GENERAL ELECTRICAL PLAN NOTES

1. THIS PROJECT INCLUDES THE INSTALLATION OF ROUNDABOUT LIGHTING AT RIVER RD. AND ROBERTS RD.
2. THE CONTRACTOR SHALL CONTACT THE ELECTRIC UTILITY COMPANY TO COORDINATE THE ELECTRIC SERVICE WORK.
3. THE CONTRACTOR SHALL SUBMIT FOR THE RESIDENT ENGINEER'S REVIEW WITHIN 30 DAYS AFTER CONTRACT EXECUTION, EIGHT COPIES OF APPROVED MANUFACTURER'S PRODUCT DATA AND DETAILED SHOP DRAWINGS TO THE RESIDENT ENGINEER.
4. TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE LIGHT POLES, THE LIGHT POLES SHALL NOT BE ERECTED AND/OR LEFT TO STAND WITHOUT LUMINAIRE.
5. THE QUANTITIES OF RACEWAY WHERE INDICATED IN THESE PLANS ARE APPROXIMATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND SHALL INSTALL RACEWAYS IN COMPLETE COMPLIANCE WITH THE SPECIFIED REQUIREMENTS.
6. THE CONTRACTOR SHALL NOTIFY J.U.L.I.E. TO LOCATE AND MARK/STAKE ALL UNDERGROUND UTILITIES.
7. THE CONTRACTOR SHALL NOTIFY LAKE COUNTY TO LOCATE AND MARK/STAKE ALL COUNTY OWNED UNDERGROUND UTILITIES.
8. TRENCHES FOR LIGHTING RACEWAYS SHALL HAVE A MINIMUM DEPTH OF 30".
9. WHERE SEPARATE CIRCUIT RUNS ARE TO BE INSTALLED PARALLEL WITH EACH OTHER, ONE COMMON TRENCH SHALL BE USED AND SHALL BE MEASURED ONLY ONCE FOR PAYMENT.
10. THE CONTRACTOR SHALL COORDINATE THE FOUNDATION HEIGHTS WITH THE FINISHED ELEVATION SO FOUNDATION DOES NOT PROTRUDE BEYOND SPECIFIED REQUIREMENTS. (SEE LIGHT POLE FOUNDATION, DETAIL).
11. AT THE COMPLETION OF THE PROJECT THE LIGHTING SYSTEM SHALL BE OWNED AND MAINTAINED BY LAKE COUNTY.
12. LIGHTING SYSTEM INSTALLATION SHALL CONFORM TO THE LATEST IDOT STANDARDS, NEC AND LOCAL CODES.
13. ALL ELECTRICAL EQUIPMENT AND PRODUCTS SHALL BE U/L LISTED AND LABELED.
14. THE CONTRACTOR SHALL SUBMIT FOUR (4) SETS OF FULL SIZED COMPLETE AND ACCURATE "RECORD DRAWINGS" TO THE ENGINEER FOR REVIEW AND COMMENT, AS SPECIFIED. THE "RECORD DRAWINGS" SHALL BE UPDATED ON A REGULAR BASIS AND DEPICT ALL ROADWAY LIGHTING MATERIAL INSTALLATIONS WITH ANY CHANGES INDICATED IN RED. "REPORDUCIBLE RECORD DRAWINGS" SHALL BE SUBMITTED AT LEAST 7 DAYS BEFORE SCHEDULING A FINAL INSPECTION.
15. GROUND RODS SHALL BE FURNISHED AND INSTALLED AS REQUIRED PER PLAN FOR THE LIGHTING CONTROLLER. THE COST SHALL BE INCLUDED WITH THE PAY ITEM LIGHTING CONTROLLER BASE MOUNTED, 480 VOLT, 100AMP.
16. GROUND RODS SHALL BE FURNISHED AND INSTALLED AS REQUIRED PER PLAN FOR EACH LIGHT POLE FOUNDATION. THE COST SHALL BE INCLUDED WITH THE PAY ITEM LIGHT POLE FOUNDATION, 30" DIAMETER.

SCHEDULE OF QUANTITIES - ROADWAY LIGHTING IMPROVEMENT

PAY ITEM	DESCRIPTION	UNIT	QUANTITY
• 80400100	ELECTRIC SERVICE INSTALLATION	EACH	1
• 80400200	ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1
• 81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	50
• 81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	240
• 81603010	UNIT DUCT, 600V, 2-1/C NO.10, 1/C NO.10 GROUND (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE	FOOT	35
• 81603060	UNIT DUCT, 600V, 3-1/C NO.8, 1/C NO.10 GROUND (XLP-TYPE USE), 1" DIA. POLYETHYLENE	FOOT	600
• 81702150	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO.2	FOOT	150
• 82500360	LUMINIARE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	15
• 82500360	LIGHTING CONTROLLER BASE MOUNTED, 480 VOLT, 100 AMP	EACH	1
• 83060120	LIGHT POLE, GALVANIZED STEEL, 30 FT. M.H., 8FT. MAST ARM	EACH	11
• 83060150	LIGHT POLE, GALVANIZED STEEL, 30 FT. M.H., 15FT. MAST ARM	EACH	4
• 83600300	LIGHT POLE FOUNDATION, 30" DIAMETER	FOOT	150
• XX005940	REMOTE CONTROLLED VIDEO SYSTEM	EACH	1
• XX006655	LAYER II (DATALINK) SWITCH	EACH	1
• XX008253	VIDEO ENCODER	EACH	1
• X0324597	CLOSED CIRCUIT TELEVISION CABINET	EACH	1
XX008392	OUTDOOR RATED NETWORK CABLE	FOOT	30

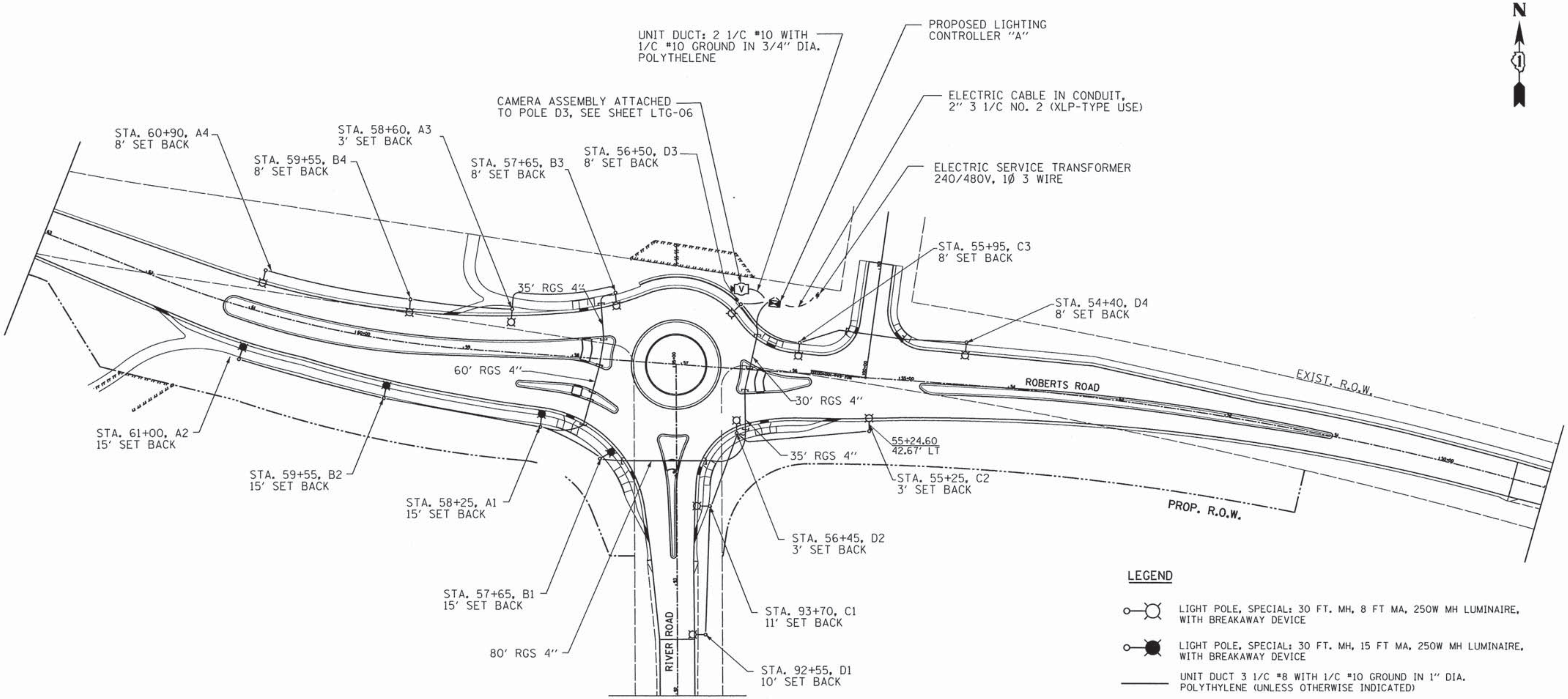
• REQUIRES SPECIAL PROVISIONS

LTG-01

AMES Engineering, Inc. CONSULTING ENGINEERS 1341 Warren Avenue Downers Grove, IL 60515 (630) 737-1987 (t); (630) 470-8891 (f) www.amesengineeringinc.com	USER NAME = $USER$	DESIGNED - BL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RIVER ROAD AND ROBERTS ROAD GENERAL NOTES AND SCHEDULE OF QUANTITIES
		DRAWN - RV/MSA	REVISED -		
	PLOT SCALE = $SCALE$	CHECKED - SA	REVISED -		
	PLOT DATE = 11/6/2013	DATE -	REVISED -		SCALE: 1"=20" SHEET 101 OF 183 SHEETS STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	101
		CONTRACT NO. 63815		
		ILLINOIS FED. AID PROJECT		

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\LTG-01 GENERAL NOTES.SHT.dgn



LEGEND

- LIGHT POLE, SPECIAL: 30 FT. MH, 8 FT MA, 250W MH LUMINAIRE, WITH BREAKAWAY DEVICE
- LIGHT POLE, SPECIAL: 30 FT. MH, 15 FT MA, 250W MH LUMINAIRE, WITH BREAKAWAY DEVICE
- UNIT DUCT 3 1/C #8 WITH 1/C #10 GROUND IN 1" DIA. POLYTHYLENE (UNLESS OTHERWISE INDICATED)
- ELECTRIC CABLE IN CONDUIT 3-1/C #2 (XLP-TYPE USE)
- UTILITY SERVICE CONNECTION, POLE MOUNTED
- LIGHTING CONTROLLER
- RIGID GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED AS INDICATED
- REMOTE CONTROLLED VIDEO SYSTEM, LAYER II (DATALINK) SWITCH, VIDEO ENCODER, CLOSED CIRCUIT TELEVISION CABINET, OUTDOOR RATED NETWORK CABLE AND CAMERA MOUNTING ASSEMBLY

NOTES:

1. SET BACKS ARE INDICATED FROM BACK OF THE CURB TO CENTER OF POLES UNLESS OTHERWISE NOTED.

0 50 100 150

HORIZONTAL SCALE IN FEET

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\LTG-02 LIGHTING PLAN.SHT.dgn

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CONSULTING ENGINEERS
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Downers Grove, IL 60515
(630) 737-1987 (t); (630) 470-0691 (f)
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD AT ROBERTS ROAD
LIGHTING PLAN

SCALE: 1"=20" | SHEET 102 OF 183 SHEETS | STA. | TO STA.

LTG-02

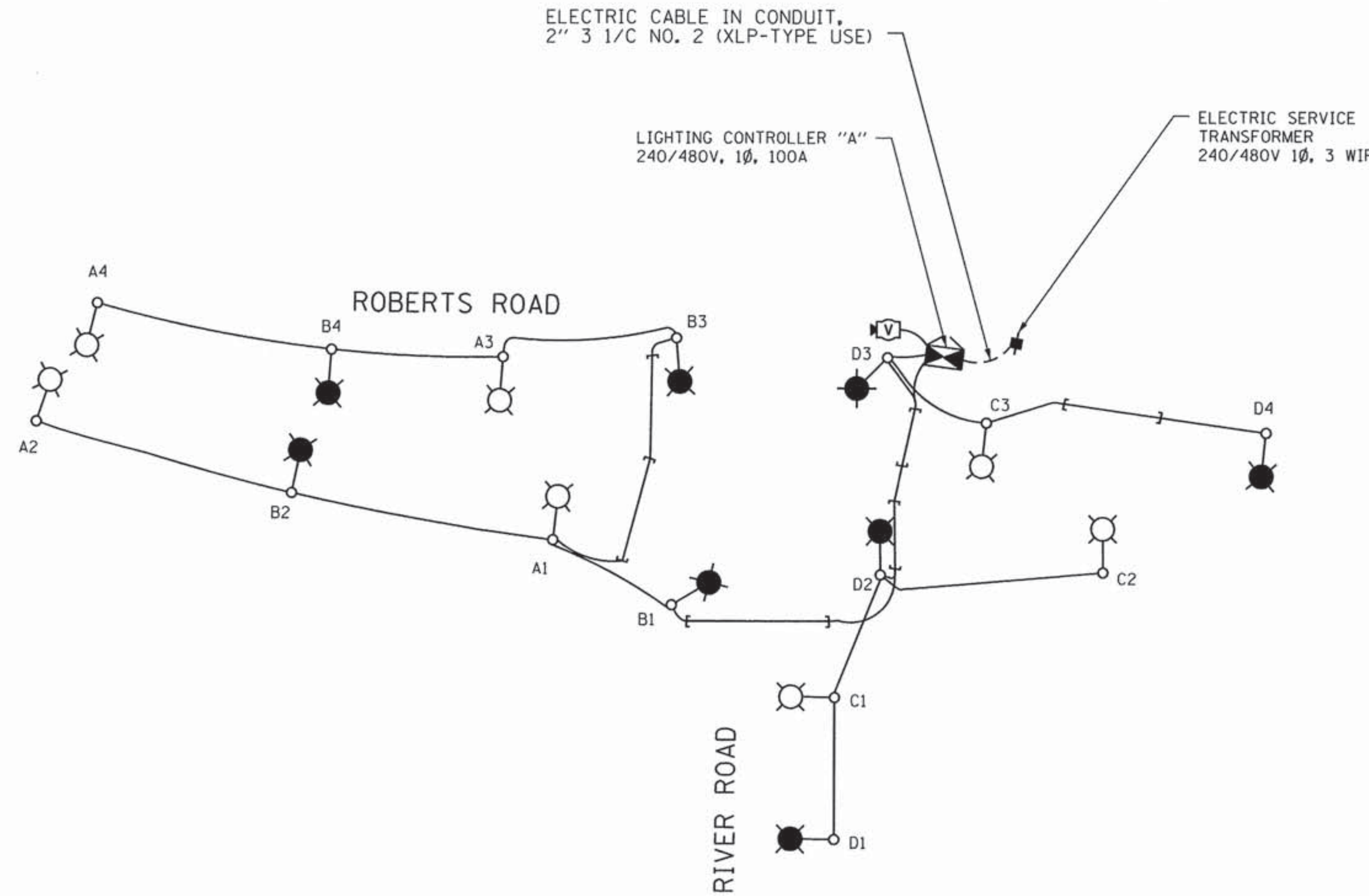
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	102
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

LIGHTING CONTROLLER "A" AT ROBERTS RD

	RED			BLACK	
CIRCUIT	AMPS @ 240V	VA	CIRCUIT	AMPS @ 240V	VA
A	4.6	1104	B	4.6	1104
C	3.45	828	D	4.6	1104
E	SPARE	SPARE	F	SPARE	SPARE
G	SPARE	SPARE	H	SPARE	SPARE
TOTAL	8.05	1932	TOTAL	9.20	2208
TOTAL LOAD 17.25A					

LOAD DATA:

250W, 240V LUMINAIRE: 1.15A/LUMINAIRE



N

LEGEND

250 WATT MH LUMINAIRE, 240V, RED CIRCUIT

250 WATT MH LUMINAIRE, 240V, BLACK CIRCUIT

UNIT DUCT 3 1/C #8 WITH 1/C #10 GROUND IN 1" DIA. POLYETHYLENE

LIGHTING CONTROLLER, 240/480V, 1Ø, 100A

UNIT DUCT 2 1/C #10 WITH 1/C #10 GROUND IN 3/4" DIA. POLYETHYLENE

CAMERA ASSEMBLY

ELECTRIC SERVICE TRANSFORMER 240/480V 1Ø 3 WIRE

LTG-03

FILE NAME = F:\877-010 River Roberts Phase I\CADD_SHEETS\LTG-03 WIRING DIAGRAM.DGN

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ITASCA, ILLINOIS

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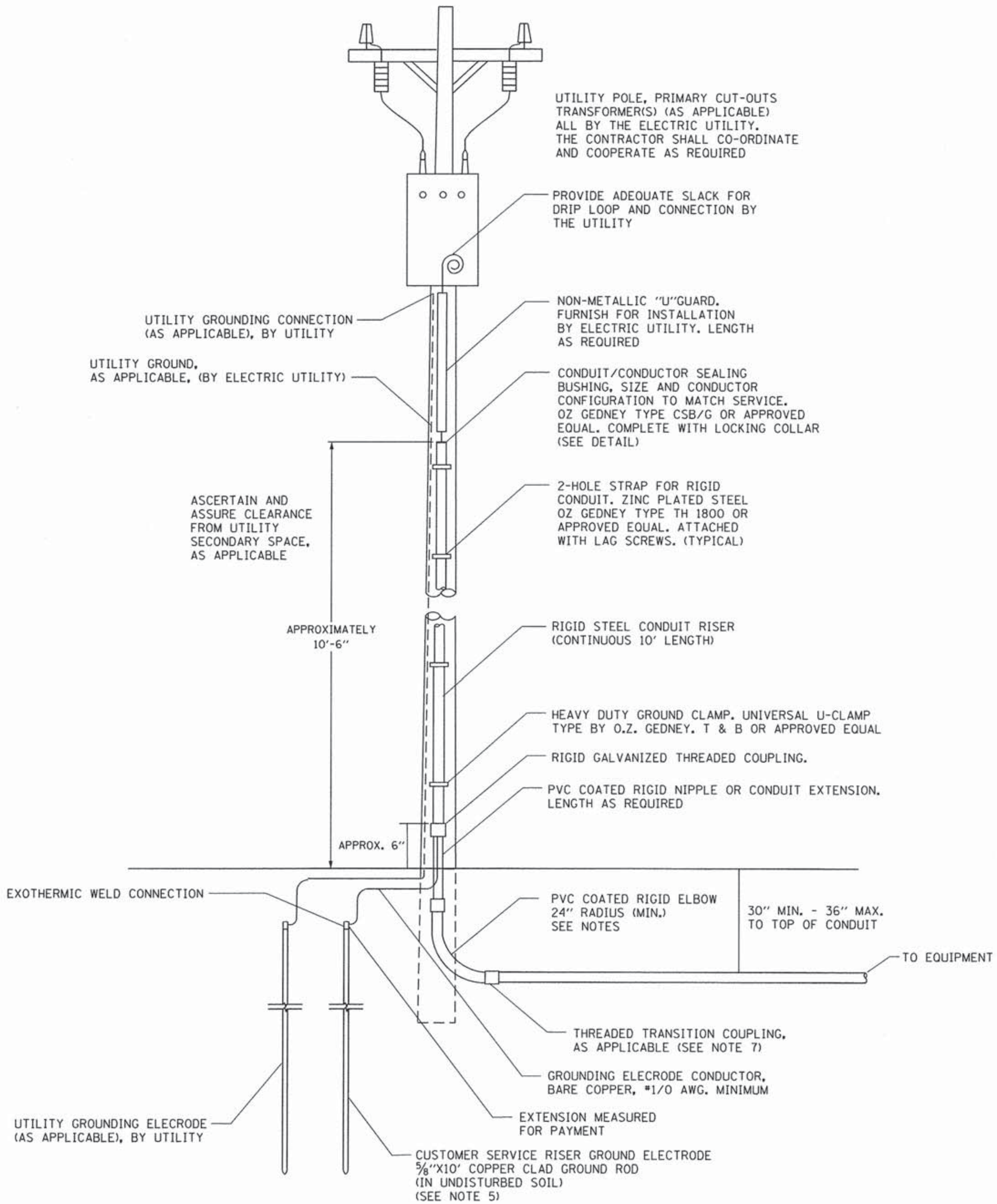
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD AND ROBERTS ROAD
SINGLE LINE WIRING DIAGRAM

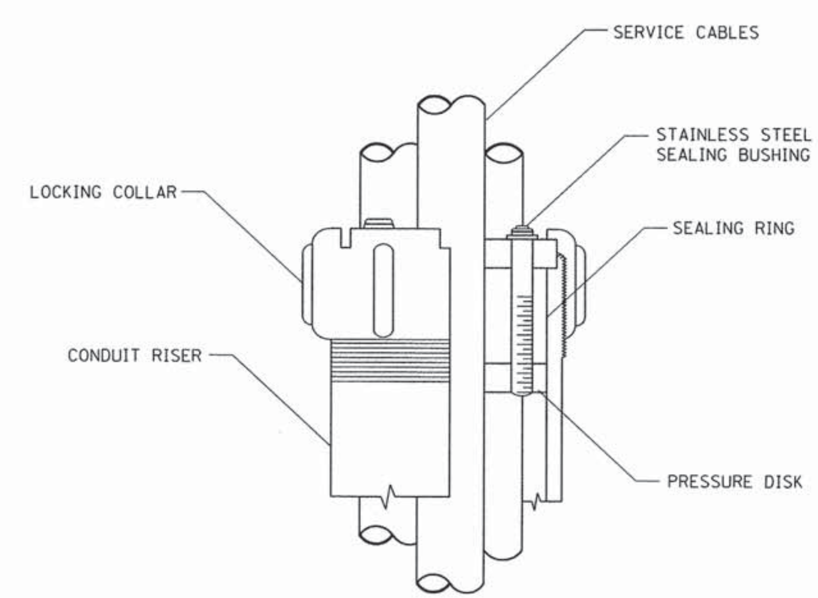
SCALE: 1"=20" | SHEET 103 OF 183 SHEETS | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	103
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		



NOTES:

1. SERVICE VOLTAGE SHALL BE 120/240V AS INDICATED ON SHEET LTG-02 AND 04.
2. UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF ELECTRIC UTILITY SERVICE INSTALLATION.
3. CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED.
4. PVC COATED RACEWAYS AND ACCESSORIES SHALL BE CAREFULLY INSTALLED WITH MFR RECOMMENDED TOOLS AND PROCEDURES TO AVOID DAMAGE. ANY DAMAGE SHALL BE REPAIRED WITH COMPATIBLE PVC TOUCH-UP MATERIAL TO THE SATISFACTION OF THE ENGINEER OR THE DAMAGED MATERIAL SHALL BE REPLACED AT NO ADDITIONAL COST.
5. THE CONTRACTOR SHALL OBTAIN INSPECTION AND APPROVAL BY THE ENGINEER OF SERVICE RISER GROUND ELECTRODE, RISER ELBOW, NIPPLE AND CONNECTION TO SERVICE CONDUCTOR RACEWAY EXTENSION BEFORE BACK FILL AND SHALL ALSO OBTAIN INSPECTION OF SERVICE RISER AND SEALING BUSHING BEFORE UTILITY "U" GUARD INSTALLATION AND SERVICE CONNECTION.
6. THE SERVICE METER SOCKET, AS APPLICABLE, MOUNTED ELSEWHERE AS INDICATED SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRICAL UTILITY SERVICE INSTALLATION PAY ITEM.
7. THE SERVICE CONDUCTOR RACEWAY SHALL BE AS INDICATED AND SHALL BE MEASURED SEPARATELY FOR PAYMENT. WHEN THE RACEWAY IS PVC-COATED RIGID GALVANIZED STEEL, THE COUPLING SHALL BE THE SAME. WHEN THE RACEWAY IS PVC CONDUIT (IN CONCRETE), THE COUPLING SHALL BE A METALLIC TO NON METALLIC ADAPTER. WHEN THE RACEWAY IS ENCASED IN CONCRETE, THE CONCRETE SHALL EXTEND TO COVER THE COUPLING.
8. PLANS AND DETAILS INDICATE THE GENERAL NATURE AND REQUIREMENTS. THEY DO NOT SHOW EVERY ACCESSORY AND ATTACHMENT, AND THEY DO NOT RELIEVE THE CONTRACTOR OF THE REQUIREMENTS OF THE SPECIFICATIONS AND SPECIAL PROVISIONS TO ASCERTAIN UTILITY REQUIREMENTS AND TO COORDINATE ACCORDINGLY, FURNISHING ALL ITEMS AND WORK NOT PROVIDED BY THE UTILITY, BUT NECESSARY FOR A COMPLETE SERVICE INSTALLATION IS REQUIRED AND SHALL BE INCLUDED IN THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.



SEALING BUSHING DETAIL

LTG-04

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		DRAWN - GJE	REVISED -
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	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

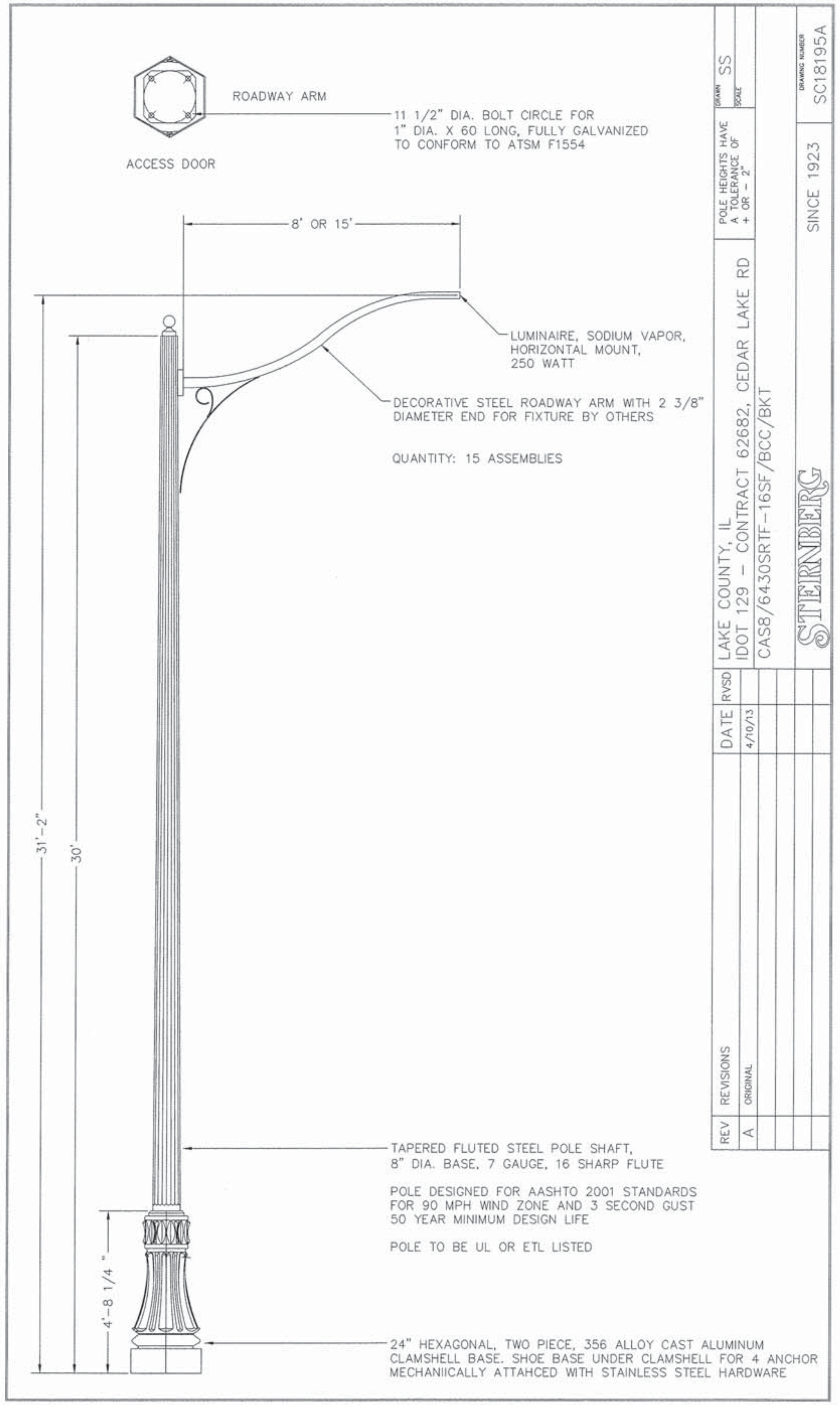
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD AND ROBERTS ROAD
ELECTRIC SERVICE INSTALLATION ABOVE GROUND (BE-220)

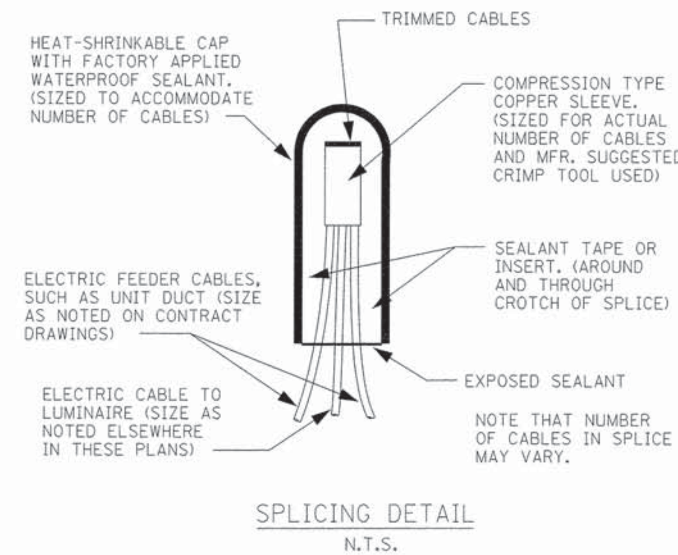
SCALE: 1"=20" | SHEET 104 OF 183 SHEETS | STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	104
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

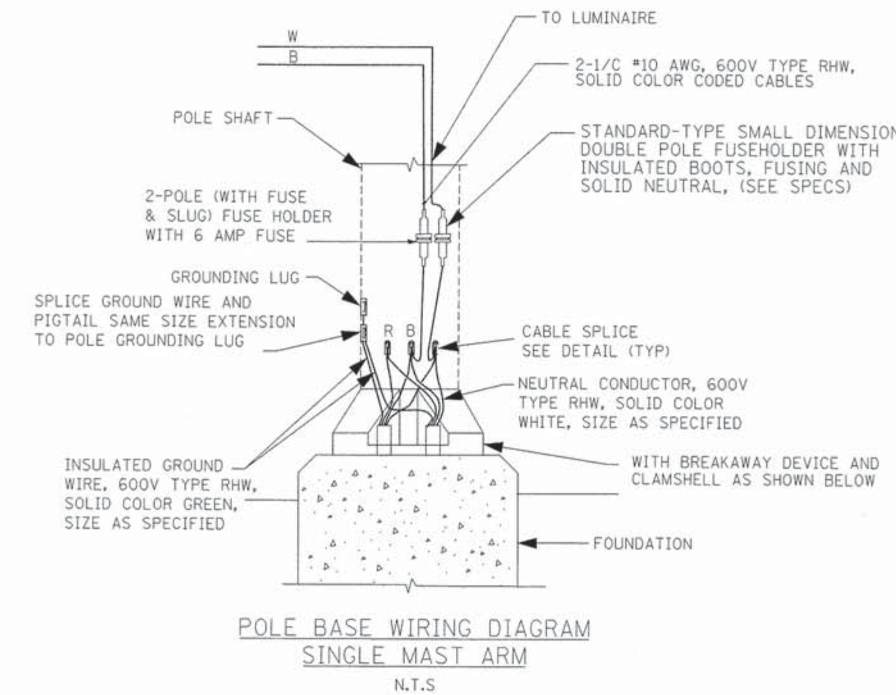
FILE NAME = F:\877-010 River Roberts Phase I\CADD_SHEETS\LTG-04 elec serv detail.dgn



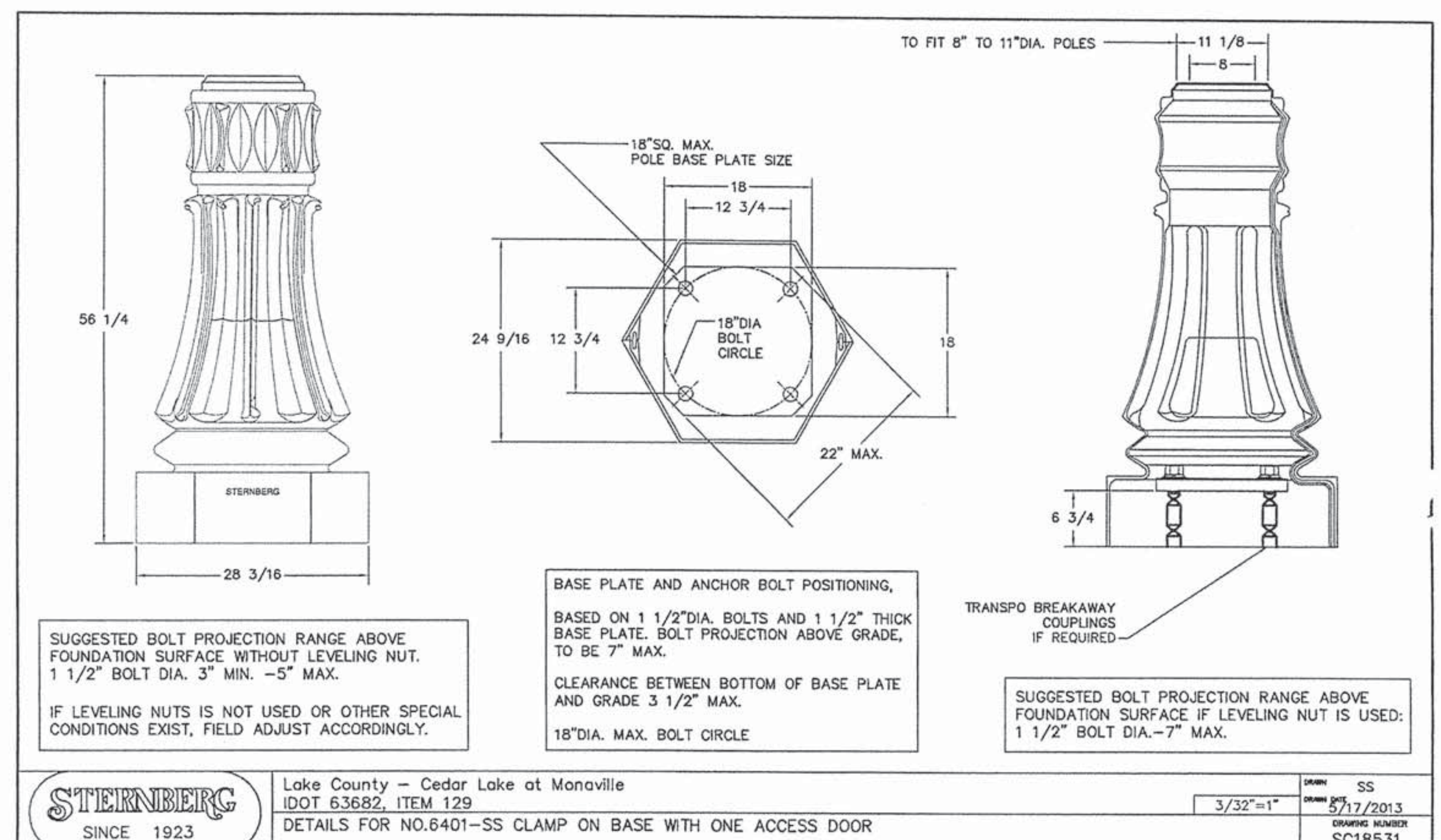
NOTE: POLE AND BASE SHALL BE APPROVED BY LAKE COUNTY PRIOR TO INSTALLATION



SPLICING DETAIL
N.T.S.



POLE BASE WIRING DIAGRAM
SINGLE MAST ARM
N.T.S



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LTG-05

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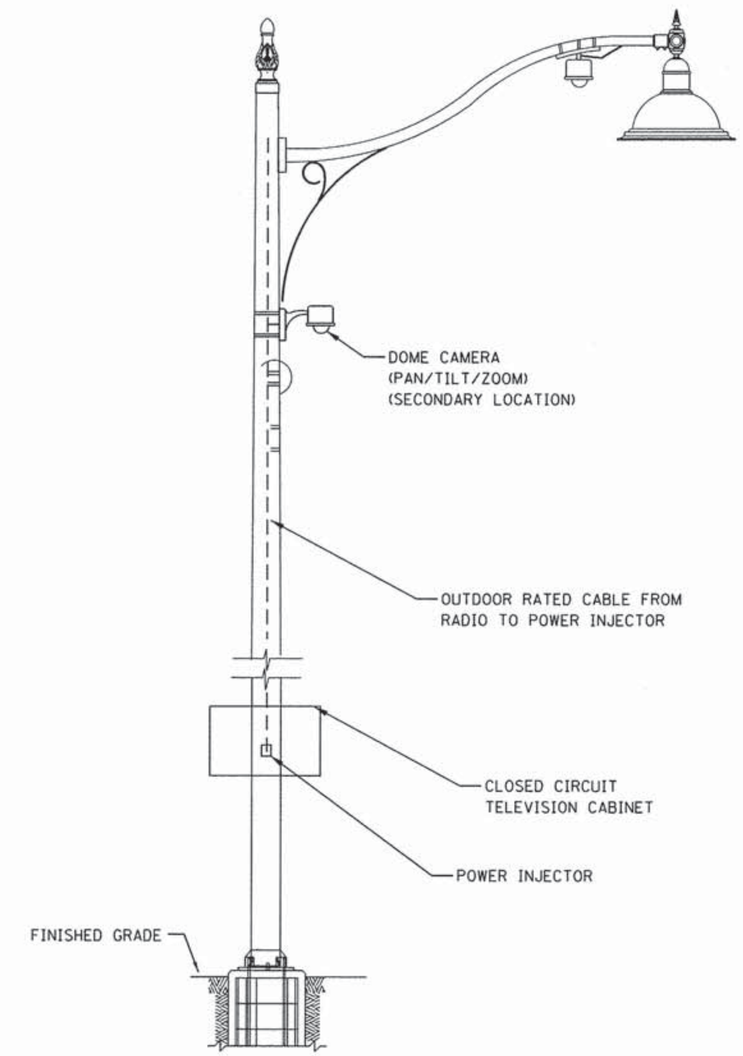
	PLOT DATE = 11/7/2013	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD AND ROBERTS ROAD
LIGHTING DETAILS

SCALE: 1"=20" | SHEET 105 OF 183 SHEETS | STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	105
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		



DOME (PTZ) CAMERA MOUNTING DETAIL

(NOT TO SCALE)

MOUNT LUMINAIRE MOUNTING BRACKET AS HIGH AS POSSIBLE.

