

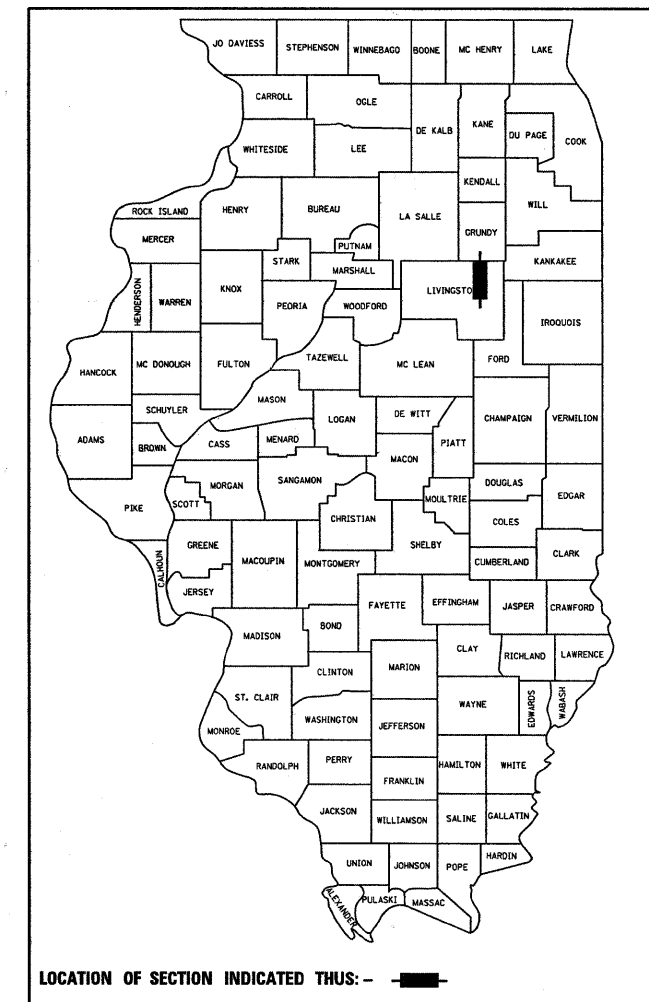
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(121)I	LIVINGSTON	27	1
		ILLINOIS	CONTRACT NO. 66869	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 326 (IL 47)
SECTION (121)I
PROJECT: ACF-0326(082)
CULVERT REPLACEMENT
LIVINGSTON COUNTY

C-93-076-11

P-93-030-08
D-93-061-11



FUNCTIONAL CLASSIFICATION
RURAL OTHER PRINCIPAL ARTERIAL

2007 ADT = 2400
P.V. = 61.4% S.U. = 9.4% M.U. = 29.2%

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED _____ 20 _____

Eric S. Thacker
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
October 14 20 11

Scott E. Stitt, P.E.
acting ENGINEER OF DESIGN AND ENVIRONMENT
October 14 20 11

Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

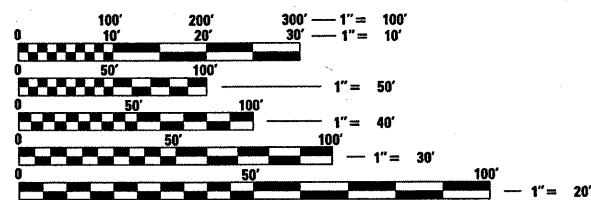
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OF THE STATE OF ILLINOIS**

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES
- 3-4 SUMMARY OF QUANTITIES
- 5-6 TYPICAL SECTIONS
- 7-8 SCHEDULES
- 9 TIE POINTS
- 10 PLAN AND PROFILE
- 11 STAGE I CONSTRUCTION AND TRAFFIC CONTROL
- 12 STAGE II CONSTRUCTION AND TRAFFIC CONTROL
- 13 EROSION CONTROL AND PAVEMENT MARKING
- 14-20 CULVERT PLANS
- 21 EXISTING CULVERT PLANS
- 22-23 DETAILS
- 24-27 CROSS SECTIONS

STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 280001-05 TEMPORARY EROSION CONTROL SYSTEMS
- 442201-03 CLASS C AND D PATCHES
- 482011-03 HMA SHOULDER STRIPS/SHOULDERS WITH RS OR WIDENING & RS PROJECTS
- 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
- 701011-02 OFF-ROAD MOVING OPERATIONS 2L, 2W, DAY ONLY
- 701201-04 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701306-03 LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS ≥ 45 MPH
- 701311-03 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
- 701321-11 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701326-04 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

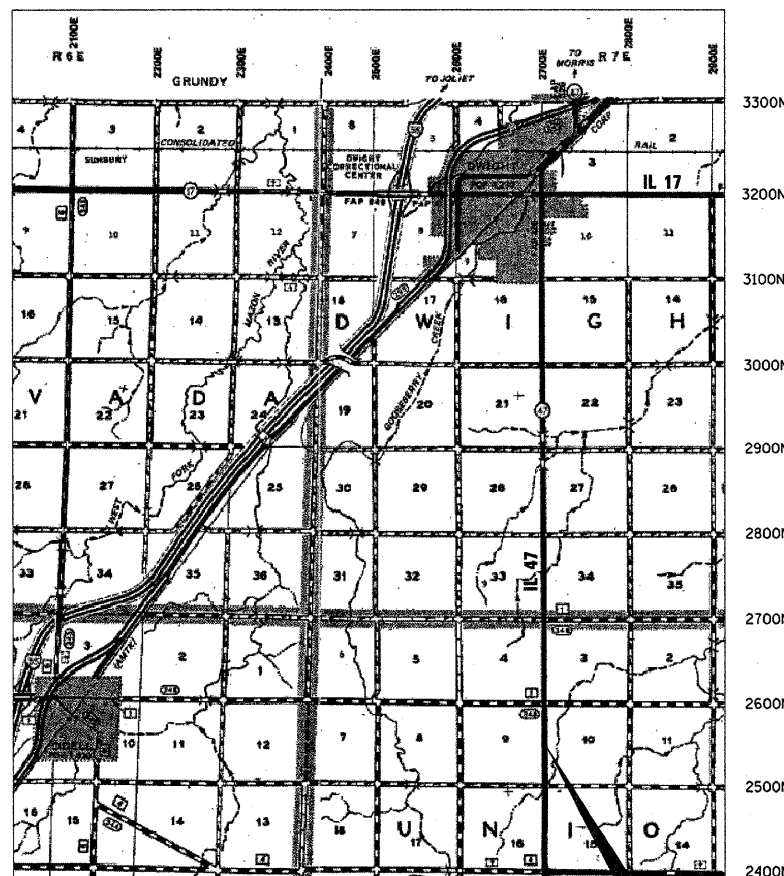


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: CRAIG S. REED, P.E.
UNIT CHIEF: RUTH SCHWANKE

CONTRACT NO. 66869



N.T.S.

T 30 N

PROJECT LOCATION

STA. 376+04.43
EXISTING SN 053-2541 - 6' X 3' REINFORCED CONCRETE BOX CULVERT
PROPOSED SN 053-2578 - 10' X 3' PRECAST REINFORCED CONCRETE BOX CULVERT AND PRECAST END SECTIONS WITH PIPE GRATES

GROSS LENGTH = 400 FT. = 0.08 MILE
NET LENGTH = 400 FT. = 0.08 MILE

GENERAL NOTES

(Revised May 13, 2009)

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.

BEFORE ORDERING PIPE CULVERTS OR PIPE DRAINS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR EXACT LENGTHS.

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 EARTH EXCAVATION.

ALL ELEVATIONS REFERRING TO U.S.G.S. MEAN SEA LEVEL DATUM.

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
BIT MATERIALS (PRIME COAT) ON AGGREGATE BASES	0.375	GAL / SQ YD
BITUMINOUS MATERIALS (PRIME COAT)	0.08	GAL / SQ YD
POLYMERIZED BIT MATERIALS (PRIME COAT)	0.10	GAL / SQ YD
FOR ADDITIONAL HMA LIFTS "FOG 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
MIX FOR CRACKS, JTS & FLGWYS	0.0003	TONS / SQ YD
LEVEL BINDER (HAND METHOD)	0.0005	TONS / SQ YD
SUPPLEMENTAL WATERING	3	GAL / SQ YD / APPLICATION
CALCIUM CHLORIDE	2	LB / SQ YD / APPLICATION
TEMPORARY DITCH CHECKS	5	TONS AGGREGATE

MEMBERS OF JULIE KNOWN TO BE WITHIN THE LIMITS OF THE IMPROVEMENT ARE: COMED, FRONTIER COMMUNICATIONS, MEDIACOM

NON-MEMBERS OF JULIE KNOWN TO BE WITHIN THE LIMITS OF THE IMPROVEMENT ARE: NONE

THE CONTRACTOR SHALL CONTACT JULIE AT LEAST 48 HOURS PRIOR TO EXCAVATION TO DETERMINE WHICH UTILITIES ARE IN THE AREA.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

PREPARED BY: Don Brown
DISTRICT STUDIES & PLANS ENGINEER

DATE: 8-22-11

EXAMINED BY: Herbert K...
DISTRICT CONSTRUCTION ENGINEER

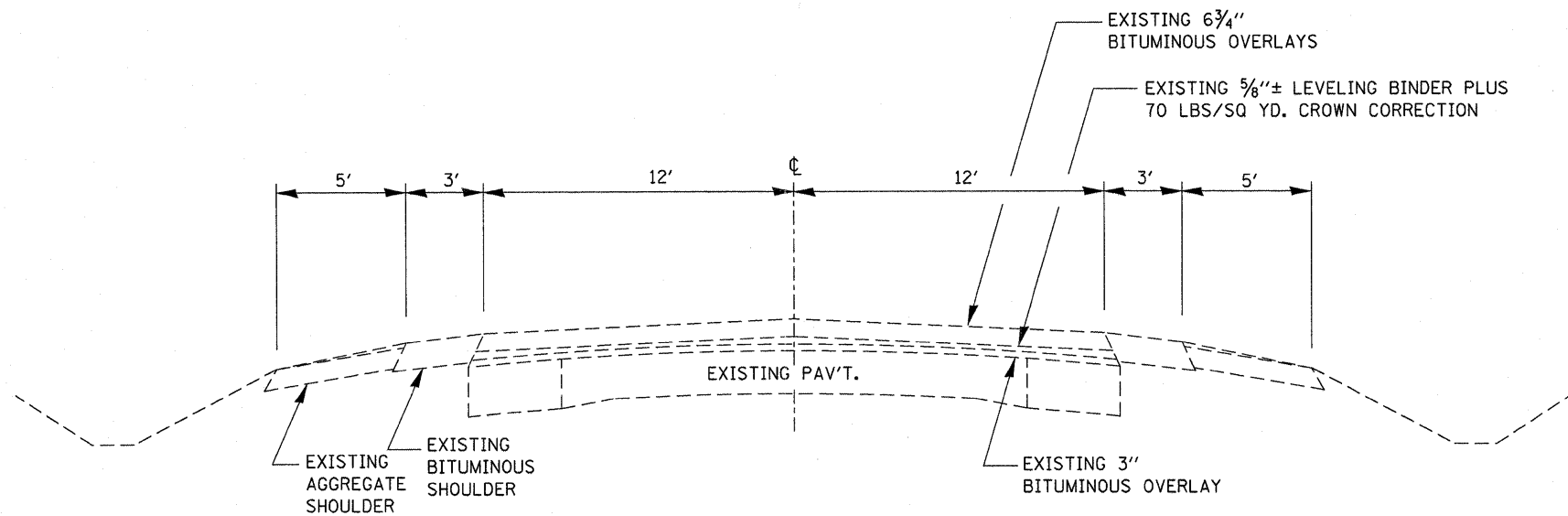
Wayne L. Phillips
DISTRICT MATERIALS ENGINEER

Steve A. Wuehler
DISTRICT OPERATIONS ENGINEER

FILE NAME =	USER NAME = schwankeg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwork\schwankeg\dms66821\66869-shr-cover.dgn	DRAWN -	REVISED -	326			(12D)	LIVINGSTON	27	2	
PLOT SCALE = 50,0000 ' / in.	CHECKED -	REVISED -	CONTRACT NO. 66869							
PLOT DATE = 8/22/2011	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							
					SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.

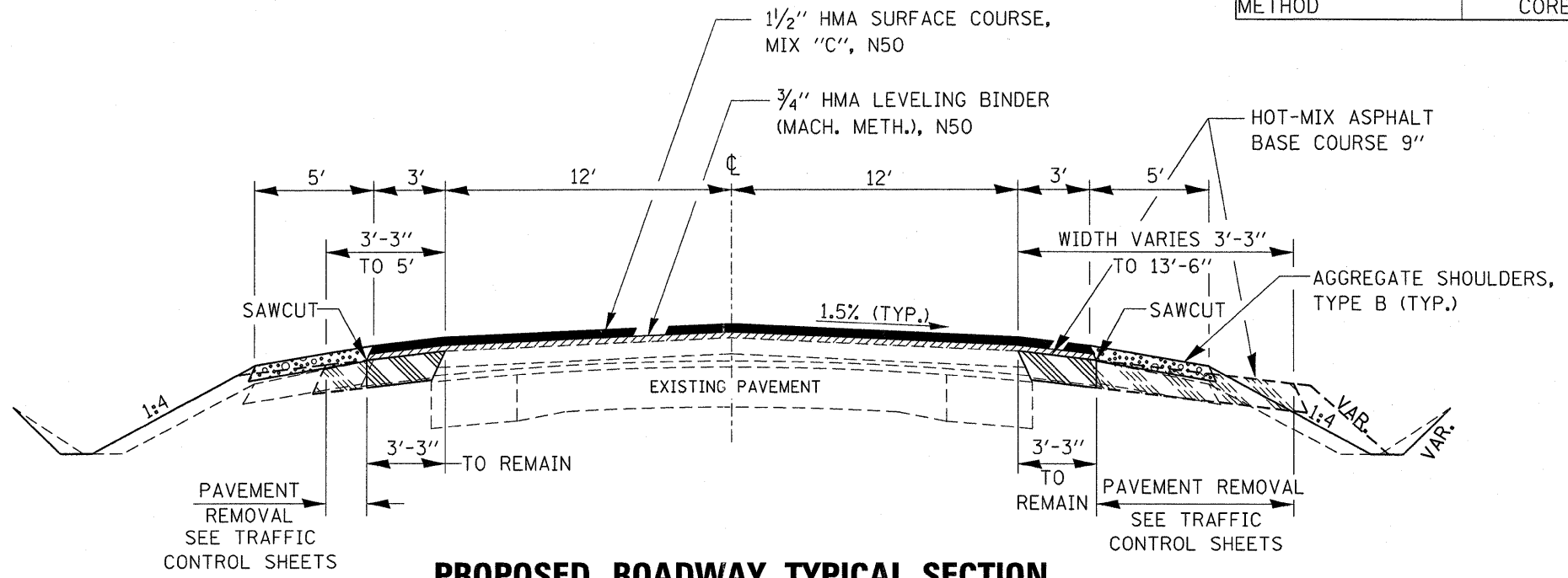
SUMMARY OF QUANTITIES					
CODE NO.	ITEM	UNIT	CONSTRUCTION TYPE CODE	0005	0040
			80% FED. 20% STATE	RURAL	RURAL PROPOSED SN 053-2578 EXISTING SN 053-2541
			TOTAL QUANTITY	ROADWAY	
20200100	EARTH EXCAVATION	CU YD	139	139	
20400800	FURNISHED EXCAVATION	CU YD	131	131	
20700220	POROUS GRANULAR EMBANKMENT	CU YD	67		67
25000210	SEEDING, CLASS 2A	ACRE	0.52	0.52	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	47	47	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	47	47	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	47	47	
25100115	MULCH, METHOD 2	ACRE	0.52	0.52	
25100630	EROSION CONTROL BLANKET	SQ YD	44	44	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	31	31	
28000305	TEMPORARY DITCH CHECKS	FOOT	14	14	
28000400	PERIMETER EROSION BARRIER	FOOT	40	40	
28100107	STONE RIPRAP, CLASS A4	SQ YD	32	32	
28200200	FILTER FABRIC	SQ YD	32	32	
31100300	SUBBASE GRANULAR MATERIAL, TYPE A 4"	SQ YD	118	118	
35501320	HOT-MIX ASPHALT BASE COURSE, 9"	SQ YD	610	610	
35501336	HOT-MIX ASPHALT BASE COURSE, 13"	SQ YD	96	96	
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	109	109	
40600300	AGGREGATE (PRIME COAT)	TON	2	2	
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	0.5	0.5	
40600525	LEVELING BINDER (HAND METHOD), N50	TON	0.7	0.7	
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	56	56	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	408	408	
40600990	TEMPORARY RAMP	SQ YD	480	480	
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	113	113	
44000100	PAVEMENT REMOVAL	SQ YD	383	383	
44004250	PAVED SHOULDER REMOVAL	SQ YD	231	231	
48101200	AGGREGATE SHOULDERS, TYPE B	TON	159	159	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
54001061	GRADED BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2		2
54011003	PRECAST CONCRETE BOX CULVERTS 10' X 3'	FOOT	41		41

SUMMARY OF QUANTITIES					
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				0005	0040
				RURAL	RURAL
					PROPOSED SN 053-2578
				ROADWAY	EXISTING SN 053-2541
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6	
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	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	130	130	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	4185	4185	
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	190	190	
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	24	24	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	702	702	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	450	450	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	250	250	
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	4440	4440	
* 78001130	PAINT PAVEMENT MARKING - LINE 6"	FOOT	380	380	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	9	9	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	9	9	
Z0026407	TEMPORARY SHEET PILING	SQ FT	194		194
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	4	4	
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2	



EXISTING ROADWAY TYPICAL SECTION

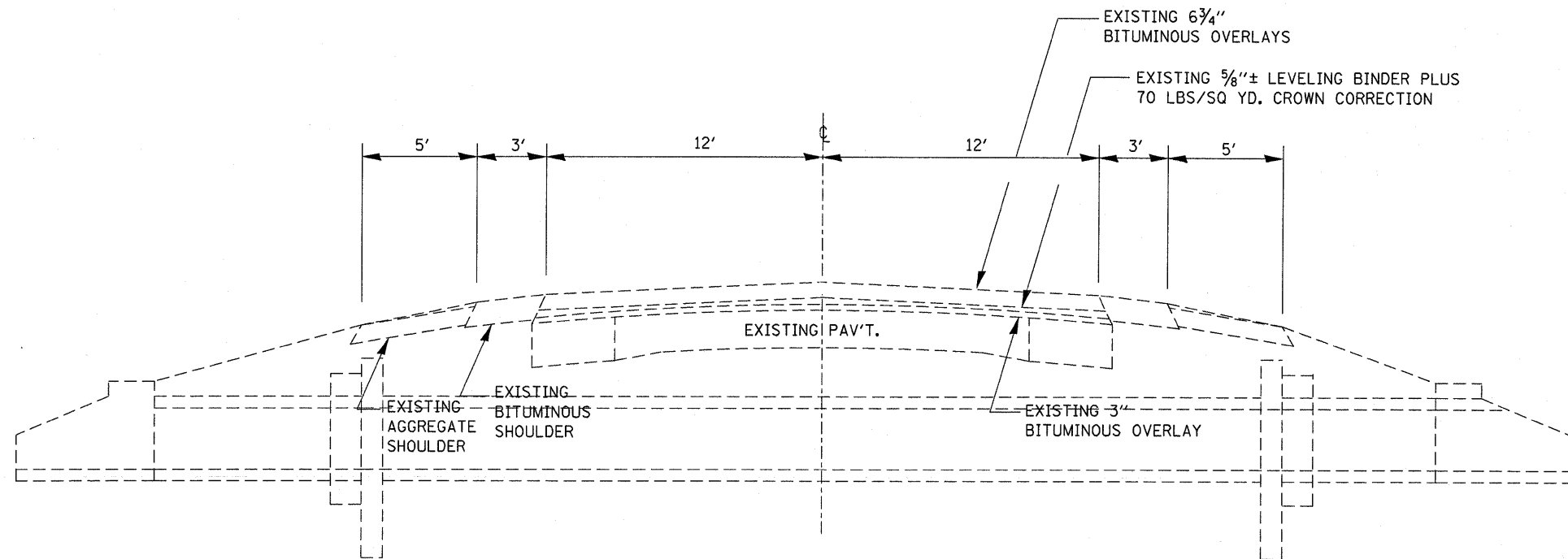
	HMA BASE COURSE	HMA LEVELING BINDER	HMA SURFACE
PG GRADE	PG64-22	PG64-22	PG64-22
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION	IL 19.0	IL 9.5	IL 9.5
FRICTION AGGREGATE			MIXTURE C
DENSITY TEST METHOD	CORES	SATISFACTION OF ENGINEER	CORES



