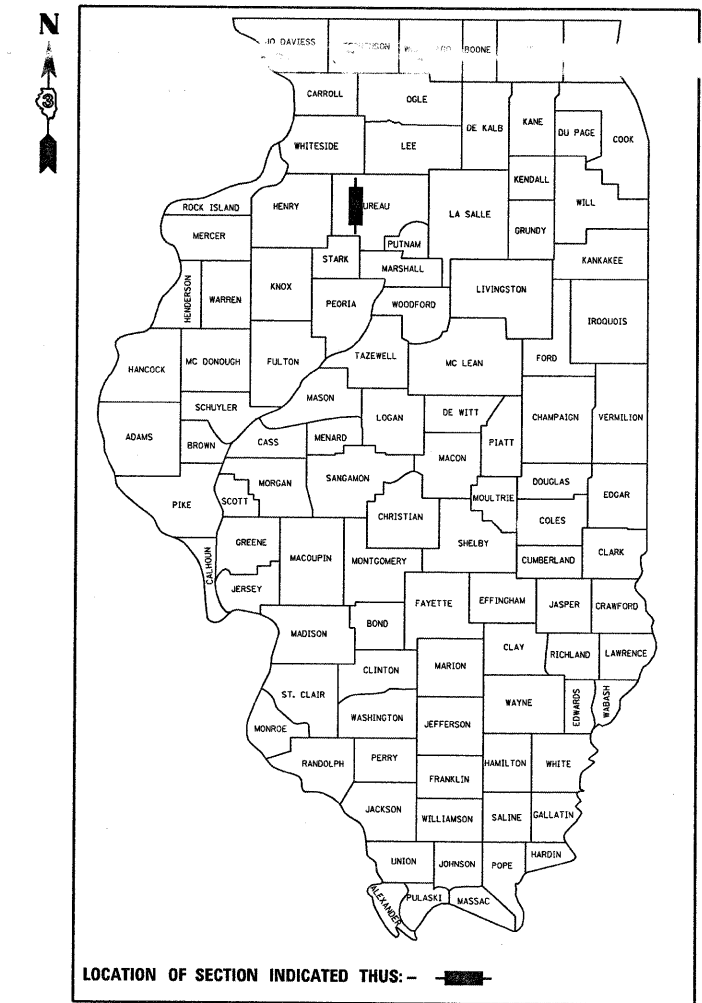


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(122)I	BUREAU	18	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 66858		

P-93-031-07
D-93-090-08



LOCATION OF SECTION INDICATED THUS: - [shaded rectangle] -

FUNCTIONAL CLASSIFICATION
RURAL MINOR ARTERIAL
2009 ADT = 1,400
P.V. = 79.3%
S.U. = 5.9%
M.U. = 14.8%

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 10/22/08

George Pym
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
December 5, 2008

Eric E. Harms
ENGINEER OF DESIGN AND ENVIRONMENT
December 5, 2008

Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

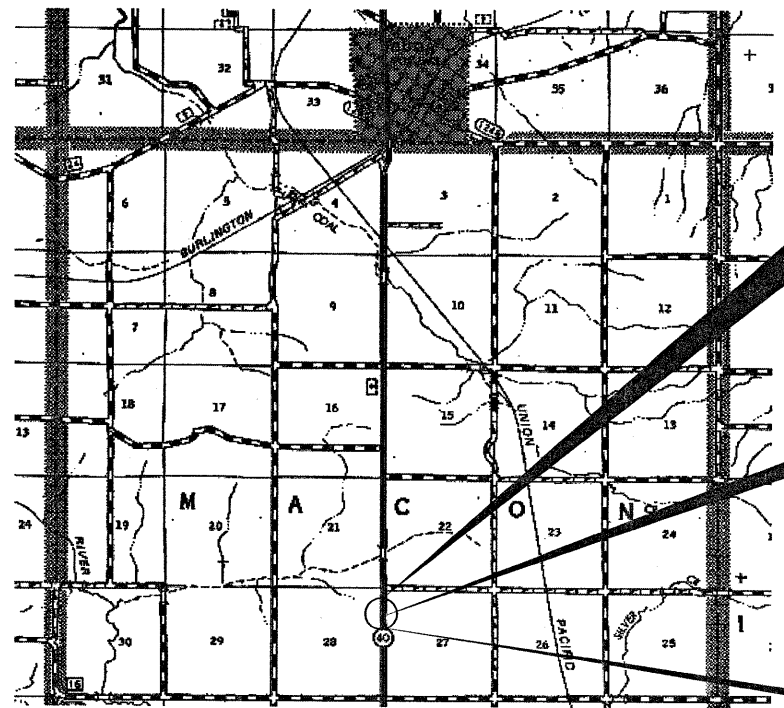
**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 646 (IL 40)
SECTION (122)I
PROJECT F-0646(068)
BUREAU COUNTY
C - 93 - 140 - 08

REPLACEMENT OF EXSTING SN 006-2526,
LOCATED 7.2 MILES SOUTH OF US 6,
WITH A PRECAST BOX CULVERT



LOCATION MAP
NOT TO SCALE

GROSS LENGTH = NET LENGTH = 490 FT. = 0.093 MILE

BEGIN IMPROVEMENT
STA 376+50

SN 006-2573
STA 379+00
10' X 5' PRECAST BOX
CULVERT WITH CAST
IN PLACE END SECTIONS

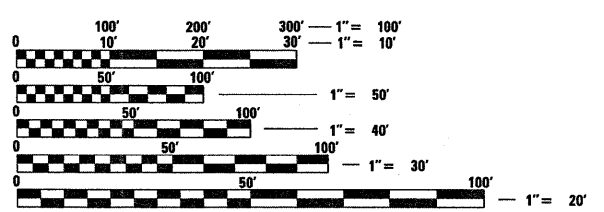
END IMPROVEMENT
STA 381+40

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4 TYPICAL SECTIONS
- 5 SCHEDULES
- 6 PLAN AND PROFILE SHEETS
- 7 DETOUR PLAN
- 8-13 CULVERT PLANS
- 14-15 DETAILS
- 16-18 CROSS SECTIONS

STANDARDS

- BLR 22-6 TYPICAL APP OF T.C.D. RURAL LOCAL HIGHWAY (2-LANE 2-WAY RURAL TRAF.) (ROAD CLOSED TO THRU TRAFFIC)
- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 280001-04 TEMPORARY EROSION CONTROL SYSTEMS
- 542401-01 METAL END SECTION FOR PIPE CULVERTS
- 630001-08 STEEL PLATE BEAM GUARDRAIL
- 630101-08 GUARDRAIL MOUNTED ON EXISTING CULVERTS
- 630201-06 PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
- 630301-05 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 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
- 701011-02 OFF-ROAD MOVING OPERATIONS 2L, 2W, DAY ONLY
- 701306-02 LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS P 45 MPH
- 701311-03 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
- 701901-01 TRAFFIC CONTROL DEVICES
- 780001-02 TYPICAL PAVEMENT MARKINGS



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: JOE KANNEL
SQUAD LEADER: MICHELE LINDEMANN

CONTRACT NO. 66858

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.

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.

ONLY THOSE TREES DESIGNATED BY THE ENGINEER OR LISTED IN THE TREE REMOVAL SCHEDULE SHALL BE REMOVED. THE CONTRACTOR SHALL PROTECT ALL REMAINING TREES FROM DAMAGE DUE TO HIS OPERATIONS.

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.

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
BITUMINOUS MAT PRIME COAT	0.08	GAL / SQ YD OR
	0.375	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
TEMPORARY DITCH CHECKS	5	TONS AGGREGATE

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

AMEREN IP
VERIZON

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

PREPARED BY: *[Signature]*
DISTRICT STUDIES & PLANS ENGINEER

DATE: 10.22.08

EXAMINED BY: *[Signature]*
DISTRICT CONSTRUCTION ENGINEER

Wayne Phillips
DISTRICT MATERIALS ENGINEER

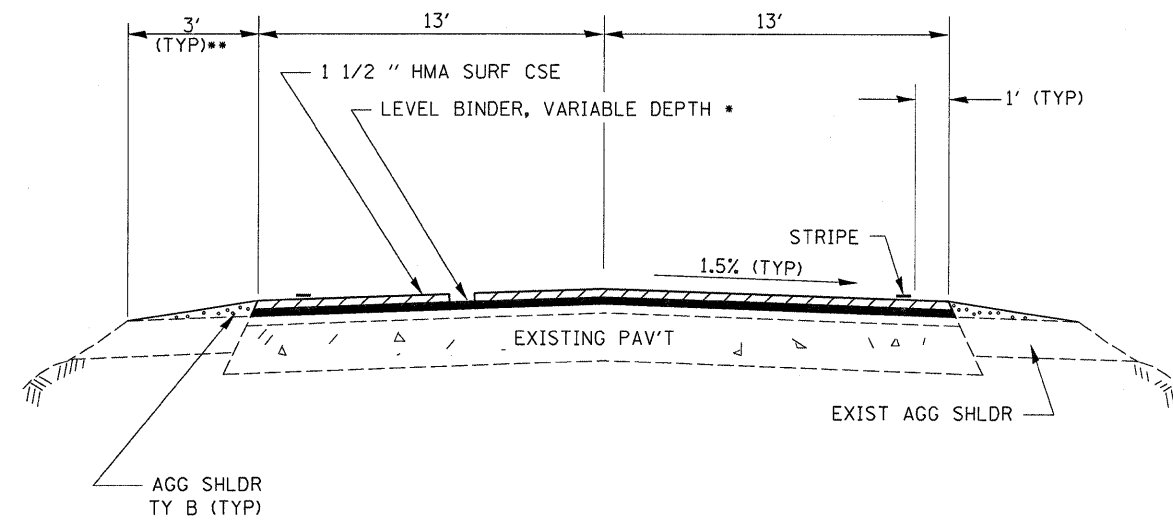
Russell H. Hahn
DISTRICT OPERATIONS ENGINEER

FILE NAME =	USER NAME = carpenterdj	DESIGNED - ---	REVISED - ---	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pw_work\pwidot\carpenterdj\dms38358\	EP03107-shr-coversheet.dgn	DRAWN - ---	REVISED - ---			646	(122)I	BUREAU	18	2	
	PLOT SCALE = 50.0000' / IN.	CHECKED - ---	REVISED - ---			CONTRACT NO. 66858					
	PLOT DATE = Oct 22, 2008 - 08:52:22 AM	DATE - ---	REVISED - ---			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
					SCALE: _____	SHEET NO. ___ OF ___ SHEETS		STA. _____ TO STA. _____			

SUMMARY OF QUANTITIES			
CODE NO.	CONSTRUCTION CODE TYPE:		80% FED. 20% STATE. Y007
	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	245
20400800	FURNISHED EXCAVATION	CU YD	304
20700220	POROUS GRANULAR EMBANKMENT	CU YD	142
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	48
25000200	SEEDING, CLASS 2	ACRE	0.3
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	27
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	27
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	27
25100115	MULCH, METHOD 2	ACRE	0.3
25100630	EROSION CONTROL BLANKET	SQ YD	17
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	30
28000300	TEMPORARY DITCH CHECKS	EACH	4
28000400	PERIMETER EROSION BARRIER	FOOT	200
28000500	INLET AND PIPE PROTECTION	EACH	3
28200200	FILTER FABRIC	SQ YD	100
28100107	STONE RIPRAP, CLASS A4	SQ YD	100
31100300	SUB-BASE GRANULAR MATERIAL, TYPE A 4"	SQ YD	225
35501326	HOT-MIX ASPHALT BASE COURSE, 10 1/2"	SQ YD	208
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	319
40600300	AGGREGATE (PRIME COAT)	TON	8
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	0.4
40600525	LEVELING BINDER (HAND METHOD), N50	TON	0.6
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	143
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	346
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	119
44000100	PAVEMENT REMOVAL	SQ YD	208
48101200	AGGREGATE SHOULDERS, TYPE B	TON	10
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	579
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105200	REMOVE EXISTING CULVERTS	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	103
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	9535
54002020	EXPANSION BOLTS 3/4 INCH	EACH	52
54003000	CONCRETE BOX CULVERTS	CU YD	35.8
54021005	PRECAST CONCRETE BOX CULVERT 10' X 5' (M273)	FOOT	37

SUMMARY OF QUANTITIES (CONTINUED)			
CODE NO.	CONSTRUCTION CODE TYPE:		80% FED. 20% STATE. Y007
	ITEM	UNIT	TOTAL QUANTITY
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	71
54213450	END SECTIONS 15"	EACH	2
63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	250
63000025	STEEL PLATE BEAM GUARD RAIL, ATTACHED TO STRUCTURES	FOOT	50
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	611
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4
67100100	MOBILIZATION	L SUM	1
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1
70101835	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 22	L SUM	1
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	980
78001130	PAINT PAVEMENT MARKING - LINE 6"	FOOT	123
78200410	GUARDRAIL MARKERS, TYPE A	EACH	8
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X0322121	SHEET WATERPROOFING MEMBRANE SYSTEM	SQ YD	125
X7011005	TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR	L SUM	1