LTG-06

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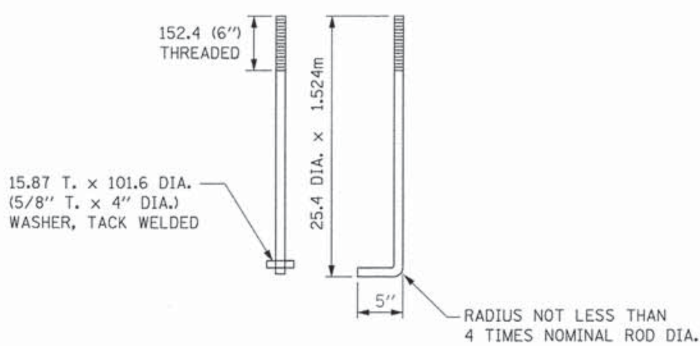
		DRAWN - RV/MSA	REVISED -					CONTRACT NO. 63875		
	PLOT SCALE = $SCALE$	CHECKED - SA	REVISED -		SCALE: 1"=20" SHEET 106 OF 183 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		
	PLOT DATE = 11/6/2013	DATE -	REVISED -							

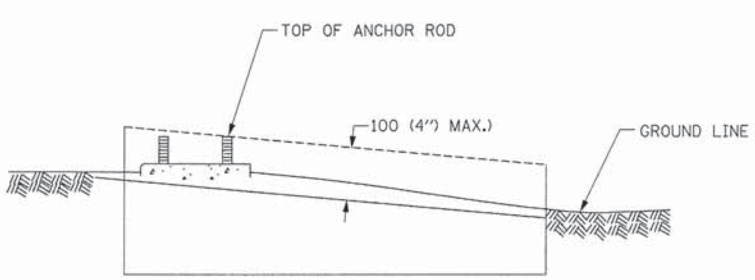
LIGHT POLE FOUNDATION DEPTH TABLE

9.144M (30FT.) TO 14.478M (47.5 FT.) MOUNTING HEIGHT

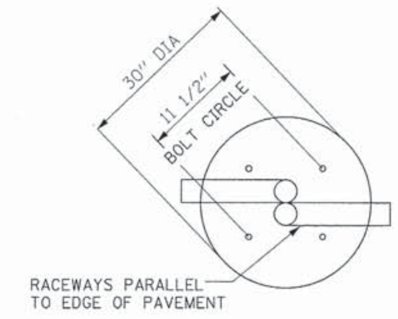
SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Qu = 0375 TON/SQ. FT.	3.96M (13'-0")	4.57M (15'-0")
MEDIUM CLAY Qu = 0.75 TON/SQ. FT.	2.09M (9'-6")	3.23M (10'-9")
STIFF CLAY Qu = 1.50 TON/ SQ. FT.	2.13M (7'-0")	2.44M (8'-0")
LOOSE SAND Ø = 30°	2.74M (9'-0")	3.05M (10'-0")
MEDIUM SAND Ø = 37.5°	2.52M (8'-3")	2.74M (9'-0")
DENSE SAND Ø = 40°	2.36M (7'-9")	2.74M (9'-0")



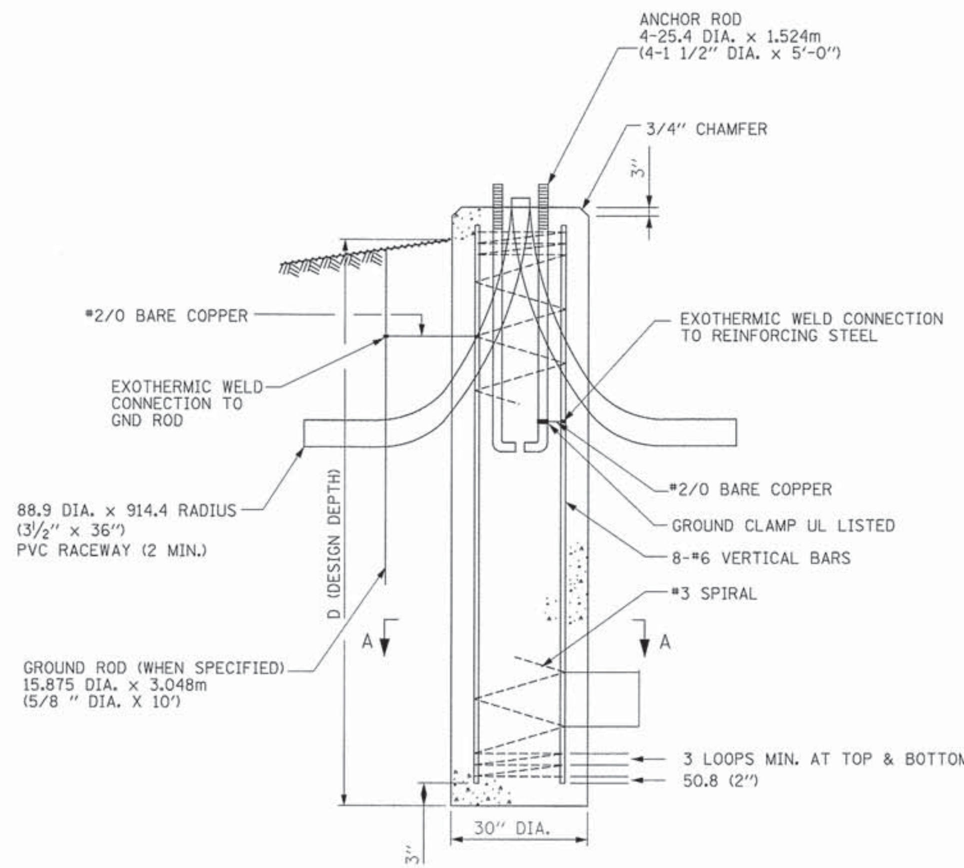
ANCHOR BOLT DETAIL



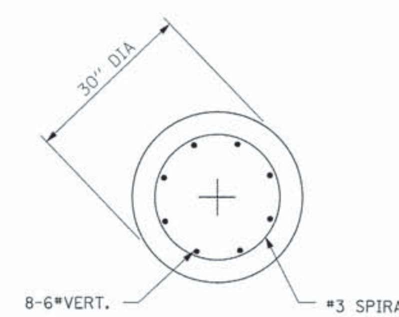
FOUNDATION EXTENSION DETAIL



TOP VIEW



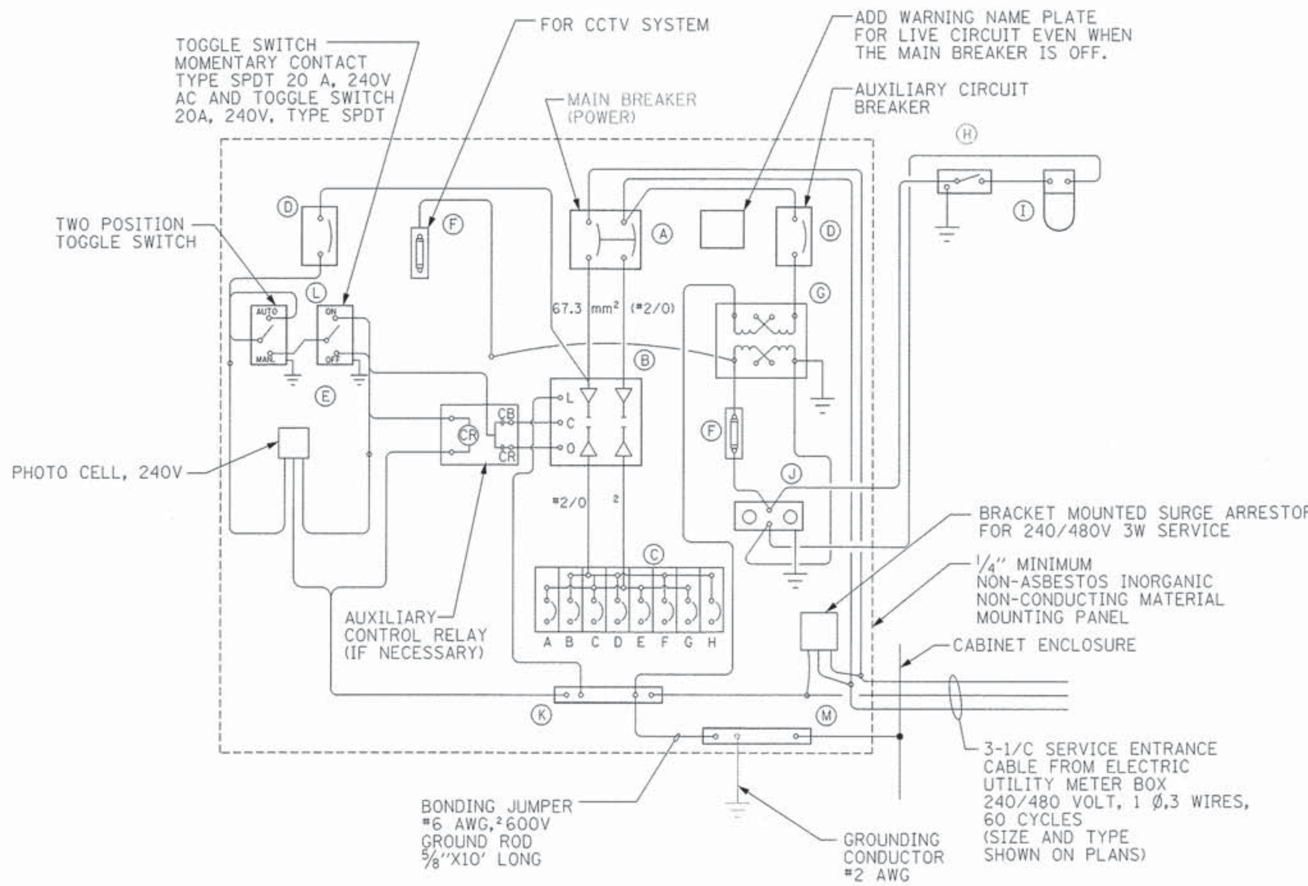
FOUNDATION DETAIL



SECTION A-A

NOTES

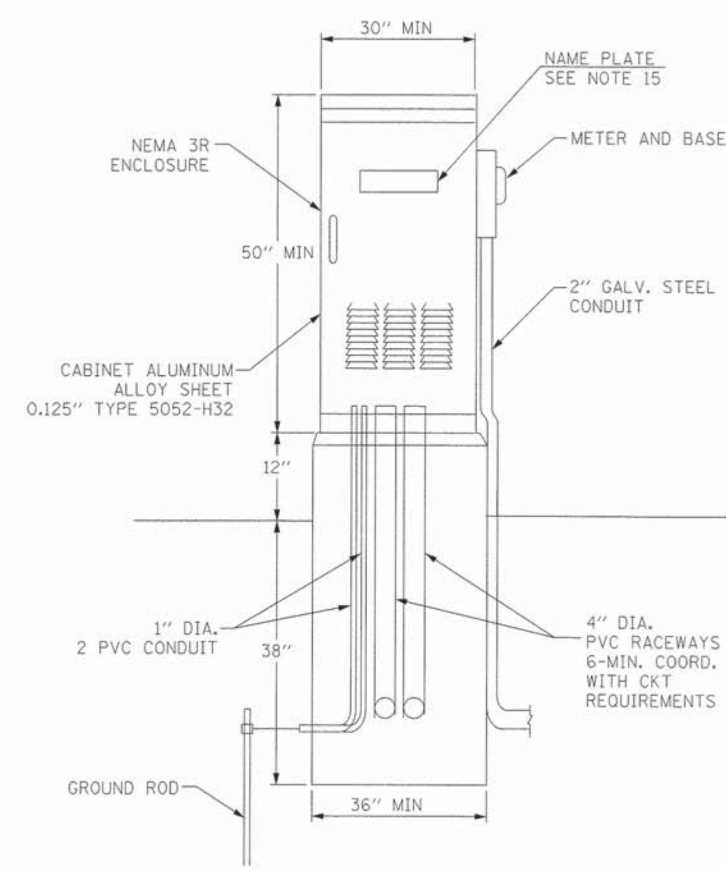
1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE CONCRETE IS PLACED.
3. THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 1.5M (60 IN.) CHORD ACROSS THE FOUNDATION WITH ANCHOR RODS INCLUDED. IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS. THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
4. THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE. THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
5. THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 20MM (3/4-IN.)
6. THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
7. THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
8. THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH. AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
9. ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASTHO M 232. THE MECHANICAL PLATING METHOD CONFORMING TO AASTHO M 298. CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM (6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
10. THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 150 MM (6 INCHES) WITH A MINIMUM OF 75 MM (3 INCHES) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
11. ANCHOR RODS SHALL PROJECT 69.9MM (2¾") ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
12. THE CONTRACTOR SHALL USE A #3 SPIRAL AT 152.4MM (6") PITCH OR MAY SUBSTITUTE #3 TIES AT 304.8MM (12") O.C. WITH THE APPROVAL OF THE ENGINEER.
13. THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
14. THE RACEWAYS SHALL PROJECT 25.4MM (1") ABOVE THE TOP OF THE FOUNDATION.
15. THE GENERAL CONTRACTOR IS REQUIRED TO HIRE AN ENVIRONMENTAL FIRM WITH AT LEAST FIVE (5) DOCUMENTED LEAKING UNDERGROUND STORAGE TANK CLEANUPS OR THAT IS PRE-QUALIFIED IN HAZARDOUS WASTE BY THE DEPARTMENT TO REMEDIATE THE SOIL CONTAMINATION AND MONITOR FOR WORKER PROTECTION.

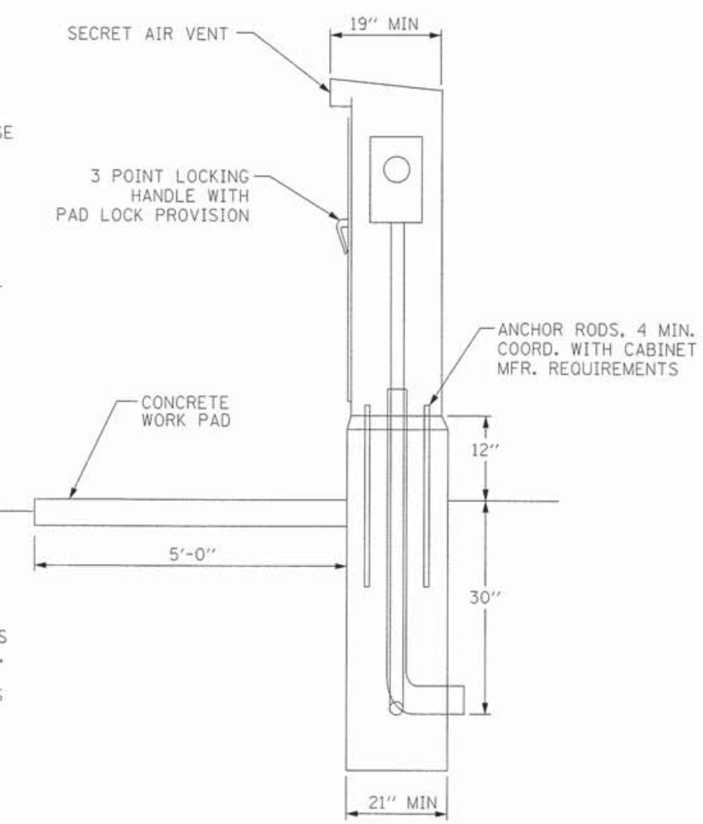


WIRING DIAGRAM

PANEL EQUIPMENT

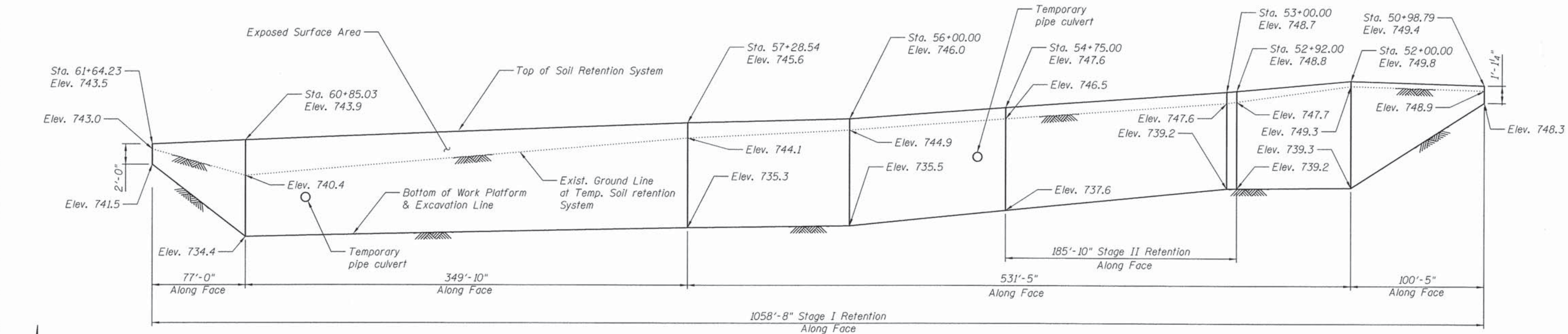
BILL OF MATERIAL		
ITEM	QTY.	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT 100AMP. FRAME, 100AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22000 AMP. AT 480 VOLT.
B	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 100 AMP., 600 VOLTS CONTROL CIRCUITS 240 VOLT, ASCO 920.
C	10	CIRCUIT BREAKERS, 1 POLE, 240V., 100AMP. FRAME 50AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22,000 AMP. AT 240 V.
D	2	CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 240 V., 100AMP. FRAME, 15AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22,000 AMP. AT 240 V.
E	1	PHOTOCELL, 240V
F	2	20A., 120 FUSE
G	1	1.5KVA. SINGLE PHASE, ENCAPSULATED TRANSFORMER 240X480/120X240 VOLT, 60 HZ
H	1	SPST 20A SWITCH ON DOOR, TO TURN LIGHT ON WHEN DOOR IS OPEN.
I	1	INCANDESCENT LIGHTING FIXTURE ENCLOSED AND GASKETED WITH 60 WATT, 120 V. LAMP.
J	1	20 A., 120 V., DUPLEX RECEPTACLE, GFCI.
K	1	COPPER NEUTRAL BUS 6.35 mm (1/4") X 25.4 mm (1") X 304.8 mm (12") LONG MOUNTED ON PANEL WITH LUGS AND 4 SPARE LUGS.
L	1	TOGGLE SWITCHES MOUNTED IN 101.6 mm (4") X 101.6 mm (4") BOX.
M	1	COPPER GROUND BUS 6.35 mm (1/4") X 25.4 (1") 304.8 mm (12") LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS.
N	1	SURGE ARRESTOR



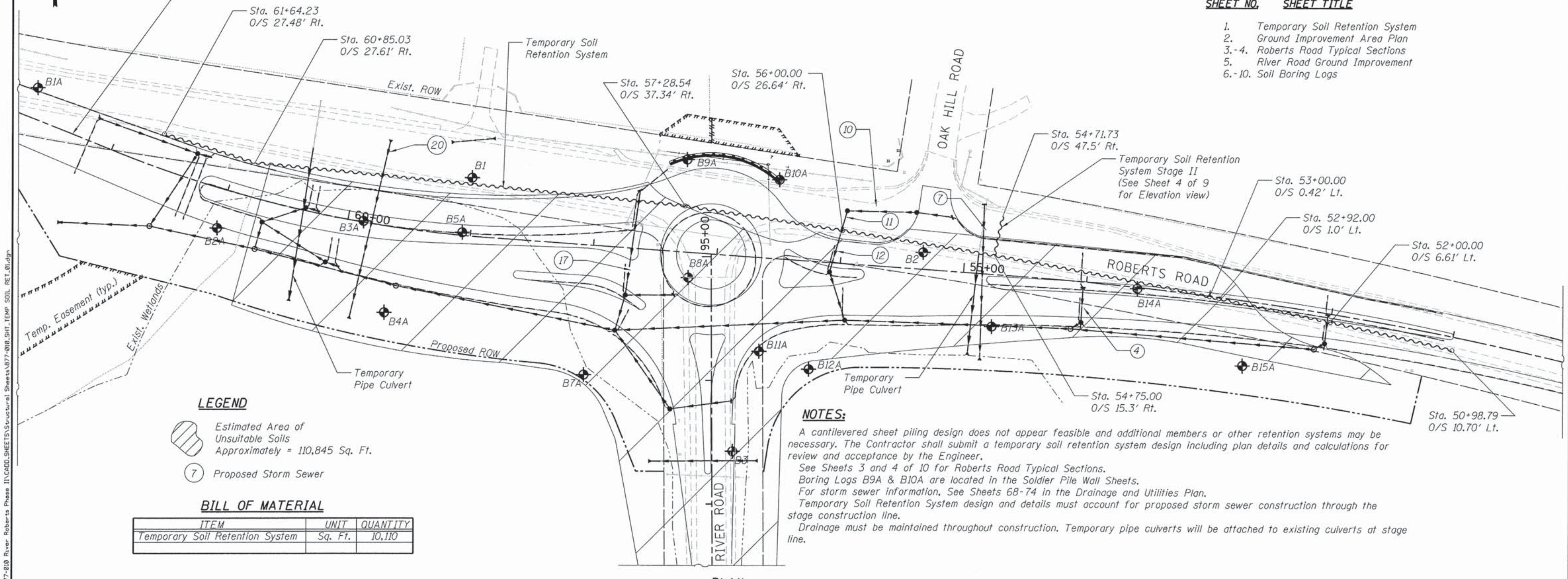


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.
2. FOUNDATION SIZE SHALL BE COORDINATED WITH CABINET SIZE AND MFR.
3. DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
4. DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP THE BOTTOM.
5. DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 6.35 mm (1/4") DIA. STAINLESS STEEL HINGE PIN.
6. ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
7. CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
8. METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET, NEAR TO THE SERVICE POLE.
9. CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED.
10. THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS.
11. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED.
    R = RED BL = BLUE W = WHITE
    B = BLACK Y = YELLOW G = GREEN
12. PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
13. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
14. THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL".
15. 304.8 mm (12") X 406.4 mm (16") STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "LIGHTING CONTROLS LAKE COUNTY DOT" UNLESS OTHERWISE SPECIFIED.
16. SERVICE DISCONNECT SHOULD HAVE UL LABEL AND THE EQUIPMENT SHOULD BE SUITABLE FOR SERVICE ENTRANCE EQUIPMENT.
17. ITEMS A THROUGH N SHOWN IN THE BILL OF MATERIAL SHALL BE INCLUDED IN THE COST OF LIGHTING CONTROLLER.



TEMPORARY SOIL RETENTION SYSTEM AT STAGE CONSTRUCTION LINE
DEVELOPED ELEVATION
(NTS)



PLAN

INDEX OF SHEETS

SHEET NO.	SHEET TITLE
1.	Temporary Soil Retention System
2.	Ground Improvement Area Plan
3.-4.	Roberts Road Typical Sections
5.	River Road Ground Improvement
6.-10.	Soil Boring Logs

LEGEND

Estimated Area of Unsuitable Soils Approximately = 110,845 Sq. Ft.

(7) Proposed Storm Sewer

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Soil Retention System	Sq. Ft.	10,110

NOTES:

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.

See Sheets 3 and 4 of 10 for Roberts Road Typical Sections.

Boring Logs B9A & B10A are located in the Soldier Pile Wall Sheets.

For storm sewer information, See Sheets 68-74 in the Drainage and Utilities Plan.

Temporary Soil Retention System design and details must account for proposed storm sewer construction through the stage construction line.

Drainage must be maintained throughout construction. Temporary pipe culverts will be attached to existing culverts at stage line.

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_TEMP SOIL RET_01.dgn

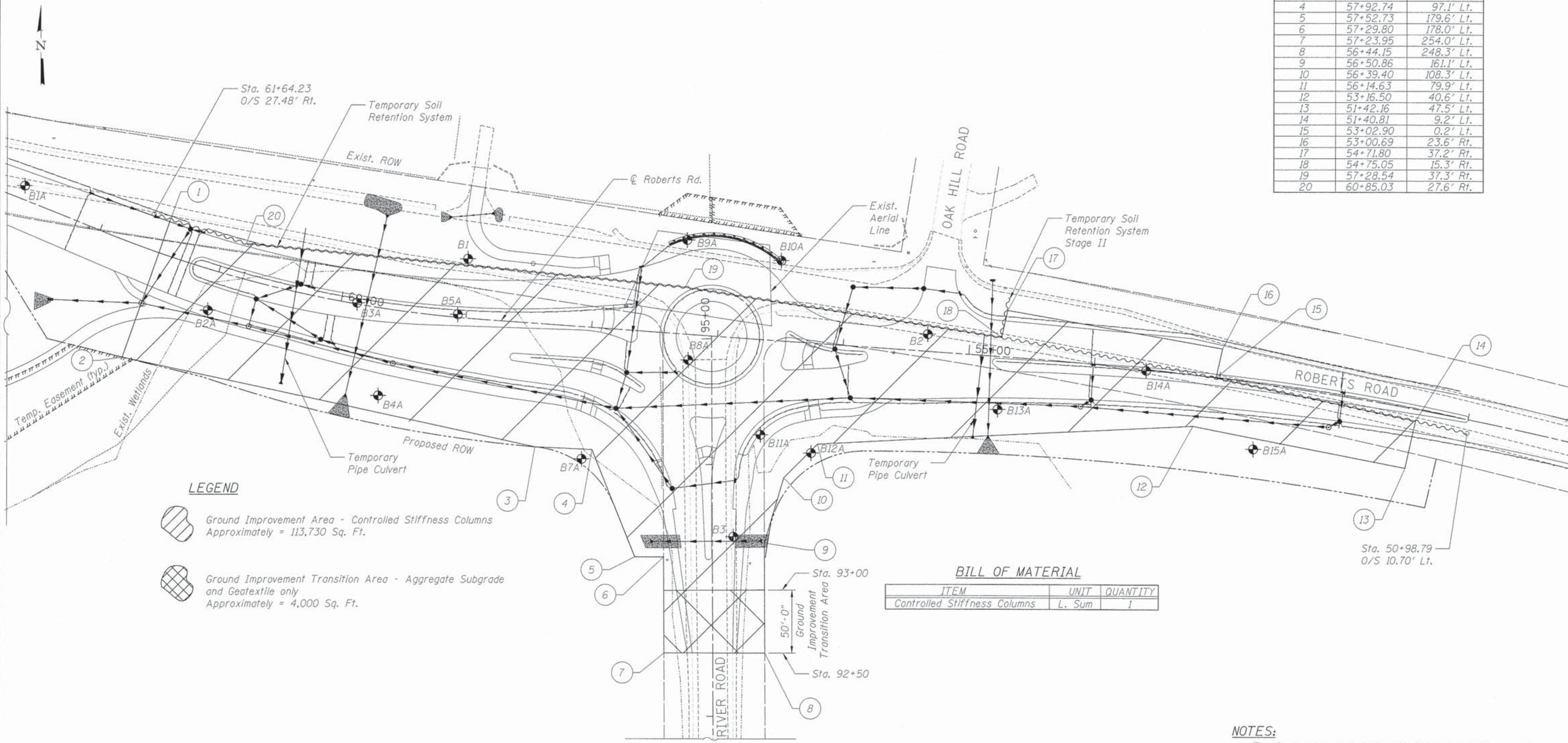
Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY SOIL RETENTION SYSTEM PLAN AND ELEVATION
		CHECKED - JJI	REVISED		
	PLOT SCALE =	DRAWN - JTC	REVISED		
	PLOT DATE = 11/7/2013	CHECKED - JJI	REVISED		SHEET NO. 1 OF 10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	109
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

GROUND IMPROVEMENT SCHEDULE

(Stations & offsets based off of Roberts Rd. Centerline)

Number	Station	Offset
1	61+50.00	28.0′ Rt.
2	61+50.00	88.1′ Lt.
3	58+38.08	98.2′ Lt.
4	57+92.74	97.1′ Lt.
5	57+52.73	179.6′ Lt.
6	57+29.80	178.0′ Lt.
7	57+23.95	254.0′ Lt.
8	56+44.15	248.3′ Lt.
9	56+50.86	161.1′ Lt.
10	56+39.40	108.3′ Lt.
11	56+14.63	79.9′ Lt.
12	53+16.50	40.6′ Lt.
13	51+42.16	47.5′ Lt.
14	51+40.81	9.2′ Lt.
15	53+02.90	0.2′ Lt.
16	53+00.69	23.6′ Rt.
17	54+71.80	37.2′ Rt.
18	54+75.05	15.3′ Rt.
19	57+28.54	37.3′ Rt.
20	60+85.03	27.6′ Rt.



PLAN

LEGEND

Ground Improvement Area - Controlled Stiffness Columns Approximately = 113,730 Sq. Ft.

Ground Improvement Transition Area - Aggregate Subgrade and Geotextile only Approximately = 4,000 Sq. Ft.

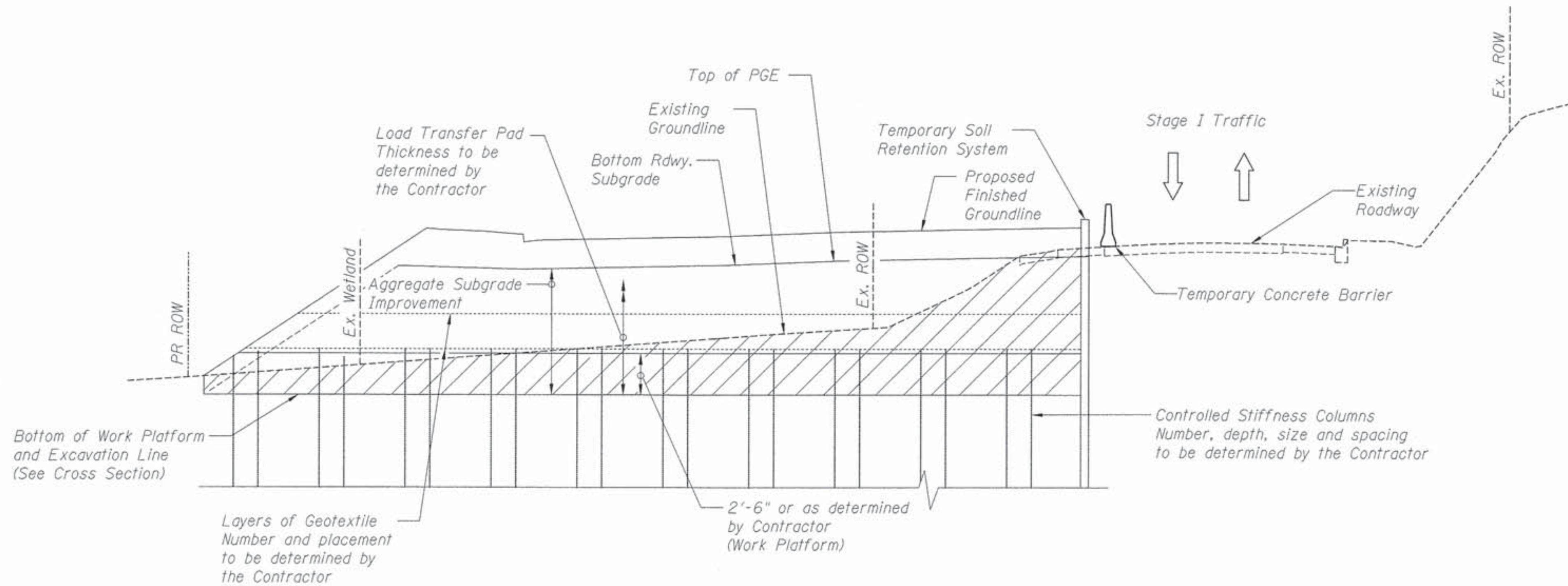
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Controlled Stiffness Columns	L. Sum	1

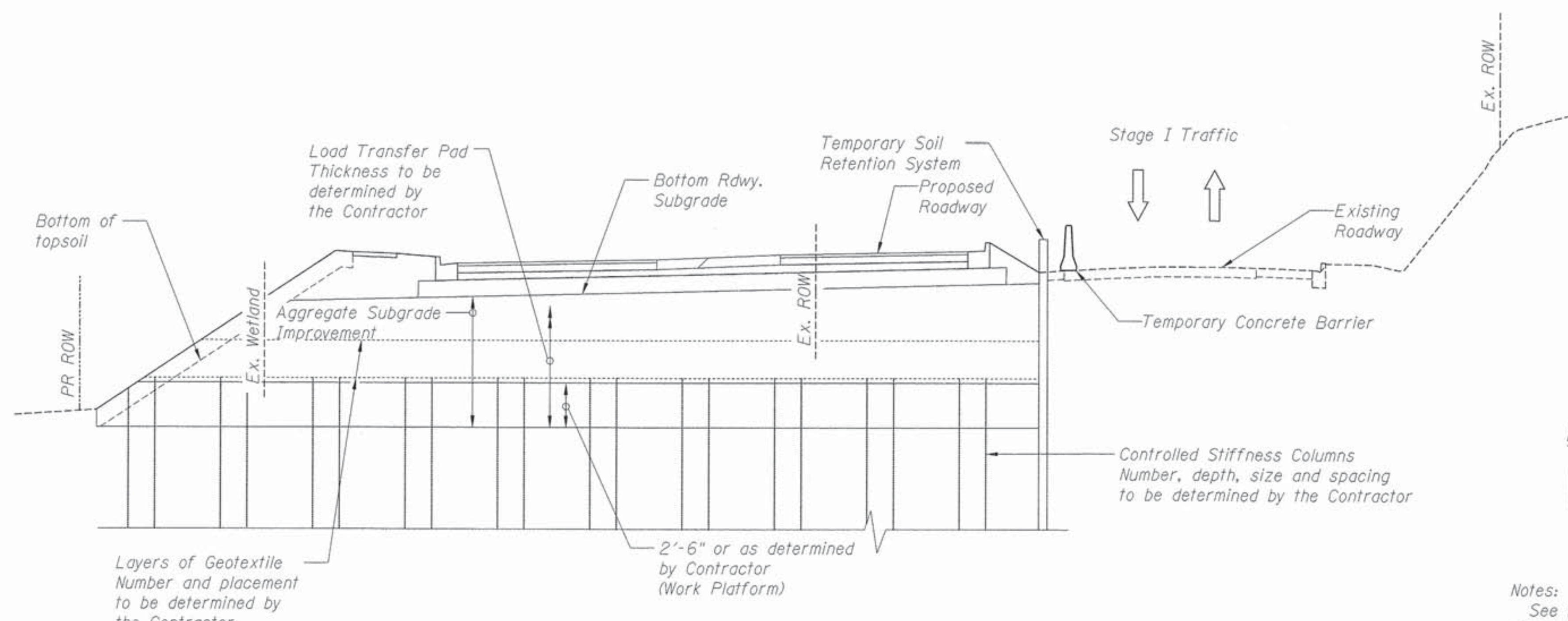
NOTES:

The Contractor shall design the Controlled Stiffness Columns to miss all drainage pipes and structures.

See Sheet 5 of 10 for Ground Improvement details in the transition area on River Road.



STAGE IA - GROUND IMPROVEMENT
(Looking West)



STAGE IB - ROADWAY CONSTRUCTION
(Looking West)

LEGEND

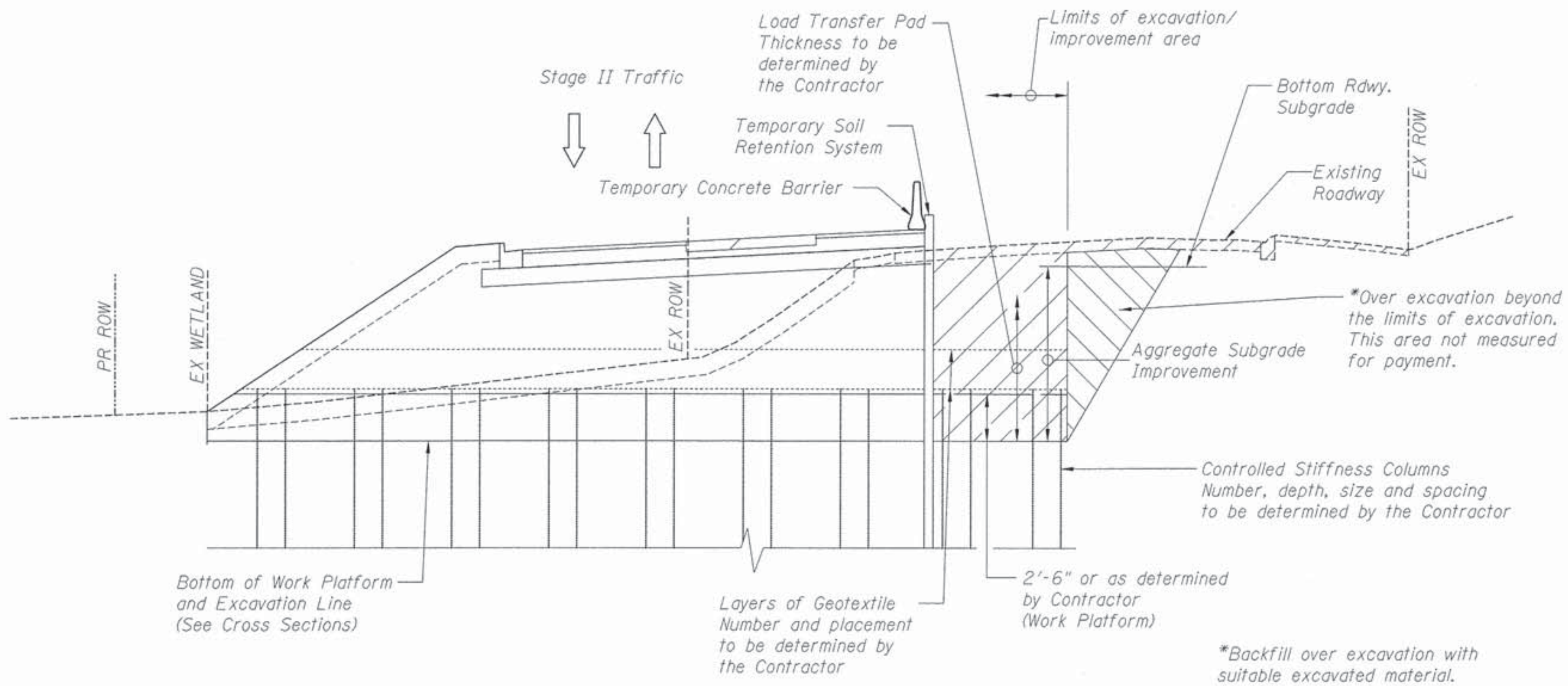
Remove to Elevations & depths shown in Roadway Cross Sections.

Notes:
See roadway typical sections and cross sections for earthwork and roadway details.
Actual bottom of excavation determined by the contractor. Excavation within the work platform is paid for as shown on roadway plans. Aggregate Subgrade placed within the work platform will not be measured for payment, but shall be included in the cost of Controlled Stiffness Columns.

STAGE I - TYPICAL SECTION

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_TEMP SOIL RET_03.dgn

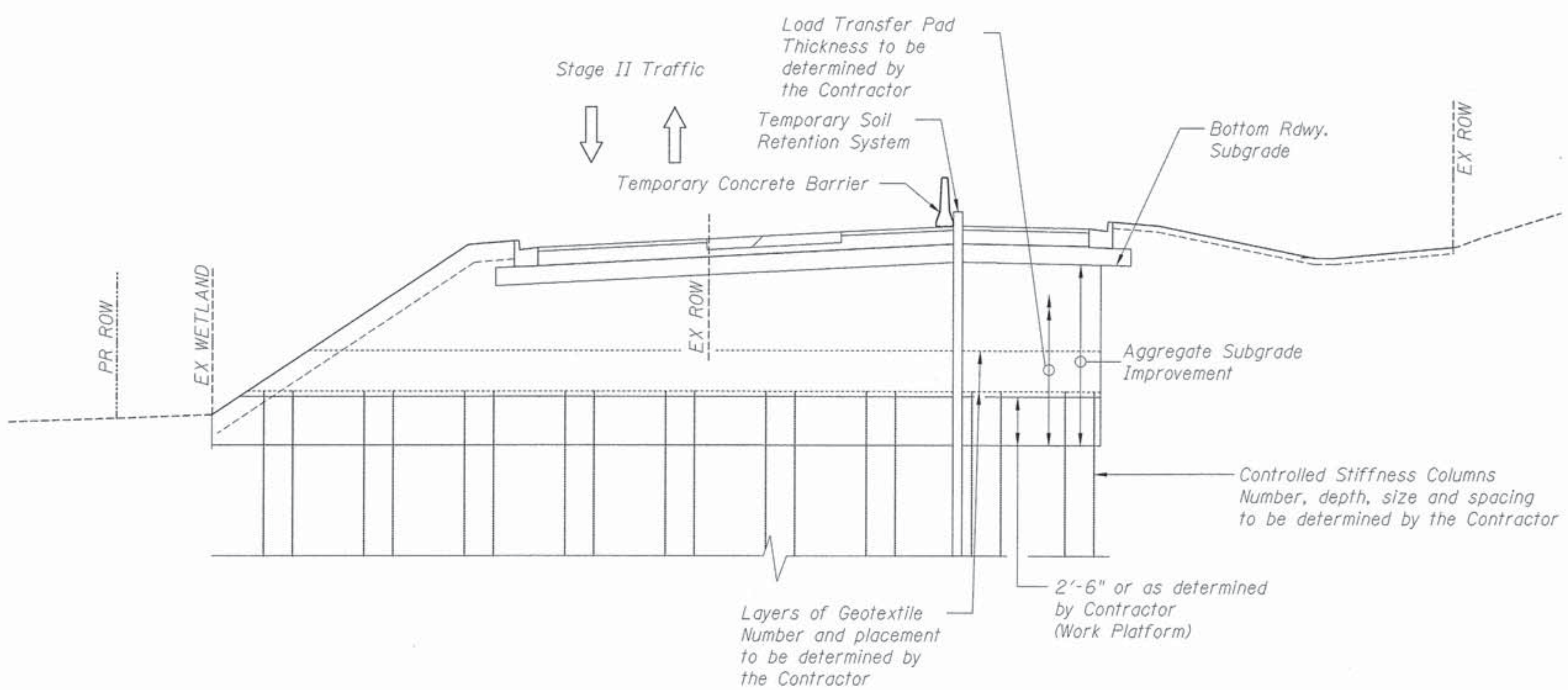
Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROBERTS ROAD TYPICAL SECTIONS - STAGE I	F.A.U. RTE. 3704
		CHECKED - JJI	REVISED			SECTION 07-00086-08-CH
	PLOT SCALE =	DRAWN - GM	REVISED			COUNTY LAKE; TOTAL SHEETS 183; SHEET NO. 111
	PLOT DATE = 11/25/2013	CHECKED - JJI	REVISED		SHEET NO. 3 OF 10 SHEETS	CONTRACT NO. 63875; ILLINOIS FED. AID PROJECT



STAGE IIA - GROUND IMPROVEMENT

(Looking West)

(Sta. 52+92 to Sta. 54+76)

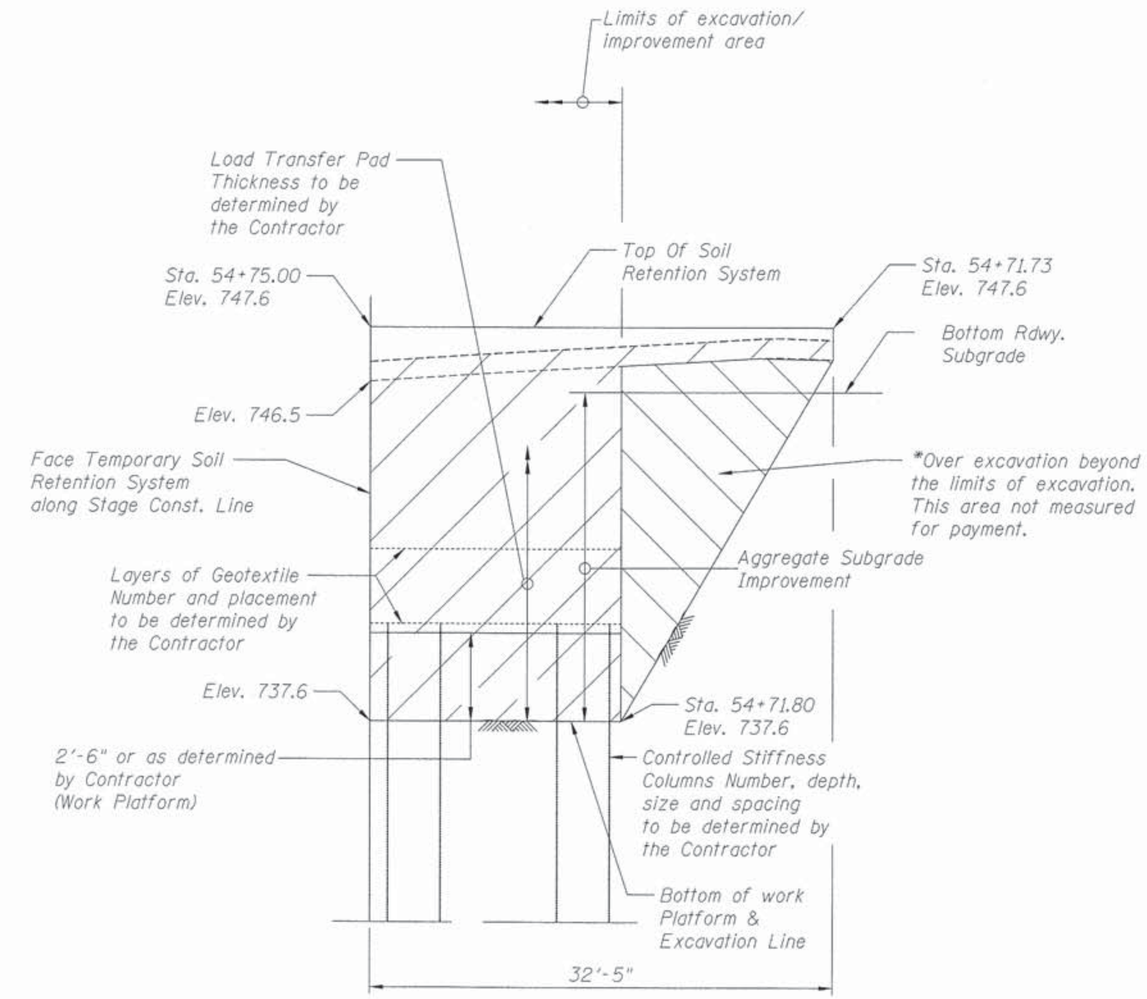


STAGE IIB - ROADWAY CONSTRUCTION

(Looking West)

(Sta. 52+92 to Sta. 54+76)

STAGE II - TYPICAL SECTION



TEMPORARY SOIL RETENTION SYSTEM

ELEVATION - STAGE II

(Parallel to Oak Hill Road)

LEGEND

Remove to Elevations & depths shown in Roadway Cross Sections.

Notes:

See roadway typical sections and cross sections for earthwork and roadway details.

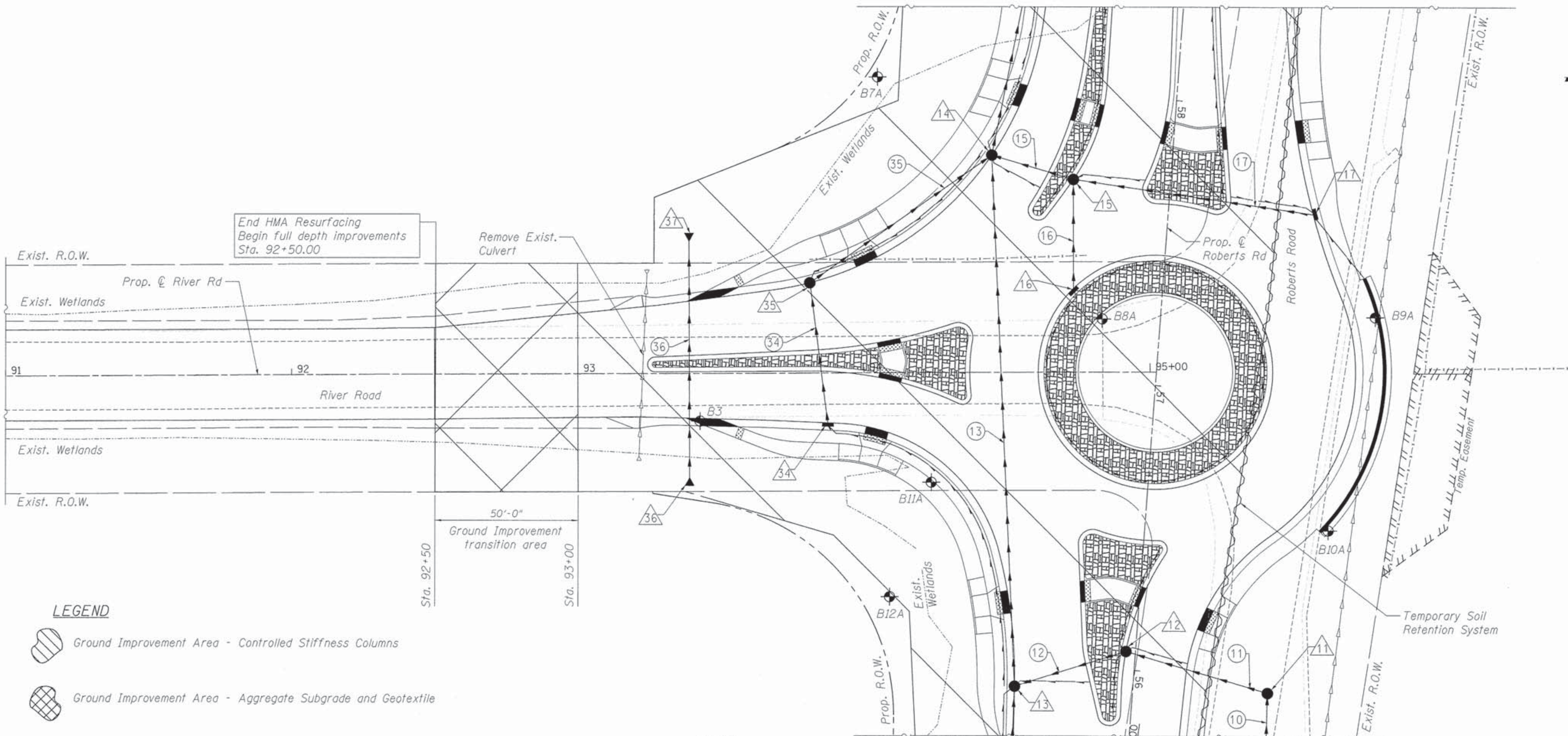
The Contractor has the option to remove the Temporary Soil Retention System in locations where there is no Stage II ground improvement required. It can be removed after Stage I roadway has been constructed or as approved by the Engineer.

