1-15-10 Letting, Item 010

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 66833		

INDEX OF SHEETS

STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
420401-08	BRIDGE APPROACH PAVEMENT CONNECTOR
482011-03	HMA SHOULDER STRIPS/SHOULDERS WITH RS OR WIDENING & RS PROJECTS
515001-03	NAME PLATE FOR BRIDGES
601101-01	CONCRETE HEADWALL FOR PIPE DRAINS
630001-08	STEEL PLATE BEAM GUARDRAIL
630201-06	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-08	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701001-02	OFF-ROAD OPERATIONS 2L, 2W, MORE THAN 15' (4.5 m) AWAY
701006-03	OFF-ROAD OPERATIONS 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701201-03	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-03	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-10	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-03	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS ≥45 MPH
701901-01	TRAFFIC CONTROL DEVICES
704001-06	TEMPORARY CONCRETE BARRIER
780001-02	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

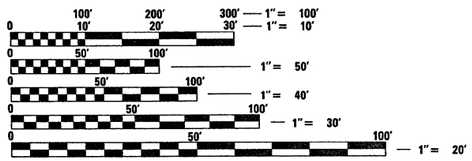
MICROFILMED _____

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
OR 811

PROJECT ENGINEER : CRAIG REED
UNIT CHIEF : BRAD DUNCAN
TOWINSHIP: ROUND GROVE

DISTRICT 3 NO. (815) 434-6131
CONTRACT NO. 66833

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

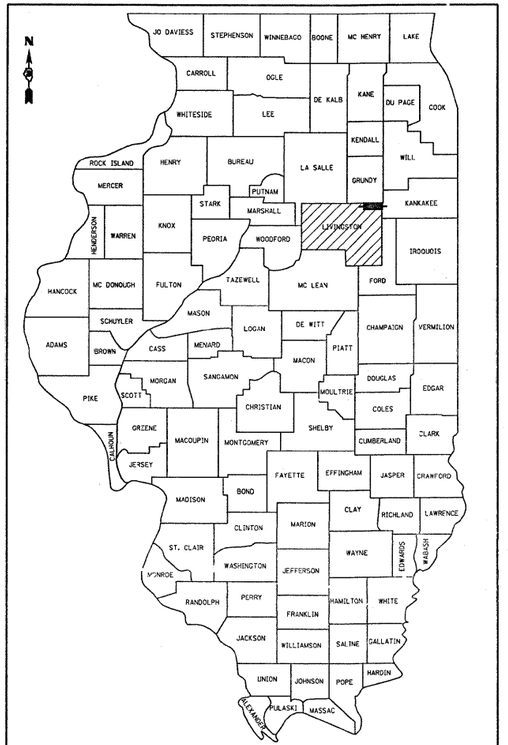
PROPOSED
HIGHWAY PLANS

FAP ROUTE 41 (IL 17)
SECTION (15BR-3)-1
PROJECT ACF-0041(132)
LIVINGSTON COUNTY

C - 93 - 158 - 09

STRUCTURE REPLACEMENT CARRYING IL 17 OVER TRIBUTARY OF REDDICK RUN

D-93-067-09
P-93-012-08

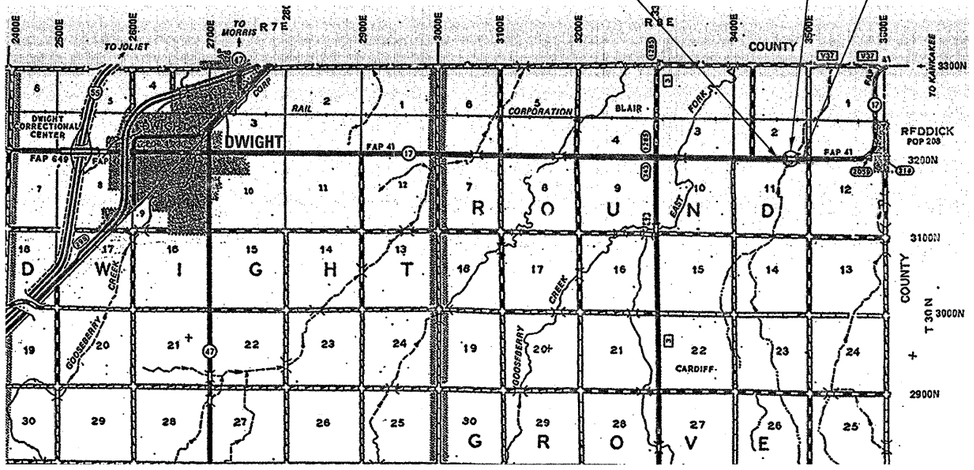


LOCATION OF SECTION INDICATED THUS: –

STRUCTURE REPLACEMENT
SN 053-0151 (EXISTING)
SN 053-0185 (PROPOSED)

BEGIN IMPROVEMENT
STA. 404 + 50

END IMPROVEMENT
STA. 411 + 00



NOT TO SCALE

GROSS & NET LENGTH = 650FT. = 0.12 MI.

FUNCTION CLASSIFICATION
MINOR ARTERIAL (RURAL)
2007 ADT = 2400
P.V. = 76.1% S.U. = 9.1% M.U. = 14.8%

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED October 13 20 09
George Ryan
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
December 4, 20 09
Charles J. Ingersoll
ENGINEER OF DESIGN AND ENVIRONMENT
December 4, 20 09
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

GENERAL NOTES

THE THICKNESS OF HMA 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 HMA IS PLACED.

EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.

THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

SEEDING SHALL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. LOCATIONS TO BE SEEDED WILL BE DETERMINED BY THE ENGINEER.

THE FINISHED EARTHWORK SHALL HAVE A VEGETATION SUSTAINING SOIL COVERING THE TOP FOUR INCHES IN AREAS TO BE SEEDED OR SODDED. THE VEGETATION SUSTAINING SOIL REQUIRED WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF FURNISHED EXCAVATION.

ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS OR THE COPY INCLUDED IN THESE PLANS.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

GRANULAR MATERIALS	2.05	TONS / CU YD
BITUMINOUS MATERIALS (PRIME COAT)	0.08	GAL / SQ YD
FOR ADDITIONAL HMA LIFTS "FOG COAT"	0.05	GAL / SQ YD
AGGREGATE PRIME COAT	0.002	TONS / SQ YD
HMA RESURFACING	112	LBS / SQ YD / IN
SHORT TERM PAVEMENT MARKING	10	FT /100 FT OF APPLICATION
TEMPORARY DITCH CHECKS	5	TONS AGGREGATE

ALL DAMAGE TO DEPARTMENT OWNED UNDERGROUND FACILITIES, CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE SATISFACTION OF THE DEPARTMENT AT THE CONTRACTOR'S EXPENSE. THIS SHALL INCLUDE ALL TEMPORARY REPAIRS REQUIRED TO KEEP THE FACILITY OPERATIONAL WHILE MATERIAL IS BEING OBTAINED TO MAKE PERMANENT REPAIRS. SPLICING OF ELECTRIC CABLE SHALL NOT BE ALLOWED. ELECTRIC CABLE SHALL BE REPLACED FROM POLE TO POLE OR CONTROLLER.

MEMBERS OF JULIE KNOWN TO BE WITHIN THE LIMITS OF THE IMPROVEMENT ARE:

COM ED
VERIZON

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

PREPARED BY: Rick Powell
DISTRICT STUDIES & PLANS ENGINEER

DATE: 10-13-09

EXAMINED BY:
DISTRICT CONSTRUCTION ENGINEER

DISTRICT MATERIALS ENGINEER

DISTRICT OPERATIONS ENGINEER

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	2
		CONTRACT NO. 66833		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

80% FED. 20% STATE

CONSTRUCTION CODE TYPE: X020-2A

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	EX SN 053-0151 PR SN 053-0185
	20200100	EARTH EXCAVATION	CU YD	168	168
	20300100	CHANNEL EXCAVATION	CU YD	852	852
	20400800	FURNISHED EXCAVATION	CU YD	43	43
	20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	84	84
*	25000200	SEEDING, CLASS 2	ACRE	0.35	0.35
*	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	33	33
*	25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	33	33
*	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	33	33
*	25100630	EROSION CONTROL BLANKET	SQ YD	1694	1694
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	35	35
	28000305	TEMPORARY DITCH CHECKS	FOOT	36	36
	28000400	PERIMETER EROSION BARRIER	FOOT	30	30
	28100107	STONE RIPRAP, CLASS A 4	SQ YD	1278	1278
	28200200	FILTER FABRIC	SQ YD	1278	1278
	31100300	SUB-BASE GRANULAR MATERIAL, TYPE A 4"	SQ YD	370	370
	35501316	HOT-MIX ASPHALT BASE COURSE, 8"	SQ YD	320	320
	40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	281	281
	40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	63	63
	40600982	HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT	SQ YD	348	348
	40600990	TEMPORARY RAMP	SQ YD	58	58
	40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	216	216
	42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	70	70
	44000100	PAVEMENT REMOVAL	SQ YD	580	580
	44000700	APPROACH SLAB REMOVAL	SQ YD	108	108
	48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	381	381
	48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	10	10
	48203023	HOT-MIX ASPHALT SHOULDERS, 6 1/2"	SQ YD	330	330
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1
	50200100	STRUCTURE EXCAVATION	CU YD	204	204
	50300100	FLOOR DRAINS	EACH	8	8
	50300225	CONCRETE STRUCTURES	CU YD	166.9	166.9
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	316	316
	50300260	BRIDGE DECK GROOVING	SQ YD	536	536
	50300280	CONCRETE ENCASEMENT	CU YD	14	14
	50300300	PROTECTIVE COAT	SQ YD	668	668
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	81550	81550
	50800515	BAR SPLICERS	EACH	497	497
	51201610	FURNISHING STEEL PILES HP12X63	FOOT	1418	1418

SUMMARY OF QUANTITIES

80% FED. 20% STATE

CONSTRUCTION CODE TYPE: X020-2A

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	EX SN 053-0151 PR SN 053-0185
	51202305	DRIVING PILES	FOOT	1418	1418
	51203610	TEST PILE STEEL HP12X63	EACH	2	2
	51500100	NAME PLATES	EACH	1	1
	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	50	50
	60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	164	164
*	63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6' POSTS (FOOT)	FOOT	300	300
*	63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4
*	63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	4	4
	63200310	GUARDRAIL REMOVAL	FOOT	512	512
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5
	67100100	MOBILIZATION	L SUM	1	1
	70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
	70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1
	70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1
	70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	5	5
	70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
	70300100	SHORT-TERM PAVEMENT MARKING	FOOT	83	83
	70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	3351	3351
	70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	24	24
	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	729	729
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	370	370
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	310	310
*	78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	1660	1660
*	78008230	POLYUREA PAVEMENT MARKING TYPE I - LINE 6"	FOOT	210	210
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	9	9
*	78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	2	2
*	78200410	GUARDRAIL MARKERS, TYPE A	EACH	10	10
*	78200520	BARRIER WALL MARKERS, TYPE B	EACH	4	4
*	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4
	78300100	PAVEMENT MARKING REMOVAL	SQ FT	294	294
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	11	11
	XX003404	TEMPORARY PAVEMENT, 8"	SQ YD	456	456
	X0323988	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	112	112
	X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1	1
	X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1	1
	Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2
	Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2

* SPECIALTY ITEMS

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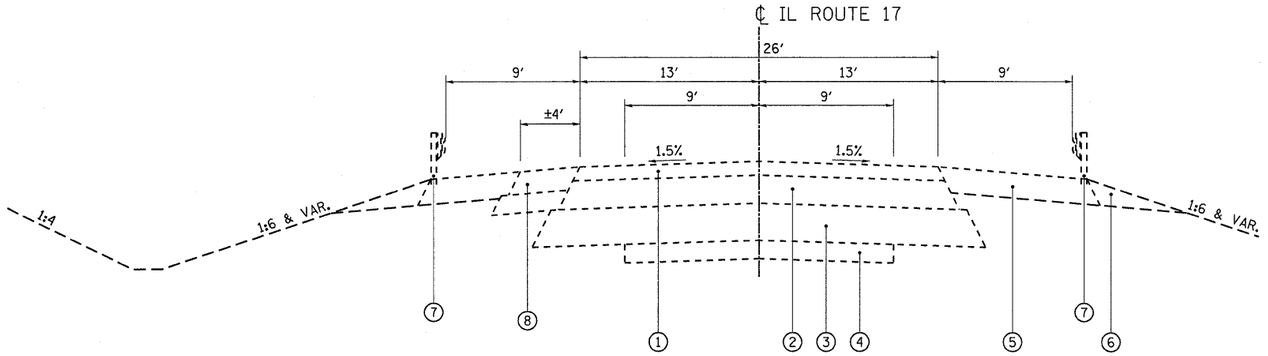
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

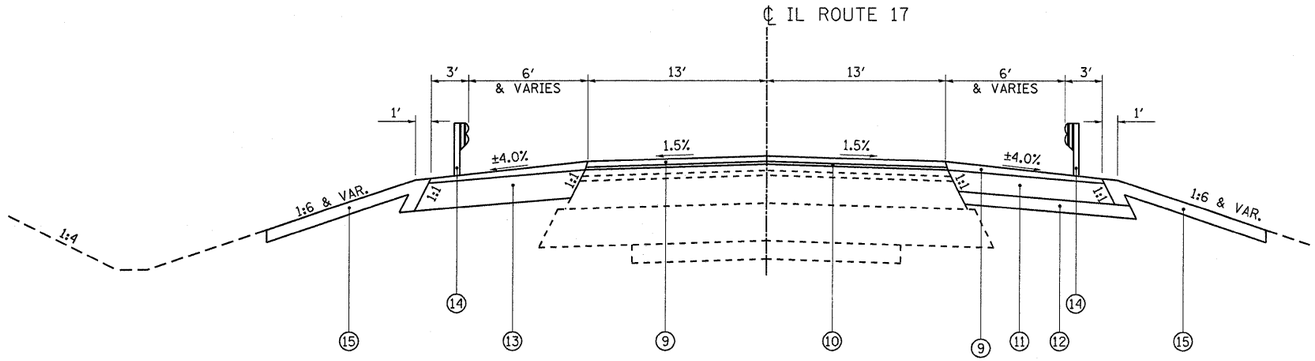
SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	3
		CONTRACT NO. 66833		
		ILLINOIS FED. AID PROJECT		



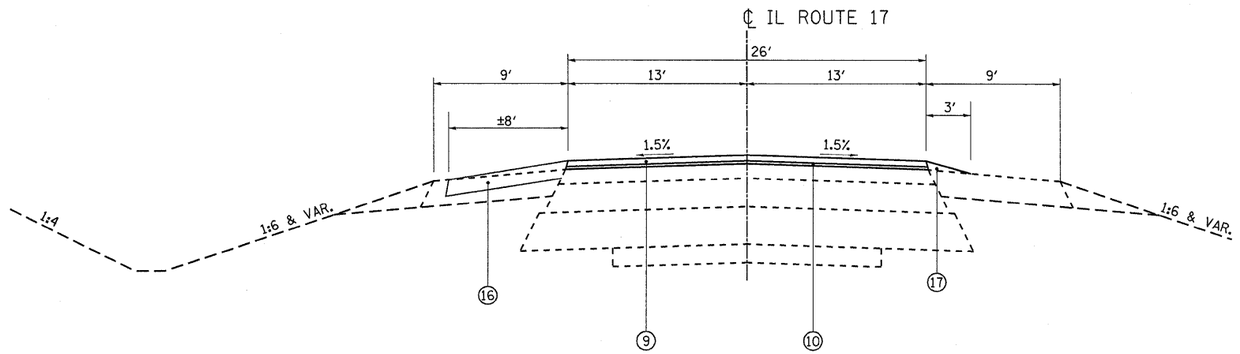
EXISTING TYPICAL SECTION

STA. 404+50 TO STA.
APPROACH SLAB & BRIDGE OMISSION STA. TO
STA. TO STA. 411+00



PROPOSED TYPICAL SECTION

STA. 404+79 TO STA. 407+14
APPROACH SLAB & BRIDGE OMISSION STA. 407+14 TO STA. 408+56
STA. 408+56 TO STA. 410+89



PROPOSED TYPICAL SECTION

STA. 404+50 TO STA. 404+79
STA. 410+89 TO STA. 411+00

MIXTURE TABLE

	HMA SURFACE	HMA LEVEL BINDER	HMA SHOULDERS ***	HMA BASE CSE ***
PG GRADE	PG64-22	PG58-22	PG58-22	PG58-22
MAX % RAP ALLOWABLE**	15%	25%	25%	25%
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50	3.0% @ N50	3.0% @ N50
MIXTURE COMPOSITION	IL 12.5 OR IL 9.5	IL 9.5	IL 19.0	IL 19.0
FRICTION AGGREGATE	MIXTURE C			
DENSITY TEST METHOD	NUCLEAR	SATISFACTION OF ENGINEER	CORES*	CORES*

* MATERIAL SHALL BE COMPACTED TO 93.0-97.4 PERCENT OF THE MAXIMUM THEORETICAL DENSITY, EXCEPT THAT WHEN PLACED AS FIRST LIFT ON AN UNIMPROVED SUBGRADE THE MINIMUM PERCENT COMPACTION SHALL BE 92.0 PERCENT. THE MAXIMUM THEORETICAL DENSITY SHALL BE DETERMINED FROM THE MOVING AVERAGE AS SPECIFIED IN THE QC/QA SPECIFICATION.
** WHEN MORE THAN 20% RAP IS USED, A SOFTER ASPHALT BINDER (PG58-22) MAY BE REQUIRED AS DETERMINED BY THE ENGINEER.
*** THE AMOUNT OF ASPHALT BINDER USED SHALL BE INCREASED 0.5% MORE THAN THAT REQUIRED IN THE MIX DESIGN, EXCEPT WHEN THE HMA BINDER AND SURFACE COURSE MIXTURE OPTION IS USED.

LEGEND

1. EXISTING HMA OVERLAY, ±5″
2. EXISTING HMA BASE COURSE, 8″
3. EXISTING GANULAR EMBANKMENT, VARIABLE DEPTH
4. EXISTING P.C.C. PAVEMENT (BROKEN)
5. EXISTING AGGREGATE SHOULDERS, VARIABLE DEPTH
6. EXISTING EARTH SHOULDERS
7. EXISTING GUARDRAIL
8. EXISTING PCC SHLD 7″ (SEE NOTE 4)
9. HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50, 1½″
10. LEVELING BINDER (MACHINE METHOD), N50, ¾″
11. HOT-MIX ASPHALT SHOULDERS, 6½″
12. SUB-BASE GRANULAR MATERIAL, TYPE A 4″
13. HOT-MIX ASPHALT BASE COURSE, 8″ (SEE NOTE 1)
14. PROPOSED GUARDRAIL
15. VEGETATION SUSTAINING TOPSOIL, 4″ (SEE NOTE 2)
16. AGGREGATE SHOULDERS, TYPE B, 6″ (SEE NOTE 3)
17. AGGREGATE WEDGE SHOULDERS, TYPE B

NOTE 1: HMA BASE COURSE TO BE CONSTRUCTED PRE-STAGE 1. TO BE USED FOR PROPOSED SHOULDER.

NOTE 2: REUSE EXISTING TOPSOIL WHENEVER POSSIBLE. WHEN EXISTING QUANTITY OF ON-SITE TOPSOIL IS DEFICIENT, VEGETATION SUSTAINING TOPSOIL WILL BE HAULED FROM OFF SITE AND PAID FOR AS FURNISHED EXCAVATION

NOTE 3: CONSTRUCT AGGREGATE SHOULDERS TY B 6″ AT LOCATIONS WHERE TEMPORARY PAVEMENT IS TO BE REMOVED. OTHERWISE CONSTRUCT 3′ AGGREGATE WEDGE SHOULDERS TY B.

NOTE 4: PROPOSED SHOULDER QUANTITIES DO NOT TAKE INTO ACCOUNT THE EXISTING PCC SHOULDER. PCC SHOULDER TO BE USED AS PART OF THE PROPOSED CONSTRUCTION AS DIRECTED BY THE ENGINEER.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	4
		CONTRACT NO. 66833		
	ILLINOIS FED. AID PROJECT			

PAVEMENT

LOCATION	SUB-BASE GRAN MATERIAL TY B 4"	HMA SHLDS 6 1/2"	HMA BASE COURSE 8"	BIT MAT PRIME COAT	LEVEL BINDER (MM) N50	HMA SURFACE COURSE MIX C N50	BRIDGE APPR PAVT CONN FLEXIBLE	AGG WEDGE SHLDS TYPE B	AGG SHLDS TYPE B 6"	TEMP RAMP
	SQ YD	SQ YD	SQ YD	GALLON	TON	TON	SQ YD	TON	SQ YD	SQ YD
403+60 - 404+50				23	1.8	21.8		5	41	14.4
404+50 - 407+06	215.6	189.8	120.8	121	31.1	88.2			162	14.4
407+06 - 407+47	8.1	5.7	5.9				34.8			
408+23 - 408+65	8.1	5.8	5.7				34.8			
408+65 - 411+00	137.7	128.4	187.6	113.7	28.5	83.7			137	14.4
411+00 - 411+90				23	1.8	21.8		5	41	14.4
TOTAL	**370**	**330**	**320**	**281**	**63**	**216**	**70**	**10**	**381**	**58**

PAVEMENT REMOVAL

LOCATION	PAVEMENT REMOVAL	APPROACH SLAB REMOVAL	HMA SURFACE REMOVAL BUTT JOINT
	SQ YD	SQ YD	SQ YD
403+60 - 404+20			174
407+06 - 407+26	60		
407+26 - 407+46		54	
408+23 - 408+43		54	
408+43 - 408+65	64		
411+30 - 411+90			174
STAGE 2			
404+33 - 405+07	144		
407+19 - 407+67	39		
408+37 - 408+83	36		
410+73 - 411+15	29		
STAGE 3			
404+22 - 404+95	59		
409+62 - 411+30	149		
TOTAL	**580**	**108**	**348**

EARTHWORK

LOCATION STA. TO STA.	EARTH EXCAVATION	SUITABLE EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE(+) OR SHORTAGE(-)
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
403+60 - 407+44	108	54	41	69	28
408+27 - 411+90	60	30	23	38	15
TOTAL	**168**	**84**	**64**	**107**	**43**

STAGING ITEMS

LOCATION	TEMPORARY CONCRETE BARRIER	REL TEMP CONCRETE BARRIER	IMPACT ATT TEMP (NON-RED) TEST LEVEL 3	IMPACT ATT REL (NON-RED) TEST LEVEL 3	TEMP PAVEMENT 8"
	FOOT	FOOT	EACH	EACH	SQ YD
PRE-STAGE 1					
404+33 - 405+07					144
407+19 - 407+67					39
408+37 - 408+83					36
410+73 - 411+15					29
STAGE 1					
406+06 - 409+72	370		2		
404+22 - 404+95					59
409+62 - 411+30					149
STAGE 2					
406+30 - 409+40		310		2	
TOTAL	**370**	**310**	**2**	**2**	**456**

NOTE 1: HMA BASE COURSE 8" CONSTRUCTED DURING PRE-STAGE 1 ALONG WITH TEMPORARY PAVEMENT
NOTE 2: SEE PAVEMENT REMOVAL SCHEDULE FOR REMOVAL OF TEMPORARY PAVEMENT

GUARDRAIL							
LOCATION	SPBGR TYPE A 6 FT POSTS	TRAF BARR TERM TYPE 6	TRAF BARR TERM TY 1 SPEC, FLAR	GUARDRAIL MARKERS TYPE A	BARRIER WALL MARKERS TYPE B	TERM MARK DIRECT APPLIED	GUARDRAIL REM
	FOOT	EACH	EACH	EACH	EACH	EACH	FOOT
406+04 - 407+32 RT							128
406+50 - 407+78 LT							128
408+37 - 409+65 LT							128
407+92 - 408+20 RT							128
406+16.6 - 407+47.2 LT	37.5	1	1	2		1	
407+47.2 - 408+60.7 LT					2		
408+60.7 - 410+66.3 LT	112.5	1	1	3		1	
405+04 - 407+09.7 RT	112.5	1	1	3		1	
407+09.7 - 408+23.1 RT					2		
408+23.1 - 409+53.7 RT	37.5	1	1	2		1	
TOTAL	300	4	4	10	4	4	512

PAVEMENT MARKING									
LOCATION	POLYUREA 4'' WHITE	POLYUREA 6'' YELLOW	RAISED REFL PAVT MARK	RAISED REFL PAVT MARK BRIDGE	TEMPORARY 4''	TEMPORARY 24''	SHORT TERM	PAVT MARK REM	WORK ZONE PAVT MARK REM
	FOOT	FOOT	EACH	EACH	FOOT	FOOT	FOOT	SQ FT	SQ FT
403+60 - 411+90									
CENTERLINE		210	9	2					
EDGELINE	1660								
STAGE 1									
402+52 - 412+85					1652	24		271	93
STAGE 2									
402+52 - 412+85					1699			23	609
STAGE 3									
402+52 - 412+85							83		27
TOTAL	1660	210	9	2	3351	24	83	294	729

SEEDING					
LOCATION	SEEDING CLASS 2	EROSION CONTROL BLANKET	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT
	ACRE	SQ YD	POUND	POUND	POUND
403+60 - 407+20 RT	0.12	569	11	11	11
403+60 - 408+06 LT	0.10	465	9	9	9
407+46 - 411+90 RT	0.09	415	8	8	8
408+50 - 411+90 LT	0.05	245	5	5	5
TOTAL	0.35	1694	33	33	33

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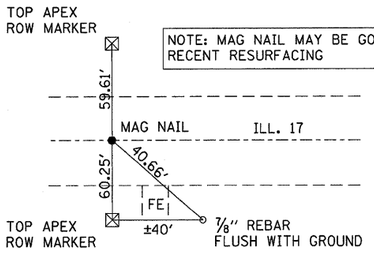
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	6
		CONTRACT NO. 66833		
		ILLINOIS FED. AID PROJECT		



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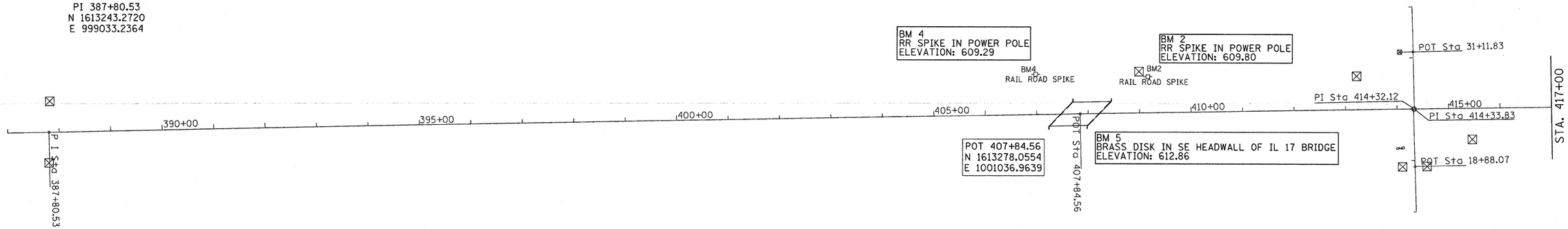
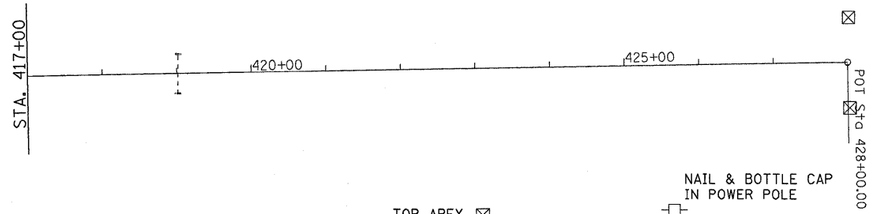
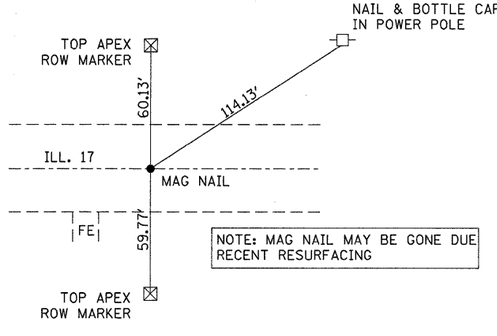
E 999033.2364







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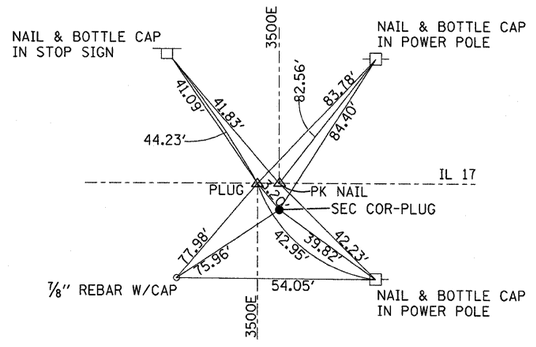

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PI 414+33.83
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E 1001686.1351

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALIGNMENT & TIES

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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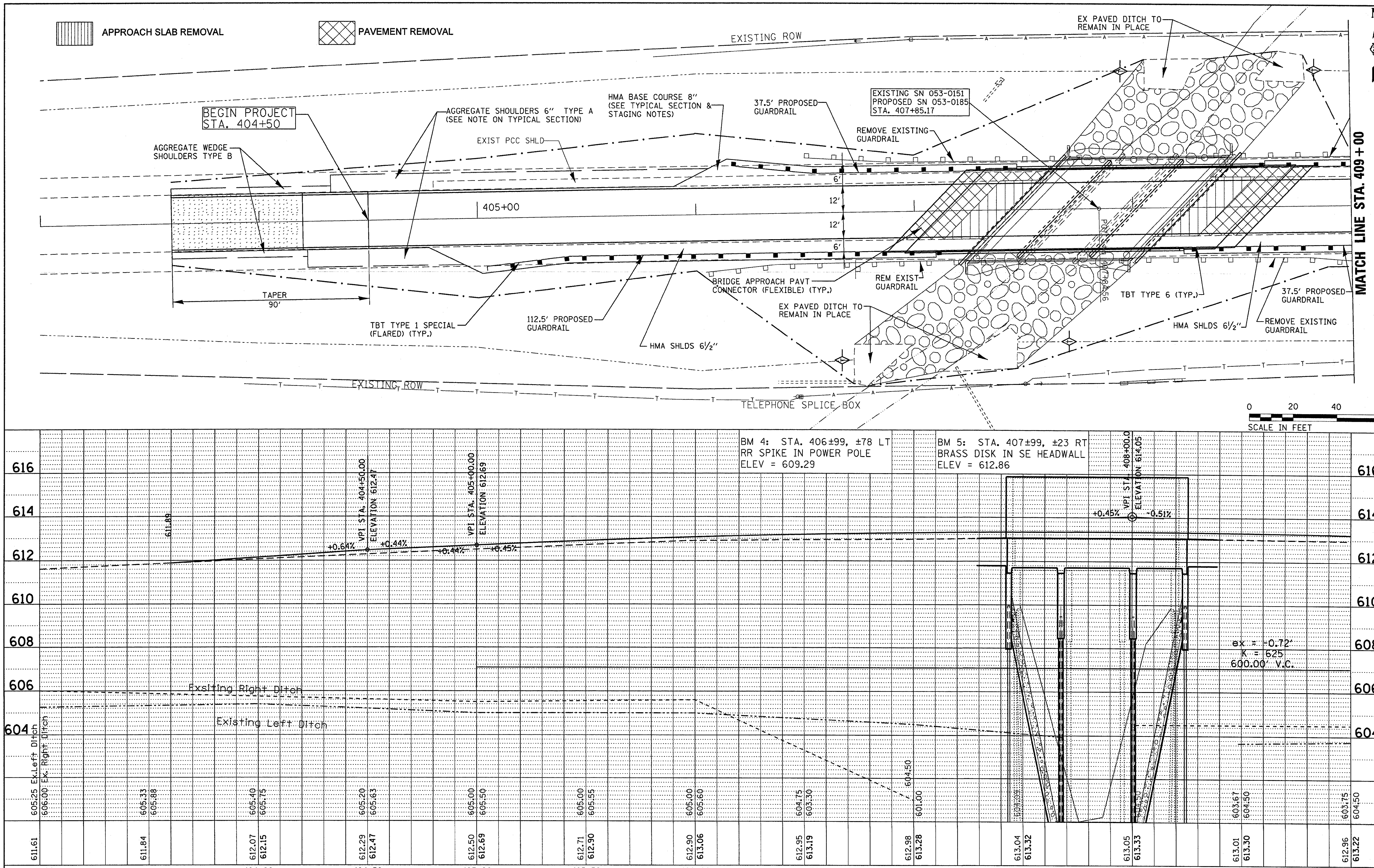
		CONTRACT NO. 66833		
		ILLINOIS FED. AID PROJECT		