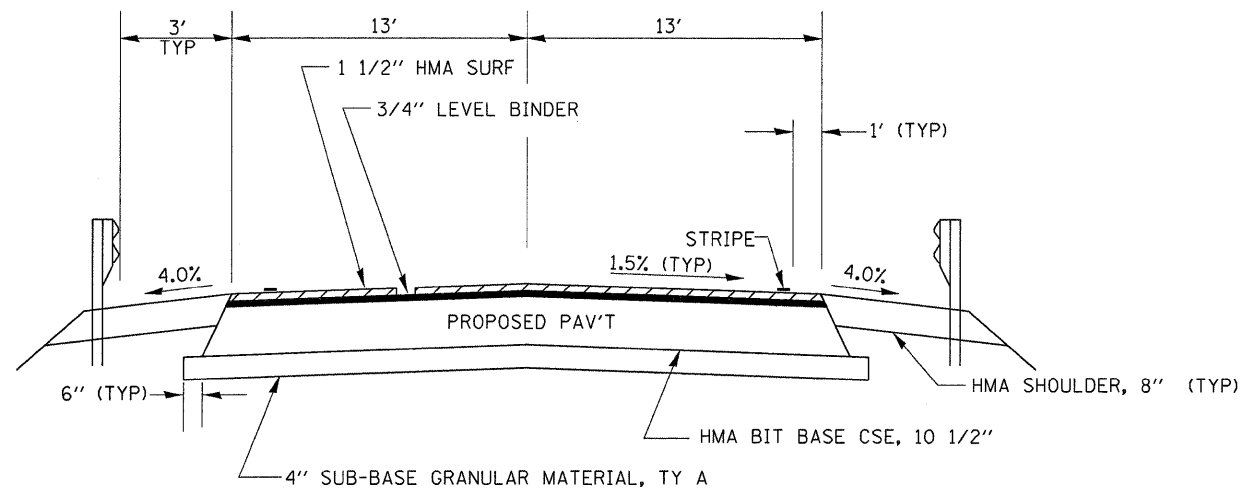
• SPECIALTY ITEMS



PROPOSED TYPICAL SECTION

STA 376+78 TO STA 378+64
 STA 379+36 TO STA 381+30

- * VARIES FROM 3/4" AT 377+40 TO 6" AT 378+64
 VARIES FROM 6" AT 379+36 TO 3/4" AT 380+50
- ** SEE PLAN SHEET AND STANDARDS FOR GUARDRAIL
 STABILIZATION LOCATIONS



PROPOSED TYPICAL SECTION

STA 378+64 TO STA 379+36

MIX DESIGN						
MIX	PG GRADE	MAX % RAP ALLOWABLE	DESIGN AIR VOIDS	MIX COMPOSITION	FRICITION AGG	DENSITY TEST METHOD
HMA SURFACE	PG 64-22	15%	4.0% @N50	IL 12.5 OR IL 9.5	MIXTURE C	NUCLEAR/CORES
LEVELING BINDER	PG 58-22	25%	4.0% @N50	IL 9.5	-	SATISFACTION OF ENGINEER
HMA BASE COURSE	PG 58-22	25%	4.0% @N50	IL 19.0	-	NUCLEAR/CORES
HMA SHOULDER	PG 58-22	50%	3.0% @N50	IL 19.0	-	-

* MATERIAL SHALL BE COMPACTED TO 93.0-97.4 PERCENT OF THE MAXIMUM THEORETICAL DENSITY, EXCEPT THAT WHEN PLACED AS A 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.

** IF RAP OPTION IS SELECTED, THE ASPHALT CEMENT GRADE MAY NEED TO BE ADJUSTED. THIS WILL BE DETERMINED BY THE ENGINEER.

PAVEMENT AND SHOULDER SCHEDULE													
LOCATION	LENGTH	HMA SURF CSE	HMA LEVEL BINDER	HMA BSE CSE 10 1/2"	SUB-BASE GRAN MAT 4"	HMA SURF REM BUTT JT	BIT MAT (PR CT)	AGG (PR CT)	MIX FOR CRACKS, JTS & FLGWYS	LEVEL BINDER (H.M.)	HMA SHLDR 8"	AGG SHLDR TY B	PVMT REM
	FOOT	TON	TON	SQ YD	SQ YD	SQ YD	GAL	TON	TON	TON	SQ YD	TON	SQ YD
PAVEMENT AREA:													
376+50 TO 377+40	90	22	2			173	42	1	0.1	0.1			
377+40 TO 378+64	124	30	68				57	1.4	0.1	0.2			
378+64 TO 379+36	72	17	9	208	225		33	0.8					208
379+36 TO 380+50	114	28	62				53	1.3	0.1	0.2			
380+50 TO 381+40	90	22	2			173	42	1	0.1	0.1			
SHOULDER AREA:													
RIGHT SIDE							43	1.1			271	4.2	
LEFT SIDE							49	1.2			308	5.7	
TOTAL	490	119	143	208	225	346	319	7.8	0.4	0.6	579	9.9	208

EARTHWORK SCHEDULE		
LOCATION	EARTH EXCAVATION	FURNISHED EXCAVATION
	CU YD	CU YD
DITCH WORK	154	304
TOTAL	154	304

GUARDRAIL SCHEDULE						
LOCATION	GUARD-RAIL REM	SPBGR TY A	GUARDRAIL ATTACHED TO STRUCTURE	TBT TY 1 SPECIAL FLARED	GUARD-RAIL MARK	TERMINAL MARK DIR APPLIED
	FOOT	FOOT	FOOT	EACH	EACH	EACH
376+87 TO 377+20, RT	33					
377+20 TO 377+70, RT	50			1		1
377+70 TO 378+70, RT	100	100			2	
378+70 TO 378+95, RT	25		25		1	
378+95 TO 379+20, RT	25	25			1	
379+20 TO 379+70, RT	50			1		1
379+70 TO 380+00, RT	30					
377+82 TO 378+30, LT	48					
378+30 TO 378+80, LT	50			1		1
378+80 TO 379+05, LT	25	25			1	
379+05 TO 379+30, LT	25		25		1	
379+30 TO 380+30, LT	100	100			2	
380+30 TO 380+80, LT	50			1		1
TOTAL	611	250	50	4	8	4

TEMPORARY EROSION CONTROL SCHEDULE					
LOCATION	TEMP EROSION SEEDING	EROSION CONTROL BLANKET	PERIMETER EROSION BARRIER	TEMP DITCH CHECKS	INLET & PIPE PROT
	LB	SQ YD	FOOT	EACH	EACH
RIGHT SIDE	10	17	100	2	1
LEFT SIDE	20		100	2	2
TOTAL	30	17	200	4	3

DRAINAGE SCHEDULE									
LOCATION	STATION	OFFSET	REM EXIST CULV	PIPE CULV CL D, TY 1	END SECT	STONE DUMPED RIP RAP	FILTER FABRIC	PROP U.S. INVERT ELEV	PROP D.S. INVERT ELEV
			EACH	15"	15"	CL A4	SQ YD	SQ YD	
	379+20	LT				30	30		
	378+80	RT				30	30		
	380+35.5	28.5' RT	1	71	2			758.48	757.87
TOTAL			1	71	2	60	60		

SEEDING SCHEDULE					
LOCATION	SEEDING CL 2	MULCH METHOD	NIT FERT	PHOS FERT	POT FERT
	ACRE	2	NUT LB	NUT LB	NUT LB
RIGHT SIDE	0.1	0.1	9	9	9
LEFT SIDE	0.2	0.2	18	18	18
TOTAL	0.3	0.3	27	27	27

PAVEMENT MARKING SCHEDULE			
LOCATION	LENGTH	PAINT PVMT MARK WHITE	PAINT PVMT MARK YELLOW
		4" FOOT	6" FOOT
376+50 TO 381+40	490	980	123
TOTAL		980	123



BM#2
R.R. SPIKE IN POWER POLE
STA. 376+50, 111.32' LT
ELEV. 761.45

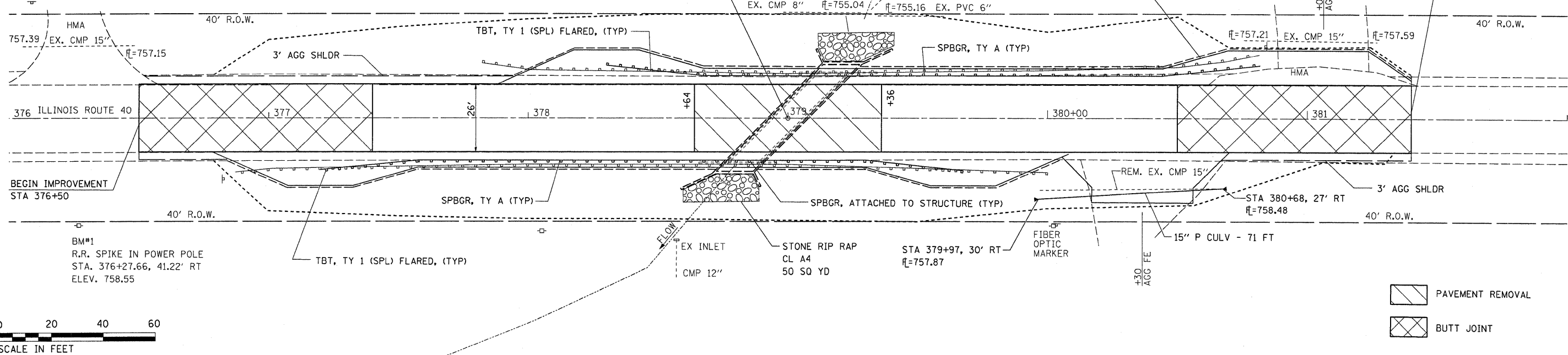
STA. 379+00
EXIST SN 006-2526
(TO BE REMOVED)
PROP. S.N. 006-2573
PRECAST BOX CULV
10' X 5' (M273)

STONE RIP RAP
CL A4
50 SQ YD

HMA SHLDR, 8" (TYP)
(SEE STD. FOR
GUARDRAIL STABILIZATION)