PROPOSED ROADWAY TYPICAL SECTION

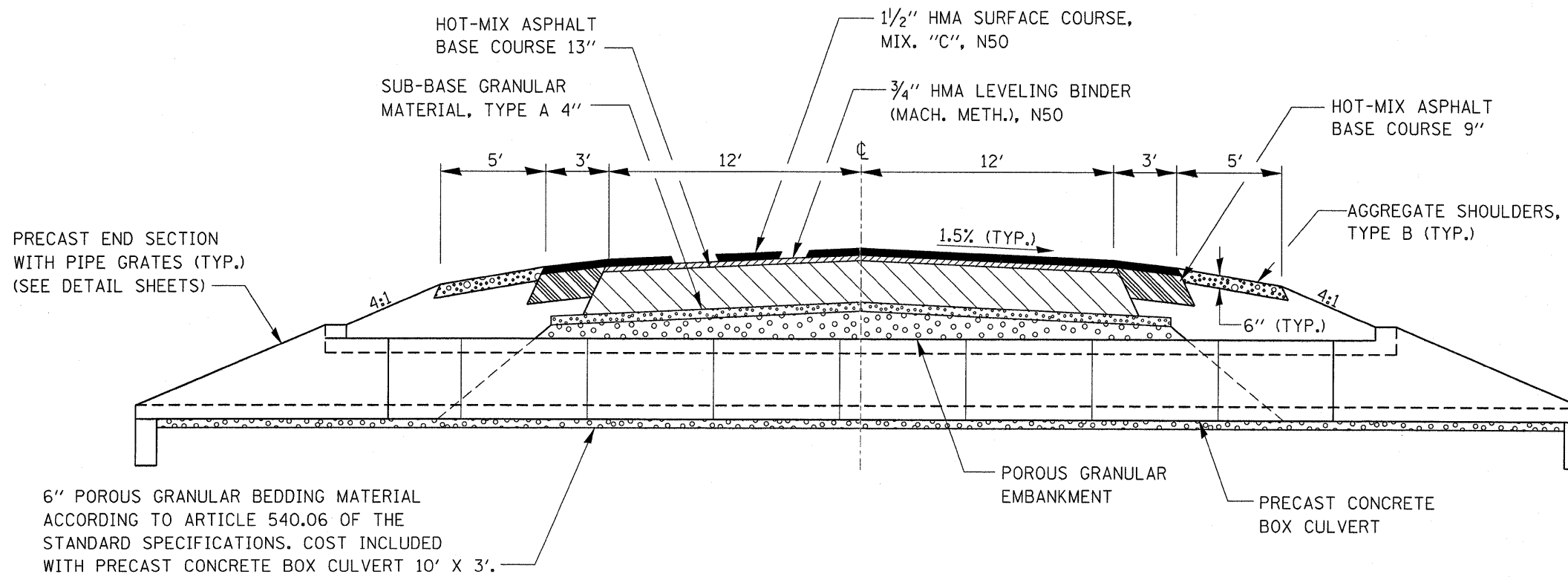
STA. 374+00 TO STA. 375+87
 STA. 376+22.50 TO STA. 378+00

FILE NAME =	USER NAME = sohwanerg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL SECTIONS				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 8/19/2011	DATE -	CHECKED -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 66869		
											ILLINOIS FED. AID PROJECT		



EXISTING CULVERT TYPICAL SECTION

STA. 376+04.43



PROPOSED CULVERT TYPICAL SECTION

STA. 376+04.43

FILE NAME =	USER NAME = schwenkerg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CULVERT TYPICAL SECTIONS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ct\pw_work\p\p\dot\schwenkerg\dms66821\066869-sht-details.dgn	66869-sht-details.dgn	DRAWN -	REVISED -			326	(121)	LIVINGSTON	27	6	
PLOT SCALE = 20,0000' / in.		CHECKED -	REVISED -			CONTRACT NO. 66869					
PLOT DATE = 8/19/2011		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
SCALE: SHEET NO. OF SHEETS STA. TO STA.											

PAVEMENT SCHEDULE

LOCATION	LENGTH	SUB-BASE GRANULAR MATERIAL TYPE A 4"	HMA BASE COURSE, 9"	HMA BASE COURSE, 13"	BITUMINOUS MATERIALS (PRIME COAT)	AGGREGATE (PRIME COAT)	MIXTURE FOR CRACKS, JOINTS & FLANGWAYS	HMA LEVELING BINDER N50 (HAND METH)	HMA LEVELING BINDER N50 (MACH. METH) 3/4"	HMA SURFACE COURSE MIX. "C", N50 1 1/2"	PAVEMENT REMOVAL	PAVEMENT SHOULDER REMOVAL	AGGREGATE SHOULDERS, TYPE B	HMA SURFACE REMOVAL-BUTT JOINT	TEMPORARY RAMP
STATION TO STATION		SQ YD	SQ YD	SQ YD	GALLON	TON	TON	TON	TON	TON	SQ YD	SQ YD	TON	SQ YD	SQ YD
PRE-STAGE I															
374+00.00 TO 374+90.00	90.00		59.1									23.0			
374+90.00 TO 375+87.00	97.00		105.6									24.8			
375+87.00 TO 376+21.51	34.51		33.5									8.8			
376+21.51 TO 377+10.00	88.49		92.7									22.6			
377+10.00 TO 378+00.00	90.00		61.3									23.0			
SUBTOTALS			352.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.2	0.0	0.0	0.0
STAGE I															
374+00.00 TO 374+90.00	90.00	0	75.0	0								32.0			
374+90.00 TO 375+87.00	97.00	0	73.1	0								34.5			
375+87.00 TO 376+22.50	35.50	57.9	19.7	46.4							67.1	12.6			
376+22.50 TO 377+10.00	87.50	0	48.6	0								31.1			
377+10.00 TO 378+00.00	90.00	0	40.8	0								18.2			
SUBTOTALS		57.9	257.2	46.4	0.0	0.0	0.0	0.0	0.0	0.0	67.1	128.5	0.0	0.0	0.0
STAGE II															
374+00.00 TO 374+90.00	90.00	0		0							26.1				
374+90.00 TO 375+87.00	97.00	0		0							70.0				
375+87.00 TO 376+22.50	35.50	59.9		49.7							20.8				
376+22.50 TO 377+10.00	87.50	0		0							60.3				
377+10.00 TO 378+00.00	90.00	0		0							28.3				
SUBTOTALS		59.9	0.0	49.7	0.0	0.0	0.0	0.0	0.0	0.0	205.5	0.0	0.0	0.0	0.0
STAGE III															
374+00.00 TO 374+90.00	90.00				24.5	0.5	0.1	0.2	12.7	25.3	42.0		35.9	204	240
374+90.00 TO 375+87.35	97.35				26.5	0.5	0.1	0.2	13.7	27.4	37.5		38.8		
375+87.35 TO 376+22.50	35.15				9.6	0.2	0.0	0.1	5.0	9.9	6.7		14.0		
376+22.50 TO 377+10.00	87.50				23.8	0.5	0.1	0.1	12.3	24.6	16.5		34.9		
377+10.00 TO 378+00.00	90.00				24.5	0.5	0.1	0.2	12.7	25.3	7.8		35.9	204	240
SUBTOTALS		0.0	0.0	0.0	108.8	2.1	0.5	0.7	56.4	112.5	110.5	0.0	159.4	408.0	480.0
TOTALS		117.8	609.4	96.1	108.8	2.1	0.5	0.7	56.4	112.5	383.1	230.7	159.4	408.0	480.0

PAVEMENT MARKING										
LOCATION			PAINT PAVEMENT MARKING -			RAISED REFLECTIVE PAVEMENT MARKER	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	TEMPORARY PAVEMENT MARKING -		
			LINE 4"		LINE 6"			LINE 4"		LINE 6"
			WHITE	YELLOW	YELLOW			WHITE	YELLOW	YELLOW
STATION	TO	STATION	FOOT	FOOT	FOOT	EACH	EACH	FOOT	FOOT	FOOT
STAGE III										
371+90.00		379+30.00	2960	1480	380	9	9	1480	740	190
TOTALS			2960	1480	380	9	9	1480	740	190

PAINT PAVEMENT MARKING QUANTITIES ARE FOR TWO APPLICATIONS

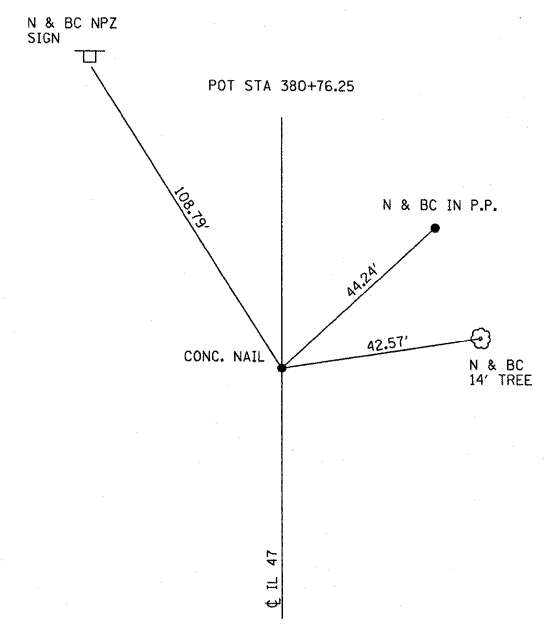
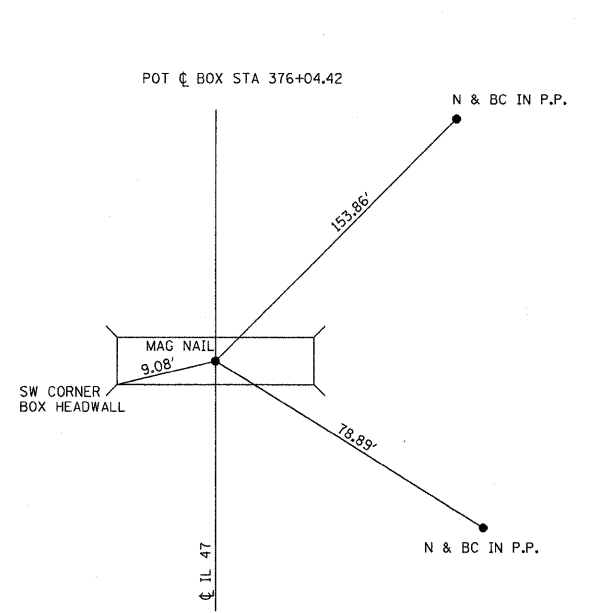
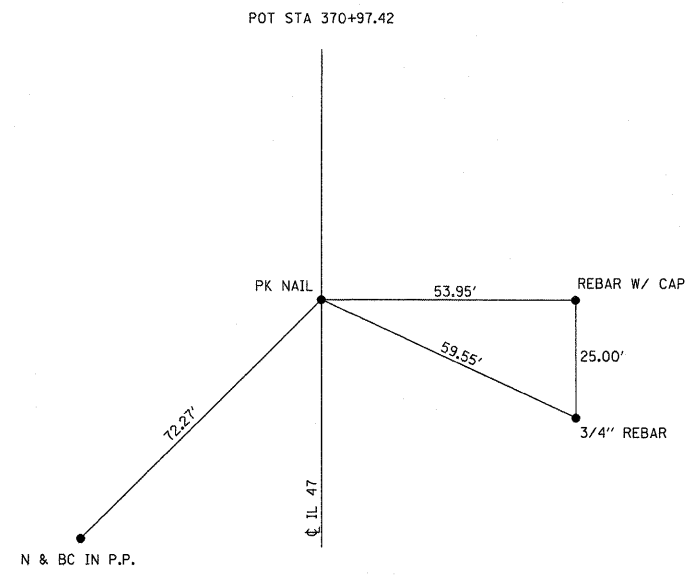
TEMPORARY PAVEMENT MARKING					
LOCATION			LINE 4" WHITE	LINE 24" WHITE	WORK ZONE PAVEMENT MARKING REMOVAL
STATION	TO	STATION	FOOT	FOOT	SQ FT
STAGE I					
371+90.00		379+29.50	974	24	324
STAGE II					
371+90.00		379+29.50	991		378
TOTALS			1965	24	702

TEMPORARY CONCRETE BARRIER & TEMPORARY IMPACT ATTENUATORS				
LOCATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE)	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE)
	FOOT	FOOT	EACH	EACH
STAGE I	447		4	
STAGE II		250		2
TOTALS	447	250	4	2

EARTH EXCAVATION					
LOCATION	DISTANCE	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	FEET	CU YD	CU YD	CU YD	CU YD
Pre-Stage I (West side)					
STA. 374+00.00 TO STA. 378+00.00	400	48.5	36.4	53.2	-16.8
Stage I (East side)					
STA. 374+00.00 TO STA. 378+00.00	400	25.6	19.2	0.6	18.6
Stage II (West side)					
STA. 374+00.00 TO STA. 378+00.00	400	46.6	35.0	52.1	-17.2
Stage III (East side)					
STA. 374+00.00 TO STA. 378+00.00	400	17.8	13.4	24.9	-11.6
TOTALS		139	104	131	-27

COLUMN 4 = EARTH EXCAVATION ADJUSTED USING SHRINKAGE FACTOR OF 25%

FILE NAME =	USER NAME = schwenkerg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ci:\pw_work\p1dot\schwenkerg\dms66821\066869-ah-t-schedule.DGN	DRAWN -	REVISED -	326					(121)I	LIVINGSTON	27	8	
PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -	SCALE: SHEET NO. OF SHEETS STA. TO STA.			CONTRACT NO. 66869						
PLOT DATE = 8/19/2011	DATE -	REVISED -				ILLINOIS FED. AID PROJECT						



FILE NAME =	USER NAME = schwankeg	DESIGNED -	REVISD -
c:\pw_work\pwidot\schankeg\dms6682\032541-036869-sht-plnprf.dgn		DRAWN -	REVISD -
	PLOT SCALE = 20.0000' / 1"	CHECKED -	REVISD -
	PLOT DATE = 8/18/2011	DATE -	REVISD -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

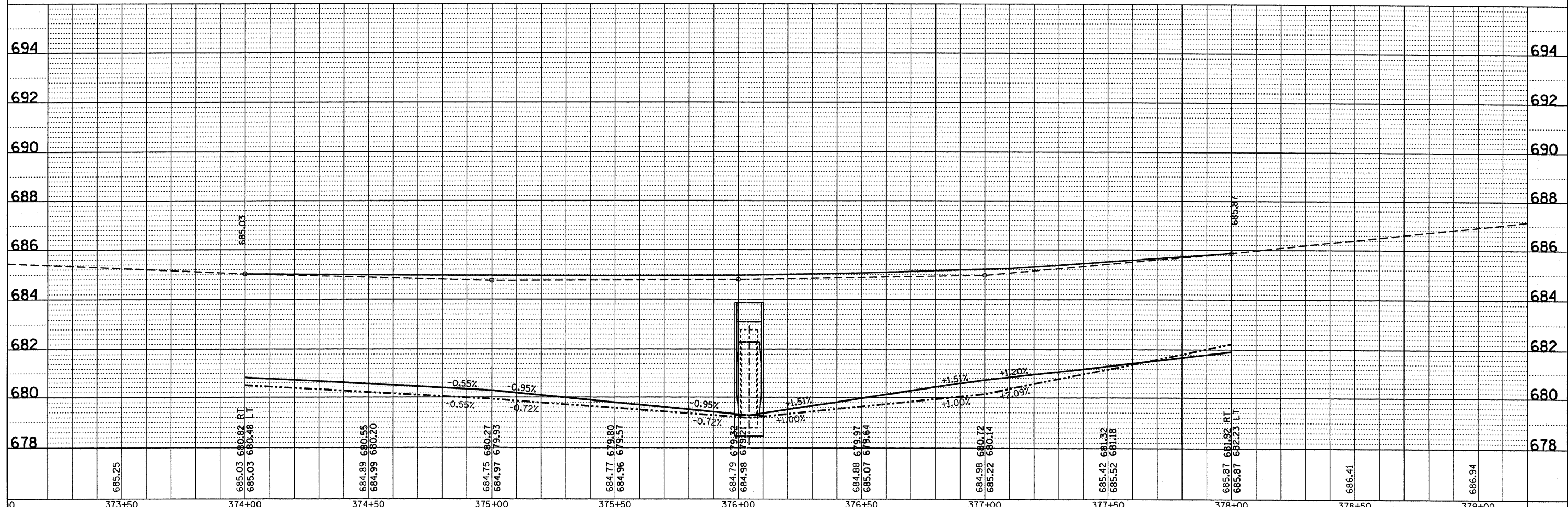
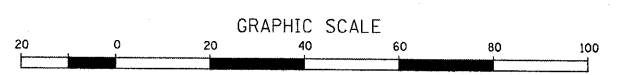
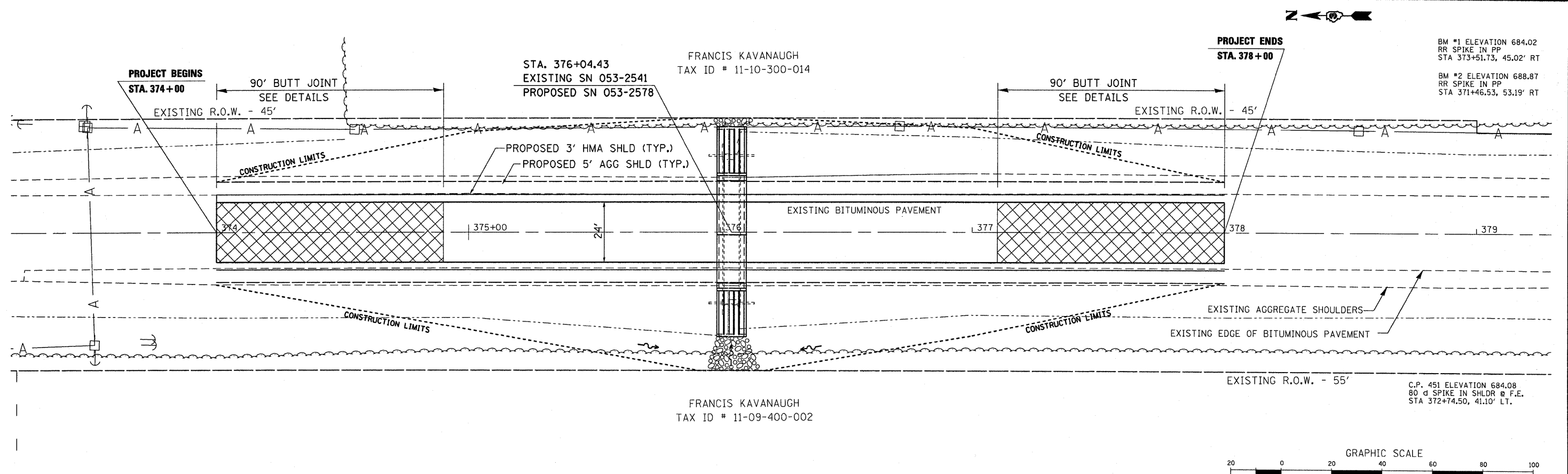
IL 47 TIE POINTS