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PROFILE — NOTE BOOK — NO. — SURVEYED — PLOTTED — GRADES CHECKED — B.M. NOTED — STRUCTURE NOTAT'NS CH'KD — BY — DATE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE

SCALE: 1:20 | SHEET NO. OF SHEETS | STA. 403+00 TO STA. 409+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	8

CONTRACT NO. 66833

ILLINOIS FED. AID PROJECT

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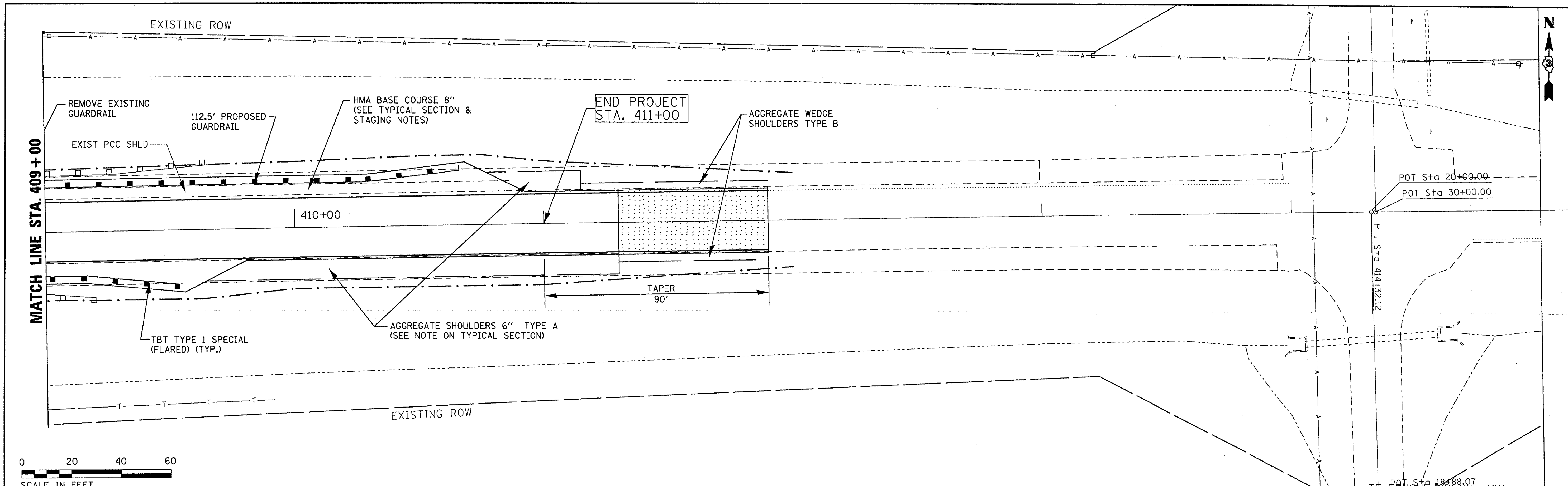
SURVEYED		
PLOTTED		
ALIGNMENT CHECKED		
RT. OF WAY CHECKED		
CADD FILE NAME		

BY	DATE



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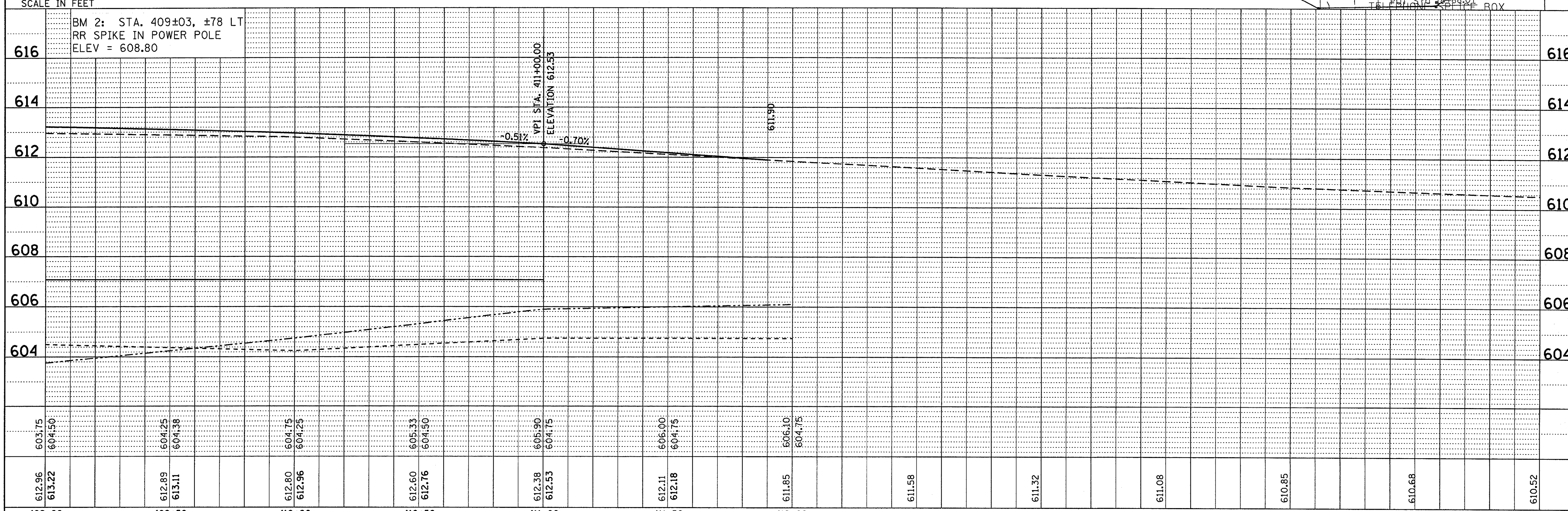
SURVEYED		
PLOTTED		
GRADES CHECKED		
B.M. NOTED		
STRUCTURE NOTAT'NS CH'KD		

BY	DATE



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE

SCALE: 1:20	SHEET NO. OF SHEETS	STA. 409+00	TO STA. 415+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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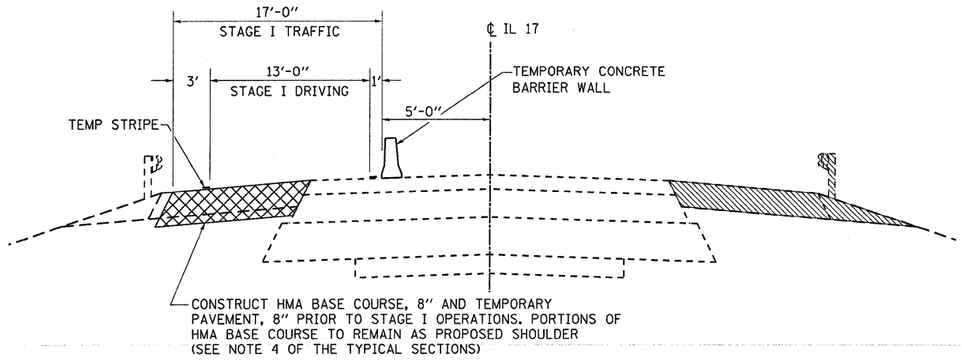
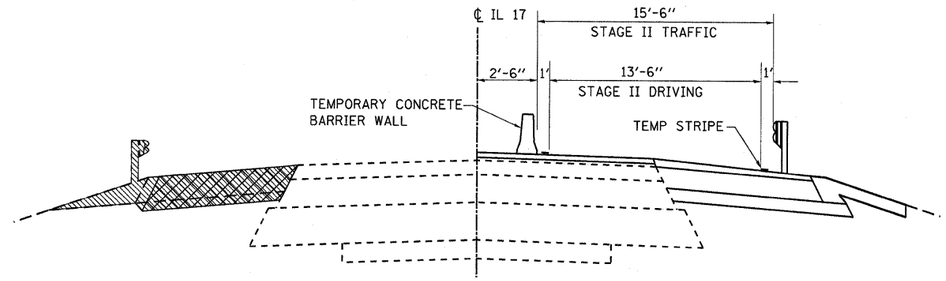
		CONTRACT NO. 66833		
	ILLINOIS	FED. AID PROJECT		



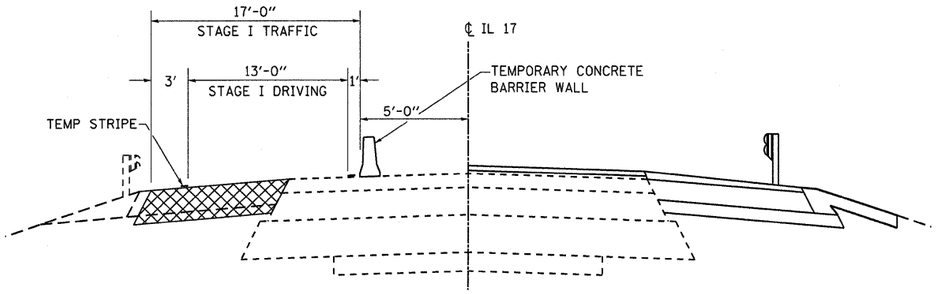
STAGE I REMOVAL

STA. 404+50 TO STA. 411+00



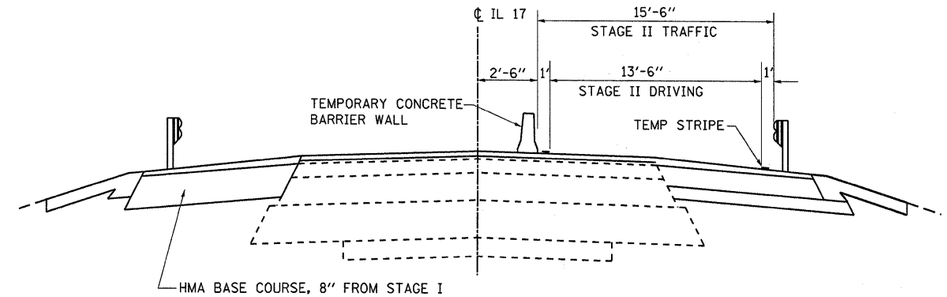
STAGE II REMOVAL

STA. 404+50 TO STA. 411+00



STAGE I CONSTRUCTION

STA. 404+50 TO STA. 411+00



STAGE II CONSTRUCTION

STA. 404+50 TO STA. 411+00

STAGE I CONSTRUCTION

1. INSTALL TRAFFIC CONTROL PER STANDARD 701326
2. CONSTRUCT HMA BASE COURSE & TEMPORARY PAVEMENT
3. INSTALL TRAFFIC CONTROL PER STANDARD 701321 AND AS DETAILED IN THESE PLANS
4. REMOVE EXISTING EASTBOUND GUARDRAIL
5. REMOVE EXISTING EASTBOUND PAVEMENT
6. REMOVE EASTBOUND PORTION OF EXISTING STRUCTURE
7. CONSTRUCT EASTBOUND PORTION OF STRUCTURE, BRIDGE APPROACH & RIPRAP
8. CONSTRUCT EASTBOUND SHOULDER & TEMPORARY PAVEMENT (FOR STAGE II)
9. PLACE HOT-MIX ASPHALT OVERLAY
10. INSTALL GUARDRAIL

STAGE II CONSTRUCTION

1. RELOCATE TRAFFIC CONTROL PER STANDARD 701321 AND AS DETAILED IN THESE PLANS
2. REMOVE TEMPORARY PAVEMENT AND PORTIONS OF HMA BASE COURSE (AS NECESSARY)
3. REMOVE EXISTING WESTBOUND PAVEMENT
4. REMOVE EXISTING GUARDRAIL
5. REMOVE WESTBOUND PORTION OF EXISTING STRUCTURE
6. CONSTRUCT WESTBOUND PORTION OF STRUCTURE, BRIDGE APPROACH & RIPRAP
7. CONSTRUCT WESTBOUND SHOULDER
8. PLACE HOT-MIX ASPHALT OVERLAY
9. INSTALL GUARDRAIL

STAGE III CONSTRUCTION

1. TRAFFIC CONTROL PER STANDARD 701201
2. ANY HMA OVERLAY NOT PLACED IN PREVIOUS STAGES
3. PLACE PERMANENT PAVEMENT MARKINGS ON EASTBOUND AND WESTBOUND LANES
4. LANDSCAPE RESTORATION

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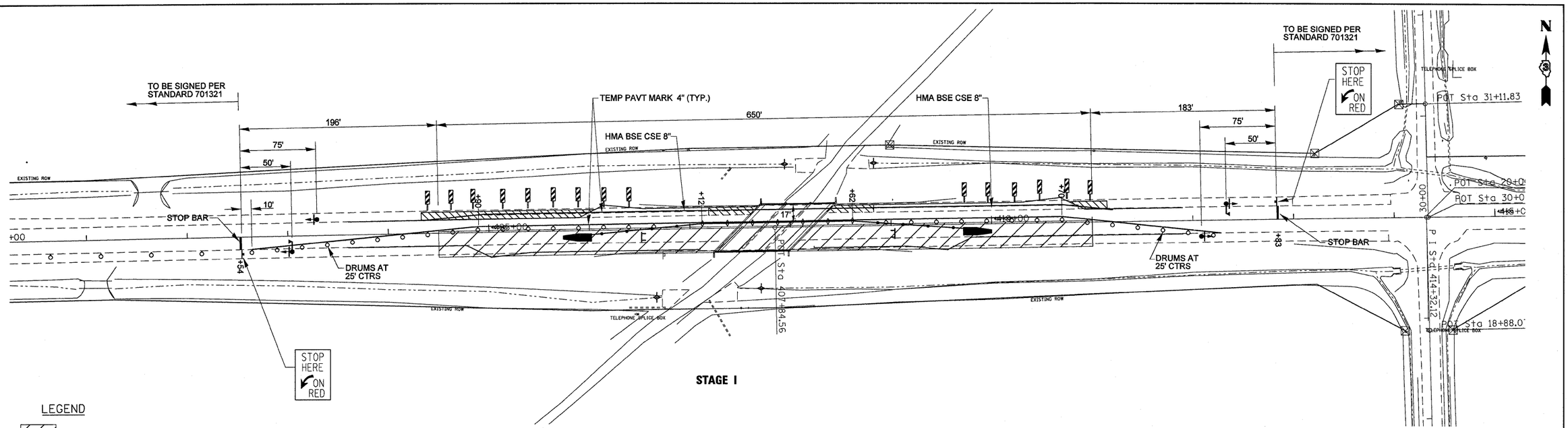
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL CONSTRUCTION STAGING NOTES & DETAILS

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

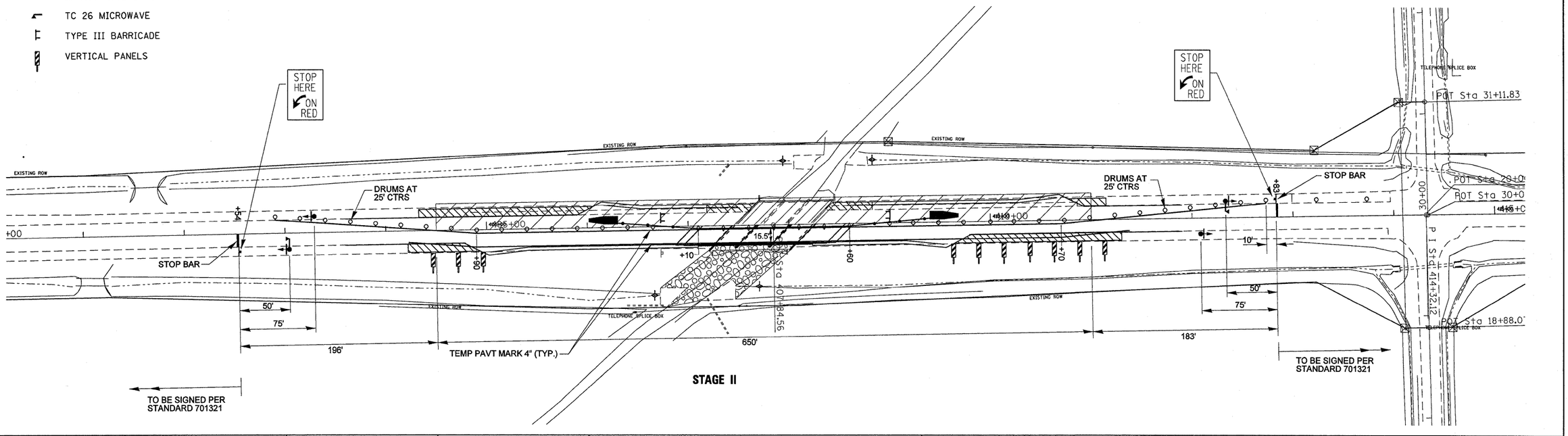
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	10
		CONTRACT NO. 66833		
		ILLINOIS FED. AID PROJECT		



STAGE I

LEGEND

- WORK AREA
- TEMPORARY PAVEMENT
- SIGN
- DRUM WITH STEADY BURNING LIGHT
- TRAFFIC SIGNAL WITH BACKPLATE
- TYPE C BIDIRECTIONAL REFLECTOR
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR (NON REDIRECTIVE) TEST LEVEL 3
- TC 26 MICROWAVE
- TYPE III BARRICADE
- VERTICAL PANELS



STAGE II

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		DATE -	REVISED -		

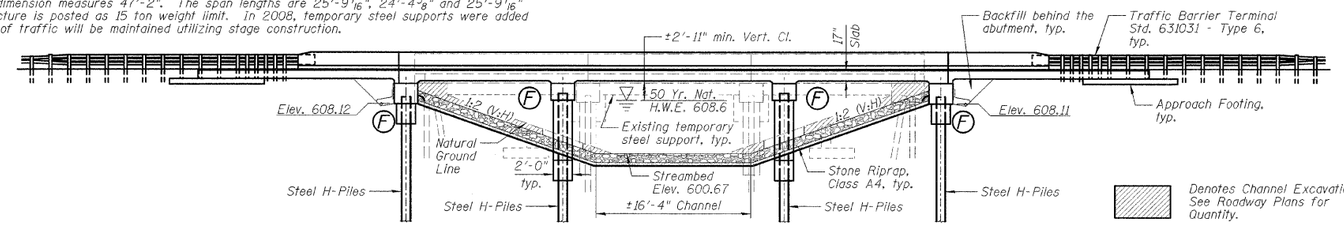
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	11
		CONTRACT NO. 66833		
	ILLINOIS FED. AID PROJECT			

Benchmarks: 1.) Benchmark 2: Railroad spike in the first power pole East of the Route 17 bridge over the Tributary into Reddick Run. Approximately 78' North of the ℄ of Route 17 and 83' Northwest of the end of the Northerly guardrail. Station 409+03/78' LT., Elevation = 608.80.
2.) Benchmark 4: Railroad spike in the first power pole West of the Route 17 bridge over the Tributary into Reddick Run. Approximately 78' North of the ℄ of Route 17 and 73' Northeast of the end of the Northerly guardrail. Station 406+99/78' LT., Elevation = 609.29.

Existing Structure: SN 053-0151, built in 1979 as Section 15BR-3. The superstructure consists of 15 precast prestressed concrete deck beams with a concrete parapet attached to the exterior beams and bituminous wearing surface. The substructure consists of precast concrete pile bent abutments and two concrete solid shaft pile bent piers supported by precast concrete piles. The back-to-back of abutments dimension measures 75'-11¼" and the out-to-out dimension measures 47'-2". The span lengths are 25'-9 7/16", 24'-4 3/8" and 25'-9 7/16" with a 45° left forward skew. The existing structure is posted as 15 ton weight limit. In 2008, temporary steel supports were added to support beams in multiple locations. One lane of traffic will be maintained utilizing stage construction.

Salvage: Temporary Steel Supports.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION
(Horizontal dimensions ℄ Rt. L's to Roadway)

Denotes Channel Excavation, See Roadway Plans for Quantity.

WATERWAY INFORMATION

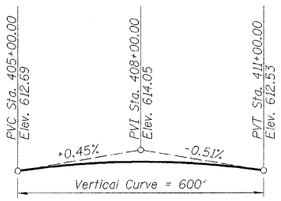
Drainage Area = 7.9 Sq. Mi. Low Grade Elev. 610.80 @ Sta. 400+90.00

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.
	10	536	169	175	608.1	0.3	0.3	608.5	608.4
Design	50	783	188	197	608.6	0.5	0.4	609.1	609.0
Base	100	880	193	204	608.8	0.5	0.4	609.3	609.2
Overtopping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	500	1108	205	218	609.1	0.7	0.6	609.8	609.7

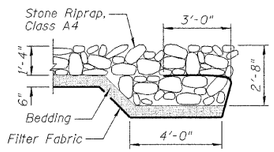
10 Yr. Velocity = 2.8 ft/sec. (Proposed)
10 Yr. Velocity = 2.9 ft/sec. (Existing)

SCOUR INFORMATION

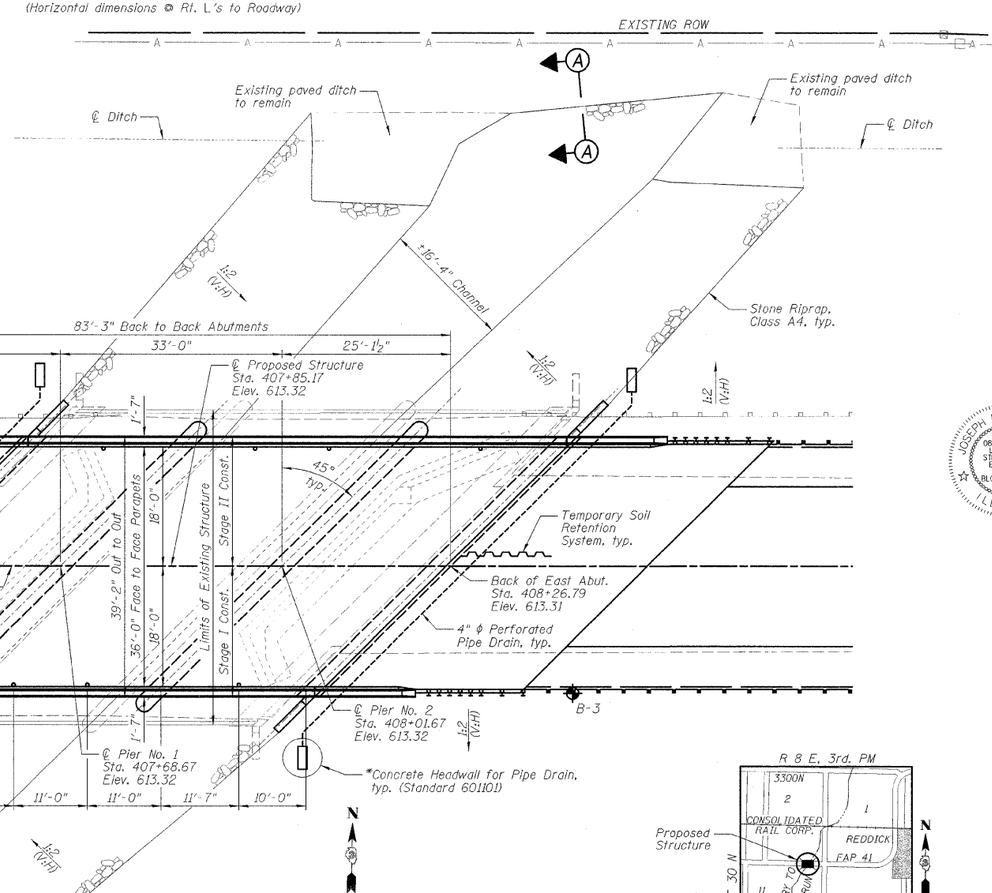
	West Abutment	Pier 1	Pier 2	East Abutment
Design Scour Elevation	608.12	595.58	596.67	608.11



PROFILE GRADE
(Along ℄ Roadway)



SECTION A-A



PLAN

*Included in the cost of Underdrains for Stuctures.

INDEX TO SHEETS

STATION 407+85.17
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RTE. 41 SEC. (15BR-3)-1
LOADING HL93
STR. NO. 053-0185

NAME PLATE
See Standard 515001

DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications, 4th Edition (2008 Interim Revisions)

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi (Cast-in-Place)
fy = 60,000 psi (Reinforcement)

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.077 g
Design Spectral Acceleration at 0.2 sec. (SDs) = 0.136 g
Soil Site Class = C

LOCATION SKETCH

JOSEPH M. LOWRANCE 061-006446 LICENSED STRUCTURAL ENGINEER OF BLOOMINGTON, ILLINOIS

Joseph M. Lowrance Date 10/07/09
JOSEPH M. LOWRANCE
ILLINOIS STRUCTURAL ENGINEER
NO. 081-006446
Exp. Date 11/30/10

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson (JJD)
ENGINEER OF BRIDGES AND STRUCTURES

GENERAL PLAN AND ELEVATION
IL. ROUTE 17 OVER UNNAMED TRIBUTARY TO REDDICK RUN
F.A.P. 41 - SECTION (15BR-3)-1
LIVINGSTON COUNTY
STATION 407+85.17
STRUCTURE NO. 053-0185

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SHEET NO. B1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	12
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

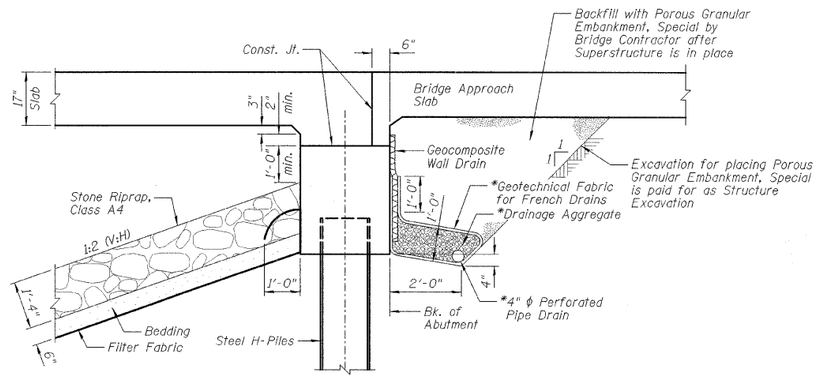
TOTAL BILL OF MATERIAL

ITEMS	UNITS	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		84	84
Stone Riprap, Class A4	Sq. Yd.		1,278	1,278
Filter Fabric	Sq. Yd.		1,278	1,278
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		204	204
Floor Drains	Each	8		8
Concrete Structures	Cu. Yd.		166.9	166.9
Concrete Superstructure	Cu. Yd.	316.0		316.0
Bridge Deck Grooving	Sq. Yd.	536		536
Concrete Encasement	Cu. Yd.		14.0	14.0
Protective Coat	Sq. Yd.	668		668
Reinforcement Bars, Epoxy Coated	Pound	71,810	9,740	81,550
Bar Splicers	Each	441	56	497
Furnishing Steel Piles HP12x63	Foot		1,418	1,418
Driving Piles	Foot		1,418	1,418
Test Pile Steel HP12x63	Each		2	2
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		50	50
Pipe Underdrains For Structures 4"	Foot		164	164
Temporary Soil Retention System	Sq. Ft.	112		112
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

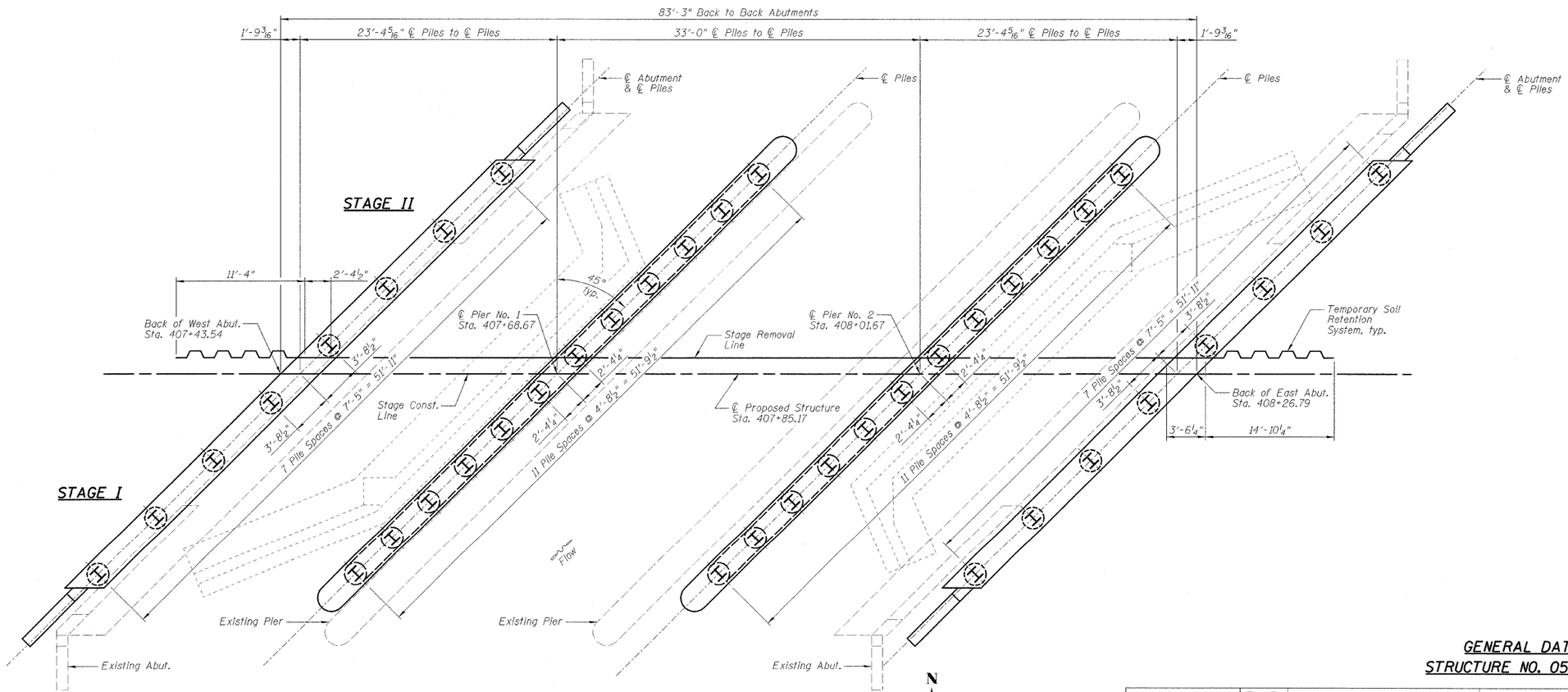
GENERAL NOTES:

1.) Reinforcement bars shall conform to the requirements of ASTM A706 Gr. 60. See Special Provisions.
2.) Reinforcement bars designated (E) shall be epoxy coated.
3.) Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4.) The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.
5.) The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.
6.) Slipforming of parapets is not allowed.
7.) The cost of removing and salvaging the temporary steel supports shall be included in the cost of Removal of Existing Structures.
8.) The Contractor is advised that the existing PPC deck beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for the removal and replacement of the structure.
9.) If the Contractor's procedures for existing beam removal involve placement of heavy equipment on the existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Removal of Existing Structures.
10.) The pay item Removal of Existing Structures shall include the removal of the Temporary Support Connections at the Abutments & Piers, the Temporary Supports under each Superstructure Span and the Approach Pavement at each end of the bridge (beneath the proposed Bridge Approach Slab). All structural steel from the existing temporary supports shall become the property of IDOT and delivered to the Pontiac Maintenance Yard.



