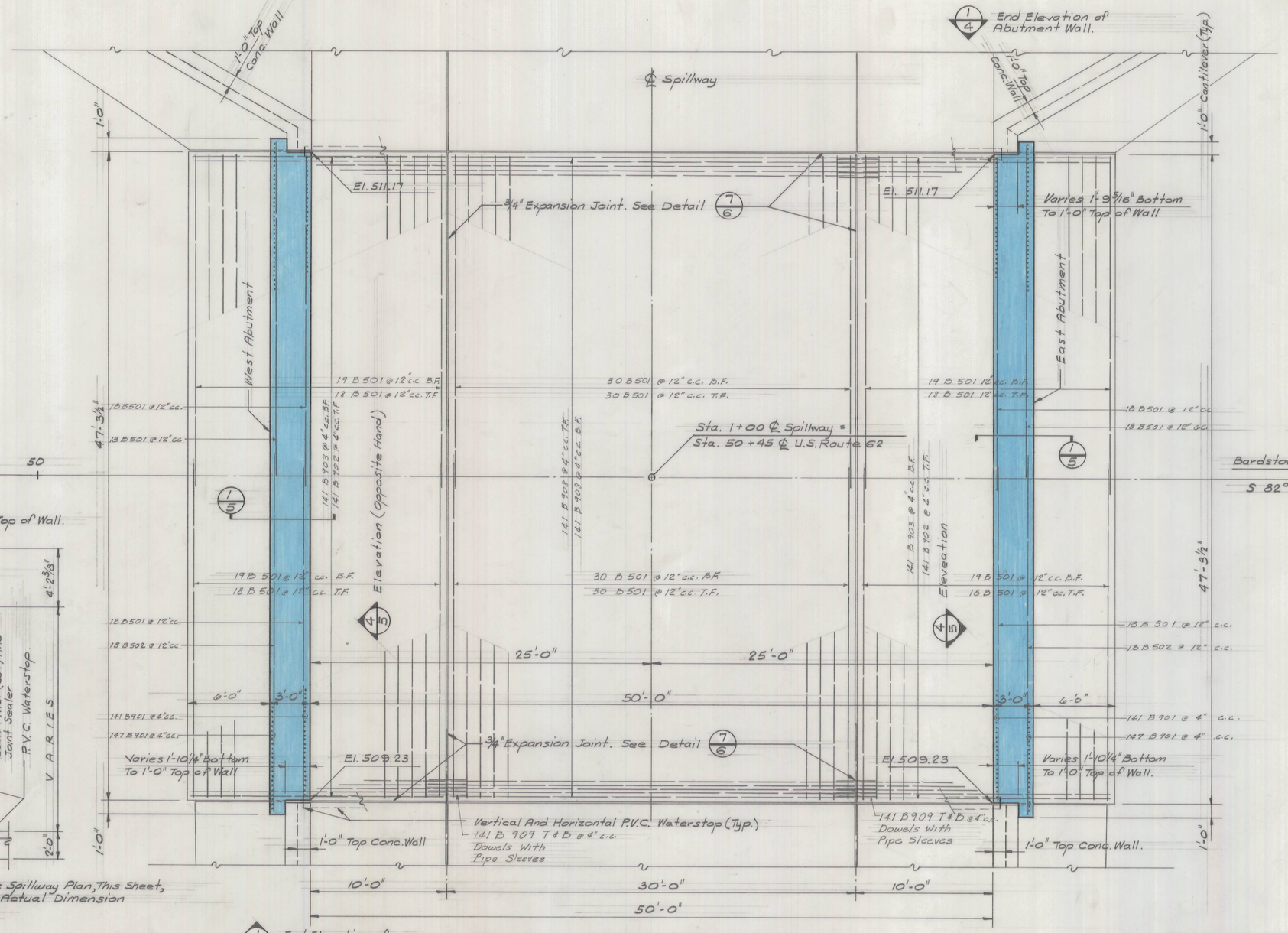
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1/4 END ELEVATION OF ABUTMENT WALL

NOTE: Spillway Retaining Wall And Footing Not Shown.



1/4 End Elevation of Abutment Wall.

PLAN - SPILLWAY (Below Bridge)

SHEET 4 OF 24

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN – BARDSTOWN
ROAD
STATION 50+45.00
P.E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

STATE OF KENTUCKY · THEODORE ALAN GLEASON · 9282 · REGISTERED PROFESSIONAL ENGINEER

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DIETZGEN 11-76

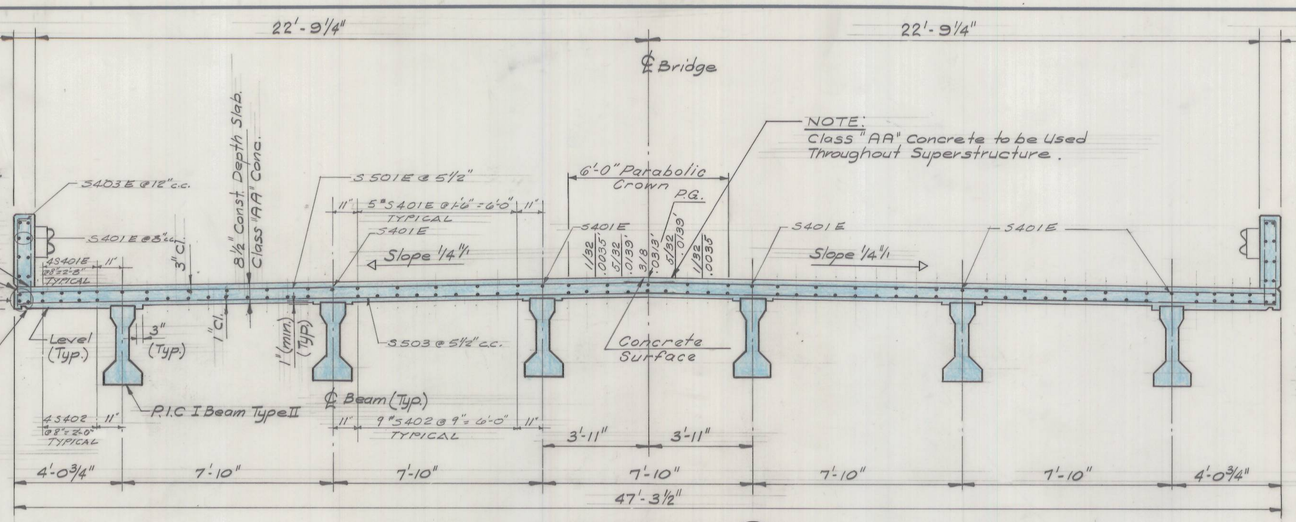
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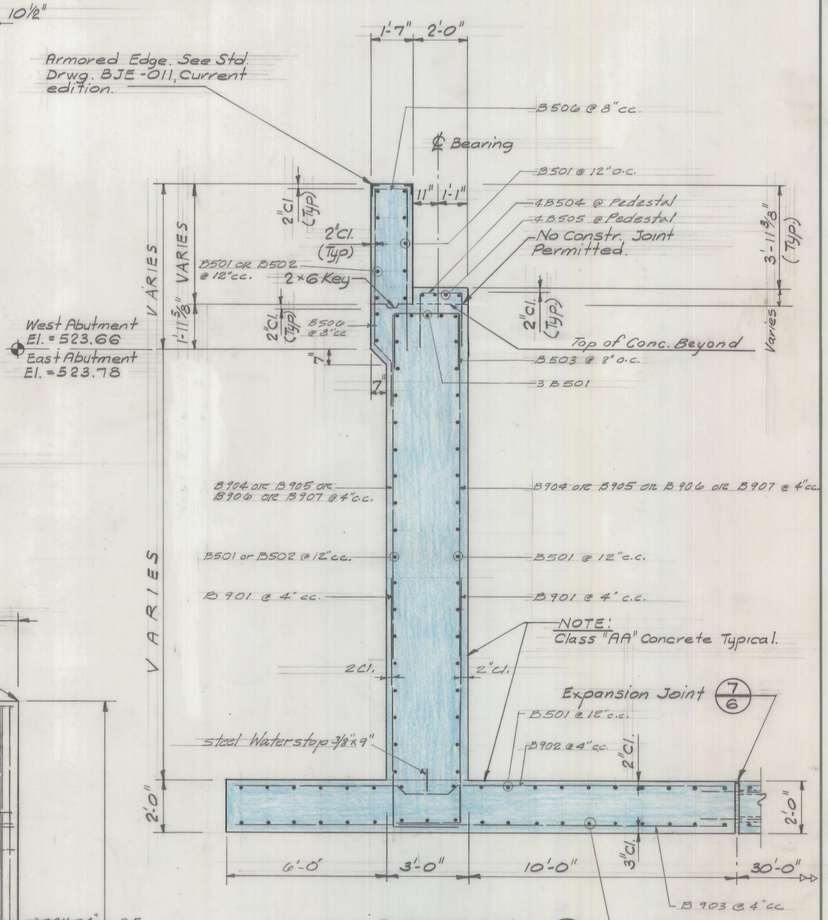
NOTE:
The Construction Joint Between The Roadway Slab and Bridge Parapet Is Mandatory. Concrete of Bridge Parapet Shall Not Be Placed Until The Deck Has Properly Cured.

(2/6) 7/8" Rustication Groove (Typ) (Opposite Hand)

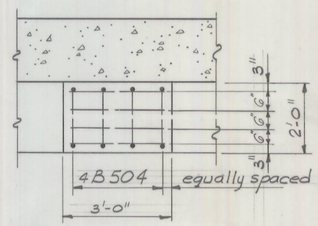
(9/6) 1/2" Drip Notch. (Typical)



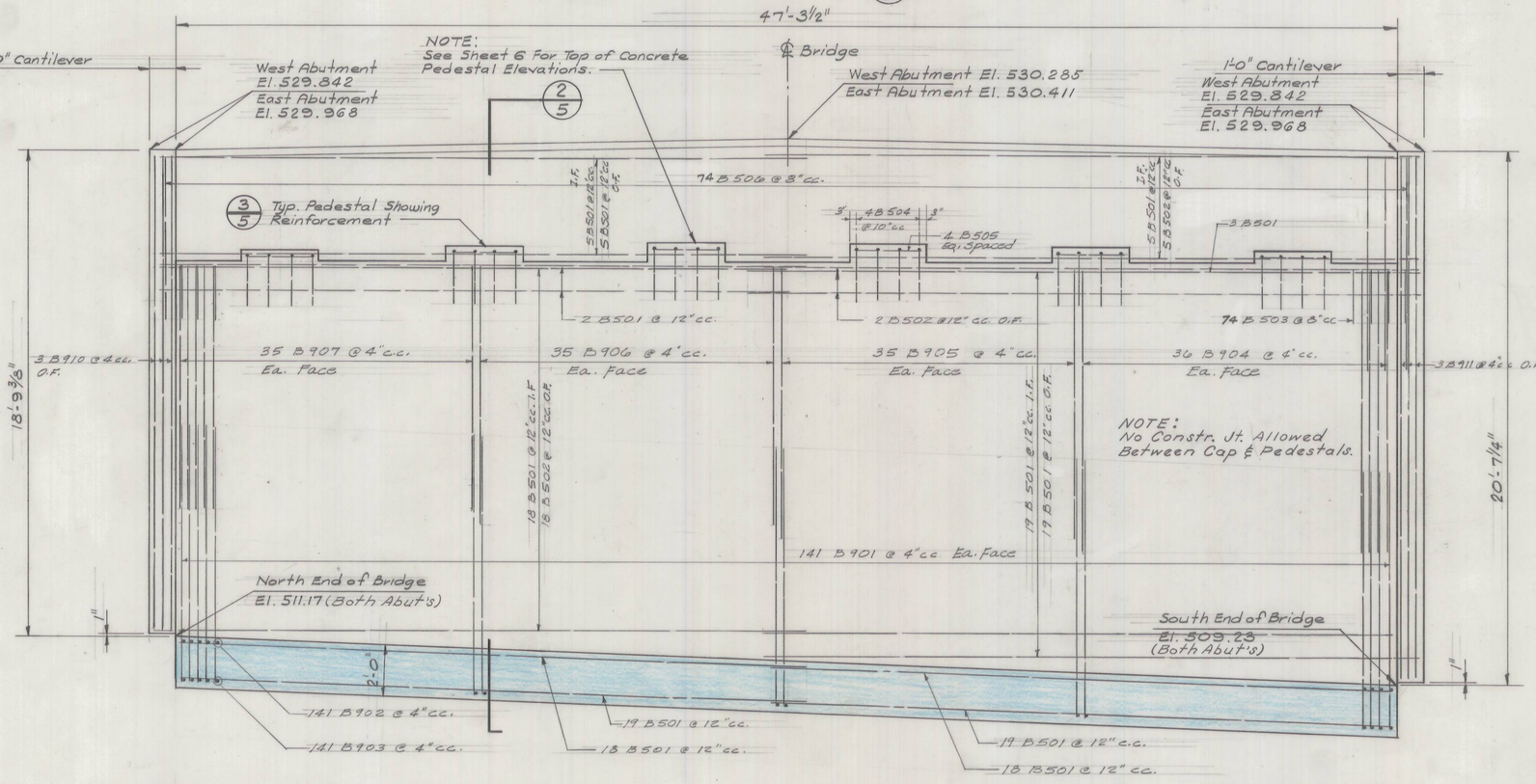
SECTION (1/5)



SECTION (2/5)



(3/5) TYP. PEDESTAL PLAN



(4/5) ABUTMENT ELEVATION (Including Footing)

DIETZGEN 11-76

DESIGNED BY	CHECKED BY	DATE	REVISED
DETAILED BY	CHECKED BY	DATE	REVISED
TRACED BY	CHECKED BY	DATE	REVISED

THEODORE ALAN GLEASON 9282 REGISTERED PROFESSIONAL ENGINEER — STATE OF KENTUCKY

SHEET 5 OF 24

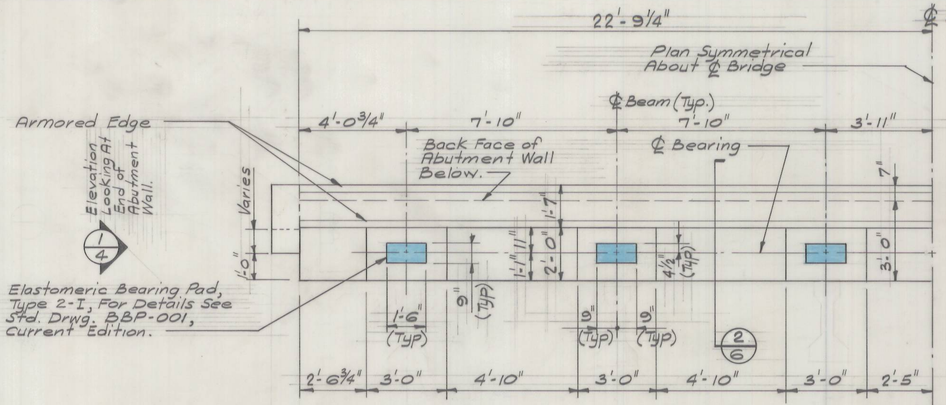
COMMONWEALTH OF KENTUCKY
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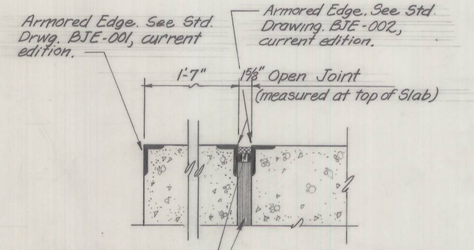
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UPDATE DATE

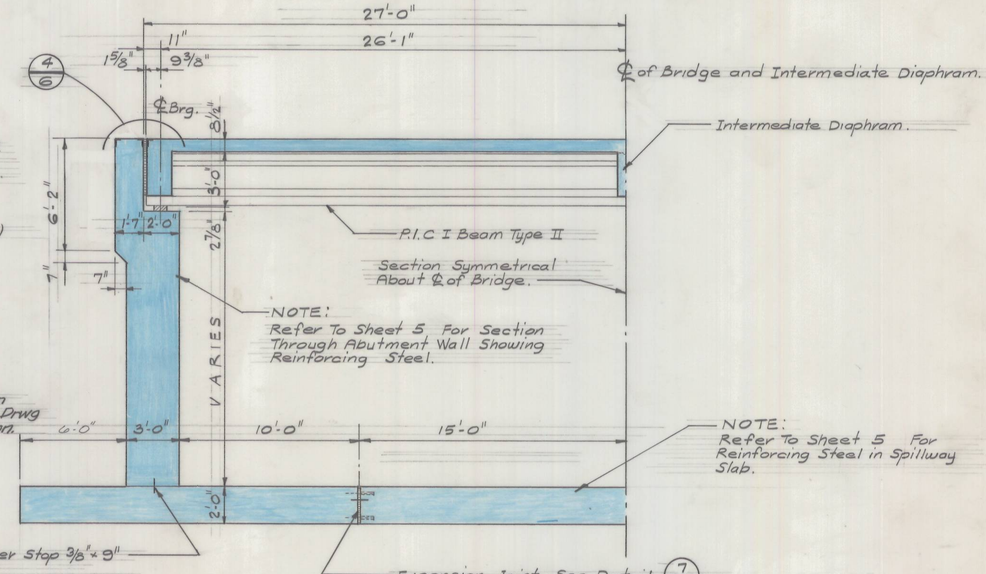
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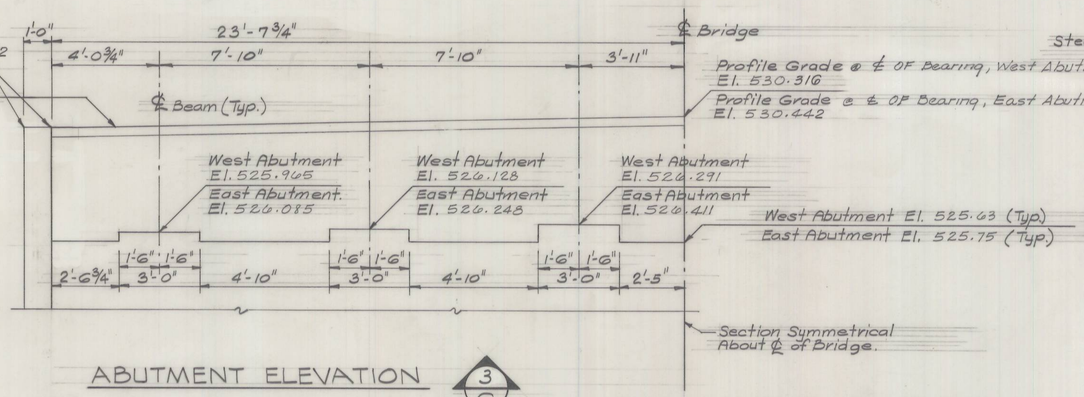
ABUTMENT PLAN



EXPANSION JOINT 1/6

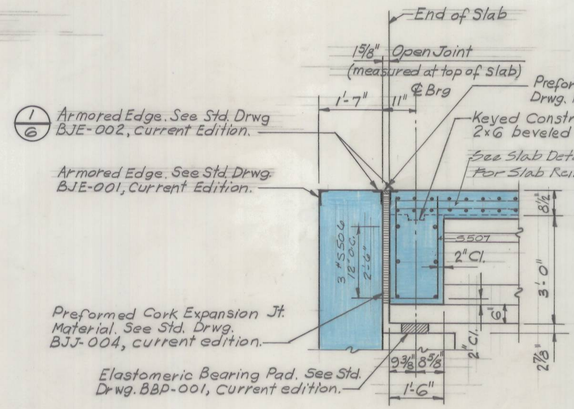


SECTION 2/6

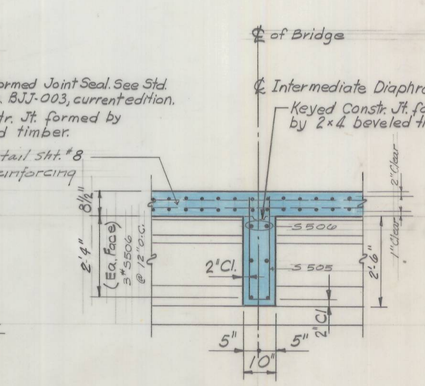


ABUTMENT ELEVATION 3/6

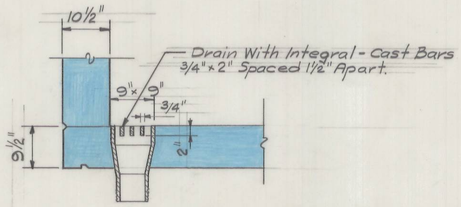
EXPANSION JOINT DOWEL SCHEDULE		
DOWEL SIZE	BAR LENGTH	PIPE LENGTH
#5	36"	19"
#6	54"	23"
#7	62"	27"
#8	68"	30"
#9	76"	34"



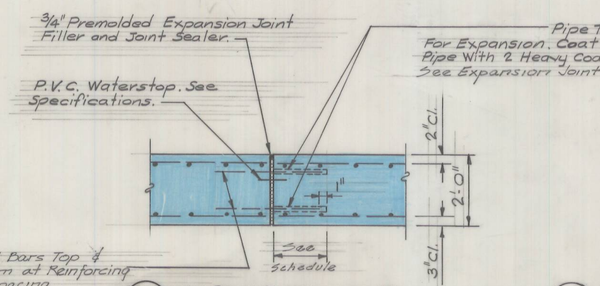
SECTION 4/6



SECTION 5/6



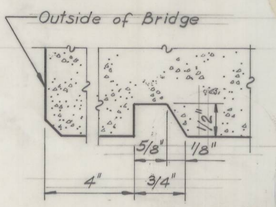
6/6 DRAIN



7/6 EXPANSION JOINT



8/6 RUSTICATION GROOVE



9/6 DRIP NOTCH

STATE OF KENTUCKY
THEODORE ALAN GLEASON
9282
REGISTERED
PROFESSIONAL ENGINEER

SHEET 6 OF 24

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN - BARDSTOWN ROAD
STATION 50+45.00 P.E. PROJECT NO.

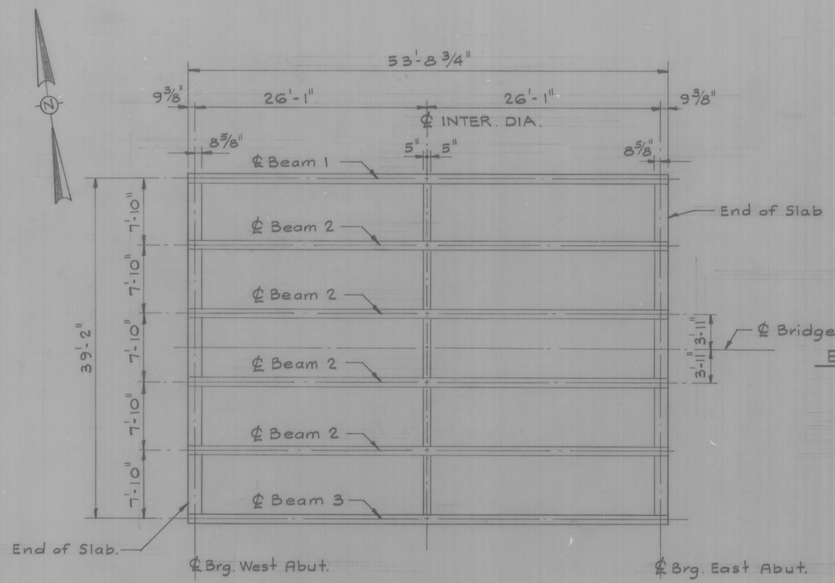
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

DESIGNED BY ____ CHECKED BY ____ DATE ____ REVISED
DETAILED BY ____ CHECKED BY ____ DATE ____ REVISED
TRACED BY ____ CHECKED BY ____ DATE ____ REVISED

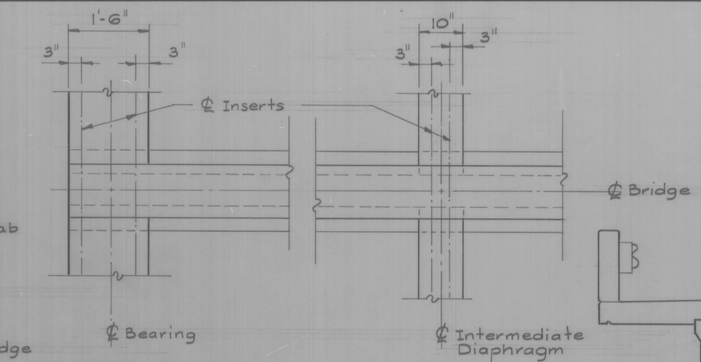
DIETZGEN 11-76

M10-165

LETTING DATE



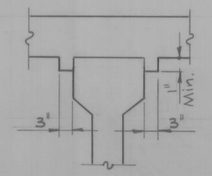
FRAMING PLAN



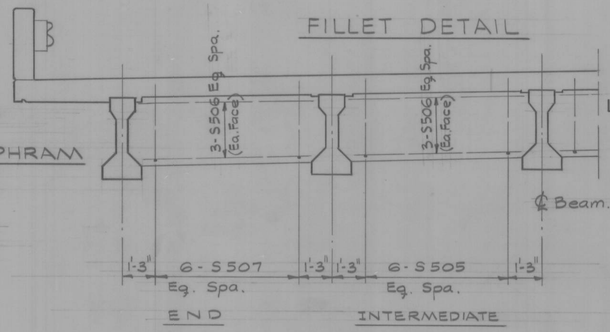
END DIAPHRAM — INTERMEDIATE DIAPHRAM

INSERT LOCATION AT DIAPHRAMS

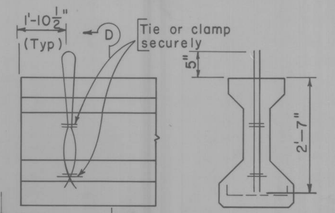
NOTE:
No Diaphram Inserts Are Required
In The Exterior Fascia of Beams 1 and 3



FILLET DETAIL



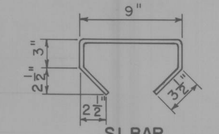
ELEVATION OF DIAPHRAGMS



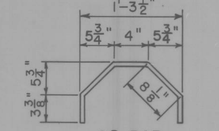
LIFTING DEVICE DETAIL "L"

SECTION D-D

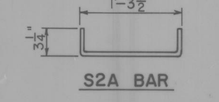
NOTE: Lifting shall be by equal loads to each pair of loops



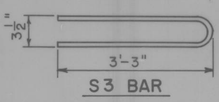
S1 BAR



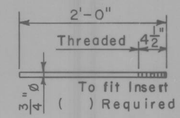
S2 BAR



S2A BAR

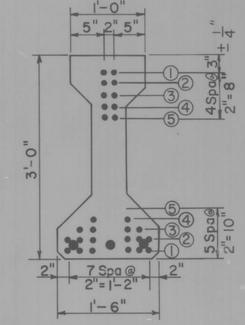


S3 BAR



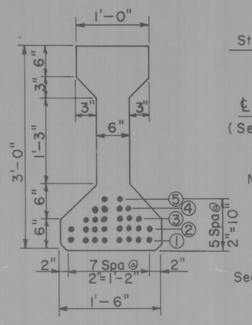
Incidental to Prestressed Concrete I Beams

THREADED ANCHOR BAR DETAIL



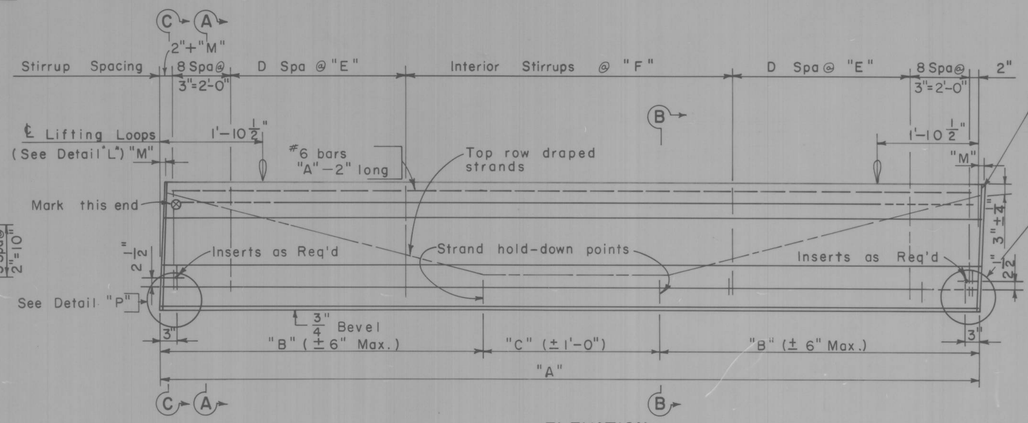
TYPE II 36" BEAM

SECTION A-A

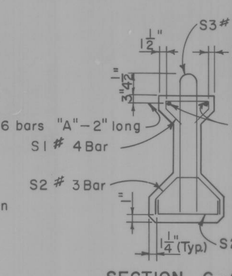


TYPE II 36" BEAM

SECTION B-B



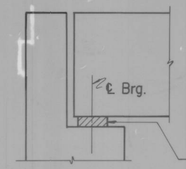
ELEVATION



SECTION C-C

Typical Section showing Steel Reinforcement

NOTE: Wire mesh may be substituted for stirrups shown, provided that an equivalent area of steel is furnished.



