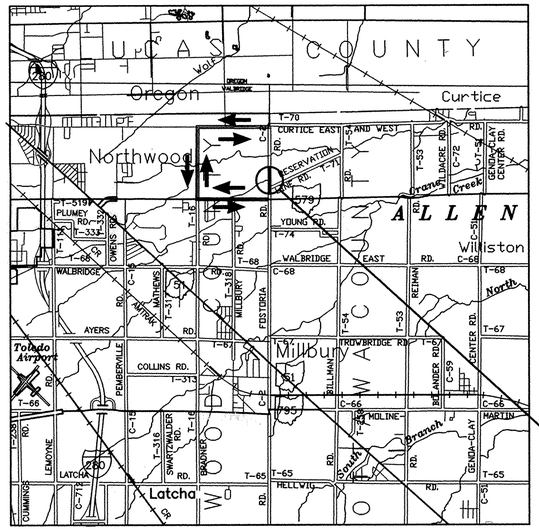
Sept 27, 2006 - 10:43:53

ALL-2-3.21
WOOD COUNTY
OTTAWA COUNTY
CITY OF NORTHWOOD
ALLEN TOWNSHIP



BEGIN PROJECT STA. 167+55
END PROJECT STA. 173+00

LOCATION MAP

LATITUDE 41° 36' 21" N LONGITUDE 83° 24' 56" W

PORTION TO BE IMPROVED
MAJOR ROADS
OTHER ROADS
DETOUR ROUTE

N

0 1 2
Scale in Miles

PROJECT DESCRIPTION

THE PROJECT CONSIST OF THE REPLACEMENT OF THE CR 2 (FOSTORIA ROAD) BRIDGE OVER CEDAR CREEK IN ALLEN TOWNSHIP (OTTAWA COUNTY), CITY OF NORTHWOOD (WOOD COUNTY).

2005 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 1.

EARTH DISTURBED AREAS

1. PROJECT EARTH DISTURBED AREA = 0.75 AC.
2. ESTIMATED CONTRACTOR EARTH DISTURBED AREA = .18 AC.
3. NOTICE OF INTENT EARTH DISTURBED AREA = 0.93 AC.

DESIGN DESIGNATION

CURRENT A.D.T (2005)	= 1500
DESIGN YEAR A.D.T (2025)	= 1530
DESIGN HOURLY VOLUME (2025)	= 153
TRUCKS (24 HOUR B & C)	= 2%
DESIGN SPEED	= 55 mph
LEGAL SPEED	= 55 mph

DESIGN FUNCTIONAL CLASSIFICATOIN – MINOR ARTERIAL

DESIGN EXCEPTIONS

NONE

DGL CONSULTING ENGINEERS

PLAN PREPARED BY
DGL Consulting Engineers, LLC
3455 Briarfield Blvd.-Suite E Maumee, Ohio 43537
(419) 535-1015

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
Call 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

STATE OF OHIO
BRIX A. HOUSEHOUSE
E-51421
REGISTERED PROFESSIONAL ENGINEER

STRUCTURE

9-27-06
DATE

STATE OF OHIO
RICHARD J. MCKNIGHT
E-56015
REGISTERED PROFESSIONAL ENGINEER

ENTIRE PLAN EXCEPT STRUCTURE

9/27/06
DATE

INDEX OF SHEETS

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	7-16-04	DS-1-92	7-18-03		800	CURRENT	
BP-4.1	7-16-04	PSBD-1-93	7-21-06				
GR-1.1	7-16-04	TST-1-99	10-17-03				
GR-2.1	1-16-04						
GR-3.6	1-16-04						
GR-4.1	4-18-03						
HW-2.2	7-15-05						
TC-73.10	1-19-01						
MT-101.60	10-18-02						
MT-105.10	10-18-02						
MT-105.11	10-18-02						

APPROVED Raymond A. Hahn
DATE 10/19/06 WOOD COUNTY ENGINEER

APPROVED David Bath P.E.P.S.
DATE 10/19/06 OTTAWA COUNTY ENGINEER

APPROVED _____
DATE _____ NORTHWOOD MAYOR

FEDERAL PROJECT NO.

STRUCTURE FILE NUMBER 6230059

CONSTRUCTION PROJECT NO.

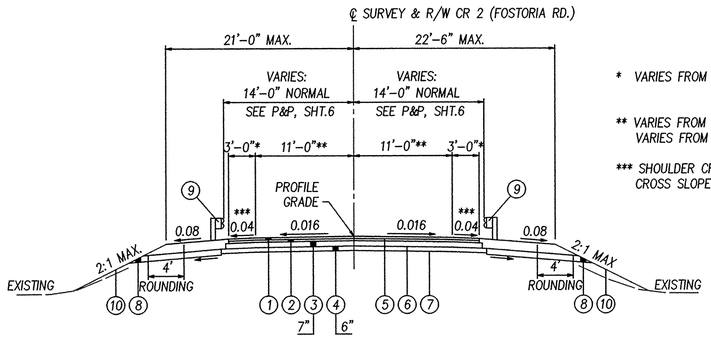
RAILROAD INVOLVEMENT NONE

ALL-2-3.21

1
16

0609\DWG\ROADWAY\0609GTA.DWG

TYPICAL SECTIONS



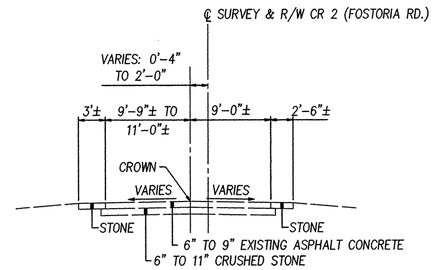
* VARIES FROM 2'–7" AT STA. 167+55 TO 3'–0" AT STA. 168+50

** VARIES FROM 9'–9" AT STA. 167+55 LT. TO 11'–0" AT STA. 168+50 LT.
VARIES FROM 9'–0" AT STA. 167+55 RT. TO 11'–0" AT STA. 168+50 RT.

*** SHOULDER CROSS SLOPE TRANSITIONS TO MEET BRIDGE CROSS SLOPE WITHIN 25'.

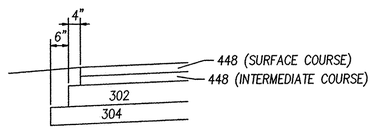
NORMAL SECTION – CR 2 (FOSTORIA ROAD)

STA. 167+55 TO STA. 169+44.65 = 189.65 FT.
STA. 170+13.15 TO STA. 171+75 = 161.85 FT.

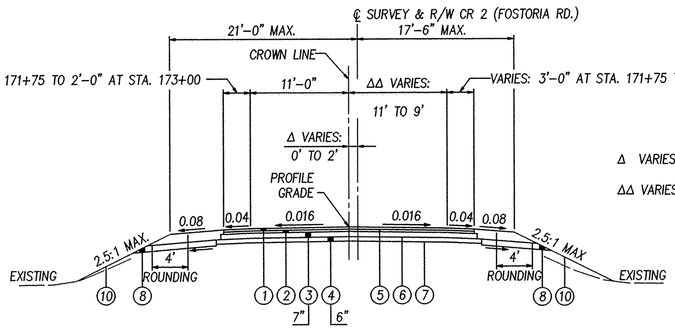


EXISTING SECTION – CR 2 (FOSTORIA ROAD)

STA. 167+55 TO STA. 173+00



STEP DETAIL



Δ VARIES FROM 0'–0" AT STA. 171+75 TO 2'–0" AT STA. 173+00

ΔΔ VARIES FROM 11'–0" AT STA. 171+75 TO 9'–0" AT STA. 173+00

CROWN LINE TRANSITION SECTION – CR 2 (FOSTORIA ROAD)

STA. 171+75 TO STA. 173+00 = 125 FT.

LEGEND

(1) ITEM 448 – 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64–22

(2) ITEM 448 – 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64–22

(3) ITEM 302 – 7" ASPHALT CONCRETE BASE PG 64–22

(4) ITEM 304 – 6" AGGREGATE BASE

(5) ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE, (FLOW RATE .04 GAL/SQ YD)

(6) ITEM 408 – PRIME COAT

(7) ITEM 204 – SUBGRADE COMPACTION

(8) ITEM 605 – AGGREGATE DRAIN (0.04 MIN TO 0.08 PREFERRED SLOPE)

(9) ITEM 606 – GUARDRAIL, TYPE 5

(10) ITEM 659 – SEEDING AND MULCHING

CALCULATED JJO | CHECKED SRC

TYPICAL SECTIONS: CR 2 (FOSTORIA ROAD)

ALL–2–3.21

Sept 21, 2006 - 13:50:19

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THE PLANS.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

COLUMBIA GAS OF OHIO, INC. — GAS
333 S. ERIE STREET
TOLEDO, OHIO 43602
(419) 252-8110

AT&T OHIO ENGINEERING — TELEPHONE
130 N. ERIE STREET
TOLEDO, OH 43624
(419) 245-7301

TOLEDO EDISON — POWER
300 MADISON AVENUE
TOLEDO, OH 43652
(419) 249-5218

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM NAVD88

SEEDING AND MULCHING

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, LIME	0.03	ACRE
659, WATER	8	M. GAL.
659, TOPSOIL	157	CU. YD.
659, COMMERCIAL FERTILIZER	0.2	TON

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. FOR CALCULATIONS, SEE SUBSUMMARY SHEET 5.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE OTTAWA COUNTY ENGINEER, REPRESENTATIVES OF THE OTTAWA COUNTY ENGINEER AND THE CONTRACTOR ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE EFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE OTTAWA COUNTY ENGINEER.

ALL NEW CONDUITS, INLETS, CATCH BASINS AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE OTTAWA COUNTY ENGINEER.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
30"	1	0	1

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN

THIS WORK SHALL BE EXECUTED IN ACCORDANCE WITH ITEM 623 OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS EXCEPT AS MODIFIED BY THE FOLLOWING:

LAND SURVEY MONUMENTS, SECTION CORNERS, BENCH MARKS, PROPERTY LINE MARKERS, ENGINEERING SURVEY MARKERS AND ANY OTHER CONTROL POINTS SHALL BE PROTECTED AND PRESERVED IN ACCORDANCE WITH SECTION 107.10 OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS CURRENT EDITION AND THE FOLLOWING:

1. BEFORE ANY CONTROL POINTS ARE DISTURBED OR REMOVED DUE TO CONSTRUCTION OF THIS PROJECT, SUFFICIENT REFERENCE MEASUREMENTS SHALL BE MADE TO INSURE PROPER LOCATION OF THE POINT WHEN IT IS RE-ESTABLISHED.

2. PLAN ELEVATIONS OF SITE BENCH MARKS AND REFERENCES FOR THE CENTERLINE OF SURVEY CONTROL POINTS SHALL BE VERIFIED PRIOR TO CONSTRUCTION OF THIS PROJECT. CENTERLINE SURVEY CONTROL POINTS SHALL BE RE-ESTABLISHED IF REQUIRED AND CENTERLINE OF CONSTRUCTION ESTABLISHED. ADDITIONAL SITE BENCH MARKS SHALL BE ESTABLISHED IF REQUIRED.