SECTION THRU EAST ABUTMENT
(Similar for West Abutment)

NOTES:
1.) Horizontal dimensions ℄ Rt. L's to Abutment.
2.) *Included in the cost of Pipe Underdrains for Structures.
3.) 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).



SUBSTRUCTURE LAYOUT PLAN

GENERAL DATA
STRUCTURE NO. 053-0185

SHEET NO. B2	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	13
	SN 053-0185		CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

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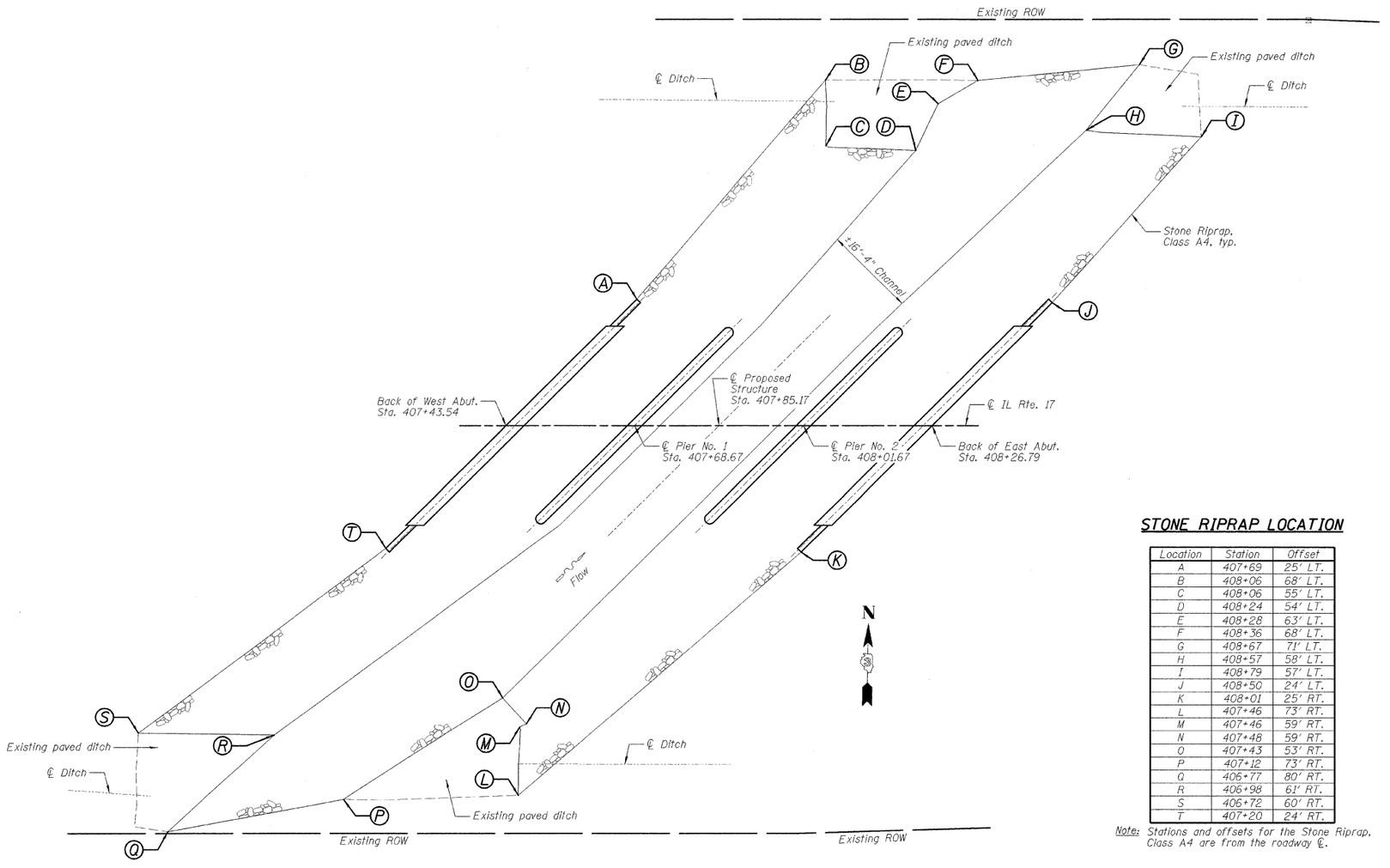
24-8219

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

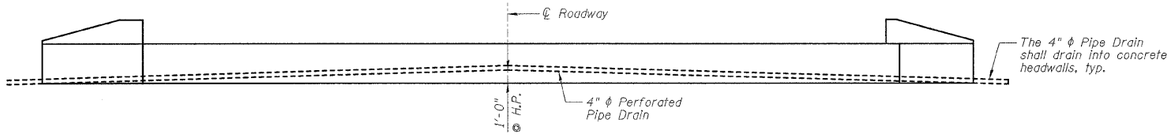


STONE RIPRAP LAYOUT PLAN

STONE RIPRAP LOCATION

Location	Station	Offset
A	407+69	25' LT.
B	408+06	68' LT.
C	408+06	55' LT.
D	408+24	54' LT.
E	408+28	63' LT.
F	408+36	68' LT.
G	408+67	71' LT.
H	408+57	58' LT.
I	408+79	57' LT.
J	408+50	24' LT.
K	408+01	25' RT.
L	407+46	73' RT.
M	407+46	59' RT.
N	407+48	59' RT.
O	407+43	53' RT.
P	407+12	73' RT.
Q	406+77	80' RT.
R	406+98	61' RT.
S	406+72	60' RT.
T	407+20	24' RT.

Note: Stations and offsets for the Stone Riprap, Class A4 are from the roadway ℄.



ABUTMENT ELEVATION, TYPICAL DRAIN DETAIL

GENERAL DATA
STRUCTURE NO. 053-0185

DESIGNED	SDH				
CHECKED	JML				
DRAWN	JWK/DJM				
CHECKED	MSW				
DATE	10/07/09				

SHEET NO. B3	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	14
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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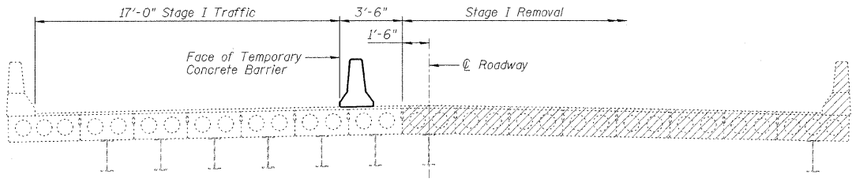
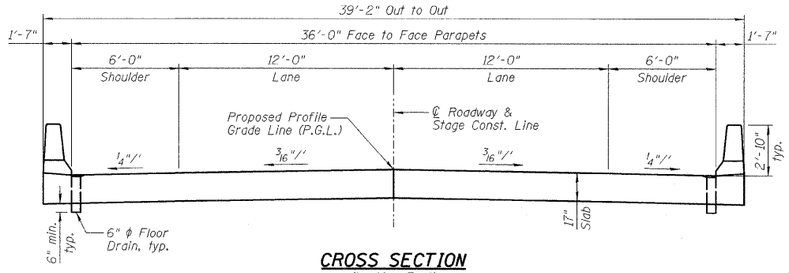
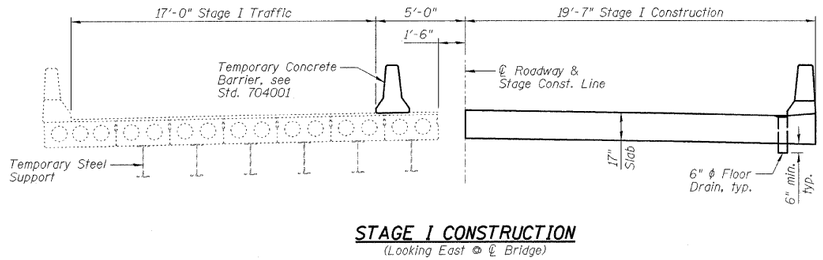
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



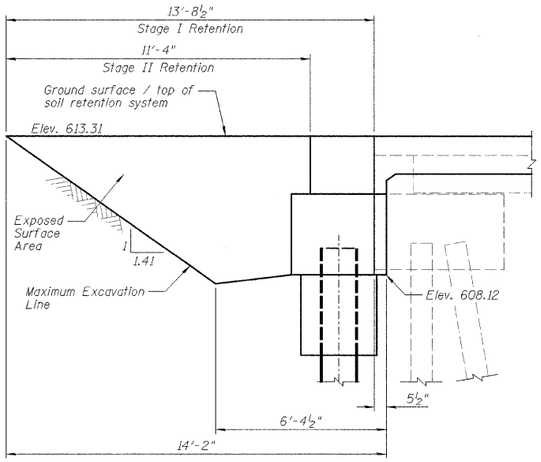
STAGE I REMOVAL
(Looking East ⊕ ℄ Bridge)



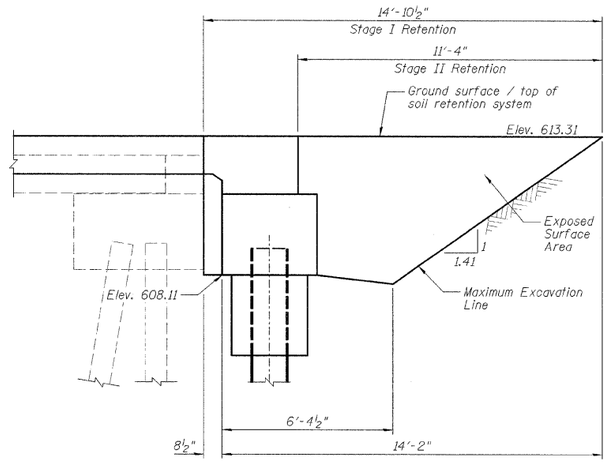
CROSS SECTION
(Looking East)



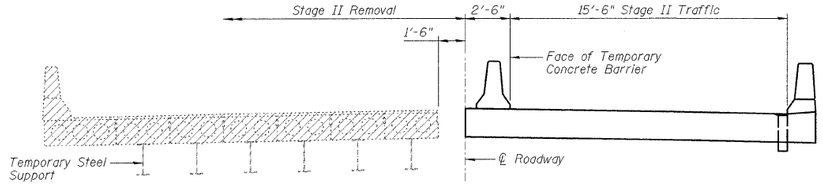
STAGE I CONSTRUCTION
(Looking East ⊕ ℄ Bridge)



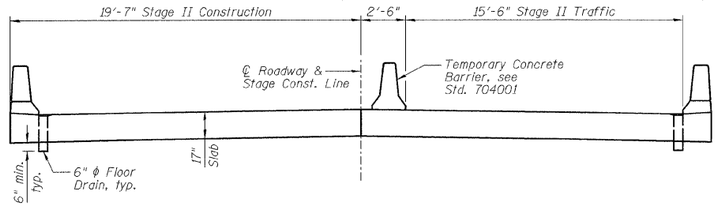
WEST ABUTMENT



EAST ABUTMENT



STAGE II REMOVAL
(Looking East ⊕ ℄ Bridge)



STAGE II CONSTRUCTION
(Looking East ⊕ ℄ Bridge)

TEMPORARY SOIL RETENTION SYSTEM

NOTES:

1.) A contilever sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
2.) All dimensions are along Roadway unless otherwise noted.

BILL OF MATERIAL

Item	Unit	Quantity
Temporary Soil Retention System	Sq. Ft.	112

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

NOTES:

1.) Hatched area indicates removal of the existing PPC deck beam superstructure. Removal of the existing bituminous wearing surface shall be included with Removal of Existing Structures.
2.) See Sheet B5 for Temporary Concrete Barrier (Standard 704001). See Roadway Plans for quantity.

STAGE CONSTRUCTION
STRUCTURE NO. 053-0185

SHEET NO. B4	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	15
		SN 053-0185	CONTRACT NO. 66833		
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		

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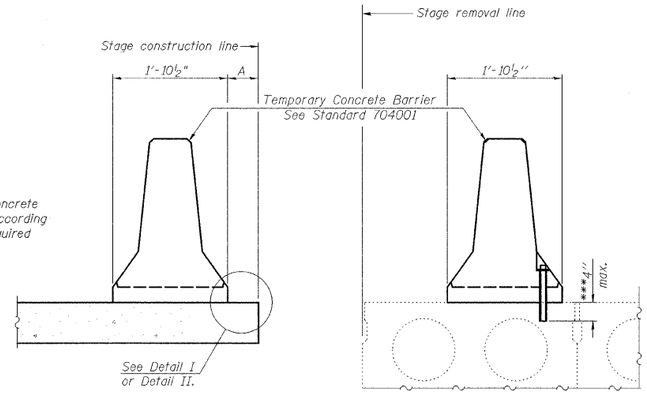
When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

NOTES

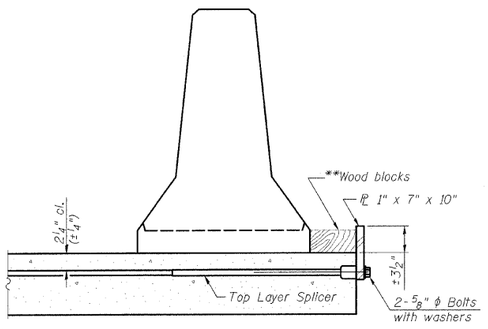
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℙ to the top layer of couplers with 2-$\frac{5}{8}$" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x 10" steel ℙ to the concrete slab or concrete wearing surface with 2-$\frac{5}{8}$" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

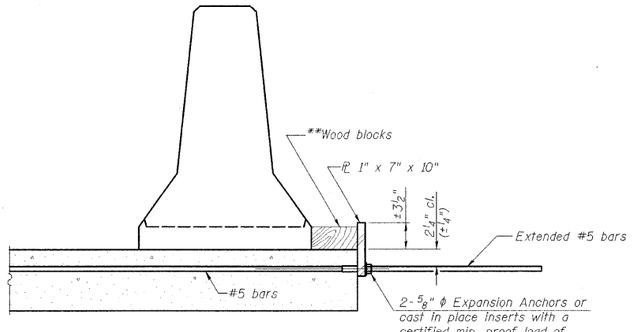
Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x 10" 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.

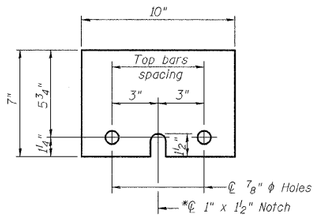
*** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER ℙ 1" x 7" x 10"

* Required only with Detail II

**Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 053-0185

SHEET NO. B5	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	16
		SN 053-0185	CONTRACT NO. 66833		
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		

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DEPARTMENT OF TRANSPORTATION

NORTH FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
West End of Deck	407+62.25	-18.00	613.01	613.01
℄ Piles West Abut.	407+63.31	-18.00	613.01	613.01
A	407+73.31	-18.00	613.01	613.01
℄ Pier No. 1	407+86.67	-18.00	613.01	613.01
B	407+96.67	-18.00	613.01	613.02
C	408+06.67	-18.00	613.01	613.01
℄ Pier No. 2	408+19.67	-18.00	613.00	613.00
D	408+29.67	-18.00	612.99	612.99
℄ Piles East Abut.	408+43.02	-18.00	612.98	612.98
East End of Deck	408+44.08	-18.00	612.98	612.98

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
West End of Deck	407+56.25	-12.00	613.13	613.13
℄ Piles West Abut.	407+57.31	-12.00	613.13	613.13
A	407+67.31	-12.00	613.13	613.14
℄ Pier No. 1	407+80.67	-12.00	613.14	613.14
B	407+90.67	-12.00	613.14	613.14
C	408+00.67	-12.00	613.13	613.14
℄ Pier No. 2	408+13.67	-12.00	613.13	613.13
D	408+23.67	-12.00	613.12	613.12
℄ Piles East Abut.	408+37.02	-12.00	613.11	613.11
East End of Deck	408+38.08	-12.00	613.11	613.11

℄ ROADWAY, PROFILE GRADE LINE (P.G.L.) & STAGE CONSTRUCTION LINE

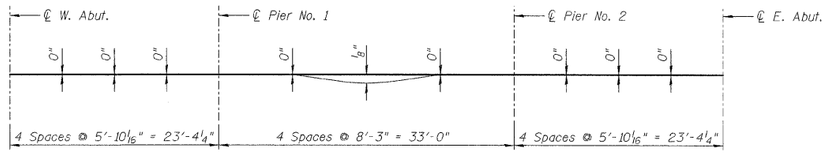
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
West End of Deck	407+44.25	0.00	613.31	613.31
℄ Piles West Abut.	407+45.31	0.00	613.31	613.31
A	407+55.31	0.00	613.32	613.32
℄ Pier No. 1	407+68.67	0.00	613.32	613.32
B	407+78.67	0.00	613.32	613.33
C	407+88.67	0.00	613.32	613.33
℄ Pier No. 2	408+01.67	0.00	613.32	613.32
D	408+11.67	0.00	613.32	613.32
℄ Piles East Abut.	408+25.02	0.00	613.31	613.31
East End of Deck	408+26.08	0.00	613.31	613.31

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
West End of Deck	407+32.25	12.00	613.12	613.12
℄ Piles West Abut.	407+33.31	12.00	613.12	613.12
A	407+43.31	12.00	613.12	613.13
℄ Pier No. 1	407+56.67	12.00	613.13	613.13
B	407+66.67	12.00	613.13	613.14
C	407+76.67	12.00	613.14	613.14
℄ Pier No. 2	407+89.67	12.00	613.14	613.14
D	407+99.67	12.00	613.13	613.13
℄ Piles East Abut.	408+13.02	12.00	613.13	613.13
East End of Deck	408+14.08	12.00	613.13	613.13

SOUTH FACE OF PARAPET

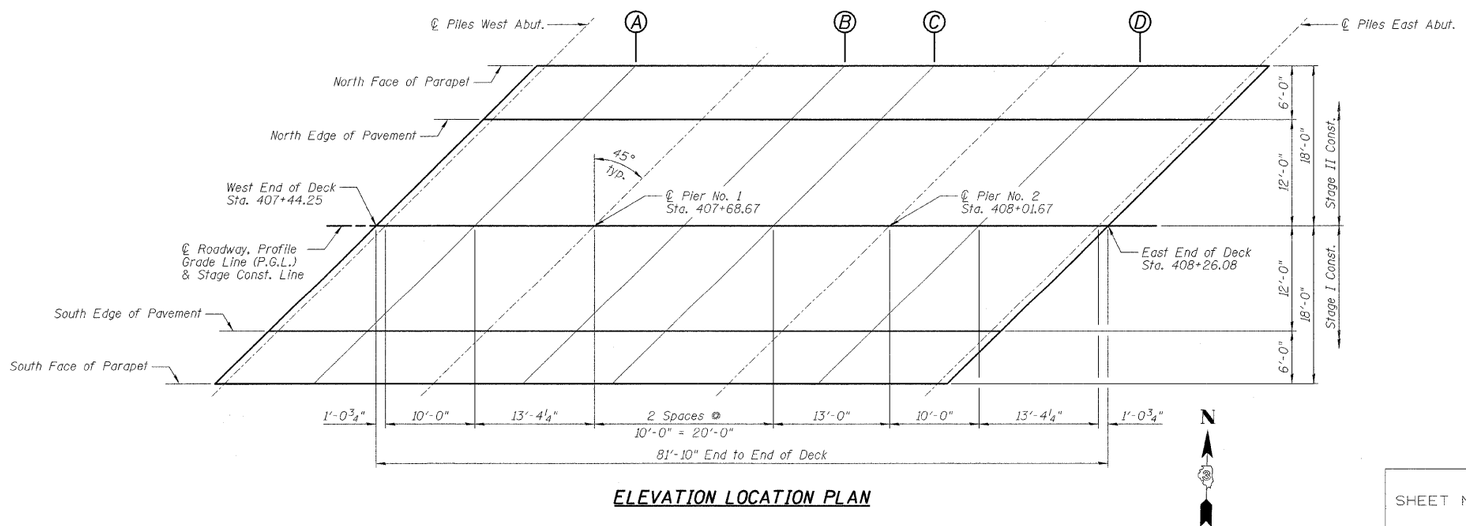
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
West End of Deck	407+26.25	18.00	612.99	612.99
℄ Piles West Abut.	407+27.31	18.00	612.99	612.99
A	407+37.31	18.00	612.99	613.00
℄ Pier No. 1	407+50.67	18.00	613.00	613.00
B	407+60.67	18.00	613.01	613.02
C	407+70.67	18.00	613.01	613.01
℄ Pier No. 2	407+83.67	18.00	613.01	613.01
D	407+93.67	18.00	613.01	613.01
℄ Piles East Abut.	408+07.02	18.00	613.01	613.01
East End of Deck	408+08.08	18.00	613.01	613.01



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

The above deflections are not for use in the field if the Engineer is working from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection."



ELEVATION LOCATION PLAN

TOP OF SLAB ELEVATION LOCATIONS AND ELEVATIONS STRUCTURE NO. 053-0185

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SHEET NO. 86	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	17
		SN 053-0185	CONTRACT NO. 66833		
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		

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DEPARTMENT OF TRANSPORTATION

NORTH CURB LINE/NORTH FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
End of West Approach	407+32.67	-18.42	612.98
A	407+42.67	-18.42	612.99
B	407+52.25	-18.00	613.00
Back of West Abut.	407+61.54	-18.00	613.01
West End of Deck	407+62.25	-18.00	613.01

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of West Approach	407+26.25	-12.00	613.11
A	407+36.25	-12.00	613.12
B	407+46.25	-12.00	613.13
Back of West Abut.	407+55.54	-12.00	613.13
West End of Deck	407+56.25	-12.00	613.13

℄ ROADWAY, PROFILE GRADE LINE (P.G.L.) & STAGE CONSTRUCTION LINE

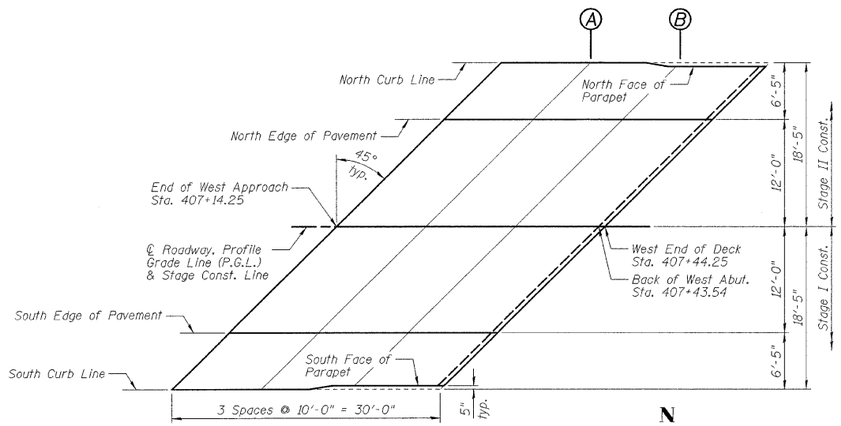
Location	Station	Offset	Theoretical Grade Elevations
End of West Approach	407+14.25	0.00	613.29
A	407+24.25	0.00	613.30
B	407+34.25	0.00	613.31
Back of West Abut.	407+43.54	0.00	613.31
West End of Deck	407+44.25	0.00	613.31

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of West Approach	407+02.25	12.00	613.09
A	407+12.25	12.00	613.10
B	407+22.25	12.00	613.11
Back of West Abut.	407+31.54	12.00	613.12
West End of Deck	407+32.25	12.00	613.12

SOUTH CURB LINE/SOUTH FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
End of West Approach	406+95.83	18.42	612.94
A	407+05.83	18.42	612.96
B	407+16.25	18.00	612.98
Back of West Abut.	407+25.54	18.00	612.99
West End of Deck	407+26.25	18.00	612.99



WEST APPROACH SLAB PLAN

NORTH CURB LINE/NORTH FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
East End of Deck	408+44.08	-18.00	612.98
Back of East Abut.	408+44.79	-18.00	612.98
A	408+54.08	-18.00	612.97
B	408+64.50	-18.42	612.95
End of East Approach	408+74.50	-18.42	612.93

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
East End of Deck	408+38.08	-12.00	613.11
Back of East Abut.	408+38.79	-12.00	613.11
A	408+48.08	-12.00	613.10
B	408+58.08	-12.00	613.09
End of East Approach	408+68.08	-12.00	613.08

℄ ROADWAY, PROFILE GRADE LINE (P.G.L.) & STAGE CONSTRUCTION LINE

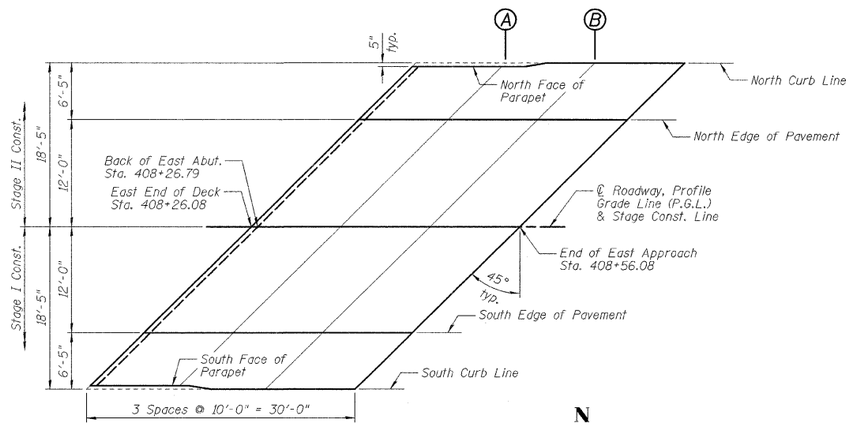
Location	Station	Offset	Theoretical Grade Elevations
East End of Deck	408+26.08	0.00	613.31
Back of East Abut.	408+26.79	0.00	613.31
A	408+36.08	0.00	613.30
B	408+46.08	0.00	613.29
End of East Approach	408+56.08	0.00	613.28

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
East End of Deck	408+14.08	12.00	613.13
Back of East Abut.	408+14.79	12.00	613.13
A	408+24.08	12.00	613.12
B	408+34.08	12.00	613.11
End of East Approach	408+44.08	12.00	613.10

SOUTH CURB LINE/SOUTH FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
East End of Deck	408+08.08	18.00	613.01
Back of East Abut.	408+08.79	18.00	613.00
A	408+18.08	18.00	613.00
B	408+27.66	18.42	612.98
End of East Approach	408+37.66	18.42	612.98



EAST APPROACH SLAB PLAN

APPROACH SLAB ELEVATIONS
STRUCTURE NO. 053-0185

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SHEET NO. B7	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	18
		SN 053-0185	CONTRACT NO. 66833		
		FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT		

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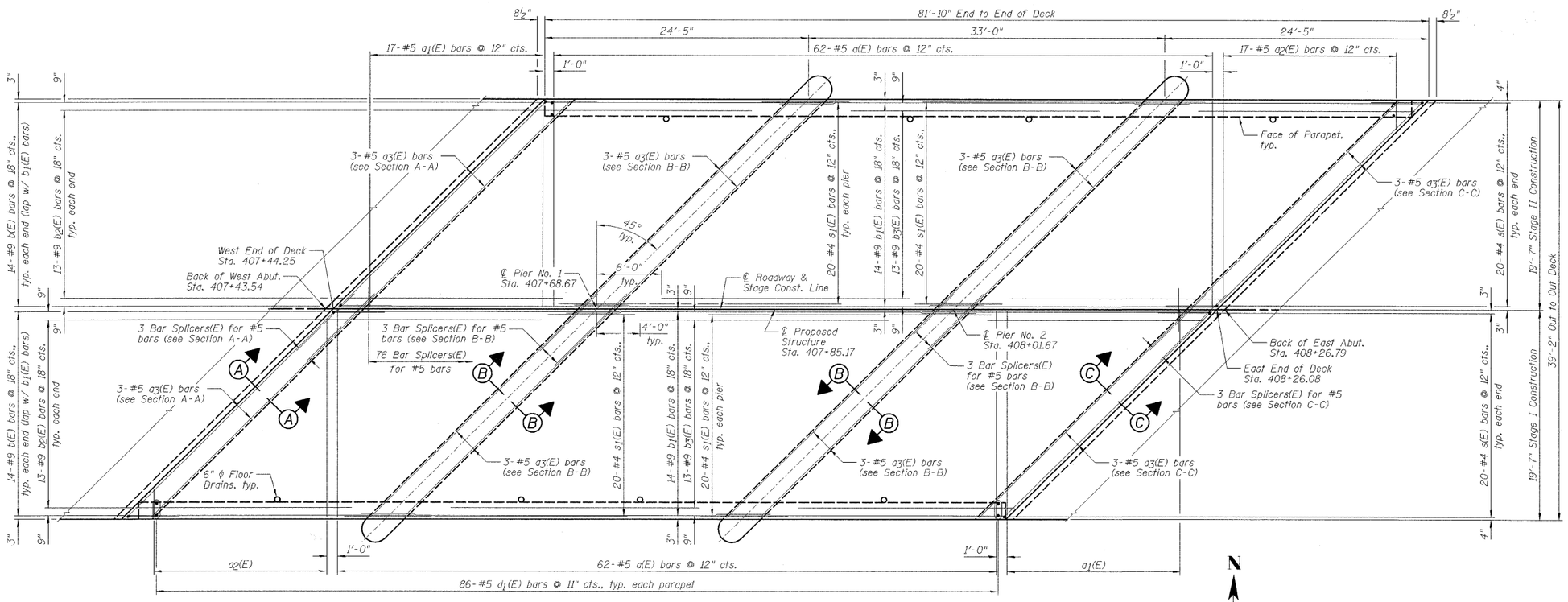
DEPARTMENT OF TRANSPORTATION

STAGE II

STAGE I



BOTTOM OF SLAB PLAN

BAR LAP
#9 - 4'-11"

NOTES:

1.) See Sheet B11 for Superstructure Details and Bill of Material.
2.) See Sheet B10 for Sections A-A thru C-C.
3.) See Sheet B20 for Bar Splicer Details.
4.) See Sheet B11 for Floor Drain details.
5.) Order $a_1(E)$ and $a_2(E)$ bars full length. Cut according to Bar Cutting Diagram on Sheet B11. Use remainder of bars in opposite corner of deck.