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

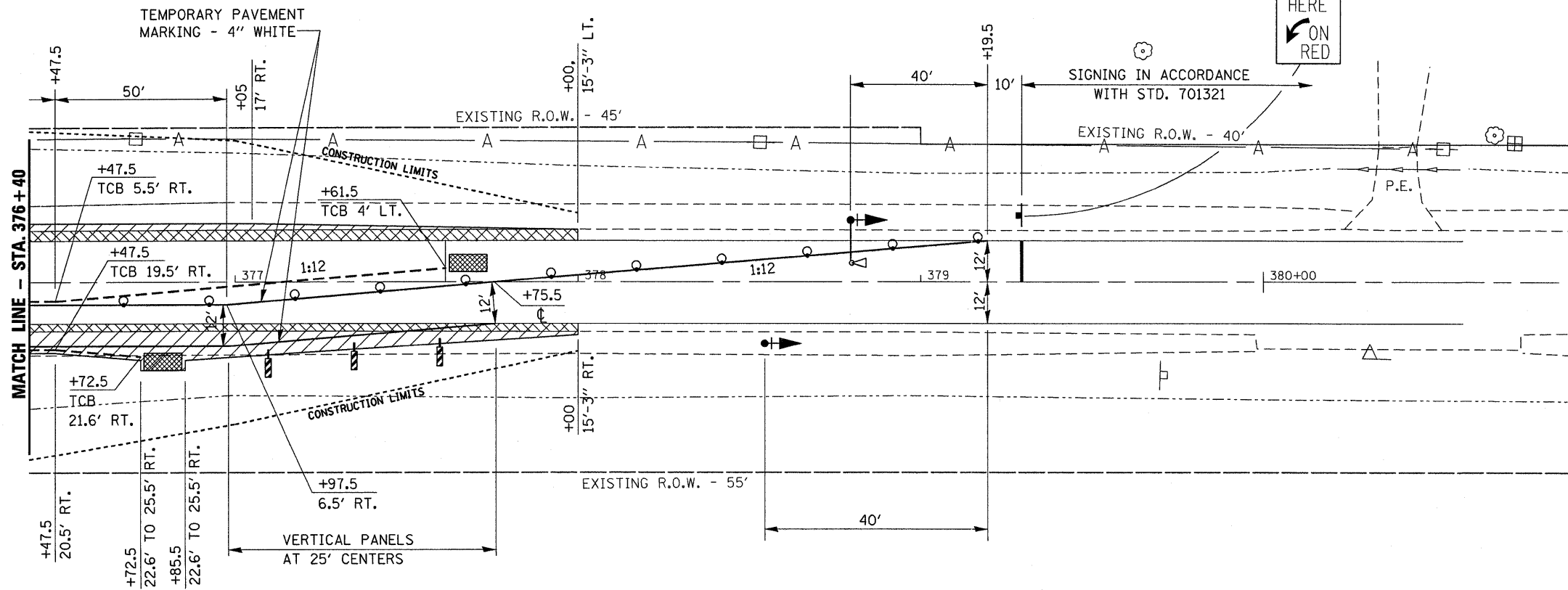
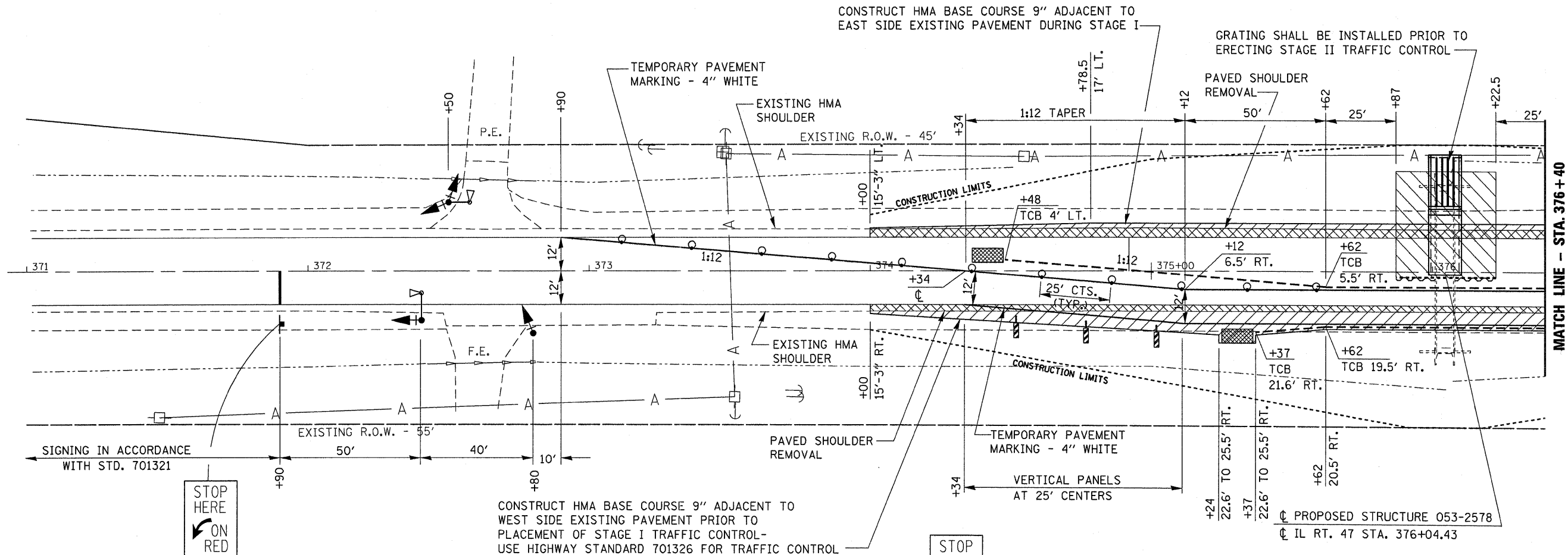
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(12)I	LIVINGSTON	27	9
CONTRACT NO. 66869				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

PLAN SURVEYED BY DATE
 PLOTTED BY DATE
 CHECKED BY DATE
 STRUCTURE NOTATION CHKO
 NOTE BOOK NO.
 FILE NAME

PROFILE SURVEYED BY DATE
 PLOTTED BY DATE
 CHECKED BY DATE
 STRUCTURE NOTATION CHKO
 NOTE BOOK NO.
 FILE NAME

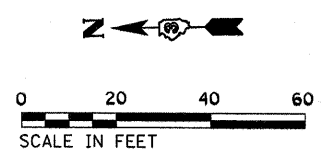


FILE NAME =	USER NAME = schwanerg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROADWAY PLAN AND PROFILE	F.A.P. RTE. 326	SECTION 121	COUNTY LIVINGSTON	TOTAL SHEETS 27	SHEET NO. 10	
ei:\pwwork\pwwork\schwanerg\dms66821\0532541-0366869-shr-plnprf.dgn	PLOT SCALE = 20,0000' / 1in.	DRAWN -	REVISED -			SCALE:	SHEET NO. OF SHEETS	STA. 373+00 TO STA. 379+00	FED. ROAD DIST. NO. -	ILLINOIS FED. AID PROJECT	CONTRACT NO. 66869
PLOT DATE = 8/18/2011	CHECKED -	REVISED -									
	DATE -	REVISED -									

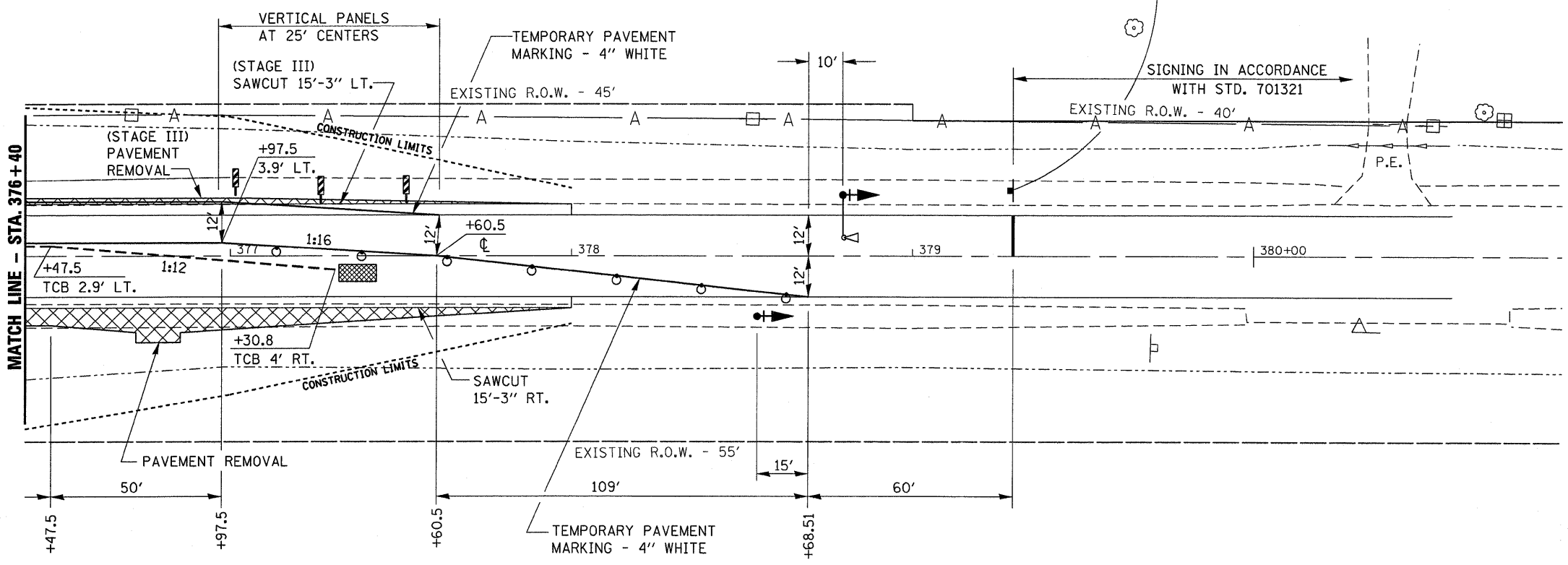
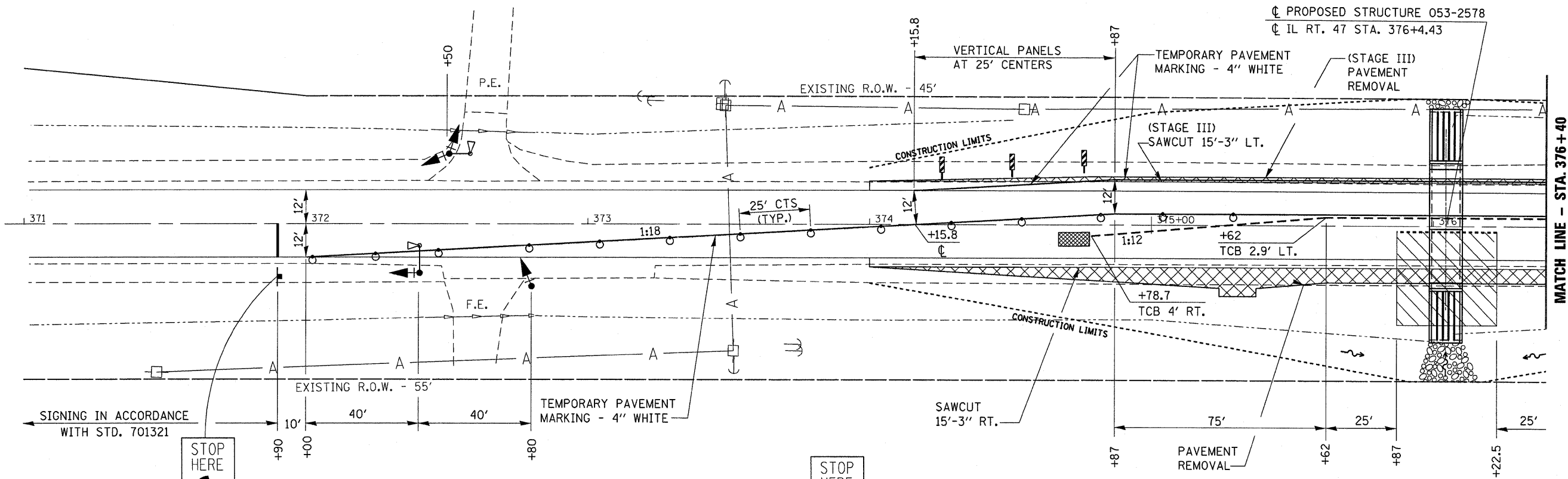


LEGEND

	IMPACT ATTENUATOR
	DRUM WITH STEADY BURNING LIGHT
	TEMPORARY TRAFFIC SIGNAL WITH BACKPLATE
	TEMPORARY TRAFFIC SIGNAL POST
	TC 26 MICROWAVE
	TEMPORARY CONCRETE BARRIER WITH CRYSTAL BIDIRECTIONAL BARRIER WALL MARKERS AT 25' CTS. SEE STANDARDS 704001 & 635011
	SIGN
	DOUBLE VERTICAL PANELS AT 25' CTS. SEE STD. 701321
	WORK AREA

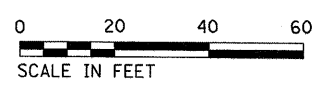


FILE NAME =	USER NAME = schwenkerg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE I TRAFFIC CONTROL	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ct:\pwwork\pwwork\schwenkerg\dms66821\	66869-sht-details.dgn	DRAWN -	REVISED -			326	(12)II	LIVINGSTON	27	11	
PLOT SCALE = 20.0000' / in.		CHECKED -	REVISED -			CONTRACT NO. 66869					
PLOT DATE = 8/19/2011		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

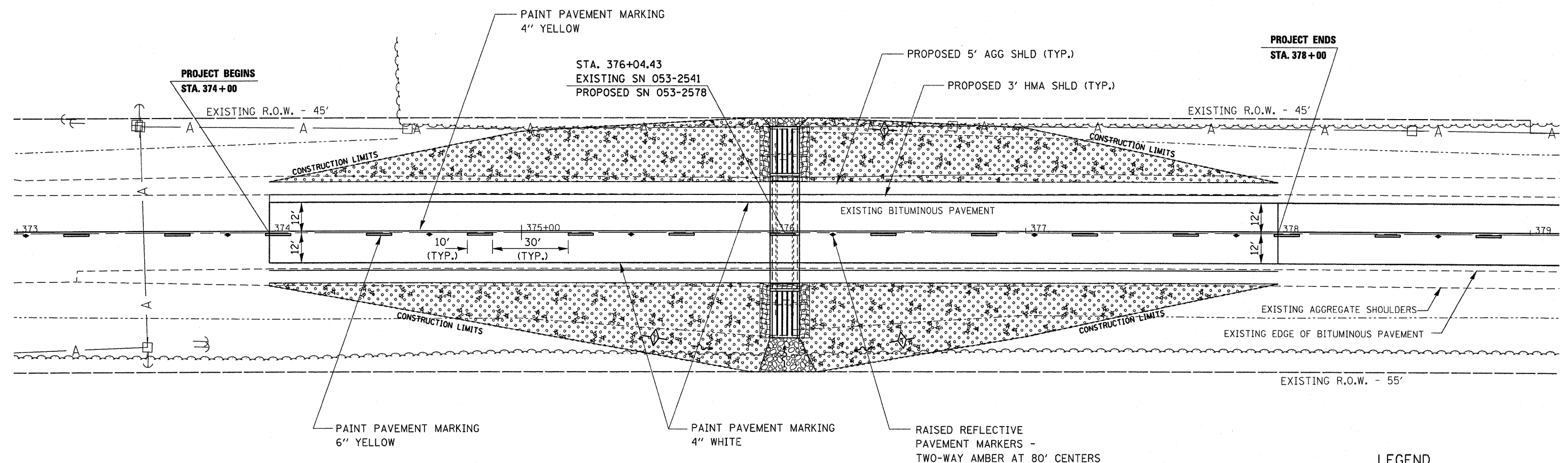
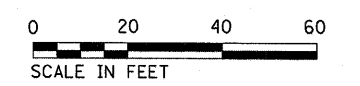


LEGEND

- IMPACT ATTENUATOR
- DRUM WITH STEADY BURNING LIGHT
- TEMPORARY TRAFFIC SIGNAL WITH BACKPLATE
- TEMPORARY TRAFFIC SIGNAL POST
- TC 26 MICROWAVE
- TEMPORARY CONCRETE BARRIER WITH CRYSTAL BIDIRECTIONAL BARRIER WALL MARKERS AT 25' CTS. SEE STANDARDS 704001 & 635011
- SIGN
- DOUBLE VERTICAL PANELS AT 25' CTS. SEE STD. 701321
- WORK AREA



FILE NAME =	USER NAME = schwenkerg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE II TRAFFIC CONTROL				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
01\pw_work\p\dot\schwenkerg\dms66821\066869-sh2-details.dgn		DRAWN -	REVISED -		326	(121)	LIVINGSTON	27	12				
PLOT SCALE = 28.0000' / in.		CHECKED -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.				CONTRACT NO. 66869				
PLOT DATE = 8/19/2011		DATE -	REVISED -		ILLINOIS FED. AID PROJECT								



LEGEND

	EROSION CONTROL BLANKET
	SEEDING, CLASS 2A AND TEMPORARY EROSION CONTROL SEEDING AS NEEDED
	MULCH, METHOD 2
	STONE RIPRAP, CLASS 4A & FILTER FABRIC
	TEMPORARY DITCH CHECKS
	PERIMETER EROSION BARRIER
	PROPOSED DITCH FLOW

FILE NAME =	USER NAME = schwanerg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EROSION CONTROL AND PAVEMENT MARKING			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ci\pw_work\p\dot\schwanerg\dms66821\066869-sht-details.dgn	66869-sht-details.dgn	DRAWN -	REVISED -					326	(121)	LIVINGSTON	27	13
PLOT SCALE = 28.0000' / in.		CHECKED -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.			CONTRACT NO. 66869				
PLOT DATE = 8/19/2011		DATE -	REVISED -					ILLINOIS FED. AID PROJECT				

BM #1
Railroad spike in power pole west side of IL 47
Sta 373+51.73, 45.02' Rt, Elev 684.02

BM #1
Railroad spike in power pole west side of IL 47
Sta 371+46.53, 53.19' Rt, Elev 688.87

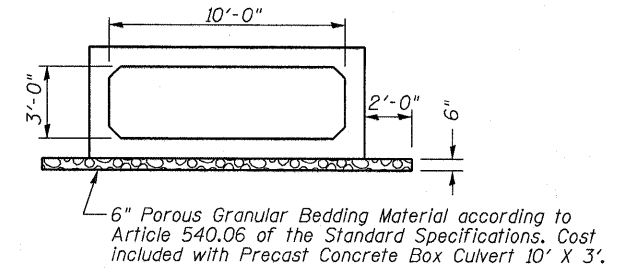
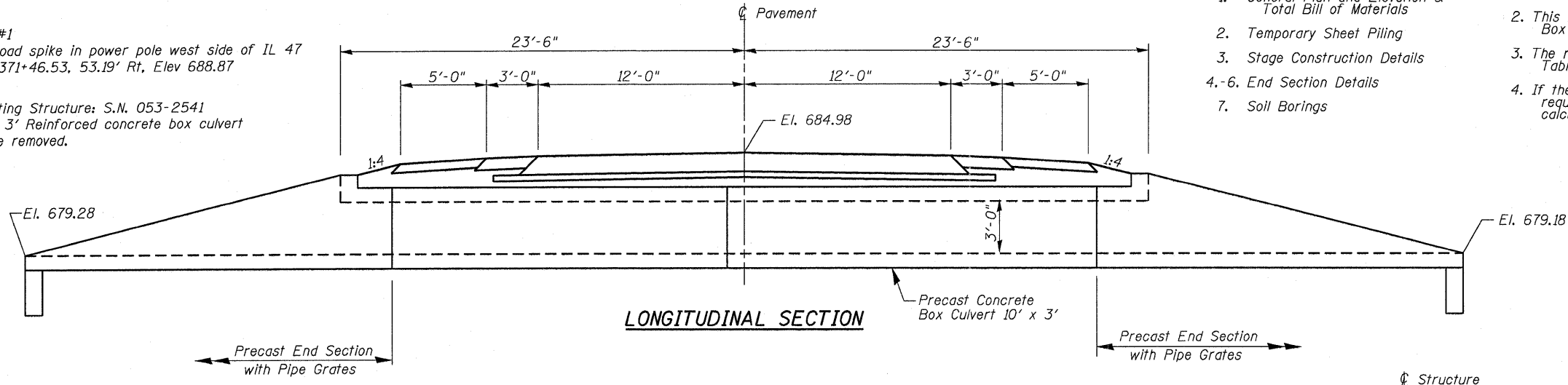
Existing Structure: S.N. 053-2541
6' x 3' Reinforced concrete box culvert
to be removed.

