8-4-06 Letting, Item 027

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	34	1

CONTRACT NO. 76389

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS
FAP ROUTE 42 (IL 127)
SECTION 2BR
PROJECT : F-0042(097)
WASHINGTON COUNTY
C-98-140-05
STRUCTURE REPLACEMENT

D-98-119-00

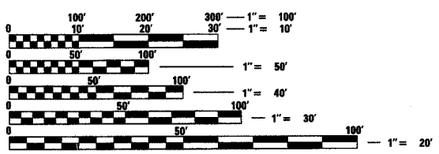
LOCATION OF SECTION INDICATED THUS: -

INDEX OF SHEETS

HIGHWAY STANDARDS

280001-02	635011-01
420001-06	701006-02
420401-05	701011-01
515001-02	701201-02
542401	701311-02
601101	701321-08
609006-02	701326-02
630001-06	702001-06
630301-03	704001-02
631031-05	780001-01
631046-02	781001-02
635006-02	

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

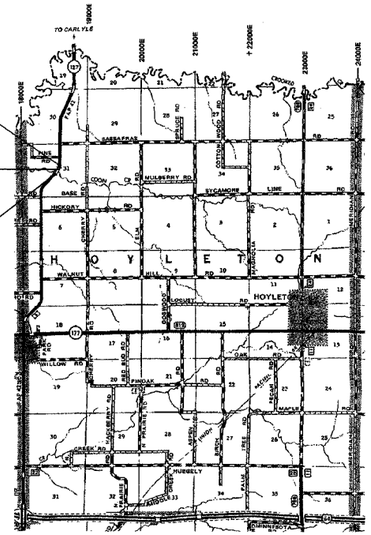
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 76389

BEGIN IMPROVEMENT
STA 483+27

STA 487+25 PROPOSED STRUCTURE NO. 095-0076
ONE SPAN WF BEAM BRIDGE WITH INTEGRAL ABUTMENTS, 85'-6" BK TO BK ABUTMENTS, 40'-2" O TO O DECK, SKEW 0°

END IMPROVEMENT
STA 491+23



LAYOUT
0 MI 1 MI 2 MI 3 MI
1" = 1 MILE

FAP 42 (IL 127)
ADT= 3500 (2004)
ADT= 5200 (2024)
SU= 5.6%
MU= 11.1%

LATITUDE X: 38.4853°
LONGITUDE Y: 89.3586°

MICHAEL D. CUMMINS
43244
REGISTERED PROFESSIONAL ENGINEER
OF ILLINOIS

Michael D. Cummins (7/20/2005)
ILLINOIS PROFESSIONAL NO. 43244
(Expires 11/30/05)

GROSS LENGTH	=	796.00 FEET	0.151 MILES
NET LENGTH	=	796.00 FEET	0.151 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED May 20 05
Mary Hamm
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

June 30, 20 06
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

June 30, 20 06
Milton R. Sees, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

CUMMINS ENGINEERING CORPORATION
SPRINGFIELD, ILLINOIS

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

PROJECT ENGINEER: PATTI LeBEAU (618) 346-3179
SQUAD CONTACT: ARTHUR MUEHLFELD (618) 346-3209

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	2
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389

PLAN | SURVEYED | BY | DATE
DRAWN
ALIGNMENT CHECKED
ETC. OF PLAN CHECKED
NOTE BOOK
NO.
PROJECT FILE NAME

GENERAL NOTES

1. THE STANDARDS AND REVISION NUMBERS LISTED SHALL APPLY TO THIS CONTRACT.

2. "ROAD CONSTRUCTION AHEAD" SIGNS SHALL BE PLACED AT THE BEGINNING AND END OF THE PROJECT LIMITS AND THE INTERSECTING SIDE ROADS. COST IS INCLUDED IN THE TRAFFIC CONTROL PAY ITEMS.

3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

4. THE THICKNESS OF THE BITUMINOIUS MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

5. FLAGMEN SHALL BE PRESENT DURING ALL CLOSURE HOURS, INCLUDING LUNCH HOURS, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

6. ANY TRAFFIC CONTROL PAY ITEM NOT USED SHALL BE DELETED FROM THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

7. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY ALSO BE OBTAINED BY CALLING J.U.L.I.E. AND FOR NON-J.U.L.I.E. MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

   *FRONTIER COMMUNICATIONS
   *AMEREN IP
   *CONSOLIDATED WATER SERVICES

   (MEMBERS OF J.U.L.I.E. (800) 892-0123 INDICATED BY *. NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.)

8. WHERE SECTION OF SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE RESURFACED OVER OR REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THE LOCATION.

9. THE CONTRACTOR SHALL FURNISH AND INSTALL WOOD SIGN SUPPORTS IN ACCORDANCE WITH SECTION 730 OF THE STANDARD SPECIFICATIONS; HOWEVER, INSTALLATION BY METHOD "A" (ARTICLE 730.04(a)) SHALL BE THE ONLY METHOD PERMITTED.

10. SAW CUTTING ON ALL EDGES FOR REMOVAL ITEMS SHALL BE INCLUDED IN THE COST OF THE REMOVAL ITEM AS INDICATED AND ACCORDING TO SECTION 440 OF THE STANDARD SPECIFICATIONS. (APPROX. 900')

11. ALL EXCAVATED AREAS DUE TO THE WIDENING OPERATIONS SHALL BE PROTECTED WITH EXTENDED LEG BARRICADES AND THE APPROPRIATE LIGHTS.

12. THE TRAFFIC CONTROL MEASURES SHALL SUPPLEMENT AND BE IN ACCORDANCE WITH TRAFFIC CONTROL STANDARD 701321.

EROSION CONTROL PLAN

ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN. PRIOR TO APPROVAL AND USE OF THE PRODUCT THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A NOTARIZED CERTIFICATION BY THE PRODUCER STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE MANUFACTURER RECOMMENDED INSTALLATION PROCEDURES TO FACILITATE THE ENGINEER IN CONSTRUCTION INSPECTION.

TEMPORARY SEEDING AND MULCH SHALL BE COMPLETED ON A WEEKLY BASIS ON EXPOSED GROUND AND SHALL BE IN ACCORDANCE WITH SECTION 280 OF THE STANDARD SPECIFICATIONS EXCEPT THAT THE MULCH AND TEMPORARY SEEDING SHALL BE PAID FOR AS TEMPORARY EROSION CONTROL SEEDING AND NO OTHER PAYMENT WILL BE PERMITTED.

ALL AREAS DISTURBED FOR ANY REASON SHALL BE SEEDED WITH CLASS 2 SEEDING AS DIRECTED BY THE ENGINEER. NUTRIENTS SHALL CONFORM TO ARTICLE 250.04 EXCEPT FERTILIZER NUTRIENTS WILL NOT BE PAID FOR SEPARATELY BUT CONSIDERED AS INCLUDED IN THE COST OF CLASS 2 SEEDING.

CLASS 2 SEEDING TO BE PLACED AS SOON AS EARTHWORK IS COMPLETED.

COMMITMENTS

NONE

MIXTURE REQUIREMENTS

	BITUMINOUS CONC. SURFACE COURSE, SUPERPAVE, MIX "C" N70	LEVELING BINDER (MACHINE METHOD), SUPERPAVE N70	BITUMINOUS BASE COURSE, SUPERPAVE	BITUMINOUS SHOULDERS, SUPERPAVE	BRIDGE APPROACH PAVEMENT CONNECTOR FLEXIBLE
MIXTURE USE	SURFACE	LEVEL BINDER	BASE COURSE	TOP LIFT SHOULDERS	BINDER
AC/PG	PG 64-22	PG 64-22	PG 58-22	PG 58-22	PG 64-22
RAP % (MAX)	10%	10%	30%	30%	15%
DESIGN AIR VOIDS	4.0% @ Ndes=70	4.0% @ Ndes=70	2.0% @ Ndes=50	**2.0% @ Ndes=30	4.0% @ Ndes=70
MIX COMPOSITION (GRADATION MIXTURE)					
FRICTION AGG	MIXTURE C	MIXTURE C	BASE COURSE	BAM	MIXTURE B

PLAN QUANTITIES FOR BITUMINOUS CONCRETE SURFACE COURSE ITEMS ARE CALCULATED USING A UNIT WEIGHT OF 112 LB/SQ YD/1" THICKNESS

EXISTING BITUMINOUS SURFACES SERVING AS A BASE FOR LEVELING BINDER AND/OR SURFACE COURSE REQUIRE PRIME COAT APPLIED AT A RATE OF .08 GAL/SQ YD AS SPECIFIED IN ARTICLE 406.06 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

** TOP LIFT SHOULDERS - DESIGN THIS MIX AT 2.0% VOIDS AND ADD ASPHALT TO REDUCE VOIDS TO 1.5%

GENERAL NOTES, COMMITMENTS

FAP ROUTE 42 (IL 127)
SECTION 2BR
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158gennotes
DATE: 3/17/05

*ROUTE=
*DATE_TIME=
*DGN-SPEC=
*REF=
*REF=

CONTRACT NO.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	3
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80%FED. 20%STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE XO71-2A	SFTY-3N	
20200100	EARTH EXCAVATION	CU YD	255	255		
20300100	CHANNEL EXCAVATION	CU YD	1040	1040		
20700400	POROUS GRANULAR EMBANKMENT (SPECIAL)	CU YD	215	215		
25000200	SEEDING, CLASS 2	ACRE	0.5	0.5		
25100115	MULCH, METHOD 2	ACRE	0.5	0.5		
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	150	150		
28000300	TEMPORARY DITCH CHECKS	EACH	4	4		
28000400	PERIMETER EROSION BARRIER	FOOT	1056	1056		
28100109	STONE RIPRAP, CLASS A5	SQ YD	970	970		
28200200	FILTER FABRIC	SQ YD	970	970		
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.2	0.2		
40600980	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SQ YD	494	494		
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	254	254		
42001300	PROTECTIVE COAT	SQ YD	254	254		
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	72	72		
44000100	PAVEMENT REMOVAL	SQ YD	504	504		
48202000	BITUMINOUS SHOULDERS SUPERPAVE	TON	32	32		
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1		
50200100	STRUCTURE EXCAVATION	CU YD	230	230		
50300225	CONCRETE STRUCTURES	CU YD	40.2	40.2		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	132.4	132.4		
50300260	BRIDGE DECK GROOVING	SQ YD	559	559		
50300300	PROTECTIVE COAT	SQ YD	423	423		
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1		
50500505	STUD SHEAR CONNECTORS	EACH	1350	1350		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	31490	31490		
51201600	FURNISHING STEEL PILES HP12X53	FOOT	335	335		
51202700	DRIVING STEEL PILES	FOOT	335	335		
51203600	TEST PILE STEEL HP12X53	EACH	2	2		
51205200	TEMPORARY SHEET PILING	SQ FT	1365	1365		
51500100	NAME PLATES	EACH	1	1		
54213447	END SECTIONS 12"	EACH	1	1		
59100100	GEOCOMPOSITE WALL DRAIN	SQ.YD.	83	83		
60100945	PIPE DRAINS 12"	FOOT	16	16		
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	150	150		
60900315	TYPE D INLET BOX, STANDARD 609006	EACH	1	1		
60900515	CONCRETE THRUST BLOCKS	EACH	1	1		
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	538	538		

SUMMARY OF QUANTITIES

	CODE NO	ITEM	UNIT	80%FED. 20%STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE XO71-2A	SFTY-3N	
*	63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4		
*	63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	4		
	63200310	GUARDRAIL REMOVAL	FOOT	163	163		
	63301990	REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2	2		
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	12	12		
	67100100	MOBILIZATION	L SUM	1	1		
	70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1		
	70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
	70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1		
	70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	60	60		
	70106600	TEMPORARY BRIDGE TRAFFIC SIGNALS (STATE FURNISHED CONTROLLER)	EACH	1	1		
	70106700	TEMPORARY RUMBLE STRIP	EACH	6	6		
	70300100	SHORT-TERM PAVEMENT MARKING	FOOT	164	164		
	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	55	55		
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	550	550		
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	510	510		
	70500100	TEMPORARY STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	325	325		
	70500685	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	2	2		
*	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	3082	3082		
*	78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	582	582		
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	10	10		
*	78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	2	2		
*	78200420	GUARDRAIL MARKERS, TYPE B	EACH	10	10		
*	78200520	BARRIER WALL MARKERS, TYPE B	EACH	4	4		
*	78200530	BARRIER WALL MARKERS, TYPE C	EACH	4	4		
*	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4		
	78300100	PAVEMENT MARKING REMOVAL	SQ FT	864	864		
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	12	12		
	X0321475	PIPE ELBOW, 12"	EACH	2	2		
	X3550500	BITUMINOUS BASE COURSE SUPERPAVE 8"	SQ YD	1121	1121		
	X4066416	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N70	TON	28	28		

*SPECIALTY ITEMS

Rev.

PLOT DATE = 4/18/2006
FILE NAME = c:\projects\sedl1908\plan\pln1l1908a.dgn
PLOT SCALE = 49.9999 ' / IN.
REFERENCE = REF

CONTRACT NO.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	3A
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE X071-2A	CONSTRUCTION TYPE CODE SFTY-3N	CONSTRUCTION TYPE CODE
X4066770	LEVELING BINDER (MACHINE METHOD), SUPERPAVE N70	TON	16	16		
Z0002600	BAR SPLICERS	EACH	374	374		
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		2	
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		2	

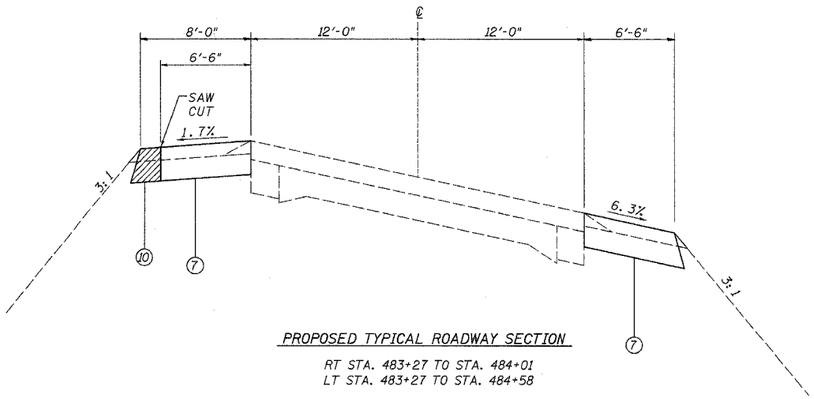
SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		

PLOT DATE = 4/18/2006
FILE NAME = c:\projects\sdi1908\plan\plnsl1908e.dgn
PLOT SCALE = 40.0000 ' / IN.
REFERENCE = REF

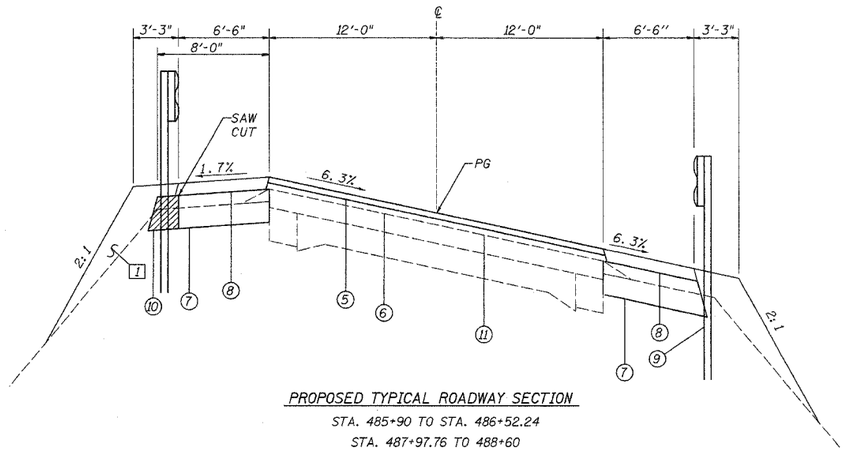
FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	4
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389



PROPOSED TYPICAL ROADWAY SECTION

RT STA. 483+27 TO STA. 484+01
LT STA. 483+27 TO STA. 484+58



PROPOSED TYPICAL ROADWAY SECTION

STA. 485+90 TO STA. 486+52.24
STA. 487+97.76 TO 488+60

LEGEND

1 EXISTING CONCRETE PAVEMENT (9"-6"-9")

2 EXISTING CONCRETE WIDENING 8"

3 EXISTING BITUMINOUS CONCRETE 4½"

4 EXISTING AGGREGATE SHOULDERS

5 PROPOSED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N70 1½"

6 PROPOSED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL 19.0, N70 1½"

7 PROPOSED BITUMINOUS BASE COURSE SUPERPAVE 8"

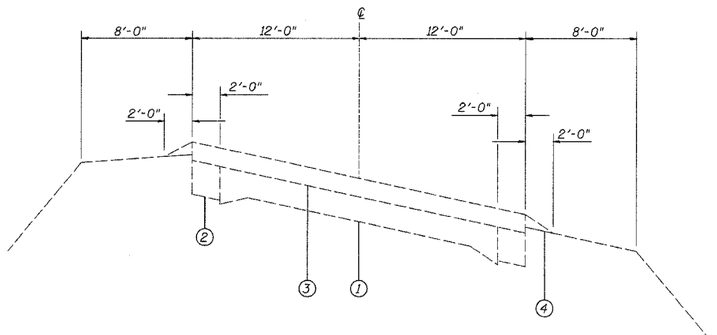
8 PROPOSED BITUMINOUS SHOULDERS, SUPERPAVE

9 PROPOSED STEEL PLATE BEAM GUARD RAIL TYPE A

10 PROPOSED PAVEMENT REMOVAL

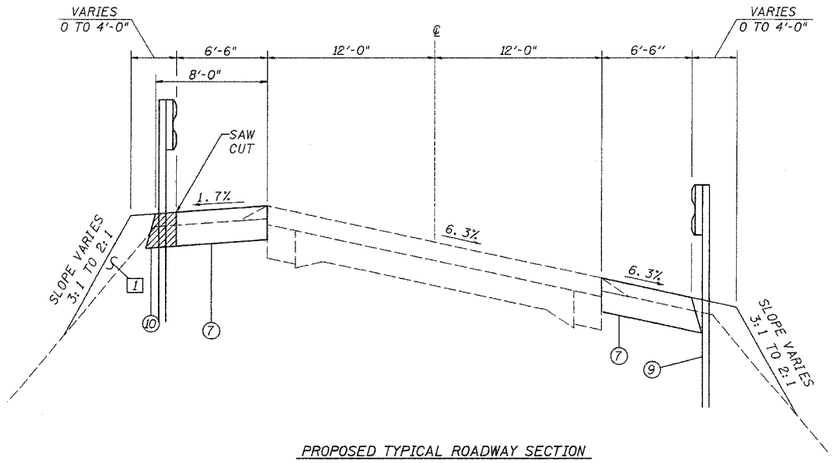
11 BITUMINOUS MATERIALS (PRIME COAT)

[1] EMBANKMENT TO BE CONSTRUCTED IN PRELIMINARY PHASE



EXISTING TYPICAL ROADWAY SECTION

STA. 483+27 TO STA. 486+97.7
STA. 487+49.3 TO STA. 488+95.06



PROPOSED TYPICAL ROADWAY SECTION

RT STA. 484+01 TO STA. 485+90
LT STA. 484+58 TO STA. 485+90
STA. 488+60 TO STA. 488+95.06

OMISSIONS:

BRIDGE APPROACH PAVEMENT:
℄ STA 486+52.24 TO STA 486+82.24
℄ STA 487+67.76 TO STA 487+97.76

BRIDGE:
℄ STA 486+82.24 TO STA 487+67.76

TYPICAL CROSS SECTIONS

FAP ROUTE 42 (IL 127)
SECTION 2BR
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

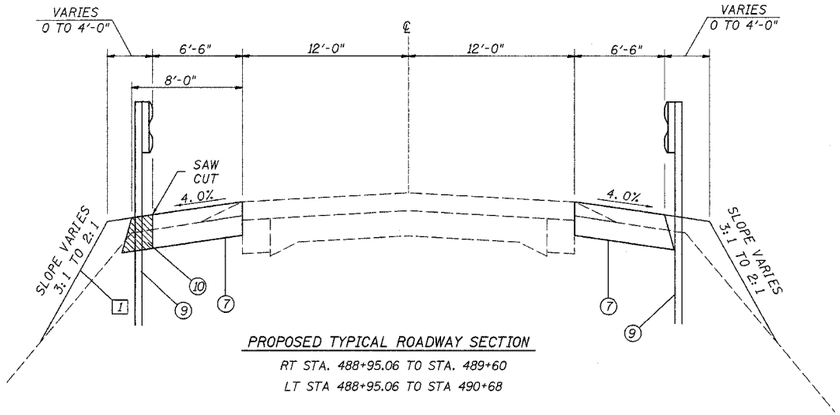
JOB #: 2158
FILE: 2158typical
DATE: 6/22/05