TYPICAL SECTION OF ABUTMENT

(Showing Elastomeric Brg. Pad)

For details and specifications pertaining to Elastomeric Bearing Pads, see Standard Drawing BBP-001, current edition.

NOTE: Elastomeric Bearing Pads are incidental to Prestressed Beams.

*These Dimensions Given on ℄ of Beams

BEAM DIMENSIONS *

MARK	NO. REQD	DIMENSIONS A	B	C	D	E	F			M		APPROX. WEIGHT EACH
Beam 1	1	53'-8 3/4"	20'-1 3/8"	13'-6"	27	8"	15"			0		20,955
Beam 2	4	53'-8 3/4"	20'-1 3/8"	13'-6"	27	8"	15"			0		20,955
Beam 3	1	53'-8 3/4"	20'-1 3/8"	13'-6"	27	8"	15"			0		20,955

NUMBER OF 1/2 Ø-7 WIRE STRANDS IN INDICATED ROW

MARK	MIDSPAN (SECTION B-B) BOTTOM (1)	(2)	(3)	(4)	(5)	(6)	(7)	END (SECTION A-A) BOTTOM (1)	(2)	(3)	(4)	(5)	(6)	(7)	TOP (1)	(2)	(3)	TOTAL NO.	INITIAL PRESTRESS FORCE/STRAND (lbs)
Beam 1	8	6	4	2	2	2		8	6	4	2				2	2		24	28,910
Beam 2	8	6	4	2	2	2		8	6	4	2				2	2		24	28,910
Beam 3	8	6	4	2	2	2		8	6	4	2				2	2		24	28,910

PRESTRESSED-CONCRETE I BEAM TYPE II DETAILS

STATE OF KENTUCKY — THEODORE ALAN ELLISON — 9282 — REGISTERED PROFESSIONAL ENGINEER

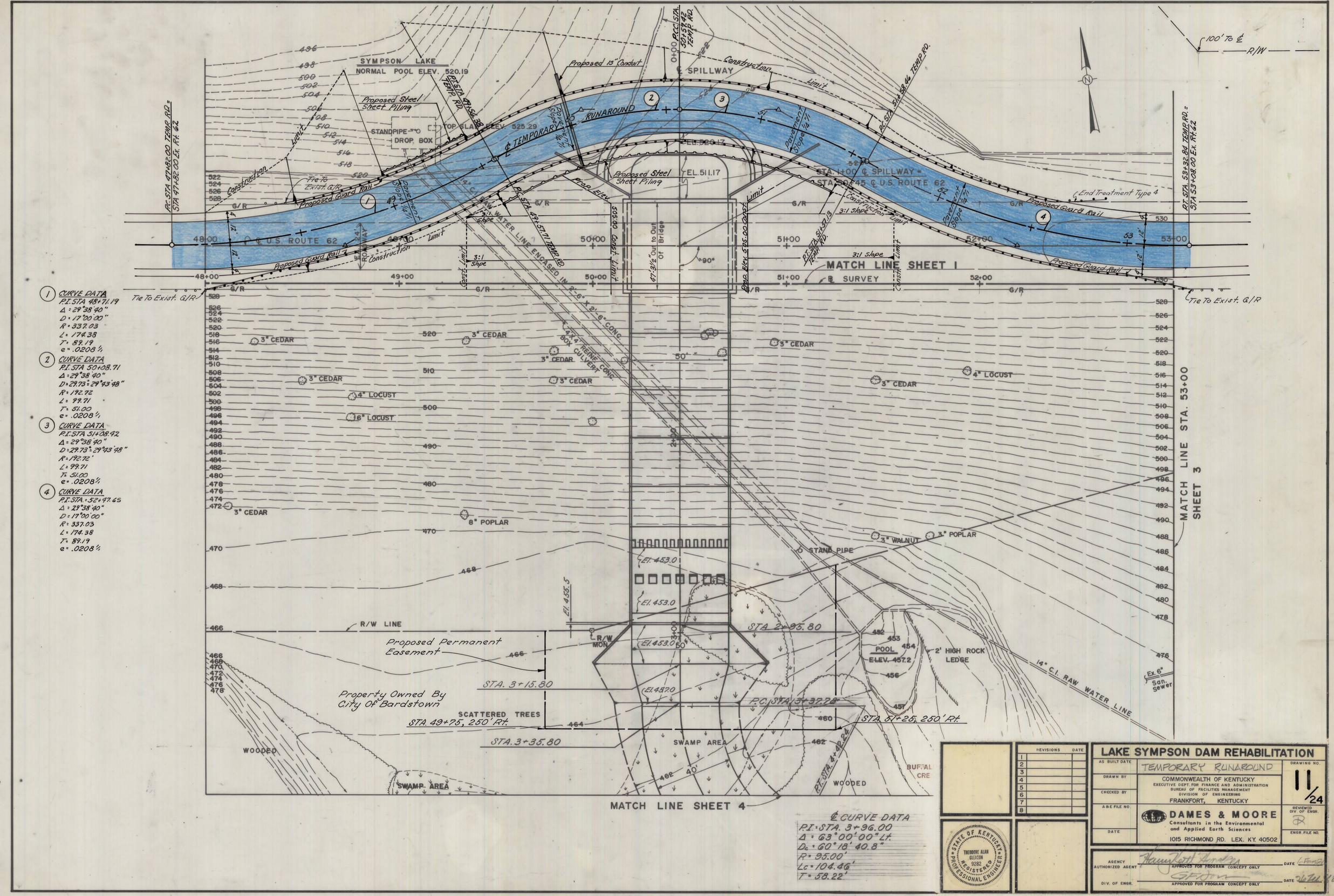
SHEET 7 OF 24

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN - BARDSTOWN ROAD
STATION 50+45.00 P.E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

DESIGNED BY — DETAILED BY — TRACED BY — CHECKED BY — CHECKED BY — CHECKED BY — REVISED — REVISED — REVISED — DATE — DATE — DATE

M10-166



(1) CURVE DATA
P.I. STA 48+71.19
Δ = 29°38'40"
D = 17°00'00"
R = 337.03
L = 174.38
T = 89.19
e = .0208 ft/ft

(2) CURVE DATA
P.I. STA 50+08.71
Δ = 29°38'40"
D = 29.73° = 29°43'48"
R = 192.72
L = 99.71
T = 51.00
e = .0208 ft/ft

(3) CURVE DATA
P.I. STA 51+08.92
Δ = 29°38'40"
D = 29.73° = 29°43'48"
R = 192.72'
L = 99.71
T = 51.00
e = .0208 ft/ft

(4) CURVE DATA
P.I. STA. 52+97.65
Δ = 29°38'40"
D = 17°00'00"
R = 337.03
L = 174.38
T = 89.19
e = .0208 ft/ft

℄ CURVE DATA
P.I. = STA. 3+96.00
Δ = 63°00'00" Lt.
Dc = 60°18'40.8"
R = 95.00'
Lc = 104.46'
T = 58.22'

REVISIONS	DATE
1	
2	
3	
4	
5	
6	
7	
8	

STATE OF KENTUCKY — THEODORE ALAN GLEASON — 9282 — REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE
DRAWN BY
CHECKED BY
A&E FILE NO.
DATE

TEMPORARY RUNAROUND

DRAWING NO. 11/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

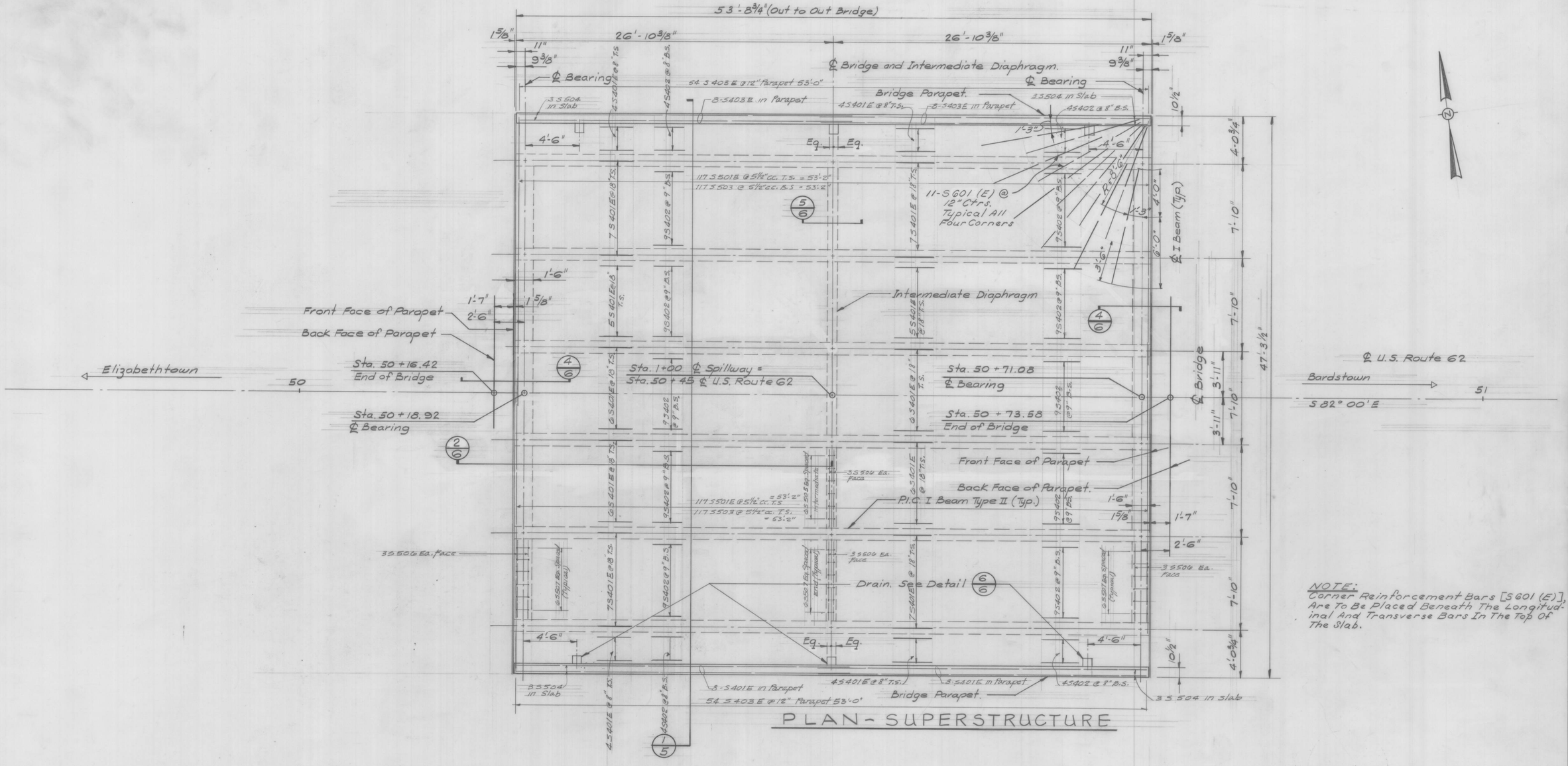
REVIEWED DIV. OF ENGR.
ENGR. FILE NO.

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE
DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE

M10-170

UPDATE DATE

LETTING DATE



PLAN - SUPERSTRUCTURE

NOTE:
Corner Reinforcement Bars [S 601 (E)], Are To Be Placed Beneath The Longitudinal And Transverse Bars In The Top Of The Slab.

SHEET 8 OF 24

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN – BARDSTOWN
ROAD
STATION 50 + 45.00 P.E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

STATE OF KENTUCKY · THEODORE ALAN GLEASON · 9282 · REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY ____ CHECKED BY ____ DATE ____ REVISED
DETAILED BY ____ CHECKED BY ____ DATE ____ REVISED
TRACED BY ____ CHECKED BY ____ DATE ____ REVISED

DIETZGEN 11-76

M10-167

UPDATE DATE

LETTING DATE

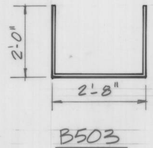


	Station	P.G.	℄ Const. Elev.	Const Elev. Beams 3 & 4	Const Elev. Beams 2 & 5	Const Elev. Beams 1 & 6	Const Elev. Gutters
A	50+16.42	530.316	530.285	530.235	530.072	529.909	529.842
B	50+18	530.320	530.289	530.239	530.076	529.913	529.846
C	50+18.92	530.322	530.291	530.241	530.078	529.915	529.848
D	50+24	530.333	530.302	530.252	530.089	529.926	529.859
E	50+30	530.346	530.315	530.265	530.102	529.939	529.872
F	50+36	530.360	530.329	530.279	530.116	529.953	529.886
G	50+42	530.373	530.342	530.292	530.129	529.966	529.899
H	50+48	530.386	530.355	530.305	530.142	529.979	529.912
I	50+54	530.399	530.368	530.318	530.155	529.992	529.925
J	50+60	530.412	530.381	530.331	530.168	530.005	529.938
K	50+66	530.426	530.395	530.345	530.182	530.019	529.952
L	50+71.08	530.437	530.406	530.356	530.193	530.030	529.963
M	50+72.00	530.439	530.408	530.358	530.195	530.032	529.965
N	50+73.58	530.442	530.411	530.361	530.198	530.035	529.968

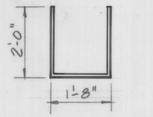
BRIDGE CONSTRUCTION ELEVATIONS



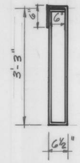
B506



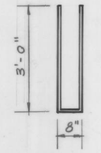
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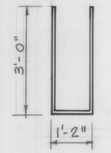
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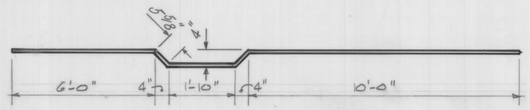
S403E



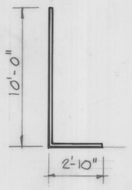
S505



S507



B902



B901

BILL OF REINFORCEMENT - BRIDGE AREA ONLY

Mark	Type	Number	Size	Length ft.	Length in.	SUPER STRUCTURE LOCATION	a ft.	a in.	b ft.	b in.	c ft.	c in.	d ft.	d in.
S401(E)	STR.	110	#4	27	4	TOP OF SLAB								
S402	"	106	4	27	4	" "								
S403(E)	BENT	108	#4	8	4	PARAPET								
S501(E)	STR.	234	#5	24	3	TOP OF SLAB								
S502	"	117	5	28	2	BOTTOM OF SLAB								
S503	"	117	5	24	4	" "								
S504	"	6	5	6	5	TOP & BOTTOM OF SLAB								
S505	BENT	30	5	6	7	INTERMEDIATE DIAPHRAM								
S506	STR.	90	5	6	4	INTER. & END DIAPHRAM								
S507	BENT	60	#5	7	1	END DIAPHRAM								
S601(E)	STR.	44	#6	10	0	SLAB CORNERS								

SUB - STRUCTURE - BRIDGE AREA ONLY

B501	STR.	432	#6	24	3	SPILLWAY SLAB & WALLS								
B502	"	52	6	26	3	ABUTMENT WALLS								
B503	BENT	146	5	6	7	CAP OF ABUTMENTS								
B504	"	48	5	5	7	ABUTMENT PEDESTAL								
B505	STR.	48	5	2	10	" "								
B506	BENT	146	#5	15	5	END CAP								
B901	BENT	564	#9	12	9	FOUNDATION - ABUTMENT								
B902	"	282	9	18	9	TOP FOUNDATION - UNDER ABUT.								
B903	STR.	282	9	18	6	BOT. FNDTN. - UNDER ABUT.								
B904	"	144	9	10	11	ABUTMENT FACE								
B905	"	140	9	10	5	" "								
B906	"	140	9	9	11	" "								
B907	"	140	9	9	5	" "								
B908	"	282	9	29	8	CENTER SLAB - SPILLWAY								
B909	"	564	9	6	4	SPILLWAY - SLAB DOWELS								
B910	"	6	9	18	0	ABUTMENT END VERTICALS								
B911	"	6	#9	20	0	" " "								

EPOXY COATED STEEL REINFORCEMENT

ALL REINFORCING BARS DESIGNATED BY SUFFIX (E) IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.01 OF THE KENTUCKY BUREAU OF HIGHWAYS 1979 STANDARD SPECIFICATIONS.

STATE OF KENTUCKY * THEODORE ALAN GLEASON 9282 REGISTERED PROFESSIONAL ENGINEER *

SHEET 9 OF 24

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN - BARDSTOWN ROAD
STATION 50+45.00 P.E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

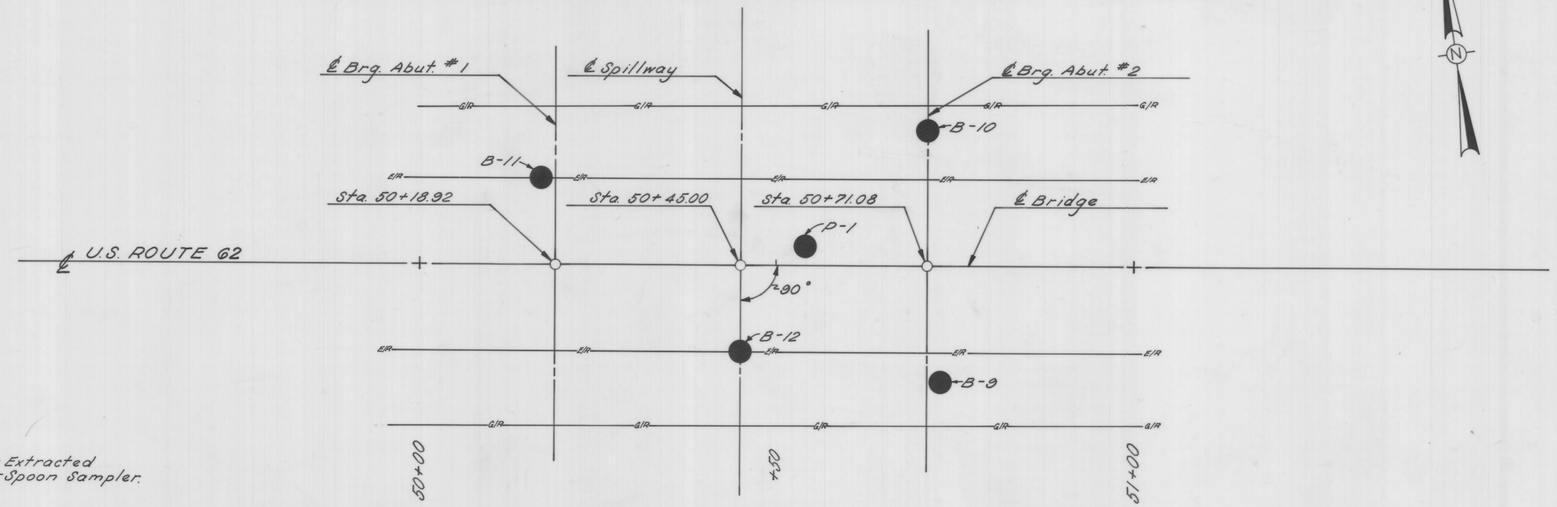
M10-168

DESIGNED BY ____ DATE ____
DETAILED BY ____ CHECKED BY ____ DATE ____
TRACED BY ____ CHECKED BY ____ DATE ____

DIETZGEN 11-76

UPDATE DATE.....
LETTING DATE.....

SUBSURFACE EXPLORATION PLAN



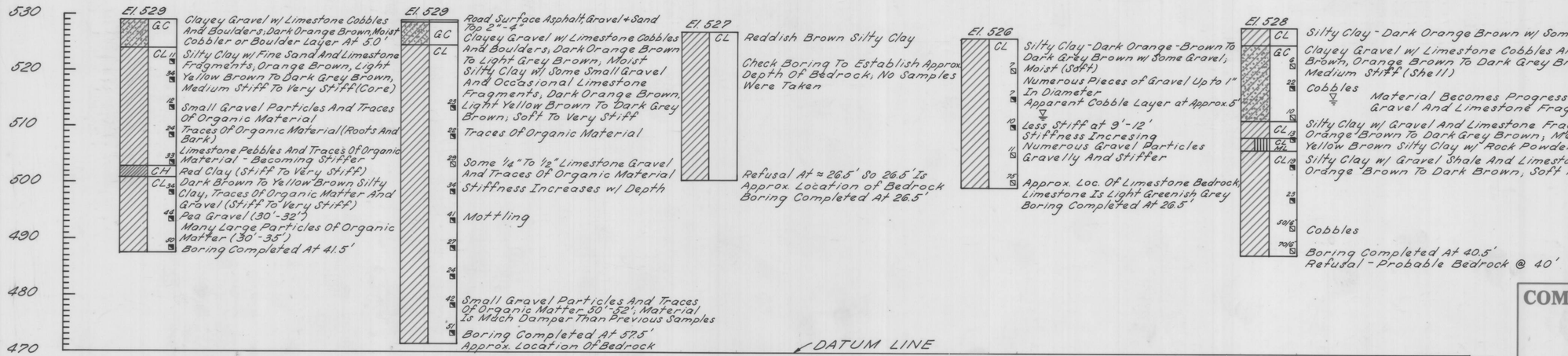
KEY TO LOG OF BORINGS

- Depth At Which Disturbed Sample Was Extracted Using Standard Penetration Split-Spoon Sampler.
- Water Elevation During Sampling
- Depth At Which Sampling Was Attempted But Not Obtained.

For Borings 9-12 and Probe P-1: Samples Were Taken Using A 140-lb Hammer Droping 30 Inches.

All Elevations Refer To U.S.G.S. Datum.

SUBSURFACE DATA



SHEET 10 OF 24

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
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ELIZABETHTOWN – BARDSTOWN
ROAD
STATION 50+45.00 P.E. PROJECT NO.

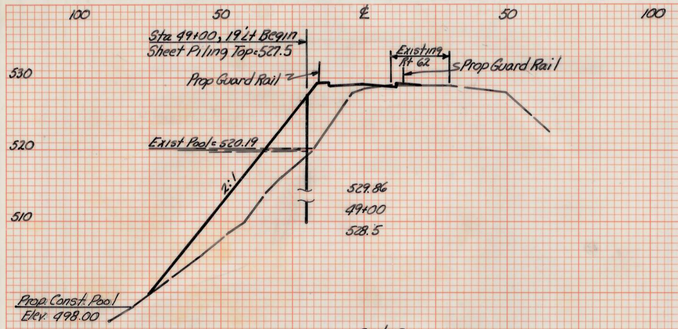
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

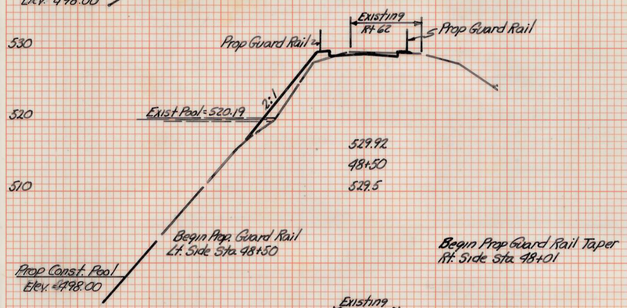
DESIGNED BY L.S.F. DATE
DETAILED BY E.B.H. DATE
TRACED BY DATE
CHECKED BY DATE
CHECKED BY DATE
REVISED
REVISED
REVISED

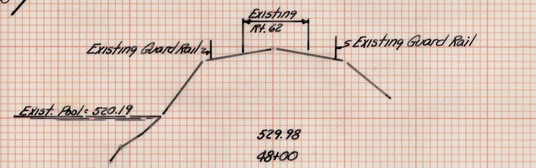
DIETZGEN 11-76

STATE OF KENTUCKY · THEODORE ALAN GLEASON · 9282 · REGISTERED PROFESSIONAL ENGINEER

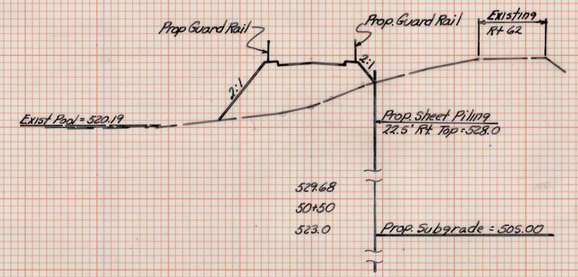
M10-169

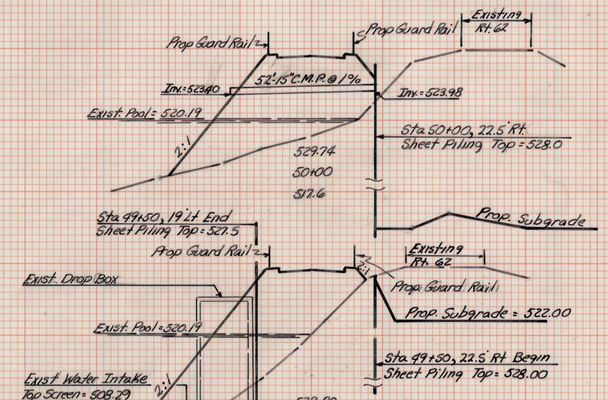


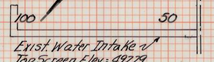




Sta. 47+82 = 0 Section

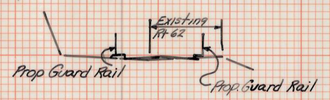


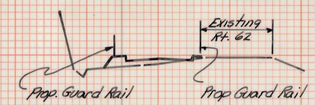


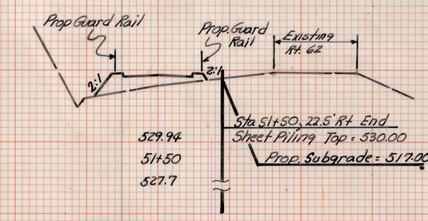


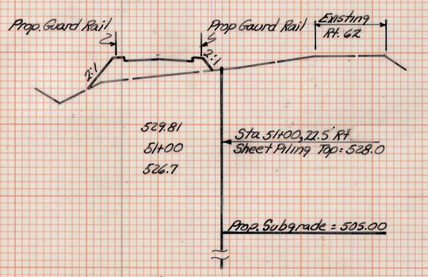
CROSS SECTIONS TEMPORARY RUNAROUND

Scale - 1"= 25' Hor.
1"= 10' Ver.