INDEX OF CULVERT PLANS

1. General Plan and Elevation & Total Bill of Materials
2. Temporary Sheet Piling
3. Stage Construction Details
- 4-6. End Section Details
7. Soil Borings

GENERAL NOTES

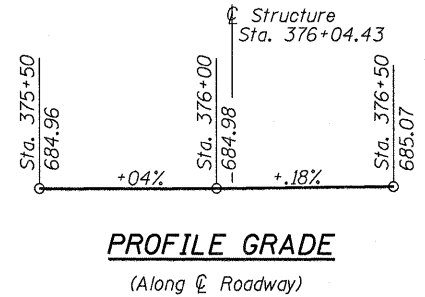
1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
2. This Box Culvert has a fill height of less than 2 ft. The Precast Concrete Box Culvert shall conform to the requirements of AASHTO M 273.
3. The reinforcement in the box section shall be according to AASHTO M273 Table 1 for a 10' x 3' box section except A_s1 shall be 0.38 in²/ft.
4. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.



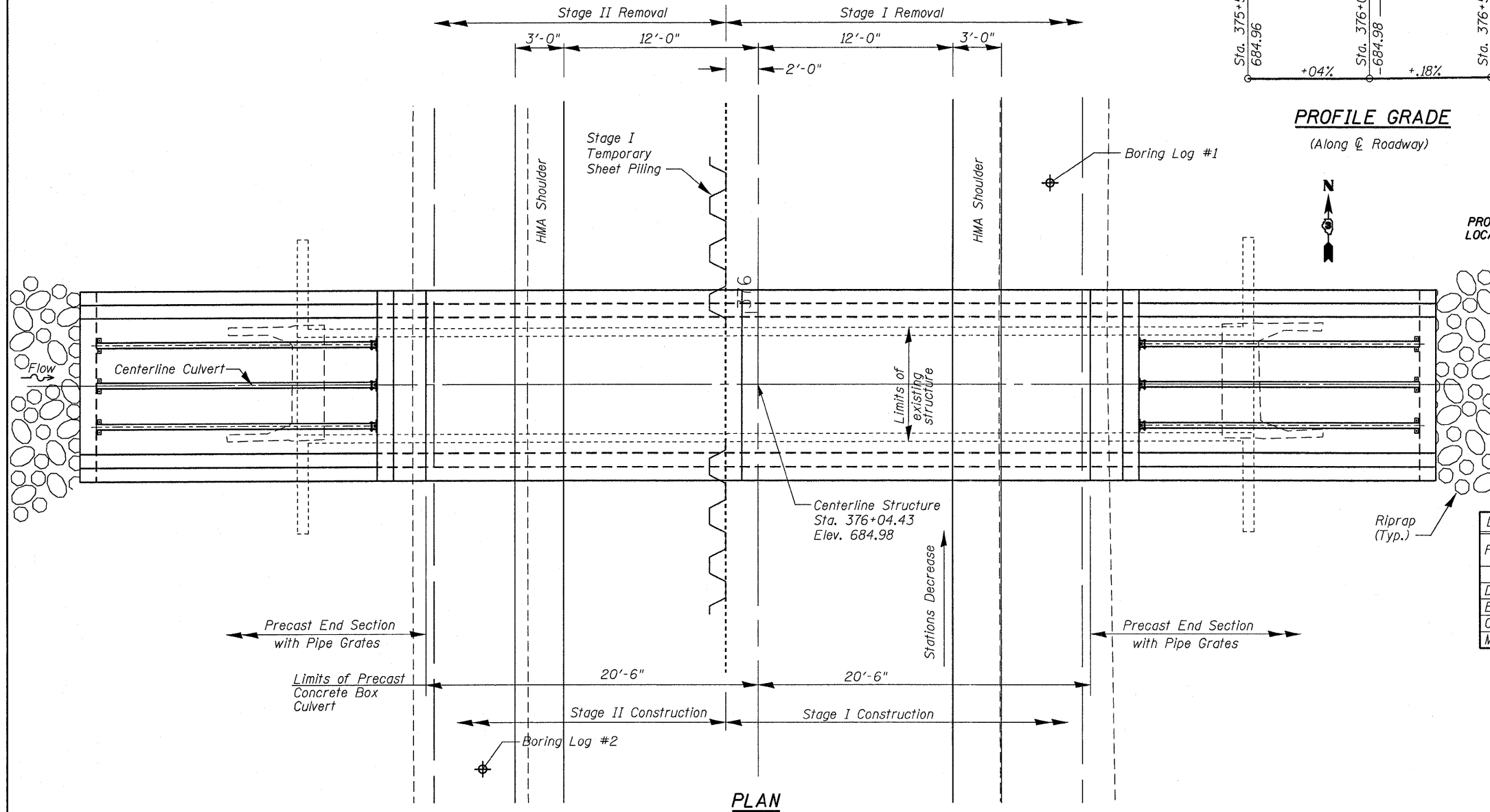
SECTION THRU BARREL
Precast

TOTAL BILL OF MATERIAL

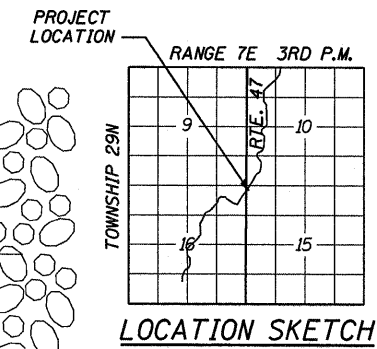
ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq Yd	32
Filter Fabric	Sq Yd	32
Porous Granular Embankment	Cu Yd	67
Removal of Existing Structures	Each	1
Temporary Sheet Piling	Sq Ft	194
Grated Box Culvert End Sections, Culvert No. 1	Each	2
Precast Concrete Box Culverts 10'x3'	Foot	41



PROFILE GRADE
(Along & Roadway)



PLAN



LOCATION SKETCH

LOADING HS20-44
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2002 AASHTO
DESIGN STRESSES
FIELD UNITS

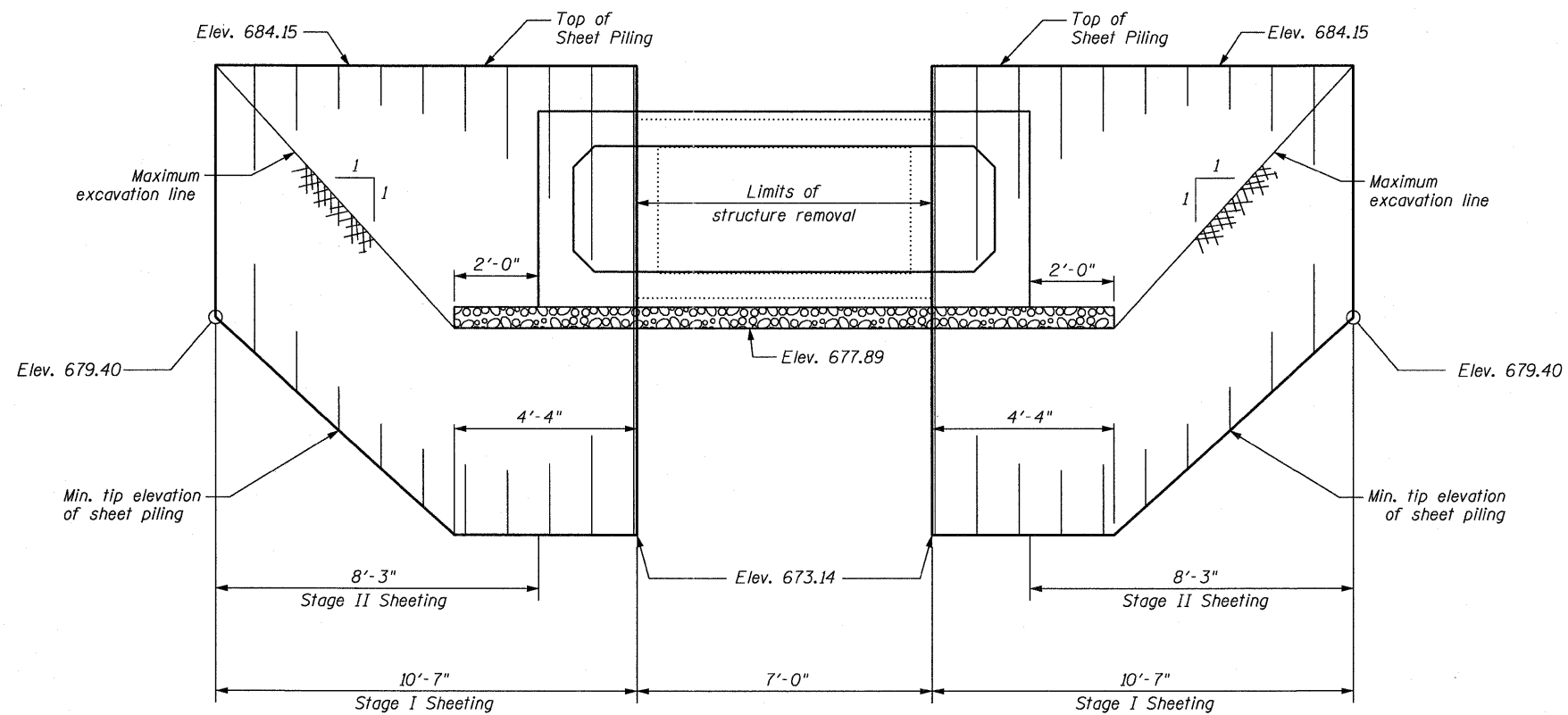
Precast
f'_c = 5,000 psi
f_y = 65,000 psi (welded wire fabric)

WATERWAY INFORMATION

Drainage Area = 0.22 sq. mi. Low Grade Elev. = 684.75 @ Sta. 375+70

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
10	142	5	6	679.9	4.2	2.5	684.1	682.4	
Design	50	217	10	16	680.9	4.0	2.9	684.9	683.7
Base	100	258	11	17	681.0	4.0	3.6	685.0	684.6
Overtopping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	500	439	13	20	681.3	3.9	3.8	685.2	685.1

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 47 OVER DRAINAGE DITCH
F.A.P. RT. 326 SEC. (121)I
LIVINGSTON COUNTY
STATION 376+04.43
STRUCTURE NO. 053-2578



Minimum Section Modulus = 2.0 in.³/ft.

TEMPORARY SHEET PILING

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

ITEM	UNIT	TOTAL
Temporary Sheet Piling	SQ FT	194



Signed: *Olufemi A. Oladeinde*
 OLUFEMI A. OLADEINDE, P.E., S.E.
 LICENSE EXPIRES 11-30-2012

08/23/2011
 Date



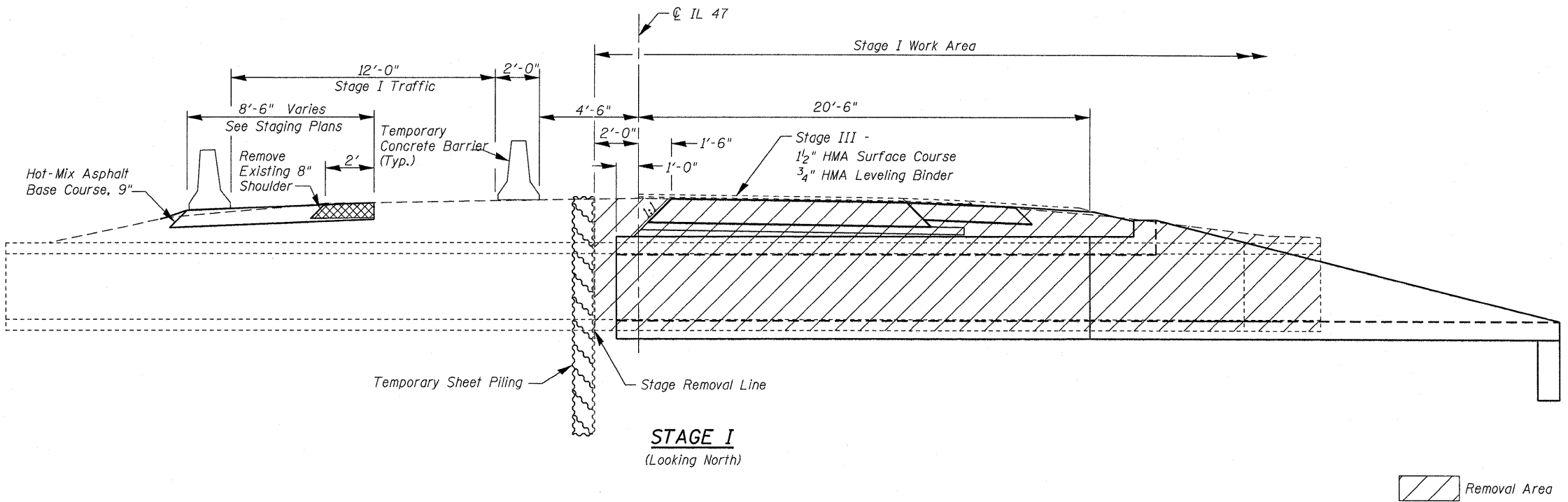
DESIGNED - AG	EXAMINED	DATE
CHECKED - OAO	PASSED	
DRAWN - TCS		
CHECKED - AG		

ENGINEER OF BRIDGE DESIGN	
ENGINEER OF BRIDGES AND STRUCTURES	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

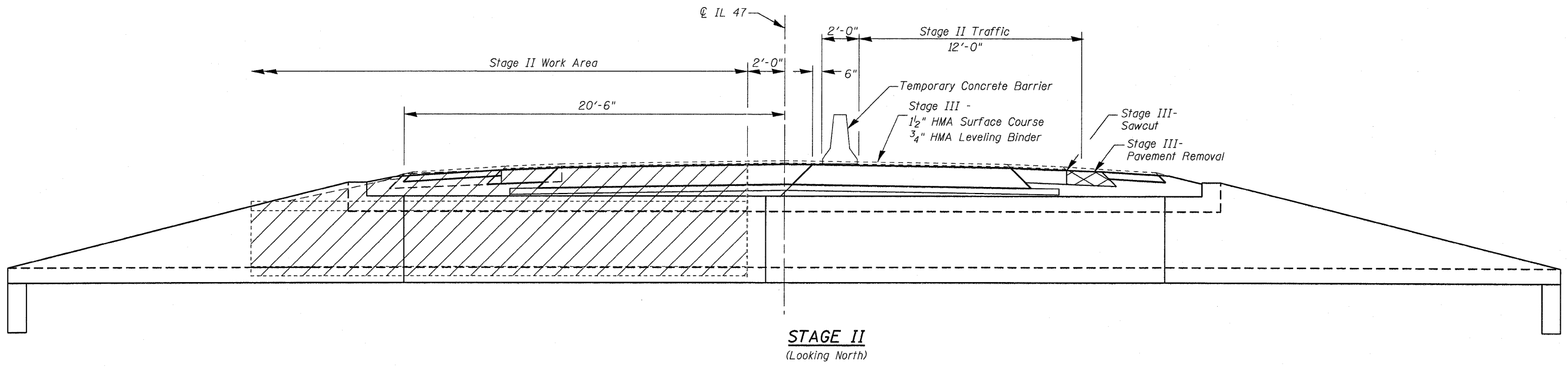
TEMPORARY SHEET PILING
 SHEET NO. 326 OF 326 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(121)1	LIVINGSTON	27	15
CONTRACT NO. 66869			ILLINOIS FED. AID PROJECT	



STAGE I
(Looking North)

Removal Area



STAGE II
(Looking North)

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 053-2578

FILE NAME =	USER NAME = schwankerg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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PLOT DATE = 8/19/2011	DATE -	CHECKED -	REVISED -			CONTRACT NO. 66869					
						ILLINOIS FED. AID PROJECT					

GENERAL NOTES

Grated Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Grated Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements of AASHTO M 259 or M 273 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of sections shown in Side Elevation is for example only. Length and number of precast box sections required to construct Box Culvert End Sections shall be determined by the Contractor.

See roadway plans for embankment slope (V:H).

1" ϕ anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.

2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. All anchor rods in a culvert tie assembly shall be snug tightened by a few impacts of an impact wrench or the full force of a worker using an ordinary spud wrench. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

Alternate culvert ties similar in strength and stiffness to the plan details may be provided by the Contractor. Alternate culvert ties shall be subject to approval of the Engineer.

The headwall may be cast monolithically with the box section or a superimposed headwall may be cast directly onto the box sections. Anchor rods shall conform to the requirements of Article 1006.09 of the Standard Specifications and the anchor rods and associated hardware for securing the superimposed headwall to the box section shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. Class SI concrete may be used for construction of superimposed headwall.