PLAN | NOTE BOOK | NO. | BY | DATE | SURVEYED | ADDITIONS | ALIGNMENT CHECKED | PT. OF BEG. CHECKED | MAP FILE NAME

$$DATE$$
$$TIME$$
$$DGN-SPEL$$
$$REF$$
$$REF$$

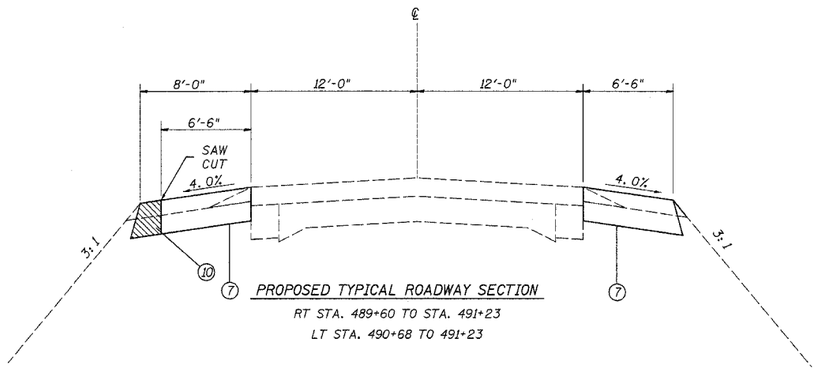
FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	5
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389



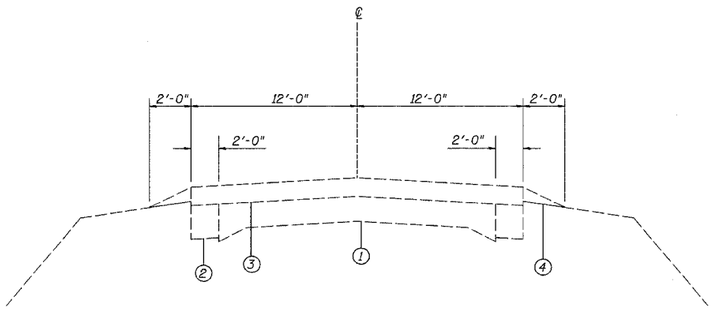
PROPOSED TYPICAL ROADWAY SECTION

RT STA. 488+95.06 TO STA. 489+60
LT STA 488+95.06 TO STA 490+68



PROPOSED TYPICAL ROADWAY SECTION

RT STA. 489+60 TO STA. 491+23
LT STA. 490+68 TO STA. 491+23



EXISTING TYPICAL ROADWAY SECTION

STA. 488+95.06 TO STA. 491+23

LEGEND

1 EXISTING CONCRETE PAVEMENT (9"-6"-9")

2 EXISTING CONCRETE WIDENING 8"

3 EXISTING BITUMINOUS CONCRETE 4½"

4 EXISTING AGGREGATE SHOULDERS

5 PROPOSED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N70 1½"

6 PROPOSED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL 19.0, N70 1½"

7 PROPOSED BITUMINOUS BASE COURSE SUPERPAVE 8"

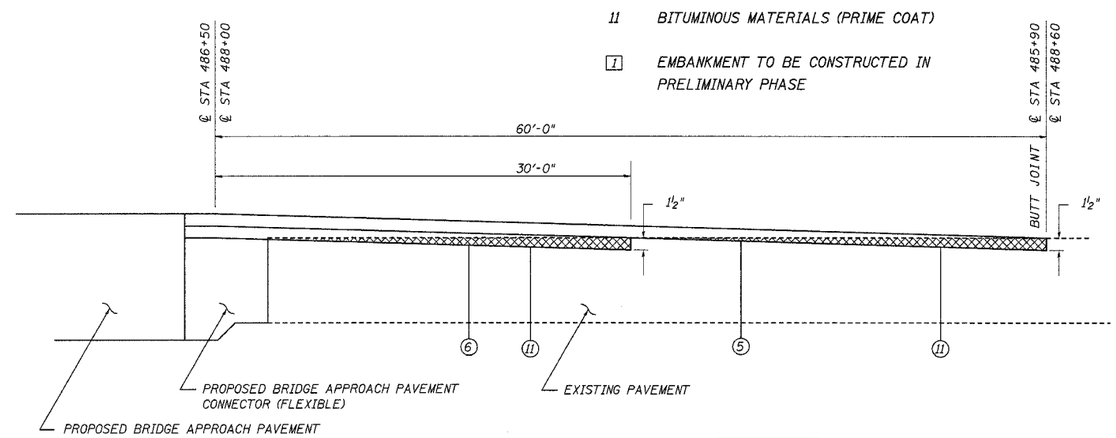
8 PROPOSED BITUMINOUS SHOULDERS, SUPERPAVE

9 PROPOSED STEEL PLATE BEAM GUARD RAIL TYPE A

10 PROPOSED PAVEMENT REMOVAL

11 BITUMINOUS MATERIALS (PRIME COAT)

[1] EMBANKMENT TO BE CONSTRUCTED IN PRELIMINARY PHASE



INDICATES LIMITS OF BITUMINOUS SURFACE REMOVAL - BUTT JOINT

BUTT JOINT DETAIL

BITUMINOUS BASE COURSE SHALL BE CONSTRUCTED FLUSH WITH THE TOP SURFACE OF THE EXISTING PAVEMENT.

BITUMINOUS SURFACE REMOVAL SHALL EXTEND FROM OUTSIDE OF BITUMINOUS BASE COURSE TO OUTSIDE OF BITUMINOUS BASE COURSE.

PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
PLAN CHECKED
CADD FILE NAME
BY
DATE

•••DATE•••
•DATE-TIME•
•DGN-SPEC•
•REF•
•REF•

TYPICAL SECTIONS

FAP ROUTE 42 (IL 127)
SECTION 2BR
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158typical
DATE: 6/22/05

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	6
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389

PLAN — SURVEYED — ALIGNMENT CHECKED — RT. OF WAY CHECKED — ROAD FILE NAME — NOTE BOOK — NO. — BY — DATE

EARTHWORK SCHEDULE

LOCATION			EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR 25% SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
STATION	TO	STATION	CU YD	CU YD	CU YD	CU YD
483+27	TO	484+00	27.0	20.3	6.8	13.5
484+00	TO	485+00	33.3	25.0	24.1	0.9
485+00	TO	486+00	33.3	25.0	40.7	-15.7
486+00	TO	486+50	21.3	16.0	18.5	-2.5
486+50	TO	486+75	11.1	8.3	7.4	0.9
486+75	TO	486+82	2.7	2.0	2.1	-0.1
487+68	TO	488+00	16.7	12.5	10.7	1.8
488+00	TO	488+25	10.6	8.0	7.4	0.6
488+25	TO	488+50	8.3	6.2	6.9	-0.7
488+50	TO	489+00	16.7	12.5	12.0	0.5
489+00	TO	490+00	33.3	25.0	11.1	13.9
490+00	TO	490+50	15.7	11.8	3.7	8.1
490+50	TO	491+00	13.9	10.4	8.3	2.1
491+00	TO	491+23	7.7	5.8	3.4	2.4
TOTAL			251.6	188.8	163.1	25.7
ROUNDED TOTAL			255	190	165	30

EARTHWORK REQUIRED FOR WIDENING IS INCLUDED IN THE EARTH EXCAVATION QUANTITY.

BITUMINOUS BASE COURSE SUPERPAVE 8"

LOCATION			WIDTH	SQ YD
LT	STA 483+27.00	TO STA 486+97.70	8	330
LT	STA 487+49.00	TO STA 491+23.00	8	333
RT	STA 483+27.00	TO STA 486+42.07	6.5	228
RT	STA 488+04.94	TO STA 491+23.00	6.5	230
TOTAL				1,121

BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N70

LOCATION			WIDTH	THICKNESS	TON
LT & RT	STA 485+90.00	TO STA 486+52.24	24	1.5	14
LT & RT	STA 487+97.76	TO STA 488+60.00	24	1.5	14
TOTAL					28

BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL 19.0, N70

LOCATION			WIDTH	THICKNESS	TON
LT & RT	STA 486+20.00	TO STA 486+52.24	24	1.5	8
LT & RT	STA 487+97.76	TO STA 488+30.00	24	1.5	8
TOTAL					16

BITUMINOUS SHOULDERS SUPERPAVE

LOCATION			WIDTH	THICKNESS	TON
LT & RT	STA 485+90.00	TO STA 486+52.24	6.5	3	16
LT & RT	STA 487+97.76	TO STA 488+60.00	6.5	3	16
TOTAL					32

BITUMINOUS CONCRETE QUANTITIES CALCULATED BASED ON 112 POUNDS PER SQUARE YARD PER 1 INCH OF THICKNESS.

BITUMINOUS SURFACE REMOVAL- BUTT JOINT

LOCATION			WIDTH	SQ YD
LT & RT	STA 485+90.00	TO STA 486+50.00	37	247
LT & RT	STA 488+00.00	TO STA 488+60.00	37	247
TOTAL				494

BITUMINOUS MATERIALS (PRIME COAT)

LOCATION			WIDTH	GAL	TON
LT & RT	STA 485+90.00	TO STA 486+52.24	37	21	0.1
LT & RT	STA 487+97.76	TO STA 488+60.00	37	21	0.1
TOTAL				42	0.2

THE QUANTITY FOR BITUMINOUS MATERIALS PRIME COAT REFLECTS TWO APPLICATIONS, ONE PRIOR TO PLACEMENT OF BINDER COURSE AND ONE PRIOR TO PLACEMENT OF BITUMINOUS SHOULDERS.

BITUMINOUS MATERIALS PRIME COAT QUANTITY CALCULATED BASED ON AN APPLICATION RATE OF 0.08 GALLON PER SQUARE YARD (7.9 POUNDS PER GALLON)

BRIDGE APPROACH PAVEMENT

LOCATION			WIDTH	SQ YD
STA 486+52.24	TO STA	486+82.24	38.333	128
STA 487+67.76	TO STA	487+97.76	38.333	126
TOTAL				254

BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)

LOCATION			WIDTH	SQ YD
STA 486+42	TO STA	486+52.24	37	42
STA 487+97.76	TO STA	488+04.94	37	30
TOTAL				72

APPROACH PAVEMENT INLET RT STA 487+82.5

ITEM	QTY	UNIT
TYPE D INLET STANDARD 609006	1	EACH
PIPE DRAINS 12"	16	FOOT
END SECTIONS 12"	1	EACH
PIPE ELBOW 12"	2	EACH
CONCRETE THRUST BLOCK	1	EACH

THE MEASURED LENGTH OF PIPE DRAINS SHALL EXCLUDE THE LENGTH OF ELBOWS.

PAVEMENT REMOVAL

LOCATION			WIDTH	SQ YD
LT & RT	STA 486+42.00	TO STA 486+97.70	24	149
LT & RT	STA 487+49.30	TO STA 488+04.94	24	149
LT	STA 483+27.00	TO STA 486+42.00	1.5	53
LT	STA 486+42.00	TO STA 486+97.70	8	50
LT	STA 487+49.30	TO STA 488+04.94	8	50
LT	STA 488+04.94	TO STA 491+23.00	1.5	53
TOTAL				504

STEEL PLATE BEAM GUARD RAIL, TYPE A

LOCATION			FOOT
LT STA 485+41.73	TO STA	486+52.65	112.5
LT STA 487+97.35	TO STA	489+83.45	187.5
RT STA 484+85.68	TO STA	486+50.52	162.5
RT STA 487+99.48	TO STA	488+75.56	75.0
TOTAL			537.5

TRAFFIC BARRIER TERMINAL, TYPE 6

LOCATION			EACH
LT STA 486+52.65	TO STA	486+82.87	1
LT STA 487+67.13	TO STA	487+97.35	1
RT STA 486+50.52	TO STA	486+81.61	1
RT STA 487+68.39	TO STA	487+99.48	1
TOTAL			4

TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)

LOCATION			EACH
LT STA 484+87.00	TO STA	485+36.25	1
LT STA 489+11.30	TO STA	489+61.30	1
RT STA 484+34.96	TO STA	484+85.68	1
RT STA 488+75.56	TO STA	489+25.56	1
TOTAL			4

GUARDRAIL REMOVAL

LOCATION			FOOT
LT STA 486+41.50	TO STA	486+95.50	54
LT STA 487+52.00	TO STA	487+80.00	28
RT STA 486+69.00	TO STA	486+97.00	28
RT STA 487+50.00	TO STA	488+03.00	53
TOTAL			163

REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1

LOCATION			EACH
LT STA 484+92.43	TO STA	485+41.73	1
LT STA 489+83.45	TO STA	490+33.45	1
TOTAL			2

GUARDRAIL MARKERS TYPE B

LOCATION			EACH
LT STA 485+41.73	TO STA	486+82.87	2
LT STA 487+67.13	TO STA	489+83.45	3
RT STA 484+85.68	TO STA	486+81.61	3
RT STA 487+68.39	TO STA	488+75.56	2
TOTAL			10

BARRIER WALL MARKERS TYPE B & TYPE C

LOCATION			EACH	EACH
LT STA 486+82.87	TO STA	487+67.13	2	2
RT STA 486+81.61	TO STA	487+68.39	2	2
TOTAL			4	4

TERMINAL MARKERS - DIRECT APPLIED

LOCATION			EACH
LT STA 484+92.43			1
LT STA 490+33.45			1
RT STA 484+34.96			1
RT STA 489+25.56			1
TOTAL			4

TEMPORARY CONCRETE BARRIER

LOCATION			FOOT
STA 484+51.00	TO STA	485+70.60	120
STA 485+70.60	TO STA	488+79.40	310
STA 488+79.40	TO STA	489+99.00	120
TOTAL			550

IMPACT ATTENUATORS TEMPORARY, (NON-REDIRECTIVE) TEST LEVEL 3

LOCATION			EACH
STA 484+50.00			1
STA 490+00.00			1
TOTAL			2

RELOCATE TEMPORARY CONCRETE BARRIER

LOCATION			FOOT
STA 484+70.00	TO STA	485+69.50	100
STA 485+69.50	TO STA	488+80.60	310
STA 488+80.60	TO STA	489+80.30	100
TOTAL			510

IMPACT ATTENUATORS RELOCATE, (NON-REDIRECTIVE) TEST LEVEL 3

LOCATION			EACH
STA 484+69.00			1
STA 489+81.00			1
TOTAL			2

TEMPORARY STEEL PLATE BEAM GUARD RAIL, TYPE A

LOCATION			FOOT
LT STA 485+36.25	TO STA	486+95.65	162.5
LT STA 487+51.05	TO STA	489+11.30	162.5
TOTAL			325.0

TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 10

LOCATION			EACH
LT STA 486+95.65	TO STA	486+98.50	1
LT STA 487+48.20	TO STA	487+51.05	1
TOTAL			2

PAVEMENT MARKING REMOVAL

	LOCATION		TYPE	SQ FT
1)	STA 482+72	TO STA 485+90	DOUBLE C.L.	210
1)	STA 488+60	TO STA 491+88	DOUBLE C.L.	217
1)	STA 483+27	TO STA 491+23	LT EDGE LINE	263
2)	STA 483+27	TO STA 485+90	RT EDGE LINE	87
2)	STA 488+60	TO STA 491+23	RT EDGE LINE	87
	TOTAL			864

1) REMOVE PRIOR TO STAGE 1
2) REMOVE PRIOR TO STAGE 2

TEMPORARY DITCH CHECKS

LOCATION	EACH
STA 484+00	1
STA 485+00	1
STA 486+00	1
STA. 486+80	1
TOTAL	4

PERIMETER EROSION BARRIER

LOCATION			FOOT
LT STA 483+27	TO STA	486+74	356
LT STA 487+75	TO STA	491+23	350
RT STA 487+69	TO STA	491+23	350
TOTAL			1,056

SEE SHEET 14 FOR PAVEMENT MARKING AND RAISED REFLECTIVE MARKER SCHEDULES.

SCHEDULE OF QUANTITIES

FAP ROUTE 42
SECTION 2BR
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: schedules
DATE: 3/17/05

•DATE-TIME•
•DGN-SPEC•
•REF•
•REF•

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	7
STA.		TO STA.		
EXISTING CONDITIONS:				

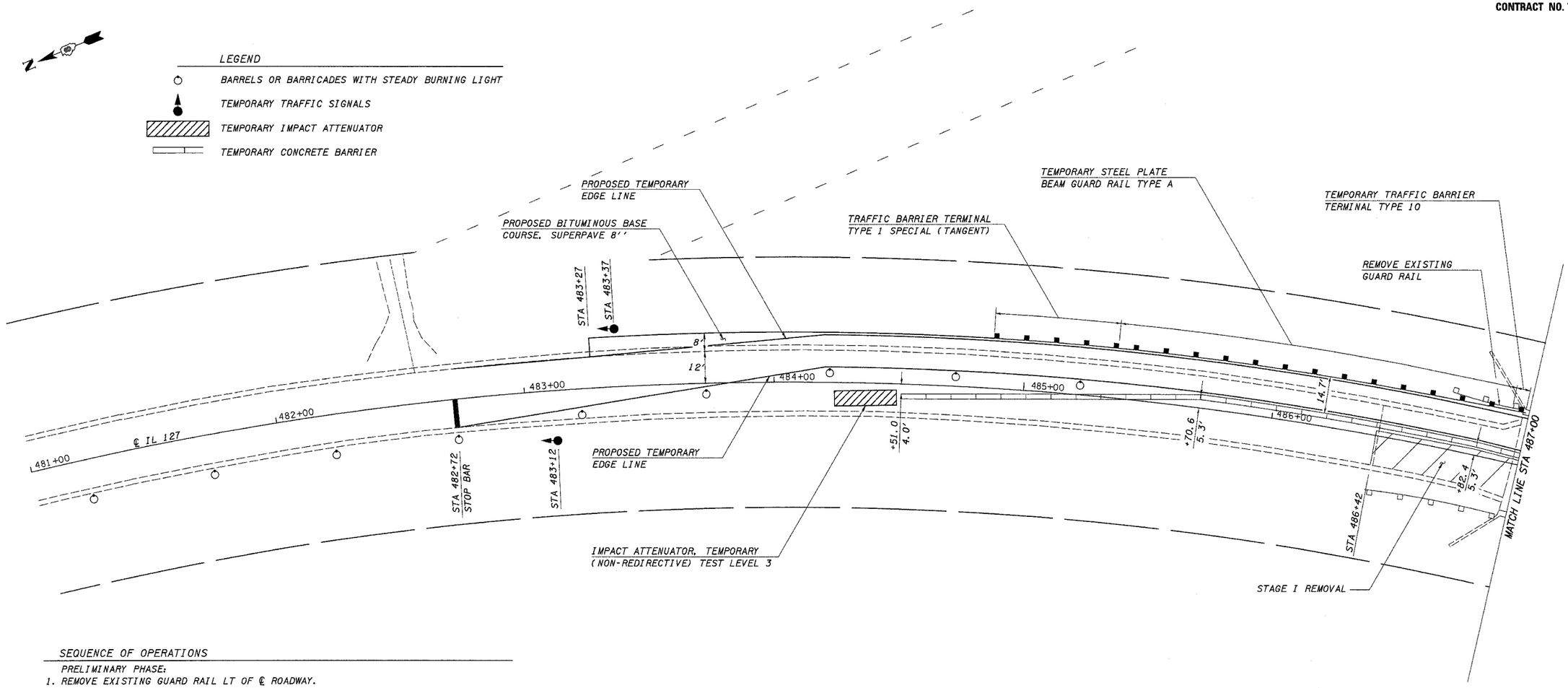
CONTRACT NO. 76389

PLAN
NOTE BOOK
NO.

	BY	DATE
SURVEYED		
PLOTTED		
ALIGNMENT CHECKED		
PLANS CHECKED		
CADD FILE NAME		

LEGEND

- BARRELS OR BARRICADES WITH STEADY BURNING LIGHT
- TEMPORARY TRAFFIC SIGNALS
- TEMPORARY IMPACT ATTENUATOR
- TEMPORARY CONCRETE BARRIER



SEQUENCE OF OPERATIONS

PRELIMINARY PHASE:

1. *REMOVE EXISTING GUARD RAIL LT OF ℄ ROADWAY.*

2. *CONSTRUCT EMBANKMENT AND BITUMINOUS BASE COURSE SUPERPAVE, 8" LT STA 483+27 TO STA 486+96 AND LT STA 487+50 TO STA 491+23.*

3. *INSTALL TEMPORARY GUARD RAIL AND TRAFFIC BARRIER TERMINALS LT STA 484+87 TO STA 486+98 AND LT STA 487+48 TO STA 489+61.*

4. *ESTABLISH ONE-LANE, TWO-WAY TRAFFIC IN NORTHBOUND LANE AND INSTALL WORK ZONE TRAFFIC CONTROL DEVICES AND TEMPORARY CONCRETE BARRIER AS SHOWN ON THIS PLAN AND STANDARD 701321.*

STAGE 1:

1. *REMOVE STAGE 1 PORTION OF EXISTING STRUCTURE, PAVEMENT AND GUARD RAIL.*
2. *CONSTRUCT STAGE 1 PORTION OF PROPOSED STRUCTURE AND APPROACH PAVEMENT.*
3. *MILL SOUTHBOUND LANE; CONSTRUCT EMBANKMENT AND BITUMINOUS BASE COURSE SUPERPAVE, 8" RT STA 483+27 TO STA 486+51 AND RT STA 487+98 TO STA 491+23.*
4. *RESURFACE SOUTHBOUND LANE.*
5. *CONSTRUCT SOUTHBOUND BITUMINOUS AND EARTH SHOULDER.*
6. *INSTALL PROPOSED GUARD RAIL AND TERMINALS ON STAGE 1 PORTION OF PROPOSED STRUCTURE.*

NOTES

TEMPORARY CONCRETE BARRIER ON THE APPROACH ROADWAY SHALL BE PLACED PARALLEL TO THE ℄ OF IL 127. TEMPORARY CONCRETE BARRIER WITHIN THE LIMITS OF THE PROPOSED STRUCTURE SHALL BE PLACED PARALLEL TO THE ℄ OF THE PROPOSED STRUCTURE.