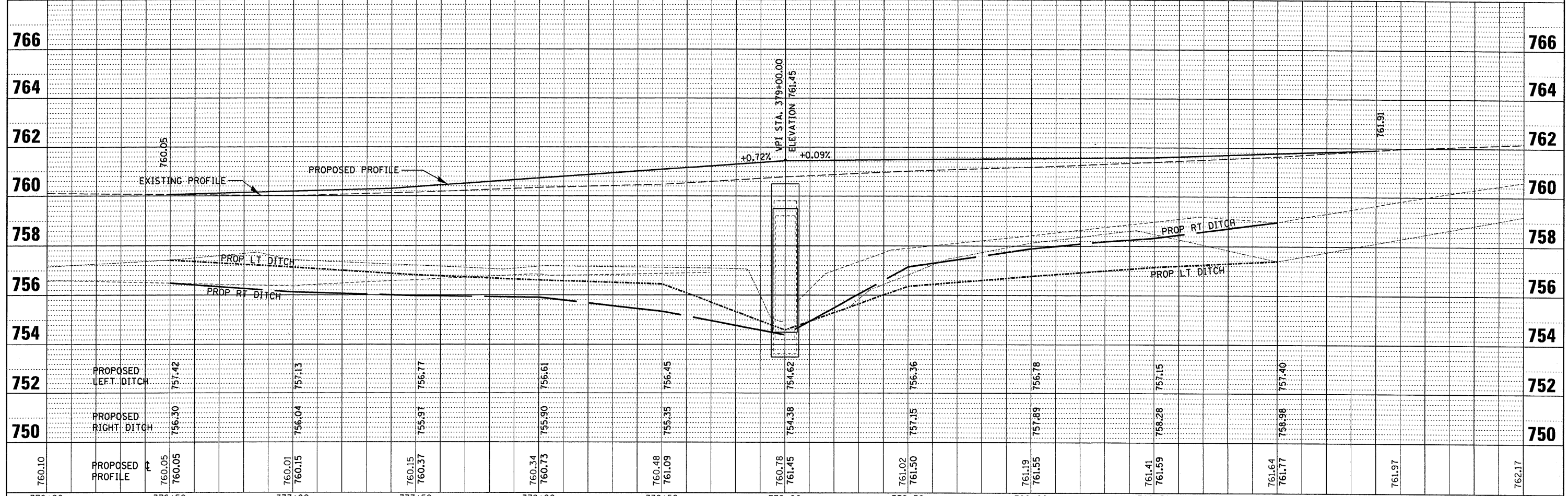
END IMPROVEMENT
STA 381+40

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO.	
	PAID FILE NAME	



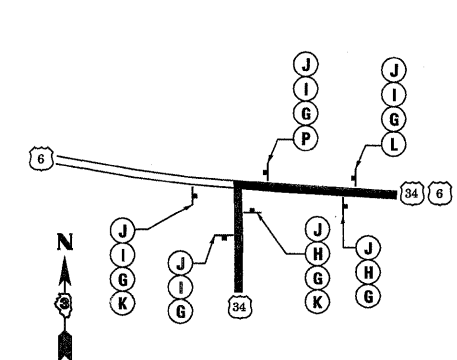
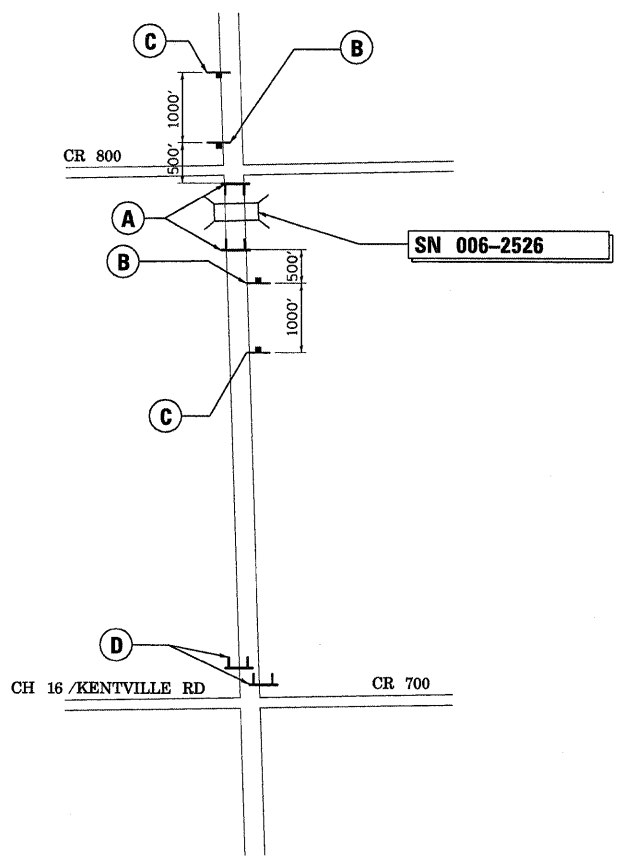
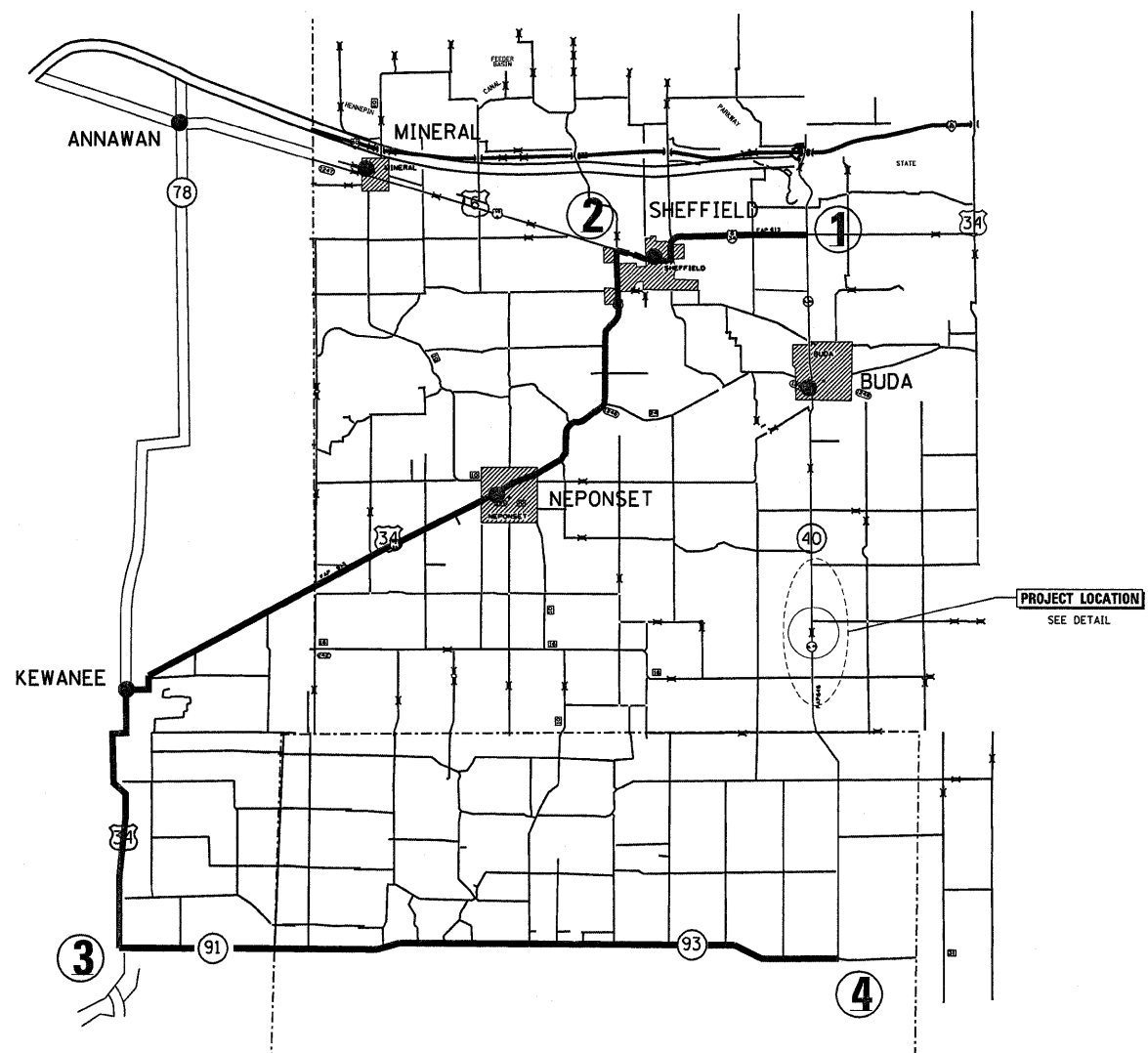
- PAVEMENT REMOVAL
- BUTT JOINT

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO.	
	STRUCTURE NOTATION/NS CPKID	



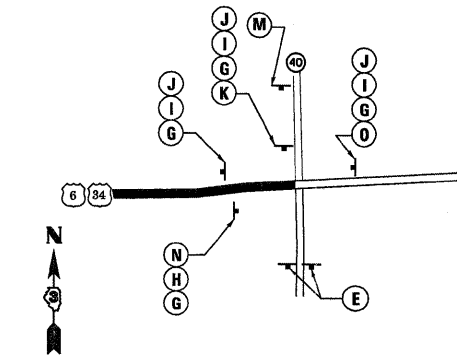
FILE NAME =	USER NAME = carpenterdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
ci:\pw-work\p\wdos\carpenterdj\dms38350\20081007\PLN1.dgn		DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	646	(122)I	BUREAU	18	6
		CHECKED -	REVISED -												
		DATE	REVISED												

FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
CONTRACT NO. 66858	



INTERSECTION OF US 6 AND US 34

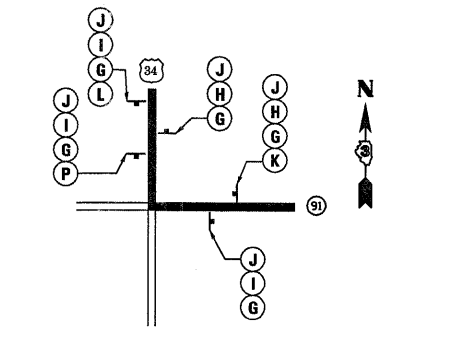
2



INTERSECTION OF US 6/34 AND IL 40

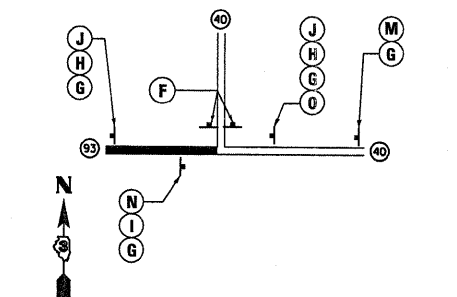
COVER "PEORIA" ON GREEN INFORMATION SIGNS

1



INTERSECTION OF US 34 AND IL 91

3



INTERSECTION OF IL 93 AND IL 40

COVER "BUDA" ON GREEN INFORMATION SIGNS

4

- LEGEND**
- TYPE III BARRICADES CONFORMING TO STD. 701901 "ROAD CLOSED TO ALL TRAFFIC" WITH 2 FLASHING LIGHTS PER BARRICADE
 - TYPE III BARRICADES CONFORMING TO STD. 701901 "ROAD CLOSED TO THRU TRAFFIC" WITH 2 FLASHING LIGHTS PER BARRICADE
 - SIGNS ON PERMANENT SUPPORTS
 - FLASHING LIGHT ABOVE SIGN
 - 18"x18" ORANGE FLAG
 - DETOUR ROUTE

- GENERAL NOTES**
1. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED AND MAINTAINED BY THE CONTRACTOR, EXCEPT THE IL 40 ROUTE MARKERS WILL BE FURNISHED BY THE DEPARTMENT.
 2. ALL SIGNS NOT ATTACHED TO TYPE III BARRICADES SHALL BE POST MOUNTED, UNLESS OTHERWISE NOTED.
 3. LOCATIONS OF TRAFFIC CONTROL DEVICES MAY BE ADJUSTED BY THE ENGINEER.
 4. SEE SPECIAL PROVISIONS FOR TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR.
 5. CONTRACTOR TO INSTALL CONFIRMATION SIGNING J, H OR I, G ADJACENT TO EXISTING ROUTE MARKERS. CONTRACTOR SHALL DETERMINE THE NUMBER OF SIGNS NEEDED.
 6. ALL SIGNS EXCEPT "IL 40" SHALL BE FLOURESCENT ORANGE.

 ROAD CLOSED R11-2-4830 A	 ROAD CLOSED 500 FT W20-3-4848 B	 ROAD CLOSED AHEAD W20-3-4848 C	 ROAD CLOSED TO THRU TRAFFIC R11-4-4830 D	 BRIDGE OUT 7 MILES AHEAD LOCAL TRAFFIC ONLY R11-3-6030 E
 DETOUR M4-10-4818 F	 ILLINOIS 40 BLK/WH M1-5-3024 G	 NORTH M3-1-2412 H	 SOUTH M3-3-2412 I	 DETOUR M4-8-2412 J
 M6-1-2115 K	 M5-1-2115 L	 DETOUR AHEAD W20-2-4848 M	 END DETOUR M4-8A-2418 N	 M6-3-2115 O
			 M6-1-2115 P	

Existing Structure: SN 006-2526 was originally constructed in 1928. The existing 8'x5' reinforced concrete box culvert measures 34' face to face of curb built on a 45° skew to the left.

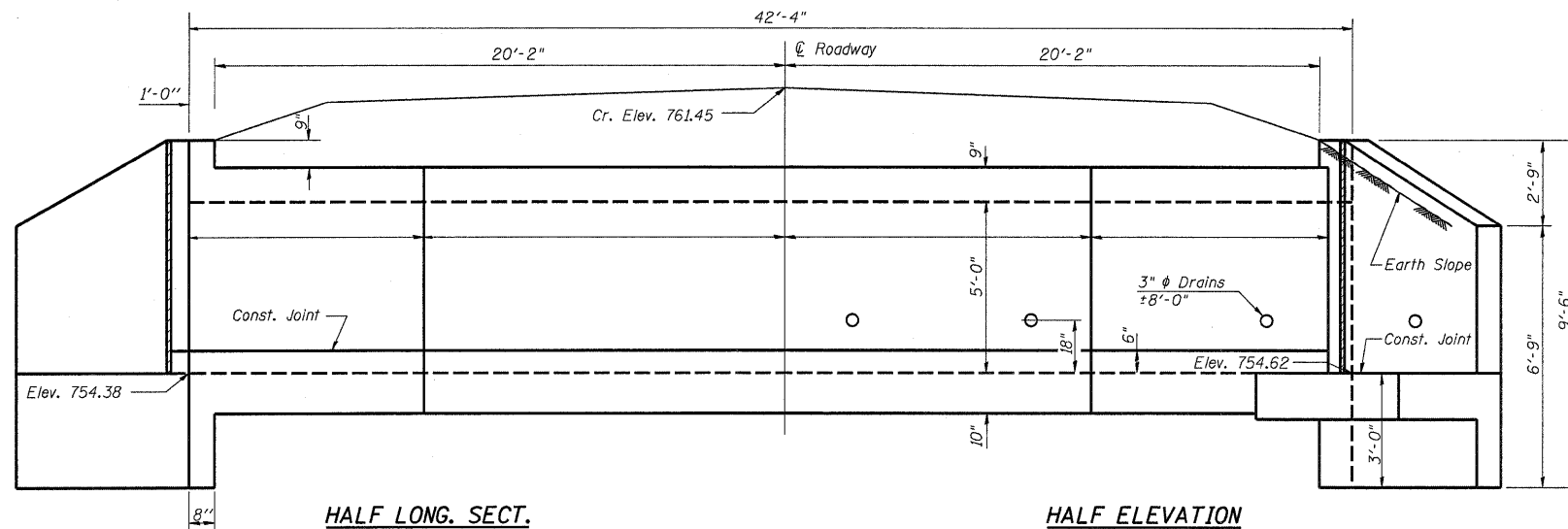
Traffic shall be detoured during construction of the box culvert.

No salvage

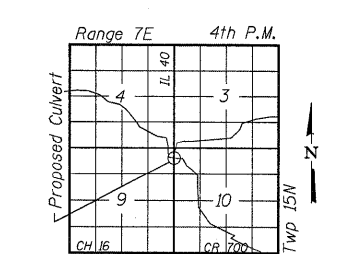
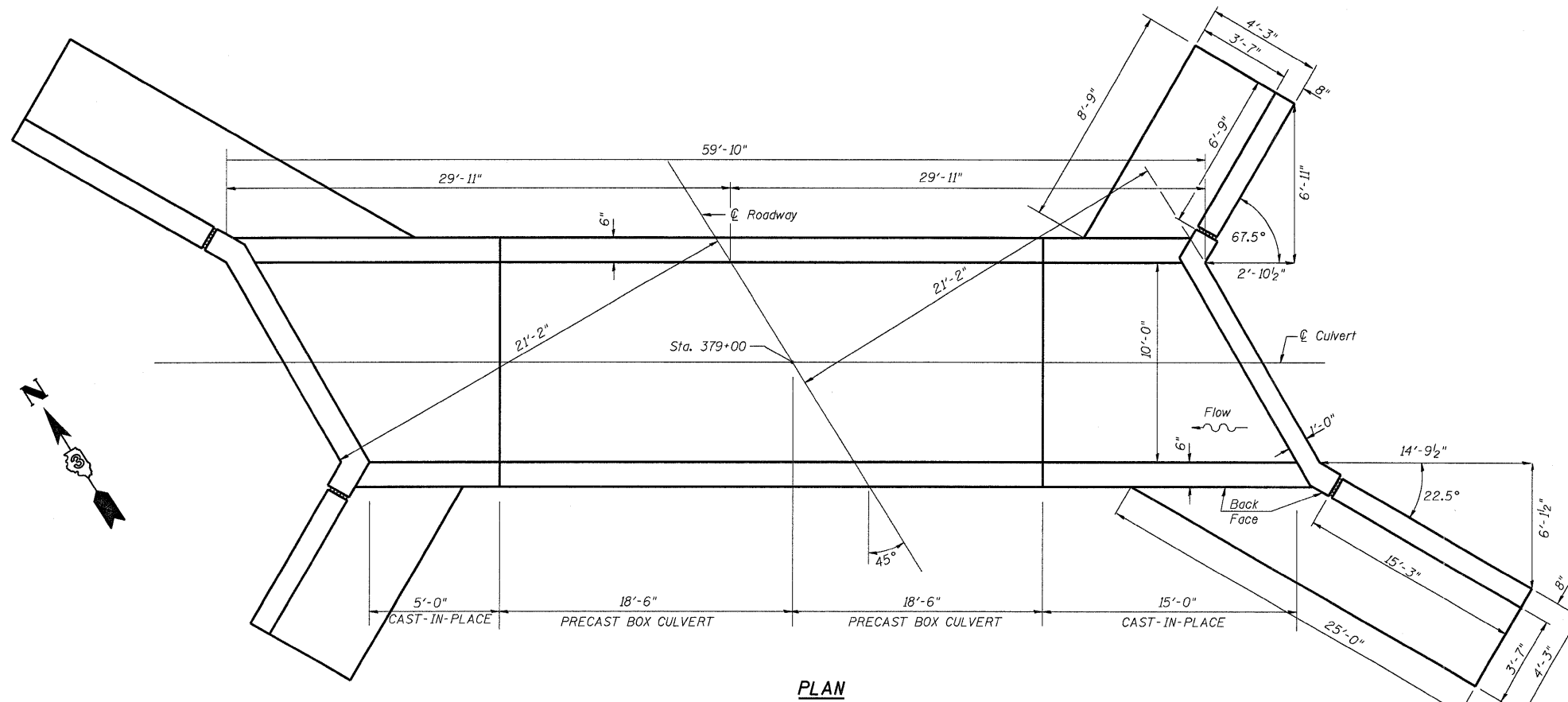
GENERAL NOTES

- ① Precast Concrete Box Culvert sections shall conform to the requirements of Article 540.06 of the Standard Specifications and the applicable requirements of AASHTO M 273.
- ② Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
- ③ All Reinforcement Bars shall be Epoxy Coated.
- ④ Lifting holes shall be filled with concrete plugs and mastic after box sections are in place.