3. THE CONTRACTOR SHALL PROVIDE A REGISTERED LAND SURVEYOR TO PERFORM THE ABOVE DESCRIBED WORK. THE SURVEYOR SHALL MAKE A WRITTEN RECORD CLEARLY IDENTIFYING CONTROL, REFERENCE OR BENCH MARK POINTS AND MEASUREMENTS TO THESE POINTS AND SHALL PROVIDE A COPY OF THIS RECORD TO THE OTTAWA COUNTY ENGINEER.

4. IF VERIFICATION OF CONTROL POINTS OR REFERENCE MEASUREMENTS ARE NOT ACCOMPLISHED TO THE SATISFACTION OF THE ENGINEER. THE ENGINEER WILL PROMPTLY NOTIFY THE CONTRACTOR OF THE NATURE OF THE PROBLEM. IF THE PROBLEM IS NOT ATTENDED TO PROMPTLY, THE OTTAWA COUNTY ENGINEER WILL TAKE THE NECESSARY ACTION TO CORRECT THE PROBLEM WITH THE COST OF SUCH SERVICE DEDUCTED FROM ANY MONEYS DUE TO THE CONTRACTOR.

PAYMENT FOR PRESERVING CONTROL POINTS IN ACCORDANCE WITH THE ABOVE STATED STIPULATIONS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 623 CONSTRUCTION LAYOUT STAKES, AS PER PLAN.

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH NO SPECIFIC LOCATIONS OF CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL, IN ALL CASES, BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9:00 P.M. AND 7:00 A.M. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENTPERFORMANCE OF SUCH EQUIPMENT.

TRAFFIC CONTROL

THIS WORK SHALL BE EXECUTED IN ACCORDANCE WITH ITEM 642 OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

INSTALL PAVEMENT MARKINGS AS DETAILED ON SCD TC-73.10.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO PERFORM THIS WORK.

ITEM 642 - EDGE LINE	0.21 MILE
ITEM 642 - CENTER LINE	0.10 MILE

ITEM 614 - MAINTAINING TRAFFIC

NOTICE OF CLOSURE SIGNS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" "ROAD CLOSED" AND "BRIDGE OUT" SIGNS, SIGN SUPPORTS, BARRICADES, GATES, AND LIGHTS AS DETAILED IN STANDARD CONSTRUCTION DRAWING MT-101.60 AT THE FIRST CROSS ROADS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVES OF ADJACENT PROPERTIES AT ALL TIMES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC.

ITEM 616 - DUST CONTROL

THE CONTRACTOR SHALL FURNISH & APPLY WATER FOR DUST CONTROL, AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER	1.5 M. GAL.

CALCULATED SRC
CHECKED RJM

GENERAL NOTES

ALL-2-3.21

3
16

0609\DWG\ROADWAY\0609GNA.DWG

GENERAL SUMMARY

SHEET NUMBER			ITEM	ITEM EXTENSION	GRAND TOTAL	UNIT	DESCRIPTION	REF
3	5							
							ROADWAY	
LUMP			201	11000	LUMP		CLEARING AND GRUBBING	
	1		202	20010	1	EACH	HEADWALL REMOVED	
	1076		202	23000	1076	SQ. YD.	PAVEMENT REMOVED	
	278		202	35100	278	FT.	PIPE REMOVED, 24" AND UNDER	
	68		202	38000	68	FT.	GUARDRAIL REMOVED	
	125		203	10000	125	CU. YD.	EXCAVATION	
	607		203	20000	607	CU. YD.	EMBANKMENT	
	1712		204	10000	1712	SQ. YD.	SUBGRADE COMPACTION	
	225		606	13000	225	FT.	GUARDRAIL, TYPE 5	
	4		606	25000	4	EACH	ANCHOR ASSEMBLY, TYPE A	
	4		606	32160	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE TST	
							EROSION CONTROL	
	157		659	00300	157	CU. YD.	TOPSOIL	
	1415		659	10000	1415	SQ. YD.	SEEDING AND MULCHING (CLASS 2 SEEDING MIXTURE)	
	0.2		659	20000	0.2	TON	COMMERCIAL FERTILIZER	
	0.03		659	31000	0.03	ACRE	LIME	
	8		659	35000	8	M. GAL.	WATER	
							DRAINAGE	
	0.62		602	20000	0.62	CU. YD.	CONCRETE MASONRY	
	10		603	01500	10	FT.	6" CONDUIT, TYPE F	
	48		603	07400	48	FT.	18" CONDUIT, TYPE B	
	232		603	07600	232	FT.	18" CONDUIT, TYPE C	
	122		605	31100	122	FT.	AGGREGATE DRAINS	
							PAVEMENT	
	590.0		302	46000	590.0	TON	ASPHALT CONCRETE BASE, PG64-22	
	536.1		304	20000	536.1	TON	AGGREGATE BASE	
	58		407	14000	58	GAL.	TACK COAT FOR INTERMEDIATE COURSE	
	590		408	10000	590	GAL.	PRIME COAT	
	144.0		448	46050	144.0	TON	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
	123.4		448	47020	123.4	TON	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
	4.3		448	48020	4.3	TON.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	
	44		452	10000	44	SQ. YD.	6" NON-REINFORCED CONCRETE PAVEMENT	
							TRAFFIC CONTROL	
0.21			642	00090	0.21	MILE	EDGE LINE	
0.10			642	00290	0.10	MILE	CENTER LINE	
							MAINTENANCE OF TRAFFIC	
1.5			616	10000	1.5	M. GAL	WATER	
							STRUCTURE	
							SEE SHEET 11	
							MISCELLANEOUS	
LUMP			614	11000	LUMP		MAINTAINING TRAFFIC	
LUMP			623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
			624	10000	LUMP		MOBILIZATION	

CALCULATED JJO
CHECKED SRC

GENERAL SUMMARY

ALL-2-3.21

EARTHWORK

SHEET NO.	STATION FROM	STATION TO		203 EXCAVATION	203 EMBANKMENT
				CU. YD.	CU. YD.
7	167+55	169+00		62	118
8	169+00	171+00		1	209
9	171+00	173+00		62	280
TOTALS CARRIED TO GENERAL SUMMARY				125	607

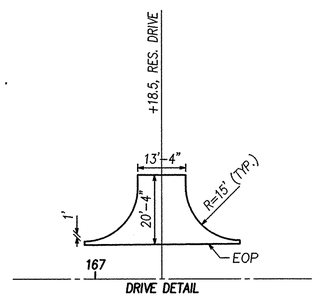
AGGREGATE DRAINS

SHEET NO.	STATION	SIDE	605 AGGREGATE DRAINS
	CR 2 (FOSTORIA RD)		FEET
6	168+00	LT	10
6	168+25	RT	10
6	168+50	LT	7
6	168+75	RT	9
6	169+00	LT	7
6	169+25	RT	6
6	170+25	LT	6
6	170+50	RT	7
6	170+75	LT	7
6	171+00	RT	6
6	171+25	LT	7
6	171+50	RT	6
6	171+75	LT	9
6	172+00	RT	6
6	172+25	LT	9
6	172+50	RT	10
TOTALS CARRIED TO GENERAL SUMMARY			122

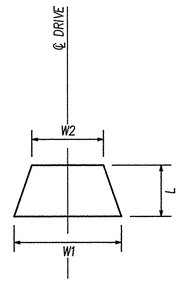
DRIVE QUANTITIES

SHEET NO.	STATION	SIDE	TYPE	L	W1	W2	202 PAVEMENT REMOVED	204 SUBGRADE COMPACTION	304 6" AGGREGATE BASE	304 8" AGGREGATE BASE	408 PRIME COAT APPLIED @ 0.4 GAL/S.Y.	448 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	452 6" NON-REINFORCED CONCRETE PAVEMENT
	CR 2 (FOSTORIA RD)			FEET	FEET	FEET	SQ. YD.	SQ. YD.	CU. YD.	CU. YD.	GALLON	CU. YD.	SQ. YD.
5	167+18.50	LT	CONCRETE				44.3	44.3					44.3
6	168+04.00	RT	ASPHALT	17.1	28.6	16.9	38.96	37.29	6.22		14.92	2.07	
6	172+48.00	LT	STONE	15.4	29.3	14.1		33.49		7.44			
							–						
SUBTOTALS							83.26	115.08	6.22	7.44	14.92	2.07	443
*CONVERSION FACTOR FROM C.Y. TO TON							–	–	2.0	2.0	–	2.059	–
TOTALS							83.26	115.08	12.44 TON	14.88 TON	14.92	4.26 TON	44.3
TOTALS CARRIED TO GENERAL SUMMARY							83	115	27.3 TON		15	4.3 TON	44

* ASPHALT CONVERSION FACTOR CALCULATED AS FOLLOWS: (2.444) x (62.4) X (27) X (0.0005) = 2.059 TON/C.Y.
NOTE: THE SPECIFIC GRAVITY OF THE ASPHALT IS ASSUMED TO BE 2.444 FOR ESTIMATING QUANTITIES ONLY.
THE ACTUAL SPECIFIC GRAVITY OF THE MATERIAL SHOULD BE GIVEN BY THE SUPPLIER AND USED TO CALCULATE THE ACTUAL QUANTITY NEEDED.
AGGREGATE CONVERSION FACTOR 2.0 TON/C.Y., PER ODOT SMS 304.07.