In lieu of using ferrule loop inserts, the Contractor may attach the superimposed headwall to the box section by epoxy grouting reinforcement bars according to the requirements of Section 584 of the Standard Specifications. The chemical adhesive system shall be capable of achieving the minimum proof load stated with drilled hole depths that do not exceed 2/3 of the thickness of the slab of the box section.

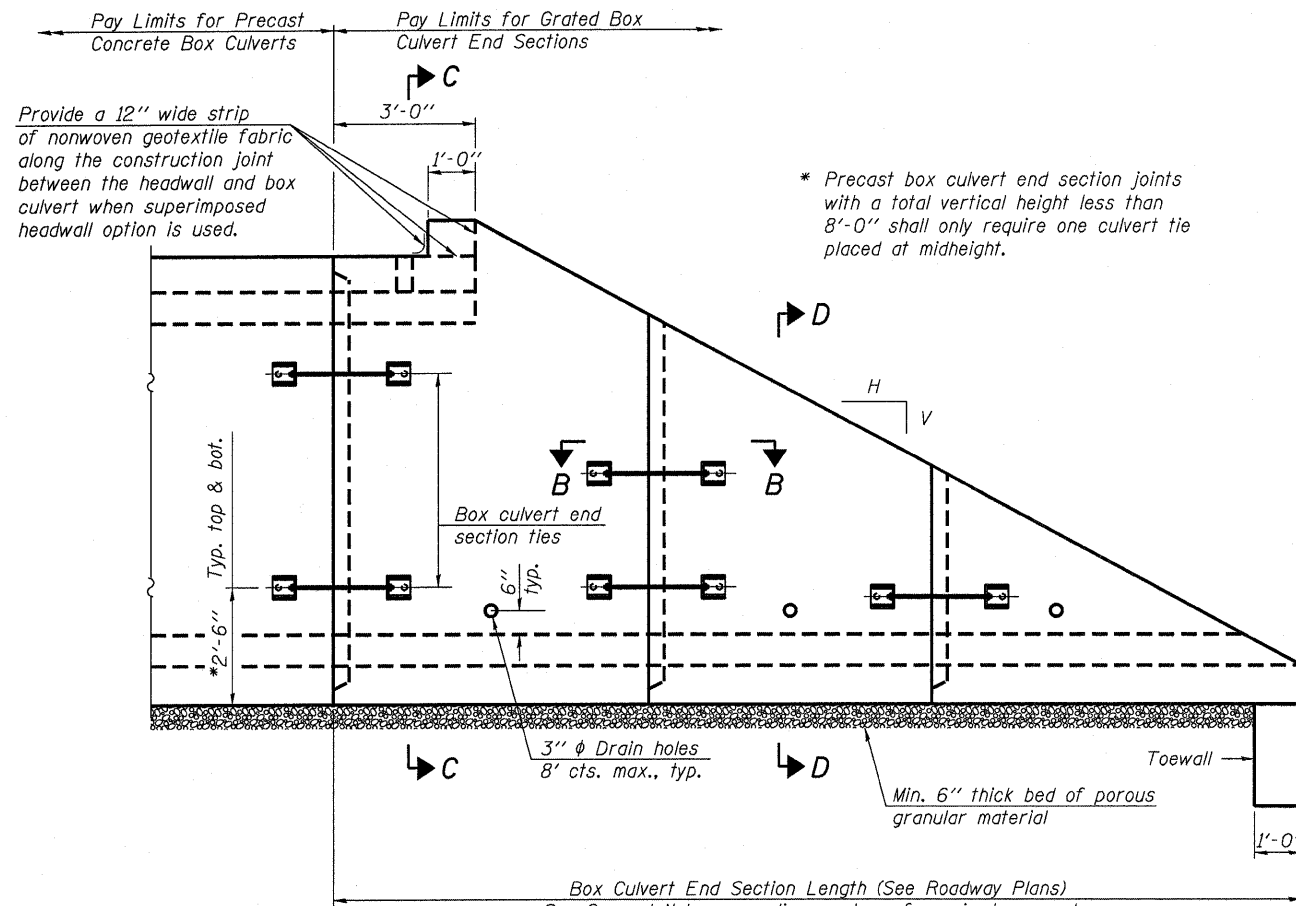
All costs associated with furnishing and installing or constructing the geotextile fabric, toewall, headwall, and culvert ties will not be measured for payment but shall be included in the contract unit price for Grated Box Culvert End Sections of the culvert number specified.

Reinforcement bars designated (E) shall be epoxy coated.

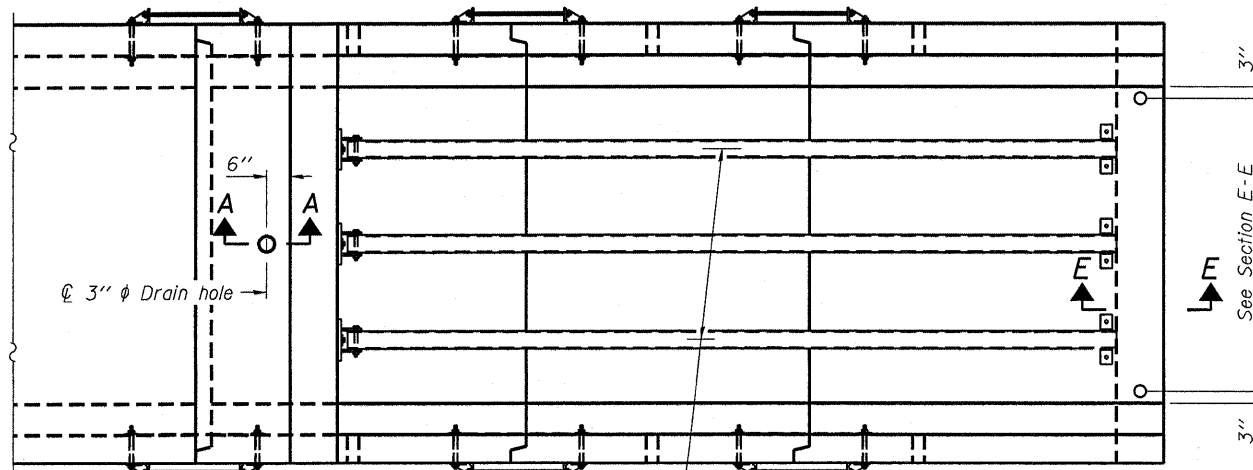
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

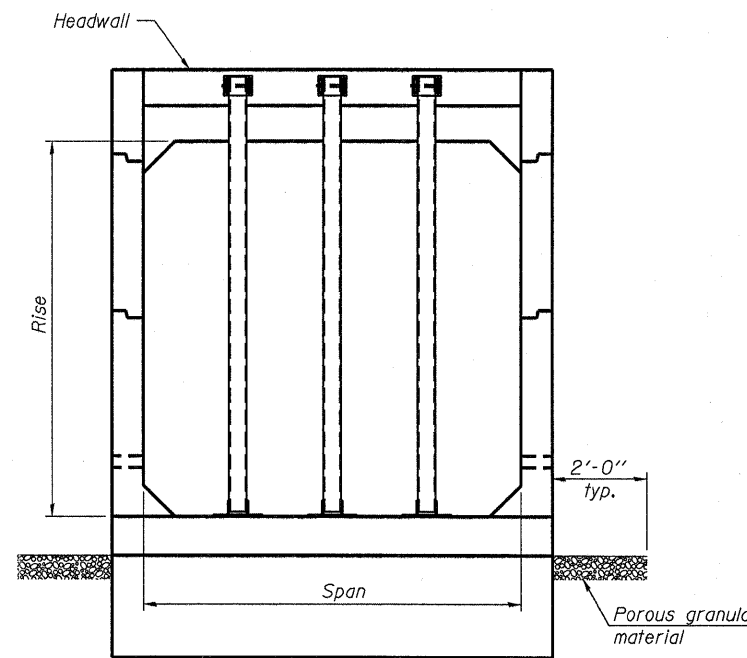
Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd..



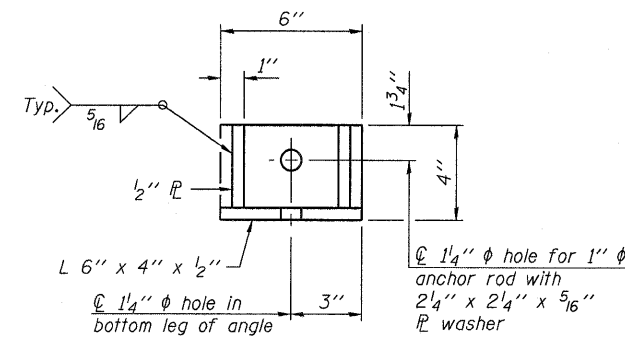
SIDE ELEVATION



PLAN VIEW



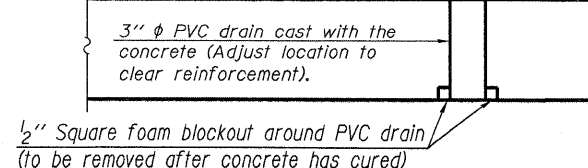
END VIEW



RESTRAINT ANGLE DETAIL

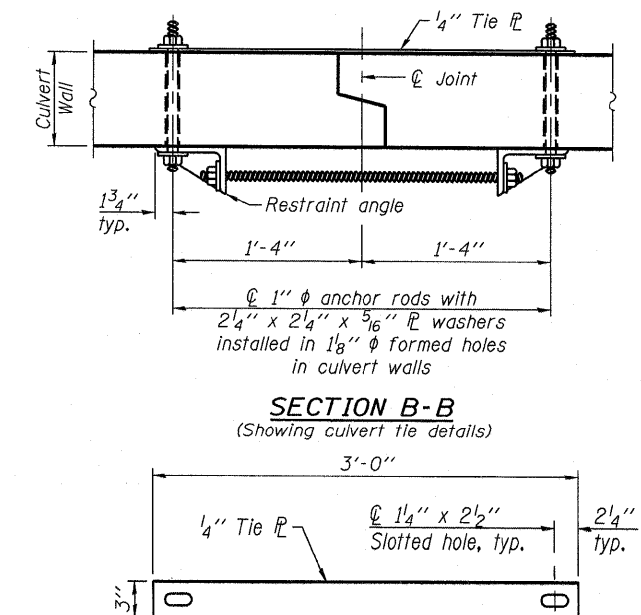
12" x 12" block of CA5, CA7 or CA11 coarse aggregate placed over drain opening. Block of aggregate shall be completely wrapped in nonwoven geotextile fabric.

Provide a double layer of 12" x 12" nonwoven geotextile fabric centered over the drain hole. Fabric shall be sealed to the concrete with mastic.



SECTION A-A

(All costs associated with furnishing and constructing the above drain details will not be measured for payment but shall be included in the contract unit price for the end section.)



TIE PLATE DETAIL

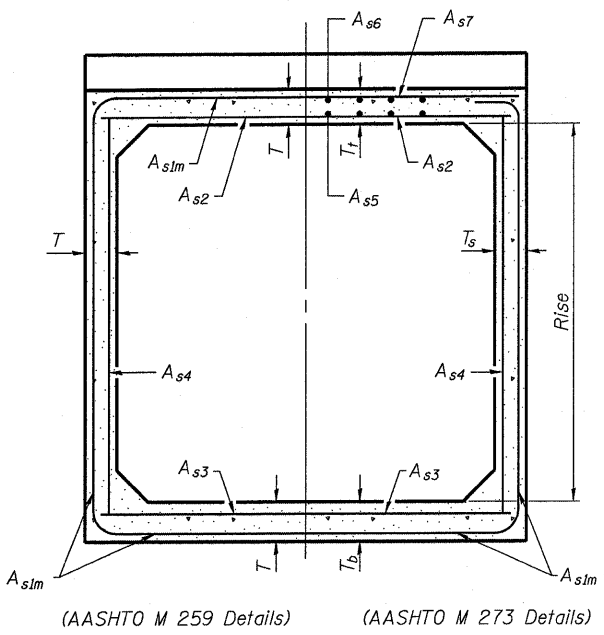
2-16-11

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SINGLE CELL PRECAST BOX CULVERT END SECTIONS WITH PIPE GRATES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISED -			326	(12)11	LIVINGSTON	27	17	
		DRAWN -	REVISED -			CONTRACT NO. 66869					
		CHECKED -	REVISED -			ILLINOIS FED. AID PROJECT					
SHEET NO. OF SHEETS											

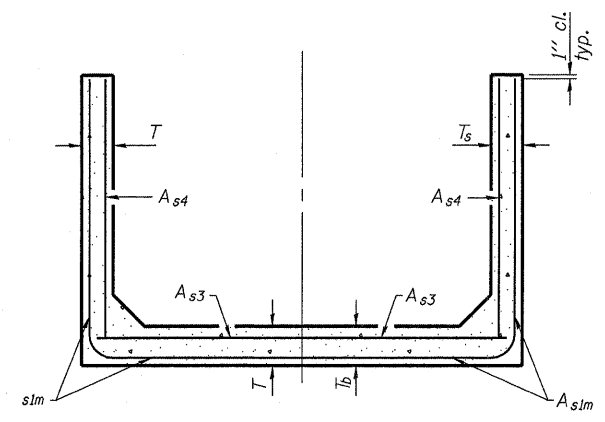
(Sheet 1 of 3)

T(in.), T _s (in.)	Reinforcing Steel A _{slm} (in. ² /ft.)											
	2	3	4	5	6	7	8	9	10	11	12	
4	0.19	0.15										
5	0.26	0.21	0.18									
6		0.26	0.23	0.22								
7		0.33	0.59	0.27	0.28							
8			0.43	0.39	0.36	0.34	0.40					
9				0.43	0.40	0.37	0.36	0.48				
10				0.47	0.44	0.41	0.38	0.42	0.56			
11					0.54	0.46		0.41	0.50	0.65		
12					0.58	0.50	0.45		0.46		0.75	

(A_{slm} reinforcement based upon welded wire fabric conforming to AASHTO M 55 or M 221).

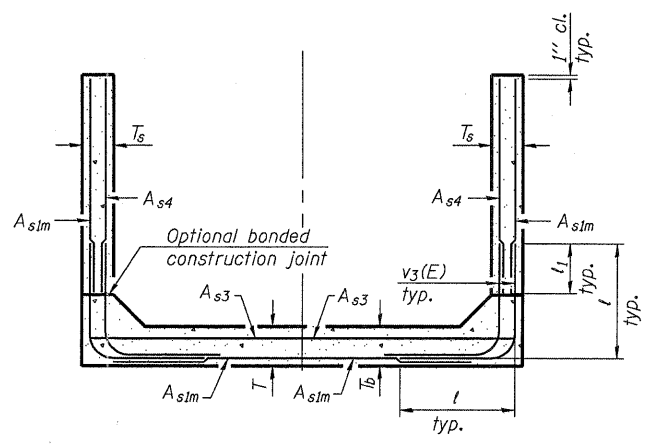


SECTION C-C



(AASHTO M 259 Details) (AASHTO M 273 Details)

SECTION D-D



(AASHTO M 259 Details) (AASHTO M 273 Details)

ALTERNATE SECTION D-D

l₁ DIMENSION

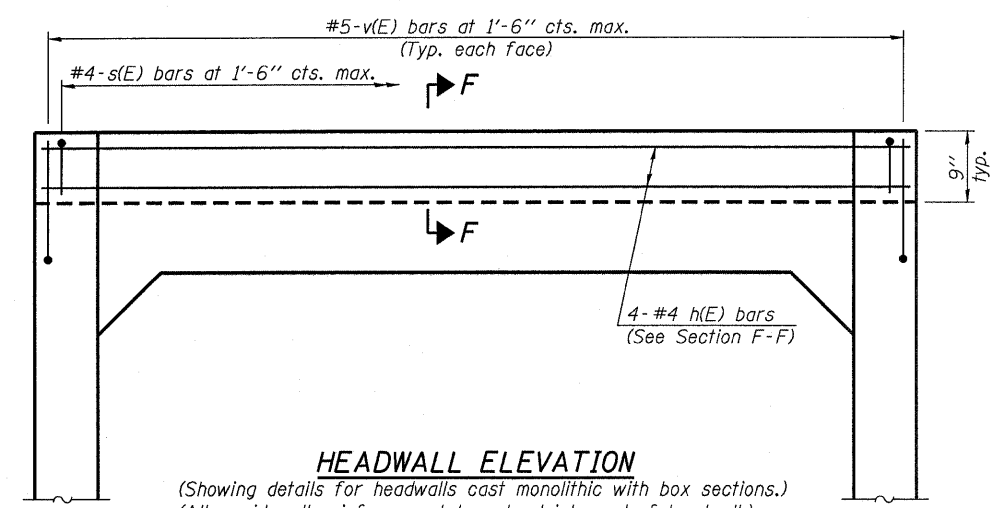
- #3 bar = 2'-0"
- #4 bar = 2'-8"
- #5 bar = 3'-4"
- #6 bar = 3'-11"

Notes:

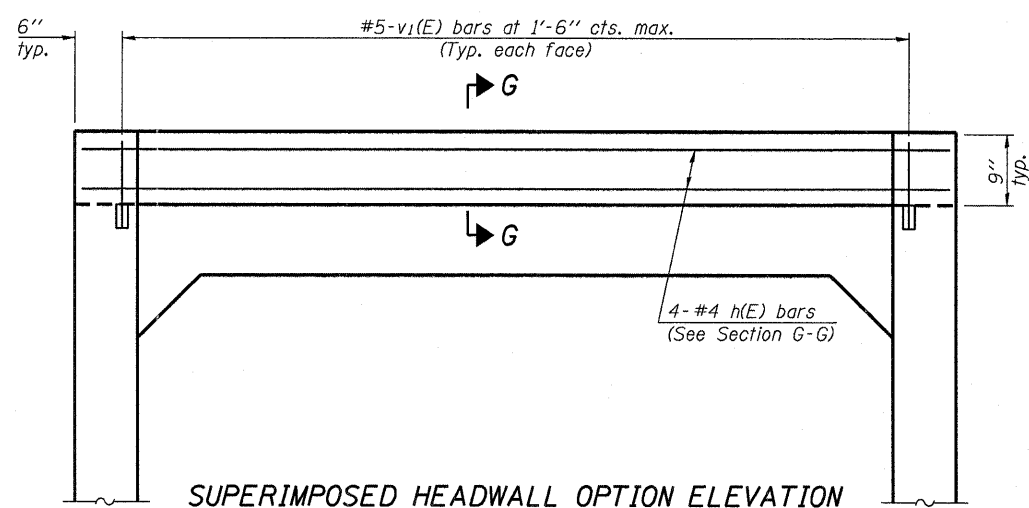
Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.

The size and spacing of the v₃(E) bars shall provide a minimum reinforcement area along each face of the walls (in.²/ft.) equal to 1.10*(A_{slm}). v₃(E) bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.