BILL OF MATERIAL		
ITEM	UNIT	TOTAL
EARTH EXCAVATION	CU YD	91
POROUS GRANULAR EMBANKMENT	CU YD	142
POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	48
REINFORCEMENT BARS, EPOXY COATED	POUND	9535
REMOVAL OF EXISTING STRUCTURE	L SUM	1
EXPANSION BOLTS 3/4 INCH	EACH	52
STRUCTURE EXCAVATION	CU YD	103
PRECAST CONCRETE BOX CULVERT 10' X 5' (M273)	FOOT	37
CONCRETE BOX CULVERTS	CU YD	35.8
SHEET WATERPROOFING MEMBRANE SYSTEM	SQ YD	125



Dimensions at Rt. L's to C Roadway



LOCATION SKETCH

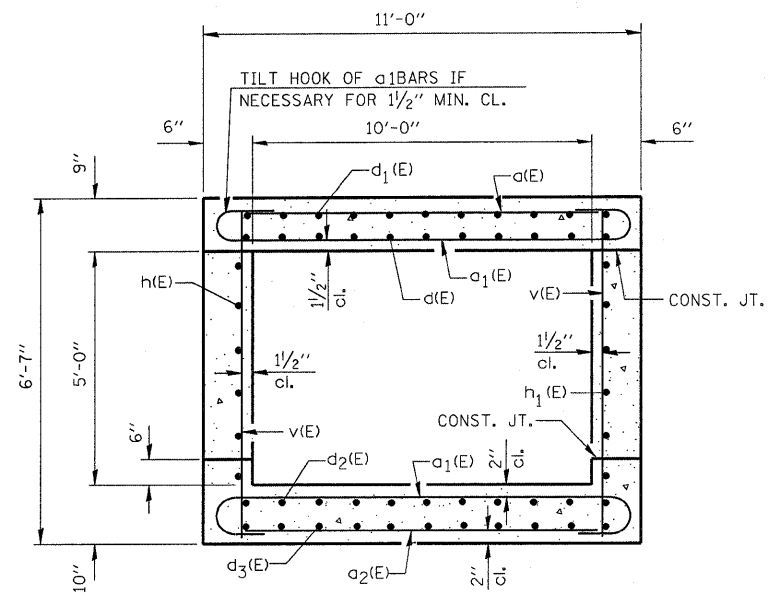
DESIGN SPECIFICATIONS
1996 AASHTO with 1997 thru 2002 Interims

LOADING HS20-44
Allow 50#/sq. ft. for future wearing surface.
Design Fill Height = <2 ft.

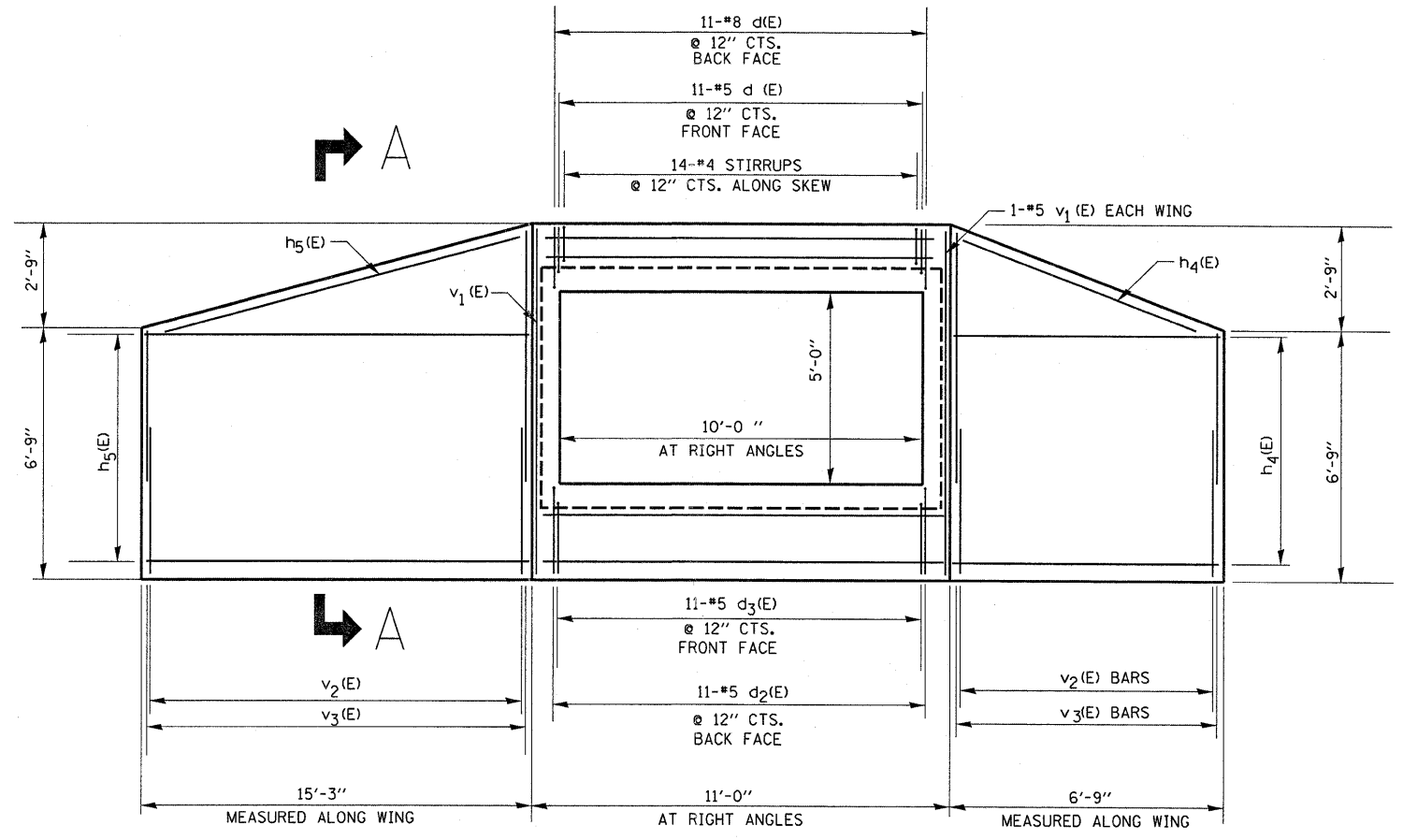
DESIGN STRESSES
Precast
f'c = 5,000 psi
fy = 65,000 psi (welded wire fabric)
Cast-In-Place
f'c = 3,500 psi
fy = 60,000 psi (reinforcement)

WATERWAY INFORMATION

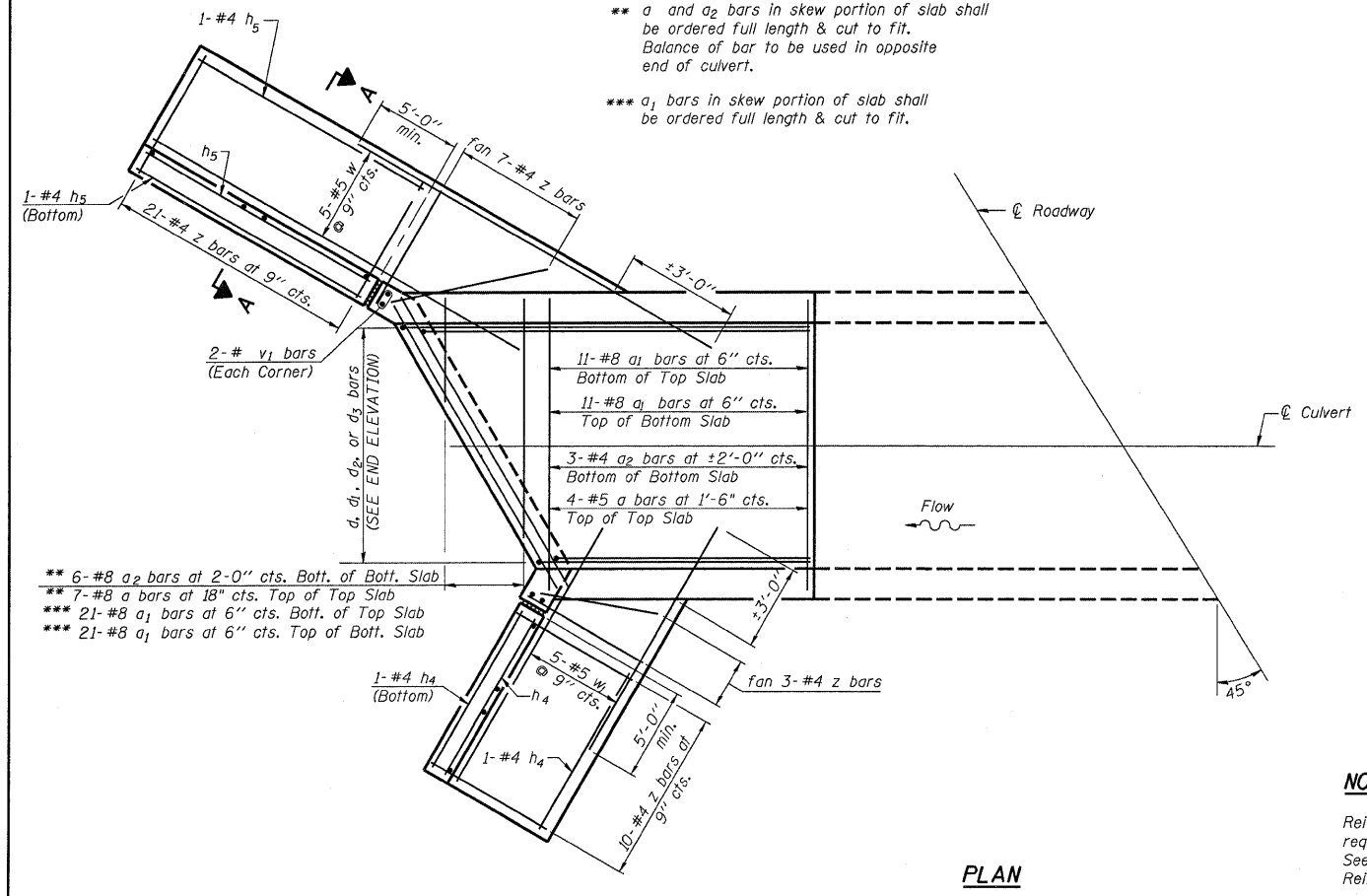
		Existing and Proposed Low Grade Elev. 760.01 @ Sta. 377+00							
Drainage Area = 0.45 sq. mi.		Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.			
Flood	Freq. Yr.	Q C.F.S.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
	10	213	29	37	758.3	0.8	0.5	759.1	758.8
Design	50	349	31	39	758.5	1.5	1.4	760.0	759.9
Base	100	413	32	40	758.6	1.5	1.4	760.1	760.0
Overtopping									
Max. Calc.	500	567	34	42	758.8	1.5	1.4	760.3	760.2



SECTION THRU BARREL



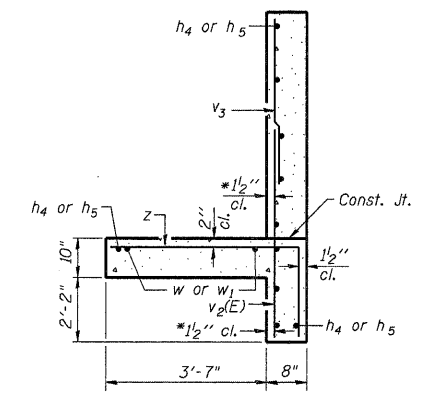
END ELEVATION



PLAN

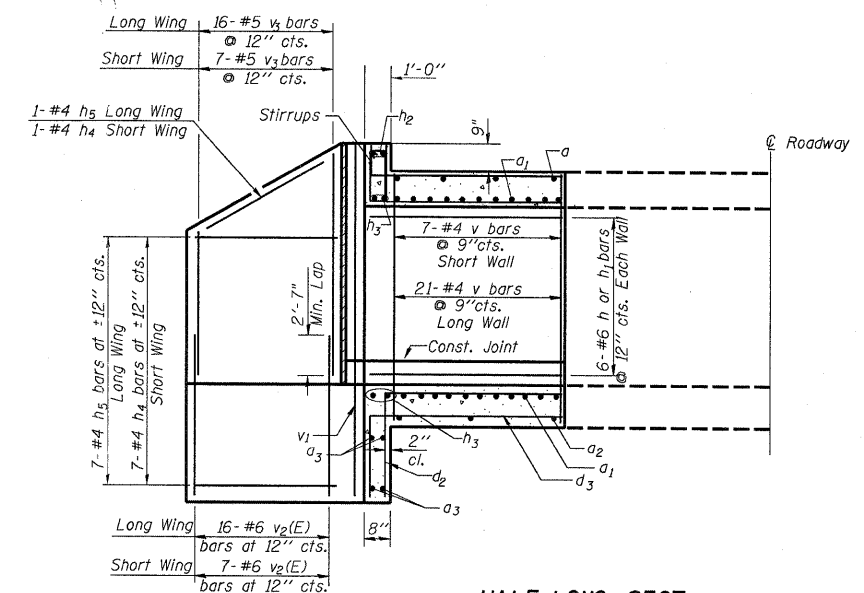
** a and a2 bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert.