OFFSETS REFER TO THE DISTANCE FROM THE ℄ OF IL 127 TO THE FACE OF THE TEMPORARY CONCRETE BARRIER.

EXISTING EARTH SHOULDERS SHALL BE WIDENED AS SHOWN ON STANDARD 630301 AT ALL PROPOSED TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT) LOCATIONS.

SEE STANDARD 701321 FOR DETAILS NOT SHOWN.

TEMPORARY RUMBLE STRIPS SHALL BE INSTALLED ON EACH APPROACH AS DETAILED ON STANDARD 701321.

IF THE CONTRACTOR ELECTS TO DELAY BITUMINOUS RESURFACING UNTIL AFTER STAGE CONSTRUCTION IS COMPLETE, TEMPORARY RAMPS AND AGGREGATE PRIME COAT WILL BE REQUIRED. THE COST OF THESE ITEMS WILL NOT BE PAID FOR SEPERATELY BUT SHALL BE INCLUDED IN THE COST OF THE VARIOUS RESURFACING ITEMS.

50' 0 50' 100'
SCALE: 1" = 50'

STAGE I CONSTRUCTION

FAP ROUTE 42 (IL 127)
SECTION 2BR
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: Stage1
DATE: 3/17/05

•DATE-TIME•
•DGN-SPEC•
•REF-TEMP486.DGN; LV= 2-24,5-19,21,23-25,27-36,39-65,59-61
•REF-RAIL.DGN; LV= 2-62

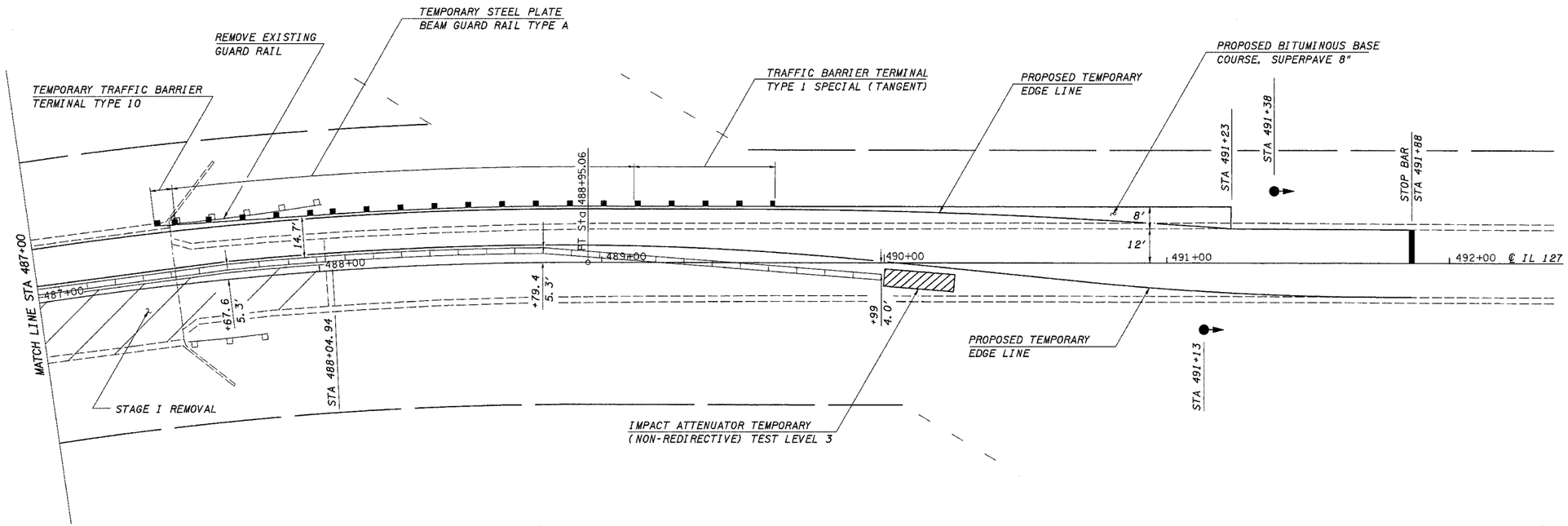
FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	8
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389

PLAN	BY	DATE
SURVEYED 3/17/05		
ALIGNMENT CHECKED		
R.O.W. CHECKED		
NOTE BOOK		
NO.		
FOR FILE NAME		

LEGEND

- TEMPORARY TRAFFIC SIGNALS
- TEMPORARY IMPACT ATTENUATOR
- TEMPORARY CONCRETE BARRIER



TEMPORARY PAVEMENT MARKINGS

LOCATION				LINE TYPE & COLOR	PAVEMENT MARKING TAPE, TYPE III 4" FOOT	TEMPORARY PAVEMENT MARKING - LINE 4" FOOT	WORKZONE PAVEMENT MARKING REMOVAL SQ FT
STAGE 1							
12' LT	STA 482+72	TO 12' LT	STA 483+27	WHITE EDGE LINE	56		19
12' LT	STA 483+27	TO 20' LT	STA 484+20	WHITE EDGE LINE	94		32
20' LT	STA 484+20	TO 20' LT	STA 485+90	WHITE EDGE LINE	170		57
20' LT	STA 485+90	TO 20' LT	STA 488+60	WHITE EDGE LINE		270	
20' LT	STA 488+60	TO 20' LT	STA 490+30	WHITE EDGE LINE	170		57
20' LT	STA 490+30	TO 12' LT	STA 491+23	WHITE EDGE LINE	94		32
12' LT	STA 491+23	TO 12' LT	STA 491+88	WHITE EDGE LINE	66		22
12' RT	STA 482+72	TO 5.3' LT	STA 484+20	WHITE EDGE LINE	150		50
5.3' LT	STA 484+20	TO 5.3' LT	STA 485+90	WHITE EDGE LINE	170		57
5.3' LT	STA 485+90	TO 5.3' LT	STA 488+60	WHITE EDGE LINE		270	
5.3' LT	STA 488+60	TO 5.3' LT	STA 490+30	WHITE EDGE LINE	170		57
5.3' LT	STA 490+30	TO 12' RT	STA 491+88	WHITE EDGE LINE	160		53
TOTAL					1,300	540	436

QUANTITIES FOR PLACEMENT AND REMOVAL OF PAVEMENT MARKING TAPE TYPE III, 4" AND TEMPORARY PAVEMENT MARKING LINE 4" ARE INCLUDED FOR INFORMATION ONLY. PLACING AND REMOVING THESE ITEMS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

50' 0 50' 100'
SCALE: 1" = 50'

STAGE I CONSTRUCTION

FAP ROUTE 42 (IL 127)
SECTION 2BR
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: Stage1
DATE: 3/17/05

PLOT: 1:1
DATE: TIME
DGN: SPEC
REF: TOPO885.DGN, LV: 2-23, 5-19, 21, 23-25, 27-36, 38-56, 58-61
REF: RFILE001.DGN, LV: 2-62

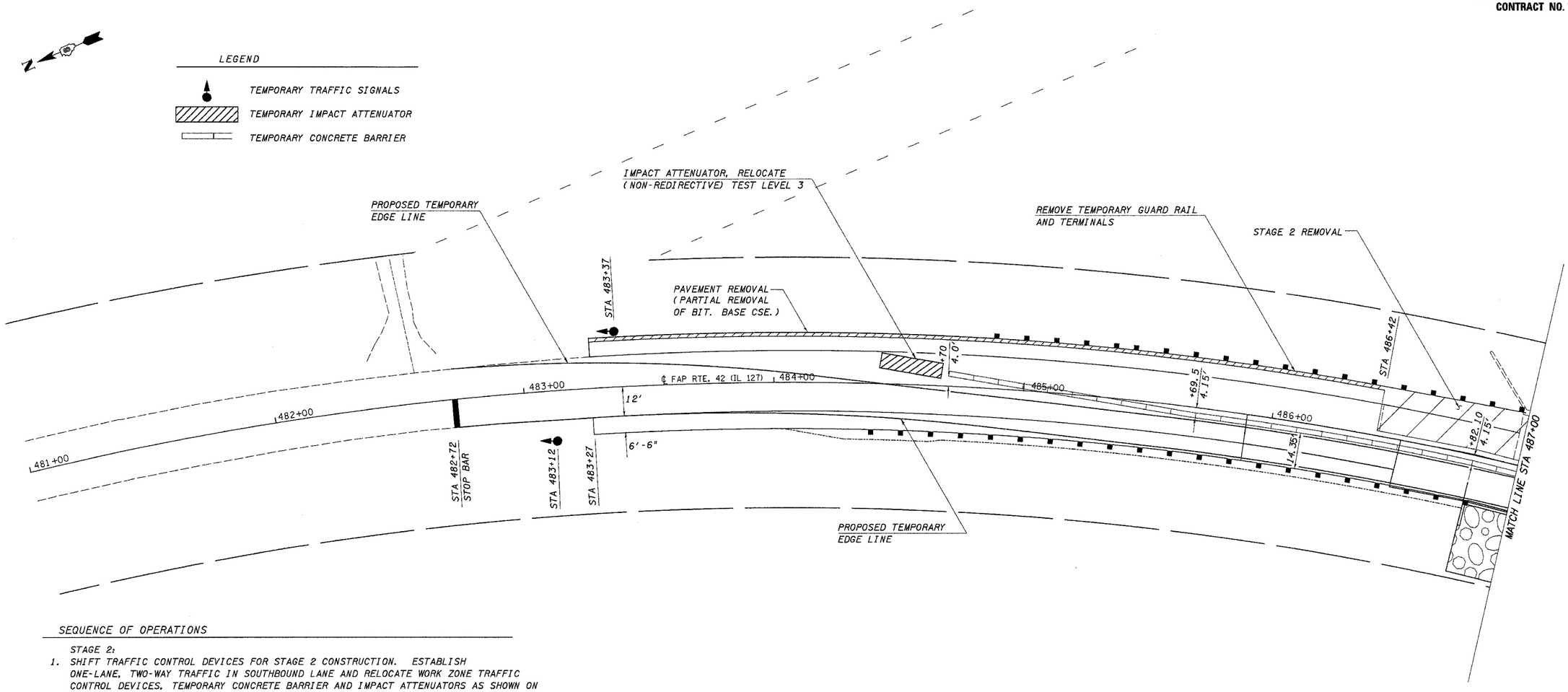
FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	9
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389

PLAN
NOTE BOOK
NO. ____

SURVEYED
PLOTTED
ALIGNMENT CHECKED
R.T. OF W'AY CHECKED
ROAD FILE NAME

BY	DATE



SEQUENCE OF OPERATIONS

STAGE 2:

1. SHIFT TRAFFIC CONTROL DEVICES FOR STAGE 2 CONSTRUCTION. ESTABLISH ONE-LANE, TWO-WAY TRAFFIC IN SOUTHBOUND LANE AND RELOCATE WORK ZONE TRAFFIC CONTROL DEVICES, TEMPORARY CONCRETE BARRIER AND IMPACT ATTENUATORS AS SHOWN ON THIS PLAN AND STANDARD 701321.
2. REMOVE TEMPORARY GUARD RAIL AND TERMINALS.
3. REMOVE STAGE 2 PORTION OF PAVEMENT AND STRUCTURE INCLUDING PARTIAL REMOVAL OF BITUMINOUS BASE COURSE CONSTRUCTED IN THE PRELIMINARY PHASE AS SHOWN ON TYPICAL ROADWAY CROSS SECTIONS.
4. CONSTRUCT STAGE 2 PORTIONS OF PROPOSED STRUCTURE AND APPROACH PAVEMENTS.
5. MILL NORTHBOUND LANE AND RESURFACE.
6. CONSTRUCT BITUMINOUS SHOULDERS AND EARTH SHOULDERS.
7. INSTALL TRAFFIC BARRIER TERMINAL TYPE 6 AND STEEL PLATE BEAM GUARD RAIL; RE-ERECT TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT).
8. REMOVE TRAFFIC CONTROL DEVICES, TEMPORARY PAVEMENT MARKINGS, TEMPORARY CONCRETE BARRIER, AND IMPACT ATTENUATORS; INSTALL SHORT-TERM PAVEMENT MARKINGS AND OPEN ALL LANES TO TRAFFIC.

FINAL PHASE:

1. REMOVE SHORT-TERM PAVEMENT MARKINGS; INSTALL PAVEMENT MARKINGS AND RAISED REFLECTIVE MARKERS.
2. SEEDING AND FINAL CLEAN UP.

NOTES

SEE STANDARD 701321 FOR DETAILS NOT SHOWN.

TEMPORARY CONCRETE BARRIER ON THE APPROACH ROADWAY SHALL BE PLACED PARALLEL TO THE ℄ OF IL 127. TEMPORARY CONCRETE BARRIER WITHIN THE LIMITS OF THE PROPOSED STRUCTURE SHALL BE PLACED PARALLEL TO THE ℄ OF THE PROPOSED STRUCTURE.

OFFSETS REFER TO THE DISTANCE FROM THE ℄ OF IL 127 TO THE FACE OF THE TEMPORARY CONCRETE BARRIER.

IF THE CONTRACTOR ELECTS TO DELAY BITUMINOUS RESURFACING UNTIL AFTER STAGE CONSTRUCTION IS COMPLETE, TEMPORARY RAMPS AND AGGREGATE PRIME COAT WILL BE REQUIRED. THE COST OF THESE ITEMS WILL NOT BE PAID FOR SEPERATELY BUT SHALL BE INCLUDED IN THE COST OF THE VARIOUS RESURFACING ITEMS.

50' 0 50' 100'
SCALE: 1" = 50'

STAGE II CONSTRUCTION

FAP ROUTE 42 (IL 127)
SECTION 2BR
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: Stage2
DATE: 3/17/05

*WIDTH 1.PW
PLOT TIME
DGN-SPEC
*REF-
*REF-

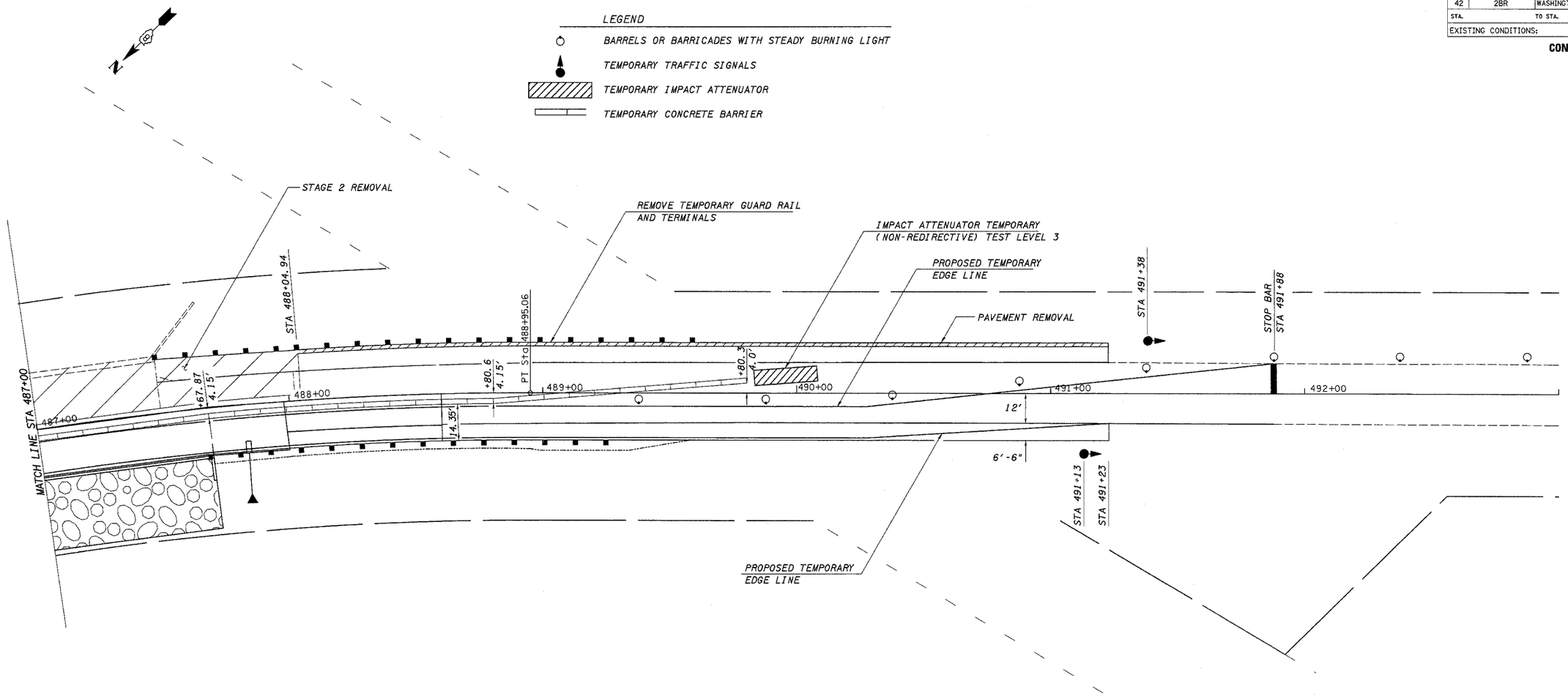
FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	10
STA.	TO STA.			
EXISTING CONDITIONS:				

CONTRACT NO. 76389

PLAN
SURVEYED BY
DRAWN BY
ALIGNMENT CHECKED BY
PLAN CHECKED BY
NOTE BOOK NO.
PLAN FILE NAME
DATE

LEGEND

- BARRELS OR BARRICADES WITH STEADY BURNING LIGHT
- TEMPORARY TRAFFIC SIGNALS
- TEMPORARY IMPACT ATTENUATOR
- TEMPORARY CONCRETE BARRIER



TEMPORARY PAVEMENT MARKINGS

LOCATION				LINE TYPE & COLOR	PAVEMENT MARKING TAPE, TYPE III 4" FOOT	WORKZONE PAVEMENT MARKING REMOVAL SQ FT
STAGE 2						
12' RT	STA 482+72	TO 12' RT	STA 483+27	WHITE EDGE LINE	56	19
12' RT	STA 483+27	TO 18.5' RT	STA 485+70	WHITE EDGE LINE	243	81
18.5' RT	STA 485+70	TO 18.5' RT	STA 490+28	WHITE EDGE LINE	458	152
18.5' RT	STA 490+28	TO 12' RT	STA 491+23	WHITE EDGE LINE	96	32
12.0' RT	STA 491+23	TO 12' RT	STA 491+88	WHITE EDGE LINE	66	22
12' LT	STA 482+72	TO 4.15' RT	STA 485+70	WHITE EDGE LINE	299	99
4.15' RT	STA 485+70	TO 4.15' RT	STA 490+28	WHITE EDGE LINE	458	152
4.15' RT	STA 490+28	TO 12' LT	STA 491+88	WHITE EDGE LINE	161	54
TOTAL					1,837	611

QUANTITIES FOR PLACEMENT AND REMOVAL OF PAVEMENT MARKING TAPE TYPE III, 4" ARE INCLUDED FOR INFORMATION ONLY. PLACING AND REMOVING THESE ITEMS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

SHORT-TERM PAVEMENT MARKING

LOCATION	LINE TYPE & COLOR	SHORT-TERM PAVEMENT MARKING FOOT	WORKZONE PAVEMENT MARKING REMOVAL SQ FT
STA 482+72 TO STA 491+88	YELLOW CENTERLINE	100	33
STA 483+27 TO STA 491+23	WHITE EDGE LINE	64	22
TOTAL		164	55

SHORT-TERM PAVEMENT MARKING SHALL BE INSTALLED PRIOR TO REMOVAL OF TEMPORARY CONCRETE BARRIER AND TRAFFIC CONTROL DEVICES USED FOR STAGE 2 CONSTRUCTION.