Actual bottom of excavation determined by the contractor. Excavation within the work platform is paid for as shown on roadway plans. Aggregate Subgrade placed within the work platform will not be measured for payment, but shall be included in the cost of Controlled Stiffness Columns.

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_TEMP SOIL RET_04.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROBERTS ROAD TYPICAL SECTIONS – STAGE II
		CHECKED - JJI	REVISED		
	PLOT SCALE =	DRAWN - GM	REVISED		
	PLOT DATE = 11/25/2013	CHECKED - JJI	REVISED		SHEET NO. 4 OF 10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	112
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		



PLAN

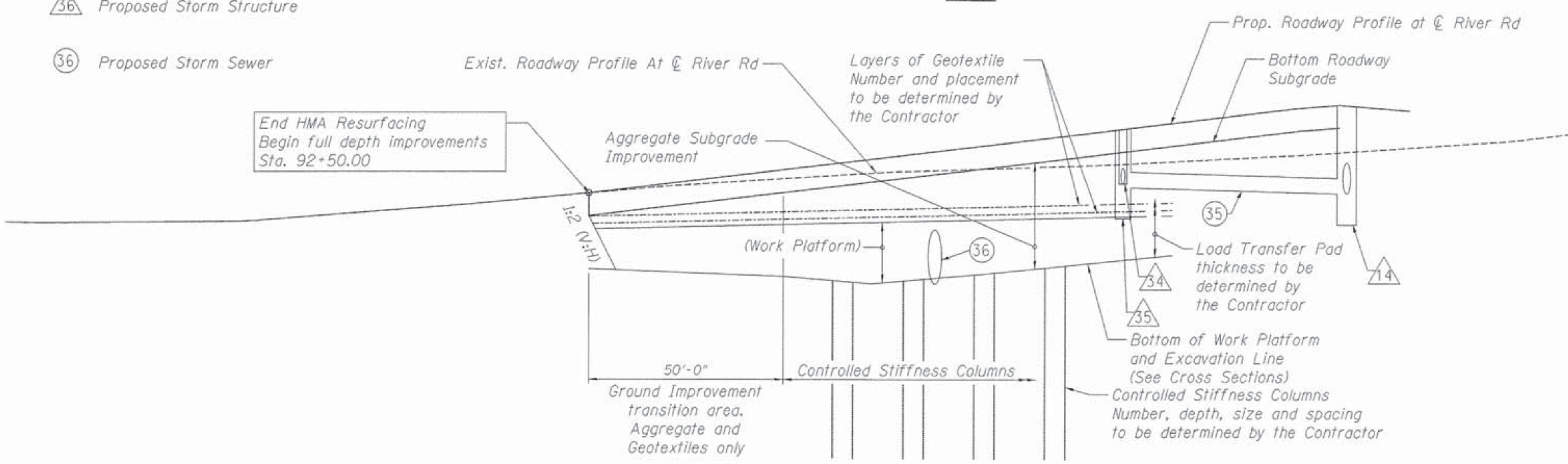
LEGEND

Ground Improvement Area - Controlled Stiffness Columns

Ground Improvement Area - Aggregate Subgrade and Geotextile

36 Proposed Storm Structure

36 Proposed Storm Sewer



LONGITUDINAL SECTION

Notes:

See Sheet 2 of 10 for approximate quantities for Ground Improvement.

See Roadway typical sections & cross sections for earthwork and roadway details.

See Drainage Sheets for drainage structure improvements.

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_LongSection.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED
		CHECKED - JJI	REVISED
	PLOT SCALE =	DRAWN - GM	REVISED
	PLOT DATE = 11/25/2013	CHECKED - JJI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD GROUND IMPROVEMENT
PLAN AND LONGITUDINAL SECTION

SHEET NO. 5 OF 10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	113
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

SOIL BORING LOG — B-1

ILLINOIS DEPARTMENT OF TRANSPORTATION

Page 1 of 1 — Date 9/8/09

ROUTE FAU 3704 and 3705 — DESCRIPTION Proposed Improvements — Logged By GG

SECTION 07-00086-08-CH — LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL — SEC 3 TWP 43N RNG. 9E PM 3rd

COUNTY Lake — STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-03 — Hammer Type Automatic Hammer

Boring No. B-1; Station 59+02.64; Offset 47.28' R; Ground Surface El. +741.94+/- M.S.L.

Surf. Wat. El. ____; Groundwater Elev.: When Drilling 723.94; at Completion 726.94; After ___ Hrs

Description	Elev. (bottom of stratum)	SPT N (blows)	UCS Qu (TSF)	Moist. (%)
18" BITUMINOUS CONCRETE PAVEMENT	740.4			
FILL: CLAY, Brown, Little Sand and Gravel, Hard, Moist (A-6) (Organic Content =1.7%)	738.4	12 / 8 / 7	4.25 P	13.4
FILL: CLAY, Brown, Gray and Black, Trace Sand and Gravel, Stiff, Moist (A-6)	737.4	3 / 3	1.25 P	9.4
FILL: CLAY TOPSOIL, Black, Soft, Wet (A-7-5) (Organic Content =6.5%)	736.9	2	0.25 P	30.3
FILL: CLAY, Brown, Gray and Black, Trace Sand and Gravel, Soft, Moist (A-6)	735.2	2 / 2	0.25 P	19.6
PEAT, Black, Medium, Wet (A-8)	733.4	2	0.50 P	40.0
PEAT, Dark Brown, Fibrous, Soft, Wet (A-8) (Dry Unit Weight =37.2 pcf)	730.9	1 / 2 / 2		84.0 / 106.1
PEAT and ORGANIC SILT, Dark Brown and Gray, Loose, Moist (A-7-5)	729.9	2 / 3		27.1
ORGANIC SILT, Gray, Trace Sand, Loose, Wet (A-7-5)	728.4	3		50.6
SANDY LOAM, Gray, Loose, Saturated (A-2-6)	727.4	2 / 1		16.5
CLAY, Gray, With Sand and Silt, Stiff to Very Stiff, Moist (A-6) (Dry Unit Weight =120.4 pcf) (Gravel at 19.5' -20')	720.9	2; 1 / 4 / 5; 5 / 7 / 13	1.50 P; 1.75 P; 2.25 P	16.4; 16.9 / 16.5
CLAY, Brownish Gray, Trace Sand, Very Stiff, Moist (A-6)	716.9	6 / 10 / 10; 7 / 9 / 14	2.70 B; 3.10 B	16.1; 14.8

End of Boring @ 25 Feet

Note: Boring was offset approximately 20' south of original boring location due to existing underground utilities (Driller's Observation).

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test

Split Spoon Sampler 24" with 140lb hammer falling 30"

4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

SOIL BORING LOG — B-2

ILLINOIS DEPARTMENT OF TRANSPORTATION

Page 1 of 1 — Date 9/8/09

ROUTE FAU 3704 and 3705 — DESCRIPTION Proposed Improvements — Logged By GG

SECTION 07-00086-08-CH — LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL — SEC 3 TWP 43N RNG. 9E PM 3rd

COUNTY Lake — STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-03 — Hammer Type Automatic Hammer

Boring No. B-2; Station 55+33.77; Offset 14.12' R; Ground Surface El. +744.24+/- M.S.L.

Surf. Wat. El. ____; Groundwater Elev.: When Drilling 727.74; at Completion 734.24; After ___ Hrs

Description	Elev. (bottom of stratum)	SPT N (blows)	UCS Qu (TSF)	Moist. (%)
5" BITUMINOUS CONCRETE PAVEMENT	743.8			
11" SAND AND GRAVEL BASE COURSE, Brown	742.9			5.2
FILL: CLAY, Brown, Trace Sand and Gravel, Hard, Moist (A-6(8)) (Atterberg Limits Test) (Combined Analysis) (Dry Unit Weight =119.1 pcf)	737.7	6 / 6 / 5; 2 / 2 / 3; 2	2.10 S; 1.10 S	15.4 / 15.3; 17.2
ORGANIC CLAY, Dark Gray to Black, Medium, Wet (A-7-5) (Dry Unit Weight =84.9 pcf)	736.2	3 / 4	0.75 P	52.4 / 33.3
FIBROUS PEAT to CLAYEY PEAT, Dark Brown to Black, Trace Shells, Soft, Wet (A-8) (Organic Content = 20.2%)	732.5	1 / 1 / 2; 1		79.8; 114.9
ORGANIC CLAY, Gray, Trace Roots and Shells, Soft, Moist (A-7-5)	730.7	3 / 3	0.10 P	29.9
POORLY GRADED SAND, Fine, Medium Dense, Moist to Saturated (A-3) (Saturated Below 16.5 feet)	724.3	7 / 7 / 7; 10 / 11 / 11; 6 / 10 / 16		21.7; 20.2; 18.9
CLAY, Gray, Trace Sand and Gravel, With Gray Fine Sand Seams, Very Stiff to Stiff, Moist (A-6) (Dry Unit Weight =119.3 pcf)	722.2	10 / 17	3.25 P; 1.30 B	15.0; 16.5 / 16.8
SILT, Gray, Very Dense, Moist (A-4)	721.7	26		15.9

End of Boring @ 22.5 Feet

Note: Boring was offset approximately 10' north of original boring location due to existing underground cable and electric utilities (Driller's Observation).

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test

Split Spoon Sampler 24" with 140lb hammer falling 30"

4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

SOIL BORING LOG — B-3

ILLINOIS DEPARTMENT OF TRANSPORTATION

Page 1 of 1 — Date 9/8/09

ROUTE FAU 3704 and 3705 — DESCRIPTION Proposed Improvements — Logged By GG

SECTION 07-00086-08-CH — LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL — SEC 3 TWP 43N RNG. 9E PM 3rd

COUNTY Lake — STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 — Hammer Type Automatic Hammer

Boring No. B-3; Station 93+42.66; Offset 16.57' R; Ground Surface El. +739.91+/- M.S.L.

Surf. Wat. El. ____; Groundwater Elev.: When Drilling 728.91; at Completion 729.91; After ___ Hrs

Description	Elev. (bottom of stratum)	SPT N (blows)	UCS Qu (TSF)	Moist. (%)
5.5" BITUMINOUS CONCRETE PAVEMENT	739.5			
6.5" SAND AND GRAVEL BASE COURSE, Brown, Some Clay, Dry (A-1-b)	738.9			6.4
FILL: SILTY CLAY, Gray and Brown, Trace Sand and Gravel, Very Stiff, Moist (A-6(11)) (Atterberg Limits Test) (Combined Analysis) (Dry Unit Weight =121.8 pcf)	737.4	4 / 4 / 4	3.40 S	26.0 / 12.5
FILL: CLAY, Gray, Trace Brown, Little Black to Gray, Trace Sand and Gravel, Stiff, Moist (A-6)	732.7	5 / 4 / 4; 4 / 3 / 3	1.40 B/S; 1.20 B/S	21.1; 29.9
PEAT, Black, With Shells, Soft, Wet (A-8) (Organic Content =15.3%)	731.4			142.5
ORGANIC SILT, Greenish Gray, With Shells, Loose, Wet (A-7-5) (Organic Content =11.0%)	729.9	1 / 1 / 2		104.8 / 19.2
POORLY GRADED SAND, Gray, Fine, Loose, Moist to Saturated (A-3) (Saturated below 11 feet)	726.4	1 / 1 / 2		28.3
SILTY CLAY, Gray, Trace Sand, Very Stiff to Stiff, Moist (A-6) (Dry Unit Weight =118.4 pcf)	721.4	3 / 5 / 5; 3 / 3 / 5	2.00 B/S; 1.80 B	17.9 / 18.0; 18.7
CLAY, Gray, Trace Sand and Gravel, Stiff to Very Stiff, Moist (A-6) (Dry Unit Weight =114.3 pcf) (Dry Unit Weight =125.3 pcf)	708.9	3 / 4 / 6; 3 / 5 / 6; 4 / 6 / 8; 5 / 5 / 8; 5 / 9 / 10	1.80 B; 1.80 B; 1.50 B; 1.25 B; 1.60 B	26.6; 21.2; 15.3; 18.8 / 18.5; 15.1 / 14.2
SILT, Gray, Medium Dense, Moist (A-4)	706.4	5 / 8 / 8		18.3
CLAY, Gray, Trace Sand, Hard, Moist (A-6)	704.9	7 / 9 / 12	4.90 B/S	24.4

End of Boring @ 35.0 Feet

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test

Split Spoon Sampler 24" with 140lb hammer falling 30"

4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

SOIL BORING LOG — B-1A

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG — Page 1 of 1 — Date 10/9/12

ROUTE FAU 3704 and 3705 DESCRIPTION Proposed Improvements — Logged By VM

SECTION 07-00086-08-CH LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 Hammer Type Automatic Hammer

Boring No. B-1A; Station 62+68.27; Offset 10.68' R; Ground Surface El. +745.74+/- M.S.L.

Surf. Wat. El. ___; Groundwater Elev.: When Drilling 731.24; at Completion 720.74; After ___ Hrs

Description	ELEV.	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
8" FILL: SAND and GRAVEL, Tan	745.1				
4" FILL: SAND, Brown (A-3)	744.7	1.0			
FILL: SILTY CLAY, Brown, Gray and Black Silty Clay, Very Stiff, Moist (A-6)	742.2	2.0	5 5 3	2.50 P	16.9
FILL: SILTY CLAY LOAM, Dark Brown and Gray, Very Stiff, Moist (A-6) (Dry Unit Weight =97.3 pcf)	739.7	4.0–5.0	3 4 4	2.25 P 2.50 B/S	20.6
SANDY CLAY, Brown, With Brown Silty Sand, Very Stiff, Moist (A-6)	737.2	7.0	5 8 9	2.50 P	9.4
CLAY, Brown and Gray, Trace Sand, Very Stiff, Moist (A-6) (Dry Unit Weight =111.2 pcf)	734.7	9.0–10.0	5 6 6	3.50 P 2.10 S	18.3
CLAY, Gray, Trace Sand, Stiff to Very Stiff, Moist (A-6) (Dry Unit Weight =113.8 pcf)		12.0	3 4 5	1.50 P 1.60 B	18.1
	731.2	14.0	3 5 7	2.00 P	20.9
SILTY SAND, Gray, Medium Dense, Saturated (A-2-4)	727.2	17.0	3 5 5		
SILTY CLAY LOAM, Gray, Loose, Saturated (A-4) (Atterberg Limits Test) (Combined Analysis)	725.2	19.0–20.0	4 3 3		18.6
CLAY, Gray, Trace Sand and Gravel, Very Stiff to Stiff, Moist (A-6)		22.0	3 6 6	2.50 P 1.00 P	16.4 20.1
(with Fine Sand Layers at 23.5'-25')	720.7	24.0–25.0	3 6 7	1.50 P	15.5
CLAY, Gray, Trace Sand and Gravel, Stiff, Moist (A-6)	717.2	27.0	5 7 8	1.75 P	
SILTY CLAY, Gray, Trace Gravel, Stiff, Moist (A-6) (Atterberg Limits Test) (Combined Analysis)	714.7	29.0–30.0	3 5 5	1.25 P	20.6
SILTY CLAY, Gray, Some Sand, Trace Gravel, Medium, Moist (A-6) (Dry Unit Weight =105.0 pcf)	712.2	32.0	5 8 8	0.70 B	22.0
CLAY, Gray, Trace Sand and Gravel, Stiff to Very Stiff, Moist (A-6)		34.0–35.0	4 6 6	1.50 P	15.9
	707.2	37.0	5 6 5	2.00 P	24.4
CLAYEY SILT, Gray, Medium Dense, Moist (A-4)	705.7	39.0–40.0	4 6 7	1.75 P	19.3
End of Boring @ 40.0 Feet					

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test

Split Spoon Sampler 24" with 140lb hammer falling 30"

4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

SOIL BORING LOG — B-2A

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG — Page 1 of 1 — Date 11/5/12

ROUTE FAU 3704 and 3705 DESCRIPTION Proposed Improvements — Logged By VM

SECTION 07-00086-08-CH LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 Hammer Type Automatic Hammer

Boring No. B-2A; Station 60+99.74; Offset 31.62' L; Ground Surface El. +736.75+/- M.S.L.

Surf. Wat. El. ___; Groundwater Elev.: When Drilling 713.25; at Completion 715.75; After ___ Hrs

Description	ELEV.	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
12" TOPSOIL, Black (A-7-5)	735.8	1.0			
SILT, Gray, Trace Roots, Loose, Moist (A-4)	733.3	2.0	3 3 4		14.9
SILT, Brown and Gray, Trace Roots, Loose, Moist (A-4)	730.8	4.0–5.0	3 3 3		19.4
CLAY, Gray, Stiff to Very Stiff, Moist (A-6)		7.0	1 3 3	1.51 B/S	15.2
	727.3	9.0	3 3	2.82 B/S	16.8
SILTY LOAM, Gray, Loose, Moist (A-4)		10.0	3		17.6
(Combined Analysis Test) (Atterberg Limit Test)		12.0	3 4 3		20.7
	720.8	14.0–15.0	3 4 5		15.5
CLAY, Gray, Stiff, Moist (A-6)	718.3	17.0	4 4 5	1.55 B	17.3
CLAY LOAM, Gray, Stiff, Moist (A-7-6)		19.0–20.0	4 5 6	1.45 B	20.0
		22.0	4 5 5	1.04 B	17.0
SAND, Gray, Medium Dense, Saturated (A-3)	713.3	24.0–25.0	5 6 6		
		27.0	4 5 6		
	706.8	29.0–30.0	5 6 7		
End of Boring @ 30 Feet					

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test

Split Spoon Sampler 24" with 140lb hammer falling 30"

4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

SOIL BORING LOG — B-3A

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG — Page 1 of 1 — Date 11/5/12

ROUTE FAU 3704 and 3705 DESCRIPTION Proposed Improvements — Logged By VM

SECTION 07-00086-08-CH LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 Hammer Type Automatic Hammer

Boring No. B-3A; Station 59+87.29; Offset 0.95' R; Ground Surface El. +735.37+/- M.S.L.

Surf. Wat. El. ___; Groundwater Elev.: When Drilling 724.37; at Completion 726.37; After ___ Hrs

Description	ELEV.	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
TOPSOIL with FIBROUS PEAT, Black, Wet (A-8)	733.9	1.0–2.0	1 1 0		73.2 100.6
ORGANIC SILT, Gray, With Shells, Very Loose, Wet (A-8) Organic Content = 9.47%	731.9				
PEAT, Black, Very Soft, Wet (A-8) Weight of Hammer pushed split spoon sampler 18 inches	729.4	4.0–5.0	0 0 0		75.1
ORGANIC SILT, Gray, With Shells, Very Loose, Wet (A-8) Weight of Hammer pushed split spoon sampler 18 inches		7.0	0 0 0		170.9
Weight of Hammer pushed split spoon sampler 18 inches	724.4	9.0–10.0	0 0 0		88.2
SAND, Gray, Very Loose, Saturated (A-3)	722.4	12.0	1 0 0		
SILTY LOAM, Gray, Very Loose to Loose, Saturated (A-4)		14.0–15.0	0 1 1		21.6
		17.0	0 0 1		20.8
		19.0–20.0	1 1 2		19.7
	711.9	22.0	1 2 2		20.7
SILTY CLAY, Gray, Stiff to Very Stiff, Moist (A-6)		24.0–25.0	4 7 10	1.82 B	16.2
		27.0	5 8 12	2.04 B	16.9
		29.0–30.0	4 8 8	2.18 B	15.1
(Dry Unit Weight = 122.5 pcf)		32.0–33.0	4 9 10	2.32 B 1.48 B	15.4
(Combined Analysis)		34.0–35.0	4 7 11	3.78 B	15.1
	696.9	37.0	5 8 9	2.53 B	15.1
SANDY LOAM, Gray, Medium Dense, Saturated (A-2-4)	694.4	39.0–40.0	5 7 8		
SAND, Gray, Trace Gravel, Medium Dense, Saturated (A-3)		42.0	6 8 10		
	690.4	44.0–45.0	5 8 8		
End of Boring @ 45 Feet					

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test

Split Spoon Sampler 24" with 140lb hammer falling 30"

4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_Boring Logs II.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY SOIL RETENTION SYSTEM SOIL BORING LOGS II
		CHECKED - JJI	REVISED		
	PLOT SCALE =	DRAWN - JTC	REVISED		
	PLOT DATE = 11/7/2013	CHECKED - JJI	REVISED		SHEET NO. 7 OF 10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	115
		CONTRACT NO. 63875		
	ILLINOIS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG

Page 1 of 1 | Date 11/1/12 | Logged By VM

ROUTE FAU 3704 and 3705 | DESCRIPTION Proposed Improvements
SECTION 07-00086-08-CH | LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL | SEC 3 TWP 43N RNG 9E PM 3rd
COUNTY Lake | STRUCTURE NO. (Exist.) (Prop.)
Drilling Method AASHTO T 206-09 | Hammer Type Automatic Hammer

Boring No. **B-4A** | Station 59+59.95 | Offset 69.41' L | Ground Surface El. +734.44+/- M.S.L.
Surf. Wat. El. | Groundwater Elev.: When Drilling 713.44 | at Completion 716.44 | After Hrs

Description	ELEV.	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
FIBROUS PEAT, Black, Very Soft, Wet (A-8)		1.0–2.0	0 / 1 / 0		397.4
ORGANIC SILT, Gray, with Shells, Very Loose, Wet (A-8)	732.4	4.0–5.0	0 / 0 / 1		159.4
Weight of Hammer pushed split spoon sampler 18 inches		6.5–7.5	0 / 0 / 0		152.9
Weight of Hammer pushed split spoon sampler 18 inches		9.0–10.0	0 / 0 / 0		161.8
Weight of Hammer pushed split spoon sampler 18 inches		11.5–12.5	0 / 0 / 0		149.4
Weight of Hammer pushed split spoon sampler 18 inches Organic Content = 13.92%		14.0–15.0	0 / 0 / 0		275.4
ORGANIC SILTY LOAM, Gray, Very Loose, Wet (A-7-5) Weight of Hammer pushed split spoon sampler 18 inches	718.4	16.5–17.5	0 / 0 / 0		38.6
ORGANIC CLAY LOAM, Gray, Very Soft, Wet (A-7-5) Weight of Hammer	715.9	19.0–20.0	0 / 0 / 0		56.9
SANDY LOAM, Gray, Medium Dense, Saturated (A-2-4)	713.4	21.5–22.5	3 / 6 / 7		
SAND, Gray, Medium Dense, Saturated (A-3)	710.9	24.0–25.0	3 / 7 / 10		
		26.5–27.5	4 / 7 / 11		
		29.0–30.0	5 / 7 / 9		
		31.5–32.5	4 / 8 / 10		
(Sieve Analysis)		34.0–35.0	5 / 5 / 7		
		36.5–37.5	5 / 6 / 8		
		39.0–40.0	6 / 9 / 12		
End of Boring @ 40.0 Feet	694.4	40.0			

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
Split Spoon Sampler 24" with 140lb hammer falling 30"
4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG

Page 1 of 1 | Date 11/6/12 | Logged By VM

ROUTE FAU 3704 and 3705 | DESCRIPTION Proposed Improvements
SECTION 07-00086-08-CH | LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL | SEC 3 TWP 43N RNG 9E PM 3rd
COUNTY Lake | STRUCTURE NO. (Exist.) (Prop.)
Drilling Method AASHTO T 206-09 | Hammer Type Automatic Hammer

Boring No. **B-5A** | Station 59+06.79 | Offset 2.5' R | Ground Surface El. +735.51+/- M.S.L.
Surf. Wat. El. | Groundwater Elev.: When Drilling 712.01 | at Completion 713.51 | After Hrs

Description	ELEV.	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
TOPSOIL with FIBROUS PEAT, Black, Wet (A-8)		1.5–2.5	1 / 1 / 1		83.5 / 62.4
ORGANIC SILT, Gray, With Shells, Very Loose, Wet (A-8)	733.5	4.0–5.0	0 / 1 / 1		138.2
		6.5–7.5	1 / 0 / 0		163.6
Weight of Hammer pushed split spoon sampler 18 inches		9.0–10.0	0 / 0 / 0		147.2
		11.5–12.5	0 / 1 / 1		112.7
CLAY LOAM, Gray, Trace Organics, Very Soft, Wet (A-7-6)	722.0	14.0–15.0	1 / 0 / 0		50.8
Organic Content = 1.06%		16.5–17.5	1 / 1 / 1		37.7 / 25.9
SILTY LOAM, Gray, Very Loose, Moist (A-4)	718.5				
CLAY, Gray, Very Soft, Wet (A-6)	717.0	19.0–20.0	1 / 2 / 1	0.00 P	31.6
		21.5–22.5	1 / 3 / 4	0.00 P	32.7 / 16.3
SILTY LOAM, Gray, Very Loose, Moist (A-4) (Dry Density = 112.1 pcf)	713.5				
		24.0–25.0	3 / 4 / 5		17.3
CLAY, Gray, Very Stiff to Stiff to Very Stiff, Moist (A-6)	709.5	26.5–27.5	4 / 4 / 7	2.15 B	16.7
		29.0–30.0	4 / 5 / 7	1.70 B	17.4
(Dry Density = 121.1 pcf)		31.5–32.5	5 / 6 / 10	2.34 B	15.8
		34.0–35.0	5 / 7 / 8	1.64 B	16.9
		36.5–37.5	6 / 10 / 12	3.42 B	14.7
		39.0–40.0	7 / 12 / 14	2.69 B	14.9
		41.5–42.5	6 / 12 / 12	2.82 B	14.6
		44.0–45.0	7 / 11 / 15	3.03 B	15.1
End of Boring @ 45 Feet	690.5	45.0			

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
Split Spoon Sampler 24" with 140lb hammer falling 30"
4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG

Page 1 of 1 | Date 11/2/12 | Logged By VM

ROUTE FAU 3704 and 3705 | DESCRIPTION Proposed Improvements
SECTION 07-00086-08-CH | LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL | SEC 3 TWP 43N RNG 9E PM 3rd
COUNTY Lake | STRUCTURE NO. (Exist.) (Prop.)
Drilling Method AASHTO T 206-09 | Hammer Type Automatic Hammer

Boring No. **B-7A** | Station 58+00.41 | Offset 104.92' L | Ground Surface El. +735.66+/- M.S.L.
Surf. Wat. El. | Groundwater Elev.: When Drilling 717.16 | at Completion 719.66 | After Hrs

Description	ELEV.	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
FIBEROUS PEAT, Black, Very Soft, Wet (A-8)		1.5–2.5	1 / 0 / 0		94.0
SILTY LOAM, Brownish Gray, Loose, Moist (A-4)	732.2	4.0–5.0	2 / 4 / 5		21.9
SILTY CLAY LOAM, Brownish Gray, Medium, Moist (A-6)	729.7	6.5–7.5	2 / 4 / 4	0.75 P	18.4
SILTY LOAM, Brown, Loose, Moist (A-4)	727.7	9.0	3		19.2
CLAY, Brown, Very Stiff, Moist (A-6)	726.7	9.0–10.0	4 / 5	2.55 B	19.0
SILTY LOAM, Gray, Medium Dense, Moist (A-4)	724.7	11.5–12.5	4 / 5 / 6		19.7
(Combined Analysis)		14.0–15.0	3 / 4 / 5		16.1
SILTY CLAY LOAM, Gray, Very Stiff, Moist (A-6)	719.7	16.5–17.5	4 / 5 / 5	2.00 P	17.8
CLAY, Gray, Stiff to Very Stiff, Moist (A-6)	717.2	19.0–20.0	4 / 4 / 5	1.53 B	21.6
		21.5–22.5	4 / 5 / 7	3.22 B	19.8
SILTY LOAM, Gray, Medium Dense, Saturated (A-4)	712.2	24.0–25.0	3 / 6 / 7		16.6
		26.5–27.5	4 / 6 / 8		21.8
SANDY LOAM, Gray, Medium Dense, Saturated (A-2-4)	707.2	29.0–30.0	4 / 7 / 9		
End of Boring @ 30 Feet	705.7	30.0			

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
Split Spoon Sampler 24" with 140lb hammer falling 30"
4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_Boring Logs III.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY SOIL RETENTION SYSTEM SOIL BORING LOGS III	F.A.U. RTE. 3704	SECTION 07-00086-08-CH	COUNTY LAKE	TOTAL SHEETS 183	SHEET NO. 116
		CHECKED - JJI	REVISED					CONTRACT NO. 63875		
	PLOT SCALE =	DRAWN - JTC	REVISED		SHEET NO. 8 OF 10 SHEETS			ILLINOIS FED. AID PROJECT		
	PLOT DATE = 11/7/2013	CHECKED - JJI	REVISED							

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG

Page 1 of 1 — Date 10/7/12

ROUTE FAU 3704 and 3705 — DESCRIPTION Proposed Improvements — Logged By VM

SECTION 07-00086-08-CH — LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL — SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake — STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 — Hammer Type Automatic Hammer

Boring No. B-8A
Station 94+83.28
Offset 18.66' L
Ground Surface El. +741.52+/- M.S.L.

Surf. Wat. El.
Groundwater Elev.:
When Drilling 728.02
at Completion 726.52
After Hrs

Description	ELEV.	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
5" BITUMINOUS CONCRETE PAVEMENT	741.1			
7" SAND AND GRAVEL BASE COURSE, Brown	740.5			
FILL: CLAY LOAM, Brown and Gray, Hard, Moist (A-6)	738.3	5, 4, 3	4.25 P	12.3
FIBROUS PEAT, Black, Very Soft, Wet (A-8)	731.8	1, 1, 1	0.13 P	228.6
		0, 0, 1	0.13 P	102.9
		0, 1, 2	0.25 P	45.1
ORGANIC SILT, Dark Gray, With Shells, Very Loose, Moist (A-7-5); Organic Content = 3.35%	728.0	0, 0, 1		29.8
SAND, Brown, Fine, Medium Dense, Saturated (A-3)	725.5	3, 6, 6		25.6
CLAY, Gray, Stiff, Moist (A-6)	723.0	4, 5, 5	1.50 P	25.1
SILTY CLAY, Brown and Gray, with a Sand Seam, Medium, Moist (A-6)	720.5	3, 6, 8	1.00 P	21.6
SAND, Brown, Medium Dense, Saturated (A-3)	713.0	11, 13, 18		
		7, 9, 11		
		9, 12, 10		
SANDY GRAVEL, Brown, Medium Dense, Saturated (A-1-b)	710.5	7, 7, 7		
SAND AND GRAVEL, Gray, Medium Dense, Saturated (A-1-b)	706.5	6, 6, 7		
		5, 8, 9		
End of Boring @ 35 Feet				

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
Split Spoon Sampler 24" with 140lb hammer falling 30"
4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG

Page 1 of 1 — Date 10/26/12

ROUTE FAU 3704 and 3705 — DESCRIPTION Proposed Improvements — Logged By VM

SECTION 07-00086-08-CH — LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL — SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake — STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 — Hammer Type Automatic Hammer

Boring No. B-11A
Station 56+60.38
Offset 75.64' L
Ground Surface El. +737.08+/- M.S.L.

Surf. Wat. El.
Groundwater Elev.:
When Drilling 720.08
at Completion 725.08
After Hrs

Description	ELEV.	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
12" SANDY LOAM (TOPSOIL), Black	736.1			
PEAT, Black, Trace Shells, Very Soft, Wet (A-8); Weight of Hammer pushed split spoon sampler 18 inches	731.1	0, 1, 1		47.4
		0, 0, 0		385.0
ORGANIC SILT AND PEAT, Gray, with Shells, Very Loose, Wet (A-8)	724.1	1, 0, 0		98.5
		0, 0, 1		137.4
		0, 0, 1		73.4
ORGANIC SILT, Greenish Gray, with Shells, Very Loose to Loose, Wet (A-7-5); Organic Content = 1.98%	719.8	0, 1, 1		72.3
		2, 3, 2		46.3
SILTY CLAY LOAM, Gray, Soft, Saturated (A-6)	718.6		0.25 P	
CLAY, Gray, Stiff, Moist (A-6) (Dry Unit Weight = 115.1 pcf)	716.1	3, 4, 4	1.91 B	18.7
SAND, Gray, Medium Dense, Saturated (A-3)	713.6	3, 5, 5		
SANDY LOAM, Gray, Medium Dense, Saturated (A-4); Sieve Analysis	711.1	4, 5, 7		
CLAY, Gray, Very Stiff, Moist (A-6) (Dry Unit Weight = 119.6 pcf)	703.6	5, 5, 7	2.22 B	15.9
		4, 6, 6	2.10 B	18.7
		3, 5, 7	2.78 B	
SANDY LOAM, Gray, Medium Dense, Saturated (A-2-4)	697.1	4, 7, 7		
		5, 7, 8		
		4, 8, 9		
End of Boring @ 40.0 Feet				

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
Split Spoon Sampler 24" with 140lb hammer falling 30"
4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG

Page 1 of 1 — Date 10/24/12

ROUTE FAU 3704 and 3705 — DESCRIPTION Proposed Improvements — Logged By VM

SECTION 07-00086-08-CH — LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL — SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake — STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 — Hammer Type Automatic Hammer

Boring No. B-12A
Station 56+19.27
Offset 87.19' L
Ground Surface El. +736.26+/- M.S.L.

Surf. Wat. El.
Groundwater Elev.:
When Drilling 725.26
at Completion 726.26
After Hrs

Description	ELEV.	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
12" SANDY LOAM (TOPSOIL), Black	735.3			
FIBROUS PEAT, Black, Trace Shells, Very Soft, Wet (A-8); Weight of Hammer pushed split spoon sampler 18 inches; Weight of Hammer pushed split spoon sampler 18 inches	727.8	0, 0, 0		103.1
		0, 1, 1		127.4
		0, 0, 0		158.4
ORGANIC SILT, Gray, with Shells, Very Loose, Wet (A-8); Organic Content = 17.86%	726.8	0, 1, 3		145.8
SILT, Gray, Very Loose (A-4)	725.8			25.1
SAND, Brownish Gray, Loose to Medium Dense, Saturated (A-3)	717.8	2, 2, 3		
		3, 7, 9		
		4, 8, 11		
CLAY, Brownish Gray, Stiff to Very Stiff, Moist (A-6) (Dry Unit Weight = 124.6 pcf)		2, 4, 4	1.25 B	16.0
		3, 5, 6	2.10 B	16.9
(Dry Unit Weight = 114.5 pcf)		4, 6, 7	1.70 B	17.7
	707.8	4, 5, 5	2.00 P	15.8
SANDY LOAM, Brownish Gray, Medium Dense, Saturated (A-2-4)	705.3	3, 5, 6		
SANDY LOAM, Gray, Medium Dense, Saturated (A-2-4)	703.8	4, 6, 7		
LOAM, Gray, Medium Dense, Saturated (A-4)		5, 7, 8		
(Combined Analysis Test)	697.8	5, 8, 8		19.2 / 16.9
SILTY LOAM, Gray, Medium Dense, Saturated (A-4)	696.3	4, 6, 8		
End of Boring @ 40.0 Feet				

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
Split Spoon Sampler 24" with 140lb hammer falling 30"
4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

SOIL BORING LOG — B-13A

ILLINOIS DEPARTMENT OF TRANSPORTATION

Page 1 of 1 | Date 10/29/12 | Logged By VM

ROUTE FAU 3704 and 3705 | DESCRIPTION Proposed Improvements

SECTION 07-00086-08-CH | LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL | SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake | STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 | Hammer Type Automatic Hammer

Boring No. B-13A | Station 54+74.21 | Offset 42.09' L | Ground Surface El. +737.34+/- M.S.L.

Surf. Wat. El. | Groundwater Elev.: When Drilling 727.84 | at Completion 729.34 | After Hrs

Description	ELEV.	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
12" SANDY LOAM (TOPSOIL), Black	736.3	1.0			
PEAT, Black, Trace Shells, Very Soft, Wet (A-8)		2.0	0, 0, 1		77.1
PT, Dark Gray, with Shells, Very Loose, Wet (A-8); Organic Content = 17.19%	733.8	4.0–5.0	0, 1, 1		136.8
SILTY LOAM, Gray, Trace Shells, Trace Gravel, Very Loose, Moist (A-2-4); Trace Shells in Sample 3	731.3	7.0	0, 1, 2		23.2
SILTY LOAM, Gray, Trace Black, Loose, Moist (A-2-4)	728.8	9.0–10.0	2, 3, 3		24.9
		11.0–12.0	2, 2, 3		21.4
SANDY LOAM, Gray, Trace Gravel, Loose, Saturated (A-2-6)	723.8	14.0–15.0	3, 4, 4		
CLAY, Gray, Stiff to Very Stiff, Moist (A-6); (Dry Unit Weight = 122.4 pcf)	721.3	16.0–17.0	3, 5, 6	1.13 B	23.4 / 15.5
		19.0–20.0	4, 6, 6	1.50 P	16.3 / 19.8
(Dry Unit Weight = 120.2 pcf)		21.0–22.0	4, 5, 5	1.64 B	18.1
(Dry Unit Weight = 121.6 pcf)		24.0–25.0	5, 6, 6	2.00 P	16.3
		26.0–27.0	4, 6, 5	1.75 P	16.4
		29.0–30.0	4, 1, 7	2.00 P	16.2
		31.0–32.0	5, 6, 12	3.00 P	
(Atterberg Limit Test)		34.0–35.0	6, 8, 11	2.50 P	17.0
SAND, Gray, Medium Dense, Trace Gravel, Saturated (A-3)	701.3	36.0–37.0	6, 7, 9		
		39.0–40.0	5, 8, 10		
End of Boring @ 40.0 Feet	697.3	40.0			

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
Split Spoon Sampler 24" with 140lb hammer falling 30"
4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

SOIL BORING LOG — B-14A

ILLINOIS DEPARTMENT OF TRANSPORTATION

Page 1 of 1 | Date 10/9/12 | Logged By VM

ROUTE FAU 3704 and 3705 | DESCRIPTION Proposed Improvements

SECTION 07-00086-08-CH | LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL | SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake | STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 | Hammer Type Automatic Hammer

Boring No. B-14A | Station 53+58.65 | Offset 0.97' L | Ground Surface El. +746.46+/- M.S.L.

Surf. Wat. El. | Groundwater Elev.: When Drilling 735.46 | at Completion 731.46 | After Hrs

Description	ELEV.	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
9" FILL: CRUSHED STONE	745.7				
FILL: SAND, Brown (A-3)	745.5	1.0			
FILL: SANDY LOAM, Brown and Dark Brown, Medium Dense, Moist (A-2-6)		2.0	3, 4, 6		11.9
FILL: SANDY CLAY, Brown, Gray, Trace Dark Brown, Little Sand, Trace Gravel, Very Stiff, Moist (A-6)	743.0	4.0–5.0	3, 3, 3	2.00 P	15.0
FIBROUS PEAT, Black, Trace Shells, Soft, Wet (A-8)	740.5	7.0	1, 2, 2		64.1
PEAT, Gray, Very Soft, Wet (A-8)	738.0	9.0–10.0	0, 1, 1		76.4
ORGANIC SILT, Gray, Trace Dark Gray, Loose, Moist (A-7-5)	735.5	11.0–12.0	4, 3, 2		24.6
Organic Content = 2.08%		14.0–15.0	0, 1, 1		24.1
SANDY CLAY LOAM, Brown and Gray, Medium, Moist (A-6); (Dry Unit Weight =109.3 pcf)	730.5	16.0–17.0	3, 4, 5	1.00 S	17.1
SANDY CLAY, Brown, Very Stiff, Moist (A-6)	727.5	19.0–20.0	4, 7, 8	3.25 P	16.0
CLAY, Brown, Very Stiff, Moist (A-6); (Dry Unit Weight =118.8 pcf)	725.5	21.0–22.0	4, 6, 6	2.00 P / 2.00 B/S	16.1
		24.0–25.0	5, 7, 10	2.75 P	15.7
SILTY CLAY, Gray, Very Stiff to Stiff, Moist (A-6)	720.5	26.0–27.0	4, 6, 6	2.50 P	18.0
(Dry Unit Weight =121.7 pcf) (Atterberg Limits Test) (Combined Analysis)		29.0–30.0	3, 6, 7	2.75 P / 3.10 B	15.0
		31.0–32.0	4, 5, 6	2.50 P	16.3
		34.0–35.0	5, 5, 7	2.25 P	15.2
(Dry Unit Weight =118.4 pcf)		36.0–37.0	4, 6, 6	2.25 P / 1.50 B	15.8
End of Boring @ 37.5 Feet	709.0				

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
Split Spoon Sampler 24" with 140lb hammer falling 30"
4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

SOIL BORING LOG — B-15A

ILLINOIS DEPARTMENT OF TRANSPORTATION

Page 1 of 1 | Date 10/29/12 | Logged By VM

ROUTE FAU 3704 and 3705 | DESCRIPTION Proposed Improvements

SECTION 07-00086-08-CH | LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL | SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake | STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 | Hammer Type Automatic Hammer

Boring No. B-15A | Station 52+65.85 | Offset 52.22' L | Ground Surface El. +739.39+/- M.S.L.