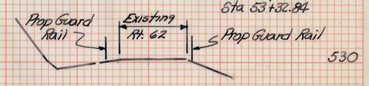




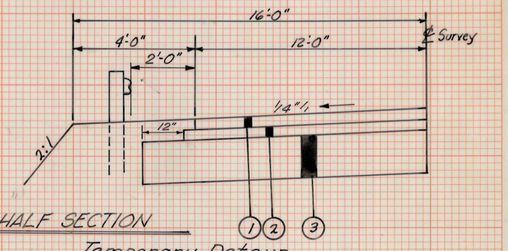
Sta. 53+32.84 = 0 Section

End Guard Rail
Sta. 53+00 Lt Side

Sta. 53+00 Rt. Side
Begin Taper To Meet
Existing Guard Rail
Sta. 53+32.84



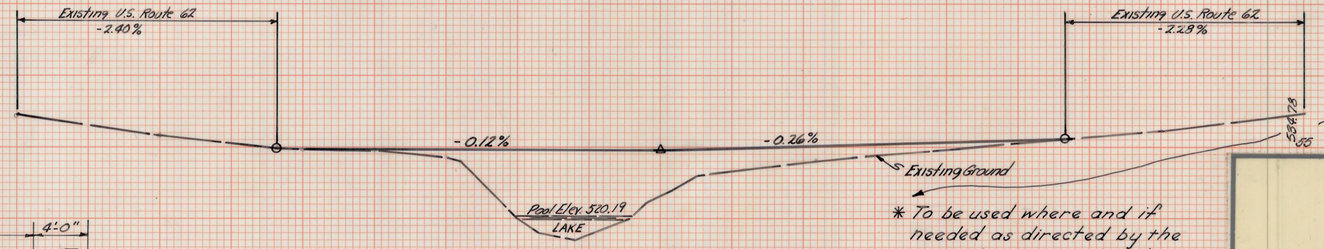
530.33
53+00
530.5



TYPICAL HALF SECTION

Temporary Detour Pavement Design

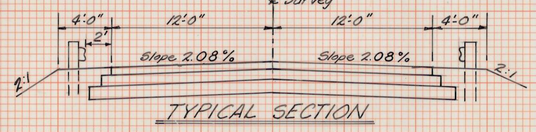
1. 1" Compacted Depth Bituminous Concrete Surface, Type B (AC-10 or AC-20) @ 0.8 lb./s.y. Bituminous Tack Coat
2. 3" Compacted Depth Bituminous Concrete Base (AC-10 or AC-20)
3. 8" Compacted Depth Dense Graded Aggregate Base



PROFILE TEMPORARY RUNAROUND

Scale - 1"= 50' Hor.
1"= 10' Ver.

* To be used where and if needed as directed by the Engineer on construction.



TYPICAL SECTION

	534.37	531.55	530.00	529.98	529.92	529.86	529.80	529.74	529.68	529.81	529.94	530.07	530.20	530.33	530.42	532.18	534.78
	46	47	+82 Temp. Rd. = 1+82 Exist. Rt 62	48	49	50	51	52	53	+32.84 Temp. Rd. = 1+32.84 Exist. Rt 62	54						
			530.00	529.84	528.5	517.6	526.7	528.8	530.5	530.42	532.18						

REVISIONS	DATE
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THEODORE ALAN GLEASON 9282 REGISTERED PROFESSIONAL ENGINEER STATE OF KENTUCKY

LAKE SYMPSON DAM REHABILITATION

TEMPORARY RUNAROUND SECTIONS

DRAWING NO. 12/24

AS BUILT DATE

DRAWN BY

CHECKED BY

A&E FILE NO.

DATE

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

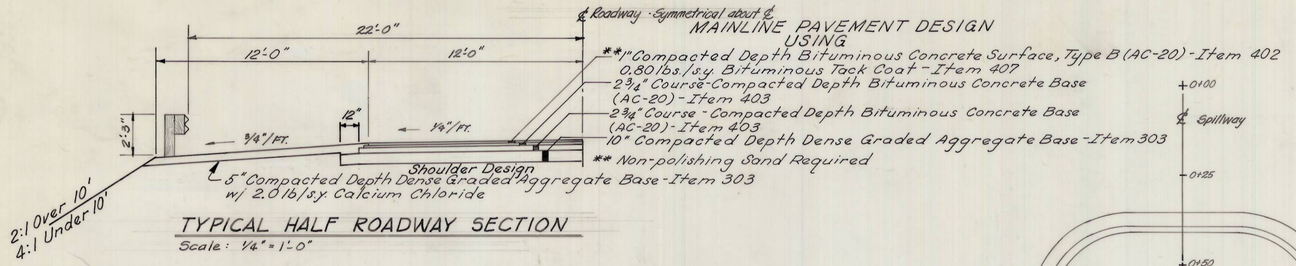
REVIEWED DIV. OF ENGR.

ENGR. FILE NO.

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6/5/80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6/26/80

M10-171



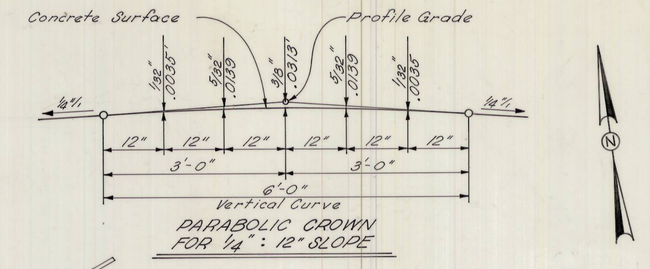
℄ Roadway - Symmetrical about ℄

MAINLINE PAVEMENT DESIGN USING

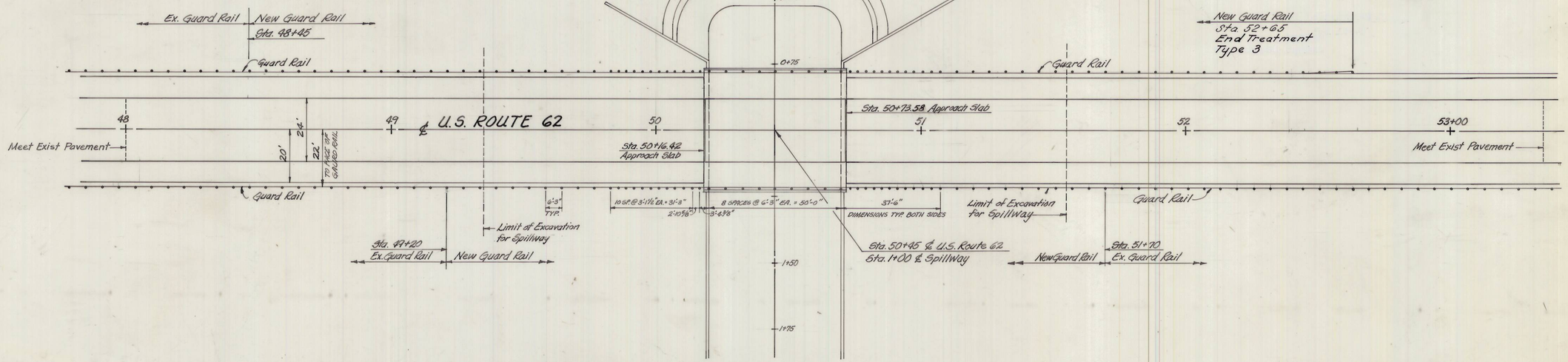
**1" Compacted Depth Bituminous Concrete Surface, Type B (AC-20) - Item 402
0.80 lbs./s.y. Bituminous Tack Coat - Item 407
2¾" Course - Compacted Depth Bituminous Concrete Base (AC-20) - Item 403
2¾" Course - Compacted Depth Bituminous Concrete Base (AC-20) - Item 403
10" Compacted Depth Dense Graded Aggregate Base - Item 303
** Non-polishing Sand Required

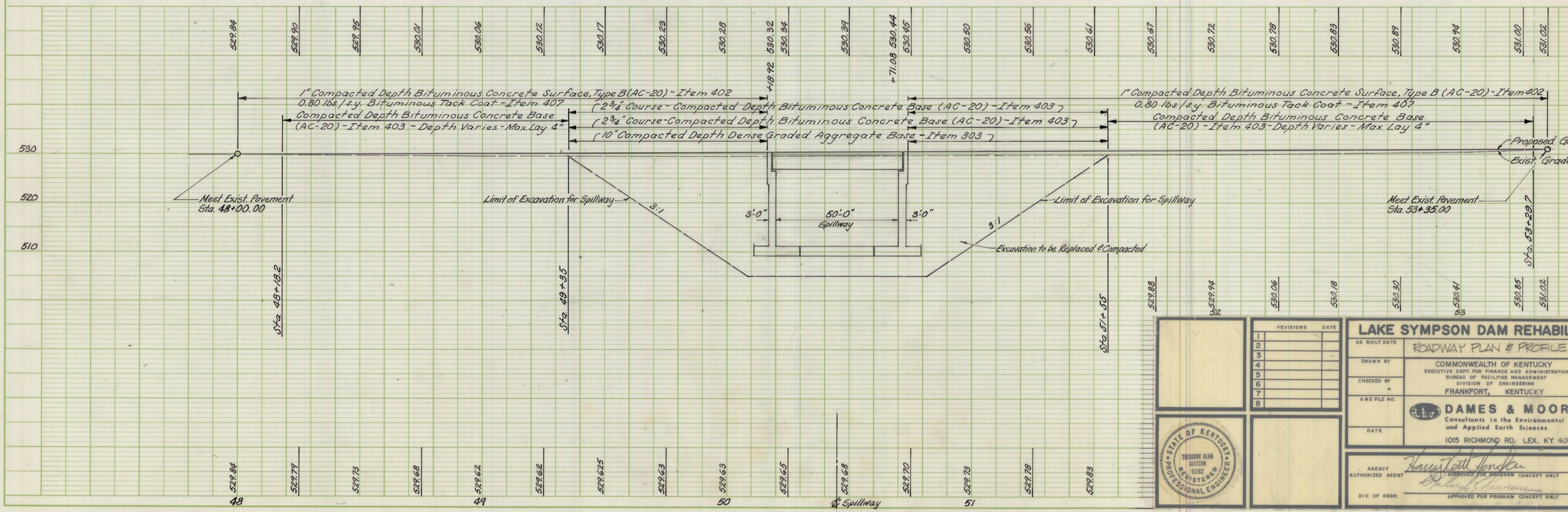
TYPICAL HALF ROADWAY SECTION

Scale: ¼" = 1'-0"



PARABOLIC CROWN FOR ¼" : 12" SLOPE





REVISIONS	DATE
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STATE OF KENTUCKY — THEODORE ALAN GLEASON — 9282 — REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE
DRAWN BY
CHECKED BY
A&E FILE NO.
DATE

ROADWAY PLAN & PROFILE

DRAWING NO. 13/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

REVIEWED DIV. OF ENGR.

DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD, LEX, KY. 40502

ENGR. FILE NO.

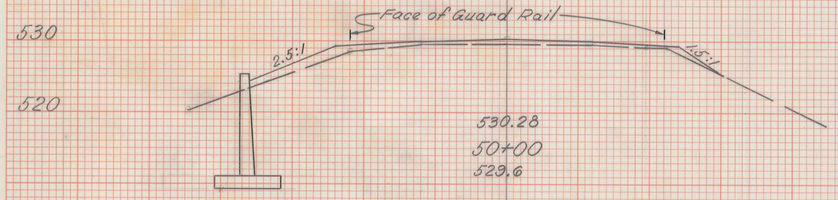
AGENCY AUTHORIZED AGENT — Harry Lee Hendren — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6 Feb 80
DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 26 Jul 79

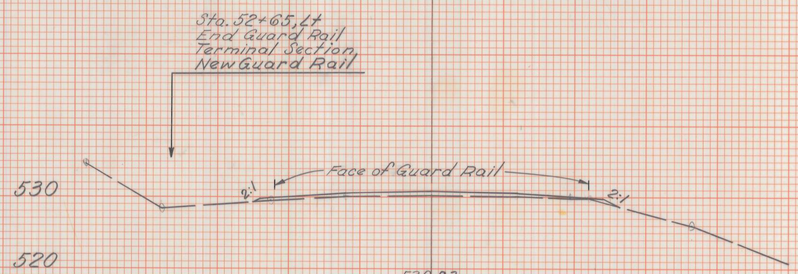
M10-172

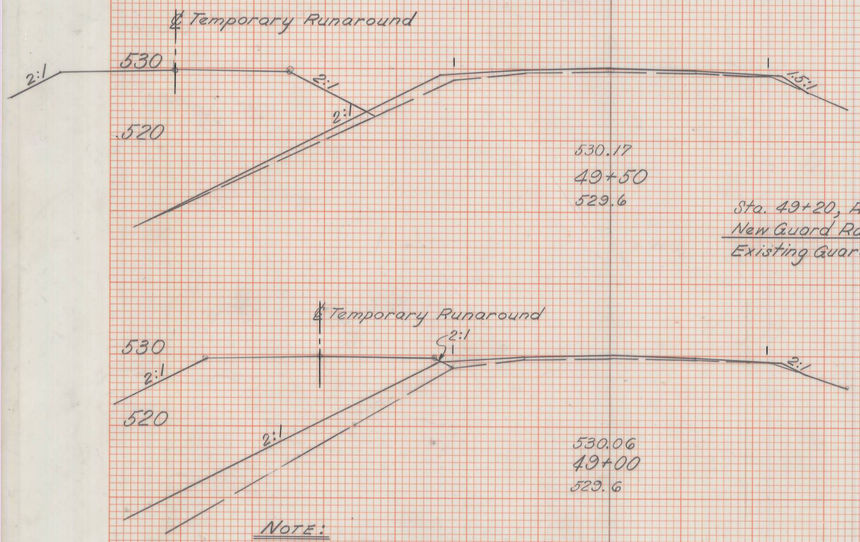
PLAN — SURVEYED, PLOTTED, NOTE BOOK, GRADES CHECKED, ALIGNMENT CHECKED, R/L OF WAY CHECKED, No., STRUCTURE NOTATIONS CHECKED, BY, DATE

PROFILE — SURVEYED, PLOTTED, NOTE BOOK, GRADES CHECKED, ALIGNMENT CHECKED, R/L OF WAY CHECKED, No., STRUCTURE NOTATIONS CHECKED, BY, DATE

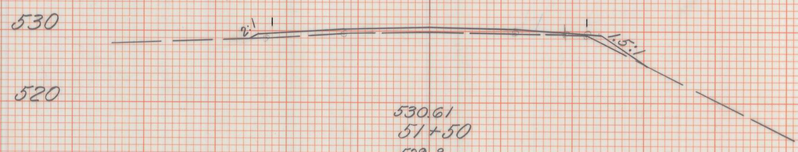
K&E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO. 48 7024 MADE IN U.S.A.

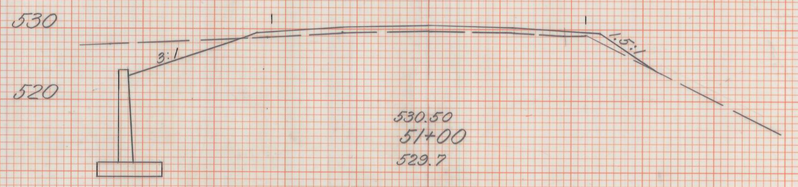


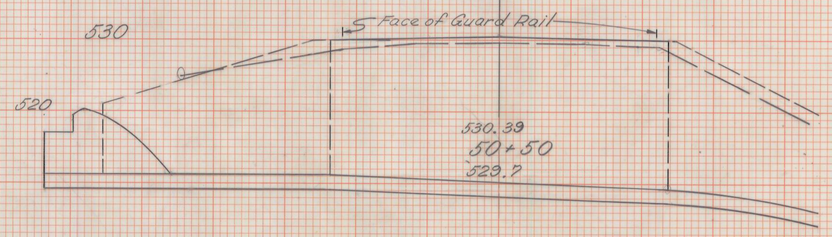


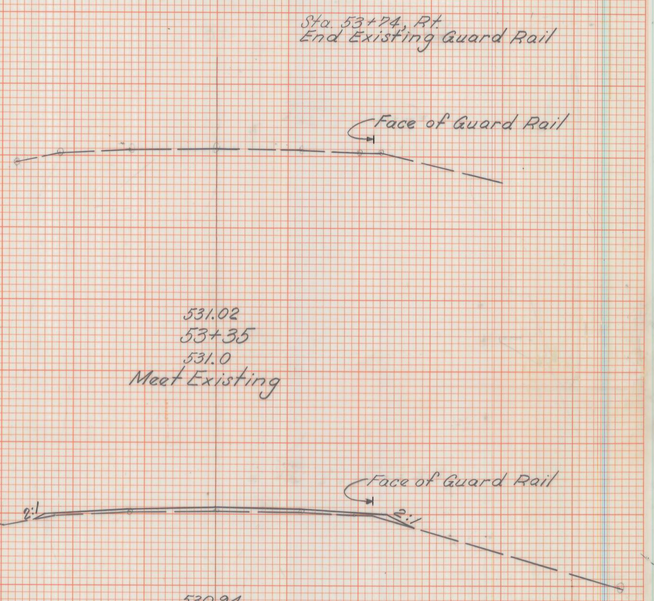












THEODORE ALAN GLEATON 9282 REGISTERED PROFESSIONAL ENGINEER STATE OF KENTUCKY

REVISIONS	DATE
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LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE
DRAWN BY
CHECKED BY
A&E FILE NO.
DATE

ROADWAY CROSS-SECTIONS

DRAWING NO. 13A/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

REVIEWED DIV. OF ENGR.

DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

ENGR. FILE NO.

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6/28/82

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 26 Jul 82

M10-173

SIMPSON LAKE
NORMAL POOL ELEV. 520.19

GROUTED HEAVY RIP-RAP 18" THICK

STANDPIPE & DROP BOX

TOP SLAB, ELEV. 525.29

℄ SPILLWAY

EL. 520.17

EL. 511.17

Face of Cliff

STA. 1+00 ℄ SPILLWAY

STA. 50+45 ℄ U.S. ROUTE 62

℄ U.S. ROUTE 62
(ASPHALT)

EX. 24' ROADWAY

47-3/4" Out to Out of Bridge

90°

℄ SURVEY

14" C.I. RAW WATER LINE ENCASED IN 24" x 24" CONC. BOX CULVERT

14" C.I. RAW WATER LINE

3" CEDAR

4" LOCUST

6" LOCUST

5" CEDAR

8" POPLAR

3" WALNUT

3" POPLAR

6" STAND PIPE

EL. 453.0

EL. 455.5

R/W LINE

R/W MON.

Proposed Permanent Easement

Property Owned By City Of Bardstown

STA. 3+15.80

GROUTED HEAVY RIP-RAP 18" THICK

SCATTERED TREES

STA. 49+75, 250' Rt.

STA. 3+35.80

STA 2+95.80

EL. 453.0 50'

EL. 457.0

P.C. STA 3+37.78

STA. 51+25, 250' Rt.

SWAMP AREA

WOODED

POOL ELEV. 457.2

454

2' HIGH ROCK LEDGE

BUFFALO CREEK

P.I. STA 4+46.24

LEGEND

Indicates Existing Grades

Indicates New Grades

℄ CHANNEL CURVE DATA

P.I. = STA. 3+96.00
Δ = 63°00'00" Lt.
Dc = 60°18' 40.8"
R = 95.00'
Lc = 104.46'
T = 58.22'

REVISIONS	DATE
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STATE OF KENTUCKY
THEODORE ALAN GLEASON
9282
REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE
DRAWN BY
CHECKED BY
A&E FILE NO.
DATE

SPILLWAY SITE PLAN

DRAWING NO. 14/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD., LEX. KY 40502

REVIEWED DIV. OF ENGR. D

ENGR. FILE NO.

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6 FEB 80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 26 FEB 80

M10-174

MATCH LINE SHEET 7

SWAMP AREA

WOODED AREA

WOODED AREA

WOODED AREA

Constr. Limits

Constr. Limits

BUFFALO CREEK

EXIST. UNIT TREATMENT

EXIST. LAGOON

EXIST. LAGOON

OLD U.S. ROUTE 62

24' WIDE CONC. BRIDGE

4+00

5+00

6+00

7+00

8+00

9+00

℄ CURVE DATA
P.I. STA. 6+55.50
Δ = 37°15'00" RT.
Dc = 57°17'44.8"
R = 100.00
Lc = 65.01
T = 33.70

PC = 6+21.80
PT = 6+86.81

PC = 7+18.07
R = 100'
R = 100'
PC = 7+48.57
PT = 7+80.57

℄ CURVE DATA
P.I. STA. 8+03.00
Δ = 58°00'00" RT.
Dc = 57°17'44.8"
R = 100.00'
Lc = 101.23'
T = 55.43'

PT = 8+44.80

REVISIONS	DATE
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THEODORE ALAN GLEASON 9282 REGISTERED PROFESSIONAL ENGINEER STATE OF KENTUCKY

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE

DRAWN BY

CHECKED BY

A&E FILE NO.

DATE

OUTLET CHANNEL SITE PLAN

DRAWING NO. 15/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

REVIEWED DIV. OF ENGR. B

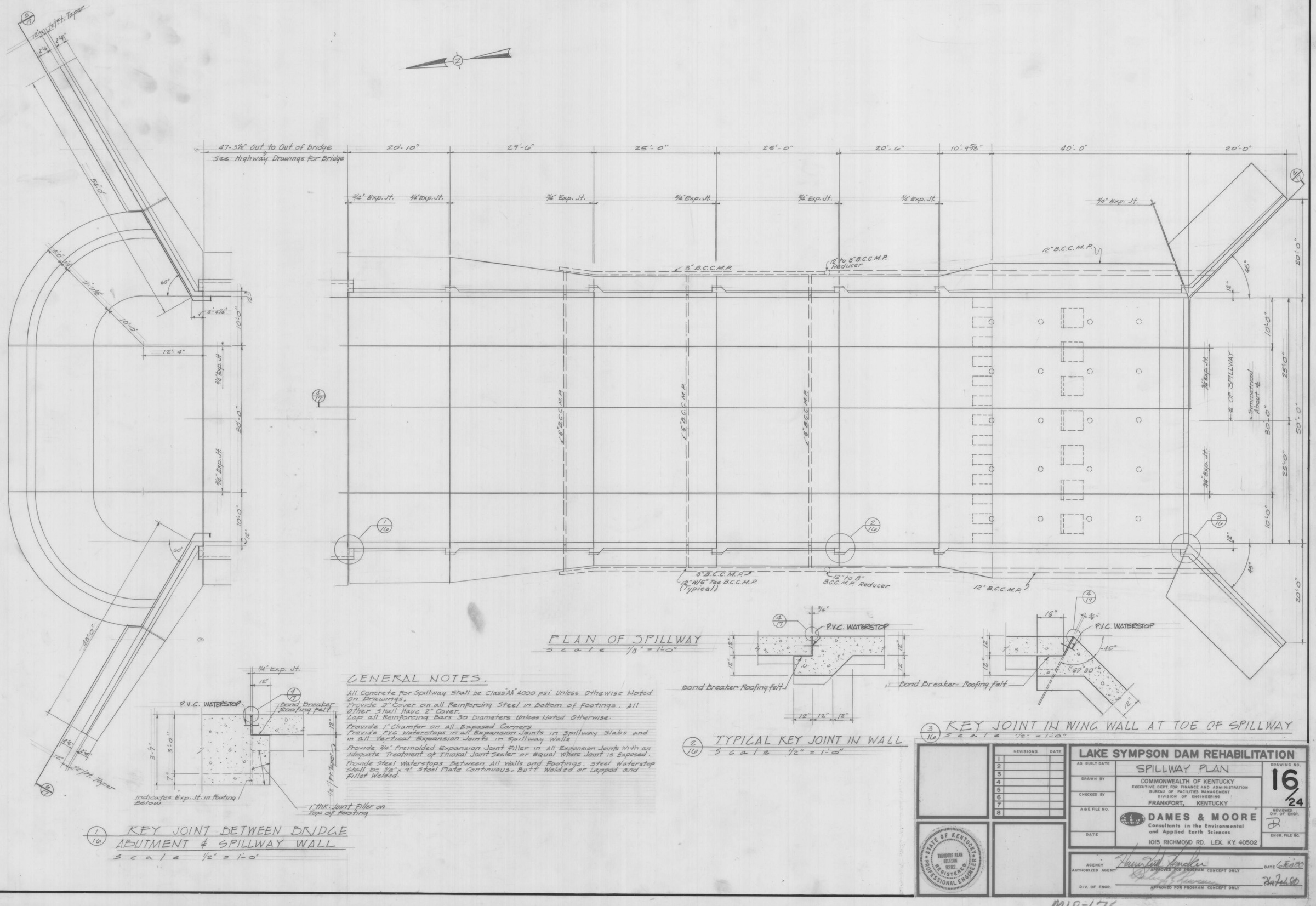
DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

ENGR. FILE NO.

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6 Feb 80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 2/24/80

M10-175



PLAN OF SPILLWAY
Scale 1/8" = 1'-0"

GENERAL NOTES.

All Concrete for Spillway Shall be Class "AA" 4000 psi Unless Otherwise Noted On Drawings.
Provide 3" Cover on all Reinforcing Steel in Bottom of Footings. All Other Shall Have 2" Cover.
Lap all Reinforcing Bars 30 Diameters Unless Noted Otherwise.
Provide 1" Chamfer on all Exposed Corners.
Provide P.V.C. Waterstops in all Expansion Joints in Spillway Slabs and in all Vertical Expansion Joints in Spillway Walls.
Provide ¾" Premolded Expansion Joint Filler in All Expansion Joints With an Adequate Treatment of Thiokal Joint Sealer or Equal Where Joint is Exposed.
Provide Steel Waterstops Between All Walls and Footings. Steel Waterstop Shall be ⅜" x 9" Steel Mate Continuous-Butt Welded or Lapped and Fillet Welded.