50' 0 50' 100'
SCALE: 1" = 50'

STAGE II CONSTRUCTION

FAP ROUTE 42 (IL 127)
SECTION 2BR
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: Stage2
DATE: 3/17/05

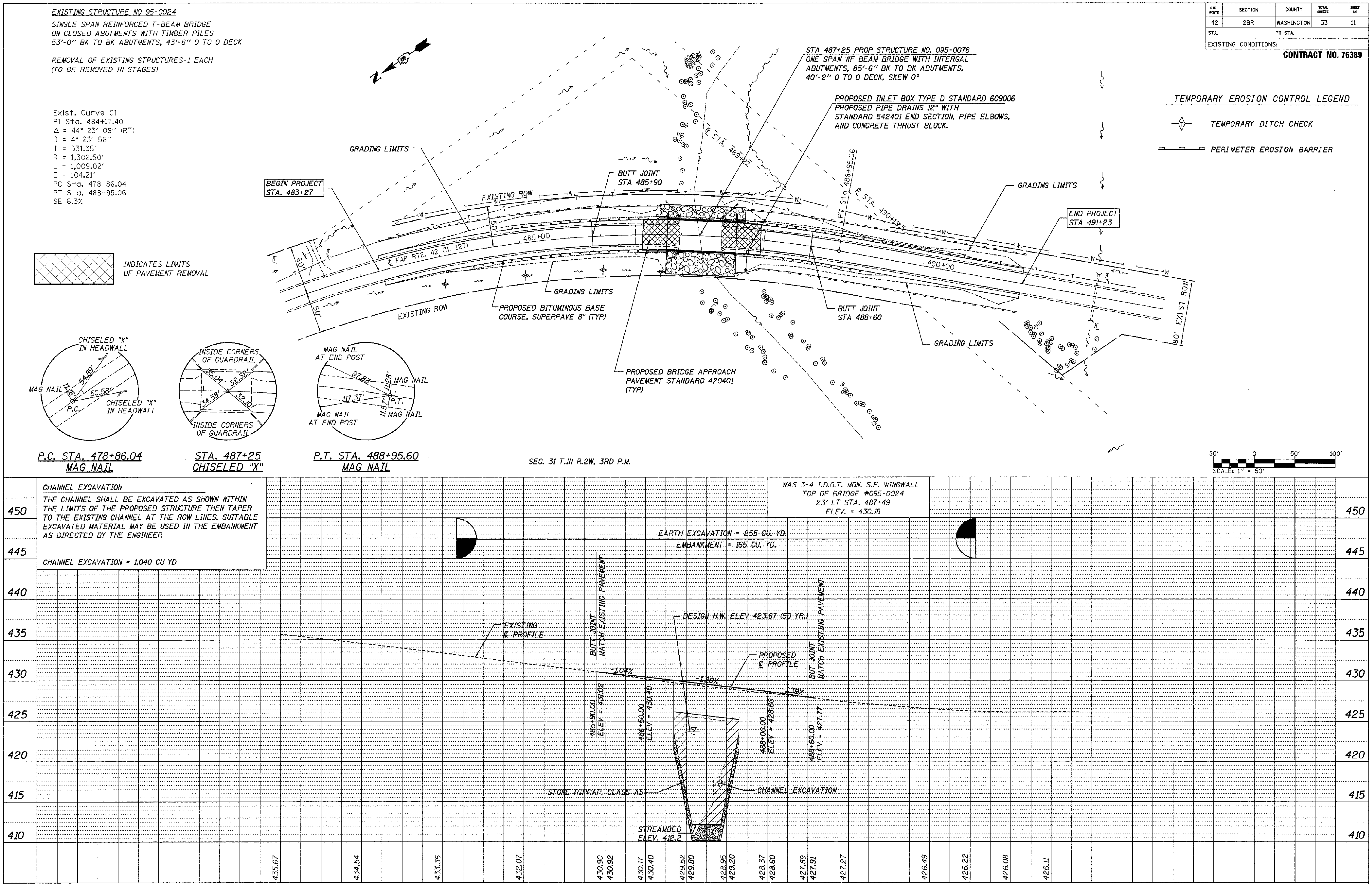
•RATE-TIME•
•DGN-SPEC•
•REF-
•REF-

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	11

STA. TO STA.

EXISTING CONDITIONS:

CONTRACT NO. 76389

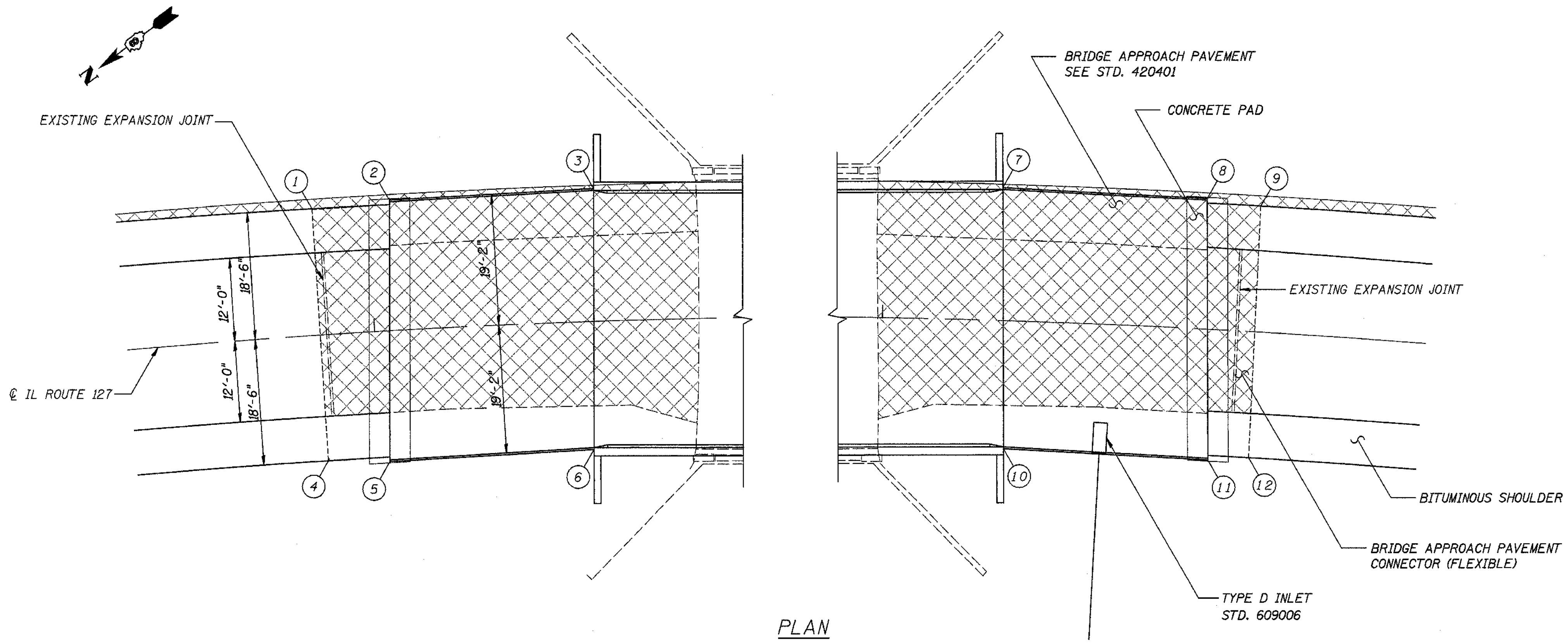


PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK NO.

PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, B.M. NOTED, STRUCTURE NOTATIONS CHECKED, NOTE BOOK NO.

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	12
STA.		TO STA.		
EXISTING CONDITIONS:				

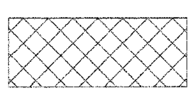
CONTRACT NO. 76389



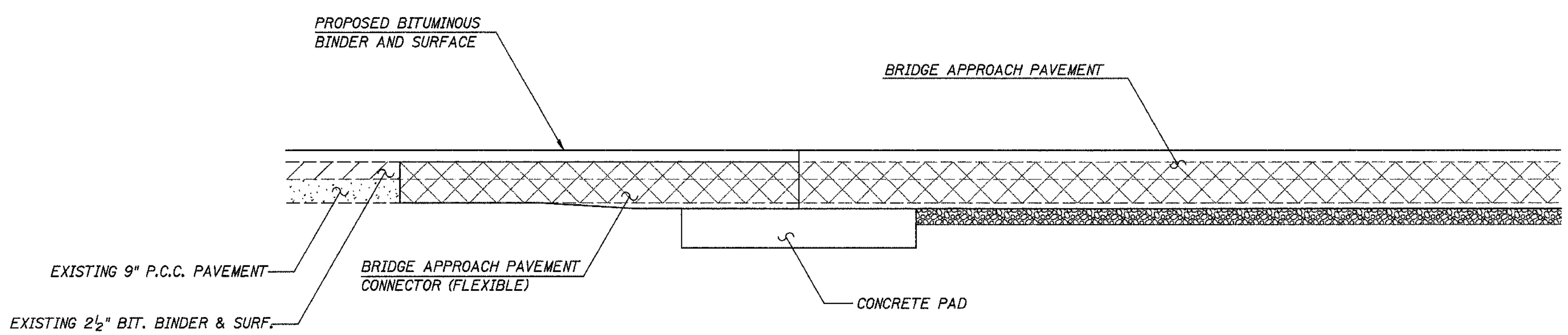
PLAN

TABLE OF OFFSETS		
BRIDGE APPROACH PAVEMENT		
NO.	STA.	OFFSET *
1	SEE CONNECTORS	
2	486+53.26	19.17 LT
3	486+82.87	19.51 LT
4	SEE CONNECTORS	
5	486+51.12	19.17 RT
6	486+81.61	18.81 RT
7	487+67.13	19.51 LT
8	487+96.74	19.17 LT
9	SEE CONNECTORS	
10	487+68.39	18.81 RT
11	487+98.88	19.17 RT
12	SEE CONNECTORS	
CONNECTOR PAVEMENT		
NO.	STA.	OFFSET
1	486+42.00	18.5 LT
4	486+42.00	18.5 RT
9	488+04.94	18.5 LT
12	488+04.94	18.5 RT

* OFFSETS REFER TO THE DISTANCE FROM ℄ TO THE BACK OF CURB.



INDICATES PAVEMENT REMOVAL



SECTION THROUGH APPROACH

NOTE: SEE STANDARD 420401 FOR DETAILS NOT SHOWN.

PROPOSED BRIDGE APPROACH PAVEMENT SHALL BE GROOVED AS SPECIFIED IN SECTION 503 OF THE STANDARD SPECIFICATIONS.

BRIDGE DECK GROOVING 228 SQ YD

BRIDGE APPROACH PAVEMENT DETAILS

FAP ROUTE 42 (IL 127)
SECTION 2BR
ILLINOIS DEPT. OF TRANSPORTATION
DISTRICT 8
WASHINGTON COUNTY

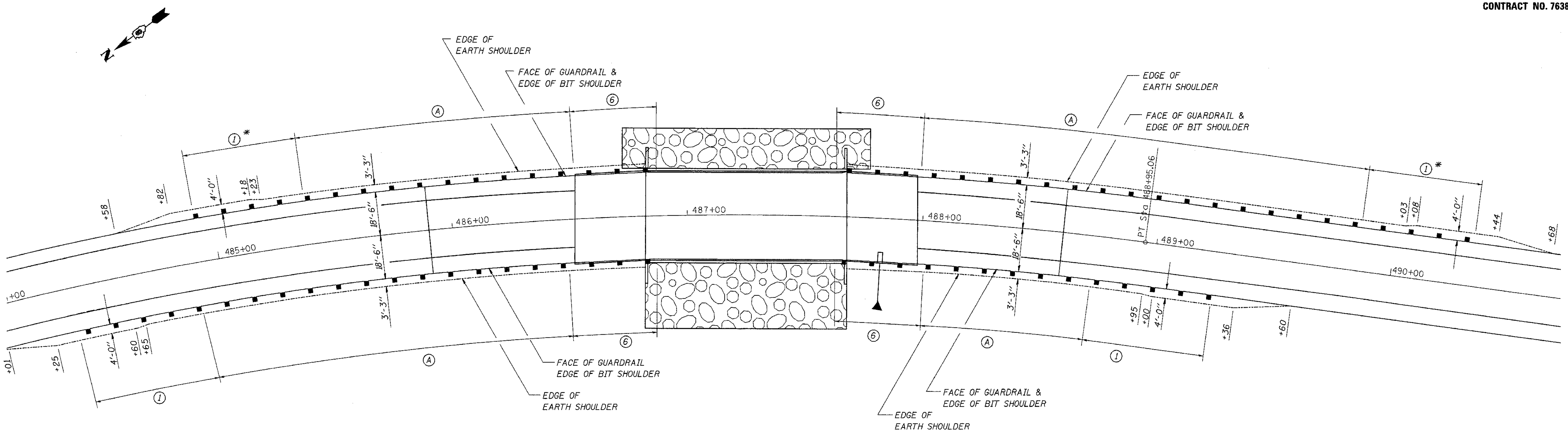
CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: APPRPVT
DATE: 3/17/05

PLAN	
NOTE BOOK NO.	SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.T. OF WAY CHECKED / CADD FILE NAME
BY	DATE

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	13
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389



GUARDRAIL AND SHOULDER WIDENING DETAILS

* PROPOSED TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT) SHALL BE INSTALLED AT THE TEMPORARY LOCATION PRIOR TO STAGE 1 CONSTRUCTION AND REMOVED AND RE-ERECTED AT THE FINAL LOCATION AS SHOWN ON THE PLANS DURING STAGE 2 CONSTRUCTION. RELOCATING THE TERMINAL SHALL BE PAID FOR AS "REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL TYPE 1."

LEGEND

(1) TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT)

(A) STEEL PLATE BEAM GUARD RAIL TYPE A

(6) TRAFFIC BARRIER TERMINAL TYPE 6

20' 0 20' 40'
SCALE: 1" = 20'

GUARDRAIL & SHOULDER DETAILS

FAP ROUTE 42 (IL 127)
SECTION 2BR
WASHINGTON COUNTY

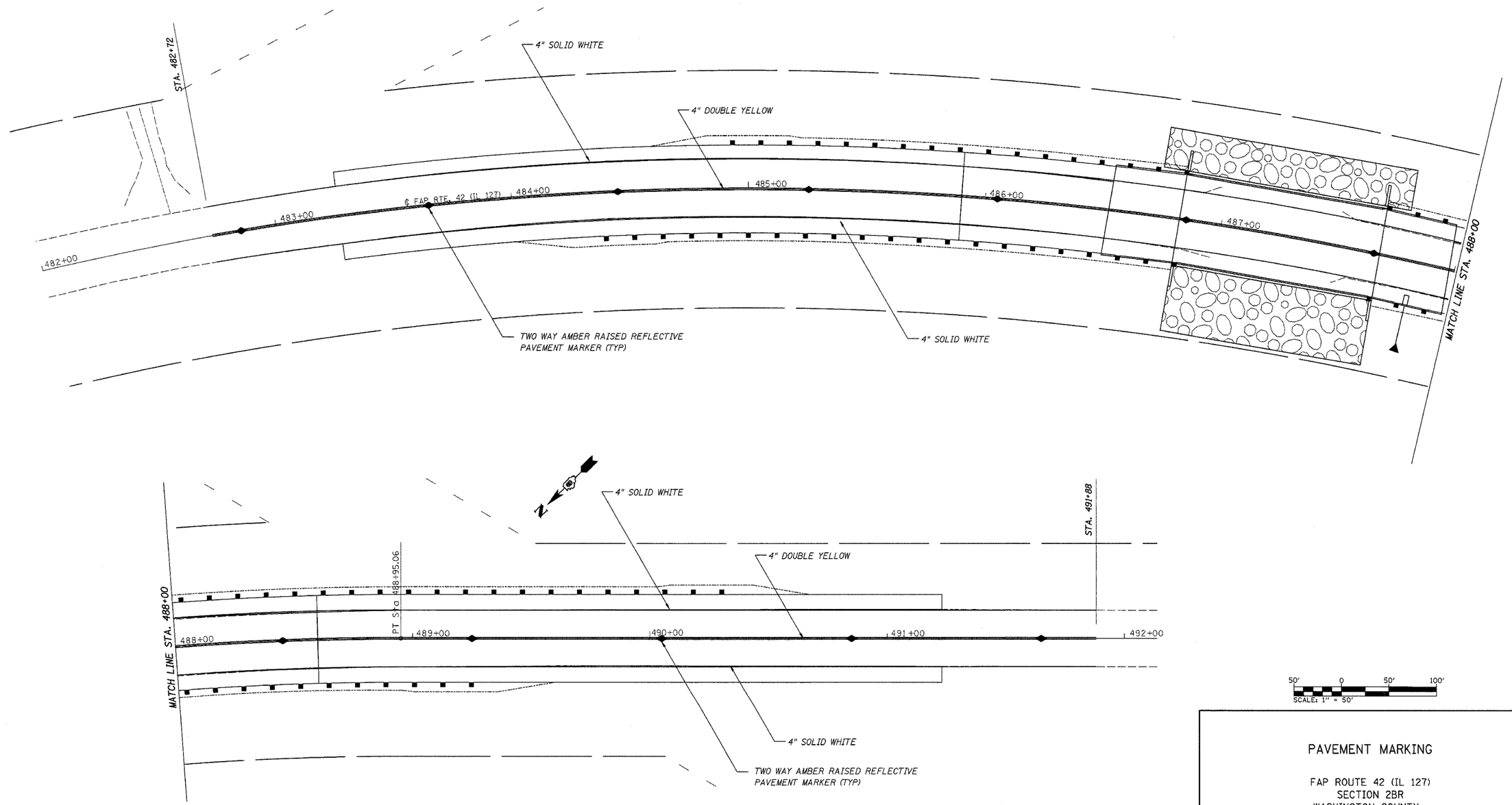
CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: grail2158
DATE: 3/17/05

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	14
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389

LOCATION	THERMOPLASTIC PAVEMENT MARKING - LINE 4"			POLYUREA PAVEMENT MARKING - LINE 4"			RAISED REFLECTIVE PAVEMENT MARKERS	
STATION TO STATION	WHITE EDGE LINE (LEFT)	YELLOW DOUBLE (CENTERLINE)	WHITE EDGE LINE (RIGHT)	WHITE EDGE LINE (LEFT)	YELLOW DOUBLE (CENTERLINE)	WHITE EDGE LINE (RIGHT)	REMOVE	PROPOSED (PAVEMENT)
	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	EACH	EACH
STA. 482+72 TO STA. 486+52.24	381	761	381	0	0	0	5	5
STA. 486+52.24 TO STA. 487+97.76	0	0	0	146	291	146	2	2
STA. 487+97.76 TO STA. 491+88	391	781	391	0	0	0	5	5
TOTAL	772	1,542	772	146	291	146	12	12



50′ 0 50′ 100′
SCALE: 1" = 50′

PAVEMENT MARKING

FAP ROUTE 42 (IL 127)
SECTION 2BR
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: pvtmk006
DATE: 6/23/05

PLAN
SURVEYED
PLOTTED
NOTE BOOK
NO.
AS-BUILT CHECKED
R/W CHECKED
PROJ FILE NAME
BY
DATE

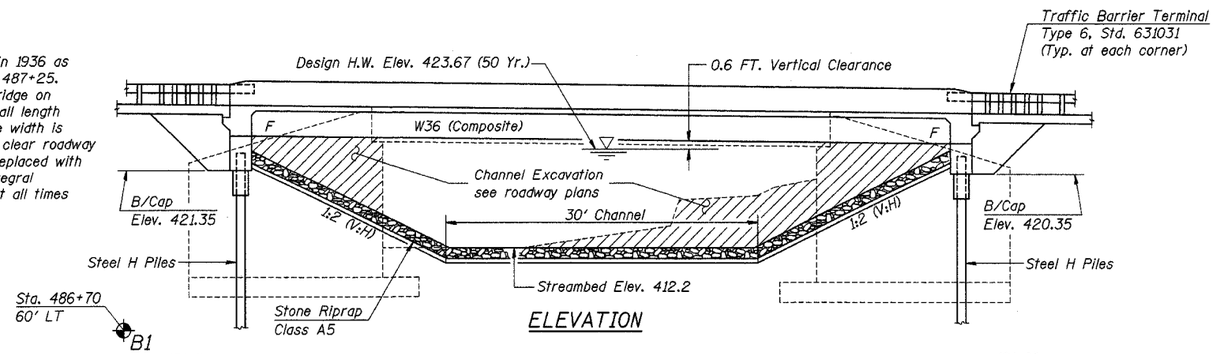
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	15
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 1 of 16 CONTRACT #76389

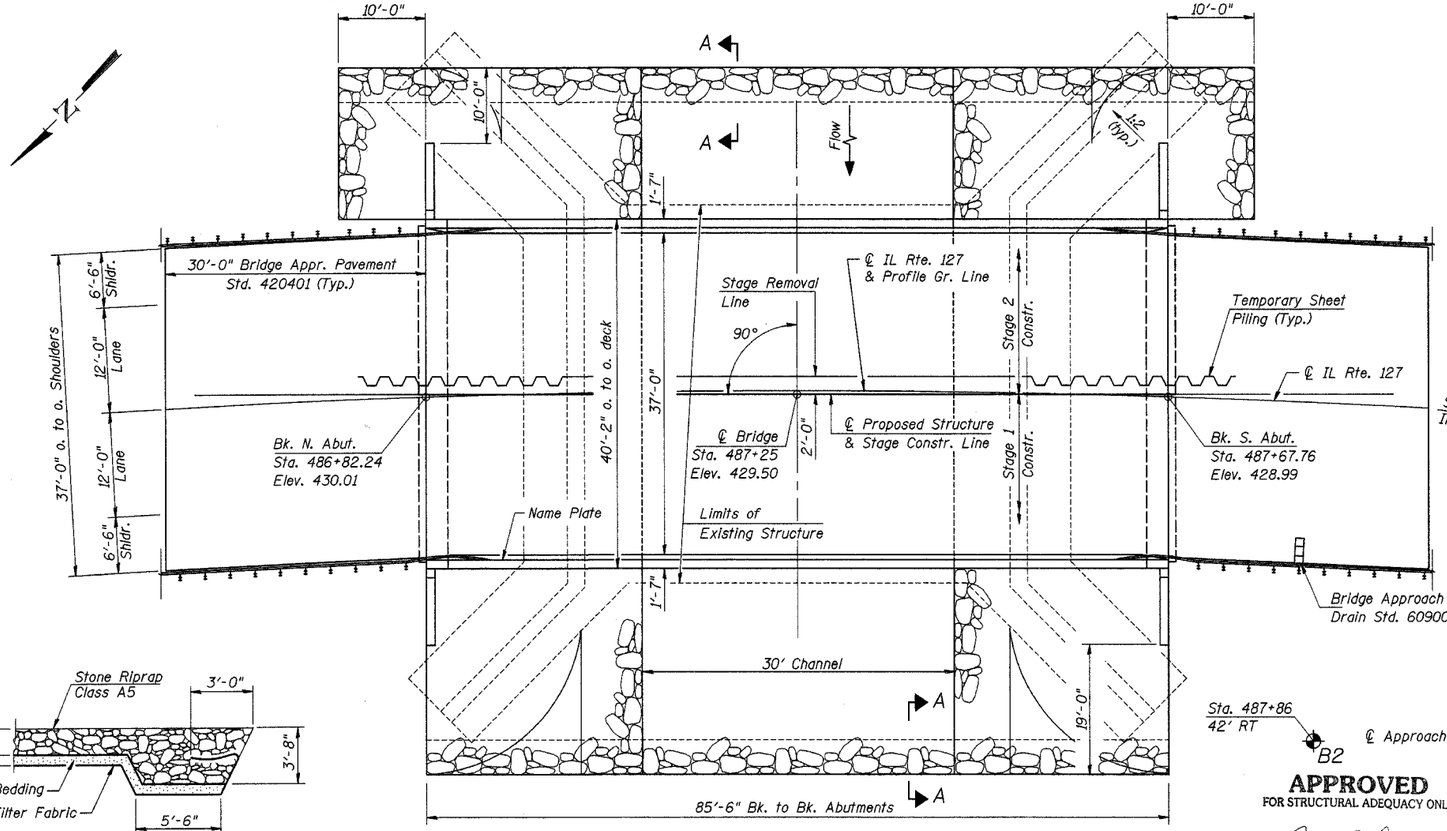
Bench Mark: Disc in SE Headwall of Bridge S.N. 095-0024. Elev. 430.18

Existing Structure: S.N. 095-0024 built in 1936 as S.B.I. Route 127, Sec. 2-B-NRH at Sta. 487+25. Structure is a single span RC T-beam bridge on closed abutments with timber piles. Overall length is 53'-0" back to back abutments. Bridge width is 43'-6" out to out of deck with a 39'-8" clear roadway width. Structure is to be removed and replaced with a single span composite WF bridge on integral abutments. Traffic shall be maintained at all times utilizing Stage Construction.

