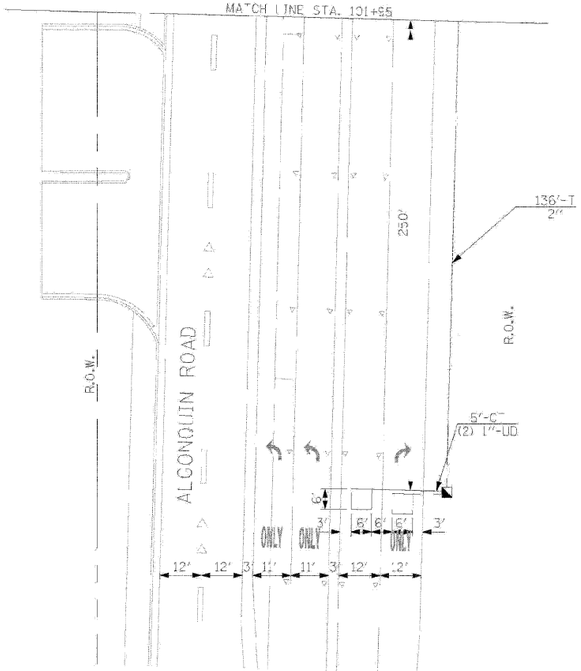
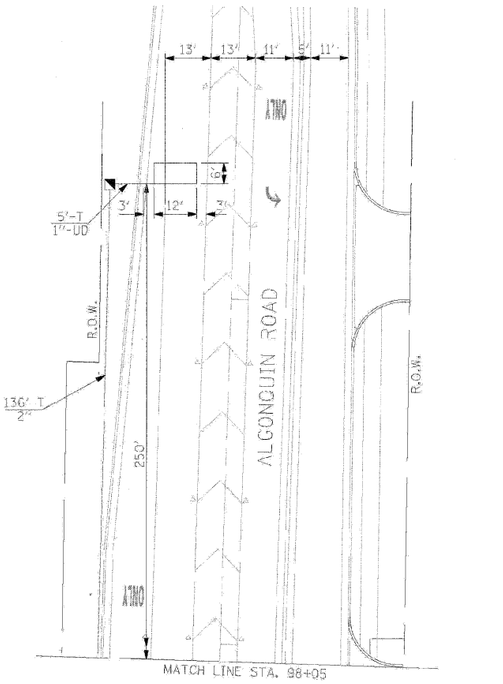
CONTRACT NO. 62882

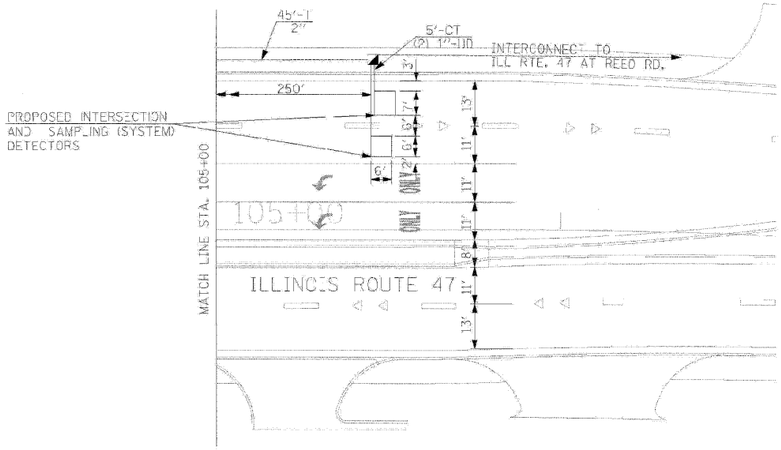
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	301
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER		
SERVICE INSTALLATION		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD, PEDESTRIAN		
SIGNAL POST		
MAST ARM ASSEMBLY AND POLE, STEEL		
MAST ARM ASSEMBLY AND POLE, ALUMINUM		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE		
UNIT DUCT	UD	
COMMON TRENCH	CT	
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED		
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP		
CAST IRON JUNCTION BOX		"E"
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
SIGNAL HEAD, OPTICALLY PROGRAMMED	"P"	"P"
CONDUIT SPLICE		
WOOD POLE		"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		"S"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
RAILROAD CONTROL CABINET		"E"
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"		"E"
ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"		"E"
MICROWAVE VEHICLE SENSOR		
UPS-BATTERY BACK-UP	B	B







THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION
ILLINOIS ROUTE 47
AT ALGONQUIN ROAD
(SHEET 2 OF 2)

SCALE: 1"=20'
DATE: APRIL 17, 2009

DRAWN BY: MAA
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5810

...\R130_2F_IL47@ALGONQUIN RD_Int2.dgn
4/24/2009
9:06:51 PM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\IL-CADD\Signals\301-434.dgn
PLOT SCALE = 1:1
USER NAME = 3838

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	302

CONTRACT NO. 62882

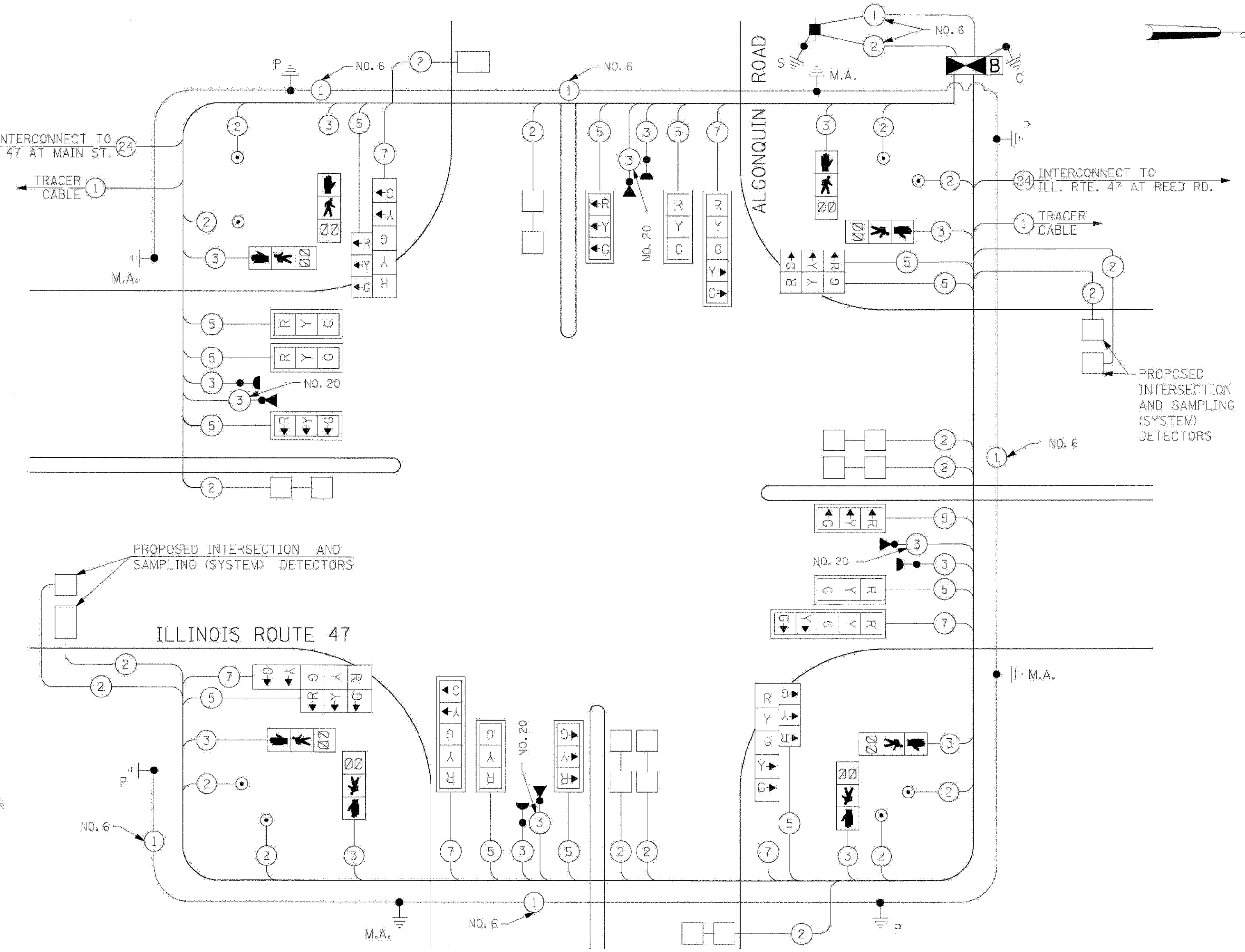
STA. 9+35.22 TO STA.142+08.53

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

SCHEDULE OF QUANTITIES

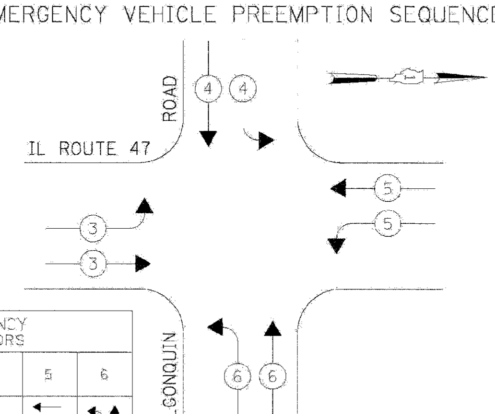
QUANTITY	UNIT	ITEM
73	SQ FT	SIGN PANEL - TYPE 1
1051	FOOT	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
85	FOOT	CONDUIT IN TRENCH, 2½" DIA., GALVANIZED STEEL
59	FOOT	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL
87	FOOT	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
10	FOOT	CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL
274	FOOT	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
455	FOOT	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
6	EACH	HANDHOLE
4	EACH	HEAVY-DUTY HANDHOLE
2	EACH	DOUBLE HANDHOLE
1105	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	TRANSCEIVER - FIBER OPTIC
1575	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
2636	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
3105	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
1462	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
3754	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
45	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
3	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 48 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 50 FT.
16	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
45	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
25	FOOT	CONCRETE FOUNDATION, TYPE E 42-INCH DIAMETER
9	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
12	EACH	TRAFFIC SIGNAL BACKPLATE
12	EACH	INDUCTIVE LOOP DETECTOR
* 4	EACH	LIGHT DETECTOR
* 1	EACH	LIGHT DETECTOR AMPLIFIER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
9	EACH	REMOVE EXISTING HANDHOLE
9	EACH	REMOVE EXISTING CONCRETE FOUNDATION
573	FOOT	PREFORMED DETECTOR LOOP
4	EACH	PAINT NEW TRAFFIC SIGNAL POST
4	EACH	PAINT NEW MAST ARM POLE, 40 FEET AND OVER
1	EACH	TEMPORARY TRAFFIC SIGNAL TIMING
1	EACH	SERVICE INSTALLATION - POLE MOUNTED
1	EACH	UNINTERRUPTIBLE POWER SUPPLY
911	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
*989	FOOT	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED

* 100% COST TO VILLAGE OF HUNTLEY

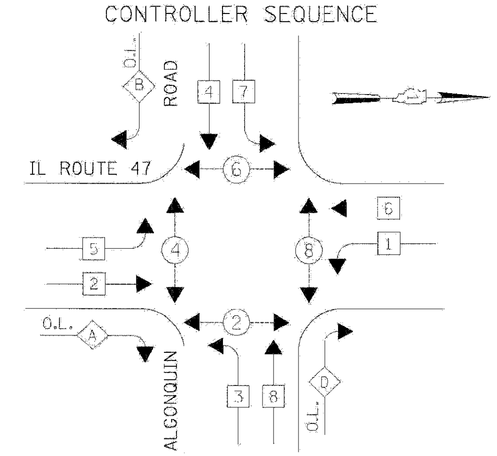


CABLE PLAN

EMERGENCY VEHICLE PREEMPTION SEQUENCE



CONTROLLER SEQUENCE



I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS X	WATTAGE INCAND.	WATTAGE LED	X %OPERATION	
SIGNAL (RED)	20	135	17	0.50	170
(YELLOW)	20	135	25	0.25	125
(GREEN)	20	135	15	0.25	75
ARROW	12	135	12	0.10	14.4
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN				0.05	
FLASHER				0.50	
				TOTAL =	684.4

ENERGY COSTS TO:
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: KATIE OLIVA
PHONE: (847) 608-2338
COMPANY: COMMONWEALTH EDISON

PROPOSED EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	3	4	5	6
MOVEMENT				

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A-POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C-CONTROLLER W/UPS	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2= (6m+L-0.6m)=
D-CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)		
E-M.ARM POLE		CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
36" (900mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
42" (1050mm)	25 (7.6)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

PHASE DESIGNATION DIAGRAM

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
A	=	2	+	3
B	=	4	+	5
D	=	8	+	1

LEGEND

- DUAL ENTRY PHASE
- SINGLE ENTRY PHASE
- O.L. OVERLAP
- PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE

CABLE PLAN LEGEND

EXISTING | PROPOSED

- 8" (200mm) TRAFFIC SIGNAL SECTION
- 12" (300mm) TRAFFIC SIGNAL SECTION
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
- CONTROLLER CABINET
- SERVICE INSTALLATION
- TELEPHONE INSTALLATION
- VEHICLE DETECTOR, INDUCTION LOOP
- MAGNETIC DETECTOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PUSH-BUTTON DETECTOR
- DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
- GROUND CABLE IN CONDUIT NO.6 SOLID COPPER (GREEN)
- FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MMI2F & SMI2F
- SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
- RAILROAD CONTROL CABINET
- ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
- ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
- H/C GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER
- P GROUND ROD AT POST OR MAST ARM POLE
- S GROUND ROD AT ELECTRIC SERVICE INSTALLATION
- LOCAL AND MASTER CONTROLLER
- MICROWAVE VEHICLE SENSOR
- B UPS-BATTERY BACK-UP

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS: NAME | DATE

GANDHI ASSOCIATES, INC.
ENGINEERS AND PLANNERS
2235 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5810

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE AND SCHEDULE OF QUANTITIES ILLINOIS ROUTE 47 AT ALGONQUIN ROAD

SCALE: N.T.S. DRAWN BY: WE,MA,YB
DATE: APRIL 17, 2009 DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

$FILEA$
7/20/2009
2:27:14 PM

PLOT DATE = Wednesday August 05, 2009
FILE NAME = S:\11-C400\01-sht\302_t35.dgn
PLOT SCALE = 1:1
USER NAME = 3030

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	303
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGH-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACTOR'S BID PRICE.

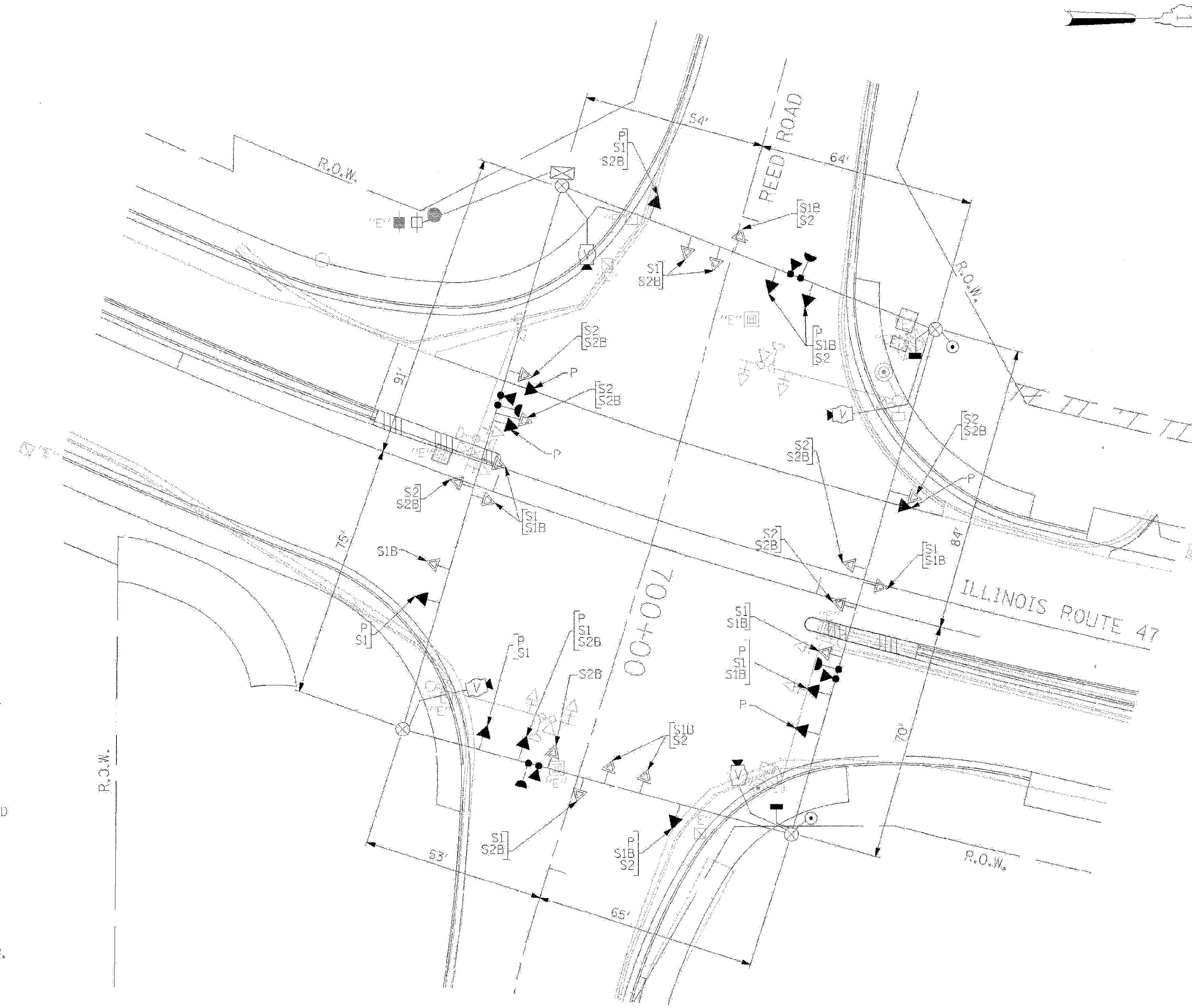
1	EACH	CONTROLLER AND CABINET COMPLETE
4	EACH	SIGNAL HEAD LED, 1-FACE 3-SECTION, MAST ARM MOUNTED
4	EACH	SIGNAL HEAD LED, 1-FACE 5-SECTION, BRACKET MOUNTED
4	EACH	SIGNAL HEAD LED, 1-FACE 5-SECTION, MAST ARM MOUNTED
8	EACH	TRAFFIC SIGNAL BACK PLATE
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED
4	EACH	TRAFFIC SIGNAL POST
4	EACH	STEEL MAST ARM ASSEMBLY AND POLE (2-44 FOOT, 46 FOOT, 48 FOOT)
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	SERVICE INSTALLATION

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR PICK UP OF ALL EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

AGENCY: VILLAGE OF HUNTLEY

CONTACT INFORMATION:
MR. WILLIAM GEEGAN
VILLAGE OF HUNTLEY
ENGINEERING DEPARTMENT
PHONE: (847) 515-5210

3	EACH	LIGHT DETECTOR
1	EACH	LIGHT DETECTOR AMPLIFIER MODEL 452



TEMPORARY TRAFFIC SIGNAL PLAN

STAGES : PRE-STAGE, STAGE 1, STAGE 1B, STAGE 2, AND STAGE 2B

NOTE 1: ALL THE VIDEO DETECTION ZONES SHALL BE REDEFINED FOR EACH CONSTRUCTION STAGE. THIS WORK IS INCIDENTAL TO THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION".

NOTE 2: THE ORIGINAL SIGNAL HEAD PLACEMENT FOR ALL APPROACHES OF THE INTERSECTION IS FOR EXISTING PAVEMENT GEOMETRICS (P). ADDITIONAL CONSTRUCTION STAGES, WHERE ORIGINAL SIGNAL HEAD PLACEMENT IS UTILIZED, ARE SHOWN WITH S1 THROUGH S2B FOR CONSTRUCTION STAGE 1 THROUGH CONSTRUCTION STAGE 2B.

NOTE 3: THE SECONDARY SIGNAL HEAD PLACEMENT IS FOR CONSTRUCTION STAGES AS MARKED, NEXT TO THE SIGNAL HEAD, FOR APPLICABLE CONSTRUCTION STAGES FOR INDIVIDUAL APPROACH OF THE INTERSECTION.

TEMPORARY TRAFFIC SIGNAL LEGEND

- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- PEDESTRIAN PUSHBUTTON DETECTOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- CT COMMON TRENCH
- UD UNIT DUCT
- G.S. CONDUIT IN GROUND
- HANDHOLE
- HEAVY DUTY HANDHOLE
- VIDEO CAMERA ASSEMBLY

EXISTING EQUIPMENT TO BE REMOVED LEGEND

- EXISTING SIGNAL TO BE REMOVED
- "E" EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING MAST ARM POLE AND FOUNDATION TO BE REMOVED
- "E" EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" EXISTING HANDHOLE TO BE REMOVED
- "E" EXISTING DOUBLE HANDHOLE TO BE REMOVED
- PEDESTRIAN SIGNAL TO BE REMOVED
- EXISTING PEDESTRIAN PUSH-BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- "E" EXISTING HEAVY DUTY HANDHOLE TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL PLAN
ILLINOIS ROUTE 47 AT REED ROAD
PRE-STAGE, STAGE 1, STAGE 1B, STAGE 2, AND STAGE 2B
(SHEET 1 OF 4)

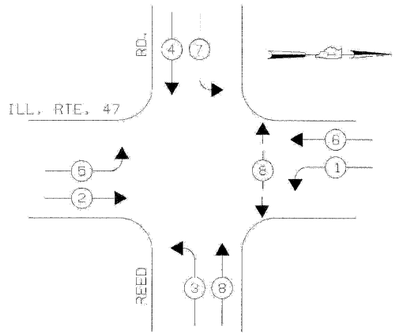
SCALE: 1"=20'
DATE: APRIL 17, 2009
DRAWN BY: MAA
DESIGNED BY: PKG/RRM
CHECKED BY: PKC/RRM

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 326
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5910

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	304
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

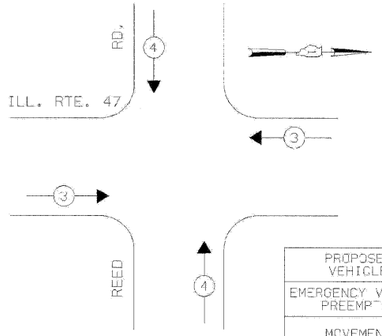
CONTROLLER SEQUENCE



LEGEND

- DUAL ENTRY PHASE
- SINGLE ENTRY PHASE
- O.L. OVERLAP
- PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE

EMERGENCY VEHICLE PREEMPTION SEQUENCE



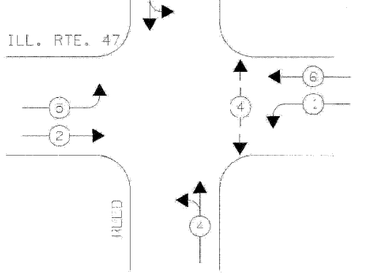
PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←	↓ ↑

TEMPORARY PHASE DESIGNATION DIAGRAM

STAGES: PRE-STAGE AND AFTER ALL THE ROADWAY GEOMETRICS ARE BUILT AND OPEN TO TRAFFIC, PRIOR TO PROPOSED SIGNAL BECOMES OPERATIONAL.

STAGES: PRE-STAGE AND AFTER ALL THE ROADWAY GEOMETRICS ARE BUILT AND OPEN TO TRAFFIC, PRIOR TO PROPOSED SIGNAL BECOMES OPERATIONAL.

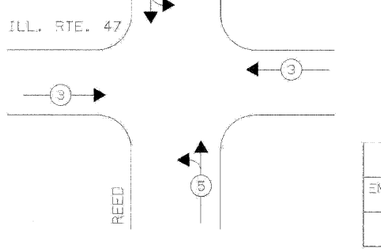
CONTROLLER SEQUENCE



LEGEND

- D.JAI ENTRY PHASE
- SINGLE ENTRY PHASE
- O... OVERLAP
- PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE

EMERGENCY VEHICLE PREEMPTION SEQUENCE

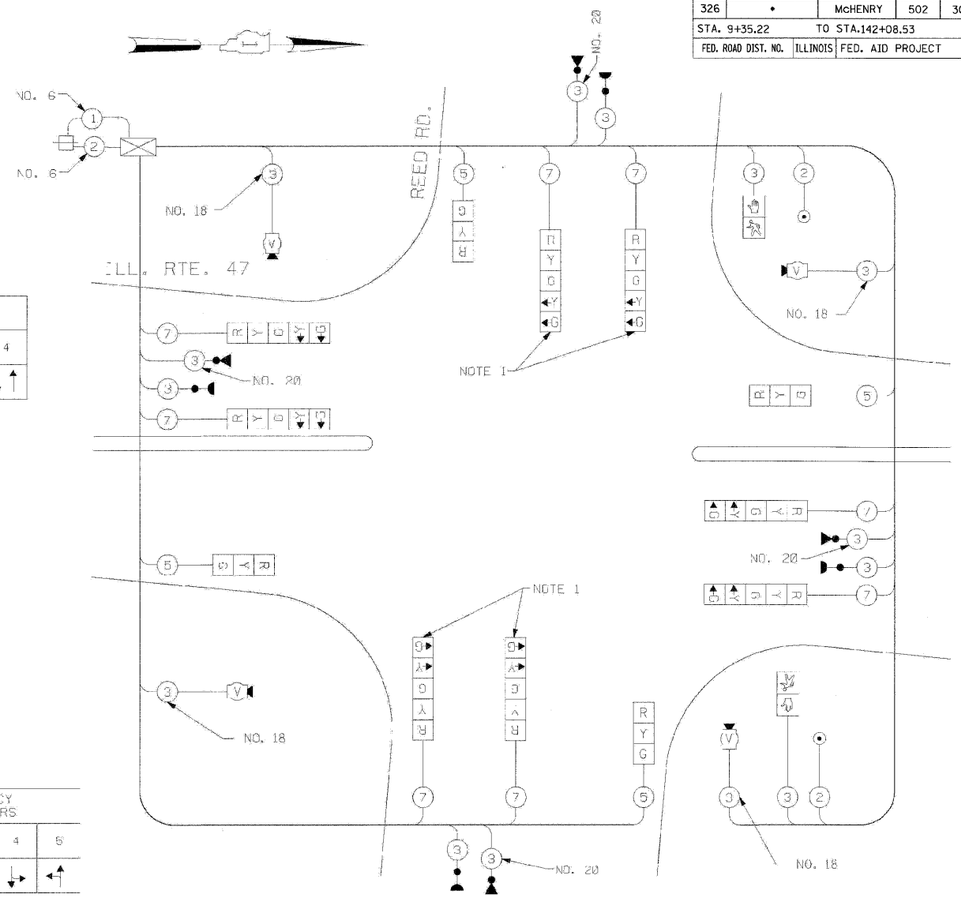


PROPOSED EMERGENCY VE-ICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	←	↓	↑

TEMPORARY PHASE DESIGNATION DIAGRAM

STAGES: STAGE1, STAGE 1B, STAGE 2, STAGE 2B.

STAGES: STAGE1, STAGE 1B, STAGE 2, STAGE 2B.



TEMPORARY CABLE PLAN

STAGES: PRE-STAGE, STAGE 1, STAGE 1B, STAGE 2, AND STAGE 2B.

I.D.O.T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO LAMPS	WATTAGE X INCAND.	WATTAGE X LED	%OPERATION	TOTAL WATTAGE
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	16	135	15	0.25	60
ARROW	8	135	15	0.10	0.6
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN				0.05	
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	396.6

ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: KATIE OLIVA
PHONE: (847) 608-2338
COMPANY: COMED

TEMPORARY CABLE DIAGRAM LEGEND

- R — TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300MM)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- (5) — INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- 12" (300MM) PEDESTRIAN SIGNAL SECTION
- MICROWAVE VEHICLE SENSOR
- V — VIDEO CAMERA ASSEMBLY
- C — CO-AXIAL VIDEO CABLE

NOTE 1: DURING CONSTRUCTION STAGE 1, STAGE 1B, STAGE 2, AND STAGE 2B THE YELLOW LEFT ARROW INDICATION SECTION FOR EASTBOUND AND WESTBOUND DIRECTION OF TRAFFIC SHALL BE BAGGED AND DISCONNECTED AT THE CONTROLLER AND APPLICABLE PHASES SHALL BE DISABLED IN THE CONTROLLER. THE YELLOW LEFT ARROW FOR EASTBOUND AND WESTBOUND DIRECTION SHALL REMAIN BAGGED DURING CONSTRUCTION STAGE 3, STAGE 3B, AND STAGE 3C ALSO.

NOTE 2: ALL THE VIDEOS DETECTION ZONES SHALL BE REDEFINED FOR EACH CONSTRUCTION STAGE. THIS WORK IS INCIDENTAL TO THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION.

NOTE 3: ALL THE TEMPORARY TRAFFIC SIGNAL HEADS SHALL BE LED TYPE.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS	
NAME	DATE

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL: (773) 774-5300

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN,
ILLINOIS ROUTE 47 AT REED ROAD
PRE-STAGE, STAGE 1, STAGE 1B,
STAGE 2, AND STAGE 2B
(SHEET 2 OF 4)

SCALE: N.I.S.
DATE: APRIL 17, 2009

DRAWN BY: ME,MA,YB
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\IT-CAD\IDR-ahr\304_437.dgn
PLOT SCALE = 1:1
USER NAME = 3830

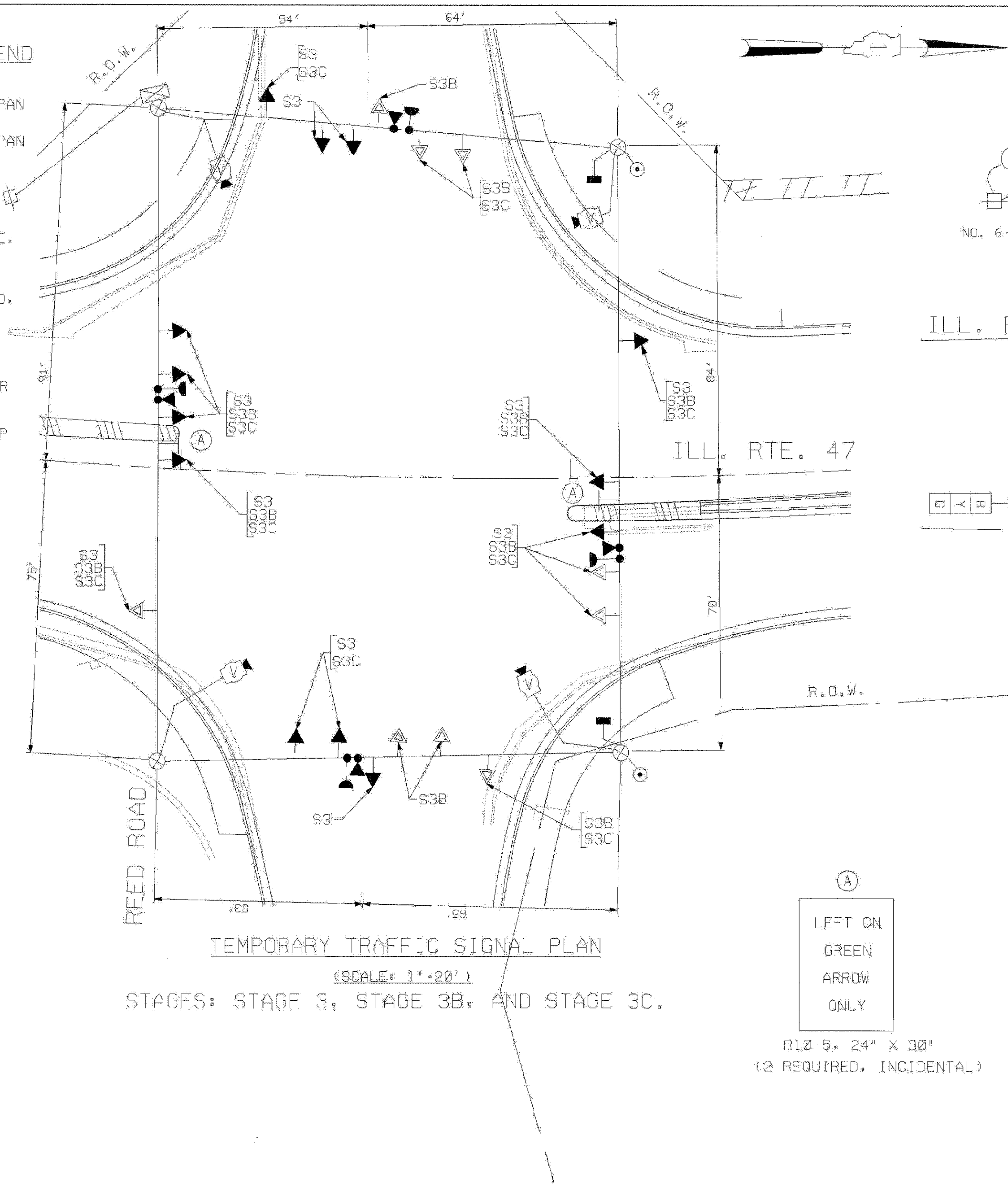
...w133_19-IL47@REED RD_TEMP_CD.dgn
1/21/2009
5:06:15 PM

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	305
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TEMPORARY TRAFFIC SIGNAL LEGEND

- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7M) MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- MICROWAVE VEHICLE SENSOR
- PEDESTRIAN PUSHBUTTON DETECTOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- CT COMMON TRENCH
- UD UNIT DUCT
- G.S. CONDUIT IN GROUND
- HANDHOLE
- HEAVY DUTY HANDHOLE
- VIDEO CAMERA ASSEMBLY



TEMPORARY TRAFFIC SIGNAL PLAN

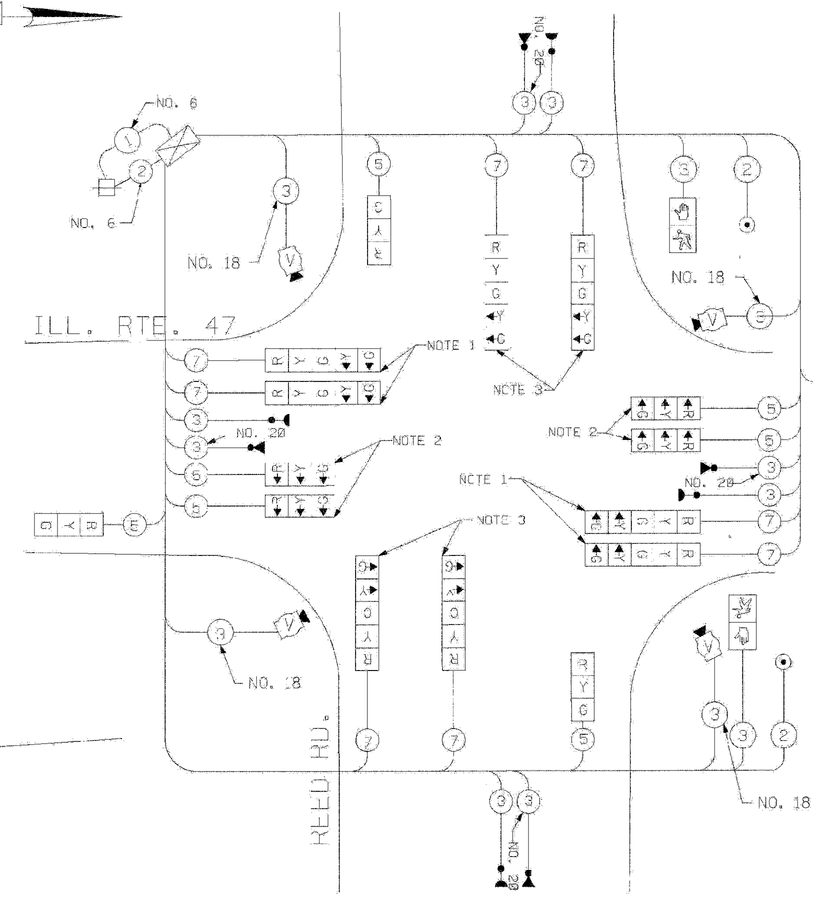
(SCALE: 1"=20')

STAGES: STAGE 3, STAGE 3B, AND STAGE 3C.

(A)

LEFT ON GREEN ARROW ONLY

R10 5, 24" X 30"
(2 REQUIRED, INCIDENTAL)



TEMPORARY CABLE PLAN

(NOT TO SCALE)

STAGES: STAGE 3, STAGE 3B, AND STAGE 3C.

TEMPORARY CABLE DIAGRAM LEGEND

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300MM)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- (5) INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- 12" (300MM) PEDESTRIAN SIGNAL SECTION
- VIDEO CAMERA ASSEMBLY
- (C) CO-AXIAL VIDEO CABLE
- SIGN PANEL

NOTE 1: DURING CONSTRUCTION STAGE 3, STAGE 3B, AND STAGE 3C, THE GREEN AND YELLOW LEFT ARROW INDICATION SECTIONS FOR THE NORTHBOUND AND SOUTHBOUND DIRECTION OF TRAFFIC SHALL BE BAGGED AND DISCONNECTED AT THE CONTROLLER. THEY SHALL BE UNBAGGED AND CONNECTED AT THE CONTROLLER AFTER CONSTRUCTION STAGE 3C UNTIL PROPOSED TRAFFIC SIGNALS ARE MADE OPERATIONAL.

NOTE 2: THESE SIGNAL HEADS WITH ALL ARROW INDICATIONS SHALL BE BAGGED AND DISCONNECTED AT THE CONTROLLER AFTER CONSTRUCTION STAGE 3C, WHEN ALL THE PROPOSED ROADWAY GEOMETRICS ARE BUILT AND OPEN TO TRAFFIC. THESE SIGNAL HEADS ARE NEEDED IN STAGES 3, 3B, AND 3C ONLY AND CAN BE REMOVED AFTER STAGE 3C WITH APPROVAL OF THE ENGINEER.

NOTE 3: THE YELLOW LEFT ARROW INDICATION SECTION IN THE 5-SECTION SIGNAL HEADS FOR THE EASTBOUND AND WESTBOUND DIRECTION SHALL REMAIN BAGGED AND DISCONNECTED AT THE CONTROLLER THRU CONSTRUCTION STAGE 3, STAGE 3B, AND STAGE 3C.

NOTE 4: ALL THE VIDEO DETECTION ZONES SHALL BE REDEFINED FOR EACH CONSTRUCTION STAGE. THIS WORK IS INCIDENTAL TO THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION".

NOTE 5: ALL THE TEMPORARY TRAFFIC SIGNAL HEADS SHALL BE LED TYPE.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

I.D.O.T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO LAMPS	X WATTAGE INCAND.	WATTAGE LED	X %OPERATION	TOTAL WATTAGE
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	20	135	15	0.25	75
ARROW		135	12	0.10	
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN				0.05	
FLASHER				0.50	
				TOTAL =	461

ENERGY COSTS TO:
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: KATIE OLIVA
PHONE: (847) 608-2339
COMPANY: COMED

FTF4_20A-IL47@REED_Temp_Int2_CD2.dgn
4/24/2009
5:06:22 PM

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5910

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN, TEMPORARY CABLE PLAN
ROUTE 47 AT REED ROAD
STAGE 3, STAGE 3B, AND STAGE 3C
(SHEET 3 OF 4)

SCALE: 1"=20'
DATE: APRIL 17, 2009
DRAWN BY: ME,MA,YB
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = $\\ ... 305.s30.dgn
PLOT SCALE = 3.0
USER NAME = 3830

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	306

STA. 9+35.22 TO STA.142+08.53

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

TEMPORARY SEQUENCE OF OPERATION (FOR STAGES 3, 3B, AND 3C) (LEAD-LAG)

MOVEMENT	5 2					6 2							6 1					3			4 P P				FLASH
PHASE	2+5					2+6							1+6					3			4				
INTERVAL	1	2A	2B	3A	3B	4	5A	5B	6A	6B	7A	7B	8	9A	9B	10A	10B	11	12A	12B	13	14	15A	15B	
CHANGE TO	/	3, 4 1+6		2+6		/	1+6		2+5		3 4		/	3, 4 2+5		2-6		/	4 1+6 2+5 2+6		/	/	3 1+6 2+5 2+6		
ILLINOIS ROUTE 47. NEAR RIGHT AND TWO FAR RIGHT SPAN WIRE SIGNALS N/B	G	Y	R	G	G	G	Y	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R
ILLINOIS ROUTE 47. TWO FAR LEFT SPAN WIRE SIGNALS WITH LEFT TURN ARROWS N/B	←G	←Y	←R	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
ILLINOIS ROUTE 47. NEAR RIGHT AND TWO FAR RIGHT SPAN WIRE SIGNALS S/B	R	R	R	R	R	G	G	G	Y	R	Y	R	G	Y	R	G	G	R	R	R	R	R	R	R	R
ILLINOIS ROUTE 47. TWO FAR LEFT SPAN WIRE SIGNALS WITH LEFT TURN ARROWS S/B	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R
REED ROAD. NEAR RIGHT SPAN WIRE SIGNAL E/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R
REED ROAD. TWO FAR SPAN WIRE SIGNALS E/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G ←G	Y	R	R	R	R	R	R
REED ROAD. NEAR RIGHT SPAN WIRE SIGNAL W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	Y	R	R
REED ROAD. TWO FAR SPAN WIRE SIGNALS W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G ←G	G ←G	Y	R	R
PEDESTRIAN SIGNAL CROSSING ILLINOIS ROUTE 47 ON NORTH SIDE	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	P	FH	H	H	H

P = ILLUMINATED PERSON = WALK

FH = ILLUMINATED FLASHING HAND = FLASHING DON'T WALK

H = ILLUMINATED SOLID HAND = DON'T WALK

PHASE 2+6 SHALL BE PLACED ON RECALL

* TO APPEAR ONLY UPON PUSH-BUTTON ACTUATION.

** FLASHING ⊠ IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN INTERVAL CLEARANCE.

TEMPORARY EMERGENCY VEHICLE SEQUENCE OF OPERATION (FOR STAGES 3, 3B, AND 3C)

																			PREEMPTOR NUMBER 3	PREEMPTOR NUMBER 4	PREEMPTOR NUMBER 5	PREEMPTOR NUMBER 6	
CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1	1		4		4		4		8		8	11		11	13		13					CLEAR TO NORMAL SEQUENCE
EMERGENCY VEHICLE PRE-EMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1J	1K	1L	1M	1N	1P	1Q	1R	1S	1T	2	3	4	5	
CHANGE TO EMERGENCY VEHICLE PRE-EMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	1C	3,4 5	1E	2	1G	3, 5	1J	4	1L	2,3 5	4	1P	2,4 5	3	1S	2,3 4	5					
ILLINOIS ROUTE 47. NEAR RIGHT AND TWO FAR RIGHT SPAN WIRE SIGNALS N/B	G	Y	R	G	G	Y	R	Y	R	R	R	R	R	R	R	R	R	R	G	R	R	R	◊
ILLINOIS ROUTE 47. TWO FAR LEFT SPAN WIRE SIGNALS WITH LEFT TURN ARROWS N/B	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←R	←R	←R	◊
ILLINOIS ROUTE 47. NEAR RIGHT AND TWO FAR RIGHT SPAN WIRE SIGNALS S/B	R	R	R	Y	R	Y	R	G	G	Y	R	G	R	R	R	R	R	R	R	R	G	R	◊
ILLINOIS ROUTE 47. TWO FAR LEFT SPAN WIRE SIGNALS WITH LEFT TURN ARROWS S/B	←R	←R	←R	←R	←R	←R	←R	←R	←R	←Y	←R	←G	←R	←R	←R	←R	←R	←R	←R	←R	←G	←R	◊
REED ROAD. NEAR RIGHT SPAN WIRE SIGNAL E/B	R	R	R	R	R	R	R	R	R	R	R	R	Y	R	G	R	R	R	R	G	R	R	◊
REED ROAD. TWO FAR SPAN WIRE SIGNALS E/B	R	R	R	R	R	R	R	R	R	R	R	R	Y	R	G ←G	R	R	R	R	G ←G	R	R	◊
REED ROAD. NEAR RIGHT SPAN WIRE SIGNAL W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	R	G	R	R	R	G	◊
REED ROAD. TWO FAR SPAN WIRE SIGNALS W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	R	G ←G	R	R	R	G ←G	◊
PEDESTRIAN SIGNAL CROSSING ILLINOIS ROUTE 47 ON NORTH SIDE	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	FH	H	FH	H	H	H	H	◊

◊ EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY A DIFFERENT EMERGENCY VEHICLE INTERVAL AFTER EMERGENCY VEHICLE INTERVAL 2, 3, 4, OR 5 IS TERMINATED.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS

NAME	DATE

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6036 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL.(773)774-5980

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY SEQUENCE OF OPERATION AND TEMPORARY EMERGENCY VEHICLE SEQUENCE OF OPERATION (STAGES 3, 3B, AND 3C) ILLINOIS ROUTE 47 AT REED ROAD SHEET (4 OF 4)

SCALE: NONE

DATE: APRIL 17, 2009

DRAWN BY: VAA
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

...x135.208 IL47@REED RD_TEMP_SOO&EVP_Ohrfo.dgn
4/24/2009
5:06:28 PM

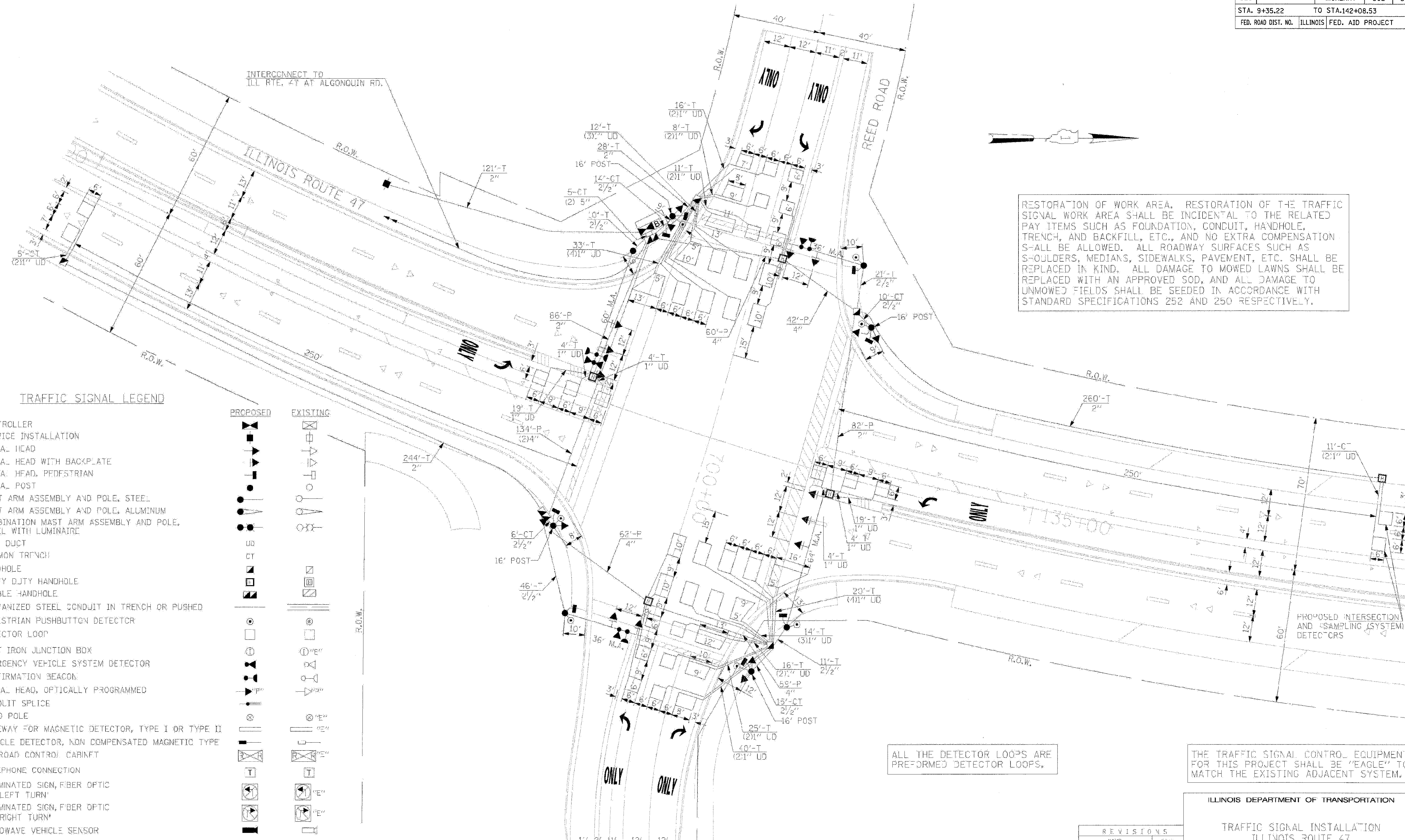
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\306_t3R.dgn
PLOT SCALE = 1:1
USER NAME = 3830

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	307

CONTRACT NO. 62882

STA. 9+35.22 TO STA.142+08.53

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT



RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH, AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER		
SERVICE INSTALLATION		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD, PEDESTRIAN		
SIGNAL POST		
MAST ARM ASSEMBLY AND POLE, STEEL		
MAST ARM ASSEMBLY AND POLE, ALUMINUM		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE		
UNIT DUCT	UD	
COMMON TRENCH	CT	
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED		
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP		
CAST IRON JUNCTION BOX		"E"
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
SIGNAL HEAD, OPTICALLY PROGRAMMED	"P"	"P"
CONDUIT SPLICE		
WOOD POLE		"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		"E"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
RAILROAD CONTROL CABINET		"E"
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN, FIBER OPTIC 'NO LEFT TURN'		"E"
ILLUMINATED SIGN, FIBER OPTIC 'NO RIGHT TURN'		"E"
MICROWAVE VEHICLE SENSOR		
UPS-BATTERY BACK-UP	B	B

ALL THE DETECTOR LOOPS ARE PREFORMED DETECTOR LOOPS.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5910

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5910

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION ILLINOIS ROUTE 47 AT REED ROAD

SCALE: 1"=20'

DATE: APRIL 17, 2009

DRAWN BY: MAA
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

...#136_29-IL47@REED RD_Inn.dgn
4/24/2009
9:06:35 PM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = G:\11-CADD\01-sht\307_s48.dgn
PLOT SCALE = 1:1
USER NAME = 3830

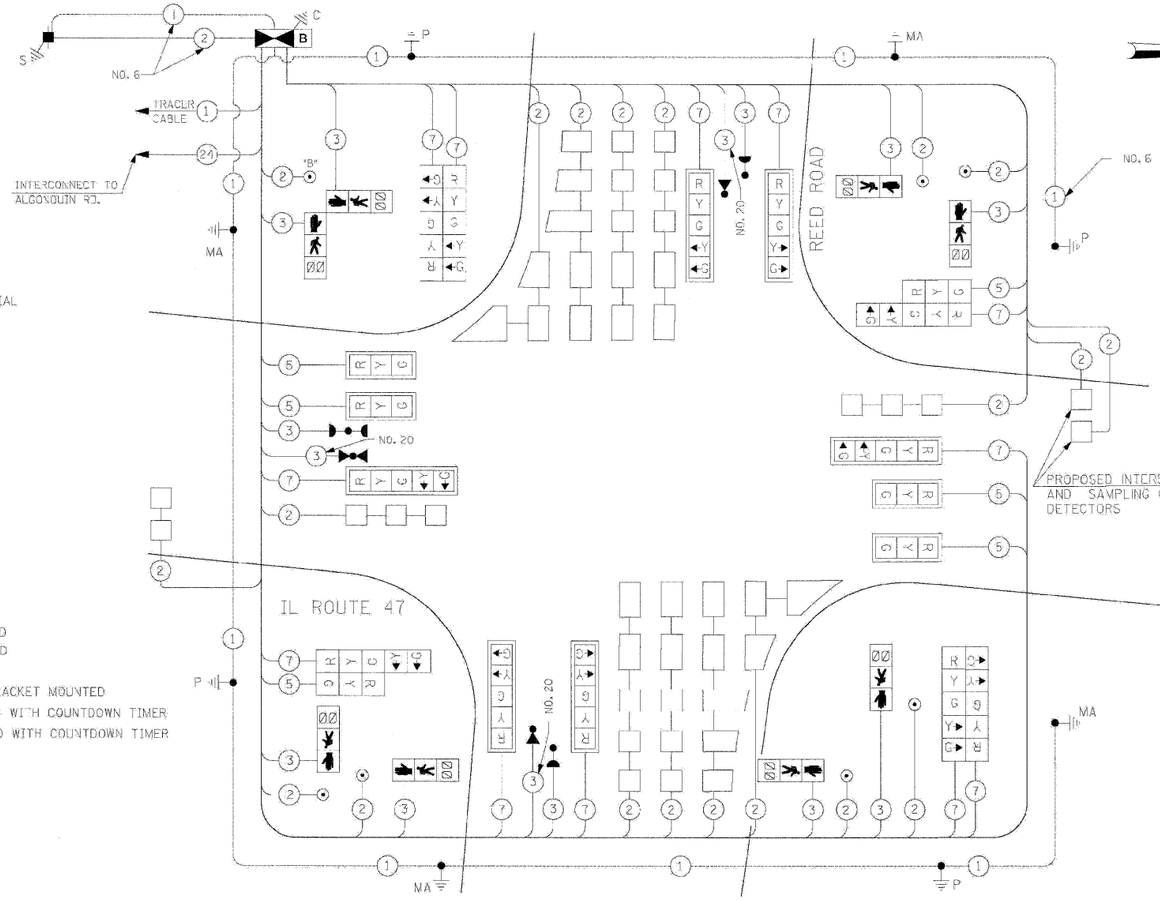
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	308
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
27	SQ FT	SIGN PANEL - TYPE 1
653	FOOT	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
118	FOOT	CONDUIT IN TRENCH, 2½" DIA., GALVANIZED STEEL
10	FOOT	CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL
148	FOOT	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
491	FOOT	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
4	EACH	HANDHOLE
5	EACH	HEAVY-DUTY HANDHOLE
2	EACH	DOUBLE HANDHOLE
752	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	TRANSCEIVER - FIBER OPTIC
1433	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
2142	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
1324	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
2624	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
2854	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
140	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
2	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 60 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 64 FT.
16	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
30	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
50	FOOT	CONCRETE FOUNDATION, TYPE E 42-INCH DIAMETER
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
6	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
10	EACH	TRAFFIC SIGNAL BACKPLATE
13	EACH	INDUCTIVE LOOP DETECTOR
*3	EACH	LIGHT DETECTOR
*1	EACH	LIGHT DETECTOR AMPLIFIER
7	EACH	PEDESTRIAN PUSH BUTTON
1	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
11	EACH	REMOVE EXISTING HANDHOLE
5	EACH	REMOVE EXISTING CONCRETE FOUNDATION
1585	FOOT	PREFORMED DETECTOR LOOP
4	EACH	PAINT NEW TRAFFIC SIGNAL POST
2	EACH	PAINT NEW MAST ARM POLE, UNDER 40 FEET
2	EACH	PAINT NEW MAST ARM POLE, 40 FEET AND OVER
1	EACH	TEMPORARY TRAFFIC SIGNAL TIMING
1	EACH	SERVICE INSTALLATION - POLE MOUNTED
1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS)
950	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
*591	FOOT	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED

* 100% COST TO VILLAGE OF HUNTLEY

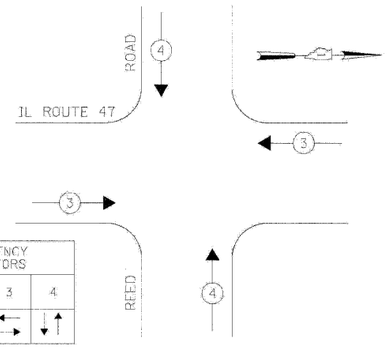


CABLE PLAN

CABLE PLAN LEGEND

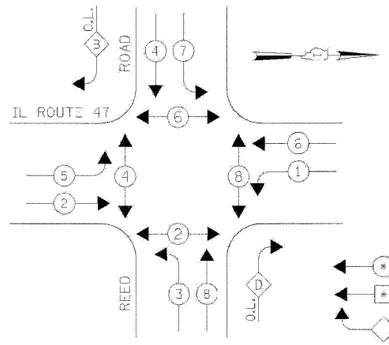
EXISTING	PROPOSED	
G	G	8" (200mm) TRAFFIC SIGNAL SECTION
R	R	12" (300mm) TRAFFIC SIGNAL SECTION
W	W	12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
		CONTROLLER CABINET
		SERVICE INSTALLATION
T	T	TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSH-BUTTON DETECTOR
(2)	(2)	DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO.14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
(1)	(1)	GROUND CABLE IN CONDUIT NO.6 SOLID COPPER (GREEN)
(24)	(24)	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F & SM12F
R Y G Y G "P"	R Y G Y G "P"	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
R-R	R-R	RAILROAD CONTROL CABINET
		ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
		ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
H/C	H/C	GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER
P	P	GROUND ROD AT POST OR MAST ARM POLE
S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
M C	M C	LOCAL AND MASTER CONTROLLER
		MICROWAVE VEHICLE SENSOR
B	B	UPS BATTERY BACK UP

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←	↓ ↑

CONTROLLER SEQUENCE



LEGEND

- DUAL ENTRY PHASE
- SINGLE ENTRY PHASE
- O.L. OVERLAP
- PEDESTRIAN PHASE

* NUMBER REFERS TO ASSOCIATED PHASE

PUSH-BUTTON NOTE

PUSH-BUTTON "3" SHALL PLACE A CALL IN PHASES 4 AND 6

PHASE DESIGNATION DIAGRAM

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
B	=	4	+	5
D	=	8	+	1

I.D.O.T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO LAMPS	X WATTAGE INCAND.	WATTAGE LED	X %OPERATION	TOTAL WATTAGE
SIGNAL (RED)	18	135	17	0.50	153
(YELLOW)	18	135	25	0.25	112.5
(GREEN)	18	135	15	0.25	67.5
ARROW	24	135	12	0.10	28.8
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	100	100	100	1.00	100
ILLUM. SIGN				0.05	
FLASHER				0.50	
				TOTAL =	66.8

ENERGY COSTS TO:
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1098
ENERGY SUPPLY CONTACT: KATIE OLIVA
PHONE: (847) 608-2338
COMPANY: COMMONWEALTH EDISON

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A-POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C-CONTROLLER W/UPS	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'-4"-2=
D-CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)		(6m+.-0.6m)=
E MAST ARM POLE		CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
36" (900mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
42" (1050mm)	25 (7.6)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5900

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE AND SCHEDULE OF QUANTITIES
ILLINOIS ROUTE 47 AT REED ROAD

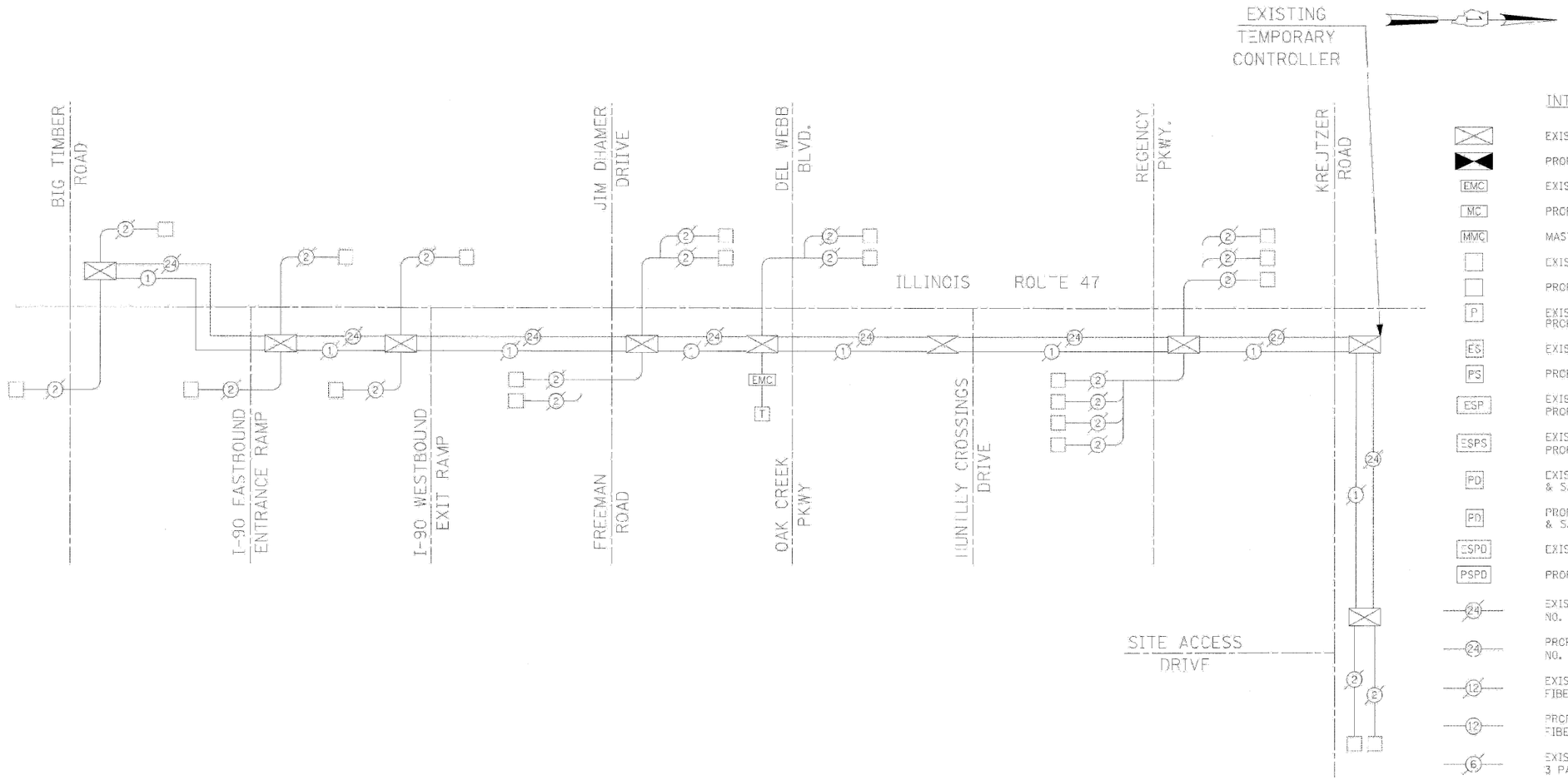
SCALE: N.T.S.
DATE: APRIL 17, 2009
DRAWN BY: ME,MA,YD
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CAD\DWG\arch\308_s41.dgn
PLOT SCALE = 1d
USER NAME = 3830

SFILE#8
7/20/2009
2:27:21 PM

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	309
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



INTERCONNECT SCHEMATIC LEGEND

- EXISTING INTERSECTION CONTROLLER
- PROPOSED INTERSECTION CONTROLLER
- EMC — EXISTING MASTER CONTROLLER
- MC — PROPOSED MASTER CONTROLLER
- MMC — MASTER MASTER CONTROLLER
- EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- P — EXISTING INTERSECTION LOOP DETECTORS AND PROPOSED SAMPLING (SYSTEM) DETECTORS
- ES — EXISTING SAMPLING (SYSTEM) DETECTORS
- PS — PROPOSED SAMPLING (SYSTEM) DETECTORS
- ESP — EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS.
- ESPS — EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED SAMPLING (SYSTEM) DETECTORS.
- PD — EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- PD — PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- ESPD — EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS.
- PSPD — PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS.
- (24) — EXISTING FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F & SM12F
- (24) — PROPOSED FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F & SM12F
- (12) — EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F. FIBER OPTIC CABLE
- (12) — PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE
- (6) — EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED
- (6) — PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED
- (2) — EXISTING LOOP DETECTOR CABLE - 2/C TWISTED, SHIELDED
- (2) — PROPOSED LOOP DETECTOR CABLE -2/C TWISTED, SHIELDED
- (1) — EXISTING ELECTRIC CABLE 1/C (AS SPECIFIED)
- (1) — PROPOSED ELECTRIC CABLE, 1/C (AS SPECIFIED)
- T — EXISTING TELEPHONE CONNECTION
- T — PROPOSED TELEPHONE CONNECTION

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5910

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY INTERCONNECT SCHEMATIC ILLINOIS ROUTE 47 BIG TIMBER ROAD TO KREUTZER ROAD

SCALE: NONE
DATE: MAY 05, 2008

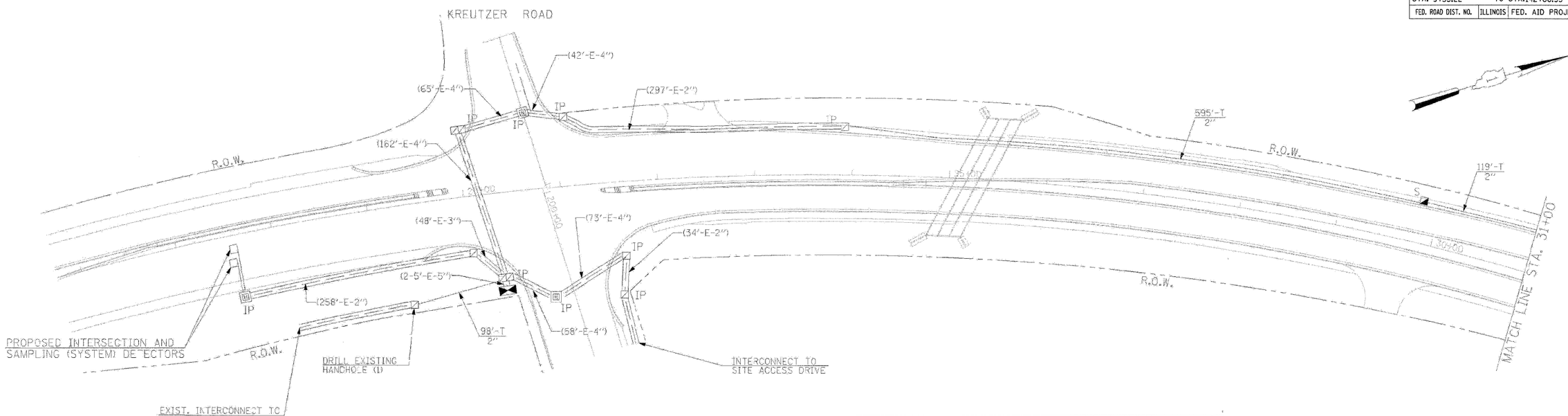
DRAWN BY: EB
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

...\#143_36-IL47_Schema-1e02.dgn
4/24/2009
5:07:20 PM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CAD\01-eit\309_142.dgn
PLOT SCALE = 1:1
USER NAME = 38530

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	310
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



THE PROPOSED HANDHOLES SHALL BE CONSTRUCTED OUTSIDE OF THE PROPOSED SIDEWALK AREA.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH, AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	▣	▣
HANDHOLE	◪	◪
DOUBLE HANDHOLE	◪◪	◪◪
HEAVY DUTY HANDHOLE	H	H
GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED	———	———
DETECTOR LOOP	□	□
COMMON TRENCH	CT	
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION	T	T

GENERAL NOTE

PRIOR TO TURNING PROPOSED TRAFFIC SIGNAL INSTALLATION ON, THE EXISTING INTERCONNECT AND TRACER CABLES GOING SOUTH AND EAST FROM THE TEMPORARY SIGNAL CONTROLLER AT ILL. RTE. 47 AND KREUTZER ROAD, SHALL BE DISCONNECTED AND CONNECTED INTO THE PROPOSED TRAFFIC SIGNAL CONTROLLER AT ILL. RTE. 47 AND KREUTZER ROAD. THE ACCESS CABLES PROVIDED FOR THIS PROPOSE, DURING INSTALLATION OF TEMPORARY TRAFFIC SIGNAL SHOULD ELIMINATE THE NECESSITY OF PROVIDING NEW CABLES. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT "REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT" AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE SAME.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS	
NAME	DATE

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5300

ILLINOIS DEPARTMENT OF TRANSPORTATION

PROPOSED INTERCONNECT PLAN
ILLINOIS ROUTE 47 FROM
KREUTZER ROAD TO
REED ROAD
(SHEET 1 OF 4)