Surf. Wat. El. | Groundwater Elev.: When Drilling 723.39 | at Completion 724.89 | After Hrs

Description	ELEV.	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
SANDY LOAM (TOPSOIL), Black	738.4	1.0			
FILL: SILTY LOAM, Black, Very Loose, Moist (Contains Ash) (A-7-5)		2.0	2, 2, 2		19.1
ORGANIC CLAY, Dark Gray, Soft, Wet (A-8); (Dry Unit Weight = 93.9 pcf)	737.0	4.0–5.0	1, 1, 1	0.43 B	28.2
CLAY, Brown and Gray, Stiff to Very Stiff, Wet (A-6); (Dry Unit Weight = 113.8 pcf)	733.4	6.0–7.0	2, 4, 5	1.70 B	16.3
(Dry Unit Weight = 123.9 pcf)		9.0–10.0	4, 7, 8	3.60 B	14.3
(Dry Unit Weight = 118.6 pcf)		11.0–12.0	4, 6, 7	2.40 B	16.4
CLAY, Gray, Stiff, Wet (A-6); (Dry Unit Weight = 115.2 pcf) Organic Content = 0.41%	725.9	14.0–15.0	3, 5, 6		16.1
Occasional Sand Seams		16.0–17.0	4, 5, 5	1.00 P	18.1
SILTY LOAM, Gray, Trace Gravel, Medium Dense, Saturated (A-4)	720.9	19.0–20.0	4, 6, 6		20.0
CLAY, Gray, Trace Sand and Gravel, Very Stiff, Moist (A-6); (Dry Unit Weight = 119 pcf)	718.4	21.0–22.0	5, 7, 7	2.91 B	15.2
		24.0–25.0	4, 8, 8	2.25 P	15.6
GRAVEL, Brown, Coarse, Saturated (A-1-a)	714.4	25.0			
SAND, Brown, Medium Dense, Saturated (A-3)	713.4	26.0–27.0	5, 7, 11		
		29.0–30.0	6, 8, 10		
		31.0–32.0	6, 9, 15		
		34.0–35.0	7, 11, 18		
End of Boring @ 35.0 Feet	704.4	35.0			

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test
Split Spoon Sampler 24" with 140lb hammer falling 30"
4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_Boring Logs V.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED
		CHECKED - JJI	REVISED
	PLOT SCALE =	DRAWN - JTC	REVISED
	PLOT DATE = 11/7/2013	CHECKED - JJI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY SOIL RETENTION SYSTEM
SOIL BORING LOGS V
SHEET NO. 10 OF 10 SHEETS

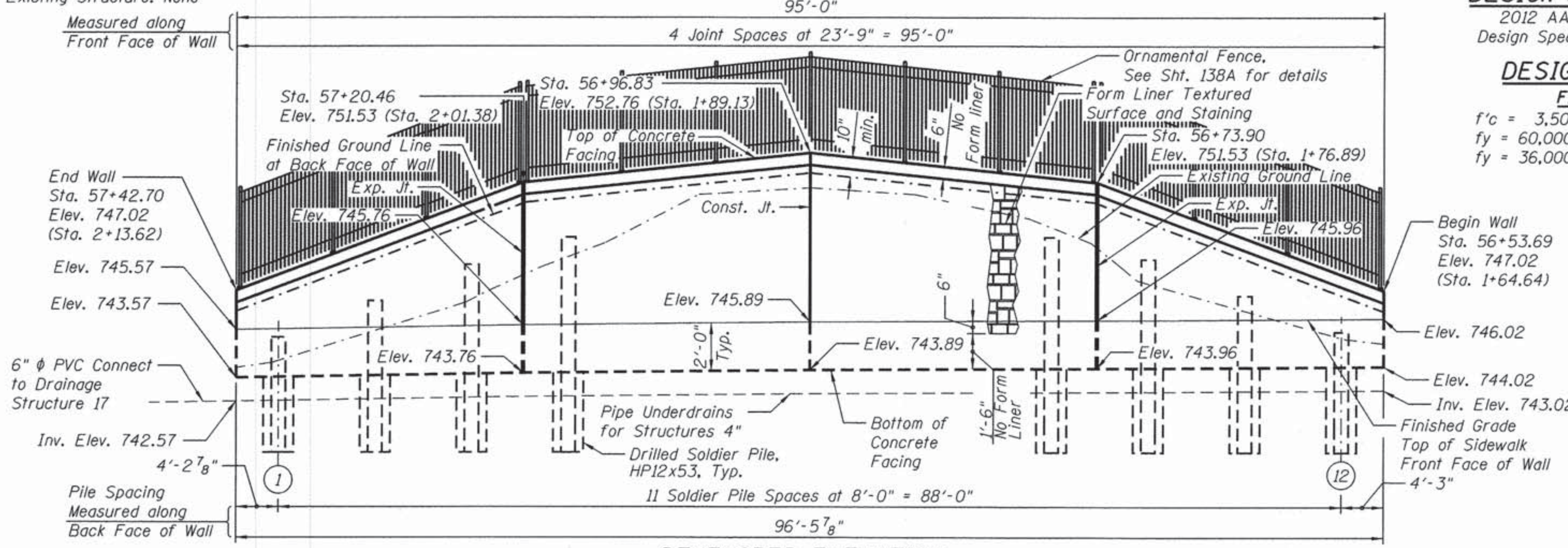
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	118

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

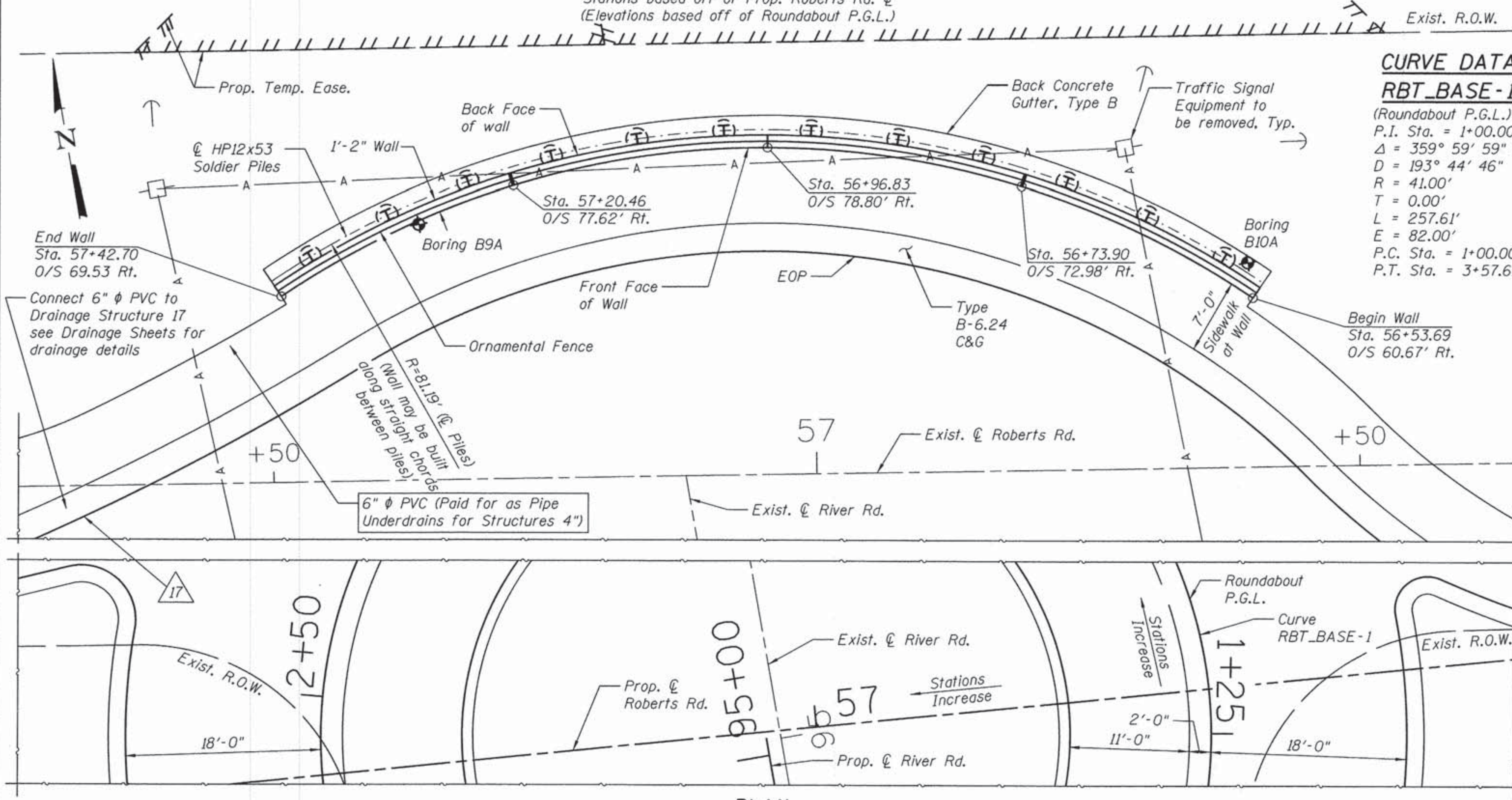
Bench Mark: Cross on curb on south side of island at Roberts Road & Twin Pond Road. Elev. = 749.71

Existing Structure: None



DEVELOPED ELEVATION

Looking at Front Face of Wall
Stations based off of Prop. Roberts Rd. ℄
(Elevations based off of Roundabout P.G.L.)



PLAN

(Offsets & Stations based off of Prop. Roberts Rd. ℄)

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Gr. 36 Soldier Piles)

CURVE DATA

RBT_BASE-1

(Roundabout P.G.L.)
P.I. Sta. = 1+00.00
Δ = 359° 59' 59" (Lt)
D = 193° 44' 46"
R = 41.00'
T = 0.00'
L = 257.61'
E = 82.00'
P.C. Sta. = 1+00.00
P.T. Sta. = 3+57.61

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

The form liner pattern shall be chosen from the pre-approved list in the Special Provisions.

All exposed concrete edges shall be chamfered ¾" unless otherwise noted.

TOTAL BILL OF MATERIAL

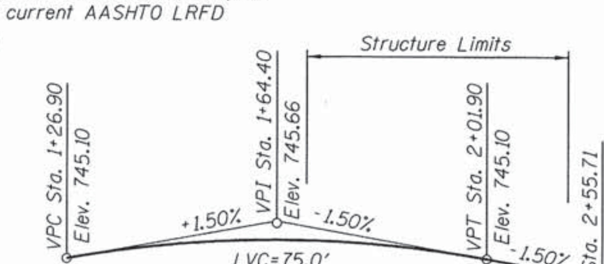
ITEM	UNIT	Quantity
Structure Excavation	Cu. Yd.	68
Concrete Structures	Cu. Yd.	28.3
Form Liner Textured Surface	Sq. Ft.	465
Stud Shear Connectors	Each	200
Reinforcement Bars, Epoxy Coated	Pound	3120
Geocomposite Wall Drain	Sq. Yd.	48
Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	415
Staining Concrete Structures	Sq. Yd.	93
Untreated Timber Lagging	Sq. Ft.	435
Furnishing Soldier Piles (HP Section)	Foot	186
Pipe Underdrains for Structures 4"	Foot	123
Concrete Gutter, Type B	Foot	98
Granular Backfill for Structures	Cu. Yd.	10

INDEX OF SHEETS

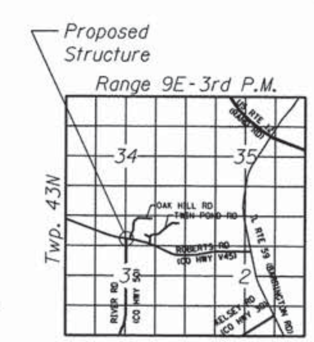
SHEET NO.	SHEET TITLE
1.	General Plan & Elevation
2.	Soldier Pile Layout
3.	Soldier Pile Details
4.	Concrete Facing & Details
5.	Soil Boring Logs

DATE SIGNED: 11-07-13
EXP. DATE: 11-30-14

I certify that to the best of my knowledge, information and belief, this wall design is structurally adequate for the design loading shown on the plans. The design is an economical one of the style of structure and complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.



PROPOSED ROUNDABOUT PROFILE GRADE



LOCATION SKETCH

GENERAL PLAN & ELEVATION
SOLDIER PILE WALL
ROBERTS ROAD FAU RTE 3704
SECTION 07-00086-08-CH
LAKE COUNTY
STA. 56+53.69 TO STA. 57+42.70

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED
		CHECKED - JJI	REVISED
	PLOT SCALE =	DRAWN - GM	REVISED
	PLOT DATE = 11/7/2013	CHECKED - JJI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	119
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

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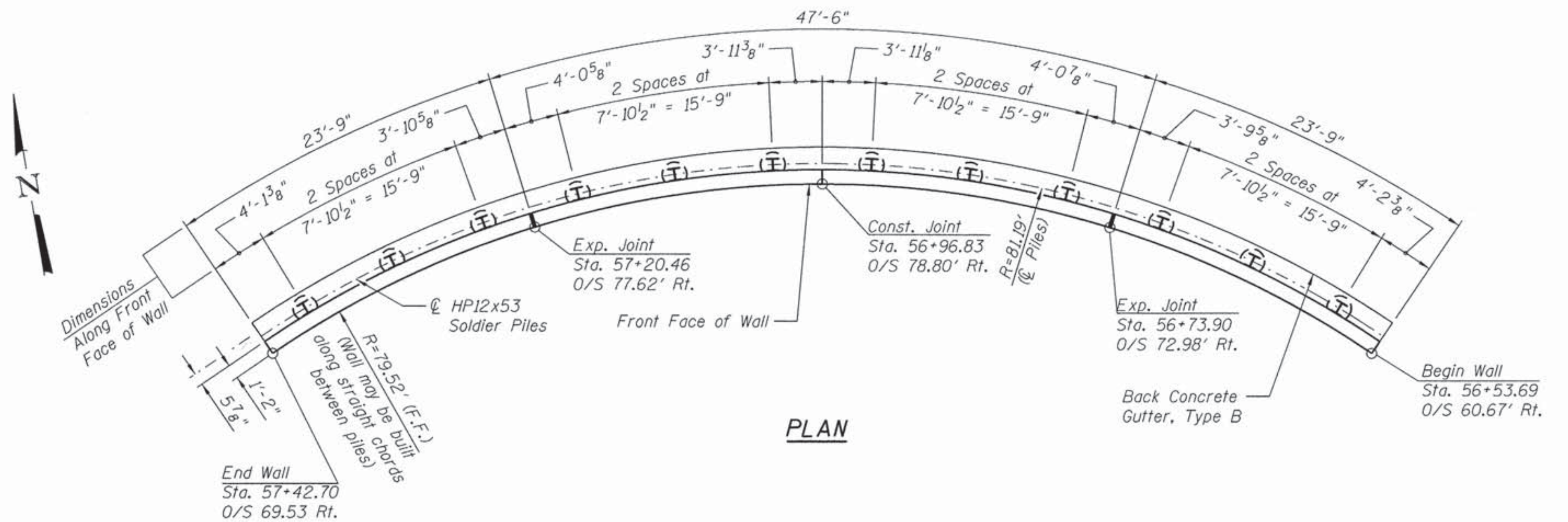
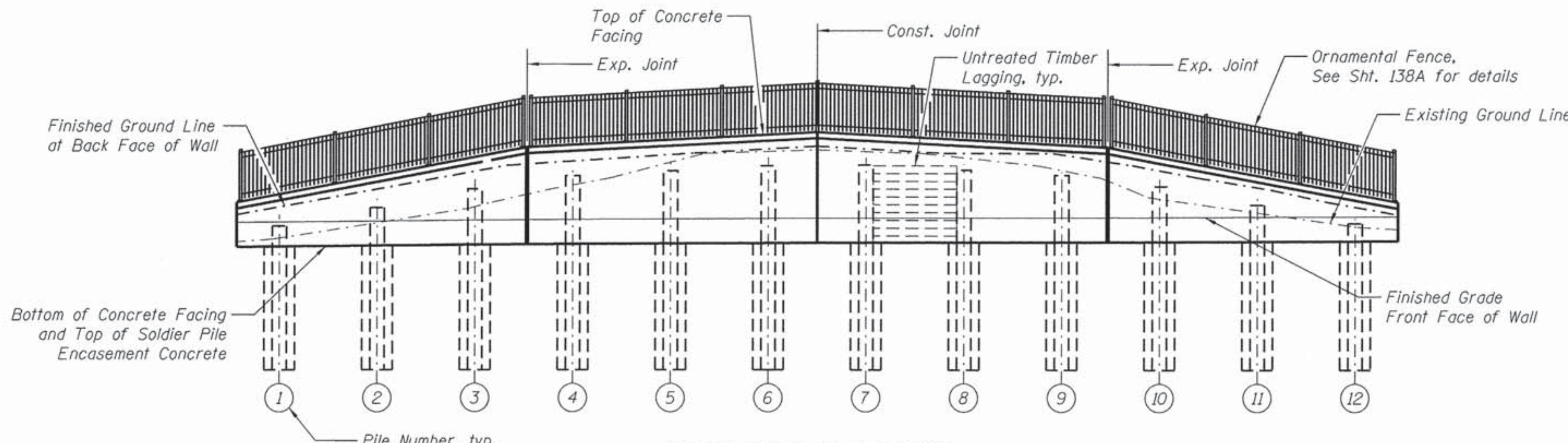


PLAN



DEVELOPED ELEVATION

(Looking at Front Face of Wall)

Notes:

All offsets are to the right of the centerline of Roberts Rd.
Stations & offsets are to the centerline of the piles.
For Section Thru Soldier Pile Wall & Soldier Pile Details, See Sheet 3 of 5.
For Concrete Facing Details, See Sheet 4 of 5.
Wall may be built along straight chords between soldier piles.

BILL OF MATERIAL

ITEM	UNIT	Quantity
Furnishing Soldier Piles (HP Section)	Foot	186
Drilled and Setting Soldier Piles (In Soil)	Cu. Ft.	590
Untreated Timber Lagging	Sq. Ft.	435
Stud Shear Connectors	Each	200

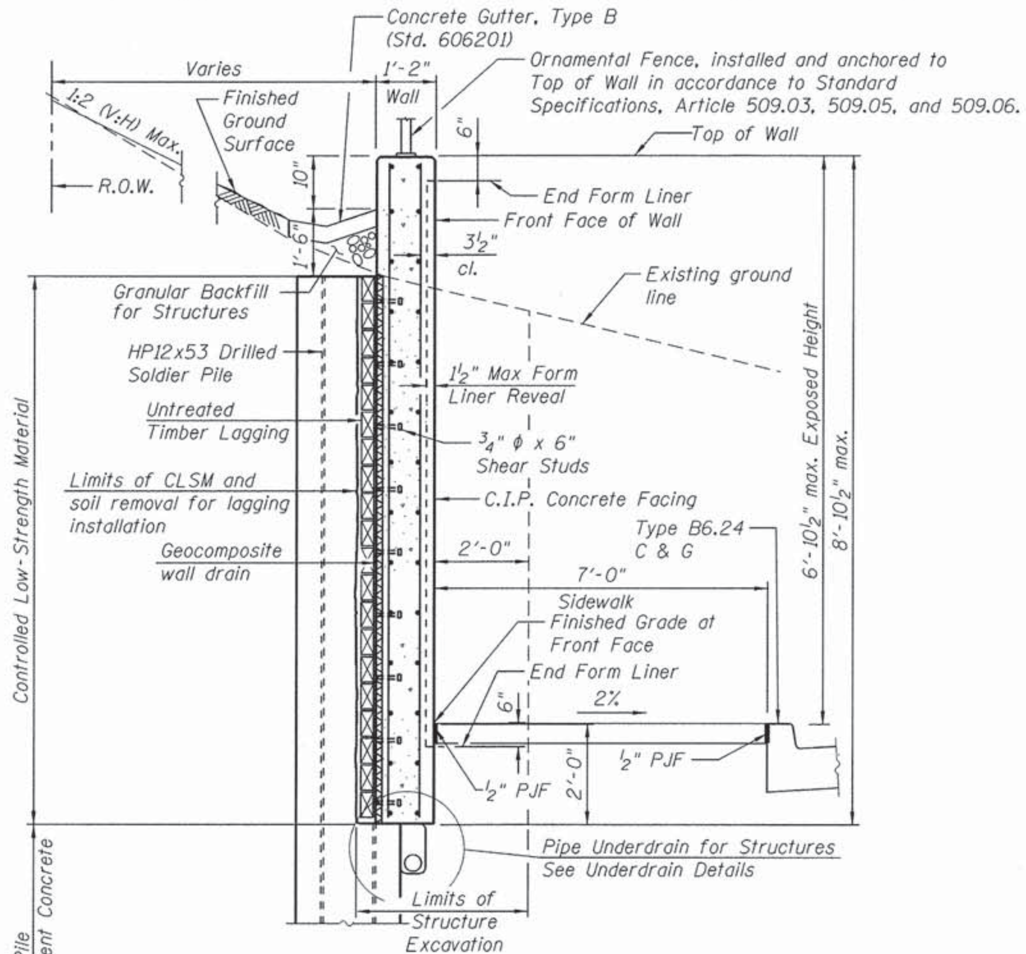
PILE SCHEDULE

Pile No.	Station	Offset to ℄ Pile (ft)	Pile Designation	Approx. Pile Length	Bottom Elevation	Top Elevation	Shear Studs	
							No.	Spacing
1	57+39.70	72.92	HP12x53	13'-0"	733.22	746.22	10	6" max.
2	57+32.28	76.02	HP12x53	14'-0"	732.80	746.80	16	6" max.
3	57+24.60	78.37	HP12x53	15'-6"	732.97	748.47	16	
4	57+16.72	79.96	HP12x53	16'-6"	732.91	749.41	18	
5	57+08.72	80.75	HP12x53	17'-0"	732.82	749.82	20	
6	57+00.69	80.75	HP12x53	17'-0"	733.22	750.22	22	8" max.
7	56+92.69	79.96	HP12x53	17'-0"	733.23	750.23	22	
8	56+84.81	78.37	HP12x53	17'-0"	732.82	749.82	20	
9	56+77.12	76.02	HP12x53	16'-6"	732.91	749.41	18	
10	56+69.71	72.92	HP12x53	15'-6"	732.98	748.48	16	
11	56+62.64	69.10	HP12x53	14'-0"	732.99	746.99	14	6" max.
12	56+55.98	64.60	HP12x53	13'-0"	732.51	745.51	8	6" max.

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_WALL_02.dgn

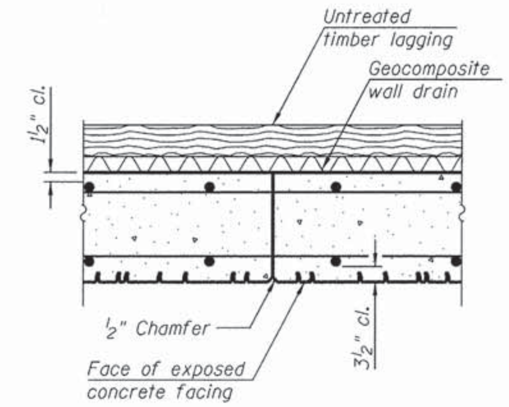
Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOLDIER PILE LAYOUT STA. 56+53.69 TO STA. 57+42.70
		CHECKED - JJI	REVISED		
	PLOT SCALE =	DRAWN - GM	REVISED		
	PLOT DATE = 11/7/2013	CHECKED - JJI	REVISED		SHEET NO. 2 OF 5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	120
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

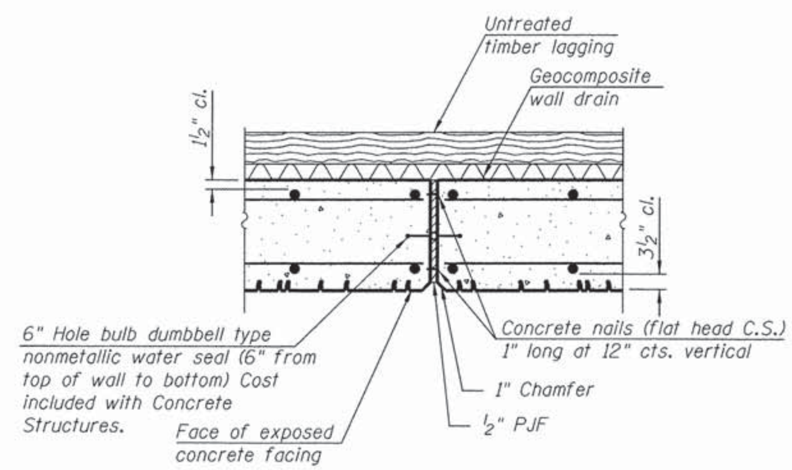


SECTION THRU SOLDIER PILE WALL

The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.

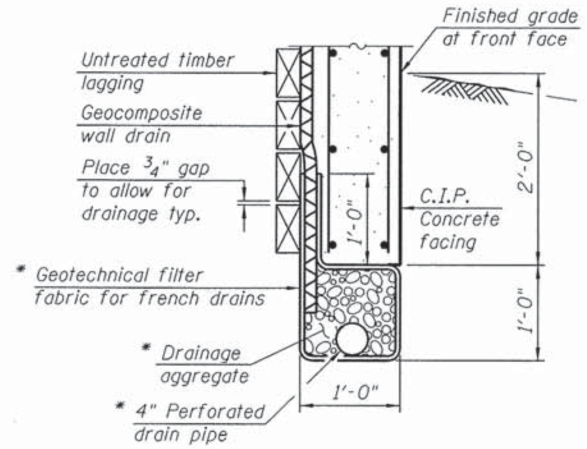


CONSTRUCTION JOINT

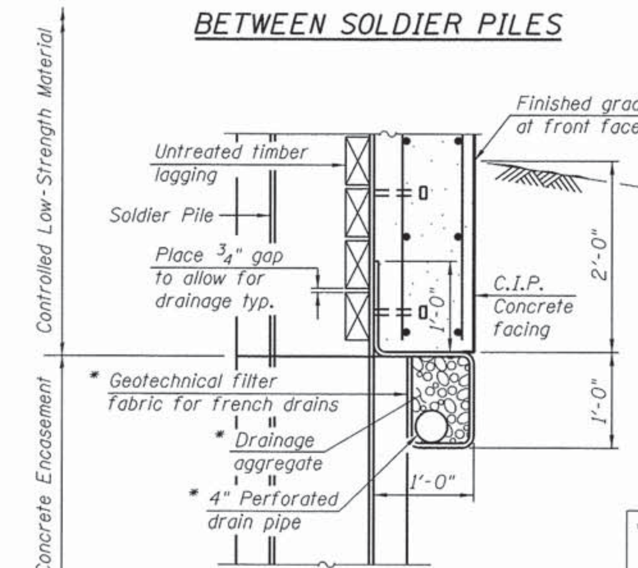


EXPANSION JOINT

JOINT DETAILS



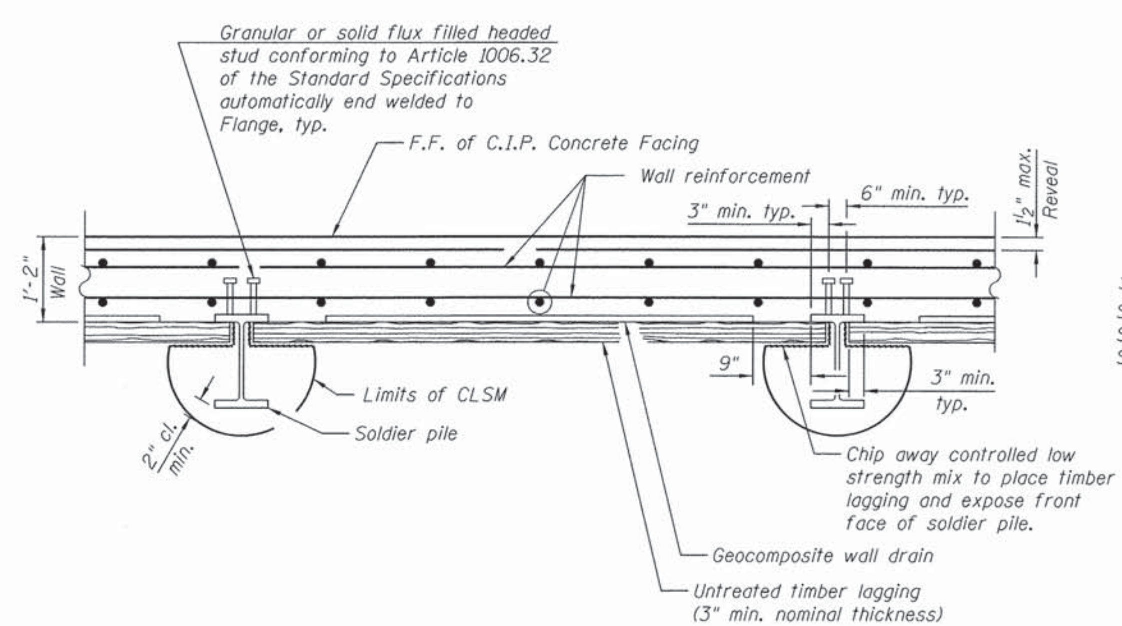
BETWEEN SOLDIER PILES



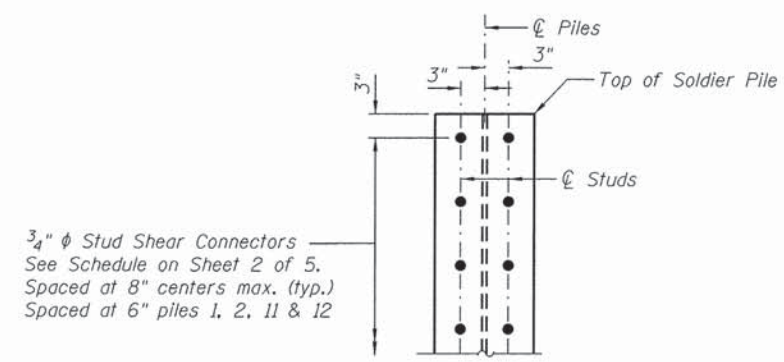
AT SOLDIER PILES

UNDERDRAIN DETAILS

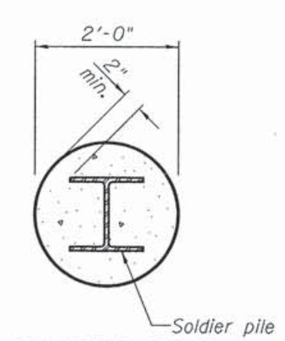
* Included in the cost of Pipe Underdrains for Structures 4".



SECTION THRU DRILLED SOLDIER PILE WALL



DETAIL OF SHEAR STUD PLACEMENT



SOLDIER PILE ENCASEMENT

Note:
The drain shall be placed behind the lagging with the pervious side toward the soil according to Section 591 of the Standard Specifications and shall be centered between the piles. The drain shall be installed in stages as the excavation proceeds downward making sure that drain splices as well as the top side edges are covered as required to protect the drain.

Notes:
For Soldier Pile Layout, See Sheet 2 of 5.
For Concrete Facing Details and Bill of Material, See Sheet 4 of 5.
C.I.P. denotes Cast in Place.
F.F. denotes Front Face.

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_WALL_03.dgn

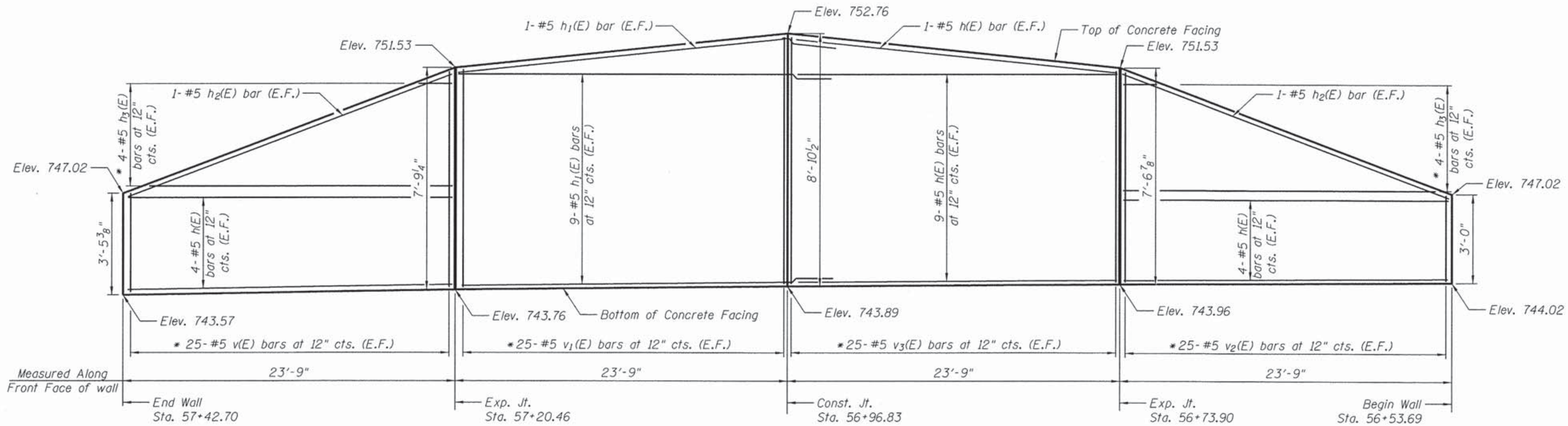
Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED
		CHECKED - JJI	REVISED
	PLOT SCALE =	DRAWN - GM	REVISED
	PLOT DATE = 11/7/2013	CHECKED - JJI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE DETAILS
STA. 56+53.69 TO STA. 57+42.70

SHEET NO. 3 OF 5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	121
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		



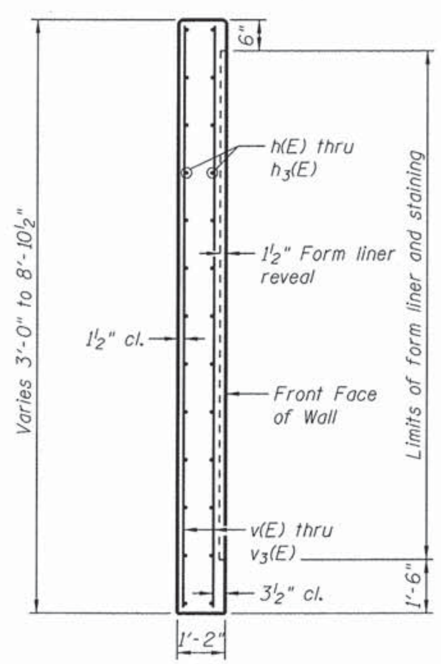
DEVELOPED ELEVATION

(Looking at Front Face of Wall)

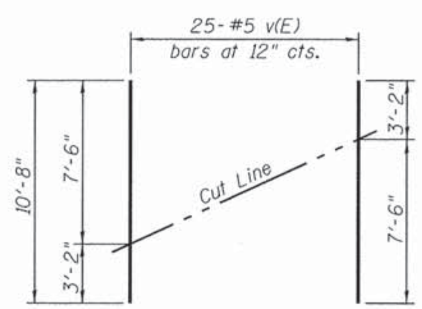
* Signifies cut bar. Order per length on Bill of Material. Cut as shown in Field Cutting Diagram and use half of bars on each face.

BILL OF MATERIAL

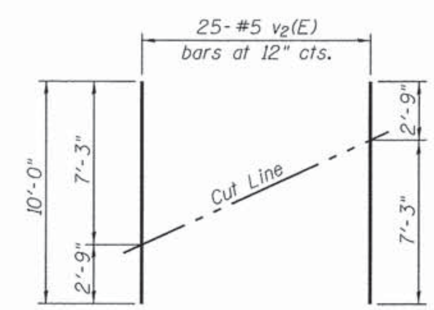
Bar	No.	Size	Length	Shape
h(E)	36	#5	23'-6"	——
h_1(E)	20	#5	26'-10"	——
h_2(E)	4	#5	23'-11"	——
h_3(E)	8	#5	24'-1"	——
v(E)	25	#5	10'-8"	——
v_1(E)	25	#5	16'-1"	——
v_2(E)	25	#5	10'-0"	——
v_3(E)	25	#5	15'-10"	——
Concrete Structures		Cu. Yd.	28.3	
Reinforcement Bars, Epoxy Coated		Pound	3120	
Pipe Underdrains for Structures 4"		Foot	123	
Geocomposite Wall Drain		Sq. Yd.	48	
Form Liner Textured Finish		Sq. Ft.	465	



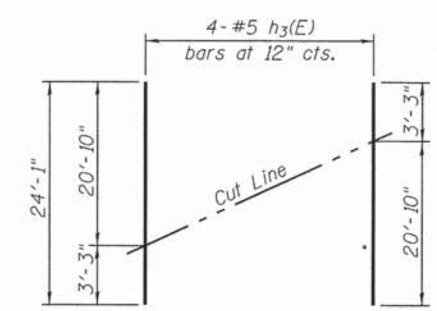
SECTION THRU CONCRETE FACING



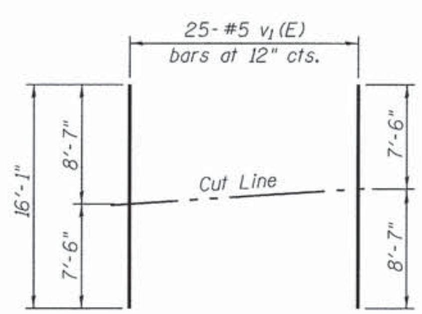
v(E) FIELD CUTTING DIAGRAM



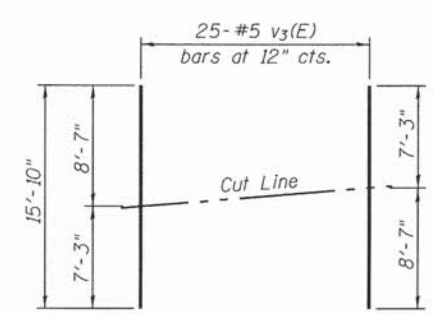
v_2(E) FIELD CUTTING DIAGRAM



h_3(E) FIELD CUTTING DIAGRAM



v_1(E) FIELD CUTTING DIAGRAM



v_3(E) FIELD CUTTING DIAGRAM

MIN. BAR LAP

#5 bar = 2'-11"

NOTES:

For Typical Sections and Soldier Pile Details, see Sheet 3 of 5.

Stations and dimensions are measured along front face of wall.

Facing may be built along straight chords between soldier piles.

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_WALL_04.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED
		CHECKED - JJI	REVISED
	PLOT SCALE =	DRAWN - JTC	REVISED
	PLOT DATE = 11/7/2013	CHECKED - JJI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE FACING & DETAILS
STA. 56+53.69 TO STA. 57+42.70

SHEET NO. 4 OF 5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	122
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\Structural Sheets\877-010_SHT_WALL_05.dgn

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG

Page 1 of 1 | Date 10/7/12 | Logged By VM

ROUTE FAU 3704 and 3705 | DESCRIPTION Proposed Improvements

SECTION 07-00086-08-CH | LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL | SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake | STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 | Hammer Type Automatic Hammer

Boring No. **B-9A** | Station 57+29.46 | Offset 74.92' R | Ground Surface El. +744.79+/- M.S.L.

Surf. Wat. El. | Groundwater Elev.: When Drilling 728.79 | at Completion 727.79 | After Hrs

Description	ELEV. (bottom of stratum)	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
6" FILL: SANDY CLAY TOPSOIL, Dark Brown (A-7-5)	744.3				
SANDY CLAY LOAM, Brown and Dark Brown, Trace Roots, Very Stiff, Dry (A-6)	741.3	2.0	5, 8, 16	3.75 P	8.2
SILT, Brown, Little Sand, Loose, Moist (A-4)	738.8	4.0–5.0	6, 4, 4		21.4
SANDY SILT, Brown, Loose, Moist (A-4)	737.8	7.0	3, 4		18.9
CLAY, Brown, Very Stiff, Moist (A-6)	736.3		4	3.00 P	22.6
CLAY, Gray, Very Stiff, Moist (A-6)	733.8	9.0–10.0	2, 3, 3	2.50 P	24.1
SILT, Gray, Loose, Moist (A-4)	731.3	12.0	2, 3, 2		17.3
CLAYEY SILT, Gray, Loose, Moist (A-4)	728.8	14.0–15.0	2, 4, 4		16.9
SILTY CLAY LOAM, Gray, Very Stiff, Moist (A-6) (Atterberg Limits Test) (Combined Analysis)	727.8	17.0	7, 9, 9		22.9
SAND AND GRAVEL, Brown and Light Gray, With Cobbles, Medium Dense, Saturated (A-1-b)	726.3				
SAND, Brown and Gray, Medium Dense, Saturated (A-3)		19.0–20.0	3, 7, 5		
		22.0	7, 9, 8		
		24.0–25.0	5, 6, 5		
	716.3	27.0	3, 6, 5		
SAND, Gray, Medium Dense, Saturated (A-3) (Little Gravel 28.5' -30')		29.0–30.0	4, 6, 6		
		32.0	5, 5, 5		
		34.0–35.0	6, 5, 5		
	707.3	37.0	5, 5, 6		
End of Boring @ 37.5 Feet					

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test

Split Spoon Sampler 24" with 140lb hammer falling 30"

4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

ILLINOIS DEPARTMENT OF TRANSPORTATION — SOIL BORING LOG

Page 1 of 1 | Date 10/4/12 | Logged By VM

ROUTE FAU 3704 and 3705 | DESCRIPTION Proposed Improvements

SECTION 07-00086-08-CH | LOCATION Roberts Rd. & River Rd. Intersection, Lake County, IL | SEC 3 TWP 43N RNG 9E PM 3rd

COUNTY Lake | STRUCTURE NO. (Exist.) (Prop.)

Drilling Method AASHTO T 206-09 | Hammer Type Automatic Hammer

Boring No. **B-10A** | Station 56+53.84 | Offset 63.97' R | Ground Surface El. +745.15+/- M.S.L.

Surf. Wat. El. | Groundwater Elev.: When Drilling 731.5 | at Completion | After Hrs

Description	ELEV. (bottom of stratum)	DEPTH (ft.)	SPT N (blows)	UCS Qu (TSF)	MOIST. (%)
5" FILL: CLAY TOPSOIL, Dark Brown, Trace Sand (A-7-5)	744.7				
FILL: SANDY CLAY LOAM, Brown, Very Stiff, Dry (A-6)	741.7	2.0	12, 13, 15	3.00 P	7.9
SILTY CLAY LOAM, Brown, Trace Gravel, Very Stiff, Moist (A-6)	739.2	4.0–5.0	4, 5, 5	2.00 P	15.4
CLAYEY SILT, Brown, Loose, Moist (A-4)	738.2	7.0	2, 3, 3		18.0
SILTY CLAY LOAM, Brown and Gray, Stiff to Very Stiff, Moist (A-6)		9.0–10.0	3, 3, 5	1.50 P	25.1
	732.7	12.0	3, 4, 5	2.00 P	22.0
SILTY CLAY, Brown and Gray, Stiff, Moist (A-6)	731.2	14.0	3	1.50 P	20.5
SAND, Brown, Trace Gravel, Medium Dense, Saturated (A-3)		15.0	5, 6		
		17.0	5, 6, 7		
		19.0–20.0	1, 2, 4		
		22.0	10, 7, 5		
	719.2	24.0–25.0	5, 7, 11		
SAND, Gray, Medium Dense, Saturated (A-3) (Some Brown 26' -27.5')		27.0	7, 11, 11		
		29.0–30.0	3, 6, 5		
		32.0	11, 9, 9		
		34.0–35.0	4, 5, 6		
		37.0	6, 8, 8		
	705.2	39.0–40.0	7, 9, 10		
End of Boring @ 40 Feet					

N=Standard Penetration Test-Blows per six inches to drive 2" O.D. (QU)B=Bulge S=Shear P=Penetrometer Test

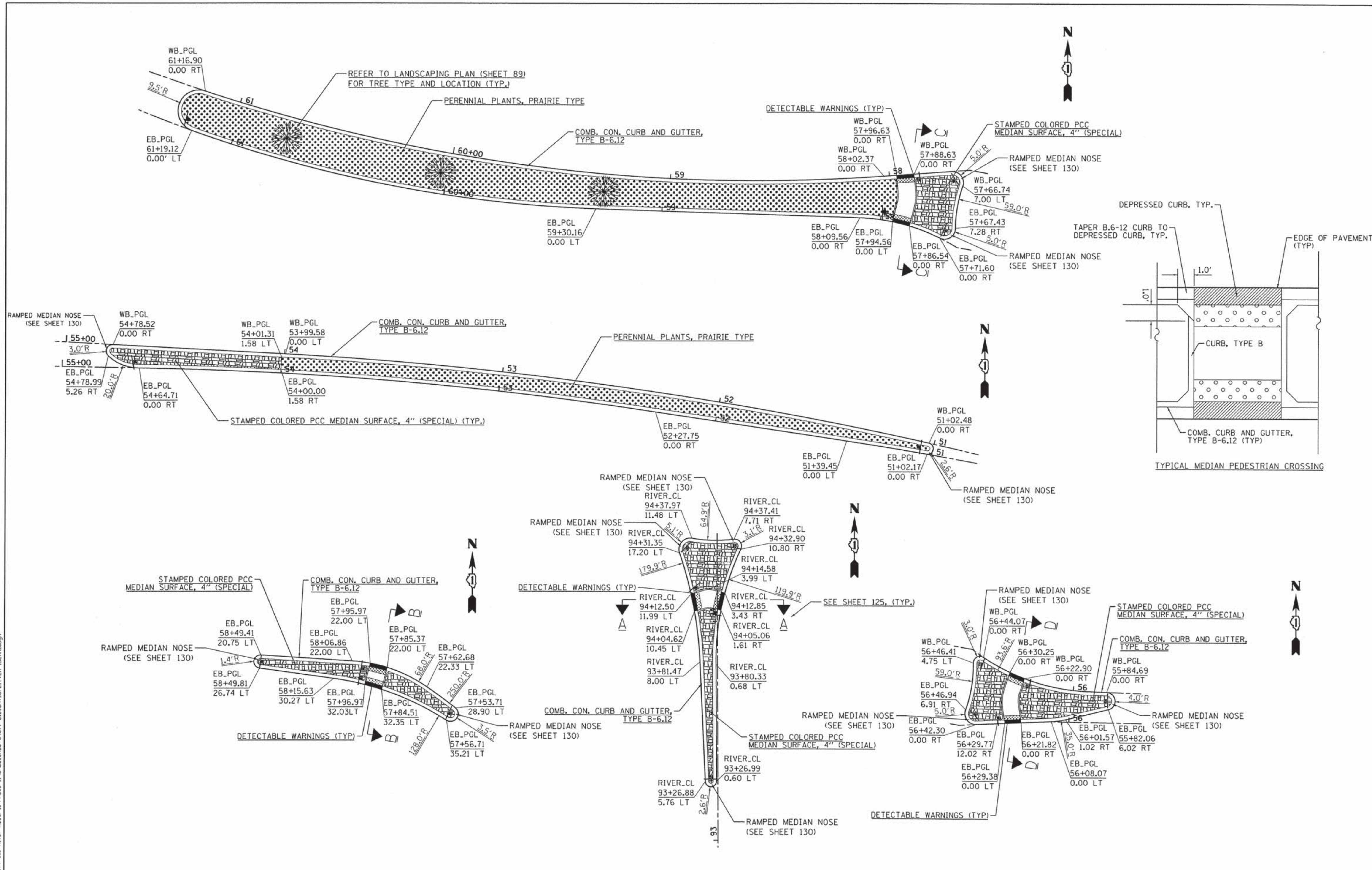
Split Spoon Sampler 24" with 140lb hammer falling 30"

4.25" Diameter Hollow Stem Augers used between Split Spoon Sample intervals unless noted otherwise.

