

Steven L. Beshear Governor Frankfort, Kentucky 40622 www.transportation.ky.gov/

Michael W. Hancock, P.E. Secretary

August 13, 2013

CALL NO. 202

CONTRACT ID NO. 131203

ADDENDUM # 2

Subject: Knox County, 061GR13D003-BRZ

Letting August 16, 2013

(1) Revised - Plan Sheets

(2) Revised - Special Note for Project Team - Page 19 of 164

(3) Revised - Special Note for Surface Cleaning - Pages 24-25 of 164

(4) Revised - Special Note for Concrete Stain & Sealer - Page 27 of 164

(5) Revised - Special Note for Quality Control - Pages 31-32 of 164

(6) Revised - Special Note for Contract Completion Date - Pages 38-39 of 164

(7) Revised - Bid Items - Pages 162-164 of 164

Plan revisions are available at http://www.lynnimaging.com/kytransportation/.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

Ryan Griffith Acting Director

Division of Construction Procurement

RG:ks

Enclosures



ITEM	DESCRIPTION	UNIT	MAINLINE	DIVERSION	TOTAL
01987	DELINEATOR FOR GUARDRAIL - B/W	EACH	22		22
02014	BARRICADE-TYPE III	EACH	4		4
02159	TEMP DITCH	LF		530	530
02204	SPECIAL EXCAVATION (9)	CUYD	350		350
02223	GRANULAR EMBANKMENT (9)	CUYD	350		350
02230	EMBANKMENT IN PLACE 47	CUYD	2409		2409
02351	GUARDRAIL - STEEL W BEAM - S FACE	LF	587.5		587.5
02360	GUARDRAIL TERMINAL SECTION NO 1	EACH	2		2
02367	GUARDRAIL END TREATMENT TYPE 1	EACH	$\langle 1 \rangle$	Λ	<u> </u>
02399	EXTRA LENGTH GUARDRAIL POST ()	EACH	93		93
02429	RIGHT-OF-WAY MONUMENT TYPE 1	EACH	14		14
02432	WITNESS POST	EACH	3		3
02545	CLEARING AND GRUBBING (3)	LS	1		1
02562	SIGNS	SQFT		111	111
			\sim		
02598	FABRIC-GEOTEXTILE TYPE III (2)	SQYD	2422		2422
02650	MAINTAIN AND CONTROL TRAFFIC	LS	1		1
02651	DIVERSIONS (BY-PASS DETOURS) 2(3)	LS		1	1
02676	MOBILIZATION FOR MILL & TEXT	LS	1		1
02677	ASPHALT PAVE MILLING & TEXTURING (1)	TON	18	\triangle	18
02701	TEMPORARY SILT FENCE	LF	530) 🗥	530
02701	SILT TRAP TYPE "A"	EACH	4		4
02703	SILT TRAP TYPE "B"	EACH	4		4
02704	CLEAN SILT TRAP TYPE "A"	EACH	12		12
02707	CLEAN SILT TRAP TYPE "B"	EACH	12		12
02707	CLEAN TEMPORARY SILT FENCE	LF	530		530
02709	STAKING	LS	1		
02726					1
	REMOVE STRUCTURE	LS	1	1	1
04935	TEMP SIGNAL	LS	0050	1	1
05952	TEMPORARY MULCH	SQYD	9050		9050
05966	TOPDRESSING FERTILIZER	TON	.27		.27
05985	SEEDING AND PROTECTING	SQYD	5290		5290
06510	PAVE STRIPING - TEMP PAINT - 4 IN	LF	355		355
06514	PAVE STRIPING-PERM PAINT-4 IN	LF	2120		2120
06549	PAVE STRIPING - TEMP REM TAPE - B	LF	1480		1480
	COHESIVE PILE CORE	CUYD	28		28
23265ES717	PAVE MARK TY 1 TAPE STOP BAR - 24 IN	LF	24		24
3274EN11F	TURF REINFORCEMENT MAT I	SQYD	223	~~~	223
24096EC	REMOVE AND RESET END TREATMENT	EACH	3		` ` 3 ` ` '

	Earthu	vork Quantities	
	Mainline	Undercutting	Project Totals
Com	80	1	80
Emb	1792	1	1792
Emb Bench	617	I	617
Spcl Exc	_	<i>350</i>	350

PAVING SUMMARY

ITEM CODE	ITEM	UNIT	MAINLINE	ENTRANCES PAVED	DIVERSION	TOTAL PROJECT
00001	DGA (1)(5)(6)	TON	943	65	311 🛞	1819
00190	LEVELING & WEDGING PG64-22 6	TON	50			50
00221	CL 2 ASPH BASE 0.75D PG64-22 6	TON	1042	32		1074
00301	CL 2 ASPH SURF 0.38D PG64-22 6	TON	219	20		239

PAVING VOLUMES

ITEM	MAINLINE	ENTRANCES PAVED	DIVERSION	TOTAL PROJECT
	CU	BIC	Y A R	D S
DGA 6	457	32	151 (8)	651
LEVELING & WEDGING PG64-22 ⑥	24			24
CL 2 ASPH BASE 0.75D PG64-22 6	525	16		504
CL2 ASPH SURF 0.38D PG64-22 6	111	10		121

PIPE DRAINAGE SUMMARY

SHEET NO.		SKEW	Hd	COVER HEIGHT	CULVERT PIPE 18 IN	ENTRANCE PIPE 60 IN	PIPE CULVERT HEADWALL – 18 IN	PIPE CULVERT HEADWALL-60 IN	S&F BOX INLET- OUTLET-18 IN	FABRIC GEOTEXTILE TY IV FOR PIPE	REMARKS
	ITEM CODE				00462	00472	01204	01220	01450	02600	
	UNIT TO BII	D			LF	LF	EA	EA	EA	SY	
R18	STA 204+38	5° 34′12" RT	М	1.06′		28		2		108	ENT LT 204+38 CULVERT PIPE
R18	STA 206+74.22	39° 28′27" LT	М	2.55′	57		1*		1	80	ML. CULVERT PIPE *18" STD. HDWL.
	TOTAL PROJE	СТ			57	28	1	2	1	188	

COUNTY OF ITEM NO. SHEET NO.

KNOX 11-1076.00 R2b

↑ REVISED 8-12-13 NOTES

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 147 LBS. PER CUBIC FT. UNLESS NOTED OTHERWISE.

- ① ESTIMATED AT 153 LBS. PER CUBIC FT.
- ② CLEAN ROCK FOR DIVERSION STREAM CROSSING IS INCIDENTAL TO DIVERSION.
- 3 CLEAR AND GRUB APPROX. 1.51 AC
- 4 MAINLINE EARTHWORK QUANTITY INCLUDES ENTRANCE QUANTITIES
- (5) INCLUDES ADDITIONAL 500 TONS TO BE USED AT ENGINEER'S DISCRETION
- 6 MAINLINE DGA AND PAVEMENT LAYER THICKNESS VARIES DEPENDING ON OVERLAY DEPTH. VOLUME AND TONAGE CALCULATED USING END AREAS INSTEAD OF TYPICAL DEPTH TIMES AREA. SEE X-SECT.
- (7) INCLUDES 617 CU YDS FOR EMBANKMENT BENCHING.
- 8 VOLUME CALCULATED USING TYPICAL DEPTH AND AREA.
- 9 TO BE USED FOR UNDERCUTTING AT ENGINEER'S DISCRETION. FINAL PAY QUANTITY WILL BE FIELD MEASURED VOLUME.
- TO BE USED FOR MILLING EXISTING PAVEMENT AS NEEDED AT TIE-IN'S TO ACCOMODATE 1.25" PAVEMENT OVERLAY.
- 1) TO BE USED AT THE ENGINEER'S DISCRETION WHEN NORMAL GUARDRAIL INSTALLATION IS NOT POSSIBLE DUE TO NARROW ADDED SHOULDER. PAY QUANTITY WILL BE FIELD MEASURED QUANTITY.
 - INCLUDES 1267 SQ. YDS. TO WRAP EMB. BENCHES AND 1155 SQ. YDS. TO BE USED AT ENGINEERS DISCRETION TO WRAP GRANULAR EMBANKMENT USED IN UNDERCUTTING. PAY QUANTITY WILL BE FIELD MEASURED QUANTITY.
 - (3) INCLUDES 375 CU YDS
 EMBANKMENT (FOR
 INFORMATION ONLY.
 INCIDENTAL TO DIVERSIONS
 (BY-PASS DETOURS))

DESCRIPTION	UNIT	MAINLINE	DIVERSION	TOTAL
OR GUARDRAIL - B/W	EACH	22		22
PE III	EACH	4		4
	LF		530	530
/ATION (9)	CUYD	350		350
BANKMENT (9)	CUYD	350		350
IN PLACE 47	CUYD	2409		2409
TEEL W BEAM - S FACE	LF	587.5		587.5
RMINAL SECTION NO 1	EACH	2		2
ID TREATMENT TYPE 1	EACH	1		1
GUARDRAIL POST (1)	EACH	93		93
Y MONUMENT TYPE 1	EACH	14		14
	EACH	3		3
GRUBBING (3)	LS	1		1
	SQFT		111	111
XTILE TYPE III ②	SQYD	2422		2422
O CONTROL TRAFFIC	LS	1		1
BY-PASS DETOURS) 23	LS		1	1
I FOR MILL & TEXT	LS	1		1
MILLING & TEXTURING ①	TON	18		18
ILT FENCE	LF	530		530
E "A"	EACH	4		4
E "B"	EACH	4		4
AP TYPE "A"	EACH	12		12
AP TYPE "B"	EACH	12		12
RARY SILT FENCE	LF	530		530
	LS	1		1
CTURE	LS	1		1
	LS		1	1
1ULCH	SQYD	9050		9050
FERTILIZER	TON	.27		.27
PROTECTING	SQYD	5290		5290
G - TEMP PAINT - 4 IN	LF	355		355
G-PERM PAINT-4 IN	LF	2120		2120
G - TEMP REM TAPE - B	LF	1480		1480
CORE	CUYD	28		28
1 TAPE STOP BAR - 24 IN	LF	24		24
CEMENT MAT I	SQYD	223		223
RESET END TREATMENT	EACH	3		3
С	EMENT MAT I	EMENT MAT I SQYD	EMENT MAT I SQYD 223	EMENT MAT I SQYD 223

	Earthw	vork Quantities	
	Mainline	Undercutting	Project Totals
Com	80	-	80
Emb	1792	_	1792
Emb Bench	617	-	617
Spcl Exc	_	<i>350</i>	<i>350</i>

PAVING SUMMARY

ITEM CODE	ITEM	UNIT	MAINLINE	ENTRANCES PAVED	DIVERSION	TOTAL PROJECT
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00301	CL 2 ASPH SURF 0.38D PG64-22 ⑥	TON	219	20		239

PAVING VOLUMES

MAINLINE	ENTRANCES PAVED	DIVERSION	TOTAL
CU	BIC	YAR	ט א
457	32	151 🛞	651
24			24
525	16		504
111	10		121
1			
	457 24 525	C U B I C 457 32 24 525 16	C U B I C Y A R 457 32 151 8 24 525 16

PIPE DRAINAGE SUMMARY

SHEET NO.		SKEW	Hd	COVER HEIGHT	CULVERT PIPE 18 IN	ENTRANCE PIPE 60 IN	PIPE CULVERT HEADWALL – 18 IN	PIPE CULVERT HEADWALL-60 IN	S&F BOX INLET- OUTLET-18 IN	FABRIC GEOTEXTILE TY IV FOR PIPE	REMARKS
	ITEM CODE				00462	00472	01204	01220	01450	02600	
	UNIT TO BII	D			LF	LF	EA	EA	EA	SY	
R18	STA 204+38	5° 34′12" RT	М	1.06′		28		2		108	ENT LT 204+38 CULVERT PIPE
R18	STA 206+74.22	39° 28′27" LT	М	2.55′	57		1*		1	80	ML. CULVERT PIPE *18" STD. HDWL.
	TOTAL PROJE	СТ			57	28	1	2	1	188	