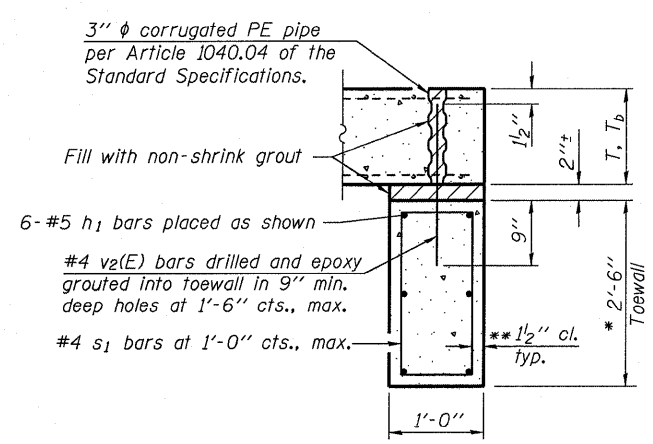
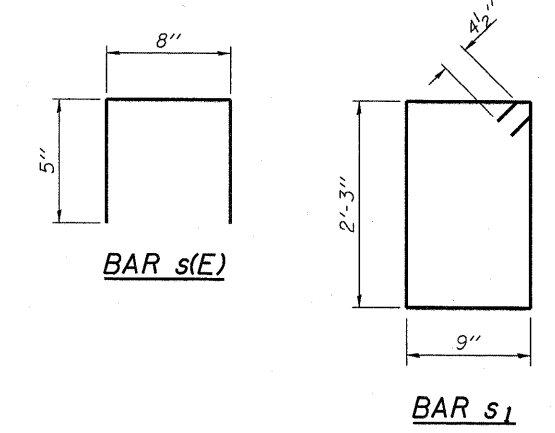
Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.



HEADWALL ELEVATION
(Showing details for headwalls cast monolithic with box sections.)
(Allow sidewall reinforcement to extend into end of headwall.)



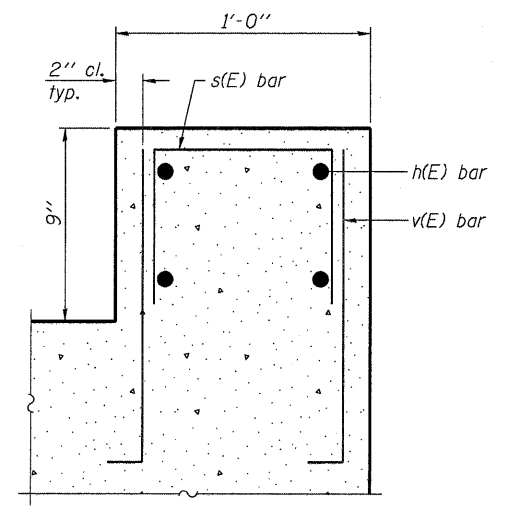
SUPERIMPOSED HEADWALL OPTION ELEVATION



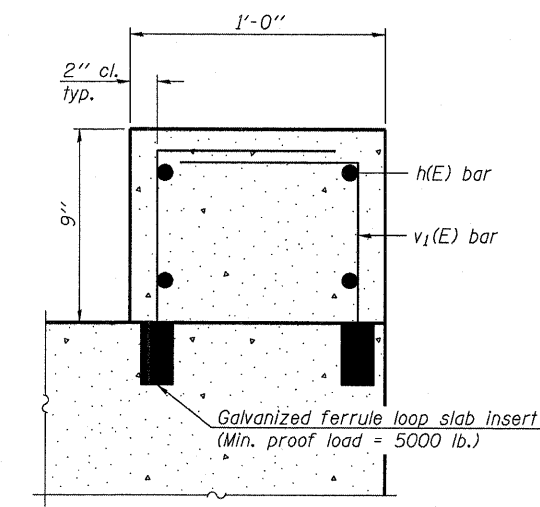
SECTION E-E

TOEWALL CONSTRUCTION SEQUENCE

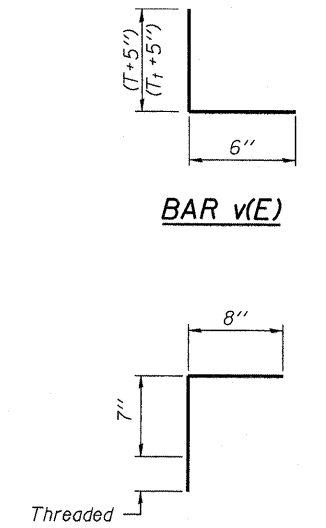
1. Perform excavation and construct toewall.
 2. Backfill accordingly and place bedding for precast box culvert end sections.
 3. Set precast box culvert end sections in place.
 4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
 5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.
- * The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.
- ** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



SECTION F-F



SECTION G-G

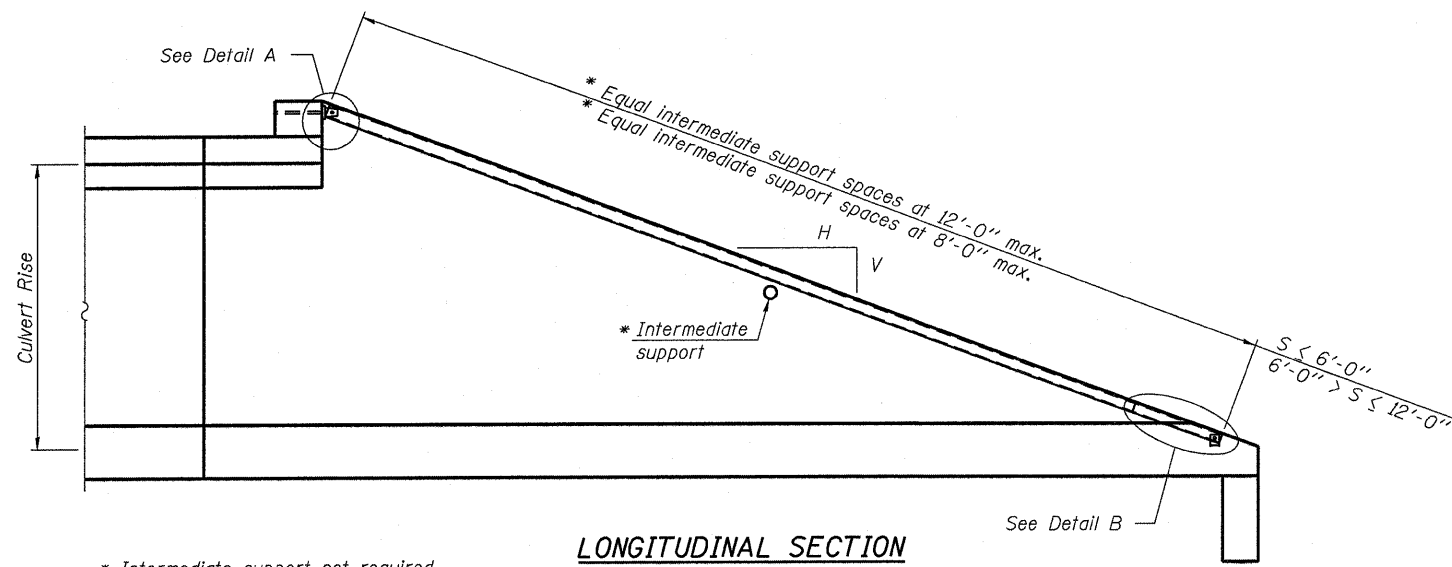


BAR v₁(E)

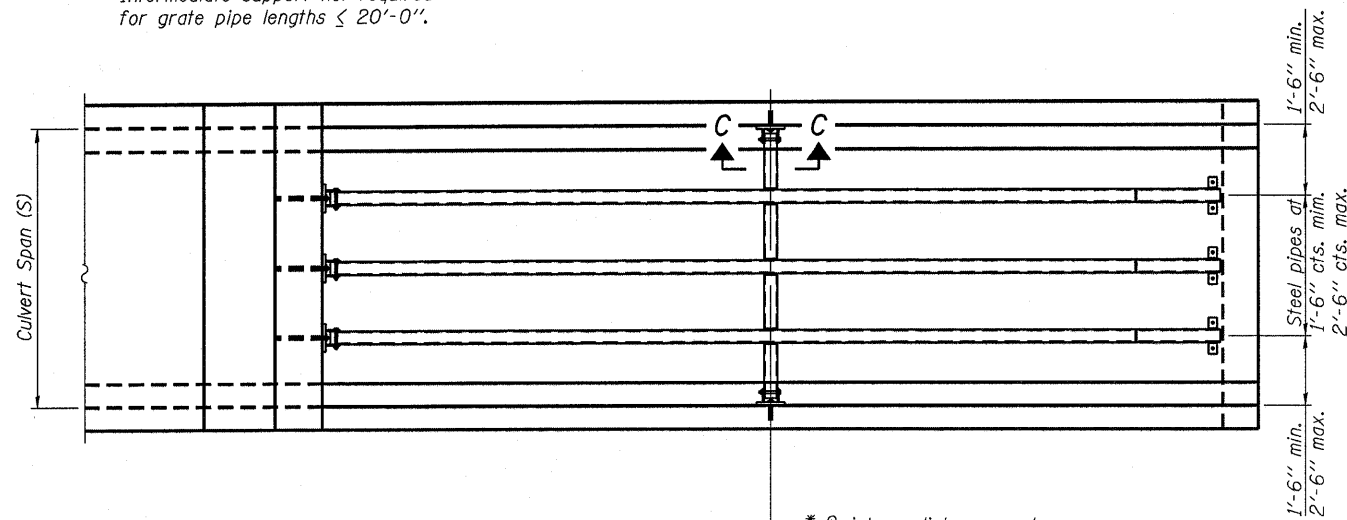
2-16-11

(Sheet 2 of 3)

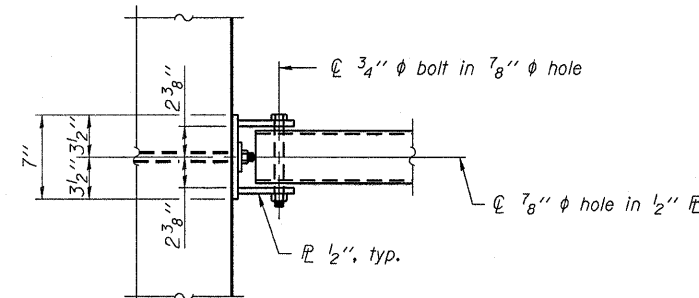
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		CHECKED -	REVISED -			326	(121)I	LIVINGSTON	27	18	
		DRAWN -	REVISED -			SHEET NO. OF SHEETS		CONTRACT NO. 66869			
		PLLOT DATE =	REVISED -			ILLINOIS FED. AID PROJECT					



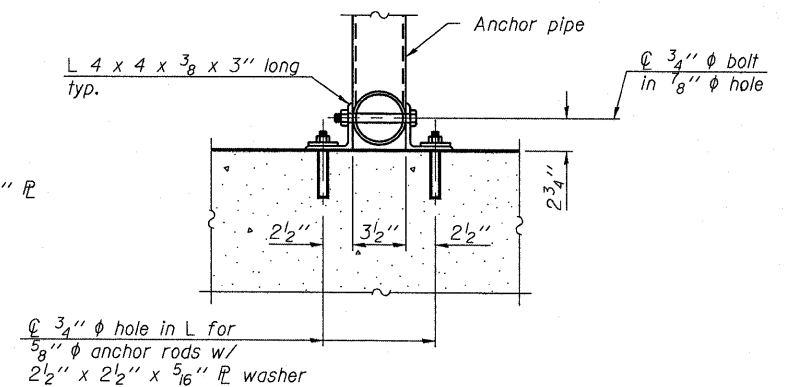
LONGITUDINAL SECTION



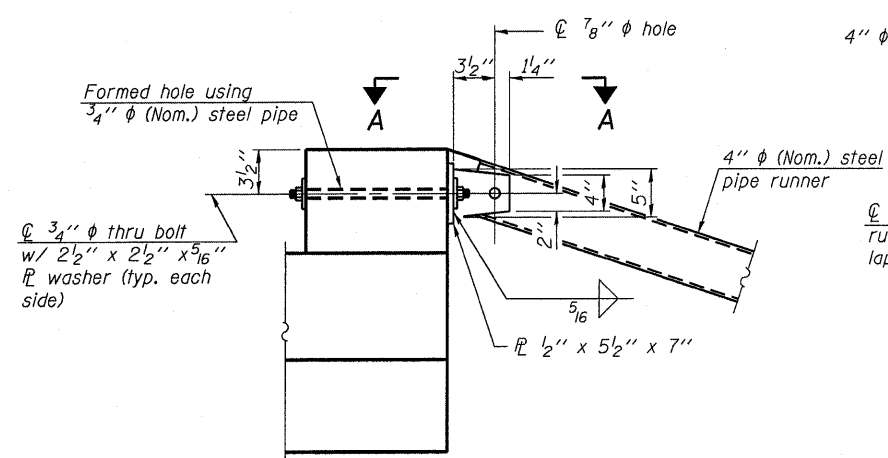
PLAN VIEW



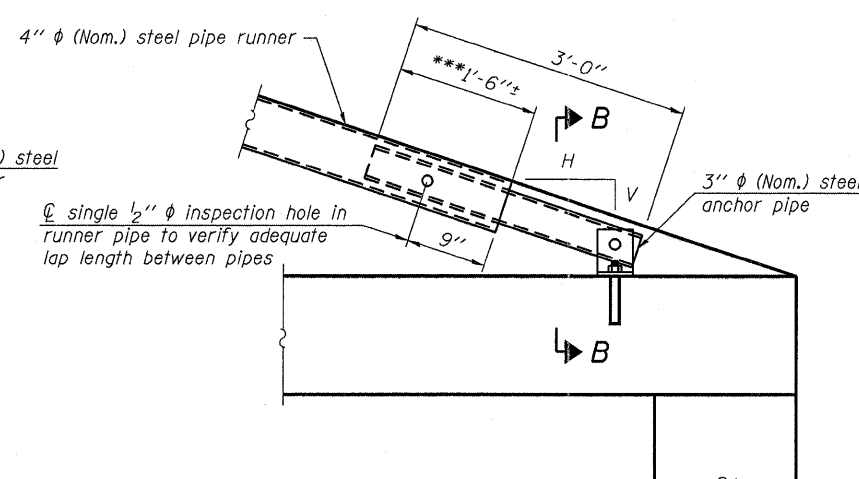
VIEW A-A



SECTION B-B

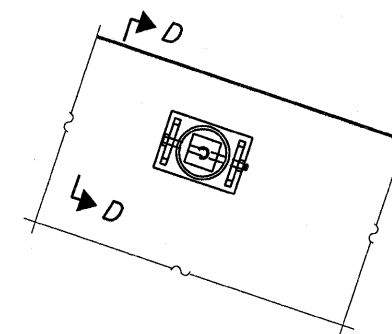


DETAIL A

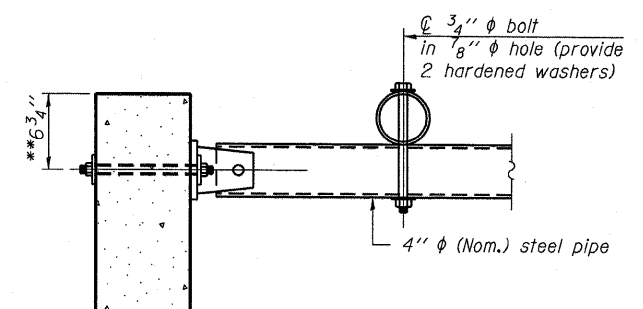


DETAIL B

*** The lap length between pipes may be adjusted in the field to accommodate construction tolerances but shall not be less than 9".



SECTION C-C
(See Detail A for dimensions and details not shown.)



SECTION D-D

** Measured perpendicular to top of culvert wall. In addition, formed hole shall be located a minimum of 6" measured horizontally from any vertical joints necessary for construction of the culvert end section.

GENERAL NOTES

Length and number of steel pipes shall be determined by the Contractor except as shown. All steel pipe shall be standard weight (Sch. 40) unless otherwise noted.

All components of the Steel Pipe Grate System shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.

Fabrication of the Steel Pipe Grate System shall conform to the requirements in Section 505 of the Standard Specifications unless noted otherwise.

Structural steel shapes and plates shall conform to the requirements of Article 1006.04 of the Standard Specifications. Steel pipes shall conform to the requirements of ASTM A 53 (Type E or S), Grade B.

Anchor rods shall conform to the requirements of ASTM F1554, Grade 105. Anchor rods shall be drilled and epoxy grouted according to the requirements of Section 584 of the Standard Specifications. The chemical adhesive system shall be capable of achieving a minimum proof load of 5000 pounds and an ultimate shear capacity of 8000 pounds per anchor.

Bolts and thru bolts shall conform to the requirements of Article 1006.08 of the Standard Specifications except threaded rods conforming to the requirements of ASTM F1554, Grade 105 may be used for the thru bolts.

The minimum edge distance from the center of a hole to the free edge of a structural shape or plate shall be 1 1/2" unless noted otherwise.

Bolts and anchor rods shall be snug tightened by a few impacts of an impact wrench or the full force of a worker using an ordinary spud wrench.

All cost associated with fabricating, furnishing, and installing the Steel Pipe Grate System shall be included in the contract unit price for Grated Box Culvert End Sections of the culvert number specified.