SEECO Job No. 9337G-1

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME =	DESIGNED - JMT	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOIL BORING LOGS STA. 56 + 53.69 TO STA. 57 + 42.70
		CHECKED - JJI	REVISED		
	PLOT SCALE =	DRAWN - JTC	REVISED		
	PLOT DATE = 11/7/2013	CHECKED - JJI	REVISED		SHEET NO. 5 OF 5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	123
		CONTRACT NO. 63875		
	ILLINOIS FED. AID PROJECT			



FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_SPLITTER ISLAND.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

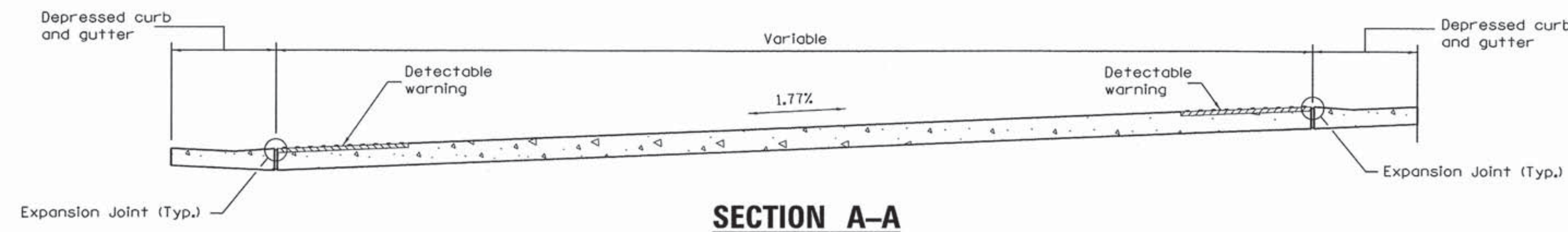
USER NAME = $USER$	DESIGNED - GJE	REVISED -
	DRAWN - GJE	REVISED -
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

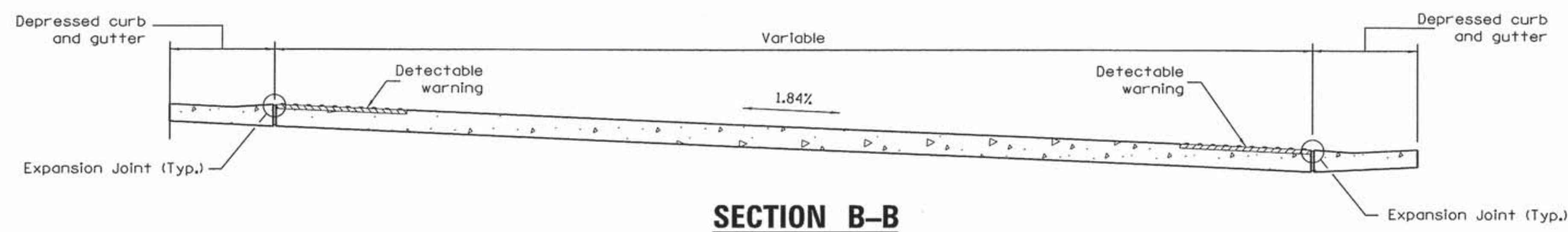
ROBERTS ROAD AND RIVER ROAD
SPLITTER ISLAND DETAILS

SCALE: 1"=20" | SHEET 124 OF 183 SHEETS | STA. TO STA.

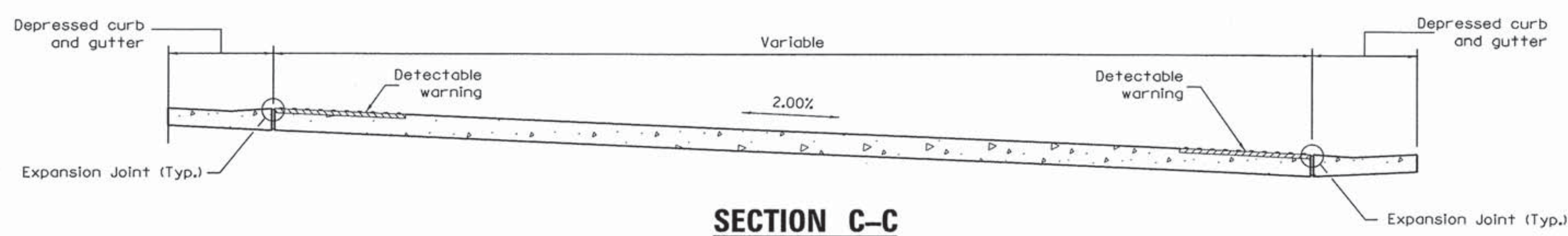
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	124
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		



SECTION A–A



SECTION B–B



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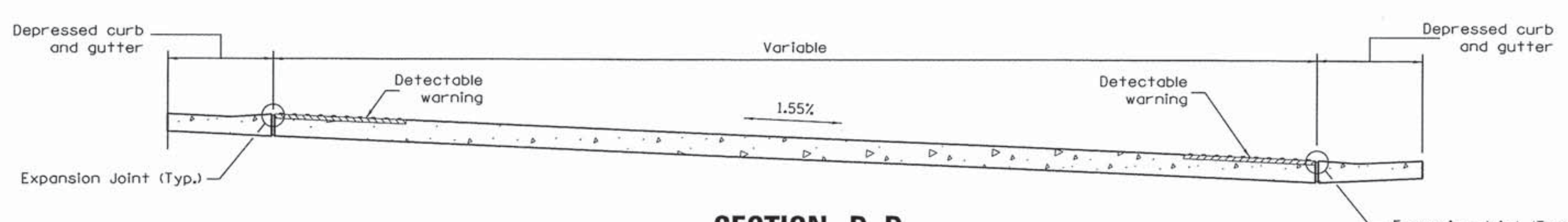


SECTION D–D

NOTE: SEE INTERSECTION GRADING PLAN (SHEETS 82-84) FOR EDGE OF PAVEMENT ELEVATIONS

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_SPLITTER ISLAND_02.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -
	DRAWN - GJE	REVISED -
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD AND RIVER ROAD
SPLITTER ISLAND DETAILS

SCALE: 1'=20" | SHEET 125 OF 183 SHEETS | STA. | TO STA.

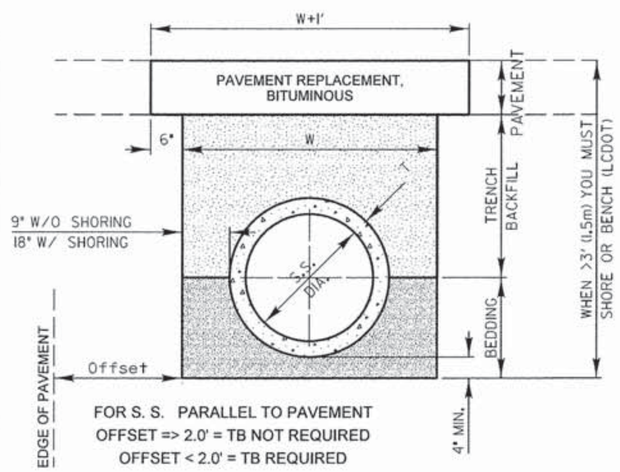
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	125
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

ENGLISH		TRENCH WIDTH (W)		MIN OFFSET FROM E.O.P.* FOR NO TB		½ PIPE AREA [O.D.]
S.S. DIA.	T	WITHOUT SHORING	WITH SHORING	WITHOUT SHORING	WITH SHORING	
(IN)	(IN)	(FT)	(FT)	(FT)	(FT)	(SQ FT)
10	2.00	2.67	4.17	3.33	4.08	0.53
12	2.00	2.83	4.33	3.42	4.17	0.70
15	2.25	3.13	4.63	3.56	4.31	1.04
18	2.50	3.42	4.92	3.71	4.46	1.44
21	2.75	3.71	5.21	3.85	4.60	1.92
24	3.00	4.00	5.50	4.00	4.75	2.45
27	3.25	4.29	5.79	4.15	4.90	3.06
30	3.50	4.58	6.08	4.29	5.04	3.73
36	4.00	5.17	6.67	4.58	5.33	5.28
42	4.50	5.75	7.25	4.88	5.63	7.09
48	5.00	6.33	7.83	5.17	5.92	9.17

* TO CENTER LINE OF PIPE

DESIGN NOTES:

1. Trench backfill is required if the storm sewer or culvert offset from the edge of the pavement is less than the tabulated values (the inner trench wall is closer than 2' to the edge of pavement)
2. Payment for the trench backfill shall not exceed the quantity computed using the maximum trench width dimensions. If the trench is excavated beyond these limits, the contractor shall furnish and place any additional trench backfill at his/her expense.
3. If the trench width is less than the above maximum values, payment will be based on the actual dimensions of the dug trench.
4. Bedding shall be placed from 4" under the pipe to the spring line of the pipe and is incidental to the corresponding storm sewer or culvert pay item.
5. If any part of the excavation for a drainage structure falls within 2' of the edge of pavement, the space between the side of the excavation and the outer surface of the drainage structure shall be filled with trench backfill. The cost of this item is included in the pay item for the drainage structure.



SCALE: 1" = 2'

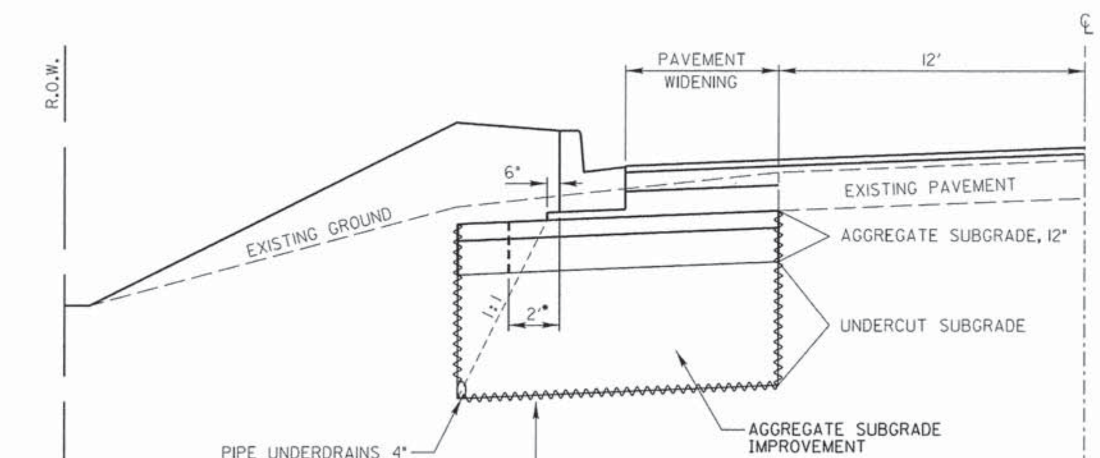
REVISIONS	DATE
Text Revision	11/06/07
Text Update	7/14/11

LakeCounty Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

TRENCH WIDTHS FOR TRENCH BACKFILL & PAVEMENT REPLACEMENT, BITUMINOUS

LC0020



*THE STANDARD SUBGRADE DIMENSION W/O UNDERCUT IS 2 FEET.

SCALE:
HORIZONTAL 1" = 5'
VERTICAL 1" = 2.5'

IN UNSTABLE AREAS, THE SUBGRADE SHALL BE:
- UNDERCUT (PAID FOR AS EARTH EXCAVATION PER CU YD);
- REINFORCED WITH GEOTECHNICAL FABRIC FOR GROUND STABILIZATION (PAID FOR PER SQ YD);
- DRAINED BY INSTALLATION OF PIPE UNDERDRAINS, 4" (PAID FOR PER FOOT);
- BACKFILLED WITH POROUS GRANULAR EMBANKMENT, SPECIAL (PAID FOR PER TON) AND;
- TOPPED WITH AGGREGATE SUBGRADE, 12" (300mm) (PAID FOR PER SQ YD).

REVISIONS	DATE

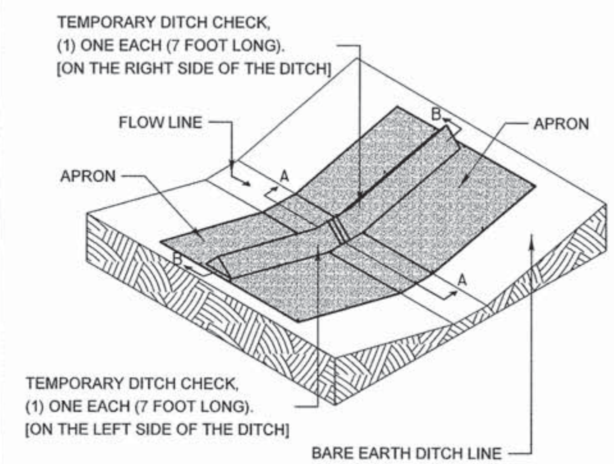
LakeCounty Division of Transportation

APPROVED BY: M. G. Zemaitis
DATE: APRIL 1, 2007

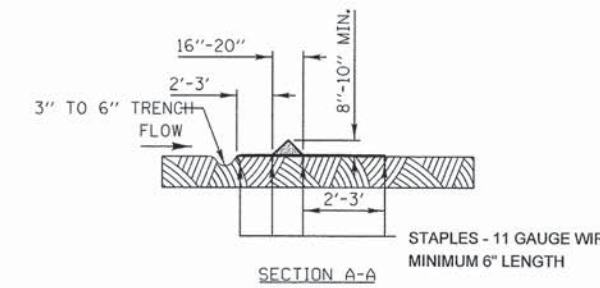
UNDERCUT DETAIL

LC2000

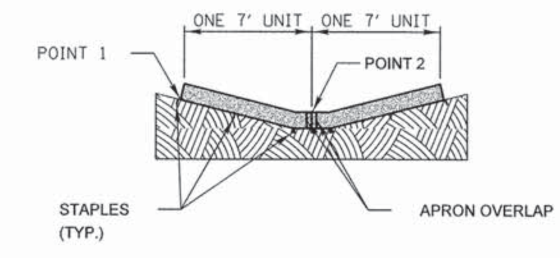
FOR BARE EARTH APPLICATION ONLY



SILT DIKE UNIT
ISOMETRIC



SECTION A-A



SECTION B-B

NOTES:

THE TEMPORARY DITCH CHECK SHALL BE USED IN BARE EARTH DITCH LINES AND SHALL BE REMOVED JUST PRIOR TO THE INSTALLATION OF EROSION CONTROL BLANKET AND SEEDING.

THE INSTALLATION SHOWN WILL BE MEASURED AND PAID FOR AS A TEMPORARY DITCH CHECK 14 FEET IN LENGTH.

STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE 7' UNIT AS SHOWN ON THE DIAGRAM.

POINT 1 MUST BE HIGHER THAN POINT 2 TO INSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

REVISIONS	DATE
ADDED DIMENSIONS	04/11/08
REVISED PAY ITEM	04/15/10
ADDED PLASTIC BERM (pg2)	10/10/12

LakeCounty Division of Transportation

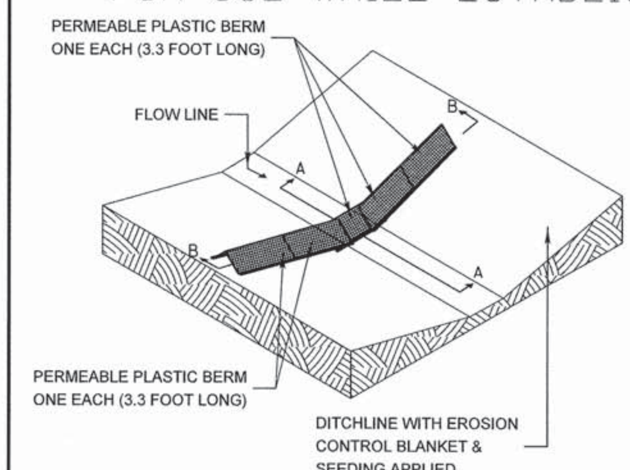
APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

TEMPORARY DITCH CHECK INSTALLATION FOR ROADWAY OR DRAINAGE DITCH

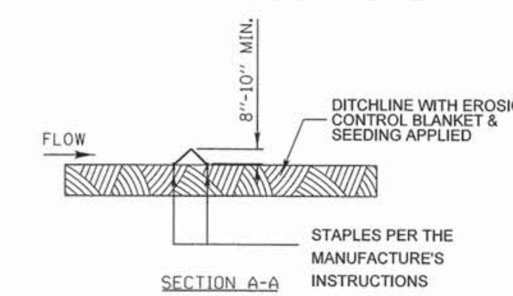
(SHEET 1 OF 2)

LC2050

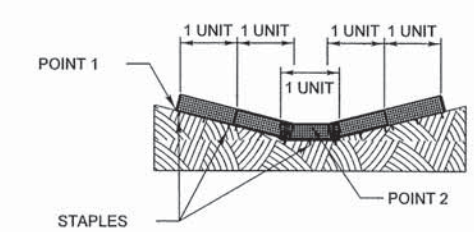
FOR USE WHILE ESTABLISHING FINAL LANDSCAPING



PERMEABLE PLASTIC BERM
ISOMETRIC



SECTION A-A



SECTION B-B

NOTES:

THE PERMEABLE PLASTIC BERM SHALL REPLACE THE TEMPORARY DITCH CHECK AFTER THE INSTALLATION OF EROSION CONTROL BLANKET AND SEEDING.

EACH PERMEABLE PLASTIC BERM IS 3.3 FEET IN LENGTH. THE MINIMUM INSTALLATION IN A DITCH SHALL BE THREE UNITS. THE INSTALLATION SHOWN WILL BE MEASURED AND PAID FOR AS A PERMEABLE PLASTIC BERM 16.5 FEET IN LENGTH (5 UNITS).

STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

POINT 1 MUST BE HIGHER THAN POINT 2 TO INSURE THAT WATER FLOWS THROUGH OR OVER THE BERM AND NOT AROUND THE ENDS.

REVISIONS	DATE
ADDED DIMENSIONS	04/11/08
REVISED PAY ITEM	04/15/10
ADDED PLASTIC BERM (pg2)	10/10/12

LakeCounty Division of Transportation

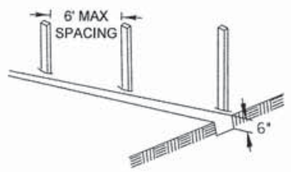
APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

TEMPORARY DITCH CHECK INSTALLATION FOR ROADWAY OR DRAINAGE DITCH

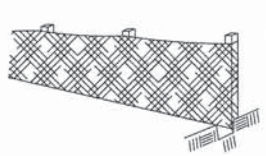
(SHEET 2 OF 2)

LC2050

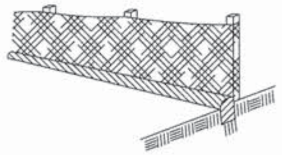
1. SET POSTS AND EXCAVATE OR SLIT-TRENCH A 6-INCH DEEP TRENCH UPSLOPE ALONG THE LINE OF POSTS



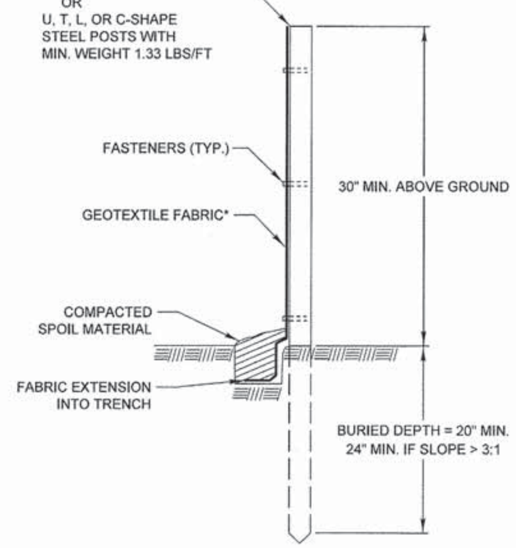
2. ATTACH GEOTEXTILE FILTER FABRIC TO EACH POST WITH A MINIMUM OF 3 (THREE) FASTENERS PER POST AND EXTEND FABRIC TO THE BOTTOM OF THE TRENCH



3. BACKFILL AND COMPACT THE EXCAVATED MATERIALS



Requirements	Test Methods	Wire Backed Supported Silt Fence [a]	Unsupported Silt Fence	
			Geotextile Elongation >=50% [b]	Geotextile Elongation <50% [b]
Maximum Post Spacing		4 feet	4 feet	6 feet
Grab Strength	ASTM D 4632			
Machine direction		90 lbs	124 lbs	124 lbs
X-Machine direction		90 lbs	100 lbs	100lbs
Permittivity [c]	ASTM D 4491	0.05 sec $^{-1}$	0.05 sec $^{-1}$	0.05 sec $^{-1}$
Apparent Opening Size	ASTM D 4751	0.024in maximum average roll value		
Ultraviolet stability (retained strength)	ASTM D 4355	70% after 500 hours of exposure		



* NOTE: OPTIONAL WIRE SUPPORT
- MIN. 30" HEIGHT
- MIN. 14 GAUGE WIRE
- MIN. 6 HORIZ. WIRES
- MIN. 6" VERTICAL SPACING

SCALE 1" = 1'

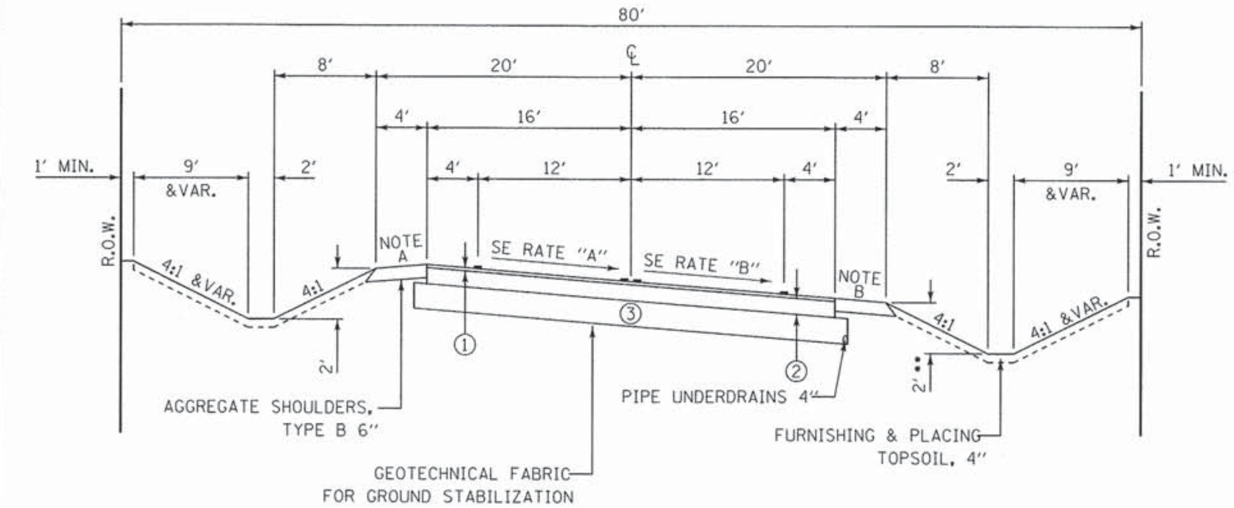
REVISIONS	DATE
ORIG. by LCSMC	4/21/08
Update Text	7/15/11

LakeCounty Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: JUNE 20, 2008

PERIMETER EROSION BARRIER INSTALLATION

LC2051



NOTE A:
The maximum rollover rate at the edge of the surface course is 8% for new roads and reconstructions

Sign Convention:
slope towards center is positive;
slope away from centerline is negative

Using that limit the high side of the gravel shoulder slope = -4%
If S.E. rate a is less than or equal to +4% or slope = [(S.E. rate a)-8%]
If S.E. rate a is greater than +4%.

NOTE B:
The low side gravel shoulder slope = S.E. rate b or -4%, whichever has the highest absolute value.

1. 2" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 ***
2. 10" HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70 ***
3. AGGREGATE SUBGRADE, 12"

SCALE: HORIZONTAL 1" = 10'
VERTICAL 1" = 5'

DESIGN NOTES:
** Need SS or PU when ditch is less than 18" deep. SS in ditch, PU in shoulder.
*** Pavement materials & thicknesses are for an average county road and will vary with each project's pavement design.

OPEN DITCH SECTION

REVISIONS	DATE
Modified Agg./Binder Shoulder Ends	3/1/2011
Revised Type A to Type B Aggregate	12/20/12

LakeCounty Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

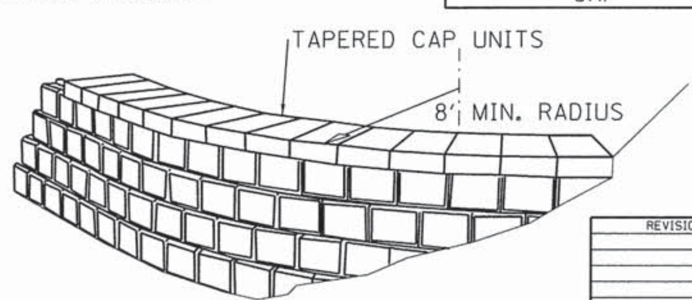
TYPICAL SUPERELEVATED SECTION - NEW ROADS and RECONSTRUCTION PROJECTS

LC4041

1. BLOCK FACING IS SPLIT FACE
2. CAP UNITS TO BE APPLIED WITH ADHESIVE. APPLICATION RATE IS ONE 10.5 OZ TUBE PER 18 FEET OF CAP LENGTH.
3. PLACEMENT METHOD IS BY HAND
4. STACKING ALIGNMENT MAY BE EITHER BATTERED OR VERTICAL
5. MINIMUM FACE RADIUS IN CURVE = 8'
6. DESIGN NOTE: MAX HEIGHT GRAVITY ONLY = 3 FEET
7. RETAINING WALL BLOCKS MUST BE CERTIFIED BY IDOT'S QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

SEGMENTAL CONCRETE BLOCK DETAILS

	FACE WIDTH	BACK WIDTH	HEIGHT	DEPTH	WEIGHT
STANDARD UNIT	8"	8"	6"	12"	45 LBS
TAPERED UNIT	8"	6⅞"	6"	12"	43 LBS
TAPERED CAP	8"	7"	3"	14"	22 LBS
RECTANGULAR CAP	24"	24"	3"	12"	68 LBS



CURVED RETURN INTO BANK

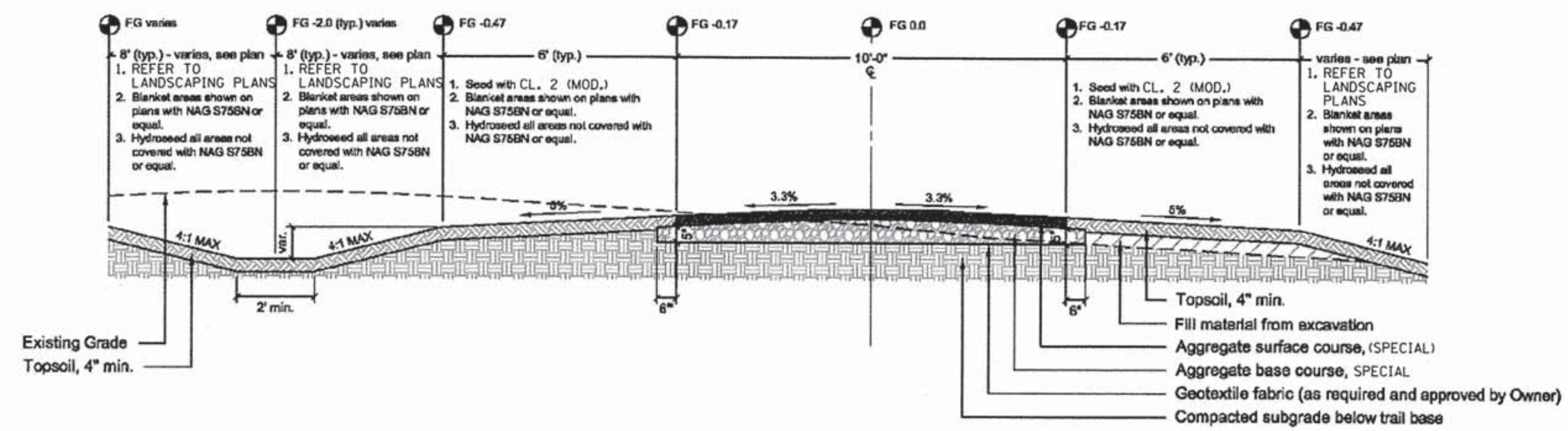
REVISIONS	DATE

LakeCounty Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

SEGMENTAL CONCRETE BLOCK WALL

LC2101



NOTE: GEOTEXTILE FABRIC TO BE PAID FOR AS GEOTECHNICAL FABRIC

Notes:
1. All trail sections to be installed with a paving box.
2. All slopes shall be covered with an erosion control blanket except as otherwise noted.

(1) 10' Aggregate Trail - Type 1 Section (Not to Scale)

LAKE COUNTY FOREST PRESERVES DISTRICT 10 FOOT AGGREGATE TRAIL DETAIL

FILE NAME = F:\877-010 River Roberts Phase I\CADD_SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -
	DRAWN - GJE	REVISED -
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

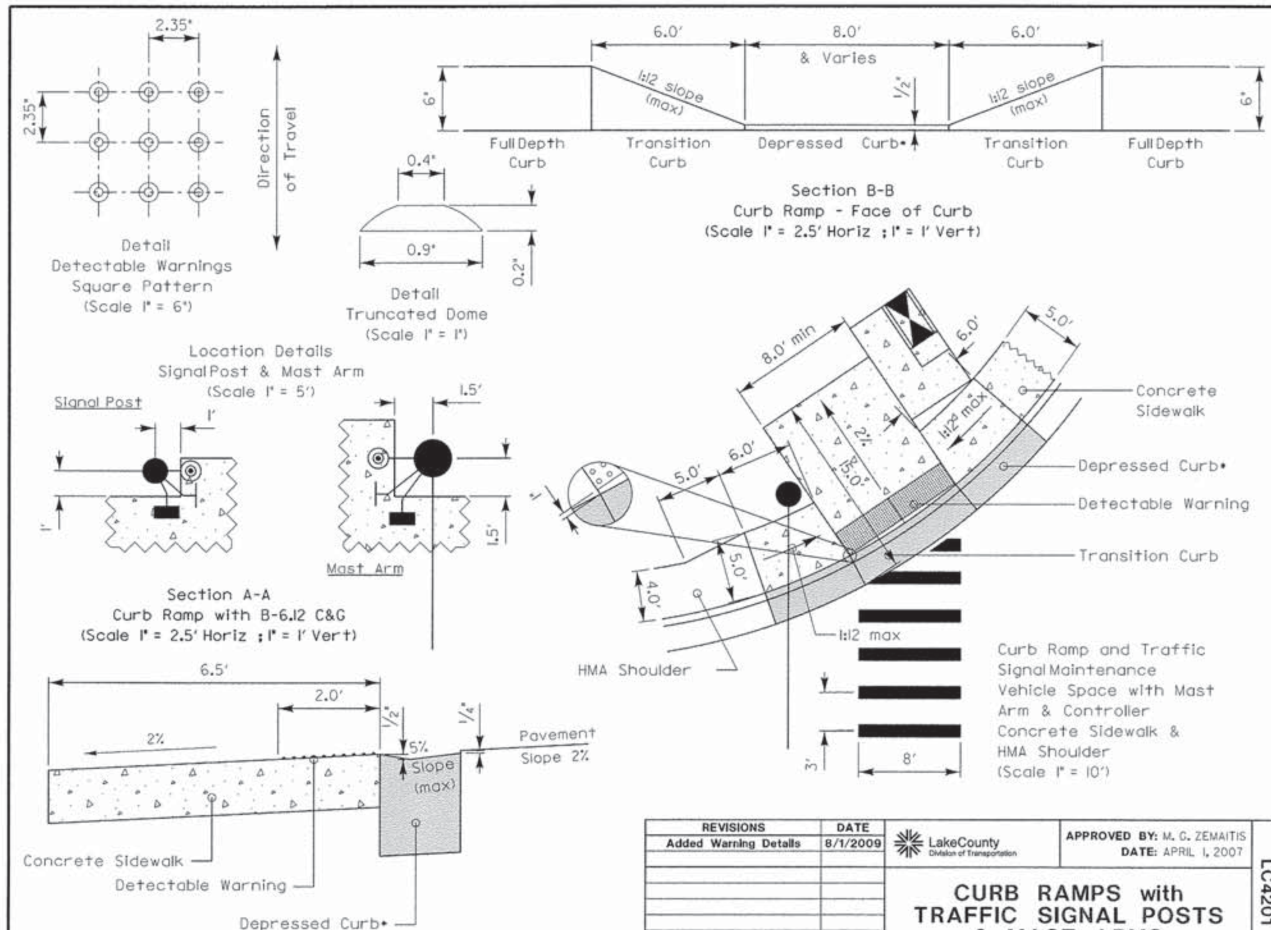
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD
LCDOT STANDARD DETAILS

SCALE: NTS | SHEET 127 OF 183 SHEETS | STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	127
		CONTRACT NO. 63875		

ILLINOIS FED. AID PROJECT



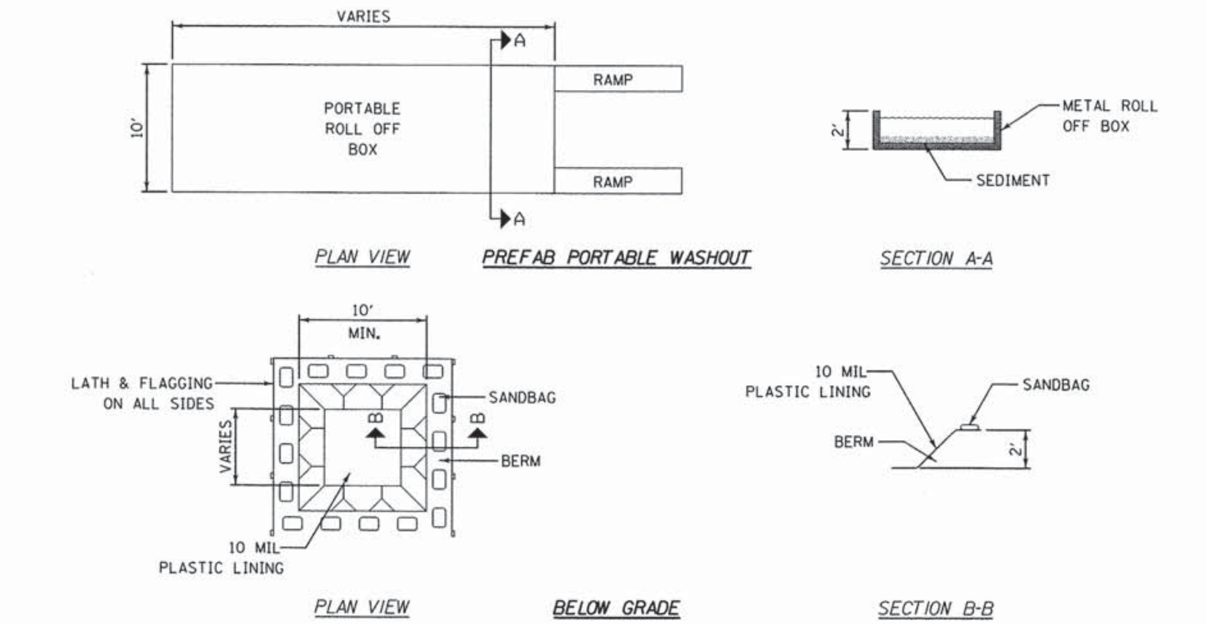
REVISIONS	DATE
Added Warning Details	8/1/2009

LakeCounty Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

CURB RAMPS with TRAFFIC SIGNAL POSTS & MAST ARMS
(SHEET 2 OF 2)

LC4201



NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. OTHER WASHOUT DESIGNS MAY BE USED IF APPROVED BY THE ENGINEER.
3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

NOT TO SCALE

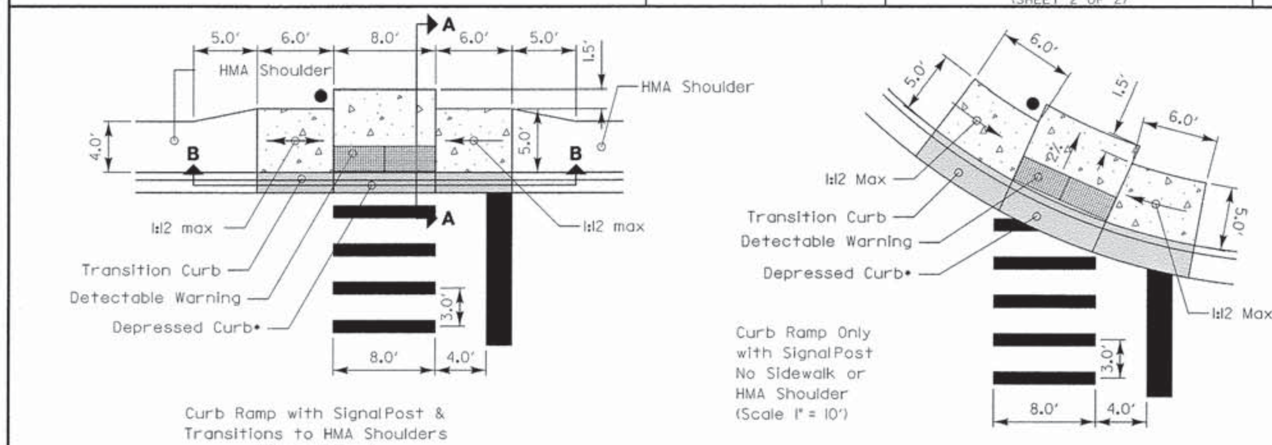
REVISIONS	DATE

LakeCounty Division of Transportation

APPROVED BY: MGZ
DATE: March 17, 2008

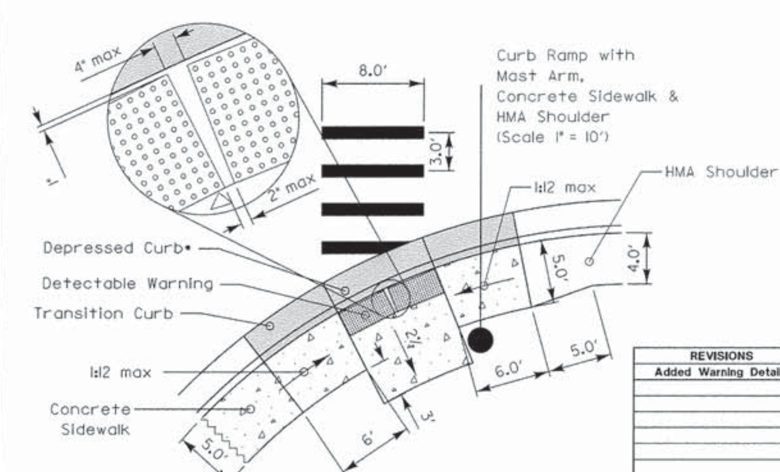
CONCRETE WASHOUT FACILITIES
SHEET 1 OF 2

LC4202



•GENERAL NOTES:

1. The gutter slope for the DEPRESSED CURB adjacent to the curb ramp is a maximum of 5% (standard curb and gutter is 6%). The back of curb rise is 1/2" (standard depressed curb is 1 1/2"). See Section A-A (Sheet 2) and IDOT standard 606001 for the different curb dimensions.
2. The Depressed Curb and the Transition Curb will be paid for as COMBINATION CONCRETE CURB AND GUTTER of the type adjacent to the curb ramp.
3. The concrete area consisting of the landing (2% slope) and the side ramps (behind the transition curb) along with the continuation of the 5' concrete between adjacent ramps (if any) will be measured in square feet and paid for as PORTLAND CEMENT CONCRETE SIDEWALK of the thickness specified.
4. The detectable warnings shall be installed in accordance with Article 424.09 of the IDOT Standard Specifications and the LCDOT specification 42400800 DETECTABLE WARNINGS and shall be measured and paid for per square foot.
5. Since the width of the flag doesn't affect the construction of the ramp, both B-6.12 and B-6.24 Curb & Gutter are portrayed in this standard.