DRIVE DETAIL



EROSION CONTROL

SHEET NO.	STATION FROM	STATION TO		659 SEEDING & MULCHING	659 TOPSOIL	659 COMMERCIAL FERTILIZER	659 LIME	659 WATER
				SQ. YD.	CU. YD.	TON	ACRE	M. GAL.
7	167+55	169+00		428	47.51	0.06	0.01	2.31
8	169+00	171+00		473	52.50	0.06	0.01	2.55
9	171+00	173+00		514	57.05	0.07	0.01	2.78
TOTALS				1415	157.06	0.19	0.03	7.64
TOTALS CARRIED TO GENERAL SUMMARY				1415	157	0.2	0.03	8

TOPSOIL = 111 CU. YD. PER 1000 SQ. YD. OF SEEDED AREA
COMMERCIAL FERTILIZER = 30 LBS. PER 1000 SQ. FT. OF SEEDED AREA
LIME = SEEDED AREA
WATER = 2 APPLICATIONS AT 300 GALLONS PER 1000 SQ. FT. OF SEEDED AREA

GUARDRAIL "G" QUANTITIES

REFERENCE	SHEET NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE A	606 BRIDGE TERMINAL ASSEMBLY, TYPE TST
		CR 2 (FOSTORIA RD)			FEET	FEET	EACH	EACH
1-G	6	168+71.50	169+43.21	LT	17.00	43.75	1	1
2-G	6	168+46.50	169+43.21	RT	16.75	68.75	1	1
3-G	6	170+14.59	171+11.25	LT	17.25	68.75	1	1
4-G	6	170+14.59	170+86.25	RT	17.00	43.75	1	1
TOTALS CARRIED TO GENERAL SUMMARY					68	225	4	4

DRAINAGE "D" QUANTITIES

REFERENCE	SHEET NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED 24" AND UNDER	202 HEADWALL REMOVED	602 CONCRETE MASONRY	603 6" CONDUIT, TYPE F	603 18" CONDUIT, TYPE B	603 18" CONDUIT, TYPE C
		CR 2 (FOSTORIA RD)			FEET	EACH	CU. YD.	FEET	FEET	FEET
1-D	6	166+87.0	169+67.0	LT.	278	1	0.62		48	232
2-D	6	171+97.0	172+05.5	RT.				10		
TOTALS CARRIED TO GENERAL SUMMARY					278	1	0.62	10	48	232

PAVEMENT QUANTITIES

SHEET NO.	STATION FROM	STATION TO	SIDE	AREAS L LENGTH	AREAS W AVERAGE WIDTH	AREAS PA PAVEMENT AREA	202 PAVEMENT REMOVED (18.75' x L)/9	204 SUBGRADE COMPACTION	302 7" ASPHALT CONCRETE BASE, PG64-22	304 6" AGGREGATE BASE	407 TACK COAT FOR INTERMEDIATE COURSE (PA/9) x 0.04 GAL/S.Y.	408 PRIME COAT (PA/9) x 0.4 GAL/S.Y.	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (PA x (1½"/12))/27	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (PA x (1¾"/12))/27
	CR 2 (FOSTORIA RD)			FEET	FEET	SQ. FT.	SQ. YD.	SQ. YD.	CU. YD.	CU. YD.	GALLON	GALLON	CU. YD.	CU. YD.
	FROM	TO												
6	167+55.00	168+50.00	LT & RT	95	26.05	2474.75	197.82	306.64	54.84	48.76	11.00	109.99	11.46	13.37
6	168+50.00	169+44.65	LT & RT	94.65	28.00	2649.92	197.19	326.02	58.62	52.00	11.78	117.77	12.27	14.31
6	170+13.15	171+75.00	LT & RT	161.85	28.00	4531.80	337.19	557.48	100.24	88.92	20.14	201.41	20.98	24.48
6	171+75.00	173+00.00	LT & RT	125	26.30	3287.50	260.42	406.94	72.83	64.74	14.61	146.11	15.22	17.76
SUBTOTALS							992.62	1597.08	286.53	254.42	57.53	575.28	59.93	69.92
*CONVERSION FACTOR FROM C.Y. TO TON							–	–	2.059	2.0	–	–	2.059	2.059
TOTALS							992.62	1597.08	589.97 TON	508.84 TON	57.53	575.28	123.40 TON	143.97 TON
TOTALS CARRIED TO GENERAL SUMMARY							993	1597	590.0 TON	508.8 TON	58	575	123.4 TON	144.0 TON

CALCULATED JJO CHECKED SRC

CALCULATIONS AND SUBSUMMARIES

ALL-2-3.21

Sept 21, 2006 - 13:56:12

BEGIN PROJECT/PAVEMENT STA. 167+55

END PROJECT/WORK STA. 173+00.00

+18.5 RES. DRIVE 13'-4" CONCRETE

Conc.

Wooded

BRIDGE TERMINAL ASSEMBLY, TYPE TST (TYP.)

+99.49, 14.89' LT G/R POST

+11.96, LT & RT END G/R TAPER

CEDAR CREEK

2' Hedge Row

Bench

Stone Wall

10"

LOW STRENGTH MORTAR BACKFILL LIMITS (TYP.)

+45.84, LT BEGIN G/R TAPER

Rock

Landscape

3-6"

15"

18"

Grass

3' Box Fence

+48 Res. Drive 13" Stone

+92.5 Res. Drive 15" Stone

HW-2.2

48'-18" TYPE C UNDER DRIVE

(REMOVE) 24"

CONSTRUCTION LIMITS

Brush

Ex.R/W

15" VIT (REMOVE)

232'-18" TYPE C

10"CMP (REMAIN)

+83.28, 16.08' LT G/R POST

Stone

168

169

170

171

172

173

CR 2 (FOSTORIA ROAD)

℄ CONSTRUCTION

N00°00'00"W

℄ Survey & R/W

CROWN LINE

BUTT JOINT

ANCHOR ASSEMBLY, TYPE A (TYP.)

+58.34

(REMAIN)

10'-6" TYPE F

4"G

Asphalt

+04 Res. Drive 16' Asphalt

STA. 168+50.00 END PAVT TAPER

+74.56, 16.67' RT G/R POST

STA. 169+44.65 BRIDGE LIMITS

1ST POST +41.65 LT & RT

1ST POST +16.15 LT & RT

STA. 170+13.15 BRIDGE LIMITS

STA. 171+75.00 BEGIN PAVT TAPER

NOTE: SEE CROSS SECTIONS AND TYPICAL SECTION FOR GRADED SHOULDER TRANSITIONS

2-8"

4-18"

CROWN ELEVATION

PROPOSED ℄ ELEV.

602.92 602.59 602.31 602.08 601.91 601.79 601.72 601.70 601.70 601.70 601.70 601.70 601.70 601.70 601.70 601.70 601.72 601.78 601.90 602.07 602.29 602.57 602.89

190' VC, PVI STA. 168+50.00, ELEV. 601.70

170' VC, PVI STA. 172+15.00, ELEV. 601.70

PVC STA. 167+55.00 ELEV. 603.22 (MATCH EXISTING)

STA. 166+87.0, 22.4' LT. HW - 2.2 ℓ 18" (N) = 598.67

PVI STA. 169+45.00 ELEV. 601.70

68.5' BRIDGE LIMIT

+44.65

+13.15

0.00%

-1.60%

Ex. Profile Along ℄ Constr.

PROPOSED PROFILE GRADE ON ℄ CONSTRUCTION

PVC STA. 171+30.00 ELEV. 601.70

PVC STA. 173+00.00 ELEV. 602.89 (MATCH EXISTING)

+1.40%

48'-18" TYPE B @ 2.62% UNDER DRIVE

232'-18" TYPE C @ 2.62%

Exist 15"VIT

CMP

STA. 169+67.0, 26.9' LT. HW - 2.2 ℓ 18" (S) = 591.35

10'-6" TYPE F

4"ST

615 610 605 600 595 590 585 580

EXISTING BRIDGE DATA

TYPE: THREE SPAN CONTINUOUS CONCRETE SLAB ON CAPPED PILE ABUTMENTS AND WALL PIERS
SPANS: 20'-9", 25'-0", 20'-9"
ROADWAY: 28' OUT/OUT DECK
LOADING: ODOT SPECIFICATIONS (46)
SKEW: NONE
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
YEAR BUILT: 1955
STRUCTURE FILE NO.:
CONDITION: POOR

PROPOSED BRIDGE DATA

~~TYPE~~: SINGLE SPAN, CONCRETE PRESTRESSED NON-COMPOSITE BOX BEAM SUPERSTRUCTURE ON CONCRETE CAPPED PILE ABUTMENTS
SPANS: 65'-6" CENTER/CENTER BEARINGS
~~ROADWAY~~: 28' OUT/OUT DECK
~~LOADING~~: HS25 & ALTERNATE MILITARY
~~SKEW~~: NONE
~~WEARING~~ SURFACE: ASPHALT CONCRETE
APPROACH SLABS: NONE
~~ALIGNMENT~~: TANGENT
~~CROWN~~: 0.016
~~BRIDGE~~ COORDINATES: 41°36'21" LAT., 83°24'56" LONG.

Existing Profile Along ℄ Survey

603.33 602.86 602.31 601.73 601.31 600.94 600.72 600.53 596.20 589.35 594.64 600.00 599.97 599.94 600.03 600.14 600.32 600.53 600.97 601.42 601.88 602.36 602.79

168+00 169+00 170+00 171+00 172+00 173+00

0609\DWG\ROADWAY\0609GPA.DWG

N

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED JJO CHECKED RJM

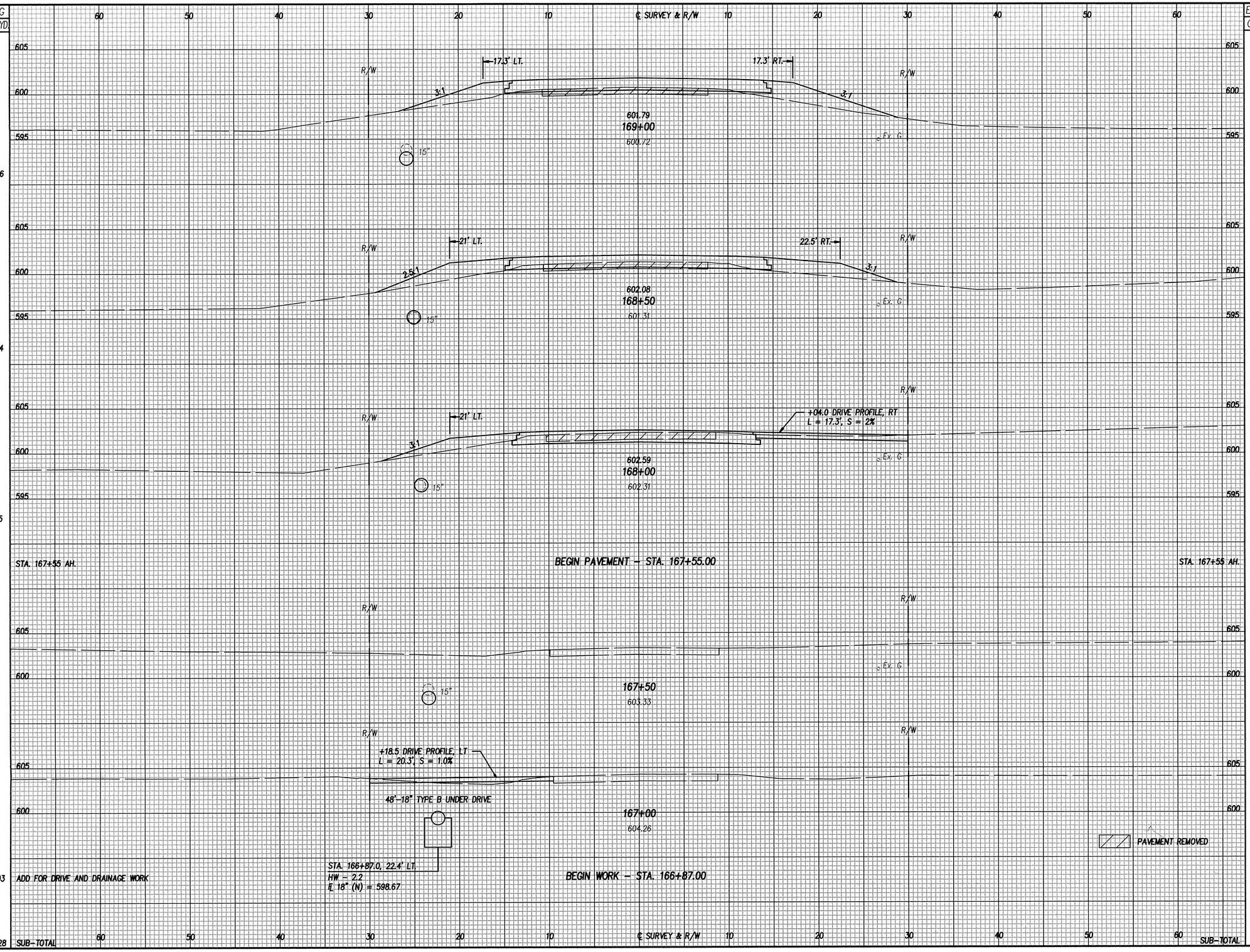
PLAN & PROFILE - CR 2 (FOSTORIA ROAD) STA. 167+50 TO STA. 173+00