*** a1 bars in skew portion of slab shall be ordered full length & cut to fit.



SECTION A-A

* v bars shall not be placed more than 1/2" cl. from back face of wingwall.



HALF LONG. SECT.

NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions. Reinforcement bars designated (E). All Reinforcement Bars shall be Epoxy Coated.

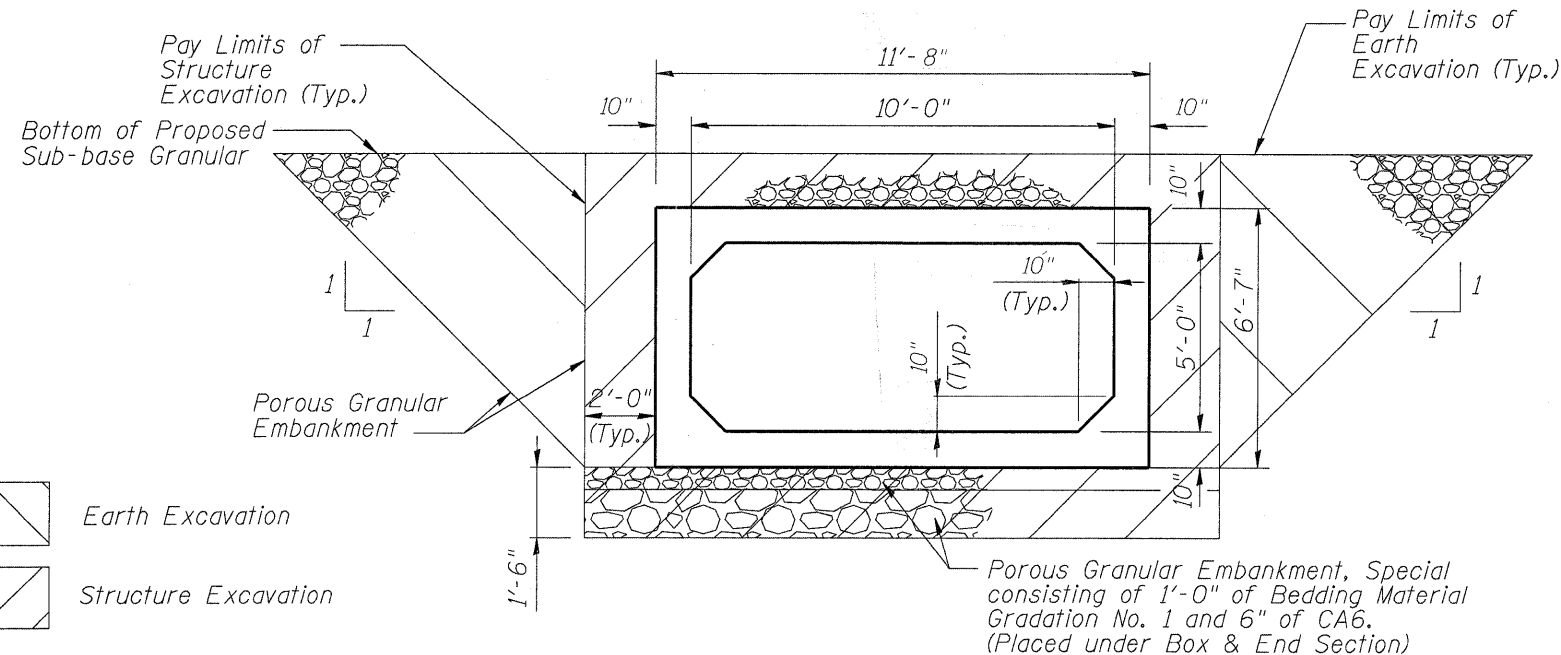
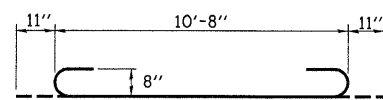
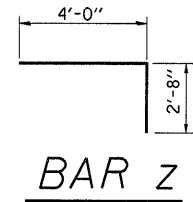
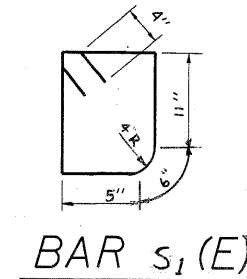
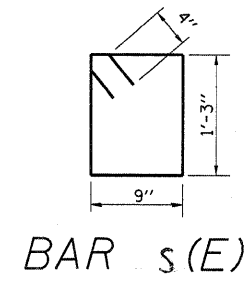
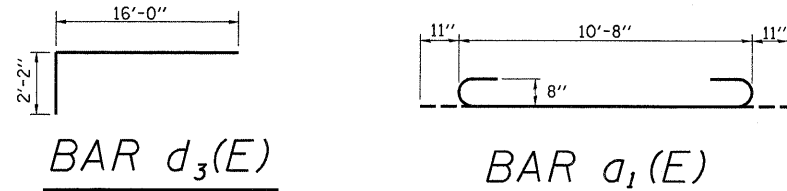
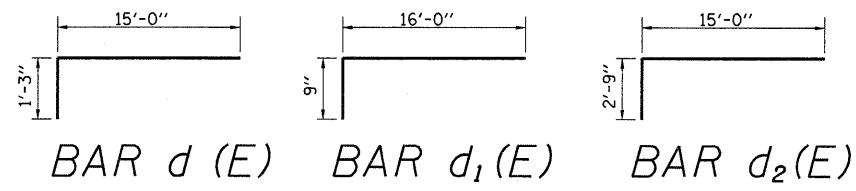
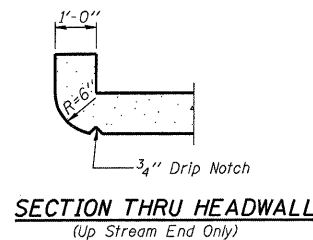
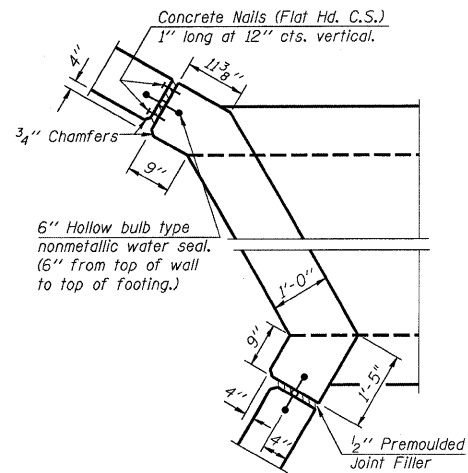
FILE NAME =	USER NAME = carpenterd	DESIGNED -	REvised -
EP03107-ht-culvert details.DGN		DRAWN -	REvised -
PLOT SCALE = 50.0000' / IN.		CHECKED -	REvised -
PLOT DATE = Oct 22, 2008 - 08:35:38 AM		DATE -	REvised -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

END SECTION AND BOX CULVERT DETAILS

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(122)I	BUREAU	18	9
CONTRACT NO. 66858				
FED. ROAD DIST. NO. _____ ILLINOIS FED. AID PROJECT				



SECTION THROUGH BARREL

BILL OF MATERIALS - TOTAL BOTH ENDS				
BAR	NO.	SIZE	LENGTH (FT.)	SHAPE
a (E)	15	#5	10'-8"	—
a ₁ (E)	128	#8	12'-6"	U
a ₂ (E)	12	#4	10'-8"	—
a ₃ (E)	8	#4	15'-3"	—
d (E)	22	#8	16'-3"	L
d ₁ (E)	22	#5	16'-9"	L
d ₂ (E)	22	#5	17'-9"	L
d ₃ (E)	22	#5	18'-2"	L
h (E)	12	#6	16'-0"	—
h ₁ (E)	12	#6	6'-0"	—
h ₂ (E)	4	#6	15'-3"	—
h ₃ (E)	8	#7	15'-3"	—
h ₄ (E)	20	#4	6'-6"	—
h ₅ (E)	20	#4	15'-0"	—
v (E)	56	#4	6'-3"	—
v ₁ (E)	8	#5	9'-3"	—
v ₂ (E)	46	#6	5'-7"	—
v ₃ (E)	46	#5	6'-3"	—
w (E)	10	#5	18'-0"	—
w ₁ (E)	10	#5	10'-0"	—
z (E)	82	#4	6'-8"	L
s (E)	14	#4	4'-8"	U
s ₁ (E)	14	#4	4'-6"	U
CONCRETE BOX CULVERT			CU YD	35.8
REINFORCEMENT BARS, EPOXY COATED			POUND	9535

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED

FILE NAME =	USER NAME = carpenterdj	DESIGNED -	REVISED -
cr:\pw_work\NPWIDOT\CARPENTERDJ\dms30350	EP03107-sht-culvert details.DGN	DRAWN -	REVISED -
PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -	REVISED -
PLOT DATE = Oct 22, 2008 - 08:35:27 AM	DATE -	REVISED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