SUPERSTRUCTURE DECK
STRUCTURE NO. 053-0185

SHEET NO. B8	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	19
		SN 053-0185	CONTRACT NO. 66833		
		FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

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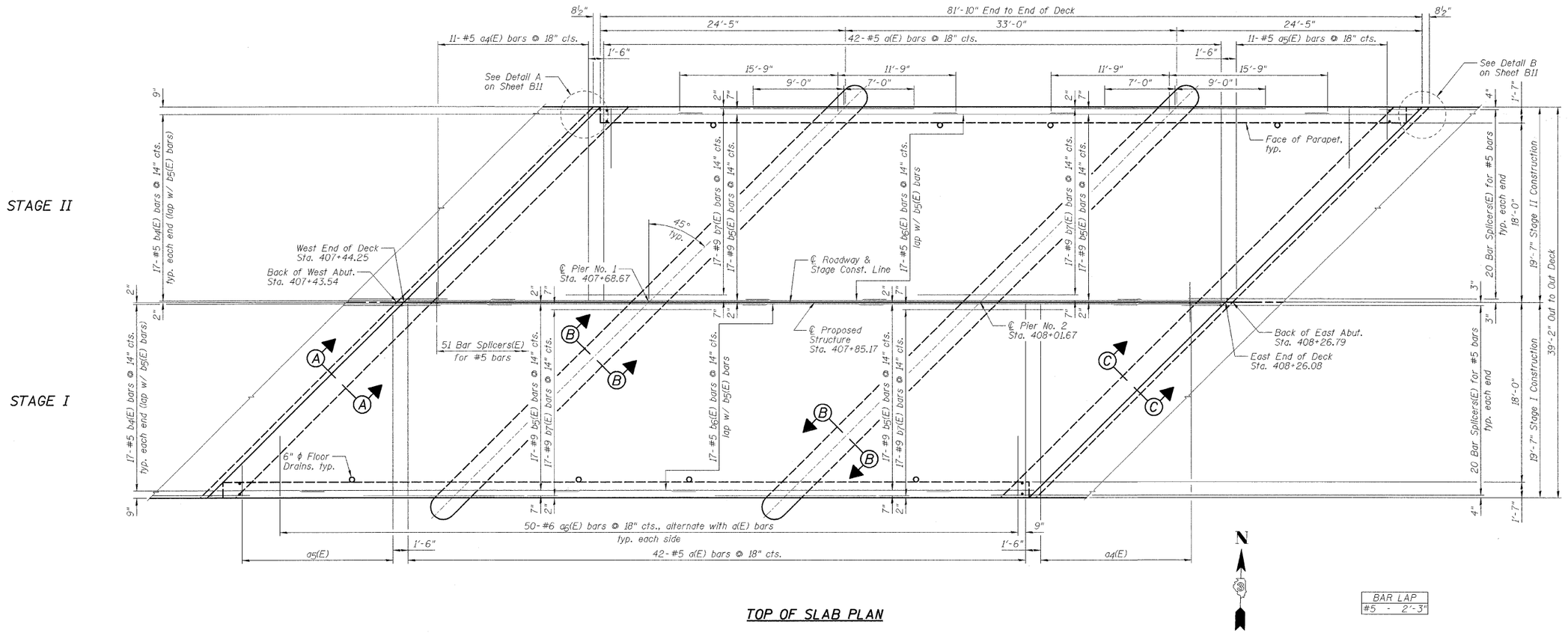


TOP OF SLAB PLAN

BAR LAP
#5 - 2'-3"

NOTES:

1.) See Sheet B11 for Superstructure Details and Bill of Material.
2.) See Sheet B10 for Sections A-A thru C-C.
3.) See Sheet B20 for Bar Splicer Details.
4.) See Sheet B11 for Floor Drain details.
5.) Order a4(E) and a5(E) bars full length. Cut according to Bar Cutting Diagram on Sheet B11. Use remainder of bars in opposite corner of deck.

SUPERSTRUCTURE DECK
STRUCTURE NO. 053-0185

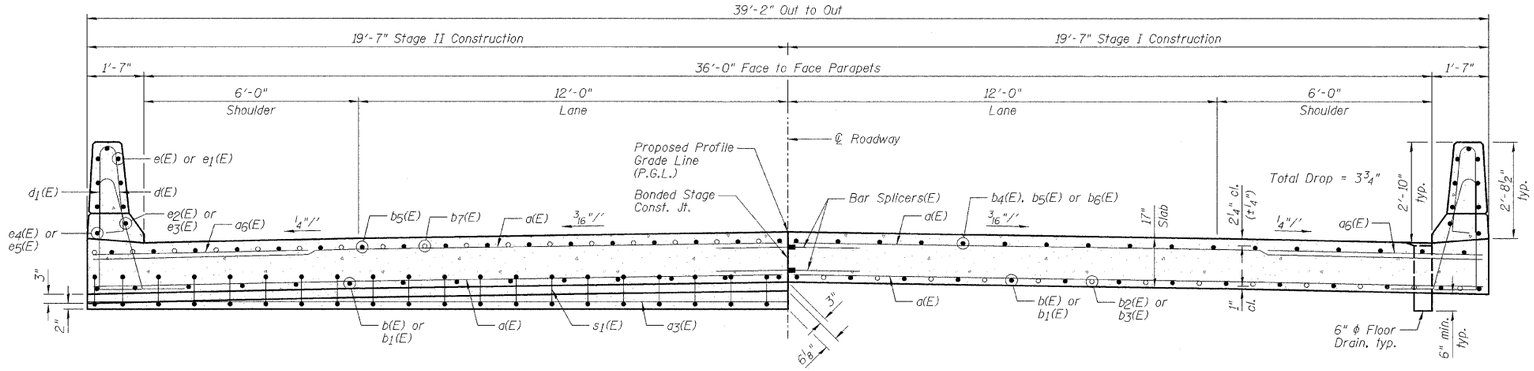
SHEET NO. B9	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	20
		SN 053-0185	CONTRACT NO. 66833		
		FED. ROAD DIST. NO. / ILLINOIS / FED. AID PROJECT			

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

FARNSWORTH GROUP, INC. CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

24-8219

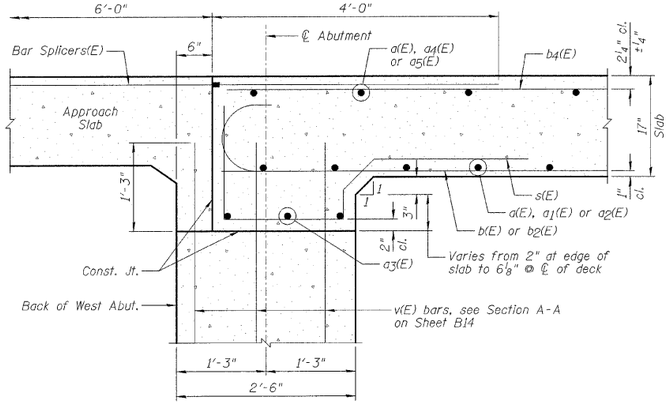
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



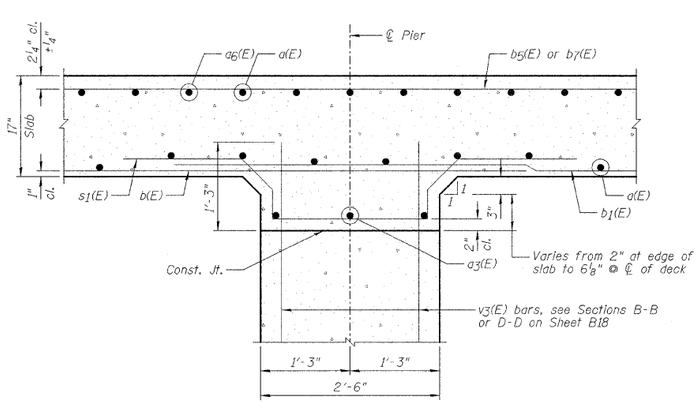
SECTION NEAR PIER

SECTION NEAR MIDSPAN

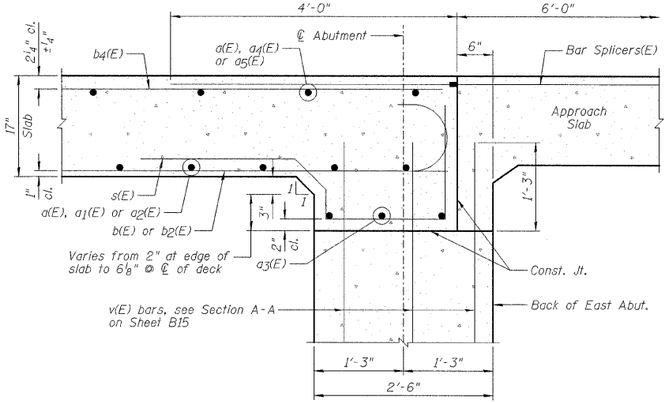
CROSS SECTION
(Looking East)



SECTION A-A



SECTION B-B



SECTION C-C

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

NOTES:

1.) For Section Thru Parapet, see Sheet B11.
2.) For locations of Sections A-A thru C-C, see Sheets B8 & B9.

SUPERSTRUCTURE CROSS SECTION
STRUCTURE NO. 053-0185

SHEET NO. B10	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	21
	SN 053-0185		CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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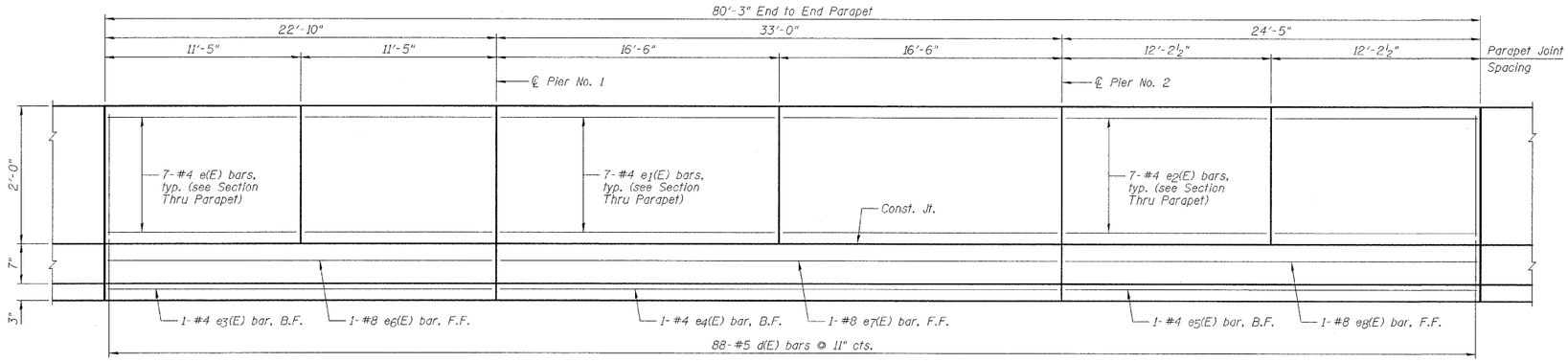
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

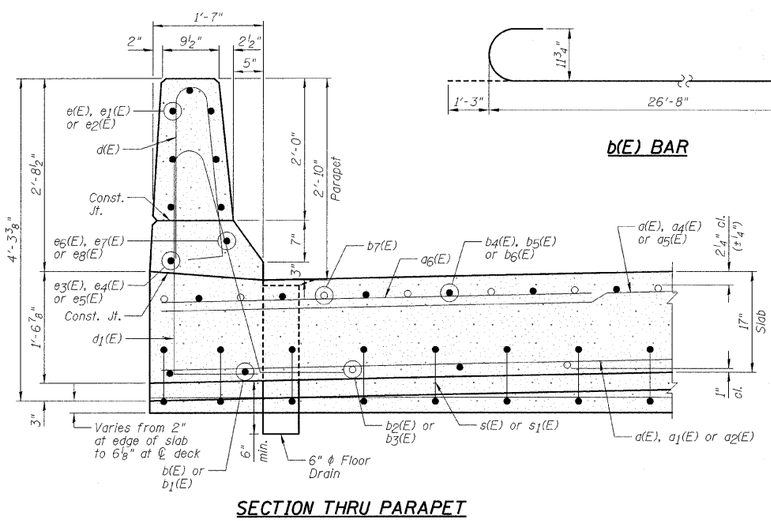


INSIDE ELEVATION OF PARAPET

SUPERSTRUCTURE BILL OF MATERIAL

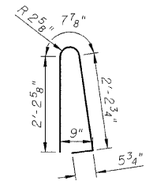
Bar	No.	Size	Length	Shape
a(E)	208	#5	19'-3"	
a1(E)	17	#5	22'-0"	
a2(E)	17	#5	21'-2"	
a3(E)	24	#5	27'-3"	
a4(E)	11	#5	21'-0"	
a5(E)	11	#5	21'-2"	
a6(E)	100	#6	6'-0"	
b(E)	56	#9	27'-11"	
b1(E)	28	#9	37'-11"	
b2(E)	52	#9	20'-0"	
b3(E)	26	#9	23'-0"	
b4(E)	68	#5	10'-8"	
b5(E)	68	#9	27'-6"	
b6(E)	34	#5	14'-0"	
b7(E)	68	#9	16'-0"	
d(E)	176	#5	5'-7"	
d1(E)	172	#5	9'-0"	
e(E)	28	#4	11'-1"	
e1(E)	28	#4	16'-2"	
e2(E)	28	#4	11'-10"	
e3(E)	2	#4	22'-6"	
e4(E)	2	#4	32'-8"	
e5(E)	2	#4	24'-1"	
e6(E)	2	#8	22'-6"	
e7(E)	2	#8	32'-8"	
e8(E)	2	#8	24'-1"	
s(E)	80	#4	7'-0"	
s1(E)	80	#4	9'-4"	

Item	Unit	Quantity
Concrete Superstructure	Cu. Yd.	198.0
Bridge Deck Grooving	Sq. Yd.	308
Protective Coat	Sq. Yd.	396
Reinforcement Bars, Epoxy Coated	Pound	37,590
Bar Splicers	Each	219

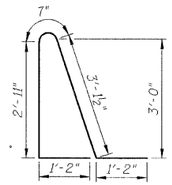


SECTION THRU PARAPET

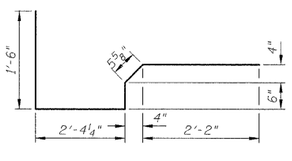
b(E) BAR



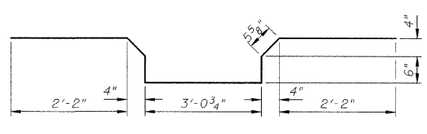
BAR d(E)



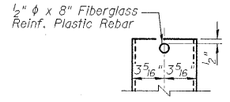
BAR d1(E)



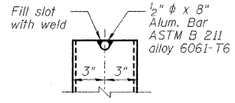
s(E) BAR



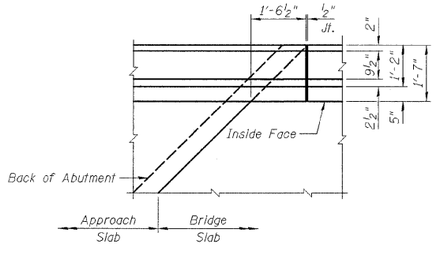
s1(E) BAR



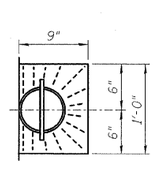
FIBERGLASS PIPE



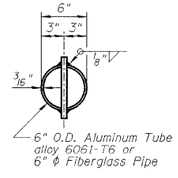
ALUMINUM TUBE



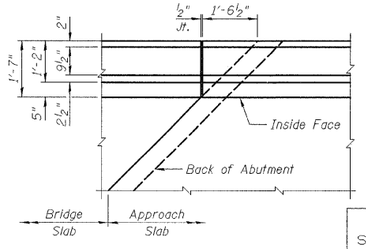
DETAIL A



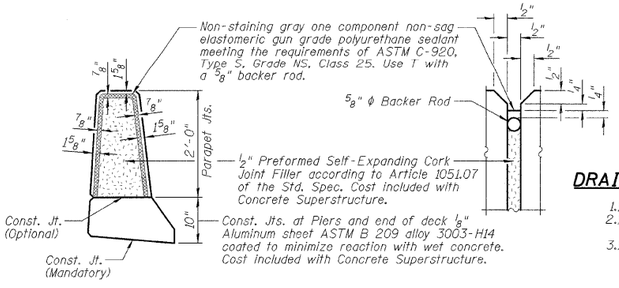
TOP PLAN



TOP PLAN (Showing Aluminum Tube)



DETAIL B

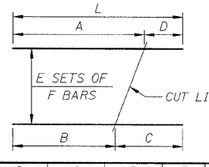


PARAPET JOINT DETAILS

DRAIN NOTES:

1.) Space Drains to miss slab reinforcement.
2.) Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
3.) The exterior surfaces of the floor drains shall be coated or pigmented by the manufacturer with a color that matches the concrete.

BAR CUTTING DIAGRAM



BAR	A	B	C	D	E	F	L
a1(E)	19'-0"	3'-0"	19'-0"	3'-0"	1	17	22'-0"
a2(E)	18'-7"	2'-7"	18'-7"	2'-7"	1	17	21'-2"
a4(E)	18'-0"	3'-0"	18'-0"	3'-0"	1	11	21'-0"
a5(E)	18'-1"	3'-1"	18'-1"	3'-1"	1	11	21'-2"

NOTES:

1.) B.F. Denotes Back Face and F.F. Denotes Front Face.
2.) For location of Detail A and Detail B, see Sheet B9.
3.) Inside elevation of parapet is exaggerated vertically to show reinforcement.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 053-0185

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

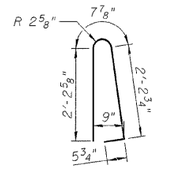
SHEET NO. B11	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	22
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

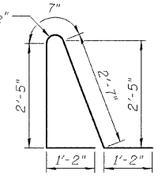
WEST APPROACH SLAB BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_3(E)$	40	#5	27'-3"	
$a_6(E)$	22	#6	6'-0"	
$a_7(E)$	22	#4	27'-3"	
$a_8(E)$	28	#4	26'-7"	
$a_9(E)$	52	#5	26'-3"	
$b_8(E)$	38	#4	29'-6"	
$b_9(E)$	2	#4	15'-3"	
$b_{10}(E)$	2	#4	14'-8"	
$b_{11}(E)$	90	#9	29'-9"	
$d(E)$	34	#5	5'-7"	
$d_2(E)$	30	#5	7'-11"	
$e_9(E)$	16	#4	14'-8"	
$e_{10}(E)$	2	#8	14'-8"	
$t(E)$	76	#4	13'-8"	
$w(E)$	80	#5	26'-3"	

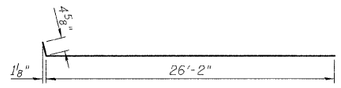
Item	Unit	Quantity
Concrete Structures	Cu. Yd.	16.5
Concrete Superstructure	Cu. Yd.	59.0
Bridge Deck Grooving	Sq. Yd.	114
Protective Coat	Sq. Yd.	136
Reinforcement Bars, Epoxy Coated	Pound	17,110



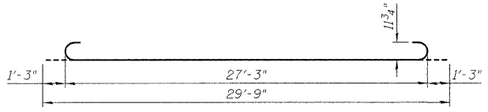
BAR d(E)



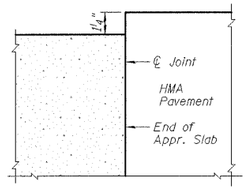
BAR $d_2(E)$



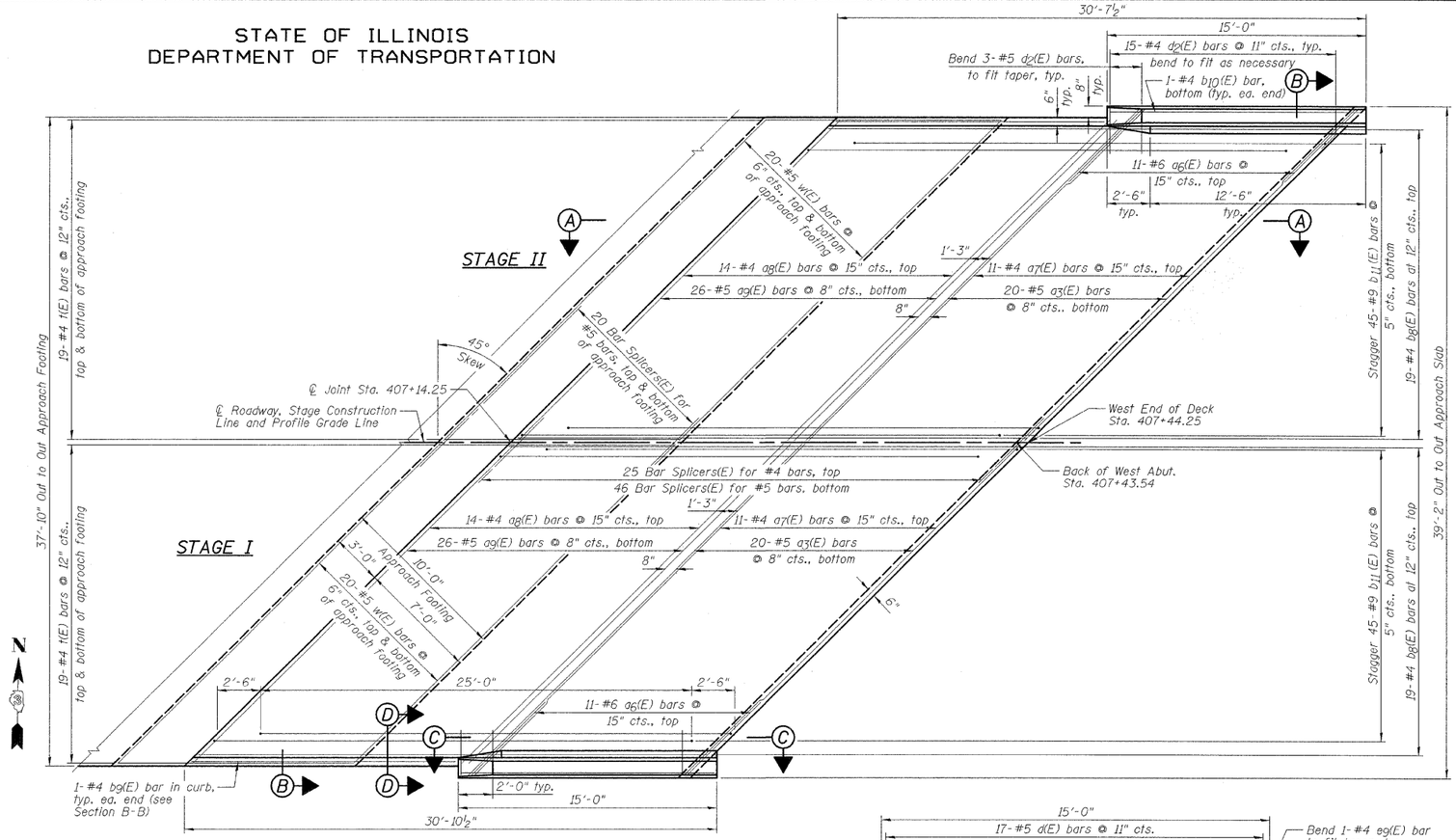
BAR $a_8(E)$



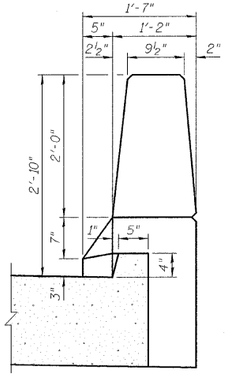
BAR $b_{11}(E)$



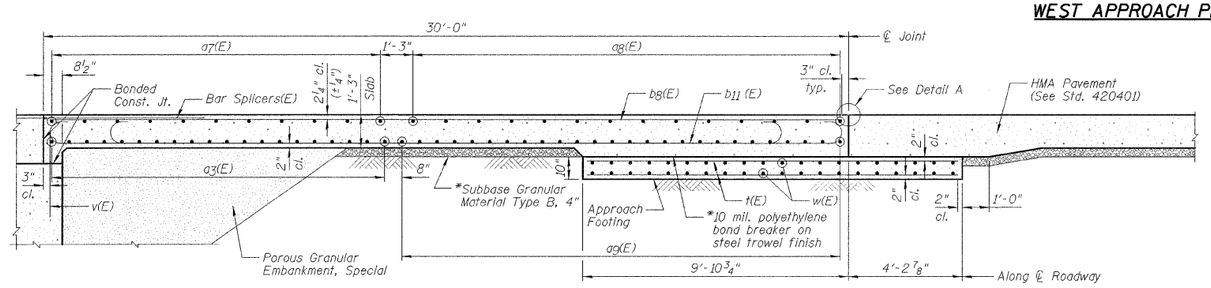
DETAIL A - FLEXIBLE PAVEMENT



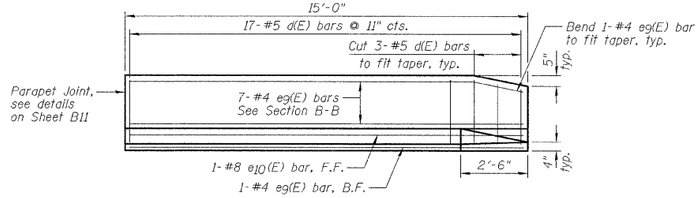
WEST APPROACH PLAN



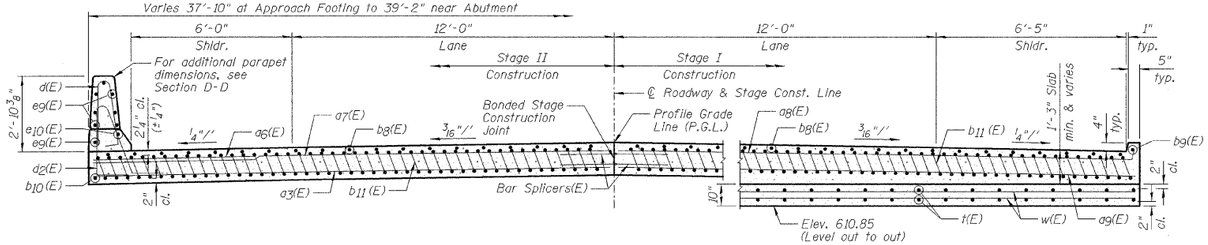
SECTION D-D



SECTION A-A



SECTION C-C



NEAR ABUTMENT

SECTION B-B

AT APPROACH FOOTING

NOTES:

1.) $a_3(E)$ and $a_6(E)$ thru $a_9(E)$ bar spacings measured perpendicular to ℄ Roadway.
2.) Tilt #9 $b_{11}(E)$ bars as required to maintain clearance.
3.) Approach Slab and parapet concrete shall be paid for as Concrete Superstructure.
4.) Approach Footing concrete shall be paid for as Concrete Structures.
5.) Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
6.) For $w(E)$ bar details, see Sheet B14.
7.) The Approach Footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
8.) See Sheet B20 for Bar Splicer Details.
9.) Cost of excavation for Approach Footing included with Concrete Structures.
10.) For Porous Granular Embankment, Special and drainage treatment details, see Sheets B2 & B3.
11.) *Cost included with Concrete Superstructure.

WEST BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 053-0185

DESIGNED	SDH				
CHECKED	JML				
DRAWN	JWK/DJM				
CHECKED	MSW				
DATE	10/07/09				

SHEET NO. B12	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	23
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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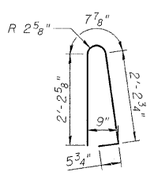
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

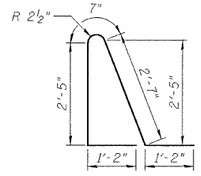
EAST APPROACH SLAB BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_3(E)$	40	#5	27'-3"	——
$a_6(E)$	22	#6	6'-0"	——
$a_7(E)$	22	#4	27'-3"	——
$a_8(E)$	28	#4	26'-7"	⌐
$a_9(E)$	52	#5	26'-3"	——
$b_8(E)$	38	#4	29'-6"	——
$b_9(E)$	2	#4	15'-3"	——
$b_{10}(E)$	2	#4	14'-8"	——
$b_{11}(E)$	90	#9	29'-9"	( )
$d(E)$	34	#5	5'-7"	[
$d_2(E)$	30	#5	7'-11"	L
$e_9(E)$	16	#4	14'-8"	——
$e_{10}(E)$	2	#8	14'-8"	——
$f(E)$	76	#4	13'-8"	——
$w(E)$	80	#5	26'-3"	——

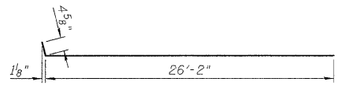
Item	Unit	Quantity
Concrete Structures	Cu. Yd.	16.5
Concrete Superstructure	Cu. Yd.	59.0
Bridge Deck Grooving	Sq. Yd.	114
Protective Coat	Sq. Yd.	136
Reinforcement Bars, Epoxy Coated	Pound	17,110



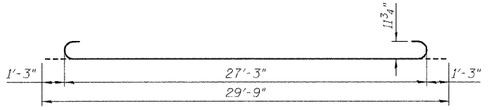
BAR d(E)



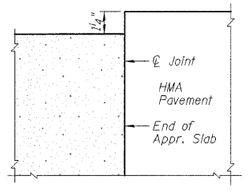
BAR $d_2(E)$



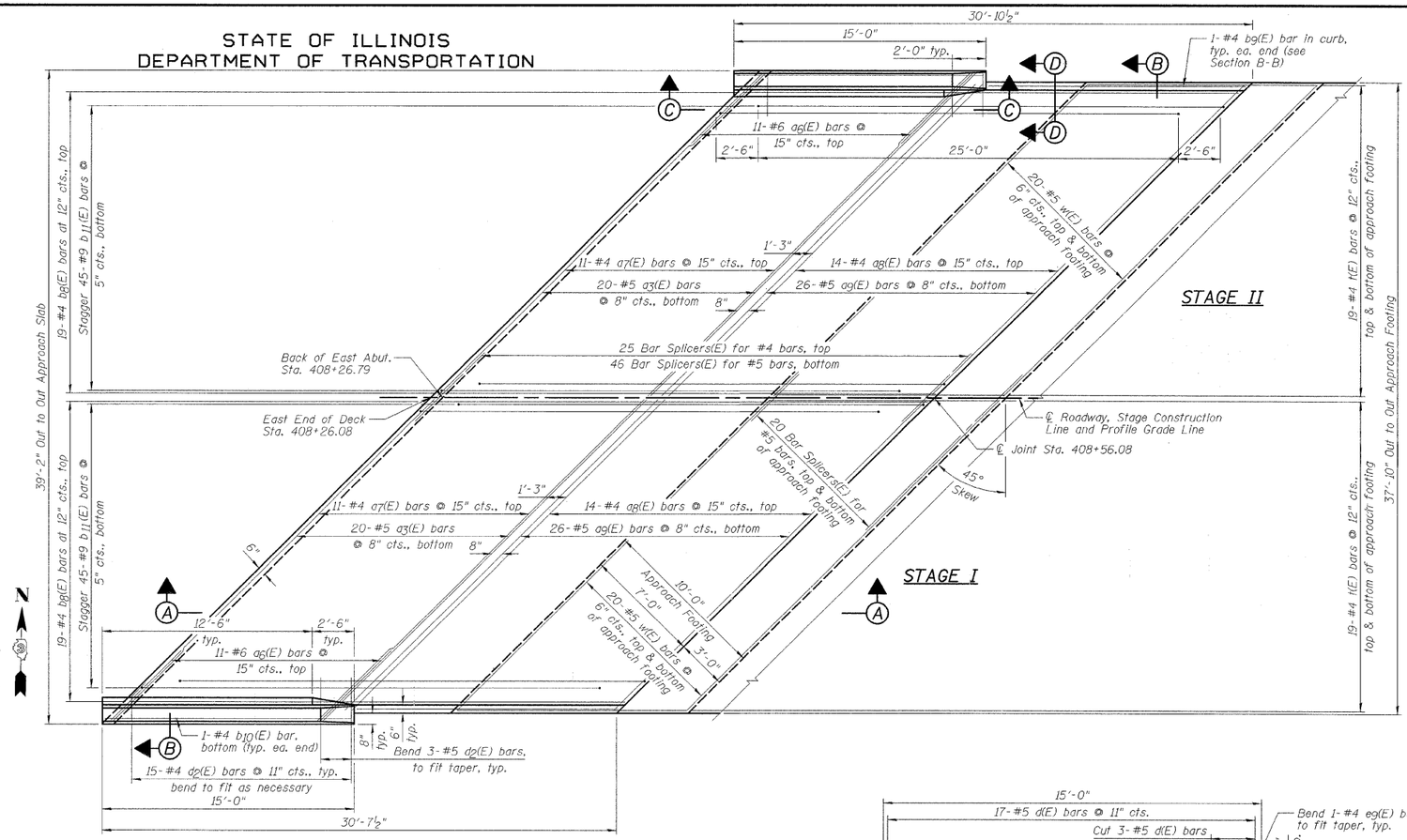
BAR $a_8(E)$



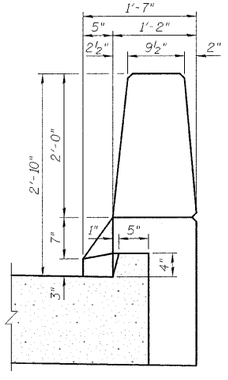
BAR $b_{11}(E)$



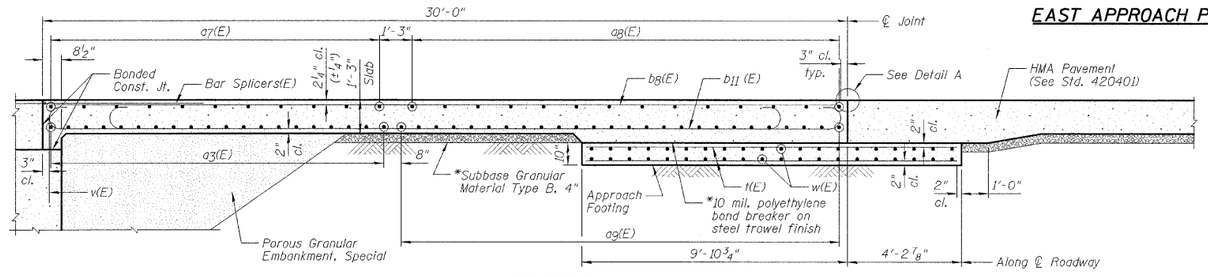
DETAIL A - FLEXIBLE PAVEMENT



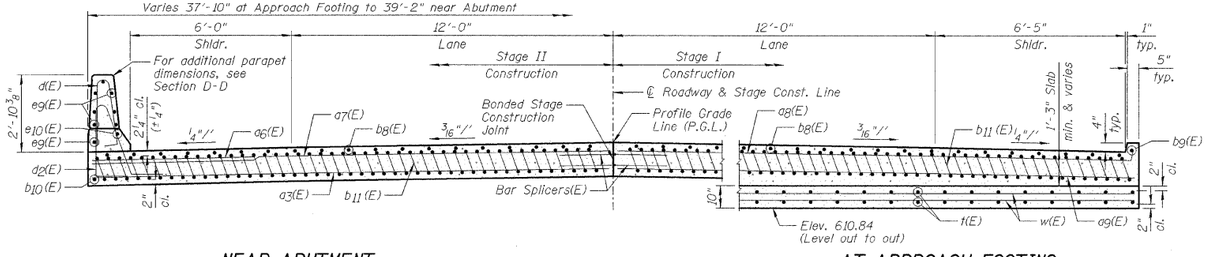
EAST APPROACH PLAN



SECTION D-D



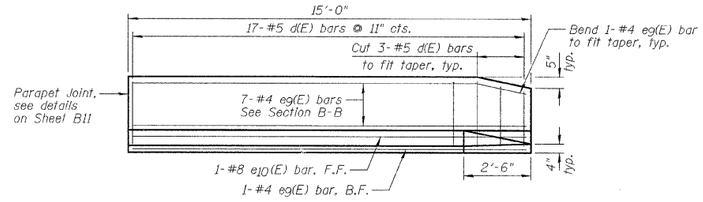
SECTION A-A



NEAR ABUTMENT

SECTION B-B

AT APPROACH FOOTING



SECTION C-C

NOTES:

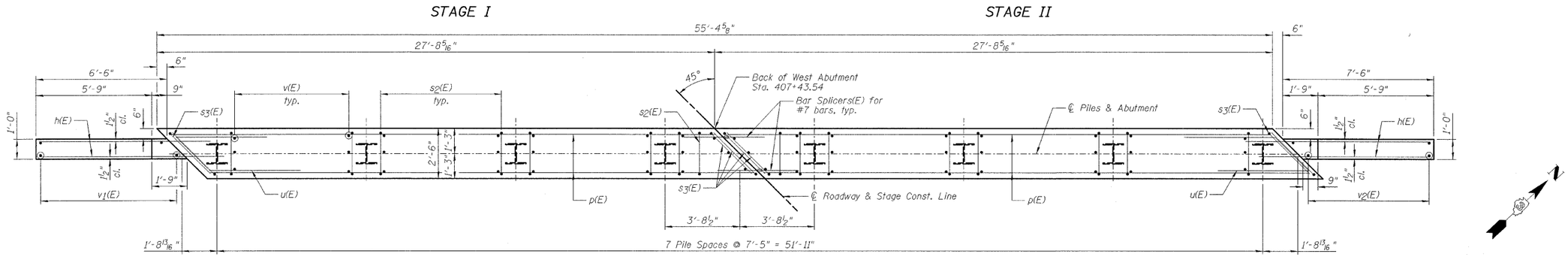
1.) $a_3(E)$ and $a_6(E)$ thru $a_9(E)$ bar spacings measured perpendicular to ℄ Roadway.
2.) Tilt #9 $b_{11}(E)$ bars as required to maintain clearance.
3.) Approach Slab and parapet concrete shall be paid for as Concrete Superstructure.
4.) Approach Footing concrete shall be paid for as Concrete Structures.
5.) Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
6.) For $w(E)$ bar details, see Sheet B15.
7.) The Approach Footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
8.) See Sheet B20 for Bar Splicer Details.
9.) Cost of excavation for Approach Footing included with Concrete Structures.
10.) For Porous Granular Embankment, Special and drainage treatment details, see Sheets B2 & B3.
11.) *Cost included with Concrete Superstructure.

EAST BRIDGE
APPROACH SLAB DETAILS
STRUCTURE NO. 053-0185

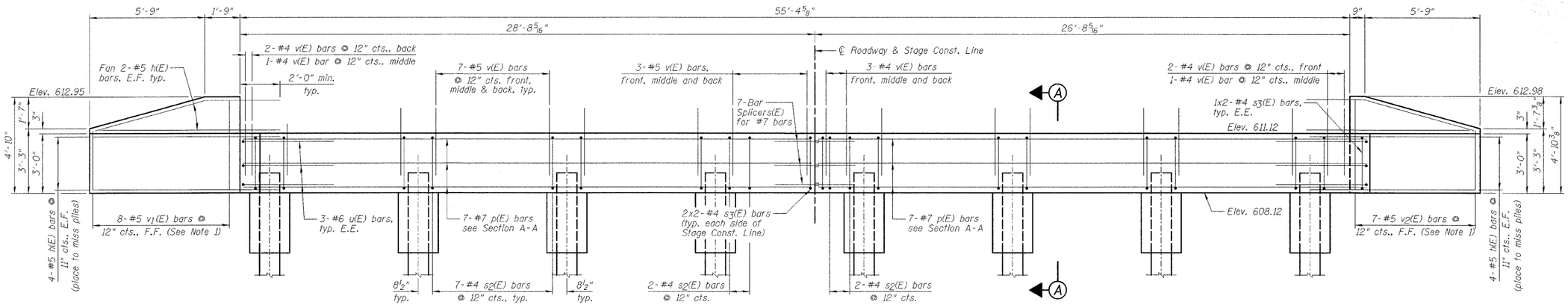
DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SHEET NO. B13	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	24
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT .		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

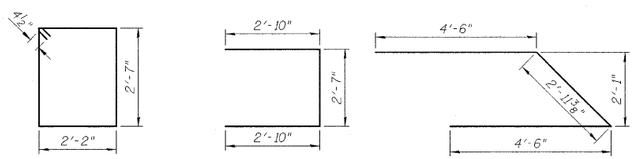


ELEVATION
(Looking West)

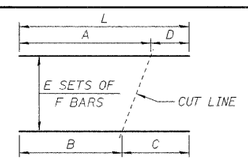
WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	24	#5	9'-4"	
p(E)	14	#7	27'-3"	
s2(E)	46	#4	10'-3"	
s3(E)	12	#4	8'-3"	
u(E)	6	#6	11'-11"	
v(E)	150	#5	3'-9"	
v1(E)	8	#5	7'-5"	
v2(E)	7	#5	7'-5"	

Item	Unit	Quantity
Porous Granular Embankment, Special	Cu. Yd.	42
Structure Excavation	Cu. Yd.	60
Concrete Structures	Cu. Yd.	17.6
Concrete Encasement	Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated	Pound	2,210
Furnishing Steel Piles HP12x63	Foot	210
Driving Piles	Foot	210
Test Pile Steel HP12x63	Each	1
Geocomposite Wall Drain	Sq. Yd.	25
Pipe Underdrains For Structures 4"	Foot	82
Bar Splicers	Each	7



BAR CUTTING DIAGRAM

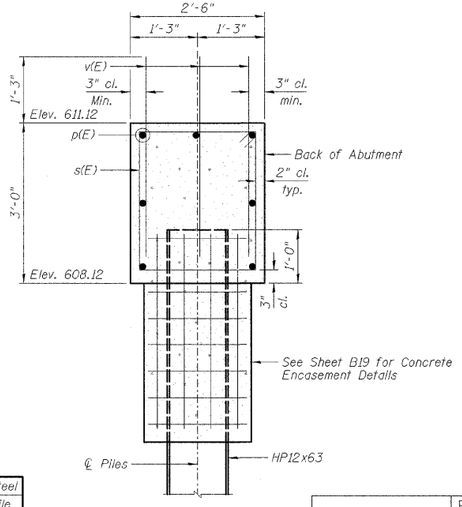


BAR	A	B	C	D	E	F	L
v1(E)	4'-6"	2'-11"	4'-6"	2'-11"	1	8	7'-5"
v2(E)	4'-6"	2'-11"	4'-6"	2'-11"	1	7	7'-5"

PILE DATA:

Type	HP12x63 Steel
No. Req'd.	7+1 Test Pile
Est. Length	30 feet
Nominal Required Bearing	256 kips
Factored Resistance Available	128 kips

Note: Drive test pile under Stage I.



SECTION A-A

NOTES:

1.) Order v1(E) and v2(E) bars full length. Cut according to Bar Cutting Diagram. Use remainder of bars in opposite wingwall opposite face.
2.) Bend or cut h(E) bars to miss piles.
3.) See Sheet B20 for Bar Splicer Details.
4.) E.E. denotes Each End, F.F. denotes Front Face and E.F. denotes Each Face.

WEST ABUTMENT
STRUCTURE NO. 053-0185

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SHEET NO. B14	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	25
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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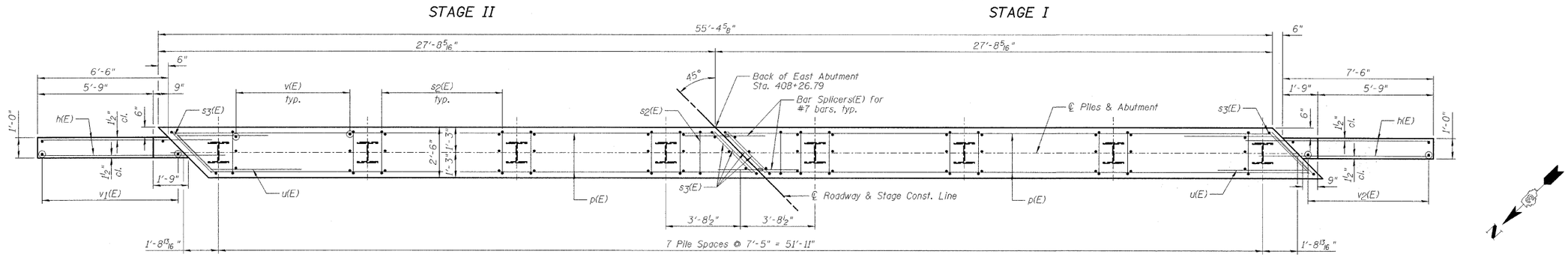
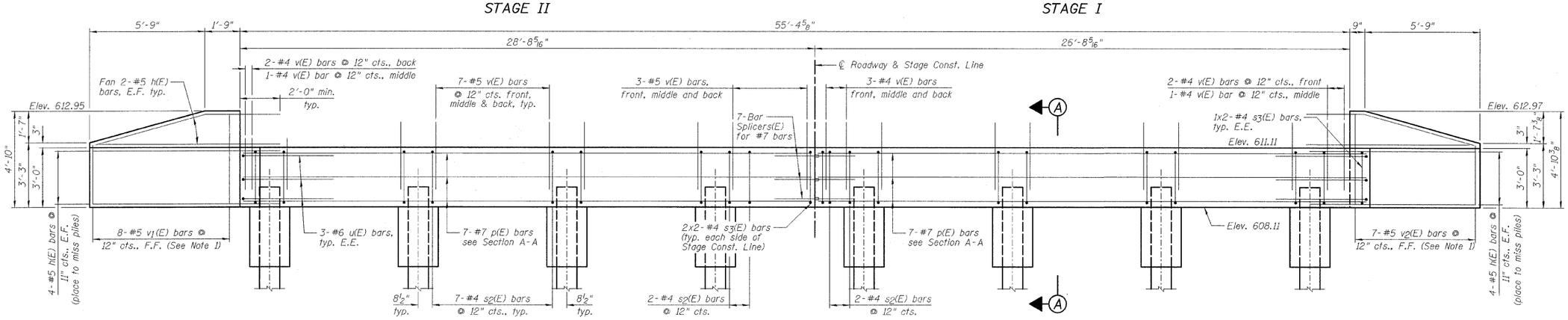
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

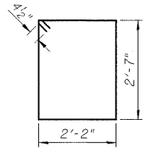


ELEVATION
(Looking East)

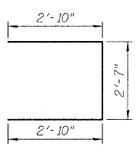
EAST ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	24	#5	9'-4"	
p(E)	14	#7	27'-3"	
s2(E)	46	#4	10'-3"	
s3(E)	12	#4	8'-3"	
u(E)	6	#6	11'-11"	
v(E)	150	#5	3'-9"	
v1(E)	8	#5	7'-5"	
v2(E)	7	#5	7'-5"	

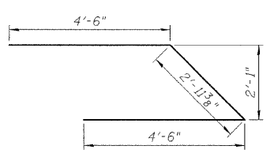
Item	Unit	Quantity
Porous Granular Embankment, Special	Cu. Yd.	42
Structure Excavation	Cu. Yd.	60
Concrete Structures	Cu. Yd.	17.6
Concrete Encasement	Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated	Pound	2,210
Furnishing Steel Piles HP12x63	Foot	224
Driving Piles	Foot	224
Test Pile Steel HP12x63	Each	1
Geocomposite Wall Drain	Sq. Yd.	25
Pipe Underdrains For Structures 4"	Foot	82
Bar Splicers	Each	7



s2(E) BAR

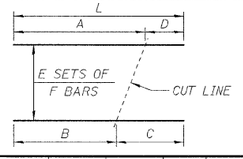


s3(E) BAR



u(E) BAR

BAR CUTTING DIAGRAM

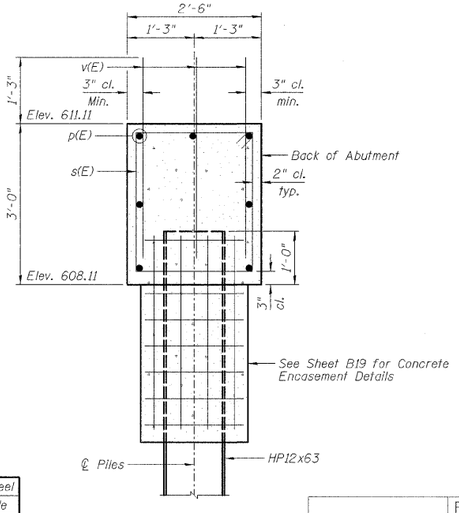


BAR	A	B	C	D	E	F	L
v1(E)	4'-6"	2'-11"	4'-6"	2'-11"	1	8	7'-5"
v2(E)	4'-6"	2'-11"	4'-6"	2'-11"	1	7	7'-5"

PILE DATA:

Type	HP12x63 Steel
No. Req'd.	7+1 Test Pile
Est. Length	32 feet
Nominal Required Bearing	248 kips
Factored Resistance Available	124 kips

Note: Drive test pile under Stage I.



SECTION A-A

NOTES:

1.) Order v1(E) and v2(E) bars full length. Cut according to Bar Cutting Diagram. Use remainder of bars in opposite wingwall opposite face.
2.) Bend or cut h(E) bars to miss piles.
3.) See Sheet B20 for Bar Splicer Details.
4.) E.E. denotes Each End, F.F. denotes Front Face and E.F. denotes Each Face.

EAST ABUTMENT
STRUCTURE NO. 053-0185

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SHEET NO. B15	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	26
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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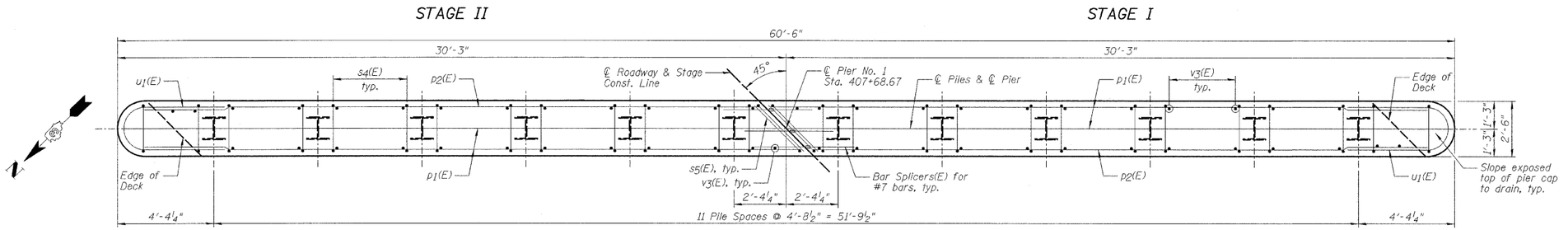
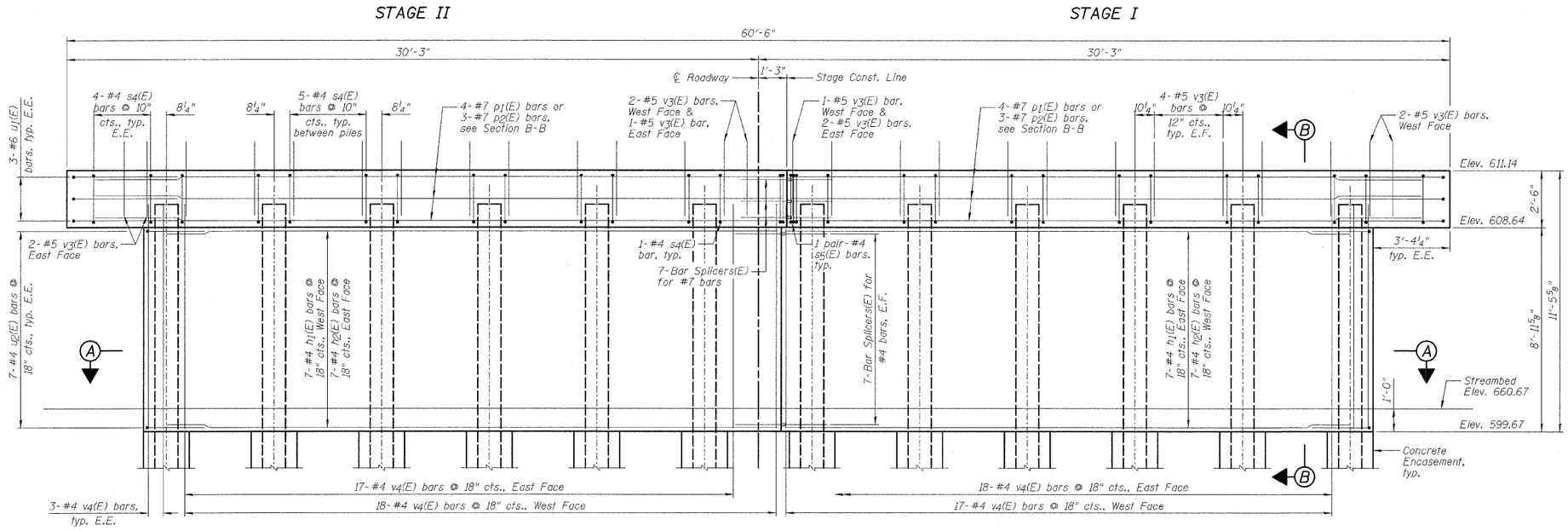
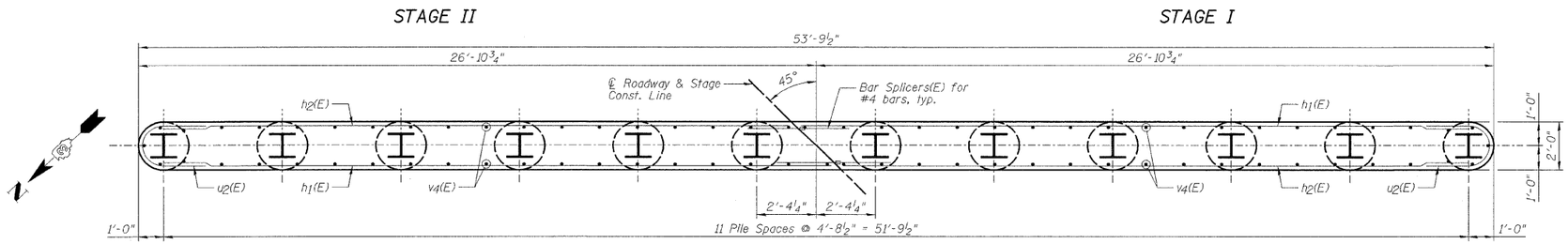
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TOP PLAN



ELEVATION
(Looking East)



SECTION A-A

PIER NO. 1
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	14	#4	26'-7"	
h2(E)	14	#4	24'-11"	
p1(E)	8	#7	29'-9"	
p2(E)	6	#7	27'-11"	
s4(E)	60	#4	9'-5"	□
s5(E)	4	#4	7'-10"	⊏
u1(E)	6	#6	10'-7"	⊂
u2(E)	14	#4	6'-0"	⊂
v3(E)	90	#5	3'-3"	
v4(E)	76	#4	9'-10"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	42
Concrete Structures	Cu. Yd.	49.4
Concrete Encasement	Cu. Yd.	4.2
Reinforcement Bars, Epoxy Coated	Pound	2,660
Furnishing Steel Piles HP12x63	Foot	492
Driving Piles	Foot	492
Bar Splicers	Each	21

PILE DATA:

Type	HP12x63 Steel
No. Req'd.	12
Est. Length	41 feet
Nominal Required Bearing	256 kips
Allowable Resistance Available	124 kips

NOTES:

1.) If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed under water into forms. Concrete shall be fremied according to Article 503.08 of the Standard Specifications to an elevation 1'-0" above the water line at the time of construction.
2.) E.F. denotes Each Face and E.E. denotes Each End.
3.) See Sheet B18 for Section B-B.
4.) See Sheet B20 for Bar Splicer Details.

PIER NO. 1
STRUCTURE NO. 053-0185

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SHEET NO. B16	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	27
	SN 053-0185		CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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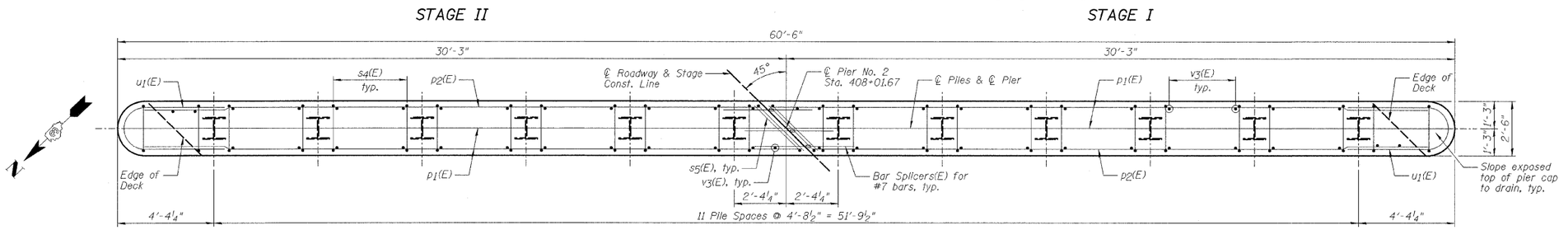
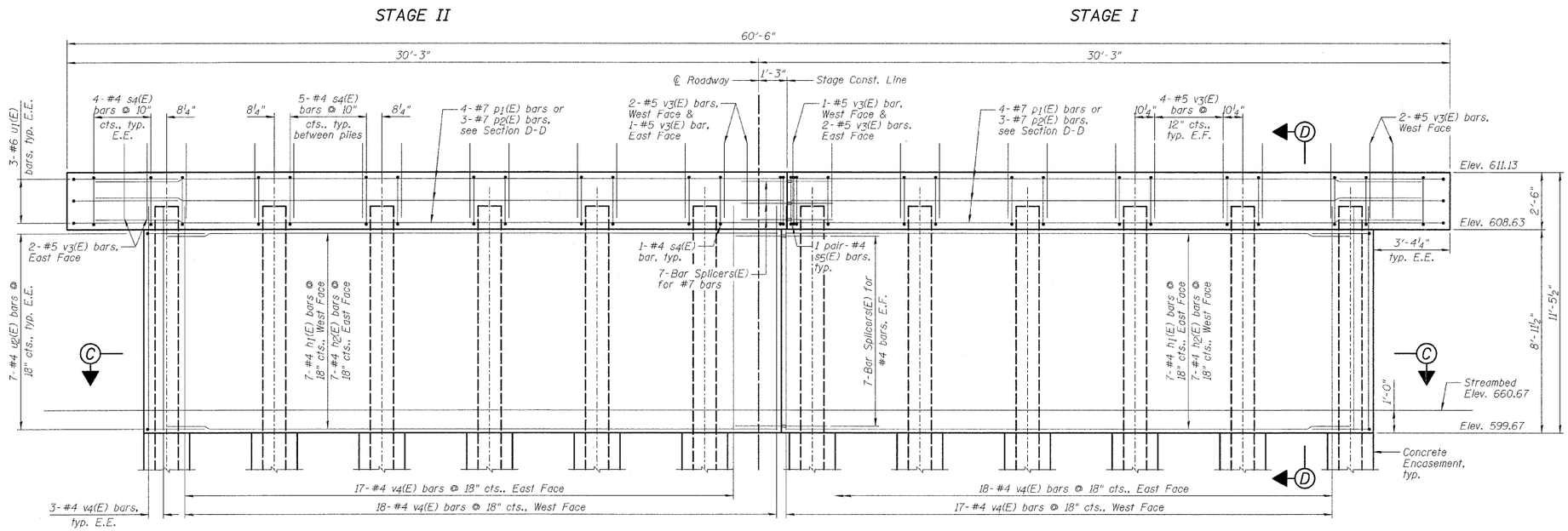
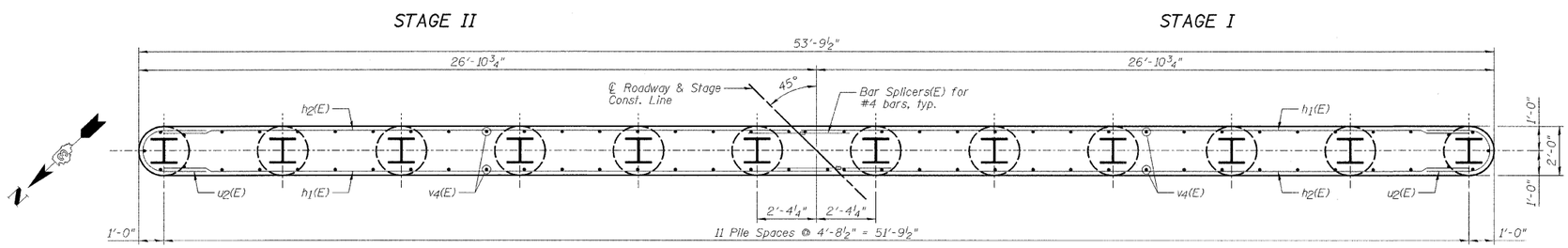
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TOP PLAN



ELEVATION
(Looking East)



SECTION C-C

PIER NO. 2
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	14	#4	26'-7"	——
h2(E)	14	#4	24'-11"	——
p1(E)	8	#7	29'-9"	——
p2(E)	6	#7	27'-11"	——
s4(E)	60	#4	9'-5"	□
s5(E)	4	#4	7'-10"	⊏
u1(E)	6	#6	10'-7"	⊂
u2(E)	14	#4	6'-0"	⊂
v3(E)	90	#5	3'-3"	——
v4(E)	76	#4	9'-10"	——

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	42
Concrete Structures	Cu. Yd.	49.3
Concrete Encasement	Cu. Yd.	4.2
Reinforcement Bars, Epoxy Coated	Pound	2,660
Furnishing Steel Piles HP12x63	Foot	492
Driving Piles	Foot	492
Bar Splicers	Each	21

PILE DATA:

Type	HP12x63 Steel
No. Req'd.	12
Est. Length	41 feet
Nominal Required Bearing	256 kips
Allowable Resistance Available	124 kips

NOTES:

1.) If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed under water into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation 1'-0" above the water line at the time of construction.
2.) E.F. denotes Each Face and E.E. denotes Each End.
3.) See Sheet B18 for Section D-D.
4.) See Sheet B20 for Bar Splicer Details.

PIER NO. 2
STRUCTURE NO. 053-0185

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SHEET NO. B17
22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	28
	SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

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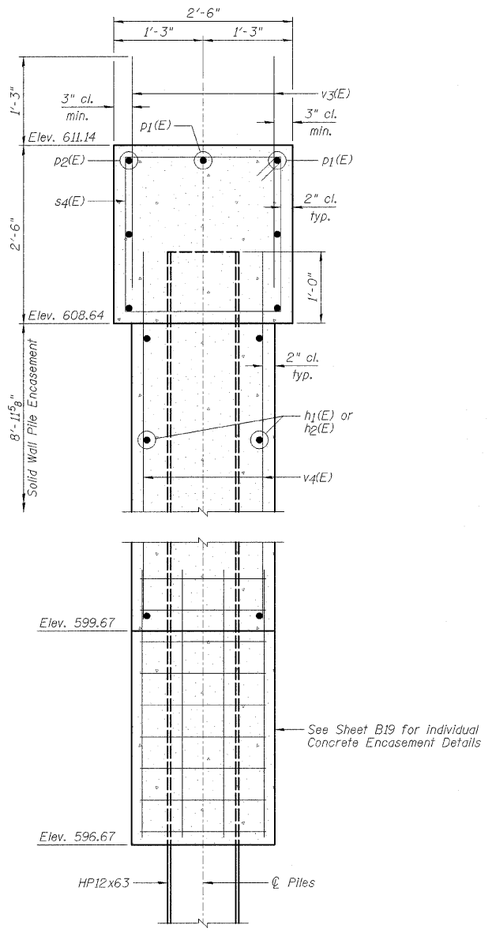
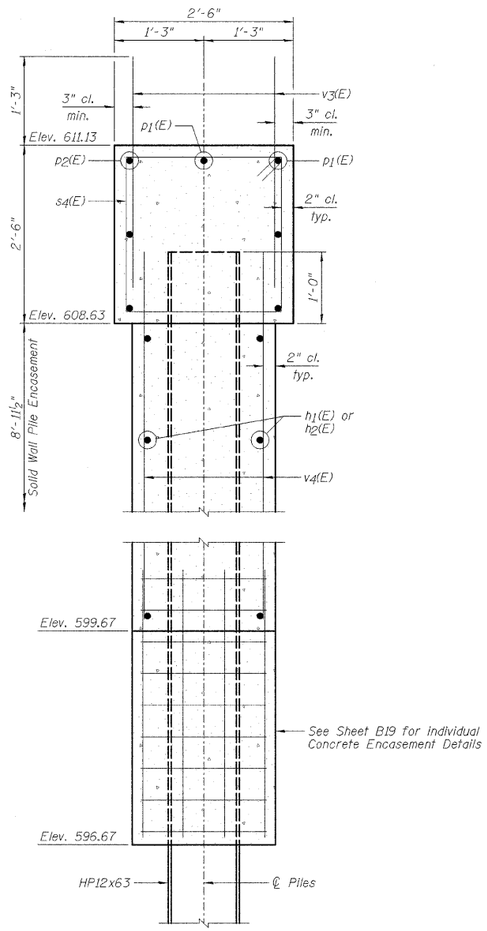
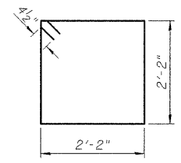
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



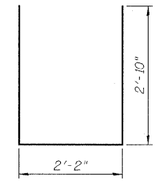
SECTION B-B



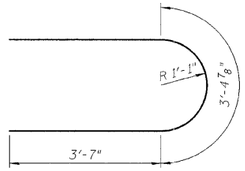
SECTION D-D



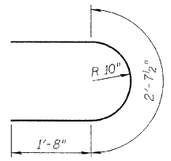
s4(E) BAR



s5(E) BAR



u1(E) BAR



u2(E) BAR

NOTES:

1.) If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation 1'-0" above the water line at the time of construction.
2.) See Sheet B16 for location of Section B-B.
3.) See Sheet B17 for location of Section D-D.