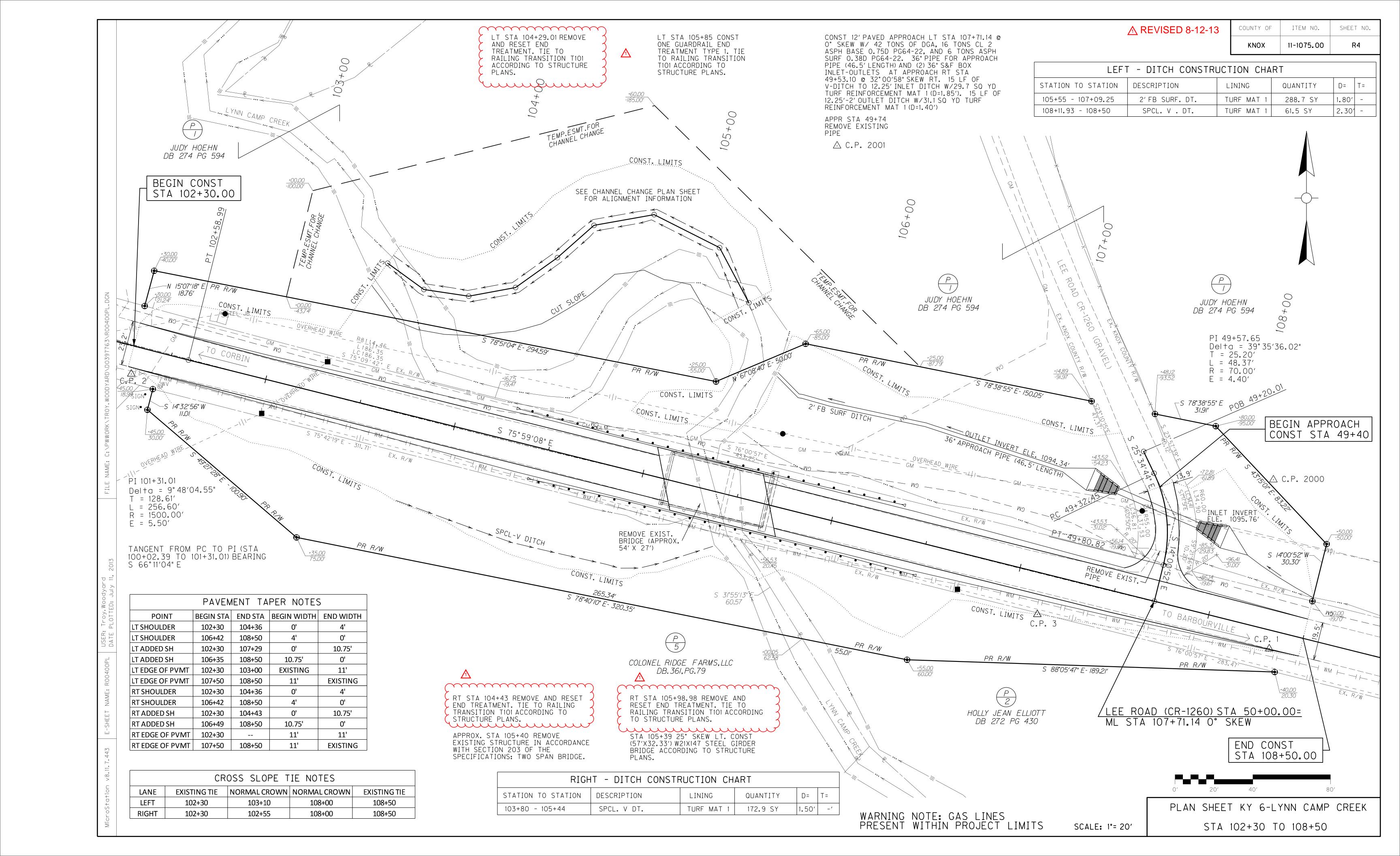
COUNTY OF ITEM NO. SHEET NO.

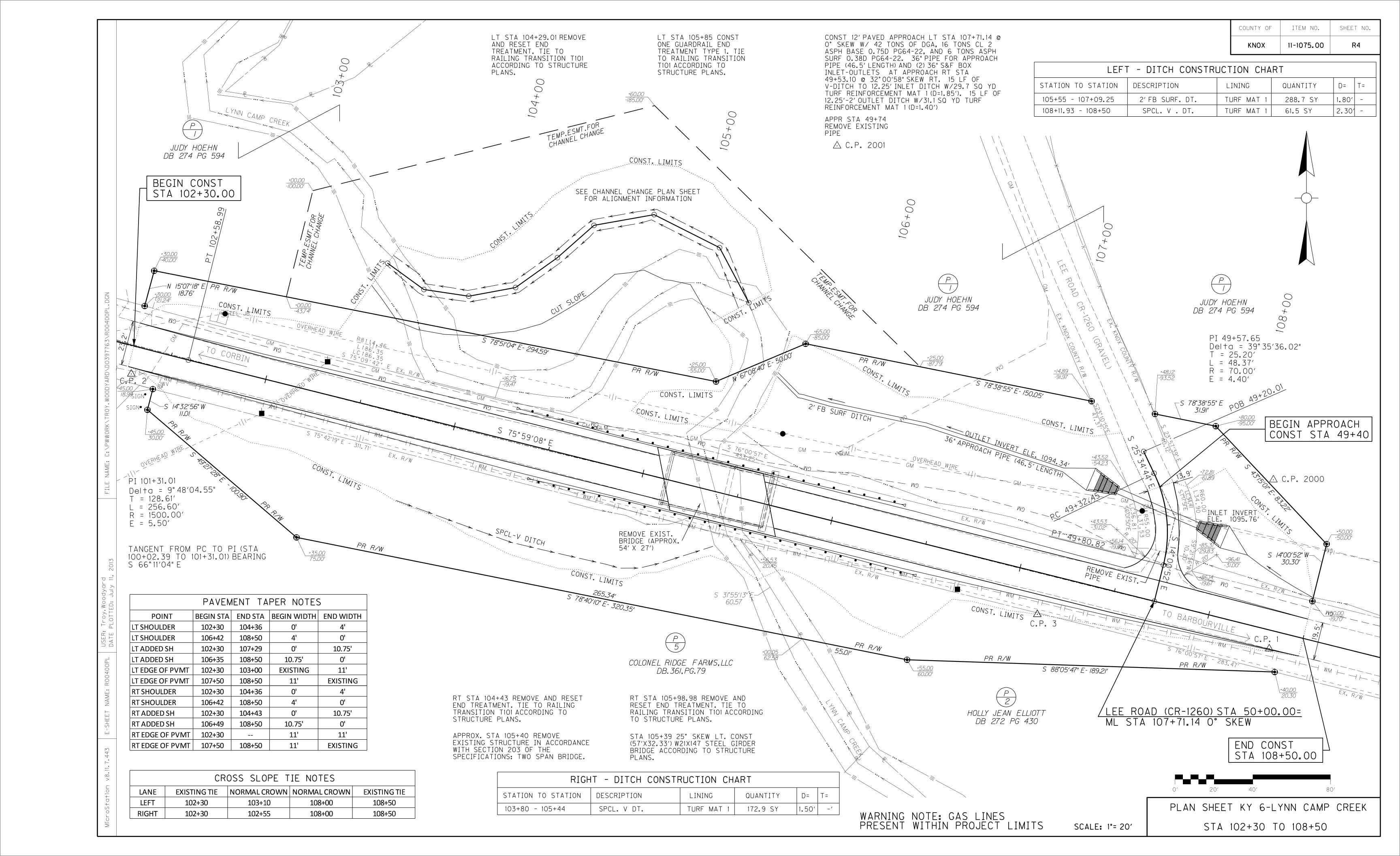
KNOX 11-1076.00 R2b

NOTES

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 147 LBS. PER CUBIC FT. UNLESS NOTED OTHERWISE.

- ① ESTIMATED AT 153 LBS. PER CUBIC FT.
- ② CLEAN ROCK FOR DIVERSION STREAM CROSSING IS INCIDENTAL TO DIVERSION.
- 3 CLEAR AND GRUB APPROX. 1.51 AC
- 4 MAINLINE EARTHWORK QUANTITY INCLUDES ENTRANCE QUANTITIES
- (5) INCLUDES ADDITIONAL 500 TONS TO BE USED AT ENGINEER'S DISCRETION
- 6 MAINLINE DGA AND PAVEMENT LAYER THICKNESS VARIES DEPENDING ON OVERLAY DEPTH. VOLUME AND TONAGE CALCULATED USING END AREAS INSTEAD OF TYPICAL DEPTH TIMES AREA. SEE X-SECT.
- (7) INCLUDES 617 CU YDS FOR EMBANKMENT BENCHING.
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 - INCLUDES 1267 SQ. YDS. TO WRAP EMB. BENCHES AND 1155 SQ. YDS. TO BE USED AT ENGINEERS DISCRETION TO WRAP GRANULAR EMBANKMENT USED IN UNDERCUTTING. PAY QUANTITY WILL BE FIELD MEASURED QUANTITY.
 - (3) INCLUDES 375 CU YDS
 EMBANKMENT (FOR
 INFORMATION ONLY.
 INCIDENTAL TO DIVERSIONS
 (BY-PASS DETOURS))





ITEM	DESCRIPTION	UNIT	MAINLINE	CR-1260 LEE RD	CHANNEL	DIVERSION	TOTAL
01987	DELINEATOR FOR GUARDRAIL-B/W	EACH	8				8
02014	BARRICADE-TYPE III	EACH	4				4
02159	TEMP DITCH	LF				210	210
02204	SPECIAL EXCAVATION (8)	CUYD	400				400
02223	GRANULAR EMBANKMENT (8) (1)	CUYD	474				474
02230	EMBANKMENT IN PLACE (5)	CUYD	3121	12	482		3615
02367	GUARDRAIL END TREATMENT TYPE 1	EACH	1)	\triangle			
02429	RIGHT-OF-WAY MONUMENT TYPE 1	EACH	14				14
02432	WITNESS POST	EACH	3				3
02545	CLEARING AND GRUBBING 6	LS	1				1
02562	SIGNS	SQFT				111	111
02569	DEMOBILIZATION	LS	1				1
02598	FABRIC-GEOTEXTILE TYPE III ①	SQYD	3173				3173
02650	MAINTAIN AND CONTROL TRAFFIC	LS	1				1
02651	DIVERSIONS (BY-PASS DETOURS) (2)	LS				1	1
02676	MOBILIZATION FOR MILL & TEXT	LS	1				1
02677	ASPHALT PAVE MILLING & TEXTURING (9)	TON	18	\triangle			18
02701	TEMPORARY SILT FENCE	LF	310				310
02703	SILT TRAP TYPE "A"	EACH	3				3
02704	SILT TRAP TYPE "B"	EACH	3				3
02706	CLEAN SILT TRAP TYPE "A"	EACH	9				9
02707	CLEAN SILT TRAP TYPE "B"	EACH	9				9
02709	CLEAN TEMPORARY SILT FENCE	LF	620				620
02726	STAKING	LS	1				1
02731	REMOVE STRUCTURE	LS	1				1
04935	TEMP SIGNAL	LS				1	1
05952	TEMPORARY MULCH	SQYD	9830				9830
05966	TOPDRESSING FERTILIZER	TON	.37				.37
05985	SEEDING AND PROTECTING	SQYD	7075				7075
06510	PAVE STRIPING - TEMP PAINT - 4 IN	LF	400				400
06549	PAVE STRIPING - TEMP REM TAPE - B	LF	570				570
20210EP69	COHESIVE PILE CORE	CUYD	150				150
21057ND	LIVE STAKES	EACH			600		600
23265ES717	PAVE MARK TY 1 TAPE STOP BAR - 24 IN	LF	24				24
23274EN11F	TURF REINFORCEMENT MAT 2	SQYD	584		1120	316	2020
24096EC	REMOVE AND RESET END TREATMENT	EACH	3				3)

			Earthwork	Quantities	
	Mainline	CR-1260	Channel Change	Undercutting	Project Totals
Com	670	3	1353	-	2026
Emb	2153	12	482	Ţ	2647
Emb Bench	968	ı	1	Ţ	968
Spcl Exc	_	-	-	400	400

PAVING SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
KNOX	11-1075.00	R2b

⚠ REVISED 8-12-13

ITEM CODE	ITEM	UNIT	MAINLINE	CR-1260 LEE RD	DIVERSION	TOTAL PROJECT
00001	DGA 134	TON	838	42	259	1639
00190	LEVELING & WEDGING PG64-22 4	TON	76			76
00221	CL 2 ASPH BASE 0.75D PG64-22 4	TON	571	16		587
00301	CL 2 ASPH SURF 0.38D PG64-224	TON	153	6		159
_			_		_	

PAVING VOLUMES

ITEM			CR-1260 LEE RD	DIVERSION	TOTAL
	(U	BIC	Y A R D	S
DGA 4	40)5	20	125 7	550
EVELING & WEDGING PG64-22 4	3	8			38
CL 2 ASPH BASE 0.75D PG64-22 4	28	37	8		295
CL 2 ASPH SURF 0.38D PG74-22 4	7	7	3		80

PIPE DRAINAGE SUMMARY

SHEET NO		SKEW	Hd	COVER HEIGHT	CULVERT PIPE 36 IN	S&F BOX INLET- OUTLET-36 IN	FABRIC GEOTEXTILE TY IV FOR PIPE	REMARKS
	ITEM CODE				00468	01453	02600	
	UNIT TO BID				LF	EACH	SY	
R1	APPR. STA 4953+00.10	32° 00′58" RT	M	.99'	46.5 (3)	2	114	LEE RD - CR 1260 APPROACH PIPE
	TOTAL PROJECT				46.5	2	114	

NOTES

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 147 LBS. PER CUBIC FT. UNLESS NOTED OTHERWISE.