2-16-11

(Sheet 3 of 3)

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL PIPE GRATE SYSTEM	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISED -			326	(121)	LIVINGSTON	27	19	
		PLOT SCALE =	REVISED -			CONTRACT NO. 66869					
		PLOT DATE =	CHECKED -			ILLINOIS FED. AID PROJECT					



Illinois Department
of Transportation
Division of Highways
Springfield, Illinois

SOIL BORING LOG

Page 1 of 1

Date 5/27/10

ROUTE IL 47 (FAP 326) DESCRIPTION IL 47 over a Creek 0.5 Miles South of IL 17 LOGGED BY Larry Myers

SECTION (121) LOCATION SE 1/4, SEC. 8, TWP. 20N, R10G. 7E

COUNTY Livingston DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 053-2541 (Exist) D B U M
Station 376+10 (Exist) E L C O
BORING NO. 1 (N.E. Quad.) P O S
Station 375+92 T W S
Offset 18.00ft LL H S Qs T
Ground Surface Elev. 887.57 ft (ft) (ft) (ft) (ft)

Soil Description	Depth (ft)	Soil Type	Moisture (%)	Plasticity (%)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter Upon Completion After Hrs.
Augered White Shoulder Stone, Black Silty Clay Loam Fill	4							
Very Stiff Black Silty Clay Loam Fill	3							
Very Stiff to Stiff Gray & Brown Silty Clay Loam Till	3							
Hard Brownish Gray Silty Clay Loam Till	4							
Hard Gray Silty Clay Loam Till	4							
Hard Gray Silty Clay Loam Till	7							
End of Boring								

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penonmeter)
The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586)
EBS, form 137 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
Springfield, Illinois

SOIL BORING LOG

Page 1 of 1

Date 5/27/10

ROUTE IL 47 (FAP 326) DESCRIPTION IL 47 over a Creek 0.5 Miles South of IL 17 LOGGED BY Larry Myers

SECTION (121) LOCATION SE 1/4, SEC. 8, TWP. 20N, R10G. 7E

COUNTY Livingston DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 053-2541 (Exist) D B U M
Station 376+10 (Exist) E L C O
BORING NO. 2 (S.W. Quad.) P O S
Station 376+20 T W S
Offset 17.00ft RL H S Qs T
Ground Surface Elev. 887.51 ft (ft) (ft) (ft) (ft)

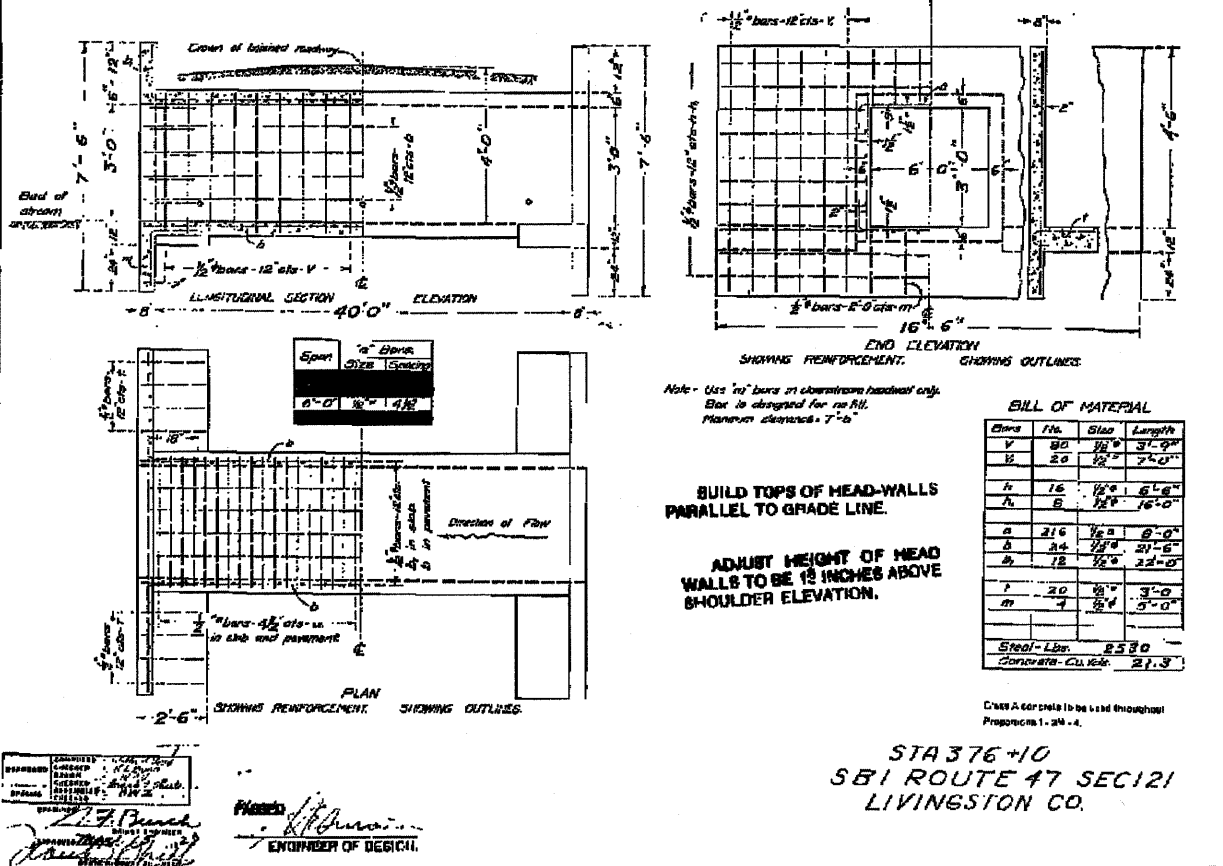
Soil Description	Depth (ft)	Soil Type	Moisture (%)	Plasticity (%)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter Upon Completion After Hrs.
Augered White Shoulder Stone, Black Silty Clay Loam Fill	5							
Stiff to Very Stiff Black Silty Clay Loam Fill	3							
Very Stiff to Stiff Brown & Gray Silty Clay Loam Till	4							
Hard Brownish Gray Silty Clay Loam Till	5							
Hard Gray Silty Clay Loam Till	5							
Hard Gray Silty Clay Loam Till	8							
End of Boring								

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penonmeter)
The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586)
EBS, form 137 (Rev. 8-99)

STATE OF ILLINOIS
STATE HIGHWAY DEPARTMENT
REINFORCED CONCRETE BOX CULVERT

FED. ROAD DIST. NO.	STATE	FED. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	IL	157	1928	27	31

Route 47, Sec. B-121, Livingston Co.



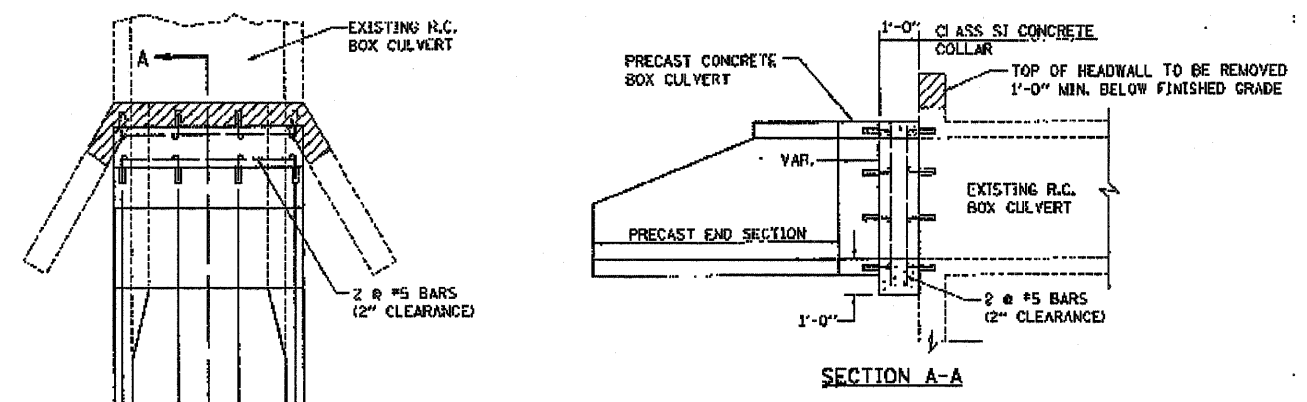
BILL OF MATERIAL

Item	Qty	Unit	Length
V	80	#5	3'-0"
W	20	#5	7'-0"
X	16	#5	6'-0"
Y	8	#5	16'-0"
Z	216	#5	8'-0"
A	24	#5	21'-0"
B	18	#5	22'-0"
C	20	#5	3'-0"
D	7	#5	5'-0"
Steel - Lbs.	8580		
Concrete - Cu. Yd.	21.3		

STA 376+10
SB1 ROUTE 47 SEC121
LIVINGSTON CO.

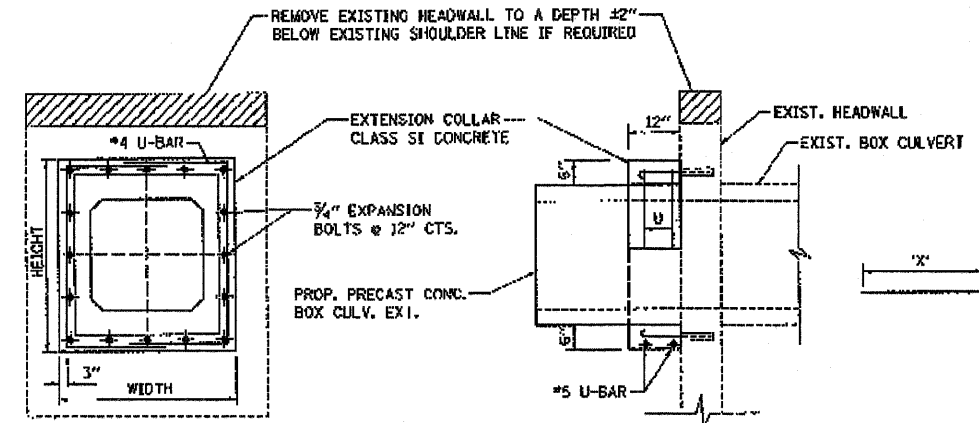
FOR INFORMATION ONLY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	120R5-3, 120, 121, 122RS-2	LIVINGSTON	27	21



- GENERAL NOTES**
- 1.) CLASS SI CONCRETE SHALL BE USED THROUGHOUT. THE INSIDE DIMENSIONS OF THE CLASS SI CONCRETE COLLAR SHALL BE THE SAME AS THE NEW PRECAST CONCRETE BOX CULVERT.
 - 2.) EXPANSION BOLTS, 3/4" SHALL BE PLACED IN EACH CORNER AND SHALL ALSO BE PLACED AT 18" MAXIMUM CENTERS.
 - 3.) 3/4" EXPANSION BOLTS AND REINFORCEMENT BARS SHALL BE INCIDENTAL. THE CONCRETE REMOVAL AND THE PRECAST CONCRETE BOX CULVERTS WILL BE PAID FOR AS SPECIFIED ELSEWHERE.
 - 4.) CLASS SI CONCRETE COLLARS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR CONCRETE COLLARS INCLUDING ALL LABOR AND MATERIAL AS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

**DETAIL OF CONCRETE COLLARS
USED WITH PRECAST BOX CULVERTS**



EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELDS AND 3/4" DIA. HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO NEW CONCRETE. BOLTS SHALL BE DRILLED IN THE CENTER OF THE EXISTING BOX CULVERT BARREL WALLS. MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS.

BOX CULVERT EXTENSION DETAIL (COLLAR) (EACH)

FOR INFORMATION ONLY
QUANTITIES ARE FOR CONCRETE COLLAR - 1 EACH
QUANTITIES ARE FOR ONE SIDE ONLY

LOCATION	EXISTING CULVERT SIZE FT.xFT.	PRECAST CULVERT EXTENSION FT.xFT.	EXTENSION COLLAR		#5 U-BAR		CLASS SI CONC. HDWL. CU. YD.	INCIDENTAL	
			WIDTH IN.	HEIGHT IN.	'X' IN.	'Y' IN.		REINFORCEMENT BARS POUND	3/4" DIA. EXPANSION BOLTS EACH
LT. STA. 132+53	3x2	3x2	44	44	29	38	0.3	34	10
RT. STA. 132+53	3x2	3x2							
LT. STA. 177+99	3x2	3x2							
RT. STA. 177+99	3x2	3x2							
LT. STA. 207+00	3x2	3x2							
RT. STA. 207+00	3x2	3x2							
LT. STA. 218+34	3x2	3x2							
RT. STA. 218+34	3x2	3x2							
LT. STA. 320+95	4x3	4x3	58	58	36	52	0.4	44	14
RT. STA. 320+95	4x3	4x3							
LT. STA. 345+98	3x2	3x2							
RT. STA. 345+98	3x2	3x2							
LT. STA. 376+05	6x3	6x3	86	62	50	56	0.7	54	18
RT. STA. 376+05	6x3	6x3							

GREENE & BRADFORD, INC.
ENGINEERS

COMPUTER FILE NO. 94093CCD - 10

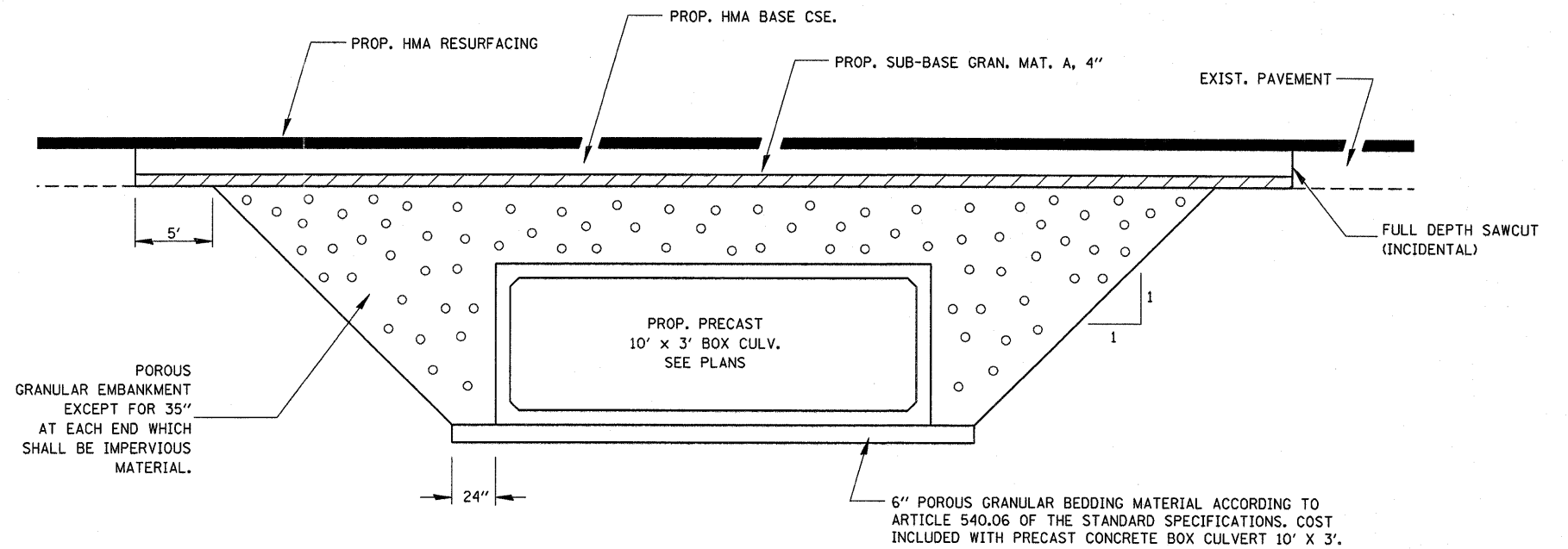
ILLINOIS DEPARTMENT OF TRANSPORTATION
PRECAST CONCRETE BOX CULVERT COLLAR CONNECTION DETAILS

FAP ROUTE 326 CL. RTE. 47
SECTION 120R5-3, 120, 121, 122RS-2
120BR, BR-1, BR-2 & 122BR-1
LIVINGSTON COUNTY

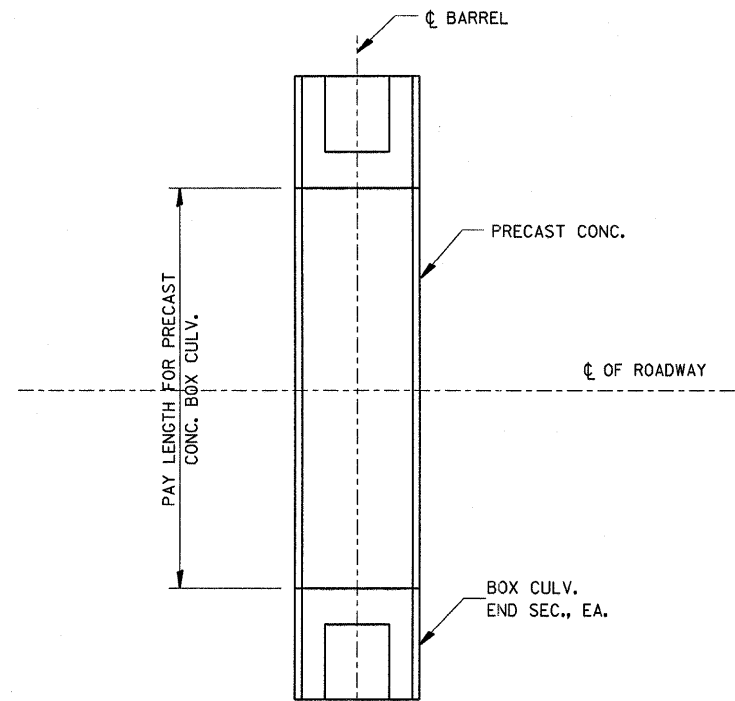
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DESIGNED BY: KUNTZMAN
CHECKED BY:

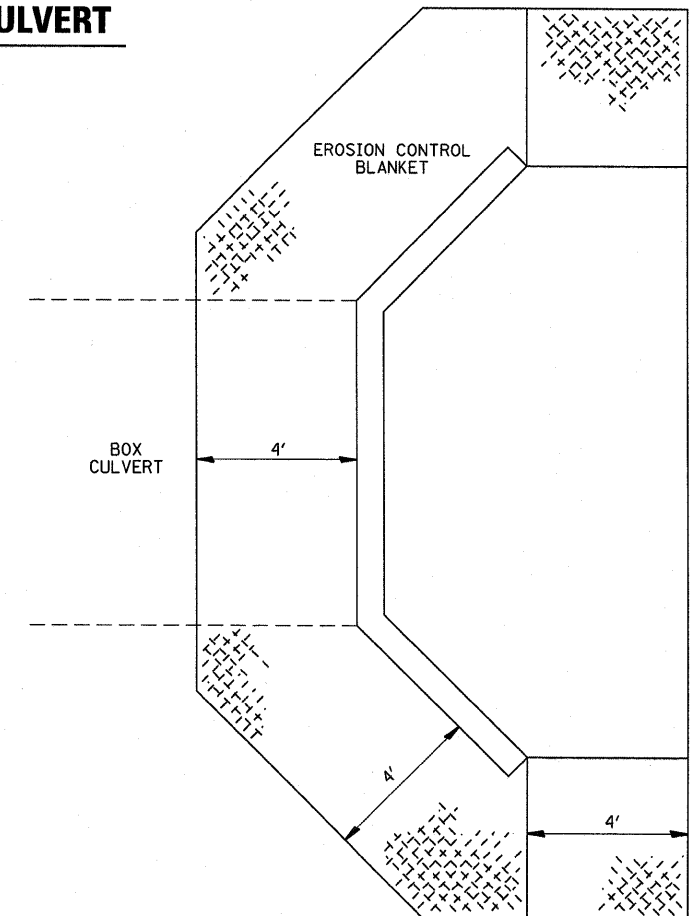


SECTION THROUGH PRECAST BOX CULVERT



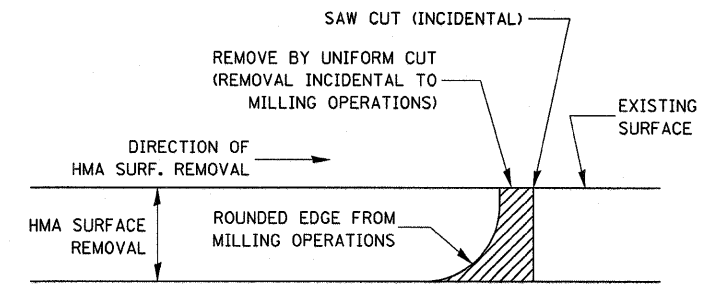
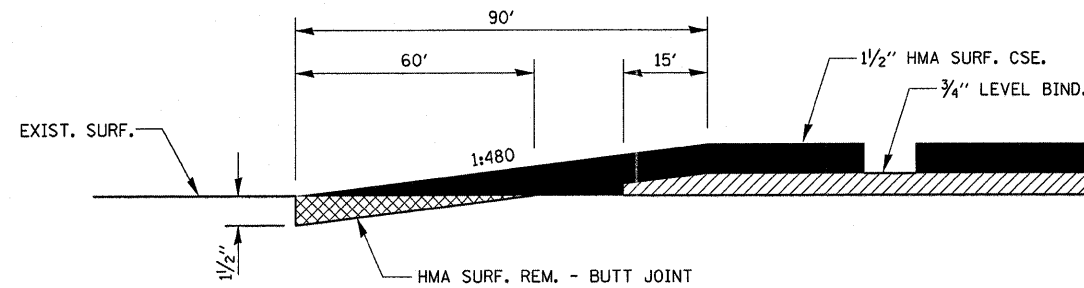
PAY LENGTH FOR PRECAST CONCRETE BOX CULVERT AT RIGHT ANGLES WITH ROADWAY

N.T.S.