END SECTION AND BOX CULVERT DETAILS

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(122)I	BUREAU	18	10
CONTRACT NO. 66858			ILLINOIS FED. AID PROJECT	

BILL OF MATERIAL

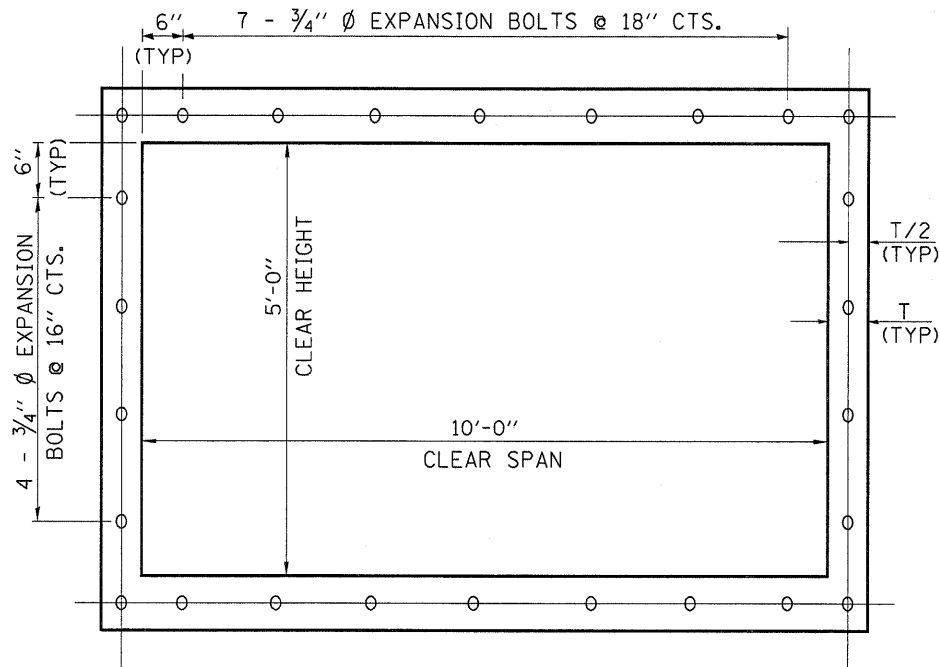
UPSTREAM

EXPANSION BOLTS 3/4" EACH 26

BILL OF MATERIAL

DOWNSTREAM

EXPANSION BOLTS 3/4" EACH 26



SECTION THRU BOX

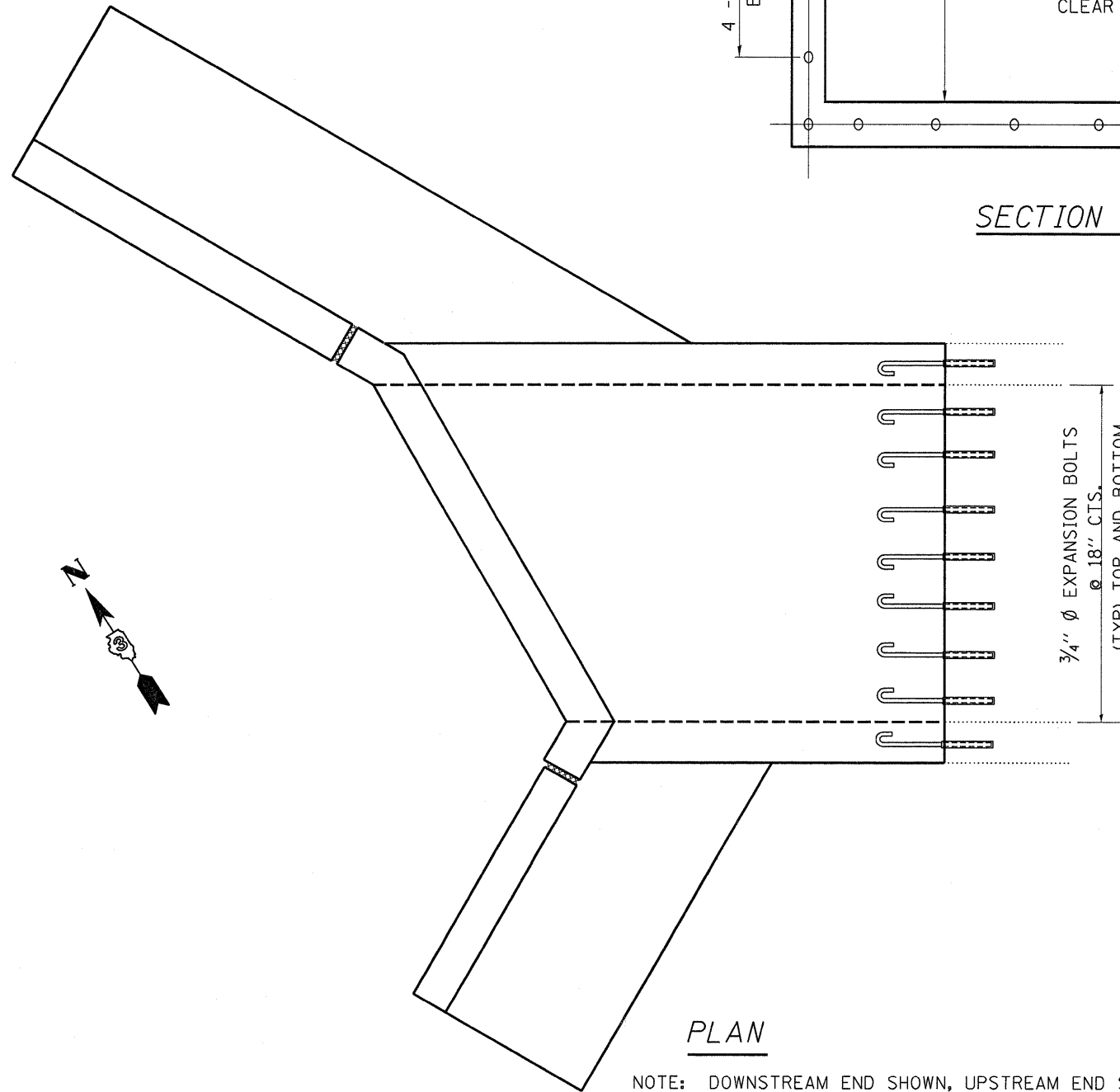
CLEAR SPAN OR CLEAR HEIGHT	NO. OF 3/4" Ø EXP. BOLTS REQ'D PER SIDE			
	BARREL RECONST. ≤ 15'		BARREL RECONST. > 15'	
FEET	NO.	SPACING	NO.	SPACING
2.0	**	**	**	**
2.5	2	18"	2	18"
3.0	2	24"	2	24"
4.0	3	18"	3	18"
5.0	4	16"	3	24"
6.0	5	15"	4	20"
7.0	5	18"	4	24"
8.0	6	17"	5	21"
9.0	6	19"	5	24"
10.0	7	18"	6	21"
11.0	8	17"	6	24"
12.0	8	19"	7	22"

NOTES:

EXPANSION BOLTS SHALL BE 3/4" Ø HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO NEW CONCRETE.

STEEL INSERTS FOR EXPANSION BOLTS SHALL BE CAST INTO PRECAST UNITS AT TIME OF FABRICATION.

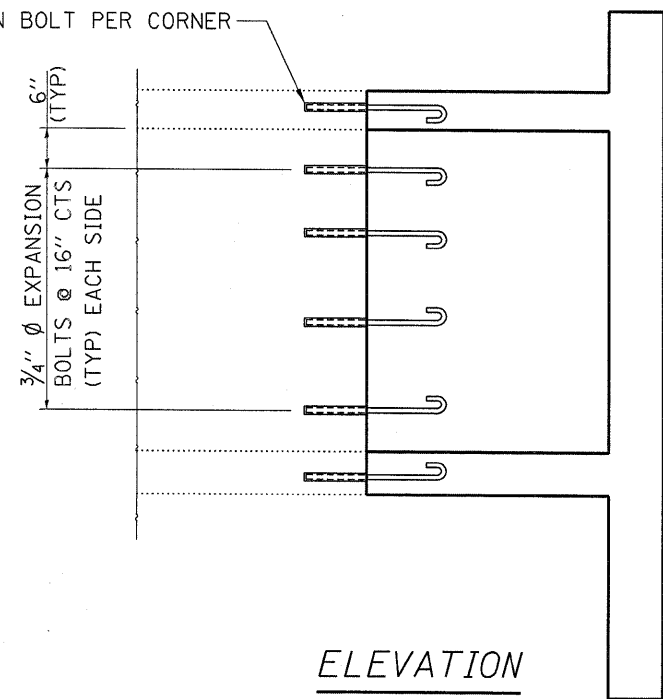
**USE MINIMUM ONE (1) EXPANSION BOLT AT EACH CORNER.



PLAN

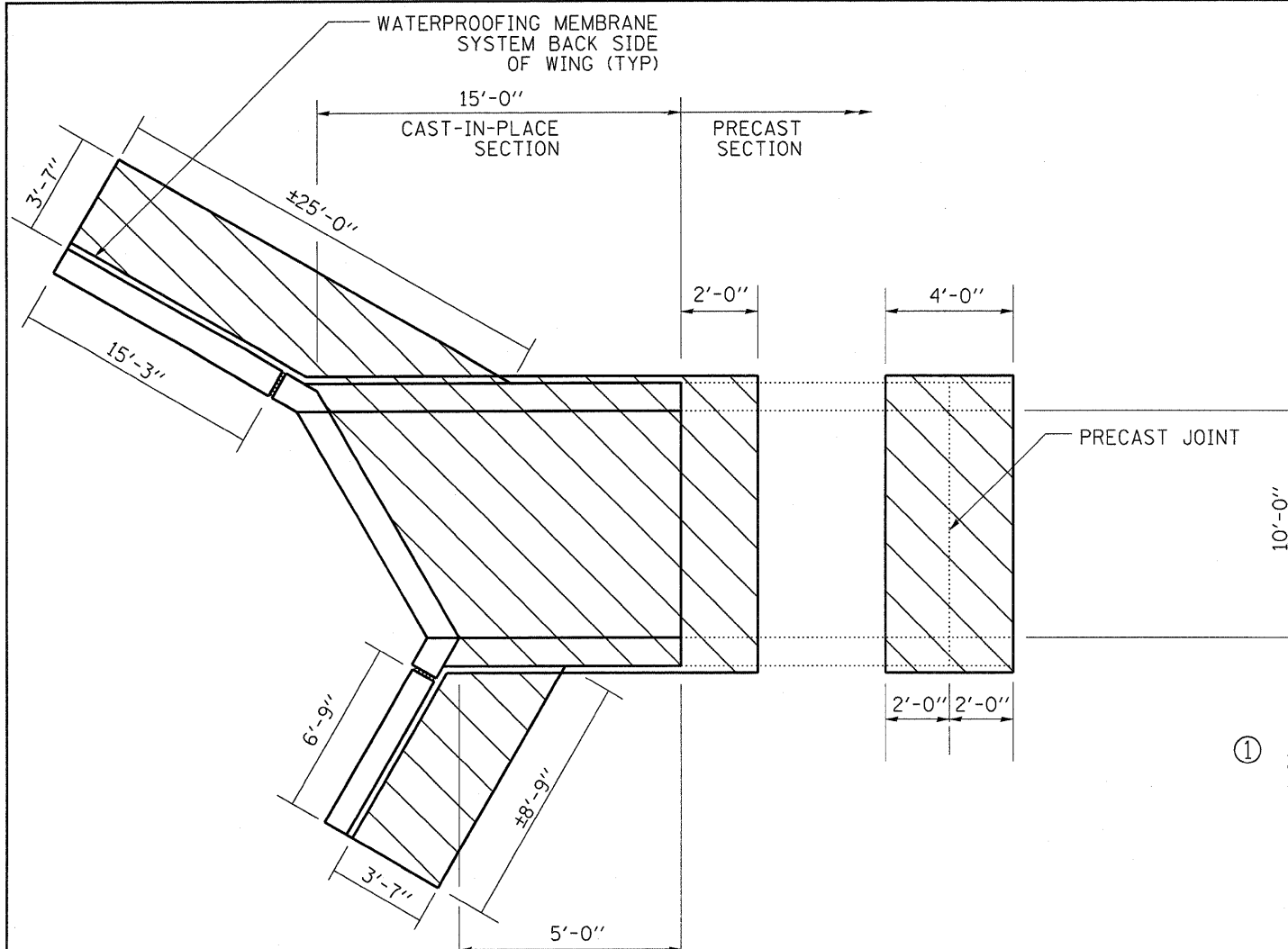
NOTE: DOWNSTREAM END SHOWN, UPSTREAM END SIMILAR

ONE EXPANSION BOLT PER CORNER



ELEVATION

NOTE: DOWNSTREAM END SHOWN, UPSTREAM END SIMILAR

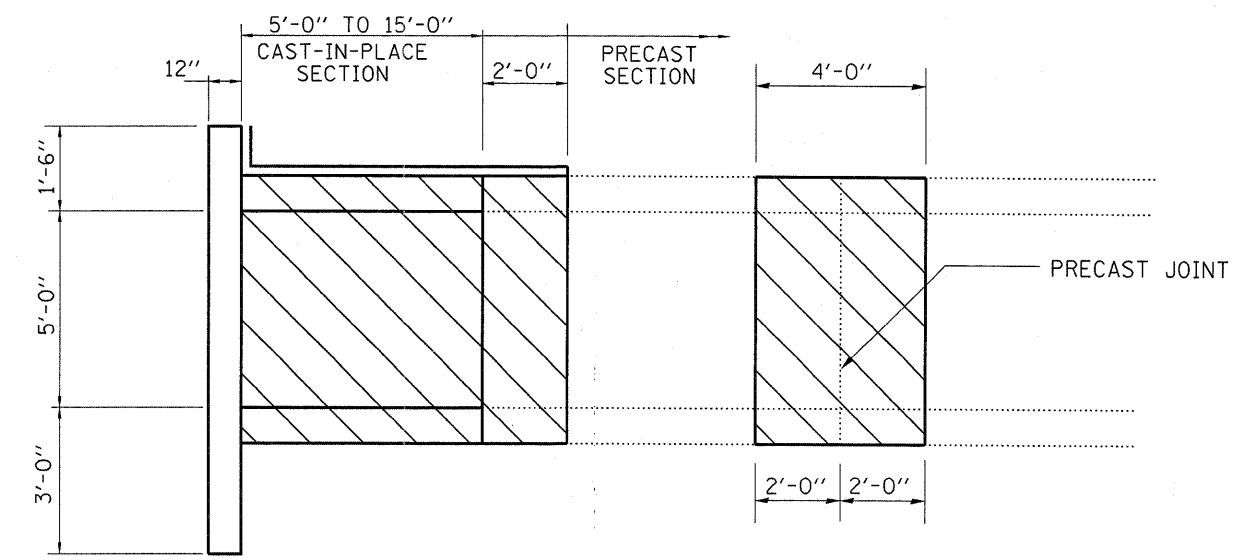


PLAN

DOWNSTREAM END SHOWN
UPSTREAM END SIMILIAR



WATERPROOFING MEMBRANE



SIDE ELEVATION

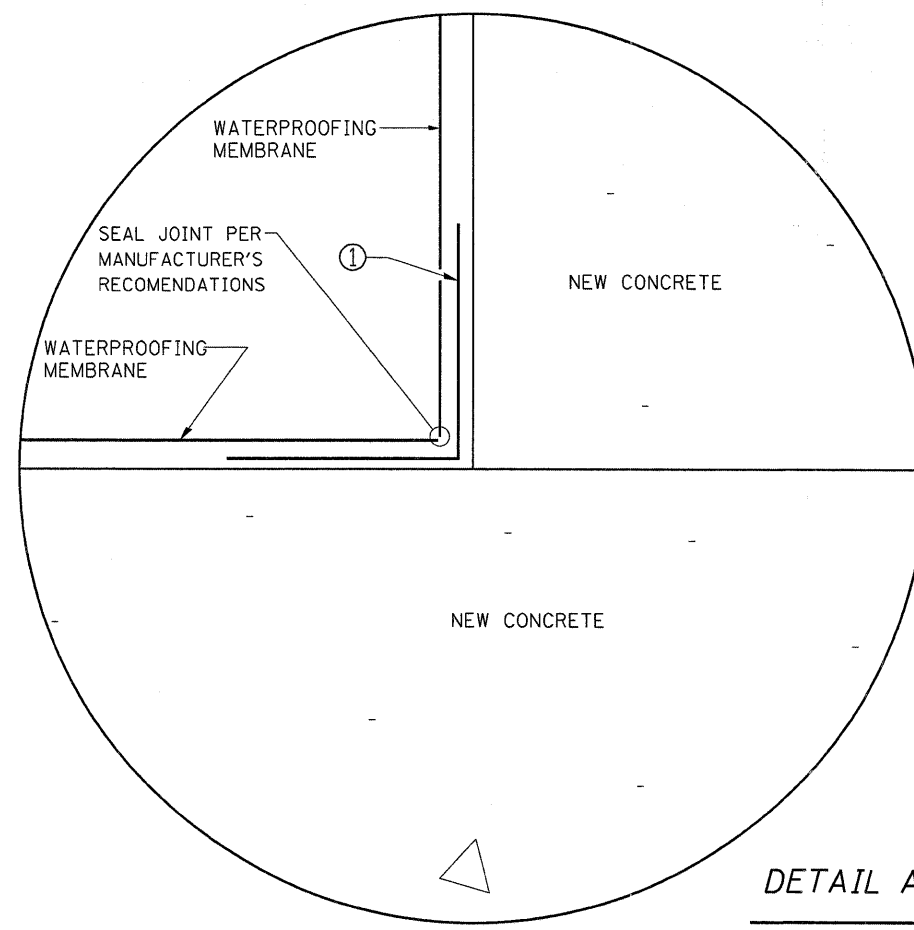
① A TWO FOOT (2') MIN WIDTH STRIP OF WATERPROOFING MEMBRANE SHALL BE PLACED CENTERED OVER THE CONSTRUCTION JOINT PRIOR TO APPLYING A FULL PROTECTIVE LAYER TO THE CONCRETE SURFACES.