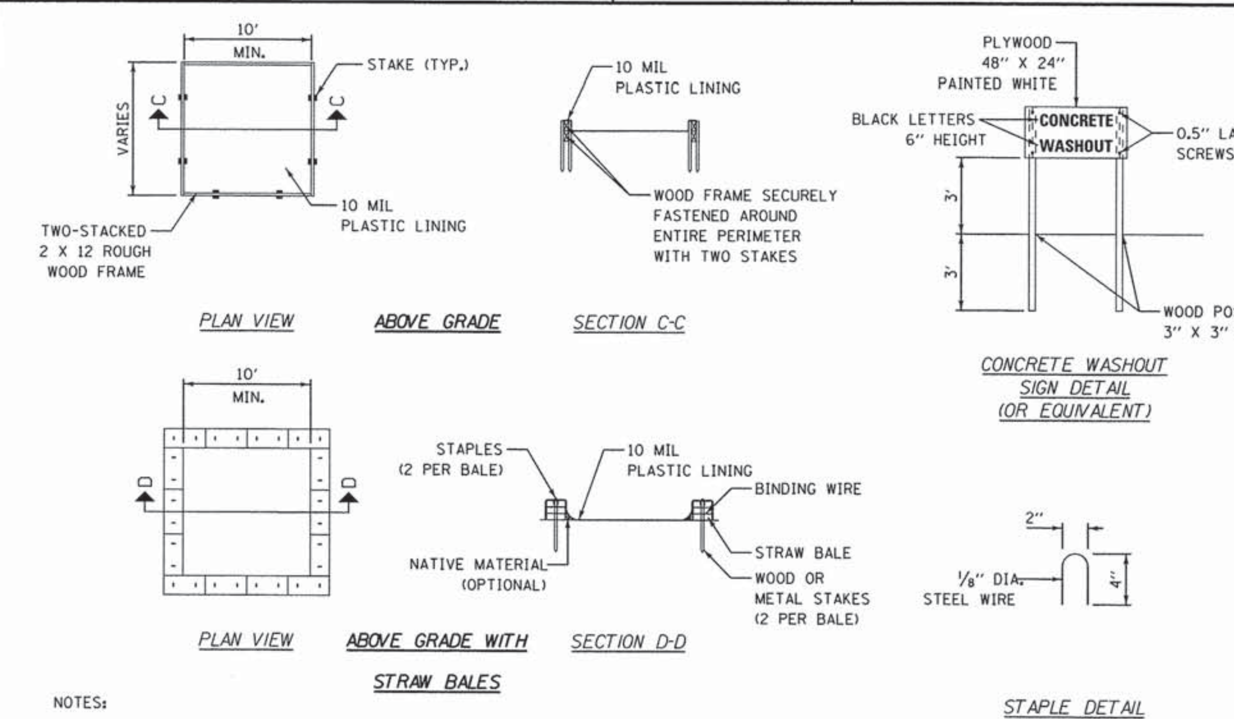
REVISIONS	DATE
Added Warning Details	8/1/2009

LakeCounty Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

CURB RAMPS with TRAFFIC SIGNAL POSTS & MAST ARMS
(SHEET 1 OF 2)

LC4201



NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. OTHER WASHOUT DESIGNS MAY BE USED IF APPROVED BY THE ENGINEER.
3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

NOT TO SCALE

REVISIONS	DATE

LakeCounty Division of Transportation

APPROVED BY: MGZ
DATE: March 17, 2008

CONCRETE WASHOUT FACILITIES
SHEET 2 OF 2

LC4202

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -
	DRAWN - GJE	REVISED -
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

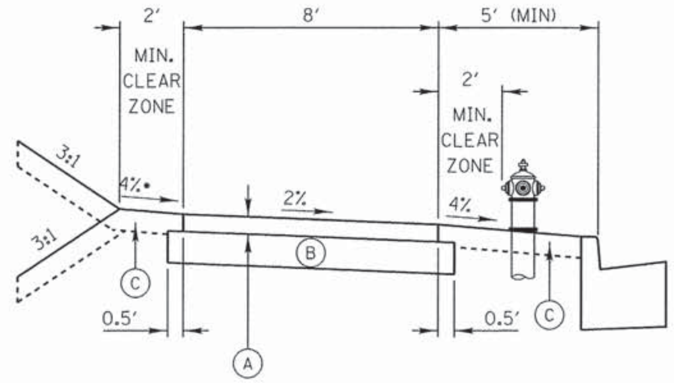
RIVER ROAD
LCDOT STANDARD DETAILS

SCALE: NTS | SHEET 128 OF 183 SHEETS | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	128

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT



(A) 3" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50

(B) AGGREGATE BASE COURSE, TYPE B 6"

(C) FURNISHING AND PLACING TOPSOIL, 4", and SEEDING, CLASS 2A or SODDING

DESIGN NOTE:

•Slope away from road in fill sections
Slope toward road in cut sections

If the Bike Path is being constructed in conjunction with the road improvement, then the Hot-Mix Asphalt mixes shall be the same as those used on the road in order to avoid multiple mix requirements.

SCALE:
VERTICAL 1" = 2'
HORIZONTAL 1" = 4'

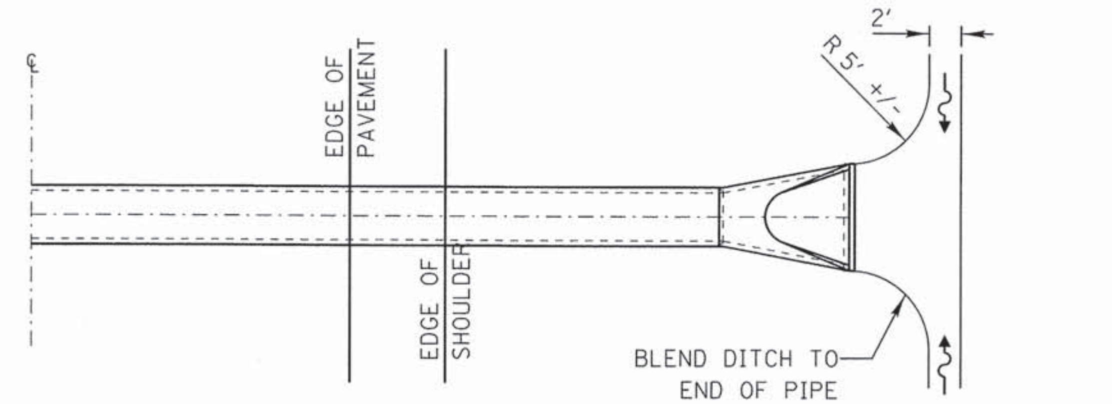
REVISIONS	DATE
Changed BP to 3" Surface	5/1/2008
Modified Agg. Base Course	3/1/2011
CHANGE TO MIX "D"	2/20/2012
Revised Type A to Type B Aggregate	12/20/12

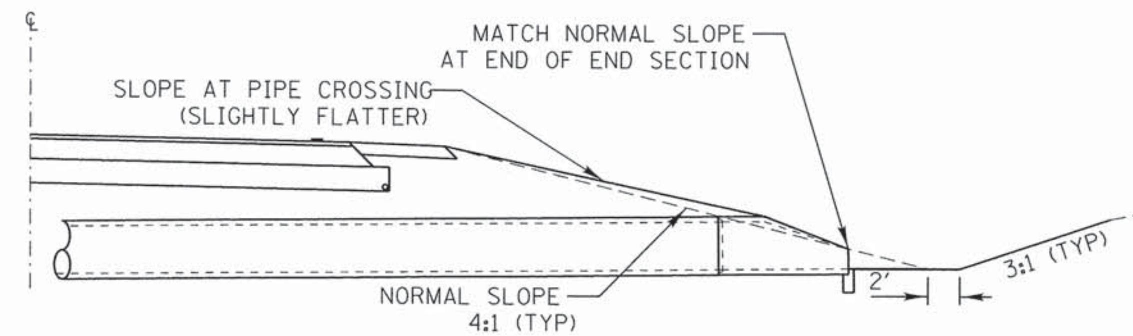
LakeCounty Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

TYPICAL SECTION
8' HOT-MIX ASPHALT
BIKEPATH IN VICINITY OF
CURB & GUTTER

LC4052





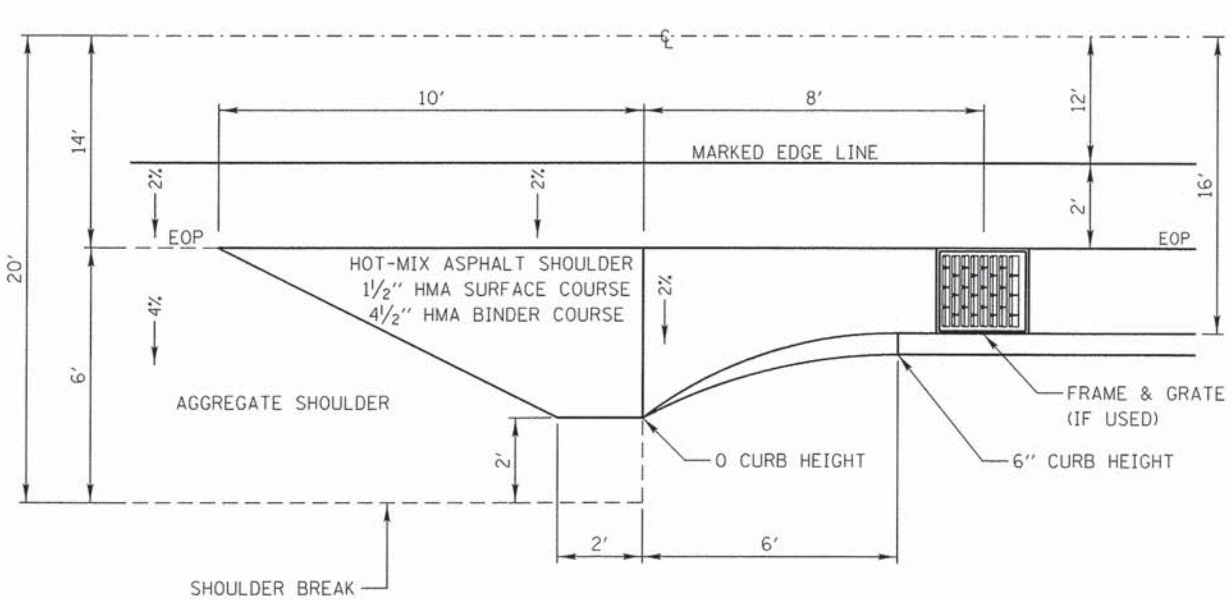
REVISIONS	DATE

LakeCounty Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: JANUARY 19, 2009

TYPICAL PLACEMENT OF
PRECAST END SECTIONS
ON CROSSROAD CULVERTS

LC5401



SCALE: 1" = 3'

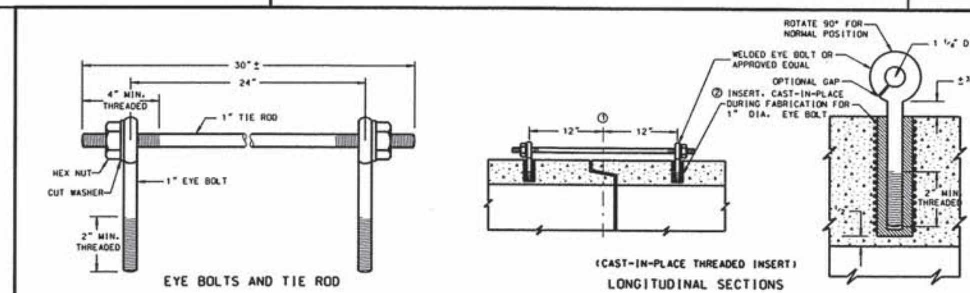
REVISIONS	DATE

LakeCounty Division of Transportation

APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

TRANSITION FROM AGGREGATE
SHOULDER TO B-6.24
FOR 16' OFFSET TO FACE

LC4800



EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS. JOINT TIES AND HARDWARE SHALL BE GALVANIZED STEEL.

CONCRETE CULVERT PIPE AND SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT THE LAST THREE JOINTS BEFORE A FLARED END SECTION

THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR CONCRETE PIPE.

UNLESS OTHERWISE STATED IN THE CONTRACT THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE CULVERT PIPE AS INDICTED ON THE PLANS AND BY THIS DETAIL WILL BE CONSIDERED INCLUDED IN THE COST OF PIPE CULVERTS OR STORM SEWERS.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR GALVANIZED STEEL JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

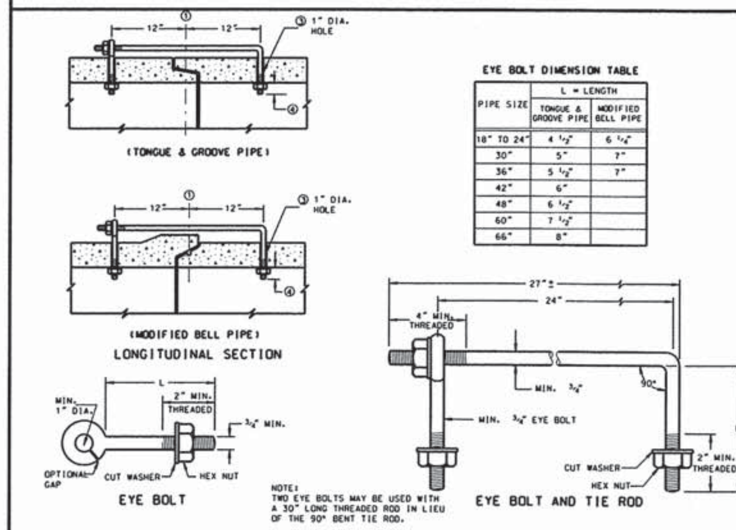
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12" FROM ℄ OF TONGUE AND GROOVE.

④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2".

⑤ OPENING TO BE ROD DIAMETER + 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



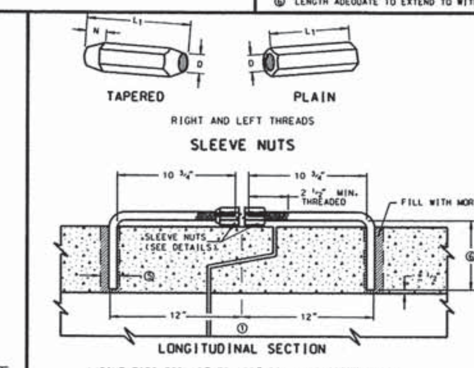
NOTE:
TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 ½"	6 ¼"
30"	5"	7"
36"	5 ½"	7"
42"	6"	
48"	6 ½"	
60"	7 ½"	
66"	8"	



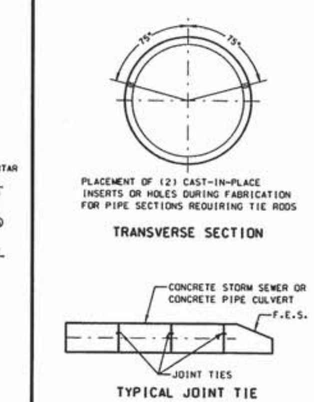
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	⅝	⅝	5	½
66-84	¾	¾	5	½
90-108	1	1	7	1 $\frac{1}{16}$

DIMENSIONS SHOWN ARE IN INCHES



NOT TO SCALE

REVISIONS	DATE
ADDED JOINT TIE MAT'L	7/8/11

LakeCounty Division of Transportation

APPROVED BY: M. ZEMAITIS
DATE: 04/01/11

JOINT TIES FOR
CONCRETE PIPE

LC5402

LakeCounty Division of Transportation

PROJECT NAME: LAKE COUNTY STANDARDS & DETAILS

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -
	DRAWN - GJE	REVISED -
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

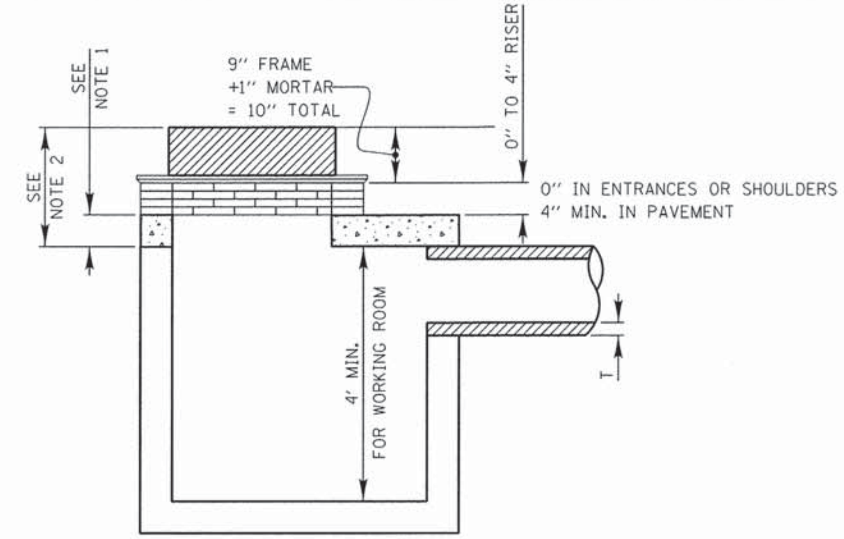
RIVER ROAD
LCDOT STANDARD DETAILS

SCALE: NTS | SHEET 129 OF 183 SHEETS | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	129

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT



NOTE 1:
6" - 4' DIA. M.H.
8" - 5' DIA. M.H.

NOTE 2:
4' M.H.
1'-8" DESIRABLE
1'-4" MIN.
5' M.H.
1'10" DESIRABLE
1'-6" MIN.

		MINIMUM DEPTH			
		4' DIAMETER		5' DIAMETER	
PIPE DIA.	T	0" RISER	4" RISER	0" RISER	4" RISER
10"	2"	2.33'	2.67'	2.50'	2.83'
12"	2"	2.50'	2.83'	2.67'	3.00'
15"	2 1/4"	2.77'	3.10'	2.94'	3.27'
18"	2 1/2"	3.04'	3.38'	3.21'	3.54'
21"	2 3/4"	—	—	3.48'	3.81'
24"	3"	—	—	3.75'	4.08'
30"	3 1/2"	—	—	4.29'	4.63'
36"	4"	—	—	4.83'	5.17'
42"	4 1/2"	—	—	5.38'	5.71'

STRUCTURES REQUIRE SUMP FOR HEADROOM

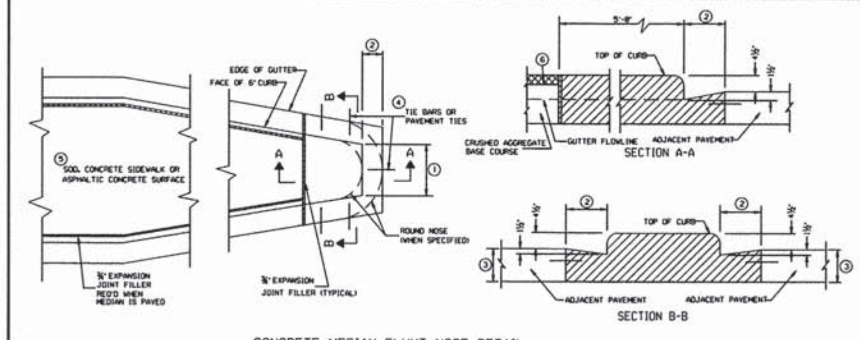
SCALE: 1"=2'

REVISIONS	DATE

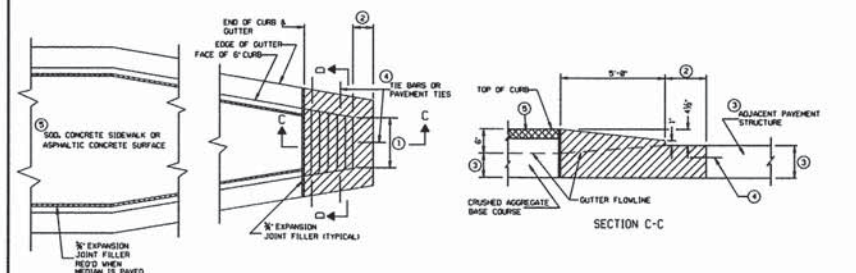
LakeCounty Division of Transportation
APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

RESTRICTED DEPTH MANHOLE

LC6000



CONCRETE MEDIAN BLUNT NOSE DETAIL



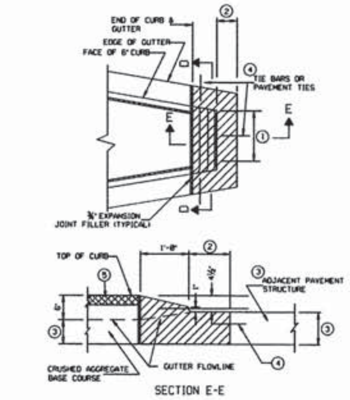
CONCRETE MEDIAN SLOPED NOSE TYPE 1

GENERAL NOTES

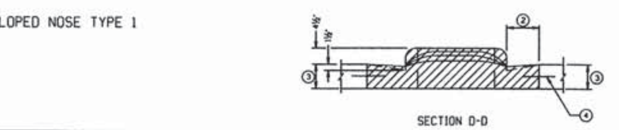
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

1. SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
2. WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
3. DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
   (1) NEW OR EXISTING CONCRETE PAVEMENT.
   (2) HMA PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
   (3) HMA PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.
4. TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

   PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
5. SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

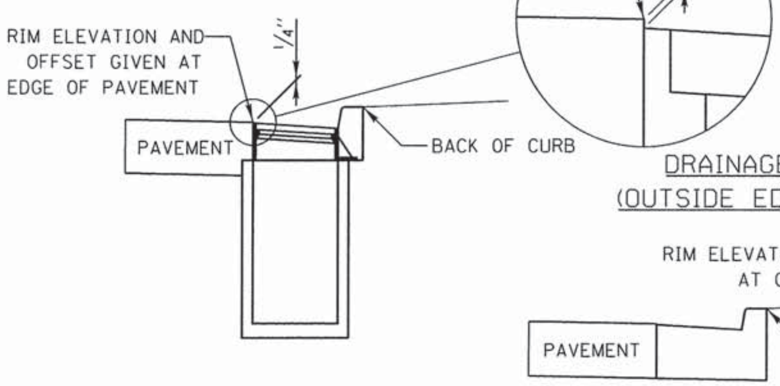


CONCRETE MEDIAN SLOPED NOSE TYPE 2

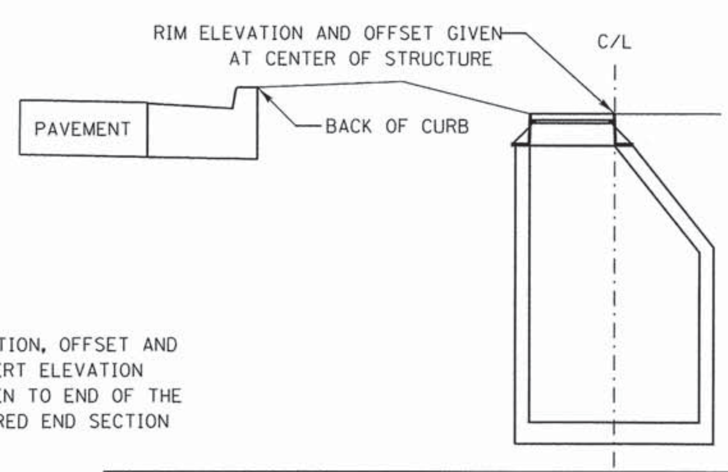


CONCRETE MEDIAN NOSE

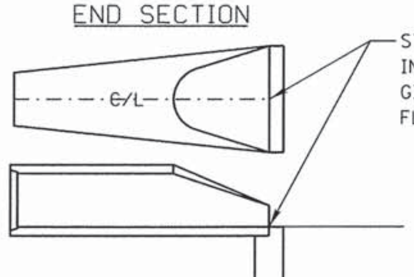
DRAINAGE STRUCTURES
(EDGE OF PAVEMENT)



DRAINAGE STRUCTURES
(OUTSIDE EDGE OF PAVEMENT)



END SECTION

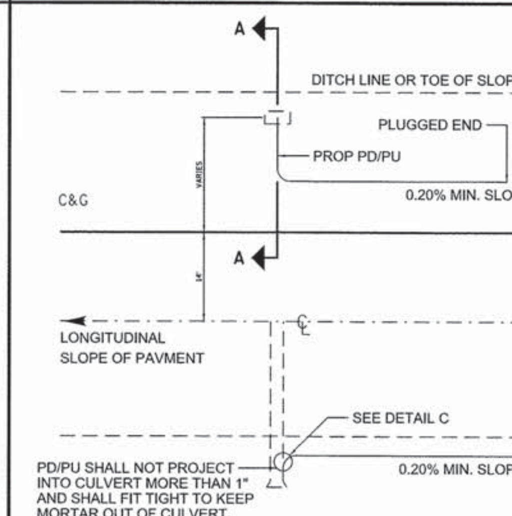


REVISIONS	DATE

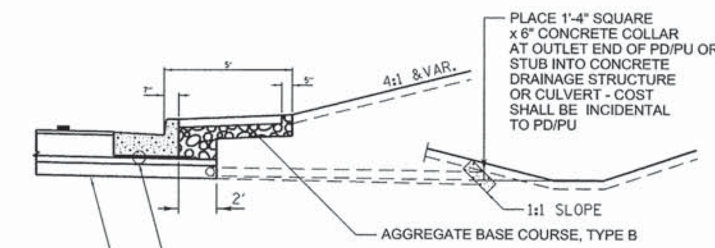
LakeCounty Division of Transportation
APPROVED BY: MGZ
DATE: 03/09/2012

DRAINAGE STRUCTURE RIM ELEVATIONS AND OFFSETS

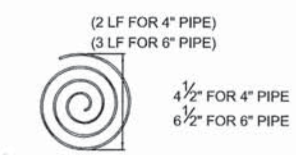
LC6003



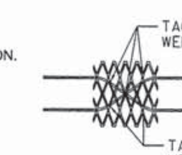
TYPICAL PIPE DRAIN/ PIPE UNDERDRAIN OUTLET



SECTION A-A



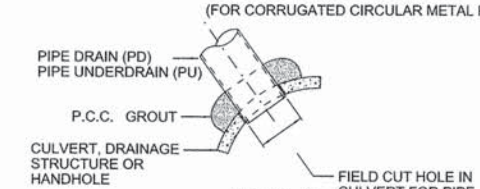
3/16" WIRE STOCK BENT TO A SPIRAL CONFIGURATION. TO INSTALL, TWIST INTO PD/PU END. (FOR CORRUGATED CIRCULAR METAL PIPE)



6"x6" EXPANDED METAL SHIELD WITH TWO 2'-6" LONG PREFABRICATED 6 GAGE STEEL STRUTS FOR SNUG FIT INTO THE PD/PU END.

RODENT SHIELDS DETAIL
(ALTERNATES)

NOT TO SCALE



DETAIL C

DESIGN NOTES:

All work shall be according to the applicable portions of the "Standard Specifications" except as modified hereon.

In addition to the requirements of Article 601.08 of the "Standard Specifications", the contract unit price per foot for pipe drains 4" & 6" and pipe underdrains 4" shall include the cost of furnishing and placing the rodent shield.

The removable rodent shield shall be furnished and installed in accordance with one of the configurations shown. The shield shall be fabricated from steel wire, or expanded metal, as detailed above and shall be galvanized after fabrication in accordance with AASHTO M-111. Other submitted designs for a removable rodent shield will be allowed with the approval of the Engineer.

REVISIONS	DATE
Pipe Drain Added to Labels	5/19/2009
Revised Type A to Type B Aggregate	12/20/12

LakeCounty Division of Transportation
APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

SUB-SURFACE DRAINS

LC6020

FILE NAME = F:\877-010 River Roberts Phase I\CADD_SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD
LCDOT STANDARD DETAILS

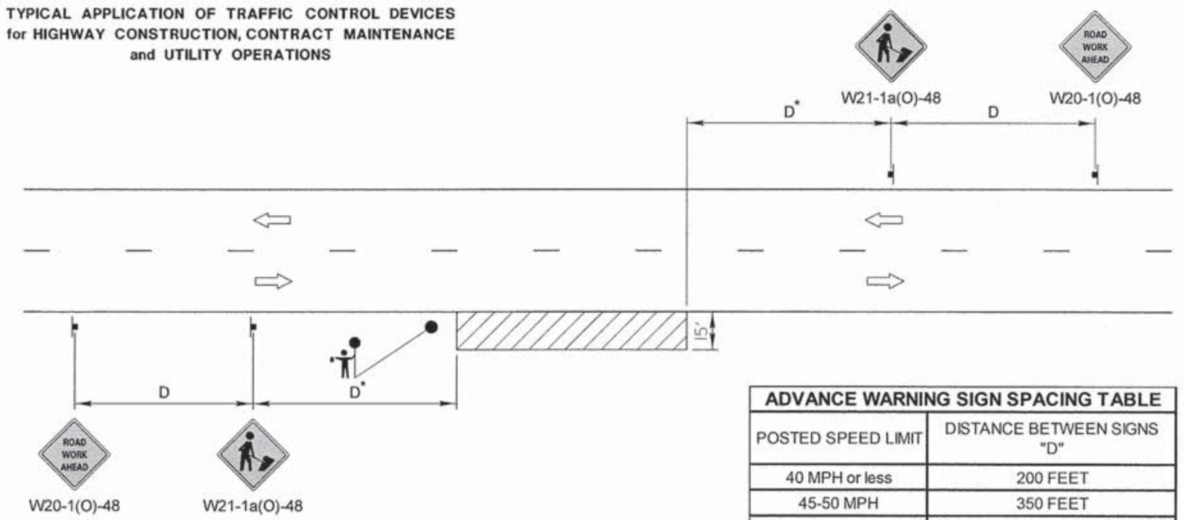
SCALE: NTS | SHEET 130 OF 183 SHEETS | STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	130

CONTRACT NO. 63875

ILLINOIS | FED. AID PROJECT

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES for HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE and UTILITY OPERATIONS



ADVANCE WARNING SIGN SPACING TABLE	
POSTED SPEED LIMIT	DISTANCE BETWEEN SIGNS "D"
40 MPH or less	200 FEET
45-50 MPH	350 FEET
55 MPH	500 FEET

SYMBOLS
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN WHEN REQUIRED

GENERAL NOTES:

This special detail is used at any time, any vehicle, equipment, workers or their activities require a stationary, intermittent or continuous moving operation within 15 feet of the traffic lane, where the average speed is 1 mph or less.

* Minimum distance "D" is shown in the Advance Warning Sign Spacing Table. If the work is a moving operation, the maximum distance "D" may be extended to ½ the length required for one normal working day's operation or 4 miles, whichever is less.

If the work operation does not exceed 60 minutes, traffic control may be according to I.D.O.T. Highway Standard 701301.

NOT TO SCALE

MODIFIED IDOT STANDARD 701011-02

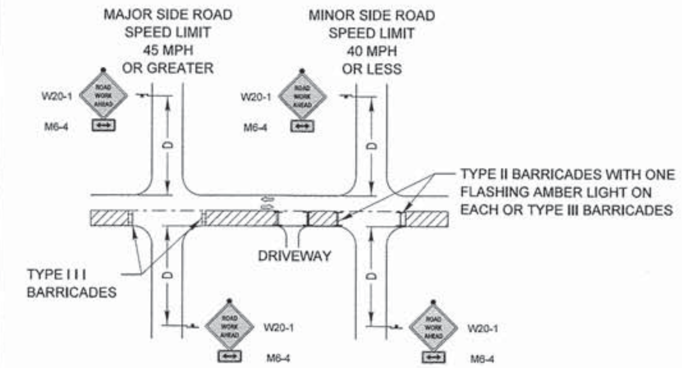
REVISIONS	DATE
Title Block Revision	8/1/09
Reformat LCDOT Standard	7/15/10

LakeCounty Division of Transportation
APPROVED BY: A. KHAWAJA
DATE: APRIL 1, 2007

TWO LANE, TWO WAY, OFF-ROAD OPERATIONS DAY OPERATIONS ONLY

LC7000

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES for HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE and UTILITY OPERATIONS



SYMBOLS
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE W/TYPE A FLASHING LIGHT
- TYPE III BARRICADE

ADVANCE WARNING SIGN SPACING TABLE	
POSTED SPEED LIMIT	DISTANCE BETWEEN SIGNS "D"
40 MPH or less	200 FEET
45-50 MPH	350 FEET
55 MPH	500 FEET

GENERAL NOTE:

This Standard is used where at anytime, day or night, any vehicle, equipment, workers or their activities encroach on the pavement or where construction requires lane closures.

DESIGN NOTES:

1. For a side road with a speed limit of 40 mph or less, the closed portion of the main route shall be protected by blocking with Type II or Type III barricades, ⅓ of the cross section of the closed portion of the roadway.
2. For a side road with a speed limit of 45 mph or greater, the closed portion of the main route shall be protected by blocking with Type III barricades, ½ of the cross section of the closed portion of the roadway.
3. All W20-1 "ROADWORK AHEAD" signs shall be 48" x 48" with fluorescent orange reflective sheeting with an amber Type A flashing light mounted on the sign.
4. When the side road lies between the beginning of the mainline signing and the work zone, a M6-1 Single Headed Arrow shall be used in lieu of the M6-4 Double Headed Arrow.
5. For a lane closure on a side road or driveway, use the applicable portions of the appropriate Highway Standard or Traffic Control Detail. The spacing of the 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.
6. Advance warning signs shall be omitted on driveways unless otherwise noted.
7. The traffic control and protection for side roads and intersections shall be included in the contract unit lump sum price for "TRAFFIC CONTROL AND PROTECTION."

NOT TO SCALE

MODIFIED IDOT DISTRICT ONE SIDE ROAD DETAIL

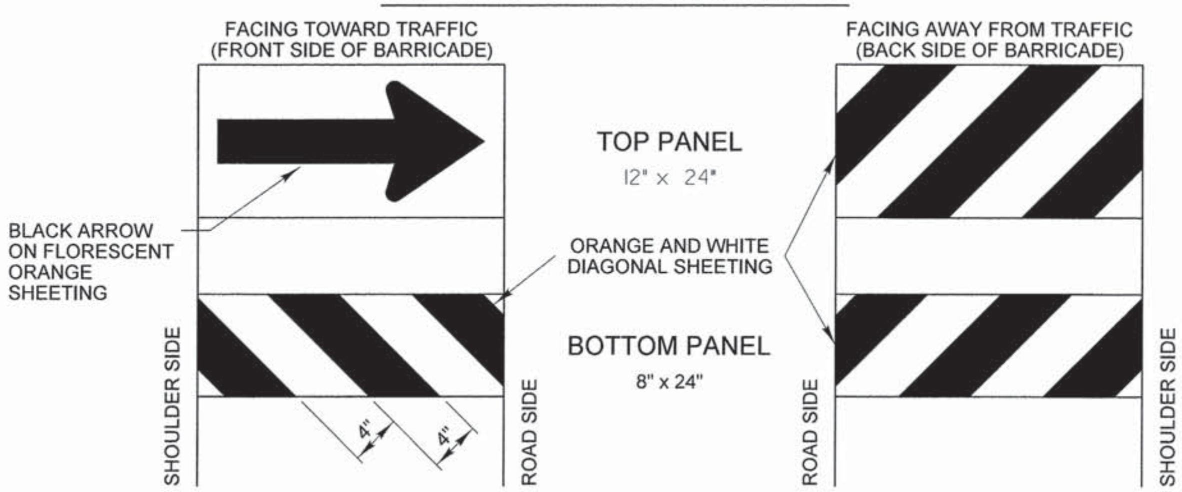
REVISIONS	DATE
Title Block Revision	8/1/09
Reformat LCDOT Standard	7/15/10

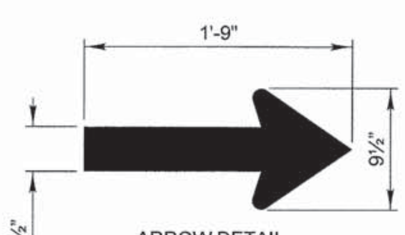
LakeCounty Division of Transportation
APPROVED BY: ANTHONY KHAWAJA
DATE: APRIL 1, 2007

TRAFFIC CONTROL and PROTECTION for SIDEROADS, INTERSECTIONS and DRIVEWAYS

LC7004

DIRECTION INDICATOR BARRICADES





ARROW DETAIL

GENERAL NOTES

1) Direction Indicator Barricades shall be constructed from non-metallic Type II barricades meeting the requirements of Article 1106.02 of the Standard Specifications, except where modified by this detail.
2) The Direction Indicator Barricades shall be equipped with Type C steady burning lights if used to channelize traffic during the hours of darkness.
3) The reflective sheeting for the top panel shall be Type AZ fluorescent orange. The diagonal panels shall have orange and white Type A or better reflective sheeting.

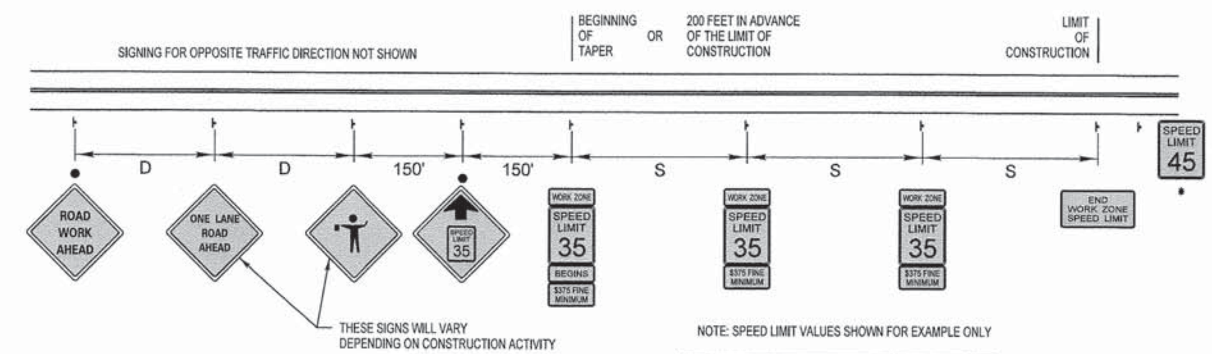
REVISIONS	DATE
Text Update	7/15/11

LakeCounty Division of Transportation
APPROVED BY: ANTHONY KHAWAJA
DATE: APRIL 1, 2007

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE

DIRECTION INDICATOR BARRICADES

LC7200



NOTE: SPEED LIMIT VALUES SHOWN FOR EXAMPLE ONLY

ADVANCE WARNING SIGN SPACING TABLE	
ROAD TYPE (EXISTING SPEED LIMIT)	DISTANCE BETWEEN SIGNS "D"
URBAN-LOW SPEED (40 MPH or less)	200 FEET
URBAN-HIGH SPEED (45-50 MPH)	350 FEET
RURAL (55 MPH or greater)	500 FEET

WORK ZONE SPEED LIMIT SIGN SPACING	
WORK ZONE SPEED LIMIT	DISTANCE BETWEEN SIGNS "S"
35 TO 40 MPH	990 FEET to 1,980 FEET
45 TO 50 MPH	1,320 FEET to 2,640 FEET

NOTES:

1. * = EXISTING SPEED LIMIT BEFORE CONSTRUCTION.
2. THE SIGN SPACING BETWEEN WORK ZONE SPEED LIMIT SIGNS SHALL BE THE SAME AS COMPARABLE REGULAR SPEED LIMIT SIGNING AS STATED IN THE L.C.D.O.T. POLICY FOR THE ESTABLISHMENT AND POSTING OF SPEED LIMITS ON COUNTY AND TOWNSHIP HIGHWAYS WITHIN LAKE COUNTY, ILLINOIS. A MINIMUM OF 2 WORK ZONE SPEED LIMIT SIGNS SHALL BE REQUIRED PER DIRECTION OF TRAFFIC.
3. EXISTING SPEED LIMIT SIGNS AND POST SHALL BE REMOVED AND RETURNED TO THE L.C.D.O.T.'S SIGN SHOP WITHIN 24 HOURS OF REMOVAL.
4. ON MULTILANE HIGHWAYS, WORK ZONE SPEED LIMIT AND ADVANCE CONSTRUCTION SIGNING SHALL BE ON THE RIGHT SIDE RIGHT-OF-WAY AND THE LEFT MEDIAN, WHEN THE MEDIAN IS NOT PAVED AND THE WIDTH IS 10 FEET OR GREATER.
5. ALL SIGNS SHALL BE PERMANENTLY POST MOUNTED IF THE SIGNS WILL BE DISPLAYED FOR MORE THAN 48 HOURS.

REVISIONS	DATE
Reformat LCDOT Standard	7/15/10
Revised Labels	6/26/12

LakeCounty Division of Transportation
APPROVED BY: A. KHAWAJA
DATE: 4/14/09

WORK ZONE SPEED LIMIT SIGNING DIAGRAM
(SHEET 1 OF 2)

LC7203

FILE NAME = F:\877-010 River Roberts Phase I\CADD_SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -
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PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD
LCDOT STANDARD DETAILS

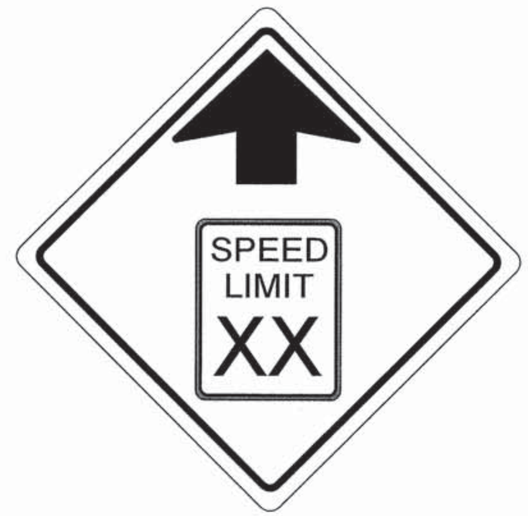
SCALE: NTS | SHEET 131 OF 183 SHEETS | STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	131

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

WORK ZONE SPEED LIMIT SIGNS



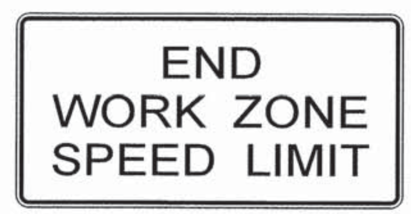
W3-5 (O) - 48

W2-I 115 (O)
3015

R2-1 3036

W2-I 113 (O)
3011

R2-I 106
3015



G20-I 102, 24"X48"

W2-I 115 (O)
3015

R2-1 3036

R2-I 106
3015

R2-1 SPECIAL

REVISIONS	DATE
Reformat LCDOT Standard	7/15/10
Revised Labels	6/26/12

Lake County

APPROVED BY: A.KHAWAJA
DATE: 4/14/09

WORK ZONE SPEED LIMIT
SIGNING DIAGRAM

(SHEET 2 OF 2)

LC7203

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PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD
LCDOT STANDARD DETAILS

SCALE: NTS | SHEET 132 OF 183 SHEETS | STA. | TO STA.

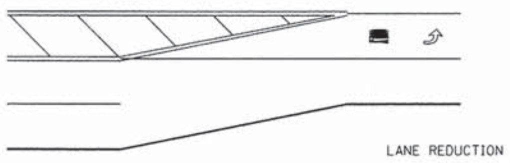
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	132

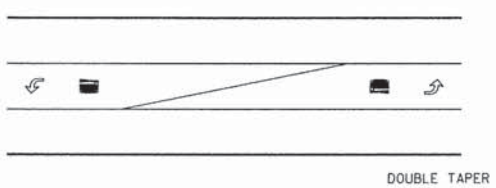
CONTRACT NO. 63875

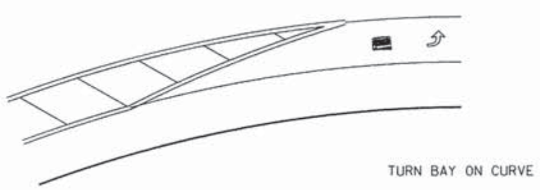
ILLINOIS | FED. AID PROJECT

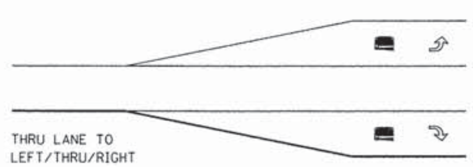
TYPICAL PAVEMENT MARKINGS

TYPICAL MINI-SKIP PAVEMENT MARKINGS



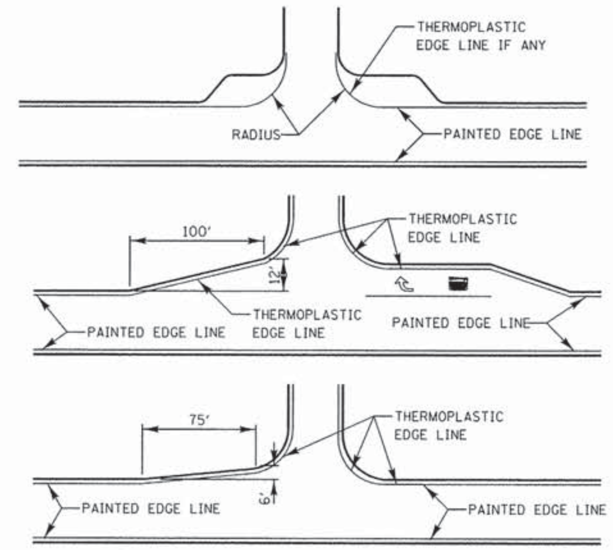






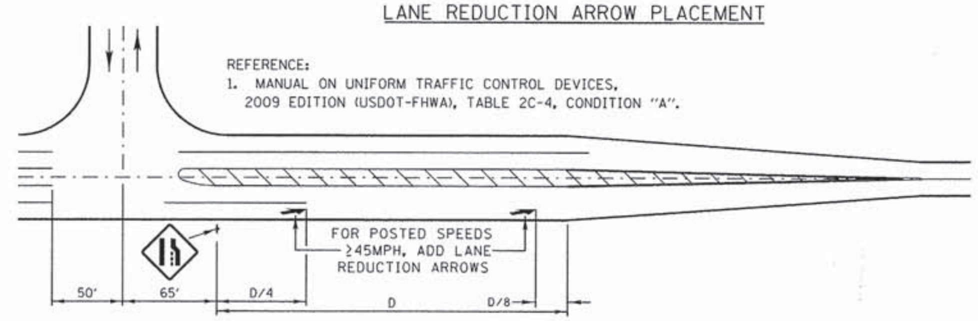
MINI-SKIPS ARE 2 FEET WHITE LINE WITH 6 FEET SPACING. THE MINI-SKIP IS THE SAME WIDTH AS THE PAVEMENT MARKING LINE, IT EXTENDS.