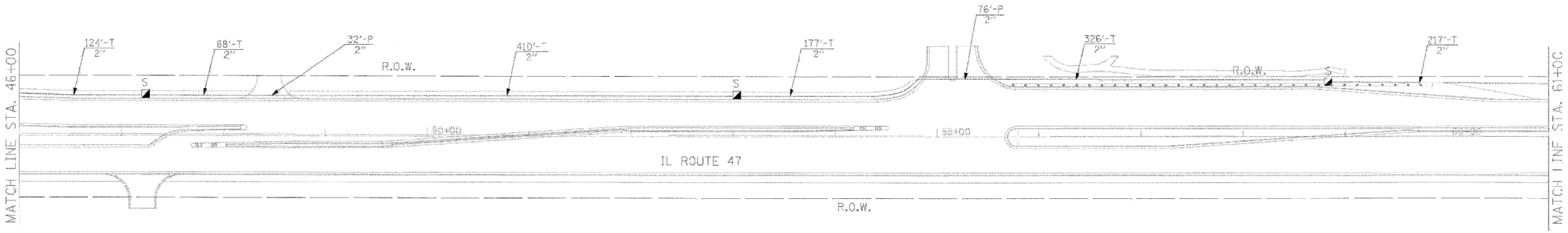
SCALE: 1"=60'
DATE: APRIL 17, 2009
DRAWN BY: MAA
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

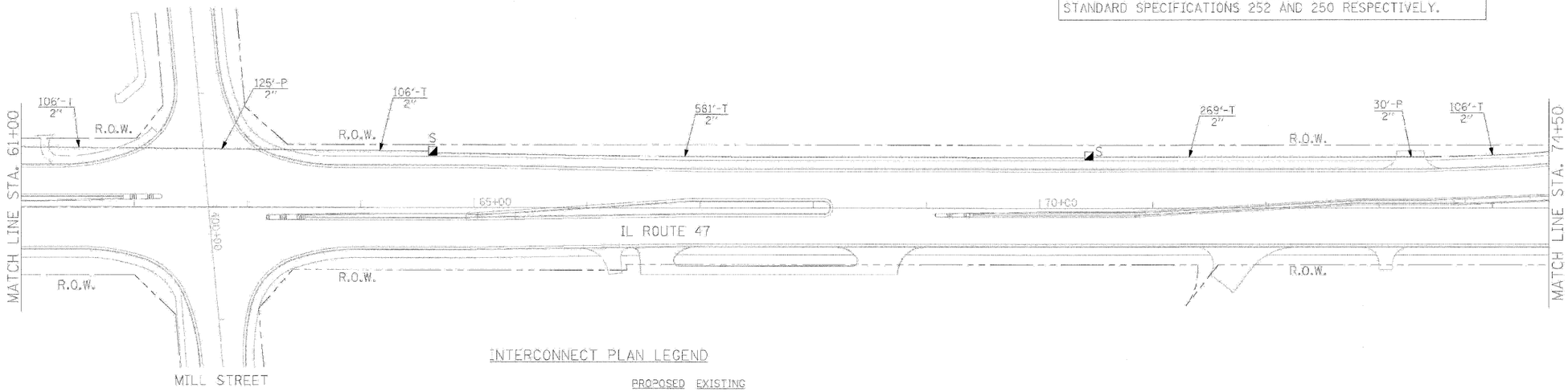
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\81-ant\318_143.dgn
PLOT SCALE = 1:1
USER NAME = 3830

...#138_31-147_Interconnect01.dgn
9/24/2009
5:06:48 PM

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	311
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH, AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	▬	▭
HANDHOLE	◪	◪
DOUBLE HANDHOLE	◪◪	◪◪
HEAVY DUTY HANDHOLE	H	H
GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED	———	═══
DETECTOR LOOP	□	□
COMMON TRENCH	CT	
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION	T	T

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS	
NAME	DATE

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5900

ILLINOIS DEPARTMENT OF TRANSPORTATION

PROPOSED INTERCONNECT PLAN
ILLINOIS ROUTE 47 FROM
KREUTZER ROAD TO
REED ROAD
(SHEET 2 OF 4)

SCALE: 1"=50'
DATE: APRIL 17, 2009

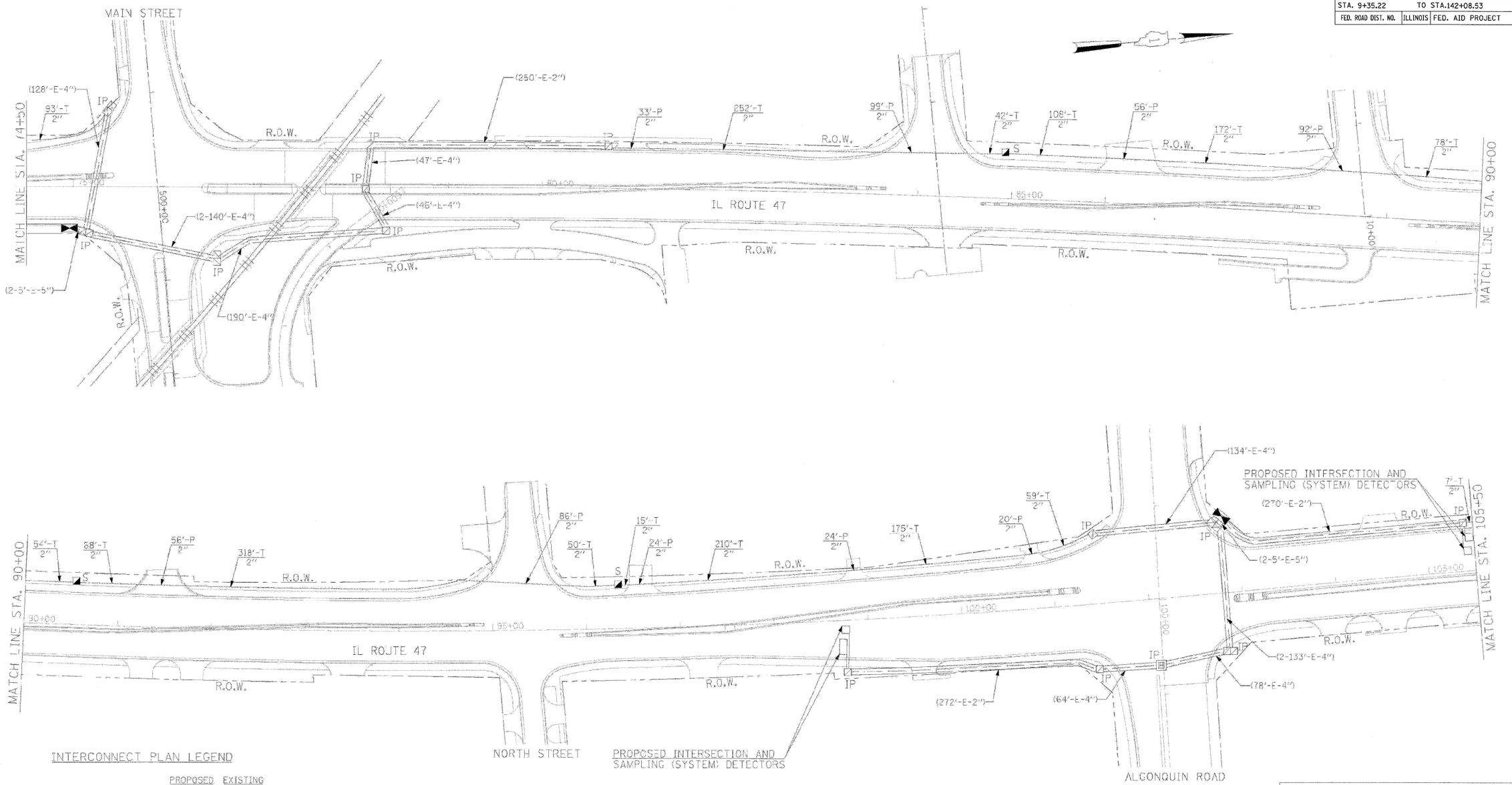
DRAWN BY: MAA
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-win\301_444.dgn
PLOT SCALE = 1:1
USER NAME = 3838

...\#139_32-IL-7_Interconnect02.cgn
4/24/2009
5:06:55 PM

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	312
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	▬	▭
HANDHOLE	◪	◪
DOUBLE HANDHOLE	◪◪	◪◪
HEAVY DUTY HANDHOLE	H	H
GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED	———	———
DETECTOR LOOP	□	□
COMMON TRENCH	CT	
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION	T	T

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH, AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS	
NAME	DATE

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5910

ILLINOIS DEPARTMENT OF TRANSPORTATION

PROPOSED INTERCONNECT PLAN
ILLINOIS ROUTE 47 FROM
KREUTZER ROAD TO
REED ROAD
(SHEET 3 OF 4)

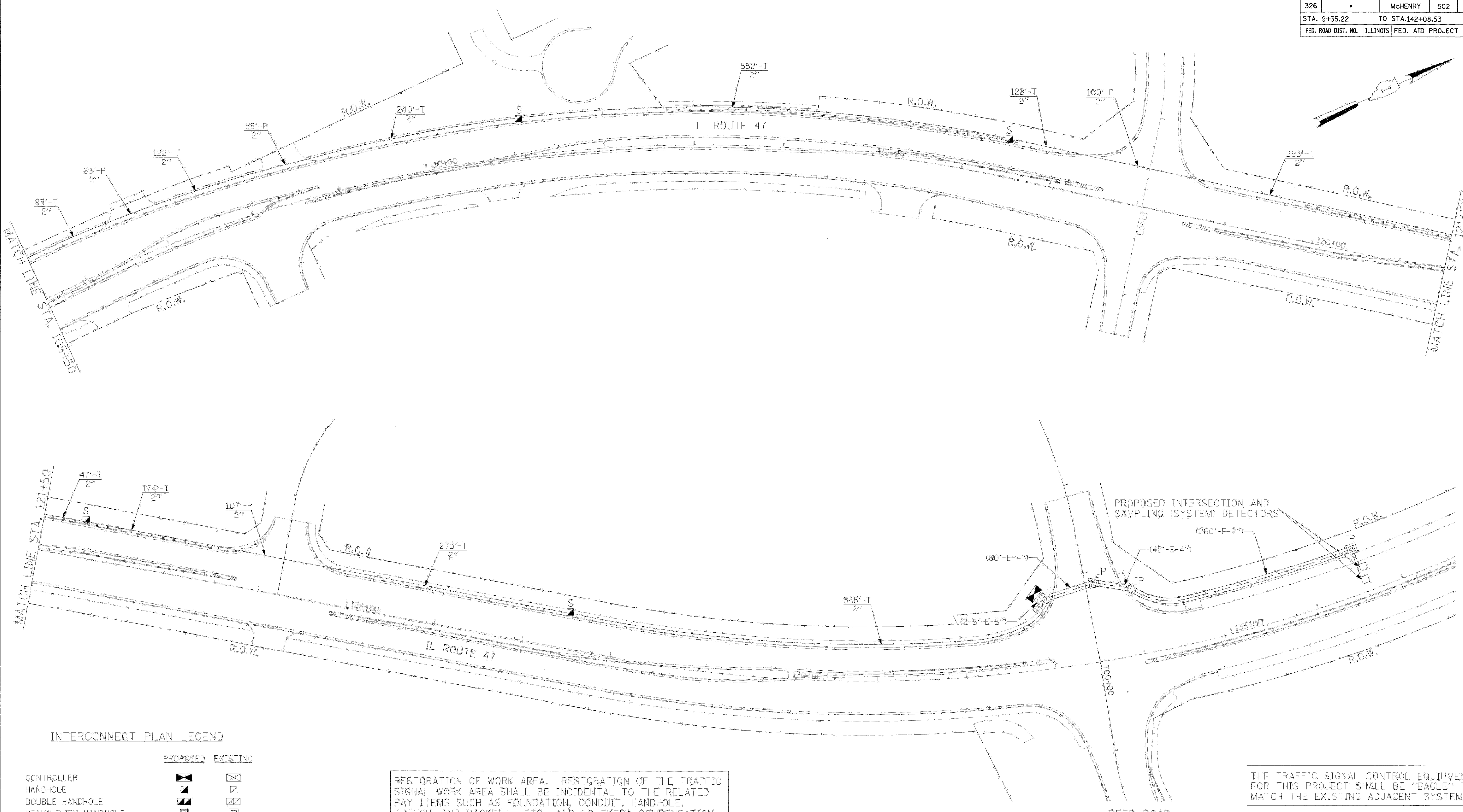
SCALE: 1"=50'
DRAWN BY: MAA
DESIGNED BY: PKG/RRM
DATE: APRIL 17, 2009
CHECKED BY: PKG/RRM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-arch\312-145.dgn
PLOT SCALE = 1:1
USER NAME = 3838

...\#140_33 IL47_Interconnect03.dgn
4/24/2009
5:07:01 PM

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	313
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62882



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	⧓	⊠
HANDHOLE	◪	⧄
DOUBLE HANDHOLE	◪◪	⧄⧄
HEAVY DUTY HANDHOLE	⊡	⊡
GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED	———	═══
DETECTOR LOOP	□	⬚
COMMON TRENCH	CT	
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION	[T]	[T]

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH, AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6025 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5910

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PROPOSED INTERCONNECT PLAN
ILLINOIS ROUTE 47 FROM
KREUTZER ROAD TO
REED ROAD
(SHEET 4 OF 4)

SCALE: 1"=50'
DATE: APRIL 17, 2009

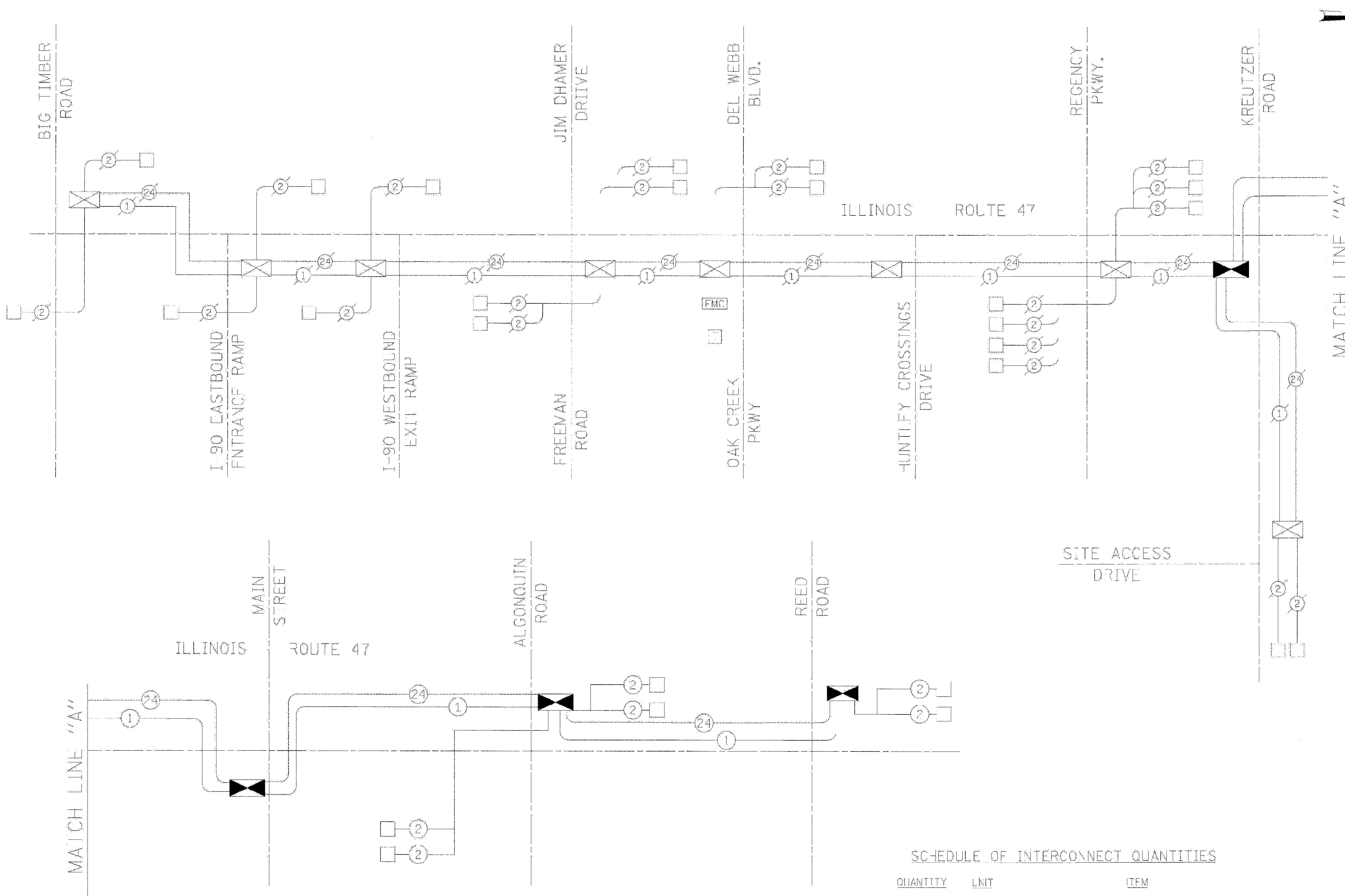
DRAWN BY: MAA
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

...\#141_38-IL47_Interconnect04.dgn
4/24/2009
5:07:07 PM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\313_t46.dgn
PLOT SCALE = 1:1
USER NAME = 3830

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	314
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



INTERCONNECT SCHEMATIC LEGEND

- EXISTING INTERSECTION CONTROLLER
- PROPOSED INTERSECTION CONTROLLER
- EMC — EXISTING MASTER CONTROLLER
- MC — PROPOSED MASTER CONTROLLER
- MMC — MASTER MASTER CONTROLLER
- EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- P — EXISTING INTERSECTION LOOP DETECTORS AND PROPOSED SAMPLING (SYSTEM) DETECTORS
- ES — EXISTING SAMPLING (SYSTEM) DETECTORS
- PS — PROPOSED SAMPLING (SYSTEM) DETECTORS
- ESP — EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS.
- ESPS — EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED SAMPLING (SYSTEM) DETECTORS.
- PD — EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- PD — PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
- ESPD — EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS.
- PSPD — PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS.
- (24) — EXISTING FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F & SM12F
- (24) — PROPOSED FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F & SM12F
- (12) — EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F. FIBER OPTIC CABLE
- (12) — PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE
- (6) — EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED
- (6) — PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED
- (2) — EXISTING LOOP DETECTOR CABLE - 2/C TWISTED, SHIELDED
- (2) — PROPOSED LOOP DETECTOR CABLE -2/C TWISTED, SHIELDED
- (1) — EXISTING ELECTRIC CABLE 1/C (AS SPECIFIED)
- (1) — PROPOSED ELECTRIC CABLE, 1/C (AS SPECIFIED)
- T — EXISTING TELEPHONE CONNECTION
- T — PROPOSED TELEPHONE CONNECTION

SCHEDULE OF INTERCONNECT QUANTITIES

QUANTITY	UNIT	ITEM
8902	FOOT	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
1113	FOOT	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
15	EACH	HANDHOLE
8902	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1	EACH	DRILL EXISTING HANDHOLE
12049	FOOT	ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C
1	EACH	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL II
12127	FOOT	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 308
CHICAGO, ILLINOIS 60631 TEL.(773) 774-5900

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC
ILLINOIS ROUTE 47
BIG TIMBER ROAD TO REED ROAD

SCALE: NONE
DATE: MAY 05, 2008
DRAWN BY: EB
DESIGNED BY: PKG/RRM
CHECKED BY: PKG/RRM

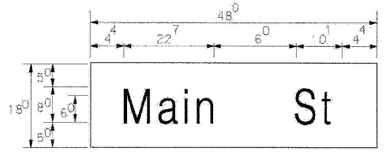
...M142.35-IL47-SchematicO1.dgn
4/24/2008
5:07:16 PM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\314_47.dgn
PLOT SCALE = 10
USER NAME = 3830

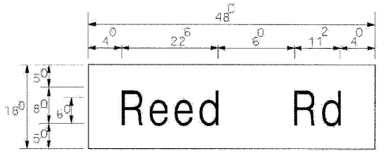
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	315
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PANEL SIGN DESIGN TYPE 1

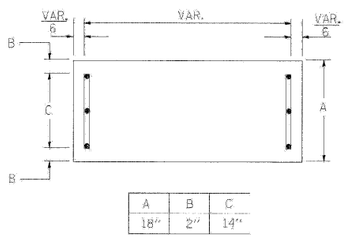


6.0 Sq. Ft. each
2 Required
Design Series D

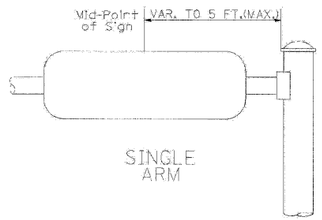


6.0 Sq. Ft. each
2 Required
Design Series D

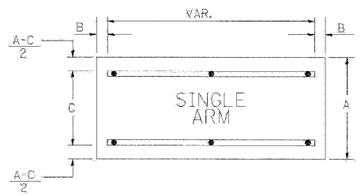
SUPPORTING CHANNELS



A	B	C
18"	2"	14"



SUPPORTING CHANNELS



A	B	C
18"	2"	12"
30"	2"	22"

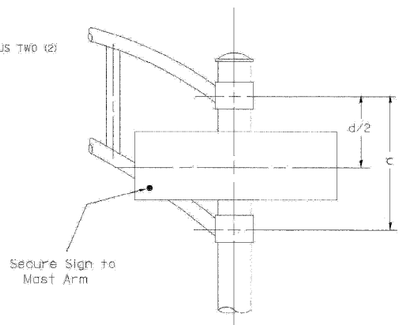
GENERAL NOTES

1. WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLE$ SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 824011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-8" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
4. ALL BORDERS SHALL BE ¾" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
5. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
   - * A.K.T. CORPORATION, SCHAUMBURG, IL
   - * TUCKER COMPANY, INC., WAUWATOSA, WI
   - * AMERICAN FABRICATION CO., CHICAGO HEIGHTS, IL
   - * WESTERN TRAFFIC CONTROL INC., CICERO, IL

PARTS LISTING:

SIGN CHANNEL	PART #HPN083 (MED. CHANNEL)
SIGN SCREWS	¼" x 14 x 1" H.W.H. #3 SELF TAPPING WITH NEOPRENE WASHER
BRACKETS	PART #HPN034 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.



SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM
Shall be used. See Note #5.

Upper Case To Lower Case
Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2(3) DENOTES 3/8"

FIRST LETTER	SECOND LETTER: c o d e g o q		b h i k l m n p r u		f w		j		s t		v y		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
A W X	1 2	1 4	1 4	1 5	1 2	1 4	0 6	1 0	1 1	1 4	0 6	1 0	1 1	1 2	1 2	1 4
B	1 4	1 5	2 0	2 1	1 4	1 5	1 1	1 2	1 4	1 5	1 2	1 4	1 2	1 4	1 6	1 7
C E G	1 4	1 5	2 0	2 1	1 2	1 4	0 6	1 0	1 2	1 4	1 2	1 4	1 4	1 5	1 4	1 5
D O Q R	1 4	1 5	2 0	2 1	1 4	1 5	0 8	1 0	1 2	1 4	1 2	1 4	1 4	1 5	1 4	1 5
F	0 5	0 6	1 4	1 5	0 6	1 0	0 5	0 6	0 6	1 0	0 6	1 0	0 6	1 0	1 1	1 2
H I M N	2 0	2 1	2 2	2 4	2 0	2 1	1 4	1 5	1 6	1 7	1 6	1 7	2 0	2 1	2 0	2 1
J U	2 0	2 1	2 0	2 1	1 6	1 7	1 4	1 5	1 6	1 7	1 6	1 7	1 6	1 7	2 0	2 1
K L	1 1	1 2	1 6	1 7	1 1	1 2	0 5	0 6	1 1	1 2	1 1	1 2	1 1	1 2	1 2	1 4
P	1 2	1 4	1 4	1 5	1 2	1 4	0 5	0 6	1 1	1 2	1 1	1 2	1 2	1 4	1 2	1 4
S	1 2	1 4	1 6	1 7	1 2	1 4	0 6	1 0	1 2	1 4	1 2	1 4	1 2	1 4	1 2	1 4
T	1 1	1 2	1 6	1 7	0 6	1 0	0 6	1 0	1 1	1 2	1 1	1 2	1 1	1 2	1 2	1 4
V	0 6	1 0	1 4	1 5	1 1	1 2	0 6	1 0	1 2	1 4	1 2	1 4	1 2	1 4	1 2	1 4
Y	0 5	0 6	1 4	1 5	0 6	1 0	0 5	0 6	0 5	0 7	0 5	0 6	0 6	1 0	1 1	1 2
Z	1 6	1 7	2 2	2 4	1 6	1 7	1 2	1 4	1 6	1 7	1 6	1 7	1 6	1 7	2 0	2 1

Lower Case To Lower Case
Spacing Chart 6 Inch Series "C & D"

FIRST LETTER: a d h g i j l m n q u	SECOND LETTER: a c d e g o q		b h i k l m n p r u		f w		j		s t		v y		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
	1 6	1 7	2 2	2 4	1 6	1 7	1 2	1 4	1 4	1 5	1 4	1 5	1 6	1 7	1 6	1 7
b f k o p s	1 2	1 4	1 6	1 7	1 1	1 2	0 5	0 6	1 1	1 2	1 1	1 2	1 2	1 4	1 2	1 4
c e	1 2	1 4	1 6	1 7	1 2	1 4	0 6	1 0	1 2	1 4	1 2	1 4	1 2	1 4	1 2	1 4
r	0 6	1 0	1 2	1 4	0 6	1 0	0 3	0 3	0 5	0 6	0 5	0 6	0 6	1 0	0 6	1 0
t z	1 2	1 4	1 6	1 7	1 2	1 4	0 6	1 0	1 1	1 2	1 1	1 2	1 2	1 4	1 2	1 4
v y	1 1	1 2	1 4	1 5	1 1	1 2	0 5	0 6	0 6	1 0	0 6	1 0	1 1	1 2	1 1	1 2
w	1 1	1 2	1 4	1 5	1 1	1 2	0 5	0 6	1 1	1 2	1 1	1 2	1 1	1 2	1 2	1 4
x	1 2	1 4	1 6	1 7	1 1	1 2	0 5	0 6	1 1	1 2	1 1	1 2	1 1	1 2	1 2	1 4

Number To Number
Spacing Chart 8 Inch Series "C & D"

FIRST NUMBER	SECOND NUMBER: 0		1		2		3		4		5		6		7		8		9	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1 6	1 7	1 6	1 7	1 4	1 5	1 2	1 4	1 4	1 5	1 4	1 5	1 6	1 7	1 2	1 4	1 6	1 7	1 6	1 7
1	2 0	2 1	2 0	2 1	2 0	2 1	1 6	1 7	1 4	1 5	2 0	2 1	2 0	2 1	1 4	1 5	2 0	2 1	2 0	2 1
2 3 4	1 4	1 5	1 4	1 5	1 4	1 5	1 2	1 4	1 2	1 4	1 4	1 5	1 4	1 5	1 1	1 2	1 6	1 7	1 4	1 5
5	1 4	1 5	1 4	1 5	1 4	1 5	1 1	1 2	1 2	1 2	1 4	1 5	1 4	1 5	1 1	1 2	1 4	1 5	1 4	1 5
6	1 6	1 7	1 4	1 5	1 4	1 5	1 2	1 5	1 2	1 4	1 4	1 5	1 4	1 5	1 1	1 2	1 4	1 5	1 4	1 5
7	1 2	1 4	1 2	1 4	1 4	1 5	1 2	1 5	0 5	0 8	1 2	1 4	1 4	1 5	1 1	1 2	1 4	1 5	1 2	1 4
8	1 6	1 7	1 6	1 7	1 4	1 5	1 2	1 5	1 2	1 4	1 4	1 5	1 6	1 7	1 2	1 4	1 6	1 7	1 4	1 5

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS: SERIES C	D	8 INCH UPPER CASE LETTERS: SERIES C	D	LETTERS	6 INCH LOWER CASE LETTERS: SERIES C	D
A	3 6	5 0	5 0	6 5	a	3 5	4 2
B	3 2	4 0	4 3	5 3	b	3 5	4 2
C	3 2	4 0	4 3	5 3	c	3 5	4 1
D	3 2	4 0	4 3	5 3	d	3 5	4 2
E	3 0	3 5	4 0	4 7	e	3 5	4 2
F	3 0	3 5	4 0	4 7	f	2 3	2 6
G	3 2	4 0	4 3	5 3	g	3 5	4 2
H	3 2	4 0	4 3	5 3	h	3 5	4 2
I	0 7	0 7	1 1	1 2	i	1 1	1 1
J	3 0	3 6	4 0	5 0	j	2 0	2 2
K	3 2	4 1	4 3	5 4	k	3 5	4 2
L	3 0	3 5	4 0	4 7	l	1 1	1 1
M	3 7	4 5	5 1	6 1	m	6 0	7 0
N	3 2	4 0	4 3	5 3	n	3 5	4 2
O	3 4	4 2	4 5	5 5	o	3 6	4 3
P	3 2	4 0	4 3	5 3	p	3 5	4 2
Q	3 4	4 2	4 5	5 5	q	3 5	4 2
R	3 2	4 0	4 3	5 3	r	2 6	3 2
S	3 2	4 0	4 3	5 3	s	3 6	4 2
T	3 0	3 6	4 0	4 7	t	2 7	3 2
U	3 2	4 0	4 3	5 3	u	3 5	4 2
V	3 5	4 4	4 7	6 0	v	4 2	4 7
W	4 4	5 2	6 0	7 0	w	5 5	6 4
X	3 4	4 0	4 5	5 3	x	4 4	5 1
Y	3 6	5 0	5 0	6 6	y	4 6	5 3
Z	3 2	4 0	4 3	5 3	z	3 6	4 3

NUMBER	6 INCH SERIES: C	D	8 INCH SERIES: C	D
1	1 2	1 4	1 5	2 0
2	3 2	4 0	4 3	5 3
3	3 2	4 0	4 3	5 3
4	3 5	4 3	4 7	5 7
5	3 2	4 0	4 3	5 3
6	3 2	4 0	4 3	5 3
7	3 2	4 0	4 3	5 3
8	3 2	4 0	4 3	5 3
9	3 2	4 0	4 3	5 3
0	3 4	4 2	4 5	5 5

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
8035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5910

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

MAST ARM MOUNTED STREET NAME SIGNS

SCALE: N.T.S.
DATE: APRIL 17, 2009

DRAWN BY: WAA
DESIGNED BY: PKO/RRM
CHECKED BY: PKO/RRM

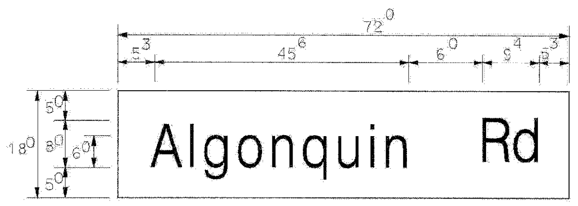
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\21-elec\315_s48.dgn
PLOT SCALE = 1:1
USER NAME = 3838

...el | rte 47\rt44_37-Signs.dgn
4/24/2009
8:07:27 PM

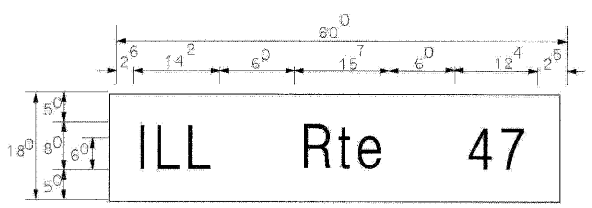
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	316
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

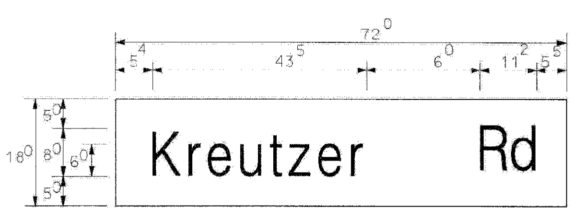
PANEL SIGN DESIGN TYPE 1



5.0 Sq. Ft. each
2 Required
Design Series C

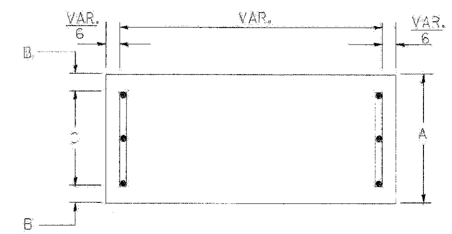


7.5 Sq. Ft. each
8 Required
Design Series D

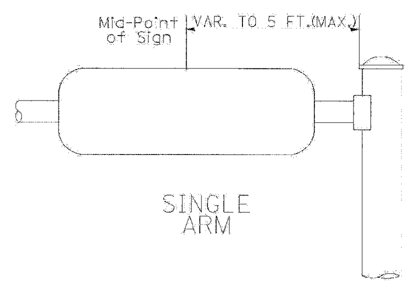


5.0 Sq. Ft. each
2 Required
Design Series D

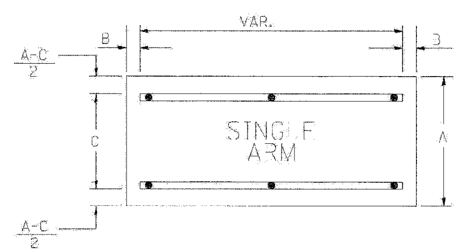
SUPPORTING CHANNELS



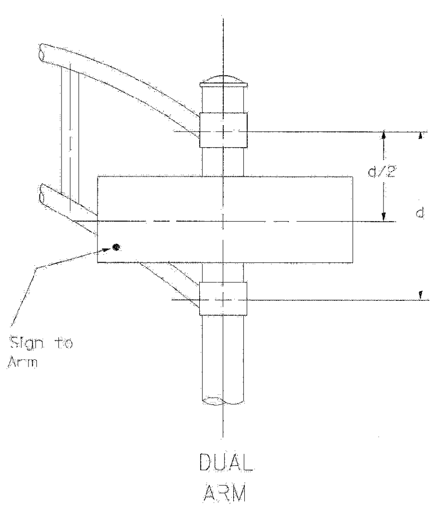
A	B	C
18"	2"	14"



SUPPORTING CHANNELS



A	B	C
18"	2"	12"
30"	2"	22"



SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM
Shall be used. See Note #5.

EXAMPLE, 2③ DENOTES 3"/8

Upper Case To Lower Case
Spacing Chart 8-6 Inch Series "C & D"

FIRST LETTER SERIES	SECOND LETTER: a c d e g o q C	a c d e g o q D	b h i k l m n p r u C	b h i k l m n p r u D	f w C	f w D	j C	j D	s t C	s t D	v y C	v y D	x C	x D	z C	z D
A W X	1^2	1^4	1^4	1^5	1^2	1^4	0^6	1^0	1^1	1^4	0^6	1^0	1^1	1^2	1^2	1^4
B	1^4	1^5	2^0	2^1	1^4	1^5	1^1	1^2	1^4	1^5	1^2	1^4	1^2	1^4	1^6	1^7
C E G	1^4	1^5	2^0	2^1	1^2	1^4	0^6	1^0	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5
D O Q R	1^4	1^5	2^0	2^1	1^4	1^5	0^6	1^0	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5
F	0^5	0^6	1^4	1^5	0^6	1^0	0^5	0^6	0^6	1^0	0^6	1^0	0^6	1^0	1^1	1^2
H I M N	2^0	2^1	2^2	2^4	2^0	2^1	1^4	1^5	1^6	1^7	1^6	1^7	2^0	2^1	2^0	2^1
J U	2^0	2^1	2^0	2^1	1^6	1^7	1^4	1^5	1^6	1^7	1^6	1^7	1^6	1^7	2^0	2^1
K L	1^1	1^2	1^6	1^7	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4
P	1^2	1^4	1^4	1^5	1^2	1^4	0^5	0^6	1^1	1^2	1^1	1^2	1^2	1^4	1^2	1^4
S	1^2	1^4	1^6	1^7	1^2	1^4	0^6	1^0	1^2	1^4	1^2	1^4	1^2	1^4	1^2	1^4
T	1^1	1^2	1^6	1^7	0^6	1^0	0^6	1^0	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4
V	0^6	1^0	1^4	1^5	1^1	1^2	0^6	1^0	1^2	1^4	1^2	1^4	1^2	1^4	1^2	1^4
Y	0^5	0^6	1^4	1^5	0^6	1^0	0^5	0^6	0^5	0^7	0^5	0^6	0^6	1^0	1^1	1^2
Z	1^6	1^7	2^2	2^4	1^6	1^7	1^2	1^4	1^6	1^7	1^6	1^7	1^6	1^7	2^0	2^1

Lower Case To Lower Case
Spacing Chart 6 Inch Series "C & D"

FIRST LETTER SERIES	SECOND LETTER: a c d e g o q C	a c d e g o q D	b h i k l m n p r u C	b h i k l m n p r u D	f w C	f w D	j C	j D	s t C	s t D	v y C	v y D	x C	x D	z C	z D
a d h g i j m n q u	1^6	1^7	2^2	2^4	1^6	1^7	1^2	1^4	1^4	1^5	1^4	1^5	1^6	1^7	1^6	1^7
b f k o p s	1^2	1^4	1^6	1^7	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^2	1^4	1^2	1^4
c e	1^2	1^4	1^6	1^7	1^2	1^4	0^6	1^0	1^2	1^4	1^2	1^4	1^2	1^4	1^2	1^4
r	0^6	1^0	1^2	1^4	0^6	1^0	0^3	0^3	0^5	0^6	0^5	0^6	0^6	1^0	0^6	1^0
t z	1^2	1^4	1^6	1^7	1^2	1^4	0^6	1^0	1^1	1^2	1^1	1^2	1^2	1^4	1^2	1^4
v y	1^1	1^2	1^4	1^5	1^1	1^2	0^5	0^6	0^6	1^0	0^6	1^0	1^1	1^2	1^1	1^2
w	1^1	1^2	1^4	1^5	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4
x	1^2	1^4	1^6	1^7	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4

Number To Number
Spacing Chart 8 Inch Series "C & D"

FIRST NUMBER SERIES	SECOND NUMBER: 0 C	0 D	1 C	1 D	2 C	2 D	3 C	3 D	4 C	4 D	5 C	5 D	6 C	6 D	7 C	7 D	8 C	8 D	9 C	9 D
0 9	1^6	1^7	1^6	1^7	1^4	1^5	1^2	1^4	1^4	1^5	1^4	1^5	1^6	1^7	1^2	1^4	1^6	1^7	1^5	1^7
1	2^0	2^1	2^0	2^1	2^0	2^1	1^6	1^7	1^4	1^5	2^0	2^1	2^0	2^1	1^4	1^5	2^0	2^1	2^0	2^1
2 3 4	1^4	1^5	1^4	1^5	1^4	1^5	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5	1^1	1^2	1^6	1^7	1^4	1^5
5	1^4	1^5	1^4	1^5	1^4	1^5	1^1	1^2	1^1	1^2	1^4	1^5	1^4	1^5	1^1	1^2	1^4	1^5	1^4	1^5
6	1^6	1^7	1^4	1^5	1^4	1^5	1^2	1^5	1^2	1^4	1^4	1^5	1^4	1^5	1^1	1^2	1^4	1^5	1^4	1^5
7	1^2	1^4	1^2	1^4	1^4	1^5	1^2	1^5	0^5	0^6	1^2	1^4	1^4	1^5	1^1	1^2	1^4	1^5	1^2	1^4
8	1^6	1^7	1^6	1^7	1^4	1^5	1^2	1^5	1^2	1^4	1^4	1^5	1^6	1^7	1^2	1^4	1^6	1^7	1^4	1^5

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS SERIES C	6 INCH UPPER CASE LETTERS SERIES D	8 INCH UPPER CASE LETTERS SERIES C	8 INCH UPPER CASE LETTERS SERIES D	LETTERS	6 INCH LOWER CASE LETTERS SERIES C	6 INCH LOWER CASE LETTERS SERIES D
A	3^6	5^0	5^0	6^5	a	3^5	4^2
B	3^2	4^0	4^3	5^3	b	3^5	4^2
C	3^2	4^0	4^3	5^3	c	3^5	4^1
D	3^2	4^0	4^3	5^3	d	3^5	4^2
E	3^0	3^5	4^0	4^7	e	3^5	4^2
F	3^0	3^5	4^0	4^7	f	2^3	2^6
G	3^2	4^0	4^3	5^3	g	3^5	4^2
H	3^2	4^0	4^3	5^3	h	3^5	4^2
I	0^7	0^7	1^1	1^2	i	1^1	1^1
J	3^0	3^6	4^0	5^0	j	2^0	2^2
K	3^2	4^1	4^3	5^4	k	3^5	4^2
L	3^0	3^5	4^0	4^7	l	1^1	1^1
M	3^7	4^5	5^1	6^1	m	6^0	7^0
N	3^2	4^0	4^3	5^3	n	3^5	4^2
O	3^4	4^2	4^5	5^5	o	3^6	4^3
P	3^2	4^0	4^3	5^3	p	3^5	4^2
Q	3^4	4^2	4^5	5^5	q	3^5	4^2
R	3^2	4^0	4^3	5^3	r	2^6	3^2
S	3^2	4^0	4^3	5^3	s	3^6	4^2
T	3^0	3^5	4^0	4^7	t	2^7	3^2
U	3^2	4^0	4^3	5^3	u	3^5	4^2
V	3^5	4^4	4^7	6^0	v	4^2	4^7
W	4^4	5^2	6^0	7^0	w	5^5	6^4
X	3^4	4^0	4^5	5^3	x	4^4	5^1
Y	3^6	5^0	5^0	6^6	y	4^6	5^3
Z	3^2	4^0	4^3	5^3	z	3^6	4^3

NUMBER	6 INCH SERIES C	6 INCH SERIES D	8 INCH SERIES C	8 INCH SERIES D
1	1^2	1^4	1^5	2^0
2	3^2	4^0	4^3	5^3
3	3^2	4^0	4^3	5^3
4	3^5	4^3	4^7	5^7
5	3^2	4^0	4^3	5^3
6	3^2	4^0	4^3	5^3
7	3^2	4^0	4^3	5^3
8	3^2	4^0	4^3	5^3
9	3^2	4^0	4^3	5^3
0	3^4	4^2	4^5	5^5

GENERAL NOTES

1. WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
4. ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4 ".
5. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:

* A.K.T. CORPORATION, SCHAUMBURG, IL
* AMERICAN FABRICATION CO., CHICAGO HEIGHTS, IL
* TUCKER COMPANY, INC., WAUWATOSA, WI
* WESTERN TRAFFIC CONTROL INC., CICERO, IL

PARTS LISTING:

SIGN CHANNEL	PART #-PN063 (MED. CHANNEL)
SIGN SCREWS	1/4" x 14 x 1" H.W.H. #3 SELF TAPPING WITH NEOPRENE WASHER
BRACKETS	PART #-PN034 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL. (773) 774-5910

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

MAST ARM MOUNTED STREET NAME SIGNS

SCALE: N.T.S.
DATE: APRIL 17, 2009
DRAWN BY: MAA
DESIGNED BY: PKS/RRM
CHECKED BY: PKS/RRM

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\316_tt9.dgn
PLOT SCALE = 5:1
USER NAME = 3830
...ill rte 47#45_38-Signs2.dgn
4/24/2009
5:07:33 PM

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	317
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

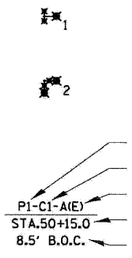
VILLAGE OF HUNTLEY LIGHTING GENERAL NOTES

1. CAST A GROUND ROD 5/8" IN DIAMETER BY 10 FEET IN LENGTH INSIDE EVERY CONCRETE POLE FOUNDATION AND CONNECT TO THE POLE GROUNDING LUG VIA A #6 SOLID COPPER WIRE WITH A MECHANICAL CONNECTION AT THE GROUND ROD AND PIGTAIL SPLICE INSIDE THE POLE HANDHOLE.
2. ALL POLE HANDHOLES SHALL FACE AWAY FROM TRAFFIC.
3. UNIT DUCT SHALL BE 1½" DIAMETER SCH 40 HDPE WITH 4/C #6, 2/C #8, 1/C #8 NEUTRAL & 1/C #6 GROUND XLP-TYPE USE CABLES.
4. LUMINAIRES SHALL BE LEVEL & HAVE A TIGHT FIT ON MAST ARMS TO THE OWNER'S SATISFACTION. THIS WORK SHALL INCLUDE FIELD ADJUSTING OF THE LUMINAIRE WHICH WILL BE INCIDENTAL TO THE "LIGHTPOLE" PAY ITEM.
5. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A PERMIT FROM THE VILLAGE OF HUNTLEY BEFORE THE START OF WORK.
6. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING SPECIFICATIONS, WHICH ARE HEREBY MADE A PART HEREOF:
   - A. "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS", AS PREPARED BY IDOT.
   - B. "THE NATIONAL ELECTRICAL CODE".
   - C. MUNICIPAL CODES & STANDARDS.
7. NO POLES SHALL BE ERECTED UNTIL THE RESPECTIVE FOUNDATIONS HAVE CURED SUFFICIENTLY.
8. TO MAINTAIN THE STRUCTURAL INTEGRITY OF LIGHT POLES WITH MAST ARMS, THEY SHALL NOT BE ERECTED AND LEFT TO STAND WITHOUT LUMINAIRES. NOTE THAT THE CONTRACTOR SHALL NOT BE PAID FOR POLES UNTIL LUMINAIRES ARE INSTALLED.
9. BEFORE INSTALLING LIGHT STANDARDS NEAR OVERHEAD UTILITIES CALL COM ED FOR LOCATION APPROVAL.
10. NO MATERIALS SHALL BE DELIVERED TO THE JOB SITE UNTIL ALL PERTINENT EQUIPMENT SUBMITTALS HAVE BEEN REVIEWED BY THE OWNER'S REPRESENTATIVE.
11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MARK THE PROPOSED LOCATIONS OF ALL LIGHT POLES AND LIGHTING CONTROLLERS FOR EXAMINATION AND CONFIRMATION WITH THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO AUGERING FOR LIGHT POLE FOUNDATIONS. THE EXACT LOCATIONS OF ALL PROPOSED ITEMS SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK.
12. THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR GROUNDING. GROUNDING CONNECTIONS AT THE FOUNDATION SHALL BE MECHANICAL TYPE UL LISTED FOR DIRECT BURIAL USE, AS SPECIFIED, AND SHALL BE REVIEWED BY THE OWNER'S REPRESENTATIVE PRIOR TO POURING CONCRETE OR BACKFILLING, AS APPLICABLE.
13. THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENT FOR BURIED WARNING TAPE, SPECIFIED AS PART OF "TRENCH AND BACKFILL FOR ELECTRICAL WORK". THE INSTALLATION OF THE TAPE SHALL BE REVIEWED BY THE RESIDENT ENGINEER PRIOR TO BACKFILLING OR DURING PLOWING OPERATIONS, AS APPLICABLE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OF FINISHED GRADE AND THE TOP OF THE FOUNDATIONS HEIGHTS.
15. THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR THE ELECTRICAL SERVICE FOR THE PROPOSED ROADWAY LIGHTING. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR TIMELY NOTIFICATION AND COORDINATION WITH THE ELECTRICAL UTILITY COMPANY.
16. THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR WIRE MARKERS AND SHALL TAG ALL WIRE MARKERS AND SHALL TAG ALL WIRE ACCORDINGLY.
17. EQUIPMENT GROUND CONDUCTORS SHALL BE SPLICED AND BONDED AT EACH LIGHT POLE OR OTHER PIECE OF EQUIPMENT.
18. THE LIGHTING CONTROLLER SHALL BE CONSTRUCTED TO UL STANDARDS 508 AND 508A, AND BEAR THE LABEL "INDUSTRIAL CONTROL PANEL".
19. ALL DISTURBED AREA WHERE RESTORATION IS NOT COVERED BY APPLICABLE SECTIONS OF THE SPECIAL PROVISIONS MUST BE RESTORED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE. THE WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT. SEPARATE PAYMENT WILL NOT BE MADE.
20. THE EXACT LOCATIONS OF ALL UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR BEFORE THE INSTALLATION OF ANY COMPONENTS OF THE LIGHTING SYSTEM. FOR THE LOCATIONS OF THE UTILITIES, CALL JULIE TOLL FREE AT 1-800-892-0123.
21. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AS WELL AS SUPERVISION/DIRECTION AND MEANS/METHODS OF CONSTRUCTION.
22. THE WORK PERFORMED UNDER THIS CONTRACT SHALL IN NO WAY INTERFERE WITH THE NORMAL OPERATION OF ANY EXISTING UTILITY SERVICE. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ITEMS OF EQUIPMENT REQUIRED TO MAINTAIN SUCH NORMAL OPERATION AT NO ADDITIONAL COST TO THE OWNER. THE COST ASSOCIATED FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CONTRACT.
23. LIGHTPOLES INSTALLED CLOSER THAN 6 FEET FROM BACK OF CURB SHALL HAVE BREAKAWAY COUPLINGS INSTALLED (SEE DETAIL).
24. THE CONTRACTOR SHALL PERFORM ELECTRICAL TESTING AND VERIFY THAT THE INSTALLTION COMPLIES WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS.
25. FOR QUESTIONS, CONTACT WILLIAM GEEGAN FROM THE VILLAGE OF HUNTLEY AT (847) 515-5210.

VILLAGE OF HUNTLEY LIGHTING BILL OF MATERIALS

DESCRIPTION	UNIT	QUANTITY
TREE PRUNING (OVER 10 INCH DIAMETER)	EACH	3
ELECTRIC SERVICE INSTALLATION	EACH	3
ELECTRIC UTILITY SERVICE CONNECTION	LSUM	1
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	385
CONDUIT IN TRENCH, 1" DIA., COILABLE METALLIC CONDUIT	FOOT	580
CONDUIT IN TRENCH, 1¼" DIA., COILABLE METALLIC CONDUIT	FOOT	1120
CONDUIT PUSHED, 2" DIA. GALV. STEEL	FOOT	910
CONDUIT PUSHED, 3" DIA. GALV. STEEL	FOOT	1025
CONDUIT PUSHED, 5" DIA. GALV. STEEL	FOOT	635
HANDHOLE, COMPOSITE CONCRETE	EACH	9
ELECTRIC CABLE IN CONDUIT, 600V, (XLP-TYPE USE) 1/C NO. 8	FOOT	3100
ELECTRIC CABLE IN CONDUIT, 600V, (XLP-TYPE USE) 1/C NO. 6	FOOT	5170
ELECTRIC CABLE IN CONDUIT, 600V, (XLP-TYPE USE) 3-1/C NO. 3/0	FOOT	520
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	12810
LIGHTING CONTROLLER TYPE CB-RCS	EACH	3
LIGHT POLE FOUNDATION, 24" DIAMETER, SPECIAL	FOOT	530
LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	FOOT	429
BREAKAWAY DEVICE, COUPLING, WITH ALUMINUM SKIRT	EACH	12
LUMINAIRE SHIELD	EACH	12
LIGHT POLE, COMPLETE IN PLACE, TYPE 1	EACH	78
LIGHT POLE, COMPLETE IN PLACE, TYPE 2	EACH	8
UNIT DUCT, 600V, 4/C #6, 2/C #8, 1/C #8 NEUTRAL & 1/C #6 GND. (XLP TYPE-USE) IN 1½" DIA. SCH 40 HDPE, IN TRENCH	FOOT	14940

VILLAGE OF HUNTLEY LIGHTING LEGEND



PROPOSED POLE TYPE 1 - ROUND TAPERED ALUMINUM POLE WITH A 400 WATT HPS MC3 TEARDROP TYPE LUMINAIRE ON A 6' ARM MOUNTED AT 40' AND TWO 50 WATT HPS MC3 ACORN TYPE LUMINAIRES MOUNTED 180° ON 2.0' ARMS AT 18' PARALLEL TO ROAD

PROPOSED POLE TYPE 2 - ROUND TAPERED ALUMINUM POLE WITH TWO 400 WATT HPS MC3 TEARDROP TYPE LUMINAIRES MOUNTED 90° ON 6' ARMS AT 40' AND TWO 50 WATT HPS MC3 ACORN TYPE LUMINAIRES MOUNTED 90° ON 2.0' ARMS 18'

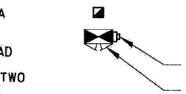
POLE NUMBER

CONTROLLER NUMBER

LUMINAIRE AND ( ) FESTOON RECEPTACLE CIRCUIT ID

POLE STATION LOCATION

POLE SETBACK (BACK OF CURB TO CENTER OF POLE)



PROPOSED COMPOSITE CONCRETE HANDHOLE

PROPOSED 120/240V-1Ø LIGHTING CONTROLLER

ELECTRIC UTILITY METER

DOOR SWING LOCATION

UD — PROPOSED CABLES IN UNIT DUCT (SIZES AS SHOWN)

UD — PROPOSED UNIT DUCT IN RIGID GALVANIZED STEEL CONDUIT PUSHED UNDER PAVEMENT (SIZES AS SHOWN)

E — PROPOSED CABLES IN RIGID GALVANIZED STEEL (RGS) CONDUIT (SIZES AS SHOWN)

2½" RGS-T OR P — RIGID GALVANIZED STEEL CONDUIT TRENCHED OR PUSHED

REVISIONS NAME	DATE

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

ILLINOIS DEPARTMENT OF TRANSPORTATION

ILLINOIS ROUTE 47
ROADWAY LIGHTING GENERAL NOTES AND SUMMARY OF QUANTITIES

SCALE: N.T.S. DRAWN BY: AJD

DATE: 2/11/2009 CHECKED BY: AJD

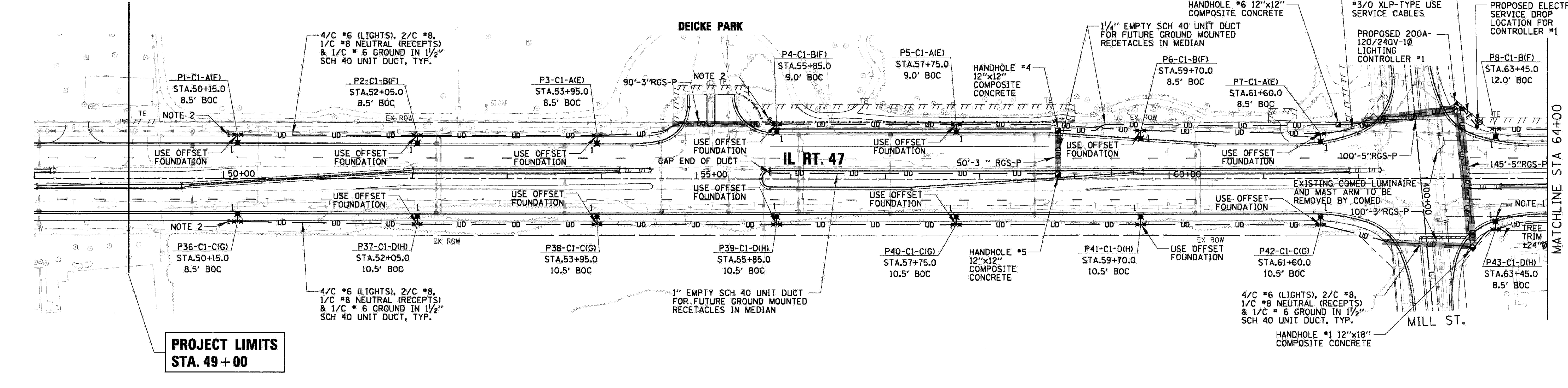
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-art\317.alex1.CBBEL.01.dgn
PLOT SCALE = 1:1
USER NAME = 3838

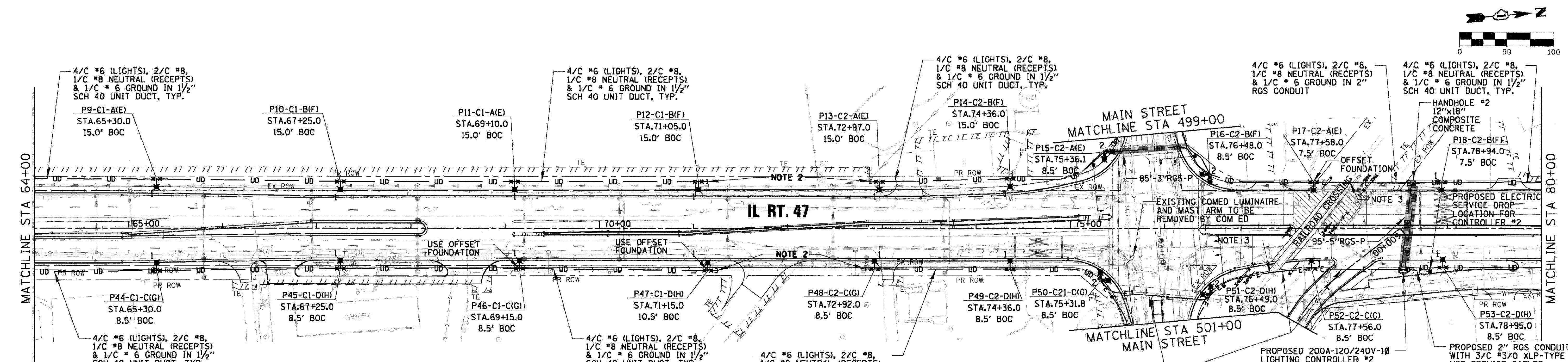
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	318
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

NOTES:

1. PROVIDE HOUSE SIDE SHIELDS FOR ALL 3 FIXTURES ON DESIGNATED POLES.
2. PROVIDE A SPARE RACEWAY IN FOUNDATION, STUB OUT 5' AND CAP.
3. ALL ELECTRIC CONDUIT IN RAILROAD R.O.W. SHALL BE 2" PUSHED RIGID GALVANIZED STEEL. SEE ELECTRIC CONDUIT DETAIL FOR INSTALLING CONDUIT UNDER RAIL ROAD TRACKS. ALL CONDUIT IN RAILROAD R.O.W. SHALL BE INSTALLED IN ACCORDANCE WITH UNION PACIFIC RAILROAD COMPANY REQUIREMENTS.





REVISIONS	
NAME	DATE

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

ILLINOIS DEPARTMENT OF TRANSPORTATION

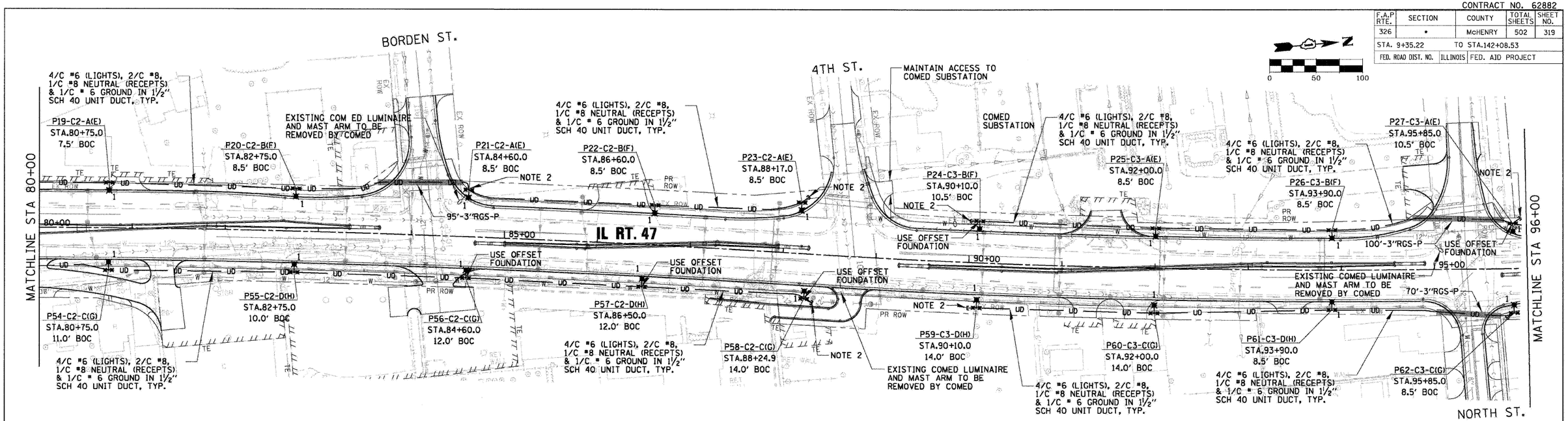
ILLINOIS ROUTE 47
ROADWAY LIGHTING PLAN (1 OF 3)
STA. 49+00 TO STA. 80+00

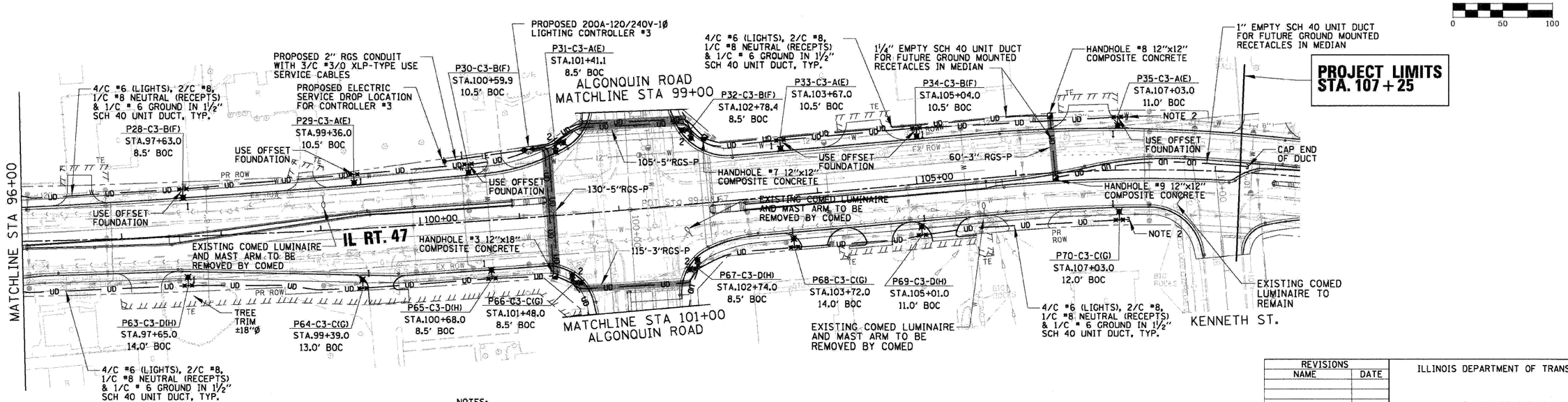
SCALE: 1"=50' DRAWN BY: KB
DATE: 2/11/2009 CHECKED BY: AJD

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\318.elect.CBBEL.02.dgn
PLOT SCALE = 1:1
USER NAME = 3830

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	319
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





NOTES:

1. PROVIDE HOUSE SIDE SHIELDS FOR ALL 3 FIXTURES ON DESIGNATED POLES.
2. PROVIDE A SPARE RACEWAY IN FOUNDATION, STUB OUT 5' AND CAP.

REVISIONS NAME	DATE

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

ILLINOIS DEPARTMENT OF TRANSPORTATION

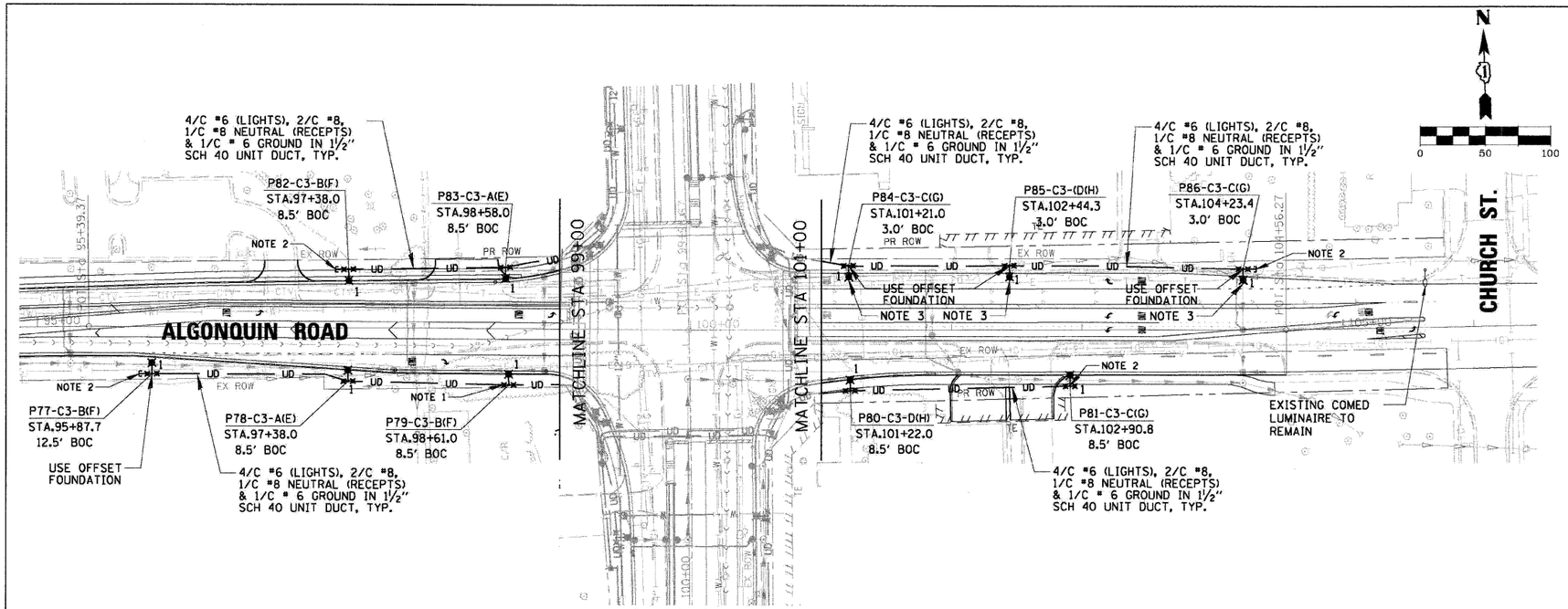
ILLINOIS ROUTE 47
ROADWAY LIGHTING PLAN (2 OF 3)
STA. 80+00 TO STA. 107+25

SCALE: 1"=50' DRAWN BY: KB
DATE: 2/11/2009 CHECKED BY: AJD

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\1-CADD\01-sht\319_elect_CBBEL_03.dgn
PLOT SCALE = 1:1
USER NAME = 3838

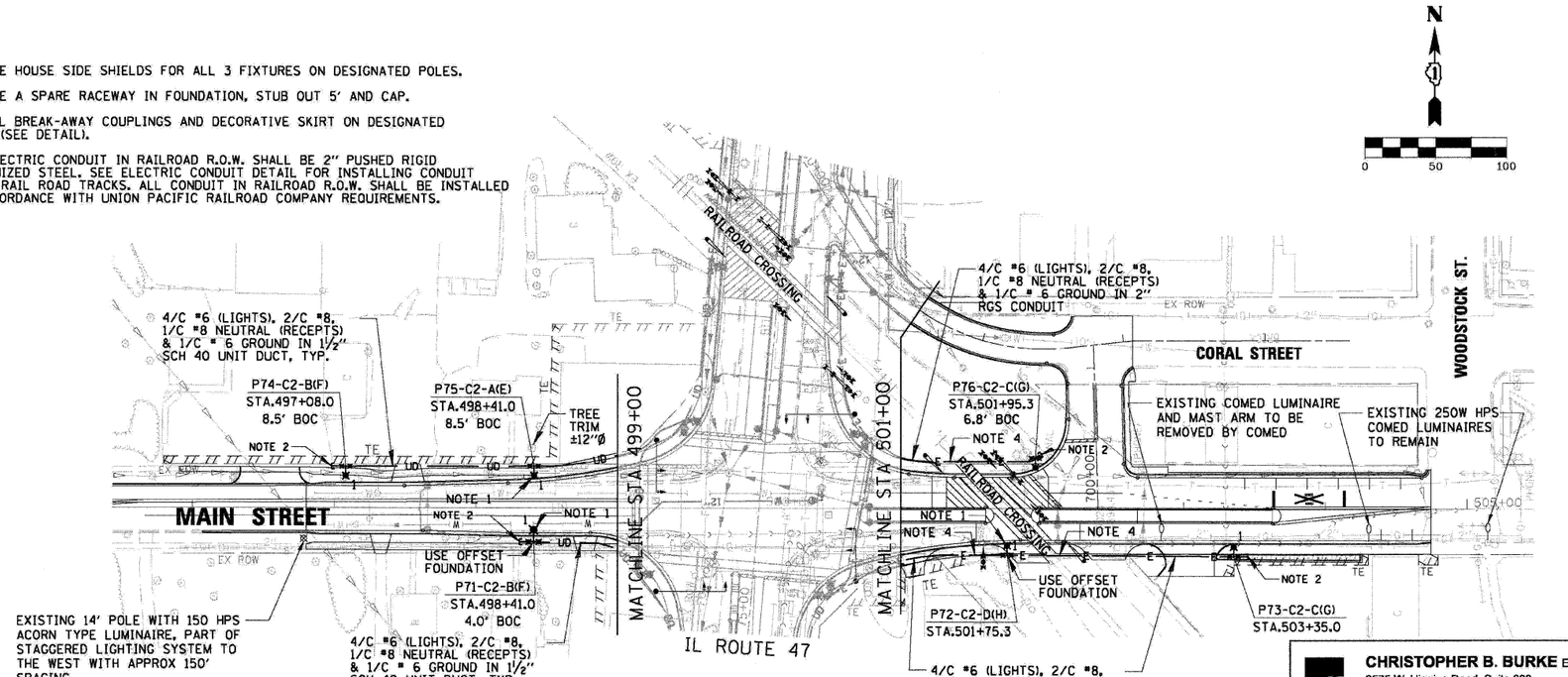
CONTRACT NO. 62882

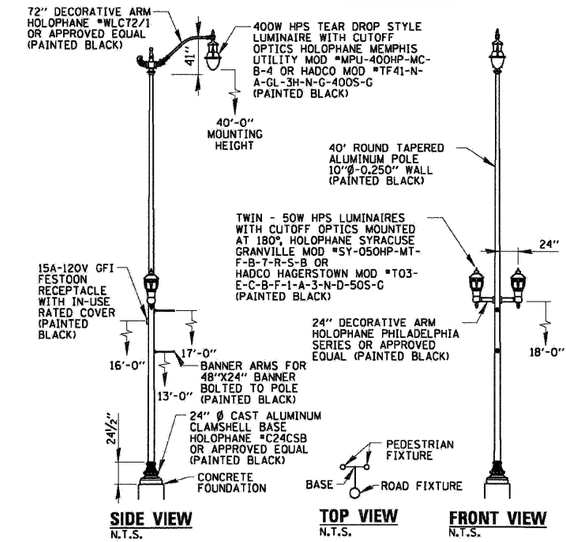
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	320
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTES:

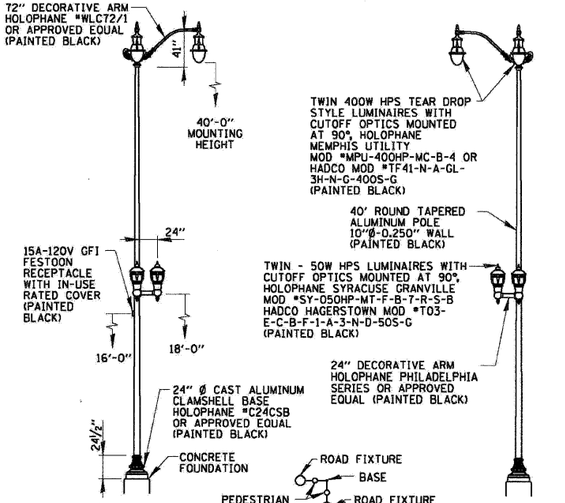
1. PROVIDE HOUSE SIDE SHIELDS FOR ALL 3 FIXTURES ON DESIGNATED POLES.
2. PROVIDE A SPARE RACEWAY IN FOUNDATION, STUB OUT 5' AND CAP.
3. INSTALL BREAK-AWAY COUPLINGS AND DECORATIVE SKIRT ON DESIGNATED POLES (SEE DETAIL).
4. ALL ELECTRIC CONDUIT IN RAILROAD R.O.W. SHALL BE 2" PUSHED RIGID GALVANIZED STEEL. SEE ELECTRIC CONDUIT DETAIL FOR INSTALLING CONDUIT UNDER RAIL ROAD TRACKS. ALL CONDUIT IN RAILROAD R.O.W. SHALL BE INSTALLED IN ACCORDANCE WITH UNION PACIFIC RAILROAD COMPANY REQUIREMENTS.