PIER DETAILS
STRUCTURE NO. 053-0185

SHEET NO. B18	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	29
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

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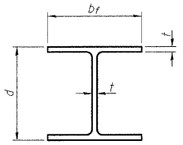
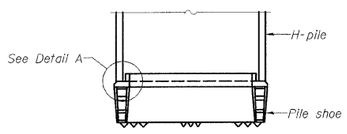
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

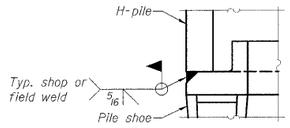


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	$14\frac{1}{4}''$	$14\frac{7}{8}''$	$\frac{13}{16}''$	30''
x102	14''	$14\frac{3}{4}''$	$\frac{11}{16}''$	30''
x89	$13\frac{7}{8}''$	$14\frac{3}{4}''$	$\frac{5}{8}''$	30''
x73	$13\frac{5}{8}''$	$14\frac{5}{8}''$	$\frac{1}{2}''$	30''
HP 12x84	$12\frac{1}{4}''$	$12\frac{1}{4}''$	$\frac{11}{16}''$	24''
x74	$12\frac{1}{8}''$	$12\frac{1}{4}''$	$\frac{5}{8}''$	24''
x63	12''	$12\frac{1}{8}''$	$\frac{1}{2}''$	24''
x53	$11\frac{3}{4}''$	12''	$\frac{7}{16}''$	24''
HP 10x57	10''	$10\frac{1}{4}''$	$\frac{9}{16}''$	24''
x42	$9\frac{3}{4}''$	$10\frac{1}{8}''$	$\frac{7}{16}''$	24''
HP 8x36	8''	$8\frac{1}{8}''$	$\frac{7}{16}''$	18''

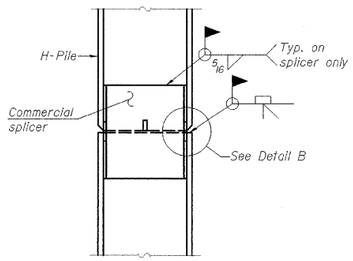


ELEVATION

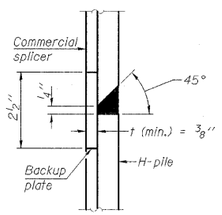


DETAIL A

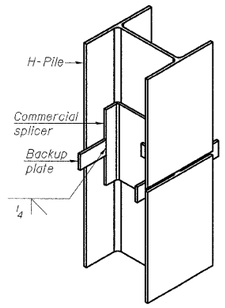
H-PILE SHOE ATTACHMENT



ELEVATION

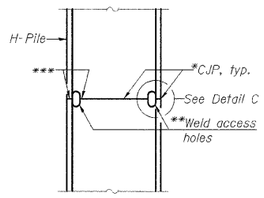


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



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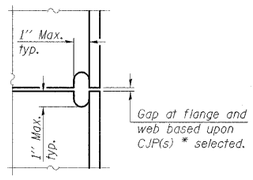


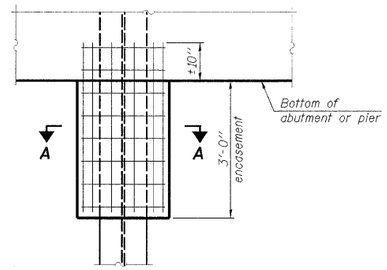
DETAIL C

COMPLETE PENETRATION WELD SPLICE

* Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.

** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.

*** Interrupt welds ¼'' from end of each pile.



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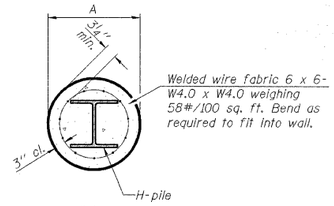
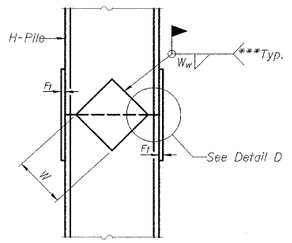


SECTION A-A

Note:
Forms for encasement may be omitted when soil conditions permit.

PILE ENCASEMENT



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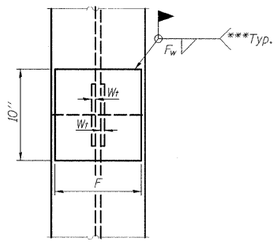
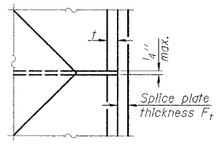


END VIEW



DETAIL D

Designation	F	F_f	F_w	W	W_t	W_w
HP 14x117	$12\frac{1}{2}''$	1''	$\frac{7}{8}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x102	$12\frac{1}{2}''$	$\frac{7}{8}''$	$\frac{3}{4}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x89	$12\frac{1}{2}''$	$\frac{3}{4}''$	$\frac{11}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x73	$12\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{9}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
HP 12x84	10''	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x74	10''	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x63	10''	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x53	10''	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 10x57	8''	$\frac{3}{4}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x42	8''	$\frac{5}{8}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 8x36	7''	$\frac{5}{8}''$	$\frac{7}{16}''$	$4\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$

WELDED PLATE FIELD SPLICE

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

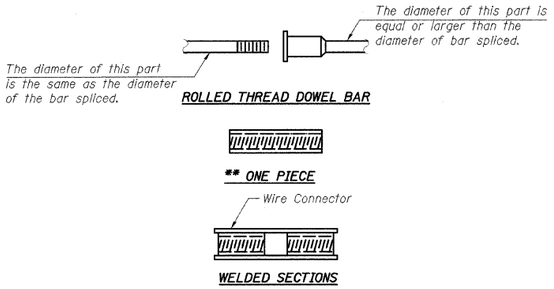
DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

F-HP 10-1-08

HP PILE DETAILS
STRUCTURE NO. 053-0185

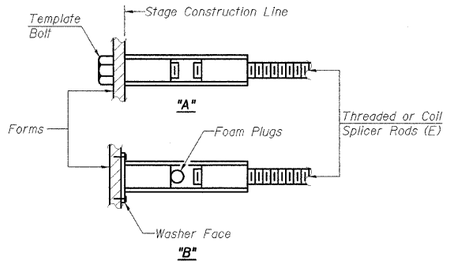
SHEET NO. B19	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	30
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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:

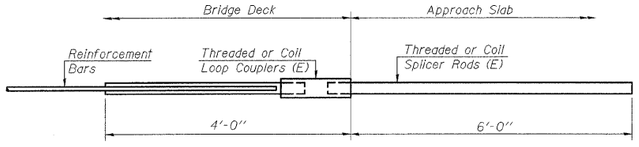
① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_r$

② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_r$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
A_r = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

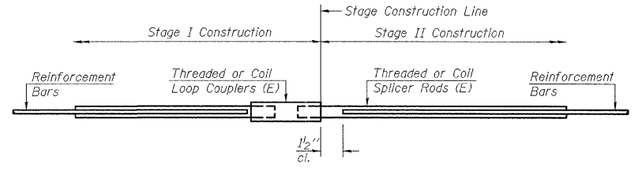
BAR SPLICER ASSEMBLIES

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	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



FOR ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 80



STANDARD

Bar Size	No. Assemblies Required	Location
#7	7	West Abutment
#7	7	East Abutment
#7	7	Pier No. 1
#4	14	Pier No. 1
#7	7	Pier No. 2
#4	14	Pier No. 2
#5	139	Slab
#4	25	West Appr. Slab
#5	86	West Appr. Slab
#4	25	East Appr. Slab
#5	86	East Appr. Slab

DESIGNED	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

BAR SPLICER ASSEMBLY DETAILS
STRUCTURE NO. 053-0185

SHEET NO. B20	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	31
		SN 053-0185	CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FARNSWORTH GROUP, INC. CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 8/14/71

ROUTE FA 18 (IL 17) DESCRIPTION Route 17 over Drainage Ditch LOGGED BY J. Safranski

SECTION 15 (BR-2,BR-3)I LOCATION SW 1/4, SE 1/4, SEC. 2, TWP. 30N, RNG. 8E

COUNTY Livingston DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 053-0151
Station 407+22

BORING NO. 1 (SE Wingwall)
Station 407+30
Offset 25.00ft Rt.
Ground Surface Elev. 607.36 ft

Surface Water Elev. None ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion Dry ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium, Brownish Gray, Silty Clay Till			
	3		
	3	0.9	26.0
602.86	4	B	
Soft, Yellowish Brown to Gray Brown, Silty Clay Till			
	2		
	1	0.3	31.0
600.36	2	S	
Very Stiff, Gray, Clay Till			
	7		
	7	3.7	10.0
	9	B	
	9		
	11	3.9	10.5
595.36	12	B	
Hard, Gray, Clay Till			
	10		
	14	0.9	10.0
	18	S	
	11		
	14	9.5	12.0
	17	B	
	8		
	11	6.0	11.0
	15	B	
Hard, Gray, Clay Till *(continued)*			
	6		
	8	6.4	13.0
585.86	10	B	
End of Boring			

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 9/14/71

ROUTE FA 18 (IL 17) DESCRIPTION Route 17 over Drainage Ditch LOGGED BY J. Safranski

SECTION 15 (BR-2,BR-3)I LOCATION SW 1/4, SE 1/4, SEC. 2, TWP. 30N, RNG. 8E

COUNTY Livingston DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 053-0151
Station 407+22

BORING NO. 2 (NW Footwall)
Station 407+08
Offset 45.00ft Lt.
Ground Surface Elev. 611.50 ft

Surface Water Elev. None ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion Dry ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff, Brownish Black and Yellowish Brown, Clay Backfill			
	4		
	5	1.2	20.0
607.00	7	B	
Stiff, Olive Brown, Silty Clay Till			
	2		
	3	0.9	22.0
	4	B	
	3		
	3	1.0	23.0
602.00	2	B	
Stiff, Brownish Gray, Clay Till			
	3		
	5	1.9	15.0
599.50	9	B	
Hard, Gray, Clay Till			
	10		
	13	10.3	12.0
	16	B	
	15		
	16	9.7	11.0
	17	B	
	10		
	14	7.6	11.0
	18	S	
Hard, Gray, Clay Till *(continued)*			
	9		
	11	5.0	12.0
	12	B	
	10		
	12	6.0	11.0
	12	B	
	10		
	14	5.8	14.0
586.00	12	B	
End of Boring			

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 2

Date 12/2/08

ROUTE FA 18 (IL 17) DESCRIPTION W. Abutment, S. Quad LOGGED BY LM

SECTION 15 (BR-2,BR-3)I LOCATION SEC, TWP, RNG

COUNTY Livingston DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 053-0151
Station

BORING NO. 3
Station [illegible]
Offset [illegible]
Ground Surface Elev. 610.44 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 549.4 ft
Upon Completion 549.4 ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered While Shoulder Stone, White Cafi and Brown Sand (Fill)			
607.94	5		
Very Stiff Black Silty Clay Loam (Fill) with Concrete and Asphalt Debris at 7'-9'			
	4	3.5	21.7
	4	P	
	3		
	4	3.5	25.7
	5	P	
	4		
	5	3.5	16.6
600.44	5	P	
Stiff Gray and Brown Silty Clay/Silty Clay Loam Loess			
	2		
	2	1.5	31.3
598.44	3	P	
Hard Brown Silty Clay Till			
	1		
	3	4.1	16.2
595.44	6	S	
Hard Gray Silty Clay Loam Till with High Gravel Content in Areas			
	6		
	10	8.1	10.8
	14	S	
	13		
	13	11.5	10.3
	18	S	
Hard Gray Silty Clay Loam Till with High Gravel Content in Areas *(continued)*			
	7		
	9	8.8	10.4
	14	S	
	6		
	9	10.9	13.1
	13	S	
	7		
	9	10.9	12.3
	14	S	
	5		
	7	7.8	14.5
	11	S	
	5		
	8	7.8	13.0
	13	S	
	8		
	13	7.8	14.3
	13	S	
	6		
	8	6.2	13.5
	12	S	
	8		
	9	8.6	14.0
	9	S	

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	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SOIL BORING LOGS
STRUCTURE NO. 053-0185

SHEET NO. B21	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	32
		SN 053-0185	CONTRACT NO. 66833		
		FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 2

Date 12/20/08

ROUTE FA 18 (IL 17) DESCRIPTION W. Abutment, S. Quad LOGGED BY LM

SECTION 15 (BR-2,BR-3)I LOCATION , SEC. , TWP. , RNG.

COUNTY Livingston DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 053-0151
Station

BORING NO. 3
Station [illegible]
Offset [illegible]
Ground Surface Elev. 610.44 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 549.4 ft
Upon Completion 549.4 ft
After Hrs. ft

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Hard Gray Silty Clay Loam Till with High Gravel Content in Areas *(continued)*		10		
		11	6.6	12.3
		10	S	
		6		
		8	6.1	13.1
		10	S	
	-45	6		
		8	5.8	13.2
		8	S	
563.44				
Very Stiff Gray Silty Clay Loam Till		3		
		5	3.1	14.0
		8	S	
560.44	-50			
Hard Gray Silty Clay Loam Till with Limestone Pieces		4		
		7	4.3	13.3
		10	S	
		6		
		8	5.6	13.8
		11	S	
	-55	15		
		15	7.0	13.6
		15	S	
		10		
		12		
		20		
	-60			

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Hard Gray Silty Clay Loam Till with Limestone Pieces *(continued)*		7		
		9	6.4	16.9
548.94		17	S	
End of Boring				
	-65			
	-70			
	-75			
	-80			

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 2

Date 1/5/09

ROUTE FA 18 (IL 17) DESCRIPTION W. Abutment, NW Quad. LOGGED BY LM

SECTION 15 (BR-2,BR-3)I LOCATION , SEC. , TWP. , RNG.

COUNTY Livingston DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 053-0151
Station

BORING NO. 4
Station [illegible]
Offset [illegible]
Ground Surface Elev. 610.43 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion ft
After Hrs. ft

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered White Shoulder Stone and Tan Sand & Gravel Fill				
607.93				
Loose Brown Fine to Coarse Fill Sand		4		
		4		7.2
		4		
605.93	-5			
Very Stiff Black Silty Clay and Silty Clay Loam (Fill) with Some Black Gray Loess (Fill)		4		
		4	3.5	25.5
		6	P	
		3		
		3	3.5	24.2
		4	P	
600.43	-10			
Stiff Gray & Brown Silty Clay Loess		1		
		1	1.6	25.1
		2	B	
		1		
		2		
596.43		7	6.4	14.6
Hard Gray Silty Clay Loam Till with Heavy Gravel			S	
	-15	5		
		7	6.0	11.8
		10	S	
		10		
		10	6.4	12.1
		11	S	
	-20			

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Hard Gray Silty Clay Loam Till with Heavy Gravel *(continued)*		7		
		11	9.7	12.6
		13	S	
	-25	10		
		11	9.7	13.7
		12	S	
582.43				
Hard Gray Silty Clay Loam Till				
	-30	6		
		8	4.1	16.1
		10	S	
	-35	8		
		8	4.4	13.5
		10	S	
	-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 2 of 2

Date 1/5/09

ROUTE FA 18 (IL 17) DESCRIPTION W. Abutment, NW Quad. LOGGED BY LM

SECTION 15 (BR-2,BR-3)I LOCATION , SEC. , TWP. , RNG.

COUNTY Livingston DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 053-0151
Station

BORING NO. 4
Station 407+28
Offset [illegible] 14.00ft Lt
Ground Surface Elev. 610.43 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion ft
After Hrs. ft

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Hard Gray Silty Clay Loam Till *(continued)*		5		
		8	4.1	15.3
		10	S	
	-45	5		
		5	4.3	14.7
		8	S	
	-50	5		
		4	4.3	13.4
		9	S	
556.43				
Hard Gray Silty Clay Loam Till with Larger Gravel Pieces				
	-55	10		
		11	9.1	10.7
		14	S	
	-60			

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Hard Gray Silty Clay Loam Till with Larger Gravel Pieces *(continued)*		10		
		18	10.9	12.0
548.93		26	S	
End of Boring				
	-65			
	-70			
	-75			
	-80			

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	SDH
CHECKED	JML
DRAWN	JWK/DJM
CHECKED	MSW
DATE	10/07/09

SOIL BORING LOGS
STRUCTURE NO. 053-0185

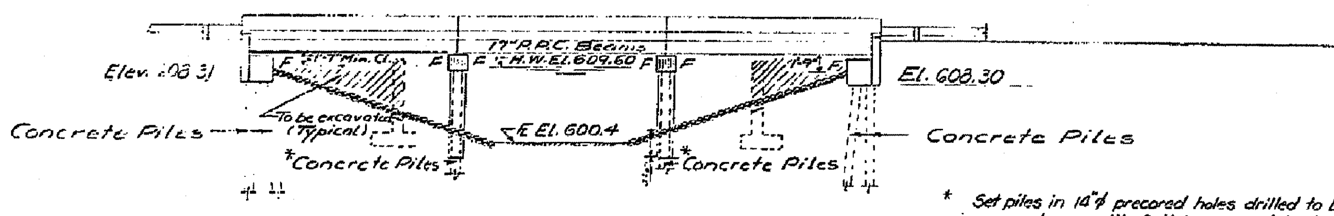
SHEET NO. B22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	41	(15BR-3)-1	LIVINGSTON	45	33
	SN 053-0185		CONTRACT NO. 66833		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

B.M. #45 "□" on S.E. Wingwall 12' Rt. Sta. 407+67.00
Elev. - 610.76
Existing Structure: Sta 407+80 (Exist. Plans)
Sta. 407+66 (New Survey) built in 1922 as S.B.I.
Rt 17 Sec. 15 Existing R.C. Thru Girder on
closed Abuts. to be removed by bridge
contractor before new construction starts.
Traffic to be detoured. Struct. Nº 053-0042.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A. 41	15BR-3	LIVINGSTON	59	37
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
8 SHEETS

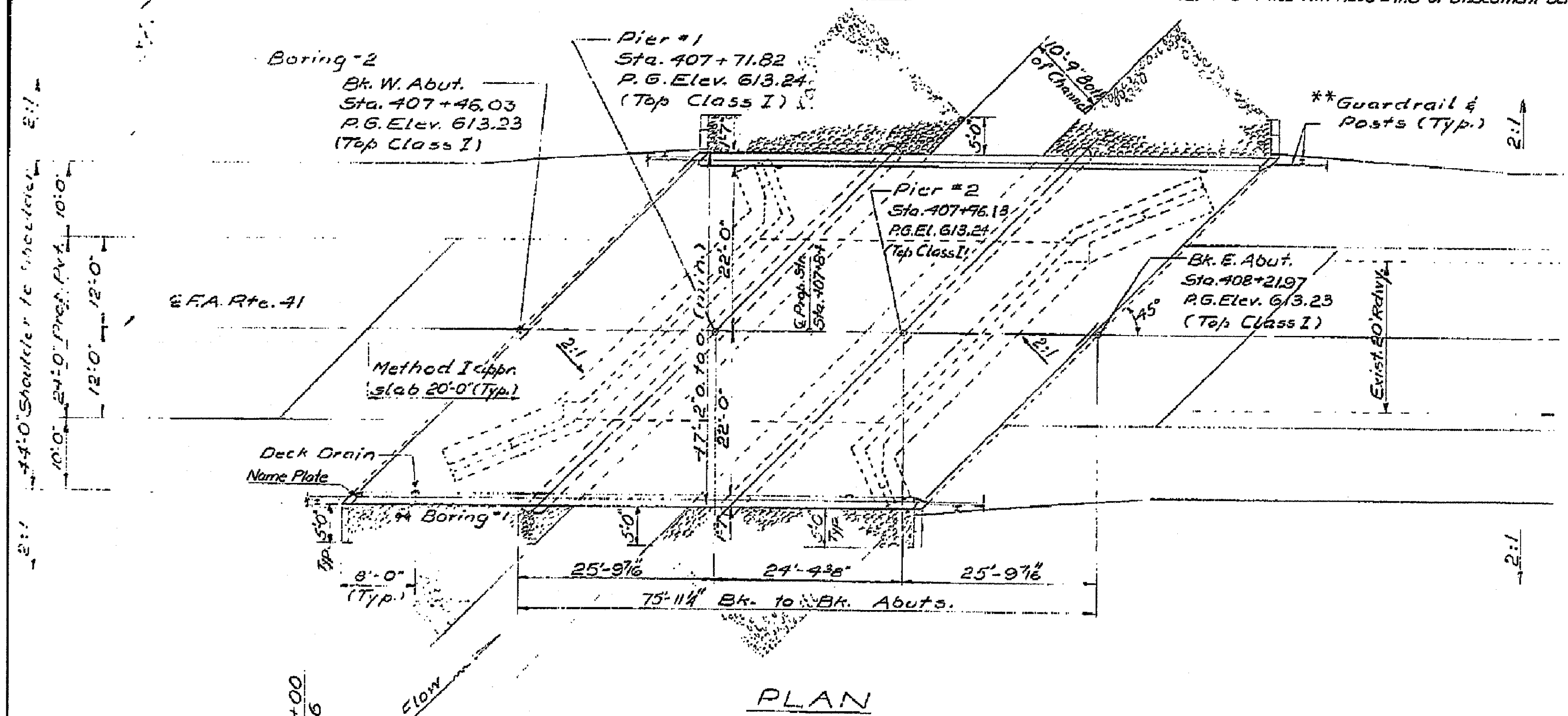


ELEVATION

* Set piles in 14"⌀ precored holes drilled to Elev. 594.00 in accordance with Article 513.09(c) of the Standard Specifications. (Cost incidental). Pre-coring is neccesary because of high Qu Till (8.9TSF) just below F.L. Pier Piles will have ±11.5' of embedment below F.L.

GENERAL NOTES

See Proposal for Boring Data.
The Contractor shall drive two concrete test piles in a permanent location at the West Abutment and Pier 2 as directed by the Engineer before ordering the remainder of piles.
The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specification except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.
The parapet shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of handrail concrete.
Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
Reinforcement Bars shall conform to the requirements of AASHTO M31 or M53 Grade 60.



** End Terminal shall be Standard 2341.

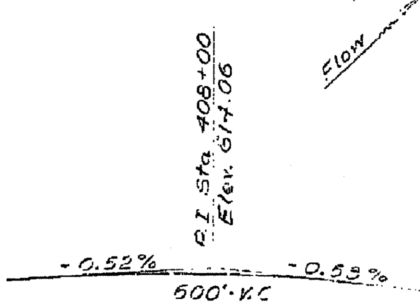
PLAN

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Structure Excavation	Cu. Yd.		250	250
Bituminous Concrete Surface Course, Class I	Ton	23		23
Protective Coat	Sq. Yd.	60		60
Removal of Existing Structures	Each	1		1
Class X Concrete	Cu. Yd.	16.4	175.5	191.9
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	3420		3420
Portland Cement Mortar Fairing Course	Lin. Ft.	1019		1019
Reinforcement Bars	Pound	2380	14,060	16,440
Concrete Piles	Lin. Ft.		852	852
Test Piles (Concrete)	Each		2	2
Name Plates	Each	1		1
Stone Rip Rap	Sq. Yd.		430	430
Waterproofing Membrane System	Sq. Yd.	357		357

STATION 407+84.00
BUILT 19 BY
STATE OF ILLINOIS
F.A. RT. 41 SEC. 15BR-3
F.A. PROJ.
LOADING HS20
***STR. NO.

NAME PLATE
Std. 2113
*** Structure number to be supplied by District



PROPOSED PROFILE F.A. RTE 41
(E & Rdwy)

WATERWAY INFORMATION

Drainage Area	7.4 Sq. Miles
Character: level, clay, cultivated	
Existing opening	209 □'
Required opening	236 □'
Proposed opening (below 50 yr. HWE)	236 □'

H.W. Elev.(50) = 609.60
Q(50) = 950 c.f.s.
Created Head = 0.4'

H.W. Elev.(100) = 609.70
Q(100) = 1085 c.f.s.
Created Head = 0.4'

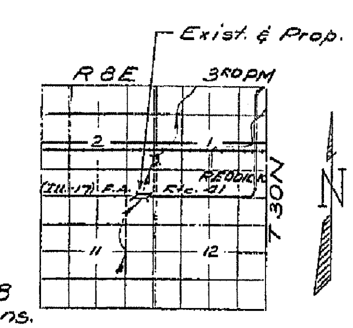
PRESTRESSED UNITS

f'c = 5,000 psi
f'ci = 4,000 psi
f's = 270,000 psi (½"⌀ Strands)
fsi = 189,000 psi (½"⌀ Strands)

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

Loading HS20-44
Design Specifications: 1977 AASHTO, 1978 Interim Specifications.
Allow 25#/Sq. Ft. for future W.S.



LOCATION SKETCH

GENERAL PLAN & ELEVATION
F.A. RTE. 41 OVER DRAINAGE DITCH
F.A. RTE. 41 SECTION 15BR-3
LIVINGSTON CO.
STA. 407+84.00

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	J.R.S.
CHECKED	[illegible]

Sept. 22, 1978
EXAMINED [illegible]
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
DIRECTOR OF HIGHWAYS

FILE NAME =	USER NAME = duncanbd	DESIGNED -	REVISED -
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	PLOT DATE = Oct 08, 2009 - 02:44:45 PM	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY

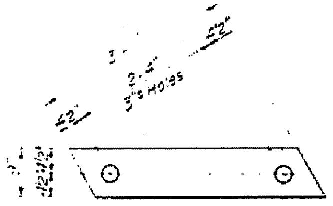
SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	34
		CONTRACT NO. 66833		
		ILLINOIS FED. AID PROJECT		

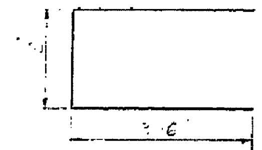
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	15BR-3	LIVINGSTON	59	38

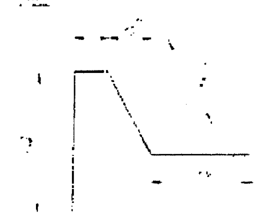
SHEET NO. 2
8 SHEETS



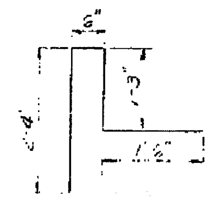
FABRIC BEARING PAD



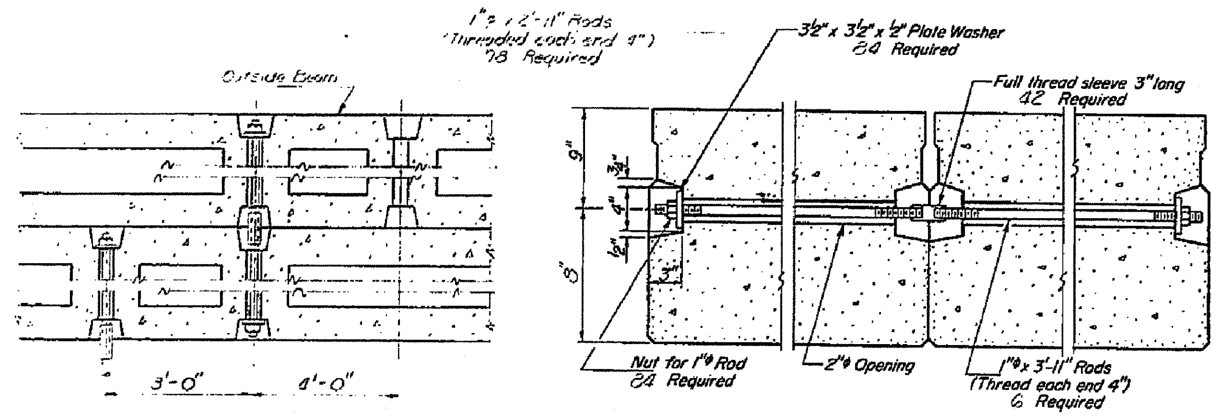
U₁ BAR



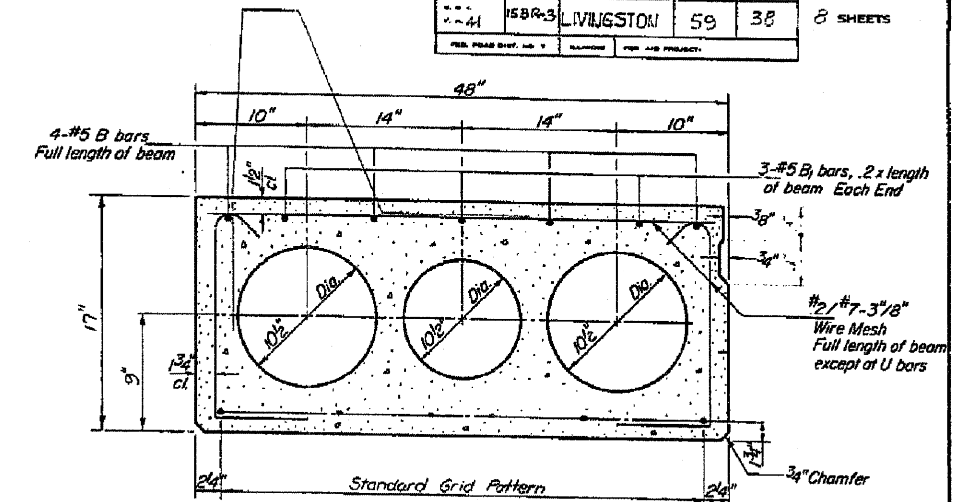
BAR U



BAR D₁

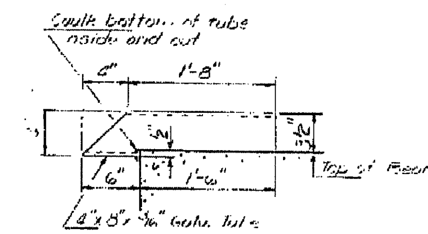


TYPICAL TRANSVERSE TIE ASSEMBLY

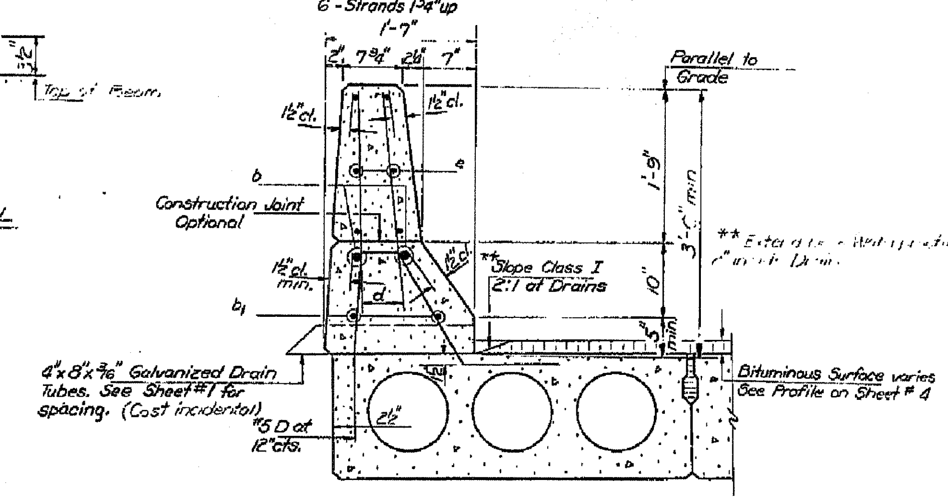


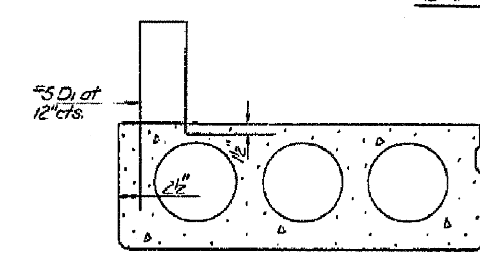
TYPICAL SECTION

6 - ½"ø Strands, Each Strand Stressed to 28,900 Lbs.
6 - Strands 1¾" up



DRAIN DETAIL

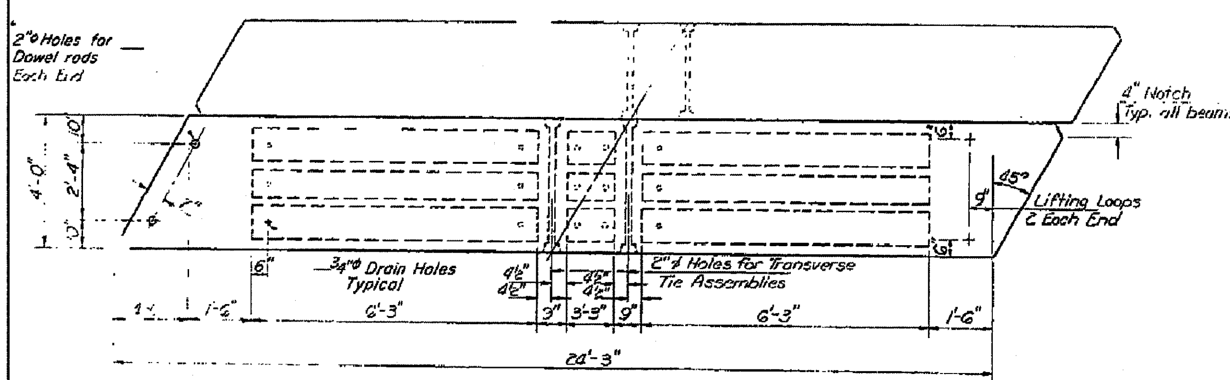




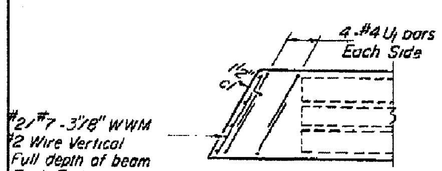
SEC. A-A

SEC. B-B

Note: For details of parapet see sheet # 4.
For location of Sec. A-A and B-B see sheet # 4.