- ① ESTIMATED AT 153 LBS. PER CUBIC FT.
- ② INCLUDES 316 SQ. YDS. FOR TEMPORARY DITCHING
- ③ INCLUDES ADDITIONAL 500 TONS TO BE USED AT ENGINEER'S DISCRETION
- DGA AND PAVEMENT LAYER
 THICKNESS VARIES DEPENDING
 ON OVERLAY DEPTH.
 VOLUME AND TONAGE CALCULATED
 USING END AREAS INSTEAD OF
 TYPICAL DEPTH TIMES AREA.
 SEE X-SECT.
- (5) INCLUDES 968 CU YDS FOR EMBANKMENT BENCHING.
- 6 CLEAR AND GRUB -APPROX. 2.00 AC
- 7 VOLUME CALCULATED USING TYPICAL DEPTH AND AREA.
- 8 400 CU YDS TO BE USED FOR UNDERCUTTING AT ENGINEER'S DISCRETION. FINAL PAY QUANTITY WILL BE FIELD MEASURED VOLUME.
- 9 TO BE USED FOR MILLING EXISTING PAVEMENT AT TIE-INS TO ACCOMODATE 1.25" PAVEMENT OVERLAY.
- INCLUDES 1830 SQ. YDS. TO WRAP EMB. BENCHES AND 1343 SQ. YDS. TO BE USED AT ENGINEERS DISCRETION TO WRAP GRANULAR EMBANKMENT USED IN UNDERCUTTING. PAY QUANTITY WILL BE FIELD MEASURED QUANTITY.
- 1) INCLUDES 74 CU YDS FOR WORKING PLATFORM (FROM CROSS-SECTIONS)
- (2) INCLUDES 123 CU YDS EXCAVATION AND 256 CU YDS EMBANKMENT (FOR INFORMATION ONLY, INCIDENTAL TO DIVERSIONS (BY-PASS DETOURS))
- (13) LEE ROAD APPROACH PIPE SHALL BE REINFORCED CONCRETE PIPE. NO ALTERNATES.

GENERAL, PIPE & PAVING SUMMARY SHEET

ITEM	DESCRIPTION	UNIT	MAINLINE	CR-1260 LEE RD	CHANNEL	DIVERSION	TOTAL
01987	DELINEATOR FOR GUARDRAIL-B/W	EACH	8				8
02014	BARRICADE-TYPE III	EACH	4				4
02159	TEMP DITCH	LF				210	210
02204	SPECIAL EXCAVATION (8)	CUYD	400				400
02223	GRANULAR EMBANKMENT (8) (1)	CUYD	474				474
02230	EMBANKMENT IN PLACE (5)	CUYD	3121	12	482		3615
02367	GUARDRAIL END TREATMENT TYPE 1	EACH	1				1
02429	RIGHT-OF-WAY MONUMENT TYPE 1	EACH	14				14
02432	WITNESS POST	EACH	3				3
02545	CLEARING AND GRUBBING 6	LS	1				1
02562	SIGNS	SQFT				111	111
02569	DEMOBILIZATION	LS	1				1
02598	FABRIC-GEOTEXTILE TYPE III (1)	SQYD	3173				3173
02650	MAINTAIN AND CONTROL TRAFFIC	LS	1				1
02651	DIVERSIONS (BY-PASS DETOURS) (2)	LS				1	1
02676	MOBILIZATION FOR MILL & TEXT	LS	1				1
02677	ASPHALT PAVE MILLING & TEXTURING (9)	TON	18				18
02701	TEMPORARY SILT FENCE	LF	310				310
02703	SILT TRAP TYPE "A"	EACH	3				3
02704	SILT TRAP TYPE "B"	EACH	3				3
02706	CLEAN SILT TRAP TYPE "A"	EACH	9				9
02707	CLEAN SILT TRAP TYPE "B"	EACH	9				9
02709	CLEAN TEMPORARY SILT FENCE	LF	620				620
02726	STAKING	LS	1				1
02731	REMOVE STRUCTURE	LS	1				1
04935	TEMP SIGNAL	LS				1	1
05952	TEMPORARY MULCH	SQYD	9830				9830
05966	TOPDRESSING FERTILIZER	TON	.37				.37
05985	SEEDING AND PROTECTING	SQYD	7075				7075
06510	PAVE STRIPING - TEMP PAINT - 4 IN	LF	400				400
06549	PAVE STRIPING - TEMP REM TAPE - B	LF	570				570
20210EP69	COHESIVE PILE CORE	CUYD	150				150
21057ND	LIVE STAKES	EACH			600		600
23265ES717	PAVE MARK TY 1 TAPE STOP BAR - 24 IN	LF	24				24
23274EN11F	TURF REINFORCEMENT MAT I	SQYD	584		1120	316	2020
24096EC	REMOVE AND RESET END TREATMENT	EACH	3				3

			Earthwork	Quantities	
	Mainline	CR-1260	Channel Change	Undercutting	Project Totals
Com	670	3	1353	-	2026
Emb	2153	12	482	1	2647
Emb Bench	968	_	_	-	968
Spcl Exc	_	-	1	400	400

PAVING SUMMARY

ITEM CODE	ITEM	UNIT	MAINLINE	CR-1260 LEE RD	DIVERSION	TOTAL PROJECT
00001	DGA (1)(3)(4)	TON	838	42	259	1639
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00221	CL 2 ASPH BASE 0.75D PG64-22 4	TON	571	16		587
00301	CL 2 ASPH SURF 0.38D PG64-22 4	TON	153	6		159

PAVING VOLUMES

ITEM	MAINLINE	CR-1260 LEE RD	DIVERSION	TOTAL PROJECT	(
	CU	BIC	Y A R D	S	
DGA 4	405	20	125 🗇	550] (
LEVELING & WEDGING PG64-22 4	38			38	
CL 2 ASPH BASE 0.75D PG64-22 4	287	8		295	
CL 2 ASPH SURF 0.38D PG74-22 4	77	3		80	

PIPE DRAINAGE SUMMARY

SHEET NO.		SKEW	Hd	COVER HEIGHT	CULVERT PIPE 36 IN	S&F BOX INLET- OUTLET-36 IN	FABRIC GEOTEXTILE TY IV FOR PIPE	REMARKS
	ITEM CODE				00468	01453	02600	
	UNIT TO BID				LF	EACH	SY	
R15	APPR. STA 4953+00.10	32°00′58" RT	M	.99'	46.5 (3)	2	114	LEE RD - CR 1260 APPROACH PIPE
	TOTAL PROJECT	-			46.5	2	114	

NOTES

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 147 LBS. PER CUBIC FT. UNLESS NOTED OTHERWISE.

COUNTY OF

ITEM NO.

11-1075.00

SHEET NO.

R2b

- ① ESTIMATED AT 153 LBS. PER CUBIC FT.
- ② INCLUDES 316 SQ. YDS. FOR TEMPORARY DITCHING
- ③ INCLUDES ADDITIONAL 500 TONS TO BE USED AT ENGINEER'S DISCRETION
- DGA AND PAVEMENT LAYER
 THICKNESS VARIES DEPENDING
 ON OVERLAY DEPTH.
 VOLUME AND TONAGE CALCULATED
 USING END AREAS INSTEAD OF
 TYPICAL DEPTH TIMES AREA.
 SEE X-SECT.
- ⑤ INCLUDES 968 CU YDS FOR EMBANKMENT BENCHING.
- 6 CLEAR AND GRUB -APPROX. 2.00 AC
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- 8 400 CU YDS TO BE USED FOR UNDERCUTTING AT ENGINEER'S DISCRETION. FINAL PAY QUANTITY WILL BE FIELD MEASURED VOLUME.
- TO BE USED FOR MILLING EXISTING PAVEMENT AT TIE-INS TO ACCOMODATE 1.25" PAVEMENT OVERLAY.
- INCLUDES 1830 SQ. YDS. TO WRAP EMB. BENCHES AND 1343 SQ. YDS. TO BE USED AT ENGINEERS DISCRETION TO WRAP GRANULAR EMBANKMENT USED IN UNDERCUTTING. PAY QUANTITY WILL BE FIELD MEASURED QUANTITY.
- 1) INCLUDES 74 CU YDS FOR WORKING PLATFORM (FROM CROSS-SECTIONS)
- (2) INCLUDES 123 CU YDS EXCAVATION AND 256 CU YDS EMBANKMENT (FOR INFORMATION ONLY, INCIDENTAL TO DIVERSIONS (BY-PASS DETOURS))
- (13) LEE ROAD APPROACH PIPE SHALL BE REINFORCED CONCRETE PIPE. NO ALTERNATES.

TOTAL PROJECT 46.5 2 114

GENERAL, PIPE & PAVING SUMMARY SHEET

SPECIFICATIONS: References to the Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction including any current Supplemental Specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specifications.

DESIGN LOAD AND METHOD: This bridge is designed for KY HL-93 (1.25*HL93) live load. All reinforced concrete members are designed by the load and resistance factor method as specified in the current AASHTO Specifications.

FUTURE WEARING SURFACE: This Bridge is designed for a 15 PSF wearing surface.

DESIGN STRESSES:

Concrete Class "A" ~ 3500 psi Concrete Class "AA" ~ 4000 psi Concrete Class Mi or M2 ~ 4000 psi at 28 days Concrete Class M1 or M2 ~ 3500 psi at 24 hours Steel Reinforcement ~ 60.000 psi Steel Piling Yield ~ 50,000 psi Structural Steel Yield ~ 50,000 psi

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2", unless otherwise noted. Epoxy coat bars designated by suffix (e) in accordance with Section 811.10 of the Standard Specifications. Use stirrup bend diameters for bars designated by suffix (s) in a Bill of Reinforcement.

CONCRETE: Class "AA" is to be used throughout the new superstructure. Class "A" is to be used on the End Bents. Class M1 or M2 is to be used in the closure pour.

BEVELED EDGES: Bevel all exposed edges $\frac{3}{4}$ ", unless otherwise noted.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the with section 607.03.01 of the specifications. structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropriate to the work involved. This may include cofferdams, shoring, excavations, back filling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to be welded in accordance with AWS Specifications. complete the structure.

the design plans are proposed by a fabricator or supplier, submit those changes to the Department through the Contractor.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal dimensions.

SUPERSTRUCTURE SLAB: Ensure the entire superstructure slab is poured continuously, out to out, before allowing any concrete to set.

MASONRY COATING: Contrary to the Specifications, do not apply a masonry coarting finish in accordance with 601.03.18. Apply the tinted concrete staining in accordance with the special notes.

CLASS M CONCRETE: Class M concrete is bid as Class M1, but Class M2 may be used instead of Class Mi. No extra payment will be made and the Class M2 concrete will be paid at the unit bid price for Class M1 concrete.

MILL TEST REPORTS: Notarized mill test reports shall be furnished in triplicate to the requirements of the Specifications.

SLOPE PROTECTION: Use dry cyclopean stone rip rap in accordance with the plans and specifications. Geotextile fabric is to be incidental to the rip rap.

FOUNDATION DATA: See Foundation Layout Sheet.

CHANNEL EXCAVATION: Excavate the channel as shown on the layout view between the upstream fascia and the downstream fascia. The elevation shown of the proposed bottom of channel is at the centerline survey. Ensure the bottom of channel follows the existing slope of the channel. Tie in to existing within 10 feet outside the limits of the fascias. Quantities for channel excavation, rip rap excavation, and End Bent excavation are included in the quantities of Common Excavation shown on the Title Sheet. No field measurement of this quantity shall be made and the contractor shall be paid plan quantity regardless whether the quantity actually excavated is more or less than what is estimated on the Title Sheet. The total length of channel excavation required including 10' tie in upstream and 10' tie in downstream is 49'-5".

PRECAST BRIDGE SEGMENTS: Contrary to Section 605 of the Specifications, the precast bridge segments are not required to be built in a certified plant and may be built by the Contractor. All aspects (materials and construction) of the precast bridge segment construction are required to be inspected by a state inspector and the contractor shall give a minimum 2 weeks notice to the Engineer prior to beginning construction of the precast bridge segments. All precast bridge segments must be fully cured and have reached full strength before being moved, transported, or installed. Include all costs associated with precasting, transporting, and installation with the bid for Concrete Class AA.

MATERIAL A.S.T.M AASHTO High Strength Low Alloy *A709 GR 50 *M270 GR 50 Structural Steel * Use this equivalent specification with the ANSI/AASHTO/AWS D1.5 welding code, Special Provision 4 (03), and welding notes.

Pintles and stud shear connectors. UNS G 1018 M-169

M-164 Type 1 High strength bolts, nuts, and washers A325

B29-79 Sheet lead and Pig lead

All steel in longitudinal rolled wide flange beams shall meet the longitudinal Charpy V-Notch toughness test applicable to fracture critical components Zone 2 in accordance with the following:

M270 GR 50 (up to 2" thickness) of 25 ft-lbs at 40° F.

All other structural steel shall meet the impact testing requirements for nonfracture critical components Zone 2 in accordance with the following:

M270 GR 50 (up to 2" thickness) of 15 ft-lbs at 40° F.

Sampling and testing procedures shall be in accordance with AASHTO T243 current edition, utilizing (H) frequency testing. When plate thickness exceeds $1\frac{1}{2}$, frequency of testing shall be (P).