NOTES: 1. ALL STEEL SHALL BE FROM DOMESTIC SOURCE.
2. LUMINAIRE SHIELDS SHALL BE PROVIDED AND INSTALLED ON DESIGNATED POLES. SHIELDS SHALL BE PAINTED BLACK TO MATCH POLES, AND WILL BE PAID FOR SEPARATELY.

PROPOSED LIGHT POLE TYPE 1



NOTES: 1. ALL STEEL SHALL BE FROM DOMESTIC SOURCE.

PROPOSED LIGHT POLE TYPE 2

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

ILLINOIS ROUTE 47
ROADWAY LIGHTING PLAN (3 OF 3)
ALGONQUIN RD.; MAIN ST.

SCALE: 1"=50' DRAWN BY: KB
DATE: 2/11/2009 CHECKED BY: AJD

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\322_elect_CBBEL_04.dgn
PLOT SCALE = 1:1
USER NAME = 3830

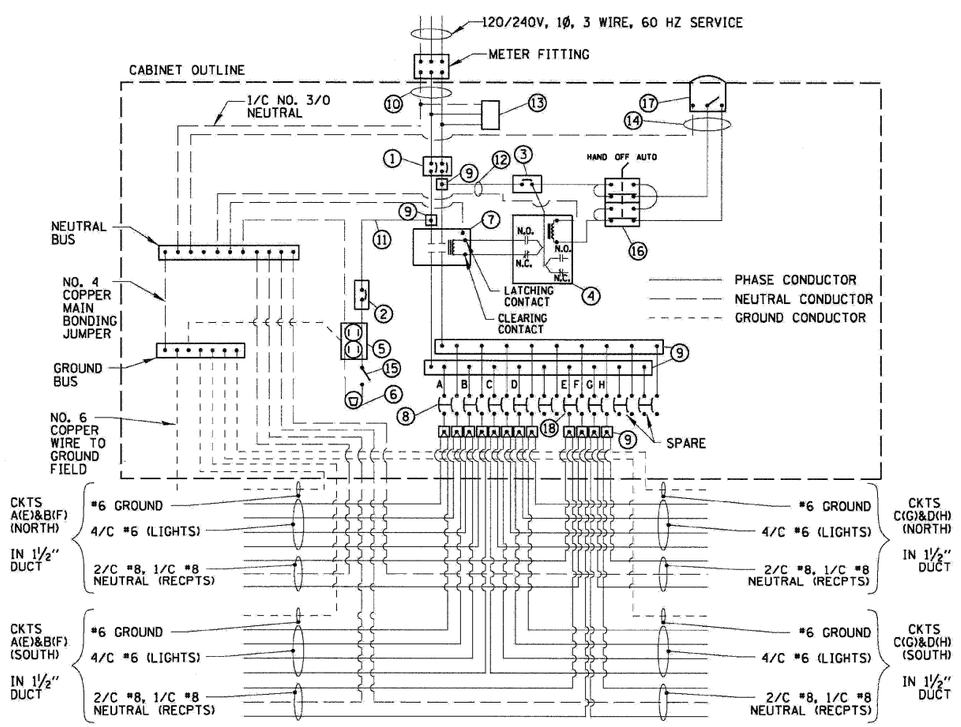
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	321
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

ITEM	SPECIFICATION	MANUFACTURER/MODEL NO. OR EQUAL
(1) MAIN CIRCUIT BREAKER	200 AMPERE, 2P, 240V SERVICE RATING, 22KAIC	SIEMENS NO. FD62B200
(2) LAMPHOLDER CIRCUIT BREAKER	20 AMPERE, 1P, 120V RATING, 22KAIC	SIEMENS NO. ED41B020
(3) PHOTOELECTRIC CONTROL CIRCUIT BREAKER	15 AMPERE, 1P, 120V RATING, 22KAIC	SIEMENS NO. ED41B015
(4) AUXILIARY RELAY	120 V OPERATED DPDT 60 HZ COIL 2 NO & 2 NC CONTACTS	MAGNECRAFT NO. 389 FXBXC1 - 120A
(5) CABINET RECEPTACLE AND BOX	COMMERCIAL GRADE GFCI 20A/120V, MOUNTED IN A WEATHERPROOF CAST ALUMINUM SINGLE GANG BOX WITH WEATHERPROOF COVER	RECEPTACLE: LEVITON NO. 8899, BOX: APPLETON NO. WSM150 COVER: APPLETON NO. WHG1
(6) CABINET LIGHT AND BOX	120V WEATHERPROOF LAMPHOLDER MOUNTED IN A CAST ALUMINUM BOX & EXT. GRADE 100W LAMP	LIGHT & BOX: RAB NO. VX100DG
(7) CONTACTOR	200 AMPERE, 2 POLE, 120 V COIL, MECH HELD	SQUARE D NO. 8903 SV0 10 V02
(8) LUMINAIRE CIRCUIT BREAKERS	5 - 40 AMPERE, 2P, 240V RATING, 22KAIC	SIEMENS NO. ED42B040
(9) POWER DISTRIBUTION BLOCK	600 VOLT, INSULATED, SIZE AS REQUIRED	MARATHON
(10) SERVICE CABLES	3-600V (XLP-TYPE USE) NO. 3/0	N/A
(11) LAMPHOLDER WIRE	2-600V XLP NO. 12	N/A
(12) CONTROL WIRE	2-600V XLP NO. 12	N/A
(13) SURGE ARRESTOR	10 K AMPERE RATING	SQUARE D NO. SDSA 1175
(14) PHOTOELECTRIC CONTROL WIRE	3-600V XLP NO. 12	N/A
(15) DOOR SWITCH	20A/120V, DOOR MOUNTED SNAP ACTION TYPE PLUNGER SWITCH	OMRON NO. A-20GQ-K
(16) HAND-AUTO-OFF CONTROL SWITCH	20 A, 3 POS. MTD IN CAST ALUM. ENCLOSURE	SQUARE D NO. 9001 KYK 111
(17) PHOTOCELL	120V, MTD. ON CABINET, DELAY TYPE, SPST-NC	FISHER PIERCE NO. FPFA-105
(18) POLE RECEPT. CIRCUIT BREAKER	4 - 20 AMPERE, 2P, 240V RATING, 22KAIC	SIEMENS NO. ED42B020

NOTES:
1. ALL ITEMS LISTED IN LIGHTING CONTROLLER COMPONENT SCHEDULE SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR "LIGHTING CONTROLLER" INCLUDING CABINET AND FOUNDATION.
2. THE LIGHTING CONTROLLER TOGETHER WITH ALL OF ITS COMPONENTS SHALL BE UL LISTED AS AN "ENCLOSED INDUSTRIAL CONTROL PANEL" UNDER UL508A.
3. CONNECTION OF SURGE ARRESTOR TO LINE SIDE OF MAIN CIRCUIT BREAKER SHALL NOT BE "DOUBLE LUGGED."
4. ALL EQUIPMENT SHALL BE MOUNTED ON A ½" THICK ARBORON TIRE BACK PANEL.

LIGHTING CONTROLLER #1, #2 & #3 COMPONENT SCHEDULE

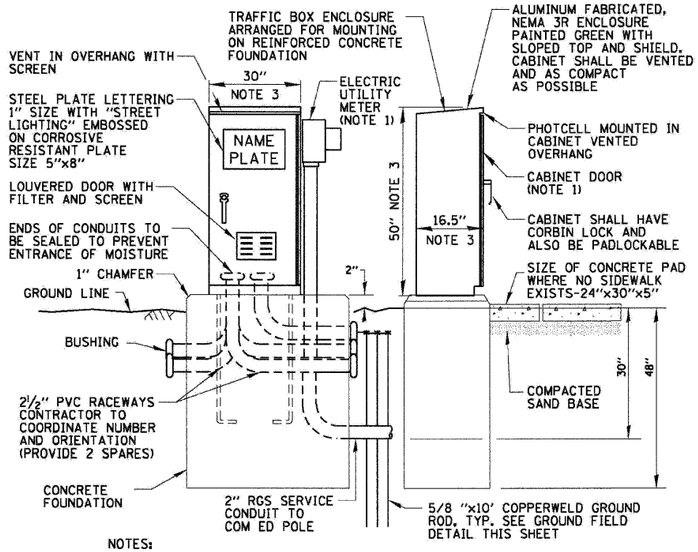


LIGHTING CONTROLLER #1, #2 & #3 WIRING DETAIL

N.T.S.

LIGHTING CONTROLLER #1 CIRCUIT LOADS

CIRCUIT ID	50W ROADWAY LUMINAIRE		400W ROADWAY LUMINAIRE		FESTOON RECEPTACLE		TOTAL CIRCUIT LOAD	
	QTY.	LOAD/FIXT. (WATTS)	QTY.	LOAD/FIXT. (WATTS)	QTY.	LOAD/RECT. (WATTS)	(WATTS)	AMPS (VOLTS)
A	12	70 W	6	480 W	--	180 W	3720 W	15.5A (240V)
B	12	70 W	6	480 W	--	180 W	3720 W	15.5A (240V)
C	12	70 W	6	480 W	--	180 W	3720 W	15.5A (240V)
D	12	70 W	6	480 W	--	180 W	3720 W	15.5A (240V)
E	--	70 W	--	480 W	6	180 W	1080 W	9.0A (120V)
F	--	70 W	--	480 W	6	180 W	1080 W	9.0A (120V)
G	--	70 W	--	480 W	6	180 W	1080 W	9.0A (120V)
H	--	70 W	--	480 W	6	180 W	1080 W	9.0A (120V)
TOTAL	48	N/A	24	N/A	24	N/A	19.2 KW	80.0A (240V)



NOTES:
1. SEE LIGHTING PLAN DRAWINGS FOR METER & DOOR ORIENTATION.
2. ALL ITEMS SHOWN ABOVE (INCLUDING FOUNDATION & GROUND FIELD) SHALL BE INCLUDED IN THE PRICE BID FOR "LIGHTING CONTROLLER", EXCEPT FOR THE SERVICE CONDUIT WHICH WILL BE PAID FOR SEPARATELY.
3. CABINET DIMENSIONS SHOWN ARE APPROXIMATE. CABINET SHALL BE AS COMPACT AS POSSIBLE, CONTRACTOR TO COORDINATE.

PROPOSED LIGHTING CONTROLLER #1, #2 & #3 CABINET AND FOUNDATION

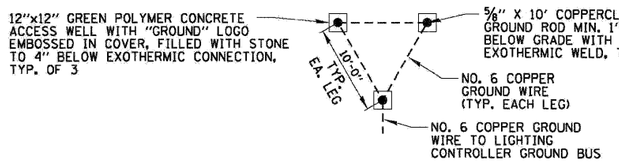
N.T.S.

LIGHTING CONTROLLER #2 CIRCUIT LOADS

CIRCUIT ID	50W ROADWAY LUMINAIRE		400W ROADWAY LUMINAIRE		FESTOON RECEPTACLE		TOTAL CIRCUIT LOAD	
	QTY.	LOAD/FIXT. (WATTS)	QTY.	LOAD/FIXT. (WATTS)	QTY.	LOAD/RECT. (WATTS)	(WATTS)	AMPS (VOLTS)
A	14	70 W	8	480 W	--	180 W	4820 W	20.1A (240V)
B	14	70 W	8	480 W	--	180 W	4820 W	20.1A (240V)
C	16	70 W	9	480 W	--	180 W	5440 W	22.7A (240V)
D	12	70 W	7	480 W	--	180 W	4200 W	17.5A (240V)
E	--	70 W	--	480 W	7	180 W	1260 W	10.5A (120V)
F	--	70 W	--	480 W	7	180 W	1260 W	10.5A (120V)
G	--	70 W	--	480 W	8	180 W	1440 W	12.0A (120V)
H	--	70 W	--	480 W	6	180 W	1080 W	9.0A (120V)
TOTAL	56	N/A	32	N/A	28	N/A	24.3 KW	101.4A (240V)

LIGHTING CONTROLLER #3 CIRCUIT LOADS

CIRCUIT ID	50W ROADWAY LUMINAIRE		400W ROADWAY LUMINAIRE		FESTOON RECEPTACLE		TOTAL CIRCUIT LOAD	
	QTY.	LOAD/FIXT. (WATTS)	QTY.	LOAD/FIXT. (WATTS)	QTY.	LOAD/RECT. (WATTS)	(WATTS)	AMPS (VOLTS)
A	16	70 W	9	480 W	--	180 W	5440 W	22.7A (240V)
B	18	70 W	10	480 W	--	180 W	6060 W	25.2A (240V)
C	18	70 W	10	480 W	--	180 W	6060 W	25.2A (240V)
D	16	70 W	9	480 W	--	180 W	5440 W	22.7A (240V)
E	--	70 W	--	480 W	8	180 W	1440 W	12.0A (120V)
F	--	70 W	--	480 W	9	180 W	1620 W	13.5A (120V)
G	--	70 W	--	480 W	9	180 W	1620 W	13.5A (120V)
H	--	70 W	--	480 W	8	180 W	1440 W	12.0A (120V)
TOTAL	68	N/A	38	N/A	34	N/A	29.1 KW	121.3A (240V)



GROUND FIELD DETAIL (TYP.)

N.T.S.

REVISIONS NAME	DATE

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

ILLINOIS DEPARTMENT OF TRANSPORTATION

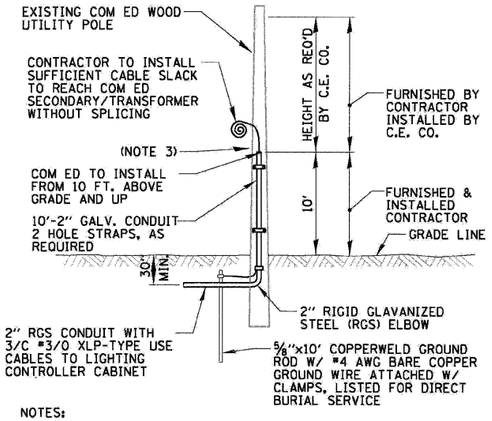
ILLINOIS ROUTE 47
ROADWAY LIGHTING DETAILS (1 OF 3)

SCALE: N.T.S. DRAWN BY: AJD
DATE: 2/11/2009 CHECKED BY: AJD

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-eng\321_elect_CBBEL_05.dgn
PLOT SCALE = 1:1
USER NAME = 3830

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	322
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

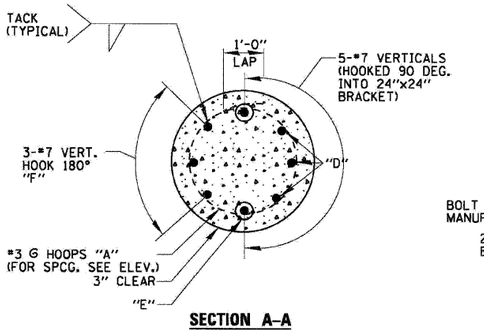


NOTES:

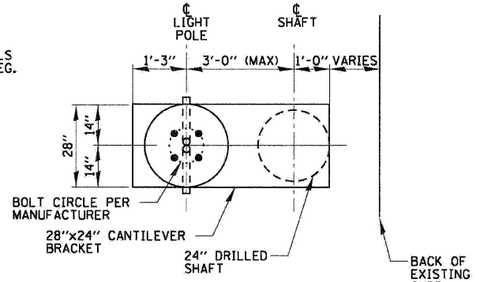
1. ALL WORK SHALL CONFORM TO COM ED'S BOOK OF "INFORMATION AND REQUIREMENTS FOR THE SUPPLY OF ELECTRIC SERVICE."
2. FURNISHING AND INSTALLING ALL MATERIAL SHOWN ABOVE (EXCEPT FOR POLE) SHALL BE INCLUDED IN THE PRICE BID FOR "ELECTRIC SERVICE INSTALLATION". THE HORIZONTAL SERVICE CONDUIT AND WIRING FROM POLE TO CONTROLLER SHALL BE PAID FOR SEPARATELY.
3. CONTRACTOR TO PROVIDE A CONDUIT BUSHING AND SEALING COMPOUND AT TOP OF RISER.

COM ED OVERHEAD CONNECTION POLE

N.T.S.



SECTION A–A

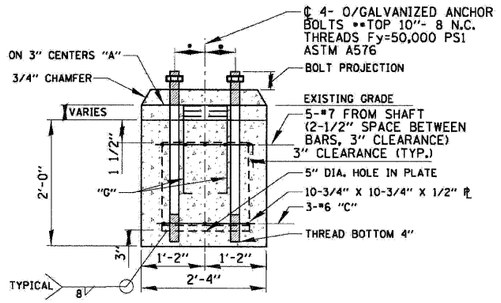


PLAN–CANTILEVERED BRACKET

NOTES:

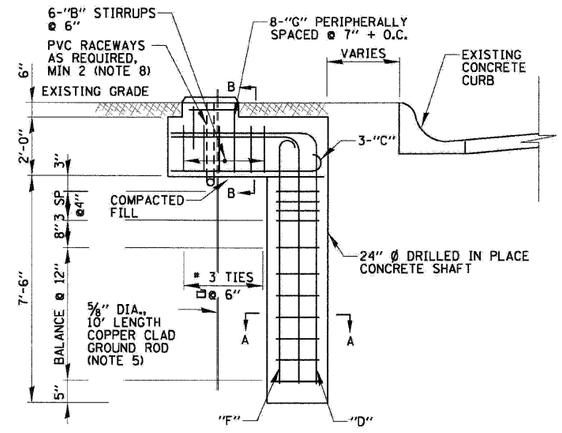
- BOLT CIRCLE PER MANUFACTURER
- •• THE TOP OF THE ANCHOR BOLTS SHALL NOT PROJECT MORE THAN 4" ABOVE A 60" CHORD ALIGNED RADIALLY TO THE CENTERLINE OF THE ROADWAY, AND CONNECTING ANY POINT, WITHIN THE LENGTH OF THE CHORD, ON THE GROUND SURFACE ON ONE SIDE OF THE SUPPORT TO A POINT ON THE GROUND SURFACE ON THE OTHER SIDE.

1. CONCRETE SHALL BE 3500 PSI AT 14 DAYS
2. HOLE FOR FOUNDATION SHAFT SHALL BE AUGERED
3. REINFORCING BARS SHALL CONFORM TO BILLET STEEL BARS. (ASTM-A615) SPECIFICATIONS WITH A 6000 PSI MINIMUM YIELD STRENGTH.
4. FOUNDATION AS SHOWN REPRESENTS 13.0 LINEAL FEET FOR LIGHT POLE FOUNDATION, OFFSET, 24" DIAMETER.
5. GROUND ROD SHALL BE CAST INTO CONCRETE FOUNDATION WITH 8 FEET IN CONTACT WITH SOIL & SHALL BE INCIDENTAL TO THE FOUNDATION.
6. USE THIS OFFSET FOUNDATION FOR POLES WHERE INDICATED ON THE LIGHTING PLAN SHEETS.
7. FOUNDATINS SHALL NOT PROTRUDE MORE THAN 4" ABOVE FINISHED GRADE INCLUDING ANCHOR RODS.
8. 3" PVC RACEWAY FOR UNITDUCT RUNS; AND 2" PVC FOR 2" RGS CONDUIT RUNS WITH THREADED CONNECTION.

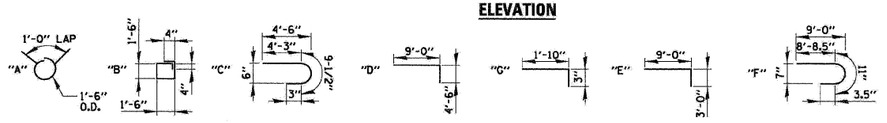


SECTION B–B

BILL OF MATERIALS				
QUAN.	MARK	SIZE	LENGTH	SHAPE
11	A	#3	5'-9"	
6	B	#3	6'-8"	
3	C	#6	5-3½"	
8	D	#6	2'-1"	
3	E	#7	13'-6"	
2	F	#7	12'-0"	
3	G	#7	9'-11"	
REINFORCING BARS LBS.				285
CLASS X CONC. CU. YDS.				1.7
ANCHOR BOLTS NO.				4
ANCHOR BOLT PLATE NO.				1

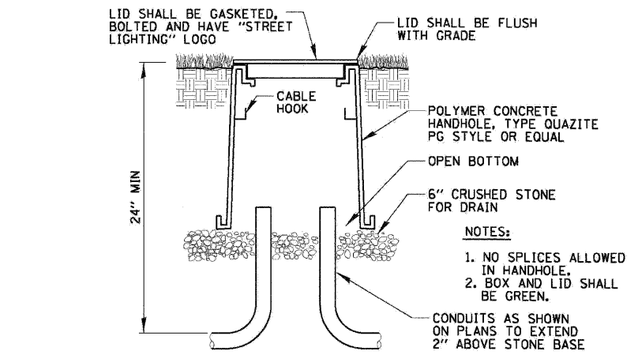


ELEVATION



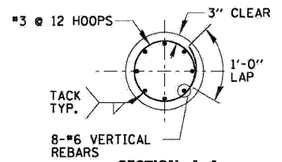
OFFSET CONCRETE FOUNDATION DETAIL

N.T.S.

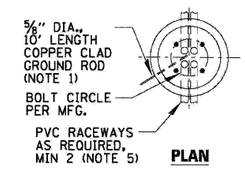


COMPOSITE CONCRETE HANDHOLE DETAIL

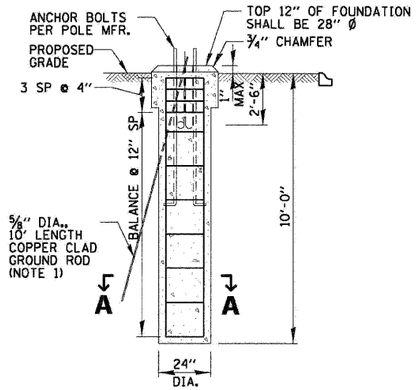
N.T.S.



SECTION A–A



PLAN



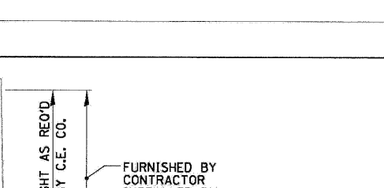
NOTES:

1. GROUND ROD SHALL BE CAST INTO CONCRETE FOUNDATION WITH 8 FEET IN CONTACT WITH SOIL & SHALL BE INCIDENTAL TO THE FOUNDATION.
2. FOUNDATION WILL BE PAID FOR UNDER "LIGHT POLE FOUNDATION, 24" DIAMETER, SPECIAL".
3. USE THIS FOUNDATION FOR ALL LIGHT POLES, UNLESS OTHERWISE INDICATED, ON LIGHTING PLAN SHEETS.
4. FOUNDATINS SHALL NOT PROTRUDE MORE THAN 4" ABOVE FINISHED GRADE INCLUDING ANCHOR RODS.
5. 3" PVC RACEWAY FOR UNITDUCT RUNS; AND 2" PVC FOR 2" RGS CONDUIT RUNS WITH THREADED CONNECTION.

CONCRETE FOUNDATION DETAIL

N.T.S.

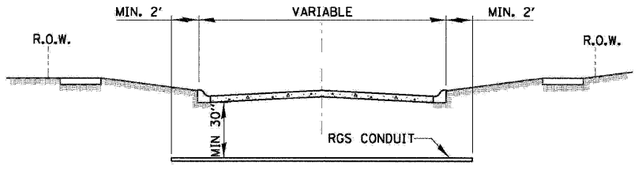
TRENCH CROSS SECTION



NOTES:

1. ALL CONDUIT IN RAILROAD R.O.W. OR UNDER TRACKS SHALL BE 2" RGS PUSHED A MINIMUM OF 5'-6" BELOW BASE RAIL AND A MINIMUM OF 3'-5" BELOW SURROUNDING GRADE; AND SHALL BE INSTALLED PER UNION PACIFIC RAILROAD COMPANY REQUIREMENTS
2. ALL PROPOSED CONDUITS SHALL CROSS TRACKS PARALLEL TO ROADWAY

SECTION AT RAILROAD



STREET CROSSING

① CONDUIT SHALL BE HEAVY WALL RIGID GALVANIZED STEEL (RGS) CONDUIT.
② CONDUIT SHALL EXTEND A MINIMUM OF 2 FT. BEYOND BACK OF CURB.
③ CONDUIT SHALL BE A MINIMUM OF 30" BELOW CURB BOTTOM.

ELECTRIC CONDUIT DETAIL

N.T.S.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

ILLINOIS ROUTE 47
ROADWAY LIGHTING DETAILS (2 OF 3)

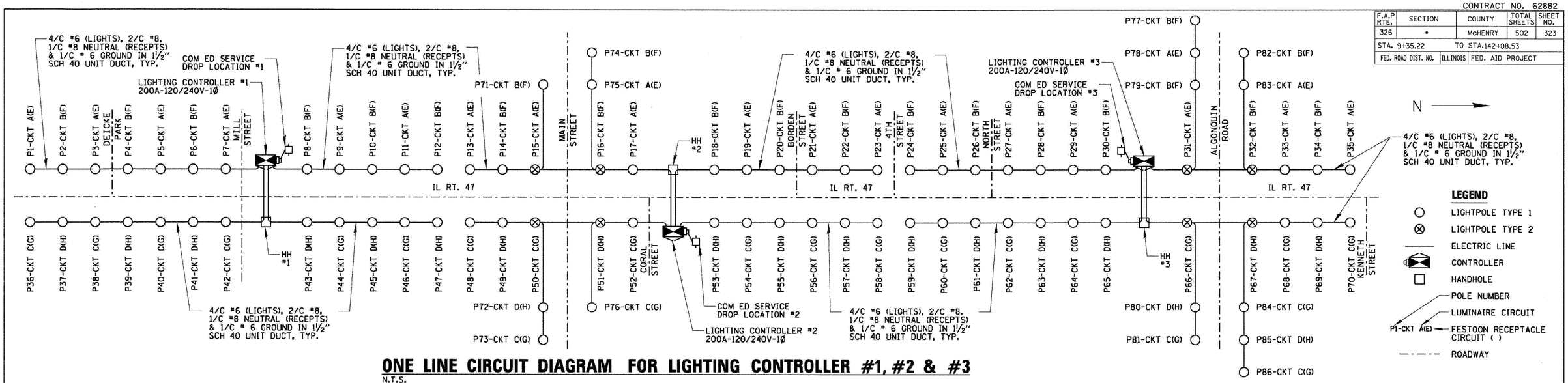
SCALE: N.T.S. DRAWN BY: AJD
DATE: 2/11/2009 CHECKED BY: AJD

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CAD\01-sht\322_sheet_CBBEL_86.dgn
PLOT SCALE = 1i
USER NAME = 3630

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	323
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



ONE LINE CIRCUIT DIAGRAM FOR LIGHTING CONTROLLER #1, #2 & #3

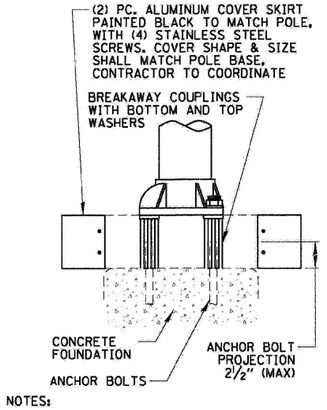
N.T.S.

LUMINAIRE AND POLE SCHEDULE

LIGHT POLE IDENTIFIER	POLE TYPE	LUMINAIRES				FESTOON RECEPTACLES		CONTROLLER IDENTIFIER
		ROADWAY		PEDESTRIAN				
		WATTAGE	CKT ID	WATTAGE	CKT ID	WATTAGE	CKT ID	
P1	1	(1) 400W	A	(2) 50W	A	180W	E	1
P2	1	(1) 400W	B	(2) 50W	B	180W	F	1
P3	1	(1) 400W	A	(2) 50W	A	180W	E	1
P4	1	(1) 400W	B	(2) 50W	B	180W	F	1
P5	1	(1) 400W	A	(2) 50W	A	180W	E	1
P6	1	(1) 400W	B	(2) 50W	B	180W	F	1
P7	1	(1) 400W	A	(2) 50W	A	180W	E	1
P8	1	(1) 400W	B	(2) 50W	B	180W	F	1
P9	1	(1) 400W	A	(2) 50W	A	180W	E	1
P10	1	(1) 400W	B	(2) 50W	B	180W	F	1
P11	1	(1) 400W	A	(2) 50W	A	180W	E	1
P12	1	(1) 400W	B	(2) 50W	B	180W	F	1
P13	1	(1) 400W	A	(2) 50W	A	180W	E	2
P14	1	(1) 400W	B	(2) 50W	B	180W	F	2
P15	2	(2) 400W	A	(2) 50W	A	180W	E	2
P16	2	(2) 400W	B	(2) 50W	B	180W	F	2
P17	1	(1) 400W	A	(2) 50W	A	180W	E	2
P18	1	(1) 400W	B	(2) 50W	B	180W	F	2
P19	1	(1) 400W	A	(2) 50W	A	180W	E	2
P20	1	(1) 400W	B	(2) 50W	B	180W	F	2
P21	1	(1) 400W	A	(2) 50W	A	180W	E	2
P22	1	(1) 400W	B	(2) 50W	B	180W	F	2
P23	1	(1) 400W	A	(2) 50W	A	180W	E	2
P24	1	(1) 400W	B	(2) 50W	B	180W	F	3
P25	1	(1) 400W	A	(2) 50W	A	180W	E	3
P26	1	(1) 400W	B	(2) 50W	B	180W	F	3
P27	1	(1) 400W	A	(2) 50W	A	180W	E	3
P28	1	(1) 400W	B	(2) 50W	B	180W	F	3
P29	1	(1) 400W	A	(2) 50W	A	180W	E	3
P30	1	(1) 400W	B	(2) 50W	B	180W	F	3
P31	2	(2) 400W	A	(2) 50W	A	180W	E	3
P32	2	(2) 400W	B	(2) 50W	B	180W	F	3
P33	1	(1) 400W	A	(2) 50W	A	180W	E	3
P34	1	(1) 400W	B	(2) 50W	B	180W	F	3
P35	1	(1) 400W	A	(2) 50W	A	180W	E	3
P36	1	(1) 400W	C	(2) 50W	C	180W	G	1
P37	1	(1) 400W	D	(2) 50W	D	180W	H	1
P38	1	(1) 400W	C	(2) 50W	C	180W	G	1
P39	1	(1) 400W	D	(2) 50W	D	180W	H	1
P40	1	(1) 400W	C	(2) 50W	C	180W	G	1
P41	1	(1) 400W	D	(2) 50W	D	180W	H	1
P42	1	(1) 400W	C	(2) 50W	C	180W	G	1
P43	1	(1) 400W	D	(2) 50W	D	180W	H	1

LUMINAIRE AND POLE SCHEDULE (CONT)

LIGHT POLE IDENTIFIER	POLE TYPE	LUMINAIRES				FESTOON RECEPTACLES		CONTROLLER IDENTIFIER
		ROADWAY		PEDESTRIAN				
		WATTAGE	CKT ID	WATTAGE	CKT ID	WATTAGE	CKT ID	
P44	1	(1) 400W	C	(2) 50W	C	180W	G	1
P45	1	(1) 400W	D	(2) 50W	D	180W	H	1
P46	1	(1) 400W	C	(2) 50W	C	180W	G	1
P47	1	(1) 400W	D	(2) 50W	D	180W	H	1
P48	1	(1) 400W	C	(2) 50W	C	180W	G	2
P49	1	(1) 400W	D	(2) 50W	D	180W	H	2
P50	2	(2) 400W	C	(2) 50W	C	180W	G	2
P51	2	(2) 400W	D	(2) 50W	D	180W	H	2
P52	1	(1) 400W	C	(2) 50W	C	180W	G	2
P53	1	(1) 400W	D	(2) 50W	D	180W	H	2
P54	1	(1) 400W	C	(2) 50W	C	180W	G	2
P5	1	(1) 400W	D	(2) 50W	D	180W	H	2
P56	1	(1) 400W	C	(2) 50W	C	180W	G	2
P57	1	(1) 400W	D	(2) 50W	D	180W	H	2
P58	1	(1) 400W	C	(2) 50W	C	180W	G	2
P59	1	(1) 400W	D	(2) 50W	D	180W	H	3
P60	1	(1) 400W	C	(2) 50W	C	180W	G	3
P61	1	(1) 400W	D	(2) 50W	D	180W	H	3
P62	1	(1) 400W	C	(2) 50W	C	180W	G	3
P63	1	(1) 400W	D	(2) 50W	D	180W	H	3
P64	1	(1) 400W	C	(2) 50W	C	180W	G	3
P65	1	(1) 400W	D	(2) 50W	D	180W	H	3
P66	2	(2) 400W	C	(2) 50W	C	180W	G	3
P67	2	(2) 400W	D	(2) 50W	D	180W	H	3
P68	1	(1) 400W	C	(2) 50W	C	180W	G	3
P69	1	(1) 400W	D	(2) 50W	D	180W	H	3
P70	1	(1) 400W	C	(2) 50W	C	180W	G	3
P71	1	(1) 400W	B	(2) 50W	B	180W	F	2
P72	1	(1) 400W	D	(2) 50W	D	180W	H	2
P73	1	(1) 400W	C	(2) 50W	C	180W	G	2
P74	1	(1) 400W	B	(2) 50W	B	180W	F	2
P75	1	(1) 400W	A	(2) 50W	A	180W	E	2
P76	1	(1) 400W	C	(2) 50W	C	180W	G	2
P77	1	(1) 400W	B	(2) 50W	B	180W	F	3
P78	1	(1) 400W	A	(2) 50W	A	180W	E	3
P79	1	(1) 400W	B	(2) 50W	B	180W	F	3
P80	1	(1) 400W	D	(2) 50W	D	180W	H	3
P81	1	(1) 400W	C	(2) 50W	C	180W	G	3
P82	1	(1) 400W	B	(2) 50W	B	180W	F	3
P83	1	(1) 400W	A	(2) 50W	A	180W	E	3
P84	1	(1) 400W	C	(2) 50W	C	180W	G	3
P85	1	(1) 400W	D	(2) 50W	D	180W	H	3
P86	1	(1) 400W	C	(2) 50W	C	180W	G	3

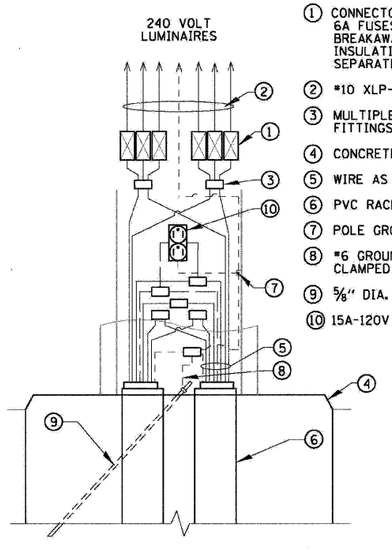


NOTES:

1. BEFORE INSTALLATION OF BREAKAWAY COUPLINGS, CONTRACTOR SHALL CONSULT WITH AN AUTHORIZED DISTRIBUTOR REGARDING PROPOSED APPLICATION, LOAD REQUIREMENTS AND INSTALLATION METHODS. FAILURES CAN RESULT FROM MISAPPLICATION OR IMPROPER INSTALLATION.
2. COUPLINGS WILL BE MEASURED FOR PAYMENT AS EACH, NOT AS A SET OF FOUR.

BREAKAWAY COUPLING DETAIL

N.T.S.



PHASE CONDUCTOR
GROUND CONDUCTOR
NEUTRAL CONDUCTOR

1. CONNECTOR KIT METHOD WITH 6A FUSES INSIDE A 2 POLE BREAKAWAY FUSE HOLDER AND INSULATING BOOTS, EACH FIXTURE SEPARATELY FUSED, TYP.
2. #10 XLP-TYPE USE WIRE
3. MULTIPLE COMPRESSION FITTINGS (SPLICE), TYP.
4. CONCRETE FOUNDATION
5. WIRE AS SHOWN ON PLANS
6. PVC RACEWAY
7. POLE GROUND LUG
8. #6 GROUND WIRE MECHANICALLY CLAMPED TO GROUND ROD
9. ⅝" DIA. x 10' GROUND ROD
10. 15A-120V GFI RECEPTACLE

POLE HANDHOLE WIRING DIAGRAM

N.T.S.

REVISIONS	
NAME	DATE

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

ILLINOIS DEPARTMENT OF TRANSPORTATION

ILLINOIS ROUTE 47
ROADWAY LIGHTING DETAILS (3 OF 3)

SCALE: N.T.S. DRAWN BY: AJD
DATE: 2/11/2009 CHECKED BY: AJD

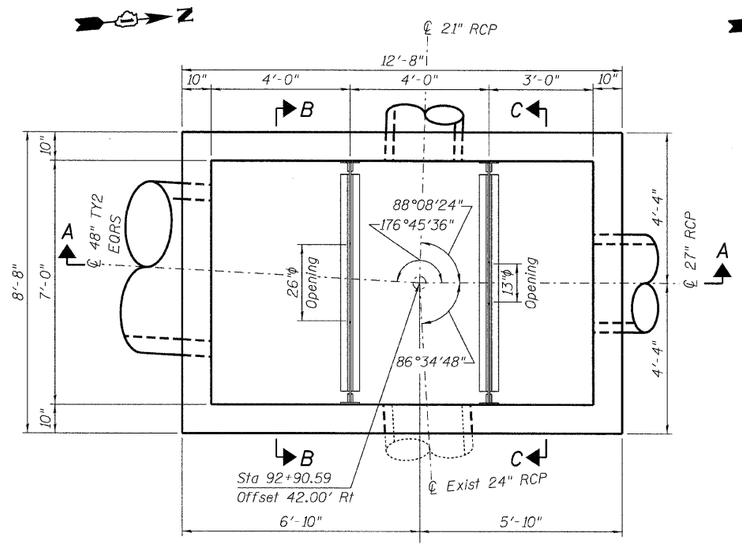
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-eng\323_elect_CBBEL_07.dgn
PLOT SCALE = 1:1
USER NAME = 3830

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

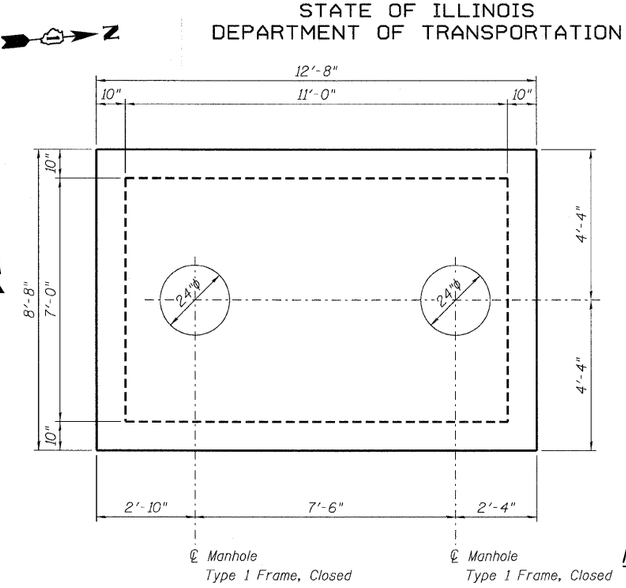
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	324
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT- 326		

SHEET NO. 1
6 SHEETS

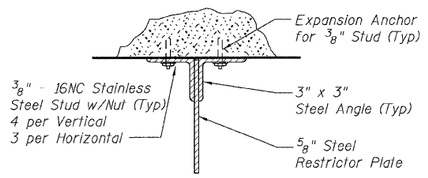
Contract No. 62882
★ (105X & 106)WRS-2



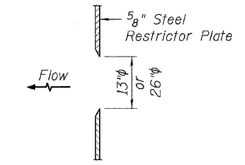
PLAN



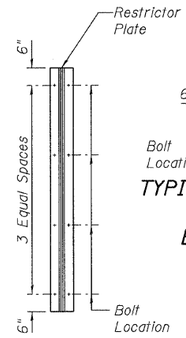
TOP SLAB



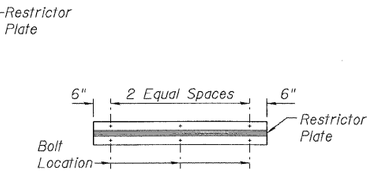
ANGLE FASTENER DETAIL



RESTRICTOR PLATE ORIFICE DETAIL
(Sharp Edge)



TYPICAL VERTICAL ANGLE
LOOKING TOWARD
MANHOLE WALL

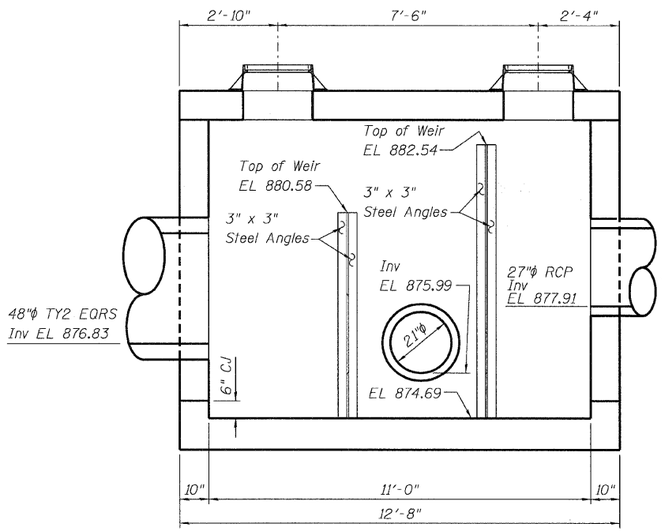


TYPICAL HORIZONTAL ANGLE
LOOKING TOWARD
BOTTOM OF MANHOLE

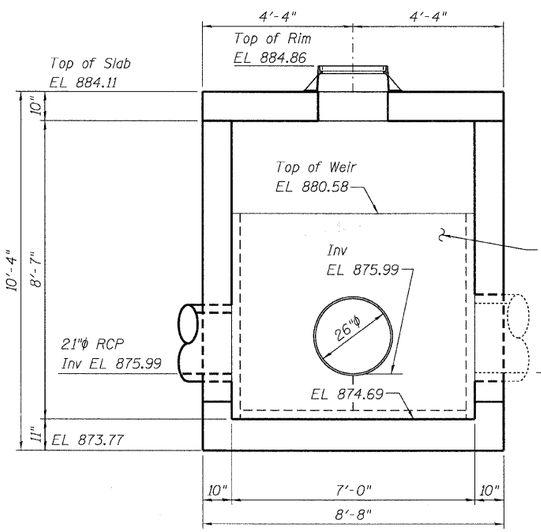
STEEL ANGLE BOLTING DETAILS
(Total Bolts Required: 22)

TOTAL BILL OF MATERIAL

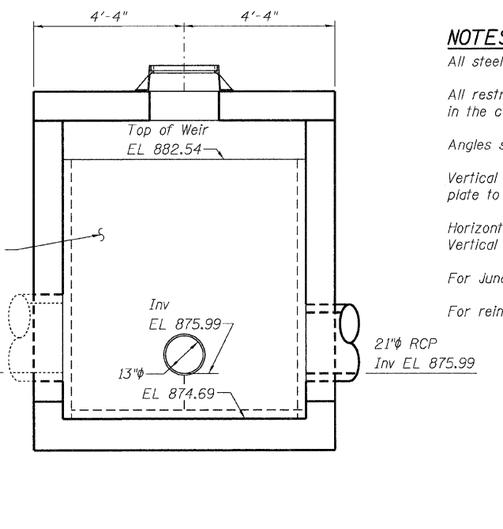
ITEM	UNIT	TOTAL
Junction Chamber No. 1	Each	1



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

All steel angles and plates to be galvanized after fabrication.

All restrictor plates, angles, and hardware to be included in the cost of the manhole.

Angles shall be 3" x 3" x 3/8".

Vertical angles shall extend from the bottom of the restrictor plate to the top.

Horizontal angles shall extend from Vertical angles to Vertical angles.

For Junction Chamber location See Drainage Plans.

For reinforcement layout and schedule See Sheet 2 of 6.

ABBREVIATION LIST

CJ Construction Joint

DESIGNED	BG
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	AUG. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

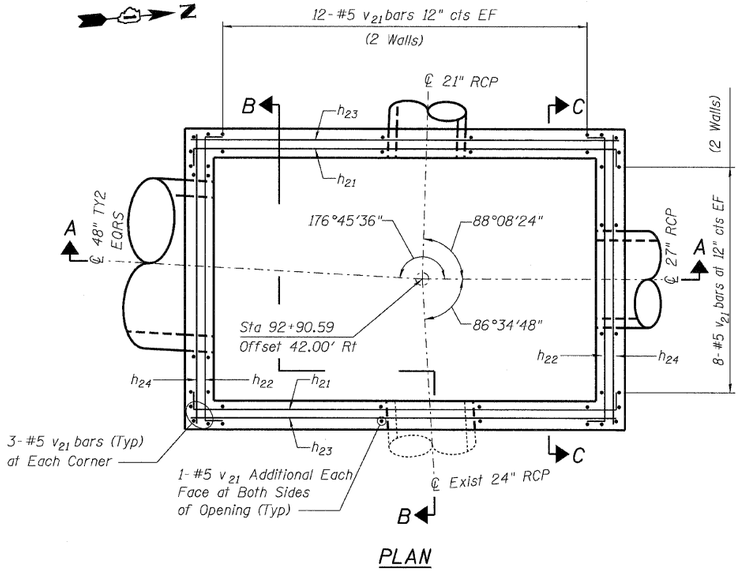
JUNCTION CHAMBER No.1 LAYOUT
STRUCTURE #261 OUTLET
PLAN, SECTION & DETAILS
SOUTH OF NORTH ST.
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 92+90.59
OFFSET 42.00' RT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

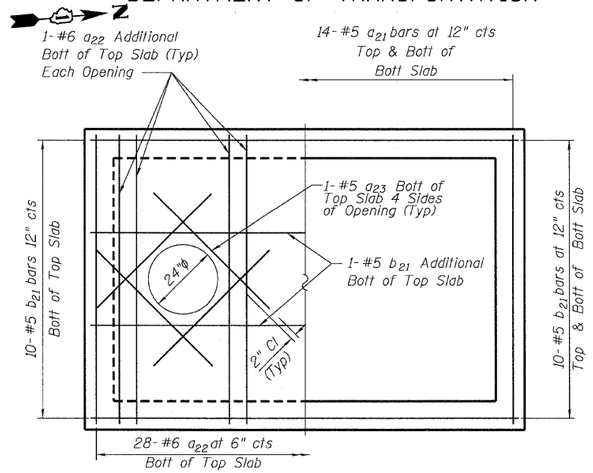
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	325
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT- 326		

SHEET NO. 2
6 SHEETS

Contract No. 62882
★(105X & 106)WRS-2

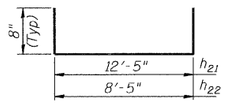


PLAN



TOP BOTTOM

TOP AND BOTTOM SLAB PLAN

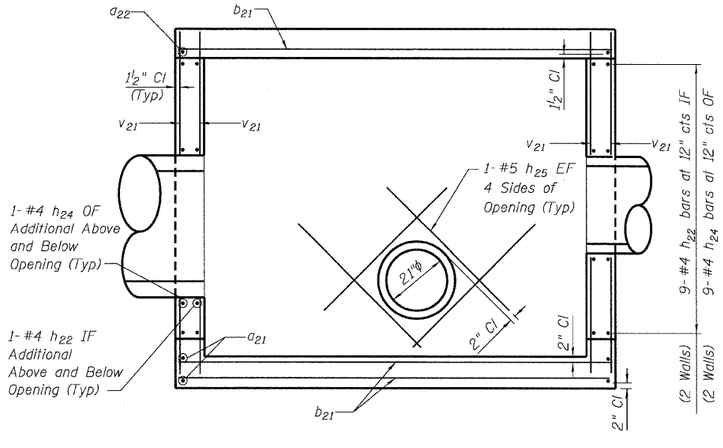


BARS h_{21} & h_{22}

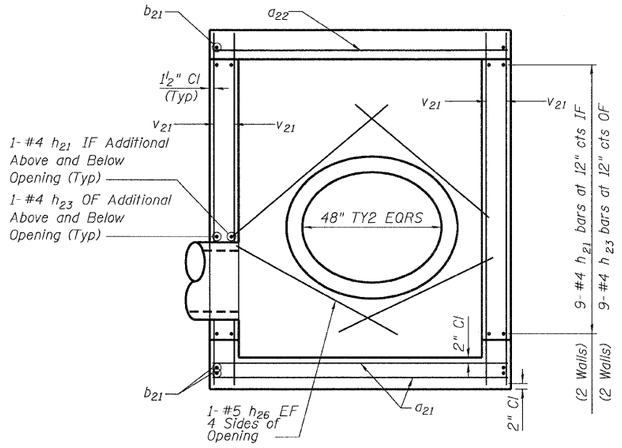
REINFORCEMENT SCHEDULE

Bar	No.	Size	Length	Shape
a_{21}	28	#5	8'-5"	
a_{22}	36	#6	8'-5"	
a_{23}	8	#5	5'-0"	
b_{21}	32	#5	12'-5"	
h_{21}	22	#4	13'-9"	
h_{22}	22	#4	9'-9"	
h_{23}	22	#4	12'-5"	
h_{24}	22	#4	8'-5"	
h_{25}	24	#5	5'-0"	
h_{26}	8	#5	6'-6"	
v_{21}	108	#5	10'-0"	

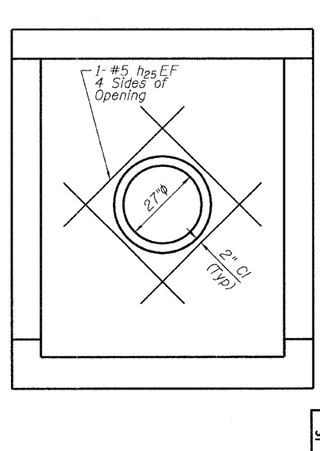
NOTE:
Cut bars to miss storm sewer as required.



SECTION A-A



SECTION B-B



SECTION C-C

LEGEND

EF = Each Face
IF = Inside Face
OF = Outside Face

MIN BAR LAP

#4	1'-8"
#5	2'-2"

DESIGNED	BG
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	AUG. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

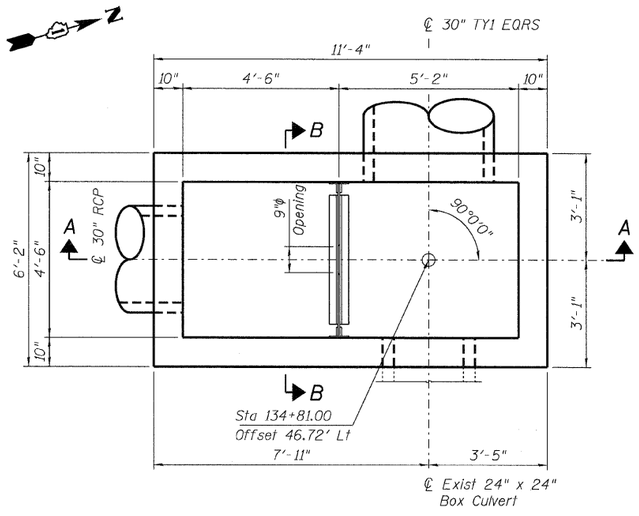
JUNCTION CHAMBER No.1 REINFORCEMENT
STRUCTURE #261 OUTLET
PLAN, SECTION & DETAILS
SOUTH OF NORTH ST.
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 92+90.59
OFFSET 42.00' RT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

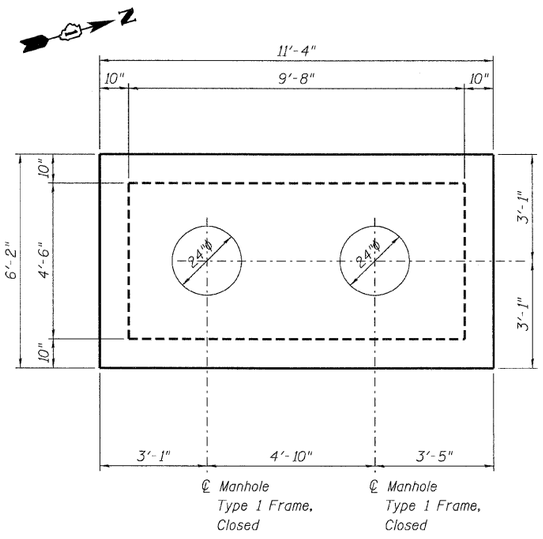
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	326
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT- 326	

SHEET NO. 3
6 SHEETS

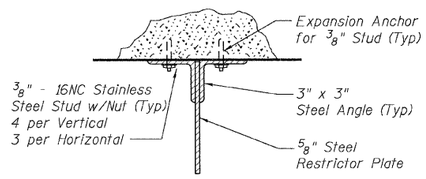
Contract No. 62882
★ (105X & 106)WRS-2



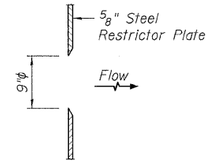
PLAN



TOP SLAB

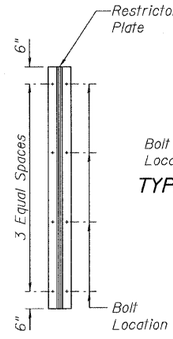


ANGLE FASTENER DETAIL

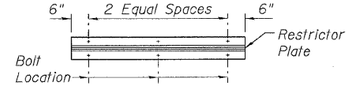


RESTRICTOR PLATE ORIFICE DETAIL

(Sharp Edge)



TYPICAL VERTICAL ANGLE
LOOKING TOWARD
MANHOLE WALL



TYPICAL HORIZONTAL ANGLE
LOOKING TOWARD
BOTTOM OF MANHOLE

STEEL ANGLE BOLTING DETAILS

(Total Bolts Required: 22)

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Junction Chamber No. 2	Each	1

NOTES:

All steel angles and plates to be galvanized after fabrication.

All restrictor plates, angles, and hardware to be included in the cost of the manhole.

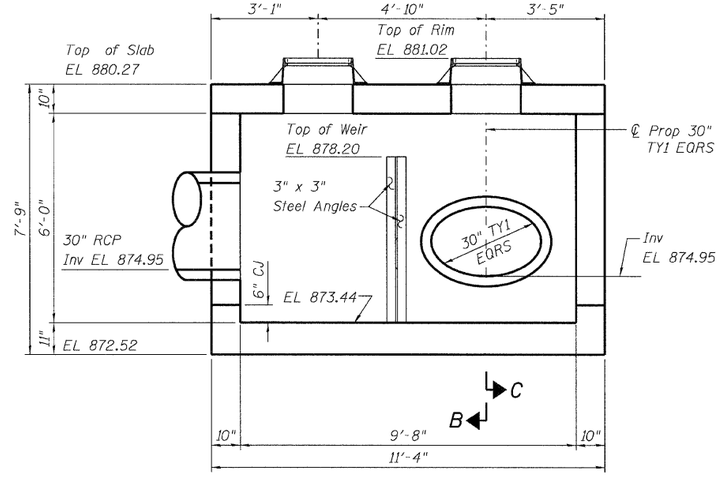
Angles shall be 3" x 3" x 3/8".

Vertical angles shall extend from the bottom of the restrictor Plate to the top.

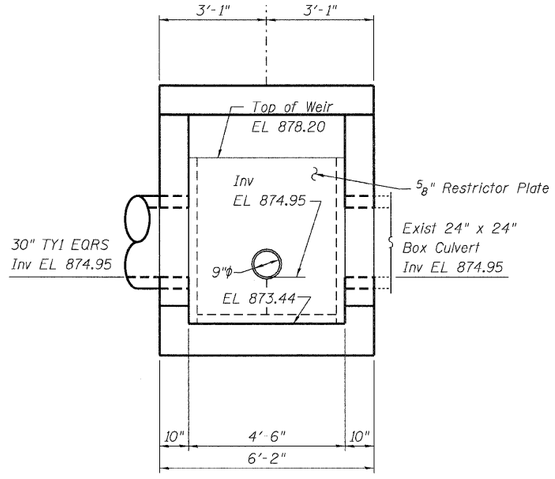
Horizontal angles shall extend from Vertical angles to Vertical angles.

For Junction Chamber location See Drainage Plans.

For reinforcement layout and schedule See Sheet 4 of 6



SECTION A-A



SECTION B-B

DESIGNED	BG
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	AUG. 5, 2009

ABBREVIATION LIST

CJ Construction Joint

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com

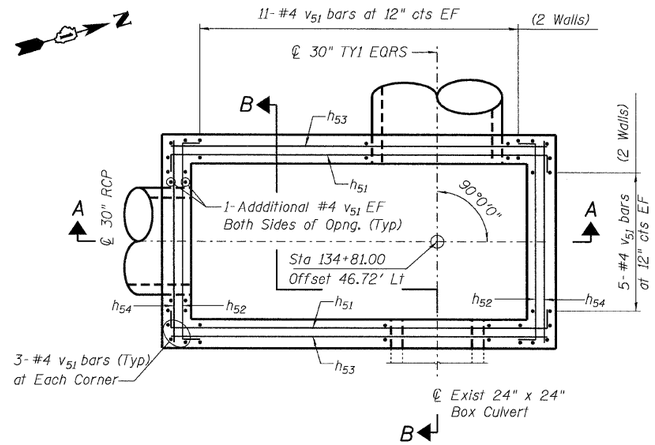
JUNCTION CHAMBER No.2 LAYOUT
STRUCTURE #401 OUTLET
PLAN, SECTION & DETAILS
NORTH OF REED RD
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 134+81.00
OFFSET 46.72' LT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

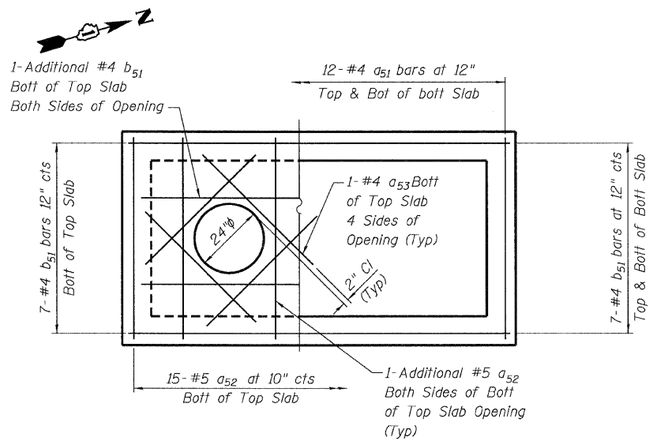
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	327
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT- 326		

SHEET NO. 4
6 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2

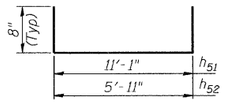


PLAN



TOP BOTTOM

TOP AND BOTTOM SLAB PLAN

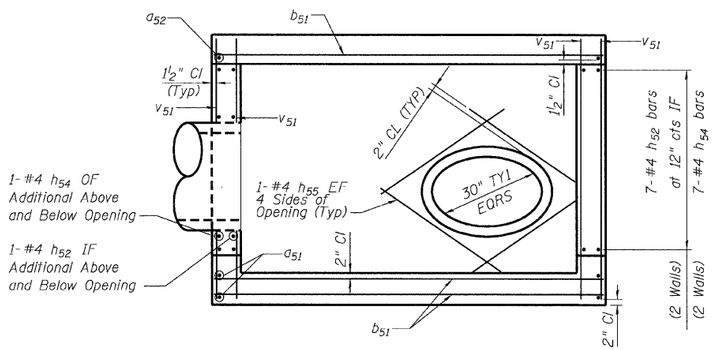


BARS h_{51} & h_{52}

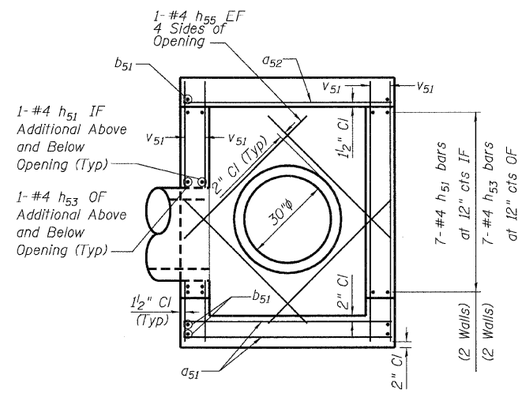
REINFORCEMENT SCHEDULE

Bar	No.	Size	Length	Shape
a_{51}	24	#4	5'-11"	———
a_{52}	19	#5	5'-11"	———
a_{53}	8	#4	5'-0"	———
b_{51}	23	#4	9'-11"	———
h_{51}	18	#4	12'-5"	⌊——⌋
h_{52}	16	#4	7'-3"	⌊——⌋
h_{53}	18	#4	11'-1"	———
h_{54}	16	#4	5'-11"	———
h_{55}	24	#4	5'-0"	———
v_{51}	88	#4	7' 6"	———

NOTE:
Cut bars to miss storm sewer as required.



SECTION A-A



SECTION B-B

LEGEND

EF = Each Face
IF = Inside Face
OF = Outside Face

MIN BAR LAP

#4	1'-8"
#5	2'-2"

DESIGNED	BG
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

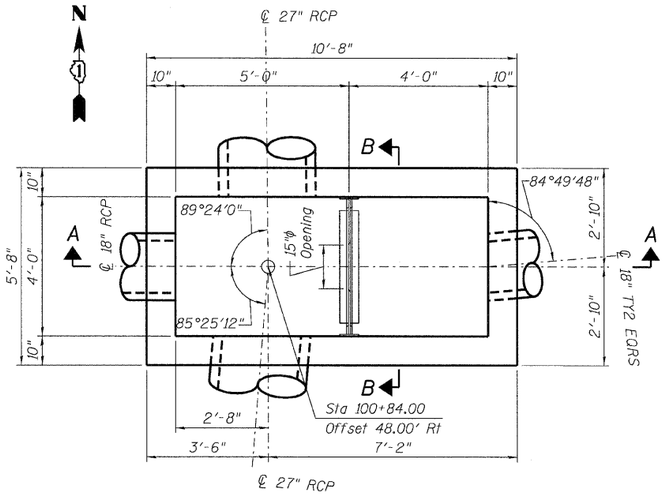
JUNCTION CHAMBER No.2 REINFORCEMENT
STRUCTURE #401 OUTLET
PLAN, SECTION & DETAILS
NORTH OF REED RD
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 134+81.00
OFFSET 46.72' LT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

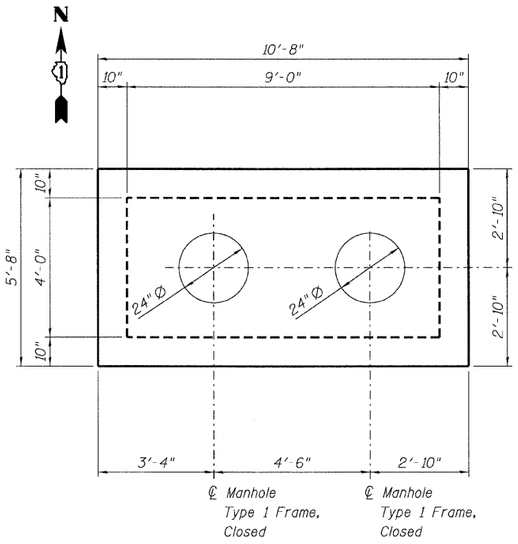
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	328
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT- 326	

SHEET NO. 5
6 SHEETS

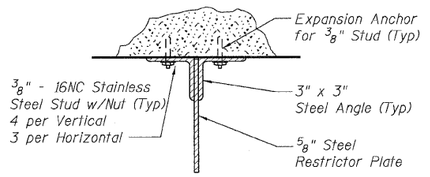
Contract No. 62882
★ (105X & 106)WRS-2



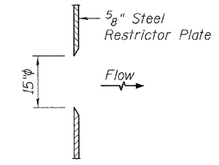
PLAN



TOP SLAB

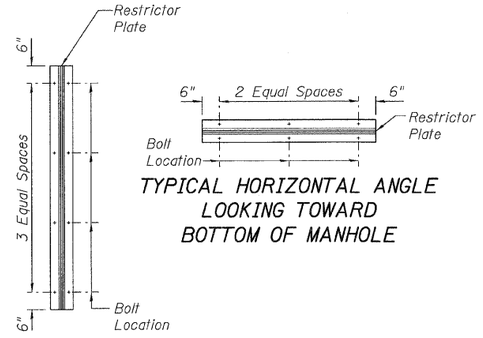


ANGLE FASTENER DETAIL



RESTRICTOR PLATE ORIFICE DETAIL

(Sharp Edge)



TYPICAL HORIZONTAL ANGLE
LOOKING TOWARD
BOTTOM OF MANHOLE

TYPICAL VERTICAL ANGLE
LOOKING TOWARD
MANHOLE WALL

STEEL ANGLE BOLTING DETAILS

(Total Bolts Required: 22)

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Junction Chamber No. 3	Each	1

NOTES:

All steel angles and plates to be galvanized after fabrication.