ALL-2-3.21

6 16

Sept 20, 2006 - 11:20:53

SEEDING WIDTH	SEEDING SQ.YD.
29	156
27	114
14	55
8	STA. 167+55 AH.
103	ADD FOR DRIVE AND DRAINAGE WORK
428	SUB-TOTAL



END AREA CUT	END AREA FILL	CU. YD. CUT	CU. YD. FILL
1	32	4	62
3	35	23	44
22	13	35	12
20	1	62	118

CALCULATED JJO

CHECKED RJM

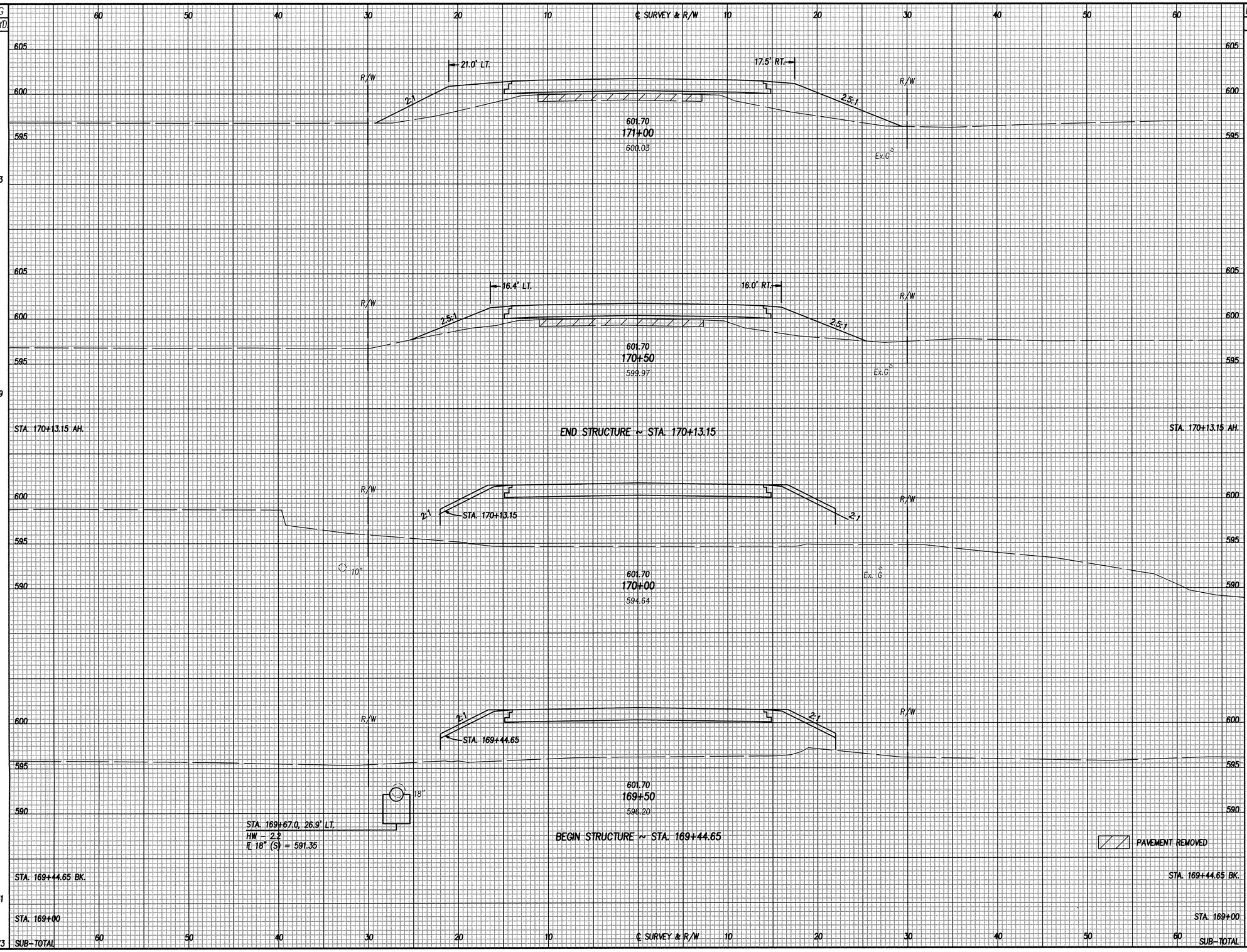
CROSS SECTIONS - CR 2 (FOSTORIA ROAD)
STA. 166+87 TO STA. 169+00

ALL-2-3.21

0609\ROADWAY\XSECTIONS\0609-0XA.DWG

Sept 21, 2006 - 14:57:49

SEEDING WIDTH	SEEDING SQ.YD	
33	183	
33	139	
35		STA. 170+13.15 AH.
32	151	STA. 169+44.65 BK.
29		STA. 169+00
	473	SUB-TOTAL



END AREA CUT	END AREA FILL	CU. YD. CUT	CU. YD. FILL
0	72		
		0	108
0	45		
		0	62
0	45		
0	15		
		1	39
1	32		
1	209		

CALCULATED JJO
CHECKED RJM

CROSS SECTIONS - CR 2 (FOSTORIA ROAD)
STA. 169+50 TO STA. 171+00

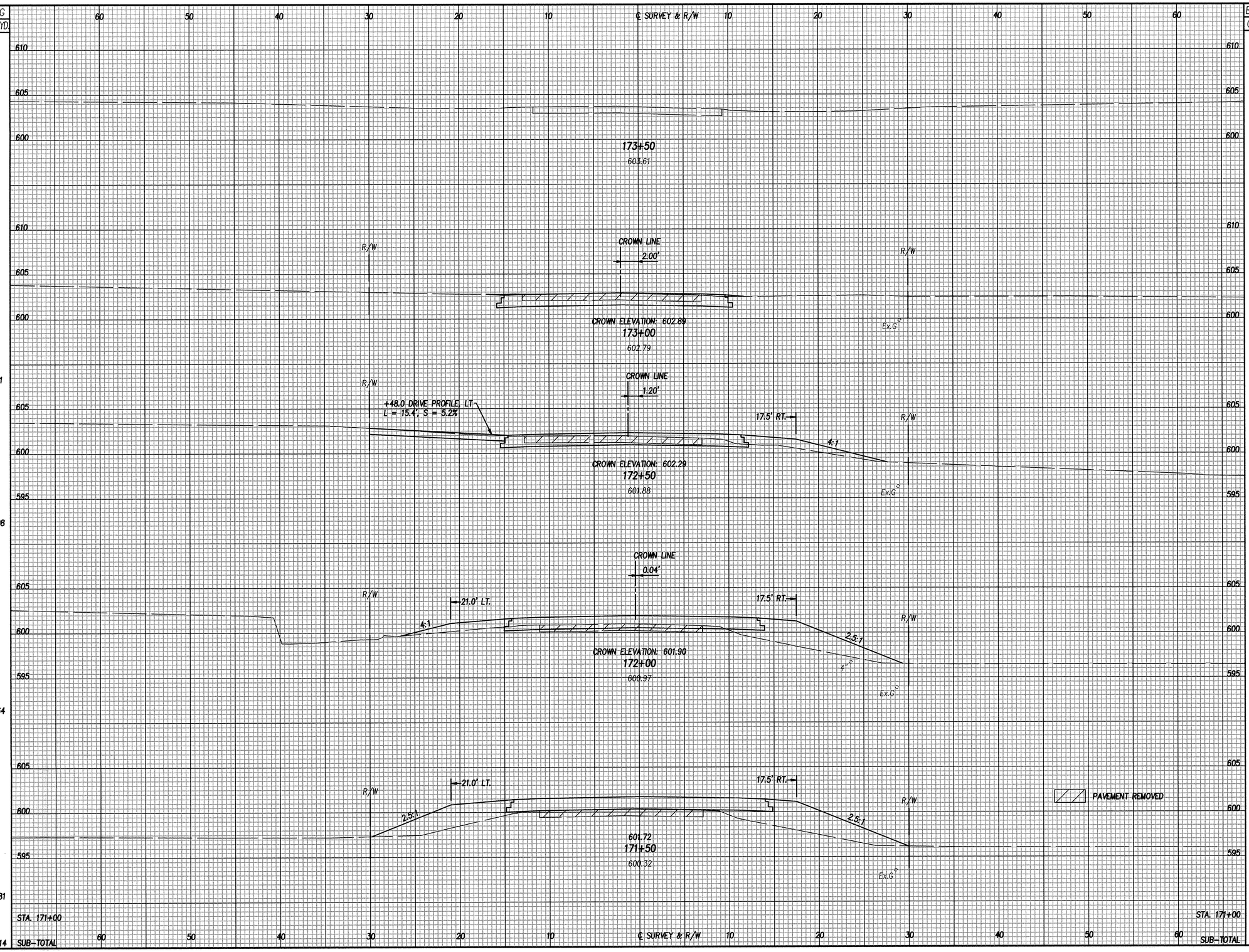
ALL-2-3.21

8
16

0609\ROADWAY\XSECTIONS\0609-GXB.DWG

Sept. 21, 2006 - 14:58:43

SEEDING WIDTH	SEEDING SQ.YD
10	61
12	108
27	164
32	181
33	514



END AREA CUT	END AREA FILL	CU. YD. CUT	CU. YD. FILL
19	1		
		37	11
21	11		
		22	46
3	39		
		3	96
0	65		
		0	127
0	72		
		62	280