No Salvage.

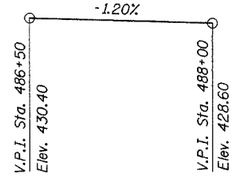


ELEVATION



PLAN

SEC A-A



PROFILE GRADE
(along ℄ F.A.P. Rte. 42)

INDEX OF SHEETS

DESIGN SPECIFICATIONS

2002 AASHTO

LOADING HS20-44

Allow 50#/Sq. Ft. for future wearing surface

DESIGN STRESSES

f'_c = 3,500 psi
f_y = 60,000 psi (Reinforcement)
f_y = 50,000 psi (Structural Steel) (M270 GR. 50)

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.10
Site Coefficient (S) = 1.0

CURVE DATA

(℄ F.A.P. Route 42)

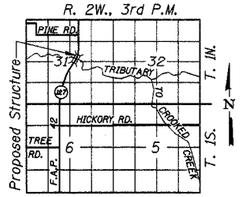
Δ = 44° 23' 09"
D = 4° 23' 56"
T = 531.35'
R = 1,302.50'
L = 1,009.02'
E = 104.21'
S.E. = 0.063'/Ft.
P.C. Sta. = 478+86.04
P.I. Sta. = 484+17.40
P.T. Sta. = 488+95.06

WATERWAY INFORMATION

Drainage Area = 12.36 Sq. Mi. Low Grade Elev. 426.02 @ Sta. 492+12

Flood		Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design		50	3231	444	547	423.67	2.09	1.52	425.76	425.19
Base		100	3712	458	567	423.95	2.44	1.75	426.39	425.70
Overtopping	Exist.	71	3425	449	—	423.78	2.24	—	426.02	—
	Prop.	167	4000	—	579	424.11	—	1.91	—	426.02
Max. Calc.		—	—	—	—	—	—	—	—	—

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins



LOCATION SKETCH

Sta. 487+86
42' RT
B2

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

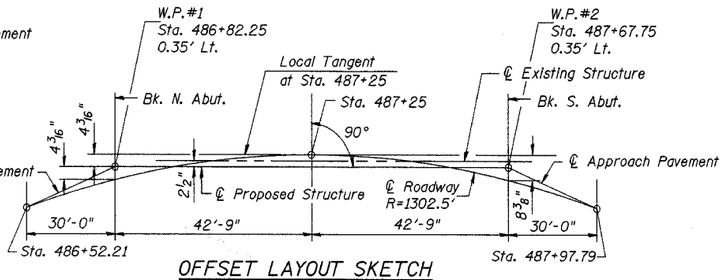
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STATION 487+25
BUILT 200_ BY
STATE OF ILLINOIS
F.A.P. RTE. 42 SEC. 2BR
LOADING HS20
STR. NO. 095-0076

LETTERING FOR NAME PLATE
See Std. 515001

MICHAEL D. CUMMINS
081-004822
LICENSED STRUCTURAL ENGINEER
OF SPRINGFIELD
ILLINOIS

(Expires 11/30/2006)



OFFSET LAYOUT SKETCH

GENERAL PLAN & ELEVATION

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

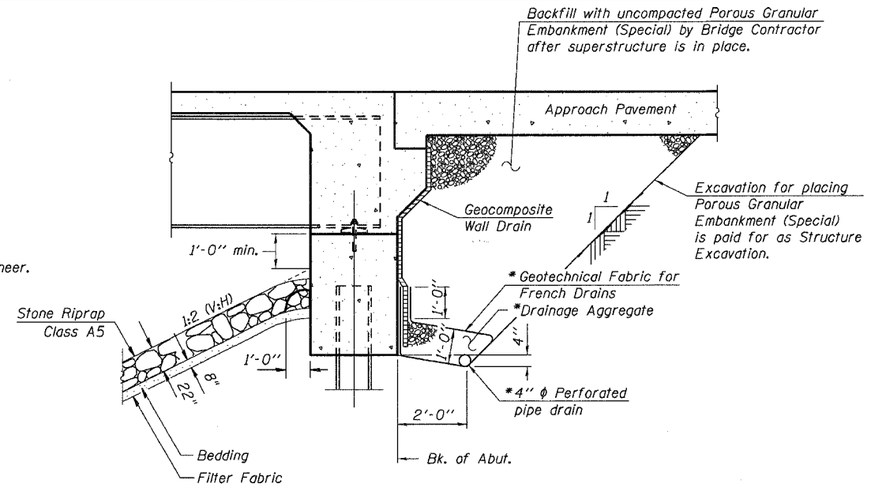
JOB #: 2158
FILE: 2158GPE
DATE: 2/10/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	16
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 2 of 16 CONTRACT #76389

GENERAL NOTES

1. Fasteners shall be high strength bolts. Bolts $^{3}/_{4}$" ϕ , open holes $^{15}/_{16}$" ϕ , unless otherwise noted.
2. Calculated weight of Structural Steel = 91,130 pounds.
3. Field welding of construction accessories will not be permitted to beams or girders.
4. The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams.
5. Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
6. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
7. The contractor shall drive two HP12x53 test piles in permanent locations, one at each abutment as directed by the Engineer before ordering the remainder of piles.
8. In addition to all other requirements of Section 512 of the Standard Specifications, splices for steel H-piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection.
9. All construction joints shall be bonded.
10. Excavation behind existing closed abutment walls shall be done before removing the existing superstructure. The Contractor shall sawcut the existing abutments at the stage removal line before Stage I removal.
11. The inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be gray, Munsell No 5B 7/1. See special provision for Cleaning and Painting New Metal Structures.



SECTION THRU INTEGRAL ABUTMENT

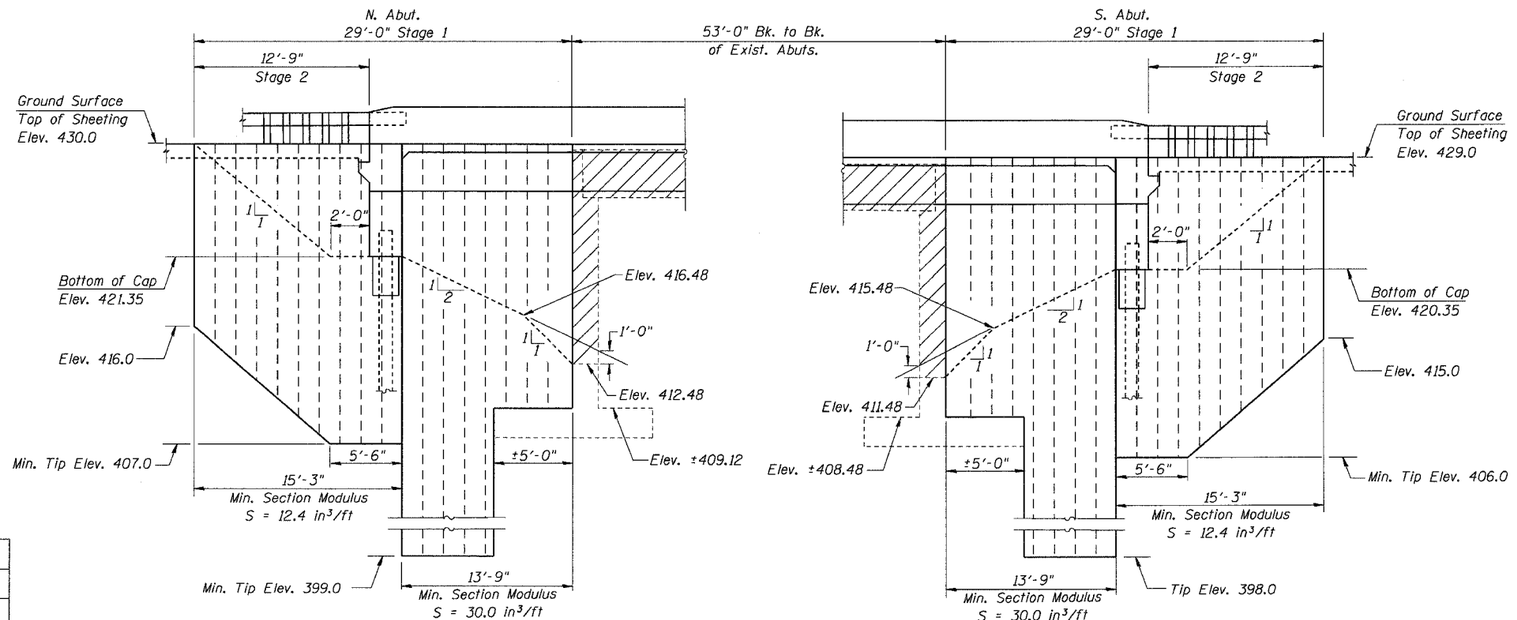
(Horiz. dim. ℄ Rt. L's)

* Included in the cost of Pipe Underdrains for Structures.

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.	215		215
Stone Riprap, Class A5	Sq. Yd.	970		970
Filter Fabric	Sq. Yd.	970		970
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		230	230
Concrete Structures	Cu. Yd.		40.2	40.2
Concrete Superstructure	Cu. Yd.	132.4		132.4
Bridge Deck Grooving	Sq. Yd.	331		331
Protective Coat	Sq. Yd.	423		423
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1350		1350
Reinforcement Bars, Epoxy Coated	Pound	25550	5940	31490
Furnishing Steel Piles HP12x53	Foot		335	335
Driving Steel Piles	Foot		335	335
Test Pile Steel HP12x53	Each		2	2
Temporary Sheet Piling	Sq. Ft.		1365	1365
Name Plates	Each		1	1
Bar Splicers	Each	360	14	374
Geocomposite Wall Drain	Sq. Yd.		83	83
Pipe Underdrains for Structures 4"	Foot		150	150



TEMPORARY SHEET PILING DETAIL

(Looking East)

Notes:

Hatched area indicates limits of Removal of Existing Structures.

If the Contractor chooses to alter the temporary contilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

Hard driving may be encountered during the sheet piling installation. The Contractor shall provide the appropriate driving equipment for the soil conditions indicated on the boring logs.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

GENERAL NOTES & TOTAL BILL OF MATERIAL

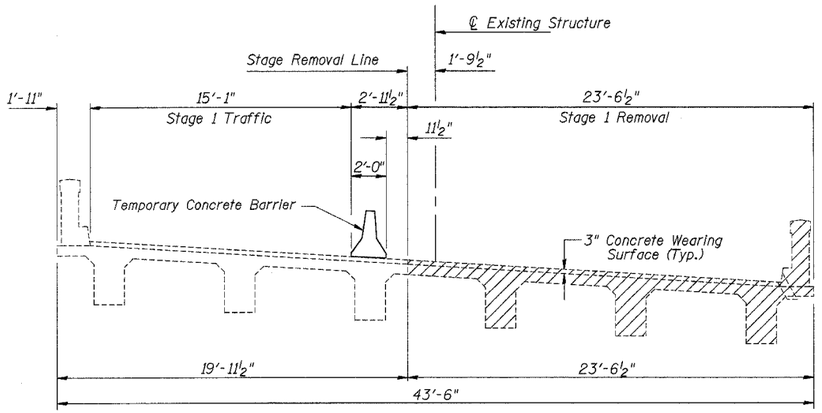
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158BILLMAT
DATE: 5/30/06

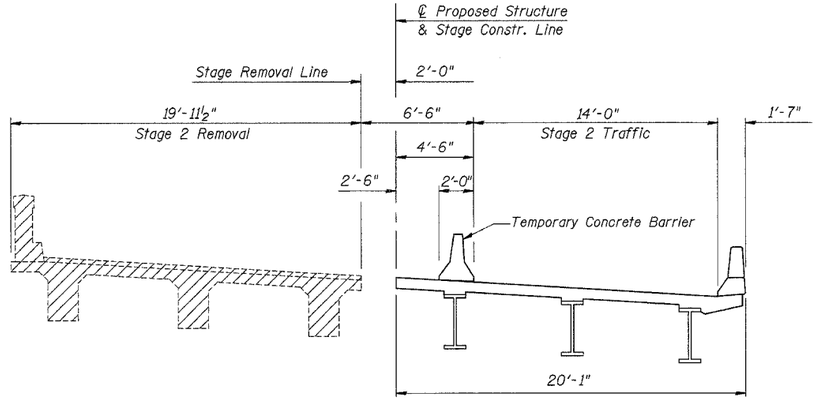
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	17
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 3 of 16 CONTRACT #76389



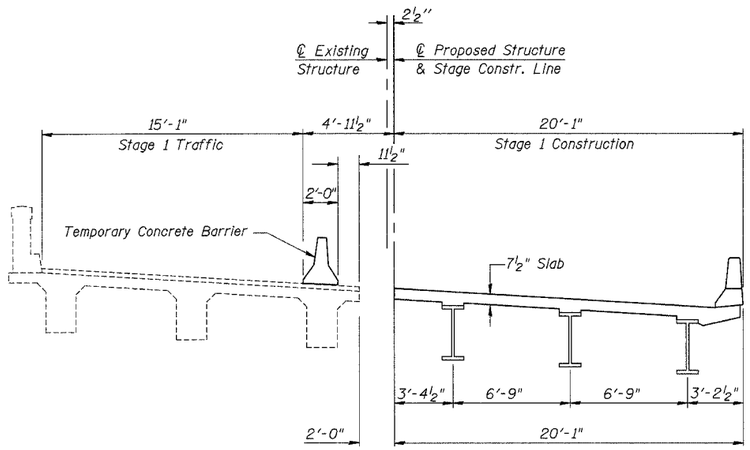
STAGE 1 REMOVAL

(Looking South)



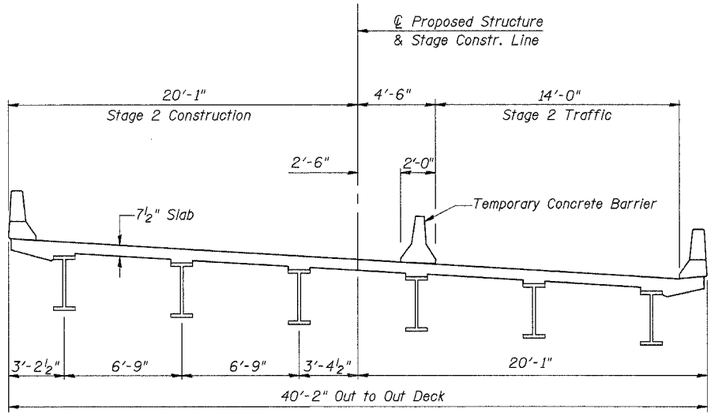
STAGE 2 REMOVAL

(Looking South)



STAGE 1 CONSTRUCTION

(Looking South)



STAGE 2 CONSTRUCTION

(Looking South)

Notes:

Hatched areas indicate Removal of Existing Structures.
For details of Temporary Concrete Barrier, see sheet 15 of 16.
See Roadway Plans for quantity of Temporary Concrete Barrier.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

STAGE CONSTRUCTION DETAILS

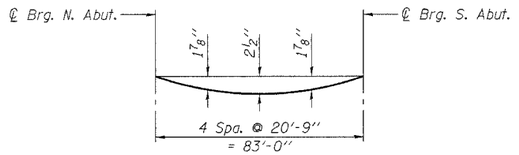
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158STAGE
DATE: 3/14/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	18
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

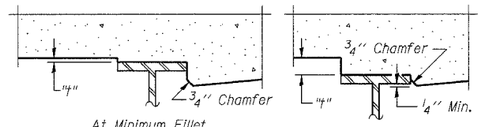
Sheet 4 of 16 CONTRACT #76389



DEAD LOAD DEFLECTION DIAGRAM

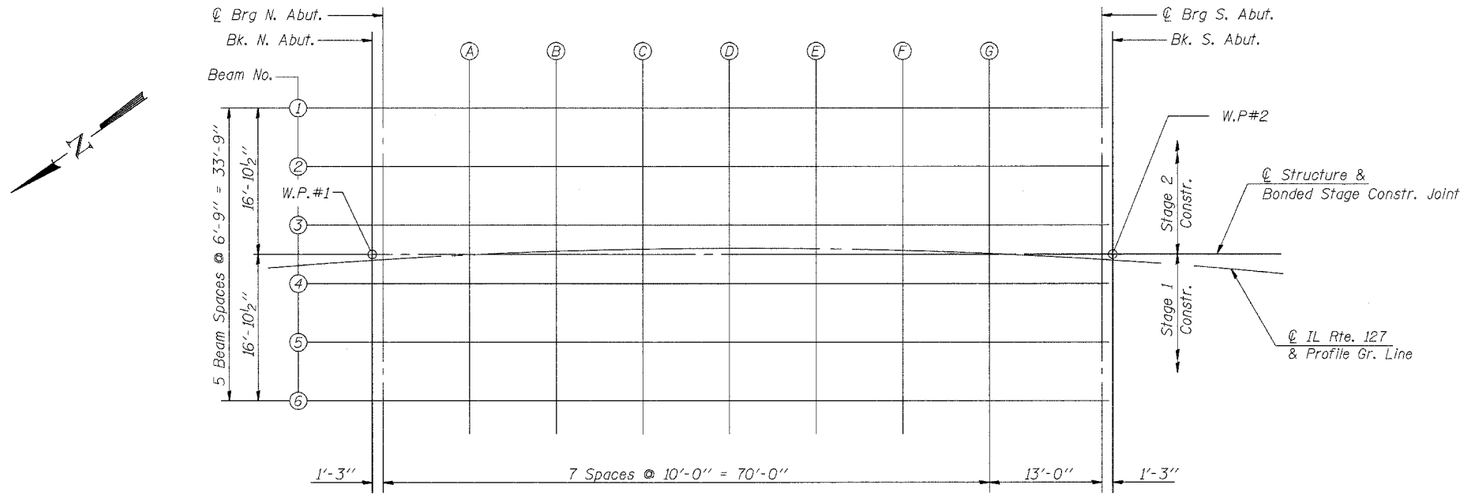
(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 5 of 16.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 5 of 16, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

Work this sheet with sheet 5 of 16.