All restrictor plates, angles, and hardware to be included in the cost of the manhole.

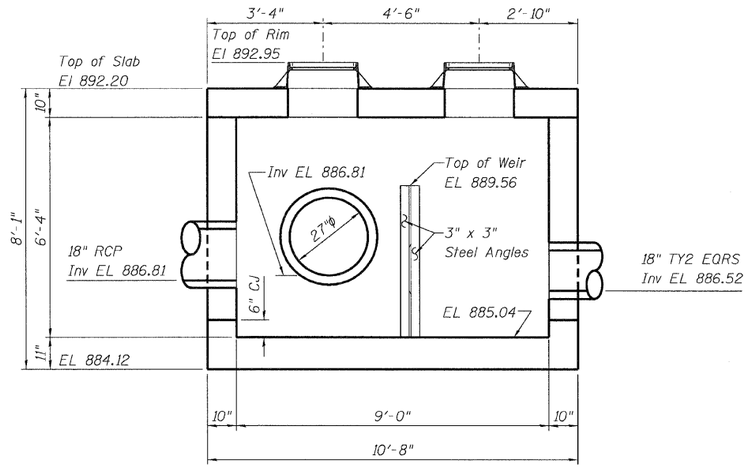
Angles shall be 3" x 3" x 3/8".

Vertical angles shall extend from the bottom of the restrictor Plate to the top.

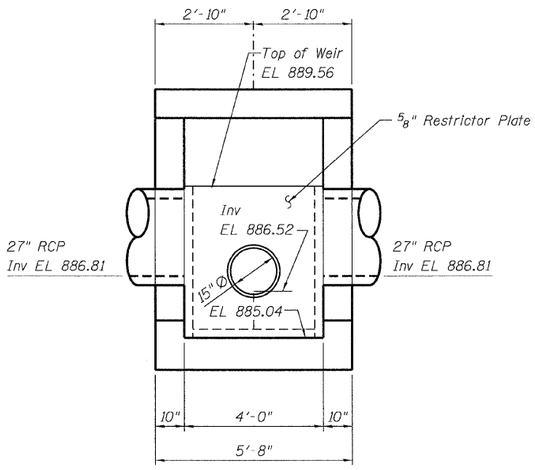
Horizontal angles shall extend from Vertical angles to Vertical angles.

For Junction Chamber location See Drainage Plans.

For reinforcement layout and schedule See Sheet 6 of 6.



SECTION A-A



SECTION B-B

DESIGNED	BG
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	Aug. 5, 2009

ABBREVIATION LIST

CJ Construction Joint

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com

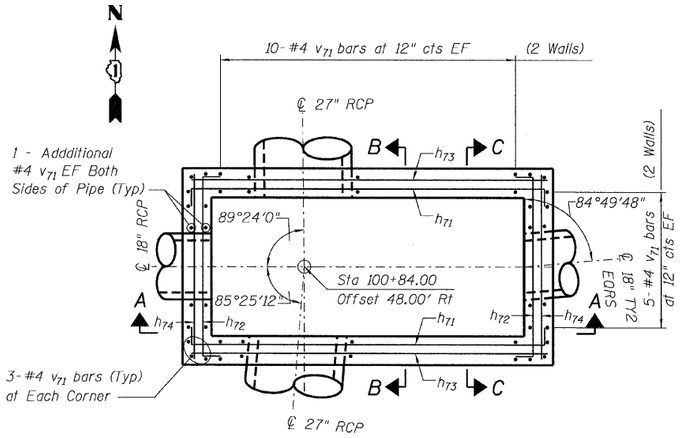
JUNCTION CHAMBER No.3 LAYOUT
STRUCTURE #299 OUTLET
PLAN, SECTION & DETAILS
AT ALGONQUN RD
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 100+84.00
OFFSET 48.00' RT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

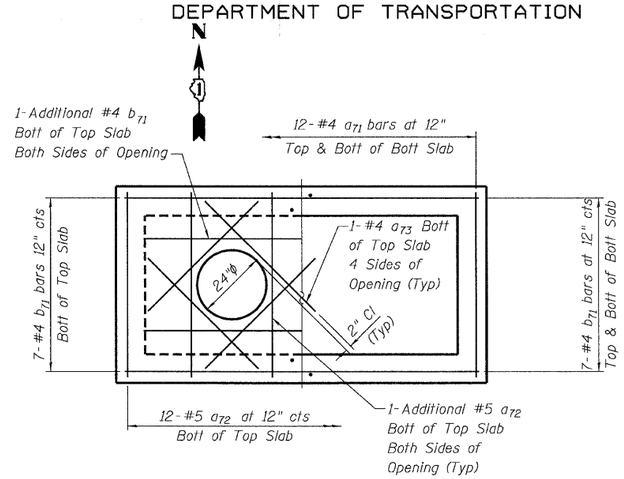
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	329
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT- 326	

SHEET NO. 6
6 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2

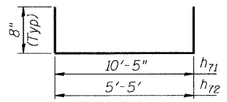


PLAN



TOP BOTTOM

TOP AND BOTTOM SLAB PLAN

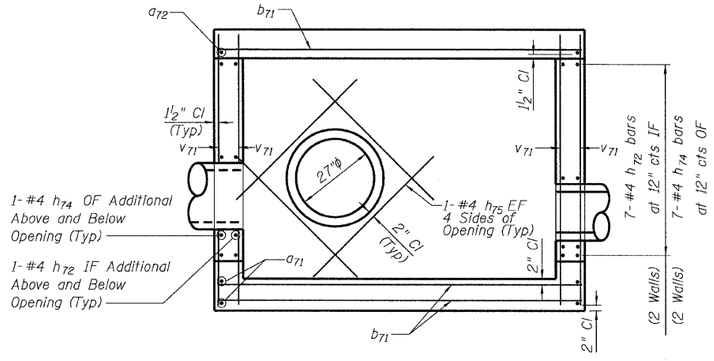


BARS h_{71} & h_{72}

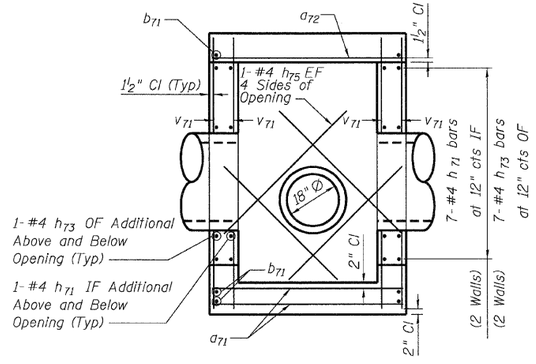
REINFORCEMENT SCHEDULE

Bar	No.	Size	Length	Shape
a_{71}	24	#4	5'-5"	——
a_{72}	16	#5	5'-5"	——
a_{73}	8	#4	5'-0"	——
b_{71}	23	#4	10-5"	——
h_{71}	18	#4	11'-9"	⌴
h_{72}	18	#4	6'-9"	⌴
h_{73}	18	#4	10'-5"	——
h_{74}	18	#4	5'-5"	——
h_{75}	32	#4	5'-0"	——
v_{71}	88	#4	7'-10"	——

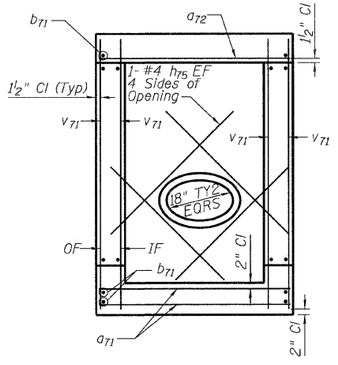
NOTE:
Cut bars to miss storm sewer as required.



SECTION A-A



SECTION B-B



SECTION C-C

LEGEND

EF = Each Face
IF = Inside Face
OF = Outside Face

MIN BAR LAP

#4	1'-8"
#5	2'-2"

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

DESIGNED	BG
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	Aug. 5, 2009

JUNCTION CHAMBER No.3 REINFORCEMENT
STRUCTURE #299 OUTLET
PLAN, SECTION & DETAILS
AT ALGONQUN RD
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 100+84.00
OFFSET 48.00' RT

Bench Mark: BM #8 - Southeast corner of IL Route 47 bridge. Elev 877.46

Existing Structure: S.N. 056-0026 originally built in 1931, widened and reconstructed in 1966. Superstructure is a single span cast-in-place concrete slab. Substructure elements are closed abutments on spread footings. Back to back abutment dimension is 28'-8 3/8", width out to out is 46'-6".

Structure to be removed and replaced using staged construction.

Precast alternate is not allowed.

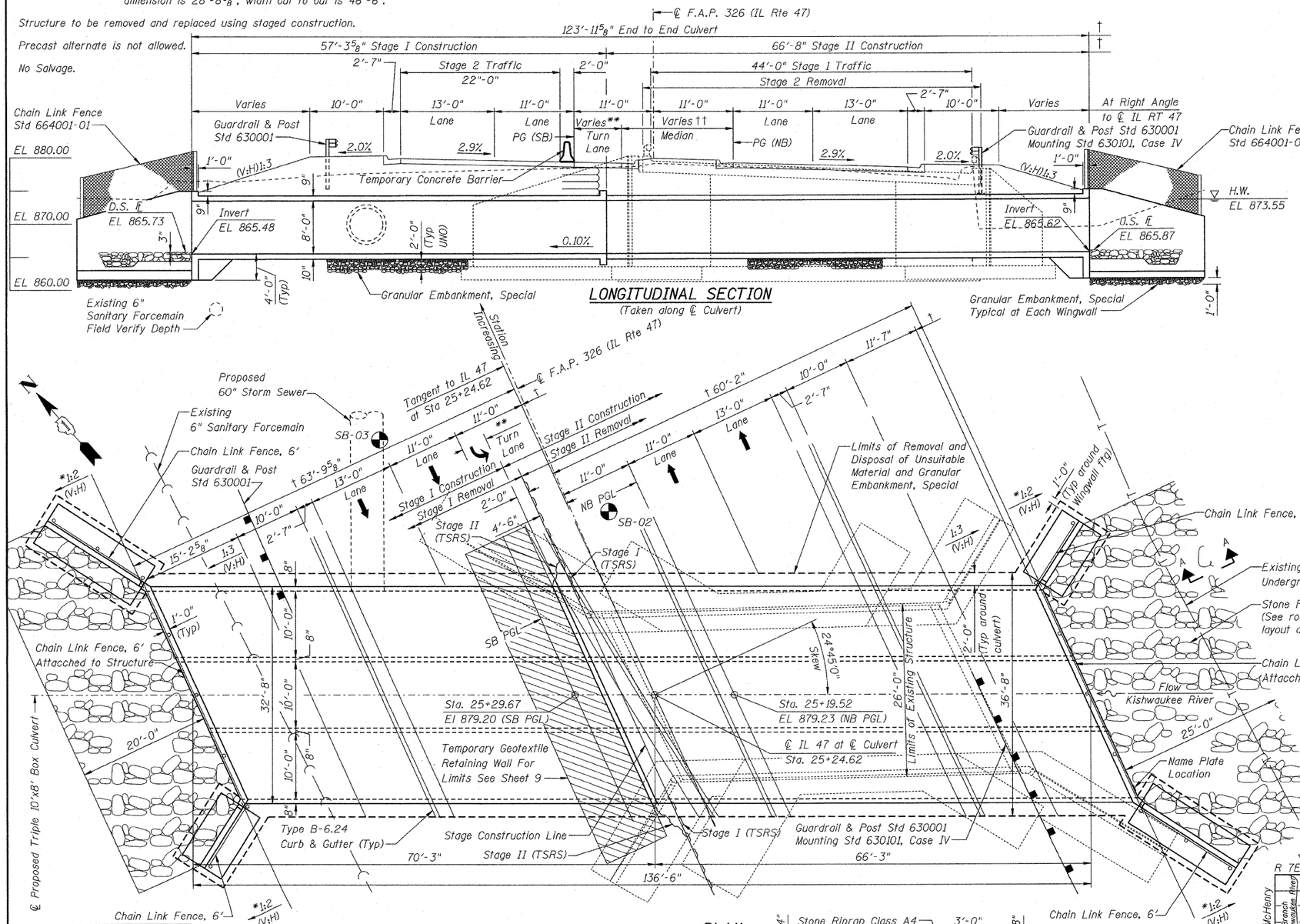
No Salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	330
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT- 326	

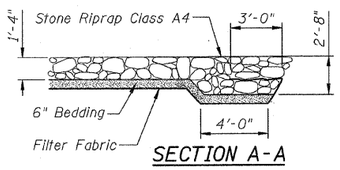
SHEET NO. 1
13 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2

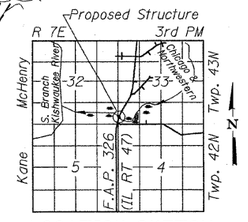


LONGITUDINAL SECTION
(Taken along ℄ Culvert)

PLAN



SECTION A-A



LOCATION SKETCH

DESIGNED	- NDR
CHECKED	- DSE
DRAWN	- RTT
CHECKED	- DSE
DATE	- Aug 5, 2009

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

DESIGN SPECIFICATIONS
2002 AASHTO Standard Specification for Highway Bridges

DESIGN STRESSES
FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

SCOPE OF WORK
1. Remove Existing Single Span Bridge.
2. Construct New Reinforced Cast-in-Place Triple Cell Concrete Box Culvert

STATION 25+24.62
BUILT 200 BY
STATE OF ILLINOIS
F.A.P. RT. 326 SEC. (105X & 106)WRS-2
LOADING HS20
STRUCTURE NO. 056-0085

NAME PLATE
See Std. 515001

LEGEND
- Temporary Soil Retention System (TSRS)
- * Local cross slope around culvert ends
- ** Varies from 0'-0" at Sta 26+14.68 to 16'-0" at Sta 23+92.91
- *** At downstream End of Culvert
- † Dimensions taken from Tangent at Sta 25+24.62 and ℄ Culvert Intersection
- †† Varies from 22'-0" at Sta 26+14.68 to 6'-0" at Sta 23+92.91
- SB-01 Soil Boring Location

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E Anderson
ENGINEER OF BRIDGES AND STRUCTURES

D. SCOTT ESHLEMAN 081-001155 LICENSED STRUCTURAL ENGINEER OF ILLINOIS

Expiration Date: 11-30-2010
Date: 8/5/09

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

GENERAL PLAN
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	331
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT- 326		

SHEET NO. 2
13 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2

INDEX OF DRAWINGS

GENERAL NOTES

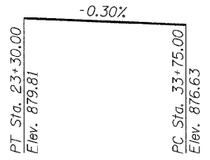
1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
4. Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Granular Embankment, Special	Cu Yd	389.3
Geotechnical Fabric for Ground Stabilization	Sq Yd	800.0
Removal of Existing Structures	Each	1.0
Removal and Disposal of Unsuitable Material for Structures	Cu Yd	651.0
Reinforcement Bars	Pound	97,450
Reinforcement Bars, Epoxy Coated	Pound	610
Bar Splicers	Each	148
Name Plates	Each	1
Concrete Box Culverts	Cu Yd	414.9
Geotextile Retaining Wall	Sq Ft	161.0
Temporary Soil Retention System	Sq Ft	907.0

HORIZONTAL CURVE DATA

(Curve 2)
P.I. Sta. 28+09.68
Δ = 15°29'27"
D = 2°16'24"
R = 2520.38'
L = 681.43'
T = 342.81'
E = 23.21'
P.C. Sta. 24+66.88
P.T. Sta 31+48.31
S.E. = 0.029 '/ '



PROFILE GRADE

(IL Route 47)
℄ Northbound and Southbound

WATERWAY INFORMATION

Drainage Area = 12.0 mi²
Exist. Low Grade Elev. 879.10
Prop. Low Grade Elev. 880.30 @ Sta. 25+25

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Appx. Nat. H.W.E.	U.S. Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	459	166.8	179.2	871.82	871.81	0.03	0.00	871.85	871.44
Design	50	839	210.0	229.9	873.55	873.55	0.07	0.00	873.62	873.12
Base	100	1043	227.3	253.4	874.26	874.26	0.11	0.00	874.37	873.89
Overtopping	--	--	--	--	--	--	--	--	--	--
Max. Calc.	500	1438	263.1	293.8	875.40	875.39	0.50	0.00	875.90	875.23
							Freeboard		5.5	7.2

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft)	Upstream	Downstream
	861.62	861.48

DESIGNED	- NDR
CHECKED	- DSE
DRAWN	- RTT
CHECKED	- DSE
DATE	- Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

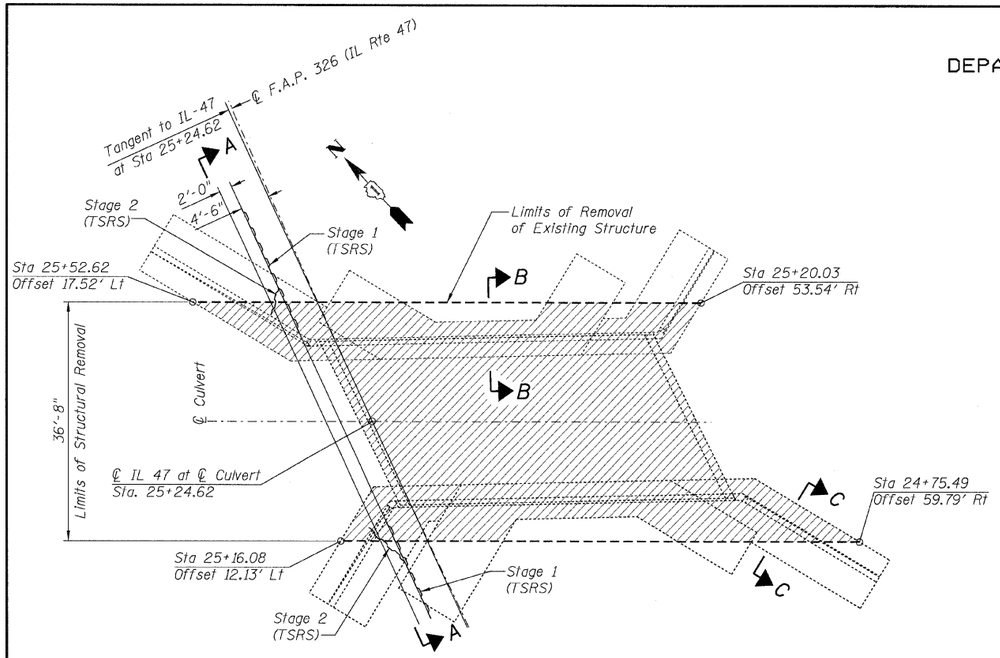
GENERAL NOTES & TOTAL BILL OF MATERIAL
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

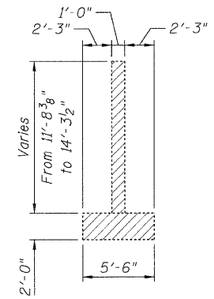
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	332
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT- 326	

SHEET NO. 3
13 SHEETS

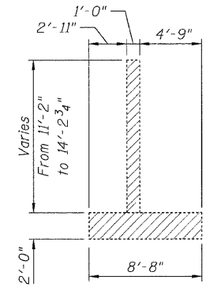
Contract No. 62882
★ (105X & 106)WRS-2



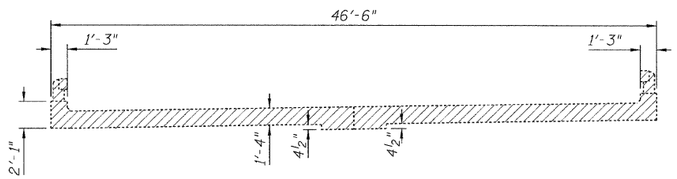
REMOVAL PLAN



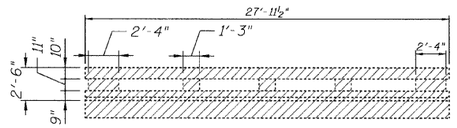
SECTION B-B



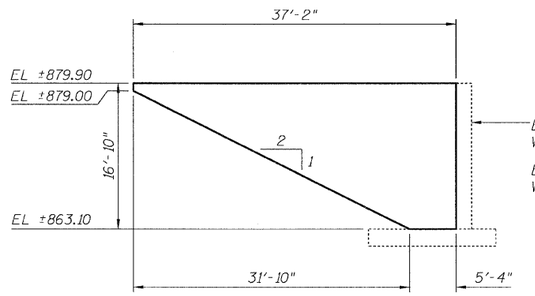
SECTION C-C



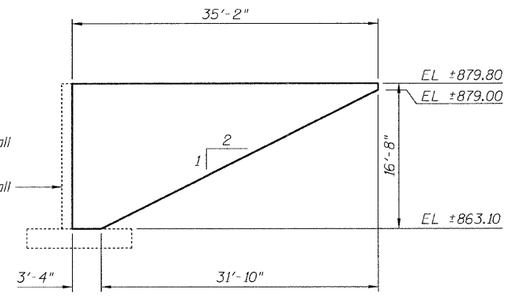
SLAB SECTION REMOVAL



HANDRAIL REMOVAL



(TSRS) AT NORTHWEST CORNER



(TSRS) AT SOUTHWEST CORNER

SECTION A-A

NOTES

1. Remove all structure elements within Limits shown for existing removal.

LEGEND

Indicates Material to be removed

Temporary Soil Retention System (TSRS)

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

DESIGNED	NDR
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	Aug. 5, 2009

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures	Each	1
Temporary Soil Retention System	Sq Ft	907

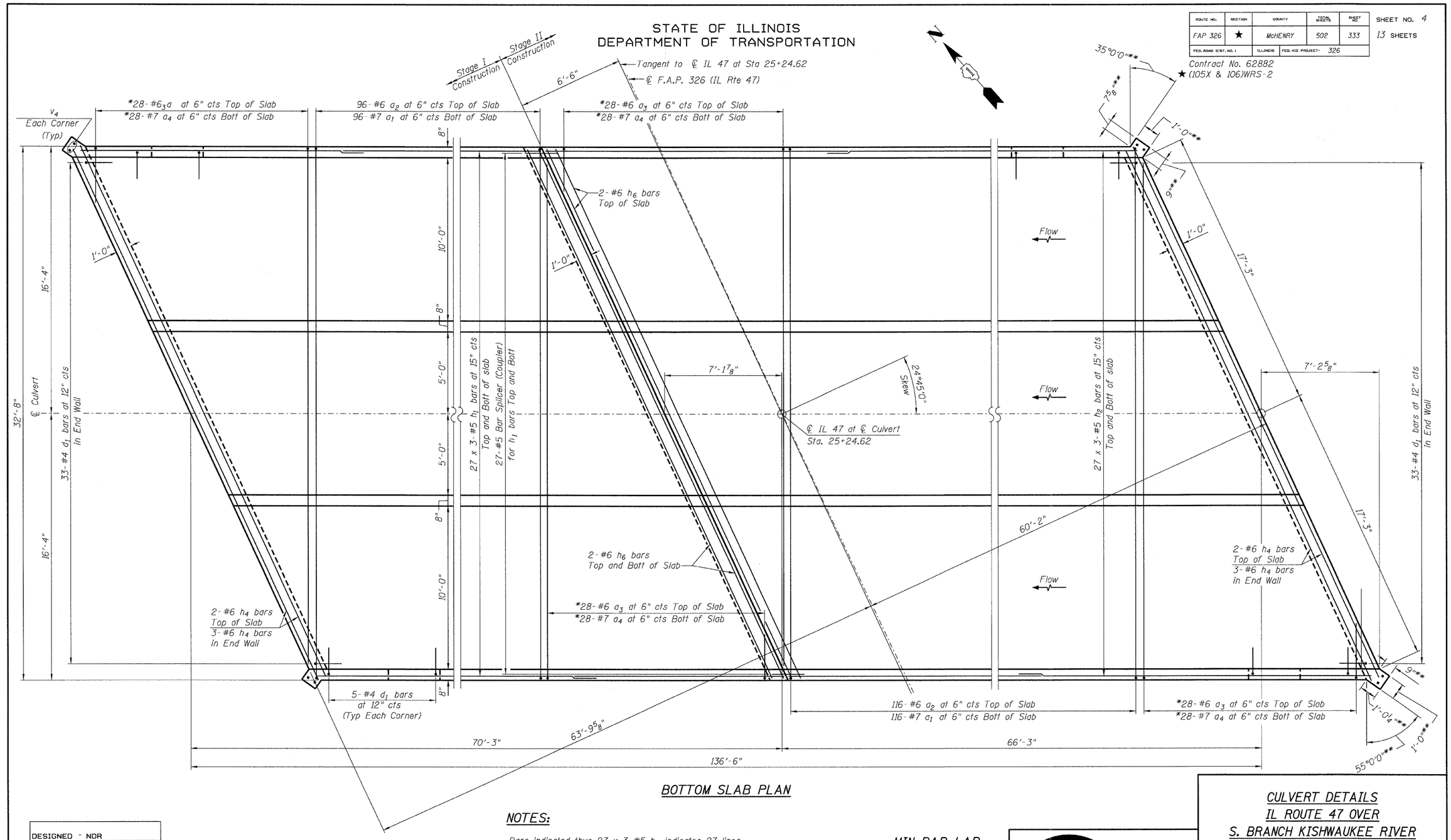
REMOVAL
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	333
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT- 326	

SHEET NO. 4
13 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BOTTOM SLAB PLAN

DESIGNED	NDR
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	Aug. 5, 2009

NOTES:

Bars indicated thus 27 x 3 #5 h_1 indicates 27 lines of #5 h_1 bars with 3 lengths per line.

* See Field Cutting Diagram on Sheet 8 of 13.

** Typical Opposite Corner

MIN BAR LAP

#5	1'-8"

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

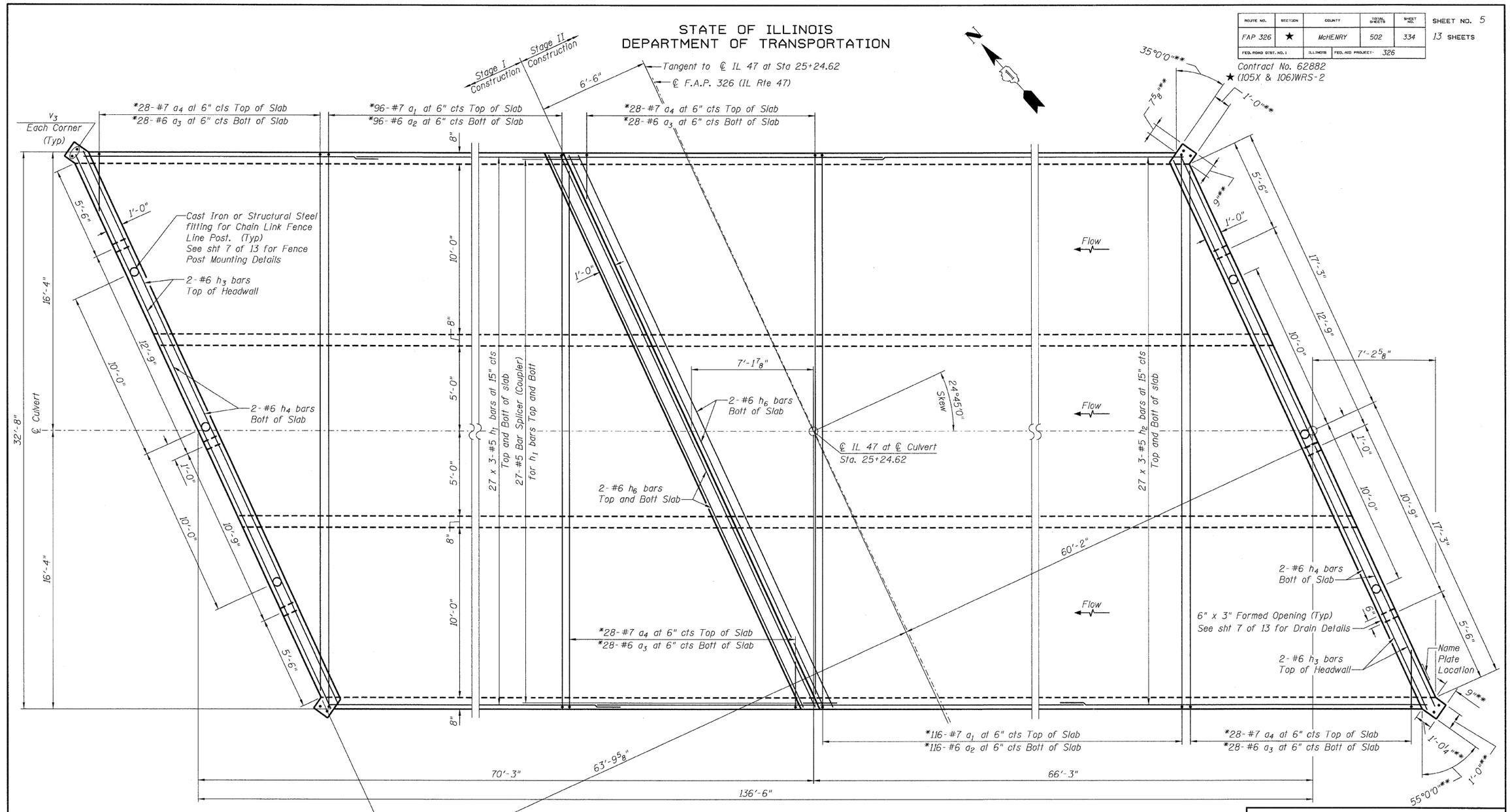
CULVERT DETAILS
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	334
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT- 326	

SHEET NO. 5
13 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TOP SLAB PLAN

NOTES:

Bars indicated thus 27 x 3 #5 h_1 indicates 27 lines of #5 h_1 bars with 3 lengths per line.

* See Field Cutting Diagram on Sheet 8 of 13.

** Typical Opposite Corner

MIN BAR LAP

#5	1'-8"

DESIGNED	- NDR
CHECKED	- DSE
DRAWN	- RTT
CHECKED	- DSE
DATE	- Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

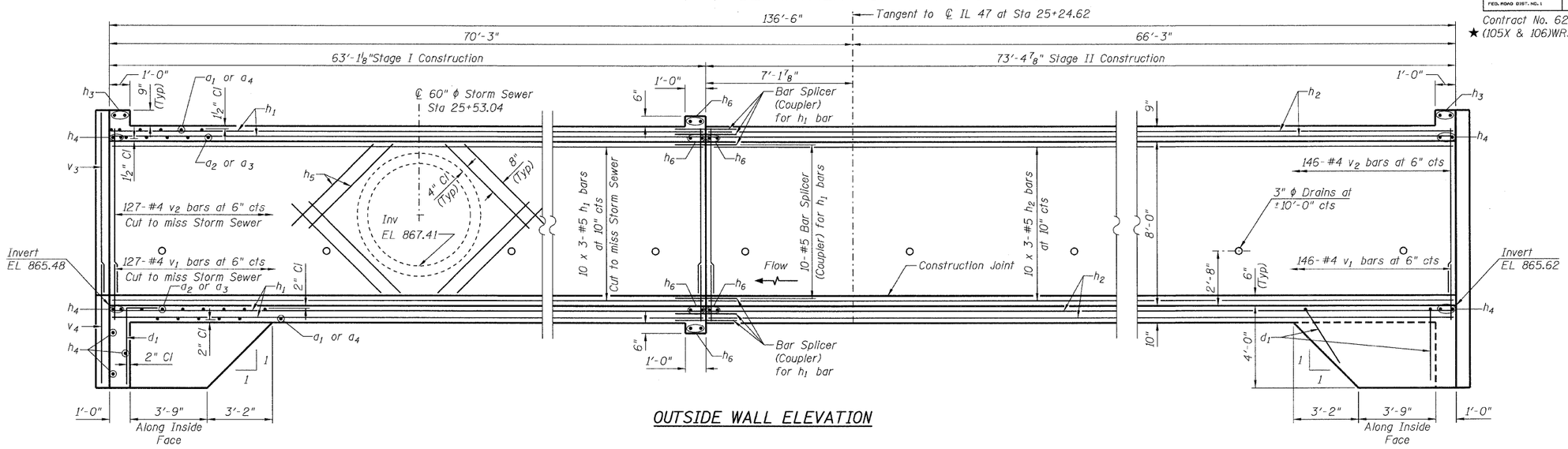
CULVERT DETAILS
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	335
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT- 326	

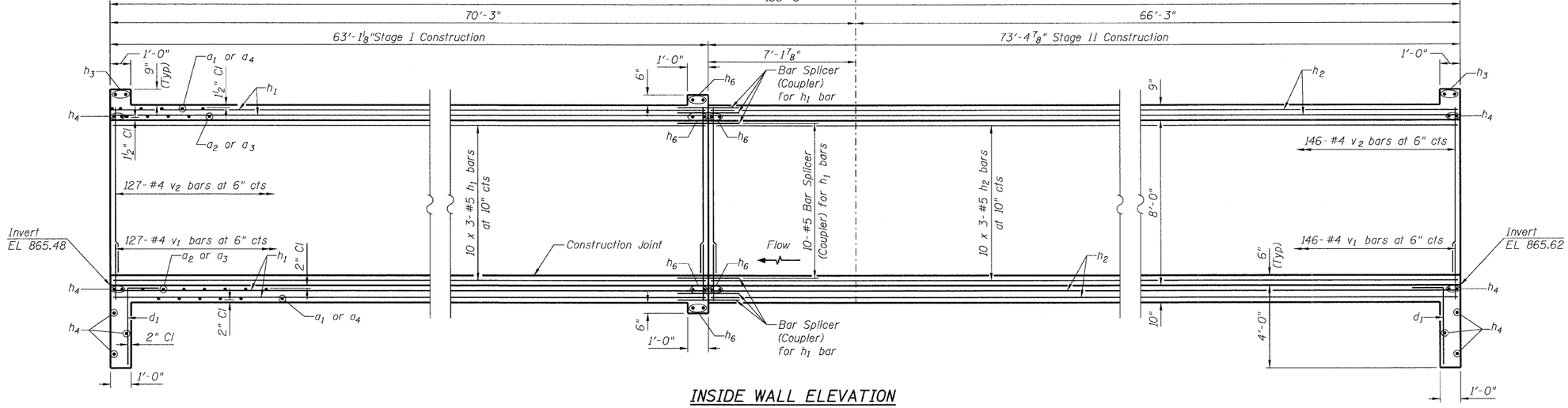
SHEET NO. 6
13 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2

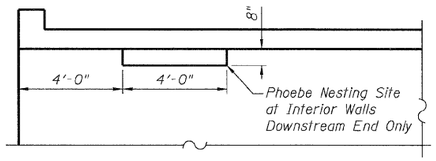
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



OUTSIDE WALL ELEVATION



INSIDE WALL ELEVATION



PHOEBE NESTING SITE DETAIL

Notch formed by rough-finished board attached to and removed with formwork. Do not chamfer. See Section thru Barrel, Sheet 7 of 13 for additional details.

MIN BAR LAP

#4	1'-4"
#5	1'-8"

DESIGNED	NDR
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

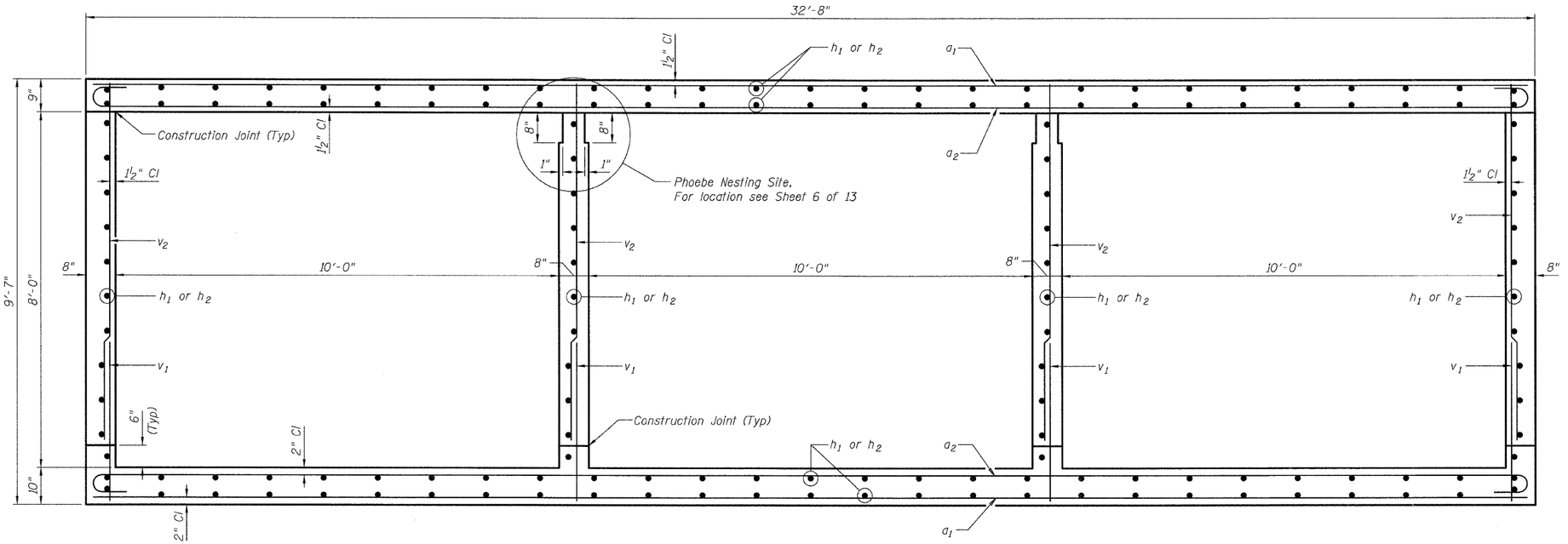
CULVERT DETAILS
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

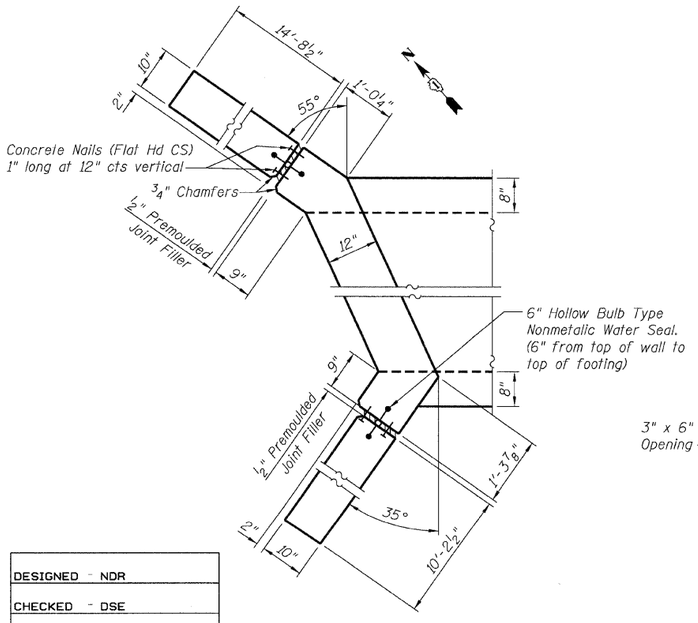
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	336
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT- 326		

SHEET NO. 7
13 SHEETS

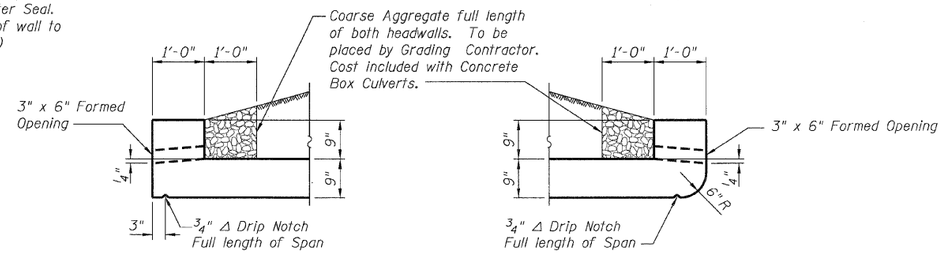
Contract No. 62882
★ (105X & 106)WRS-2



SECTION THRU BARREL



CORNER DETAIL
Similar at opposite End



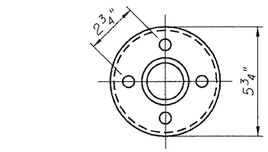
AT DOWNSTREAM END

AT UPSTREAM END

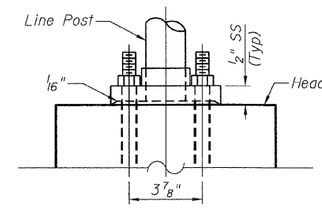
DRAIN DETAIL
(See Sht 5 of 13 of locations)

NOTES:

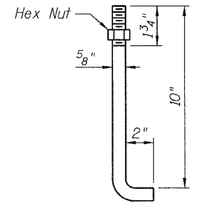
1. An equivalent epoxy anchor stud can be used in place of anchor shown. Anchor bolt holes shall be ¾" in diameter and 8" deep. They shall be predrilled with an electric hammer drill to a depth of 4" prior to use of a pnuematic drill for the remaining 4". A two component encapsulated epoxy such as "Parabond" or an equivalent shall be used. Installation shall be according to Manufacturer's recommendations.
2. Cost of furnishing and installing Fitting and Anchor Bolts included in Chain Link Fence, 6' Attached to Structure.



¾" CORED HOLES
FOR ANCHOR BOLTS



CAST IRON OR STRUCTURAL
STEEL FITTING 6 - REQ'D)
(See Note 2)



BUILT-IN ANCHOR BOLT
⅝" ϕ, 12" LONG
(24 - Req'd See Note 1)

FENCE POST MOUNTING DETAILS

MIN BAR LAP

#4	1'-4"
#5	1'-8"

DESIGNED	NDR
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

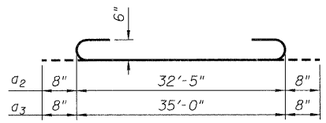
CULVERT DETAILS
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

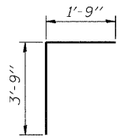
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	337
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT- 326		

SHEET NO. 8
13 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2



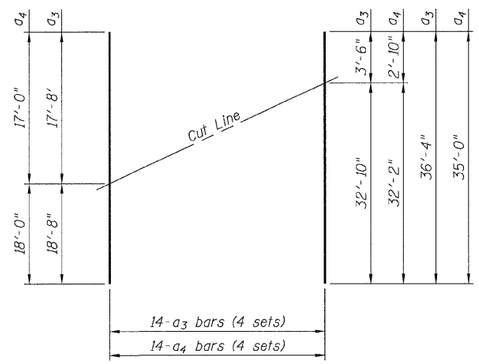
BARS a2 & a3



BAR d1

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1	424	#7	32'-5"	
a2	424	#6	33'-9"	
a3	112	#6	36'-4"	
a4	112	#7	35'-0"	
d1	86	#4	5'-6"	
h1	444	#5	22'-1"	
h2	444	#5	25'-6"	
h3	4	#6	35'-3"	
h4	14	#6	35'-10"	
h5	8	#4	6'-0"	
h6	12	#6	35'-8"	
v1	1092	#4	2'-8"	
v2	1092	#4	8'-0"	
v3	8	#4	8'-9"	
v4	8	#4	5'-10"	
Reinforcement Bars			Pound	95,560
Bar Splicers			Each	148
Concrete Box Culverts			Cu. Yd.	381.6
Geotextile Retaining Wall			Sq. Ft.	161



FIELD CUTTING DIAGRAM

Order bars full length, cut to fit as shown and place at one end of the dimension line shown on the plan. use remainder of bars at opposite end of the dimension line.

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

DESIGNED	NDR
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE	Aug. 5, 2009

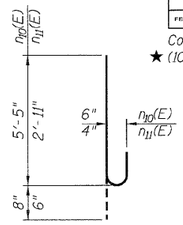
CULVERT DETAILS
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	338
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT- 326		

SHEET NO. 9
13 SHEETS

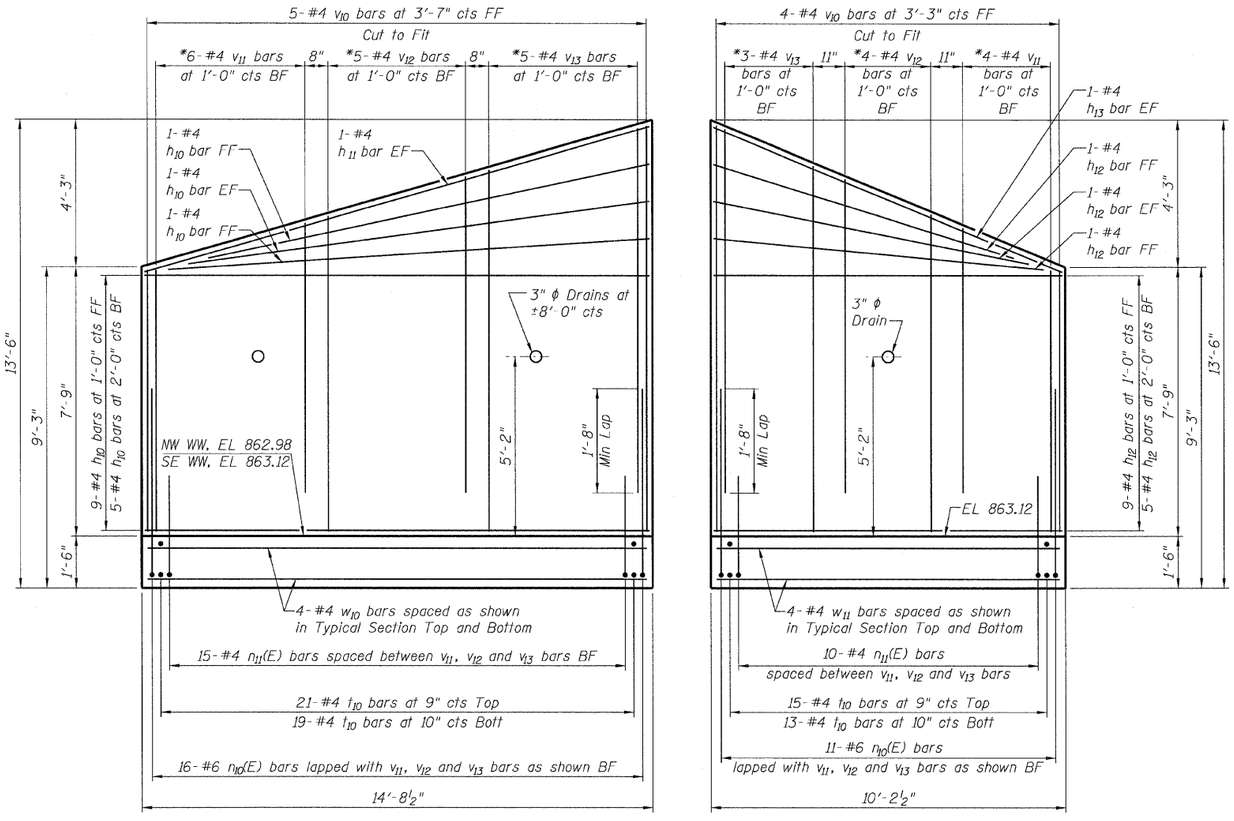
Contract No. 62882
★ (105X & 106)WRS-2



BARS $n_{10}(E)$ and $n_{11}(E)$

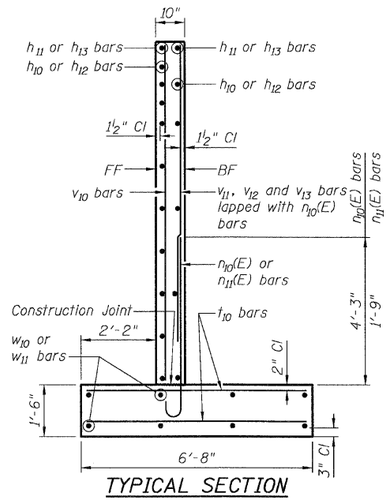
BILL OF MATERIAL
(Total for 4 Wingwalls)

Bar	No.	Size	Length	Shape
h_{10}	36	#4	14'-4"	
h_{11}	4	#4	14'-11"	
h_{12}	36	#4	9'-10"	
h_{13}	4	#4	10'-8"	
$n_{10}(E)$	54	#6	6'-1"	
$n_{11}(E)$	50	#4	3'-5"	
t_{10}	136	#4	6'-4"	
v_{10}	18	#4	11'-8"	
v_{11}	20	#4	6'-7"	
v_{12}	14	#4	7'-11"	
v_{13}	16	#4	9'-3"	
w_{10}	16	#4	14'-4"	
w_{11}	16	#4	9'-11"	
Reinforcement Bars			Pound	1,890
Reinforcement Bars, Epoxy Coated			Pound	610
Concrete Box Culverts			Cu. Yd.	33.3



NORTHWEST AND SOUTHEAST WINGWALLS

NORTHEAST AND SOUTHWEST WINGWALL



TYPICAL SECTION

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

DESIGNED	- DSE
CHECKED	- NDR
DRAWN	- RTT
CHECKED	- NDR
DATE	- Aug. 5, 2009

NOTE:
*Lap v_{11}, v_{12} and v_{13} bars with $n_{10}(E)$ bars

MIN BAR LAP

#4	1'-8"

LEGEND
FF = Front Face
BF = Back Face
EF = Each Face
NW WW = Northwest Wingwall
SE WW = Southeast Wingwall

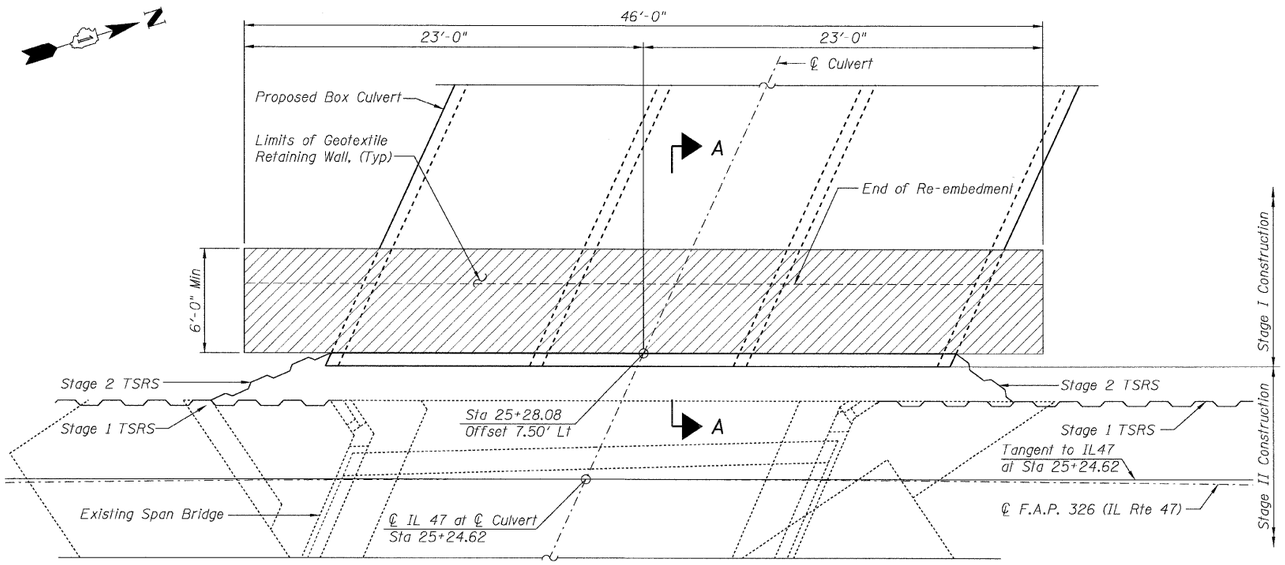
CULVERT DETAILS
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	339
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT- 326	

SHEET NO. 10
13 SHEETS

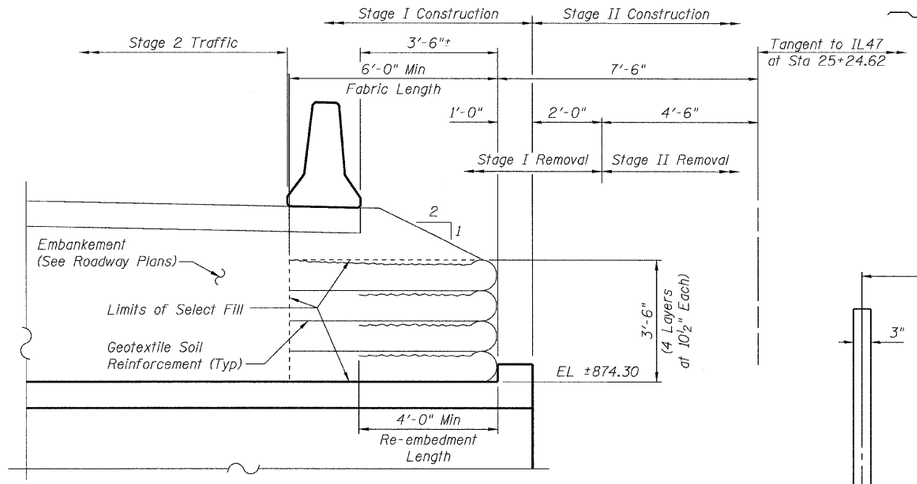
Contract No. 62882
★ (105X & 106)WRS-2



TEMPORARY GEOTEXTILE RETAINING WALL PLAN

LEGEND

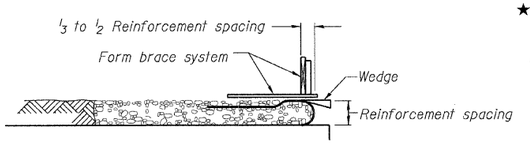
- Limits of Geotextile Retaining Wall
- Temporary Soil Retention System (TSRS)



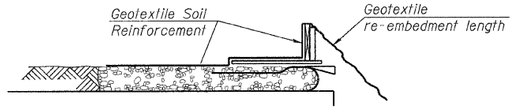
SECTION A-A

The Geotextile Soil Reinforcement shall have a Minimum allowable tensile (T min) of 0.25 Kip/ft as determined by the procedure described in the Special Provision. The computations supporting the determination of T min. shall be submitted to the engineer for approval.

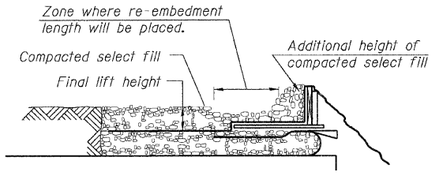
DESIGNED	- NDR
CHECKED	- DSE
DRAWN	- RTT
CHECKED	- DSE
DATE	- Aug. 5, 2009



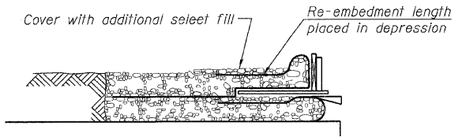
1. *Place form brace system on completed reinforcement level; back from the finished fabric face a distance of 1/3 to 1/2 the geotextile reinforcement spacing.*



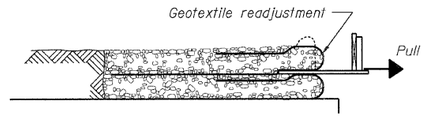
2. *Position fabric so that the required geotextile re-embedment length extends over the top of the form brace and the design reinforcement width is placed with no slack against the previous level.*



3. *Compact select fill material in lifts to final lift height, create (±3") depression in zone where re-embedment length will be located and place additional height of compacted select fill against form brace.*

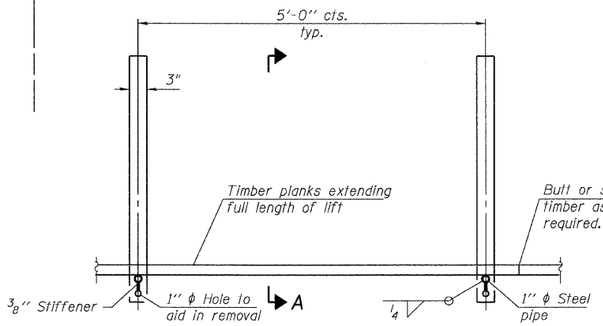


4. *Fold geotextile re-embedment length back over form brace into zone where depression was made in select fill and place additional select fill (±3") to embed geotextile and bring to final lift height.*

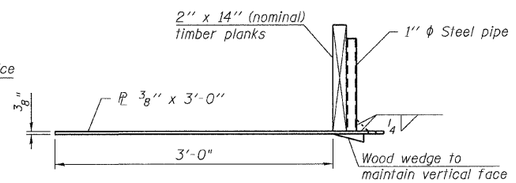


5. *Pull form brace outward allowing geotextile face to slightly readjust to form tight round face level with plan reinforcement spacing.*

TEMPORARY GEOTEXTILE WALL CONSTRUCTION SEQUENCE



PLAN



SECTION A-A

TEMPORARY GEOTEXTILE FORM BRACE DETAIL

This is a suggested detail, the Contractor is responsible for the design of the form brace system to be used.

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

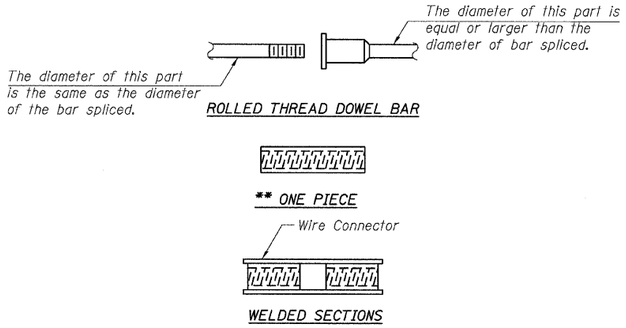
CULVERT DETAILS
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	340
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT- 326	

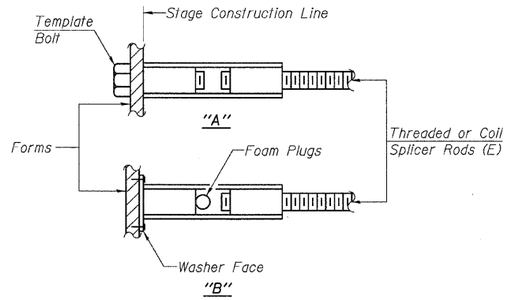
SHEET NO. 11
13 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2



BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

NOTES

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

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

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

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

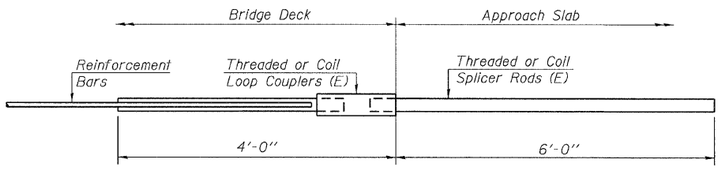
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

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

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

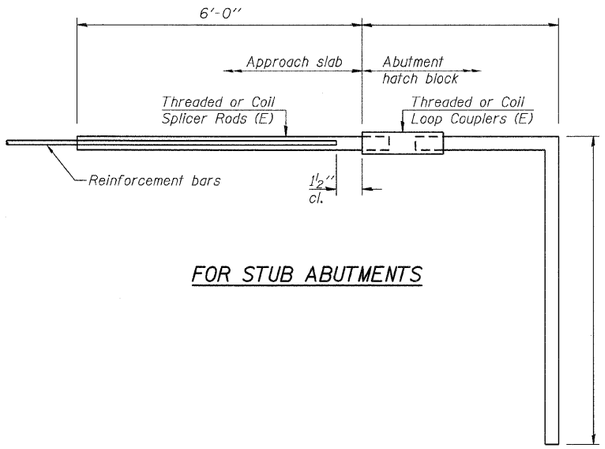
Where fy = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



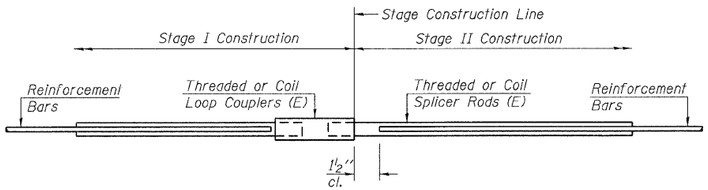
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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



FOR STUB ABUTMENTS

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



STANDARD

Bar Size	No. Assemblies Required	Location
#5	148	Culvert Stage Construction Line

DESIGNED	-
CHECKED	-
DRAWN	- RTT
CHECKED	- DSE
DATE	- Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

BAR SPLICER ASSEMBLY DETAILS
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	341
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT- 326	

SHEET NO. 12
13 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Wang Engineering, Inc.
Consulting Geotechnical and Environmental Engineers
wangeng@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG SB-01

WEI Job No.: 630-02-01

Client: Stanley Consultants, Inc.
Project: IL Route 47 from Reed Road to Kreutzer Road
Location: McHenry County, IL

Datum: NAVD 88
Elevation: 873.57 ft
North: 1998989.65 ft
East: 957495.51 ft
Station: 24+35.69
Offset: 57.48 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		12-inch thick, black CLAY LOAM						
	872.6	--TOPSOIL--						
		Stiff, black, gravelly CLAY LOAM			1	7 8 11	1.00 P	16
	870.6	--FILL--						
		Medium dense, gray, fine to medium SAND, little gravel	5		2	3 5 12	NP	15
					3	5 8 10	NP	14
	863.7		10		4	7 4 8	NP	11
	863.1	Very stiff, gray CLAY, with silt interbeds						
		Medium dense, gray, medium SAND, little gravel			5	3 8 11	NP	20
	860.6		15		6	6 8 11	0.95 B	8
		Medium stiff, gray SILTY CLAY LOAM, trace gravel						
	858.1				7	5 6 8	NP	15
		Medium dense, gray, medium SAND, little gravel	20		8	3 3 7	NP	9
					9	4 8 10	NP	17
	850.6							
		Medium dense, gray, coarse SAND	25		10	2 4 10	NP	11
	848.1	Very stiff, gray SILTY CLAY, trace gravel			11	6 9 13	2.46 B	11
			30		12	7 8 11	2.30 B	12
			35		13	4 7 10	2.38 B	22
			40		14	3 8 12	2.00 B	12
	831.1	Medium stiff, gray SILTY CLAY, trace gravel						
			45		15	7 14 19	0.90 B	13
	826.6	Dense, gray SILT						
	823.6	Boring terminated at 50.00 ft	50		16	10 19 29	NP	20

WANGENG.GDT 4/11/08
6300201.GPJ WANGENGINC

GENERAL NOTES

Begin Drilling: 09-04-2007 Complete Drilling: 09-04-2007
Drilling Contractor: Precon Drilling Drill Rig: CME-75 ATV
Driller: Kevin & Shaune Logger: Y. Shiu Checked by: N. Davis
Drilling Method: 3.25-inch IDA HSA; backfilled with bentonite upon completion

WATER LEVEL DATA

While Drilling: ▽ 5.50 ft
At Completion of Drilling: ▼ DRY
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Wang Engineering, Inc.
Consulting Geotechnical and Environmental Engineers
wangeng@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG SB-01

WEI Job No.: 630-02-01

Client: Stanley Consultants, Inc.
Project: IL Route 47 from Reed Road to Kreutzer Road
Location: McHenry County, IL

Datum: NAVD 88
Elevation: 873.57 ft
North: 1998989.65 ft
East: 957495.51 ft
Station: 24+35.69
Offset: 57.48 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		12-inch thick, black CLAY LOAM						
	872.6	--TOPSOIL--						
		Stiff, black, gravelly CLAY LOAM			1	7 8 11	1.00 P	16
	870.6	--FILL--						
		Medium dense, gray, fine to medium SAND, little gravel	5		2	3 5 12	NP	15
					3	5 8 10	NP	14
	863.7		10		4	7 4 8	NP	11
	863.1	Very stiff, gray CLAY, with silt interbeds						
		Medium dense, gray, medium SAND, little gravel			5	3 8 11	NP	20
	860.6		15		6	6 8 11	0.95 B	8
		Medium stiff, gray SILTY CLAY LOAM, trace gravel						
	858.1				7	5 6 8	NP	15
		Medium dense, gray, medium SAND, little gravel	20		8	3 3 7	NP	9
					9	4 8 10	NP	17
	850.6							
		Medium dense, gray, coarse SAND	25		10	2 4 10	NP	11
	848.1	Very stiff, gray SILTY CLAY, trace gravel			11	6 9 13	2.46 B	11
			30		12	7 8 11	2.30 B	12
			35		13	4 7 10	2.38 B	22
			40		14	3 8 12	2.00 B	12
	831.1	Medium stiff, gray SILTY CLAY, trace gravel						
			45		15	7 14 19	0.90 B	13
	826.6	Dense, gray SILT						
	823.6	Boring terminated at 50.00 ft	50		16	10 19 29	NP	20

WANGENG.GDT 4/11/08
6300201.GPJ WANGENGINC

GENERAL NOTES

Begin Drilling: 09-04-2007 Complete Drilling: 09-04-2007
Drilling Contractor: Precon Drilling Drill Rig: CME-75 ATV
Driller: Kevin & Shaune Logger: Y. Shiu Checked by: N. Davis
Drilling Method: 3.25-inch IDA HSA; backfilled with bentonite upon completion

WATER LEVEL DATA

While Drilling: ▽ 5.50 ft
At Completion of Drilling: ▼ DRY
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

DESIGNED	-
CHECKED	- DSE
DRAWN	- RTT
CHECKED	- DSE
DATE	- Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

SOIL BORING LOGS SB-1 AND SB-2
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	342
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT- 326	

SHEET NO. 13
13 SHEETS

Contract No. 62882
★ (105X & 106)WRS-2

Wang Engineering, Inc.
Consulting Geotechnical and Environmental Engineers
wangeng@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG SB-03

WEI Job No.: 630-02-01

Client: Stanley Consultants, Inc.
Project: IL Route 47 from Reed Road to Kreutzer Road
Location: McHenry County, IL

Datum: NAVD 88
Elevation: 875.43 ft
North: 1999147.44 ft
East: 957468.66 ft
Station: 25+76.61
Offset: 22.34 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		12-inch thick, black CLAY LOAM --TOPSOIL--							
	874.4	Very stiff, black CLAY LOAM, trace gravel --FILL--				1	5 5 7	2.25 P	13
			5			2	7 6 5	3.00 P	9
	869.9	Loose, black LOAM to SANDY LOAM --FILL--				3	2 1 4	NP	11
	867.4	Loose to medium dense, gray, fine to medium SAND, little gravel				4	4 7 8	NP	6
			10			5	11 7 6	NP	9
			15			6	11 6 6	NP	12
						7	5 5 4	NP	13
						8	5 6 8	NP	13
	855.7	Very stiff, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel	20			9	4 6 10	2.46 B	11
			25			10	5 7 11	2.05 B	11
			30			12	8 5 8	3.00 P	12
			35			13	2 8 11	3.03 B	12
			40			14	7 10 13	0.95 B	12
			45			15	6 11 15	2.38 B	12
	825.4	Boring terminated at 50.00 ft	50			16	7 13 16	2.13 B	10

GENERAL NOTES

Begin Drilling: 09-04-2007 Complete Drilling: 09-04-2007
Drilling Contractor: Precon Drilling Drill Rig: CME-75 ATV
Driller: Kevin & Shaune Logger: Y. Shiu Checked by: N. Davis
Drilling Method: 3.25-inch IDA HSA; backfilled with bentonite upon completion

WATER LEVEL DATA

While Drilling: ▽ 10.50 ft
At Completion of Drilling: ▼ DRY
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 6300201.GPJ WANGENG.GDT 4/11/08

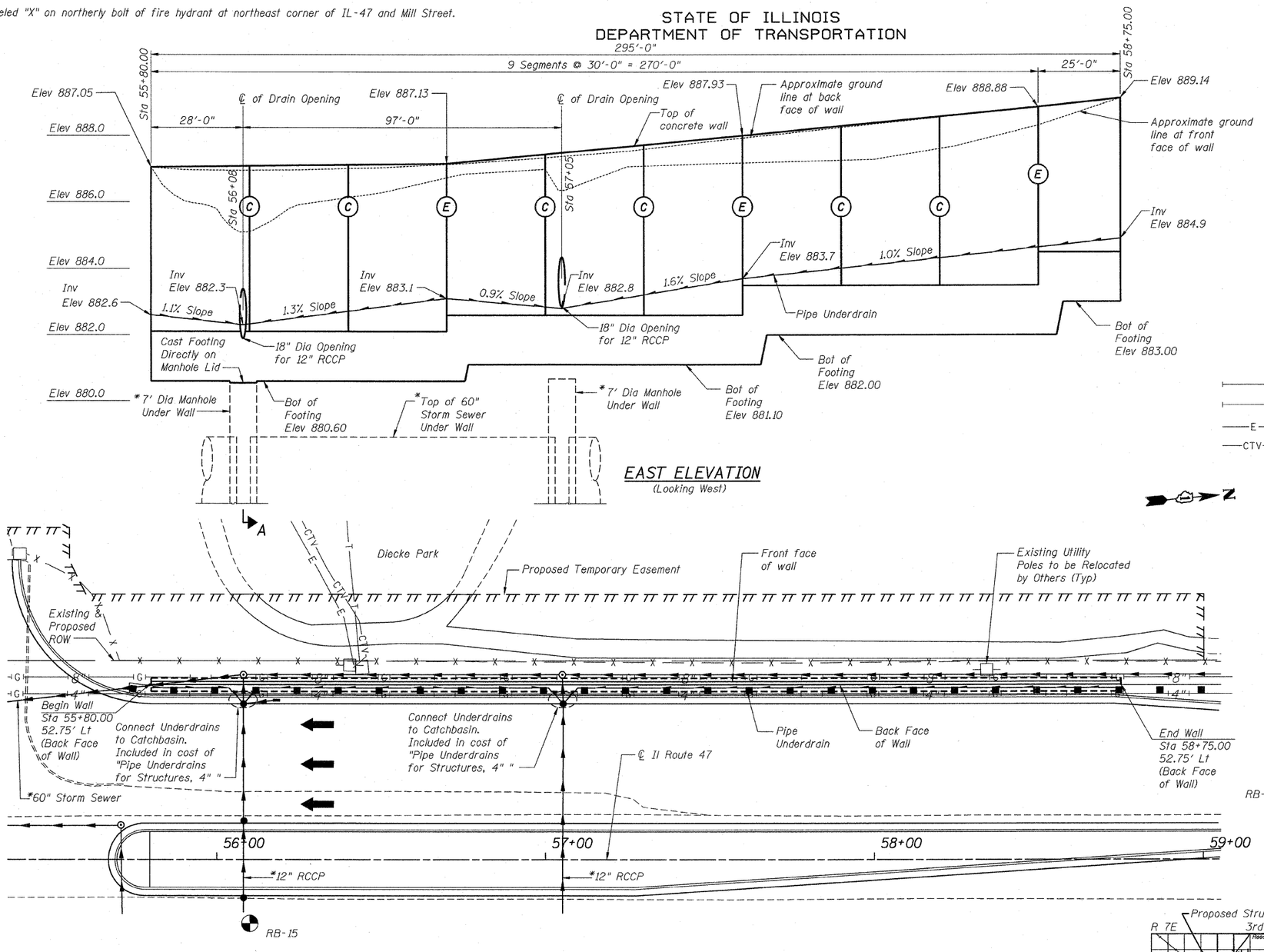
DESIGNED	-
CHECKED	- DSE
DRAWN	- RTT
CHECKED	- DSE
DATE	- Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

SOIL BORING LOG SB-3
IL ROUTE 47 OVER
S. BRANCH KISHWAUKEE RIVER
F.A.P. 326 - SECT. (105X & 106)WRS-2
McHENRY COUNTY
STATION 25+24.62
STRUCTURE NO. 056-0085

Benchmark: Chiseled "X" on northerly bolt of fire hydrant at northeast corner of IL-47 and Mill Street.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



EAST ELEVATION
(Looking West)

PLAN

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	Aug. 5, 2009

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	343
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

DESIGN SPECIFICATIONS

AASHTO 2002 Standard Specification for Highway Bridges.