CALCULATED JJO
CHECKED RJM

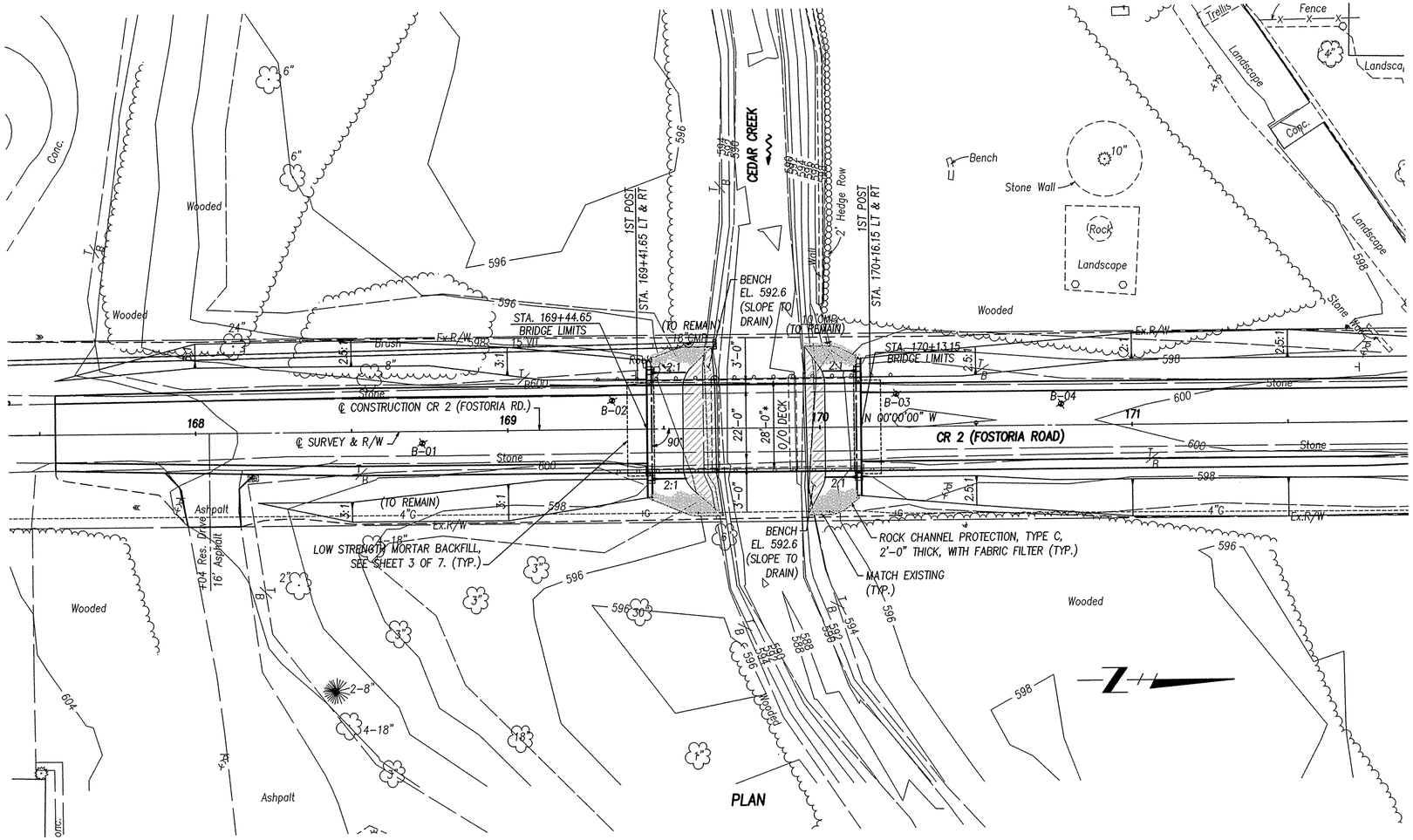
CROSS SECTIONS - CR 2 (FOSTORIA ROAD)
STA. 171+50 TO STA. 173+50

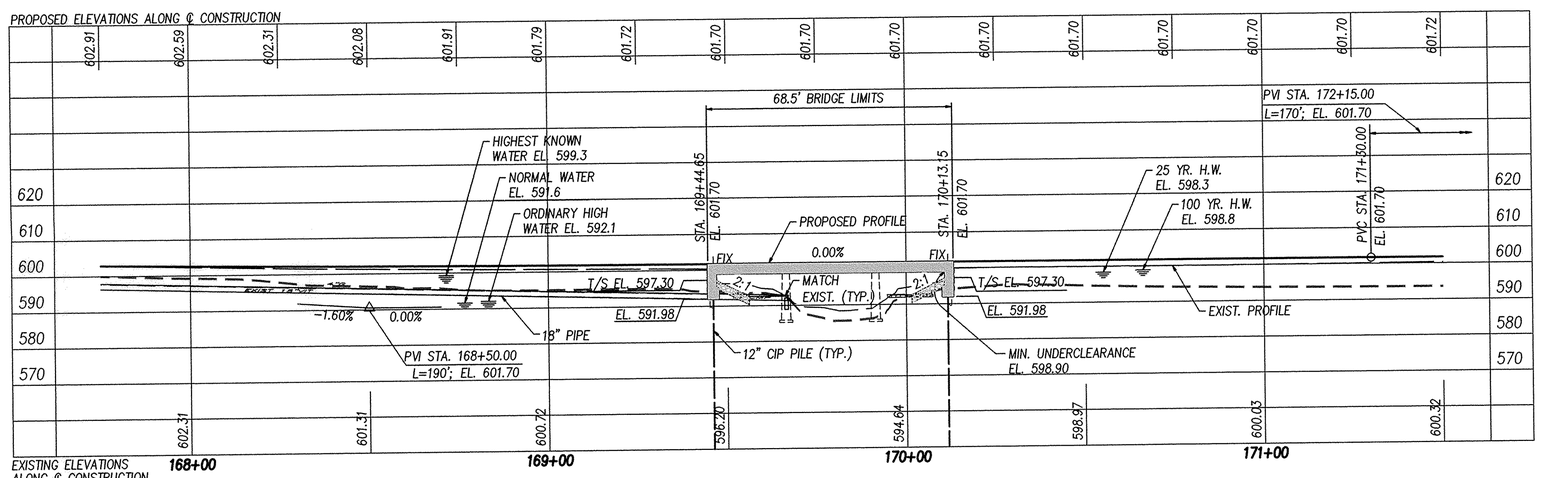
ALL-2-3.21

9
16

0609\ROADWAY\XSECTIONS\0609-GXC.DWG

Sept 21, 2006 – 15:52:24





EXISTING BRIDGE DATA
(TO BE REMOVED)

TYPE: THREE SPAN CONTINUOUS CONCRETE SLAB ON CAPPED PILE ABUTMENTS AND WALL PIERS
SPANS: 20'-9", 25'-0", 20'-9"
ROADWAY: 28' OUT/OUT DECK
LOADING: ODOT SPECIFICATIONS (46)
SKEW: NONE
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
YEAR BUILT: 1955
STRUCTURE FILE NO.: 6230040
CONDITION: POOR

PROPOSED HYDRAULIC DATA

DRAINAGE AREA=25.5 mi²		PROPOSED STRUCTURE TOTAL WATERWAY AREA 445 S.F.		
FLOOD FREQUENCY	DISCHARGE	OUTLET VELOCITY	HEADWATER ELEV.	OUTLET WATER AREA
(YEARS)	C.F.S.	F.P.S	FT.	S.F.
10	1140	2.8	598.1	407
25	1370	3.3	598.3	415
100	1690	3.8	598.8	445

THE LOWEST ELEVATION OF THE BOTTOM OF THE SUPERSTRUCTURE CLEARS THE 100 YEAR DISCHARGE WATER SURFACE ELEVATION BY 0.2 FEET.

EARTHWORK: LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

✦ INDICATES SOIL BORING LOCATION

* PLUS FIT-UP

FOR ADDITIONAL ROADWAY GEOMETRY AND CONSTRUCTION LIMITS SEE PLAN AND PROFILE SHEET.

ESTIMATED PILE LENGTHS AT ABUTMENTS = 50 FEET

PROPOSED BRIDGE DATA

TYPE: SINGLE SPAN, CONCRETE PRESTRESSED NON-COMPOSITE BOX BEAM SUPERSTRUCTURE ON CONCRETE CAPPED PILE ABUTMENTS
SPANS: 65'-6" CENTER/CENTER BEARINGS
ROADWAY: 28' OUT/OUT DECK
LOADING: HS25 & ALTERNATE MILITARY
SKEW: NONE
WEARING SURFACE: ASPHALT CONCRETE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.016
BRIDGE COORDINATES: 41°36'21" LAT., 83°24'56" LONG.

DESIGN AGENCY
DGL Consulting Engineers, LLC
3455 Briarfield Blvd.-Suite E Maumee, OH 43537
(419) 535-1015

DESIGNED	DRAWN	REVIEWED	DATE
NBL	NBL	RJM	8-31-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAM		6230059	

SITE PLAN
BRIDGE NO. ALL-2-3.21
FOSTORIA ROAD OVER CEDAR CREEK

ALL-2-3.21

1 / 7

10 / 16

Sept 27, 2006 - 11:10:29

ESTIMATED QUANTITIES

QUANTITIES BY: NBL 8-3-06
CHECKED BY: SAM 8-25-06

ITEM		TOTAL	UNIT	DESCRIPTION	ABUTMENTS	SUPERSTRUCTURE	GENERAL	AS PER PLAN SHT. REF.
202		LUMP		STRUCTURES REMOVED, OVER 20 FOOT SPAN			LUMP	
407		16	GALLON	TACK COAT		16		
407		9	GALLON	TACK COAT FOR INTERMEDIATE COURSE		9		
448		18	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 *		18		
448		30	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 *		30		
503		LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN			LUMP	2/7
503		LUMP		COFFERDAMS, CRIBS AND SHEETING			LUMP	
505		LUMP		PILE DRIVING EQUIPMENT MOBILIZATION			LUMP	
507		660	FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	660			
507		660	FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	660			
509		5950	POUND	EPOXY COATED REINFORCING STEEL	5950			
511		63	CU. YD.	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTINGS	63			
512		81	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	35	46		
512		207	SQ. YD.	TYPE 3 WATERPROOFING		207		
515		7	EACH	PRESTRESSED NON-COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, B27-48		7		
516		162	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER	162			
516		28	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (11"x7"x1½")		28		
516		56	FT.	POLYMER MODIFIED EXPANSION JOINT SYSTEM			56	
517		143.82	FT.	RAILING (TWIN STEEL TUBE)		143.82		
518		132	FT.	STEEL DRIP STRIP		132		
523		1	EACH	DYNAMIC LOAD TESTING	1			
613		50	CU. YD.	LOW STRENGTH MORTAR BACKFILL (TYPE 2)	50			

* - SEE SHEET 5 OF 16 FOR ASPHALT CONVERSION FACTOR

GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
DS-1-92 REVISED 7-18-03
PSBD-1-93 REVISED 7-21-06
TST-1-99 REVISED 10-17-03

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:
DESIGN LOADING - HS25 AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE (FWS) OF 60 psf

CONCRETE CLASS C - COMPRESSIVE STRESS 4,000 psi (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 psi

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) = 7000 psi
COMPRESSIVE STRENGTH (RELEASE) = 5000 psi

PRESTRESSING STRAND:
AREA = 0.167 SQ. IN.
ULTIMATE STRENGTH = 270 ksi
INITIAL STRESS = 202.5 ksi (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:
EPOXY COATED REINFORCING STEEL
STEEL DRIP STRIP
WATERPROOFING AND ASPHALT CONCRETE OVERLAY

REMOVAL OF EXISTING STRUCTURE: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:
UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE ITEM 613, LOW STRENGTH MORTAR BACKFILL (TYPE 2), WITHIN THE LIMITS SHOWN.