SHOP DRAWINGS (STRUCTURAL STEEL): The contractor shall submit .pdfs of the detailed shop drawings for all structural steel to the Department for review in accordance

SHEAR CONNECTORS: The "Lump Sum Bid" for shear connectors shall be full payment for all shear connectors, welding and welding material, and materials necessary to weld the shear connectors in place according to the plans and Specifications. Studs shall

PAYMENT FOR STRUCTURAL STEEL: The lump sum bid for structural steel shall be full SHOP DRAWINGS: Submit shop drawings that are required by the plans and payment for all structural steel, bolts, washers, welding and welding materials, floor specifications directly to the Division of Structural Design. If any changes in drains, 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. Also include all costs for galvanizing and painting in the lump sum bid for structural steel.

> HIGH STRENGTH BOLT CONNECTIONS: Unless otherwise specified on the plans. all bolted connnections shall be ASTM A325 1" diameter high strength bolts, nuts, and washers. Open holes shall be $1\frac{1}{16}$ " diameter. Type 1 galvanized bolts shall be used as described in AASHTO M164. All high strength bolted field connections are to be installed with "direct tension indicators" (DTI's) in accordance with the Standard Specifications and ASTM F959. All DTI's shall be manufactured from a steel conforming to the chemical requirements of ASTM A325 for Type 1 galvanized steel. DTI's shall be installed under the bolt head with the bumps facing the underside of the bolt head. Put a hardened washer under the nut and tension from the nut.

> PROHIBITED FIELD WELDING: No welding of any nature, other than that indicated on plans, is to be performed without the written consent of the designer, and then only in the manner and at the locations designated in the authorization.

the Department, showing that all material used in the structural steel conforms to END BENTS: Include all costs associated with labor, materials, (cork, class A concrete, CMP's etc.), transportation, erection, or other construction operations not specified in the unit bid price for Class A concrete.

The following abbreviations may have been used in the preparation of these plans:

Between bet. Back Face b.f. Bottom of Footing Bottom bot. Brq. Bearing C to CCenter to Center Current Edition С. е. Cubic Yard C.Y. Chd. Chord Center Line CI. Clear Concrete Conc. Cubic Cu. Drawing Dwa. Each Face e.f. Elevation Equal eq. Estimate Est. Ext. Exterior Face to Face F to F Front Face f.f. Far Side f.s. Front fr. Feet ft. I.D. Inside Diameter in. Inch Interior Int. Left Low Bridge Seat LBS LBS. Pounds Meter Miles per Hour Near Side n.s. Outside Diameter Орр. Opposite Point of Curve Perpendicular Perp. Point of Intersection PPC Precast Prestressed Concrete Precast Prestressed Concrete Deck Unit PSI Pounds per Square Inch Point of Tangent Radius Right Reinforced Concrete Box Culvert Reinforced Concrete Deck Girder Required Req'd. Railroad Shoulder Shld Spaces spa. Station Sta. Std. Standard Straight Str. Tan Tangent Thru Through TOF Top of Footing Tot. Total Typical

Тур.

Vert.

W.P.

Yd.

Vertical

Yard

Working Point

DATE REVISION DATE: June 2013 CHECKED BY DESIGNED BY: Carl Van Zee Joseph Van Zee DETAILED BY: Carl Van Zee Joseph Van Zee

Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS

SHEET NO.

26817

KNOX KY 6 STEWARTS CREEK GENERAL NOTES

Division of Structural Design

PREPARED BY ITEM NUMBER 11–1076.00

GENERAL NOTES

SPECIFICATIONS: References to the Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction including any current Supplemental Specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specifications.

DESIGN LOAD AND METHOD: This bridge is designed for KY HL-93 (1.25*HL93) live load. All reinforced concrete members are designed by the load and resistance factor method as specified in the current AASHTO Specifications.

FUTURE WEARING SURFACE: This Bridge is designed for a 15 PSF wearing surface.

DESIGN STRESSES:

Concrete Class "A" ~ 3500 psi Concrete Class "AA" ~ 4000 psi Concrete Class Mi or M2 ~ 4000 psi at 28 days Concrete Class M1 or M2 ~ 3500 psi at 24 hours Steel Reinforcement ~ 60.000 psi Steel Piling Yield ~ 50,000 psi Structural Steel Yield ~ 50,000 psi

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2", unless otherwise noted. Epoxy coat bars designated by suffix (e) in accordance with Section 811.10 of the Standard Specifications. Use stirrup bend diameters for bars designated by suffix (s) in a Bill of Reinforcement.

CONCRETE: Class "AA" is to be used throughout the new superstructure. Class "A" is to be used on the End Bents. Class M1 or M2 is to be used in the closure pour.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the with section 607.03.01 of the specifications. structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropriate to the work involved. This may include cofferdams, shoring, excavations, back filling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to be welded in accordance with AWS Specifications. complete the structure.

the design plans are proposed by a fabricator or supplier, submit those changes to the Department through the Contractor.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal dimensions.

SUPERSTRUCTURE SLAB: Ensure the entire superstructure slab is poured continuously, out to out, before allowing any concrete to set.

MASONRY COATING: Contrary to the Specifications, do not apply a masonry coating finish in accordance with 601.03.18. Apply the tinted concrete staining in accordance with the special notes.

CLASS M CONCRETE: Class M concrete is bid as Class M1, but Class M2 may be used instead of Class Mi. No extra payment will be made and the Class M2 concrete will be paid at the unit bid price for Class M1 concrete.

MILL TEST REPORTS: Notarized mill test reports shall be furnished in triplicate to the Department, showing that all material used in the structural steel conforms to END BENTS: Include all costs associated with labor, materials, (cork, class A concrete, the requirements of the Specifications.

SLOPE PROTECTION: Use dry cyclopean stone rip rap in accordance with the plans and specifications. Geotextile fabric is to be incidental to the rip rap.

FOUNDATION DATA: See Foundation Layout Sheet.

CHANNEL EXCAVATION: Excavate the channel as shown on the layout view between the upstream fascia and the downstream fascia. The elevation shown of the proposed bottom of channel is at the centerline survey. Ensure the bottom of channel follows the existing slope of the channel. Tie in to existing within 10 feet outside the limits of the fascias. Quantities for channel excavation, rip rap excavation, and End Bent excavation are included in the quantities of Common Excavation shown on the Title Sheet. No field measurement of this quantity shall be made and the contractor shall be paid plan quantity regardless whether the quantity actually excavated is more or less than what is estimated on the Title Sheet. The total length of channel excavation required including 10' tie in upstream and 10' tie in downstream is 49'-5".

PRECAST BRIDGE SEGMENTS: Contrary to Section 605 of the Specifications, the precast bridge segments are not required to be built in a certified plant and may be built by the Contractor. All aspects (materials and construction) of the precast bridge segment construction are required to be inspected by a state inspector and the contractor shall give a minimum 2 weeks notice to the Engineer prior to beginning construction of the precast bridge segments. All precast bridge segments must be fully cured and have reached full strength before being moved, transported, or installed. Include all costs associated with precasting, transporting, and installation with the bid for Concrete Class AA.

MATERIAL A.S.T.M AASHTO High Strength Low Alloy *A709 GR 50 *M270 GR 50 Structural Steel * Use this equivalent specification with the ANSI/AASHTO/AWS D1.5 welding code, Special Provision 4 (03), and welding notes. M-169 Pintles and stud shear connectors. UNS G 1018

M-164 Type 1 High strength bolts, nuts, and washers A325

Sheet lead and Pia lead B29-79

All steel in longitudinal rolled wide flange beams shall meet the longitudinal Charpy V-Notch toughness test applicable to fracture critical components Zone 2 in accordance with the following:

M270 GR 50 (up to 2" thickness) of 25 ft-lbs at 40° F.

All other structural steel shall meet the impact testing requirements for nonfracture critical components Zone 2 in accordance with the following:

M270 GR 50 (up to 2" thickness) of 15 ft-lbs at 40° F.

Sampling and testing procedures shall be in accordance with AASHTO T243 current edition, utilizing (H) frequency testing. When plate thickness exceeds $1\frac{1}{2}$, frequency of testing shall be (P).

BEVELED EDGES: Bevel all exposed edges $\frac{3}{4}$ ", unless otherwise noted. SHOP DRAWINGS (STRUCTURAL STEEL): The contractor shall submit .pdfs of the detailed shop drawings for all structural steel to the Department for review in accordance

> SHEAR CONNECTORS: The "Lump Sum Bid" for shear connectors shall be full payment for all shear connectors, welding and welding material, and materials necessary to weld the shear connectors in place according to the plans and Specifications. Studs shall

PAYMENT FOR STRUCTURAL STEEL: The lump sum bid for structural steel shall be full SHOP DRAWINGS: Submit shop drawings that are required by the plans and payment for all structural steel, bolts, washers, welding and welding materials, floor specifications directly to the Division of Structural Design. If any changes in drains, 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. Also include all costs for galvanizing and painting in the lump sum bid for structural steel.

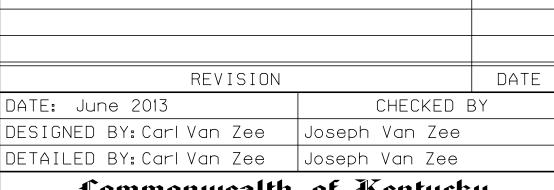
> HIGH STRENGTH BOLT CONNECTIONS: Unless otherwise specified on the plans, all bolted connnections shall be ASTM A325 1" diameter high strength bolts, nuts, and washers. Open holes shall be $1\frac{1}{16}$ " diameter. Type 1 galvanized bolts shall be used as described in AASHTO M164. All high strength bolted field connections are to be installed with "direct tension indicators" (DTI's) in accordance with the Standard Specifications and ASTM F959. All DTI's shall be manufactured from a steel conforming to the chemical requirements of ASTM A325 for Type 1 galvanized steel. DTI's shall be installed under the bolt head with the bumps facing the underside of the bolt head. Put a hardened washer under the nut and tension from the nut.

> PROHIBITED FIELD WELDING: No welding of any nature, other than that indicated on plans, is to be performed without the written consent of the designer, and then only in the manner and at the locations designated in the authorization.

CMP's etc.), transportation, erection, or other construction operations not specified in the unit bid price for Class A concrete.

The following abbreviations may have been used in the preparation of these plans:

Between bet. Back Face b.f. Bottom of Footing Bottom bot. Brq. Bearing C to CCenter to Center Current Edition С. е. Cubic Yard C.Y. Chd. Chord Center Line CI. Clear Concrete Conc. Cubic Cu. Drawing Dwa. Each Face e.f. Elevation Equal eq. Estimate Est. Ext. Exterior Face to Face F to F Front Face f.f. Far Side f.s. Front fr. Feet ft. I.D. Inside Diameter in. Inch Interior Int. Left LBS Low Bridge Seat LBS. Pounds Meter Miles per Hour Near Side n.s. Outside Diameter Орр. Opposite Point of Curve Perpendicular Perp. Point of Intersection PPC Precast Prestressed Concrete Precast Prestressed Concrete Deck Unit PSI Pounds per Square Inch Point of Tangent Radius Right Reinforced Concrete Box Culvert Reinforced Concrete Deck Girder Required Req'd. Railroad Shoulder Shld Spaces spa. Station Sta. Std. Standard Straight Str. Tan Tangent Thru Through TOF Top of Footing Tot. Total Typical Тур. Vertical Vert. W.P. Working Point



Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS

SHEET NO.

26817

KNOX KY 6 STEWARTS CREEK GENERAL NOTES

ITEM NUMBER

Yd.

Yard

11–1076.00

Structural Design

PREPARED BY Division of

SPECIFICATIONS: References to the Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction including any current Supplemental Specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specifications.

DESIGN LOAD AND METHOD: This bridge is designed for KY HL-93 (1.25*HL93) live load. All reinforced concrete members are designed by the load and resistance factor method as specified in the current AASHTO Specifications.

FUTURE WEARING SURFACE: This Bridge is designed for a 15 PSF wearing surface.

DESIGN STRESSES:

Concrete Class "A" ~ 3500 psi Concrete Class "AA" ~ 4000 psi Concrete Class Mi or M2 ~ 4000 psi at 28 days Concrete Class Mi or M2 ~ 3500 psi at 24 hours Steel Reinforcement ~ 60.000 psi Steel Piling Yield ~ 50,000 psi Structural Steel Yield ~ 50.000 psi

center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2", unless otherwise $_{
m M270~GR}$ $_{
m 50}$ noted. Use hot dipped galvanized reinforcement complying with ASTM A767/A767M. When placing galvanized bars, all bar supports, spacers, tie wire, or other attached metallic components shall be galvanized. Galvanized rebar is designated by suffix (g). Use stirrup bend diameters for bars designated by suffix (s) in a M270 GR 50 Bill of Reinforcement.

"A" is to be used on the End Bents. Class M1 or M2 is to be used in the closure pour.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the with section 607.03.01 of the specifications. structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropriate to the work involved. This may include cofferdams, shoring, excavations, back filling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to be welded in accordance with AWS Specifications. complete the structure.

the design plans are proposed by a fabricator or supplier, submit those changes to the Department through the Contractor.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees HIGH STRENGTH BOLT CONNECTIONS: Unless otherwise specified on the plans, all bolted Fahrenheit. Layout dimensions are horizontal dimensions.

SUPERSTRUCTURE SLAB: Ensure the entire superstructure slab is poured continuously, out to out, before allowing any concrete to set.