DESIGN STRESSES

f'c = 3,500 PSI
fy = 60,000 PSI
Maximum Allowable Soil Bearing Pressure = 2,000 PSF

LEGEND:

- (E) Expansion Joint in wall stem. (See Sheet 4 of 5 for detail)
- (C) Construction Joint in wall stem. (See Detail on Sheet 4 of 5)
- Soil Boring Location
- —G— 8" —G— 8" Gas line to be Relocated by Others
- —G— 4" —G— 4" Gas line to be Relocated by Others
- —E— E— Electrical line to be Relocated by Others
- —CTV— CTV— Cable TV line to be Relocated by Others

NOTES:

* See Drainage Plans for details

For Section A-A, see sheet 2 of 5.

STATE OF ILLINOIS
D. SCOTT ESHLEMAN
081-005155
CHICAGO
ILLINOIS
LICENSED STRUCTURAL ENGINEER
EXPIRATION DATE: 11-30-2010
DATE: 8/5/09

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 184-001533

LOCATION SKETCH

GENERAL PLAN & ELEVATION
IL ROUTE 47
DIECKE PARK RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 57+27.50

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	344
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

INDEX OF DRAWINGS

GENERAL NOTES

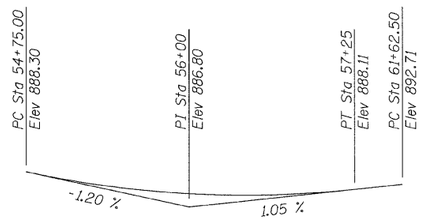
1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
2. Cover from face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.
3. Reinforcing bar bending dimensions are out to out.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Reinforcement bar splices shall be in accordance with the following table unless shown otherwise on the drawing.

Minimum Lap

Size	Lap
#4	1'-8"

6. No construction joints except those shown on the plans will be allowed unless ordered by the engineer.
7. An application of Protective Coat shall be applied to the top surface of the wall.
8. Geocomposite wall drain is to be continuous over the entire length of the concrete wall.
9. When excavating for the wall's footing, the Contractor shall use a method that will result in minimal disturbance to the underlying soil.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



VC = 250 ft

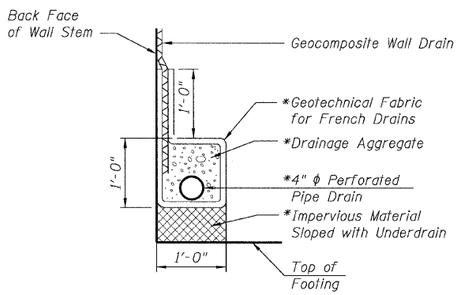
PROFILE GRADE IL ROUTE 47

ELEVATION CHART

Length From West End Of Wall	Station	Top Of Wall Elevation	Height Of Bot of Ftg to Top of Wall (ft)
0	55+80.00	887.05	6.45
30'-0"	56+10.00	887.08	6.48
60'-0"	56+40.00	887.10	6.50
90'-0"	56+70.00	887.13	6.53
120'-0"	57+00.00	887.40	6.30
150'-0"	57+30.00	887.66	6.56
180'-0"	57+60.00	887.93	6.83
210'-0"	57+90.00	888.25	6.25
240'-0"	58+20.00	888.56	6.56
270'-0"	58+50.00	888.88	6.88
295'-0"	58+75.00	889.14	6.14

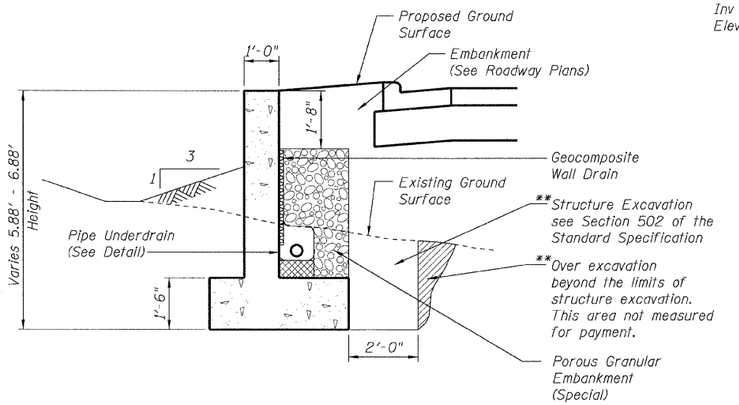
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment (Special)	Cu Yd	52
Structure Excavation	Cu Yd	425
Concrete Structures	Cu Yd	120
Protective Coat	Sq Yd	33
Reinforcement Bars, Epoxy Coated	Pound	9,680
Geocomposite Wall Drain	Sq Yd	78
Pipe Underdrains for Structures, 4"	Foot	311



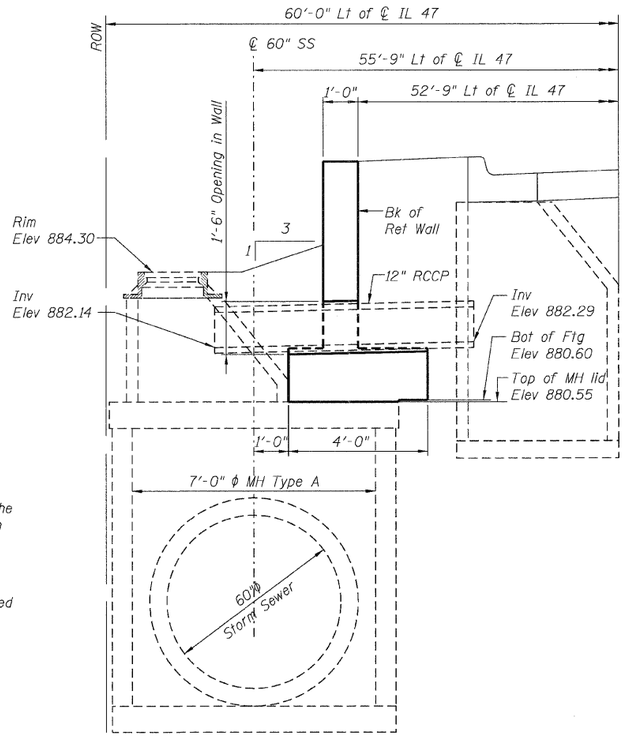
PIPE UNDERDRAIN DETAIL

*Included in the cost of "Pipe Underdrains for Structures, 4" "



TYPICAL SECTION

**Backfill remainder of structure excavation and over excavation with same material specified for roadway embankment.



SECTION A-A
(See sht 1 of 5 for location of Section)

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	Aug. 5, 2009

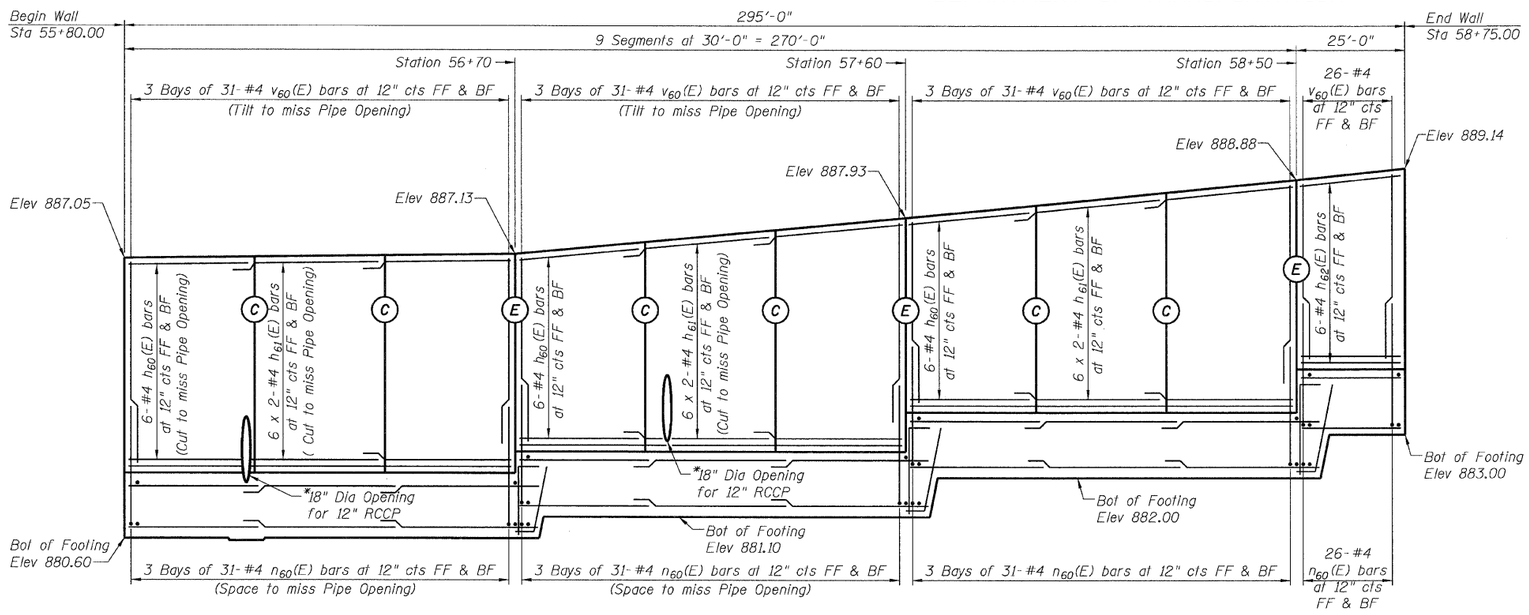
GENERAL NOTES & TOTAL BILL OF MATERIAL
IL ROUTE 47
DIECKE PARK RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 57+27.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

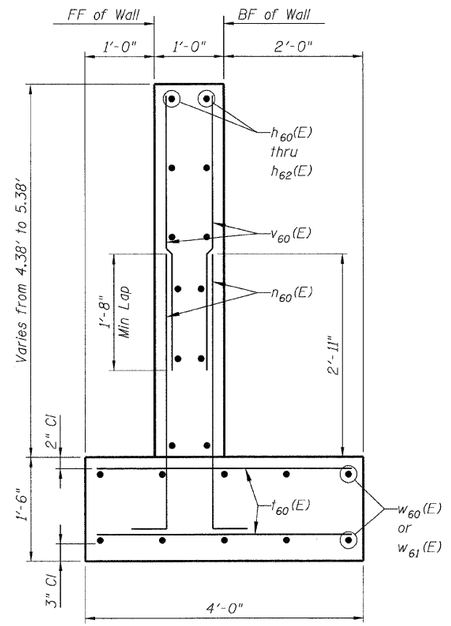
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
47	★	MCHENRY	502	345
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3
5 SHEETS

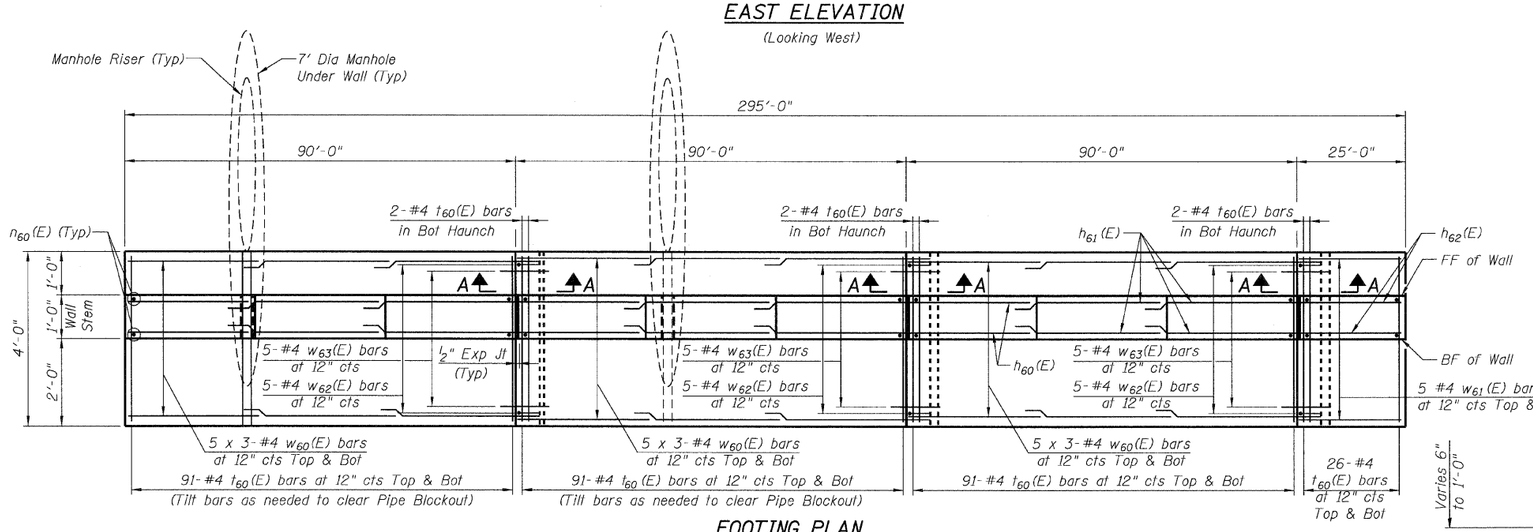
Contract No. 62882
★(105X & 106) WRS-2



EAST ELEVATION
(Looking West)



TYPICAL SECTION



FOOTING PLAN

NOTES:

For Bill of Material See Sheet 4 of 5.

Bars indicated Thus: 6 x 2- #4 Denotes 6 Lines of #4 Bars with 2 Lengths Per Line.

(E) Expansion Joint in wall stem. (See Sheet 4 of 5 for detail)

(C) Construction Joint in wall stem or footing. (See Detail on Sheet 4 of 5)

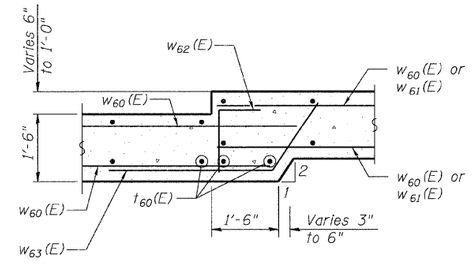
*18" Dia Openings thru wall shall allow a 1" clearance around 12" RCCP.

ABBREVIATION LIST

Bot	Bottom
BF	Back Face
Exp	Expansion
EF	Each Face
FF	Front Face
Jt	Joint
Typ	Typical

MIN BAR LAP

#4 bars = 1'-8"



SECTION A-A

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

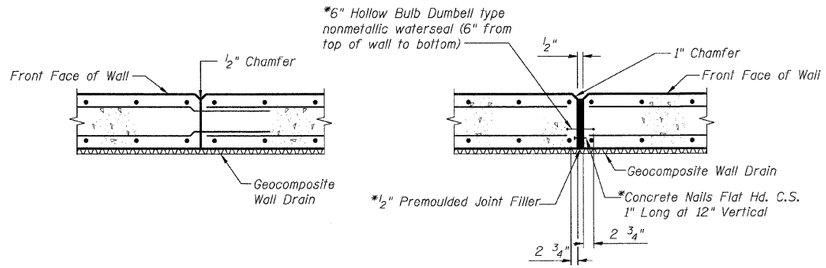
WALL PLAN & ELEVATION
IL ROUTE 47
DIECKE PARK RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 57+27.50

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
47	★	MCHENRY	502	346
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT:	

SHEET NO. 4
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CONSTRUCTION JOINT DETAIL

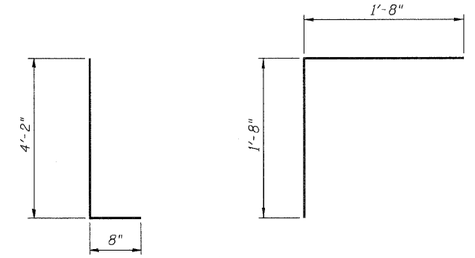
EXPANSION JOINT DETAIL
(Stem of Wall Only, Not In Footing)

* Cost Included With Concrete Structures

RETAINING WALL JOINT DETAILS

BILL OF MATERIAL

Bar	No.	Size	Length (ft)	Shape
$h_{60}(E)$	36	#4	29'-8"	——
$h_{61}(E)$	72	#4	31'-8"	——
$h_{62}(E)$	12	#4	24'-8"	——
$n_{60}(E)$	610	#4	4'-10"	L
$t_{60}(E)$	604	#4	3'-8"	——
$v_{60}(E)$	610	#4	4'-0"	——
$w_{60}(E)$	90	#4	31'-10"	——
$w_{61}(E)$	10	#4	24'-8"	——
$w_{62}(E)$	15	#4	3'-4"	⌐
$w_{63}(E)$	15	#4	5'-2"	⌐
Structure Excavation			Cu Yd	425
Concrete Structures			Cu Yd	120
Reinforcement Bars, Epoxy Coated			Pound	9,680



BAR $n_{60}(E)$

BAR $w_{62}(E)$

BAR $w_{63}(E)$

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

WALL DETAILS & BAR SCHEDULE
IL ROUTE 47
DIECKE PARK RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 57+27.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
47	★	MCHENRY	502	347
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 5
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

Wang Engineering, INC.
Consulting Geotechnical and Environmental Engineers
wangeng3@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG RB-15

WEI Job No.: 630-02-01

Client: Stanley Consultants, Inc.
Project: IL Route 47 from Reed Road to Kreutzer Road
Location: McHenry County, IL

Datum: NAVD 88
Elevation: 887.07 ft
North: 2001977.04 ft
East: 958392.78 ft
Station: 56+09.99
Offset: 19.33 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	887.4	4-inch thick, medium dense CRUSHED STONE --SHOULDER AGGREGATE--	0		1	10 14 9 8	NP	4
	885.9	Medium dense, brown to gray, GRAVELLY SAND --FILL--			2	3 3 4 5	0.75 P	44
		Medium stiff to stiff, brown to black, gravelly CLAY LOAM	5		3	2 2 5 6	1.00 P	13
	880.8	Stiff, brown to gray, gravelly CLAY			4	1 3 3 4	1.50 P	11
	877.1		10		5	2 4 4 6	1.50 P	11
		Boring terminated at 10.00 ft						
			15					
			20					
			25					

GENERAL NOTES				WATER LEVEL DATA		
Begin Drilling	08-29-2007	Complete Drilling	08-29-2007	While Drilling	▽	DRY
Drilling Contractor	Precon Drilling	Drill Rig	CME-55 TMR	At Completion of Drilling	▼	DRY
Driller	Kevin & Shaune	Logger	Y. Shiu	Time After Drilling		NA
Drilling Method	3.25-inch IDA HSA; Boring backfill upon completion	Checked by	W. Wang	Depth to Water	▽	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC E902501.GPJ WANGENG.GDT 11/8/07

Wang Engineering, INC.
Consulting Geotechnical and Environmental Engineers
wangeng3@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG RB-16

WEI Job No.: 630-02-01

Client: Stanley Consultants, Inc.
Project: IL Route 47 from Reed Road to Kreutzer Road
Location: McHenry County, IL

Datum: NAVD 88
Elevation: 888.93 ft
North: 2002291.50 ft
East: 958376.28 ft
Station: 59+21.75
Offset: 24.93 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	888.4	6-inch thick, brown SANDY CLAY LOAM --TOPSOIL--	0		1	3 4 6 7	2.25 P	10
		Stiff to very stiff, brown SANDY CLAY LOAM --FILL--			2	7 8 8 6	1.50 P	12
	884.7	Medium stiff, brown SANDY CLAY LOAM	5		3	1 2 1 2	0.50 P	14
					4	1 1 3 2	0.50 P	17
	879.2		10		5	1 1 2 3	0.50 P	11
		Stiff gray SILTY CLAY			6	4 8 6 8	1.50 P	22
	876.9	Boring terminated at 12.00 ft						
			15					
			20					
			25					

GENERAL NOTES				WATER LEVEL DATA		
Begin Drilling	08-28-2007	Complete Drilling	08-28-2007	While Drilling	▽	DRY
Drilling Contractor	Precon Drilling	Drill Rig	CME-55 TMR	At Completion of Drilling	▼	DRY
Driller	Kevin & Shaune	Logger	Y. Shiu	Time After Drilling		NA
Drilling Method	3.25-inch IDA HSA; Boring backfill upon completion	Checked by	W. Wang	Depth to Water	▽	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC E902501.GPJ WANGENG.GDT 11/8/07

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	MAY 3, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

SOIL BORING LOGS
IL ROUTE 47
DIECKE PARK RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 57+27.50

Benchmark: BM #11 Cut "□" in the Northeast corner of a handhole concrete base at the Northeast corner of IL Route 47 and Main Street. Elev = 889.936

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	348
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

DESIGN SPECIFICATIONS

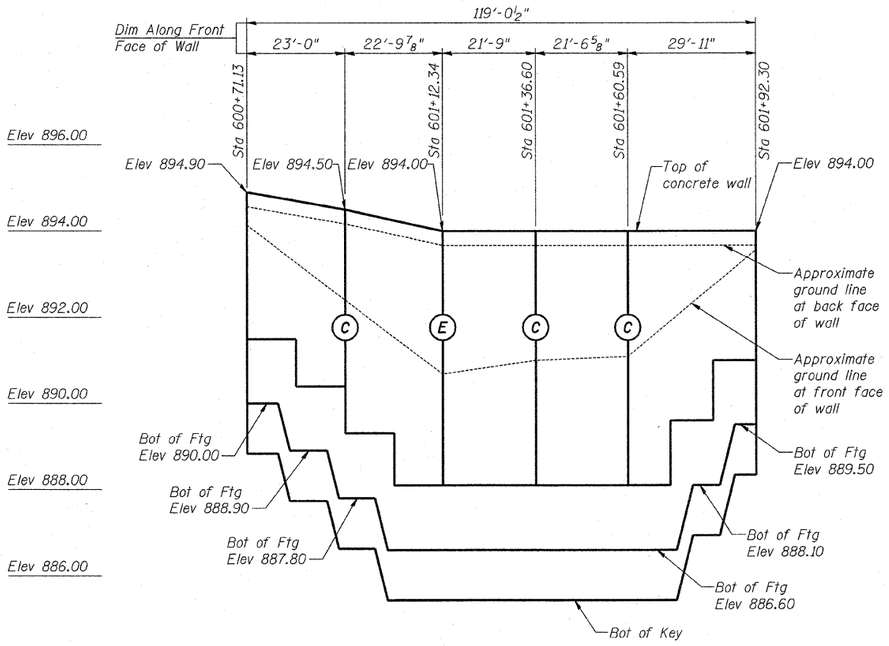
AASHTO 2002 Standard Specification for Highway Bridges.

DESIGN STRESSES

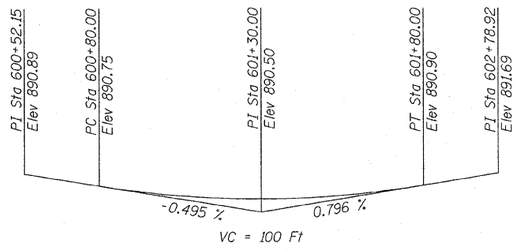
f'c = 3,500 PSI
fy = 60,000 PSI
Maximum Allowable Soil Bearing Pressure = 2,000 PSF

LEGEND:

- (E) Expansion Joint in wall stem. (See Sheet 5 of 5 for detail)
- (C) Construction Joint in wall stem or footing. (See Detail on Sheet 5 of 5)
- G — 2" — 2" Existing Gas
- W — 4" — 4" Existing Watermain
- W — 12" — Proposed Watermain
- Existing Storm drainage
- Proposed Storm drainage
- Existing Sign
- Existing Power Pole



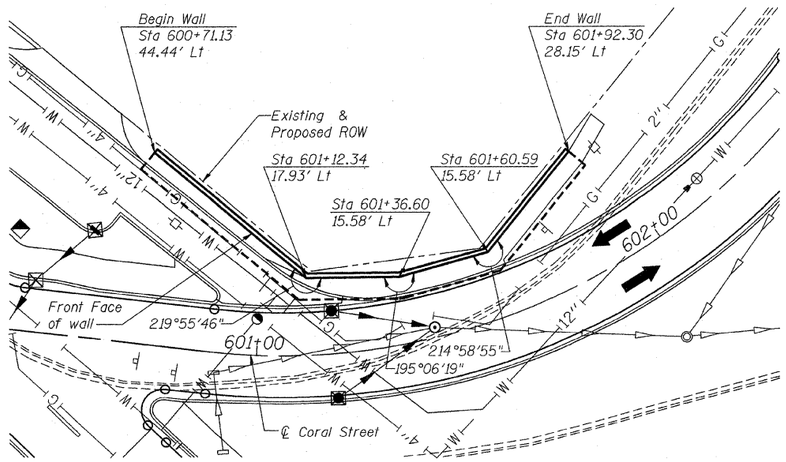
FOLD-OUT ELEVATION
(Looking Northeast)



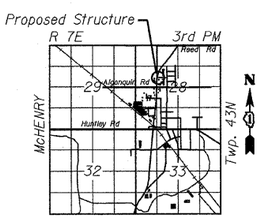
PROFILE GRADE CORAL STREET

HORIZONTAL CURVE DATA
(Curve P CRL-1)

Δ = 63°24'01.41" (Lt)
D = 36°57'54.32"
T = 95.73'
L = 171.51'
E = 27.18'
R = 155.00'
S.E. = 0.020 %
P.C. = Sta. 600+89.00
P.T. = Sta. 602+60.51
P.I. = Sta. 601+84.73



PLAN



LOCATION SKETCH

DESIGNED	DSE
CHECKED	BG
DRAWN	RTT
CHECKED	BG
DATE:	Aug. 5, 2009

STATE OF ILLINOIS
D. SCOTT ESHLEMAN
081-005155
CHICAGO
LICENSED STRUCTURAL ENGINEER

EXPIRATION DATE: 11-30-2010

DATE: 8/5/09

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

GENERAL PLAN & ELEVATION
IL ROUTE 47
CORAL STREET RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 601+36.60

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	349
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

INDEX OF DRAWINGS

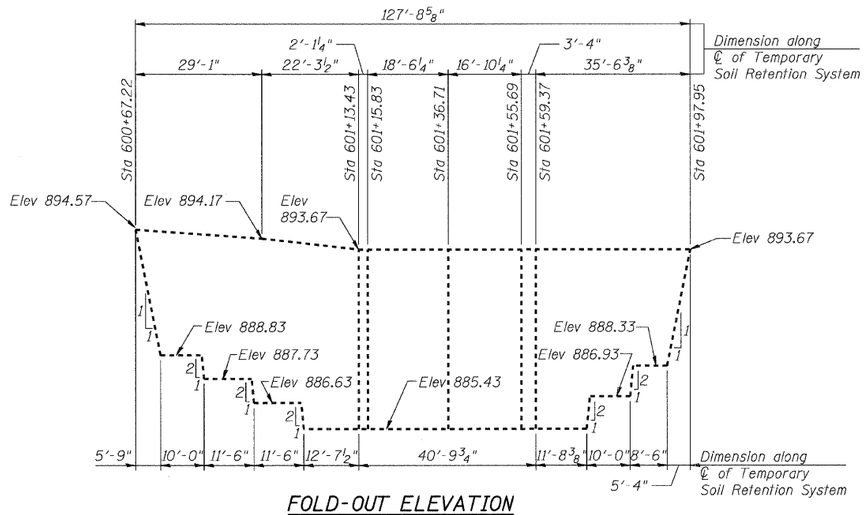
GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
2. Cover from face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.
3. Reinforcing bar bending dimensions are out to out.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Reinforcement bar splices shall be in accordance with the following table unless shown otherwise on the drawing.

Minimum Lap

Size	Lap
#4	1'-8"

6. No construction joints except those shown on the plans will be allowed unless ordered by the engineer.
7. An application of Protective Coat shall be applied to the top surface and front face of the wall as shown on the Typical Section.



FOLD-OUT ELEVATION
(Looking Northeast)

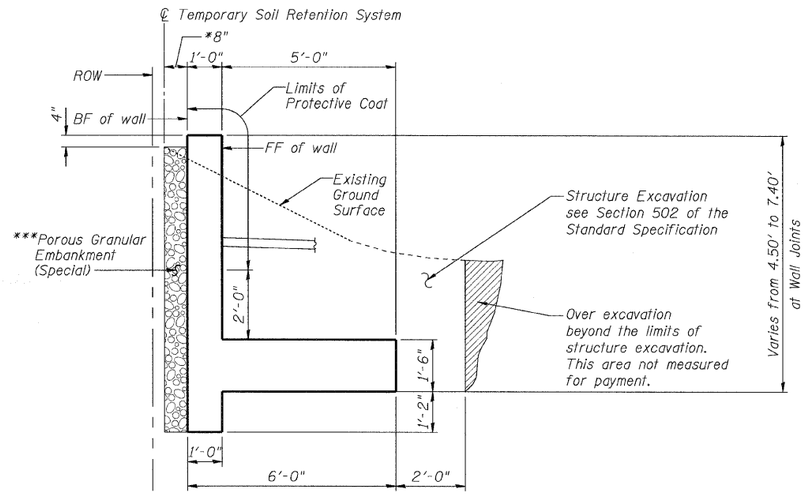
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment (Special)	Cu Yd	21
Structure Excavation	Cu Yd	220
Concrete Structures	Cu Yd	70
Protective Coat	Sq Yd	53
Reinforcement Bars, Epoxy Coated	Pound	5,430
Temporary Soil Retention System	Sq Ft	901

ELEVATION CHART

***Length along Front Face of Wall from North End (ft)	Kink Point Station at Front Face of Wall	Top of Wall Elevation at Front Face of Wall	Height of Wall (ft)
0.00	600+71.13	894.90	4.90
23.00	———	894.50	6.70
45.82	601+12.34	894.00	7.40
67.57	601+36.60	894.00	7.40
89.13	601+60.59	894.00	7.40
119.04	601+92.30	894.00	4.50

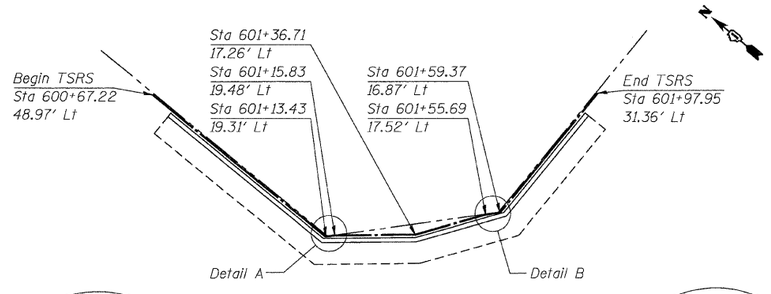
***Measured along front face of retaining wall.



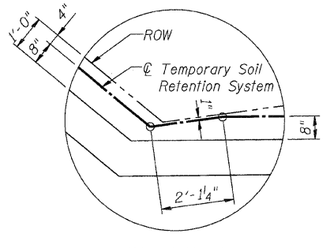
TYPICAL SECTION

*8" except as shown near wall kink points in Details A & B

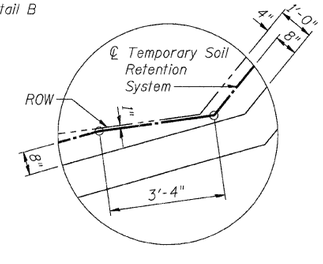
***Porous Granular Embankment (Special) extends full length of retaining wall



PLAN



DETAIL A



DETAIL B

LEGEND:

ROW = Right of Way
TSRS = Temporary Soil Retention System
FF = Front Face of Wall
BF = Back Face of Wall

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

TEMPORARY SOIL RETENTION SYSTEM

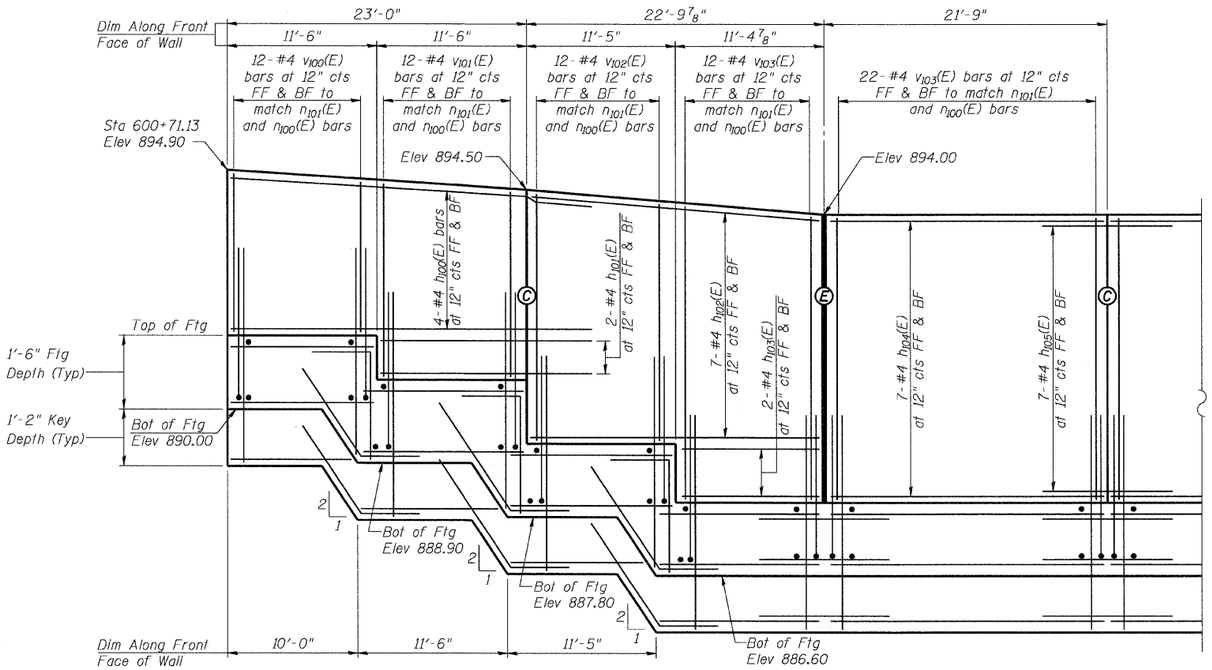
GENERAL NOTES & TOTAL BILL OF MATERIAL
IL ROUTE 47
CORAL STREET RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 601+36.60

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

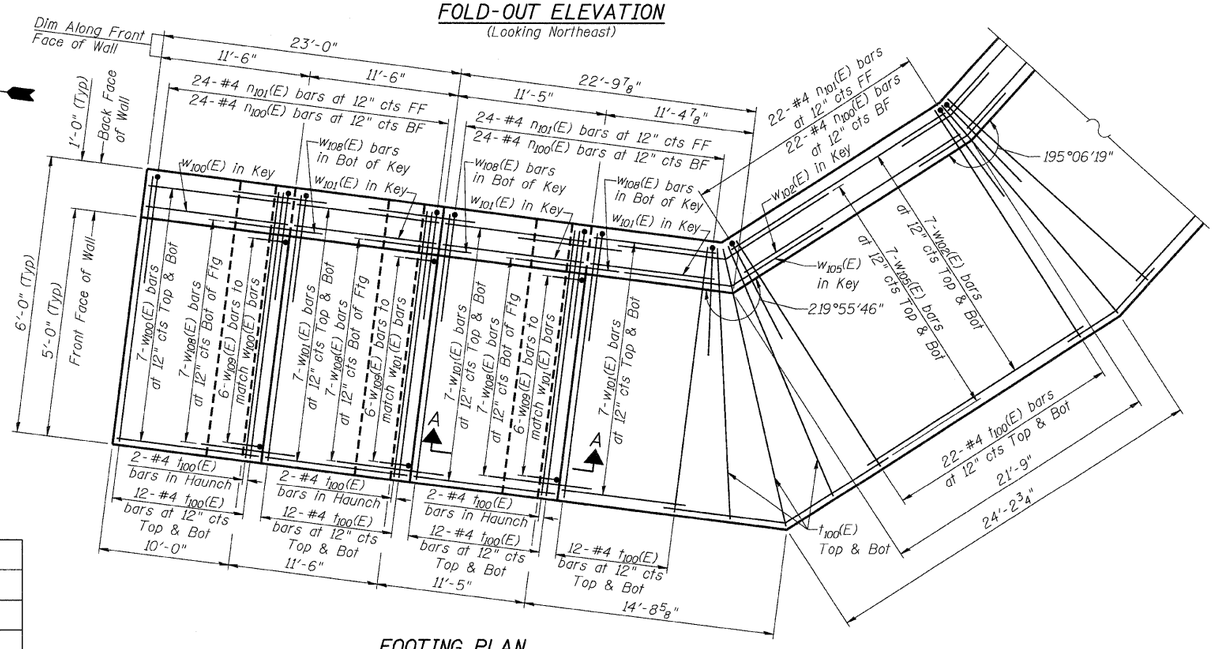
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	350
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2



FOLD-OUT ELEVATION
(Looking Northeast)



FOOTING PLAN

DESIGNED	DSE
CHECKED	BG
DRAWN	RTT
CHECKED	BG
DATE:	Aug. 5, 2009

ABBREVIATION LIST

Bot	Bottom
BF	Back Face
cts	Centers
EF	Each Face
FF	Front Face
Ftg	Footing
Jt	Joint
Typ	Typical

MIN BAR LAP
#4 bars = 1'-8"

NOTES:
For Bill of Material See Sheet 5 of 5.

(E) Expansion Joint in wall stem. (See Sheet 5 of 5 for Detail)

(C) Construction Joint in wall stem or footing. (See Sheet 5 of 5 for Detail)

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

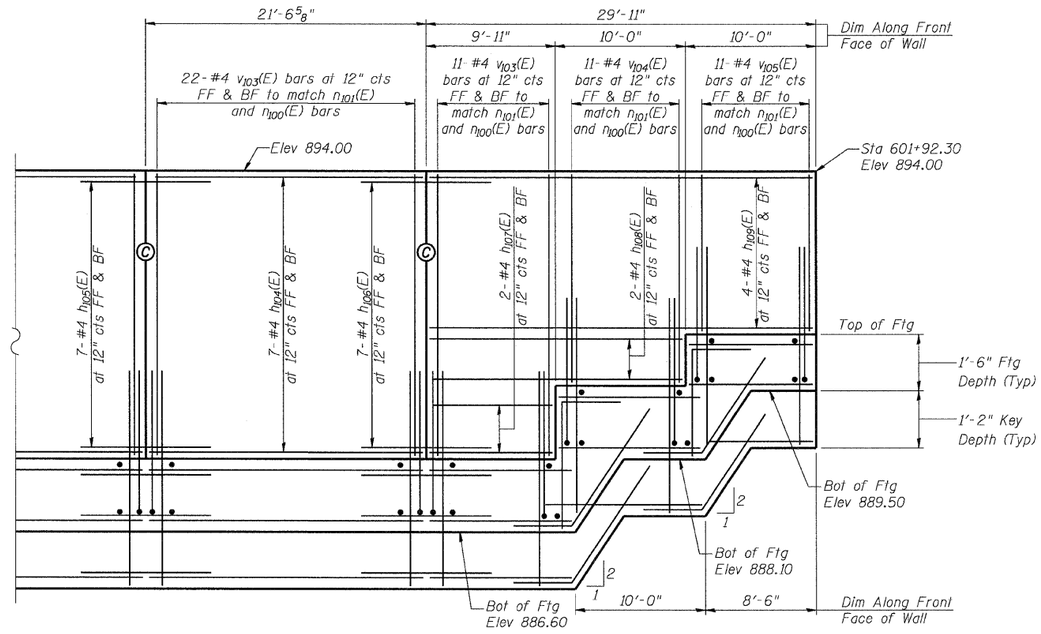
WALL PLAN & ELEVATION
IL ROUTE 47
CORAL STREET RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 601+36.60

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

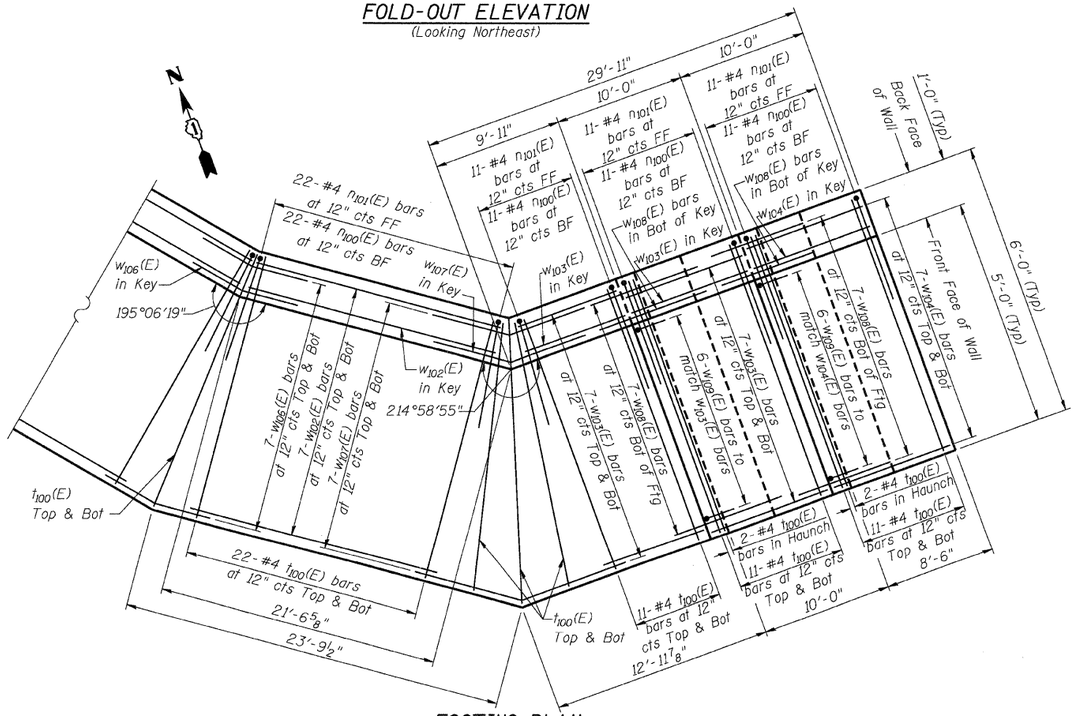
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	351
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 4
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2



FOLD-OUT ELEVATION
(Looking Northeast)



FOOTING PLAN

DESIGNED	DSE
CHECKED	BG
DRAWN	RTT
CHECKED	BG
DATE:	Aug. 5, 2009

ABBREVIATION LIST

Bot	Bottom
BF	Back Face
cts	Centers
EF	Each Face
FF	Front Face
Ftg	Footing
Jt	Joint
Typ	Typical

MIN BAR LAP
#4 bars = 1'-8"

NOTES:
For Bill of Material See Sheet 5 of 5.

(E) Expansion Joint in wall stem. (See Sheet 5 of 5 for Detail)

(C) Construction Joint in wall stem or footing. (See Sheet 5 of 5 for Detail)

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

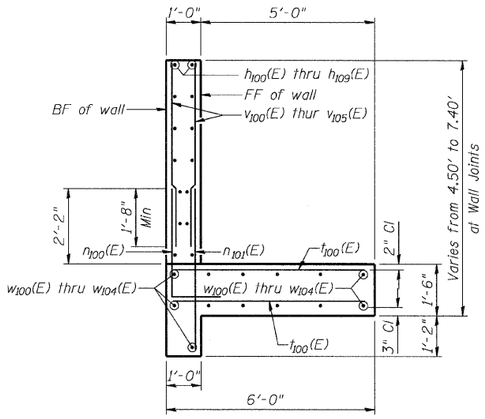
WALL PLAN & ELEVATION
IL ROUTE 47
CORAL STREET RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 601+36.60

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

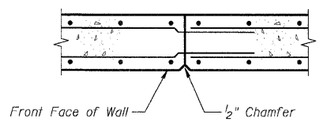
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	352
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 5
5 SHEETS

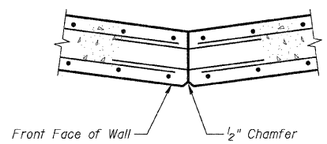
Contract No. 62882
★(105X & 106) WRS-2



TYPICAL SECTION

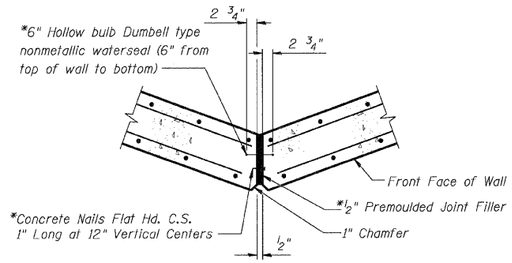


CONSTRUCTION JOINT DETAIL
(Stem of Wall Only, Not In Footing)



CONSTRUCTION JOINT DETAIL
(Stem of Wall Only, Not In Footing)

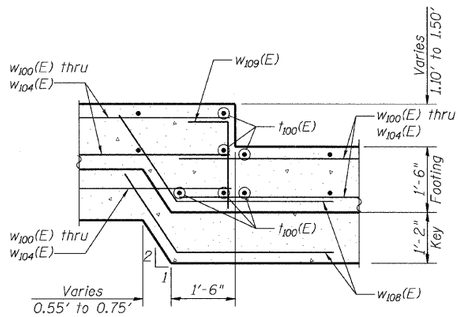
RETAINING WALL JOINT DETAILS



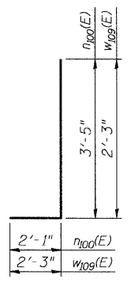
EXPANSION JOINT DETAIL
(Stem of Wall Only, Not In Footing)
* Cost Included With Concrete Structures

BILL OF MATERIAL

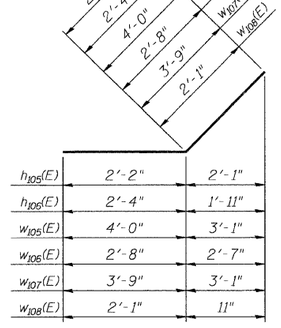
Bar	No.	Size	Length (ft)	Shape
$h_{100}(E)$	8	#4	24'-11"	
$h_{101}(E)$	4	#4	13'-5"	
$h_{102}(E)$	14	#4	22'-6"	
$h_{103}(E)$	4	#4	11'-0"	
$h_{104}(E)$	28	#4	20'-11"	
$h_{105}(E)$	14	#4	4'-4"	
$h_{106}(E)$	14	#4	4'-8"	
$h_{107}(E)$	4	#4	9'-5"	
$h_{108}(E)$	4	#4	19'-5"	
$h_{109}(E)$	8	#4	29'-5"	
$n_{100}(E)$	125	#4	5'-6"	
$n_{101}(E)$	125	#4	4'-8"	
$t_{100}(E)$	274	#4	5'-8"	
$v_{100}(E)$	24	#4	2'-10"	
$v_{101}(E)$	24	#4	3'-9"	
$v_{102}(E)$	24	#4	4'-7"	
$v_{103}(E)$	134	#4	5'-7"	
$v_{104}(E)$	22	#4	4'-1"	
$v_{105}(E)$	22	#4	2'-8"	
$w_{100}(E)$	15	#4	11'-2"	
$w_{101}(E)$	45	#4	12'-8"	
$w_{102}(E)$	30	#4	21'-1"	
$w_{103}(E)$	30	#4	11'-2"	
$w_{104}(E)$	15	#4	9'-8"	
$w_{105}(E)$	15	#4	8'-0"	
$w_{106}(E)$	15	#4	5'-4"	
$w_{107}(E)$	15	#4	7'-6"	
$w_{108}(E)$	40	#4	4'-2"	
$w_{109}(E)$	30	#4	4'-6"	
Structure Excavation		Cu Yd	21	
Concrete Structures		Cu Yd	20	
Reinforcing Steel, Epoxy Coated		Pound	5430	



SECTION A-A



BARS $n_{100}(E)$ & $w_{109}(E)$



BARS $h_{105}(E)$, $h_{106}(E)$, $w_{105}(E)$, $w_{106}(E)$, $w_{107}(E)$ & $w_{108}(E)$

DESIGNED	DSE
CHECKED	BG
DRAWN	RTT
CHECKED	BG
DATE:	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

WALL DETAILS & BAR SCHEDULE
IL ROUTE 47
CORAL STREET RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 601+36.60

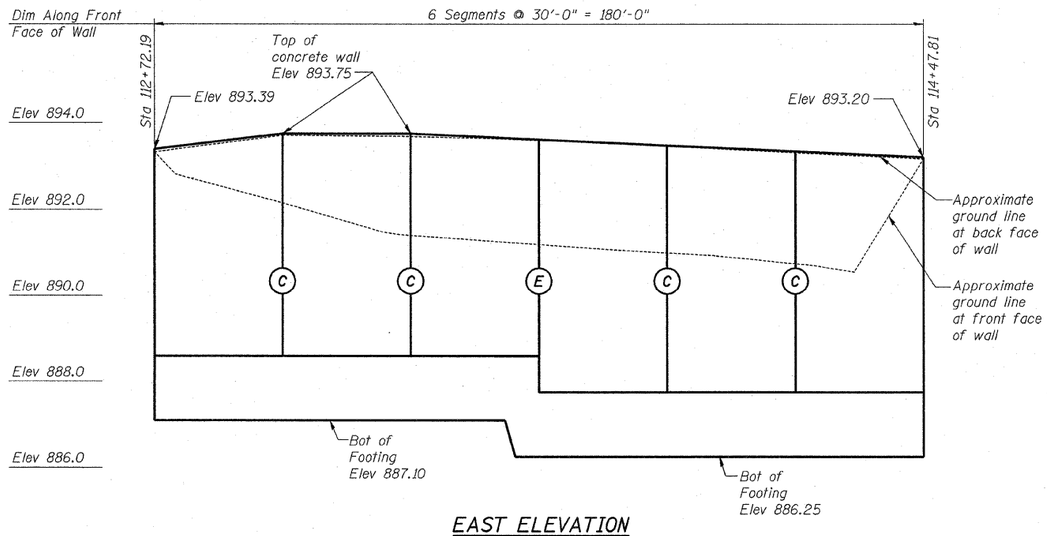
Benchmark: Chiseled "X" on northerly bolt of fire hydrant at southeast corner of IL-47 and Reed Road.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

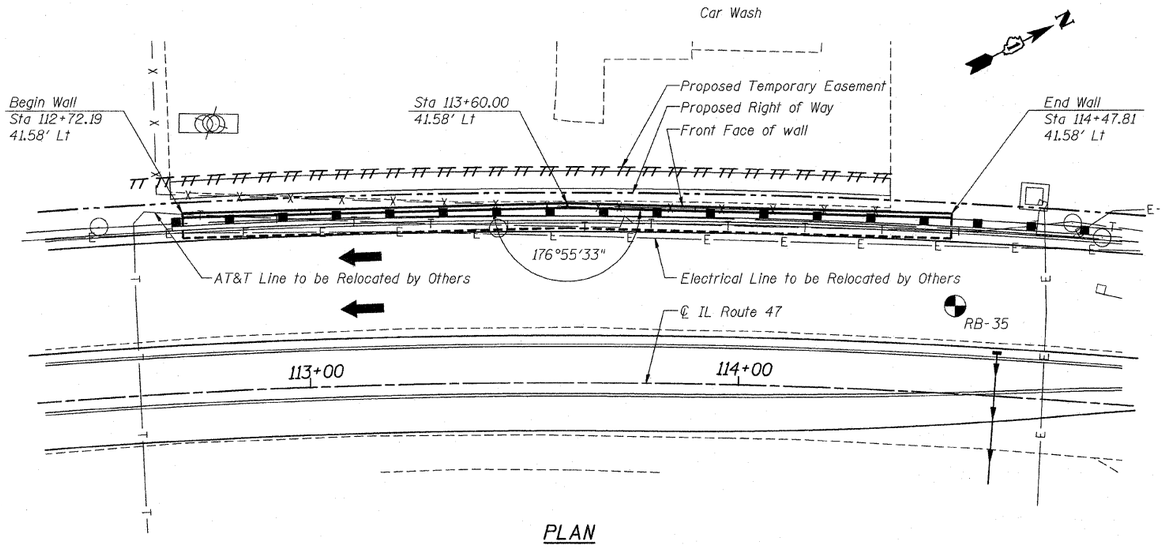
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	353
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2



EAST ELEVATION
(Looking West)

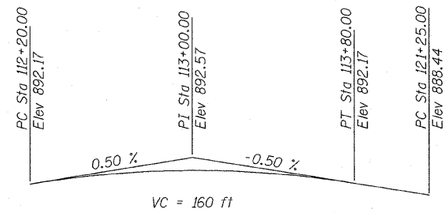


PLAN

HORIZONTAL CURVE DATA

(Curve P 47-6)

Δ = 37°26'00.09" (Rt)
D = 3°29'59.40"
T = 554.66'
L = 1069.58'
E = 91.41'
R = 1637.10
S.E. = 0.034 ⁄.
P.C. = Sta. 105+87.41
P.T. = Sta. 116+56.99
P.I. = Sta. 111+42.07



PROFILE GRADE IL ROUTE 47

DESIGN SPECIFICATIONS

AASHTO 2002 Standard Specification for Highway Bridges.

DESIGN STRESSES

f'c = 3,500 PSI
fy = 60,000 PSI
Maximum Allowable Soil Bearing Pressure = 4,000 PSF

LEGEND:

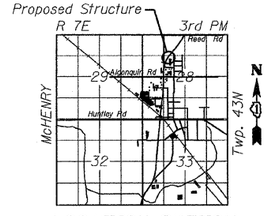
(E) Expansion Joint in wall stem. (See Sheet 4 of 5 for detail)
(C) Construction Joint in wall stem or footing. (See Detail on Sheet 4 of 5)
Soil Boring Location
E E Existing Electrical
T T Existing Telephone
X X X Existing Fence
Proposed Guardrail

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	Aug. 5, 2009

STATE OF ILLINOIS
D. SCOTT ESHLEMAN
081-005155
CHICAGO
LICENSED PROFESSIONAL ENGINEER

EXPIRATION DATE: 11-30-2010
DATE: 8/5/09

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533



LOCATION SKETCH

GENERAL PLAN & ELEVATION
IL ROUTE 47
CAR WASH RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 113+60.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	354
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

INDEX OF DRAWINGS

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
2. Cover from face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.
3. Reinforcing bar bending dimensions are out to out.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Reinforcement bar splices shall be in accordance with the following table unless shown otherwise on the drawing.

Minimum Lap

Size	Lap
#4	1'-8"
#5	2'-2"

6. No construction joints except those shown on the plans will be allowed unless ordered by the engineer.
7. An application of Protective Coat shall be applied to the top surface of the wall.
8. When excavating for the wall's footing, the Contractor shall use a method that will result in minimal disturbance to the underlying soil.

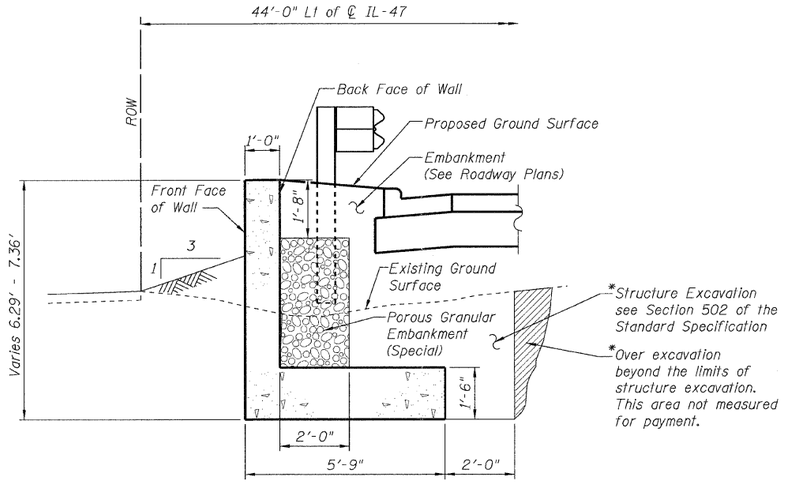
ELEVATION CHART

**Length From SW End Of Wall (ft)	**Station At Front Face Of Wall	Top Of Wall Elevation At Front Face Of Wall	Height Of Wall (ft)
0.00	112+72.19	893.39	6.29
30.00	113+01.45	893.75	6.65
60.00	113+30.74	893.75	6.65
90.00	113+60.00	893.61	7.36
120.00	113+89.26	893.48	7.23
150.00	114+18.55	893.34	7.09
180.00	114+47.81	893.20	6.95

**Measured along front face of retaining wall.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment (Special)	Cu Yd	49
Structure Excavation	Cu Yd	292
Concrete Structures	Cu Yd	94
Protective Coat	Sq Yd	20
Reinforcement Bars, Epoxy Coated	Pound	7,640



TYPICAL SECTION

*Backfill remainder of structure excavation and over excavation with same material specified for roadway embankment.

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	Aug. 5, 2009

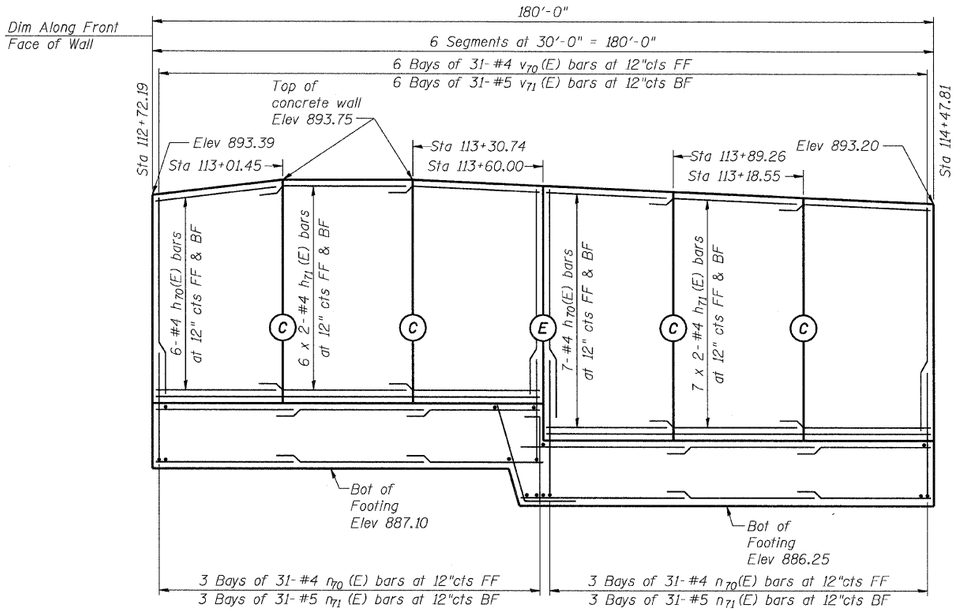
GENERAL NOTES & TOTAL BILL OF MATERIAL
IL ROUTE 47
CAR WASH RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 113+60.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

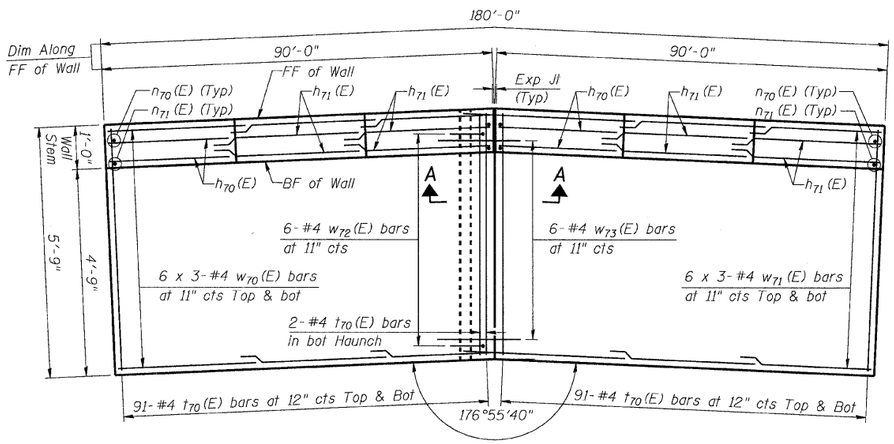
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	355
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3
5 SHEETS

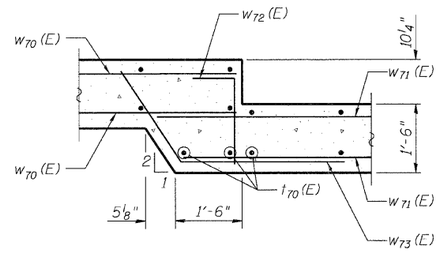
Contract No. 62882
★(105X & 106) WRS-2



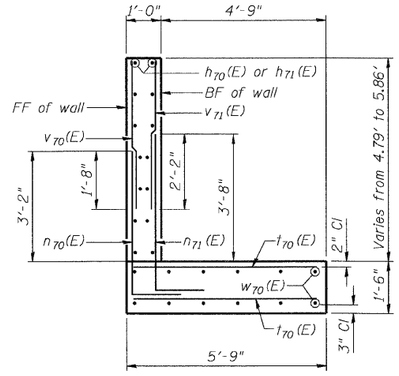
EAST ELEVATION
(Looking West)



FOOTING PLAN



SECTION A-A



TYPICAL SECTION

ABBREVIATION LIST

Bot	Bottom
BF	Back Face
Exp	Expansion
EF	Each Face
FF	Front Face
Jt	Joint
Typ	Typical

MIN BAR LAP

#4 bars = 1'-8"
#5 bars = 2'-2"

NOTES:

For Bill of Material See Sheet 4 of 5.

Bars indicated Thus: 6 x 3- #4 Denotes 6 Lines of #4 Bars with 3 Lengths Per Line.