PILES
PILE DESIGN LOADS (ULTIMATE BEARING VALUE):
THE ULTIMATE BEARING VALUE IS 90 TONS PER PILE FOR THE 12 in CAST-IN-PLACE REINFORCED CONCRETE ABUTMENT PILES.

ABUTMENT PILES:
6 PILES 55.0 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

DESIGN AGENCY
DGL Consulting Engineers, LLC
3455 Briarfield Blvd.-Suite E Maumee, OH 43537
(419) 535-1015

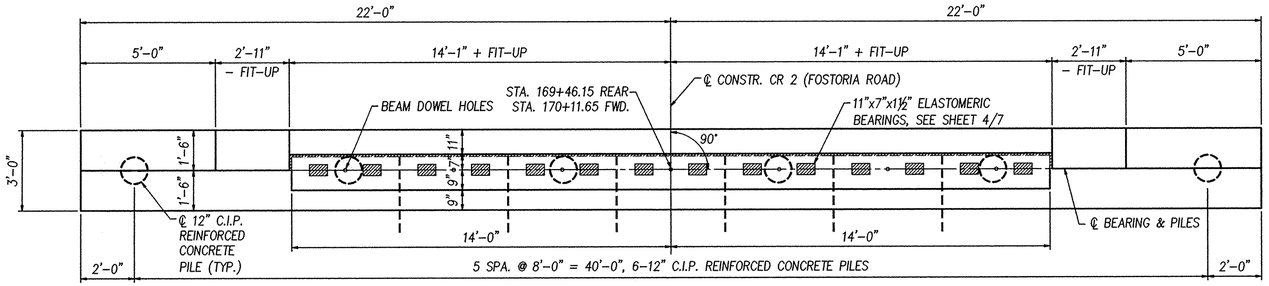
DESIGNED NBL | DRAWN NBL | REVIEWED RJM 8-31-06 | DATE
CHECKED SAM | REVISED | STRUCTURE FILE NUMBER 6230059

QUANTITIES & GENERAL NOTES
BRIDGE NO. ALL-2-3.21
FOSTORIA ROAD OVER CEDAR CREEK

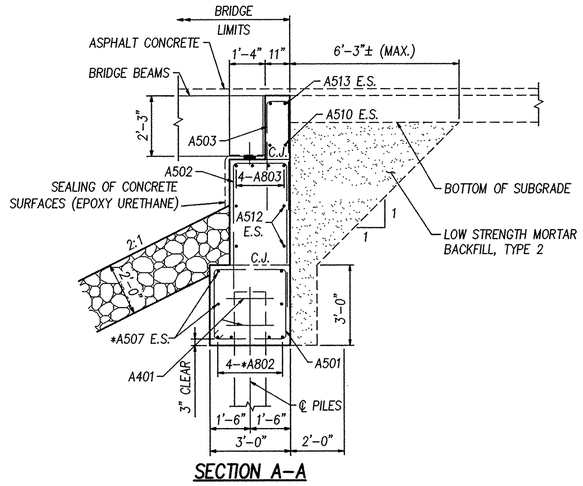
ALL-2-3.21

2 / 7
11 / 16

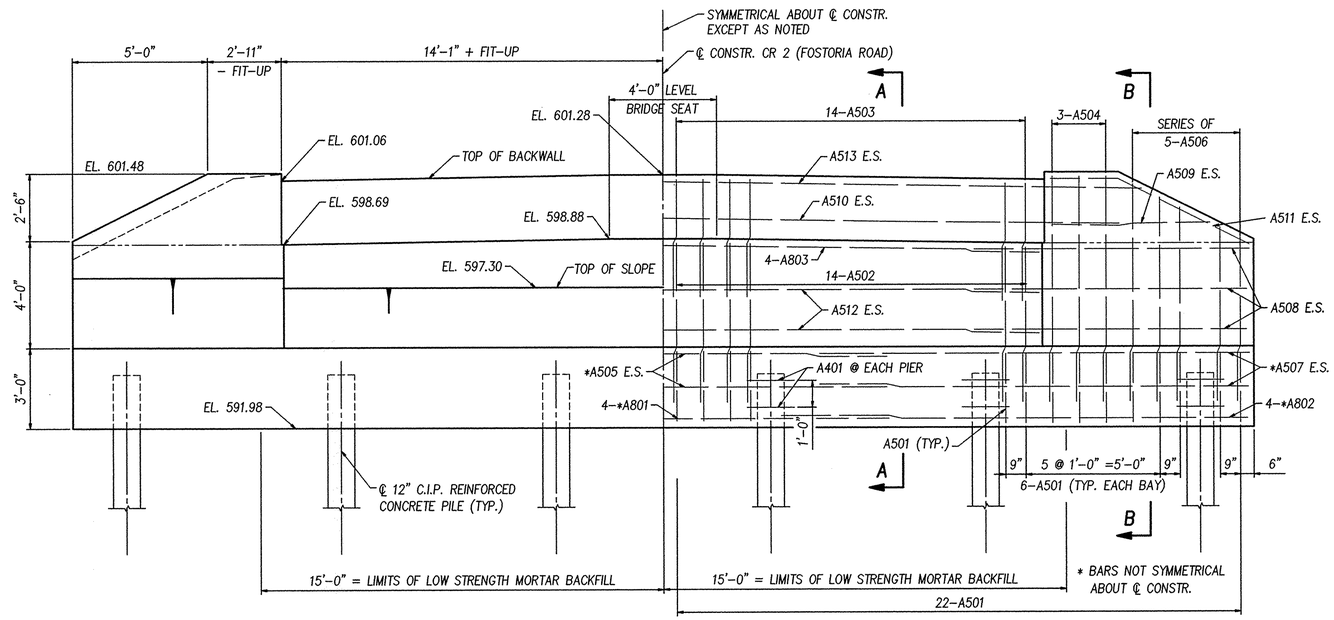
Sept 27, 2006 - 11:16:37



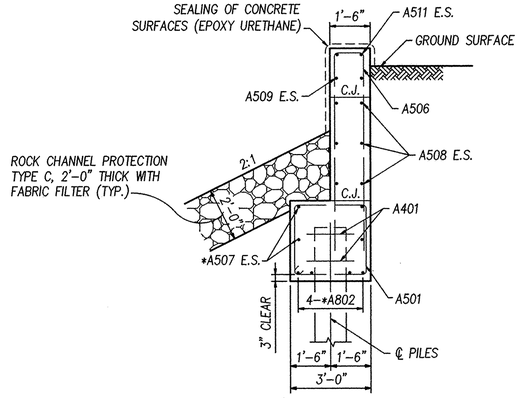
ABUTMENT PLAN



SECTION A-A



ABUTMENT ELEVATION



SECTION B-B

NOTES:

UNLESS OTHERWISE NOTED REINFORCING SPLICE LENGTHS ARE:
#5 BARS - 2'-0"
#8 BARS - 4'-0"

BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

E.S. DENOTES EACH SIDE
N.S. DENOTES NEAR SIDE
F.S. DENOTES FAR SIDE
C.J. DENOTES CONSTRUCTION JOINT

ABUTMENT CONCRETE: DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.

SEALING OF BEAM SEATS: IF THE BEAMS SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFICATION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE OWNER WILL NOT PAY FOR THIS REMOVAL.

DESIGN AGENCY
DGL Consulting Engineers, LLC
3455 Briarfield Blvd.-Suite E Maumee, OH 43537
(419) 535-1015

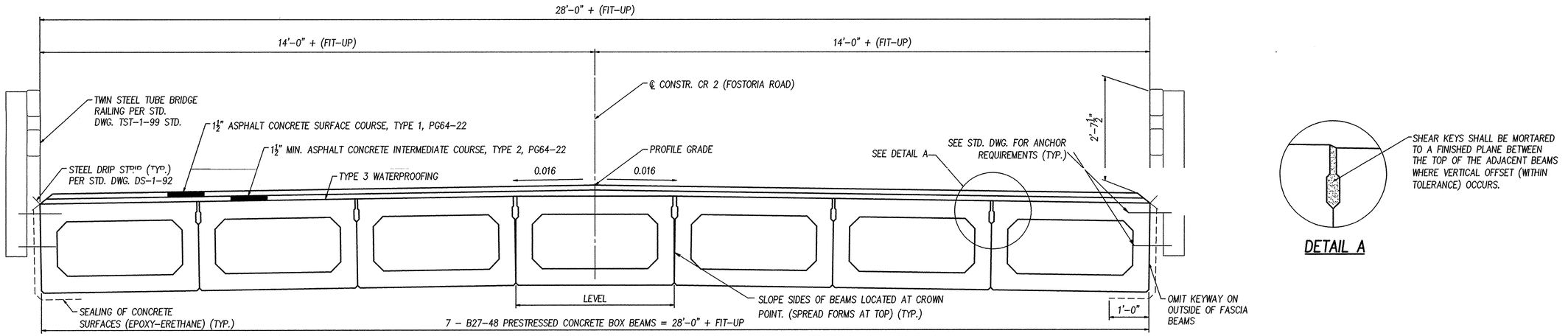
DESIGNED	DRAWN	REVIEWED	DATE
NBL	NBL	RJM	8-31-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAM		6230059	

ABUTMENT DETAILS
BRIDGE NO. ALL-2-3.21
FOSTORIA ROAD OVER CEDAR CREEK

ALL-2-3.21

3 / 7
12
16

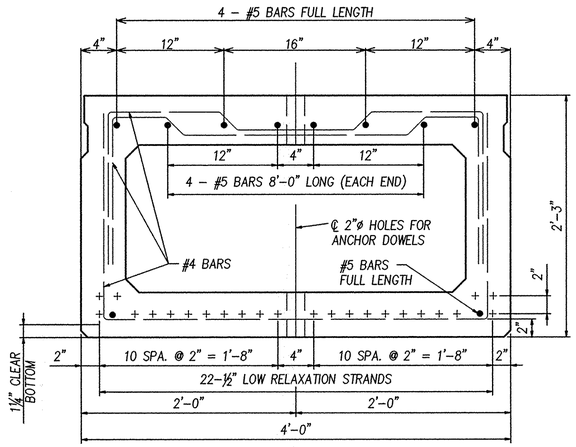
Sept 27, 2006 - 11:25:31



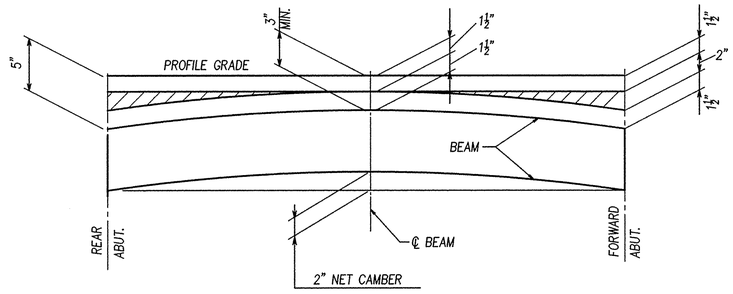
BRIDGE DECK SECTION

SHEAR KEYS SHALL BE MORTARED TO A FINISHED PLANE BETWEEN THE TOP OF THE ADJACENT BEAMS WHERE VERTICAL OFFSET (WITHIN TOLERANCE) OCCURS.