EDGE LINE RADII AT SIDE STREETS



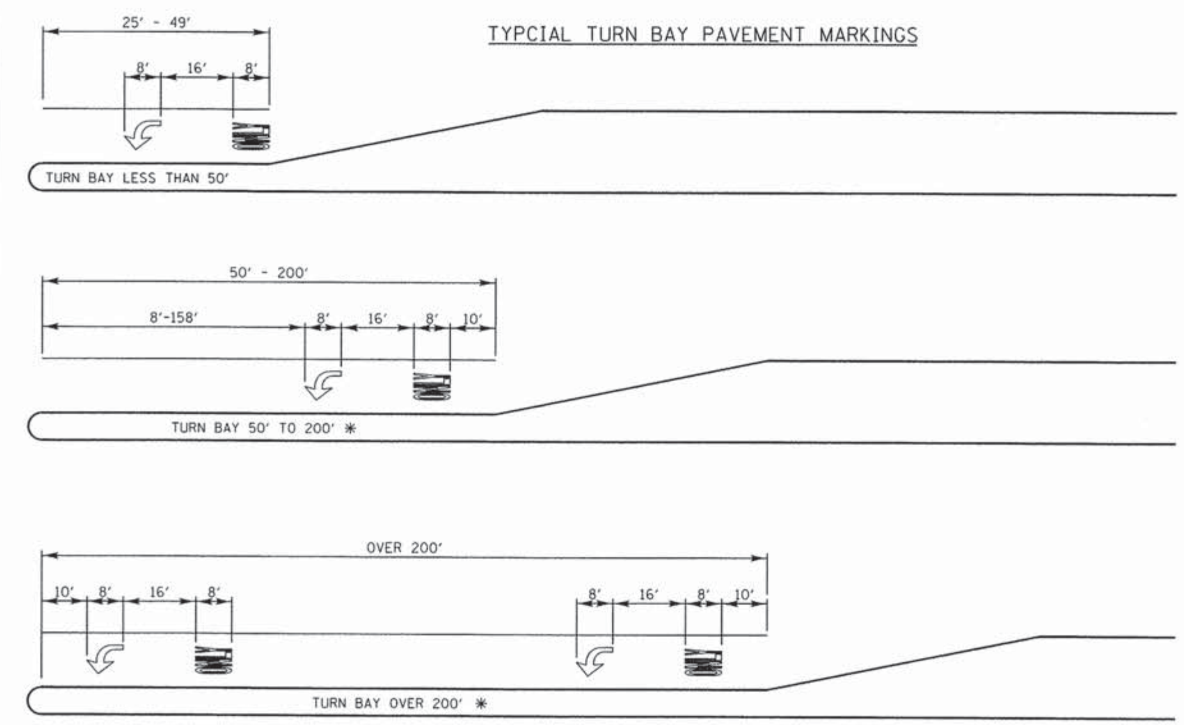
LANE REDUCTION ARROW PLACEMENT

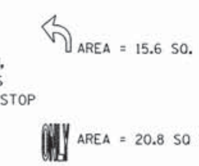
REFERENCE:
1. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION (USDOT-FHWA), TABLE 2C-4, CONDITION "A".



DESIGN SPEED MPH	D (FEET)
<45	N/A
45	775' [1]
50	885' [1]
55	990' [1]

TYPCIAL TURN BAY PAVEMENT MARKINGS

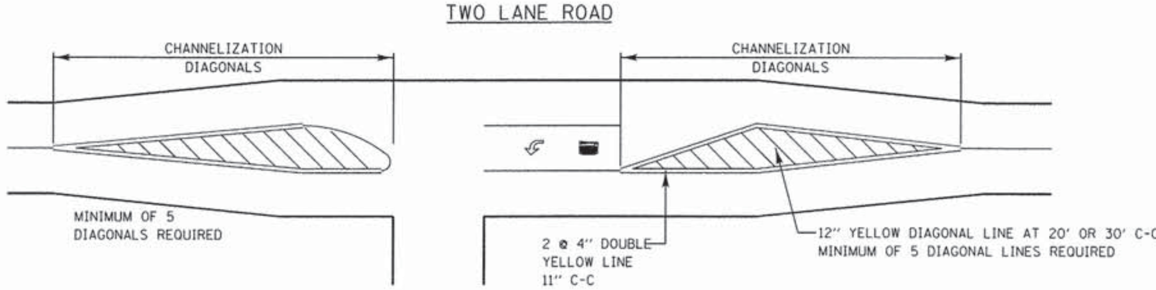




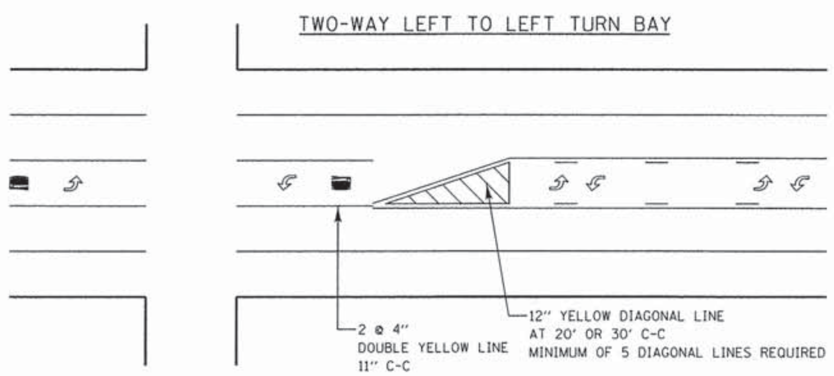
* AT INTERSECTIONS WITH VIDEO DETECTION, THE ARROW AND ONLY PAVEMENT MARKINGS SHALL BE A MINIMUM OF 30' BEHIND THE STOP BAR.

FULL SIZE LETTERS (8') AND ARROWS SHALL BE USED. TURN LANES IN EXCESS OF 400' IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW W/ "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW W/ "ONLY".

TWO LANE ROAD



TWO-WAY LEFT TO LEFT TURN BAY

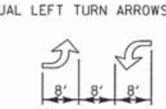


TYPICAL DIAGONAL SPACING

DIAGONAL SPACING

SPEED LIMIT RANGE	CONTINUOUS	INTERSECTION CHANNELIZATION
30-45 MPH	75 FT.	20 FT.
OVER 45 MPH	150 FT.	30 FT.

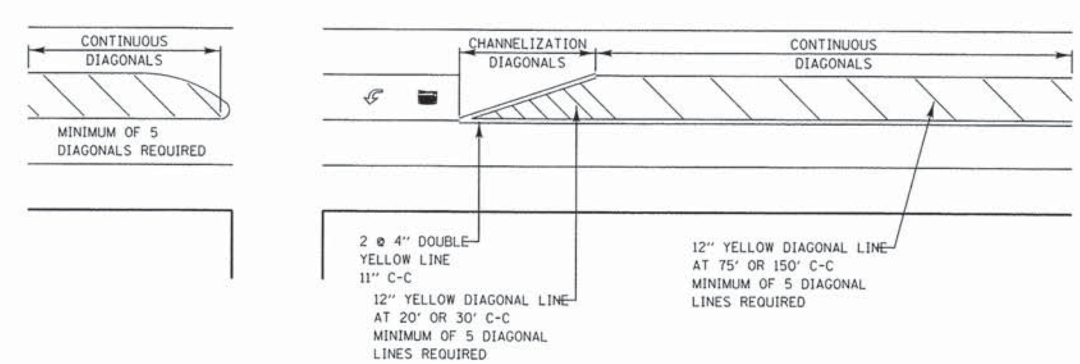
DUAL LEFT TURN ARROWS



A MINIMUM OF TWO PAIRS OF DUAL LEFT TURN ARROWS SHALL BE USED. THE DUAL LEFT TURN ARROWS SHALL BE WHITE IN COLOR. THE INTERVAL BETWEEN SETS OF DUAL LEFT TURN ARROWS SHOULD BE 200' AND 300'.

31.2 SQ. FT. MINIMUM
OF 2 SETS REQUIRED

3 OR 5 LANE ROAD



REVISIONS	DATE
SEPARATED RAILROAD SHEET	06/02/08
ADDED LANE REDUCTION ARROWS	07/1/12

LakeCounty
Division of Transportation

APPROVED BY: A. KHAWAJA
DATE: APRIL 1, 2007

TYPICAL PAVEMENT MARKINGS FOR COUNTY HIGHWAYS
SHEET 1 OF 2

LC7800

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
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PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

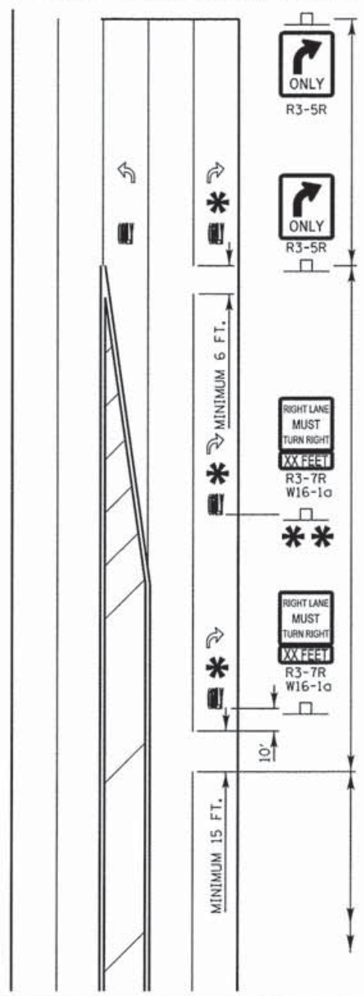
RIVER ROAD
LCDOT STANDARD DETAILS

SCALE: NTS | SHEET 133 OF 183 SHEETS | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	133
		CONTRACT NO. 63875		
	ILLINOIS	FED. AID PROJECT		

TYPICAL PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS

THRU LANE TO TURN LANE CONVERSION



TURN LANE
6" WHITE LINE
(ADDITIONAL PAVEMENT MARKINGS AS SHOWN ON SHEET ONE OF THE L.C.D.O.T TYPICAL PAVEMENT MARKINGS DETAIL SHEETS)

TRANSITION ZONE
6" WHITE 3'/12' SKIP DASH LANE LINE

THRU LANE
4 " WHITE 10'/30' SKIP DASH LANE LINE

MINIMUM TRANSITION ZONE LENGTH

POSTED SPEED	LENGTH
25 M.P.H.	255 FT
30 M.P.H.	330 FT
35 M.P.H.	405 FT
40 M.P.H.	480 FT
45 M.P.H.	555 FT
50 M.P.H.	630 FT
55 M.P.H.	705 FT

* LOCATION OF PAV'T MARKINGS

(MEASURED FROM BEGINNING OF TRANSITION ZONE)

POSTED SPEED	LOCATION OF PAV'T MARKINGS
25 M.P.H.	10 FT, 260 FT
30 M.P.H.	10 FT, 170 FT, 340 FT
35 M.P.H.	10 FT, 210 FT, 410 FT
40 M.P.H.	10 FT, 170FT, 330 FT, 490 FT
45 M.P.H.	10 FT, 190 FT, 370 FT, 560 FT
50 M.P.H.	10 FT, 170 FT, 330 FT, 490 FT, 640 FT
55 M.P.H.	10 FT, 180 FT, 350 FT, 520 FT, 710 FT

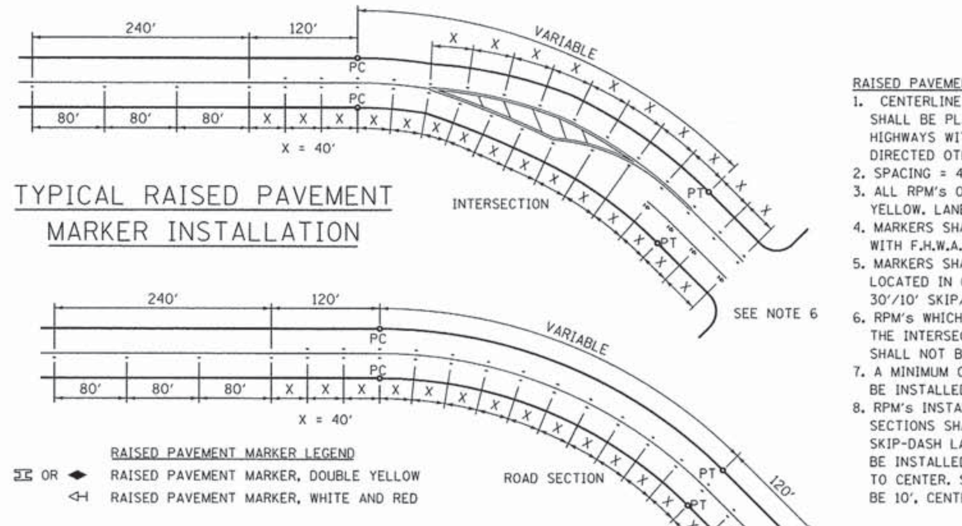
** FOR POSTED SPEEDS 40 M.P.H. OR GREATER A SECOND R3-7/W16-1a SIGN INSTALLATION SHALL BE LOCATED HALFWAY BETWEEN THE BEGINNING OF THE TRANSITION ZONE AND THE BEGINNING OF THE TURN LANE

PAVEMENT MARKING GUIDELINES

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE OF 2 LANE PAVEMENT	4 IN.	SKIP-DASH	YELLOW	10 FT. LINE WITH 30 FT. SPACE
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 IN. 2 @ 4 IN.	SOLID SOLID	YELLOW YELLOW	5 1/2 IN. C-C FROM SKIP-DASH CENTERLINE 1 1 IN. C-C (OMIT SKIP-DASH CENTERLINE BETWEEN)
CENTERLINE ON MULTI-LANE UNDIVIDED	2 @ 4 IN.	SOLID	YELLOW	1 1 IN. C-C
LANE LINES	4 IN.	SKIP-DASH	WHITE	10 FT. LINE WITH 30 FT. SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2 FT. LINE WITH 6 FT. SPACE
EDGE LINES	5 IN. WHITE 4 IN. YELLOW	SOLID	WHITE - RIGHT YELLOW - LEFT	OUTLINE RAISED MEDIANS IN YELLOW
TURN LANE MARKINGS	6 IN. LINE FULL SIZE LETTERS AND SYMBOLS (8 FT.)	SOLID	WHITE	TURN ARROW 15.6 SQ. FT. STRAIGHT ARROW 1 1.5 SQ. FT. ONLY 20.8 SQ. FT. COMB. ARROW 26.0 SQ. FT.
TWO WAY LEFT TURN MARKING	2 @ 4 IN. EACH DIRECTION	SKIP-DASH AND SOLID	YELLOW	10 FT. LINE WITH 30 FT. SPACE FOR SKIP-DASH 5 1/2 IN. C-C BETWEEN SKIP-DASH LINE AND SOLID LINE
	8 FT. LEFT ARROW	IN PAIRS	WHITE	SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK	12 IN. @ 90°	SOLID	WHITE	12 IN. LONGITUDINAL BAR WITH 24 IN. SPACE 6 FT. TO 12 FT. WIDE SEE TYPICAL CROSSWALK MARKING DETAIL
STOP BARS	24 IN.	SOLID	WHITE	PLACE 4 FT. IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT, OTHERWISE PLACE AT DESIRED STOPPING POINT.
PAINTED MEDIANS	2 @ 4 IN. & 11 IN. C-C 12 IN. DIAGONALS @ 45° NO DIAGONALS USED FOR 4 FT. WIDE MEDIAN	SOLID	YELLOW: 2-WAY TRAFFIC WHITE: 1-WAY TRAFFIC	1 1 IN. C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING DETAIL MINIMUM OF 5 DIAGONALS
GORE MARKING AND CHANNELIZING LINES	8 IN. WITH 12 IN. DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS 15 FT. C-C (LESS THAN 30 M.P.H.) 20 FT. C-C (30 TO 45 M.P.H.) 30 FT. C-C (OVER 45 M.P.H.) MINIMUM OF 5 DIAGONALS
R.R. CROSSING	24 IN. TRANSVERSE LINES RR IS 6 FT. LETTER 16 IN. LINE FOR "X"	SOLID	WHITE	SEE I.D.O.T. STD. 780001 SQ. FT. AREA OF: "R" = 3.6 SQ. FT. / "R" "X" = 54.0 SQ. FT.
SHOULDER DIAGONALS	12 IN. @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50 FT. C-C (LESS THAN 30 M.P.H.) 75 FT. C-C (30 TO 45 M.P.H.) 150 FT. C-C (OVER 45 M.P.H.) MINIMUM OF 5 DIAGONALS

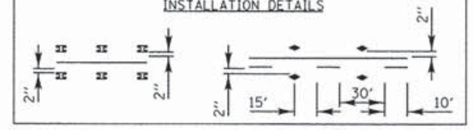
FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO PART III "MARKINGS" IN THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", AND THE LATEST I.D.O.T. HIGHWAY STANDARD 780001.

TYPICAL RAISED PAVEMENT MARKER INSTALLATION

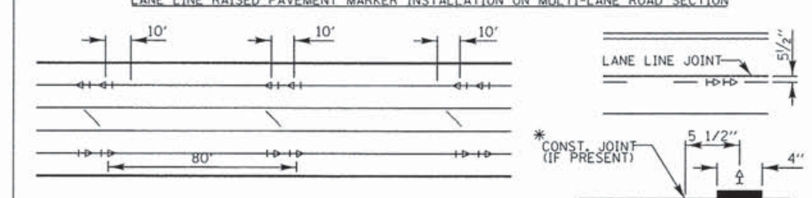


RAISED PAVEMENT MARKER LEGEND
OR RAISED PAVEMENT MARKER, DOUBLE YELLOW
RAISED PAVEMENT MARKER, WHITE AND RED

CENTER LINE RAISED PAVEMENT MARKER INSTALLATION DETAILS



LANE LINE RAISED PAVEMENT MARKER INSTALLATION ON MULTI-LANE ROAD SECTION

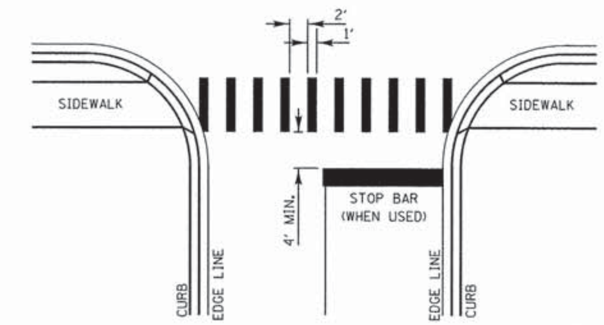


* LANE LINE MARKINGS AND RAISED PAVEMENT MARKERS MAY BE CENTERED ON THE LANE LINE IF NO PAVEMENT JOINT IS PRESENT AT THE LANE LINE

RAISED PAVEMENT MARKER NOTES:

1. CENTERLINE RAISED PAVEMENT MARKERS (RPM's) SHALL BE PLACED ON ALL TWO AND THREE LANE HIGHWAYS WITH CURVES OVER 3 1/2 DEGREES, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
2. SPACING = 40' FOR CENTERLINE MARKERS.
3. ALL RPM's ON CENTERLINE ARE 2-WAY YELLOW. LANE LINE MARKERS ARE WHITE/RED.
4. MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH F.H.W.A. MEMORANDUM HIO-21.
5. MARKERS SHALL BE FIELD ADJUSTED TO BE LOCATED IN CENTER OF THE 30' GAP OF A 30'/10' SKIP/DASH CENTERLINE.
6. RPM's WHICH ARE TO BE LOCATED WITHIN THE INTERSECTION OF A CROSS STREET, SHALL NOT BE INSTALLED.
7. A MINIMUM OF 4 WHITE/RED MARKERS SHALL BE INSTALLED ALONG THE TURN LANE LINE.
8. RPM's INSTALLED ON MULTI-LANE ROAD SECTIONS SHALL BE INSTALLED ON THE WHITE SKIP-DASH LANE LINE ONLY. THESE RPM's SHALL BE INSTALLED IN PAIRS AND SHALL BE 80' CENTER TO CENTER. SPACING WITHIN EACH PAIR SHALL BE 10', CENTERED WITHIN THE 30' SKIP.

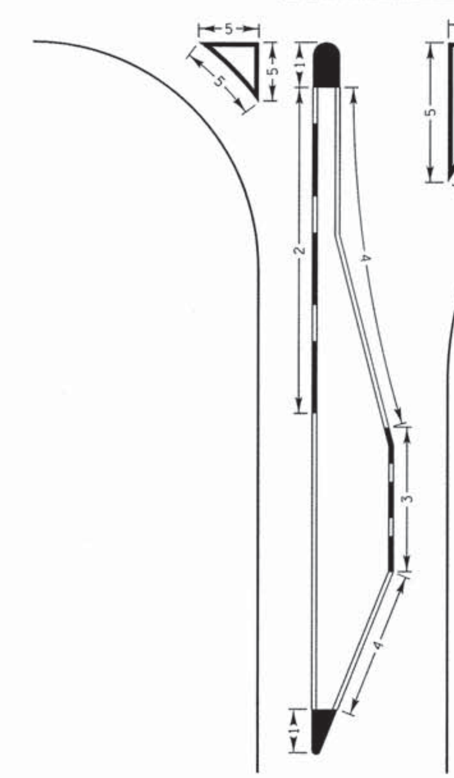
CROSSWALKS



CROSSWALK NOTES:

1. WIDTH OF THE CROSSWALK IS GENERALLY 6' EXCEPT AT SCHOOL CROSSINGS AND BICYCLE CROSSINGS, WHICH CAN BE 8'.
2. THE STOP BAR SHOULD BE INSTALLED A MINIMUM OF 4' IN ADVANCE OF THE CROSSWALK.

CURB MARKING

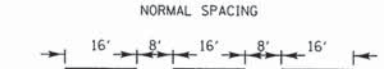


COST OF CURB AND NOSE PAINT INCLUDED IN THE COST OF CONTRACT UNIT PRICE FOR COMBINATION CONCRETE CURB AND GUTTER OF SPECIFIED SIZE.

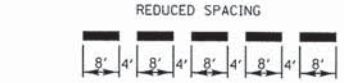
CURB MARKING NOTES:

1. PAINT CURB AND NOSE SOLID FOR 10' OR RADIUS OF NOSE, WHICHEVER IS GREATER.
2. PAINT MINIMUM OF 3 STRIPES, AT NORMAL SPACING, IN DIRECTION OF TRAFFIC.
3. REDUCED SPACING USED TO OBTAIN 3 STRIPE MINIMUM.
4. STRIPING RECOMMENDED ONLY WHERE OPERATIONAL PROBLEMS DICTATE.
5. PAINT SOLID WHERE A MINIMUM OF 3 STRIPES CANNOT BE PLACED.

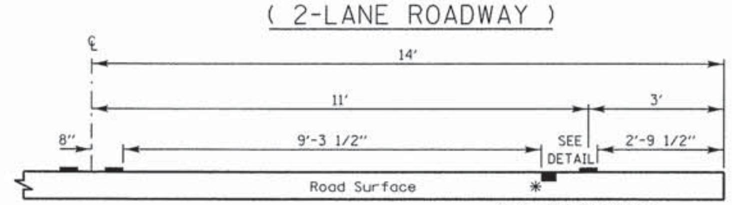
NORMAL SPACING



REDUCED SPACING

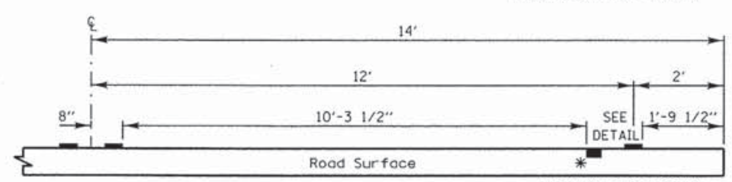


PAVEMENT CROSS SECTION SHOWING TYPICAL PAVEMENT MARKINGS (2-LANE ROADWAY)



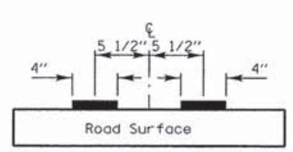
1 1' LANE WIDTH

* INLAYED PREFORMED PLASTIC STATION NUMBER

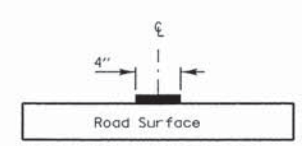


12' LANE WIDTH

* INLAYED PREFORMED PLASTIC STATION NUMBER

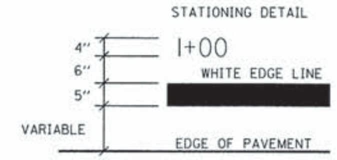


DOUBLE STRIPE CENTERLINE DETAIL



SINGLE STRIPE CENTERLINE DETAIL

STATIONING DETAIL



NOTE:
CENTERLINE MARKINGS ARE 4" LINES AT 11" CENTERS.

REVISIONS	DATE
SEPARATED RAILROAD SHEET	06/02/08
REVISED RPM DETAILS	07/1/12

LakeCounty
Division of Transportation

APPROVED BY: A. KHAWAJA
DATE: APRIL 1, 2007

TYPICAL PAVEMENT MARKINGS FOR COUNTY HIGHWAYS
SHEET 2 OF 2

LC7800

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD
LCDOT STANDARD DETAILS

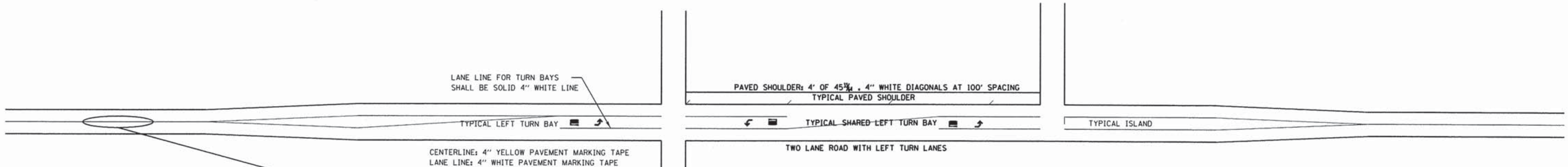
SCALE: NTS | SHEET 134 OF 183 SHEETS | STA. TO STA.

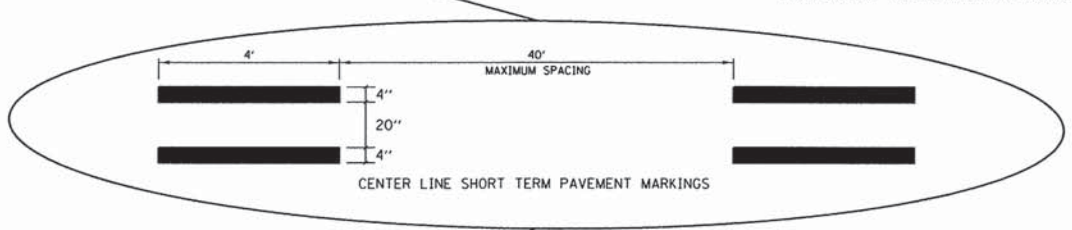
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	134

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_LCDOT_DETAILS.dgn

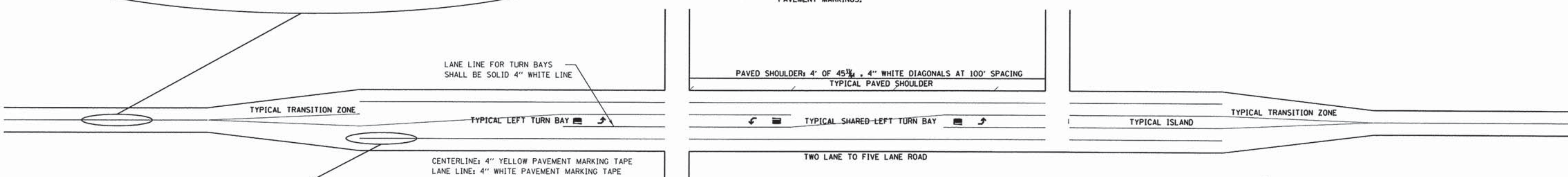
TYPICAL SHORT TERM PAVEMENT MARKINGS

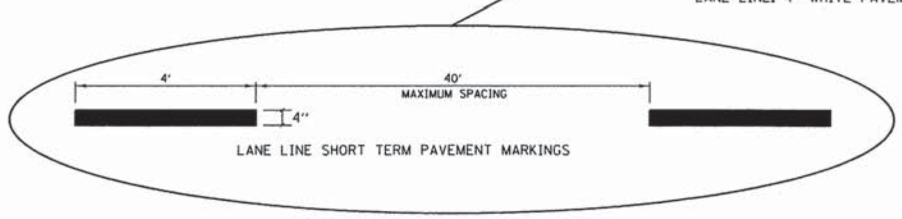


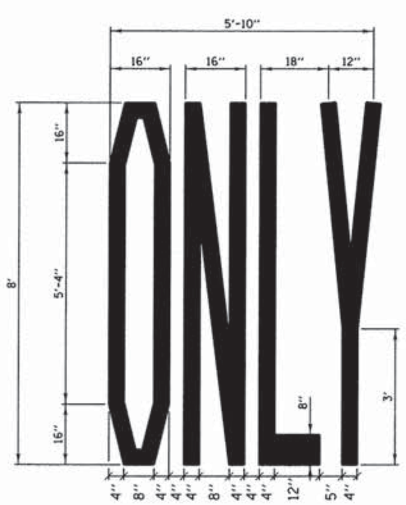


NOTE:
SHORT TERM PAVEMENT MARKINGS SHALL BE OFFSET, SO AS NOT TO INTERFER WITH THE INSTALLATION OF TEMPORARY OR PERMANENT PAVEMENT MARKINGS

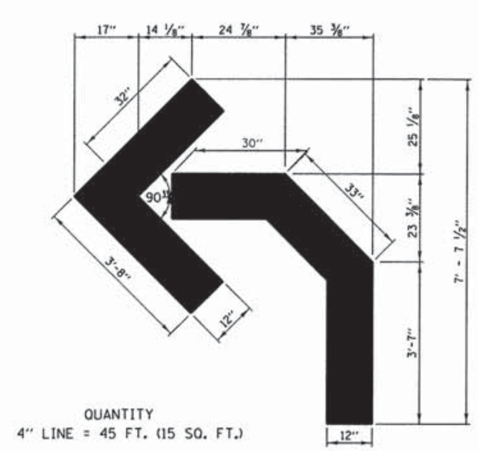
SHORT TERM PAVEMENT MARKINGS SHALL BE REMOVED BY THE CONTRACTOR WITHIN FIVE (5) DAYS OF THE INSTALLATION OF TEMPORARY OR PERMANENT PAVEMENT MARKINGS.



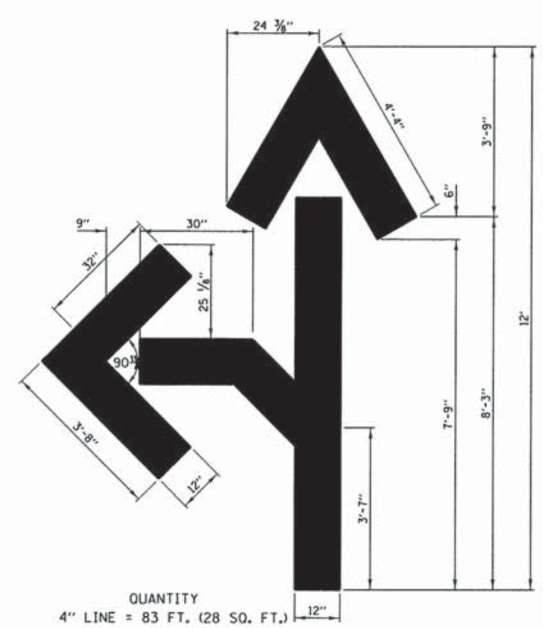




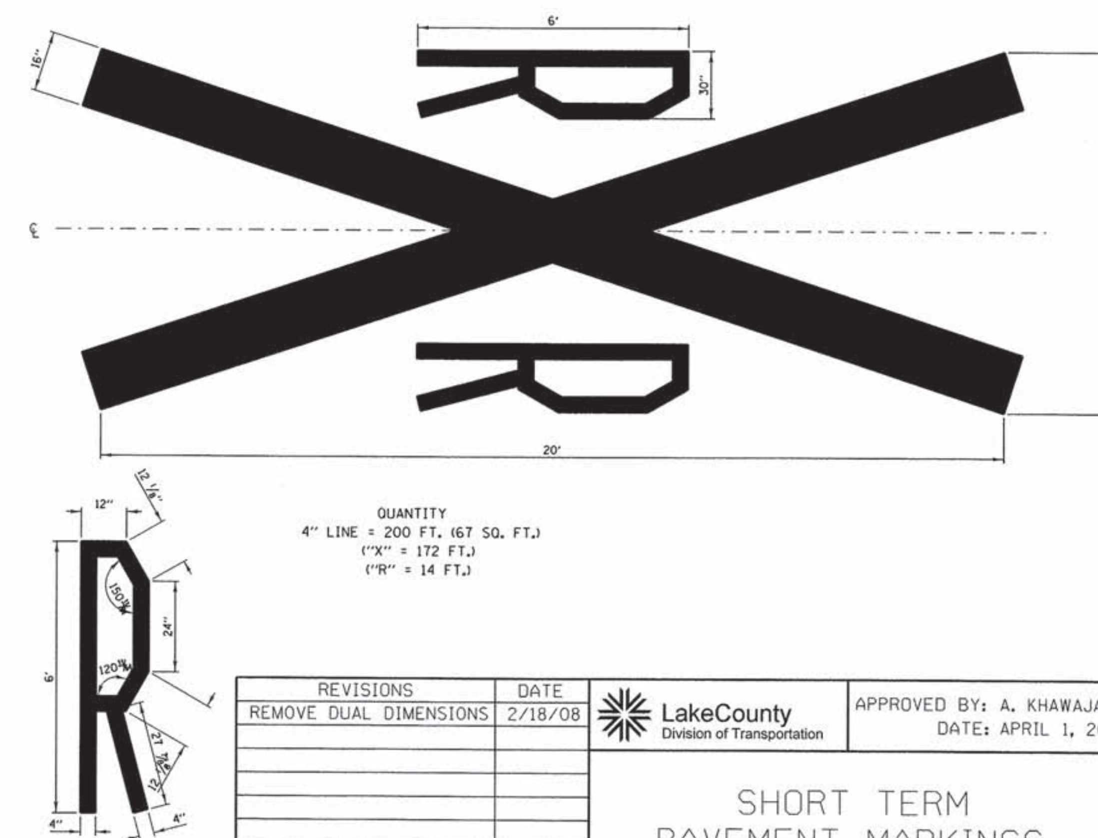
QUANTITY:
4" LINE = 64 FT. (21 SQ. FT.)



QUANTITY
4" LINE = 45 FT. (15 SQ. FT.)



QUANTITY
4" LINE = 83 FT. (28 SQ. FT.)



QUANTITY
4" LINE = 200 FT. (67 SQ. FT.)
("X" = 172 FT.)
("R" = 14 FT.)

REVISIONS	DATE
REMOVE DUAL DIMENSIONS	2/18/08

LakeCounty Division of Transportation

APPROVED BY: A. KHAWAJA
DATE: APRIL 1, 2007

SHORT TERM PAVEMENT MARKINGS

LC7802

FILE NAME = F:\877-010 River Roberts Phase I\CADD_SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

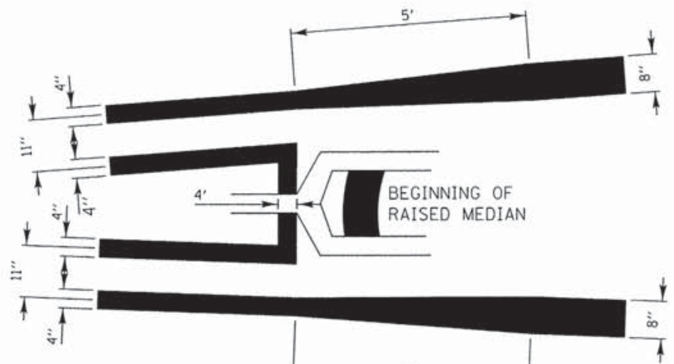
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD
LCDOT STANDARD DETAILS

SCALE: NTS | SHEET 135 OF 183 SHEETS | STA. TO STA.

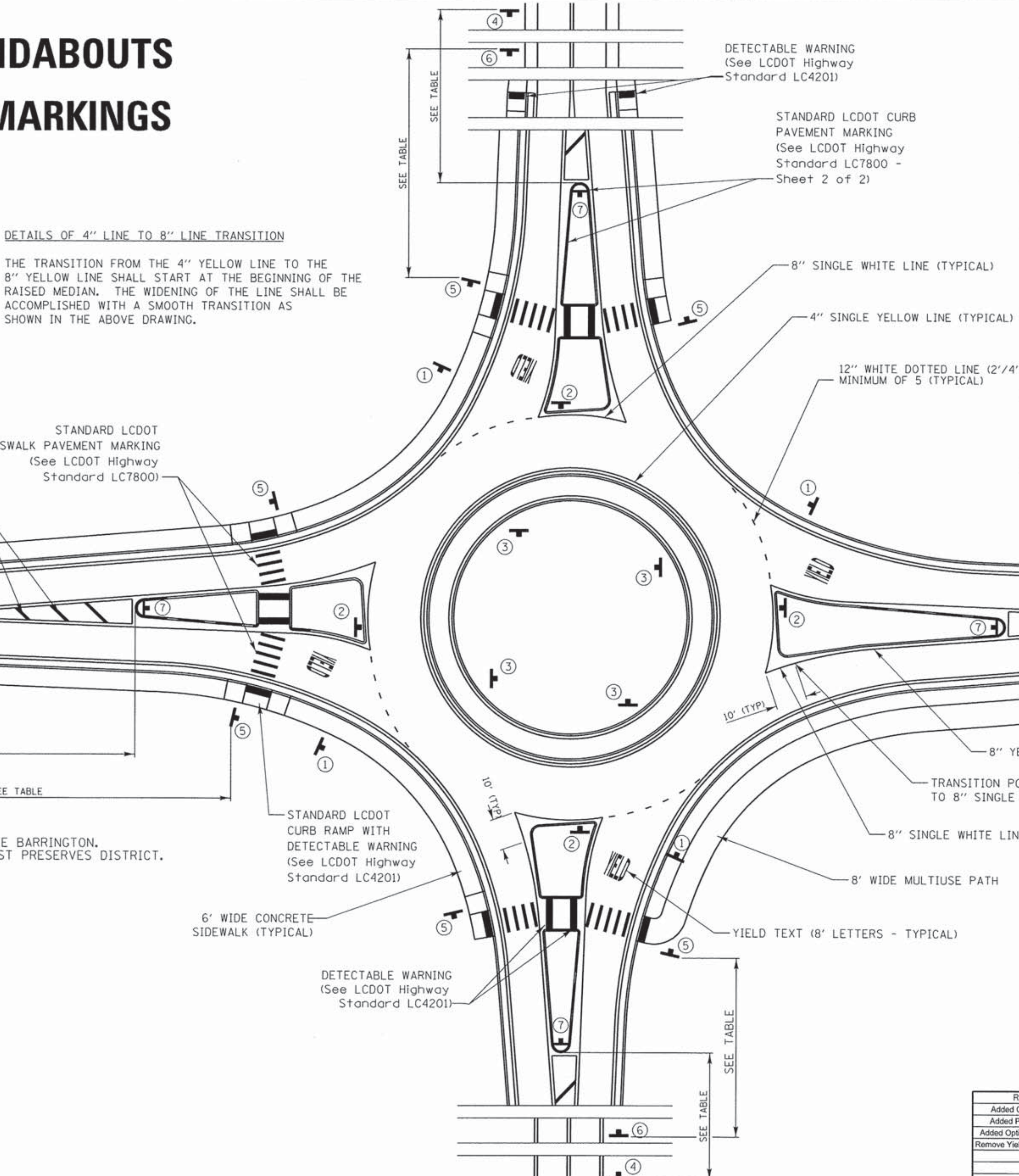
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	135
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

SPECIAL DETAIL FOR ROUNDABOUTS SIGNING and PAVEMENT MARKINGS



DETAILS OF 4" LINE TO 8" LINE TRANSITION

THE TRANSITION FROM THE 4" YELLOW LINE TO THE 8" YELLOW LINE SHALL START AT THE BEGINNING OF THE RAISED MEDIAN. THE WIDENING OF THE LINE SHALL BE ACCOMPLISHED WITH A SMOOTH TRANSITION AS SHOWN IN THE ABOVE DRAWING.



SIGN KEY

1. YIELD SIGN R1-2, 36" X 36" X 36" ROUNDABOUT CIRCULATION PLAQUE R6-5P, 30" X 30"
2. YIELD SIGN R1-2, 36" X 36" X 36"
3. ROUNDABOUT DIRECTIONAL SIGN R6-4, 30" X 24"
4. CIRCULAR INTERSECTION SIGN W2-6, 36" X 36" ROUNDABOUT PLAQUE W16-7P, 24" X 12"
5. NONVEHICULAR (PEDESTRIAN CROSSING) WARNING SIGN, 36" X 36" FLUORESCENT YELLOW GREEN DOWNWARD DIAGONAL ARROW PLAQUE, 24" X 12" FLUORESCENT YELLOW GREEN
6. NONVEHICULAR (PEDESTRIAN CROSSING) WARNING SIGN, 36" X 36" FLUORESCENT YELLOW GREEN "AHEAD" PLAQUE, 24" X 12" FLUORESCENT YELLOW GREEN
7. KEEP RIGHT SIGN R4-7, 24" X 30" (OPTIONAL)

NOTE:
PCC SIDEWALK TO BE MAINTAINED BY VILLAGE OF LAKE BARRINGTON.
HMA TRAIL TO BE MAINTAINED BY LAKE COUNTY FOREST PRESERVES DISTRICT.

NOTE:

EACH QUADRANT OF THIS STANDARD DEPICTS A DIFFERENT CONDITION. THE INTERSECTION SHOULD NOT BE VIEWED AS A WHOLE.