(E) Expansion Joint in wall stem. (See Sheet 4 of 5 for Detail)

(C) Construction Joint in wall stem or footing. (See Sheet 4 of 5 for Detail)

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

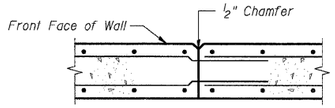
WALL PLAN & ELEVATION
IL ROUTE 47
CAR WASH RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 113+60.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	356
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

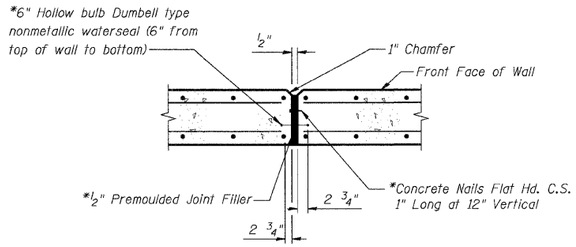
SHEET NO. 4
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CONSTRUCTION JOINT DETAIL



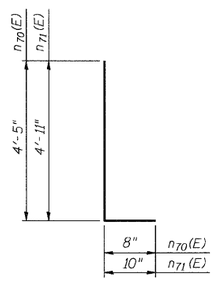
EXPANSION JOINT DETAIL
(Stem of Wall Only, Not In Footing)

* Cost Included With Concrete Structures

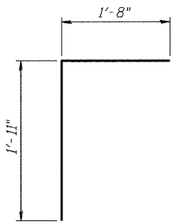
RETAINING WALL JOINT DETAILS

BILL OF MATERIAL

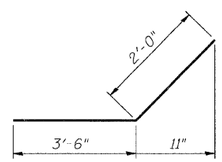
Bar	No.	Size	Length (ft)	Shape
h70(E)	26	#4	29'-8"	———
h71(E)	52	#4	31'-8"	———
n70(E)	186	#4	5'-1"	⌊
n71(E)	186	#5	5'-9"	⌊
t 70(E)	366	#4	5'-5"	———
v 70(E)	186	#4	4'-5"	———
v 71(E)	186	#5	4'-5"	———
w70(E)	36	#4	31'-2"	———
w71(E)	36	#4	31'-10"	———
w72(E)	6	#4	3'-7"	⌐
w73(E)	6	#4	5'-6"	⌐
Structure Excavation			Cu Yd	292
Concrete Structures			Cu Yd	94
Reinforcing Steel, Epoxy Coated			Pound	7,640



BARS n70(E) & n71(E)



BARS w72(E)



BARS w73(E)

DESIGNED	DSE
CHECKED	BG
DRAWN	TWK
CHECKED	BG
DATE:	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

WALL DETAILS & BAR SCHEDULE
IL ROUTE 47
CAR WASH RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 113+60.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	357
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 5
5 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

Wang Engineering, INC.
Consulting Geotechnical and Environmental Engineers
wangeng3@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

Page 1 of 1

BORING LOG RB-35

WEI Job No.: 630-02-01

Client: **Stanley Consultants, Inc.**
Project: **IL Route 47 from Reed Road to Kreutzer Road**
Location: **McHenry County, IL**

Datum: NAVD 88
Elevation: 891.26 ft
North: 2007768.51 ft
East: 958994.31 ft
Station: 114+49.63
Offset: 20.23 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	891.03	3-inch thick, brown SAND and GRAVEL --FILL--						
		Very stiff, black and brown CLAY LOAM --FILL--			1	7 6 4 7	2.50 P	13
					2	4 3 5 5	2.00 P	18
	886.3	Very stiff, black CLAY	5		3	3 3 7 9	2.50 P	13
	884.8	Stiff to very stiff, brown gravelly SILTY CLAY			4	2 2 5 7	1.00 P	19
	881.3		10		5	2 4 7 7	2.50 P	16
		Boring terminated at 10.00 ft						

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)

GENERAL NOTES

Begin Drilling: 08-27-2007 Complete Drilling: 08-27-2007
Drilling Contractor: Precon Drilling Drill Rig: CME-55 TMR
Driller: Kevin & Shaune Logger: Y. Shiu Checked by: W. Wang
Drilling Method: 3.25-inch IDA HSA; Boring backfill upon completion

WATER LEVEL DATA

While Drilling: DRY
At Completion of Drilling: DRY
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 630291.GPJ WANGENG.GDT 11/8/07

DESIGNED	DSE
CHECKED	DSE
DRAWN	TWK
CHECKED	DSE
DATE:	MAY 3, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 184-001533

SOIL BORING LOG RB-35
IL ROUTE 47
CAR WASH RETAINING WALL
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 113+60.00

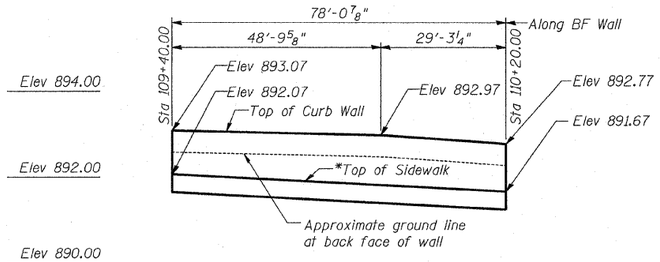
Benchmark: BM #12 Cut "□" on a Traffic Signal Base at the Northwest corner of Il Route 47 and Algonquin Road.
Elev = 893.714

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

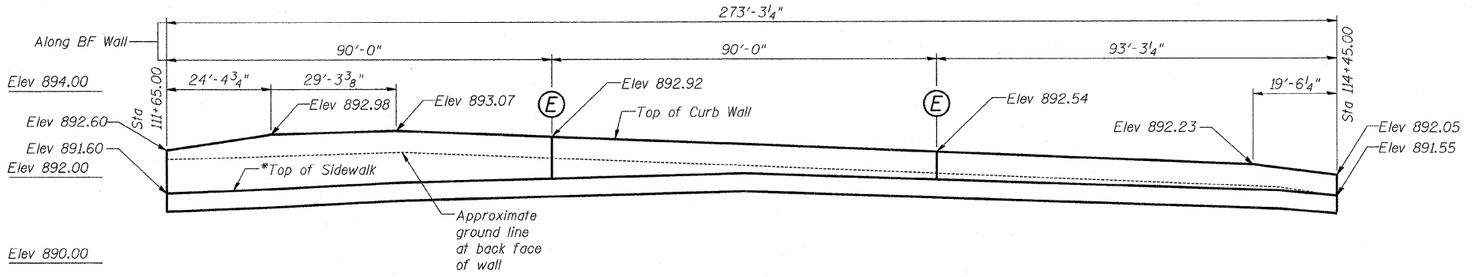
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	358
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
4 SHEETS

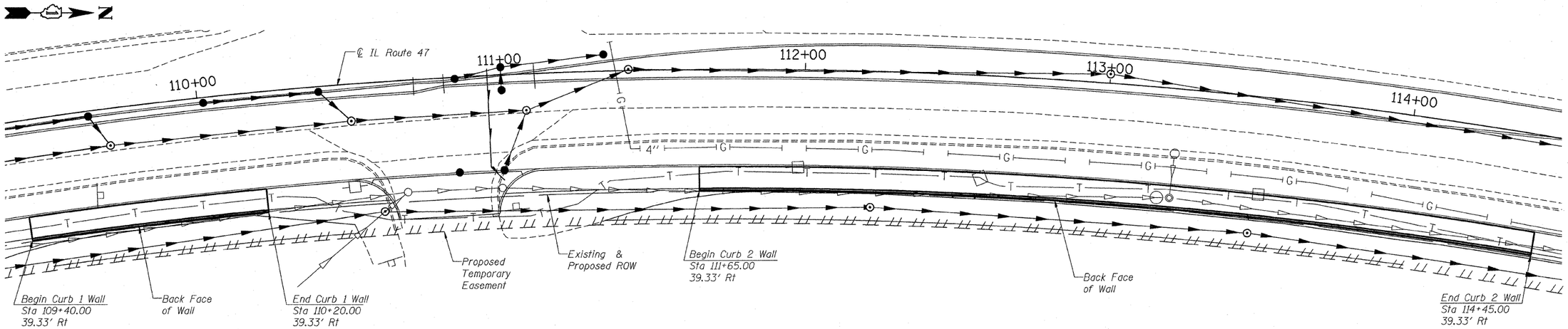
Contract No. 62882
★(105X & 106) WRS-2



CURB WALL 1



CURB WALL 2

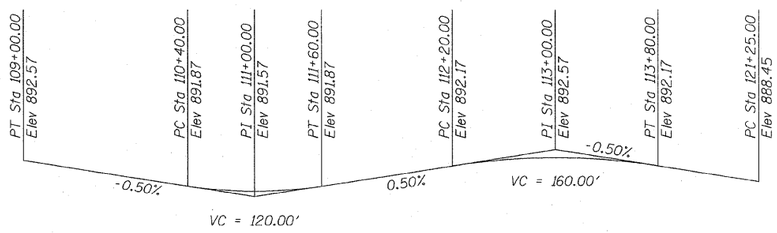


PLAN

HORIZONTAL CURVE DATA

(CURVE P-6)

Δ = 37° 26' 00" (Rt)
D = 3° 29' 59"
T = 554.66'
L = 1,069.58'
E = 26.97'
R = 1,637.10'
e = 0.034'
P.C. = Sta. 105+87.41
P.T. = Sta. 116+56.99
P.I. = Sta. 111+42.07



PROFILE GRADE IL ROUTE 47

LEGEND:

Ⓔ Expansion Joint in wall stem. (See Sheet 2 of 4 for detail)
4" 4" Existing Gas
Existing Storm drainage
Proposed Storm drainage
Existing Sign
Existing Power Pole

NOTE:

*Top of Sidewalk Elevation varies along length to match profile Grade Line. See Roadway drawings for details

DESIGN SPECIFICATIONS

AASHTO 2002 Standard Specification for Highway Bridges.

DESIGN STRESSES

f'c = 3,500 PSI
fy = 60,000 PSI
Maximum Allowable Soil Bearing Pressure = 2,000 PSF

DESIGNED	NDR
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE:	Aug. 5, 2009

STATE OF ILLINOIS
D. SCOTT ESHLEMAN
081-005155
CHICAGO
REGISTERED STRUCTURAL ENGINEER
EXPIRATION DATE: 11-30-2010
DATE: 8/5/09

Proposed Structure
R 7E
3rd PM
Reed Rd
Algonquin Rd
Huntley Rd
McHENRY
29
28
32
33
Twp. 43N
N

LOCATION SKETCH

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

GENERAL PLAN & ELEVATION
IL ROUTE 47
CURB WALLS 1 AND 2
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATIONS 109+80.00 & 113+05.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	359
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
4 SHEETS

Contract No. 62882
★(105X & 106) WRS-2

INDEX OF DRAWINGS

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
2. Cover from face of concrete to face of reinforcement bars shall be 2" unless otherwise shown.
3. Reinforcing bar bending dimensions are out to out.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Reinforcement bar splices shall be in accordance with the following table unless shown otherwise on the drawing.

Size	Minimum Lap
#4	1'-8"

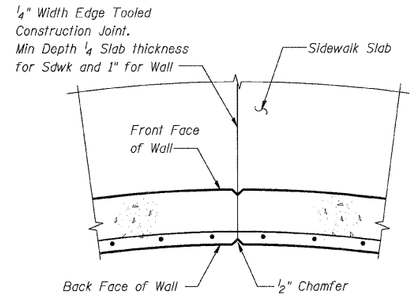
6. Construction joints in the curb wall shall match type, size and location of construction joints in the adjacent sidewalk slab and shall be spaced according to the standard specification for Portland Cement Concrete Sidewalk construction.
7. Welded Wire Fabric in accordance with material specification 1006.10 shall extend across all construction joints a minimum of 6 inches. Adjacent sectons of fabric reinforcement shall be lapped a minimum of 6 inches. This work shall be measured for payment in place and the area computed in square yards.

TOTAL BILL OF MATERIAL

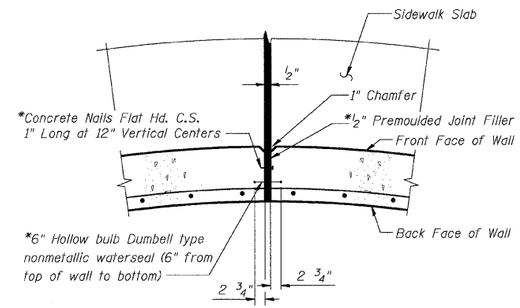
ITEM	UNIT	TOTAL
Reinforcement Bars, Epoxy Coated	Pound	1,230
Welded Wire Fabric, 6 x 6	Sq Yd	304.0
Concrete Structures	Cu Yd	53.0

LEGEND:

ROW = Right of Way

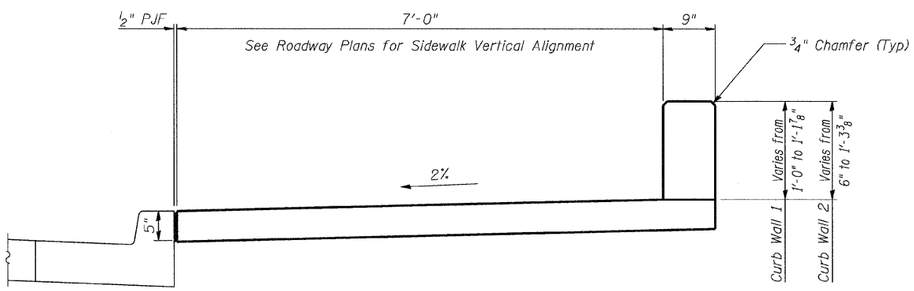


CONSTRUCTION JOINT DETAIL
(See Note 6)



EXPANSION JOINT DETAIL
Place Joint Filler in Stem of Wall and Sidewalk
* Cost Included With Concrete Structures

RETAINING WALL JOINT DETAILS



TYPICAL SECTION FOR CURB WALL 1 AND 2

DESIGNED	NDR
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE:	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

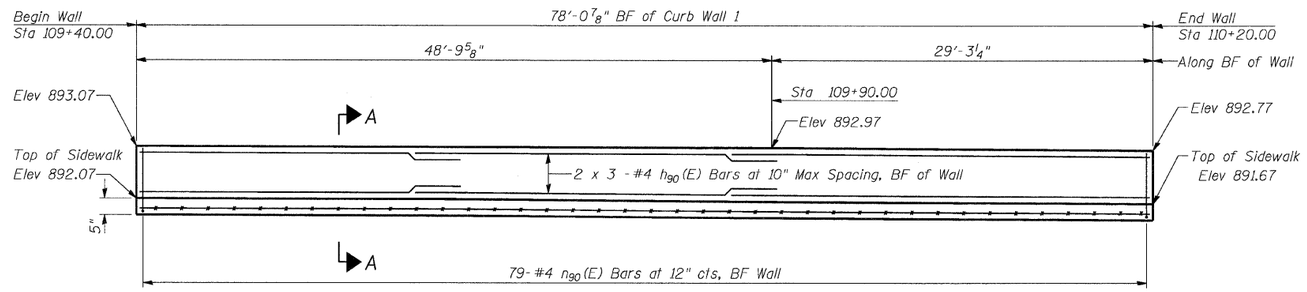
GENERAL NOTES & TOTAL BILL OF MATERIAL
IL ROUTE 47
CURB WALLS 1 AND 2
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATIONS 109+80.00 & 113+05.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

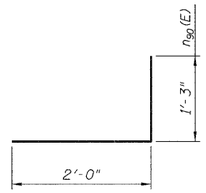
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	360
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3
4 SHEETS

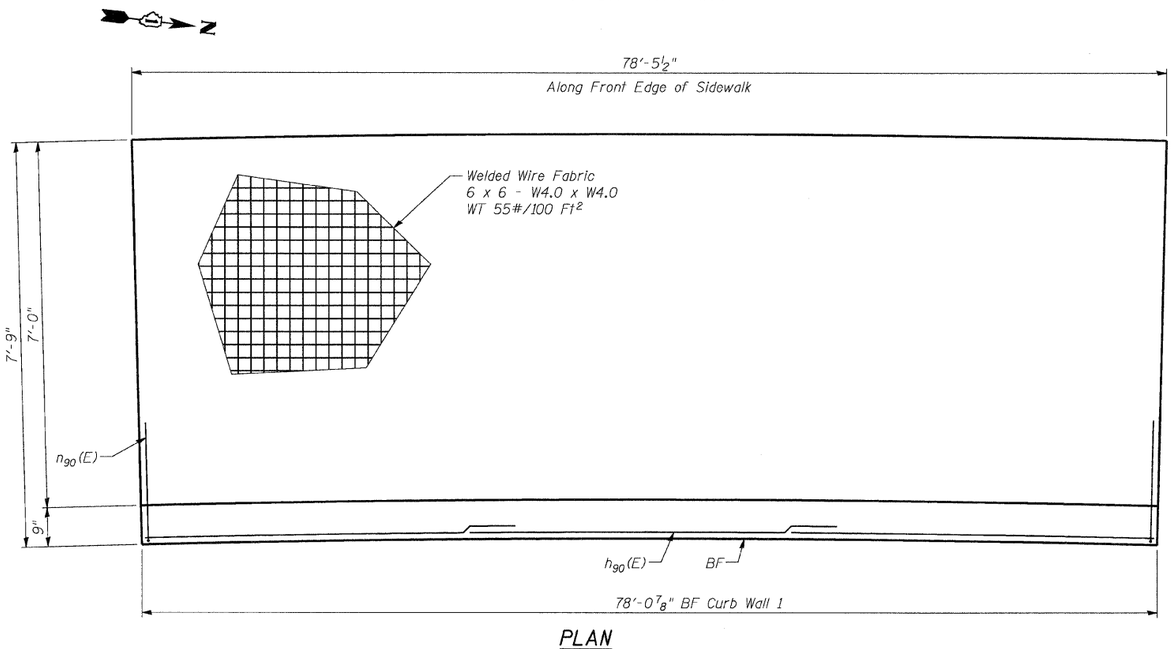
Contract No. 62882
★(105X & 106) WRS-2



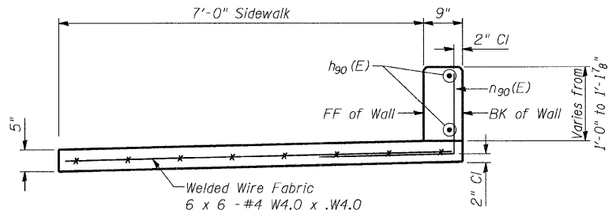
EAST ELEVATION
(At Back Face of Wall)



BAR $n_{90}(E)$



PLAN



SECTION A-A

*Tilt #4 Bars as required to prevent vertical leg from projecting out of curb.

BILL OF MATERIAL

Bar	No.	Size	Length (ft)	Shape
h90(E)	6	#4	27'-1"	———
n90(E)	79	#4	3'-3"	⌋
Reinforcement Bars, Epoxy Coated			Pound	280
Welded Wire Fabric, 6 x 6			SQ YD	68.0
Concrete Structures			CU YD	12.0

ABBREVIATION LIST

Bot	Bottom
BF	Back Face
cts	Centers
EF	Each Face
FF	Front Face
Ftg	Footing
Jt	Joint
Typ	Typical

MIN BAR LAP

#4 bars = 1'-8"

NOTES:

1. Top of Sidewalk varies along length to match profile gradeline. See Roadway Drawings for Details.
2. All Elevations taken to Top or Bottom of Wall.

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

DESIGNED	NDR
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE:	Aug. 5, 2009

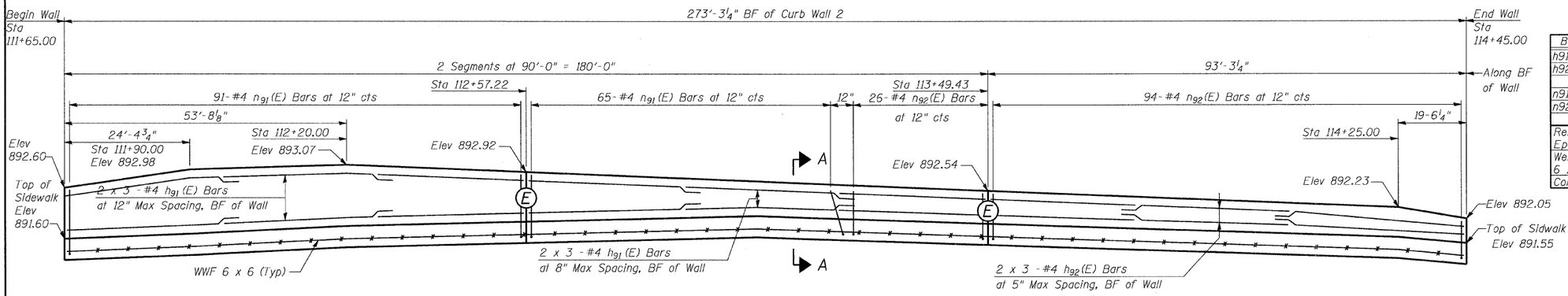
WALL PLAN & ELEVATION
IL ROUTE 47
CURB WALL 1
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 109+80.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

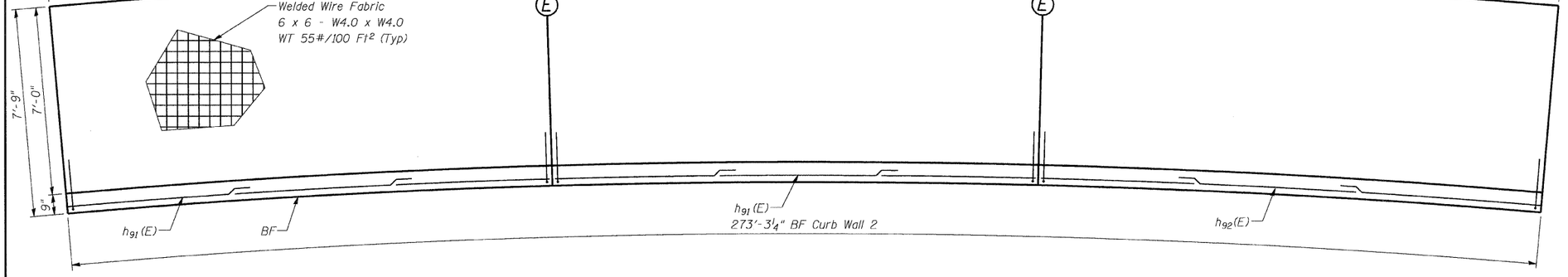
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 326	★	McHENRY	502	361
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 4
4 SHEETS

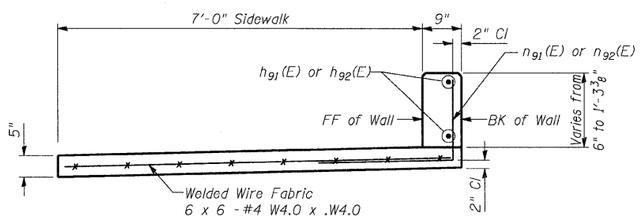
Contract No. 62882
★(105X & 106) WRS-2



EAST ELEVATION
(At Back Face of Wall)

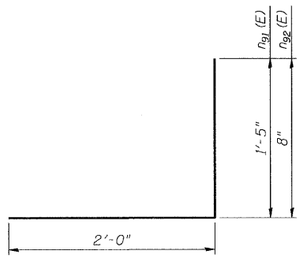


PLAN



SECTION A-A

*Tilt #4 Bars as required to prevent vertical leg from pojecting out of curb.



BARS $n_{91}(E)$ & $n_{92}(E)$

BILL OF MATERIAL

Bar	No.	Size	Length (ft)	Shape
h91(E)	12	#4	31'-0"	———
h92(E)	6	#4	32'-1"	———
n91(E)	156	#4	3'-5"	⌟
n92(E)	120	#4	2'-8"	⌟
Reinforcement Bars, Epoxy Coated			Pound	950
Welded Wire Fabric, 6 x 6			SQ YD	236.0
Concrete Structures			CU YD	41.0

ABBREVIATION LIST

Bot	Bottom
BF	Back Face
cts	Centers
EF	Each Face
FF	Front Face
Ftg	Footing
Jt	Joint
Typ	Typical

MIN BAR LAP
#4 bars = 1'-8"

NOTES:
All Stations taken at Back Face of Wall.

*Top of Sidewalk varies along length to match profile gradeline. See Roadway Drawings for Details.

(E) Expansion Joint in wall stem. (See Sheet 2 of 4 for Detail)

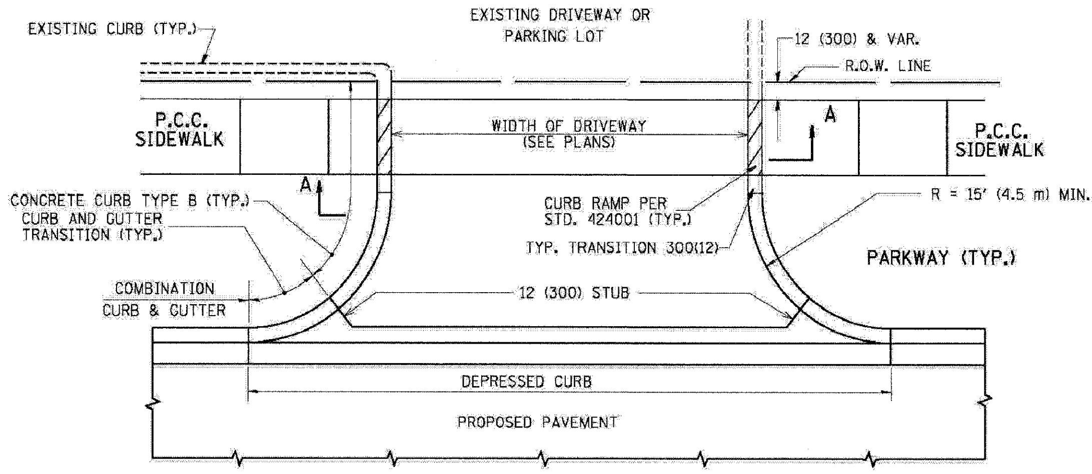
DESIGNED	NDR
CHECKED	DSE
DRAWN	RTT
CHECKED	DSE
DATE:	Aug. 5, 2009

Stanley Consultants INC.
8501 West Higgins Road, Suite 730, Chicago, Illinois 60631-2801
www.stanleyconsultants.com
Illinois Firm Registration No.: 1184-001533

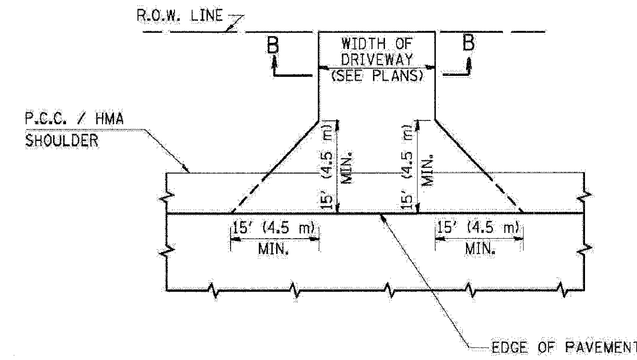
WALL PLAN & ELEVATION
IL ROUTE 47
CURB WALL 2
F.A.P. 326-SECT.(105X & 106) WRS-2
McHENRY COUNTY
STATION 113+05.00

CONTRACT NO. 62882

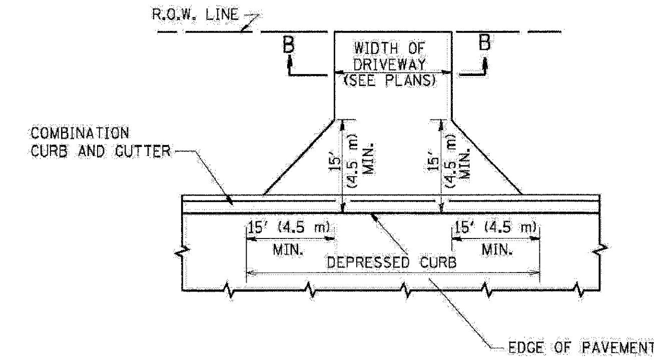
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	362
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



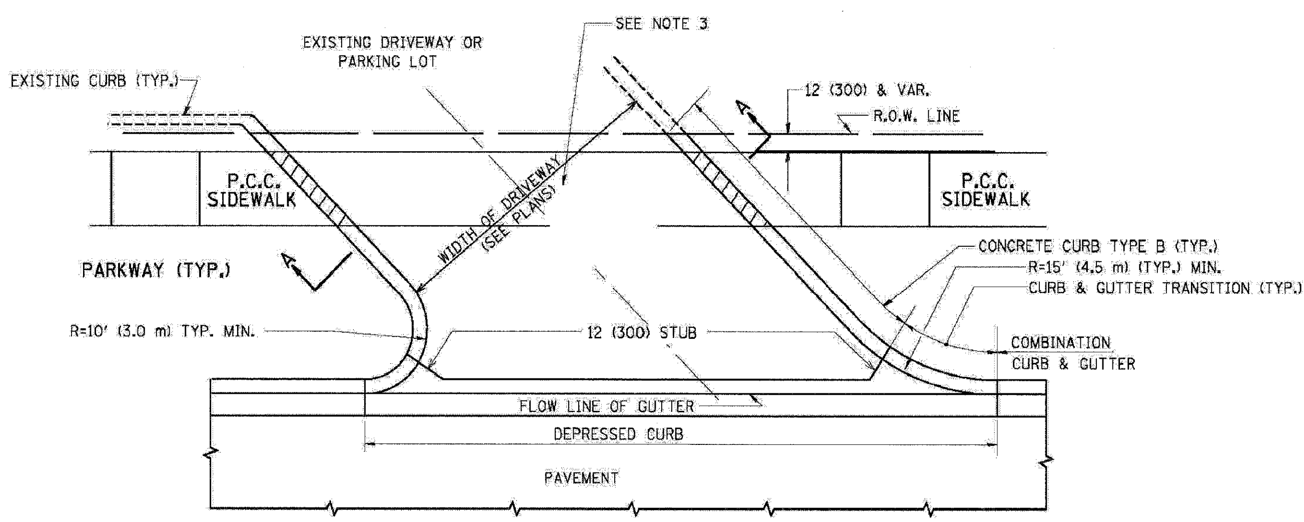
WITH CONCRETE CURB, TYPE B



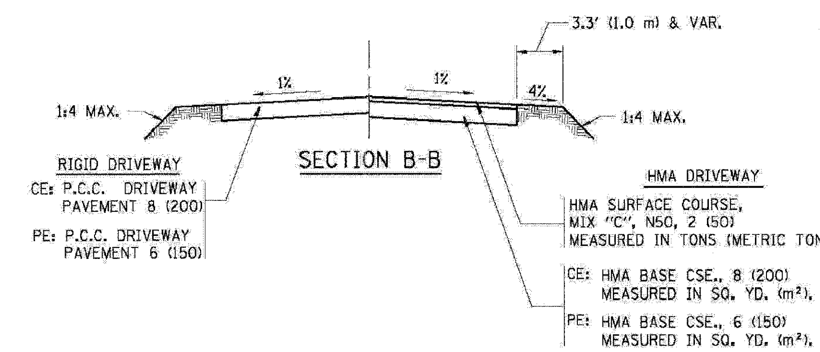
ADJACENT TO P.C.C. / HMA SHOULDER



ADJACENT TO CURB AND GUTTER



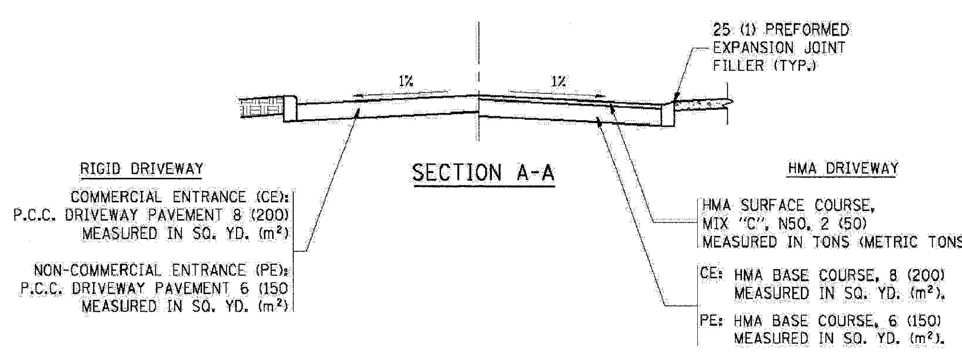
WITH CONCRETE CURB, TYPE B



RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE, MIX "C", N50, 2 (50) MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE CSE., TYPE A 8 (200) MEASURED IN SQ. YD. (m^2).



GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED

REVISIONS NAME	DATE
R. SHAH	11-04-95
J. POLLASTRINI	08-12-96
J. POLLASTRINI	12-14-96
A. ABBAS	03-21-97
T. HOLTZ	04-08-97
M. GOMEZ	04-06-01
P. LoFLEUR	04-15-03
R. BORO	01-01-07

ILLINOIS DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS DISTANCE BETWEEN R.O.W. AND FACE OF CURB & EDGE OF SHOULDER >= 15' (4.5 m)

SCALE: VERT. HORIZ. NONE

DRAWN BY

CHECKED BY

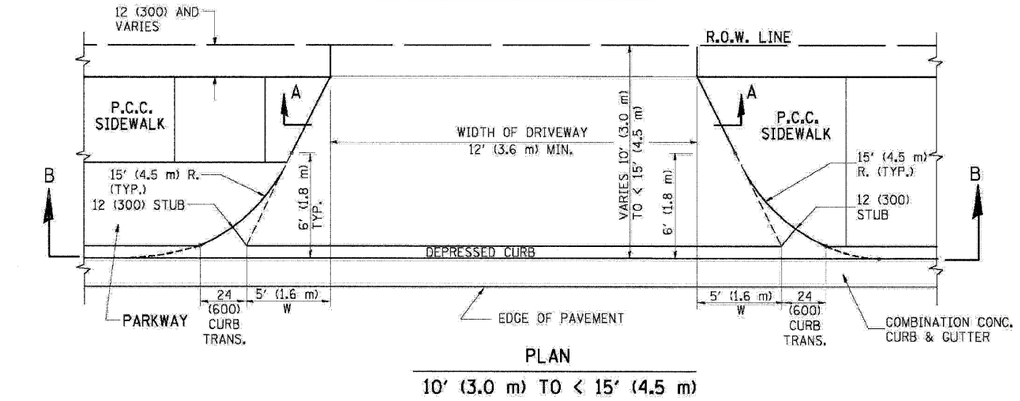
BD0156-07 (BD-01)

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\1-CADD\Dr-ants\362_bd01.dgn
PLOT SCALE = 1:1
USER NAME = 3830

PLOT DATE : 4/11/2007
FILE NAME : c:\proj\bd01.dgn
PLOT SCALE : 49.9999 ' / IN.
USER NAME : driveways

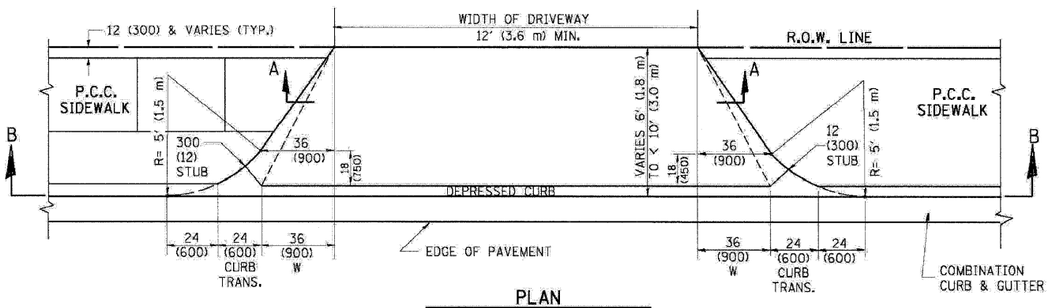
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	363
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



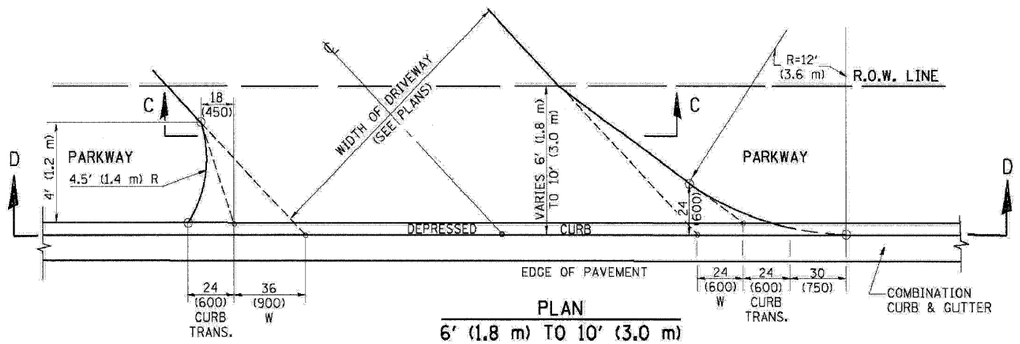
PLAN

10' (3.0 m) TO < 15' (4.5 m)



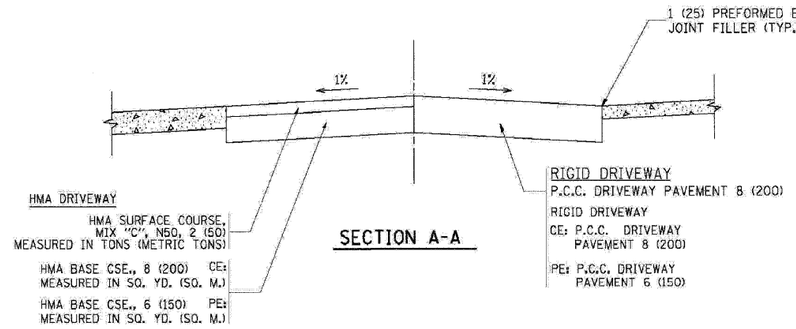
PLAN

6' (1.8 m) TO < 10' (3.0 m)

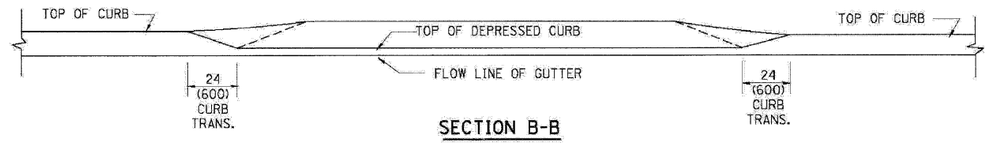


PLAN

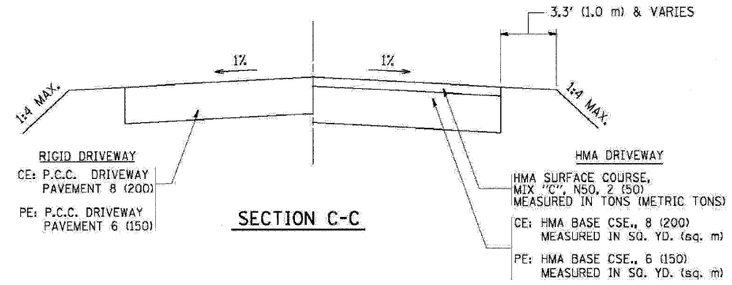
6' (1.8 m) TO 10' (3.0 m)



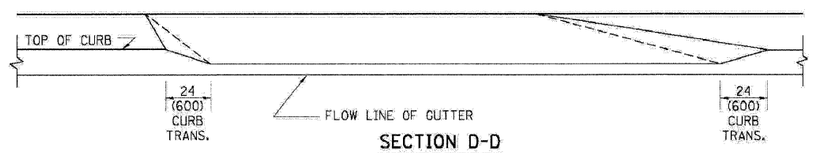
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

GENERAL NOTES

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATION 10 IN THE PERMIT HANDBOOK. WHERE SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED WITH RIGID PAVEMENT. WHERE NO SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED IN KIND. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

WHEN THE DISTANCE BETWEEN R.O.W. AND THE BACK OF CURB IS EQUAL TO OR LESS THAN 8' (2.4 m), THE P.C.C. SIDEWALK SHALL EXTEND TO THE BACK OF CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

THE 1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

"W" VARIES FROM 36 (900) TO 5' (1.5 m) PROPORTIONAL TO THE LENGTH (L), FROM 6' (1.8 m) TO 10' (3 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED.

REVISIONS	
NAME	DATE
R. SHAH	11/06/95
J. POLLASTRINI	08/12/96
J. POLLASTRINI	12/14/96
A. ABBAS	03/21/97
T. HOLTZ	04/08/97
M. GOMEZ	04/06/01
P. LaFLEUR	04/15/03
R. BORO	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS DISTANCE BETWEEN ROW AND FACE OF CURB < 15' (4.5 m)

SCALE: VERT. NONE HORIZ.

DRAWN BY

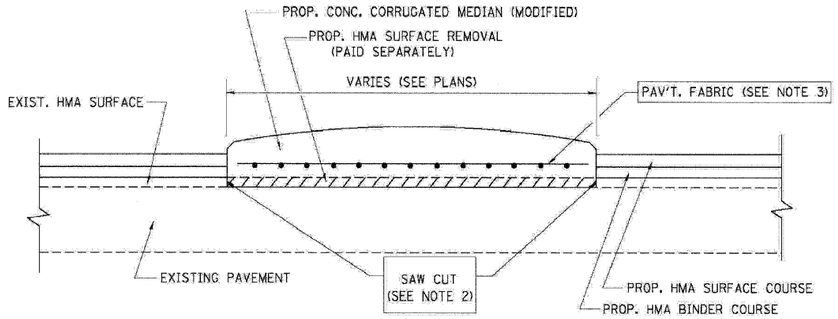
CHECKED BY

BD400-02 (BD-02)

PLOT DATE = Wednesday August 05, 2009
FILE NAME = S:\IT-CADD\01-sht\363_bd402.dgn
PLOT SCALE = 1:1
USER NAME = 3838

CONTRACT NO. 62882

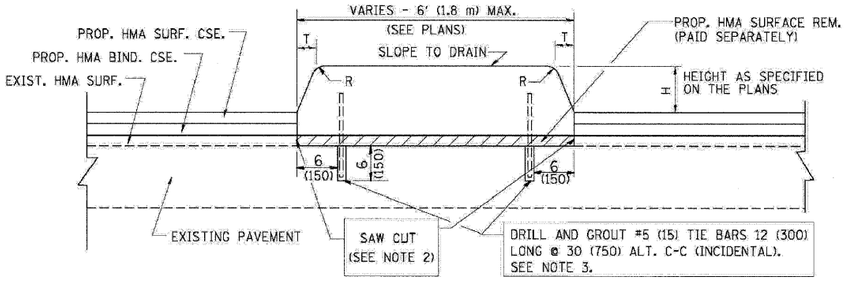
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	364
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTES:
1. CORRUGATED MEDIAN (MODIFIED) SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE PORTIONS OF STATE STANDARD 606306.
2. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY DELETE THE SAW CUT IF A NEAT JOINT CAN BE OBTAINED BY MILLING THE HMA SURFACE TO BE REMOVED. SAW CUT WILL BE INCLUDED IN THE COST OF CORRUGATED MEDIAN (MODIFIED)
3. PAVEMENT FABRIC WILL BE INCLUDED IN THE COST OF CORRUGATED MEDIAN (MODIFIED)

DETAILS FOR CORRUGATED MEDIAN (MODIFIED)

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT (SQUARE METER) FOR "CORRUGATED MEDIAN (MODIFIED)"



H	R	T
6(150)	1(25)	1(25)
9(225)	1(25)	2(50)

NOTES:
1. CONCRETE MEDIAN TYPE SB (DOWELLED) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF STATE STANDARD 606301 AND SECTION 606 OF THE STANDARD SPECIFICATIONS.
2. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY DELETE THE SAW CUT IF A NEAT JOINT CAN BE OBTAINED BY MILLING THE HMA SURFACE TO BE REMOVED. SAW CUT WILL BE INCLUDED IN THE COST OF "CONCRETE MEDIAN TYPE SB (DOWELLED)"
3. FOR MEDIAN WIDTH LESS THAN 4' (1.2 m) USE ONE ROW OF #5 (15) BARS @ 30 (750) C-C ALONG THE MEDIAN CENTERLINE. TIE BARS WILL BE INCLUDED IN THE COST OF "CONCRETE MEDIAN TYPE SB (DOWELLED)"

DETAILS FOR CONCRETE MEDIAN TYPE SB (DOWELLED)

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT (SQUARE METER) FOR "CONCRETE MEDIAN TYPE SB (DOWELLED)"

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
M. DE YONG	05/14/90
M. DE YONG	06/13/90
M. DE YONG	06/14/90
M. DE YONG	06/20/90
M. DE YONG	09/21/90
M. DE YONG	10/12/90
R. SHAH	09/09/94
R. SHAH	10/25/94
E. GOMEZ	08/28/00
R. BORO	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETAILS FOR CONCRETE MEDIAN TYPE SB (DOWELLED) CORRUGATED MEDIAN (MODIFIED)

SCALE: VERT. NONE HORIZ.

DRAWN BY

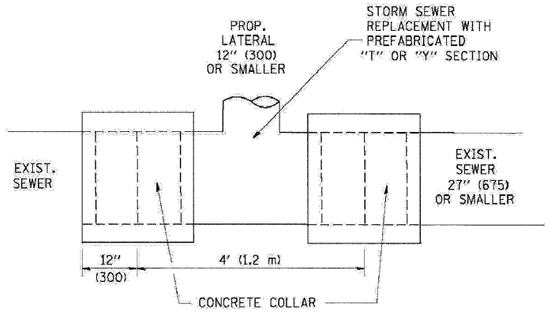
CHECKED BY

BD600-02 (BD-5)

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\364_bd05.dgn
PLOT SCALE = 1:1
USER NAME = 3838

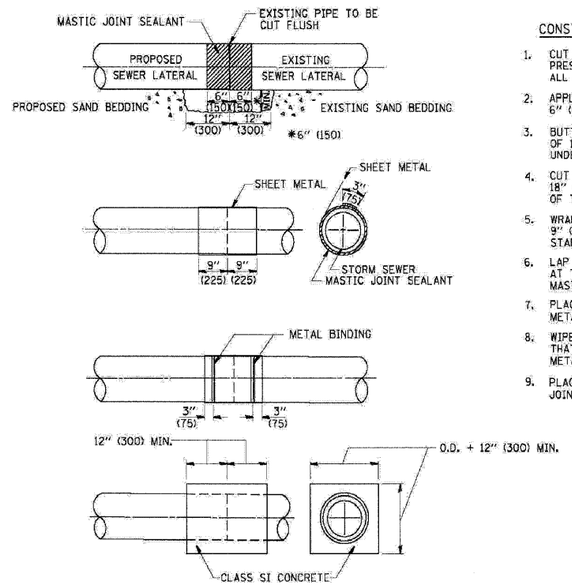
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	365
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DETAIL "A"

LATERAL CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER

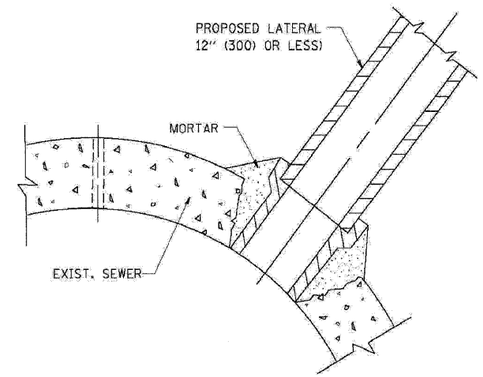


DETAIL "B"

CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12" x 6" (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERANCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



DETAIL "C"

PROPOSED LATERAL CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER

NOTES

MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

CONSTRUCTION METHODS

I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.

II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:

A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".

B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS, THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
M. DE YONG	07/25/90
M. DE YONG	02/05/92
M. DE YONG	05/08/92
R. SHAH	09/09/94
R. SHAH	10/25/94
R. SHAH	06/12/98

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER

SCALE: VERT. NONE HORIZ.

DRAWN BY

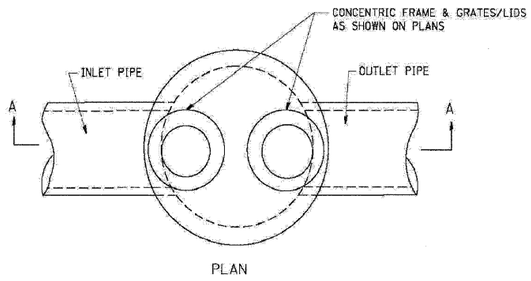
CHECKED BY

BD500-01 (BD-7)

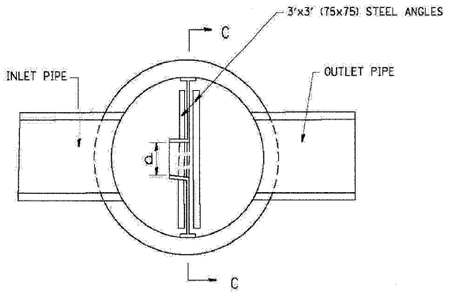
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-win\365_bd07.dgn
PLOT SCALE = 1:1
USER NAME = 3838

CONTRACT NO. 62882

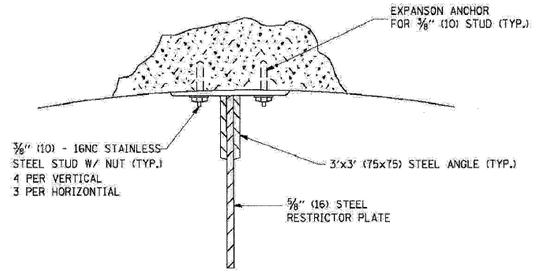
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	366
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



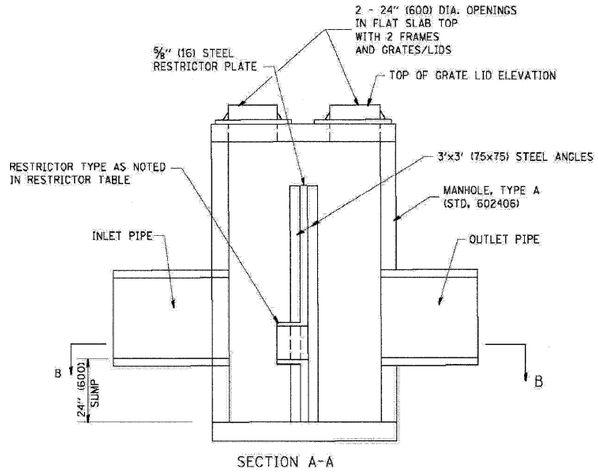
PLAN



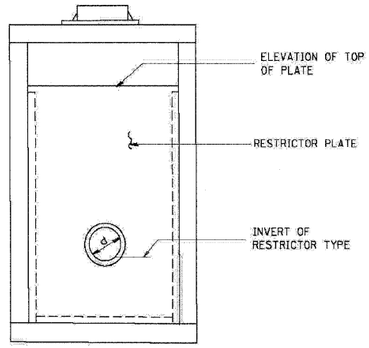
SECTION B-B



ANGLE FASTENER DETAIL



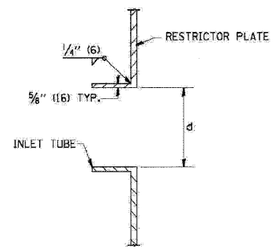
SECTION A-A



SECTION C-C

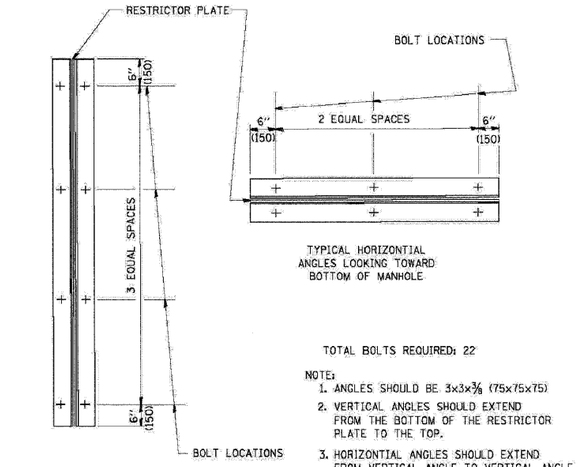
NOTES:

1. ALL STEEL ANGLES AND PLATES TO BE GALVANIZED AFTER FABRICATION.
2. ALL RESTRICTOR PLATES, ANGLES AND HARDWARE TO BE INCLUDED IN THE COST OF THE MANHOLE.
3. BASIS OF PAYMENT: "MANHOLES ,TYPE A, 6 FT. (1.8 m)-DIAMETER, TYPE 1 FRAME, CLOSED LID, RESTRICTOR PLATE" EACH



INLET TUBE DETAIL

STATION	MANHOLE DIAMETER	FRAME AND GRATE	RESTRICTOR TYPE	INSIDE RESTRICTOR TYPE DIAMETER in. (mm) (d)	INVERT OF RESTRICTOR TYPE	ELEVATION OF TOP OF PLATE OVERFLOW



TYPICAL VERTICAL ANGLES LOOKING TOWARD MANHOLE WALL

TYPICAL HORIZONTIAL ANGLES LOOKING TOWARD BOTTOM OF MANHOLE

TOTAL BOLTS REQUIRED: 22

NOTE:

1. ANGLES SHOULD BE 3x3x3/8 (75x75x75)
2. VERTICAL ANGLES SHOULD EXTEND FROM THE BOTTOM OF THE RESTRICTOR PLATE TO THE TOP.
3. HORIZONTIAL ANGLES SHOULD EXTEND FROM VERTICAL ANGLE TO VERTICAL ANGLE.

STEEL ANGLE BOLTING DETAILS

RESTRICTOR TYPE					
1	2	3	4	5	6
RE-ENTRANT TUBE	SHARP EDGED	SQUARE EDGED	RE-ENTRANT TUBE	SQUARE EDGED	ROUNDED
LENGTH: 1/2 TO 1 DIA.		STREAM CLEARS SIDES	LENGTH: 2-1/2 DIA.	LENGTH: 2-1/2 DIA.	
C=.52	C=.61	C=.61	C=.73	C=.82	C=.98

VALUES OF "C" FOR CIRCULAR AND SQUARE ORIFICES

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
R. SHAH	09/09/94
R. SHAH	10/25/94
E. GOMEZ	08/28/00
M. GOMEZ	01/08/01

ILLINOIS DEPARTMENT OF TRANSPORTATION

MANHOLE WITH RESTRICTOR PLATE

SCALE: VERT. NONE HORIZ.

DRAWN BY

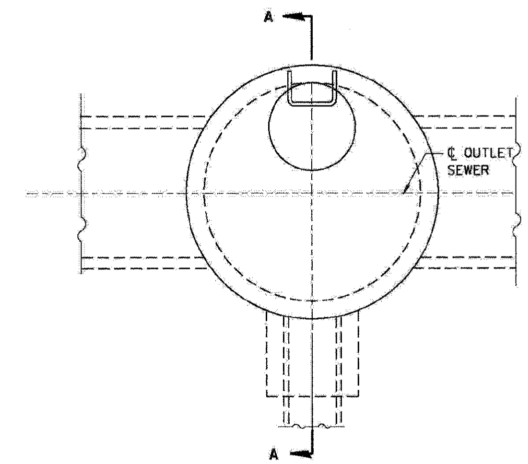
CHECKED BY

BD600-04 (BD-12)

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-ahr\366.bd12.dgn
PLOT SCALE = 1/1
USER NAME = 3838

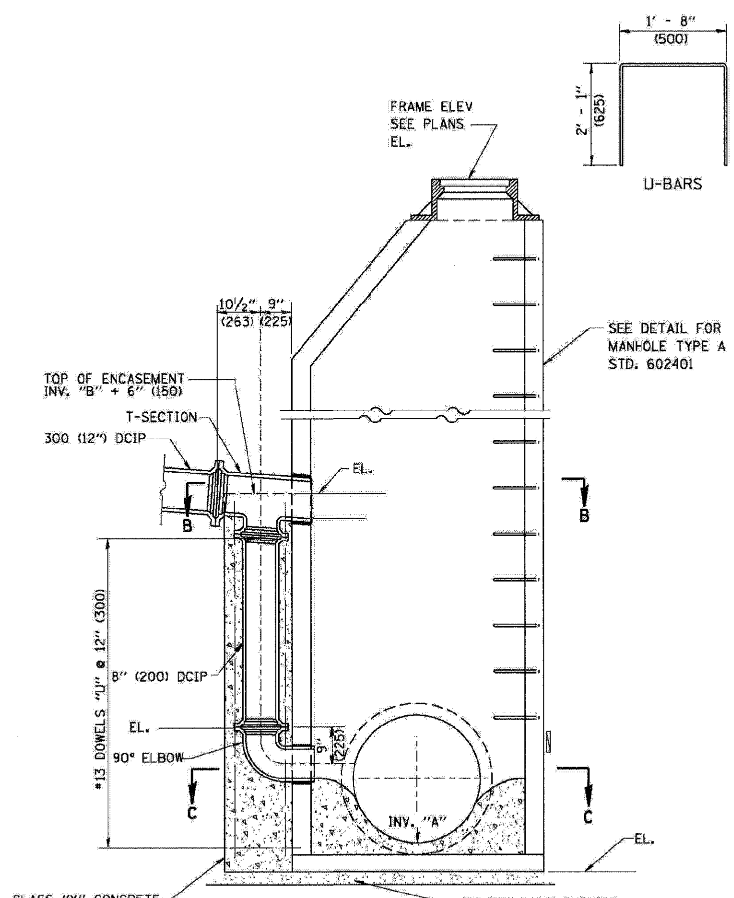
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	366A
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

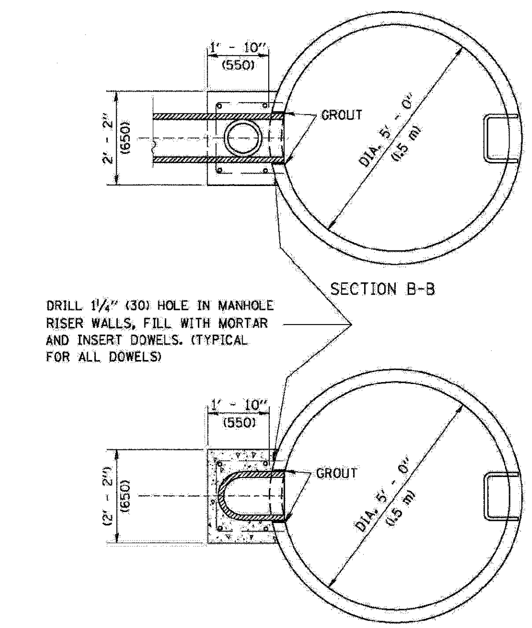


PLAN
FOR LOCATION SEE DRAINAGE PLANS

ENCASEMENT DETAILS				
DROP M.H. LOCATION STA., OFFSET				
INV. "A"				
INLET PIPE				
INV. "B"				
INV. "C"				
A				
B				
"V" BAR LENGTH				
NO. OF "U" BARS				
REINF. BARS				
CLASS "SI" CONC. CUBIC METER (CU. YD.)				



SECTION A-A



SECTION C-C

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
UNLESS OTHERWISE SHOWN

TYPE A1-1 MANHOLE WITH 1 DROP AND DEPTH UP TO 10' (3 m)
TYPE A1-2 " " 1 " " " FROM 10' TO 15' (3 m TO 1.5 m)
TYPE A1-3 " " 1 " " " FROM 15' TO 20' (1.5 m TO 6 m)
TYPE A1-4 " " 1 " " " OVER 20' (6 m)

TYPE A2-1 MANHOLE WITH 2 DROPS AND DEPTH UP TO 10' (3 m)
TYPE A2-2 " " 2 " " " FROM 10' TO 15' (3 m TO 1.5 m)
TYPE A2-3 " " 2 " " " FROM 15' TO 20' (1.5 m to 6 m)
TYPE A2-4 " " 2 " " " OVER 20' (6 m)

REVISIONS	
NAME	DATE
	10/18/02

ILLINOIS DEPARTMENT OF TRANSPORTATION

DROP MANHOLE DETAILS

SCALE: VERT. HORIZ. NONE

DRAWN BY
CHECKED BY

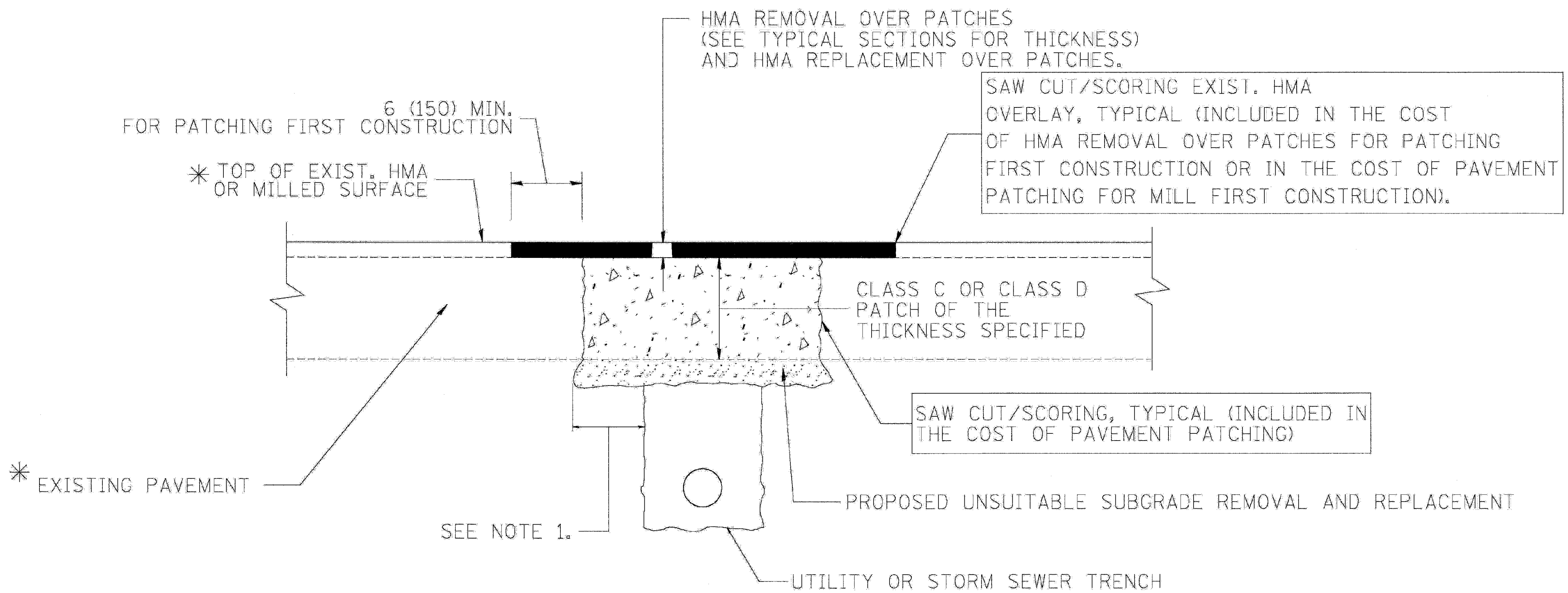
BD600-05 (BD-16)

PLOT DATE = Friday, August 07, 2009
FILE NAME = S:\11-CADD\01-sht\366A_bd16.dgn
PLOT SCALE = 1:1
USER NAME = 3830

37
std\bd16.dgn
' / IN.

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	366B
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

NOTES:

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

1. MILL HMA FIRST IF THERE IS AT LEAST $4\frac{1}{2}$ INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS NAME	DATE
R. SHAH	01/14/95
R. SHAH	03/23/95
R. SHAH	04/24/95
A. HOUSEH	03/15/96
A. ABBAS	03/21/97
A. ABBAS	01/20/98
ART ABBAS	04/27/98
R. BORO	01/01/07
R. BORO	09/04/07
K. ENG	10/27/08

ILLINOIS DEPARTMENT OF TRANSPORTATION

PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT

SCALE: VERT. HORIZ. NONE

DRAWN BY

CHECKED BY

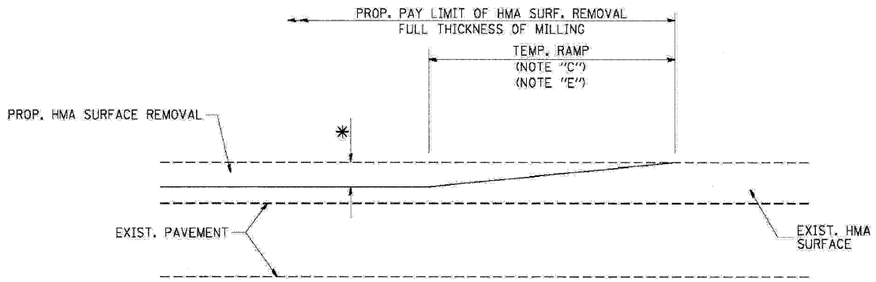
BD400-04 (BD-22)

PLOT DATE = 10/27/2008
FILE NAME = c:\projects\diststd24x36\bd22.dgn
PLOT SCALE = 50.000 ' / IN.
USER NAME = bauerdl

PLOT DATE = Friday, August 07, 2009
FILE NAME = S:\11-CADD\01-sht\366B_bd22.dgn
PLOT SCALE = 1:1
USER NAME = 3830

CONTRACT NO. 62882

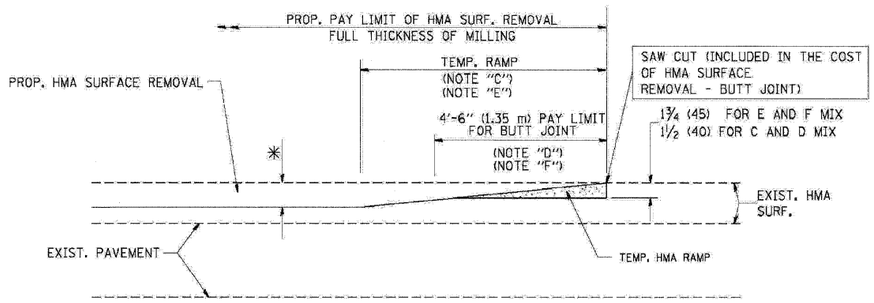
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	367
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

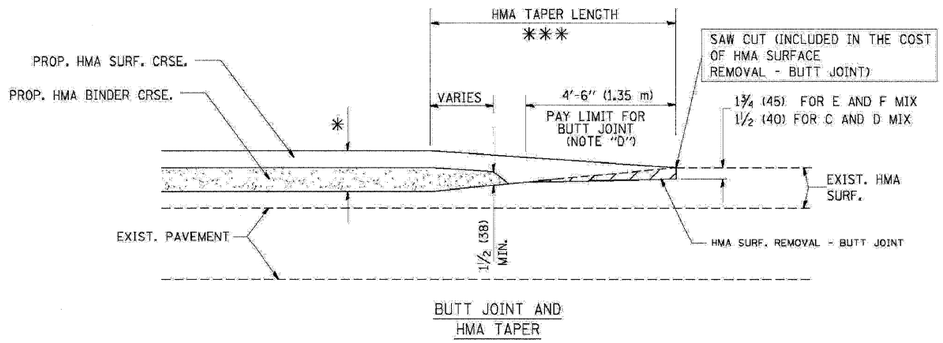


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

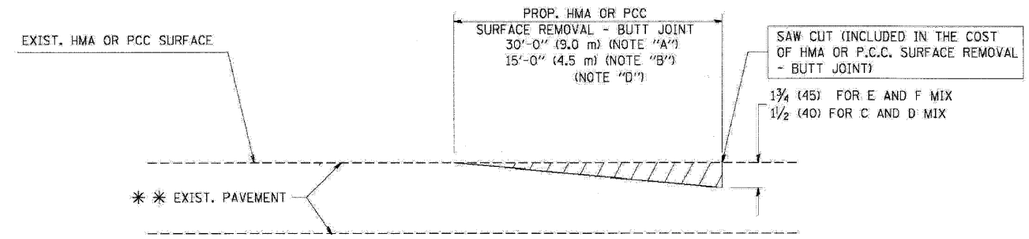
OPTION 2

TYPICAL TEMPORARY RAMP

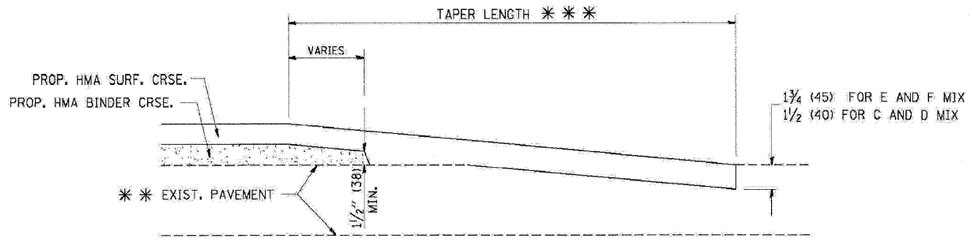


BUTT JOINT AND HMA TAPER

TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.

B: MINOR SIDE ROADS.

C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.

D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.

E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.

F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT

G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".

* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

*** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".

REVISIONS	
NAME	DATE
M. DE YONG	6-13-90
M. DE YONG	7-3-90
M. DE YONG	3-27-92
R. SHAH	09/09/94
R. SHAH	10/25/94
A. ABBAS	03/21/97
M. GOMEZ	04/06/01
R. BORO	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND HMA TAPER DETAILS

SCALE: VERT. NONE HORIZ.