(1/10) KEY JOINT BETWEEN BRIDGE ABUTMENT & SPILLWAY WALL
Scale 1/2" = 1'-0"

(2/10) TYPICAL KEY JOINT IN WALL
Scale 1/2" = 1'-0"

(3/16) KEY JOINT IN WING WALL AT TOE OF SPILLWAY
Scale 1/2" = 1'-0"

REVISIONS	DATE
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STATE OF KENTUCKY — THEODORE ALAN GLEASON — 9282 — REGISTERED PROFESSIONAL ENGINEER

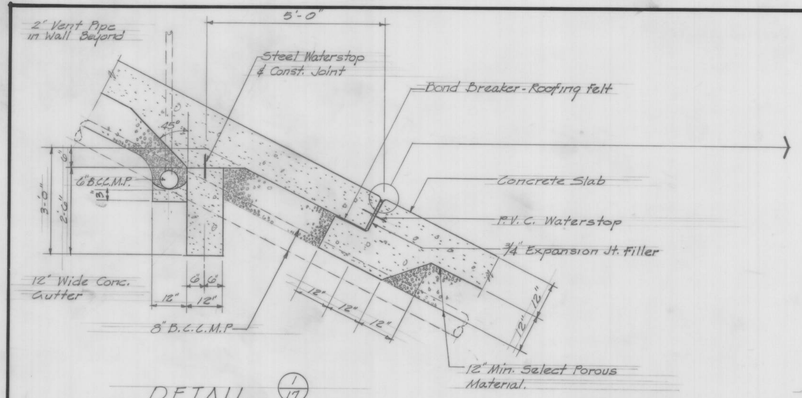
LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE	SPILLWAY PLAN
DRAWN BY	COMMONWEALTH OF KENTUCKY EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION BUREAU OF FACILITIES MANAGEMENT DIVISION OF ENGINEERING FRANKFORT, KENTUCKY
CHECKED BY	
A&E FILE NO.	DAMES & MOORE Consultants in the Environmental and Applied Earth Sciences 1015 RICHMOND RD. LEX. KY. 40502
DATE	

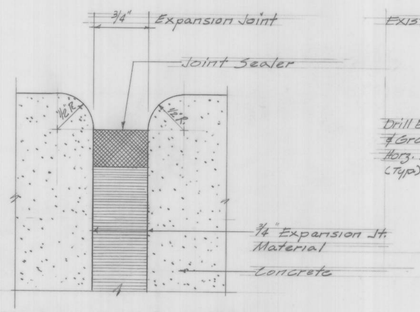
DRAWING NO. 16/24
REVIEWED DIV. OF ENGR.
ENGR. FILE NO.

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6/28/80
DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 7/2/80

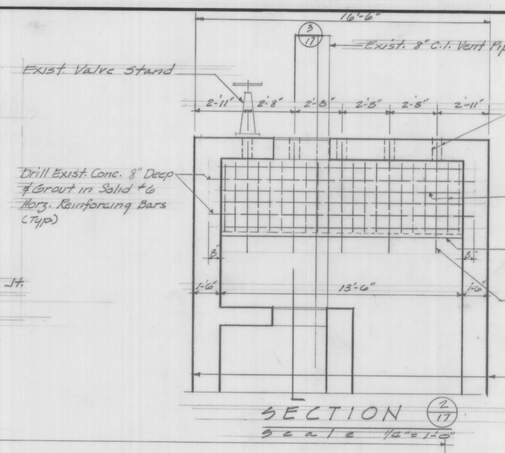
M10-176



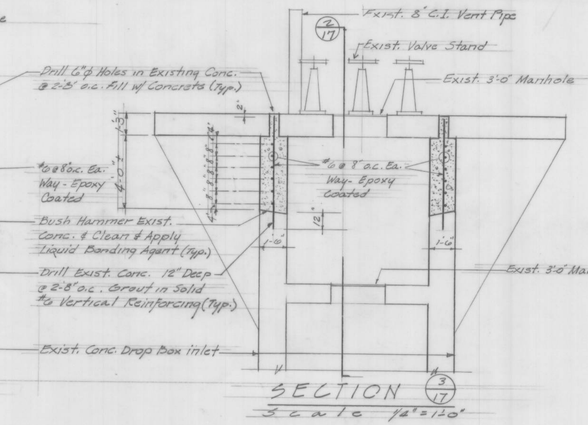
DETAIL (1/17)
Scale 1/2" = 1'-0"



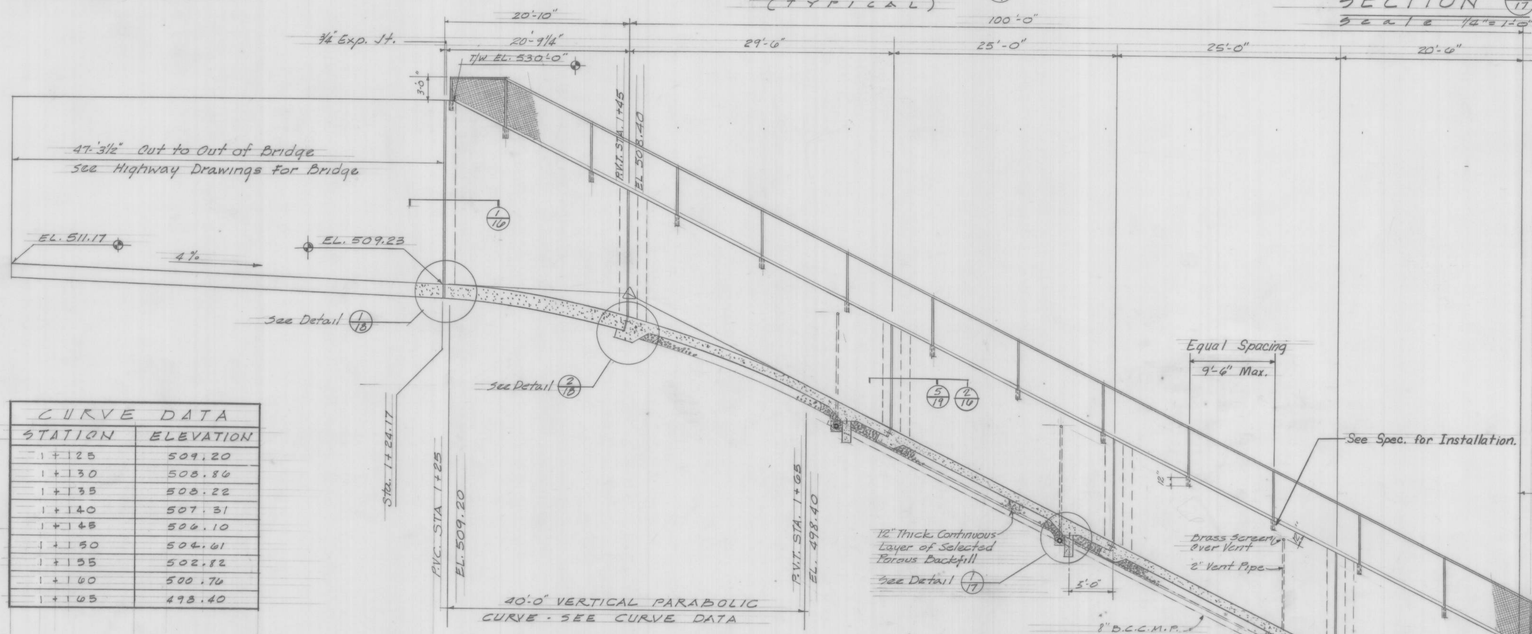
FULL SIZE EXPANSION JOINT DETAIL (4/17)
(TYPICAL)



SECTION (2/17)
Scale 1/4" = 1'-0"

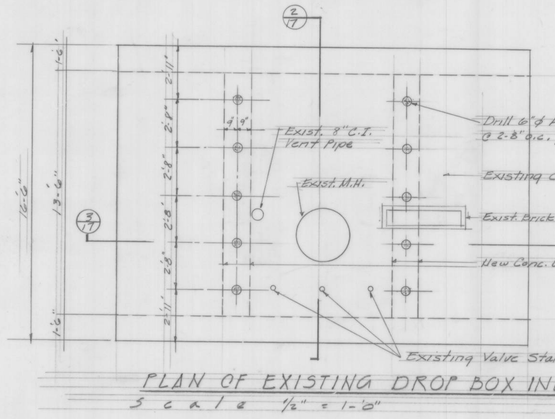


SECTION (3/17)
Scale 1/4" = 1'-0"

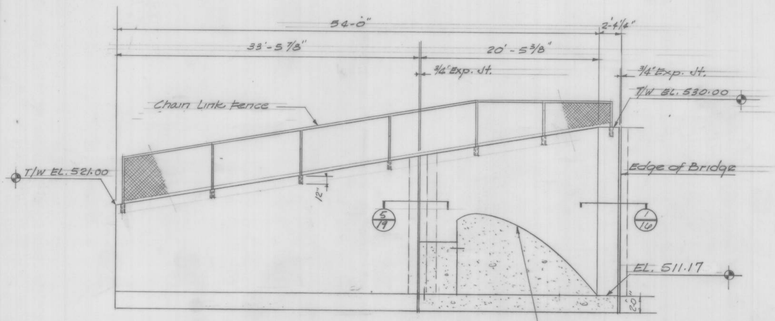


SECTION (4/10)
Scale 1/8" = 1'-0"

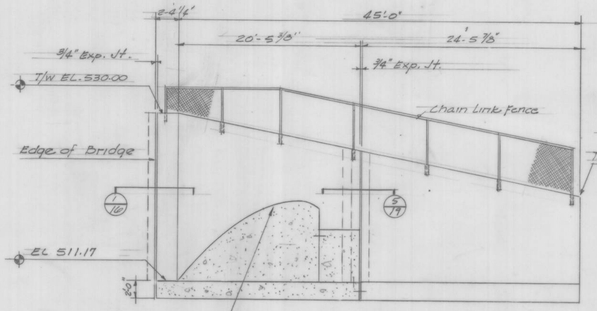
CURVE DATA	
STATION	ELEVATION
1+25	509.20
1+30	508.80
1+35	508.22
1+40	507.31
1+45	506.10
1+50	504.61
1+55	502.82
1+60	500.76
1+65	498.40



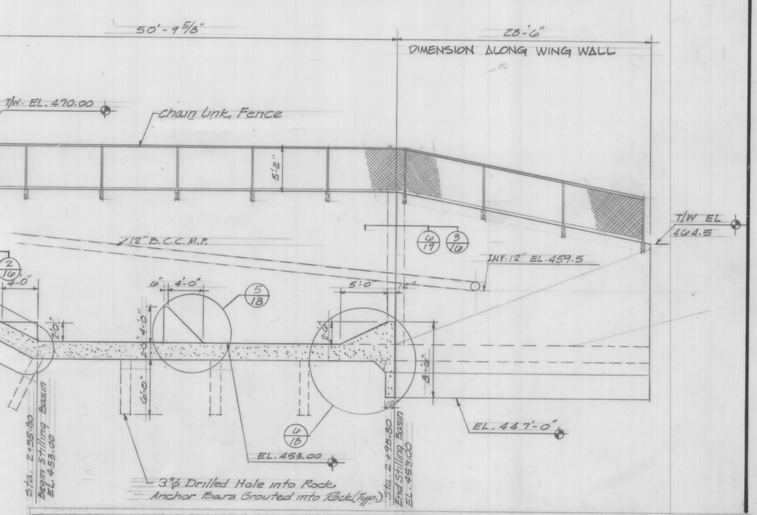
PLAN OF EXISTING DROP BOX INLET
Scale 1/2" = 1'-0"



SECTION (5/10)
Scale 1/8" = 1'-0"



SECTION (6/10)
Scale 1/8" = 1'-0"



REVISIONS	DATE
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STATE OF KENTUCKY — THEODORE ALAN GLEASON — 9282 — REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE
DRAWN BY
CHECKED BY
A&E FILE NO.
DATE

SPILLWAY SECTION. DROP BOX INLET

DRAWING NO. 17/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

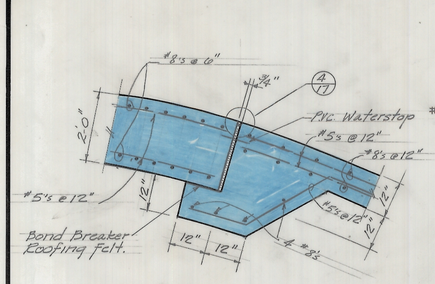
REVIEWED DIV. OF ENGR. D

ENGR. FILE NO.

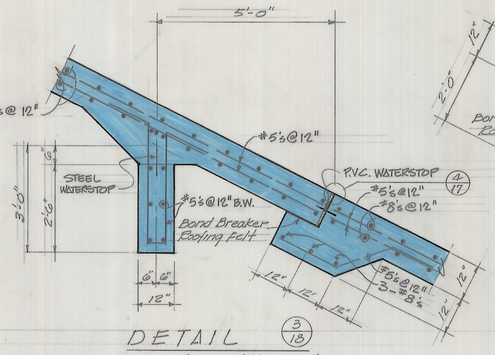
DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6 FEB 80
DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 26 FEB 80

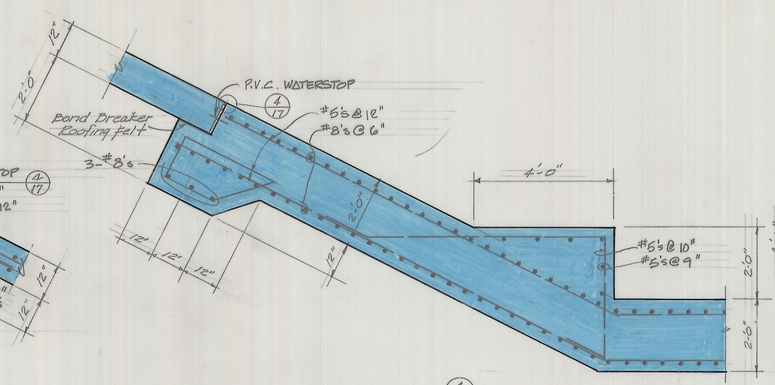
M10-177



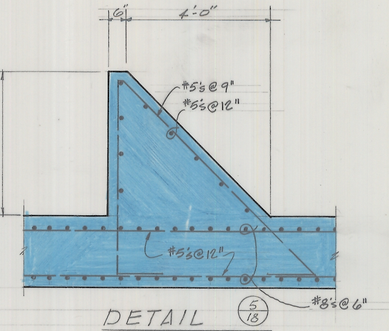
DETAIL 2/18
Scale 1/2" = 1'-0"



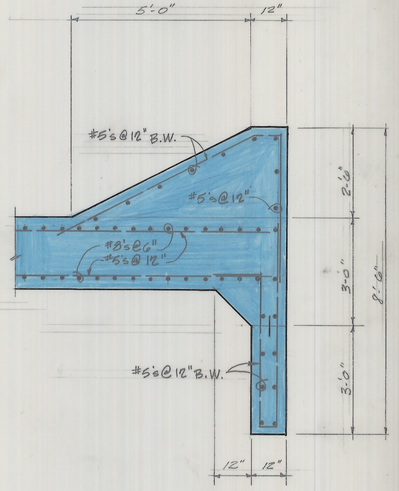
DETAIL 3/18
Scale 1/2" = 1'-0"



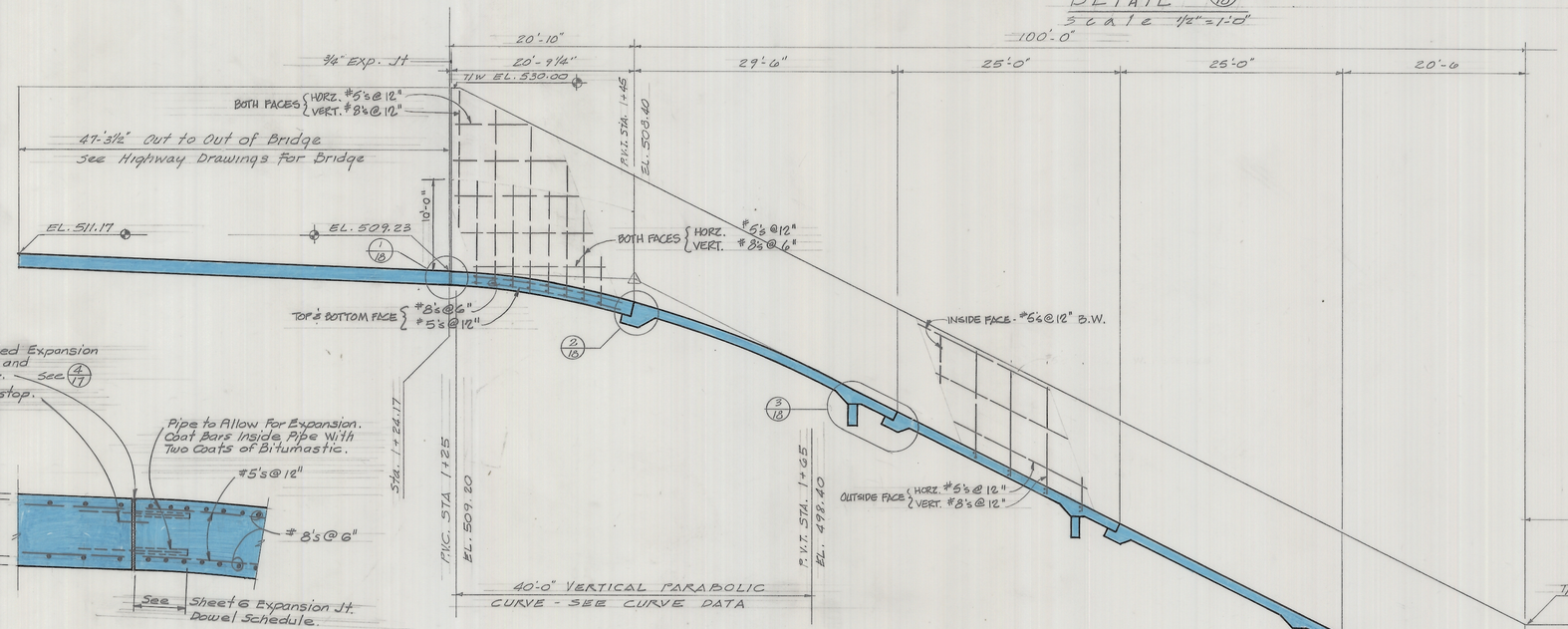
DETAIL 4/18
Scale 1/2" = 1'-0"

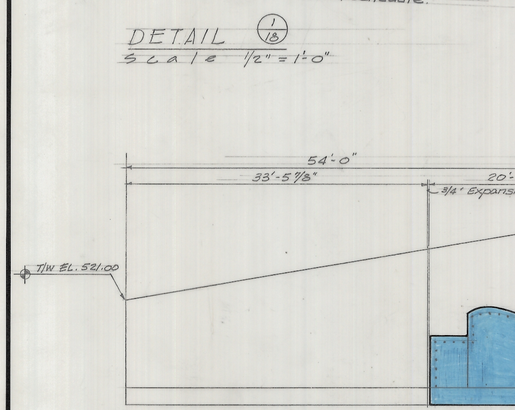


DETAIL 5/18
Scale 1/2" = 1'-0"



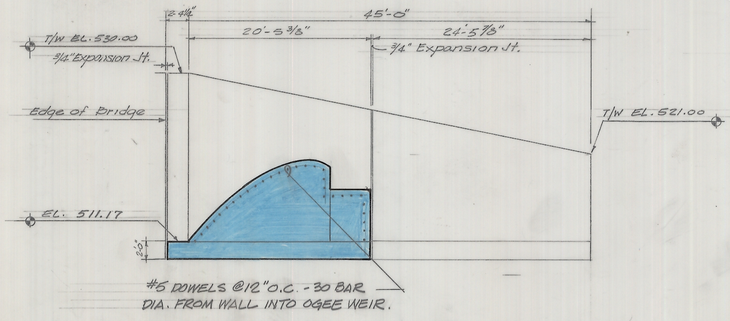
DETAIL 6/18
Scale 1/2" = 1'-0"





DETAIL 1/18
Scale 1/2" = 1'-0"

SECTION 8/18
Scale 1/8" = 1'-0"



SECTION 9/18
Scale 1/8" = 1'-0"

SECTION 7/18
Scale 1/8" = 1'-0"
- Reinforcing Steel not to Scale -

REVISIONS	DATE
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STATE OF KENTUCKY — THEODORE ALAN GLEASON — 9282 — REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE
DRAWN BY
CHECKED BY
A&E FILE NO.
DATE

SPILLWAY STRUCTURE

DRAWING NO. 18/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

REVIEWED DIV. OF ENGR.

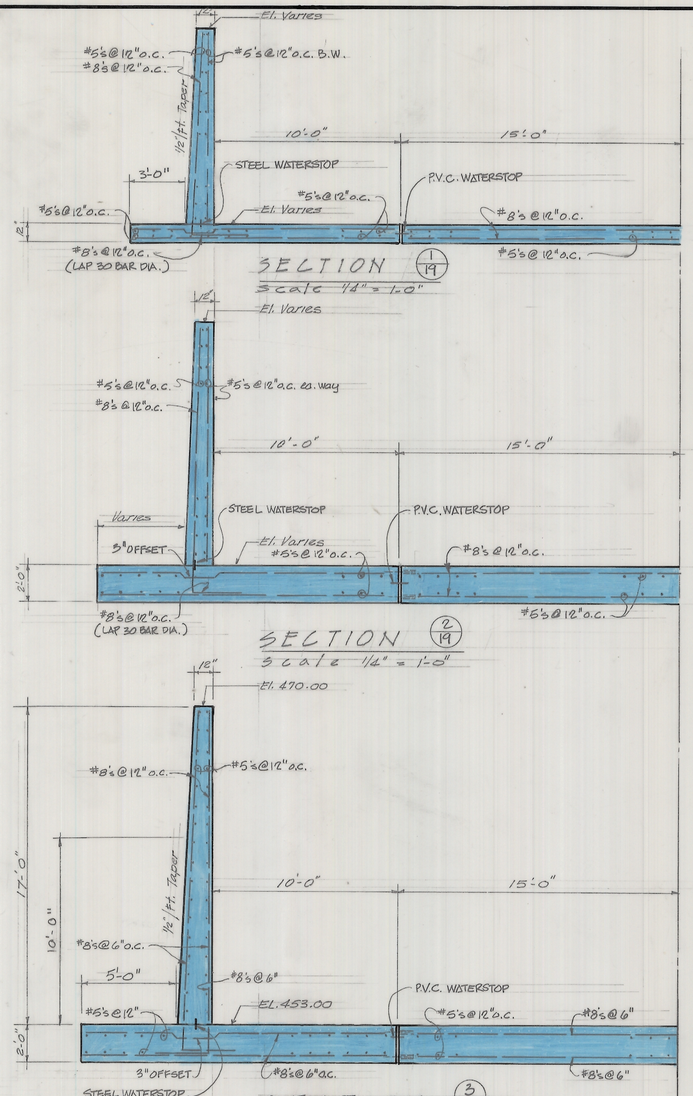
DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD., LEX. KY. 40502

ENGR. FILE NO.

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6-Feb-80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 26 Feb 80

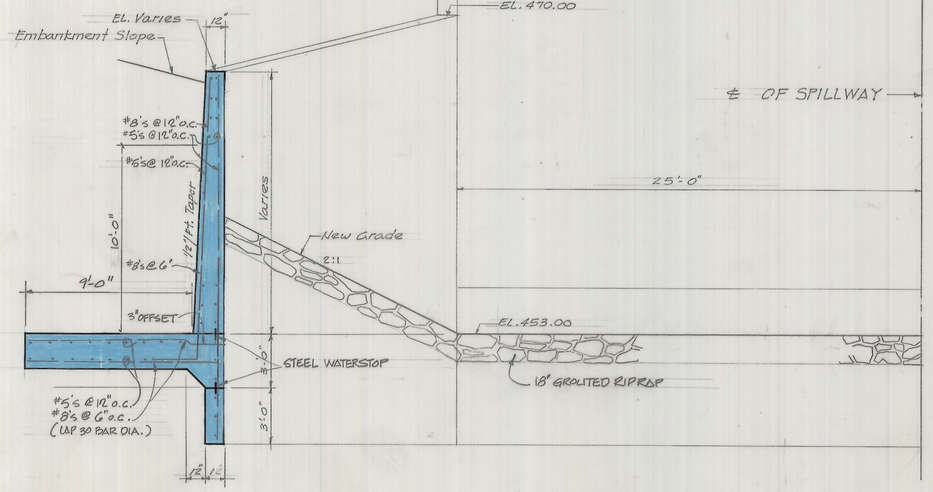
MD-178



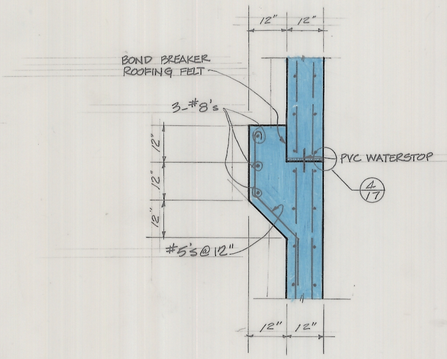
SECTION (1/19)
Scale 1/4" = 1'-0"

SECTION (2/19)
Scale 1/4" = 1'-0"

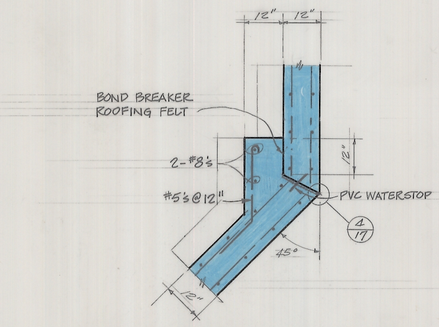
SECTION (3/19)
Scale 1/4" = 1'-0"



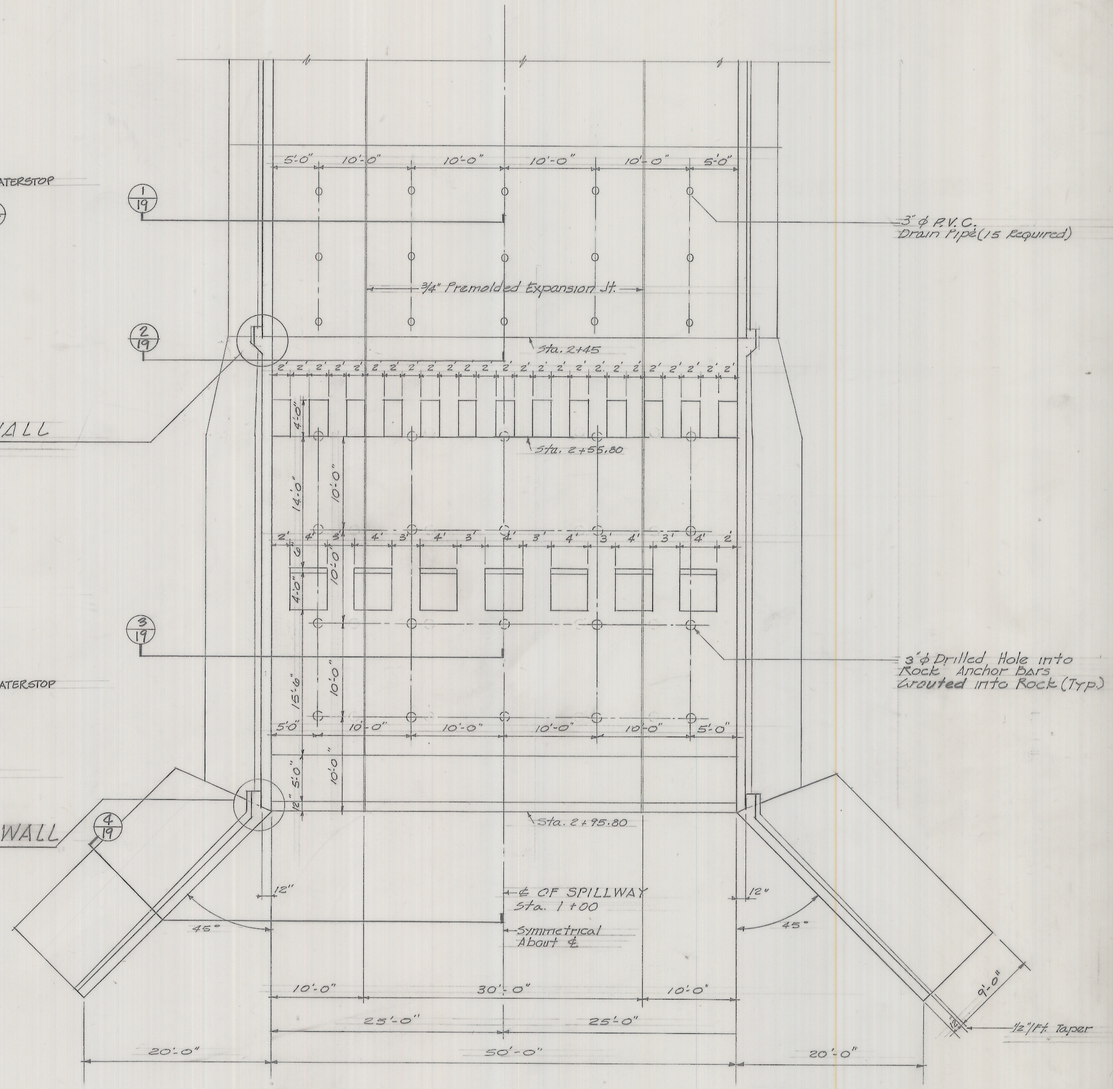
SECTION (4/19)
Scale 1/4" = 1'-0"



(5/19) TYPICAL KEY JOINT IN WALL
Scale 1/2" = 1'-0"



(6/19) KEY JOINT IN WING WALL



PLAN OF OUTLET OF SPILLWAY
Scale 1/8" = 1'-0"

REVISIONS	DATE
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STATE OF KENTUCKY
THEODORE ALAN GLEASON
9282
REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE

DRAWN BY

CHECKED BY

A&E FILE NO.