**BILL OF MATERIAL
TOTAL - BOTH WINGS**

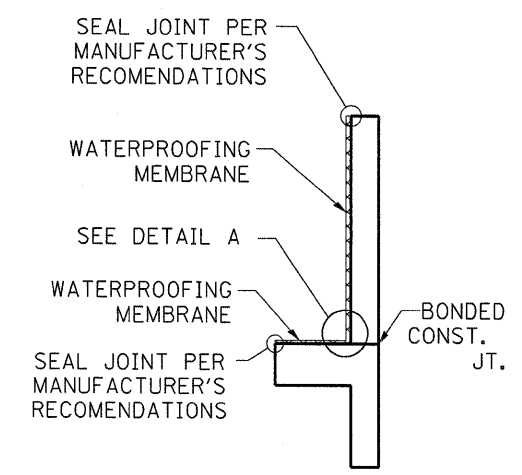
SHEET WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	11
-------------------------------------	---------	----

**BILL OF MATERIAL
BOX CULVERT**

SHEET WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	114
-------------------------------------	---------	-----



DETAIL A



END ELEVATION

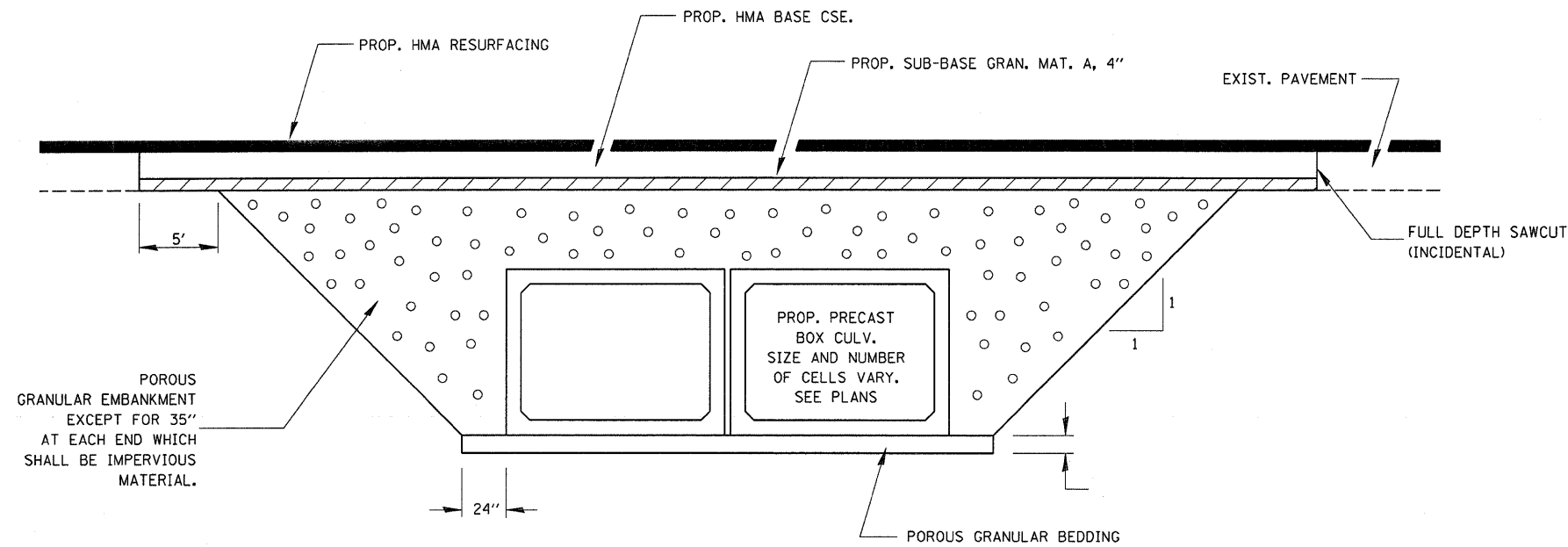
NOTES:

THE EXPOSED SURFACES AS INDICATED SHALL BE PROTECTED BY THE WATERPROOFING MEMBRANE AS PER THE MANUFACTURER'S RECOMENDATIONS.

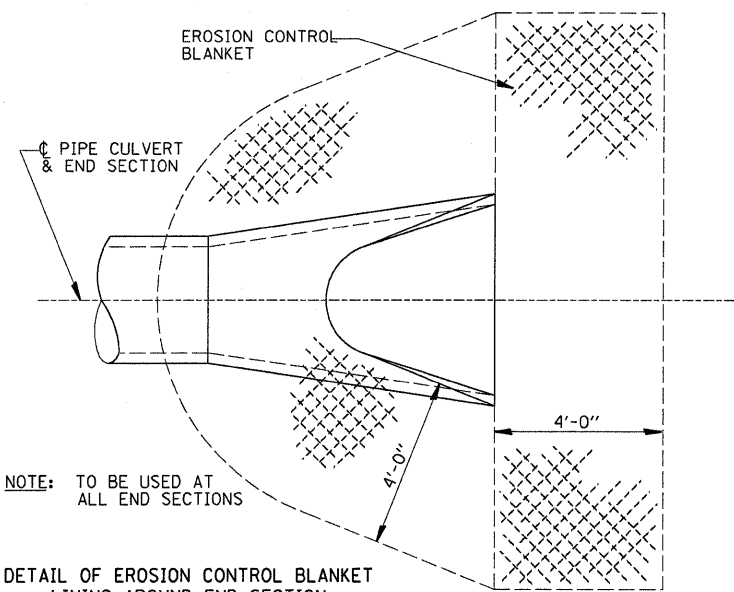
A MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING THE INSTALLATION OF THE WATERPROOFING MEMBRANE TO PROVIDE TECHNICAL SUPPORT WHEN REQUIRED. ALL COST INCURRED DUE TO THE ON-SITE REPRESENTATIVE SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT COST OF THE WATERPROOFING MEMBRANE WORK.

THE CONTRACTOR SHALL INSTALL THE WATERPROOFING MEMBRANE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, PLAN DETAILS AND AS DIRECTED BY THE ENGINEER.

FILE NAME =	USER NAME = carpenterdj	DESIGNED -	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WATERPROOFING MEMBRANE SYSTEM	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ci\pw_work\VPWIDOT\CARPENTERDJ\dms30350	EP03107-sht-culvert details.DGN	DRAWN -	REVISD -			646	(1221)	BUREAU	18	12	
	PLOT SCALE = 5/8" = 1' IN.	CHECKED -	REVISD -			CONTRACT NO. 66858					
	PLOT DATE = Oct 22, 2008 - 08:34:39 AM	DATE -	REVISD -			FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					



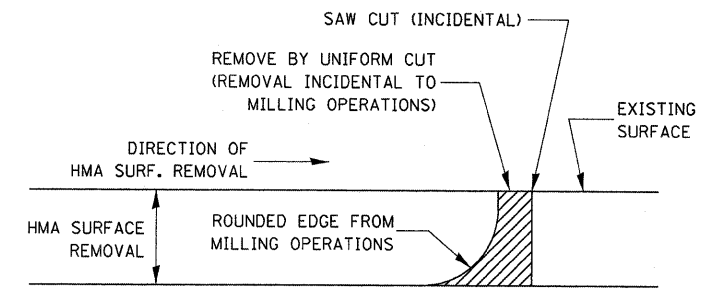
SECTION THROUGH PRECAST BOX CULVERT



NOTE: TO BE USED AT ALL END SECTIONS

DETAIL OF EROSION CONTROL BLANKET LINING AROUND END SECTION

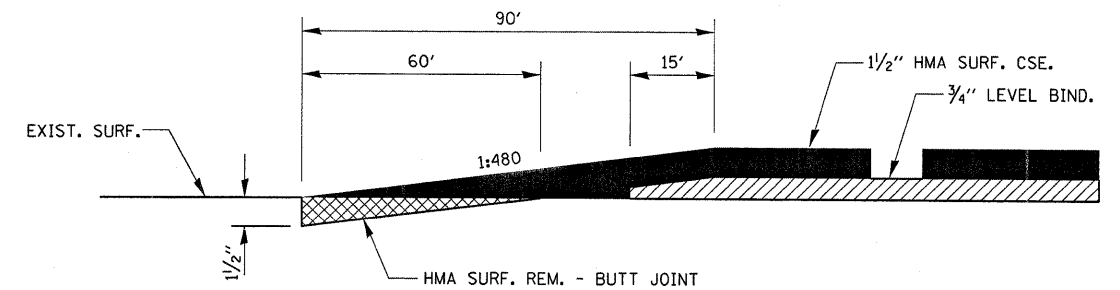
NOTE: PRC FLARED END SECTION SHOWN. TREATMENT SAME FOR OTHER END SECTIONS.



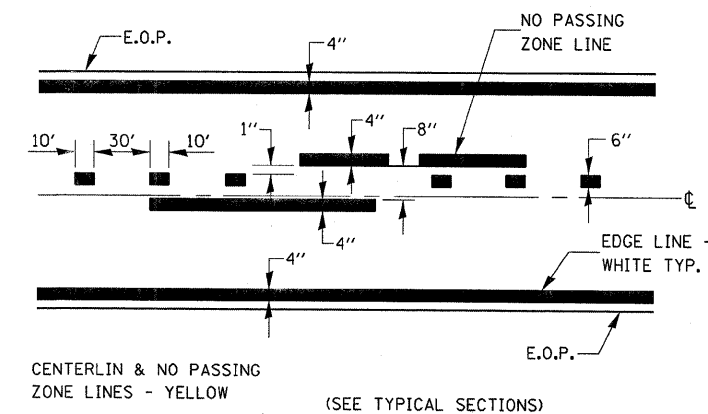
NOTE:

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



BUTT JOINT DETAIL

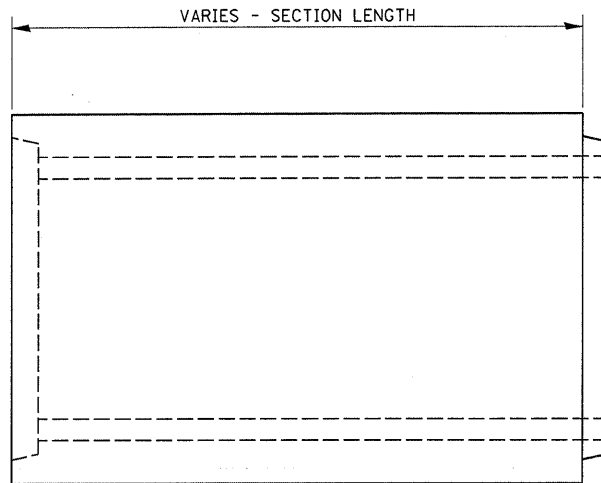


CENTERLINE & NO PASSING ZONE LINES - YELLOW

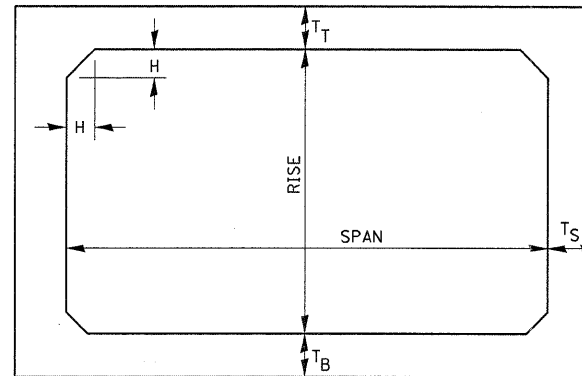
(SEE TYPICAL SECTIONS)

PAVEMENT MARKING

FILE NAME =	USER NAME = carpenterdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
EP83107-sht-details.DGN	EP83107-sht-details.DGN	DRAWN -	REVISED -			646	(122)I	BUREAU	18	14	
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 66858					
PLOT DATE = Oct 22, 2008 - 08:31:59 AM		DATE -	REVISED -			FED. ROAD DIST. NO. - [ILLINOIS] FED. AID PROJECT					



ELEVATION



NOTE: THE HAUNCH DIMENSION H, IS EQUAL TO THE WALL THICKNESS T_S.