DRAWN BY

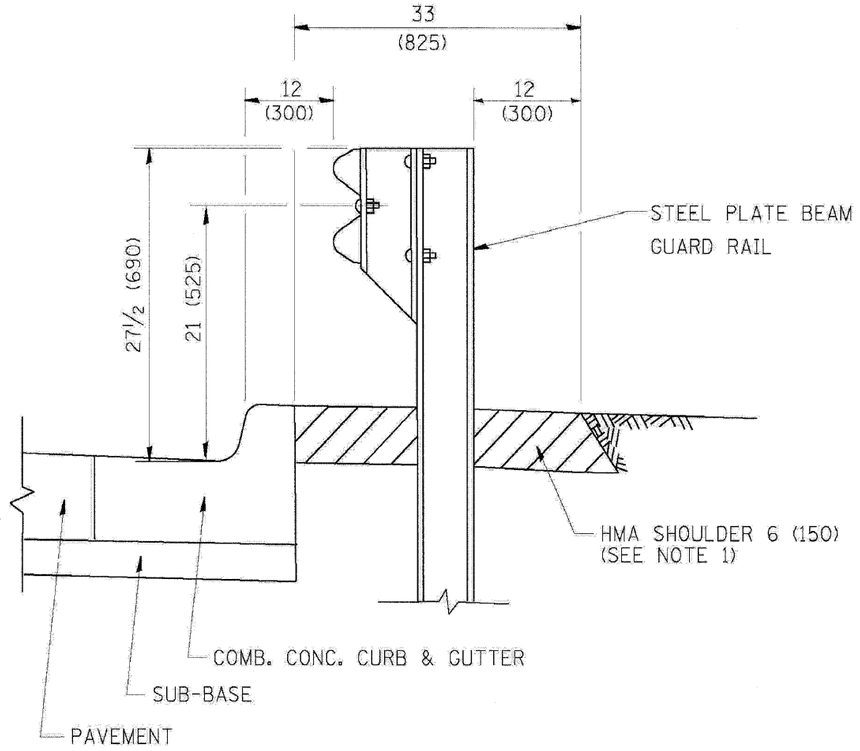
CHECKED BY

BD400-05 (VI=BD32)

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = s:\11-CADD\01-sht\367.bd32.dgn
PLOT SCALE = 1i
USER NAME = 3838

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	368
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



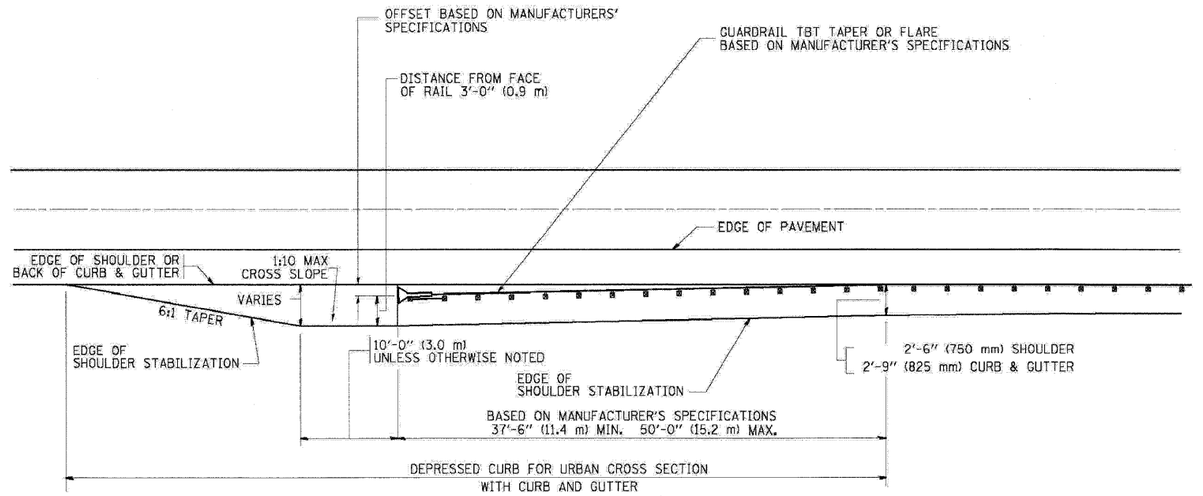
NOTES: 1. THE HMA SHOULDER SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL

2. GUARD RAIL MAY BE PLACED AT THE BACK OF CURB WHEN DIRECTED BY THE ENGINEER.

BASIS OF PAYMENT: HMA SHOULDER 6 (150) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDER 6" (150 mm)".

STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER [FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



STABILIZATION AT TBT TY. 1 SPL.

TBT = TRAFFIC BARRIER TERMINAL

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
M. DE YONG	09-22-90
M. DE YONG	07-14-92
R. SHAH	09/09/94
R. SHAH	10/25/94
R. SHAH	02/23/95
A. ABBAS	03/21/97
E. GOMEZ	08/28/00
R. BORO	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER STABILIZATION AT TBT TY 1 SPL.

SCALE: VERT. NONE HORIZ. NONE

DRAWN BY jls

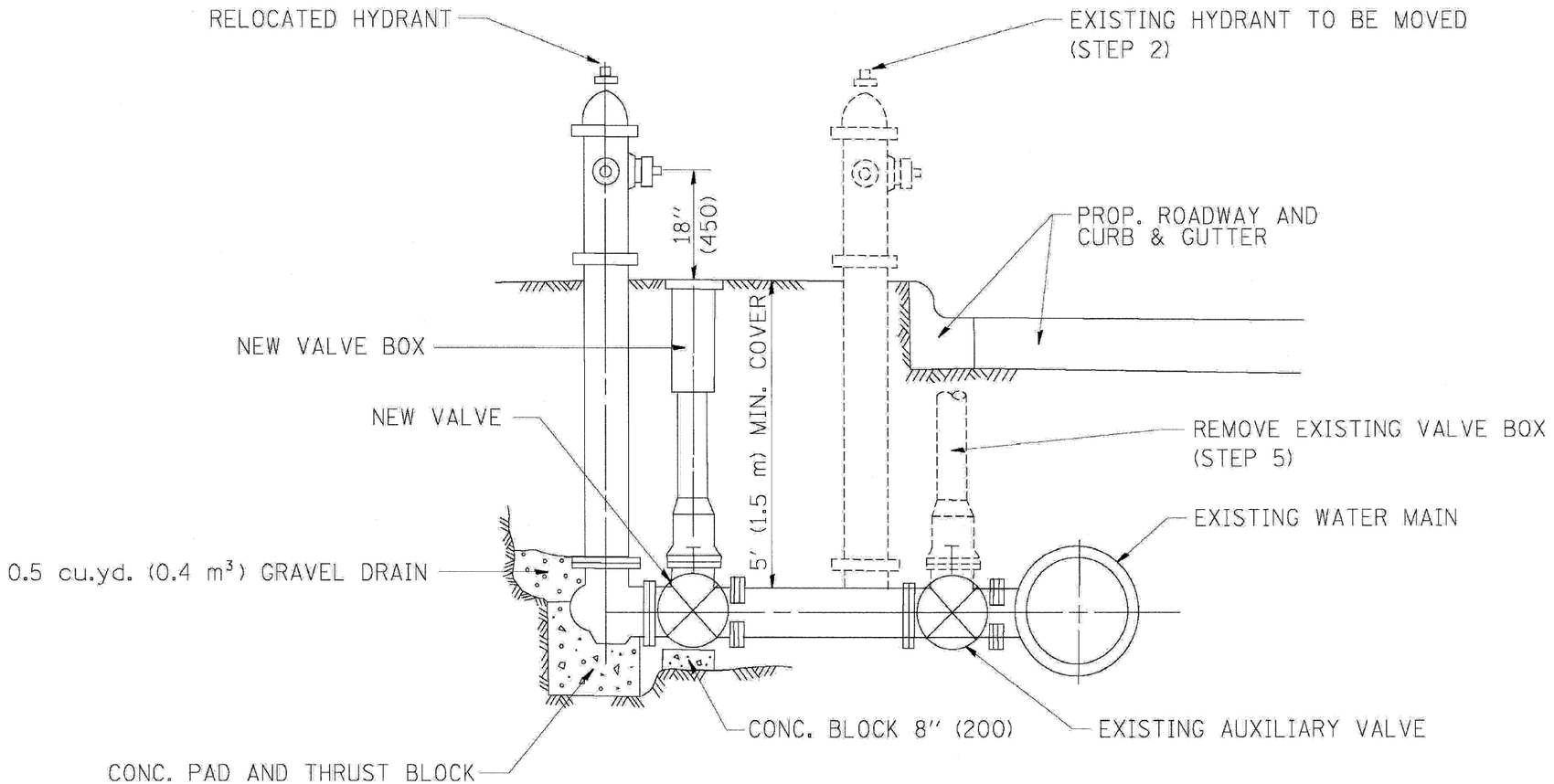
CHECKED BY

BD600-10 (BD 34)

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\21-arh\368_bd34.dgn
PLOT SCALE = 1:1
USER NAME = 3838

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	369
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SEQUENCE OF CONSTRUCTION:

1. CLOSE EXISTING VALVE.
2. REMOVE EXISTING HYDRANT.
3. INSTALL HYDRANT EXTENSION AND NEW VALVE.
4. RELOCATE EXISTING HYDRANT.
5. OPEN EXISTING VALVE, REMOVE BOX.
6. BACKFILL.
7. FLUSH AND TEST FOR CHLORIDE RESIDUAL AND PROVIDE TEST.

ALL WORK TO BE DONE IN ACCORDANCE WITH ARTICLE 564 OF THE STANDARD SPECIFICATIONS. NEW VALVE AND BOX SHALL BE SAME MAKE AND MODEL AS EXISTING.

FIRE HYDRANT TO BE MOVED

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS NAME	DATE
R. SHAH	09/09/94
R. SHAH	10/25/94

ILLINOIS DEPARTMENT OF TRANSPORTATION

FIRE HYDRANT TO BE MOVED

SCALE: VERT. NONE HORIZ.

DRAWN BY

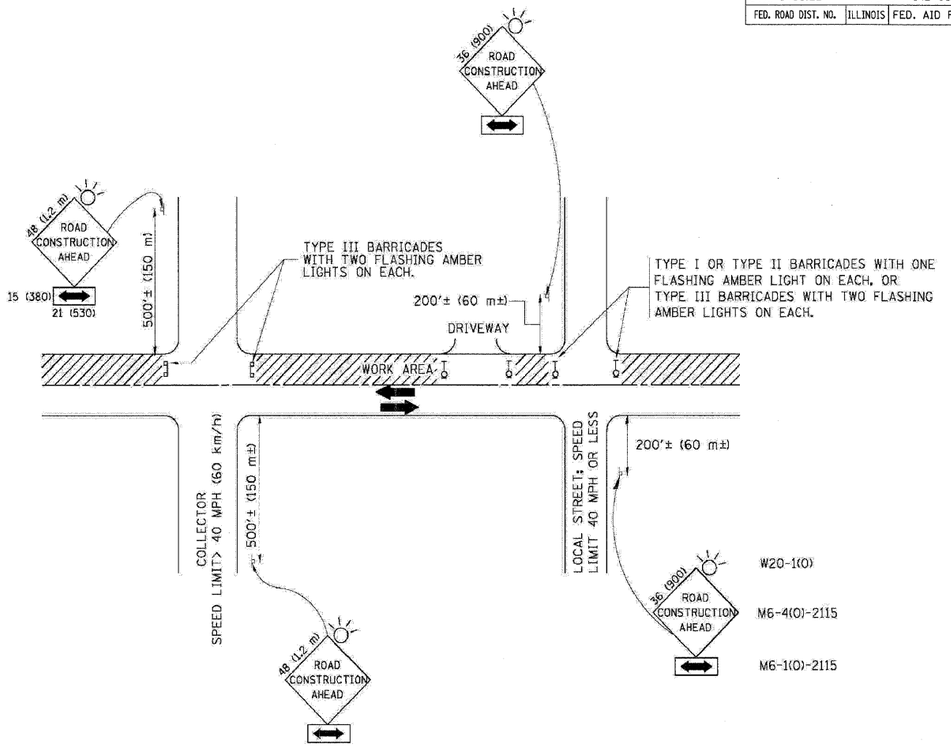
CHECKED BY

BD500-03 (BD-36)

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\81-ain\369_bd36.dgn
PLOT SCALE = 1:1
USER NAME = 3630

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	370
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in millimeters (inches) unless otherwise shown.

REVISIONS	
NAME	DATE
LHA	6/89
T. RAMMACHER	09/08/94
J. OBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE

DRAWN BY

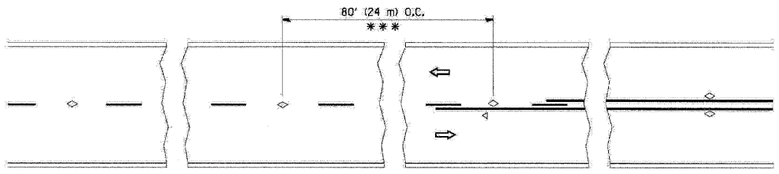
CHECKED BY

TC-10

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-srv\378_tc10.dgn
PLOT SCALE = 1:1
USER NAME = 3838

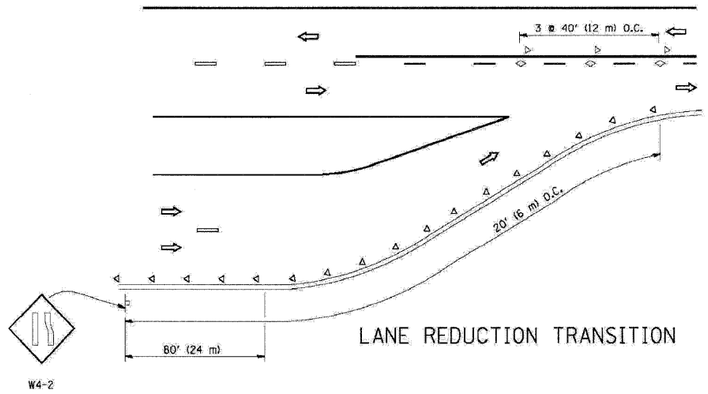
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	371
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

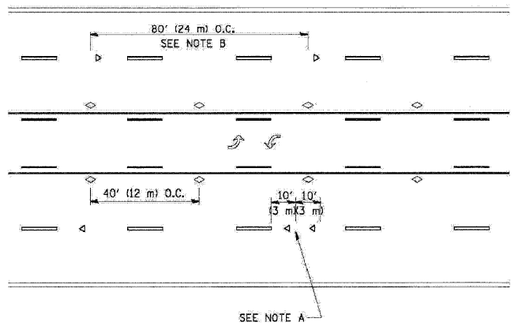


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

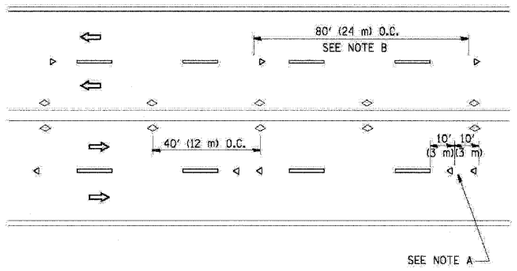
TWO-LANE/TWO-WAY



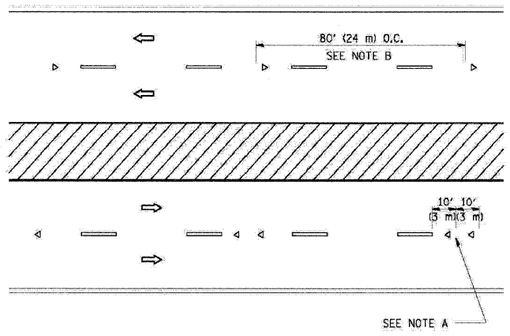
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

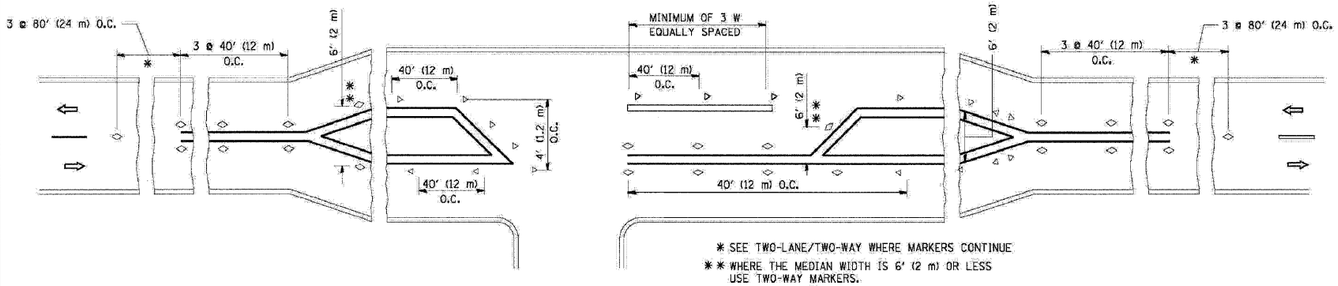
LANE MARKER NOTES

B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

LEFT TURN

All dimensions are in inches (millimeters) unless otherwise shown.

REVISIONS	
NAME	DATE
T. RAMMACHER	09-19-94
T. RAMMACHER	03-12-99
T. RAMMACHER	01-06-00

ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

SCALE: NONE

DRAWN BY CADD

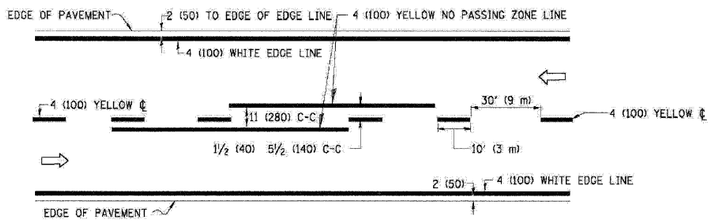
CHECKED BY

TC-11

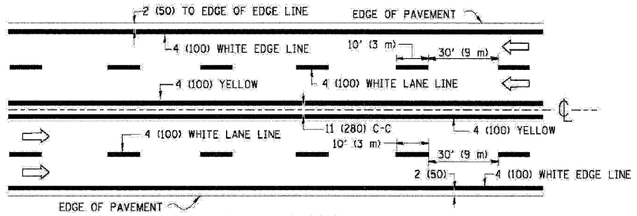
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = s:\11-CADD\01-sht\371_tc11.dgn
PLOT SCALE = 1i
USER NAME = 38530

CONTRACT NO. 62882

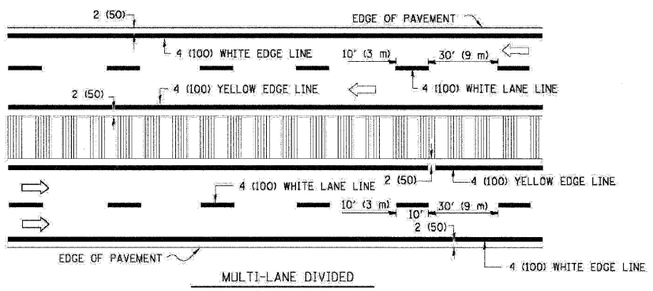
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	372
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



2-LANE ROADWAY



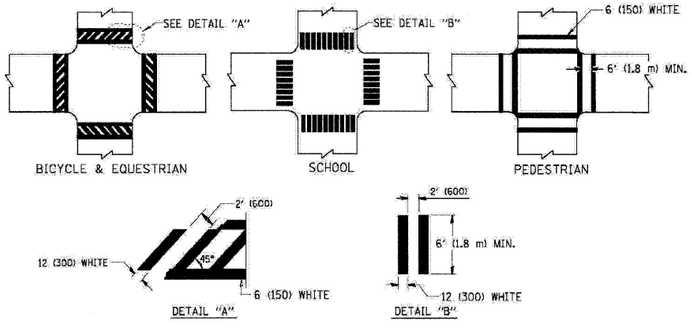
MULTI-LANE UNDIVIDED



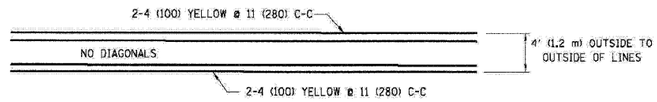
MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

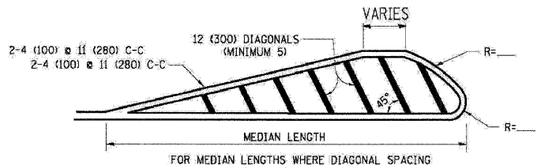
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING



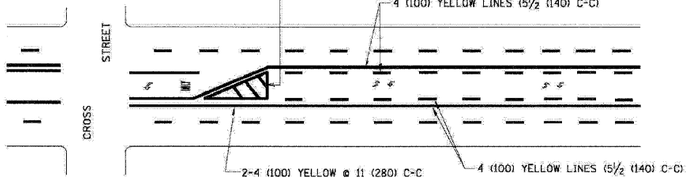
4' (1.2 m) WIDE MEDIANS ONLY



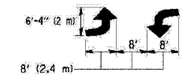
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

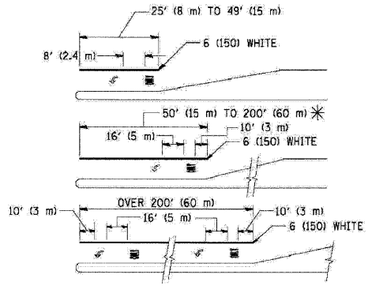


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

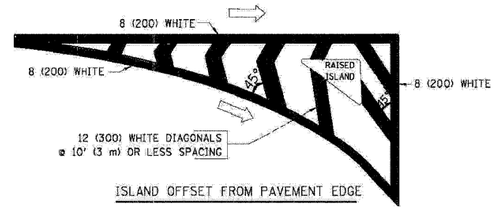


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m^2) ONLY AREA = 20.8 SQ. FT. (1.9 m^2)

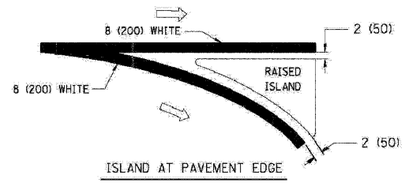
✳ TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVEDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT; OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
CORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

REVISIONS	
NAME	DATE
EVERS	03-19-90
T. RAMMACHER	10-27-94
ALEX HOUSEH	10-09-96
ALEX HOUSEH	10-17-96
T. RAMMACHER	01-06-00

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE

DRAWN BY CADD

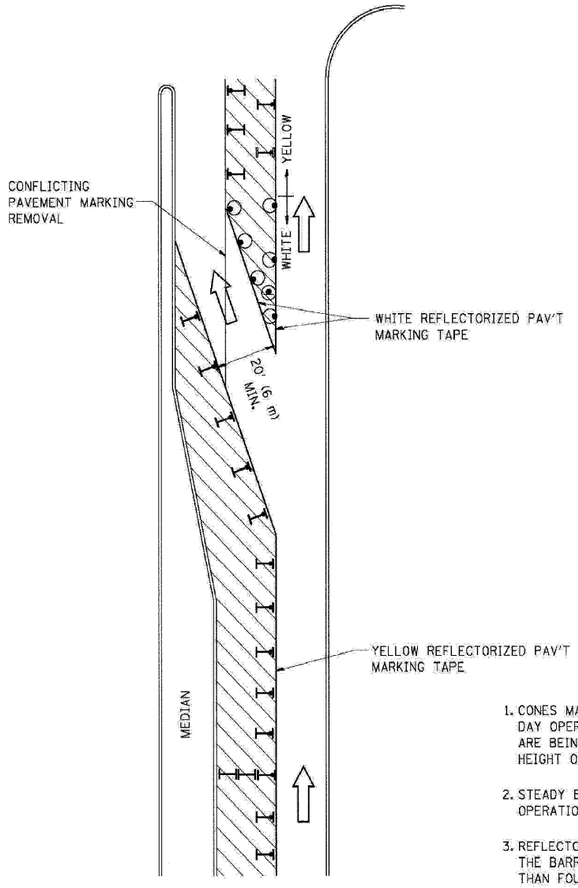
CHECKED BY

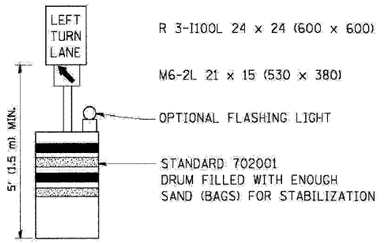
TC-13

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\372_tc13.dgn
PLOT SCALE = 1:1
USER NAME = 3830

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	373
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





GENERAL NOTES

1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM BT 725 IS REQUIRED.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
- DRUM WITH STEADY BURN LIGHT
- DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
- TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

All dimensions are in inches (millimeters) unless otherwise shown.

REVISIONS	
NAME	DATE
T. RAMMACHER	09/08/94
A. HOUSEH	11/07/95
A. HOUSEH	10/12/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)

SCALE: NONE

DRAWN BY

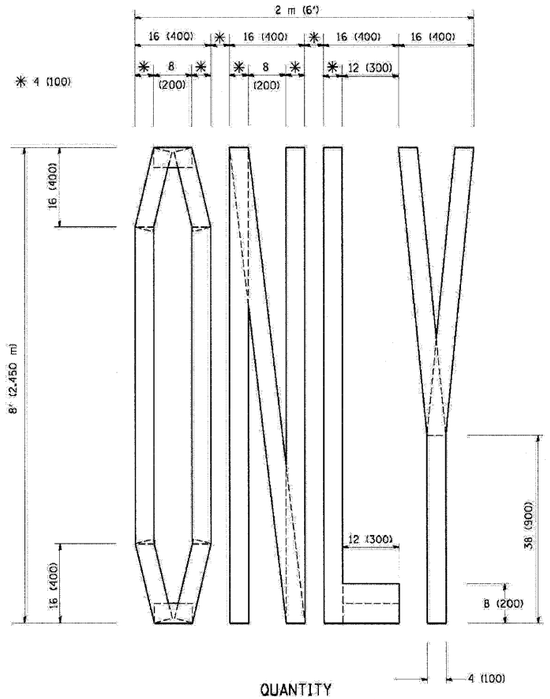
CHECKED BY LHA

TC-14

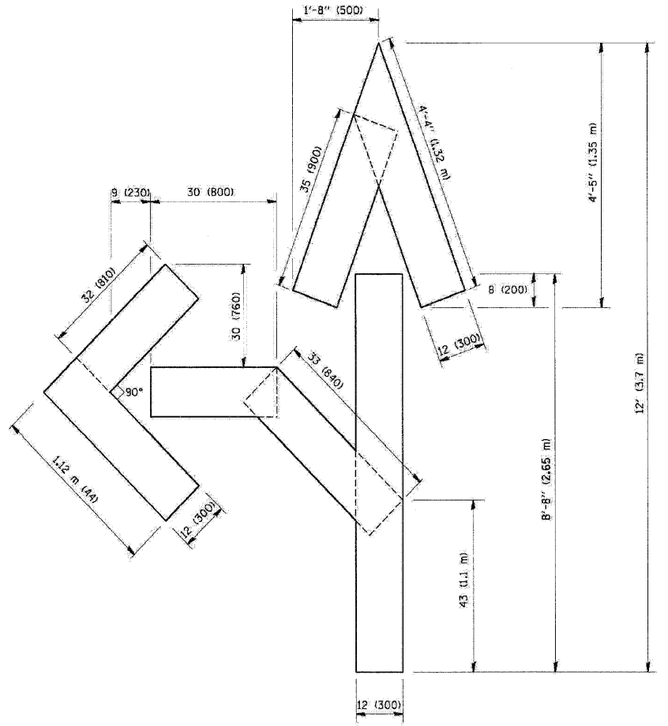
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\373_tc14.dgn
PLOT SCALE = 1:1
USER NAME = 38538

CONTRACT NO. 62882

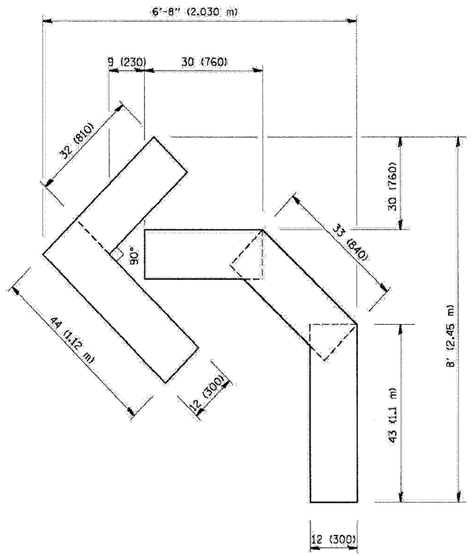
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	374
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



QUANTITY
4 (100) LINE = 64.1 ft. (19.7 m)
21.1 sq. ft. (1.97 sq. m)



QUANTITY
4 (100) LINE = 82.5 ft. (25.3 m)
27.5 sq. ft. (2.53 sq. m)



QUANTITY
4 (100) LINE = 45.5 ft. (13.9 m)
15.2 sq. ft. (1.39 sq. m)

All dimensions are in inches (millimeters) unless otherwise shown.

REVISIONS	
NAME	DATE
T. RAMMACHER	09/16/94
J. OBERLE	06/01/98
T. RAMMACHER	06/05/98
T. RAMMACHER	11/04/97
T. RAMMACHER	03/02/98
E. GOMEZ	08/28/00

ILLINOIS DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING
LETTERS AND SYMBOLS
FOR TRAFFIC STAGING

SCALE: NONE

DRAWN BY CADD

CHECKED BY

TC-16

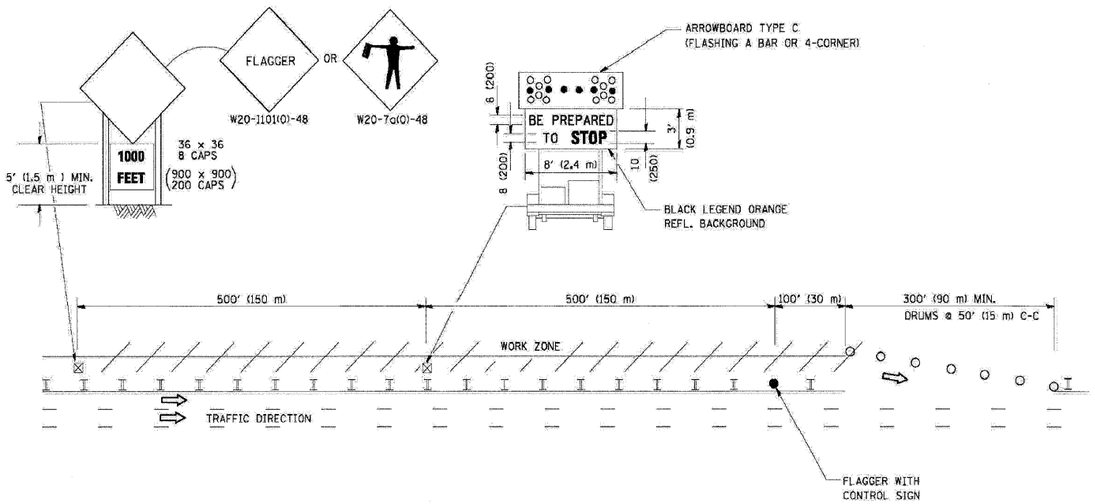
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\IT-CADD\01-Int\374_tc16.dgn
PLOT SCALE = 1:1
USER NAME = 3838

CONTRACT NO. 62882

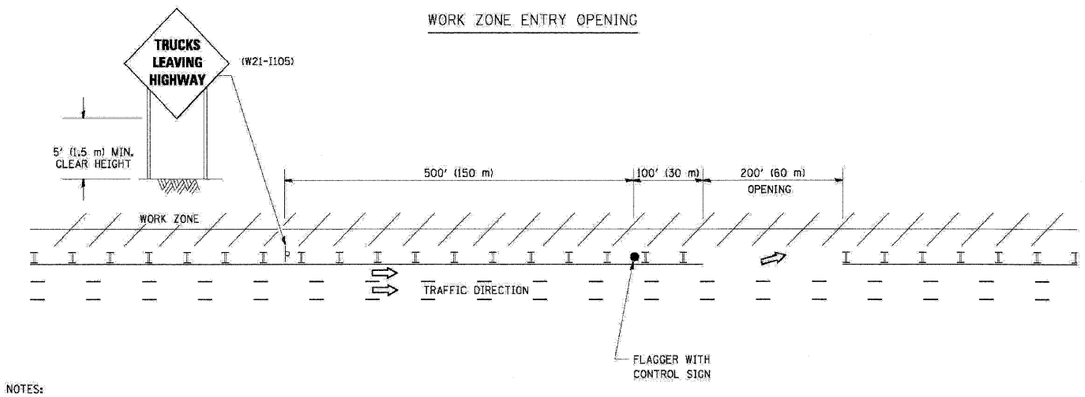
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	375
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. The Arrowboard, the Flagger Ahead trailer mounted sign, and the Trucks Leaving Highway sign shall be removed or turned away from traffic and the exit and entry openings shall be closed when the flagging operation ceases.
2. Work Zone Exit Openings should be a minimum of one half mile apart.
3. Exiting the work zone at any place other than at a Work Zone Exit Opening will be prohibited.
4. All vehicles shall enter the work zone at entry openings, using their turn signals to warn motorists

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

REVISIONS	
NAME	DATE
DWS	8/98
JAF	4/03
JAF	2/06
SPB	1/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

SCALE: NONE

DRAWN BY CADD

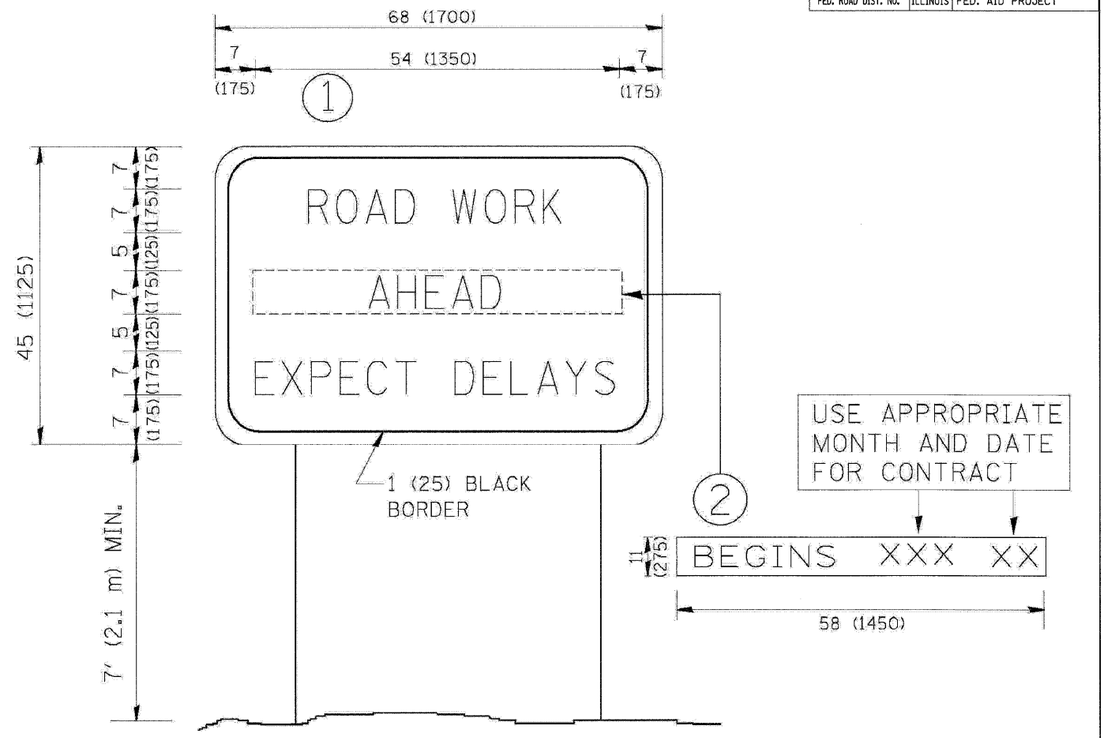
CHECKED BY

TC-18

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\375_tc18.dgn
PLOT SCALE = 1:1
USER NAME = 3838

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	376
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN (1) WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL (2) SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
R. MIRS	9-15-97
R. MIRS	12-11-97
T. RAMMACHER	2-2-99
C. JUCIUS	1-31-07

ILLINOIS DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD INFORMATION SIGN

SCALE: NONE

DRAWN BY DESIGN

CHECKED BY

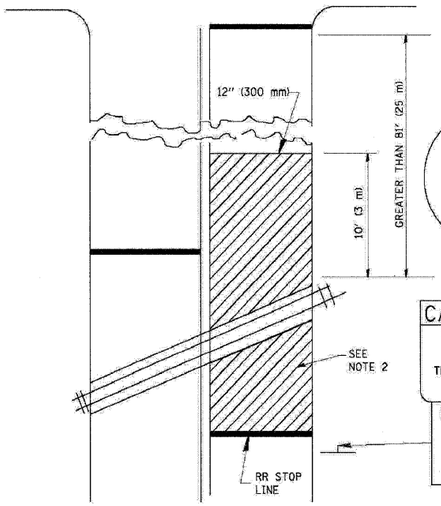
TC22

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-Art\376_tc22.dgn
PLOT SCALE = 1\1
USER NAME = 3838

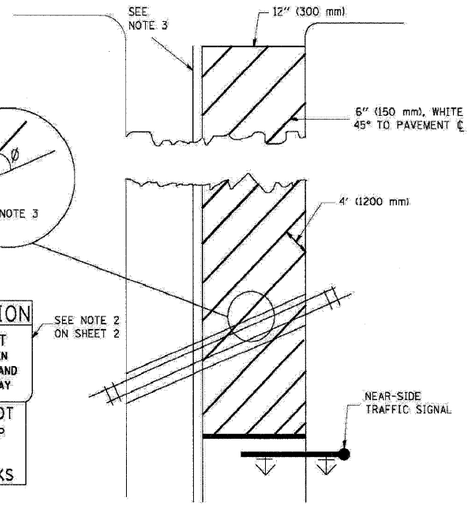
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	377
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

WITH INTERSECTION TRAFFIC SIGNALS



WITH NEAR-SIDE TRAFFIC SIGNALS

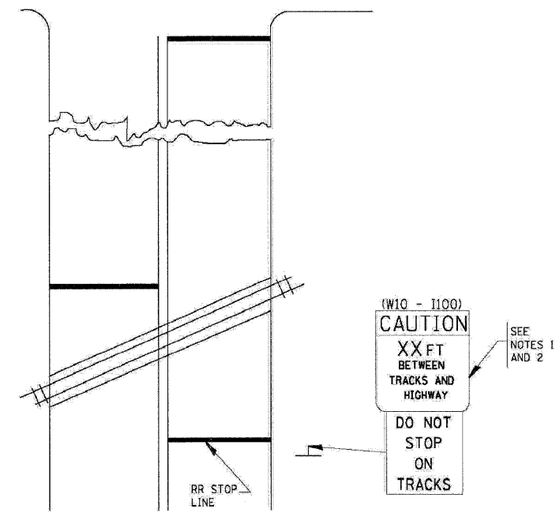


NOTES:

1. PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
2. WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED, THE PAVEMENT MARKINGS EXTENDS TO THE INTERSECTION.
3. WHERE THE ANGLE BETWEEN THE DIAGONAL STRIPES AND THE TRACK (ø) WOULD BE LESS THAN APPROXIMATELY 20°, THE STRIPES SHOULD BE SLOPED IN THE OPPOSITE DIRECTION FROM THAT SHOWN.

WITH NONSIGNALIZED INTERSECTION

81' (25 m) OR LESS TO CLOSEST RAIL



NOTE :

1. DISTANCE TO BE SHOWN ON SIGN MEASURED FROM A POINT 6 FEET (1.8 m) FROM THE RAIL CLOSEST TO THE INTERSECTION TO THE STOP LINE OR CROSSWALK, WHICHEVER IS CLOSEST, ROUNDED DOWN TO THE NEAREST 5 FEET (1.5 m). WHERE THERE IS NO STOP LINE, MEASURE TO POINT WHERE THE DRIVER HAS A VIEW OF APPROACHING TRAFFIC.
2. THE CLEARANCE SIGN IS ALSO TO BE USED AS AN INTERIM MEASURE AT LOCATIONS WITH INTERCONNECTED INTERSECTION TRAFFIC SIGNALS WHERE IT IS PLANNED TO CHANGE THEM TO NEAR-SIDE SIGNALS AT A FUTURE TIME. IN THIS CASE, THE DISTANCE TO BE SHOWN ON THE SIGN IS MEASURED FROM THE EDGE OF THE STRIPED-OUT AREA INSTEAD OF 6-FEET FROM THE RAIL. THE SIGN IS TO BE REMOVED WHEN THE NEAR-SIDE SIGNALS ARE INSTALLED AND THE PAVEMENT MARKINGS EXTEND TO THE INTERSECTION.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICAL SUPPLEMENTAL SIGNING AND PAVEMENT MARKING TREATMENT FOR RAILROAD CROSSINGS

SCALE: NONE

DRAWN BY

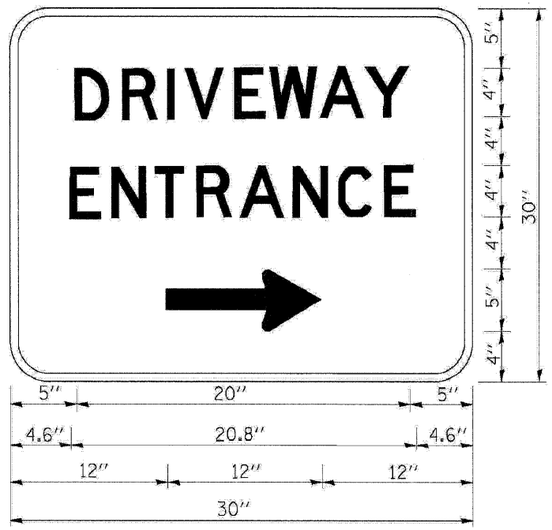
CHECKED BY

TC23

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-plt\377_tc23.dgn
PLOT SCALE = 1:1
USER NAME = 3838

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	378
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



3.0″ RADIUS, 0.5″ BORDER, WHITE ON GREEN; REFLECTORIZED
"DRIVEWAY" D; "ENTRANCE" D; STANDARD ARROW CUSTOM 12.0″ x 5.0″

NOTES:

1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE PLACED BACK-TO-BACK: ONE WITH A RIGHT HAND ARROW (SHOWN) SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE FAR LEFT SIDE OF THE DRIVEWAY.
3. SIGNS TO BE PAID FOR AS ITEM "TEMPORARY INFORMATION SIGNING".

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\21-ahl\378_tc26.dgn
PLOT SCALE = 1:1
USER NAME = 3838

REVISIONS	
NAME	DATE
C. JUCIUS	02/15/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

DRIVEWAY ENTRANCE SIGNING

SCALE: NONE
DRAWN BY R.H.
DATE
CHECKED BY

TC-26

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	379
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.

2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.

3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.

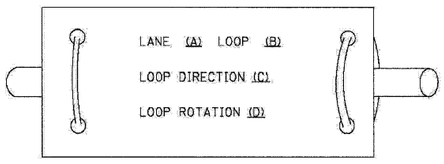
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.

5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.

6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.

7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

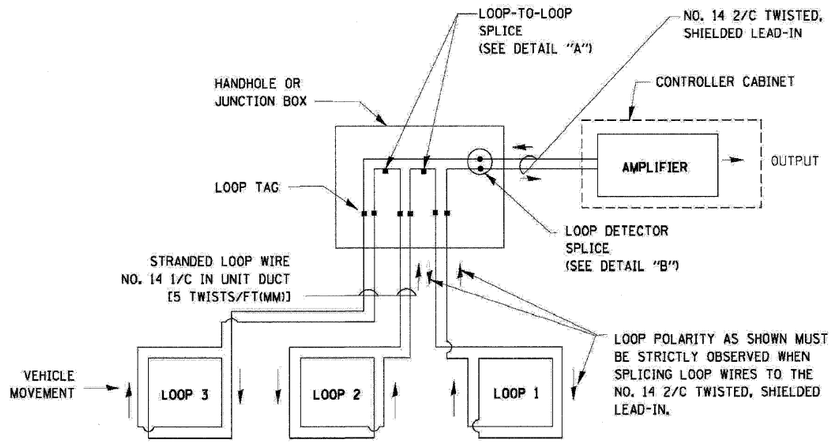


A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY

B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.

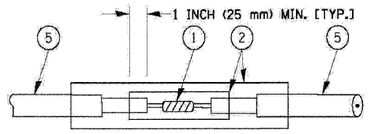
C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".

D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

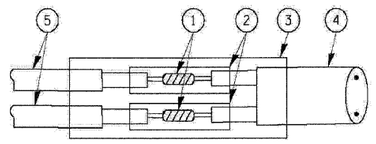


DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

(1) WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.

(2) WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.

(3) WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGHT 6" (150 mm), UNDERWATER GRADE.

(4) NO. 14 2/C TWISTED, SHIELDED CABLE.

(5) LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

REVISIONS	
NAME	DATE
CADD	5/30/00
ADD NOTE NO. 8	11/12/01
BUREAU OF TRAFFIC	1-01-02

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 1 OF 4

TS05

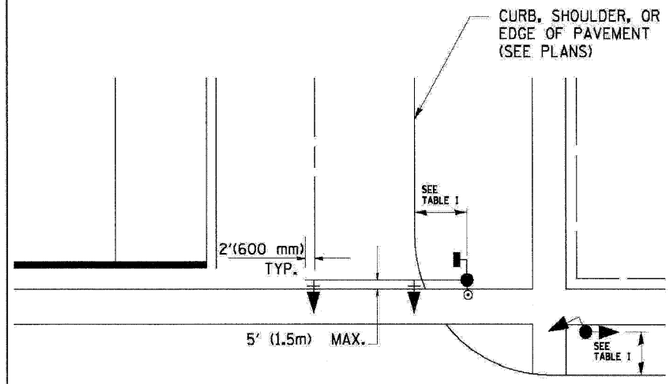
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-Art\379_ts05a.dgn
PLOT SCALE = 1:1
USER NAME = 3838

CONTRACT NO. 62882

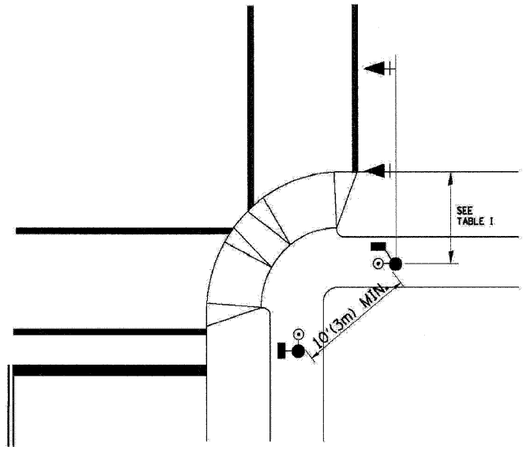
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	380
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SIGNAL MAST ARM AND POST

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



PEDESTRIAN SIGNAL PUSHBUTTON



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

NOTES:

1. AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.

   AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.

   PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:

   A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.

   B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.

   C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.

   D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).

   E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK

2. PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.

3. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.

4. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

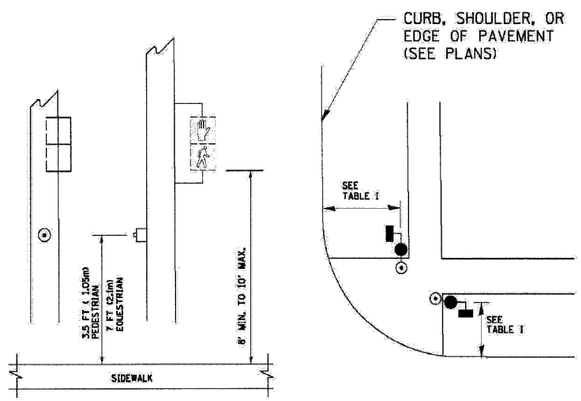


TABLE I

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN PUSHBUTTON	SEE NOTE 1	SEE NOTE 1

REVISIONS NAME	DATE
BUREAU OF TRAFFIC	1/01/02

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE

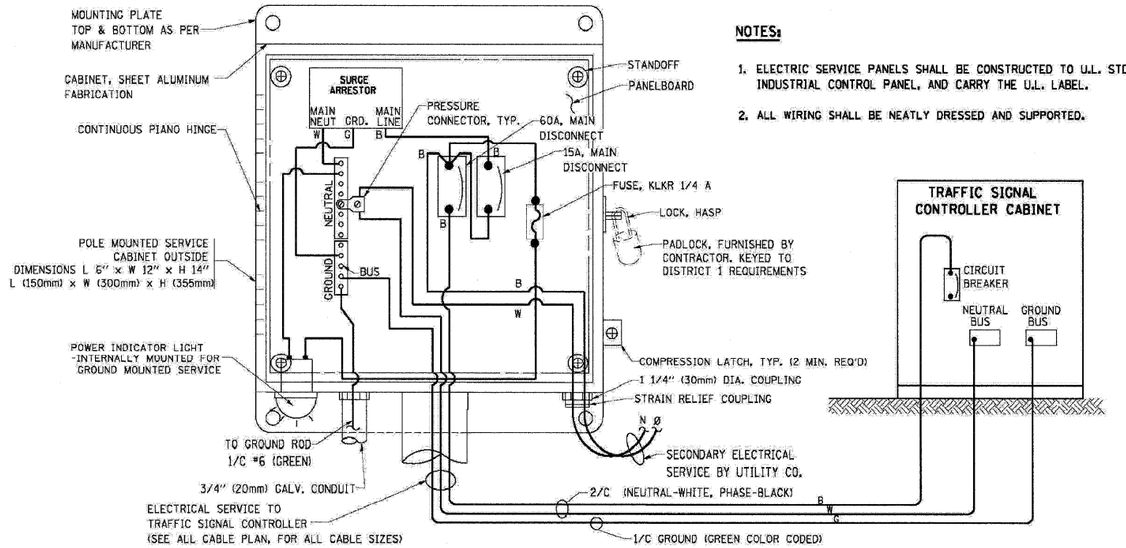
DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 2 OF 4

TS05

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-sht\388_ts05.dgn
PLOT SCALE = 1/1
USER NAME = 3838

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	381
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



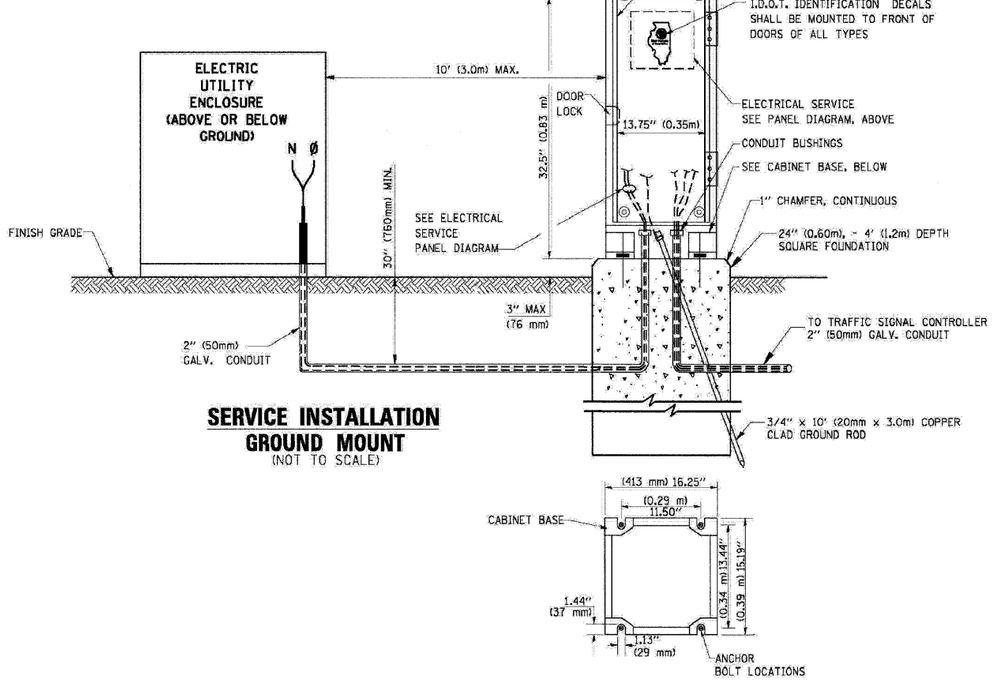
NOTES:

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.

ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)

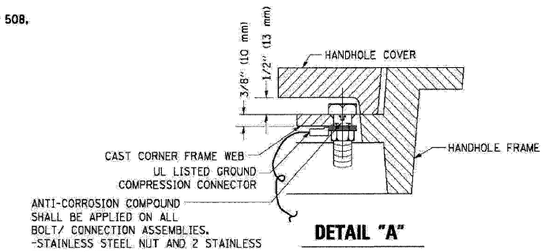


SERVICE INSTALLATION GROUND MOUNT

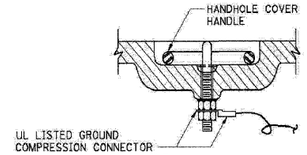
(NOT TO SCALE)

CABINET – BASE BOLT PATTERN

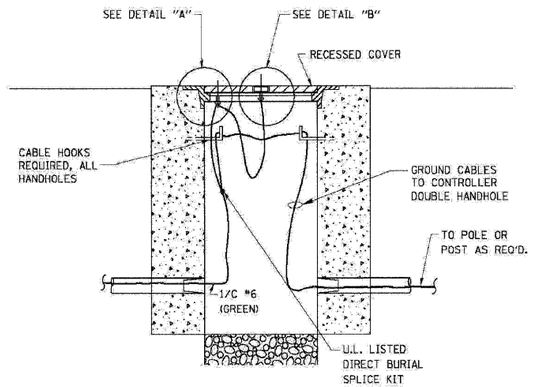
(NOT TO SCALE)



DETAIL "A"

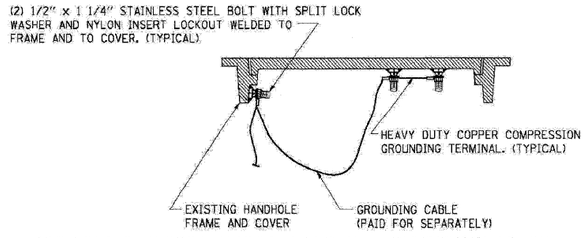


DETAIL "B"



HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)



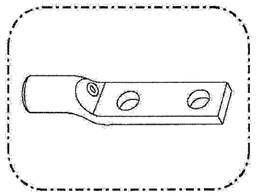
EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)

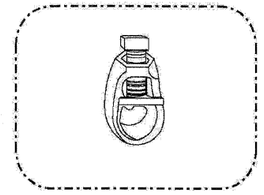
NOTES:

GROUNDING SYSTEM

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



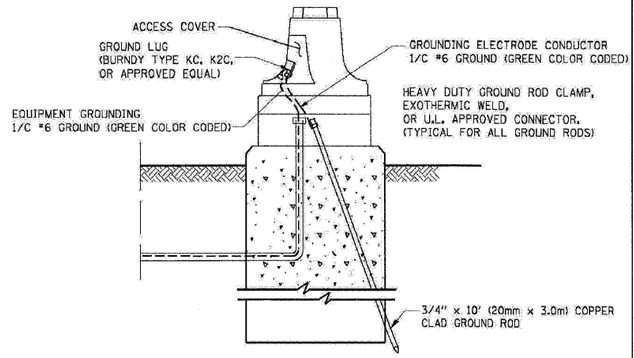
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EUAL)

NOTES:

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES
  6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES
  13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES.
  5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



MAST ARM POLE / POST-GROUNDING DETAIL

(NOT TO SCALE)

REVISIONS	
NAME	DATE
CADD	5/30/00
CADD	3/15/01
BUREAU OF TRAFFIC	1/01/02

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 3 OF 4

TS05

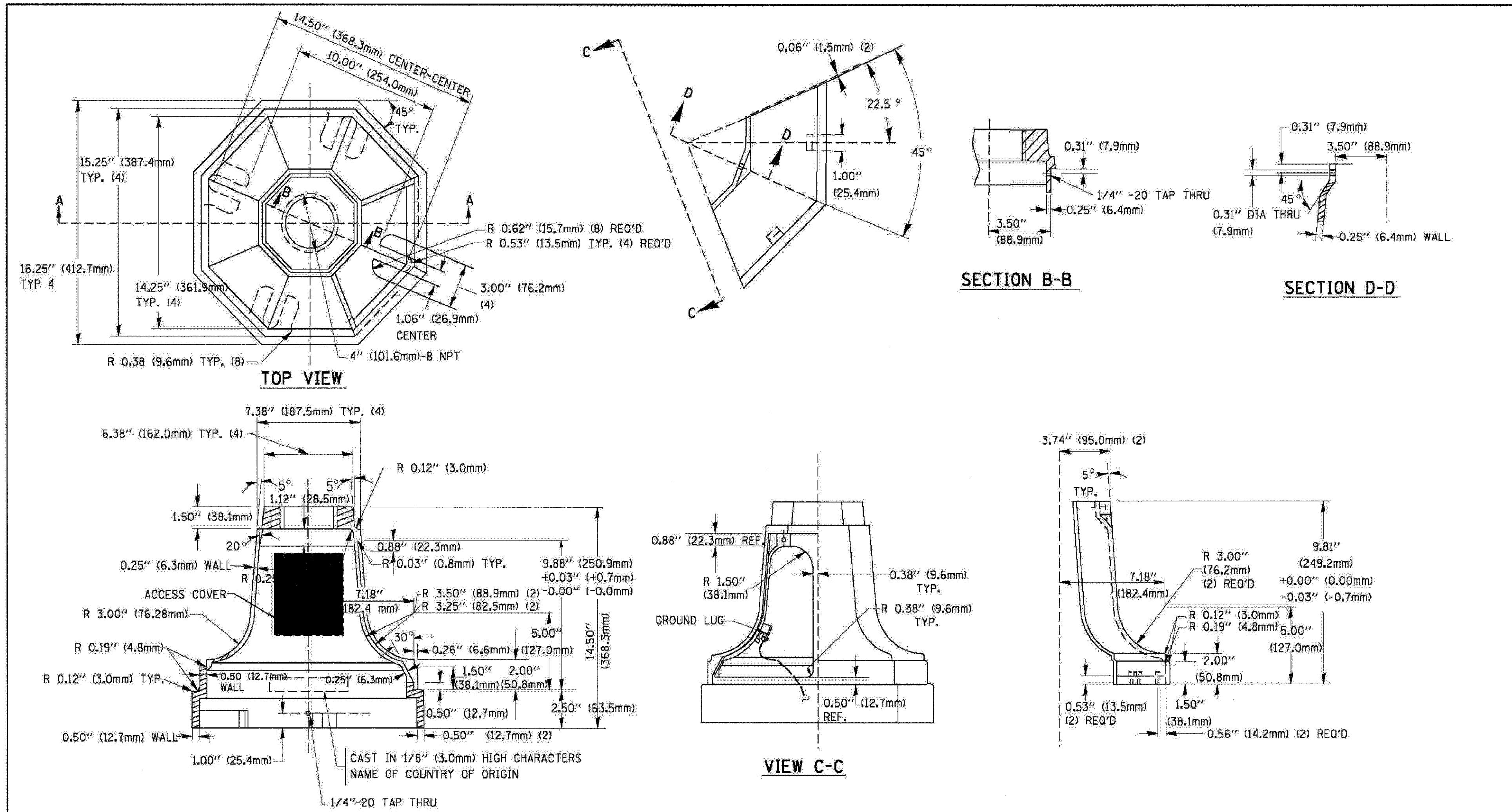
PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\01-win\381_ts05c.dgn
PLOT SCALE = 1i
USER NAME = 3838

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	382

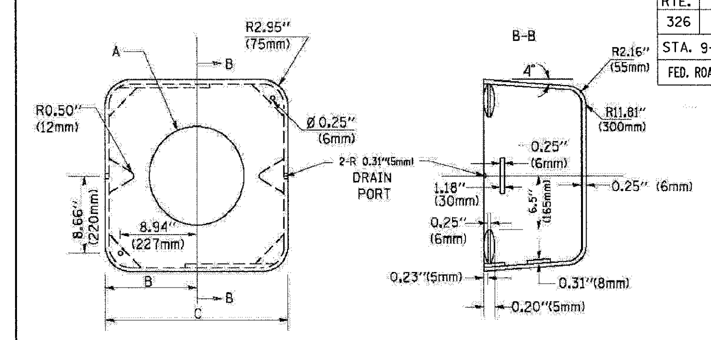
CONTRACT NO. 62882

STA. 9+35.22 TO STA.142+08.53

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A



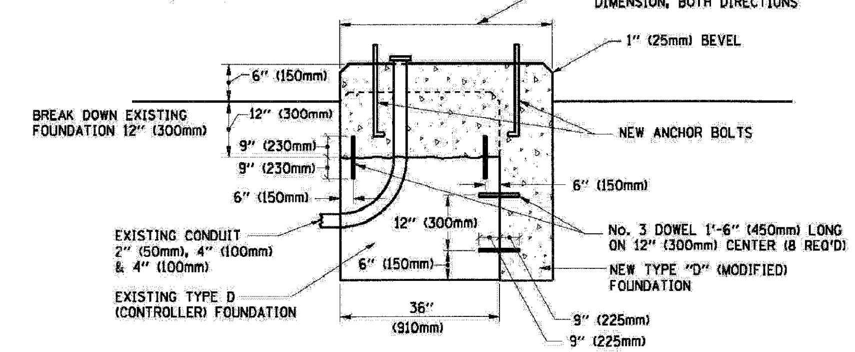
MATERIAL:

- ASTM A48 CLASS 30 GREY IRON
- ASTM A123 HOT DIPPED GALVANIZED

TYPE	A	B	C	HEIGHT	WEIGHT
I	Ø 10.125"(257mm)	9.5"(241mm)	19"(483mm)	12" (300mm)	24kg
II	Ø 11.125"(283mm)	10.75"(273mm)	21.5"(546mm)	12" (300mm)	26kg

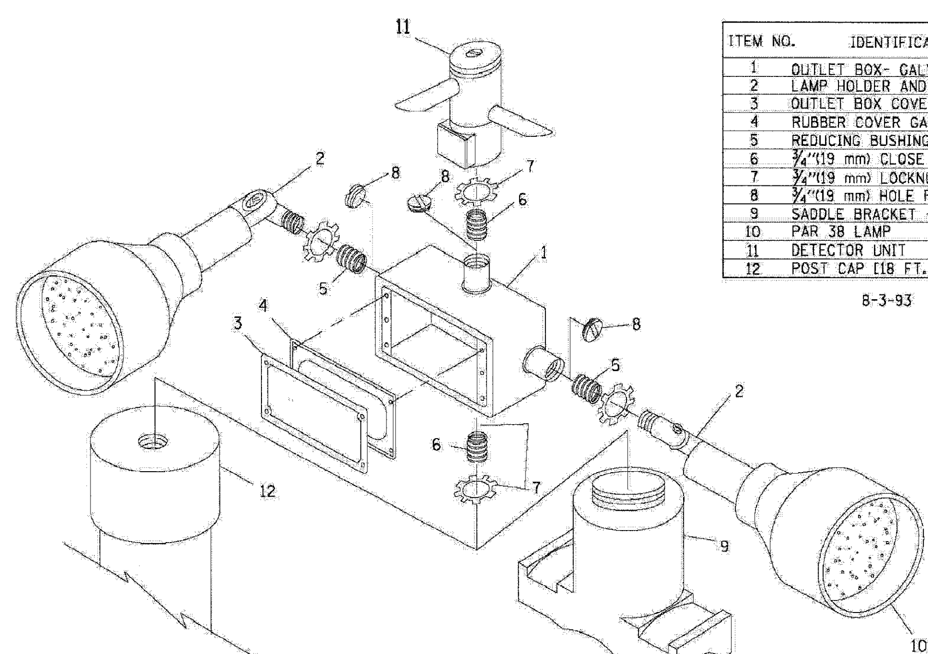
SHROUD DETAIL

NOTE:
SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION

(NOT TO SCALE)



POST CAP MOUNT

MAST ARM MOUNT

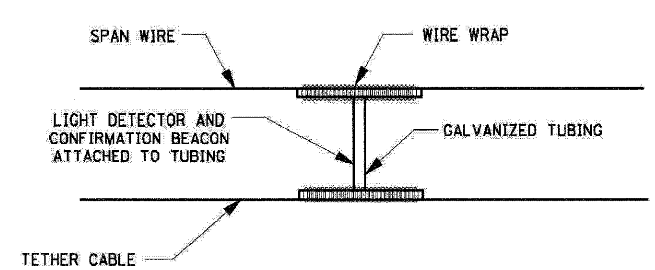
EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	¾"(19 mm) CLOSE NIPPLE
7	¾"(19 mm) LOCKNUT
8	¾"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	PAR 38 LAMP
11	DETECTOR UNIT
12	POST CAP (18 FT. (5.4 m) POST MIN.)

8-3-93

NOTES:

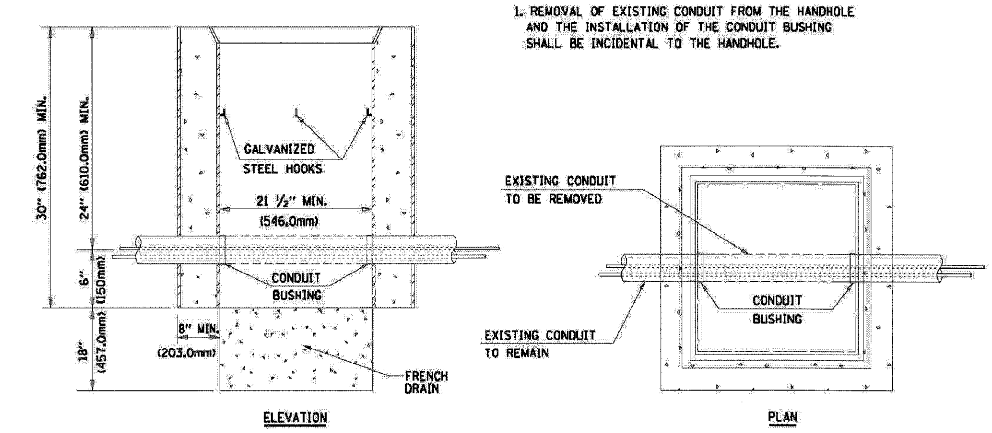
1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
   ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
   ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A ¾"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS

(NOT TO SCALE)

NOTES:
1. REMOVAL OF EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHING SHALL BE INCIDENTAL TO THE HANDHOLE.



DETAIL

HANDHOLE TO INTERCEPT EXISTING CONDUIT

N.T.S.