TOP OF SLAB ELEVATIONS

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

E-S 4-30-97

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158SLAB
DATE: 2/10/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	19
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 5 of 16 CONTRACT #76389

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.800	-17.219	431.091	431.091
℄ Brg. N. Abut.	48684.033	-17.179	431.074	431.074
A	48693.901	-16.902	430.938	431.011
B	48703.771	-16.701	430.807	430.953
C	48713.644	-16.576	430.681	430.859
D	48723.519	-16.527	430.559	430.767
E	48733.393	-16.553	430.442	430.630
F	48743.267	-16.656	430.330	430.488
G	48753.139	-16.834	430.223	430.318
℄ Brg. S. Abut.	48765.967	-17.179	430.091	430.091
Bk. S. Abut.	48767.200	-17.219	430.078	430.078

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.583	-10.472	430.669	430.669
℄ Brg. N. Abut.	48683.823	-10.432	430.651	430.651
A	48693.741	-10.154	430.515	430.588
B	48703.662	-9.952	430.383	430.529
C	48713.586	-9.826	430.256	430.435
D	48723.511	-9.777	430.134	430.342
E	48733.437	-9.804	430.016	430.204
F	48743.361	-9.906	429.904	430.062
G	48753.283	-10.085	429.796	429.891
℄ Brg. S. Abut.	48766.177	-10.432	429.663	429.663
Bk. S. Abut.	48767.417	-10.472	429.651	429.651

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.364	-3.726	430.246	430.246
℄ Brg. N. Abut.	48683.610	-3.685	430.229	430.229
A	48693.579	-3.406	430.092	430.165
B	48703.552	-3.203	429.959	430.105
C	48713.527	-3.077	429.832	430.010
D	48723.503	-3.027	429.709	429.917
E	48733.480	-3.054	429.591	429.778
F	48743.456	-3.157	429.477	429.636
G	48753.429	-3.337	429.369	429.464
℄ Brg. S. Abut.	48766.390	-3.685	429.236	429.236
Bk. S. Abut.	48767.636	-3.726	429.223	429.223

℄ STRUCTURE & BONDED STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.254	-0.353	430.035	430.035
℄ Brg. N. Abut.	48683.503	-0.312	430.018	430.018
A	48693.498	-0.032	429.880	429.953
B	48703.496	0.172	429.747	429.893
C	48713.497	0.298	429.619	429.798
D	48723.500	0.348	429.496	429.704
E	48733.502	0.321	429.378	429.565
F	48743.504	0.218	429.264	429.423
G	48753.503	0.037	429.156	429.251
℄ Brg. S. Abut.	48766.497	-0.312	429.022	429.022
Bk. S. Abut.	48767.746	-0.353	429.009	429.009

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.143	3.021	429.824	429.824
℄ Brg. N. Abut.	48683.395	3.061	429.806	429.806
A	48693.416	3.342	429.668	429.742
B	48703.440	3.546	429.535	429.681
C	48713.467	3.673	429.407	429.586
D	48723.496	3.723	429.283	429.492
E	48733.524	3.696	429.165	429.352
F	48743.552	3.592	429.051	429.209
G	48753.577	3.411	428.942	429.037
℄ Brg. S. Abut.	48766.605	3.061	428.808	428.808
Bk. S. Abut.	48767.857	3.021	428.795	428.795

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48681.919	9.767	429.402	429.402
℄ Brg. N. Abut.	48683.178	9.808	429.384	429.384
A	48693.251	10.090	429.245	429.318
B	48703.328	10.295	429.111	429.258
C	48713.407	10.423	428.982	429.161
D	48723.488	10.473	428.858	429.066
E	48733.569	10.446	428.739	428.927
F	48743.649	10.342	428.625	428.783
G	48753.726	10.160	428.515	428.610
℄ Brg. S. Abut.	48766.822	9.808	428.380	428.380
Bk. S. Abut.	48768.081	9.767	428.368	428.368

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48681.693	16.513	428.979	428.979
℄ Brg. N. Abut.	48682.958	16.554	428.962	428.962
A	48693.084	16.838	428.822	428.895
B	48703.214	17.044	428.688	428.834
C	48713.346	17.173	428.558	428.737
D	48723.480	17.223	428.433	428.641
E	48733.614	17.196	428.313	428.501
F	48743.747	17.091	428.198	428.357
G	48753.877	16.908	428.088	428.183
℄ Brg. S. Abut.	48767.042	16.554	427.953	427.953
Bk. S. Abut.	48768.307	16.513	427.940	427.940

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

E-S 4-30-97

Work this sheet with sheet 4 of 16.

TOP OF SLAB ELEVATIONS

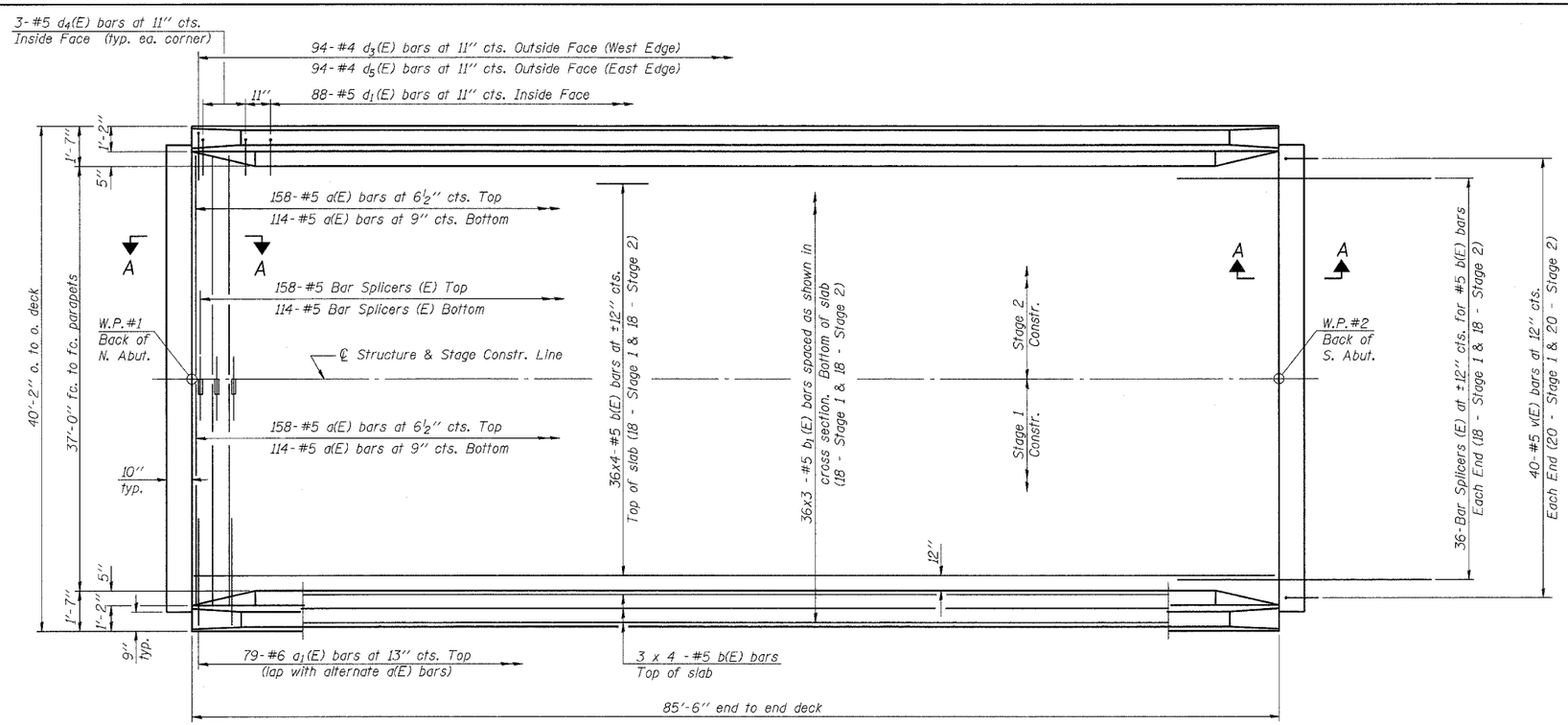
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158SLAB
DATE: 11/12/04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	20
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

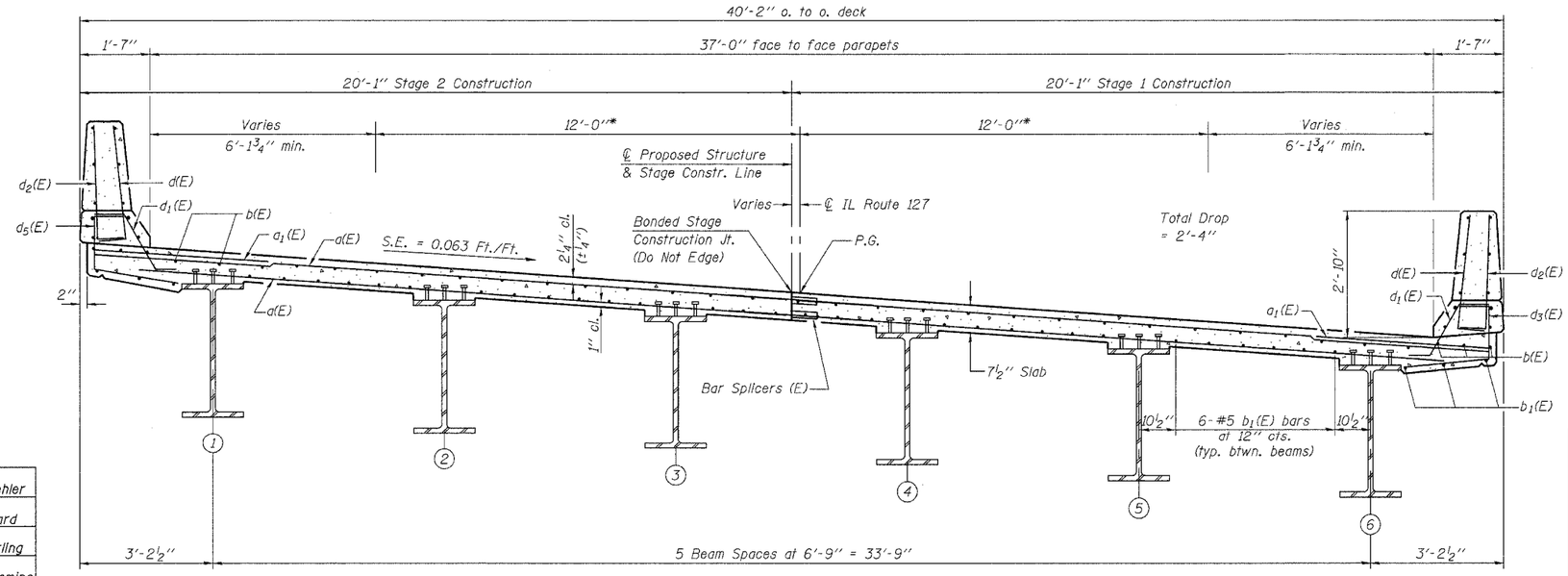
Sheet 6 of 16 CONTRACT #76389



PLAN

MIN. BAR LAPS

#5 Bar = 1'-8"



CROSS SECTION

(Looking South)

*Radial Dimensions

Notes:
See Sheet 7 of 16 for parapet reinforcement, superstructure details and Bill of Material.
See Sheet 8 of 16 for diaphragm details and Section A-A.
See Sheet 13 of 16 for bar splicer details.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 36 x 3-#5 etc. indicates 36 lines of bars with 3 lengths per line.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

SUPERSTRUCTURE

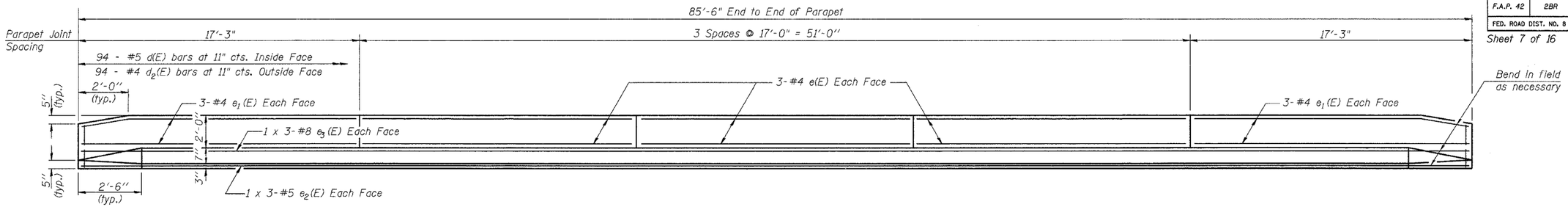
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

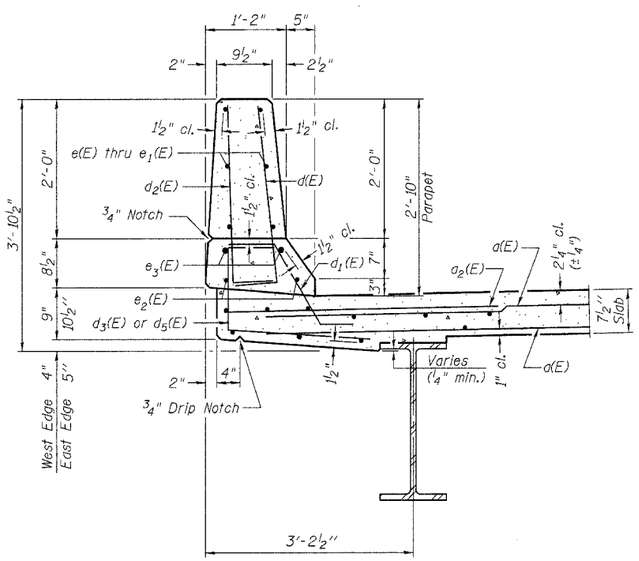
JOB #: 2158
FILE: 2158SUPER
DATE: 2/10/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	21
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

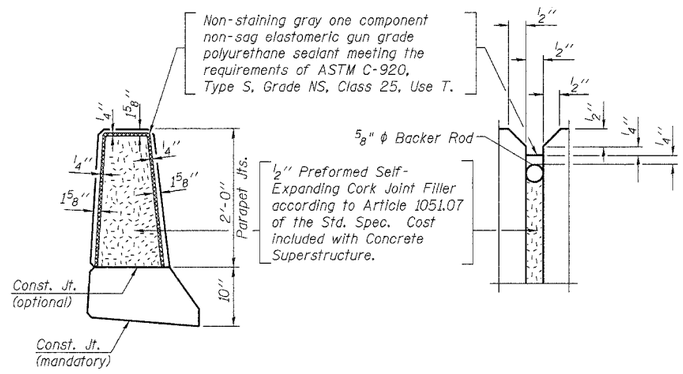
Sheet 7 of 16 CONTRACT #76389



INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET



PARAPET JOINT DETAILS

MIN. BAR LAPS

#5 Bar = 2'-2"
#8 Bar = 4'-6"

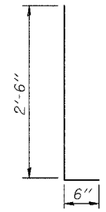
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	544	#5	19'-6"	
a_1(E)	158	#6	4'-6"	
b(E)	168	#5	22'-7"	
b_1(E)	108	#5	29'-6"	
d(E)	188	#5	3'-0"	
d_1(E)	176	#5	2'-5"	
d_2(E)	188	#4	3'-0"	
d_3(E)	94	#4	3'-10"	
d_4(E)	12	#5	2'-2"	
d_5(E)	94	#4	3'-11"	
e(E)	36	#4	16'-8"	
e_1(E)	24	#4	16'-11"	
e_2(E)	12	#5	29'-10"	
e_3(E)	12	#8	31'-5"	
m(E)	8	#6	19'-0"	
m_1(E)	12	#6	19'-9"	
m_2(E)	24	#6	8'-5"	
m_3(E)	10	#6	6'-5"	
m_4(E)	4	#6	2'-10"	
s(E)	84	#5	4'-6"	
s_1(E)	72	#4	9'-8"	
v(E)	80	#5	3'-8"	

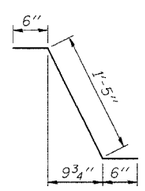
Reinforcement Bars, Epoxy Coated	Pound	25550
Concrete Superstructure	Cu. Yds.	132.4
Bar Splicers	Each	360

Reinforcement bars designated (E) shall be epoxy coated.

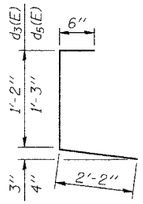
Bars indicated thus 1 x 3 -#5 etc. indicates 1 line of bars with 3 lengths per line.



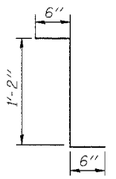
BARS d(E) & d_2(E)



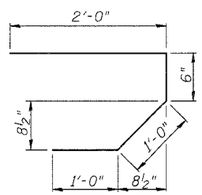
BAR d_1(E)



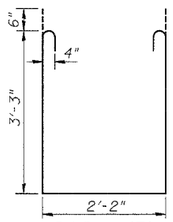
BAR d_3(E) or d_5(E)



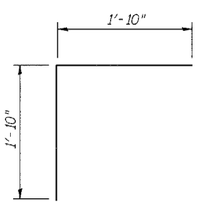
BARS d_4(E)



BAR s(E)



BAR s_1(E)



BAR v(E)

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

SUPERSTRUCTURE DETAILS

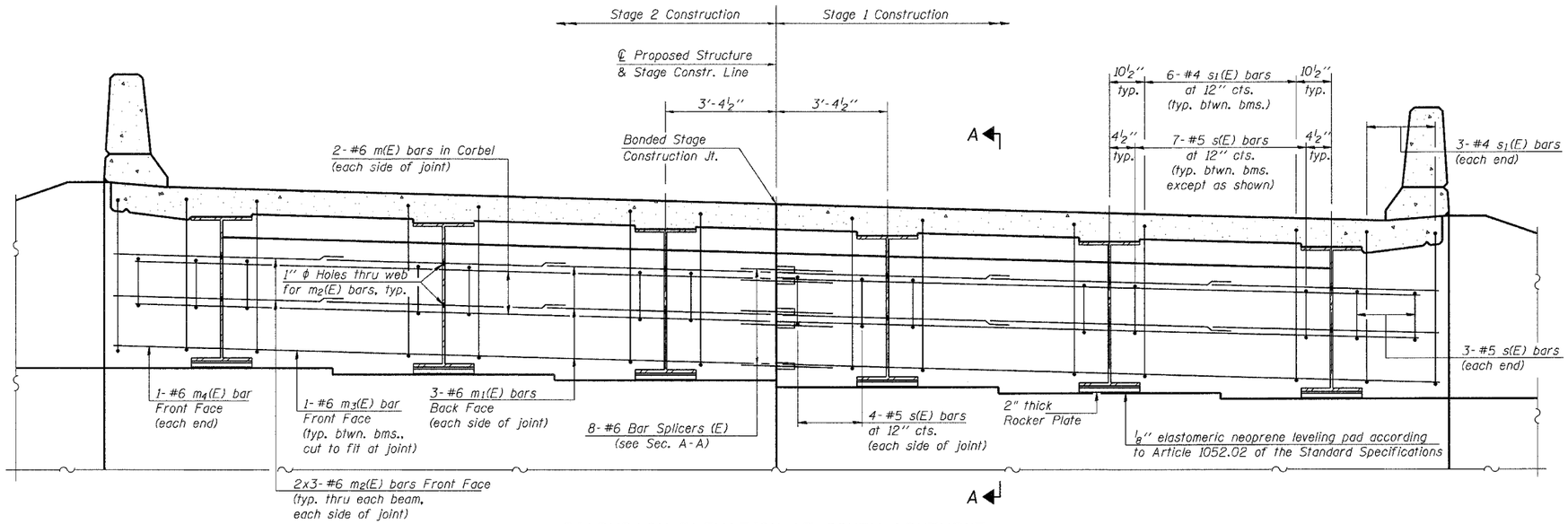
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158SUPER
DATE: 12/14/04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	22
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 8 of 16 CONTRACT #76389



DIAPHRAGM ELEVATION AT SOUTH ABUTMENT

(Looking South)
(North Abutment Similar)

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 7 of 16.

Concrete in diaphragm is included with Concrete Superstructure on sheet 7 of 16.

For details of bars s(E) & s_1(E) see sheet 7 of 16.

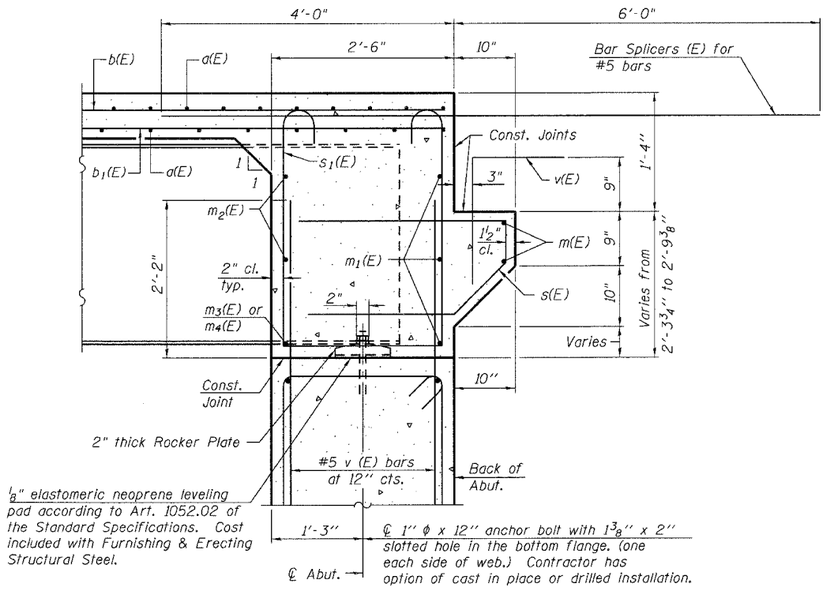
The s(E) and s_1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

For anchor bolt details see sheet 14 of 16.

Bars indicated thus 2x3 - #6 etc. indicates 2 lines of bars with 3 lengths per line.