DATE

OUTLET STRUCTURE

DRAWING NO. 19/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

REVIEWED DIV. OF ENGR.

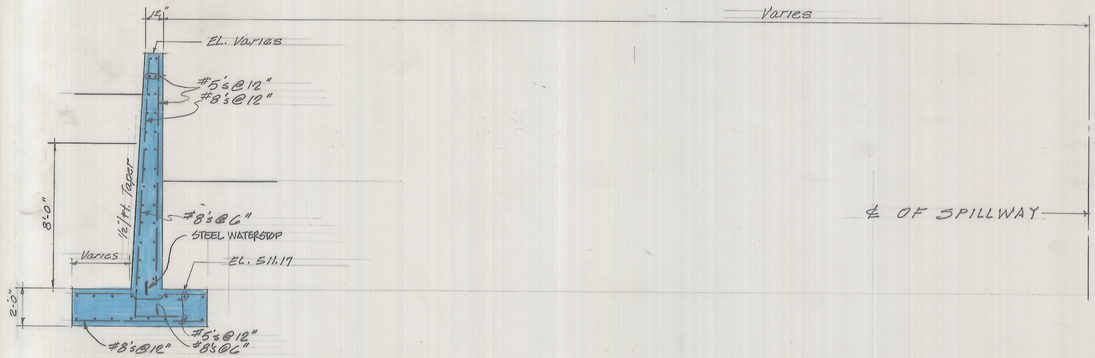
DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

ENGR. FILE NO.

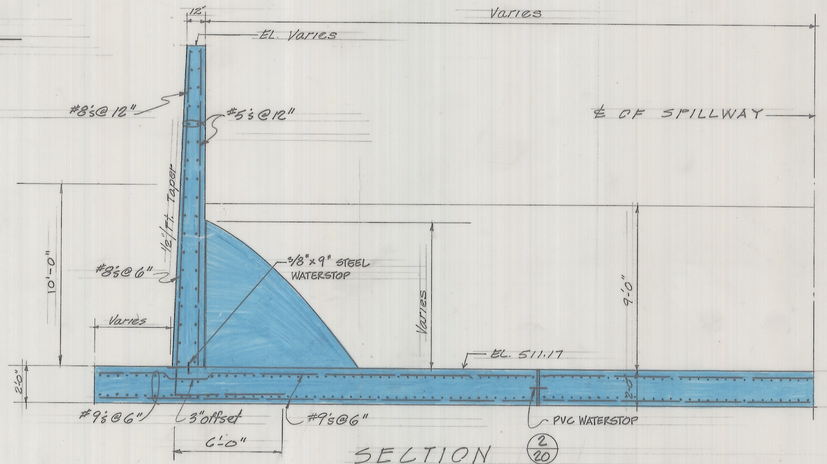
AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6 FEB 80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 26 Jul 80

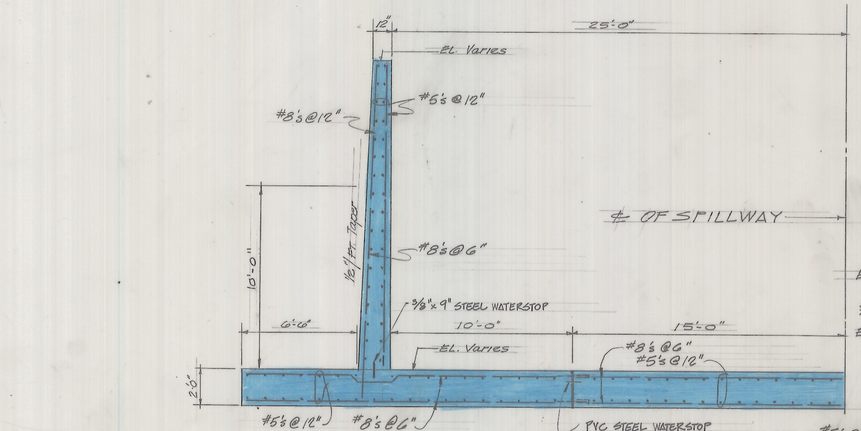
M10-179



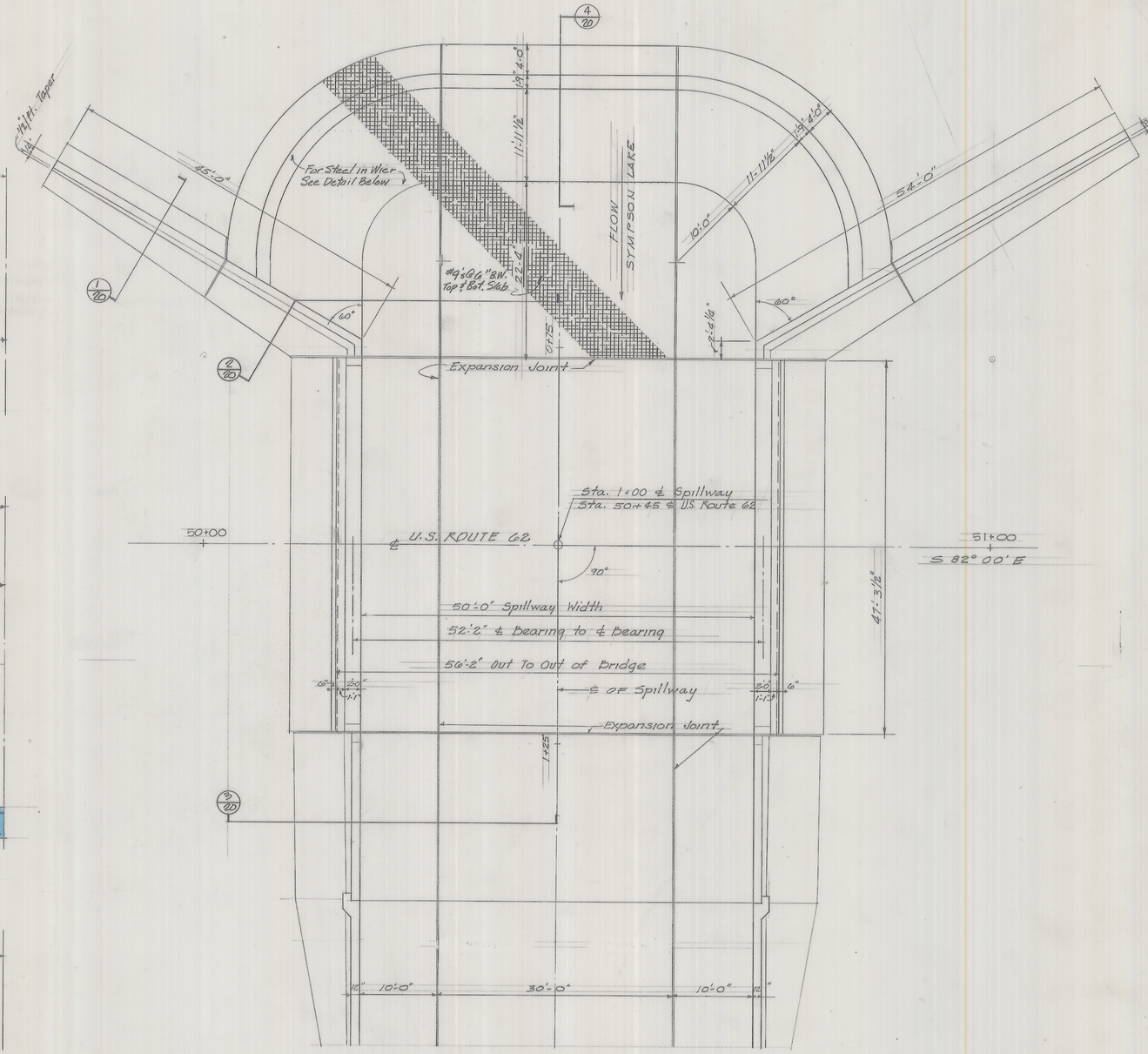
SECTION (1/20)
Scale 1/4" = 1'-0"



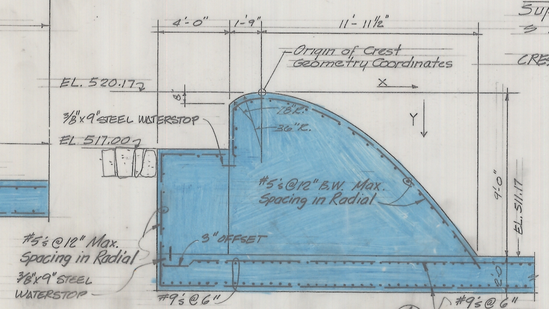
SECTION (2/20)
Scale 1/4" = 1'-0"



SECTION (3/20)
Scale 1/4" = 1'-0"



PLAN AT BRIDGE
Superstructure Removed
Scale 1/8" = 1'-0"



SECTION (4/20)
Scale 1/4" = 1'-0"

CREST GEOMETRY COORDINATES

	X	Y
1	-.095	
2	-.36	
3	-.71	
4	-1.21	
5	-1.82	
6	-2.54	
7	-3.37	
8	-4.31	
9	-5.36	
10	-6.48	
11	-7.72	
11-11½	-9.00	

REVISIONS	DATE
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STATE OF KENTUCKY
THEODORE ALAN GLEASON
9282
REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

INLET STRUCTURE

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

DRAWING NO. 20/24

AS BUILT DATE	
DRAWN BY	
CHECKED BY	
A&E FILE NO.	
DATE	
REVIEWED DIV. OF ENGR.	JR
ENGR. FILE NO.	

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6/26/80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 7/2/80

M10-180.

End Area For Impervious Earth Backfill = 1250 a'

Grouted Heavy Rip-Rap Inlet Structure = 227 Sq. Yds.

Impervious Earth Backfill = 842 Cu. Yds.

End Area For Impervious Earth Backfill = 1280 a'

Impervious Earth Backfill = 417 Cu. Yds.

End Area For Impervious Earth Backfill = 970 a'

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	3910	0		
			2645	0
	2645	0		
			825	0
	840	0		
Bk. Ah.	1810	0		
			532	0
	310	0		
			204	0
	130	0		
			62.5	0
	5	0		
			0.5	0
	0	0		

Total Exc. This Sh't = 4269 Cu. Yds

Total Impervious Earth Backfill This Sh't = 1259 Cu. Yds.

Total Top Soil This Sh't = 241 Cu. Yds.

Total Grouted Heavy Rip-Rap This Sh't = 227 Sq. Yds.

THEODORE ALAN GLEASON 9282 REGISTERED PROFESSIONAL ENGINEER — STATE OF KENTUCKY

REVISIONS	DATE
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LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE

DRAWN BY

CHECKED BY

A&E FILE NO.

DATE

CROSS-SECTION, SPILLWAY

DRAWING NO. 21/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

REVIEWED DIV. OF ENGR.

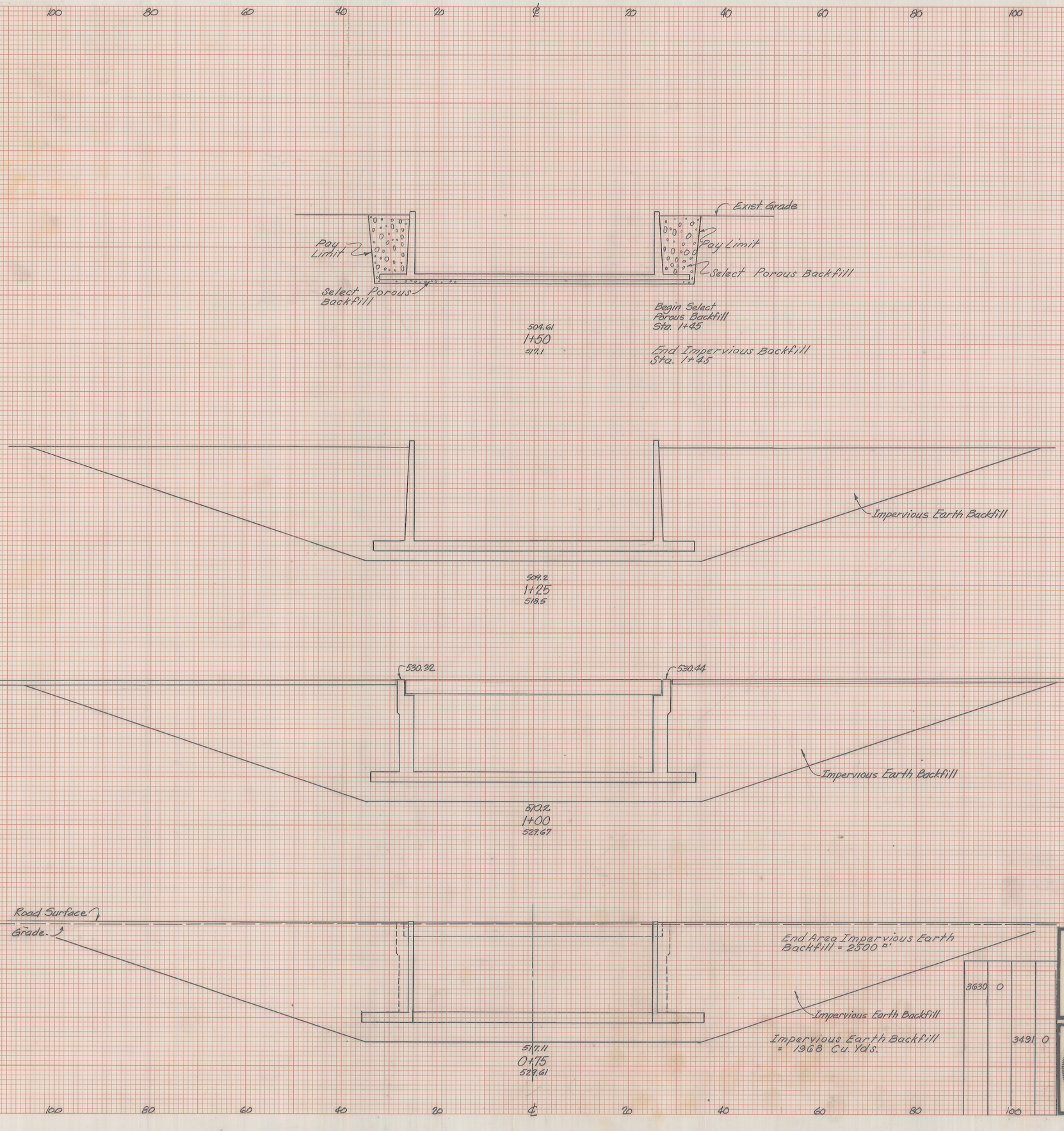
DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

ENGR. FILE NO.

AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6-7-80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 24 Jun 80

M10-181



	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
End Area Select Porous Backfill Sta. 1+50 = 142 □'		840	0	
Select Porous Material = 26 Cu. Yds.				1935 0
End Area Select Porous Backfill Sta. 1+45 = 142 □' End Area Impervious Earth Backfill Sta. 1+45 = 142 □'				
Impervious Earth Backfill = 864 Cu. Yds.				
End Area For Impervious Earth Backfill = 2190 □'		3340	0	
Impervious Earth Backfill = 2162 Cu. Yds.				3259 0
End Area Impervious Earth Backfill = 2480 □'		3700	0	
Impervious Earth Backfill = 2306 Cu. Yds.				3394 0
		3630	0	
		3491	0	

Total Exc. This Sh't = 12,079 Cu. Yds.

Total Impervious Backfill This Sh't. = 7300 Cu. Yds.
Total Top Soil This Sh't 269 Cu. Yds.
Select Porous Backfill This Sh't. = 26 Cu. Yds.

REVISIONS	DATE
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STATE OF KENTUCKY
THEODORE ALAN GLEASON
9282
REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE

DRAWN BY

CHECKED BY

A&E FILE NO.

DATE

CROSS-SECTION-SPILLWAY

DRAWING NO. 22/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

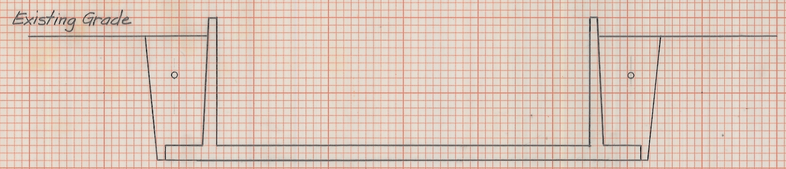
REVIEWED DIV. OF ENGR.

ENGR. FILE NO.

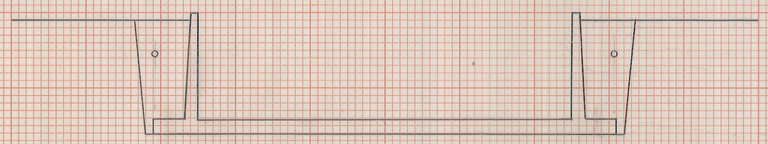
AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6 Feb 80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 26 Feb 80

M10-182



453.00
2+75
467.6

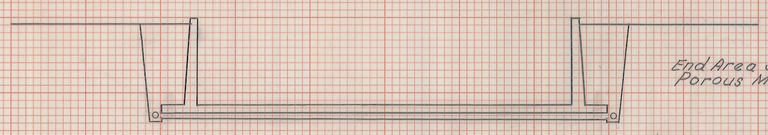


455.90
2+50
469.1

End Select Porous Backfill Sta. 2+45

Fill End Area Sta. 2+45 = 200 sq'
Sta. 2+45 End Area Select Porous Mat.= 200 sq'

Select Porous Material = 14.8 Cu. Yds.

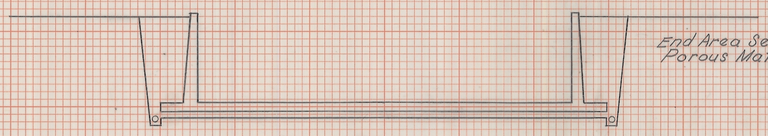


468.40
2+25
479.3

End Area Select Porous Mat. = 200 sq'

Select Porous Mat. = 185 Cu. Yds.

3-Cut-off Walls
60'x 2'x 3' = 13 Cu. Yds.

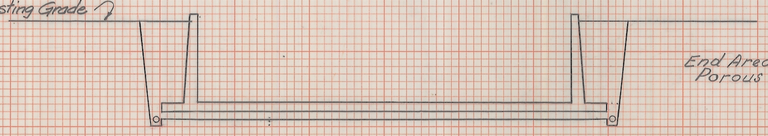


480.90
2+00
491.9

End Area Select Porous Mat. = 200 sq'

Select Porous Mat. = 185 Cu. Yds.

Existing Grade

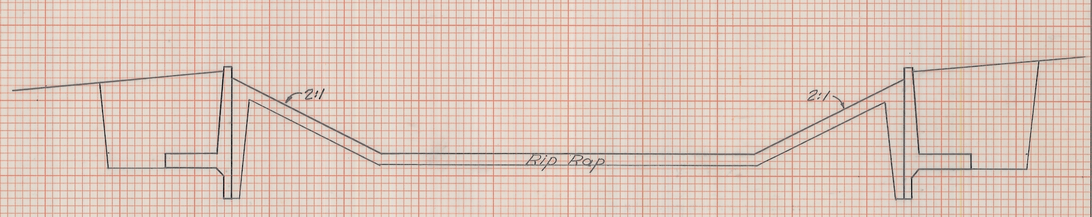


493.40
1+75
504.2

End Area Select Porous Mat. = 200 sq'

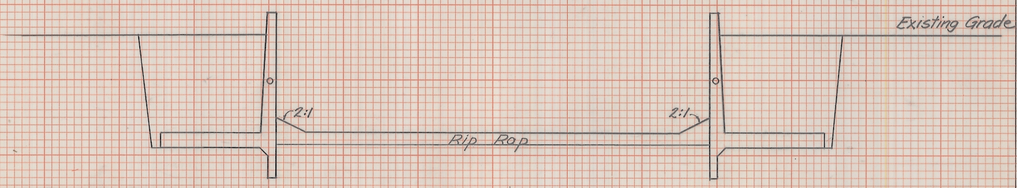
Select Porous Mat. = 158 Cu. Yds.

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	1120	224		
			991	196
	1020	200		
			861	37
	840			
	778			
	840			
	778			
	840			
	778			



453.0
3+15.80
465.0

Grouted Heavy Rip-Rap S.A.F. = 341 Sq. Yds.



453.0
3+00
466.1

Cut-off Wall
52'x 2'x 4' = 15 Cu. Yds.

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	1420	480		
			813	257
	1360	400		
			1148	289

Total Exc. This Sh't = 6175 Cu. Yds.
Total Impervious Backfill This Sh't. = 779 Cu. Yds.
Total Top Soil This Sh't. = 191 Cu. Yds.
Select Porous Backfill This Sh't = 676 Cu. Yds.
Grouted Heavy Rip-Rap This Sh't. = 341 Sq. Yds.

REVISIONS	DATE
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STATE OF KENTUCKY
THEODORE ALAN GLEASON
9282
REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE

DRAWN BY

CHECKED BY

A&E FILE NO.

DATE

CROSS SECTIONS SPILLWAY

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD. LEX. KY. 40502

DRAWING NO. 23/24

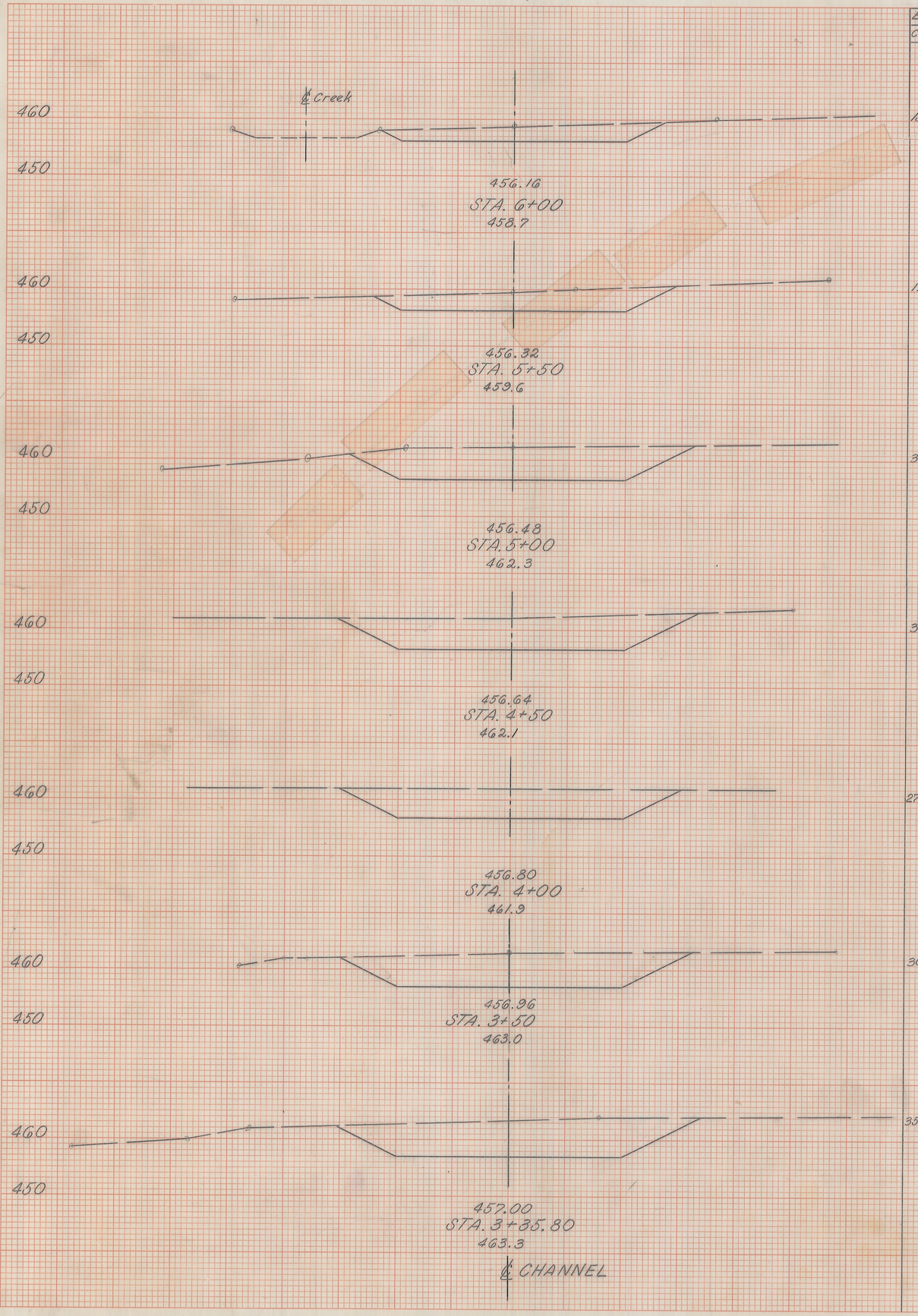
REVIEWED DIV. OF ENGR. D

ENGR. FILE NO.