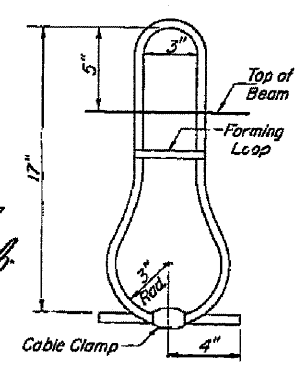


PLAN



END PLAN

* After beams are in place, holes shall be drilled into the bridge seat and the dowel rods grouted in place.



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

Lifting loops shall be ½" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 21,000 lbs.

The 1"ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Longitudinal shear keys shall be packed with a very dry mix of 2:1 sand and P.C. mortar.

After beams have been erected, holes for the dowel anchors shall be drilled into the substructure and the anchor dowels shall be grouted in place.

Cost of reinforcement and accessories cast into the beam, of bearing pads, of armor angles, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams."

SIX PARAPET BEAMS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
Precast Prestressed Concrete Deck Beams (17")			Sq. Ft.	582

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

Sept. 22 1978
EXAMINED [illegible]
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
DIRECTOR OF HIGHWAYS

PD-2-L 7-15-75

SUPERSTRUCTURE
F.A. RT. 41 SEC. 15 BR-3
LIVINGSTON COUNTY
STATION 407+84.00

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	35

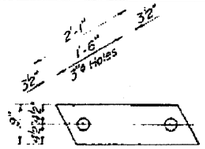
CONTRACT NO. 66833

ILLINOIS FED. AID PROJECT

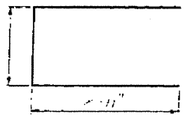
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 41	(15BR-3)	LIVINGSTON	59	39
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
3 SHEETS

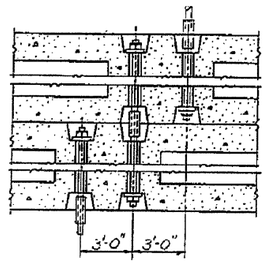


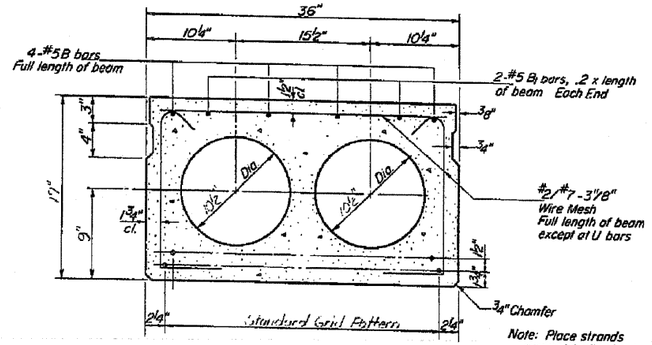
FABRIC BEARING PAD



U₁ BAR

* STEEL SHIM PAD

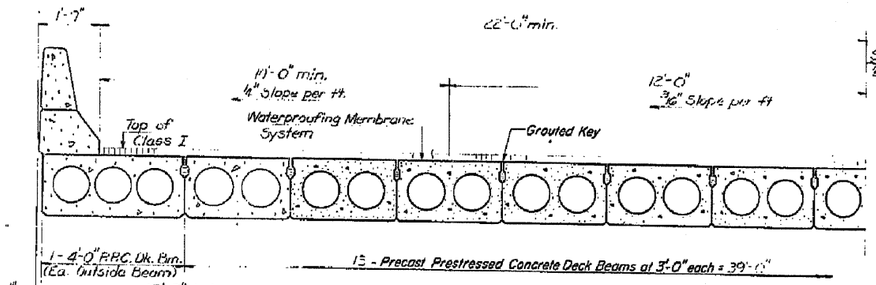




Note: Place strands symmetrically about ℄ of beam

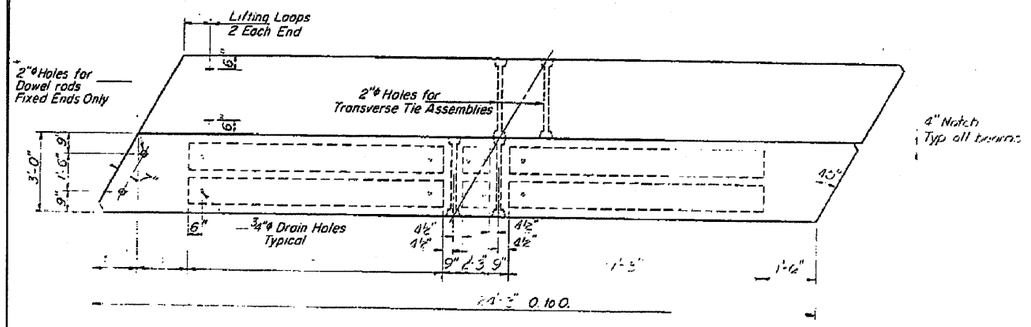
TYPICAL SECTION

4 - ½"ø Strands, Each Strand Stressed to 28,900 Lbs.
4 - Strands 1¾" up,



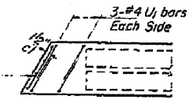
HALF CROSS SECTION

Note: Work this sheet with sheet #2

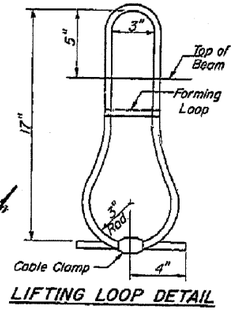


PLAN

* (Note - See 4'-0" beam.)



END PLAN



LIFTING LOOP DETAIL

DESIGNED	EXAMINED	Sept. 22, 1978	
CHECKED	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	
DRAWN	APPROVED	ENGINEER OF BRIDGES	
CHECKED		DIRECTOR OF HIGHWAYS	

PD-1-L 7-15-75

NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.
Lifting loops shall be ½" diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 21,000 lbs.
The 1"ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
Longitudinal shear keys shall be packed with a very dry mix of 2:1 sand and P.C. mortar.
After beams have been erected, holes for the dowel anchors shall be drilled into the substructure and the anchor dowels shall be grouted in place.

Cost of reinforcement and accessories cast into the beam, of bearing pads, of armor angles, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams."

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
Precast Prestressed Concrete Deck Beams (17")			Sq. Ft.	1833

SUPERSTRUCTURE
F.A. RT. 41 SEC. 15BR-3
LIVINGSTON COUNTY
STATION 407+84.00

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY

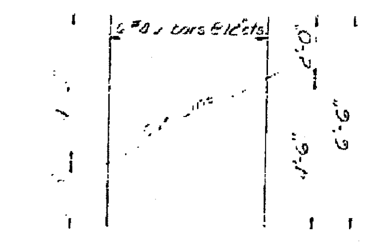
SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	36
		CONTRACT NO. 66833		
	ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

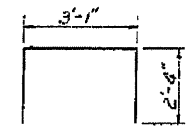
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 41	15BR-3	LIVINGSTON	59	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 5
8 SHEETS

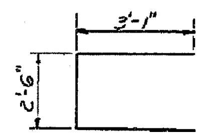


FIELD CUTTING DIAGRAM

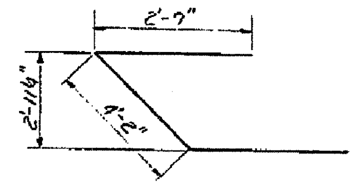
Order v bars full length. Cut to fit as shown and use remainder of bars in other face.



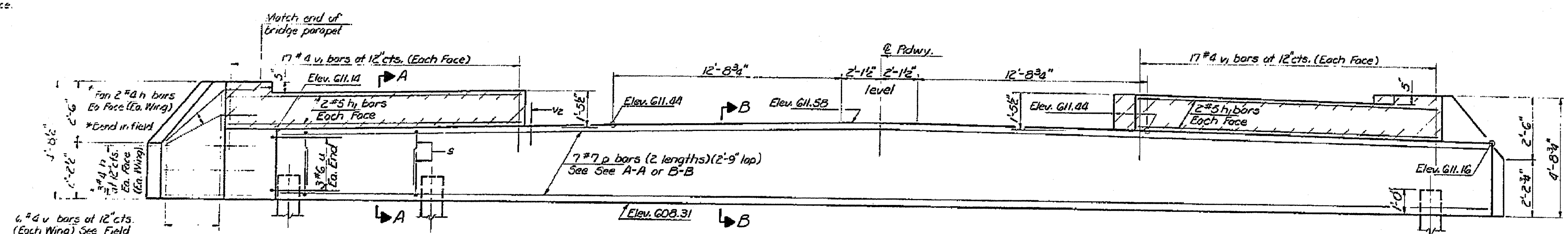
BAR s



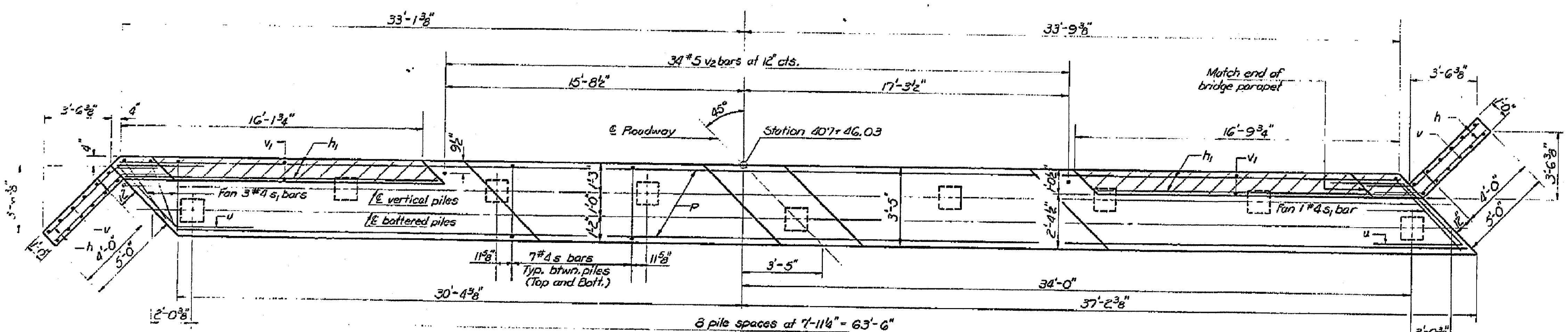
BAR s_1



BAR u



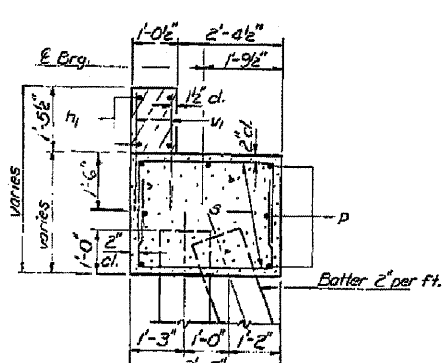
ELEVATION



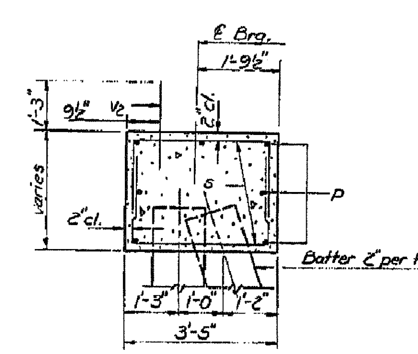
PLAN

Bar	No	Size	Length	Shape
h	20	#4	7'-6"	—
h_1	8	#5	15'-10"	—
p	14	#7	35'-0"	—
s	112	#4	7'-9"	⊓
s_1	4	#4	8'-8"	⊏
u	6	#6	9'-4"	
v	12	#4	6'-6"	—
v_1	68	#4	2'-10"	—
v_2	34	#5	2'-6"	—
Class X Concrete			Cu. Yd.	29.2
Reinforcement Bars			Pound	2190
Concrete Piles			Lin. Ft.	128
Test Piles (Concrete)			Each	1

BILL OF MATERIAL



SEC. A-A



SEC. B-B

PILE DATA

Type:	Concrete
Capacity:	Drive to 25 ton bearing
Est. Length:	16'
No. Required:	8 + 1 test pile placed in a permanent location

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	[illegible]
CHECKED	[illegible]

Sept. 22 1978

EXAMINED [illegible]
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED
ENGINEER OF DESIGN

APPROVED
DIRECTOR OF HIGHWAYS

WEST ABUTMENT
F.A. RT. 41 SEC. 15BR-3
LIVINGSTON COUNTY
STATION 407+84.00

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	37

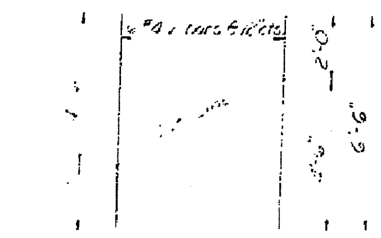
CONTRACT NO. 66833

ILLINOIS | FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

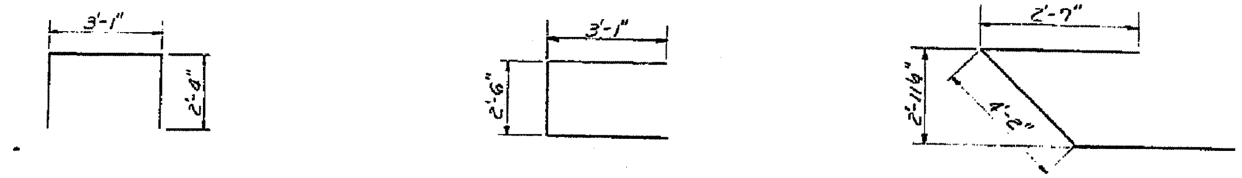
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. 41	15BR-3	LIVINGSTON	59	42
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 6
8 SHEETS



FIELD CUTTING DIAGRAM

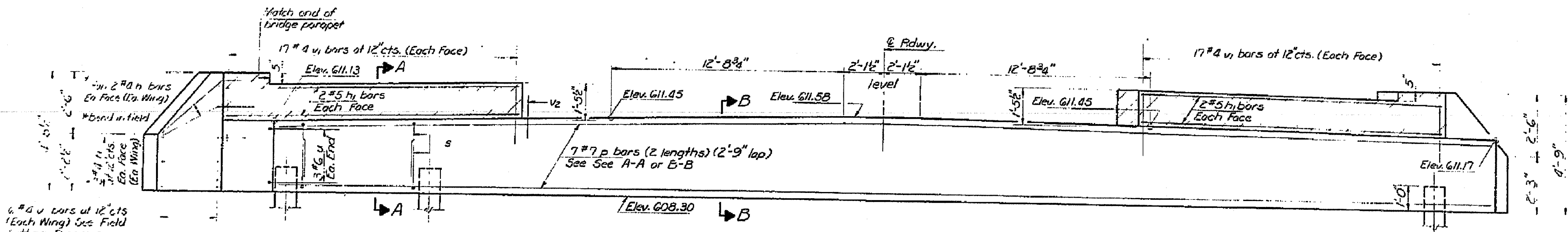
[illegible] v bars full length. Cut to fit [illegible] and use remainder of bars [illegible] other face



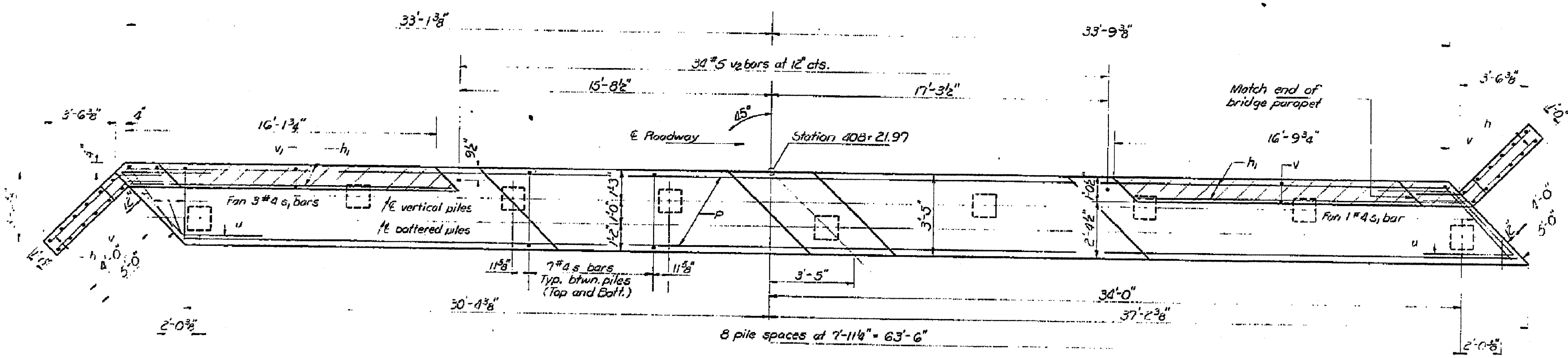
BAR s

BAR s_1

BAR u



ELEVATION



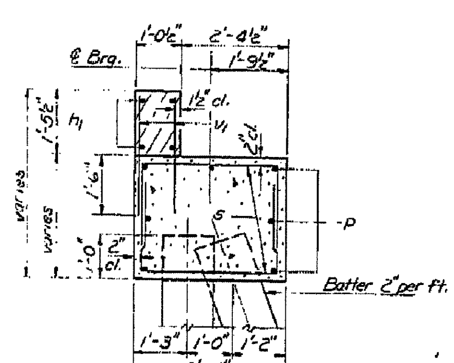
PLAN

Bar	No	Size	Length	Shape
h	20	#4	7'-6"	—
h_1	8	#5	15'-10"	—
p	14	#7	35'-0"	—
s	112	#4	7'-9"	⊓
s_1	4	#4	8'-8"	⊏
u	6	#6	9'-4"	⟨
v	12	#4	6'-6"	—
v_1	68	#4	2'-10"	—
v_2	34	#5	2'-6"	—
Class X Concrete			Cu Yd	29.3
Reinforcement Bars			Pound	2190
Concrete Piles			Lin Ft	144

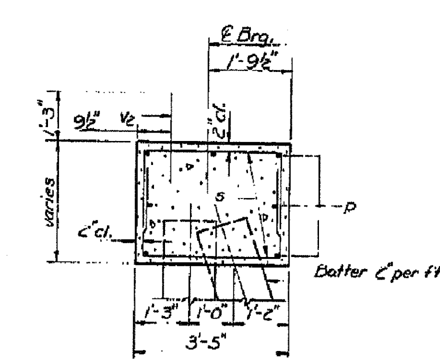
BILL OF MATERIAL

PILE DATA

Type: Concrete
Capacity: Drive to 25 Ton bearing
Est. Length: 16'
No. Required: 9



SEC. A-A



SEC B-B

DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	[illegible]
CHECKED	[illegible]

19[illegible]
EXAMINED [illegible]
ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
DIRECTOR OF HIGHWAYS

EAST ABUTMENT
F.A. RT. 41 SEC. 15BR-3
LIVINGSTON COUNTY
STATION 407+84.00

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

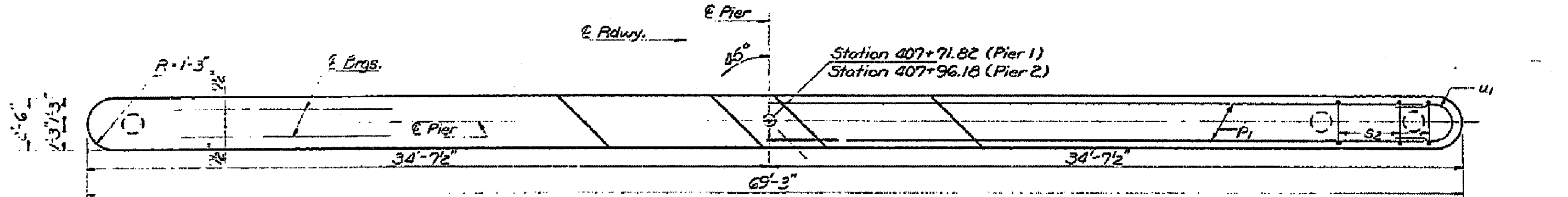
FOR INFORMATION ONLY

SCALE: SHEET NO. OF SHEETS STA. TO STA.

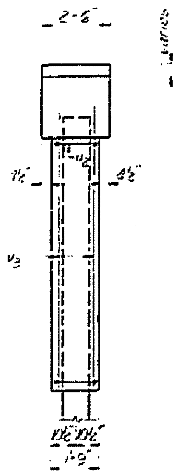
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	38
		CONTRACT NO. 66833		
		ILLINOIS	FED. AID PROJECT	

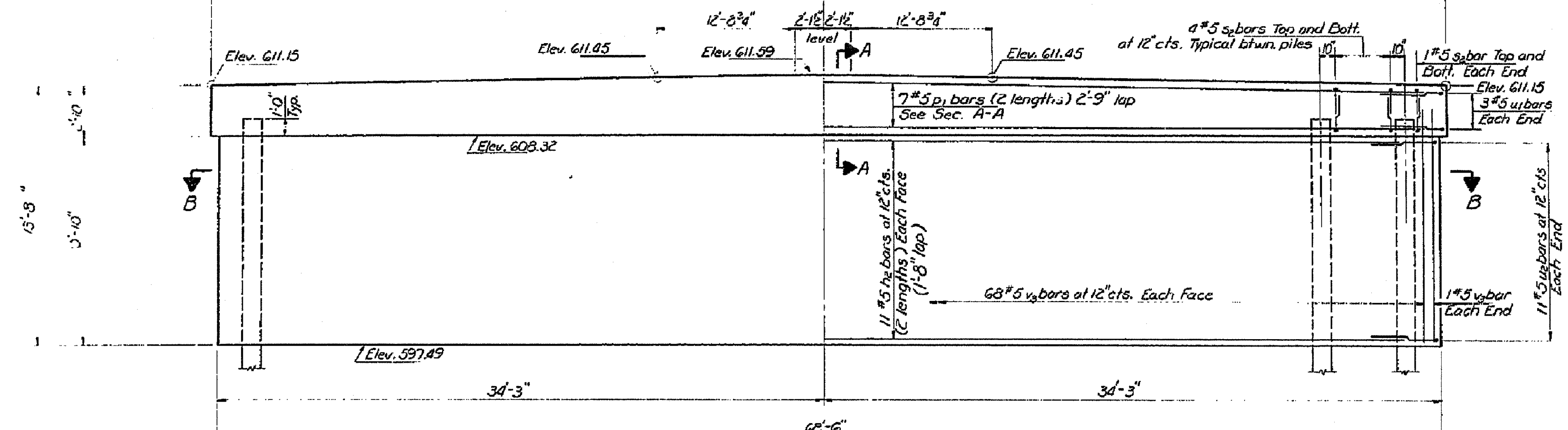
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A. 41	15BR-3	LIVINGSTON	59	43
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 7
8 SHEETS

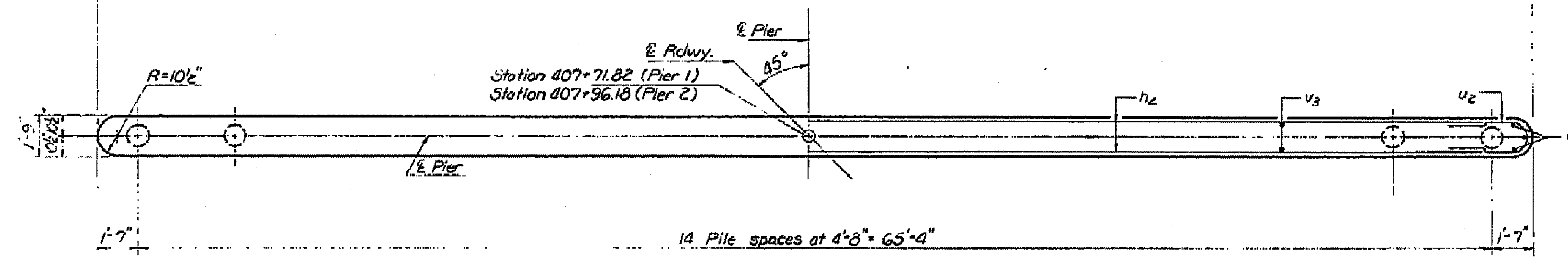


TOP PLAN

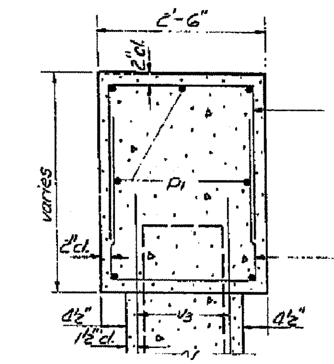




ELEVATION
Looking East



SEC. B-B



SEC. A-A

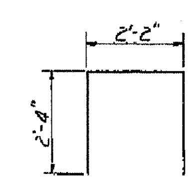
PIERS 1 and 2
BILL OF MATERIAL

Bar	No	Size	Length	Shape
h_2	88	#5	34'-1"	──
p_1	28	#5	34'-0"	──
s_2	232	#5	6'-10"	⊓
u_1	12	#5	7'-5"	⊃
u_2	44	#5	6'-4"	⊃
v_3	276	#5	12'-3"	──
Class X Concrete			Cu. Yd.	117.0
Reinforcement Bars			Pound	9680
Concrete Piles			Lin. Ft.	580
Test Piles (Concrete)			Each	1

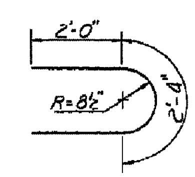
PILE DATA

* Type: Concrete
Capacity: Drive to 25 Ton Bearing
Est. Length: 20'
No. Required: 14 plus 1 test pile placed in a permanent location at Pier 2; 15 piles at Pier 1

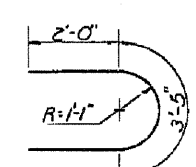
* 14" Precast Concrete Piles set in 4" precored holes drilled to elevation 594.00, then driven



BAR s_2



BAR u_2



BAR u_1

DESIGNED [illegible]
CHECKED [illegible]
DRAWN [illegible]
CHECKED [illegible]

EXAMINED Sept. 22 1978 [illegible]
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
DIRECTOR OF HIGHWAYS

PIERS 1 and 2
F.A. RT. 41 SEC. 15BR-3
LIVINGSTON COUNTY
STATION 47+84.00

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY

SCALE: SHEET NO. OF SHEETS STA. TO STA.