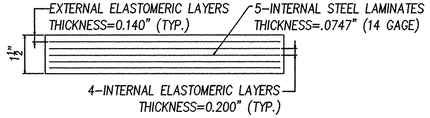
DETAIL A



BEAM SECTION (B27-48)



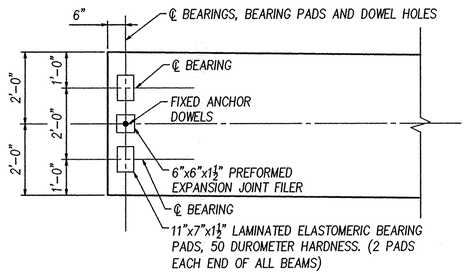
BEAM CAMBER & ASPHALT THICKNESS



BEARING DESIGN LOAD

DEAD LOAD	14.6 KIPS
LIVE LOAD (EXCLUDING IMPACT)	13.0 KIPS
MAXIMUM DESIGN LOAD	27.6 KIPS

LAMINATED ELASTOMERIC BEARING DETAIL



BEARING LOCATION PLAN

FINISHED DECK ELEVATIONS			
	LT. EDGE	℄ CONSTR. CROWN	RT. EDGE
℄ REAR ABUT. BRNG.	601.48	601.70	601.48
¼ SPAN	601.48	601.70	601.48
½ SPAN	601.48	601.70	601.48
¾ SPAN	601.48	601.70	601.48
℄ FWD. ABUT. BRNG.	601.48	601.70	601.48

NOTES:

CAMBER:
CAMBER AT TIME OF RELEASE = 1¼"
CAMBER AT TIME OF ERECTION = 2¼"
LONG TERM CAMBER = 3¼"

CALCULATED DEFLECTION DUE TO DEAD LOAD APPLIED AFTER THE BEAMS ARE SET (WEIGHT OF SURFACE COURSE, RAILINGS, SIDEWALKS; ETC.) IS 1¼ INCHES. THE VERTICAL CURVE ADJUSTMENT TO THE TOPPING THICKNESS AT MIDSPAN IS 0 INCHES UPWARD.
THE THICKNESS OF THE INTERMEDIATE ASPHALT COURSE SHALL VARY FROM 3½ INCHES AT EACH CENTERLINE OF BEAM BEARING TO 1½ INCHES AT MIDSPAN.

ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

ASPHALT CONCRETE SURFACE COURSE:
SHALL CONSIST OF A VARIABLE THICKNESS OF 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 AND A 1½" THICKNESS OF 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22. PLACE THE 448 INTERMEDIATE COURSE IN TWO OPERATIONS. THE FIRST PORTION OF THE COURSE SHALL BE OF 1½" UNIFORM THICKNESS. FEATHER THE SECOND PORTION OF THE COURSE TO PLACE THE SURFACE PARALLEL TO AND 1½" BELOW FINAL PAVEMENT SURFACE ELEVATION.

SEE STD. DWG. PSBD-1-93 FOR ADDITIONAL PRESTRESSED CONCRETE BOX BEAM DETAILS.

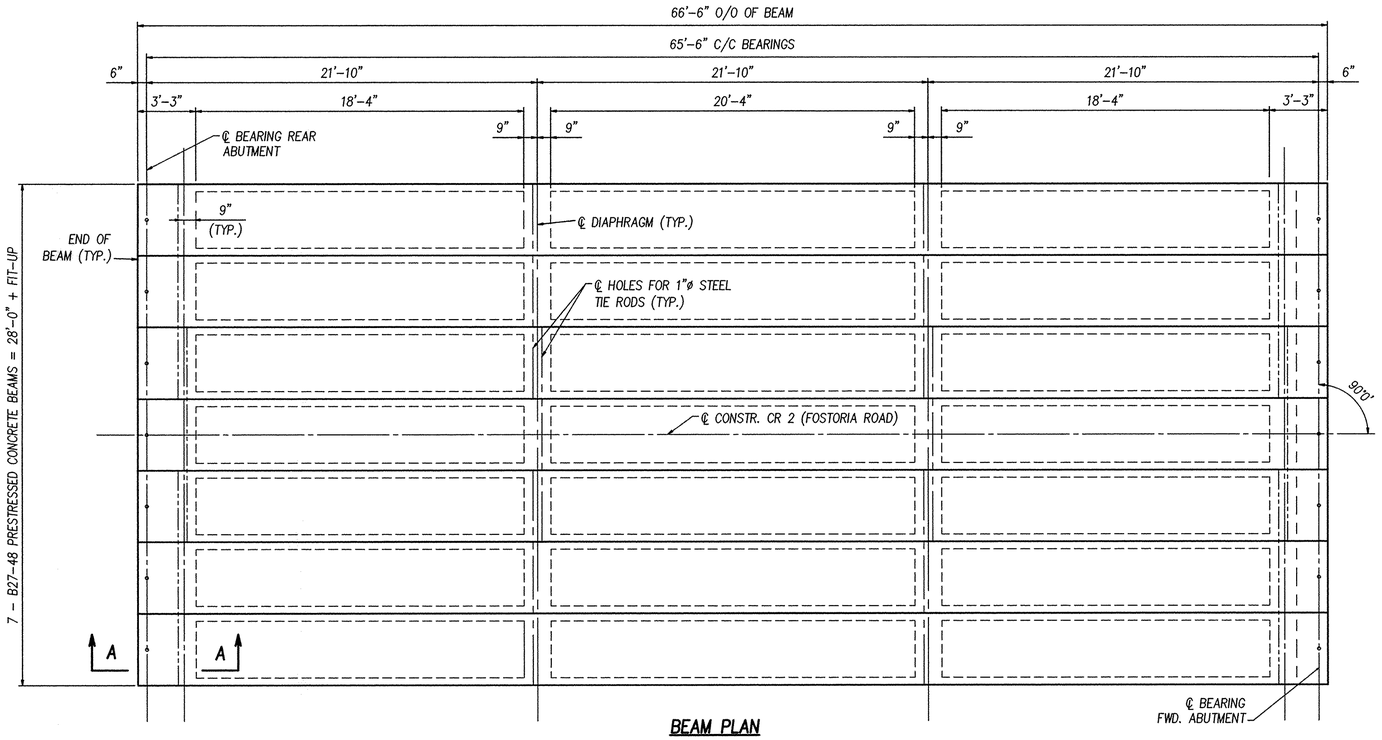
DESIGN AGENCY
DGL Consulting Engineers, LLC
3455 Briarfield Blvd.-Suite E Maumee, OH 43537
(419) 535-1015

DESIGNED	DRAWN	REVIEWED	DATE
NBL	NBL	RJM	8-31-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAM		6230059	

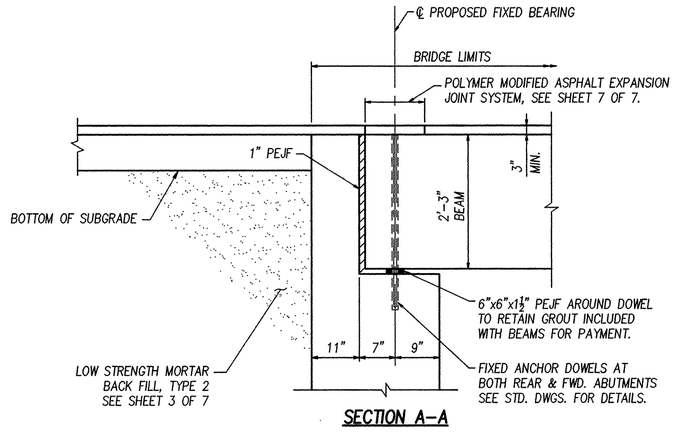
SUPERSTRUCTURE DETAILS
BRIDGE NO. ALL-2-3.21
FOSTORIA ROAD OVER CEDAR CREEK

ALL-2-3.21

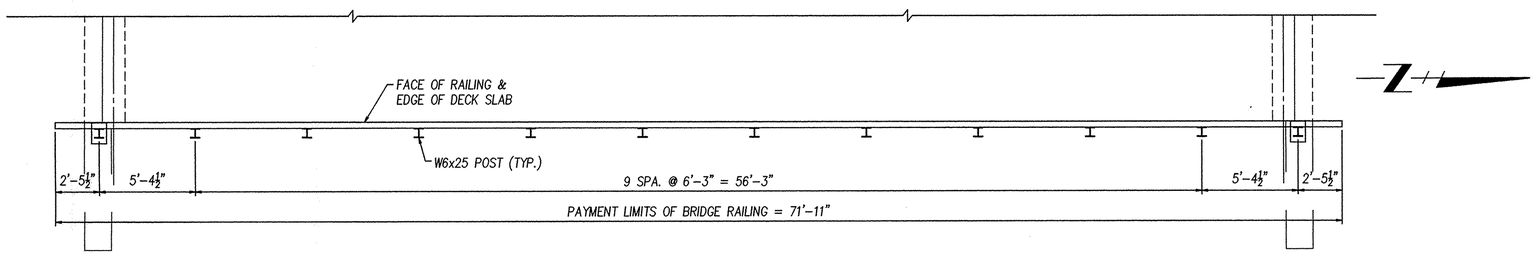
Sept 27, 2006 - 11:28:58



BEAM PLAN



SECTION A-A



BRIDGE RAILING PLAN

(SEE SITE PLAN FOR END POST STATIONS
SEE STD. DWG. TST-1-99 FOR RAILING DETAILS)

LEGEND:

PEJF = PREFORMED EXPANSION JOINT FILER
O/O = OUT TO OUT
C/C = CENTER TO CENTER
FWD. = FORWARD

DESIGN AGENCY
DGL Consulting Engineers, LLC
3455 Briarfield Blvd - Suite E Maumee, OH 43537
(419) 535-1015

DATE
REVIEWED RJM 8-31-06
STRUCTURE FILE NUMBER 6230059

DRAWN NBL
REVISED

DESIGNED NBL
CHECKED SAM

SUPERSTRUCTURE DETAILS
BRIDGE NO. ALL-2-3.21
FOSTORIA ROAD OVER CEDAR CREEK

ALL-2-3.21

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Sept 27, 2006 - 11:34:16

REINFORCEMENT SCHEDULE

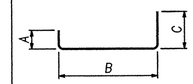
MARK	NUMBER REAR	NUMBER FWD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
							ABUTMENTS						
A401	12	12	24	9'–0"	144	16	1'–9"	2'–6"					
A501	44	44	88	11'–0"	1010	16	2'–8"	2'–7"					
A502	28	28	56	14'–2"	827	3	6'–3"	1'–11"	6'–3"				
A503	28	28	56	9'–4"	545	3	4'–6"	7"	4'–6"				
A504	6	6	12	18'–7"	233	3	8'–10"	1'–2"	8'–10"				
A505	4	4	8	30'–0"	250	STR							
	2	2	4	13'–11"			6'–6"	1'–2"	6'–6"				
A506	SER.	SER.	SER.	TO	311	3	TO	TO	TO				6"
	5	5	5	15'–11"			8'–6"	1'–2"	8'–6"				
A507	4	4	8	16'–0"	134	STR							
A508	12	12	24	10'–0"	250	STR							
A509	4	4	8	5'–10"	49	STR							
A510	2	2	4	32'–6"	136	STR							
A511	4	4	8	7'–11"	66	STR							
A512	4	4	8	27'–8"	231	4	5'–5"	2'–6"	1'–1⅛"				
A513	2	2	4	35'–6"	148	STR							
A801	4	4	8	30'–0"	641	STR							
A802	4	4	8	18'–0"	384	STR							
A803	4	4	8	27'–8"	591	STR							
TOTAL ABUTMENTS:					5950								

MARK	NUMBER REAR	NUMBER FWD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.

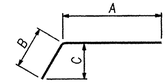
BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL REINFORCING STEEL TO BE EPOXY COATED.

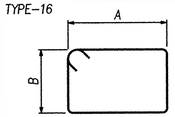
TYPE–3



TYPE–4



TYPE–16



DESIGN AGENCY
DANSARD–GROHNKE–LONG, Limited
3455 Briarfield Blvd.–Suite E Maumee, OH 43537
(419) 535–1015

DATE 6–31–06
REVIEWED RJM
STRUCTURE FILE NUMBER 6230059

DRAWN NBL
REVISED

DESIGNED NBL
CHECKED SAM

REINFORCING STEEL LIST
BRIDGE NO. ALL–2–3.21
FOSTORIA ROAD OVER CEDAR CREEK

ALL–2–3.21

6 / 7

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GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

ITEM SPECIAL - POLYMER-MODIFIED ASPHALT EXPANSION JOINT SYSTEM

THIS ITEM WILL BE USED TO SEAL THE EXPANSION/CONTRACTION JOINTS AS PER THESE DETAILS AND THE MANUFACTURER'S REQUIREMENTS USING A POLYMER-MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN THE SERVICES OF ONE OF THE FOLLOWING APPROVED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE(S) HAS BEEN COMPLETED.

PRODUCT NAME	SUPPLIER	ADDRESS	PHONE NO.
THORMA-JOINT	DYNAMIC SURFACE APPLICATIONS, LTD	373 VILLAGE RD. PENNSDALE, PA 17756	(570)546-6041
MATRIX 502	CRAFCO INC.	420 N. ROOSEVELT AVE. CHANDLER, AZ 85226	(800)528-8242
EXPANDEX JOINT SYSTEM	WATSON-BOWMAN ACME	95 PINEVIEW DR. AMHERST, NY 14228	(716)691-7566
APJ ASPHALTIC PLUG EXPANSION JOINT	WYOMING EQUIPMENT SALES	281 SIXTH STREET P.O. BOX 287 WEST WYOMING, PA 18644	(570)693-2810

MATERIALS:

BRIDGING PLATE:

MILD STEEL 1/8" OR 1/4" THICK PLATE, 8" WIDE OR 18 GAUGE ALUMINUM, 8" WIDE.

BINDER:

TYPE:	POLYMER MODIFIED ASPHALT
SOFTENING POINT:	180 DEGREES F. MIN.
FLOW:	3 mm. MAX. AT 140 DEGREES F.
PENETRATION:	9 mm. MAX. AT 77 DEGREES F.
	1 mm. MIN AT 0 DEGREES F.
	ASTM D 3407
DUCTILITY:	40 cm. MIN. ASTM D 113
RESILIENCE:	60% MIN. AT 77 DEGREES F.
TENSILE ADHESION:	700% MIN.
SPECIFIC GRAVITY:	1.10 * 0.05
POURING TEMP:	350 - 390 DEGREES F.

AGGREGATE:

TYPE:	CRUSHED, DOUBLE WASHED, AND DRIED GRANITE OR BASALT
GRADATION	THE GRADATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT.

BACKER ROD:

THE BACKER SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE POLYMER MODIFIED ASPHALT.

NOTE: PRIOR TO PLACEMENT OF ANY PORTION OF THE JOINT SYSTEM, THE PROJECT ENGINEER MUST HAVE CERTIFIED TEST DATA MEETING ALL THE MINIMUM REQUIREMENTS OF ALL THE MATERIALS OF THE JOINT SYSTEM.

INSTALLATION PROCEDURES:

SAWING AND SURFACE PREPARATION:

AFTER ALL PAVING OPERATIONS ARE COMPLETE, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN TWO INCHES DEEP (20" CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED). REMOVE ALL MATERIAL, INCLUDING WATER-PROOFING MATERIAL, BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT A VELOCITY OF 3,000 FEET PER SECOND WITH 15 PSIG CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 6 INCHES OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

SEALING OF EXPANSION JOINT: (PRE-STRESSED BOX OR CONCRETE SLAB)

THE EXPANSION JOINT GAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF 1/8" OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 1/8" AND 1-1/8" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

BOND BREAKER:

SPREAD BINDER OVER SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 1 FOOT INTERVALS ALONG THE LONGITUDINAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SETUP BEFORE NEXT OPERATION. WHEN ALUMINUM BRIDGING PLATES ARE USED, ONLY THE BINDER IS REQUIRED TO SECURE THE INDIVIDUAL PLATES.

BINDER COAT:

SEAL ALL PREPARED, EXPOSED SURFACES OF THE JOINT WITH BINDER. POUR THE HOT BINDER OVER THE FLOOR AREA OF THE JOINT AND SPREAD TO COAT ALL EXPOSED SURFACES. THE BINDER WILL BE A MINIMUM OF 1/32" THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 350 AND 390 DEGREES F. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 410 DEGREES F. NOR ALLOWED TO EXCEED 390 DEGREES F. FOR MORE THAN 1 HOUR. A DOUBLE JACKETED OIL MELTER WILL BE USED TO HEAT THE BINDER. THE MELTER WILL BE EQUIPPED WITH A CONTINUOUS AGITATION SYSTEM, TEMPERATURE CONTROLS, AND A CALIBRATED THERMOMETER. ALSO A SYSTEM FOR ACCURATELY MEASURING THE WEIGHTS OF THE BINDER AND THE AGGREGATE WILL BE REQUIRED.

BUILD-UP OF JOINT LAYERS:

AGGREGATE PREPARATION:

HEAT THE AGGREGATE TO A TEMPERATURE OF 275 TO 325 DEGREES F., WITH A SUITABLE ROTATING DRUM WITH ATTACHED HEAT SOURCE OR A HOT COMPRESSED AIR LANCE, TO REMOVE DUST AND MOISTURE.

AGGREGATE PROPORTION AND LAYER THICKNESS:

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS, UNLESS PATENTED INSTALLATION REQUIRES DIFFERENTLY, NOT LESS THAN 3/4 OF AN INCH NOR EXCEEDING 2-1/2 INCHES. THE THICKNESS OF EACH LAYER CAN BE VARIED WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MIN. 2 INCHES). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH BINDER. RAKE THE MIXTURE TO MIX AND LEVEL.

THE TOP LAYER THICKNESS WILL VARY BETWEEN 1/2 INCH AND ONE (1) INCH. IN PREPARING THE TOP LAYER, THE RATIO OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

MAINTENANCE OF TRAFFIC:

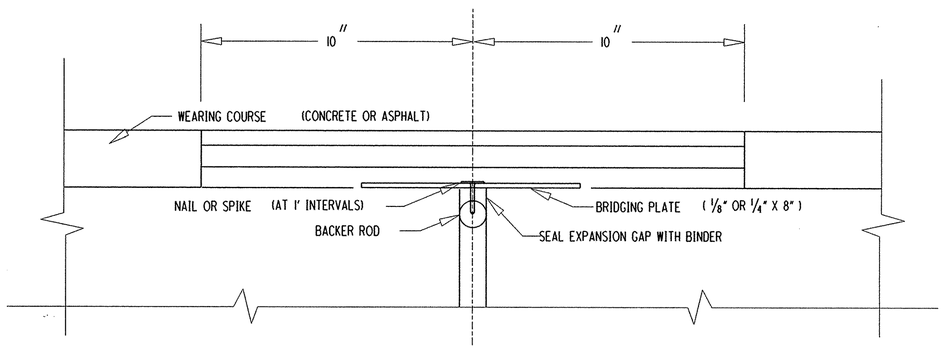
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF TWO (2) INCHES OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER OF THE JOINT INSTALLED. IN ALL CASES, OPERATIONS WILL BE SCHEDULED SO THAT ALL LANES CAN BE OPEN TO TRAFFIC DURING ALL NON-WORKING HOURS.

TESTING:

CERTIFICATION WILL BE SUPPLIED FOR EACH PROJECT SHOWING BINDER COMPLIANCE WITH REQUIRED PROPERTIES. A ONE QUART SAMPLE OF BINDER WILL BE RETRIEVED FROM EACH BRIDGE FOR FURTHER TESTING BY THE O.D.O.T OFFICE OF MATERIALS MANAGEMENT.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT:

THE DEPARTMENT WILL MEASURE THE JOINT BY THE NUMBER OF FEET AND WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS: ITEM SPECIAL, FEET, POLYMER MODIFIED ASPHALT EXPANSION JONT SYSTEM.



TYPICAL PRESTRESSED BOX BEAM

OR

CONCRETE SLAB JOINT

CALCULATED | CHECKED

DESIGNED M.A.M. | DRAWN M.A.M. | DATE REVISED 10-28-96, 10-17-03, 04-15-05

POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

ALL-2-3.21

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