MASONRY COATING: Contrary to the Specifications, do not apply a masonry coating finish in accordance with 601.03.18. Apply the tinted concrete staining in accordance with the special notes.

CLASS M CONCRETE: Class M concrete is bid as Class M1, but Class M2 may be used instead of Class M1. No extra payment will be made and the Class M2 concrete will be paid at the unit bid price for Class M1 concrete.

MILL TEST REPORTS: Notarized mill test reports shall be furnished in triplicate to END BENTS: Include all costs associated with labor, materials (Cork, Class A Concrete, the requirements of the Specifications.

SLOPE PROTECTION: Use dry cyclopean stone rip rap in accordance with the plans and specifications. Geotextile fabric is to be incidental to the rip rap.

FOUNDATION DATA: See Foundation Layout Sheet.

CHANNEL EXCAVATION: Excavate the channel as shown on the layout view between the upstream fascia and the downstream fascia. The elevation shown of the proposed bottom of channel is at the centerline survey. Ensure the bottom of channel follows the existing slope of the channel. Tie in to existing within 10 feet outside the limits of the fascias. Quantities for channel excavation, rip rap excavation, and End Bent excavation are included in the quantities of Common Excavation shown on the Title Sheet. No field measurement of this quantity shall be made and the contractor shall be paid plan quantity regardless whether the quantity actually excavated is more or less than what is estimated on the Title Sheet. The total length of channel excavation required including 10' tie in upstream and 10' tie in downstream is 52'-4".

PRECAST BRIDGE SEGMENTS: Contrary to Section 605 of the Specifications. the precast bridge segments are not required to be built in a certified plant and may be built by the Contractor. All aspects (materials and construction) of the precast bridge segment construction are required to be inspected by a state inspector and the contractor shall give a minimum 2 weeks notice to the Engineer prior to beginning construction of the precast bridge segments. All precast bridge segments must be fully cured and have reached full strength before being moved, transported, or installed. Include all costs associated with precasting, transporting, and installation with the bid for Concrete Class AA.

MATERIAL A.S.T.M AASHTO *A709 GR 50 *M270 GR 50 High Strength Low Alloy Structural Steel * Use this equivalent specification with the ANSI/AASHTO/AWS D1.5 welding code, Special Provision 4 (03), and welding notes. M-169 Pintles and stud shear connectors. UNS G 1018

M-164 Type 1 High strength bolts, nuts, and washers A325

B29-79 Sheet lead and Pig lead

All steel in longitudinal rolled wide flange beams shall meet the longitudinal Charpy REINFORCEMENT: Dimensions shown from the face of concrete to bars are to V-Notch toughness test applicable to fracture critical components Zone 2 in accordance with the following:

(up to 2" thickness) of 25 ft-lbs at 40° F.

All other structural steel shall meet the impact testing requirements for nonfracture critical components Zone 2 in accordance with the following:

(up to 2" thickness) of 15 ft-lbs at 40° F.

Sampling and testing procedures shall be in accordance with AASHTO T243 current CONCRETE: Class "AA" is to be used throughout the new superstructure. Class edition, utilizing (H) frequency testing. When plate thickness exceeds $1\frac{1}{2}$, frequency of testing shall be (P).

BEVELED EDGES: Bevel all exposed edges $\frac{3}{4}$ ", unless otherwise noted. SHOP DRAWINGS (STRUCTURAL STEEL): The contractor shall submit .pdfs of the detailed shop drawings for all structural steel to the Department for review in accordance

> SHEAR CONNECTORS: The "Lump Sum Bid" for shear connectors shall be full payment for all shear connectors, welding and welding material, and materials necessary to weld the shear connectors in place according to the plans and Specifications. Studs shall

PAYMENT FOR STRUCTURAL STEEL: The lump sum bid for structural steel shall be full SHOP DRAWINGS: Submit shop drawings that are required by the plans and payment for all structural steel, bolts, washers, welding and welding materials, floor specifications directly to the Division of Structural Design. If any changes in drains, 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. Include all costs for galvanizing and painting in the lump sum bid for structural steel.

> connnections shall be ASTM A325 1" diameter high strength bolts, nuts, and washers. Open holes shall be $1\frac{1}{16}$ " diameter. Type 1 galvanized bolts shall be used as described in AASHTO M164. All high strength bolted field connections are to be installed with "direct tension indicators" (DTI's) in accordance with the Standard Specifications and ASTM F959. All DTI's shall be manufactured from a steel conformina to the chemical requirements of ASTM A325 for Type 1 galvanized steel. DTI's shall be installed under the bolt head with the bumps facing the underside of the bolt head. Put a hardened washer under the nut and tension from the nut.

> PROHIBITED FIELD WELDING: No welding of any nature, other than that indicated on plans, is to be performed without the written consent of the designer, and then only in the manner and at the locations designated in the authorization.

> CMP's, etc.), transportation, erection, or other construction operations not specified in the unit bid price for Class A Concrete.

The following abbreviations may have been used in the preparation of these plans:

Between bet. Back Face b.f. Bottom of Footing Bottom bot. Brq. Bearing C to CCenter to Center Current Edition С. е. Cubic Yard C.Y. Chord Chd. Center Line CI. Clear Concrete Conc. Cubic Cu. Drawing Dwa. Each Face e.f. Elevation Equal Estimate Est. Ext. Exterior Face to Face F to F Front Face f.f. Far Side f.s. Front fr. Feet ft. I.D. Inside Diameter in. Inch Interior Int. Left LBS Low Bridge Seat LBS. Pounds Meter Miles per Hour Near Side n.s. Outside Diameter Орр. Opposite Point of Curve Perpendicular Perp. Point of Intersection PPC Precast Prestressed Concrete Precast Prestressed Concrete Deck Unit Pounds per Square Inch Point of Tangent Radius Right RCBC Reinforced Concrete Box Culvert Reinforced Concrete Deck Girder Rea'd. Required Railroad Shoulder Shld Spaces spa. Station Sta. Std. Standard Straight Str. Tangent Tan Thru Through TOF Top of Footing Tot. Total Typical Тур.

Vert.

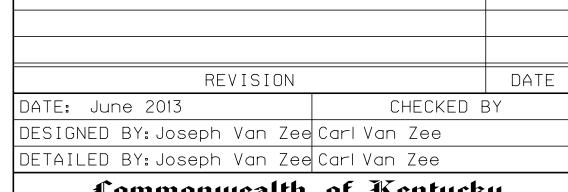
W.P.

Yd.

Vertical

Yard

Working Point



Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS

SHEET NO.

26816

KNOX KY 6 LYNN CAMP CREEK **GENERAL NOTES**

ITEM NUMBER

Structural Design

PREPARED BY Division of 11–1075.00

GENERAL NOTES

SPECIFICATIONS: References to the Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction including any current Supplemental Specifications. All references to the AASHTO Specifications are to the current edition of the AASHTO LRFD Bridge Design Specifications.

DESIGN LOAD AND METHOD: This bridge is designed for KY HL-93 (1.25*HL93) live load. All reinforced concrete members are designed by the load and resistance factor method as specified in the current AASHTO Specifications.

FUTURE WEARING SURFACE: This Bridge is designed for a 15 PSF wearing surface.

DESIGN STRESSES:

Concrete Class "A" ~ 3500 psi Concrete Class "AA" ~ 4000 psi Concrete Class Mi or M2 ~ 4000 psi at 28 days Concrete Class Mi or M2 ~ 3500 psi at 24 hours Steel Reinforcement ~ 60.000 psi Steel Piling Yield ~ 50,000 psi Structural Steel Yield ~ 50.000 psi

center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2", unless otherwise $_{
m M270~GR}$ $_{
m 50}$ noted. Use hot dipped galvanized reinforcement complying with ASTM A767/A767M. When placing galvanized bars, all bar supports, spacers, tie wire, or other attached metallic components shall be galvanized. Galvanized rebar is designated by suffix (g). Use stirrup bend diameters for bars designated by suffix (s) in a M270 GR 50 Bill of Reinforcement.

"A" is to be used on the End Bents. Class M1 or M2 is to be used in the closure pour.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the with section 607.03.01 of the specifications. structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropriate to the work involved. This may include cofferdams, shoring, excavations, back filling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to be welded in accordance with AWS Specifications. complete the structure.

the design plans are proposed by a fabricator or supplier, submit those changes to the Department through the Contractor.

Fahrenheit. Layout dimensions are horizontal dimensions.

SUPERSTRUCTURE SLAB: Ensure the entire superstructure slab is poured continuously, out to out, before allowing any concrete to set.

MASONRY COATING: Contrary to the Specifications, do not apply a masonry coating finish in accordance with 601.03.18. Apply the tinted concrete staining in accordance with the special notes.

CLASS M CONCRETE: Class M concrete is bid as Class M1, but Class M2 may be used instead of Class M1. No extra payment will be made and the Class M2 concrete will be paid at the unit bid price for Class M1 concrete.

MILL TEST REPORTS: Notarized mill test reports shall be furnished in triplicate to END BENTS: Include all costs associated with labor, materials (Cork, Class A Concrete, the requirements of the Specifications.

SLOPE PROTECTION: Use dry cyclopean stone rip rap in accordance with the plans and specifications. Geotextile fabric is to be incidental to the rip rap.

FOUNDATION DATA: See Foundation Layout Sheet.

CHANNEL EXCAVATION: Excavate the channel as shown on the layout view between the upstream fascia and the downstream fascia. The elevation shown of the proposed bottom of channel is at the centerline survey. Ensure the bottom of channel follows the existing slope of the channel. Tie in to existing within 10 feet outside the limits of the fascias. Quantities for channel excavation, rip rap excavation, and End Bent excavation are included in the quantities of Common Excavation shown on the Title Sheet. No field measurement of this quantity shall be made and the contractor shall be paid plan quantity regardless whether the quantity actually excavated is more or less than what is estimated on the Title Sheet. The total length of channel excavation required including 10' tie in upstream and 10' tie in downstream is 52'-4".

PRECAST BRIDGE SEGMENTS: Contrary to Section 605 of the Specifications. the precast bridge segments are not required to be built in a certified plant and may be built by the Contractor. All aspects (materials and construction) of the precast bridge segment construction are required to be inspected by a state inspector and the contractor shall give a minimum 2 weeks notice to the Engineer prior to beginning construction of the precast bridge segments. All precast bridge segments must be fully cured and have reached full strength before being moved, transported, or installed. Include all costs associated with precasting, transporting, and installation with the bid for Concrete Class AA.

MATERIAL AASHTO A.S.T.M *A709 GR 50 *M270 GR 50 High Strength Low Alloy Structural Steel * Use this equivalent specification with the ANSI/AASHTO/AWS D1.5 welding code, Special Provision 4 (03), and welding notes. M-169 Pintles and stud shear connectors. UNS G 1018

M-164 Type 1 High strength bolts, nuts, and washers A325

B29-79 Sheet lead and Pig lead

All steel in longitudinal rolled wide flange beams shall meet the longitudinal Charpy REINFORCEMENT: Dimensions shown from the face of concrete to bars are to V-Notch toughness test applicable to fracture critical components Zone 2 in accordance with the following:

(up to 2" thickness) of 25 ft-lbs at 40° F.

All other structural steel shall meet the impact testing requirements for nonfracture critical components Zone 2 in accordance with the following:

(up to 2" thickness) of 15 ft-lbs at 40° F.

Sampling and testing procedures shall be in accordance with AASHTO T243 current CONCRETE: Class "AA" is to be used throughout the new superstructure. Class edition, utilizing (H) frequency testing. When plate thickness exceeds $1\frac{1}{2}$, frequency of testing shall be (P).

BEVELED EDGES: Bevel all exposed edges $\frac{3}{4}$ ", unless otherwise noted. SHOP DRAWINGS (STRUCTURAL STEEL): The contractor shall submit .pdfs of the detailed shop drawings for all structural steel to the Department for review in accordance

> SHEAR CONNECTORS: The "Lump Sum Bid" for shear connectors shall be full payment for all shear connectors, welding and welding material, and materials necessary to weld the shear connectors in place according to the plans and Specifications. Studs shall

PAYMENT FOR STRUCTURAL STEEL: The lump sum bid for structural steel shall be full SHOP DRAWINGS: Submit shop drawings that are required by the plans and payment for all structural steel, bolts, washers, welding and welding materials, floor specifications directly to the Division of Structural Design. If any changes in drains, 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. Include all costs for galvanizing and painting in the lump sum bid for structural steel.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees HIGH STRENGTH BOLT CONNECTIONS: Unless otherwise specified on the plans, all bolted connnections shall be ASTM A325 1" diameter high strength bolts, nuts, and washers. Open holes shall be $1\frac{1}{16}$ " diameter. Type 1 galvanized bolts shall be used as described in AASHTO M164. All high strength bolted field connections are to be installed with "direct tension indicators" (DTI's) in accordance with the Standard Specifications and ASTM F959. All DTI's shall be manufactured from a steel conformina to the chemical requirements of ASTM A325 for Type 1 galvanized steel. DTI's shall be installed under the bolt head with the bumps facing the underside of the bolt head. Put a hardened washer under the nut and tension from the nut.

> PROHIBITED FIELD WELDING: No welding of any nature, other than that indicated on plans, is to be performed without the written consent of the designer, and then only in the manner and at the locations designated in the authorization.