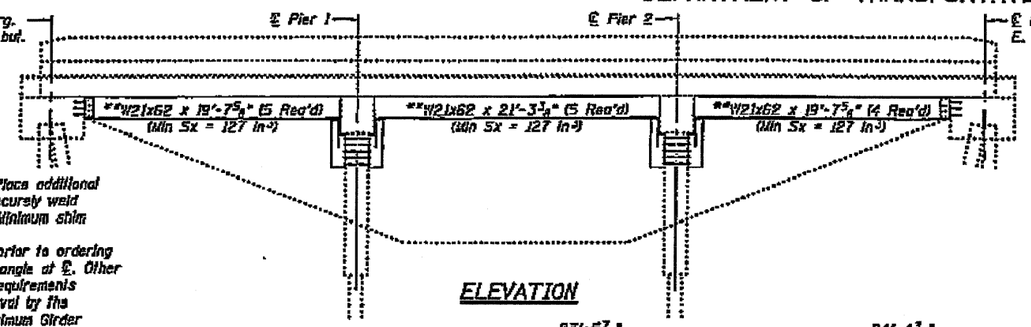
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	39

CONTRACT NO. 66833
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 41	4	Livingston	10	9	SHEET NO. 1 2 SHEETS

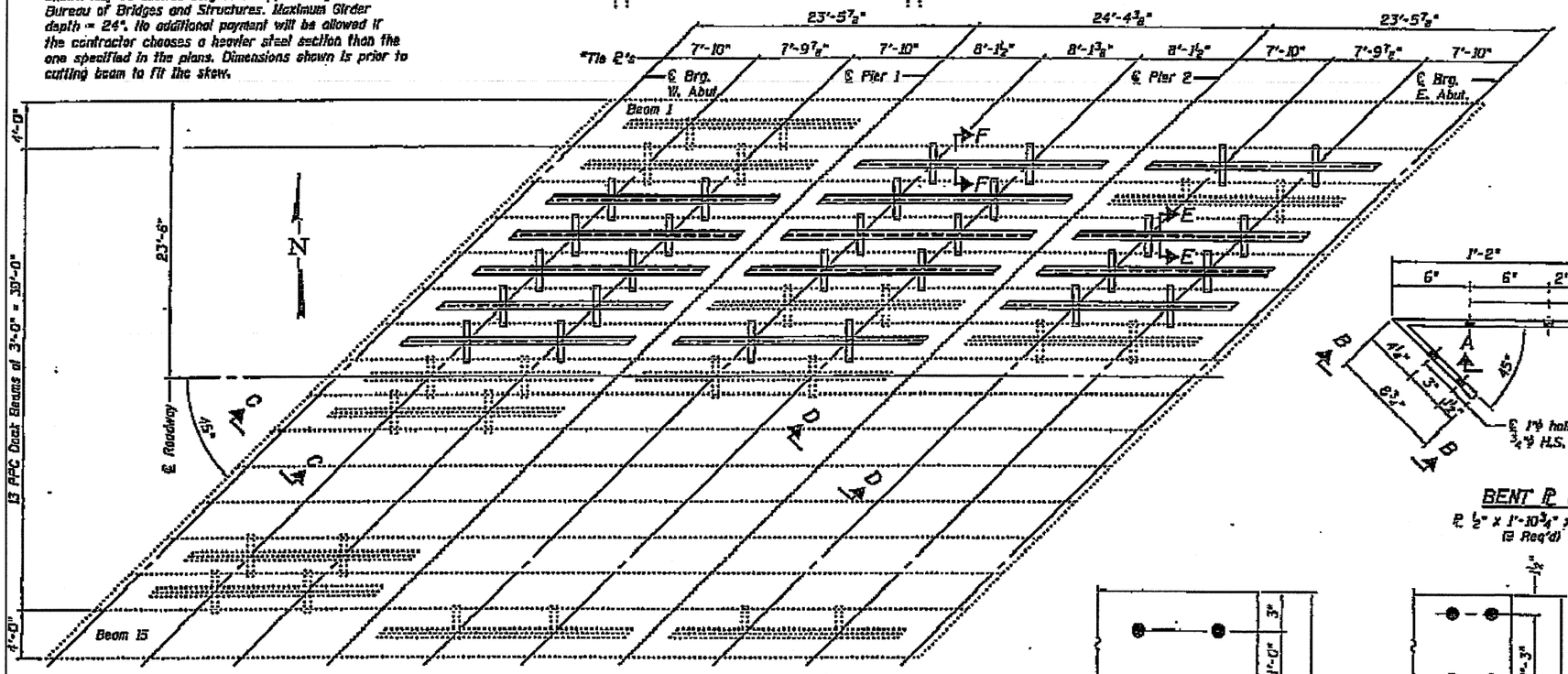
Contract Number: 66804 & 15CB2-2, B2-32



ELEVATION

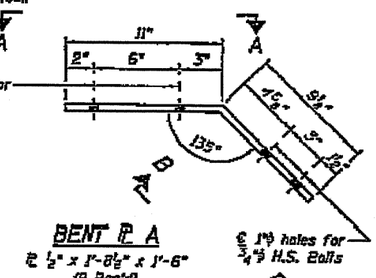
℄ Transverse tie ℄'s (2 per span). Place additional shims at midpoints between tie ℄'s. Securely weld shims to top flange of support beam. Minimum shim size is 6" x flange width.

***Contractor is to verify beam length prior to ordering material. Beams shall be cut to a 45° angle at ℄. Other sections meeting the section modulus requirements shown may be allowed subject to approval by the Bureau of Bridges and Structures. Maximum Girder depth = 24". No additional payment will be allowed if the contractor chooses a heavier steel section than the one specified in the plans. Dimensions shown is prior to cutting beam to fit the skew.*

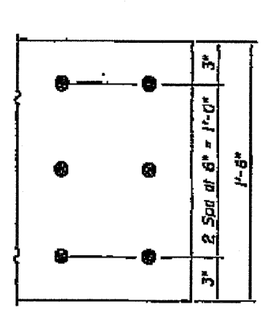


PLAN

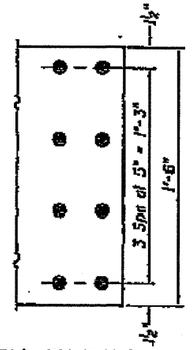
BENT ℄ B
℄ 1/2" x 1'-10 3/4" x 1'-6"
(2 Req'd)



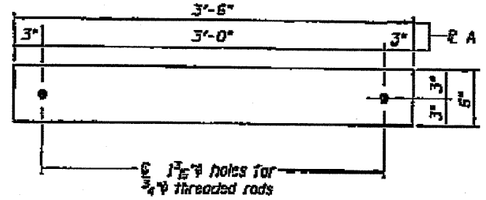
BENT ℄ A
℄ 1/2" x 1'-8 1/2" x 1'-6"
(9 Req'd)



PARTIAL SECTION A-A



PARTIAL SECTION B-B



TRANSVERSE TIE ℄'S
℄ A 1/2" x 3'-6" x 6" (28 Req'd)

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	25,280

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however. The Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractors responsibility to account for the condition of the beams when developing construction procedures.

See Section 584 of the Standard Specifications for Epoxy Grouting of Threaded Rods; Minimum embedment 9".

If the contractor's procedure for placement of beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams.

The cost of epoxy grouting threaded rods on the pier cap, abutments and beams shall be included with Furnishing and Erecting Structural Steel.

The Contractor has the option of using used steel. See Special Provisions.

The cost of any excavation required shall be included with Furnishing and Erecting Structural Steel.

GENERAL NOTES

STATE OF ILLINOIS
RALPH E. ANDERSON
081-004525
LICENSED STRUCTURAL ENGINEER
SPRINGFIELD

DESIGNED		December 17, 2008	
CHECKED		EXAMINED	
DRAWN		PASSED	
CHECKED			

Expires: November 30, 2010

PLAN AND ELEVATION
F.A. RT. 41
LIVINGSTON COUNTY
SN 053-0151

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

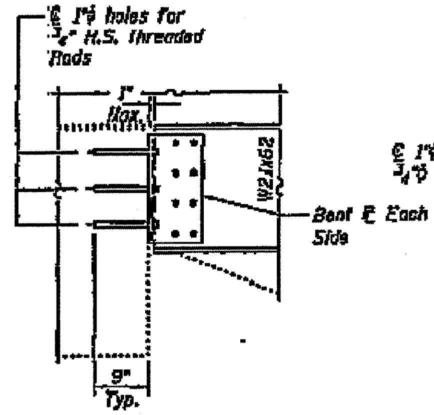
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	40
		CONTRACT NO. 66833		
	ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

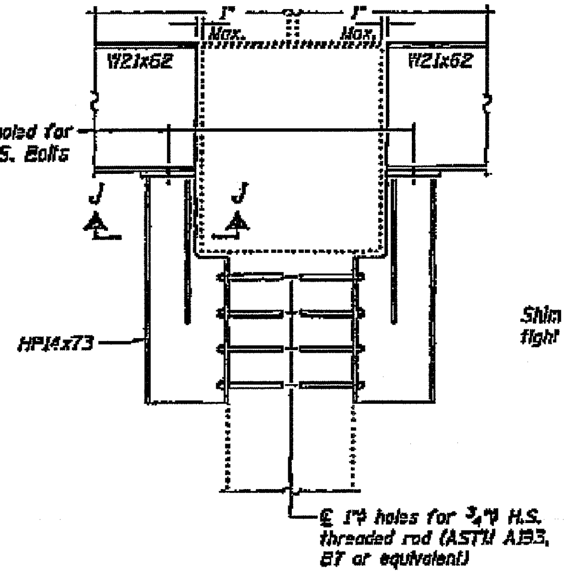
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 41	3R	Livingston	10	10

SHEET NO. 2
2 SHEETS

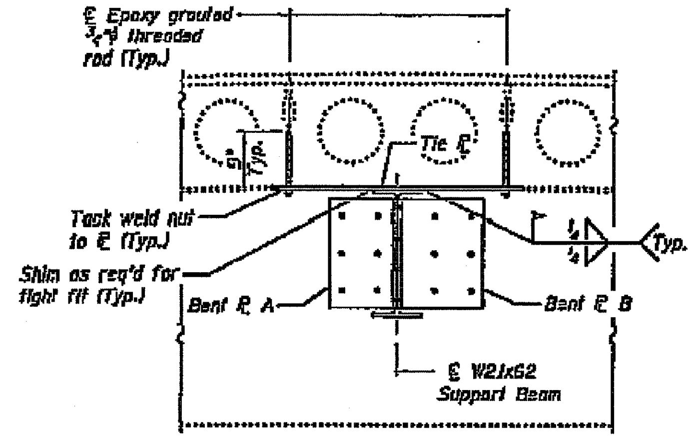
Contract Number: 66904 - 5½" 15(BR-2,BR)



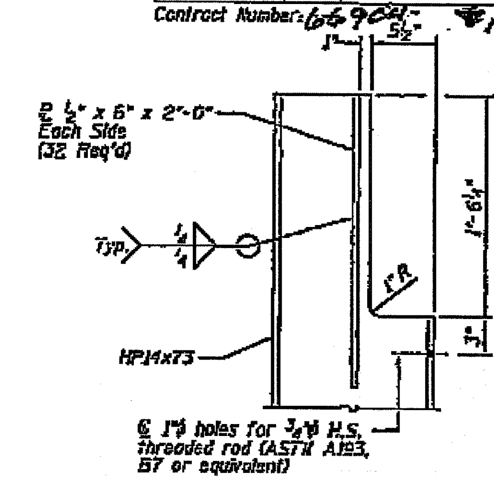
SECTION C-C
TYPICAL AT ABUTMENT



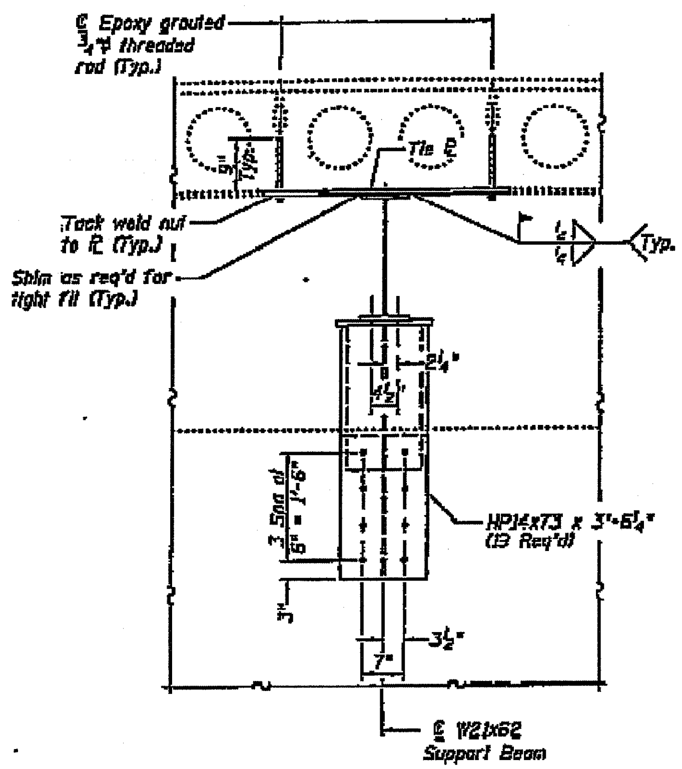
SECTION D-D
TYPICAL AT PIERS



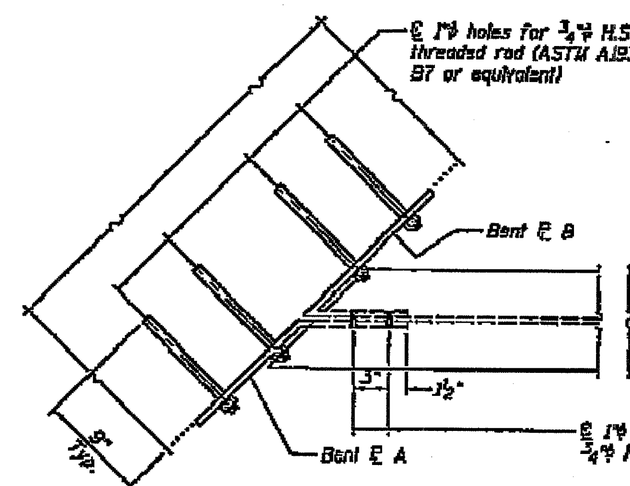
SECTION E-E
TYPICAL AT ABUTMENT



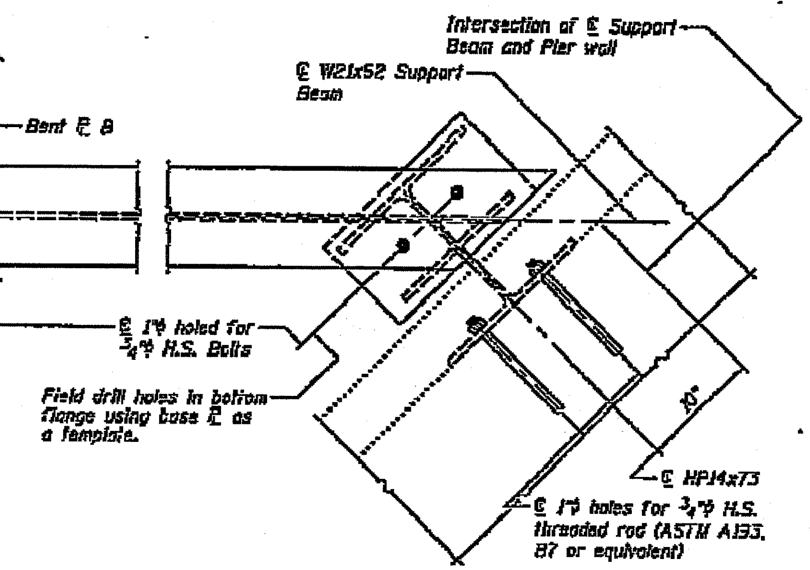
TYPICAL HP NOTCH



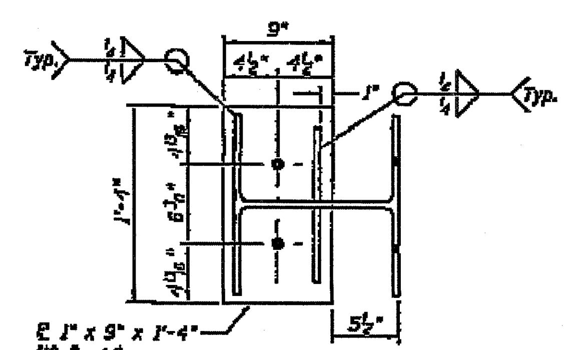
SECTION F-F
TYPICAL AT PIERS



TYPICAL PLAN AT ABUTMENTS



TYPICAL PLAN AT PIERS



SECTION J-J

SUPPORT DETAILS
F.A. RT. 41
LIVINGSTON COUNTY
SN 053-0151

DESIGNED	A.J.B.
CHECKED	V.H.V.
DRAWN	Drew Christopher
CHECKED	A.J.B. V.H.V.

December 17, 2008
EXAMINED [illegible]
ENGINEER OF STRUCTURAL SERVICES
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

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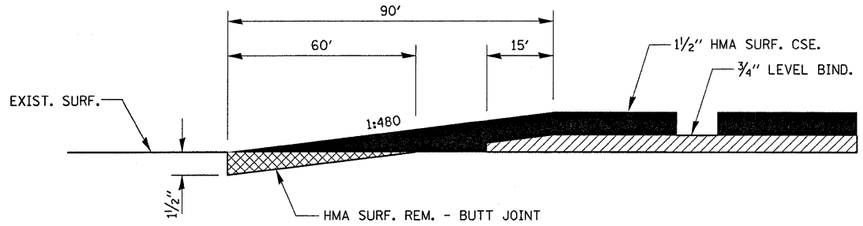
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

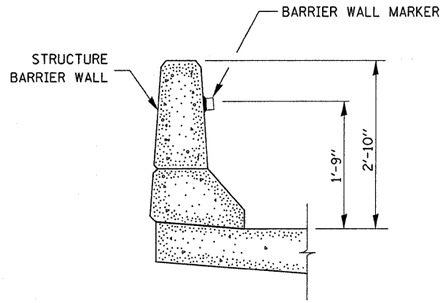
FOR INFORMATION ONLY

SCALE: SHEET NO. OF SHEETS STA. TO STA.

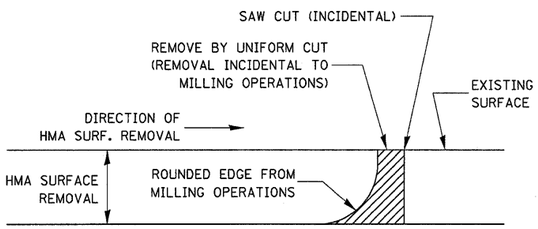
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	41

CONTRACT NO. 66833
ILLINOIS FED. AID PROJECT



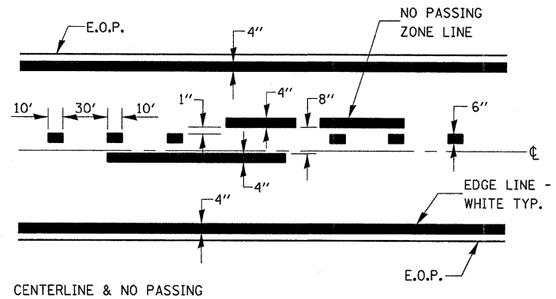


BARRIER WALL MARKER



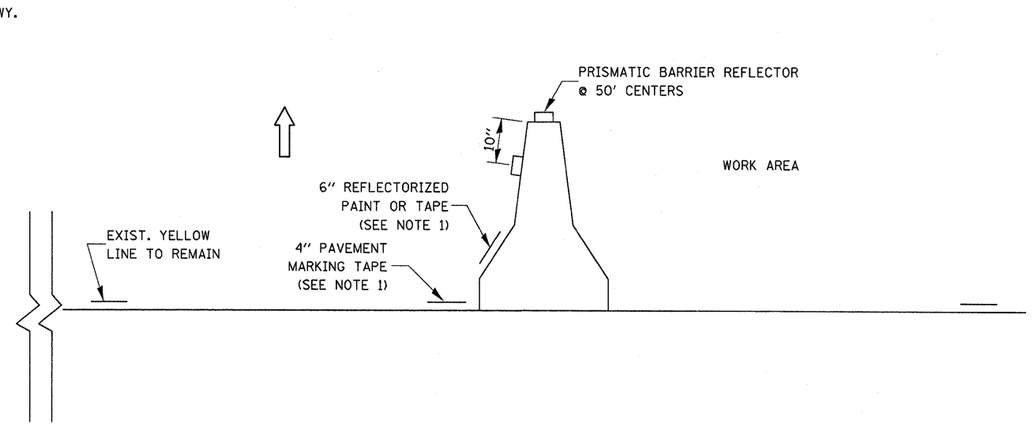
NOTE:
WHEN MILLING OPERATIONS PRODUCE A ROUNDED EDGE, THEN A SAW CUT SHALL BE USED TO MANUFACTURE A PERPENDICULAR EDGE AS SHOWN IN THE DETAIL. THE ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE USE OF THIS DETAIL

HMA DETAIL AT BUTT JOINTS



(SEE TYPICAL SECTIONS)

PAVEMENT MARKING



NOTES:

1. THE CONTRACTOR HAS THE OPTION OF USING EITHER THE LINE ON THE TEMPORARY CONCRETE BARRIER OR ON THE PAVEMENT.
2. THE COLOR OF THE REFLECTORS AND PAVEMENT/BARRIER MARKING LINE WILL VARY WITH STAGING AND SHALL MATCH THE EXISTING LINE IN THE WORK AREA.
3. THE COST OF THE REFLECTORS AND THE PAVEMENT/BARRIER MARKING LINE IS INCLUDED IN THE COST OF THE TEMPORARY CONCRETE BARRIER.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15BR-3)-1	LIVINGSTON	45	42
		CONTRACT NO. 66833		
	ILLINOIS FED. AID PROJECT			

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

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
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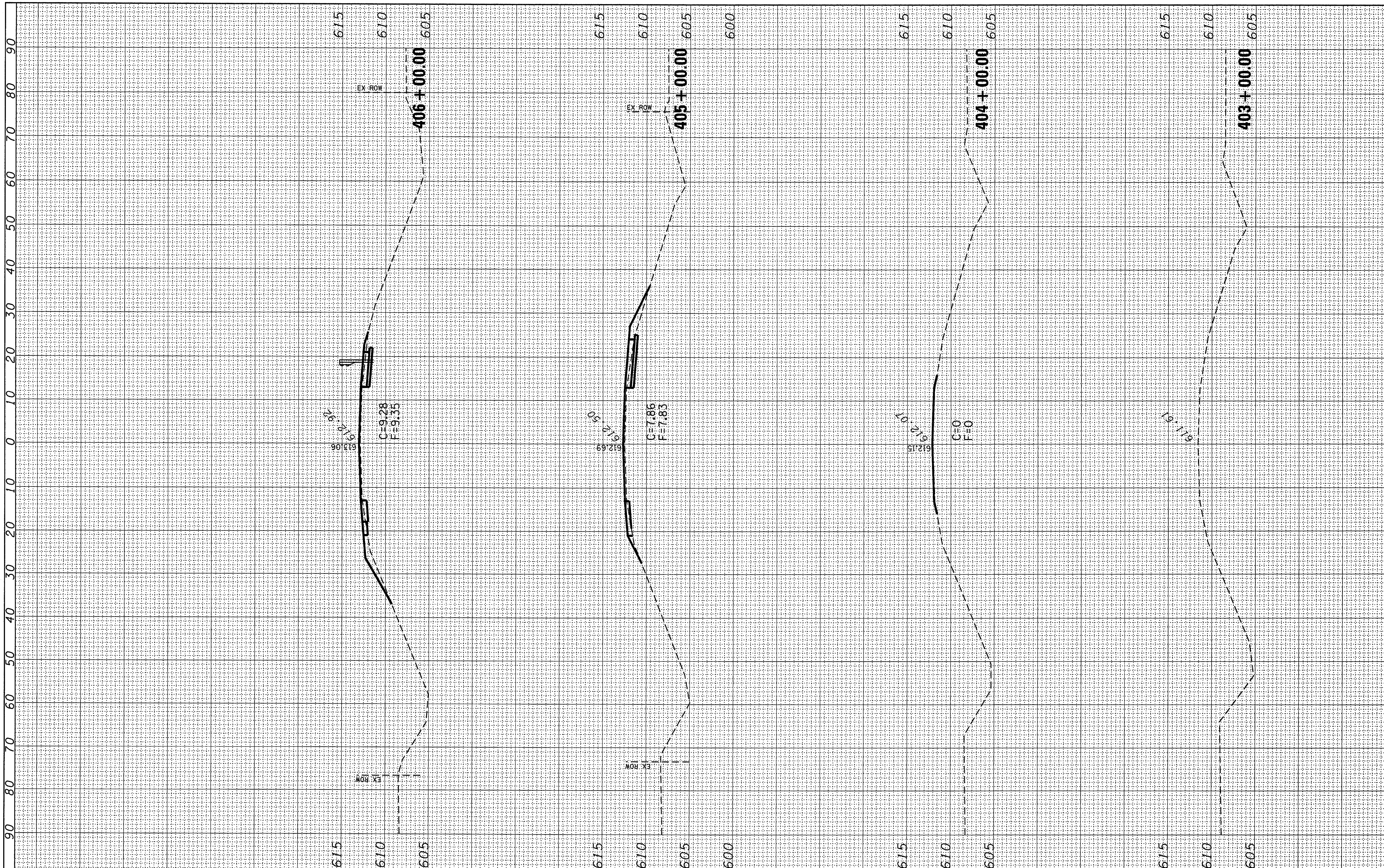

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 403+00.00 TO STA. 406+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15 BR-3)1	LIVINGSTON	45	43
		CONTRACT NO. 66833		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

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

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
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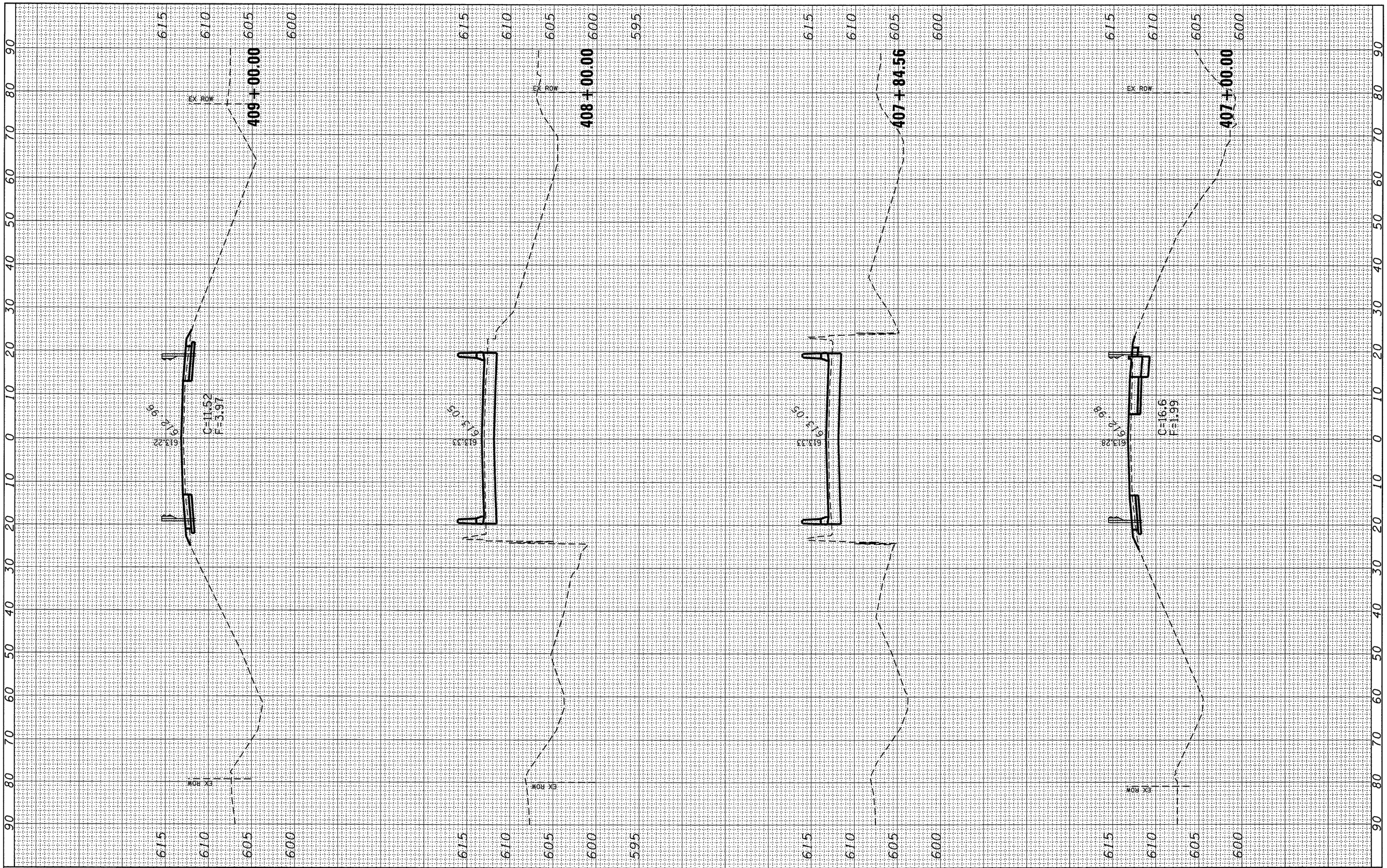
	PLOT DATE		
	AREAS		
	AREAS CHECKED		



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

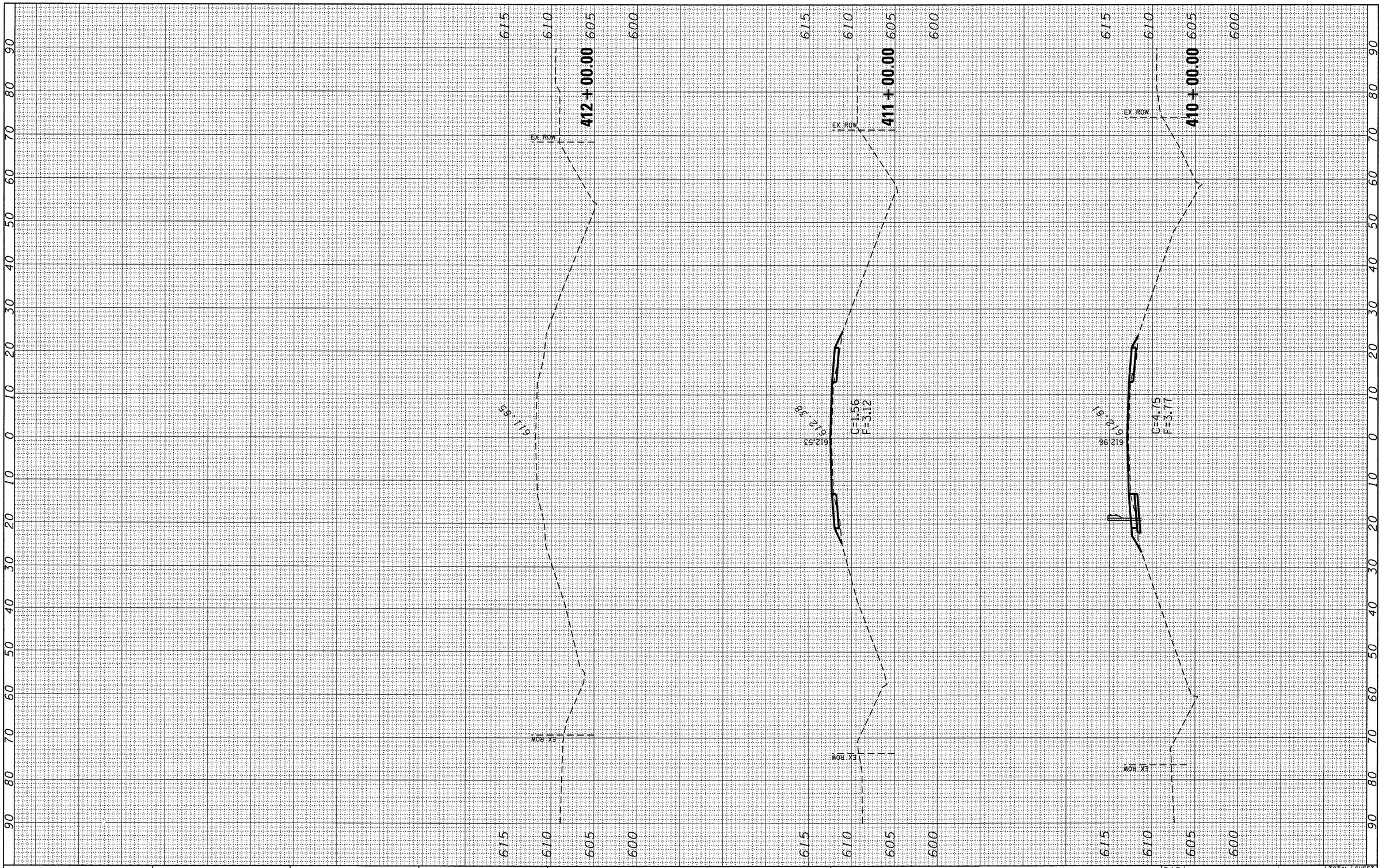
CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 407+00.00 TO STA. 409+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15 BR-3)1	LIVINGSTON	45	44
		CONTRACT NO. 66833		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

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



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	PLOT DATE = Oct 08, 2009 - 02:39:11 PM	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 410+00.00 TO STA. 412+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(15 BR-3)1	LIVINGSTON	45	45
		CONTRACT NO. 66833		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		