MIN. BAR LAP

#6 bar = 2'-9"



SECTION A-A

*Cost included with Concrete Superstructure.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

DIAPHRAGM DETAILS

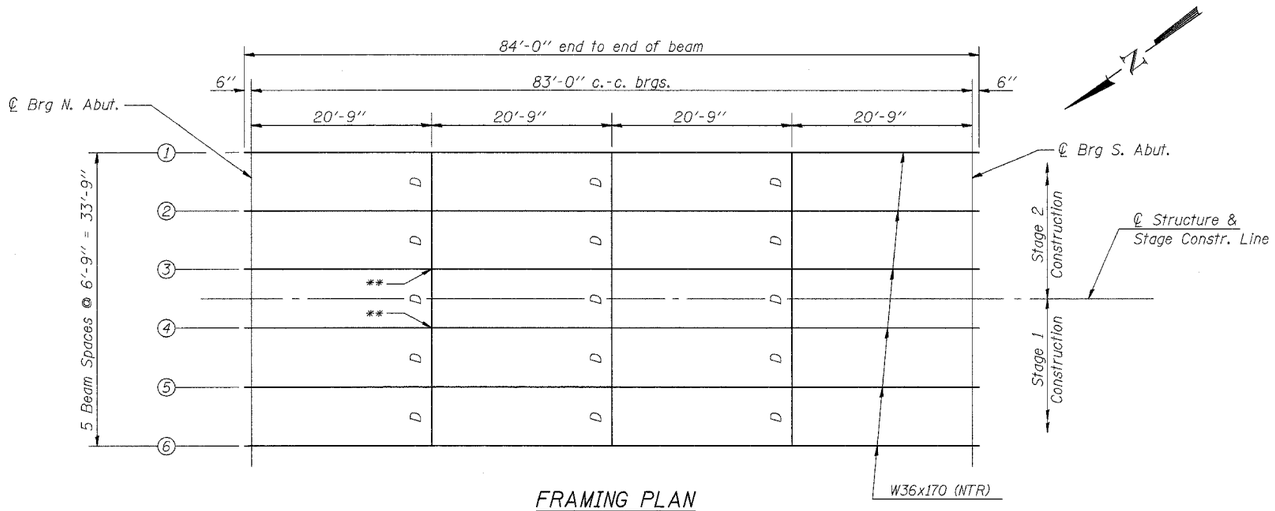
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

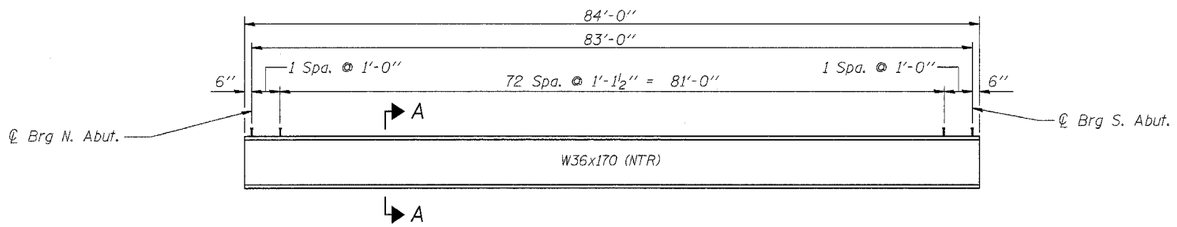
JOB #: 2158
FILE: 2158SUPER
DATE: 5/30/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	23
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 9 of 16 CONTRACT #76389

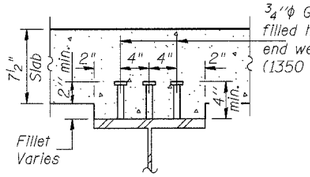


FRAMING PLAN



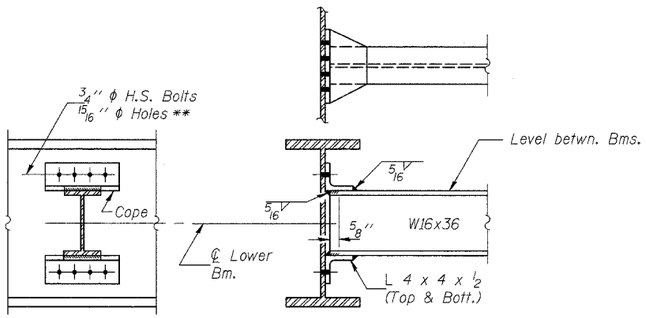
BEAM ELEVATION

(Showing Shear Connector Spacing)



¾"ϕ Granular or solid flux filled headed studs, Automatically end welded to flange. (1350 Req'd.)

SECTION A-C



DIAPHRAGM D

(15 Required)

**Use 13/16" wide x 1½" long slotted holes in L's for diaphragm connections between beams 3 & 4. Bolts shall be finger tightened prior to deck pour for stage 2 construction and then fully tightened after completion of deck pour for stage 2 construcion.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

VR is the maximum Live Load + Impact shear range in span.

The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.

fs (Overload) is the sum of the stresses due to MD + MsD + ⅝(ML + M(Imp)).

MD - Moment due to dead loads on non-composite section.

MsD - Moment due to dead loads on composite section.

ML - Moment due to live loads on composite section.

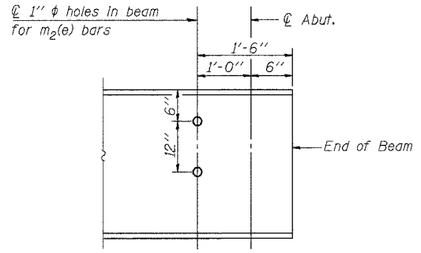
M (Imp) - Moment due to live load impact on composite section.

Ma (Applied Moment)=1.3[MD + MsD + ⅝(ML + M(Imp))].

INTERIOR GIRDER REACTION TABLE		
		Abuts.
RD	(k)	54.3
RL	(k)	39.3
Imp.	(k)	9.4
R (Total)	(k)	103.0

INTERIOR GIRDER MOMENT TABLE		
		0.5 Span
Is	(in^4)	10500
Ic (n)	(in^4)	24511
Ic (3n)	(in^4)	18004
Ss	(in^3)	580
Sc (n)	(in^3)	800
Sc (3n)	(in^3)	724
D	(k/ft.)	0.850
MD	('k)	732
sD	(k/ft.)	0.458
MsD	('k)	394
ML	('k)	748
M (Imp)	('k)	180
⅝[ML+M(Imp)]	('k)	1547
Ma	('k)	3474
* Mu	('k)	3846
fsD non-comp	(k.s.i.)	15.1
fsD (comp)	(k.s.i.)	6.5
fs⅝(L+Imp)	(k.s.i.)	23.2
fs (Overload)	(k.s.i.)	44.8
VR	(k)	48.7

*Compact, Braced Section



TYP. END OF BEAM ELEVATION

Notes:

All steel for beams, diaphragms and connection L's shall be AASHTO M270, Grade 50.

Two hardened washers shall be required over all 15/16" ϕ holes and two 1½" x 1½" x 5/16" PL washers shall be required over all slotted holes for diaphragms.

"NTR" denotes members to which Notch Toughness Requirements, Zone 2 are applicable.

TOP OF BEAM ELEVATIONS

(For Fabrication Only)

Location	℄ Brg. N. Abut.	℄ Brg. S. Abut.
Beam 1	430.39	429.39
Beam 2	429.97	428.97
Beam 3	429.55	428.55
Beam 4	429.13	428.13
Beam 5	428.71	427.71
Beam 6	428.29	427.29

STRUCTURAL STEEL

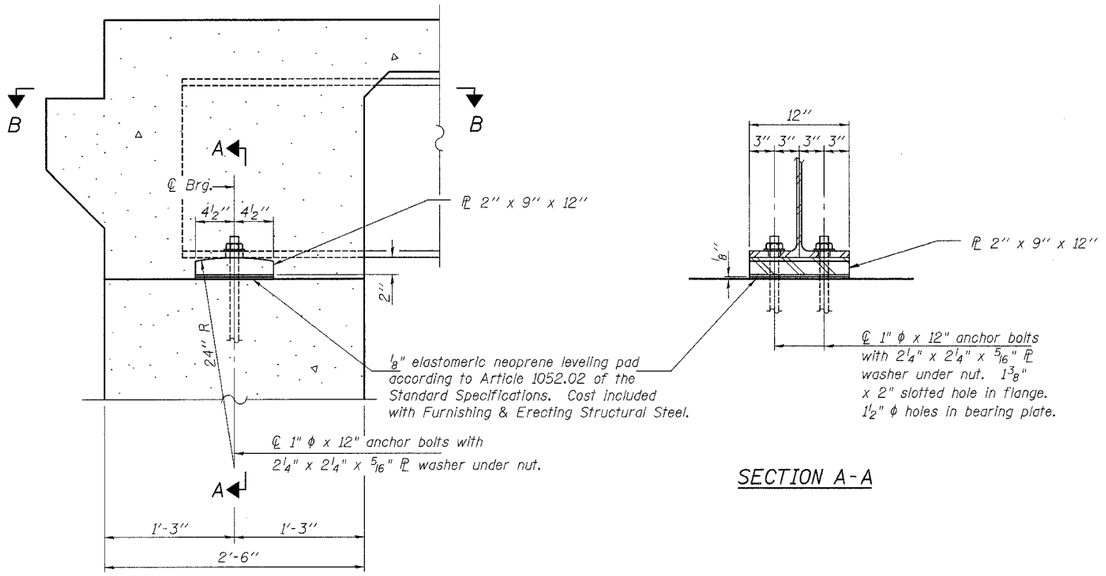
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158SS
DATE: 2/10/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	24
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 10 of 16 CONTRACT #76389

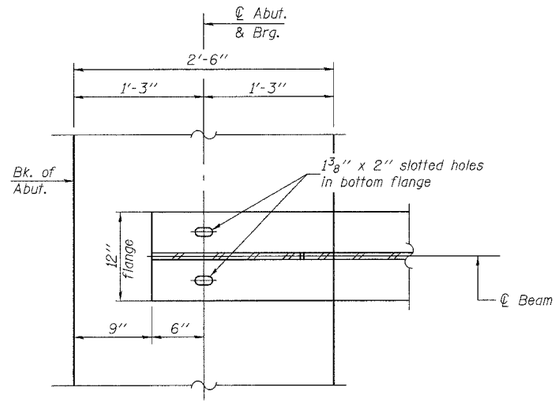


ELEVATION AT ABUTMENT

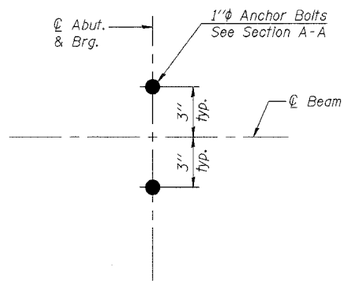
SECTION A-A

ABUTMENT BEARING

(12 Required)



SECTION B-B



ANCHOR BOLT LAYOUT AT ABUTMENTS

Notes:
Steel bearing plates shall be AASHTO M270, Grade 50.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

BEARING DETAILS

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

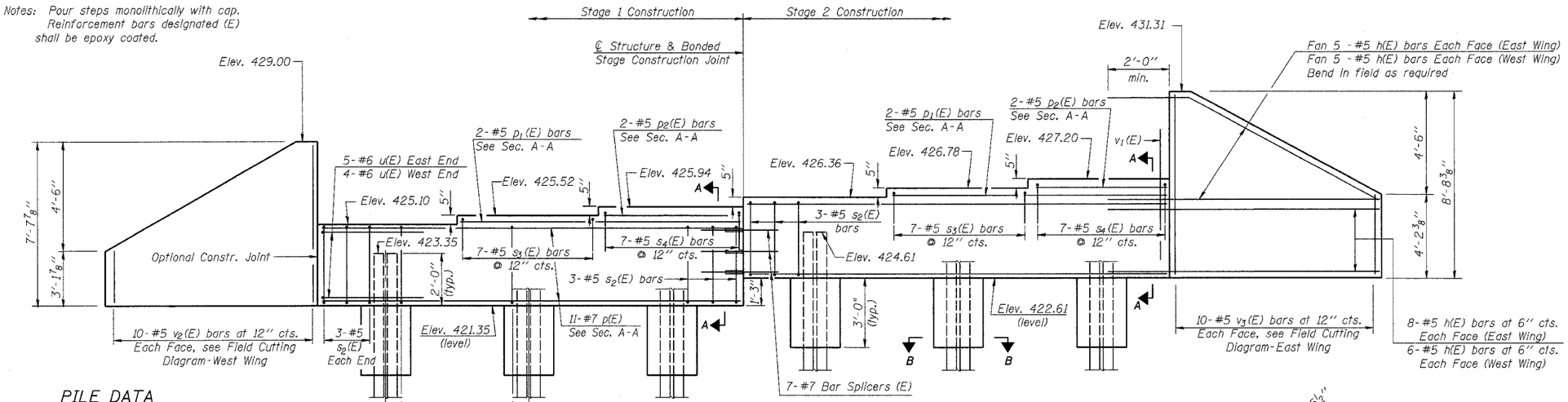
CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158BRG
DATE: 11/12/04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	25
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 11 of 16 CONTRACT #76389

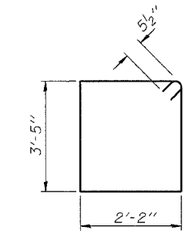
Notes: Pour steps monolithically with cap. Reinforcement bars designated (E) shall be epoxy coated.



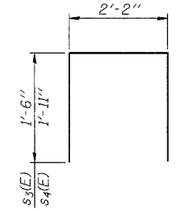
ELEVATION
(Looking North)

PILE DATA

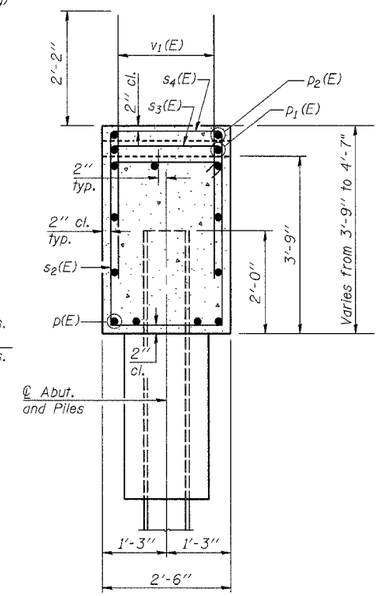
Type: Steel HP12x53
Capacity: Driven to Refusal
Est. Length: 34 Feet
No. Required: 5+1 Test Pile



BAR $s_2(E)$



BAR $s_3(E)$ & $s_4(E)$



SECTION A-A

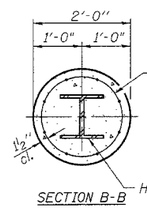
PLAN

BAR u(E)

BILL OF MATERIAL - NORTH ABUT.

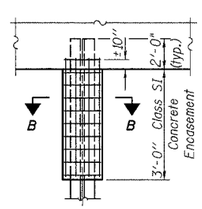
Bar	No.	Size	Length	Shape
h(E)	48	#5	12'-10"	
p(E)	22	#7	19'-9"	
p_1(E)	4	#5	13'-0"	
p_2(E)	4	#5	6'-3"	
s_2(E)	36	#5	12'-1"	
s_3(E)	14	#5	5'-2"	
s_4(E)	14	#5	6'-0"	
u(E)	9	#6	12'-0"	
v_1(E)	76	#5	4'-4"	
v_2(E)	10	#5	10'-1"	
v_3(E)	10	#5	12'-2"	
Concrete Structures		Cu. Yd.	20.1	
Reinforcement Bars, Epoxy Coated		Pound	2970	
Structure Excavation		Cu. Yd.	115	
Bar Splicers		Each	7	
Furnishing Steel Piles HP12x53		Foot	170	
Driving Steel Piles		Foot	170	
Test Pile Steel HP12x53		Each	1	

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

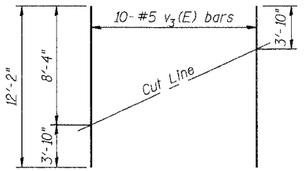


SECTION B-B

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, Concrete Encasement and Reinforcement is included with Furnishing Piles. Forms for Encasement may be omitted when soil conditions permit.

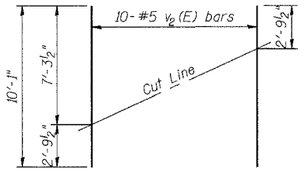


PILE ENCASEMENT DETAIL



FIELD CUTTING DIAGRAM - EAST WING

Order v_3(E) full length. Cut as shown and use remainder of bars in opposite face.



FIELD CUTTING DIAGRAM - WEST WING

Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.

NORTH ABUTMENT

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

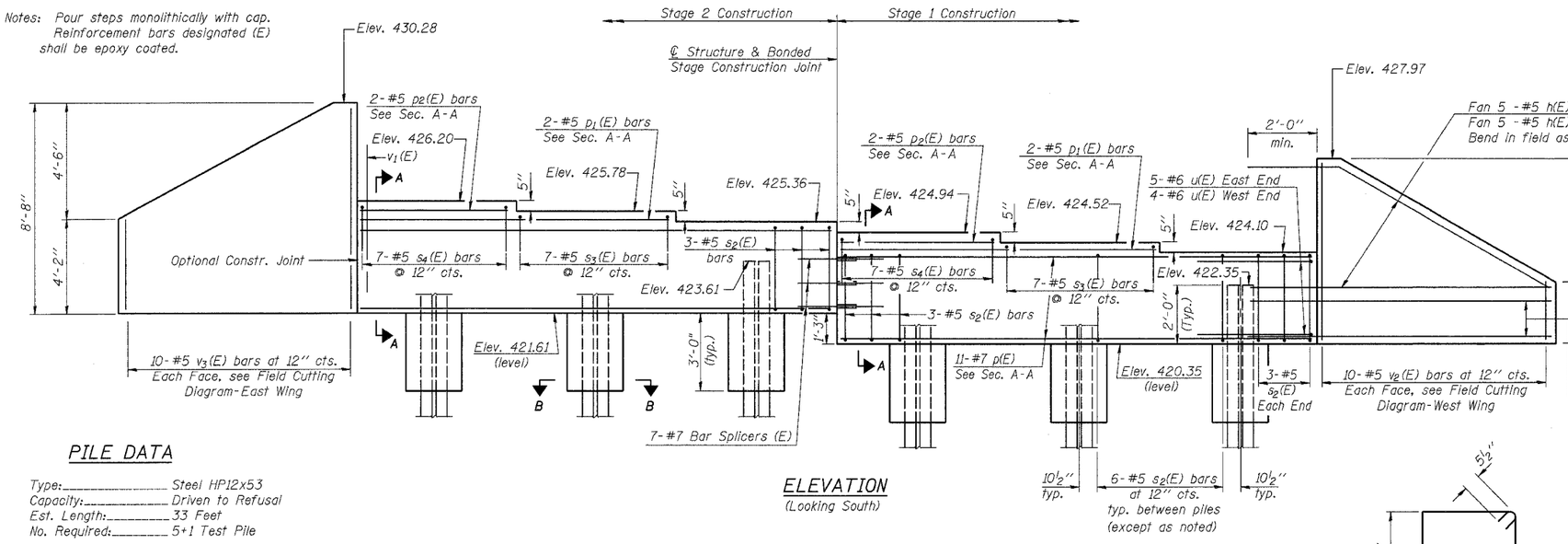
CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158ABUTS
DATE: 2/10/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	26
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 12 of 16 CONTRACT #76389

Notes: Pour steps monolithically with cap. Reinforcement bars designated (E) shall be epoxy coated.

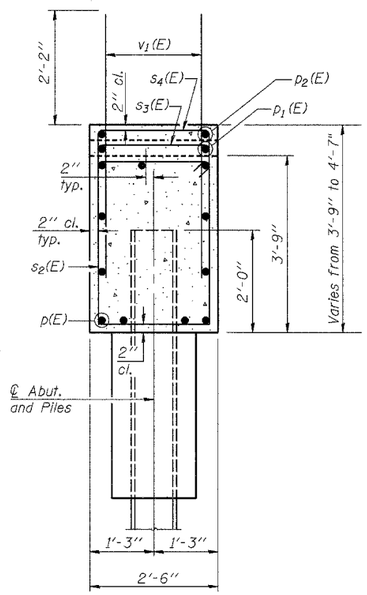


PILE DATA

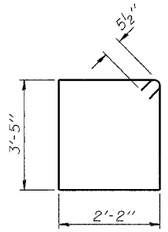
Type: Steel HP12x53
Capacity: Driven to Refusal
Est. Length: 33 Feet
No. Required: 5+1 Test Pile

ELEVATION

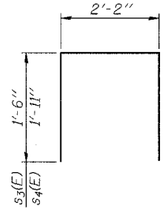
(Looking South)



SECTION A-A



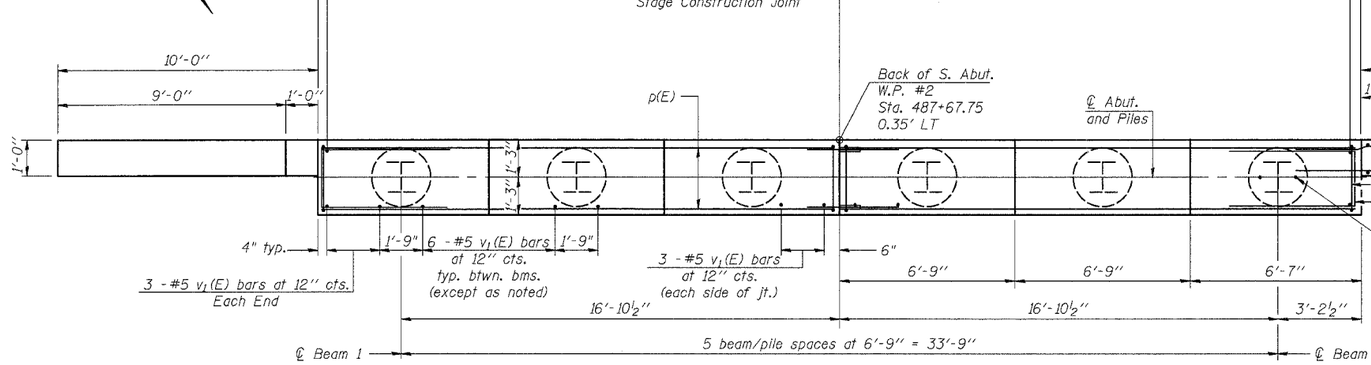
BAR $s_2(E)$



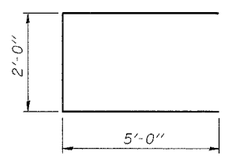
BAR $s_3(E)$ & $s_4(E)$

BILL OF MATERIAL - SOUTH ABUT.