> CMP's, etc.), transportation, erection, or other construction operations not specified in the unit bid price for Class A Concrete.

The following abbreviations may have been used in the preparation of these plans:

Between bet. Back Face b.f. Bottom of Footing bot. Bottom Brq. Bearing C to CCenter to Center Current Edition С. е. Cubic Yard C.Y. Chord Chd. Center Line CI. Clear Concrete Conc. Cubic Cu. Drawing Dwa. Each Face e.f. Elevation Equal Estimate Est. Ext. Exterior Face to Face F to F Front Face f.f. Far Side f.s. Front fr. Feet ft. I.D. Inside Diameter in. Inch Interior Int. Left LBS Low Bridge Seat LBS. Pounds Meter Miles per Hour Near Side n.s. Outside Diameter Орр. Opposite Point of Curve Perpendicular Perp. Point of Intersection PPC Precast Prestressed Concrete Precast Prestressed Concrete Deck Unit Pounds per Square Inch Point of Tangent Radius Right RCBC Reinforced Concrete Box Culvert Reinforced Concrete Deck Girder Rea'd. Required Railroad Shoulder Shld Spaces spa. Station Sta. Std. Standard Straight Str. Tangent Tan Thru Through TOF Top of Footing Tot. Total Typical Тур. Vert. Vertical

REVISION DATE DATE: June 2013 CHECKED BY DESIGNED BY: Joseph Van Zee Carl Van Zee DETAILED BY: Joseph Van Zee Carl Van Zee

Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS

SHEET NO.

26816

KNOX KY 6 LYNN CAMP CREEK **GENERAL NOTES**

PREPARED BY

Division of Structural Design

ITEM NUMBER

11–1075.00

Working Point

Yard

W.P.

Yd.

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS KNOX COUNTY WOODBINE - BARBOURVILLE RD KY 6 OVER STEWARTS CREEK STA. 203 + 78.00

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BID ITEM CODE	02231	08019	23168ED	08001	08033	08046	08094	08100	08104	08151	08160	08170	03299	08106	23653EC	23654EC	08140	08141							
BID ITEM	Structure Granular Backfill	Cyclopean Stone Rip Rap	Concrete Staining	Structure Excavation, Common	Test Piles	Piles – Steel HP 12 x 53	Pile Points 12 Inch	Concrete Class "A"	Concrete Class "AA"	Steel Reinforcement, Epoxy Coated	Structural Steel	Shear Connectors	Armored Edge For Concrete	Concrete Class M1	Railing System Type T101	Railing Transition T101	Mechanical Reinf. Coupler #5 Epoxy Coated	Mechanical Reinf. Coupler #6	50500						
UNIT	C.Y.	Tons	S.Y.	C.Y.	L.F.	L.F.	Each	C.Y.	C.Y.	LB	L.S.	L.S.	L.F.	C.Y.	L.F.	L.F.	Each	Each							
End Bent 1	69.3	114.8	38.0	87	25	109	6	33.7		2545				5 . l											
End Bent 2	69.3	113.9	38.0	113	22	95	6	33.7		2545				5 . l											
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BRIDGE TOTALS	138.6	228.7	76.0	200	47	204	12	67.4	41.2	17606			58.9	18.8	95.7	100	215	5 19	8						
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⁽¹⁾ Estimated Weight of Structural Steel = 29007 Lbs.

Revised 8/9/2013	Sheet No.	INDEX OF SHEETS Description
	S1	TITLE SHEET
	S2 S3	GENERAL NOTES LAYOUT
	S4	SUBSURFACE DATA
	S5 S6	FOUNDATION LAYOUT END BENT 1
	S7	END BENT 2
	S8 S9-S11	STRUCTURAL STEEL SUPERSTRUCTURE
	S12	CONSTRUCTION ELEVATIONS
	S13 S14	RAILING SYTEM TYPE T101 RAILING TRANSITION T101
		SPECIAL NOTES
	SPECIAL	NOTES FOR BRIDGES 11-1075 AND 11-1076
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	69 Emba	nkment at Bridge End Bent Structures
		STANDARD DRAWINGS
	BBP-002-04	Bearing Details
	BGX-006-09	
	BJE-001-12 BPS-003-09	Neoprene Expansion Dams and Armored Edges
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		SPECIFICATIONS Indard Specifications for Road and Bridge
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		D BY: Carl Van Zee Joseph Van Zee Commonwealth of Kentucky
		DEPARTMENT OF HIGHWAYS COUNTY
	ROUTE	CROSSING
	KY 6	STEWARTS CREEK
	KI U	TITLE SHEET
EM NUMBER	KI O	
TEM NUMBER 11–1076.00		

⁽²⁾ Approximate Number of Shear Connectors = 888

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS

KNOX COUNTY WOODBINE - BARBOURVILLE RD KY 6 OVER STEWARTS CREEK STA. 203 + 78.00

BID ITEM CODE	02231	08019	23168ED	08001	08033	08046	08094	08100	08104	08151	08160	08170	03299		23653EC		1	08141	
BID ITEM	Structure Granular Backfill	Cyclopean Stone Rip Rap		Structure Excavation, Common	Test Piles	Piles – Steel HP 12 x 53	Pile Points 12 Inch	Concrete Class "A"	Concrete Class "AA"	Steel Reinforcement, Epoxy Coated	Structural Steel	Shear Connectors	Armored Edge For Concrete	Concrete Class M1	Railing System Type T101	Railing Transition T101	Mechanical Reinf. Coupler #5 Epoxy Coated	Mechanical Reinf. Coupler #6 Epoxy Coated	
UNIT	C.Y.	Tons	S.Y.	C.Y.	L.F.	L.F.	Each	C.Y.	C.Y.	LB	L.S.	L.S.	L.F.	C.Y.	L.F.	L.F.	Each	Each	
End Bent 1	69.3	114.8	38.0	87	25	109	6	33.7		2545				5. 1					
End Bent 2	69.3	113.9	38.0	113	22	95	6	33.7		2545				5.					
Superstructure									41.2	12516			58.9	8.6	95.7	100	215	198	
BRIDGE TOTALS	138.6	228.7	76.0	200	47	204	12	67.4	41.2	17606			58.9	18.8	95.7	100	215	198	

⁽¹⁾ Estimated Weight of Structural Steel = 29007 Lbs.

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	S9-S11 SUPERSTRUCTURE	
	S12 CONSTRUCTION ELEVATIONS S13 RAILING SYTEM TYPE T101	
	S14 RAILING TRANSITION T101	
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	BGX-006-09 Stencils for Structures	
	BGX-012-02 Geotechnical Legend	
	BJE-001-12 Neoprene Expansion Dams and Armored Edges BPS-003-09 HP 12x53 Steel Pile	
	SPECIFICATIONS	
	2012 Standard Specifications for Road and Bridge	
	Construction.	
	2012 AASHTO LRFD Bridge Design Specifications	
	with interims	
	REVISION DATE	
	DATE: June 2013 CHECKED BY	
	DESIGNED BY: Carl Van Zee Joseph Van Zee	
	DETAILED BY: Carl Van Zee Joseph Van Zee	
	Commonwealth of Kentucky DEDARTMENT OF HICHWAYS	
	DEPARTMENT OF HIGHWAYS COUNTY	
	KNOX	
	ROUTE CROSSING	
	KY 6 STEWARTS CREEK	
	TITLE SHEET	
ITEM NUMBER	PREPARED BY SHEET N	۷0.
	Division of SI	NO
11–1076.00	Structural Design DRAWING 268'	
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⁽²⁾ Approximate Number of Shear Connectors = 888

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS KNOX COUNTY WOODBINE - BARBOURVILLE RD KY 6 OVER LYNN CAMP CREEK STA. 105 + 39.00

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BID ITEM	Structure Granular Backfill	Cyclopean Stone Rip Rap	Concrete Staining	Structure Excavation, Common	Test Piles	Piles – Steel HP 12 x 53	Concrete Class "A"	Concrete Class "AA"	Steel Reinforcement, Galvanized	Structural Steel	Shear Connectors	Armored Edge For Concrete	Concrete Class M1	Railing System Type T101	Railing Transition T101	Predrilling For Piles	
UNIT	C.Y.	Tons	S.Y.	C.Y.	L.F.	L.F.	C.Y.	C.Y.	LB	L.S.	L.S.	L.F.	C.Y.	L.F.	L.F.	L.F.	
End Bent 1	48.1	178	24.6	186	25	107	23.5		2197				3.7			116	
End Bent 2	48.1	184	24.6	185	16	63	23.5		2197				3.7			64	
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Superstructure								52.2	16881	I	I	66.2	11.3	114.7	100		
BRIDGE TOTALS	96.2	362	49.2	371	41	170	47	52.2	21275			66.2	18.7	114.7	100	180	

- (1) Estimated Weight of Structural Steel = 53106 Lbs.
- (2) Approximate Number of Shear Connectors = 1242

	INDEX OF SHEETS Sheet No. Description									
vised 8/9/2013	Sheet No.	De	escription							
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	S3	LAYOUT								
	S4	SUBSURFACE DATA								
	S5	FOUNDATION LAYOUT								
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	S14 S15	RAILING SYTEM TYPE TRAILING TRANSITION T								
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KY 6

ITEM NUMBER

11–1075.00

CROSSING

LYNN CAMP CREEK

SHEET NO. S1 DRAWING NO. 26816

TITLE SHEET

Division of

Structural Design

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS KNOX COUNTY WOODBINE - BARBOURVILLE RD