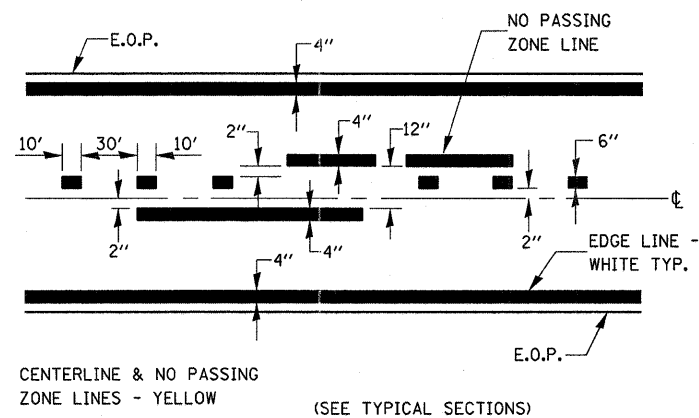
EROSION CONTROL BLANKET AT BOX CULVERT END SECTIONS

FILE NAME =	USER NAME = schwanerg	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
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PLOT DATE = 8/19/2011		DATE -	REVISED -						ILLINOIS FED. AID PROJECT						

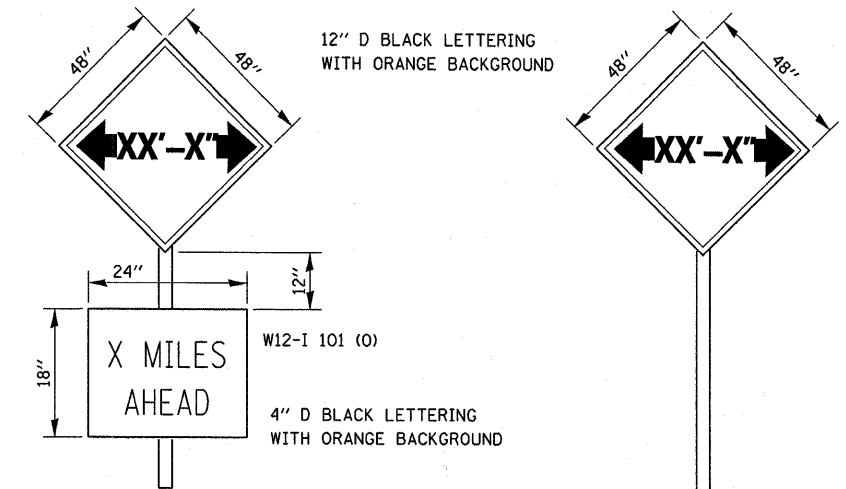


NOTE:
 WHEN MILLING OPERATIONS PRODUCE A ROUNDED EDGE,
 THEN A SAW CUT SHALL BE USED TO MANUFACTURE
 A PERPENDICULAR EDGE AS SHOWN IN THE DETAIL.
 THE ENGINEER SHALL BE THE SOLE JUDGE
 CONCERNING THE USE OF THIS DETAIL

HMA DETAIL AT BUTT JOINTS



PAVEMENT MARKING



TO BE POST MOUNTED AS SHOWN ELSEWHERE IN THE PLANS.

THE ENGINEER WILL NOTIFY DISTRICT 3 BUREAU OF OPERATIONS 14 CALENDAR DAYS PRIOR TO INSTALLING ANY TRAFFIC CONTROL DEVICES THAT WILL RESTRICT THE PAVEMENT WIDTH.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE ENGINEER TO MEET THIS REQUIREMENT.

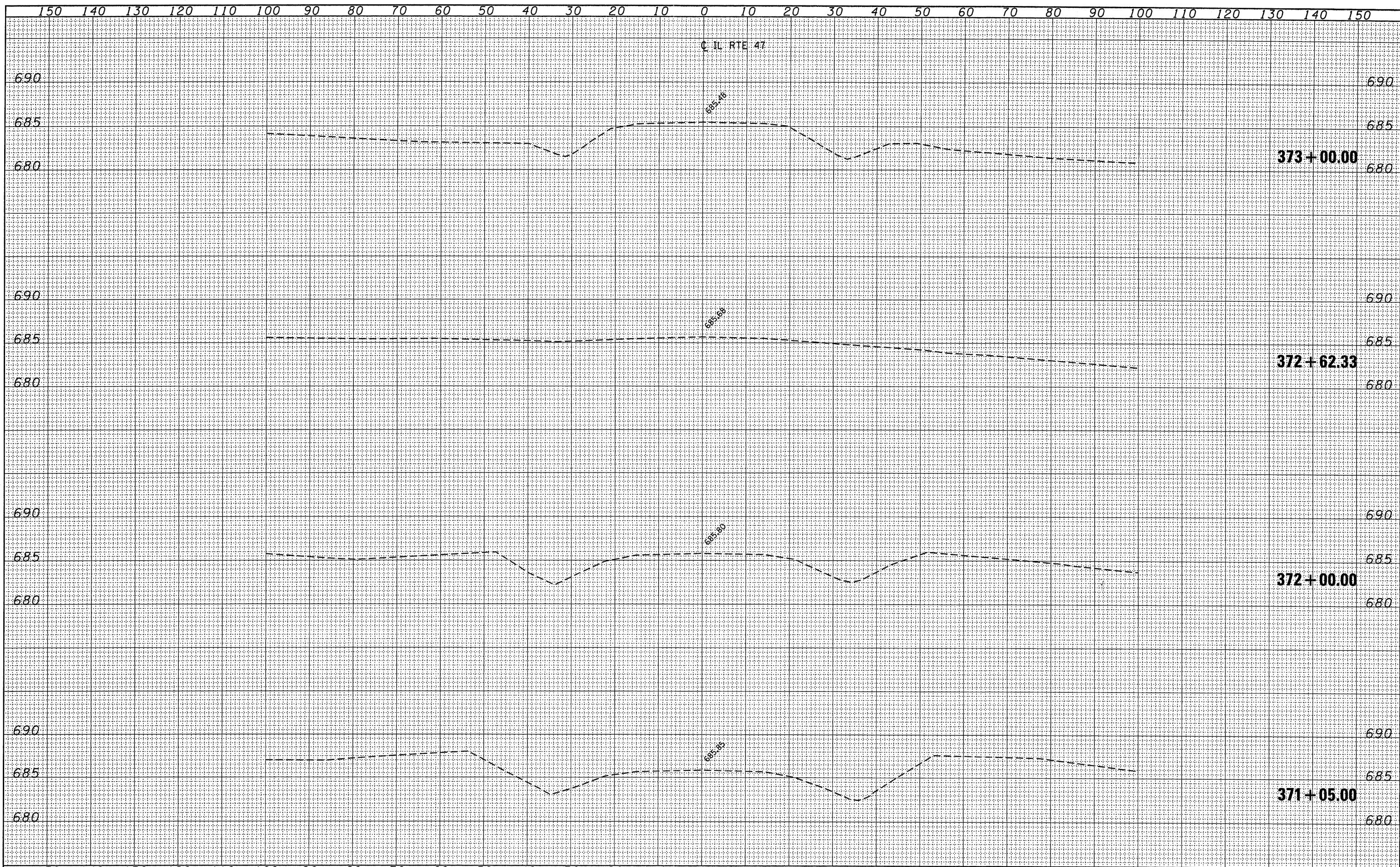
COST OF SUPPLYING, INSTALLING, MAINTAINING AND REMOVING WIDTH RESTRICTION SIGNS SHALL BE INCLUDED IN THE COST OF THE TRAFFIC CONTROL AND PROTECTION PAY ITEMS.

WIDTH RESTRICTION SIGNING DETAILS

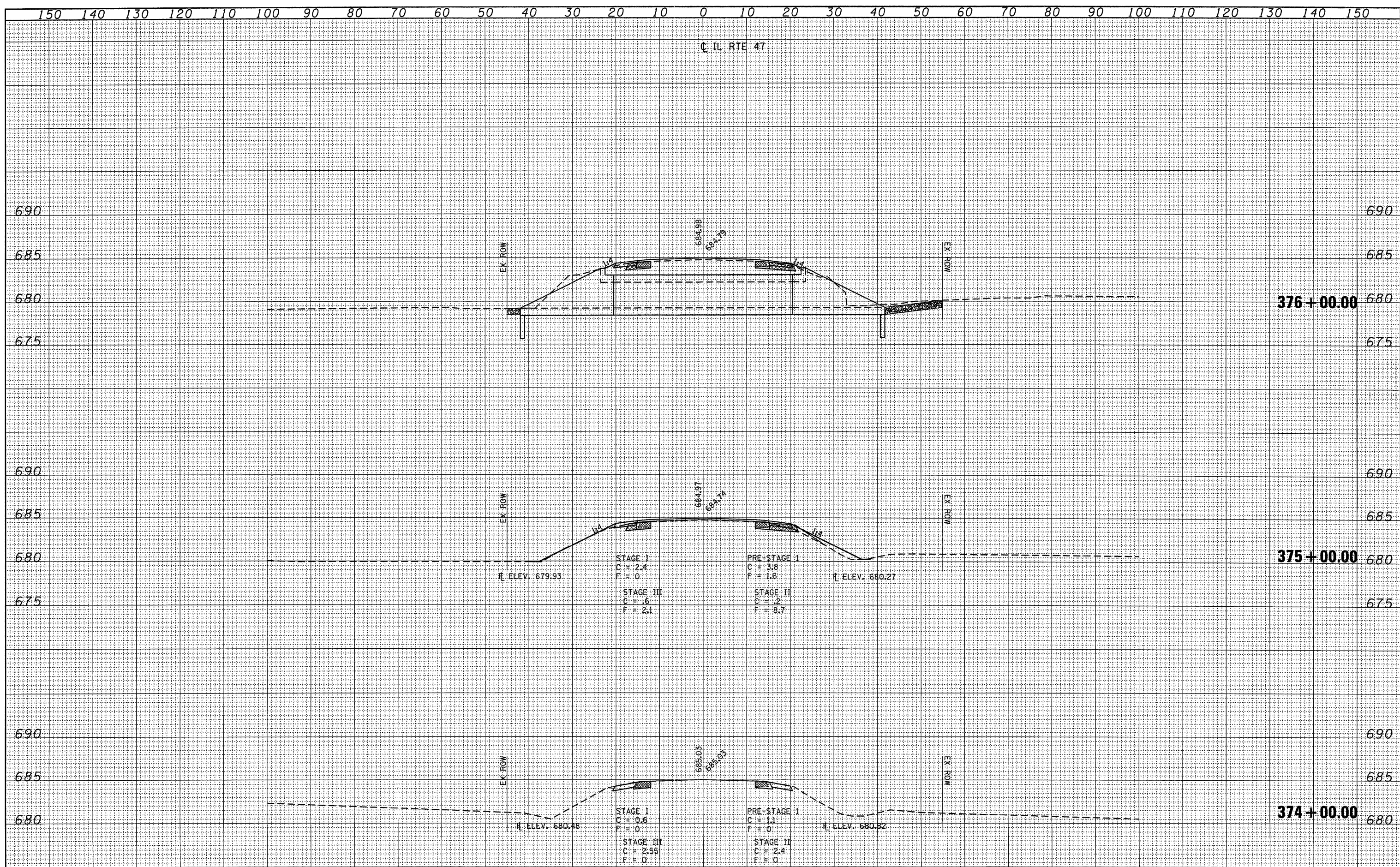
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		DATE -	REVISED -									

BY	DATE

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



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		CHECKED - SAE	REVISED -			FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 66869		
		DATE - 11/4/08	REVISED -								



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

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ORIGINAL SURVEY	SURVEYED
NOTE BOOK NO.	PLOTTED
	TEMPLATE
	AREAS CHECKED

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 DRAWN - GYS
 CHECKED - SAE
 DATE - 11/4/08

366869-sht-xshd.dgn
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 PLOT DATE = 8/19/2011

REVISOR
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 REVISION

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

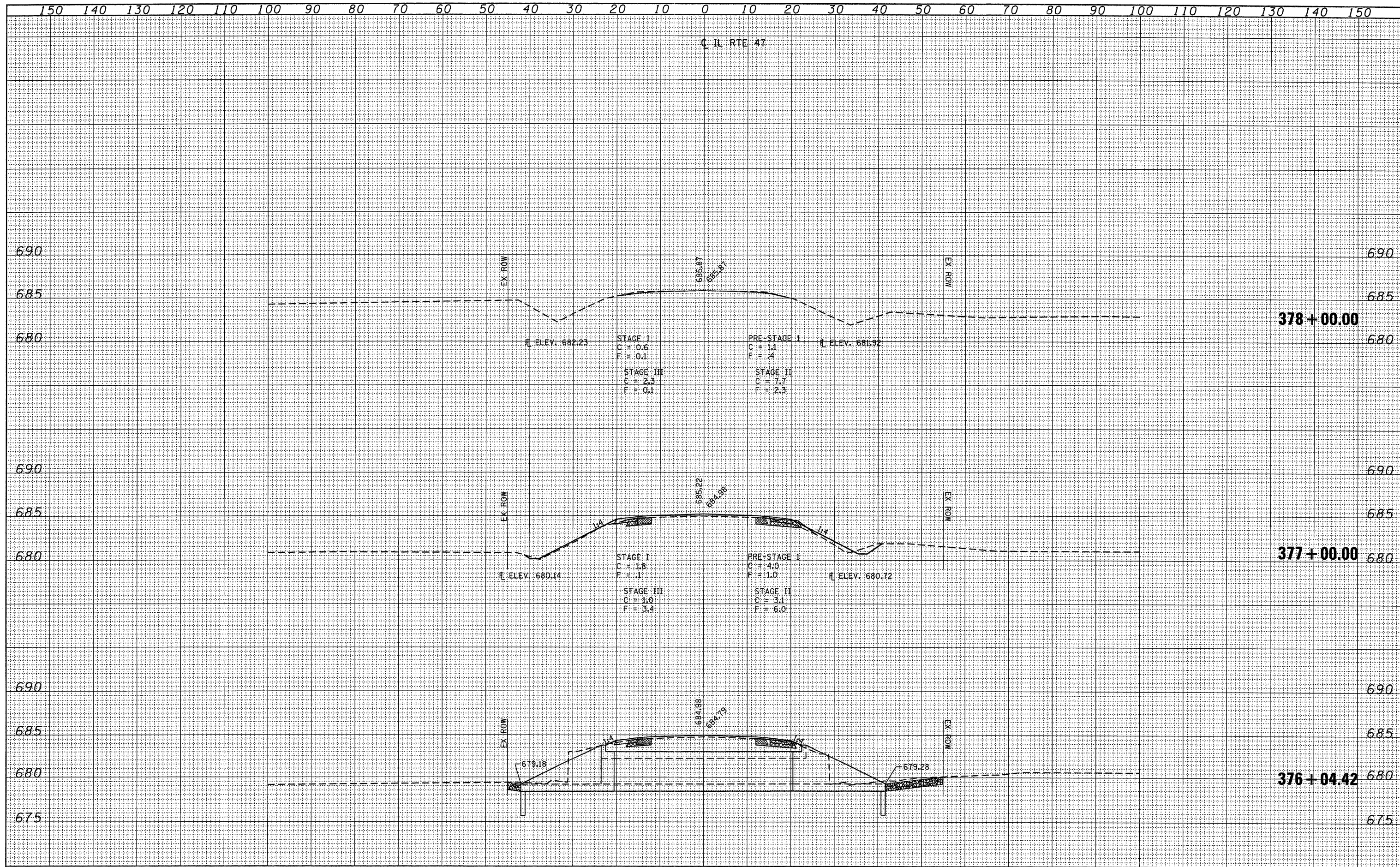
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(121)	LIVINGSTON	27	25
CONTRACT NO. 66869			ILLINOIS FED. AID PROJECT	

DATE	
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TEMPLATE	
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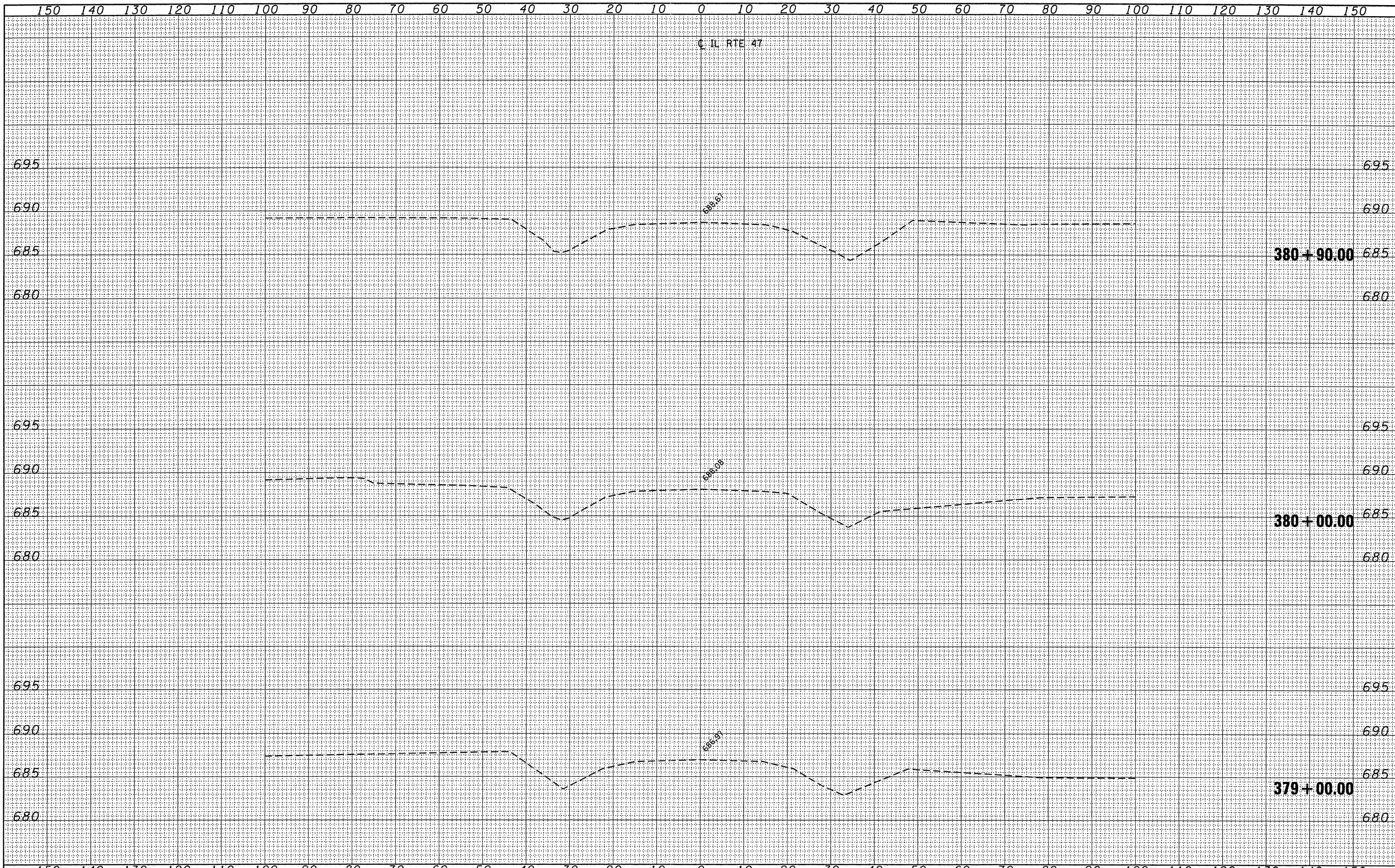
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NO.	TEMPLATE
	AREAS
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PLOT DATE = 8/19/2011		DATE - 11/4/08	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
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