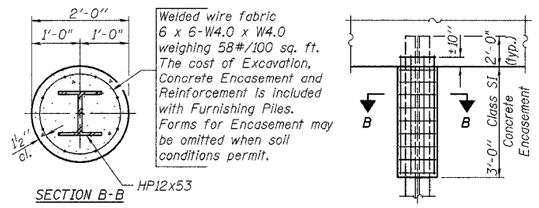
Bar	No.	Size	Length	Shape
h(E)	48	#5	12'-10"	
p(E)	22	#7	19'-9"	
p1(E)	4	#5	13'-0"	
p2(E)	4	#5	6'-3"	
s2(E)	36	#5	12'-1"	
s3(E)	14	#5	5'-2"	
s4(E)	14	#5	6'-0"	
u(E)	9	#6	12'-0"	
v1(E)	76	#5	4'-4"	
v2(E)	10	#5	10'-1"	
v3(E)	10	#5	12'-2"	
Concrete Structures		Cu. Yd.	20.1	
Reinforcement Bars, Epoxy Coated		Pound	2970	
Structure Excavation		Cu. Yd.	115	
Bar Splicers		Each	7	
Furnishing Steel Piles HP12x53		Foot	165	
Driving Steel Piles		Foot	165	
Test Pile Steel HP12x53		Each	1	



PLAN

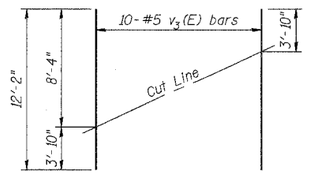


BAR u(E)



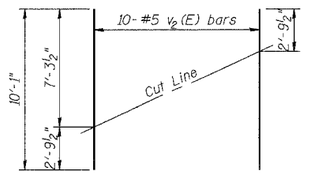
SECTION B-B

PILE ENCASEMENT DETAIL



FIELD CUTTING DIAGRAM - EAST WING

Order v3(E) full length. Cut as shown and use remainder of bars in opposite face.



FIELD CUTTING DIAGRAM - WEST WING

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

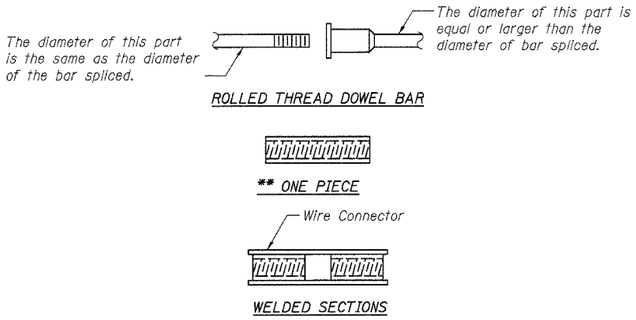
SOUTH ABUTMENT

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

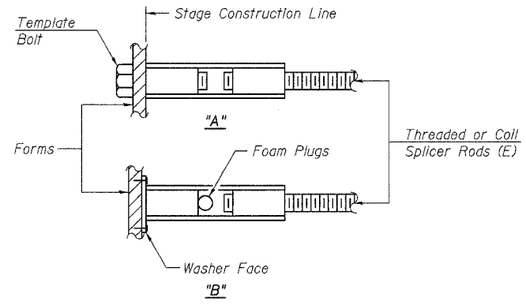
JOB #: 2158
FILE: 2158ABUTS
DATE: 2/10/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	27
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		



BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = $1.25 \times fy \times A_t$

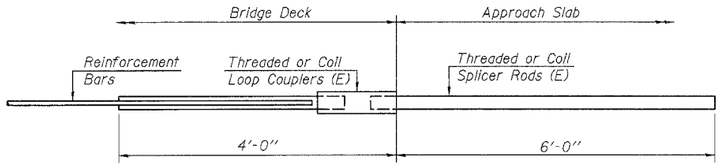
② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES

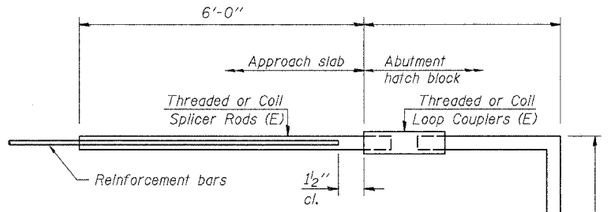
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



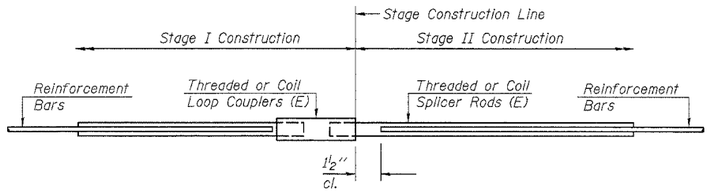
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 72



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#5	272	Deck
#6	16	Diaphragms
#7	14	Abutments

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

BSD-1 9-01-03

BAR SPLICER ASSEMBLY DETAILS

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

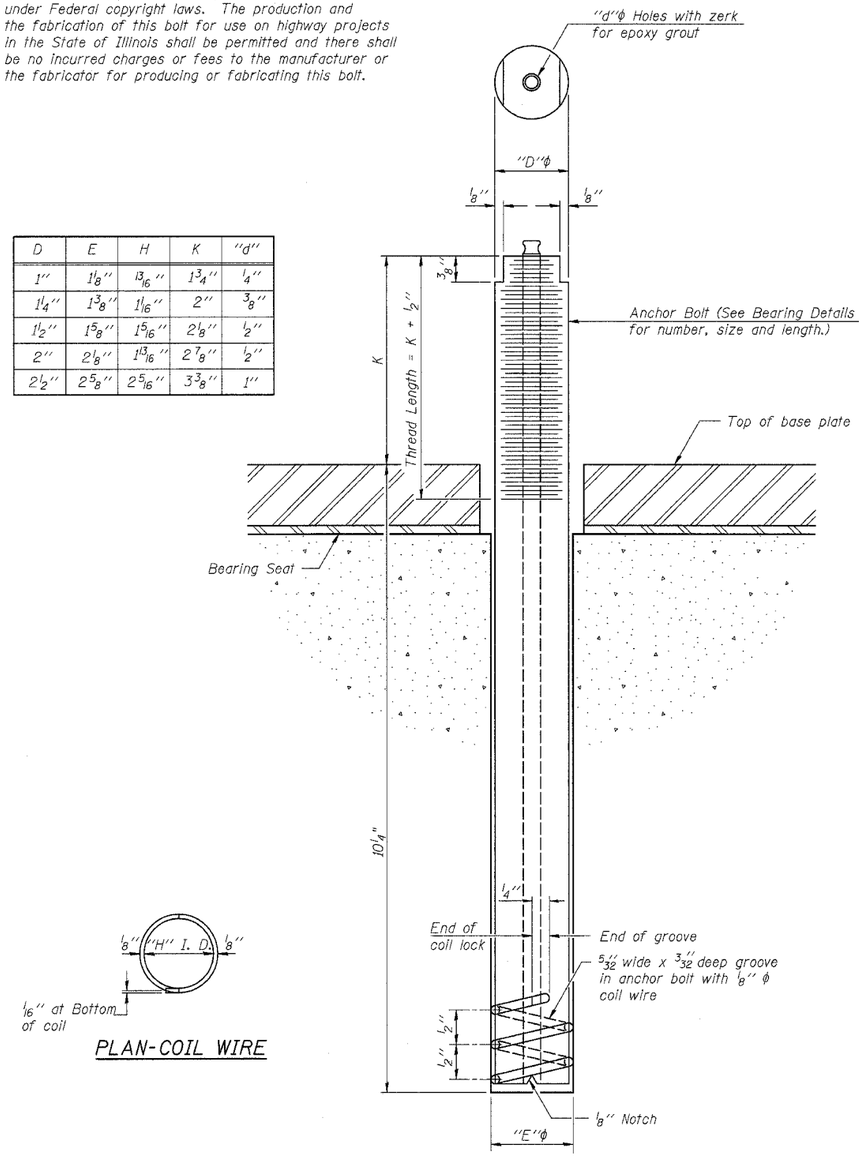
CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158BARSPL
DATE: 11/16/04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	28
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 14 of 16 CONTRACT #76389

D	E	H	K	"d"
1"	$1\frac{1}{8}$"	$\frac{13}{16}$"	$1\frac{3}{4}$"	$\frac{1}{4}$"
$1\frac{1}{4}$"	$1\frac{3}{8}$"	$1\frac{1}{16}$"	2"	$\frac{3}{8}$"
$1\frac{1}{2}$"	$1\frac{5}{8}$"	$1\frac{5}{16}$"	$2\frac{1}{8}$"	$\frac{1}{2}$"
2"	$2\frac{1}{8}$"	$1\frac{13}{16}$"	$2\frac{7}{8}$"	$\frac{1}{2}$"
$2\frac{1}{2}$"	$2\frac{5}{8}$"	$2\frac{5}{16}$"	$3\frac{3}{8}$"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT

PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abutments	A307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

ABB-1 4-30-99

ANCHOR BOLT DETAILS
FOR BEARINGS
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

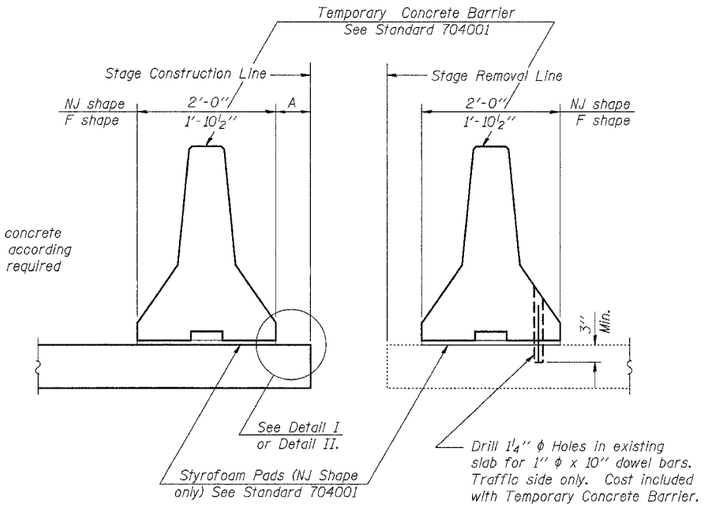
CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158ANCHOR
DATE: 11/16/04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	29
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 15 of 16 CONTRACT #76389

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



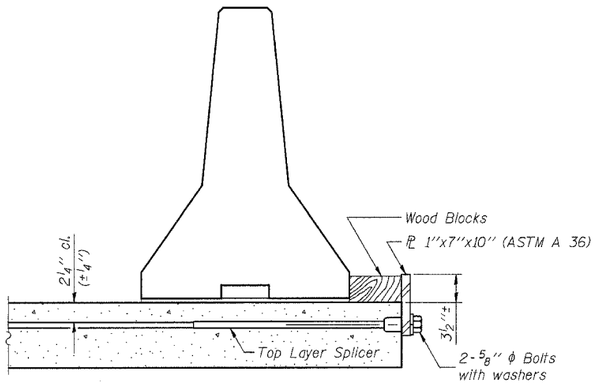
SECTIONS THRU SLAB

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

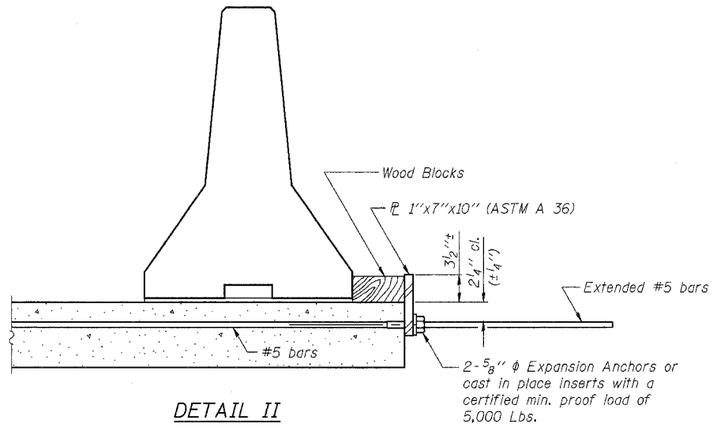
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel ℙ to the concrete slab with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.



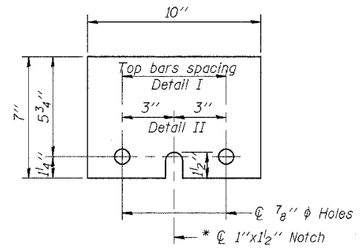
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



ℙ 1"x7"x10"

* Required only with Detail II

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

R-27 9-01-03

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158BARRIER
DATE: 11/16/04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	30
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		

Sheet 16 of 16 CONTRACT #76389

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 10/15/03

ROUTE FAP 42 DESCRIPTION IL 127 over Coon Creek LOGGED BY Mark Schreader

SECTION 2BR LOCATION NW 1/4, SE 1/4, SEC. 31, TWP. 1N, RNG. 2W, 3 PM

COUNTY Washington DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 095-0024
Station

BORING NO. 1
Station 486+70
Offset 60.00ft Left
Ground Surface Elev. 423.1 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 410.6 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Brown Silty CLAY
	1			
	2	0.6	24	
	3	S/20		
-5	2			
	5	1.6	27	
	6	S/20		
	2			
	3	2.2	29	
	3	S/20		
413.6				
-10	1			
	2	0.8	22	Brown Clay LOAM
	3	S/20		
410.6 ▼	2			
	3	1.2	21	Brown Silty Clay LOAM
	4	S/20		
408.6				
-15	4			
	10		18	Brown Fine to Coarse SAND with some Gravel
	14	NC		See Gradation @ 15 ft
406.1				
	4			
	6	2.7	24	Gray Silty CLAY
	10	S/20		
-20	4			
	8	2.6	24	Gray Silty CLAY (continued)
	10	S/20		
401.6				
	4			Gray Silty CLAY
	6	2.3	24	
	9	S/20		
-25	2			
	3	1.0	25	
	4	B/20		
	4			
	7	3.1	20	
	11	S/20		
393.6				
-30	10			
	15		15	Gray Fine to Medium SAND
	46	NC		See Gradation @ 30 ft
391.1				
				Auger Refusal on Limestone – End of Boring
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 10/16/03

ROUTE FAP 42 DESCRIPTION IL 127 over Coon Creek LOGGED BY Mark Schreader

SECTION 2BR LOCATION NW 1/4, SE 1/4, SEC. 31, TWP. 1N, RNG. 2W, 3 PM

COUNTY Washington DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 095-0024
Station

BORING NO. 2
Station 487+86
Offset 42.00ft Right
Ground Surface Elev. 430.1 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 419.6 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Brown Silty LOAM
	1			
	2	0.5	22	
	2	S/20		
-5	1			
	1	0.4	27	
	2	S/20		
423.1				
	1			
	2	0.6	28	Brown Silty Clay LOAM
	2	S/20		
420.6				
-10	2			
	2		20	Gray Fine to Medium SAND
	4	NC		See Gradation @ 10 ft
418.1				
	4			
	6		21	Brown Sandy LOAM
	7	NC		See Gradation @ 12.5 ft
416.6				
	4			Brown Sandy Clay LOAM
	8	1.5	18	See Gradation @ 15 ft
	10	S/10		
	6		19	
	4	NC		
	5	2.0	19	Gray Silty CLAY
		S/20		
-20	4			
	8	4.0	18	Gray Silty CLAY (continued)
	16	S/20		
-25	5			
	9	3.8	22	
	13	S/20		
-30	5			
	9	2.3	25	
	13	S/20		
	2			
	4	2.2	23	
	5	S/20		
-30	5			
	10	4.6	13	
	18	S/20		
395.6				
-35				
	50/2"		28	LIMESTONE
394.1				
				End of Boring
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

BORING LOGS

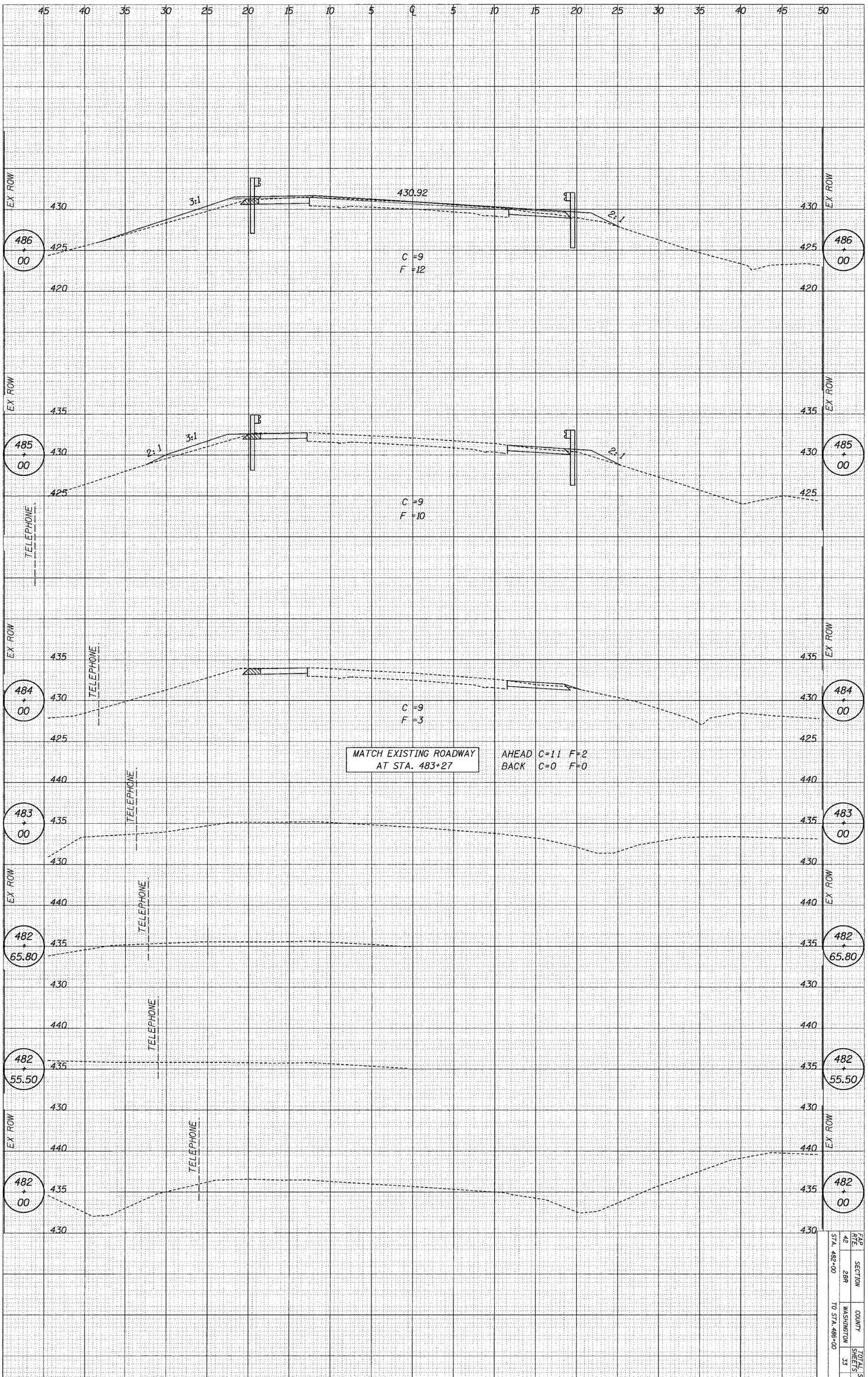
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK
F.A.P. ROUTE 42 SECTION 2BR
WASHINGTON COUNTY
STA. 487+25
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158BORING
DATE: 11/16/04

ORIGINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

FINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		



FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	31

STA. 482+00 TO STA. 488+00

CONTRACT NO. 76389

CONTRACT NO. 76389

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	32
STA. 486+50		TO STA. 488+50		

FINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

CONTRACT NO. 76389

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	33
STA. 489+00	TO STA. 491+83			

FINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

MATCH EXISTING ROADWAY
AT STA. 491+23

AHEAD C=0 F=0
BACK C=11 F=2

C=7
F=6

C=8
F=3

C=9
F=1

C=9
F=5

3:1

2:1

B

EX ROW

TELEPHONE

EXISTING WATER

491+83

491+69

491+50

491+00

490+50

490+00

489+00