STA. 105 + 39.00

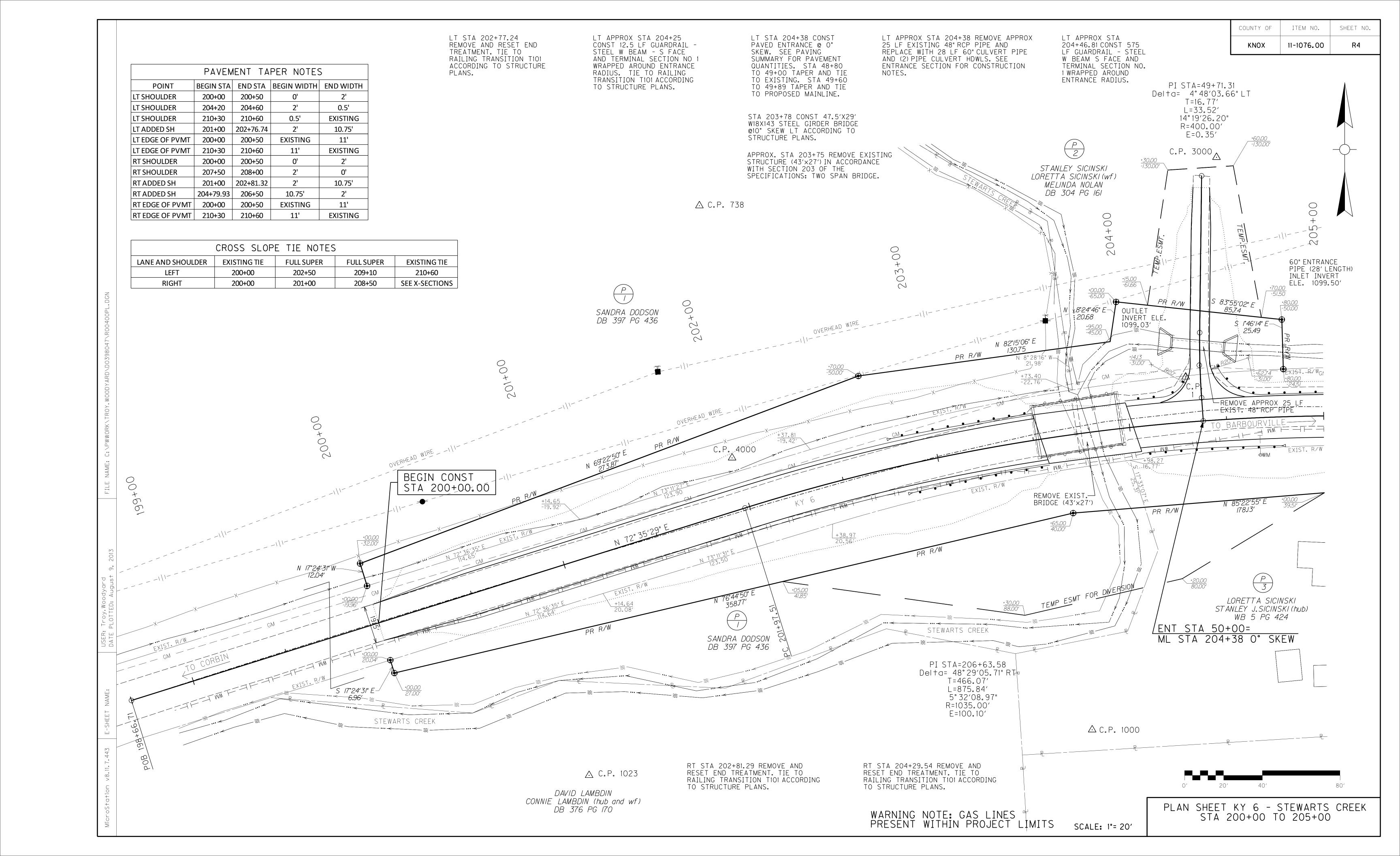
KY 6 OVER LYNN CAMP CREEK

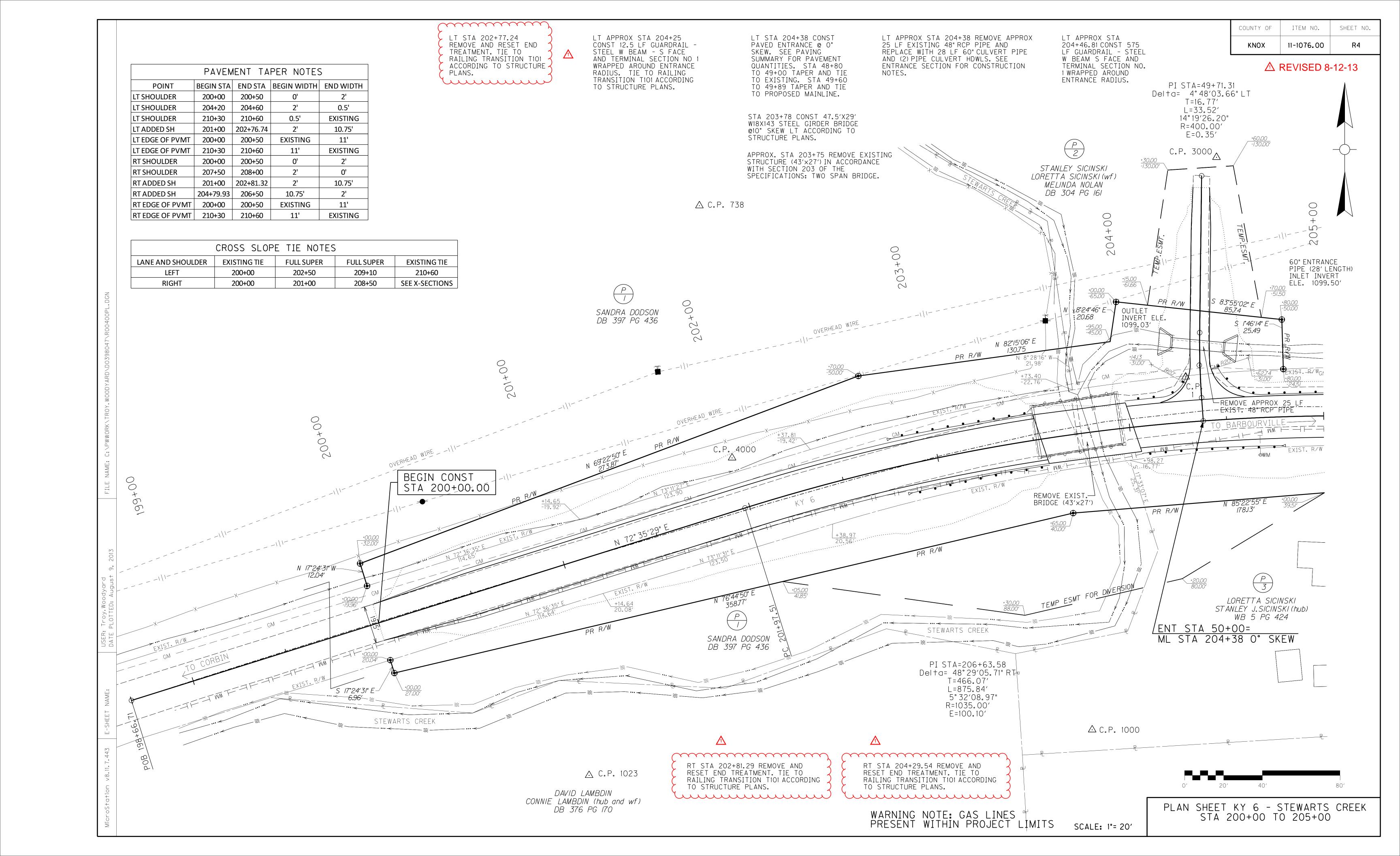
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BID ITEM CODE	02231	08019	23168ED	08001	08033	08046	08100	08104	24590ED	08160	08170	03299	08106	23653EC	23654EC	08039	
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UNIT	C.Y.	Tons	S.Y.	C.Y.	L.F.	L.F.	C.Y.	C.Y.	LB	L.S.	L.S.	L.F.	C.Y.	L.F.	L.F.	L.F.	
End Bent 1	48.	178	24.6	186	25	107	23.5		2197				3.7			116	
End Bent 2	48.1	184	24.6	185	16	63	23.5		2197				3.7			64	
Substructur																	
Superstructure								52.2	16881			66.2	11.3	114.7	100		
BRIDGE TOTALS	96.2	362	49.2	371	41	170	47	52.2	21275			66.2	18.7	114.7	100	180	

¹⁾ Estimated Weight of Structural Steel = 53106 lbs

	Estillated W	ergili or	211	uctur	di Sieei -	22106	LDS.
(2)	Approximate	Number	of	Shear	Connect	ors =	1242

		INDEX OF SHEETS
	Sheet No.	Description <pre> 「LE SHEET</pre>
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	S5 FO	UNDATION LAYOUT
		D BENT 1 D BENT 2
	S8 STI	RUCTURAL STEEL
		PERSTRUCTURE NSTRUCTION ELEVATIONS
	S14 RA	ILING SYTEM TYPE TIOI
	S15 RA	ILING TRANSITION T101
		SPECIAL NOTES
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		REVISION DAT
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		BY: Joseph Van Zee Carl Van Zee BY: Joseph Van Zee Carl Van Zee
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	ROUTE KY 6	KNOX CROSSING LYNN CAMP CREEK TITLE SHEET PREPARED BY SHEET





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SPECIAL NOTE FOR PROJECT TEAM

This is an experimental project developed, administered and monitored by a Project Team. The Team consists of Kentucky Transportation Cabinet (KYTC) officials and representatives and University of Kentucky - Kentucky Transportation Center (KTC) personnel. The function of KYTC officials and representatives on the TEAM will be primary design, QC/QA, materials verification, and project administration. The KTC function will be to assist in project design, monitoring, and reporting. The Contractor will provide and allow sampling of all materials in accordance with KYTC Standard Specifications 812 and 821 (2012).

The Contractor's/Subcontractor's work will be monitored and documented by the KTC Bridge Preservation Program. The Contractor is required to accommodate requests of KTC to: 1) access of fabrication shops and work sites, 2) photograph the Contractor's/Subcontractor's operations, 3) question the Contractor's/Subcontractor's personnel concerning their work 4) take nondestructive measurements of coatings and 5) obtain project-related information.

The Contractor/Subcontractors will be required to provide the KTC Bridge Preservation Program personnel with 5 working days advanced notice prior to performance of each Phase of work. They shall also furnish KTC with a list of personal safety equipment required at their work sites/plants. The Contractor/Subcontractors will allow KTC personnel to inspect all steel and concrete items at the work sites/plants prior to shipment and also observe handling and securing of those items for shipment to the next phase of work.

KTC personnel will not be making any accept/reject decisions nor provide any guidance on how a task is to be performed or the suitability of any materials or completed work except as directed by the Engineer.

KTC representatives will be in attendance at the Cabinets' Pre-Bid and Pre-Construction Conferences for this project, to answer questions. KTC contact information is:

Ted Hopwood859-257-2501ted.hopwood@uky.eduSudhir Palle859-257-2670sudhir.palle@uky.edu

Bobby Meade 502-517-1257 <u>bobby.meade@uky.edu</u>

All correspondence will be through and final decisions made by the Cabinets' Section Engineer.

SPECIAL NOTE FOR SURFACE CLEANING, PREPARATION, AND PAINTING

<u>General</u> - Paint all galvanized structural steel except as specified in the "<u>Shop Application of the Paint System" Section of this Special Note</u>. The surfaces to be painted shall be prepared per ASTM D6386 (Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting) and as described herein.

<u>Surface Cleaning -</u> Galvanized surfaces to be painted will be cleaned per ASTM D6386 with the exception that Aqueous Alkaline Cleaning (5.3.1) will not be permitted.

<u>Surface Preparation -</u> Galvanized surfaces to be painted will be prepared per ASTM D6386 Section 5.4 and 5.4.1. Sections 5.4.2, 5.4.3, 5.4.4, 5.4.5, and 5.4.6 will not be permitted. The blast cleaned surface will have a surface profile of 0.5 to 1.0 mil, not to exceed 1.0 mil, as measured by ASTM D4417 (Standard Test Method for Surface Profile of Blast Cleaned Steel) Method B.

Surface Preparation Process Approval - The Contractor will select an abrasive media and perform a Test Blast on the test panels. Project Team representatives must be onsite to observe the Test Blast and ascertain that the process (means and methods) yields the desired conditions prior to performing surface preparation of the remaining structural steel surface.

Project Team representatives will be on site to observe surface preparations and insure adherence to the approved process.

Shop Application of the Paint System - Following the galvanizing and the surface preparation for painting, apply the intermediate and finish coats of a paint system on the KYTC List of Approved Materials Class I, Type I or Type V; or Class II, Type I to the structural steel. Shear studs on the top flanges of beams, surfaces of the beams within 12 inches of each beam end, and faying surfaces at bolted connections will be masked off prior to painting. Guard rails will not be painted. Apply paint in accordance with KYTC Standard Specifications (2012) for Road and Bridge Construction Section 607. The finish coat color will be Federal Standard Color Number 595B X6186. After application of the paint system, painted structural steel will remain undisturbed a minimum of 14 days to allow curing of the paint system. The Cabinet's Project Team must inspect and approve application of the finish coat. The Cabinet's Project Team must inspect and approve application of the finish coat prior to the subsequent Phase of Work.

<u>Transportation and Handling of Painted Structural Steel -</u> Handle steel members with care to minimize damages to or contamination of the coating. Handle large members

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with synthetic slings, padded chains and lifting clamps or other non-injurious methods. Coated members will be stored and transported on padded or otherwise protected blocking.

<u>Construction Requirements -</u> If white rust is visible on the contact surfaces for any field connections, the galvanized surface shall be cleaned by hand wire brushing in accordance with SSPC SP2 or according to SSPC- SP7 (Brush-Off Blast Cleaning). Power wire brushing is not allowed. Ensure the galvanized coating thickness complies with the requirements for Testing of Hot Dip Galvanized Coating. Repair all non-compliant areas in accordance with Repair of Hot Dip Galvanized Coating.

After field erection of the structural steel, the following areas shall be prepared by cleaning according to SSPC-SP1 (Solvent Cleaning) then painted or touched up per manufacturers' recommendations with the same paint used for shop application (both the intermediate coat and the finish coat):

- unpainted areas at bolted connections
- areas where the shop paint has been damaged
- any other areas as directed by the Engineer.

All paint materials for the shop and the field shall be supplied by the same paint manufacturer.

SPECIAL NOTE FOR CONCRETE STAIN AND SEALER

<u>Concrete Stain –</u> Contrary to Section 601.03.18, masonry coating is not required on this project, however all surfaces of the end bents normally required in Section 601.03.18 to be coated with masonry coating must be coated with concrete stain. Apply a concrete stain from the Project List of Approved Materials (see below). Comply with the stain manufacturers recommendations for surface preparation and application. The stain color will be grey Federal Standard Color Number 595B X6622. The stain will be treated as paint and will meet all requirements in the "SPECIAL NOTE FOR PAINT" and the "SPECIAL NOTE FOR PAINT STORAGE, HANDLING, SAMPLING, MIXING AND THINNING". Include all costs (labor, materials, equipment, etc) in the unit bid price for "Concrete Staining".

Project List of Approved Materials- Concrete Stain

The Sherwin Williams Company SWD D.O.T. BRIDGE AND HIGHWAY CONCRETE SEALER B97-SERIES

PPG Pittsburgh Paints Perma-Crete Vertical Concrete Stain

<u>Concrete Deck Sealer -</u> Acquire a sufficient quantity, according to the manufacturers minimum indicated coverage, of Concrete Sealer from the Project List of Approved Materials (see below) to seal the entire deck of both bridges. Deliver the Concrete Sealer to the storage location identified by the Cabinet. Acquire the Concrete Sealer in individual containers not larger than 5 gallons. Include all costs (materials and delivery) for the Concrete Deck Sealer in the unit bid price for "Concrete Class AA".

Project List of Approved Materials- Concrete Deck Sealer

Product name	Supplier
Hydrozo Silane 40	BASF
PowerSeal 40	Vexcon Chemicals Inc.

SPECIAL NOTE FOR QUALITY CONTROL

The contractor shall provide QC inspectors to monitor all work, insure that all work is completed in accordance with the Special Notes and KYTC Standard Specifications (2012), and record inspection results in the project log book.

QC inspectors for shop or field painting shall possess at a minimum one of the following certifications: **SSPC-BCI level 1 or NACE CIP level 1 & CIP One Day Bridge Course**. The QC inspector(s) shall not perform production work that requires QC inspection. The Department, through the Project Team or other representative, will conduct in-progress reviews of the Contractor's operations and perform follow-up quality assurance (QA) inspections after the QC inspector has certified that a portion of work is complete.