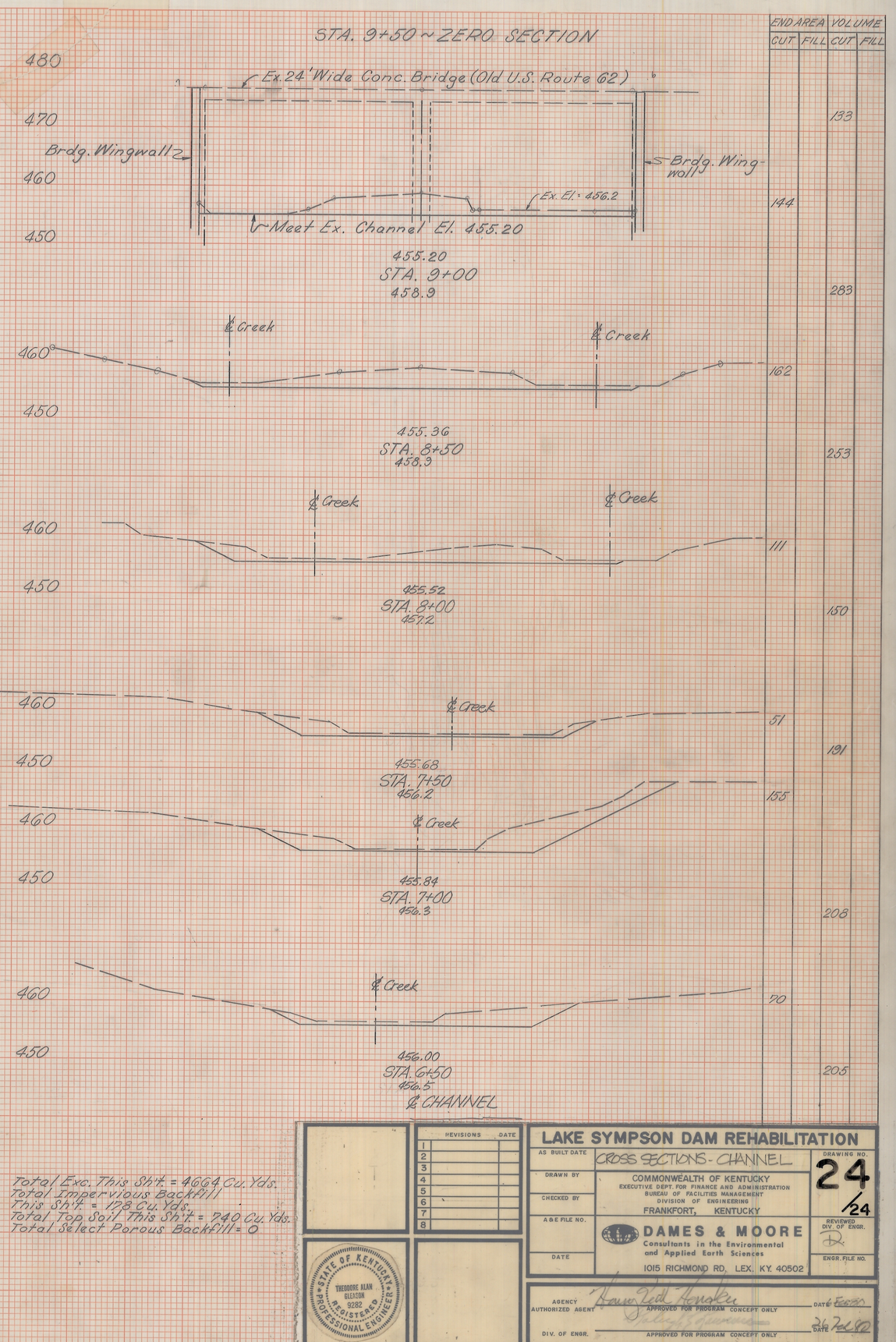
AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6 FEB 80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 26 Feb 80

M10-183



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
151			
			303
176			
		448	
308			
		577	
315			
			547
276			
		538	
305			
			172
350	0		
		656	178



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
			133
		144	
			283
		162	
			253
		111	
			150
		51	
			191
		155	
			206
		70	
			205

Total Exc. This Sh't. = 4664 Cu. Yds.
Total Impervious Backfill
This Sh't. = 178 Cu. Yds.
Total Top Soil This Sh't. = 240 Cu. Yds.
Total Select Porous Backfill = 0

REVISIONS	DATE
1	
2	
3	
4	
5	
6	
7	
8	

STATE OF KENTUCKY
THEODORE ALAN GLEASON
9282
REGISTERED PROFESSIONAL ENGINEER

LAKE SYMPSON DAM REHABILITATION

AS BUILT DATE
DRAWN BY
CHECKED BY
A&E FILE NO.
DATE

CROSS SECTIONS - CHANNEL

DRAWING NO. 24/24

COMMONWEALTH OF KENTUCKY
EXECUTIVE DEPT. FOR FINANCE AND ADMINISTRATION
BUREAU OF FACILITIES MANAGEMENT
DIVISION OF ENGINEERING
FRANKFORT, KENTUCKY

REVIEWED DIV. OF ENGR.

ENGR. FILE NO.

DAMES & MOORE
Consultants in the Environmental and Applied Earth Sciences
1015 RICHMOND RD., LEX., KY. 40502

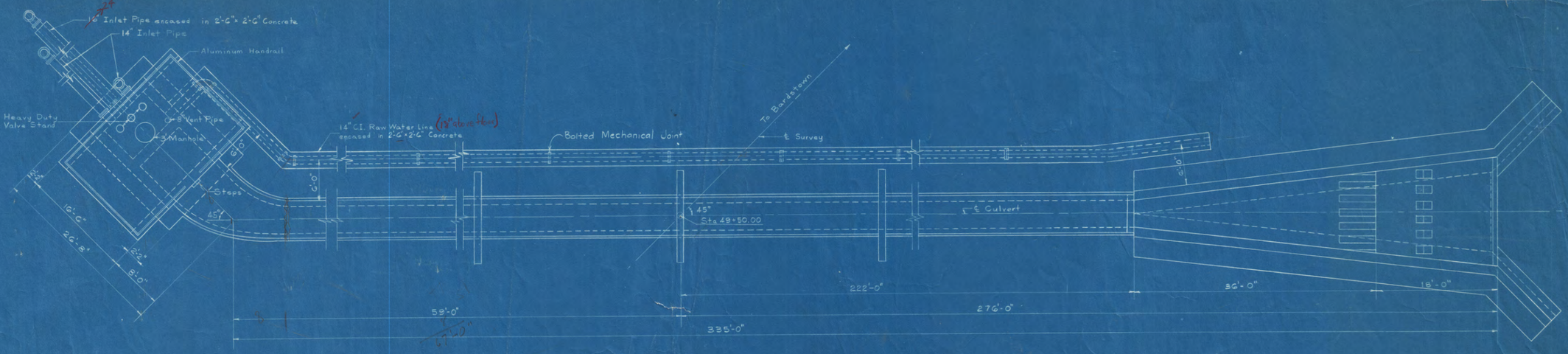
AGENCY AUTHORIZED AGENT — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 6 FEB 80

DIV. OF ENGR. — APPROVED FOR PROGRAM CONCEPT ONLY — DATE 26 Feb 80

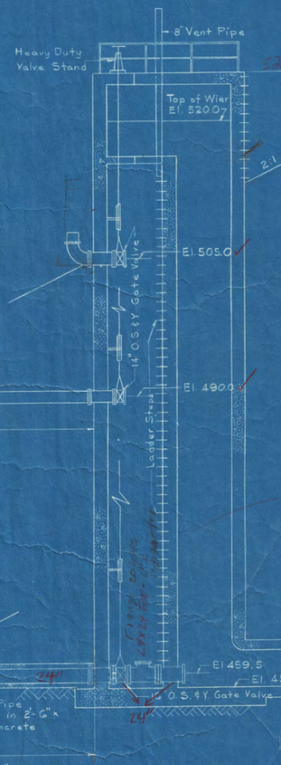
M10-184

Record Drawings – Sympson Lake Intake Structure (Riser and 4-FT. Square RCBC)

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



PLAN



GENERAL NOTE

SPECIFICATIONS: Kentucky Department of Highways, 1956 Standard with amendments.

DESIGN LOAD: Culvert designed for 70 lbs. per cu. ft. dead load.

DESIGN STRESSES: fs=20,000 p.s.i.; fc=1,200 p.s.i.; f'c=3,000 p.s.i.; u=200 p.s.i. for embedment; u=300 p.s.i. for computations of sum of perimeters; n=10.

CONCRETE: Class "A" Concrete to be used throughout.

REINFORCEMENT: Intermediate or hard grade reinforcement shall be used in accordance with A.S.T.M. A15-58T for billet steel or A16-59T for rail steel. Dimensions shown from face of concrete to bars are clear distances except as otherwise shown. Dimensions for bar spacing are distances center to center of bars.

CONSTRUCTION JOINTS: Construction Joints for Culvert barrel are to be located in the field, except that no Construction Jionts shall be located in Culvert barrel closer than 6 feet from the end of the Culvert or 16 feet from the drop inlet R.C. Box.

BEVELED EDGES: All exposed edges shall be beveled 7/8" unless otherwise noted.

WELDING AND WELD MATERIAL: Welding and Weld material shall conform to American Welding Society Current Specifications for Welding Highway and Railway Bridges. No direct payment shall be made for welding or weld material. The cost of which shall be included in the Lump Sum Bid for Cast Iron Pipe.

BILL OF INCIDENTAL MATERIAL: The cost of furnishing and placing items shown in the Bill Of Incidental Material and Tar Paper shall be included in the Unit Price Bid for Class "A" Concrete.

TAR PAPER: To be commercial grade tar paper or roofing felt approximately 1/16" thick.

MATERIALS:

A.S.T.M. DESIGNATION	MATERIAL
A 126-42	Gray Iron Casting
A 377-57	Cast Iron Pipe Class "A"
A 72-59T	Wrought Iron

MATREIALS:

A.S.T.M. DESIGNATION	MATERIAL
B 308-59T	Aluminum-Alloy GS 11A, Temper T6
A 207-39	Wrough Iron Shapes and Bars

LUMP SUM BID FOR 16" CAST IRON PIPE: Cost of furnishing and placing all pipe, valves, pipe fittings, wrough iron pieces, bolts, cast iron pieces, aluminum trash rack, aluminum handrail, manhole frames, gaskets and covers, incidentals and painting shall be included in the Lump Sum Bid for 16" Cast Iron Pipe.

LUMP SUM BID FOR 14" CAST IRON PIPE: Cost of furnishing and placing all pipe, valves, pipe fittings, painting and incidentals for 14" Cast Iron Pipe shall be included in the Lump Sum Bid for 14" Cast Iron Pipe.

PAINT: See Sheet No. 5

SHOP DETAIL DRAWING: The contractor shall submit full sets of the detailed shop drawings for aluminum trash rack, aluminum handrails, cast iron pipe, valves and fittings for approval by the Department. Any material ordered or work done by the contractor before the drawings have been approved shall be at his risk.

BILL OF INCIDENTAL MATERIALS: Quantities shown in the Bill of Incidental Material are approximate only and contractor is responsible for furnishing enough material to complete the work in accordance with the Plans and Specifications.

SPECIFICATIONS FOR PREMOLDED FILLER: Bituminous fiber or cork asphalt expansion joint filler shall be used. Bituminous fiber shall be in accordance with Section 7-25 of 1956 Standard Specifications. The cork asphalt filler shall conform to A.S.T.M. Specification D 544 Type I and A.A.S.H.O. Specification M59-49.

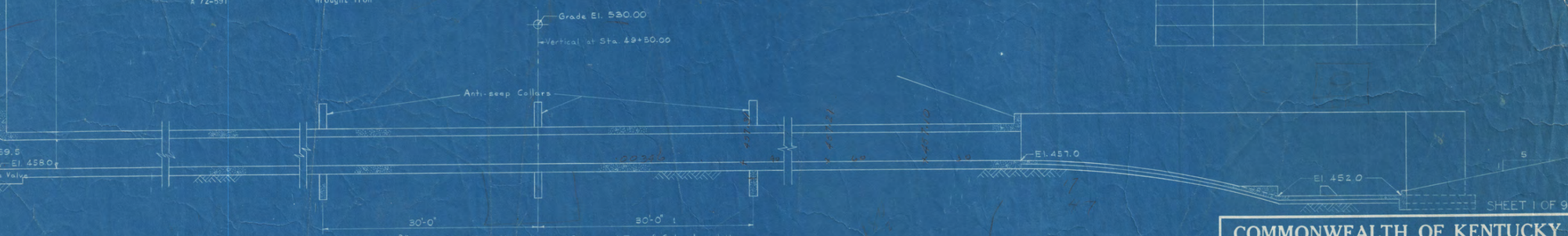
SPECIFICATION FOR COPPER STRIP: Copper strip is to be 24 oz. Soft Sheet Commerical Grade. A tolerance of 8% variation in weight above or below that specified will be allowed.

TOTAL ESTIMATE OF QUANTITIES

CONCRETE CLASS "A"	6470	652.7 CU. YDS.
REINFORCEMENT	81960	82,075 LBS.
STRUCTURE EXCAV. (COM)		5 CU. YDS.
STRUCTURE EXCAV. (S. R.)		210 CU. YDS.
14" CAST IRON PIPE LUMP SUM		ONE
16" CAST IRON PIPE LUMP SUM		ONE

BILL OF INCIDENTAL MATERIAL

ITEM	NO. PIECES	DESCRIPTION	LOCATION
Copper Strip	6	8"x35'-0" Long	Construction Joint in Riser
Prem. Exp. Jt. Mat'l	3	¾"x12"x18'-6"	At Anti-Seep Collars



Note: Place ¾" Prem. Exp. Jt. Mat'l between Sides and Top of Culvert and the Anti-seep Collars.
Place 2 layers of Tar Paper between Bottom Slab of Culvert and the Anti-seep Collars.

Estimate of Class 'A' Concrete for encasing 14" Cast Iron Pipe = 58.8 Cu. Yds. This 58.8 Cu. Yds. of concrete encasing the 14" C.I. Raw Water Line is included in the Total Estimate of Quantities shown on this sheet.

SECTIONAL ELEVATION ON ℄ OF STRUCTURE

4'-0" x 4'-0" x 289'-0" R. C. CULVERT 45° SKEW LEFT
DOUBLE 8'-0" x 6'-0" RISER 2:1 FILL SLOPES
24' ROADWAY 48' SHOULDERS

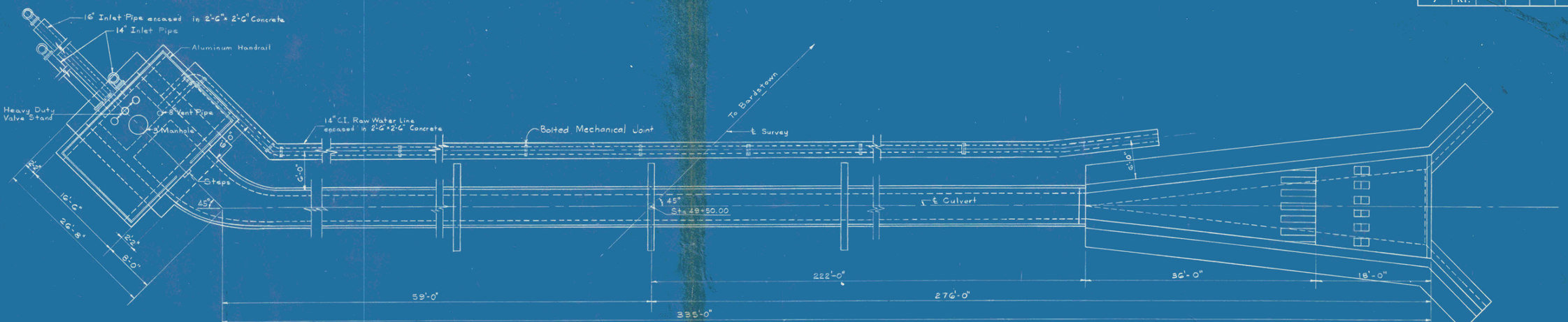
DESIGNED BY ____ DATE ____ CHECKED BY ____ DATE ____
DETAILED BY S. J. RIEHL DATE ____ CHECKED BY ____ DATE ____
TRACED BY ____ DATE ____ CHECKED BY ____ DATE ____
REVISED ____ REVISED ____ REVISED ____

SHEET 1 OF 9

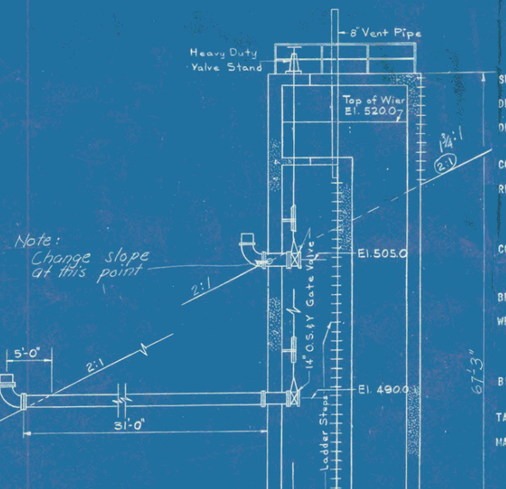
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN — BARDSTOWN
ROAD
STATION 49+50.0 **PROJECT NO.** F 196 (12)

BRIDGE NUMBER	DRAWING NO.	INDEX
	15306	

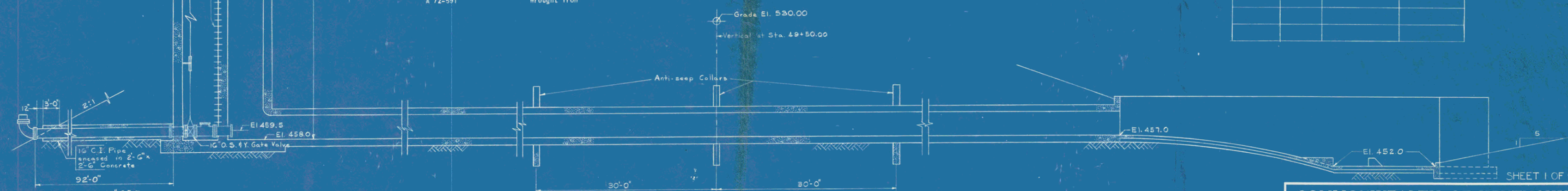
FED. ROAD DIST.	STATE	FED. AID PRO. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



PLAN



Note: Encased 16" C.I. Pipe to rest on solid rock



Note: Place ¾" Prem. Exp. Jt. Mat'l between Sides and Top of Culvert and the Anti-seep Collars.
Place 2 layers of Tar Paper between Bottom Slab of Culvert and the Anti-seep Collars.

GENERAL NOTE

SPECIFICATIONS: Kentucky Department of Highways, 1956 Standard with amendments.

DESIGN LOAD: Culvert designed for 70 lbs. per cu. ft. dead load.

DESIGN STRESSES: fs=20,000 p.s.i.; fc=1,200 p.s.i.; f'c=3,000 p.s.i.; u=200 p.s.i. for embedment; u=300 p.s.i. for computations of sum of perimeters; n=10.

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BEVELED EDGES: All exposed edges shall be beveled 7/8" unless otherwise noted.

WELDING AND WELD MATERIAL: Welding and Weld material shall conform to American Welding Society Current Specifications for Welding Highway and Railway Bridges. No direct payment shall be made for welding or weld material. The cost of which shall be included in the Lump Sum Bid for Cast Iron Pipe.

BILL OF INCIDENTAL MATERIAL: The cost of furnishing and placing items shown in the Bill Of Incidental Material and Tar Paper shall be included in the Unit Price Bid for Class "A" Concrete.

TAR PAPER: To be commercial grade tar paper or roofing felt approximately 1/16" thick.

MATERIALS:

A.S.T.M. DESIGNATION	MATERIAL
A 126-42	Gray Iron Casting
A 377-57	Cast Iron Pipe Class "A"
A 72-59T	Wrought Iron

MATREIALS:

A.S.T.M. DESIGNATION	MATERIAL
B 308-59T	Aluminun-Alloy GS 11A, Temper T6
A 207-39	Wrough Iron Shapes and Bars

LUMP SUM BID FOR 16" CAST IRON PIPE: Cost of furnishing and placing all pipe, valves, pipe fittings, wrough iron pieces, bolts, cast iron pieces, aluminum trash rack, aluminum handrail, manhole frames, gaskets and covers, incidentals and painting shall be included in the Lump Sum Bid for 16" Cast Iron Pipe.

LUMP SUM BID FOR 14" CAST IRON PIPE: Cost of furnishing and placing all pipe, valves, pipe fittings, painting and incidentals for 14" Cast Iron Pipe shall be included in the Lump Sum Bid for 14" Cast Iron Pipe.

PAINT: See Sheet No. 5

SHOP DETAIL DRAWING: The contractor shall submit full sets of the detailed shop drawings for aluminum trash rack, aluminum handrails, cast iron pipe, valves and fittings for approval by the Department. Any material ordered or work done by the contractor before the drawings have been approved shall be at his risk.

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SPECIFICATION FOR COPPER STRIP: Copper strip is to be 24 oz. Soft Sheet Commerical Grade. A tolerance of 8% variation in weight above or below that specified will be allowed.

TOTAL ESTIMATE OF QUANTITIES

CONCRETE CLASS "A"	647.0	(652.7)	CU. YDS.
REINFORCEMENT	81380	(82,075)	LBS.
STRUCTURE EXCAV. (COM.)		5	CU. YDS.
STRUCTURE EXCAV. (S. R.)		210	CU. YDS.
14" CAST IRON PIPE	LUMP SUM		ONE
16" CAST IRON PIPE	LUMP SUM		ONE

BILL OF INCIDENTAL MATERIAL

ITEM	NO. PIECES	DESCRIPTION	LOCATION
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Prem. Exp. Jt. Mat'l	8	¾"x12"x18'-6"	At Anti-Seep Collars

Estimate of Class 'A' Concrete for encasing 14" Cast Iron Pipe = 58.8 Cu. Yds. This 58.8 Cu. Yds. of concrete encasing the 14" C.I. Raw Water Line is included in the Total Estimate of Quantities Shown on this sheet.

SECTIONAL ELEVATION ON ℄ OF STRUCTURE

4'-0" x 4'-0" x (289'-0") R. C. CULVERT 45° SKEW LEFT
R51'-0"
DOUBLE 8'-0" x 6'-0" RISER 1¾:1 ∉ 2:1 FILL SLOPES
24' ROADWAY 48' SHOULDERS

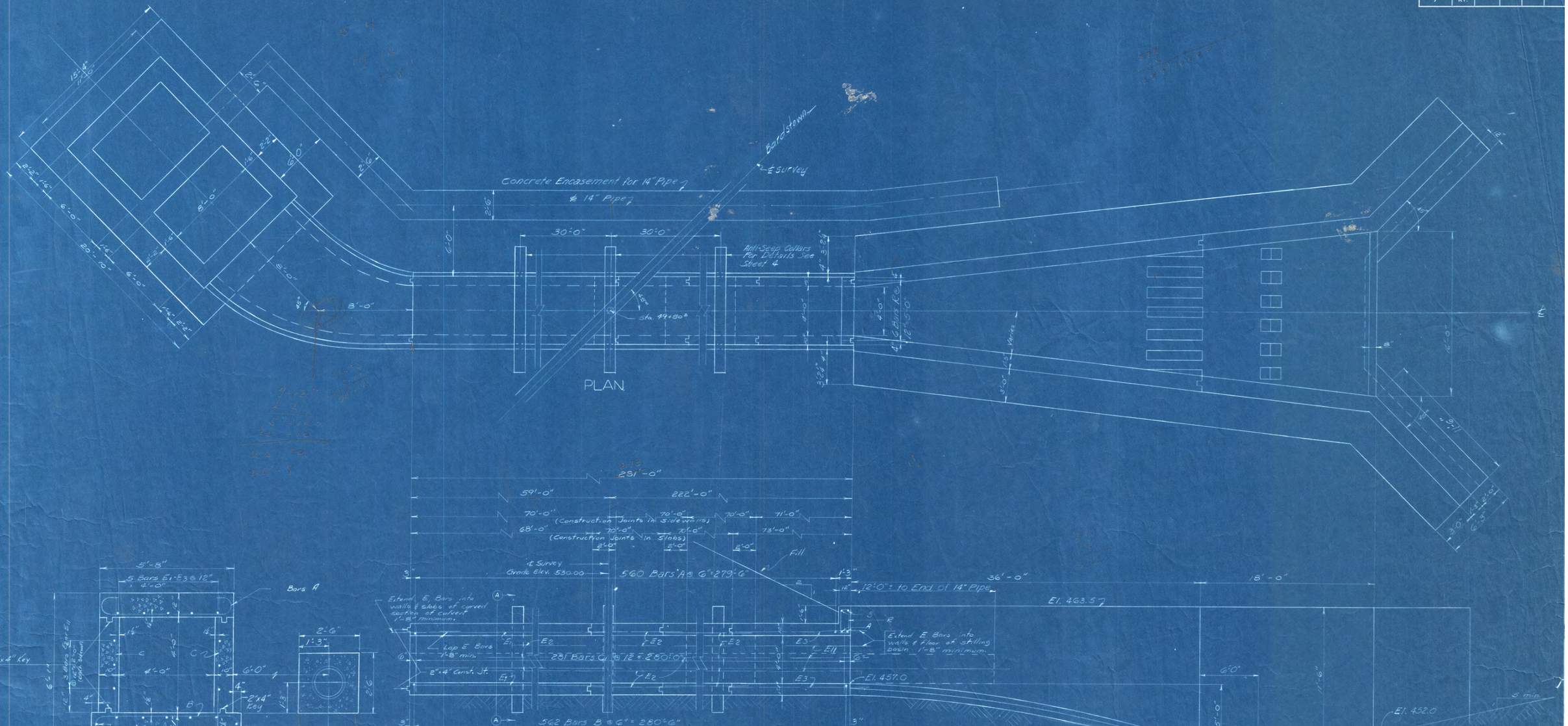
DESIGNED BY S.J. Riehl DATE
DETAILED BY DATE
TRACED BY CHECKED BY DATE
REVISED: Fill slope, Quantities, Length of Culvert
REVISED: L.H.E. 5-1-62 Rate
REVISED:

SHEET 1 OF 9

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN — BARDSTOWN
ROAD
STATION 49+50.0 **PROJECT NO.** F 196 (12)