REVISIONS	
NAME	DATE
BUREAU OF TRAFFIC	5/30/00
BUREAU OF TRAFFIC	3/15/01
BUREAU OF TRAFFIC	11/12/01
BUREAU OF TRAFFIC	1-01-02

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: NONE

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 4 OF 4

TS05

PLOT DATE = Wednesday, August 05, 2009
FILE NAME = S:\11-CADD\62-ants\382_ts05.dgn
PLOT SCALE = 1:1
USER NAME = 3830

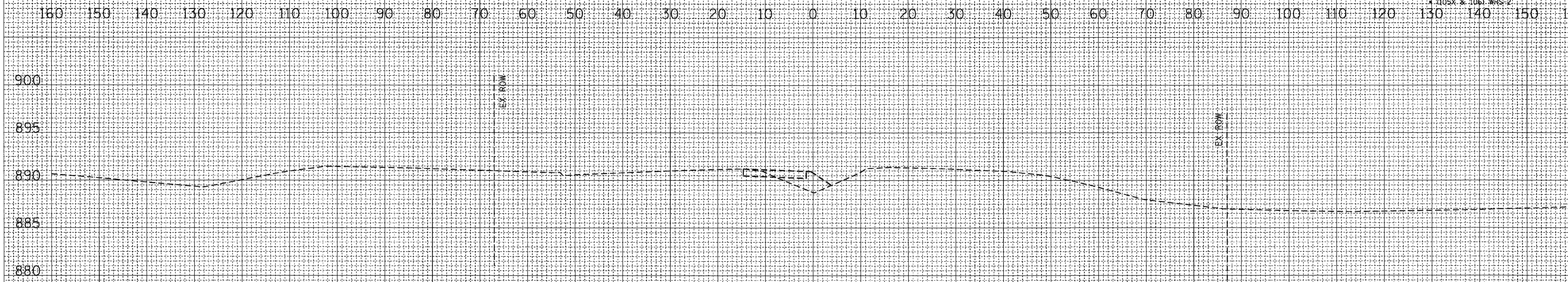
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	383

STA. 9+35.22 TO STA.142+08.53

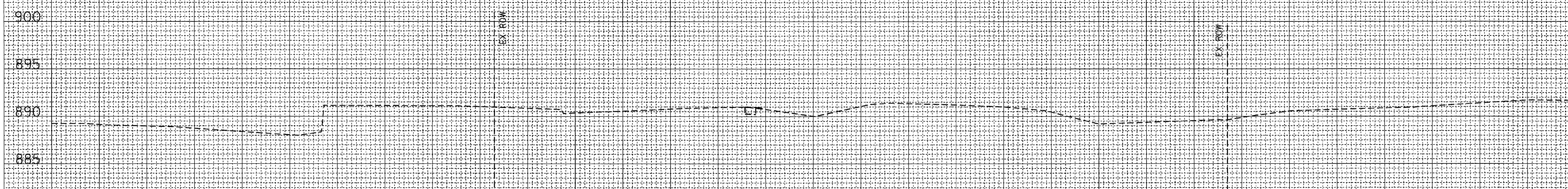
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

* (105X & 106) WRS-2



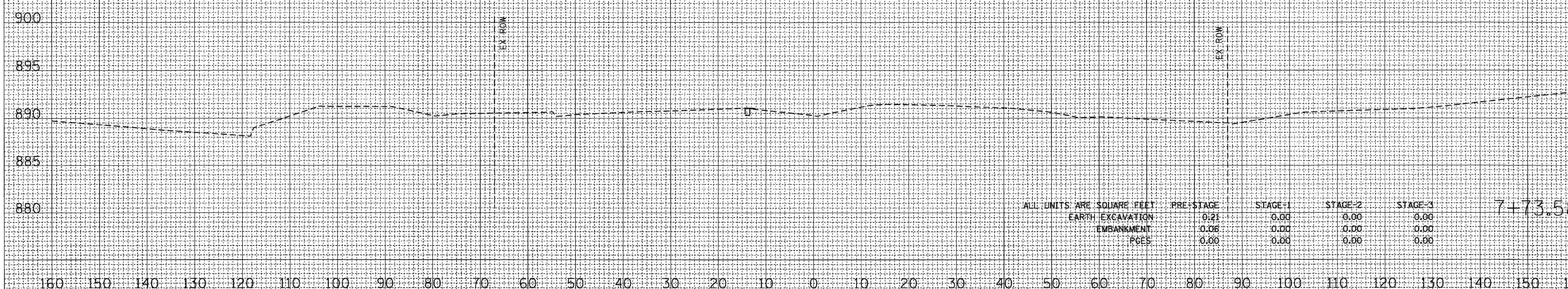
ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	1.28	0.00	0.00	10.82
EMBANKMENT	10.82	0.00	0.00	0.00
PGES	0.00	0.00	0.00	0.00

9+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.42	0.00	0.00	0.00
EMBANKMENT	0.13	0.00	0.00	0.00
PGES	0.00	0.00	0.00	0.00

8+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.21	0.00	0.00	0.00
EMBANKMENT	0.06	0.00	0.00	0.00
PGES	0.00	0.00	0.00	0.00

7+73.58

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

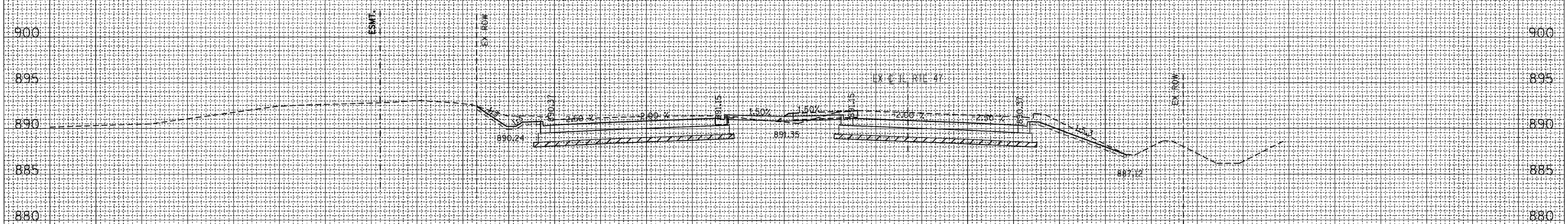
ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

PLOT DATE = Thursday, August 06, 2009
FILE NAME = S:\11-CADD\01-sht\383-459_47_xs.dgn
PLOT SCALE = 10:1
USER NAME = 3690

CONTRACT NO. 62882

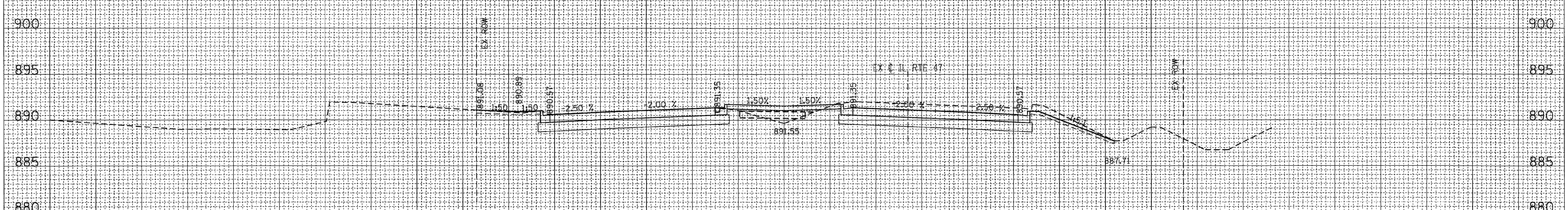
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	384
STA. 9+35.22 TO STA.142+08.53				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	1.63	84.00	86.20	15.81
EMBANKMENT	3.41	0.00	0.66	0.00
PGES	0.00	19.80	20.06	4.47

10+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	2.31	32.65	52.69	8.30
EMBANKMENT	2.28	0.00	0.00	14.64
PGES	0.00	0.00	0.00	0.00

9+35.22

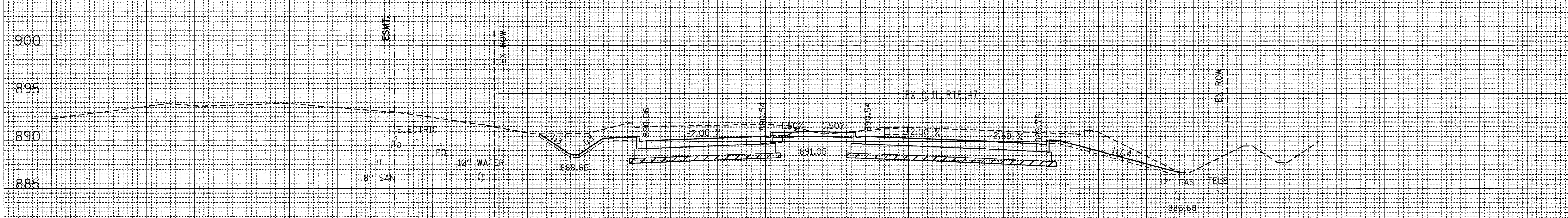
160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

ILLINOIS ROUTE 47 – CROSS SECTIONS

CONTRACT NO. 62882

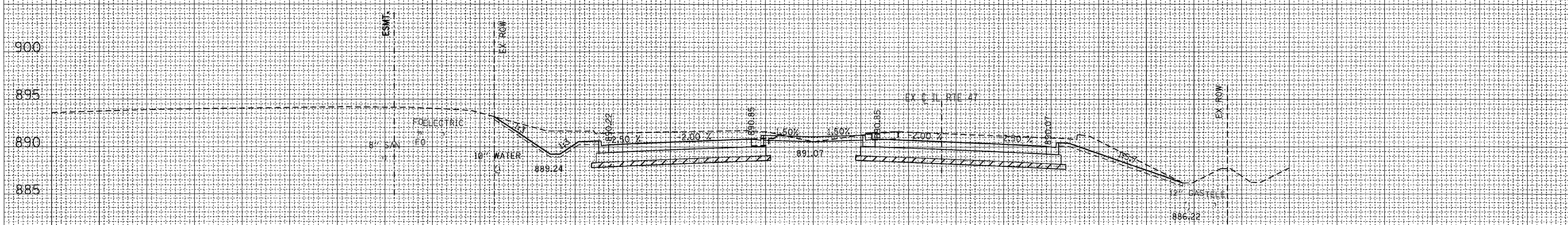
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	385
STA. 9+35.22 TO STA.142+08.53				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	108.00	106.56	13.13
EMBANKMENT	0.26	0.00	0.71	0.00
PGES	0.00	13.80	20.06	5.17

12+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	114.44	98.96	17.79
EMBANKMENT	0.16	0.00	5.01	0.37
PGES	0.00	16.80	20.10	4.09

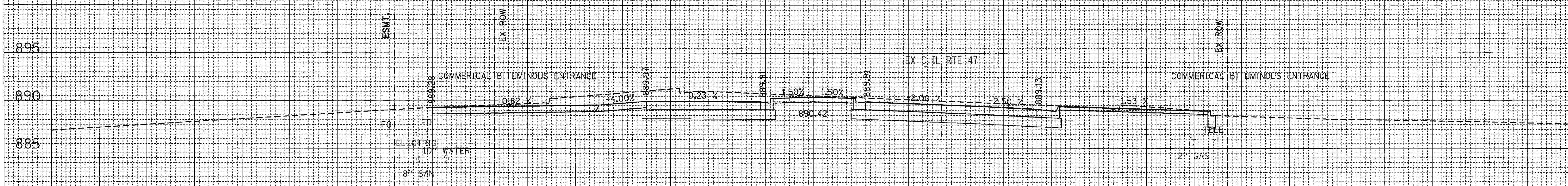
11+00.00

ILLINOIS ROUTE 47 – CROSS SECTIONS

CONTRACT NO. 62882

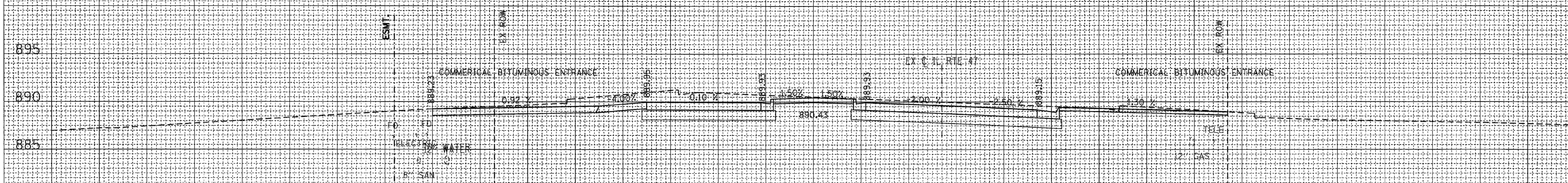
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	386
STA. 9+35.22 TO STA.142+08.53				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



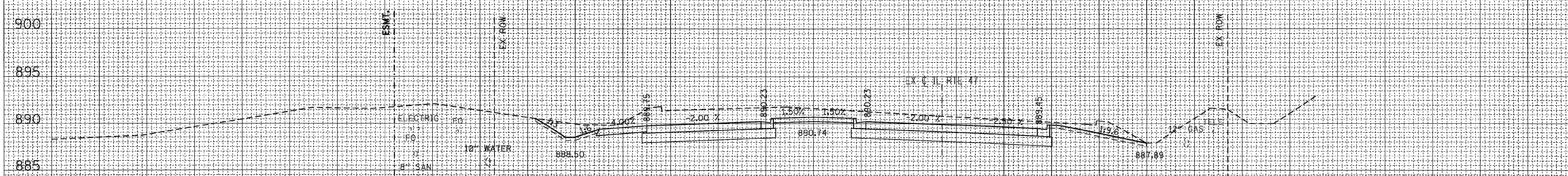
ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	81.67	50.52	7.40
EMBANKMENT	0.00	12.06	70.98	8.75
PGES	0.00	0.00	0.00	0.00

14+04.73



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	73.32	52.70	7.42
EMBANKMENT	0.00	13.48	61.21	8.73
PGES	0.00	0.00	0.00	0.00

14+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	81.69	60.84	9.53
EMBANKMENT	0.00	0.00	4.39	0.98
PGES	0.00	0.00	0.00	0.00

13+00.00

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

ILLINOIS ROUTE 47 – CROSS SECTIONS

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

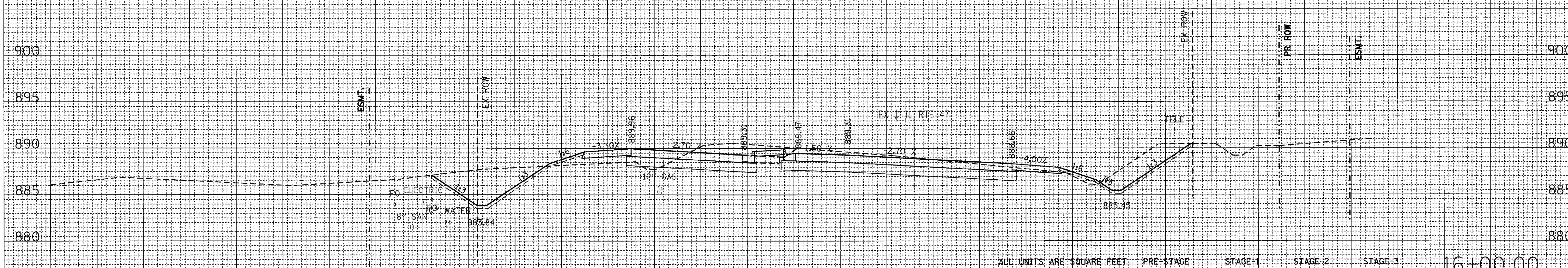
ORIGINAL SURVEY: SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED / NOTE BOOK / NO. — BY — DATE

PLOT DATE = Thursday, August 06, 2009
FILE NAME = S:\IL-CADD\01-xs\1383-xs-IL-47.xs.dgn
PLOT SCALE = 10.0
USER NAME = 3698

CONTRACT NO. 62882

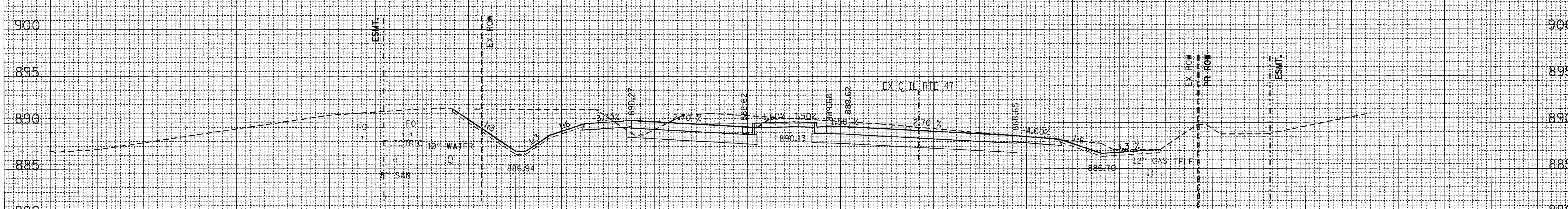
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	387
STA. 9+35.22 TO STA.142+08.53				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	98.65	58.97	9.66
EMBANKMENT	0.00	10.98	6.82	4.62
PGES	0.00	0.00	0.00	0.00

16+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	140.66	48.18	9.72
EMBANKMENT	0.00	0.00	8.77	4.60
PGES	0.00	0.00	0.00	0.00

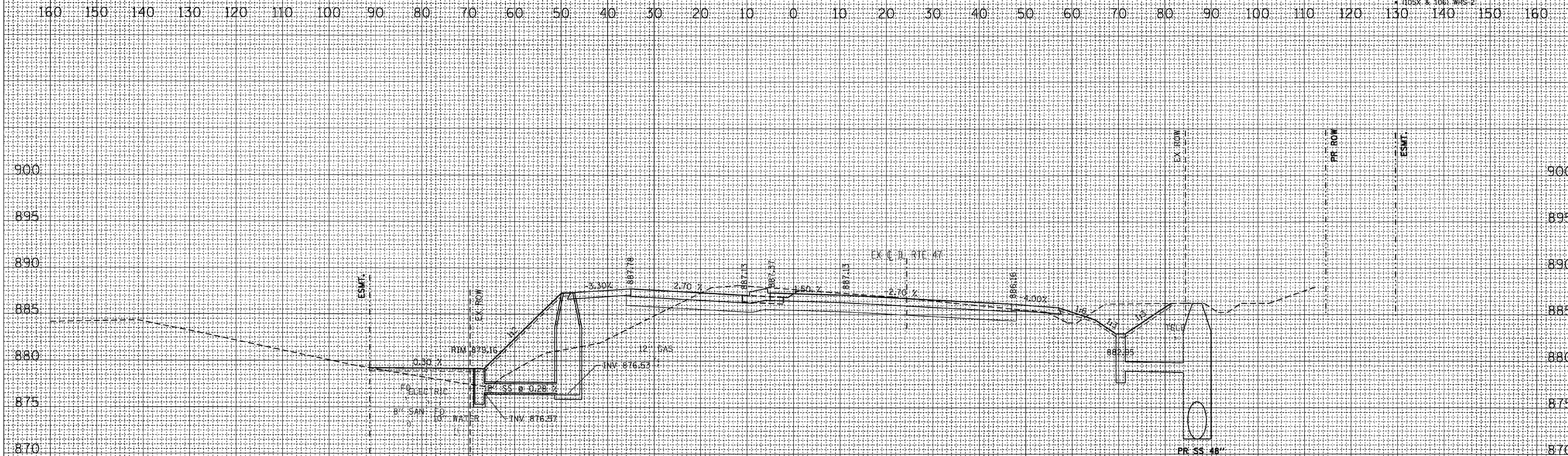
15+00.00

ILLINOIS ROUTE 47 - CROSS SECTIONS

CONTRACT NO. 62882

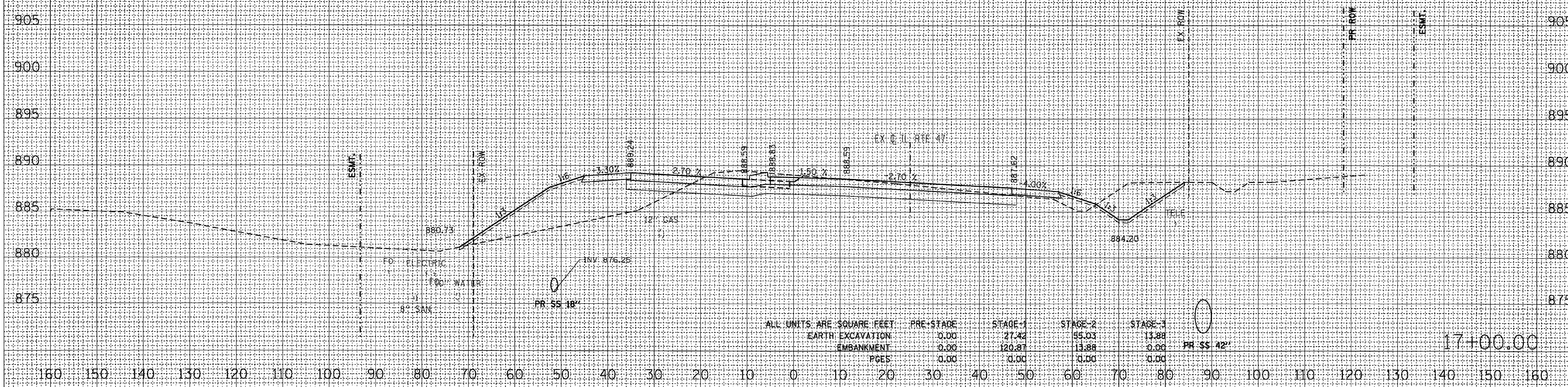
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	388
STA. 9+35.22 TO STA.142+08.53				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	41.78	56.29	14.83
EMBANKMENT	0.00	156.26	4.37	0.00
PGES	0.00	0.00	0.00	0.00

18+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	27.42	55.03	13.88
EMBANKMENT	0.00	120.87	13.88	0.00
PGES	0.00	0.00	0.00	0.00

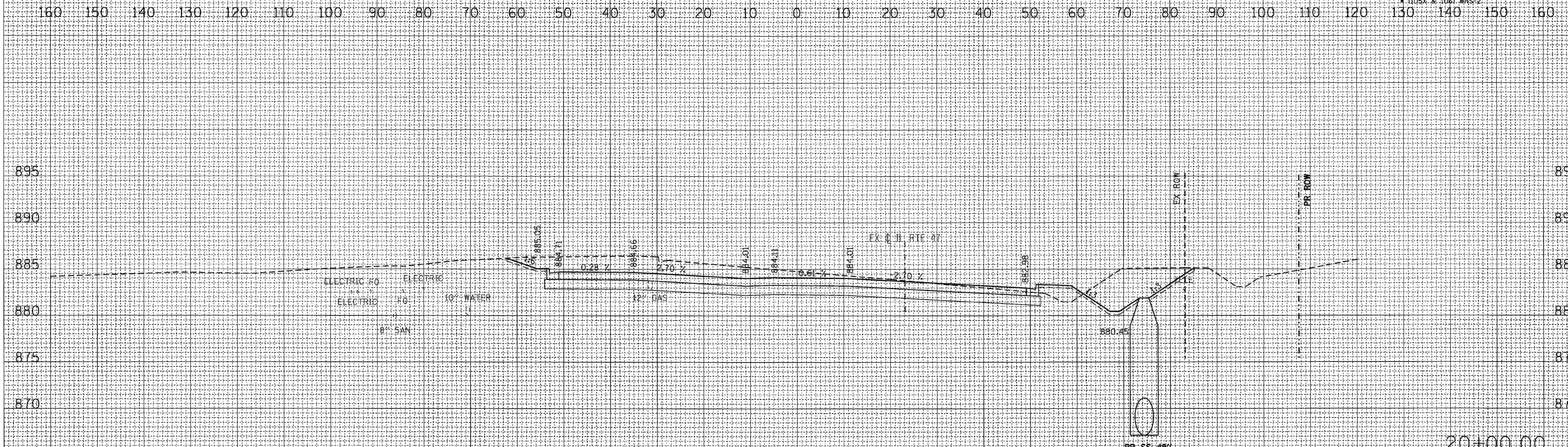
17+00.00

PLOT DATE = Thursday, August 06, 2009
PLOT SCALE = 10.0
USER NAME = 3690

CONTRACT NO. 62882

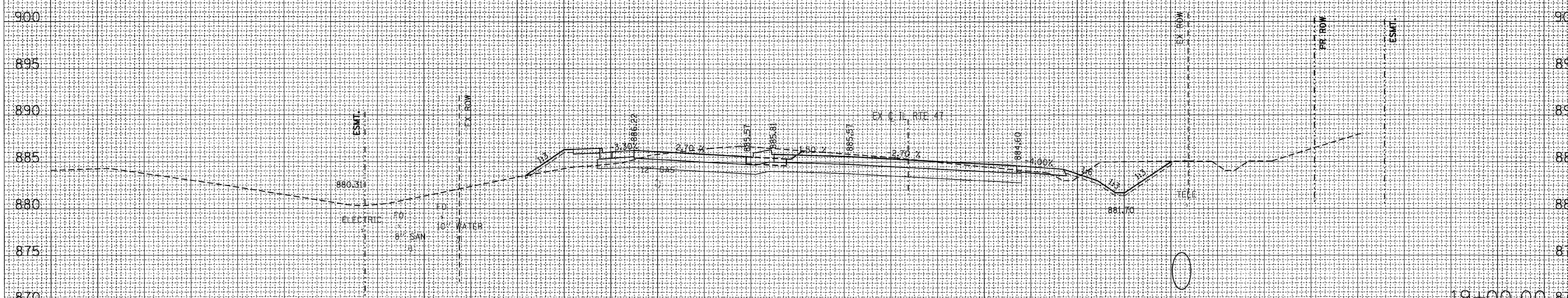
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	389
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



20+00.00

ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	127.11	93.96	24.99
EMBANKMENT	0.00	0.00	9.34	0.00
PGES	0.00	0.00	0.00	0.00



19+00.00

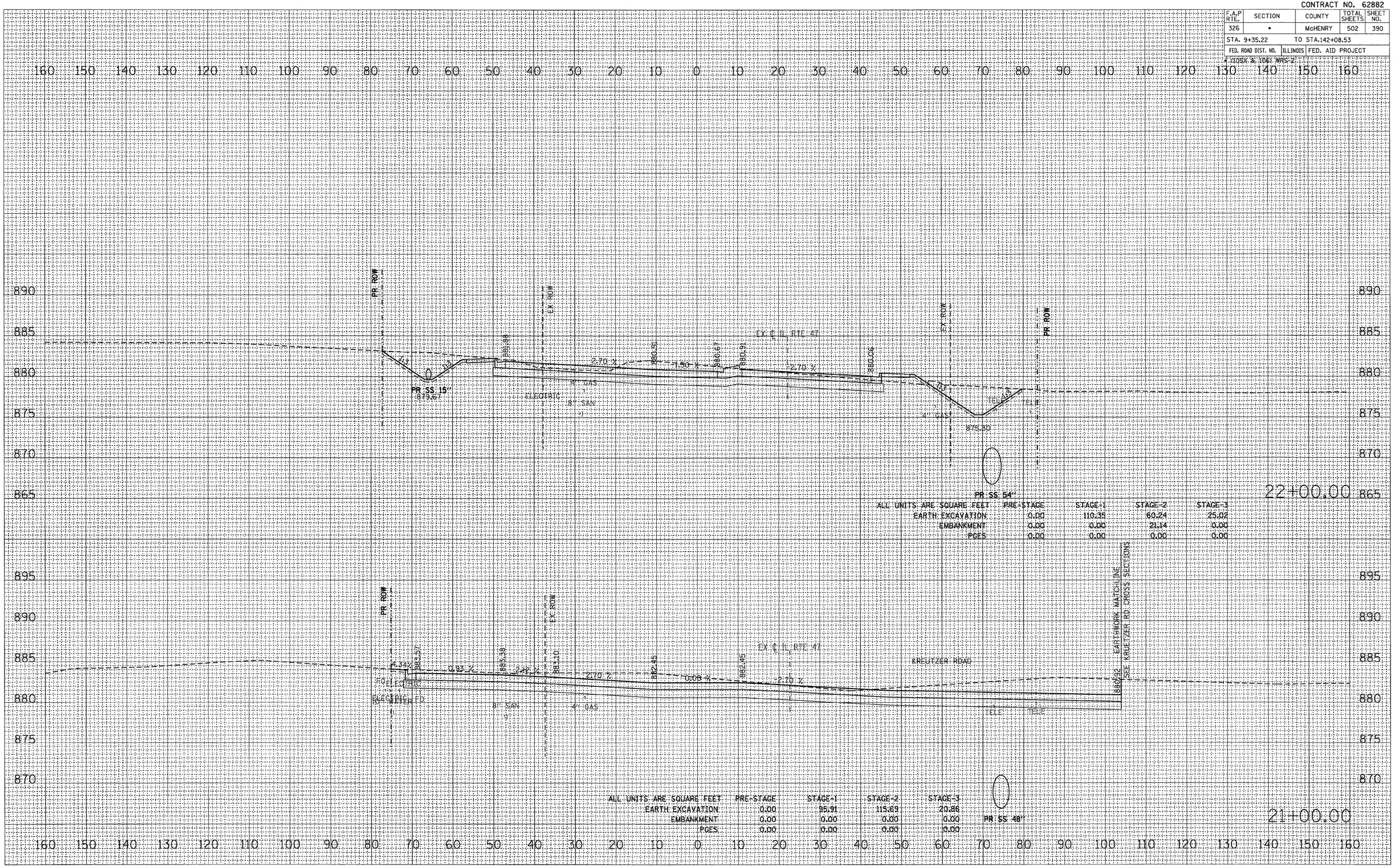
ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	56.21	65.31	17.56
EMBANKMENT	0.00	16.17	2.35	0.00
PGES	0.00	0.00	0.00	0.00

ILLINOIS ROUTE 47 – CROSS SECTIONS

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	390
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

F:\(OSX & IDOT) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	110.35	60.24	25.02
EMBANKMENT	0.00	0.00	21.14	0.00
PCES	0.00	0.00	0.00	0.00

ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	95.91	115.69	20.86
EMBANKMENT	0.00	0.00	0.00	0.00
PCES	0.00	0.00	0.00	0.00

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

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

PLOT DATE = Thursday, August 06, 2009
FILE NAME = S:\11-CADD\01-ahk\383-459_47_xs-GROTE.dgn
PLOT SCALE = 10:1
USER NAME = 3698

ILLINOIS ROUTE 47 – CROSS SECTIONS

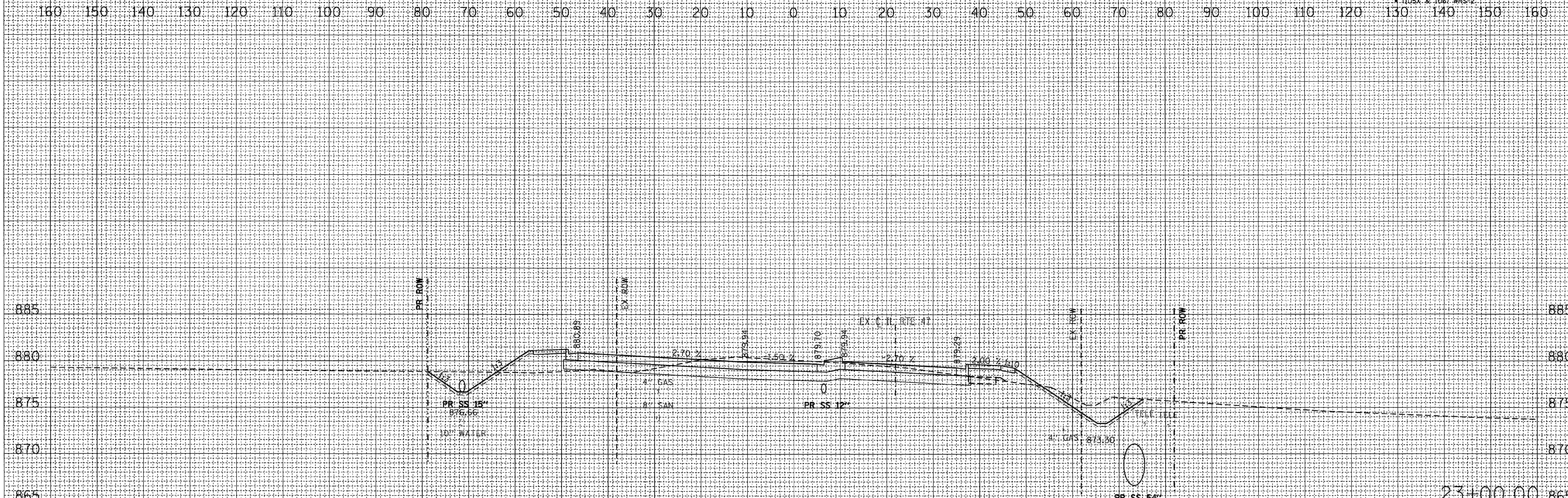
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	•	McHENRY	502	391

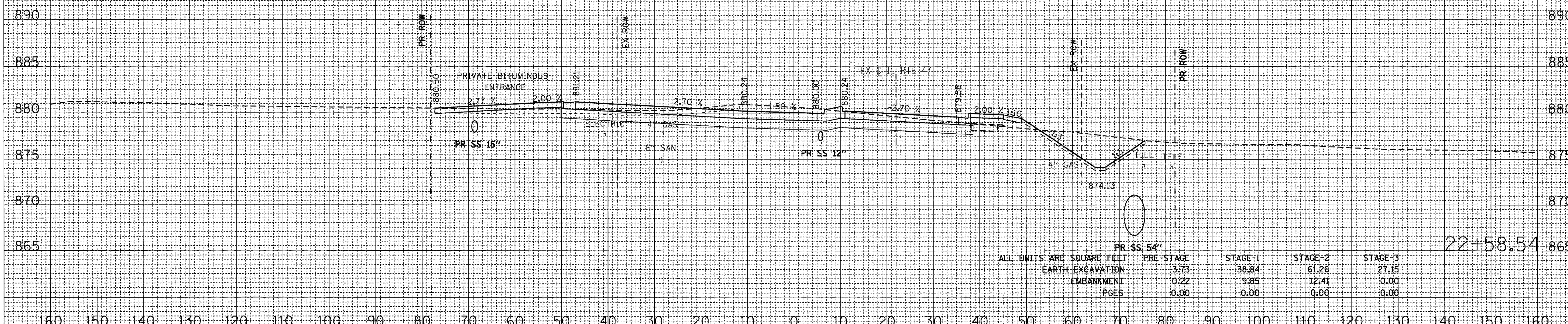
STA. 9+35.22 TO STA.142+08.53

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

• (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	3.46	50.76	42.97	22.80
EMBANKMENT	0.52	22.05	16.47	0.00
PGES	0.00	0.00	0.00	0.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	3.73	38.84	61.26	27.15
EMBANKMENT	0.22	9.85	12.41	0.00
PGES	0.00	0.00	0.00	0.00

FINAL SURVEY: SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED; NOTE BOOK NO. ___; BY; DATE

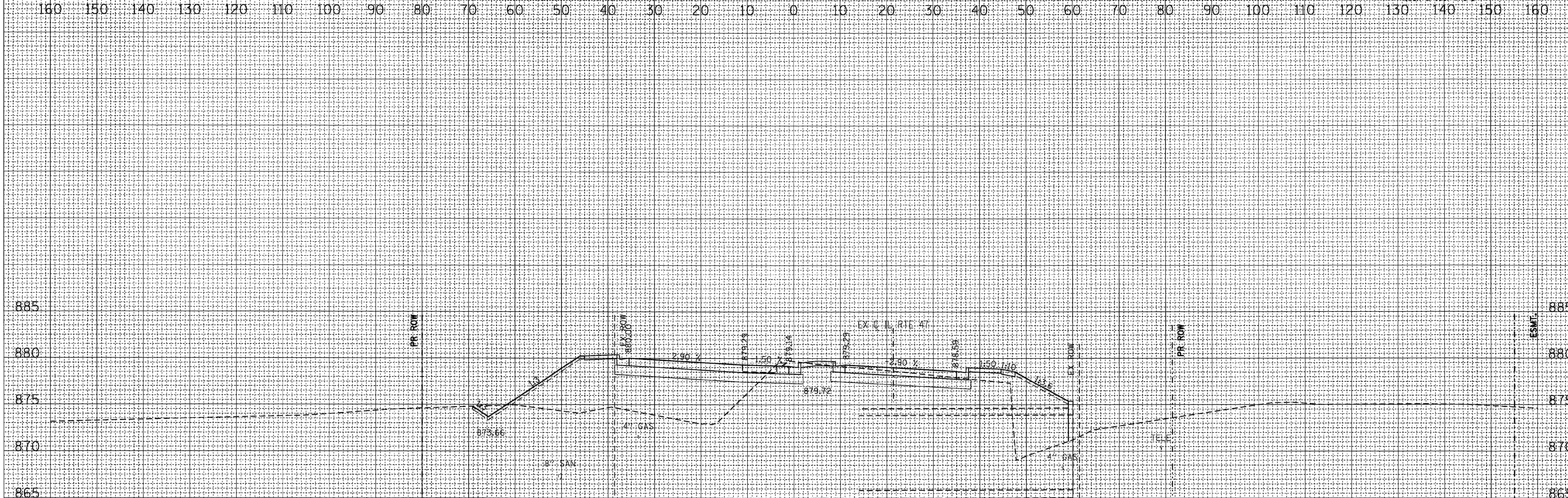
ORIGINAL SURVEY: SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED; NOTE BOOK NO. ___; BY; DATE

PLOT DATE = Thursday, August 06, 2009
PLOT SCALE = 10:1
USER NAME = 3690

CONTRACT NO. 62882

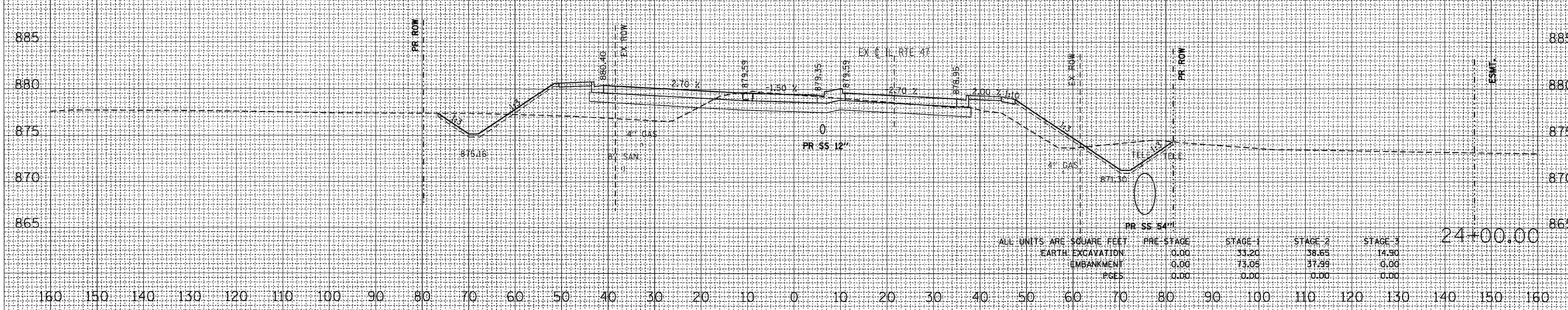
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	392
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	8.20	11.29	22.59
EMBANKMENT	0.00	203.91	87.45	2.54
PGES	0.00	0.00	0.00	0.00

25+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	33.20	38.65	14.90
EMBANKMENT	0.00	73.05	37.99	0.00
PGES	0.00	0.00	0.00	0.00

24+00.00

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

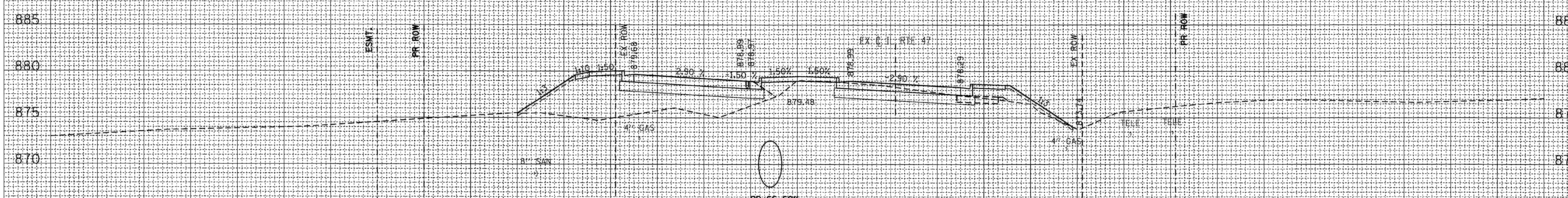
ORIGINAL SURVEY — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

PLOT DATE = Thursday, August 06, 2009
USER NAME = 3890

ILLINOIS ROUTE 47 – CROSS SECTIONS

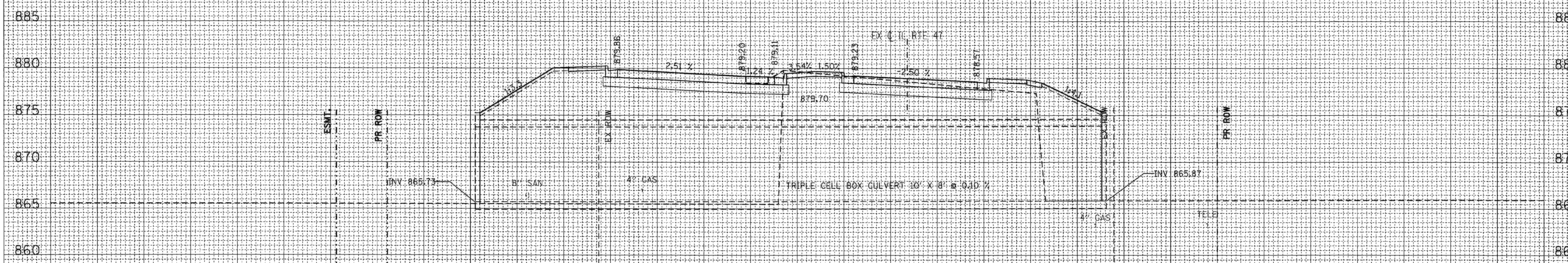
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	393
STA. 9+35.22 TO STA.142+08.53				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	5.08	0.15	7.95	4.54
EMBANKMENT	0.59	120.83	16.16	11.37
PGES	0.00	0.00	0.00	0.00

26+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	0.00	13.32	9.04
EMBANKMENT	0.00	798.92	149.50	0.92
PGES	0.00	0.00	0.00	0.00

25+24.62

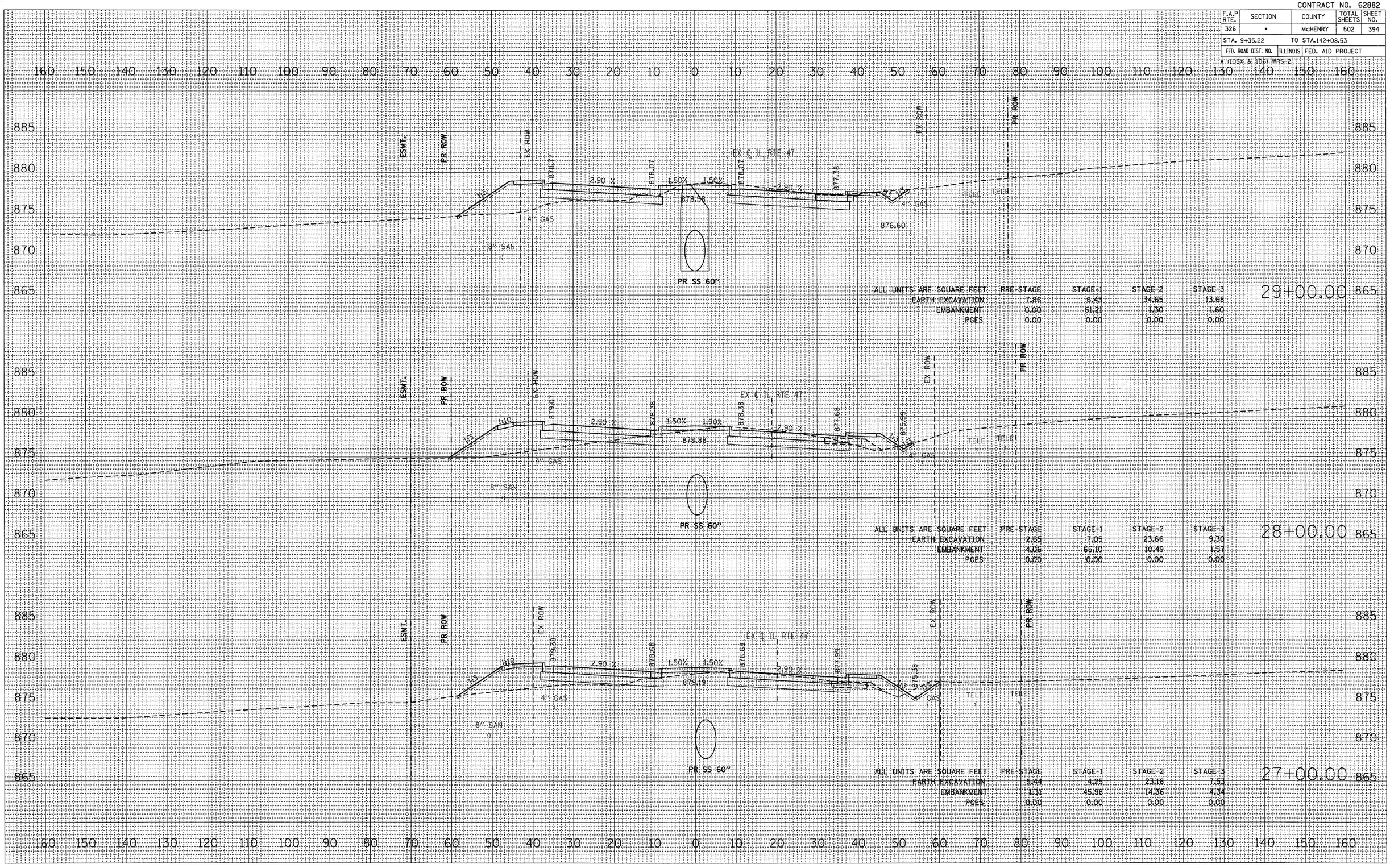
160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

FINAL SURVEY / ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — BY — DATE

CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	394
STA. 9+35.22		TO STA.142+08.53		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

X (105X & 106) WRS-2



	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	7.86	6.43	34.65	13.68
EMBANKMENT	0.00	51.21	1.30	1.60
PCCES	0.00	0.00	0.00	0.00

	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	2.65	7.05	23.66	9.30
EMBANKMENT	4.06	65.10	10.49	1.57
PCCES	0.00	0.00	0.00	0.00

	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	5.44	4.25	23.16	7.51
EMBANKMENT	1.31	45.98	14.36	4.34
PCCES	0.00	0.00	0.00	0.00

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

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

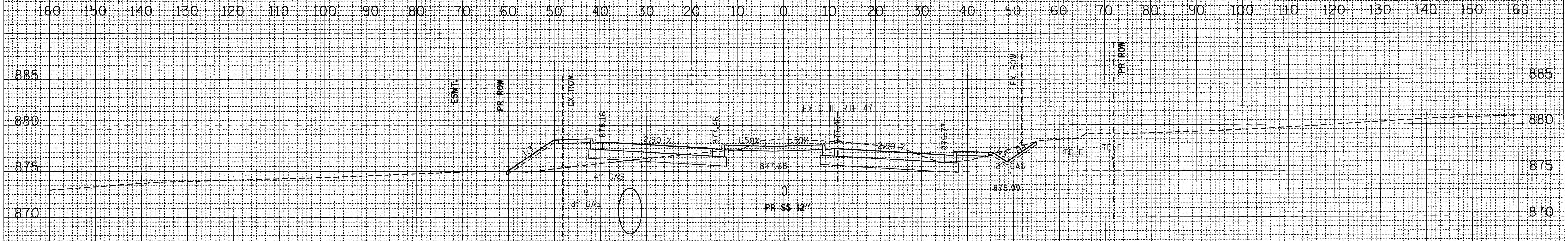
PLOT DATE = Thursday, August 06, 2009
FILE NAME = Sx11-CADD\01-ahk\383-459_47_xs.dgn
PLOT SCALE = 10:1
PLOT USER NAME = 3690

ILLINOIS ROUTE 47 – CROSS SECTIONS

CONTRACT NO. 62882

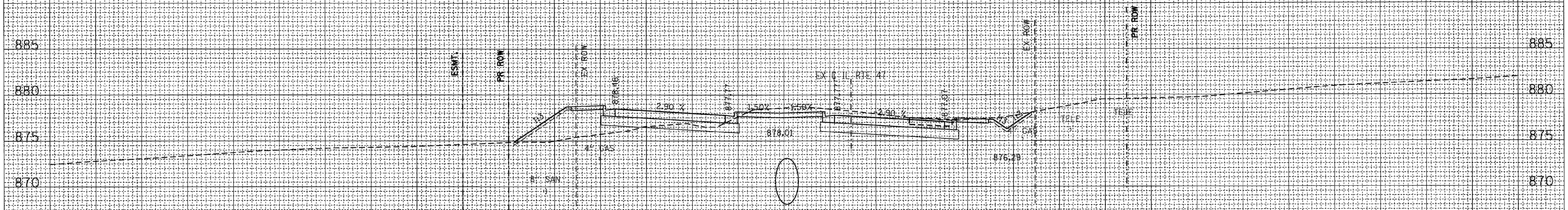
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	395
STA. 9+35.22 TO STA.142+08.53				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



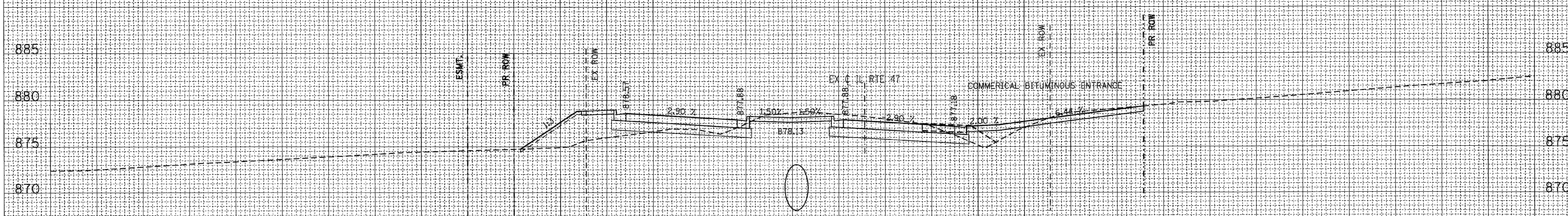
ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	13.80	48.26	18.71
EMBANKMENT	0.00	36.22	2.57	0.38
PGES	0.00	0.00	0.00	0.00

31+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	6.23	8.51	45.06	19.03
EMBANKMENT	0.10	44.40	0.00	0.43
PGES	0.00	0.00	0.00	0.00

30+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	2.05	7.95	44.99	18.25
EMBANKMENT	9.88	43.11	6.01	0.74
PGES	0.00	0.00	0.00	0.00

29+64.50

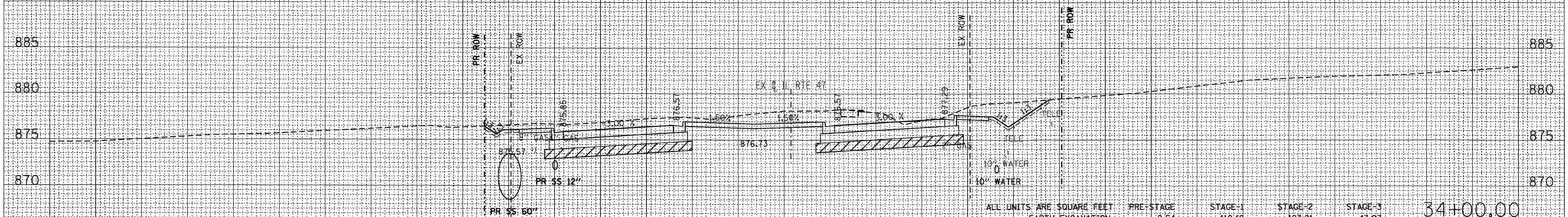
PLOT DATE = Thursday, August 06, 2009

ILLINOIS ROUTE 47 – CROSS SECTIONS

CONTRACT NO. 62882

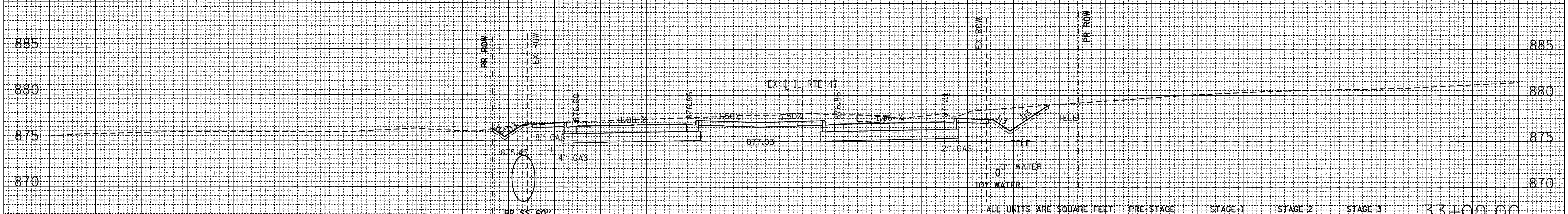
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	396
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



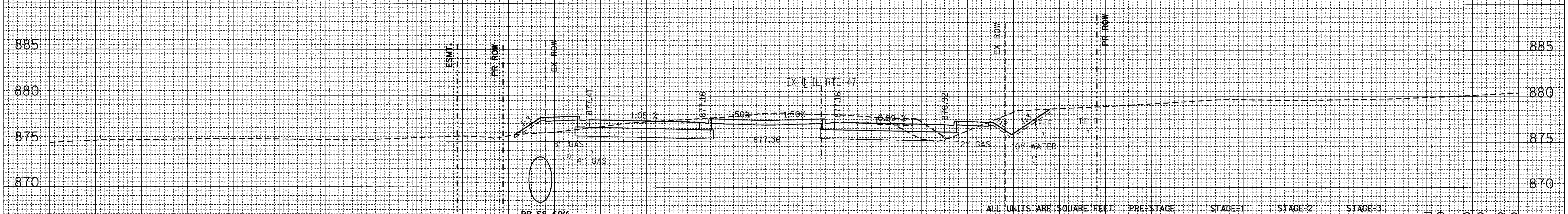
ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	2.64	110.18	123.21	43.07
EMBANKMENT	0.13	0.00	0.00	0.00
PGES	0.00	28.14	28.13	8.18

34+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	4.08	72.21	89.69	26.88
EMBANKMENT	0.15	0.00	0.00	0.00
PGES	0.00	0.00	0.00	0.00

33+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	1.73	41.98	58.40	23.14
EMBANKMENT	11.70	12.49	2.82	0.22
PGES	0.00	0.00	0.00	0.00

32+00.00

ILLINOIS ROUTE 47 – CROSS SECTIONS

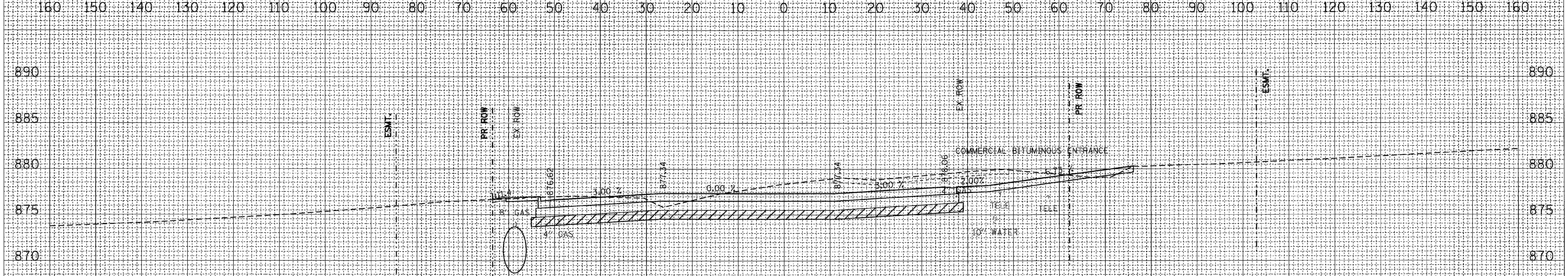
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	397

STA. 9+35.22 TO STA.142+08.53

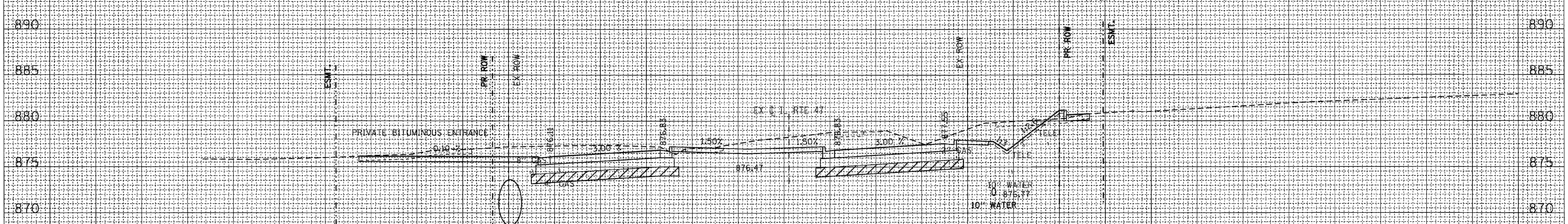
FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

* (105X & 106) WRS-2



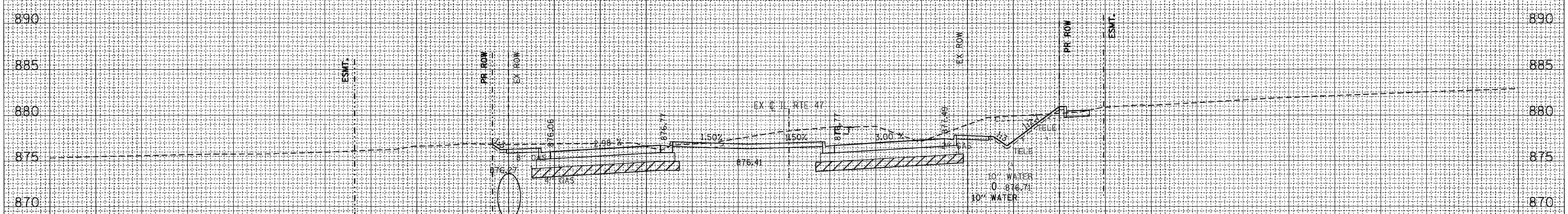
ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	78.45	140.36	91.76
EMBANKMENT	0.00	0.00	0.62	0.00
PGES	0.00	28.13	28.13	38.00

35+83.11



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	134.03	141.29	30.35
EMBANKMENT	0.00	0.00	3.04	0.94
PGES	0.00	28.13	28.13	8.55

35+10.50



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.76	99.06	137.75	33.86
EMBANKMENT	0.00	0.00	2.20	0.50
PGES	0.00	28.14	28.13	8.17

35+00.00

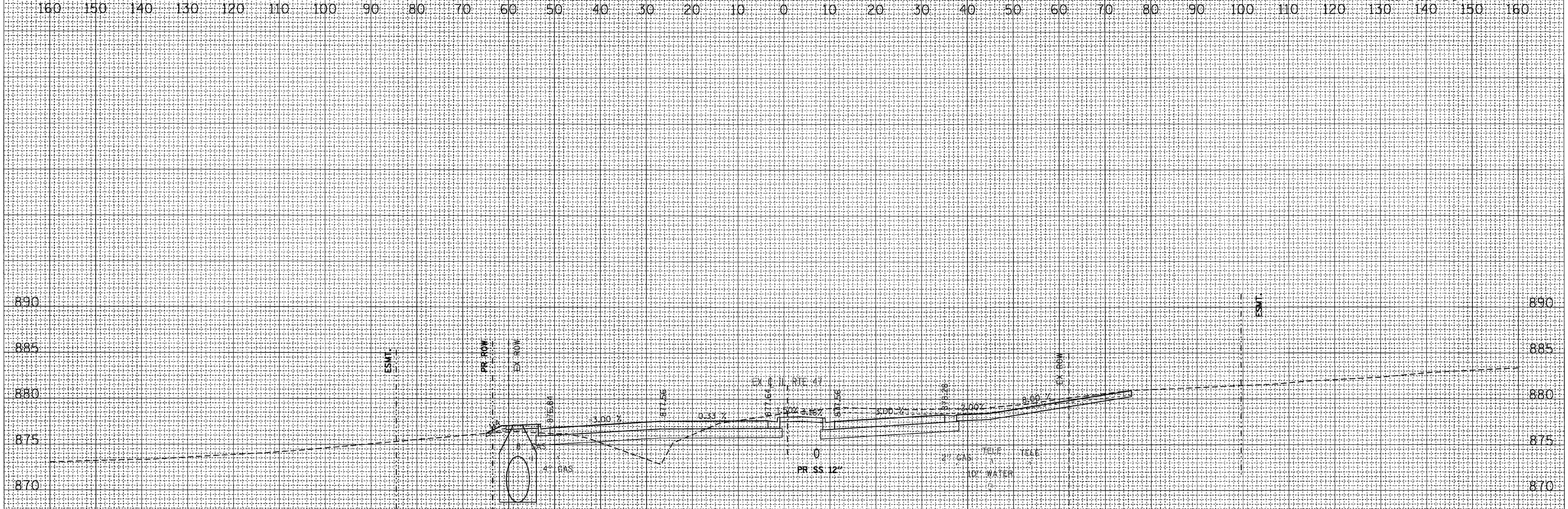
ILLINOIS ROUTE 47 – CROSS SECTIONS

PLOT DATE = Thursday, August 06, 2009
PLOT SCALE = 101
USER NAME = 3690

CONTRACT NO. 62882

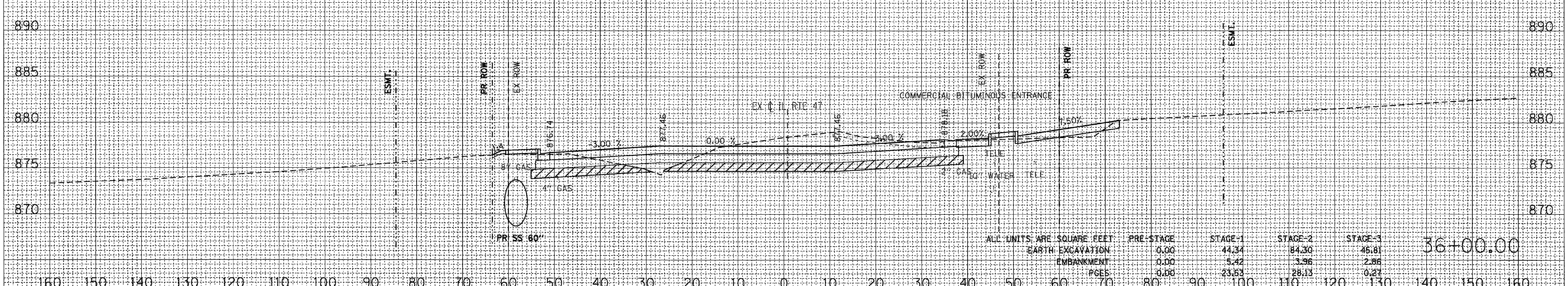
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	398
STA. 9+35.22	TO STA.142+08.53			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	12.33	81.20	27.24
EMBANKMENT	0.00	22.71	0.00	6.19
PGES	0.00	0.00	0.00	0.00

36+14.43



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	44.34	84.30	45.81
EMBANKMENT	0.00	5.42	3.96	2.86
PGES	0.00	23.53	28.13	0.27

36+00.00

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

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

PLOT DATE = Thursday, August 06, 2009
FILE NAME = S:\11-CADD\01-sht\383-459_47_xs.dgn
PLOT SCALE = 10:1
USER NAME = 3690

ILLINOIS ROUTE 47 – CROSS SECTIONS

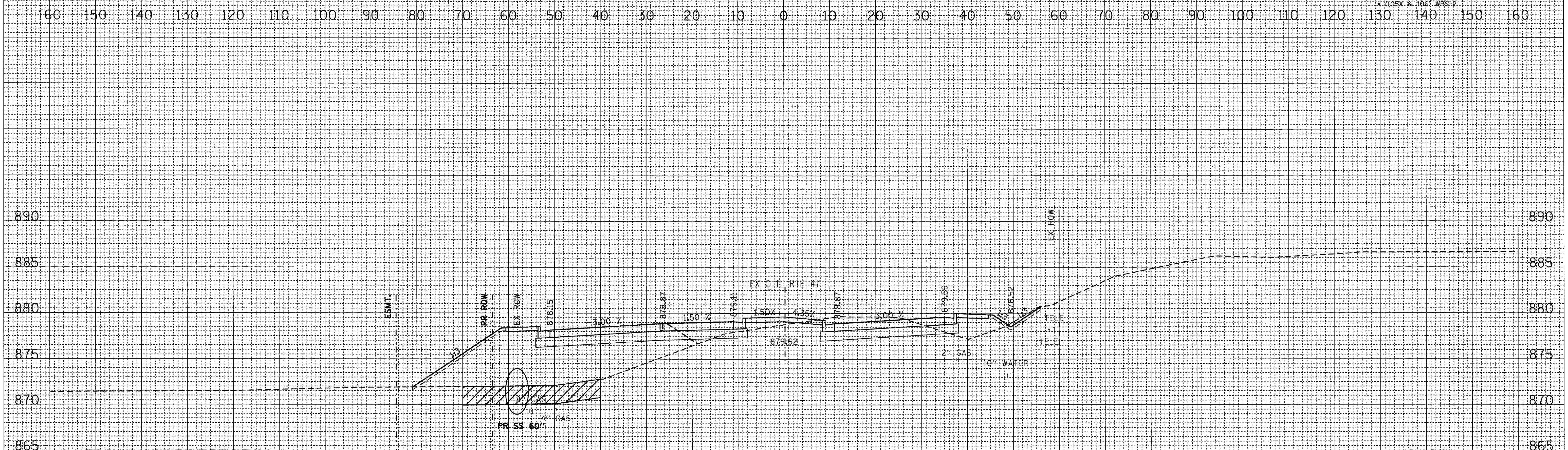
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	399

CONTRACT NO. 62882

STA. 9+35.22 TO STA.142+08.53

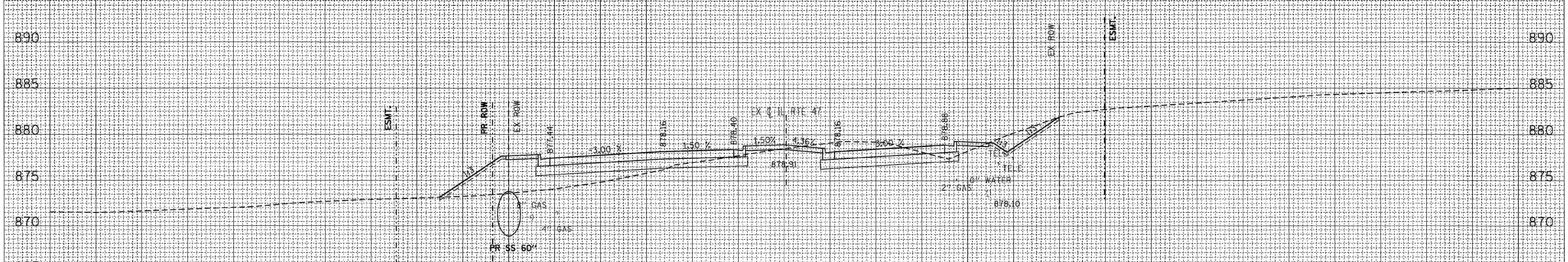
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

* (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	60.44	40.63	12.12
EMBANKMENT	0.00	212.93	17.18	24.41
PGES	0.00	60.27	0.00	0.00

38+00.00



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	0.18	62.98	12.30
EMBANKMENT	0.00	80.27	2.69	14.96
PGES	0.00	0.00	0.00	0.00

37+00.00

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

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

PLOT DATE = Thursday, August 06, 2009
PLOT SCALE = 1:1

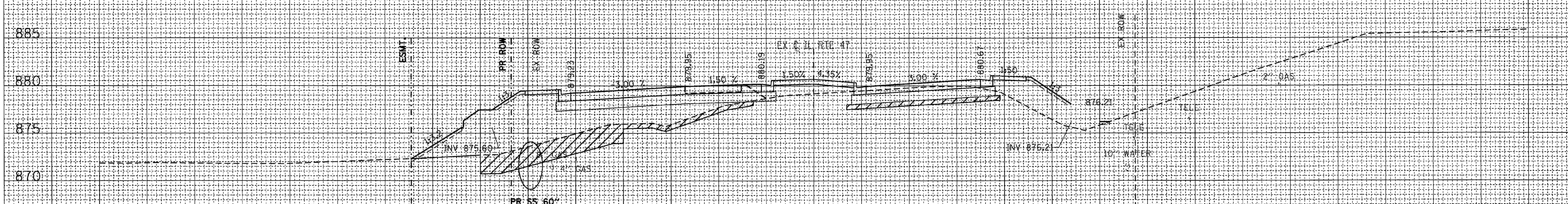
CONTRACT NO. 62882

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	*	McHENRY	502	400

STA. 9+35.22 TO STA.142+08.53

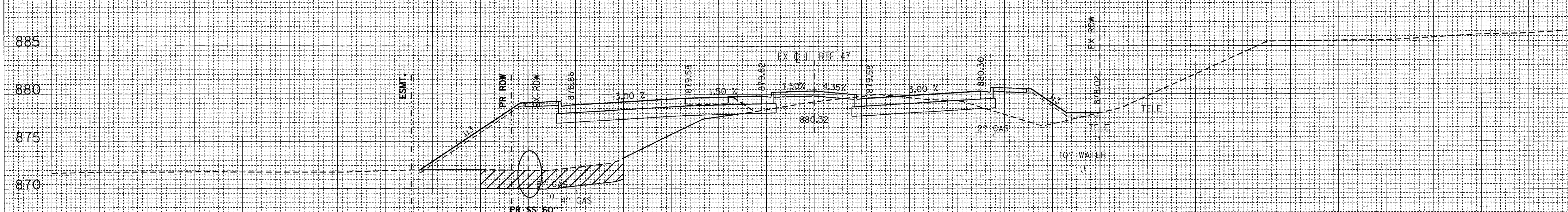
FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

* (105X & 106) WRS-2



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	69.22	112.12	105.42
EMBANKMENT	0.00	155.71	39.22	16.45
PGES	0.00	74.10	14.07	0.00

39+52.54



ALL UNITS ARE SQUARE FEET	PRE-STAGE	STAGE-1	STAGE-2	STAGE-3
EARTH EXCAVATION	0.00	60.68	26.19	18.91
EMBANKMENT	0.00	238.39	36.43	30.08
PGES	0.00	60.52	0.00	0.00

39+00.00

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

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

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

PLOT DATE = Thursday, August 06, 2009
FILE NAME
PLOT SCALE
USER NAME

ILLINOIS ROUTE 47 – CROSS SECTIONS