<u>Progress of Work -</u> Work shall proceed by Phases, with each Phase of work requiring acceptance of the Cabinets' Project Team prior to beginning work on the subsequent Phase. Phases of work will be:

- 1. Structural Steel Fabrication,
- 2. Hot-Dip Galvanizing,
- 3. Application of Intermediate coat,
- 4. Application of Finish coat,
- 5. Pre-casting Deck slabs,
- 6. Field Assembly.

Quality Control Point inspection and approval shall precede the start of succeeding phases of work. Quality Control Points are progress milestones that occur when one phase of work is complete and ready for inspection prior to continuing with the next operational step. At those points, the Contractor shall provide the Departments QA inspectors with OSHA compliant access to inspect all pertinent surfaces. If QA inspection indicates a deficiency, that phase of the work shall be corrected and reinspected prior to beginning the next phase of work.

The QC Inspector shall inspect prepared surfaces to determine whether those conform to the Specification. Inspect each individual coat of paint using **KM 64-258-08 Procedure C**. Inspect for areas of incomplete coating coverage and coating defects. The Engineer may request tests, including destructive DFT tests, at additional sites or she/he may elect to perform additional tests.

The QC inspector shall maintain a handwritten record of all-painting activities, operations and inspections in a log book(s). At a minimum, the following information must be recorded:

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- 1. all paint inventory and approval information,
- 2. daily records of ambient conditions (including all measurements taken),
- 3. daily progress of work information including start-up/shut-down times,
- 4. QC inspection information including evaluations at control points, rework comments, or approvals.

Make entries on consecutive pages of the logbook (in indelible ink) and make corrections by marking through mistakes with a single line. Do not remove pages or erase or obliterate entries in the logbook.

All logbooks shall be maintained at the job site at all times during the project, made available, upon request, to the Department's representatives and submitted to the Engineer at the end of the project for his review and records.

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SPECIAL NOTE FOR CONTRACT COMPLETION DATE, LIQUIDATED DAMAGES AND INCENTIVE PAY ON "A+ B" BIDDING CONTRACT

The procedure for evaluation of bids on this project involves an "A+B" concept.

The "A" component of the bid involves the dollar amount for all work to be performed under the contract.

The "B" component of the bid involves the total number of calendar days required for bridge closure*.

PREPARATION OF BID PROPOSAL

In addition to the requirements of Section 102 of the 2012 KYTC Standard Specifications, the bidder shall establish the number of calendar days of BRIDGE CLOSURE necessary to complete the work in accordance with the plans and specifications and show this number in the bid proposal. The product of this number of calendar days of BRIDGE CLOSURE multiplied by the bridge closure fee of \$10,000 per day shall be added to the total bid determined for bid items. The product of calendar days of BRIDGE CLOSURE times the bridge closure fee shall not be considered in determining mobilization and demobilization costs. The maximum number of calendar days permitted for each bridge closure will be 28 calendar days. Any bid with a total closure time for both bridges greater than 56 days will be rejected.

PROPOSAL GUARANTY

As a supplement to Section 102 of the 2012 Standard Specifications, it will not be necessary for the Proposal Guaranty to include an amount necessary to cover the product of calendar days times daily road user benefit.

CONSIDERATION OF BIDS

Each bid submitted shall consist of two parts:

- A. The dollar amount for all work to be performed under the contract.
- B. The total number of calendar days required for BRIDGE CLOSURE. If bridges are closed concurrently each day will be considered as a single calendar day and not the addition of the two.

The lowest bid will be determined by the Department as the lowest combination of (A) and (B) according to the following formula:

 $(A) + [(B) \times (\$10,000.00)]$

Please refer to bidcode 10202ND TIME COMPONENT in the proposal.

The value \$10,000.00 per calendar day is the stipulated bridge closure fee. The above formula shall be used only for determination of the lowest bidder and shall not be used to determine the final payment to the contractor when the project is completed.

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START AND COMPLETION DATE

The Contractor has the option of selecting the starting date for this contract. The completion date shall be 8/1/2014.

EARLY COMPLETION OF WORK

The contractor will be paid an incentive payment of \$2,000.00 for each calendar day the "COMPLETION OF BRIDGE WORK" on both bridges is achieved before the days based on the "B" value of the bid. The incentive shall not exceed \$14,000.00 in total.

LATE COMPLETION OF WORK

A disincentive fee of \$10,000 per calendar day will be charged for each calendar day exceeding the number of calendar days "B" established for the selection of lowest bidder. Contrary to Section 108.09 of the Standard Specifications, Contract Liquidated damages based on Part A of the original contract amount will not be charged per calendar day.

DEFINITION OF A CALENDAR DAY

A Calendar day is defined as a 24-hour period beginning at the nearest hour for the beginning of "BRIDGE CLOSURE" and ending at the nearest hour to the Engineers' acceptance of "COMPLETION OF BRIDGE WORK". The assessment of the per-day penalty or per-day incentive will be prorated to the nearest hour. The Engineer will begin charging calendar days on the date and time "BRIDGE CLOSURE" begins. The bridges may be closed concurrently or consecutively, however each bridge will be closed no more than 28 days. Contract time will be counted continually beginning on "BRIDGE CLOSURE" with no regard to weekends, holidays or non working days, with exception of delays caused by catastrophic events.

"BRIDGE CLOSURE" is defined as the closure of the existing bridge until "COMPLETION OF BRIDGE Work" for the new bridge. No deviation of the proposal, plans, and Standard Specification will be accepted without written approval of the project engineer. Construction of the "Temporary Diversion" per Project requirement and preliminary activities that do not restrict traffic may be completed prior to "BRIDGE CLOSURE" with the Engineers' approval.

COMPLETION OF BRIDGE WORK means all bridge components, bridge rail, final asphalt base course, and temporary striping are all completed and accepted to the satisfaction of the Engineer, and the road is open to traffic.

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PROPOSAL BID ITEMS

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Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRICEFP	AMOUNT
0010	00001		DGA BASE	3,458.00	TON	\$	
0020	00190		LEVELING & WEDGING PG64-22	126.00	TON	\$	
0030	00221		CL2 ASPH BASE 0.75D PG64-22	1,661.00	TON	\$	
0040	00301		CL2 ASPH SURF 0.38D PG64-22	398.00	TON	\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRICEFP	AMOUNT
0050	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	30.00	EACH	\$	
0060	02014		BARRICADE-TYPE III		EACH	\$	
0070	02159		TEMP DITCH	740.00	LF	\$	
080	02204		SPECIAL EXCAVATION		CUYD	\$	
0090	02223		GRANULAR EMBANKMENT		CUYD	\$	
0100	02230		EMBANKMENT IN PLACE	6,024.00		\$	
0110	02351		GUARDRAIL-STEEL W BEAM-S FACE	587.50		\$	
0120	02360		GUARDRAIL TERMINAL SECTION NO 1		EACH	\$	
0130	02367		GUARDRAIL END TREATMENT TYPE 1 REVISED 8-12-13		EACH	\$	
0140	02399		EXTRA LENGTH GUARDRAIL POST	93.00	EACH	\$	
0150	02429		RIGHT-OF-WAY MONUMENT TYPE 1	28.00	EACH	\$	
0160	02432		WITNESS POST	6.00	EACH	\$	
0170	02545		CLEARING AND GRUBBING2.0 ACRES.	1.00	LS	\$	
0180	02545		CLEARING AND GRUBBINGAPPROXIMATELY 1.51 ACRES.	1.00	LS	\$	
0190	02562		TEMPORARY SIGNS	222.00	SQFT	\$	
0200	02598		FABRIC-GEOTEXTILE TYPE III	5,595.00	SQYD	\$	
0210	02650		MAINTAIN & CONTROL TRAFFIC	2.00	LS	\$	
0220	02651		DIVERSIONS (BY-PASS DETOURS)	2.00	LS	\$	
0230	02676		MOBILIZATION FOR MILL & TEXT	2.00	LS	\$	
0240	02677		ASPHALT PAVE MILLING & TEXTURING REVISED 8-12-13	54.00	TON	\$	
0250	02701		TEMP SILT FENCE	840.00	LF	\$	
0260	02703		SILT TRAP TYPE A	7.00	EACH	\$	
0270	02704		SILT TRAP TYPE B	7.00	EACH	\$	
0280	02706		CLEAN SILT TRAP TYPE A	21.00	EACH	\$	
0290	02707		CLEAN SILT TRAP TYPE B	21.00	EACH	\$	
0300	02709		CLEAN TEMP SILT FENCE	1,150.00	LF	\$	
0310	02726		STAKING	2.00	LS	\$	
0320	02731		REMOVE STRUCTURE	2.00	LS	\$	
0330	04935		TEMP SIGNAL	2.00	LS	\$	
0340	05952		TEMP MULCH	18,880.00	SQYD	\$	
0350	05966		TOPDRESSING FERTILIZER	.64	TON	\$	
0360	05985		SEEDING AND PROTECTION	12,365.00	SQYD	\$	
0370	06510		PAVE STRIPING-TEMP PAINT-4 IN	755.00	LF	\$	
0380	06514		PAVE STRIPING-PERM PAINT-4 IN	2,120.00	LF	\$	
0390	06549		PAVE STRIPING-TEMP REM TAPE-B	2,050.00	LF	\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRICEFP	AMOUNT
0400	20210EP69		COHESIVE PILE CORE	178.00	CUYD	\$	
0410	21057ND		LIVE STAKES	600.00	EACH	\$	
0420	23265ES717		PAVE MARK TY 1 TAPE STOP BAR-24 IN	48.00	LF	\$	
0430	23274EN11F		TURF REINFORCEMENT MAT 1	2,243.00	SQYD	\$	
0440	24096EC		REMOVE AND RESET END TREATMENT ADDED: 8-12-13	6.00	EACH	\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRICEFP	AMOUNT
0450	00462		CULVERT PIPE-18 IN	57.00	LF	\$	
0460	00468		CULVERT PIPE-36 IN	46.50	LF	\$	
0470	00472		CULVERT PIPE-60 IN	28.00	LF	\$	
0480	01204		PIPE CULVERT HEADWALL-18 IN	1.00	EACH	\$	
0490	01220		PIPE CULVERT HEADWALL-60 IN	2.00	EACH	\$	
0500	01450		S & F BOX INLET-OUTLET-18 IN	1.00	EACH	\$	
0510	01453		S & F BOX INLET-OUTLET-36 IN	2.00	EACH	\$	
0520	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	302.00	SQYD	\$2.00 \$	\$604.0

Section: 0004 - BRIDGE-26816

LINE	BID CODE ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRICEFP	AMOUNT
530	02231	STRUCTURE GRANULAR BACKFILL	234.80	CUYD	\$	
0540	03299	ARMORED EDGE FOR CONCRETE	125.10	LF	\$	
0550	08001	STRUCTURE EXCAVATION-COMMON	571.00	CUYD	\$	
0560	08019	CYCLOPEAN STONE RIP RAP	650.70	TON	\$	
0570	08033	TEST PILES	88.00	LF	\$	
0580	08039	PRE-DRILLING FOR PILES	180.00	LF	\$	
0590	08046	PILES-STEEL HP12X53	374.00	LF	\$	
0600	08094	PILE POINTS-12 IN	12.00	EACH	\$	
0610	08100	CONCRETE-CLASS A	114.40	CUYD	\$	
0620	08104	CONCRETE-CLASS AA	93.40	CUYD	\$	
0630	08106	CONCRETE-CLASS M 1	37.50	CUYD	\$	
0640	08140	MECHANICAL REINF COUPLER #5 EPOXY COATED	215.00	EACH	\$	
0650	08141	MECHANICAL REINF COUPLER #6 EPOXY COATED	198.00	EACH	\$	
0660	08151	STEEL REINFORCEMENT-EPOXY COATED	17,606.00	LB	\$	
0670	08160	STRUCTURAL STEEL53,106 LBS.	1.00	LS	\$	
0680	08160	STRUCTURAL STEELESTIMATED WEIGHT = 29007 LBS AT \$3 PER POUND.	1.00	LS	\$	
0690	08170	SHEAR CONNECTORSAPPROXIMATE NUMBER OF SHEAR CONNECTORS = 1,242.	1.00	LS	\$	
0700	08170	SHEAR CONNECTORSAPPROXIMATE NUMBER OF SHEAR CONNECTORS = 888 AT \$5 EA.	1.00	LS	\$	
0710	10202ND	TIME COMPONENT REVISED 8-12-13	10,000.00	DOLL	\$	
0720	23168ED	CONCRETE STAINING	1,126.00	SQYD	\$	
0730	23653EC	RAILING SYSTEM TY T101	210.40		\$	

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LINE	BID CODE	ALT	DESCRIPTION	(QUANTITY	UNIT	UNIT PRICEFP	AMOUNT
0740	23654EC		RAILING TRANSITION-T101		200.00	LF	\$	
0750	24590ED		STEEL REINFORCEMENT-GALVANIZED		21,275.00	LB	\$	

Section: 0005 - DEMOBILIZATION

LINE	BID CODE	ALT DESCRIPTION	QUANTITY	UNIT	UNIT PRICEFP AMOUNT
0760	02569	DEMOBILIZATION	1.00	LS	\$