BRIDGE NUMBER	DRAWING NO.	INDEX
	15306	

FED. ROAD DIST.	STATE	FED. AID PRO. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



DESIGNED BY R.W.S. CHECKED BY DATE 5-62
DETAILED BY R.W.S. CHECKED BY DATE 5-62
TRACED BY CHECKED BY DATE
REVISED DATE
REVISED DATE
REVISED DATE

SHEET 2

COMMONWEALTH OF KENTUCKY

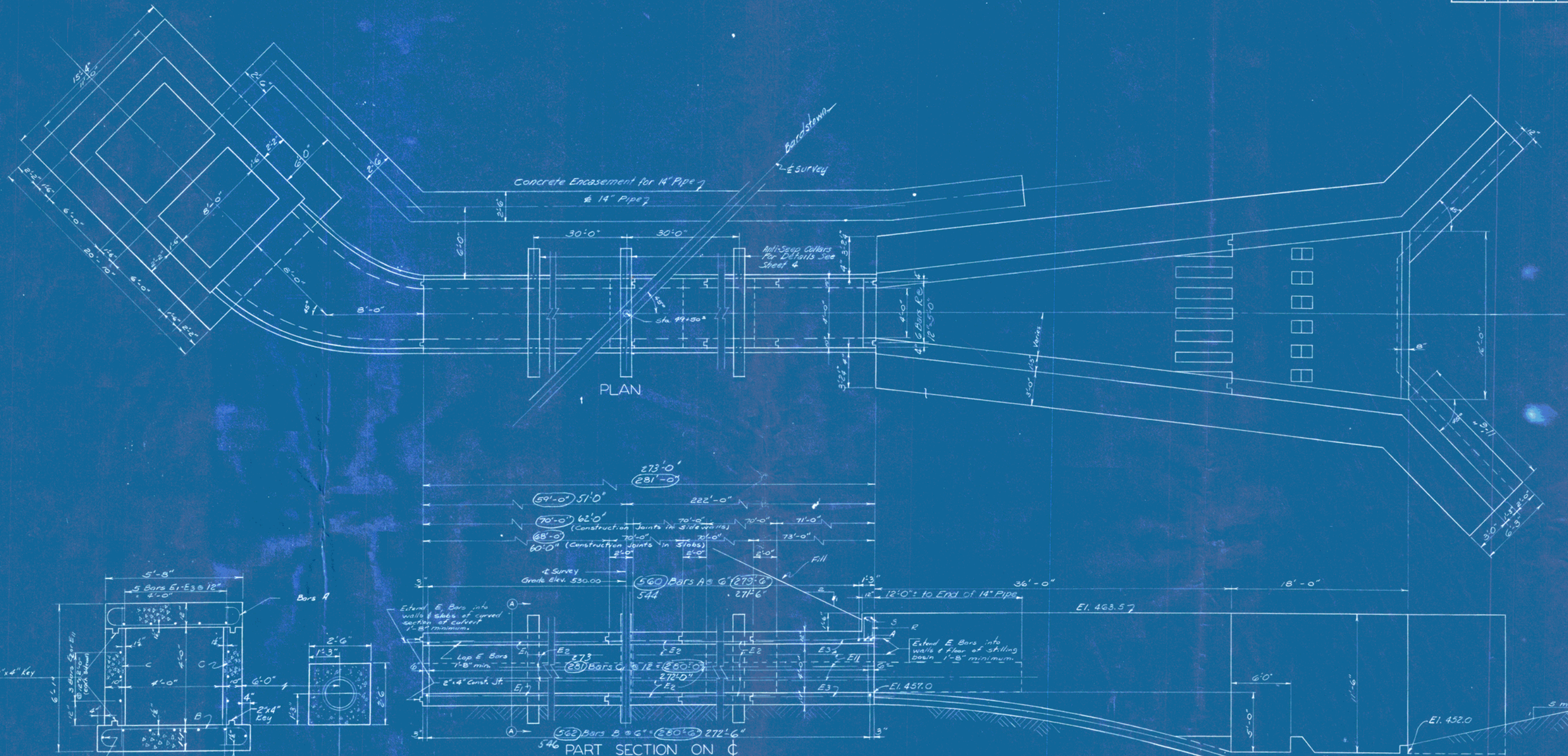
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON

ELIZABETHTOWN - BARDSTOWN
ROAD

STATION 49+50 PROJECT NO.

BRIDGE NUMBER	DRAWING NO.	INDEX
	15306	

FED. ROAD DIST.	STATE	FED. AID PRO. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



REVISED BY... Length of culvert DATE 5-12
DETAILED BY... K.W. Rabe CHECKED BY... DATE 5-12
TRACED BY... CHECKED BY... DATE

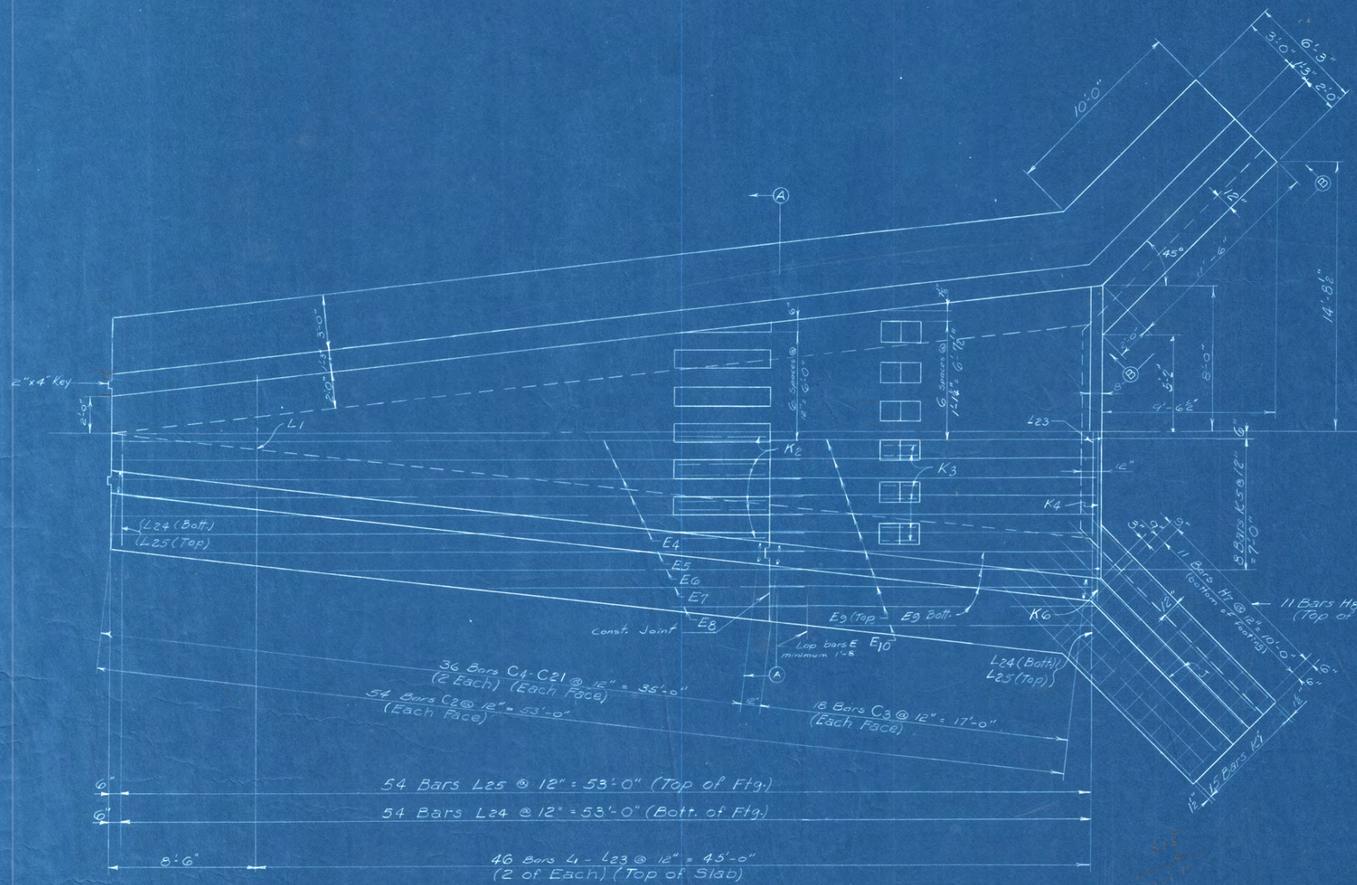
REVISED: Spacing of bars "A" & "B" & "C" DATE 11-62
REVISED: DATE 5-12
REVISED: DATE

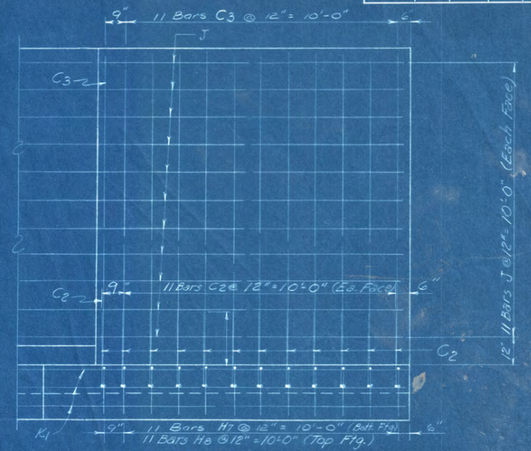
SHEET 2

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN - BARDSTOWN
ROAD
STATION 49+50 PROJECT NO.

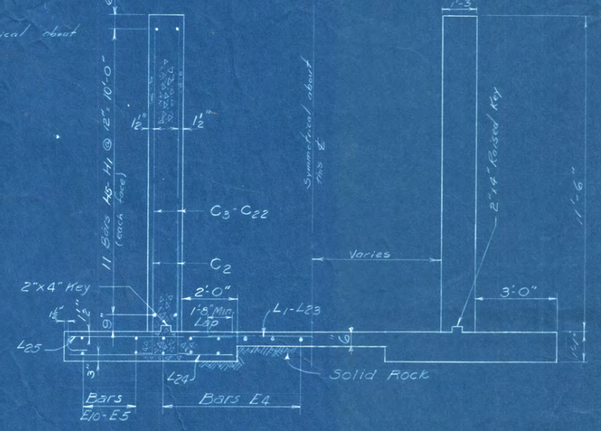
BRIDGE NUMBER	DRAWING NO. 15306	INDEX

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

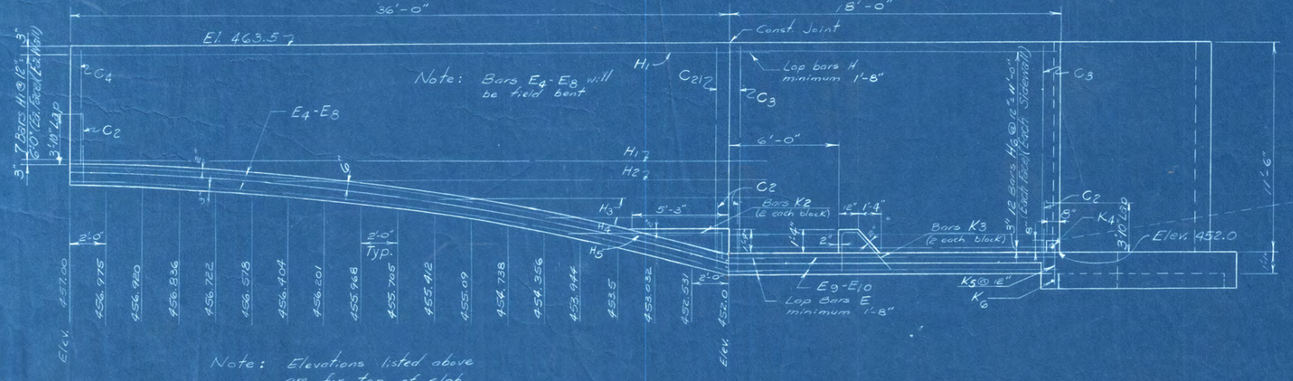




ELEVATION B-B

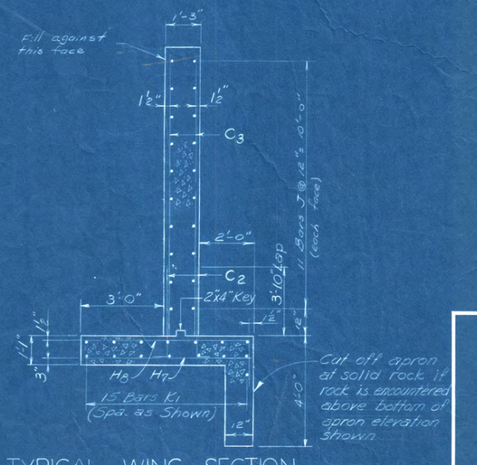


SECTION A-A



Note: Elevations listed above are for top of slab.

SECTION ON ℄



TYPICAL WING SECTION

DESIGNED BY ____ DATE ____
DETAILED BY KW KFS&C DATE 11/8 & 12/62 DATE 5/63
TRACED BY ____ DATE ____
CHECKED BY ____ DATE ____
CHECKED BY ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____

SHEET 3

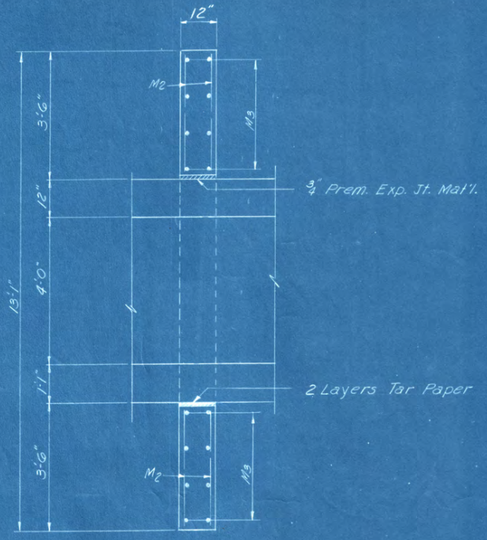
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON

ELIZABETHTOWN - BARDSTOWN
ROAD

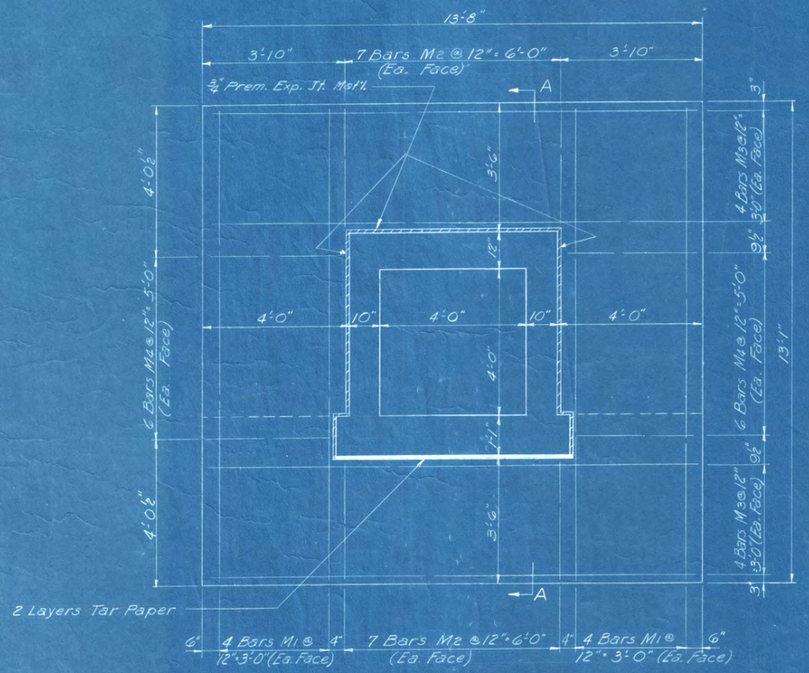
STATION 49+50 ℄ **PROJECT NO.**

BRIDGE NUMBER	DRAWING NO.	INDEX
	15306	

FED. ROAD DIST.	STATE	FED. AID PRO. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



SECTION A-A



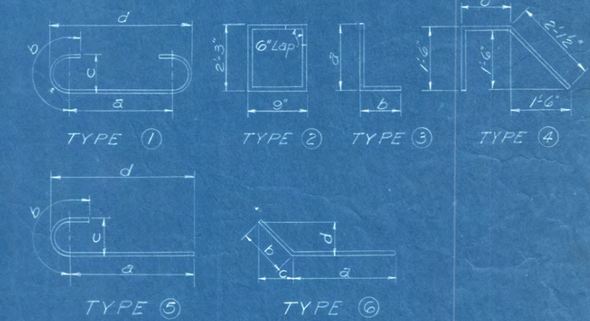
DETAIL OF ANTI-SEEP COLLARS (3 Req'd.)

For Location See Sheet 2

Note: If solid rock is encountered, Anti-Seep Collar may be cut off at solid rock, at the direction of the Engineer.

BILL AND TYPES OF REINFORCEMENT (FOR STRAIGHT PORTION OF CULVERT AND STILLING BASIN)

Mark	Type	No.	Size	Length Ft.	Length In.	Location	a Ft.	a In.	b Ft.	b In.	c Ft.	c In.	d Ft.	d In.
A	1	562	#7	7	2	Top Slab - Barrel	4	10	1	2	0	7	5	5
B	"	562	"	7	10	Bott. "	5	6	1	2	0	7	6	1
C1	Str.	562	#6	5	10	Sidewalls "								
C2	3	264	#7	5	7	Walls of Stilling Basin & Wings	4	8	1	0				
C3	Str.	120	"	11	3									
C4		8	#5	6	2									
C5		8		6	4									
C6		8		6	6									
C7		8		6	7									
C8		8		6	8									
C9		8		6	9									
C10		8		7	0									
C11		8	#7	7	2									
C12		8		7	6									
C13		8		7	9									
C14		8		8	2									
C15		8		8	5									
C16		8		8	8									
C17		8		9	2									
C18		8		9	8									
C19		8		10	2									
C20		8		10	8									
C21		8		11	2									
E1		24	#4	34	10	Top & Batt. Slabs - Barrel								
E2		84		35	10	" Sidewalls - Barrel								
E3		24		37	4	Barrel								
E4		18		37	8									
E5		4		34	0									
E6		4		26	0									
E7		4		17	3									
E8		4		7	6									
E9		28		17	9									
E10		4		14	3									
E11		12		37	2	Sidewalls - Barrel								
H1		88		37	8	Walls of Stilling Basin								
H2		4		23	0									
H3		4		16	0									
H4		4		6	6									
H5		4		7	6									
H6		48		17	9									
H7		22	#6	6	0	Wing Footings								
H8	3	22	"	7	8	" "	6	0	1	9				
J	6	44	#4	13	3	" Walls	11	3	2	0	1	5	1	5
K1	Str.	30		15	6	Batt. Slab - Stilling Basin								
K2	3	12		7	5		6	0	1	6				
K3	4	12		4	4									
K4	Str.	1		18	0									
K5	5	16		3	1		2	3	0	10	0	5	2	3½
K6	Str.	1		20	0									
L1		2		5	6									
L2		2		5	11									
L3		2		6	5									
L4		2		6	10									
L5		2		7	4									
L6		2		7	9									
L7		2		8	3									
L8		2		8	8									
L9	Str.	2	#4	9	1	Batt. Slab - Stilling Basin								
L10		2		9	6									
L11		2		9	11									
L12		2		10	5									
L13		2		10	10									
L14		2		11	3									
L15		2		11	9									
L16		2		12	2									
L17		2		12	8									
L18		2		13	0									
L19		2		13	6									
L20		2		13	11									
L21		2		14	5									
L22		2		14	10									
L23		2		15	3									
L24	1	108	#6	6	0	Wing Ftg.								
L25	5	108	"	6	9	" "	5	9	1	0	0	6	6	0
M1	Str.	48	#4	12	10	Anti-Seep Collars.								
M2		84		3	2									
M3		48		13	5									
M4		72		3	6									
P	2	6	#5	6	9	Culvert Curb								
S	Str.	2	#6	5	5	" "								



SHEET 4

DESIGNED BY ____ DATE ____
DETAILED BY ____ DATE ____
TRACED BY ____ DATE ____
CHECKED BY ____ DATE ____
CHECKED BY ____ DATE ____
CHECKED BY ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN-BARDSTOWN
ROAD
STATION 49+50° **PROJECT NO.**

BRIDGE NUMBER | DRAWING NO. 13306 | INDEX

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

℄ 14" C.I. Raw water Line encased in 2'-6" x 2'-6" concrete

Copper Strip (See Detail)

Ladder (See Section on ℄)

℄ Structure

FLOOR PLAN

16'-6"

Heavy Duty Valve Stand

2-8" C.I. Vent Pipe

Top of Weir El. 520.0

℄ 3'-0" ϕ Manhole Opening For details of Manhole See Sheet № 9

Detail A

Cast in Wall

Ladder Steps

Keyed Construction Joints

16" O.S. & Y. Gate Valve (A.W.W.A. spec.)

Pour plain concrete cradle under valve to support valve.

16" C.I. Tee Blind Flange

Leave 1" over O.D. Pipe Caulk to Seal

Screw Type Flange

Pipe Brace (See Detail)

Elev. 458.0

SECTION ON ℄

23'-0"

2-8" C.I. Vent Pipe

Elev. 505.0

Elev. 490.0

℄ 14" C.I. Raw Water Line encased in 2'-6" x 2'-6" Concrete

54 steps @ 12" = 53'-0" (Staggered)

Elev. 459.5

16" O.S. & Y. Gate Valve

S.R.

UPSTREAM ELEVATION D-D

2-℄ Manhole & Ladder

SECTION Y-Y

(Showing Ladder detail of steps)

1" □ Wrought Iron Bar P1 66 Required

"Note: Cost of furnishing & placing bars P1" To be included in the lump sum bid for 16" Cast Iron Pipe

16'-6"

(Top) 17 Bars N1 @ 12" = 16'-0"

(Bottom) 17 Bars N1 @ 12" = 16'-0"

Provide holes to accommodate Valve stem Stand & anchor bolts.

8" C.I. Vent

8'-0" Manhole

N2 Bars 5'-0" (Top & Bottom)

Note: Field cut Bars N1 N2 & N3 to clear openings 2"

TOP OF RISER

Bars T1 ~ Detail A

Bars T2 ~ Detail B

16" Class "A" C.I. Pipe ~ Detail B

14" Class "A" C.I. Pipe ~ Detail A

Weld bars to pipe

Note: After welding paint bars with Red Lead Type 1 paint.

DETAIL A & B

1'-4" 1/2" Smooth Round Steel Bar (1'-10" length)

DETAIL OF BARS T1 (4 Reqd.)

1'-6" 1/2" Smooth Round Steel Bars (2'-0" length)

DETAIL OF BARS T2 (4 Reqd.)

Note: Cost of furnishing, placing, and painting bars T1 & T2 to be included in the lump sum bid for 16" Cast Iron Pipe.

Solder

2"x4" Key

TYPICAL DETAIL OF COPPER STRIPS

Holes to be 7/8" ϕ for 3/4" ϕ Standard Machine Bolts with nut & washer

3" std. Wrought Iron Pipe

1/2" x 1/2" Wrought Iron Strap

1/2" x 1/2" Wrought Iron Clamp

DETAIL OF PIPE BRACE

14" C.I. Raw Water Line or 16" C.I. Intake Line

S.R.

SECTION Z-Z (For 14" C.I. Raw Water Line)

SECTION K-K (For 16" C.I. Pipe)

SHEET 5

DESIGNED BY: P.W. Baker DATE: 1-15-57

DETAILED BY: DATE:

TRACED BY: DATE:

CHECKED BY: DATE:

CHECKED BY: DATE:

CHECKED BY: DATE:

REVISED: DATE:

REVISED: DATE:

REVISED: DATE:

COMMONWEALTH OF KENTUCKY

DEPARTMENT OF HIGHWAYS

FRANKFORT

COUNTY OF

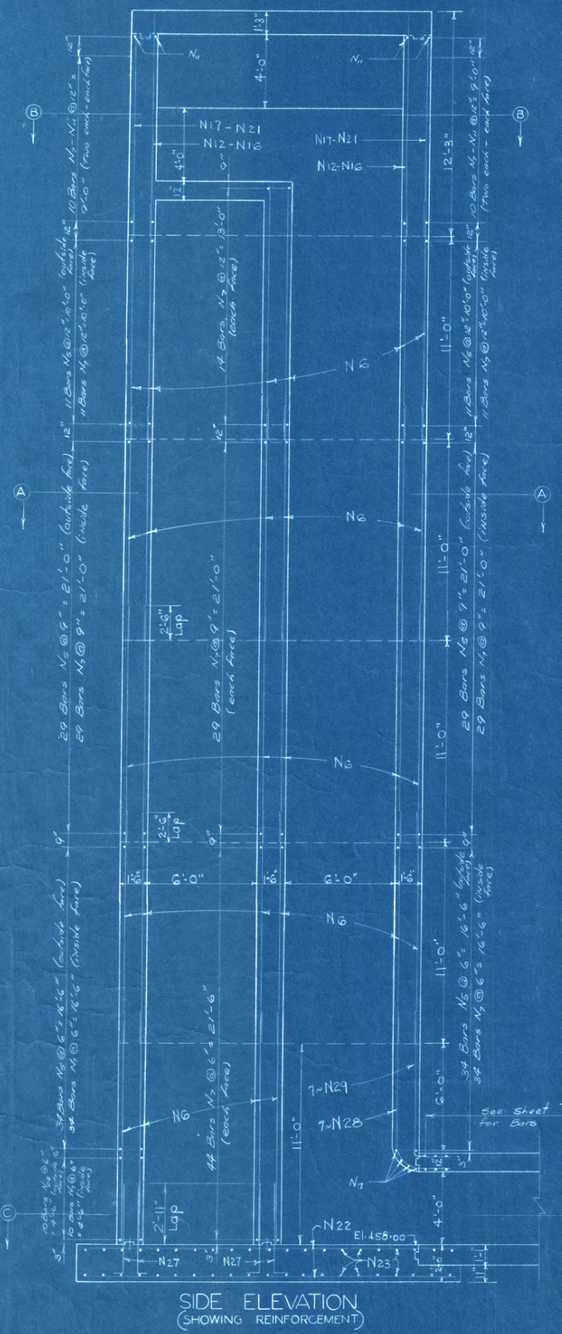
NELSON

ELIZABETHTOWN - BARDSTOWN ROAD

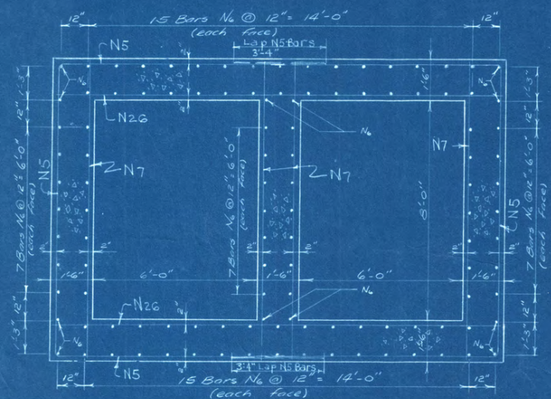
STATION 49 + 50.2 PROJECT NO.