TYPICAL BOX SECTION

SPAN, FEET	T _T , INCHES		T _B , INCHES		T _S , INCHES	
	M 259	M 273	M 259	M 273	M 259	M 273
3	4	7	4	6	4	4
4	5	7½	5	6	5	5
5	6	8	6	7	6	6
6	7	8	7	7	7	7
7	8	8	8	8	8	8
8	8	8	8	8	8	8
9	9	9	9	9	9	9
10	10	10	10	10	10	10
11	11	11	11	11	11	11
12	12	12	12	12	12	12

TYPICAL THICKNESSES

GENERAL NOTES:

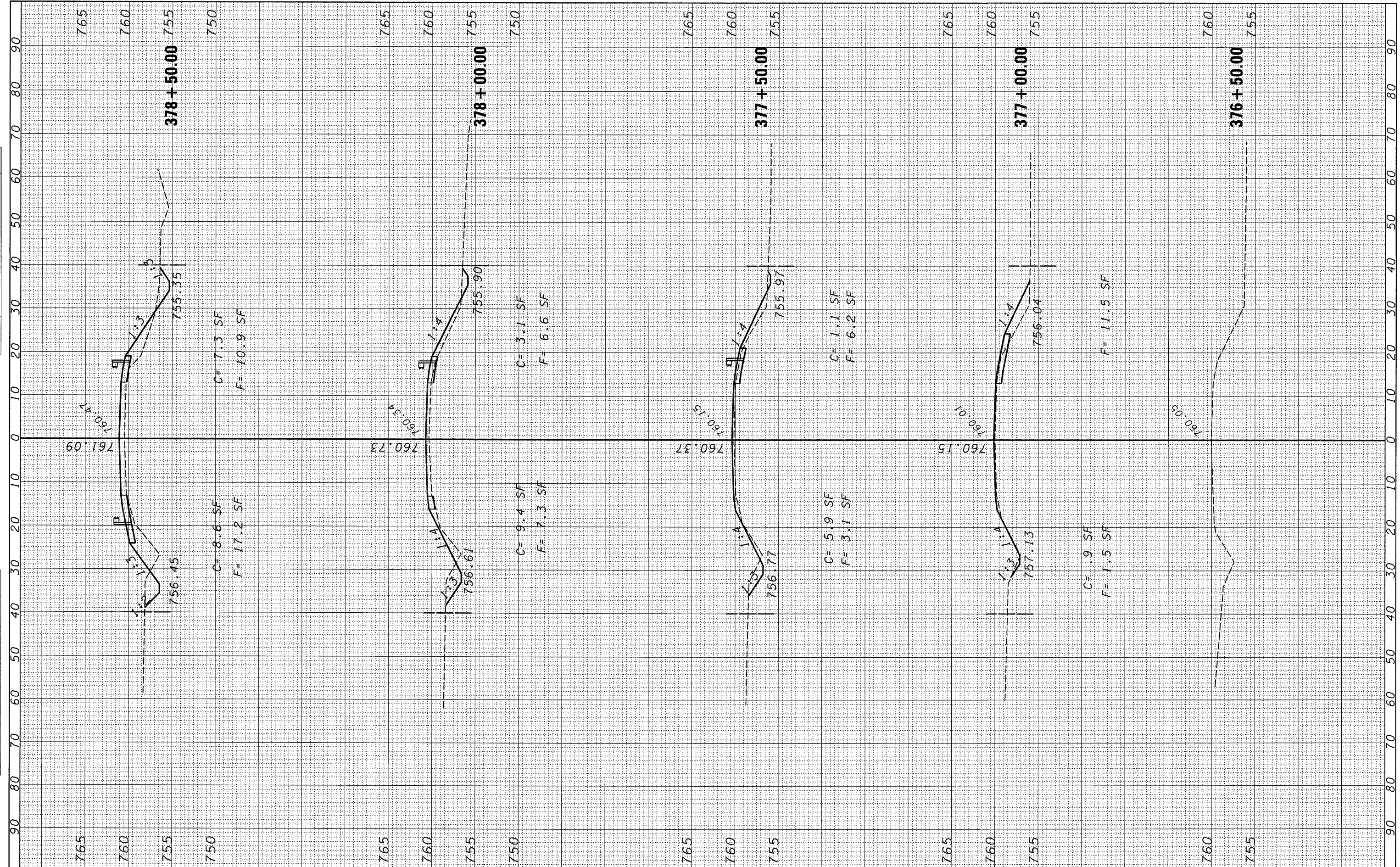
MINIMUM COVER FOR BOX
CULVERTS SHALL BE 6".

PRECAST CONCRETE BOX SECTION

FILE NAME =	USER NAME = carpenterdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ct:\pw_work\VPWIDOT\CARPENTERD\j\dms30350	EP03107-sht-details.DGN	DRAWN -	REVISED -			646	(122)I	BUREAU	18	15	
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -			CONTRACT NO. 66858					
	PLOT DATE = Oct 22, 2008 - 08:31:39 AM	DATE -	REVISED -			FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT					

FINAL SURVEY
 SURVEYED _____
 NOTE BOOK _____
 NO. _____

ORIGINAL SURVEY
 SURVEYED _____
 NOTE BOOK _____
 NO. _____



C= 7.3 SF
 F= 10.9 SF

C= 8.6 SF
 F= 17.2 SF

C= 3.1 SF
 F= 6.6 SF

C= 9.4 SF
 F= 7.3 SF

C= 1.1 SF
 F= 6.2 SF

C= 5.9 SF
 F= 3.1 SF

F= 11.5 SF

C= .9 SF
 F= 1.5 SF

FILE NAME =	USER NAME = carpenrtdj	DESIGNED -	REVISED -
ct:\pw_work\FW1001\CARPENTEROJ\dms30350\ssht.dgn		DRAWN -	REVISED -
PLOT SCALE = 10.0000' / IN.		CHECKED -	REVISED -
PLOT DATE = Oct 22, 2008 - 08:29:35 AM		DATE -	REVISED -

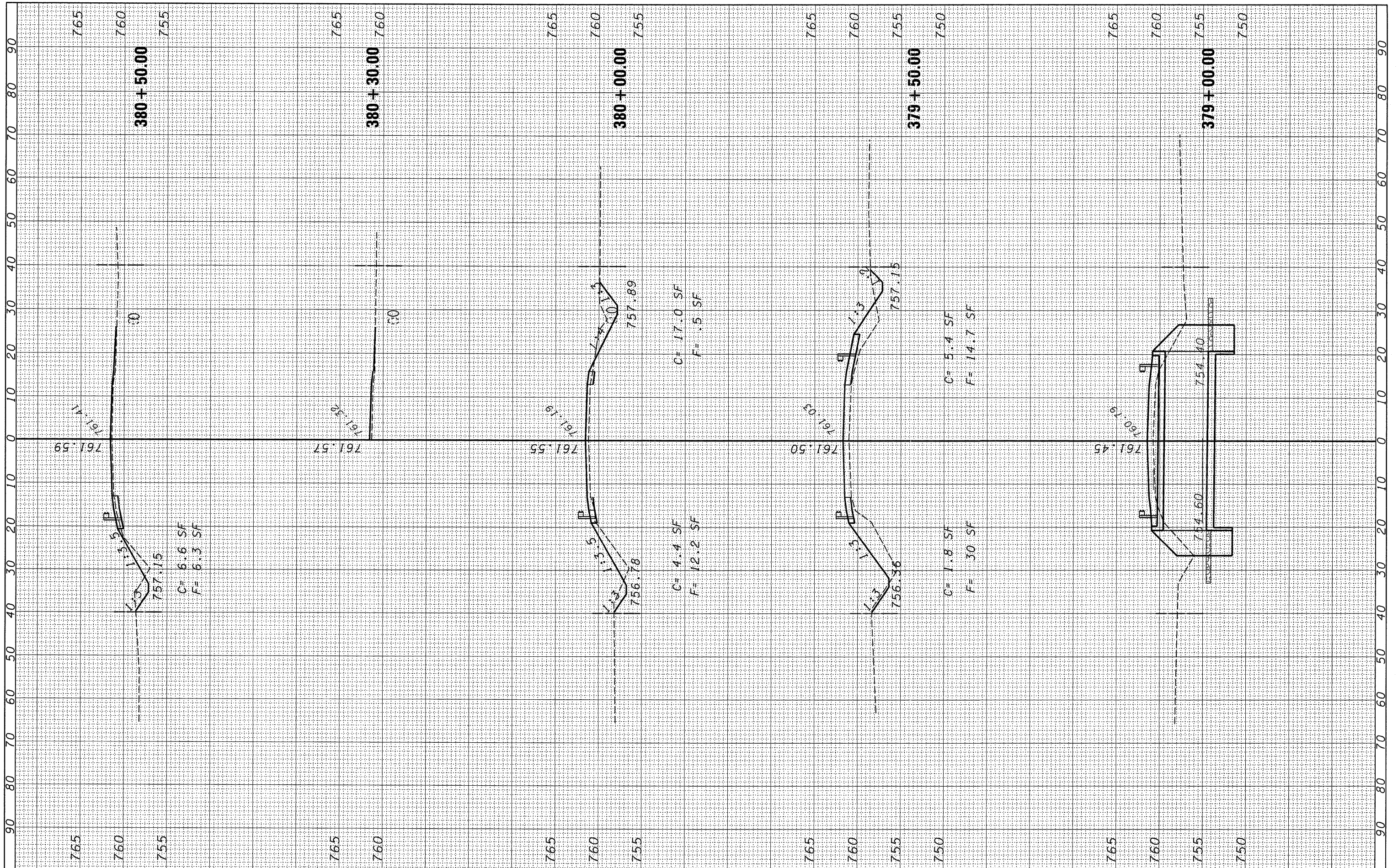
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SCALE: SHEET NO. OF SHEETS STA. 376+50.00 TO STA. 378+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(122)	BUREAU	18	16
CONTRACT NO. 66858				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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

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



FILE NAME = c:\pw_work\FWIDOT\CARPENTERJ\dms30350\ssht.dgn
 USER NAME = carpenterd_j
 PLOT SCALE = 10.0000' / IN.
 PLOT DATE = Oct 22, 2008 - 08:29:20 AM

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

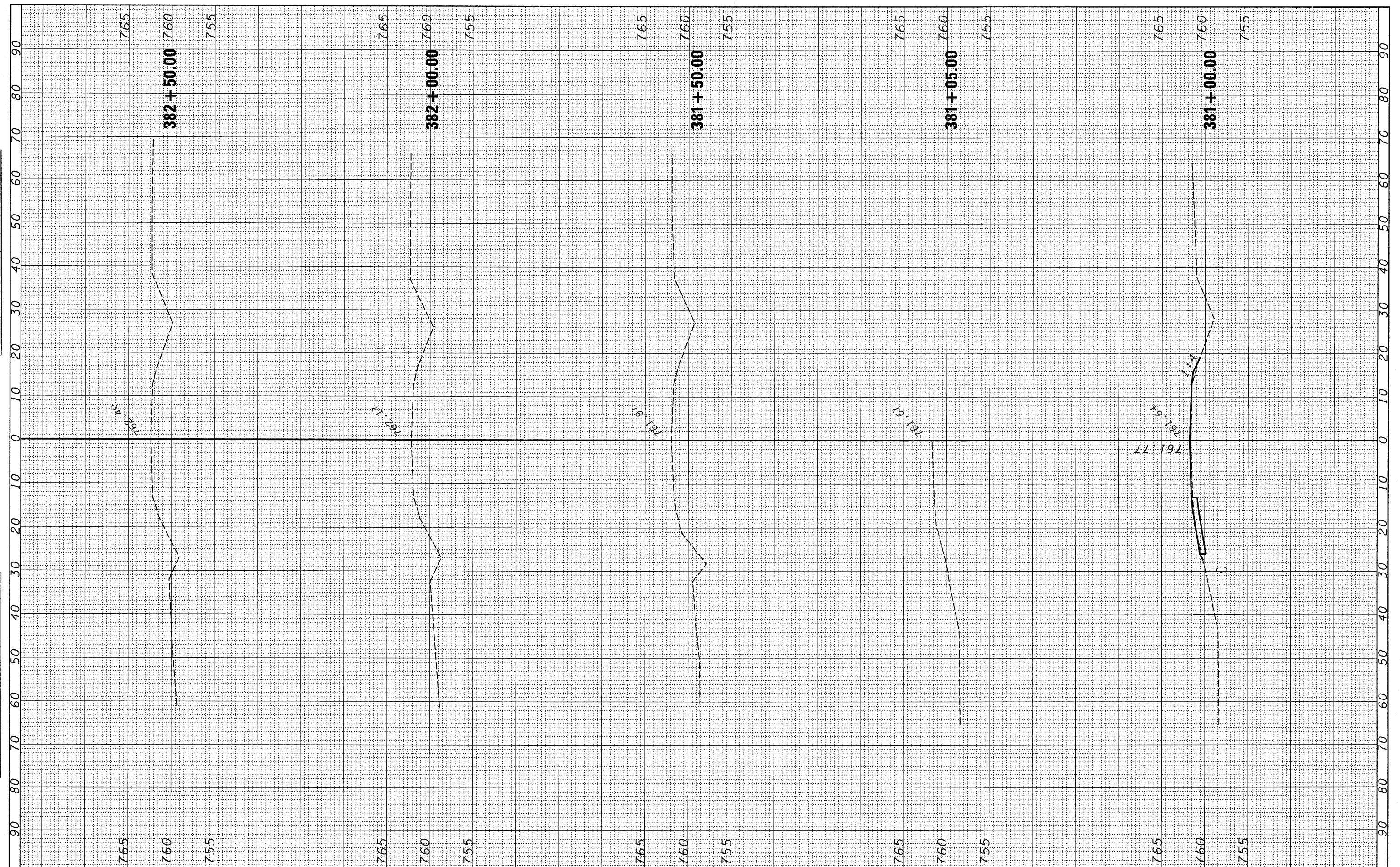
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SCALE: SHEET NO. OF SHEETS STA. 379+00.00 TO STA. 380+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(122)	BUREAU	18	17
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 66858	

FINAL SURVEY
 SURVEYED PLOTTED
 NOTE BOOK TEMPLATE
 NO. AREAS CHECKED

ORIGINAL SURVEY
 SURVEYED PLOTTED
 NOTE BOOK TEMPLATE
 NO. AREAS CHECKED



FILE NAME =	USER NAME = carpenterdj	DESIGNED -	REVISED -
ct:\pw_work\FW\DOT\CARPENTERDJ\dms30350\ssht.dgn		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SCALE: SHEET NO. OF SHEETS STA. 381+00.00 TO STA. 382+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(122)	BUREAU	18	18
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 66858				