BRIDGE NUMBER	DRAWING NO. 13306	INDEX

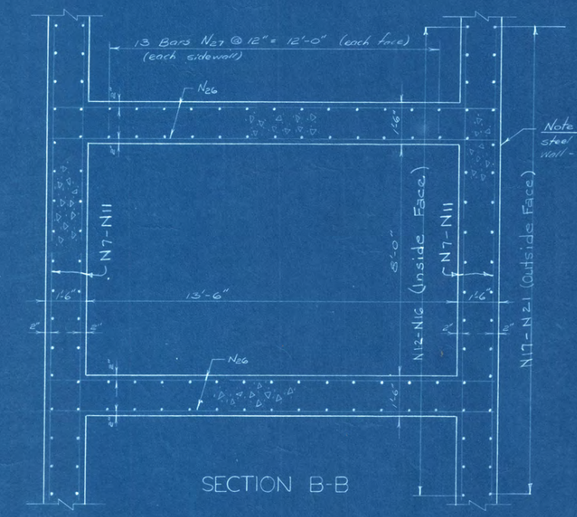
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



SIDE ELEVATION
(SHOWING REINFORCEMENT)

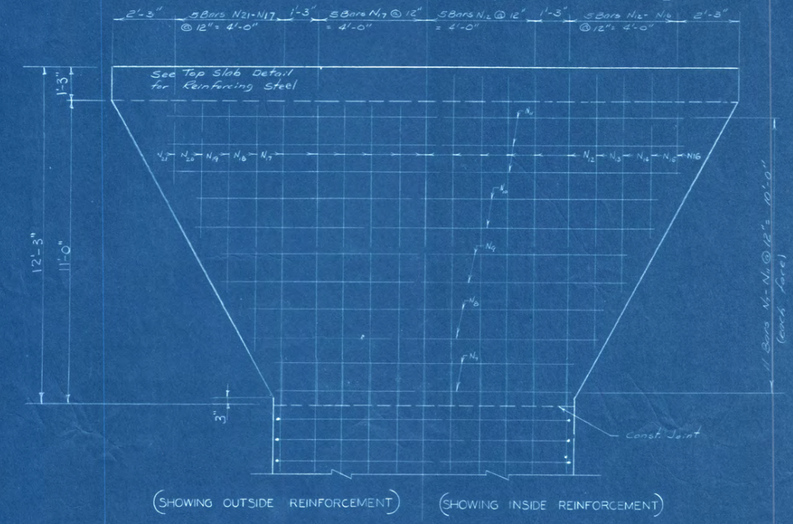


SECTION A-A



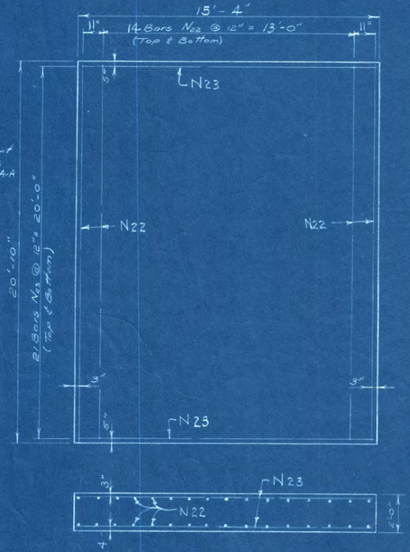
SECTION B-B

Note: For reinforcement steel spacing in this wall - see Elevation A-A

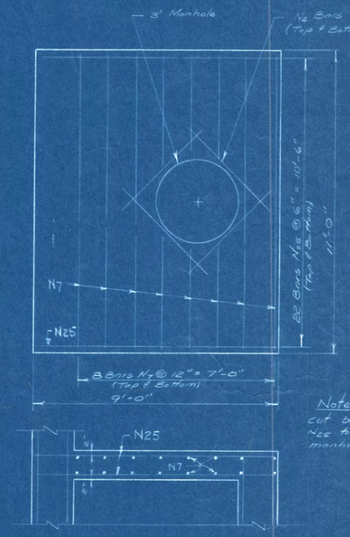


(SHOWING OUTSIDE REINFORCEMENT) (SHOWING INSIDE REINFORCEMENT)

ELEVATION A-A



RISER FOOTING



Note: Field cut bars N7 as req'd to clear manhole 2"

TOP OF INLET RISER

SHEET 6

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF

NELSON

ELIZABETHTOWN - BARDSTOWN
ROAD

STATION 49+50 **PROJECT NO.**

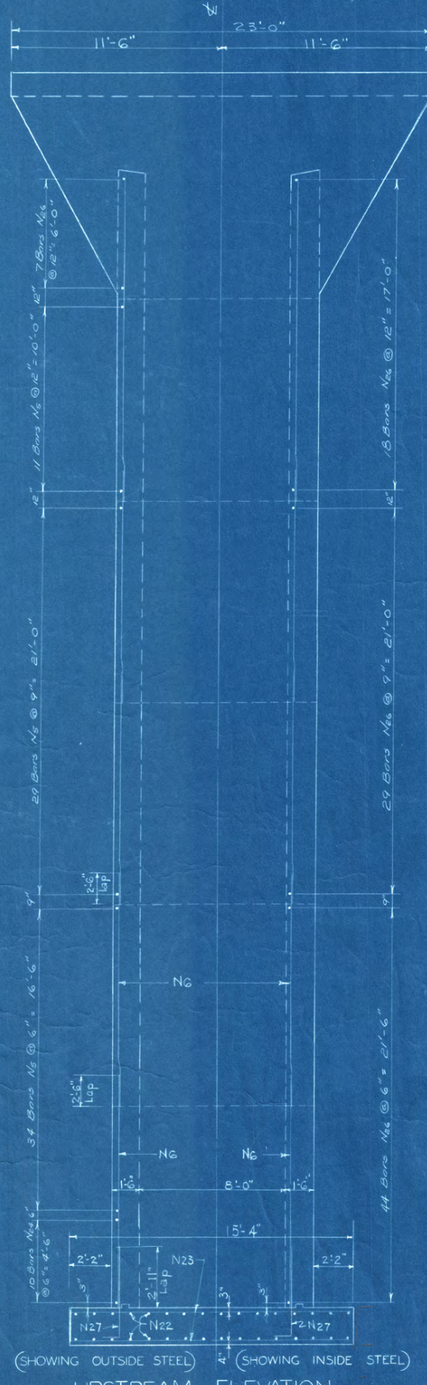
BRIDGE NUMBER	DRAWING NO.	INDEX
	15306	

DESIGNED BY ____ DATE ____
DETAILED BY K.W. Kistler DATE 5/26/61
CHECKED BY ____ DATE ____
TRACED BY ____ DATE ____

REVISED ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____

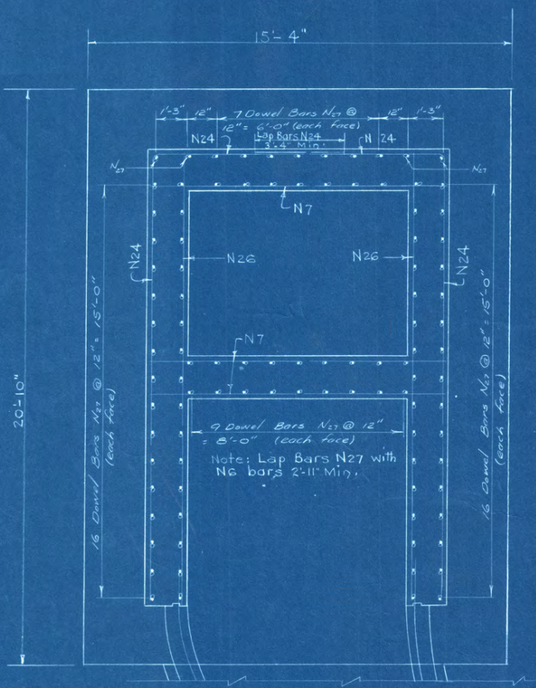
FED. ROAD DIST.	STATE	FED. AID PRO. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

Note: Reinforcing Steel in sidewalls symmetrical about this ℄

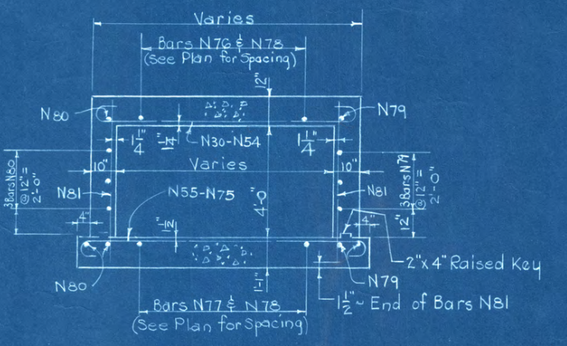


(SHOWING OUTSIDE STEEL) (SHOWING INSIDE STEEL)

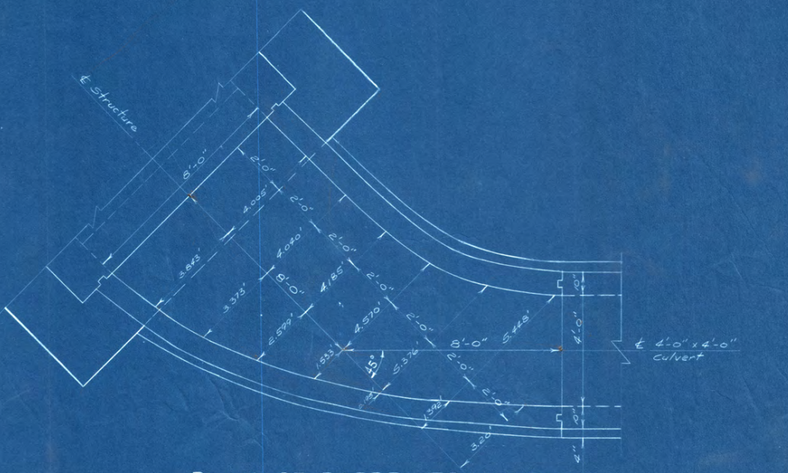
UPSTREAM ELEVATION



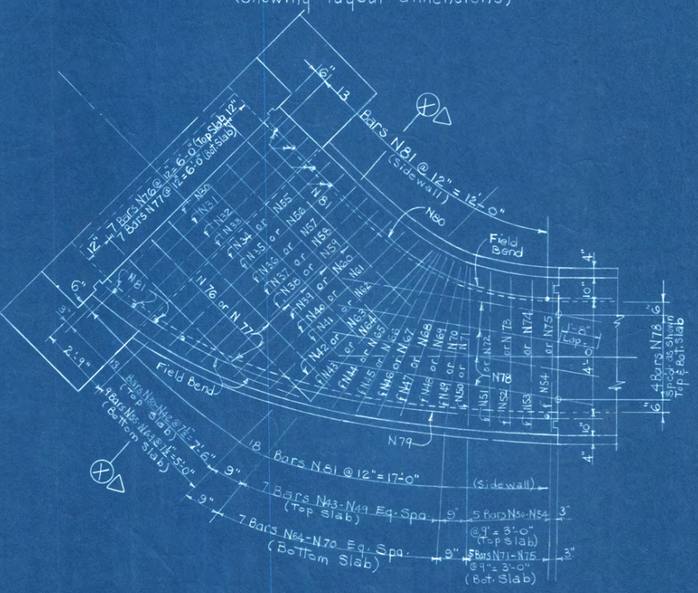
RISER FOOTING
(SHOWING DOWEL BARS)



SECTION X-X



PLAN OF BARREL TRANSITION
(Showing layout dimensions)



PLAN OF BARREL TRANSITION
(Showing Reinforcement)

DESIGNED BY: DATE:
DETAILED BY: R.W.Rafert DATE: Sept 2
CHECKED BY: DATE:
TRACED BY: DATE:
CHECKED BY: DATE:
REVISED. DATE:
REVISED. DATE:
REVISED. DATE:

SHEET 7

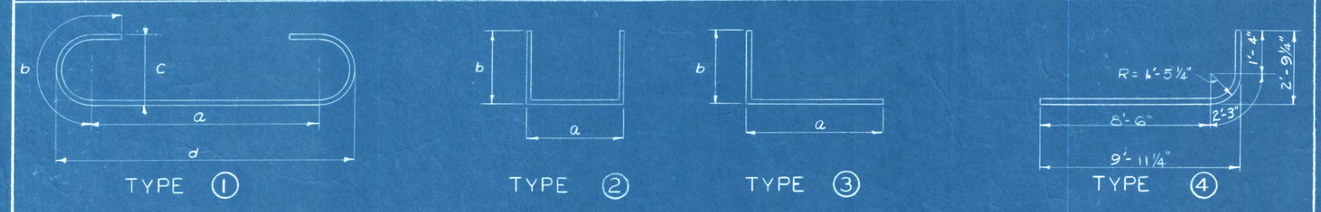
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN - BARDSTOWN
ROAD
STATION 49+50 PROJECT NO.

BRIDGE NUMBER	DRAWING NO.	INDEX
	15506	

BILL OF REINFORCEMENT (FOR RISER TOWER AND CURVED PORTION OF CULV.)

FED. ROAD DIST.	STATE	FED. AID PRO. NO.	FISCAL YEAR	SHEET NO.
7	KY.			

MARK	TYPE	NO.	SIZE	LENGTH Ft.	LENGTH In.	LOCATION	a Ft.	a In.	b Ft.	b In.	c Ft.	c In.	d Ft.	d In.
N1	Str.	46	#5	16	3	Top Slab of Riser								
N2	①	46	#5	17	6	" " " "	15	10	0	10	0	5	16	3
N3	Str.	34	#4	22	9	" " " "								
N4	"	16	#5	5	0	Manhole Support Bars								
N5	②	148	#6	30	0	Riser Outside Hoops	10	8	9	9				
N6	Str.	556	#6	13	6	" Vertical Bars								
N7	"	355	#6	10	9	" Horizontal Shiet								
N8	"	8	#6	12	9	" " Flared Wall								
N9	"	8	#6	14	11	" " " "								
N10	"	8	#6	17	2	" " " "								
N11	"	12	#6	19	5	" " " "								
N12	"	22	#6	11	11	Vert. Bars Flared Wall								
N13	"	4	#6	10	1	" " " "								
N14	"	4	#6	8	3	" " " "								
N15	"	4	#6	6	6	" " " "								
N16	"	4	#6	4	8	" " " "								
N17	"	22	#6	10	8	" Riser " "								
N18	"	4	#6	8	10	" " " "								
N19	"	4	#6	7	0	" " " "								
N20	"	4	#6	5	3	" " " "								
N21	"	4	#6	3	5	" " " "								
N22	"	32	#9	20	4	Riser Ftg.								
N23	Str.	42	#9	14	11	" "								
N24	③	20	#6	23	1	Horiz. Bar Riser above Ftg	16	2	7	0				
N25	Str.	44	#6	8	9	Top of Inlet Riser								
N26	Str.	196	#6	16	3	Horiz. Riser								
N27	②	100	#7	5	0	Riser Ftg. Dowels	4	7	0	6				
N28	④	7	#6	12	1	Vct. Riser & Top Slab of Barrel								
N29	②	7	#6	11	5	" " " " " "	8	9	2	9				
N30	①	1	#8	11	10	Barrel Top Slab	8	10	1	6	0	7	9	5
N31	"	1	#8	11	10	" " "	8	10	1	6	0	7	9	5
N32	"	1	#8	11	9	" " "	8	9	1	6	0	7	9	4
N33	"	1	#8	11	8	" " "	8	8	1	6	0	7	9	3
N34	"	1	#8	11	7	" " "	8	7	1	6	0	7	9	2
N35	"	1	#8	11	5	" " "	8	5	1	6	0	7	9	0
N36	"	1	#8	11	4	" " "	8	4	1	6	0	7	8	11
N37	"	1	#8	11	1	" " "	8	1	1	6	0	7	8	8
N38	"	1	#8	10	11	" " "	7	11	1	6	0	7	8	6
N39	"	1	#8	10	8	" " "	7	8	1	6	0	7	8	3
N40	"	1	#8	10	6	" " "	7	6	1	6	0	7	8	1
N41	"	1	#8	10	4	" " "	7	4	1	6	0	7	7	11
N42	"	1	#8	10	2	" " "	7	2	1	6	0	7	7	9
N43	①	1	#8	9	8	" " "	6	8	1	6	0	7	7	3
N44	"	1	#8	9	5	" " "	6	5	1	6	0	7	7	0
N45	"	1	#8	9	1	" " "	5	11	1	6	0	7	6	8
N46	"	1	#8	8	9	" " "	5	9	1	6	0	7	6	4
N47	"	1	#8	8	6	" " "	5	6	1	6	0	7	6	1
N48	"	1	#8	8	4	" " "	5	4	1	6	0	7	5	11
N49	"	1	#8	8	3	" " "	5	3	1	6	0	7	5	10
N50	"	1	#8	8	3	" " "	5	3	1	6	0	7	5	10
N51	"	1	#8	8	1	" " "	5	1	1	6	0	7	5	8
N52	"	1	#8	7	11	" " "	4	11	1	6	0	7	5	8
N53	"	1	#8	7	10	" " "	4	10	1	6	0	7	5	5
N54	"	1	#8	7	10	" " "	4	10	1	6	0	7	5	5
N55	"	1	#8	12	3	Barrel Bottom Slab	9	3	1	6	0	7	9	10
N56	"	1	#8	12	1	" " "	9	1	1	6	0	7	9	8
N57	"	1	#8	12	0	" " "	9	0	1	6	0	7	9	7
N58	①	1	#8	11	9	" " "	8	9	1	6	0	7	9	4
N59	①	1	#8	11	7	Barrel Bottom Slab	8	7	1	6	0	7	9	2
N60	"	1	#8	11	4	" " "	8	4	1	6	0	7	8	11
N61	"	1	#8	11	2	" " "	8	2	1	6	0	7	8	9
N62	"	1	#8	11	0	" " "	8	0	1	6	0	7	8	7
N63	"	1	#8	10	10	" " "	7	10	1	6	0	7	8	5
N64	"	1	#8	10	4	" " "	7	4	1	6	0	7	7	11
N65	"	1	#8	10	1	" " "	7	1	1	6	0	7	7	8
N66	"	1	#8	9	9	" " "	6	9	1	6	0	7	7	4
N67	"	1	#8	9	5	" " "	6	5	1	6	0	7	7	0
N68	"	1	#8	9	2	" " "	6	2	1	6	0	7	6	9
N69	"	1	#5	9	0	" " "	6	0	1	6	0	7	6	7
N70	"	1	#5	8	11	" " "	5	11	1	6	0	7	6	6
N71	"	1	#5	8	11	" " "	5	11	1	6	0	7	6	6
N72	"	1	#5	8	9	" " "	5	9	1	6	0	7	6	4
N73	"	1	#5	8	7	" " "	5	7	1	6	0	7	6	2
N74	"	1	#5	8	6	" " "	5	6	1	6	0	7	6	1
N75	①	1	#8	8	6	" " "	5	6	1	6	0	7	6	1
N76	Str.	7	#4	8	6	Top Slab Barrel								
N77	"	7	#4	6	4	Bot. " "								
N78	"	9	#4	10	2	Top & Bot Slab Barrel								
N79	"	6	#4	19	6	Barrel long Sidewall								
N80	"	6	#4	14	8	" Short "								
N81	Str.	31	#6	5	10	" Sidewalls								



DESIGNED BY
DETAILED BY
TRACED BY
CHECKED BY
CHECKED BY
CHECKED BY
DATE
DATE
DATE
REVISED
REVISED
REVISED

SHEET 8

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON

ELIZABETHTOWN BARDSTOWN
ROAD

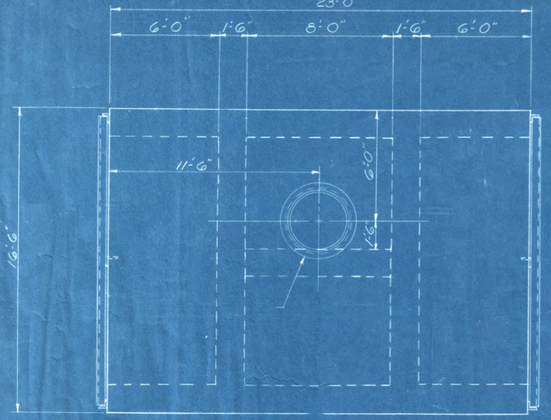
STATION 49+50 PROJECT NO.

BRIDGE NUMBER

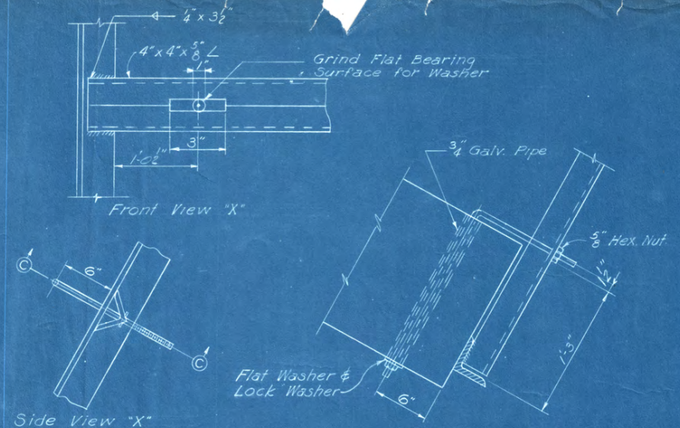
DRAWING NO. 15306

IND

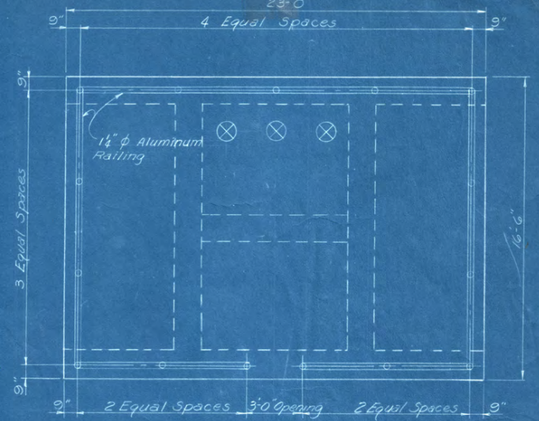
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.
7	KY.	



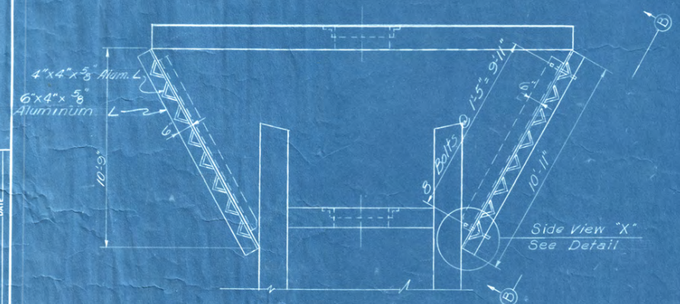
PLAN



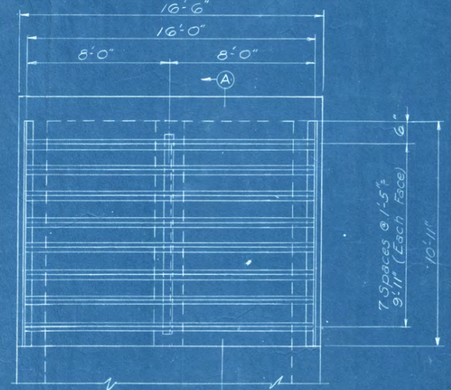
TRASH RACK CONNECTION



PLAN

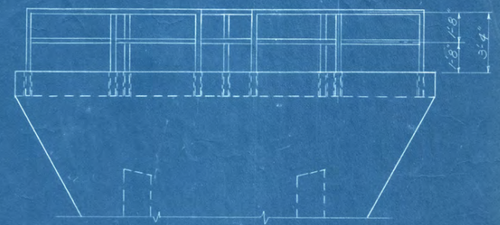


SECTION A-A

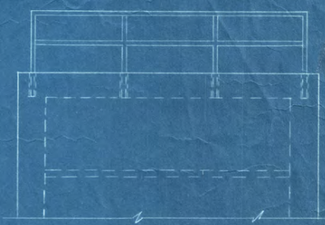


ELEVATION B-B

TRASH RACK DETAILS

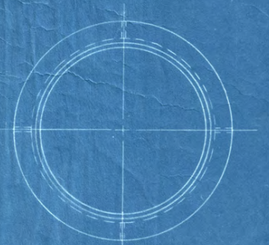


FRONT VIEW



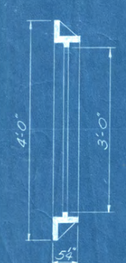
SIDE VIEW

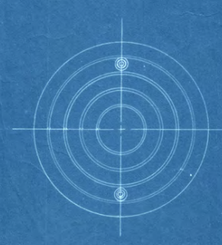
ALUMINUM HANDRAIL DETAILS



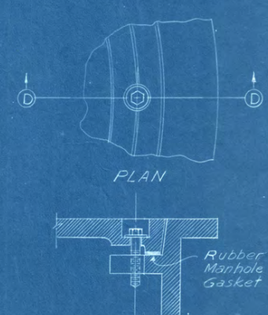
DETAIL OF MANHOLE (2 Required)

NOTE: Manhole Frame & Cover dimensions shown are minimum dimensions. Stock sizes & types will be accepted, provided they afford the proper strength and are otherwise approved. All castings shall be gray iron.





COVER



PLAN

SECTION D-D

DETAIL OF BOLTS

General Notes:

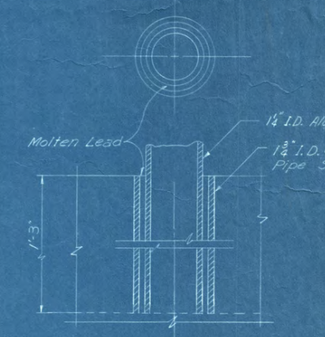
Trash rack to be fabricated of aluminum angles & bolts of alloy 6061-T6.

All contacting aluminum surfaces shall be cleaned and coated with Zinc Chromate primer and allowed to dry before assembly.

All aluminum surfaces in contact with concrete shall be cleaned & given a heavy coat of alkali-resistant bituminous paint and allowed to dry before assembly. Gaskets of compressed paper or asphaltic joint filler may be used in lieu of painting.

Anchor bolts shall be given a heavy coat of alkali-resistant bituminous paint and allowed to dry before inserting through ¾ pipe.

Handrail to be 1¼" I.D. Welded aluminum tubing, with posts set in 1¾" galvanized pipe sleeves, with molten lead poured around rail posts to fill the sleeves. (See Detail). Cost of rail, sleeves, & lead to be included in price bid for 16" C.I. pipe.



DETAIL OF PIPE SLEEVE

SHEET 9

DESIGNED BY
DETAILED BY
TRACED BY
CHECKED BY
CHECKED BY
CHECKED BY
DATE
DATE
DATE
REVISED
REVISED
REVISED

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
NELSON
ELIZABETHTOWN-BARDSTOWN
ROAD

STATION 49+50.2 **PROJECT NO.**

BRIDGE NUMBER	DRAWING NO.	INDEX
	15306	