ADVANCE WARNING SIGN PLACEMENT

POSTED SPEED LIMIT	DISTANCE IN ADVANCE OF THE INTERSECTION
20 - 40 MPH	200 FEET
45 - 55 MPH	400 FEET

REVISIONS	DATE
Added Curb Pav't Marking	10/20/08
Added Pg 2 - Distance Det	1/23/09
Added Optional Keep Right Sign	3/1/10
Remove Yield Line - Revised Skips	6/26/12

LakeCounty Division of Transportation

APPROVED BY: A. KHAWAJA
DATE: July 1, 2008

SPECIAL DETAIL for ROUNDABOUTS SIGNING and PAVEMENT MARKINGS

SHEET 1 OF 2

LC7804

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -
	DRAWN - GJE	REVISED -
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD
LCDOT STANDARD DETAILS

SCALE: NTS | SHEET 136 OF 183 SHEETS | STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	136

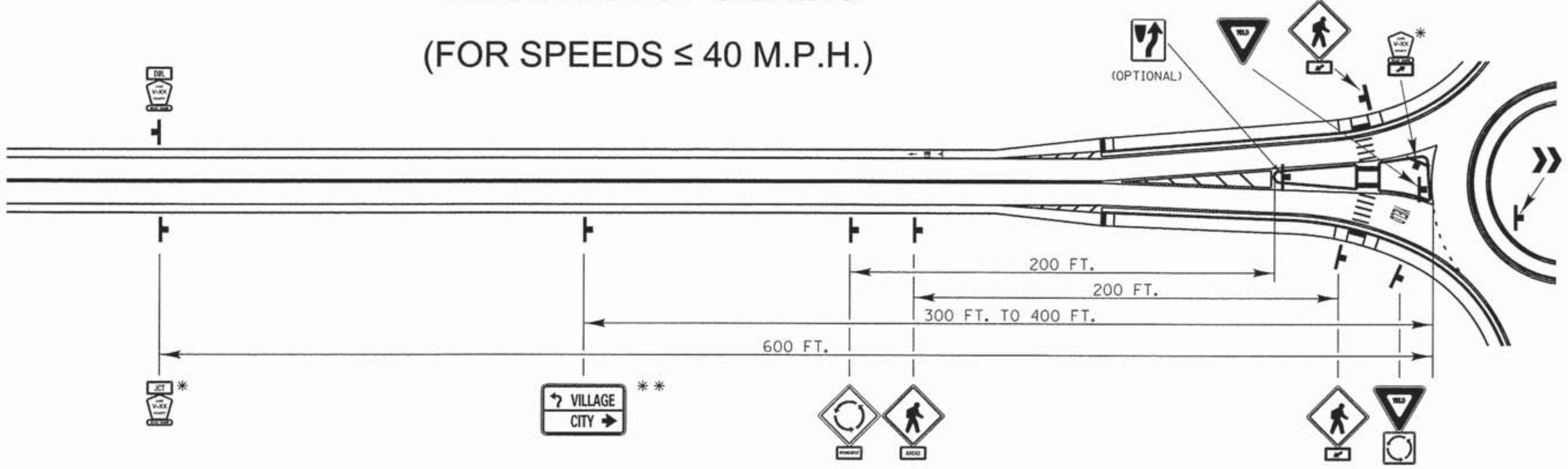
CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

SPECIAL DETAIL FOR ROUNDABOUTS SIGNING and PAVEMENT MARKINGS

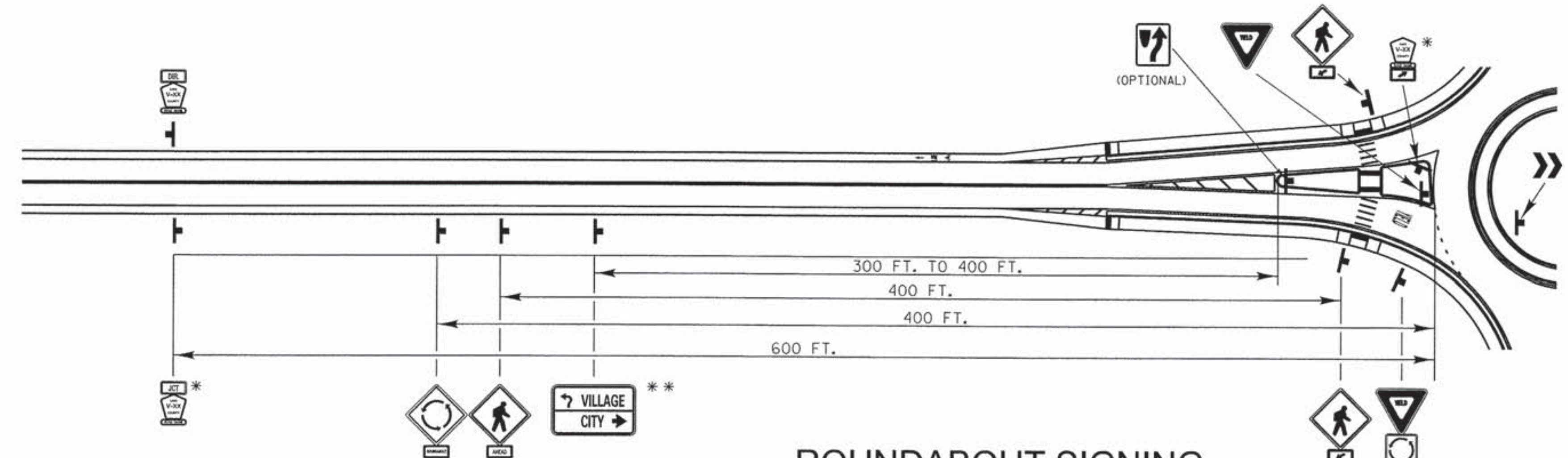
ROUNDABOUT SIGNING

(FOR SPEEDS ≤ 40 M.P.H.)



* FOR NON-MARKED ROUTES, USE ADVANCE INTERSECTION NAME SIGN WITH ROUNDABOUT SYMBOL

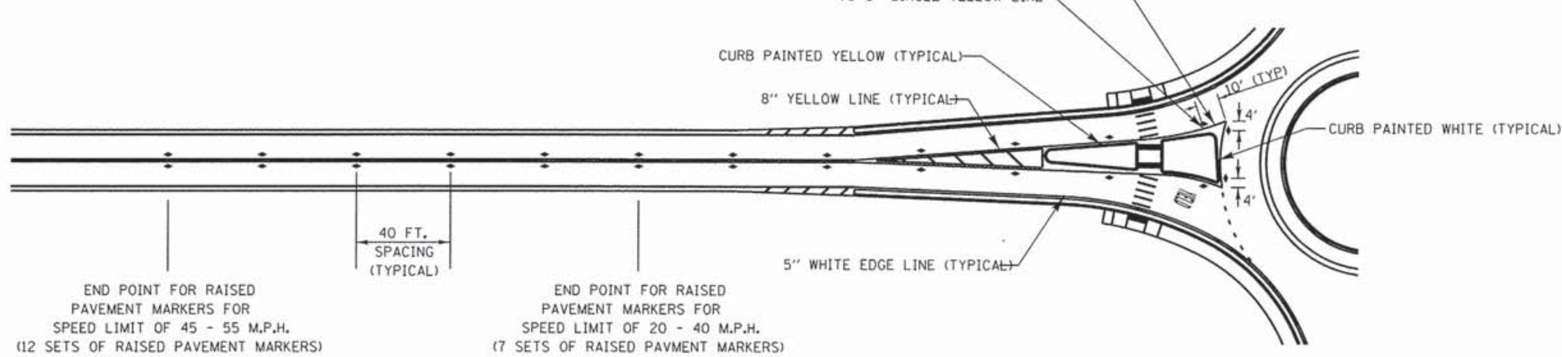
** OPTIONAL



ROUNDABOUT SIGNING

(FOR SPEEDS ≥ 45 M.P.H.)

ROUNDABOUT PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS
45 - 55 mph = 12 Sets at 40' C-C
20 - 40 mph = 7 Sets at 40' C-C

REVISIONS	DATE
Added Curb Pav't Marking	10/20/08
Added Pg 2 - Distance Det	1/23/09
Added Optional Keep Right Sign	3/1/10
Remove Yield Line - Revised Skips	6/26/12

LakeCounty Division of Transportation

APPROVED BY: A. KHAWAJA
DATE: July 1, 2008

SPECIAL DETAIL for ROUNDABOUTS SIGNING and PAVEMENT MARKINGS

SHEET 2 OF 2

LC7804

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

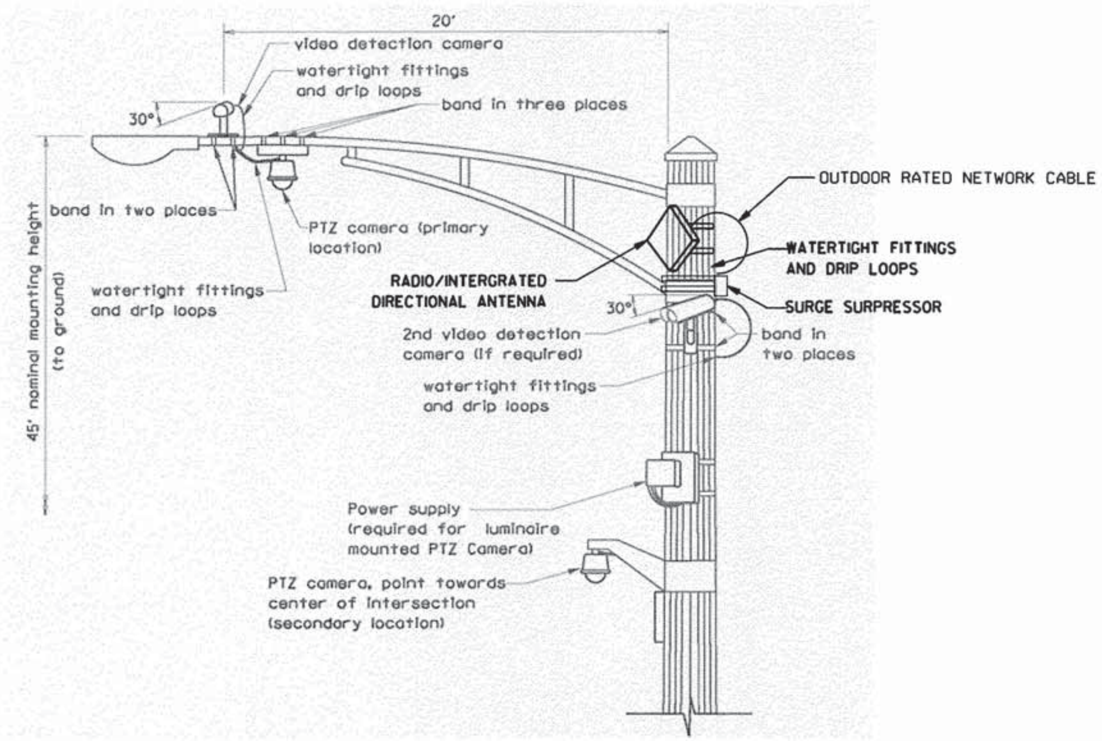
RIVER ROAD
LCDOT STANDARD DETAILS

SCALE: NTS | SHEET 137 OF 183 SHEETS | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	137

CONTRACT NO. 63875

ILLINOIS | FED. AID PROJECT



WIRELESS TRANSMISSION SYSTEM, RADIO, VIDEO DETECTION CAMERA(S) AND DOME (PTZ) CAMERA MOUNTING DETAIL

(NOT TO SCALE)

NOTES FOR SINGLE, DUAL AND MULTIPLE MVP MOUNTING:
- MOUNT LUMINAIRE MOUNTING BRACKET AS HIGH AS POSSIBLE.
- AIM BRACKET TOWARD DIRECTION OF TRAFFIC TO BE DETECTED.
- MOUNT MACHINE VISION PROCESSOR AIMING DOWN AT 30 DEGREE ANGLE.

REVISIONS	DATE

LakeCounty Division of Transportation

APPROVED BY: Jon Nelson
DATE: 6/1/12

WIRELESS TRANSMISSION SYSTEM DETAILS

LC8902

FILE NAME = F:\877-010 River Roberts Phase I\CADD_SHEETS\877-010_LCDOT_DETAILS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -
	DRAWN - GJE	REVISED -
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

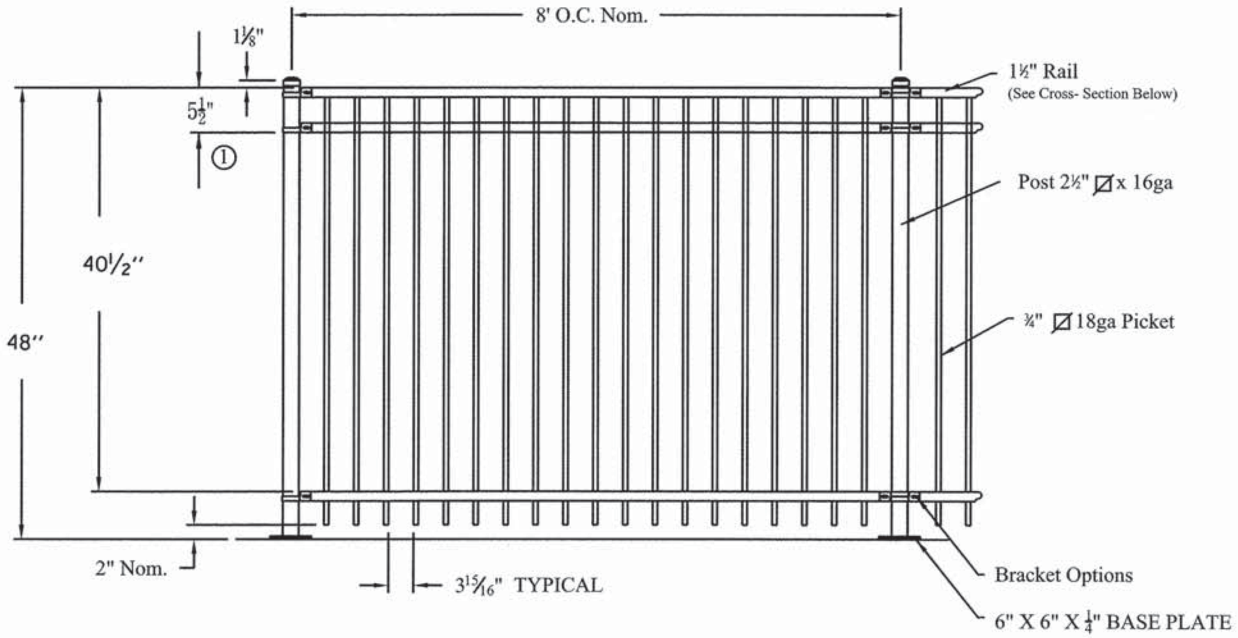
RIVER ROAD
LCDOT STANDARD DETAILS

SCALE: NTS | SHEET 138 OF 183 SHEETS | STA. | TO STA.

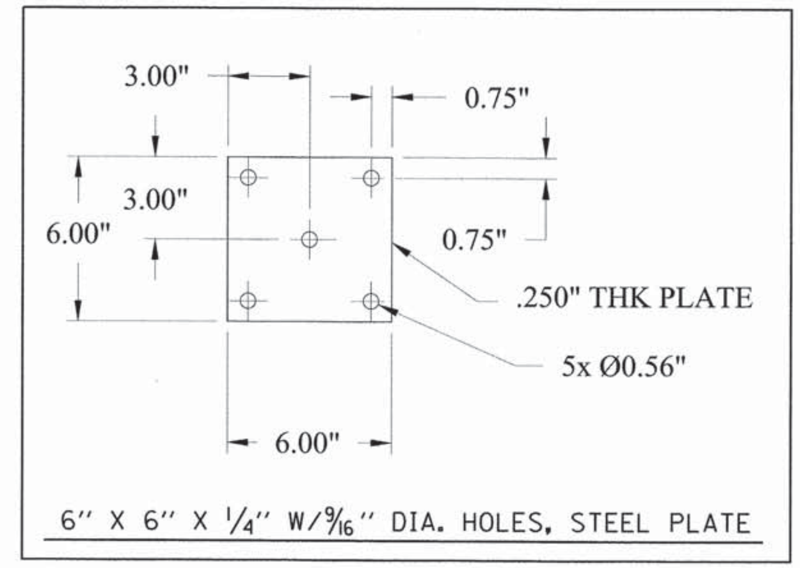
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	138

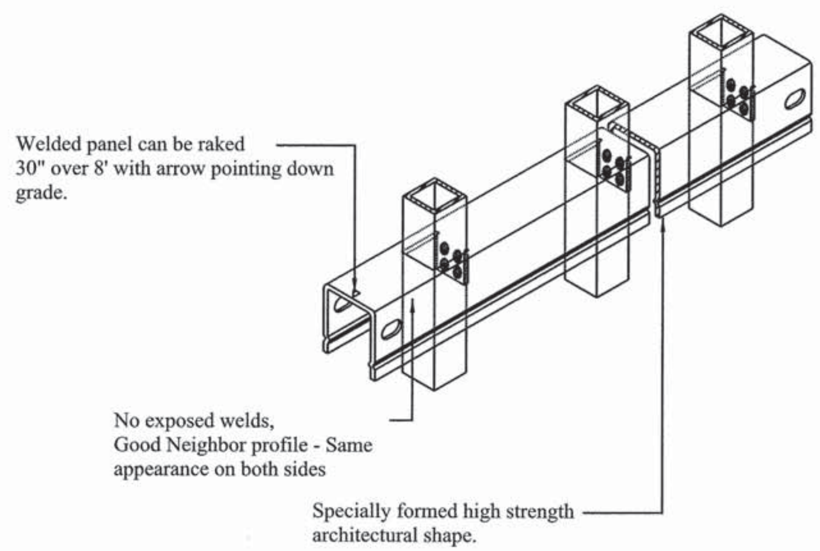
CONTRACT NO. 63875

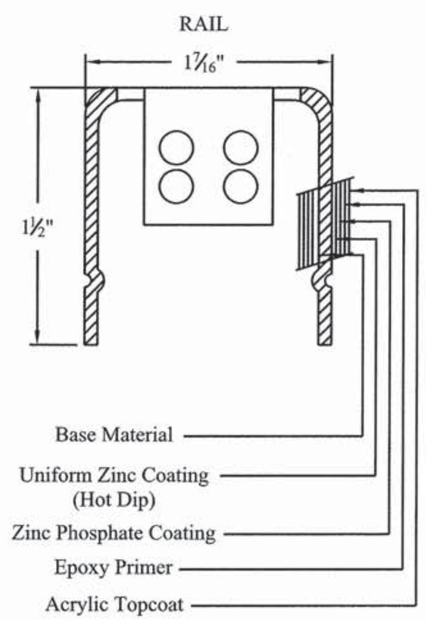
ILLINOIS FED. AID PROJECT

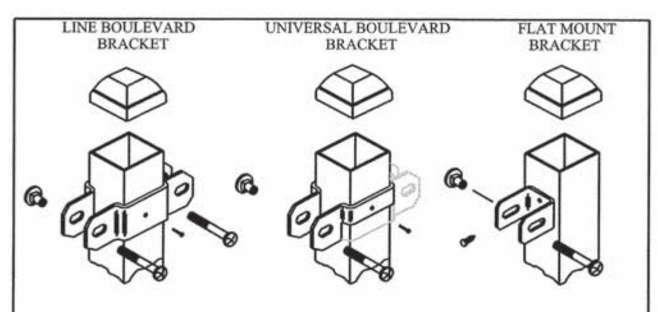


NOTES:
1.) Third rail required.









Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_LCD01_DETAILS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

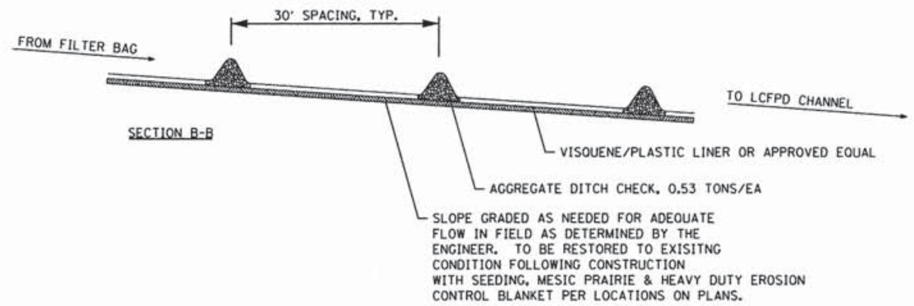
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD
CONSTRUCTION DETAILS

SCALE: NTS | SHEET 138A OF 183 SHEETS | STA. | TO STA.

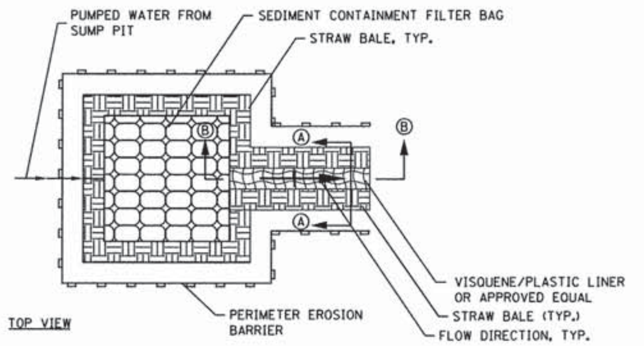
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	138A
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

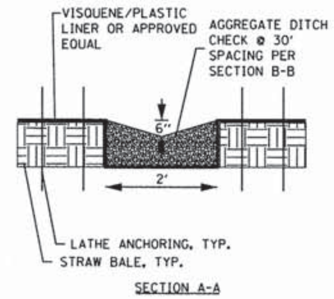
TEMPORARY DEWATERING DITCH DETAIL



NOTE:

TEMPORARY DEWATERING DITCH AND ALL ITEMS SHOWN HEREIN WITH THE EXCEPTION OF AGGREGATE DITCH CHECKS AND PERIMETER EROSION BARRIER TO BE PAID FOR AS "DEWATERING" - LUMP SUM AS DESCRIBED IN THE PROJECT SPECIFICATIONS.

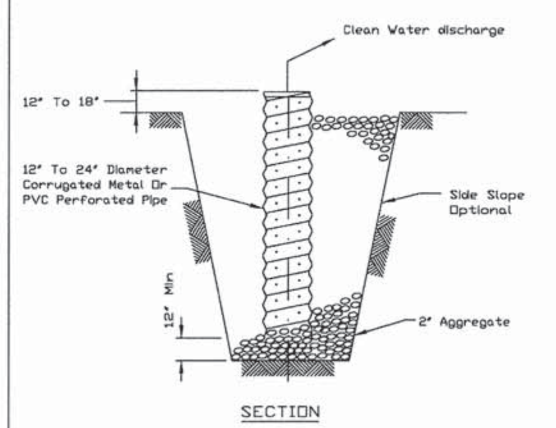




TEMPORARY DEWATERING SUMP NOTES:

1. IF DETWATERING IS NECESSARY, THE INLET OF THE HOSE SHALL BE PLACED IN A SUMP PIT AT THE LOCATION SHOWN ON THE EROSION CONTROL PLANS FOR STAGE I, II, & III CONSTRUCTION AND PUMPED INTO A DEWATERING SYSTEM PRIOR TO REJOINING THE FLOW OF THE CHANNEL.
2. REFER TO PROJECT SPECIFICATIONS FOR DEWATERING SUMP USE AND METHODOLOGY. SUMP PIT AND ALL APPURTENANCES SHOWN IN THE DETAIL SHALL BE PAID FOR IN THE COST FOR "DEWATERING."

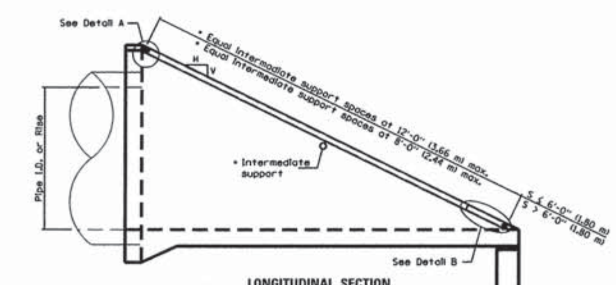
SUMP PIT PLAN



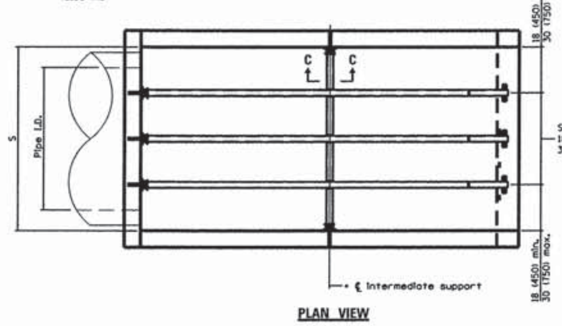
NOTES:
1. Pit dimensions are optional.
2. The standpipe will be constructed by perforating a 12"-24" diameter corrugated metal or PVC pipe.
3. A base of 2" aggregate will be placed in the pit to a minimum depth of 12". After installing the standpipe, the pit surrounding the standpipe will then be backfilled with 2" aggregate.
4. The standpipe will extend 12" to 18" above the lip of the pit.
5. If discharge will be pumped directly to a storm drainage system, the standpipe will be wrapped with filter fabric before installation.
6. If desired, 1/4"-1/2" hardware cloth may be placed around the standpipe prior to attaching the filter fabric. This will increase the rate of water seepage into the pipe.

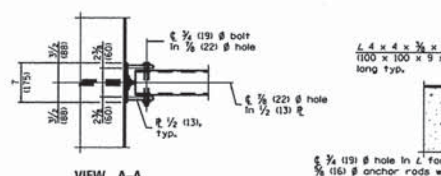
REFERENCE		NRCS	STANDARD DWG. NO.
Project		Natural Resources Conservation Service	IL-650
Designed	Date		SHEET 1 OF 1
Checked	Date		DATE 6-11-94
Approved	Date		

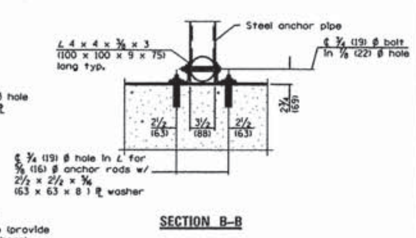
TEMPORARY DEWATERING SUMP DETAIL

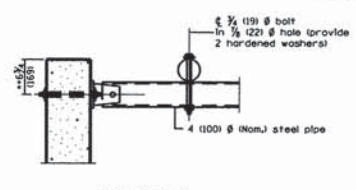


* Provide intermediate support for grate pipe lengths > 20'-0" (6.00 m).

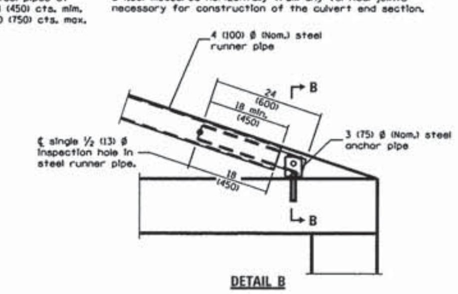


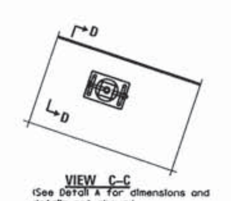


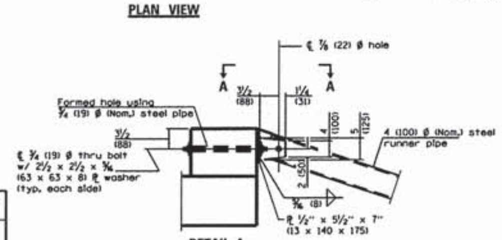




** Measured perpendicular to top of culvert wall. In addition, formed hole shall be located a minimum of 6 (150) measured horizontally from any vertical joints necessary for construction of the culvert end section.







GENERAL NOTES

This standard shall only be used on concrete end sections not skewed more than ± 15 degrees with roadway.

The minimum distance from the center of a hole to the free edge of a structural shape or plate shall be 1 1/2 (38) unless noted otherwise.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-13	Completely revised and renamed standard.

Illinois Department of Transportation

PASSED ______ 2013
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED ______ 2013
ENGINEER OF DESIGN AND ENVIRONMENT

TRAVERSABLE PIPE GRATE

(Sheet 1 of 2)

STANDARD 542311-04

PIPE-GRATE SCHEDULE FOR PIPE CULVERT END SECTIONS

Pipe I.D.	Slope of End Section								
	1:3			1:4			1:6		
	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe	Main Pipe No. / Length	Int. support No. / Length	Total Length of Pipe	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe
30 (750)	1 @ 11'-4" 1 @ (3.43 m)	N/A	11'-4" (3.43 m)	1 @ 14'-10" 1 @ (4.52 m)	N/A	14'-10" (4.52 m)	1 @ 21'-10" 1 @ (6.65 m)	1 @ 3'-6 1 @ 1.07 m)	25'-4" (7.72 m)
33 (825)	1 @ 12'-1" 1 @ (3.68 m)	N/A	12'-1" (3.68 m)	1 @ 15'-10" 1 @ (4.83 m)	N/A	15'-10" (4.83 m)	1 @ 23'-5" 1 @ (7.14 m)	1 @ 3'-7" 1 @ (1.09 m)	27'-0" (8.23 m)
36 (900)	1 @ 12'-10" 1 @ (3.91 m)	N/A	12'-10" (3.91 m)	1 @ 16'-10" 1 @ (5.13 m)	N/A	16'-10" (5.13 m)	1 @ 24'-11" 1 @ (7.59 m)	2 @ 3'-11" 2 @ (1.19 m)	32'-9" (9.97 m)
42 (1050)	2 @ 14'-9" 2 @ (4.50 m)	N/A	29'-6" (9.00 m)	2 @ 19'-3" 2 @ (5.87 m)	N/A	38'-6" (11.74 m)	2 @ 28'-6" 2 @ (8.69 m)	2 @ 4'-7" 2 @ (1.40 m)	66'-2" (20.18 m)
48 (1200)	2 @ 16'-4" 2 @ (4.98 m)	N/A	32'-8" (9.96 m)	2 @ 21'-4" 2 @ (6.50 m)	1 @ 5'-1" 1 @ (1.55 m)	47'-9" (14.55 m)	2 @ 31'-6" 2 @ (9.60 m)	2 @ 5'-1" 2 @ (1.55 m)	73'-2" (22.30 m)
54 (1350)	2 @ 18'-2" 2 @ (5.54 m)	N/A	36'-4" (11.08 m)	2 @ 23'-9" 2 @ (7.24 m)	2 @ 5'-9" 2 @ (1.75 m)	59'-0" (16.23 m)	2 @ 35'-1 2 @ (10.69 m)	4 @ 5'-9" 4 @ (1.75 m)	93'-2" (28.38 m)
60 (1500)	2 @ 19'-9" 2 @ (6.02 m)	N/A	39'-6" (12.04 m)	2 @ 25'-10" 2 @ (7.87 m)	3 @ 6'-3" 3 @ (1.91 m)	70'-5" (21.47 m)	2 @ 38'-1" 2 @ (11.61 m)	4 @ 6'-3" 4 @ (1.91 m)	101'-2" (30.86 m)
66 (1700)	2 @ 21'-7" 2 @ (6.58 m)	2 @ 6'-11" 2 @ (2.11 m)	57'-0" (17.38 m)	2 @ 28'-2" 2 @ (8.59 m)	3 @ 6'-11" 3 @ (2.11 m)	77'-1" (23.51 m)	2 @ 41'-11" 2 @ (12.78 m)	5 @ 6'-11" 5 @ (2.11 m)	127'-5" (36.11 m)
72 (1850)	3 @ 23'-2" 3 @ (7.06 m)	2 @ 7'-5" 2 @ (2.26 m)	84'-4" (25.70 m)	3 @ 30'-3" 3 @ (9.22 m)	3 @ 7'-5" 3 @ (2.26 m)	113'-0" (34.44 m)	3 @ 44'-8" 3 @ (13.61 m)	5 @ 7'-5" 5 @ (2.26 m)	171'-1" (52.13 m)
78 (2000)	3 @ 25'-0" 3 @ (7.62 m)	3 @ 8'-1" 3 @ (2.46 m)	99'-3" (30.24 m)	3 @ 32'-8" 3 @ (9.96 m)	4 @ 8'-1" 4 @ (2.46 m)	130'-4" (39.72 m)	3 @ 48'-3" 3 @ (14.71 m)	6 @ 8'-1" 6 @ (2.46 m)	193'-3" (58.89 m)
84 (2100)	3 @ 26'-7" 3 @ (8.10 m)	3 @ 8'-7" 3 @ (2.62 m)	105'-6" (32.16 m)	3 @ 34'-9" 3 @ (10.59 m)	4 @ 8'-7" 4 @ (2.62 m)	138'-7" (42.25 m)	3 @ 51'-3" 3 @ (15.62 m)	6 @ 8'-7" 6 @ (2.62 m)	206'-3" (62.58 m)

PIPE-GRATE SCHEDULE FOR ELLIPTICAL PIPE CULVERT END SECTIONS

Pipe I.D. (Equiv. Round)	Slope of End Section								
	1:3			1:4			1:6		
	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe	Main Pipe No. / Length	Int. Support No. / Length	Total Length of Pipe
21 (525)	1 @ 8'-2" 1 @ (2.49 m)	N/A	8'-2" (2.49 m)	1 @ 11'-2" 1 @ (3.40 m)	N/A	11'-2" (3.40 m)	1 @ 17'-5" 1 @ (5.31 m)	N/A	17'-5" (5.31 m)
24 (600)	1 @ 8'-2" 1 @ (2.49 m)	N/A	8'-2" (2.49 m)	1 @ 11'-2" 1 @ (3.40 m)	N/A	11'-2" (3.40 m)	1 @ 17'-5" 1 @ (5.31 m)	N/A	17'-5" (5.31 m)
27 (675)	1 @ 8'-11" 1 @ (2.72 m)	N/A	8'-11" (2.72 m)	1 @ 12'-2" 1 @ (3.71 m)	N/A	12'-2" (3.71 m)	1 @ 18'-11" 1 @ (5.77 m)	N/A	18'-11" (5.77 m)
30 (750)	1 @ 9'-5" 1 @ (2.87 m)	N/A	9'-5" (2.87 m)	1 @ 12'-11" 1 @ (3.94 m)	N/A	12'-11" (3.94 m)	1 @ 19'-11" 1 @ (6.07 m)	N/A	19'-11" (6.07 m)
36 (900)	2 @ 11'-0" 2 @ (3.35 m)	N/A	22'-0" (6.70 m)	2 @ 14'-11" 2 @ (4.55 m)	N/A	29'-10" (9.10 m)	2 @ 22'-11" 2 @ (6.99 m)	1 @ 4'-7" 1 @ (1.40 m)	50'-5" (15.38 m)
42 (1050)	2 @ 12'-4" 2 @ (3.76 m)	N/A	24'-8" (7.52 m)	2 @ 16'-8" 2 @ (5.08 m)	N/A	33'-4" (10.16 m)	2 @ 25'-6" 2 @ (7.77 m)	2 @ 5'-5" 2 @ (1.65 m)	61'-10" (18.84 m)
48 (1200)	2 @ 13'-8" 2 @ (4.17 m)	N/A	27'-4" (8.34 m)	2 @ 18'-5" 2 @ (5.61 m)	N/A	36'-10" (11.22 m)	2 @ 28'-0" 2 @ (8.53 m)	3 @ 6'-1" 3 @ (1.85 m)	64'-3" (22.61 m)
54 (1350)	2 @ 15'-0" 2 @ (4.75 m)	N/A	30'-0" (9.50 m)	2 @ 20'-1" 2 @ (6.12 m)	2 @ 6'-9" 2 @ (2.06 m)	53'-8" (16.36 m)	2 @ 30'-7" 2 @ (9.32 m)	3 @ 6'-9" 3 @ (2.06 m)	81'-5" (24.82 m)
60 (1500)	3 @ 16'-7" 3 @ (5.05 m)	N/A	49'-9" (15.15 m)	3 @ 22'-2" 3 @ (6.76 m)	2 @ 7'-7" 2 @ (2.31 m)	81'-8" (24.90 m)	3 @ 33'-7" 3 @ (10.24 m)	4 @ 7'-7" 4 @ (2.31 m)	131'-1" (39.96 m)
66 (1700)	3 @ 17'-11" 3 @ (5.46 m)	N/A	53'-9" (16.38 m)	3 @ 23'-11" 3 @ (7.29 m)	2 @ 8'-3" 2 @ (2.51 m)	88'-3" (26.89 m)	3 @ 36'-2" 3 @ (11.02 m)	4 @ 8'-3" 4 @ (2.51 m)	141'-6" (43.10 m)
72 (1850)	3 @ 19'-6" 3 @ (5.94 m)	N/A	58'-6" (17.82 m)	3 @ 25'-11" 3 @ (7.90 m)	3 @ 8'-11" 3 @ (2.72 m)	104'-6" (31.86 m)	3 @ 39'-2" 3 @ (11.94 m)	4 @ 8'-11" 4 @ (2.72 m)	153'-2" (46.70 m)

Illinois Department of Transportation

PASSED ______ 2013
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED ______ 2013
ENGINEER OF DESIGN AND ENVIRONMENT

TRAVERSABLE PIPE GRATE

(Sheet 2 of 2)

STANDARD 542311-04

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010-sht-Details_EC.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

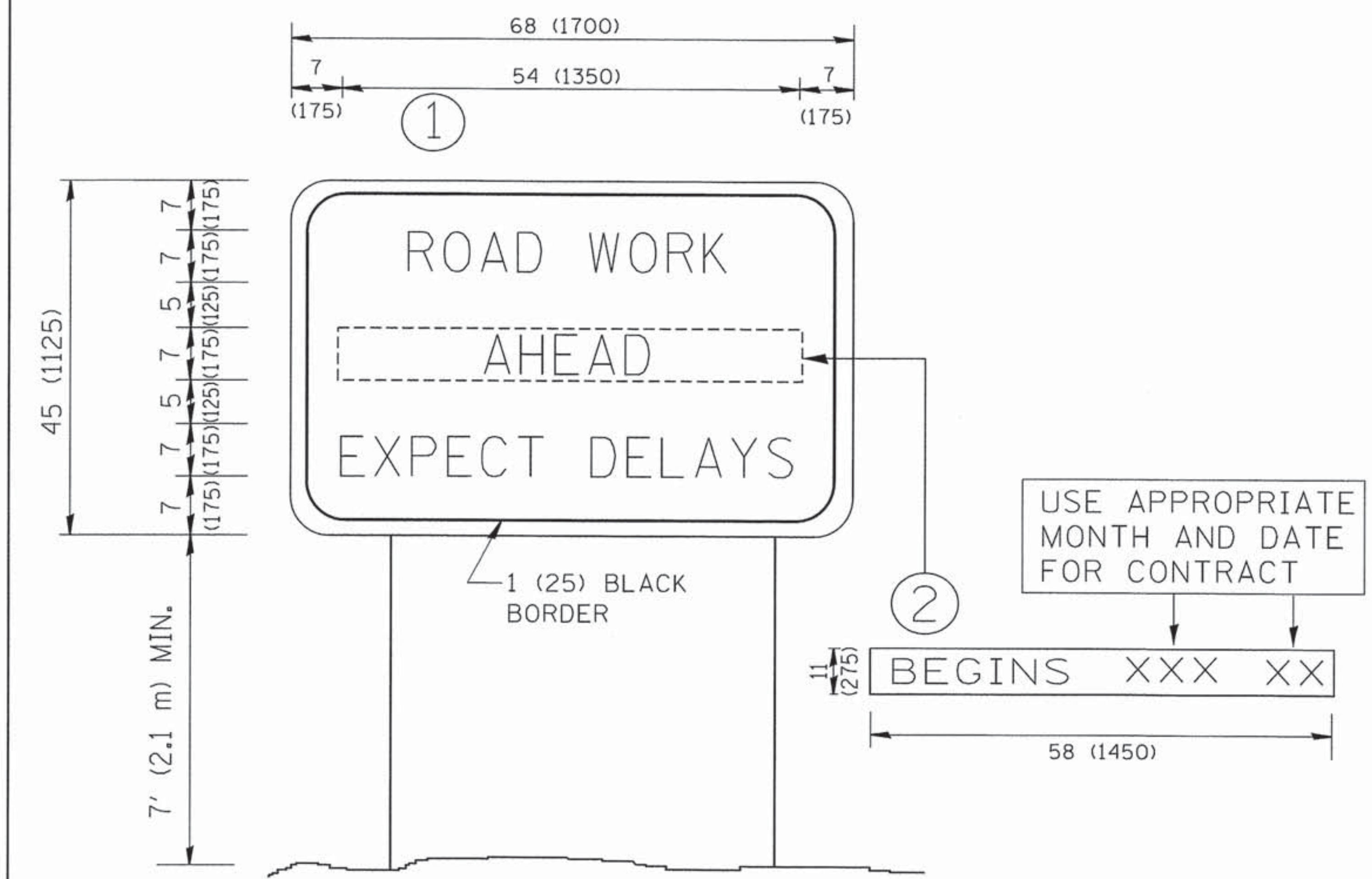
USER NAME = $USER$	DESIGNED - GJE	REVISED -
	DRAWN - GJE	REVISED -
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD AT ROBERTS ROAD
CONSTRUCTION DETAILS

SCALE: N.T.S. | SHEET 139 OF 183 SHEETS | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	139
		CONTRACT NO. 63875		
		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.

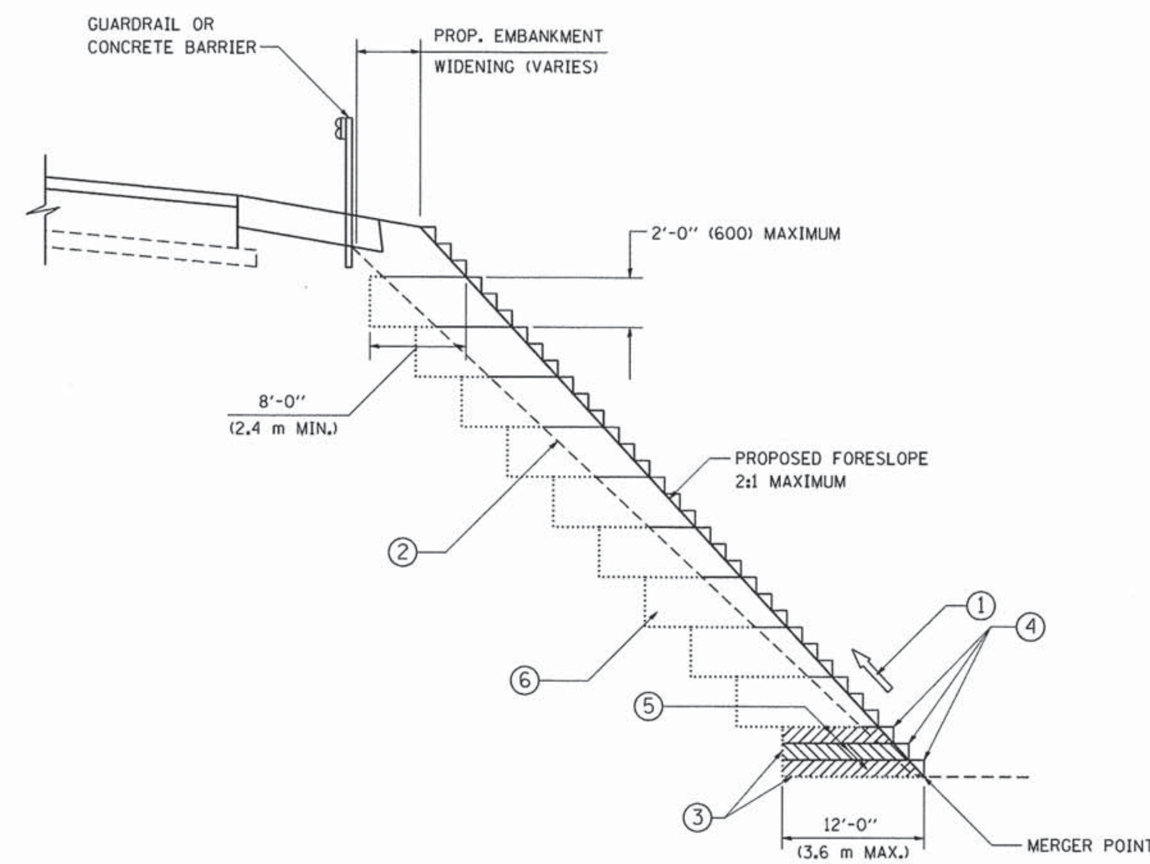
FILE NAME = W:\diststd\22x34\tc22.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - R. MIRS 09-15-97
		DRAWN -	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED -T. RAMMACHER 02-02-99
	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD INFORMATION SIGN

SCALE: NONE	SHEET NO. 140 OF 183 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	07-00086-08-CH	LAKE	183	140
	TC-22	CONTRACT NO. 63875		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
6. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

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

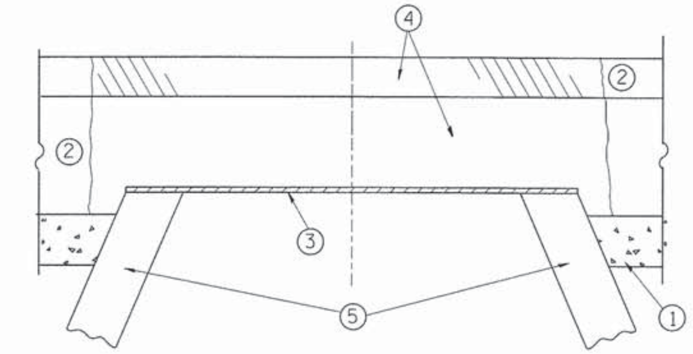
FILE NAME = W:\diststd\22x34\bd51.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED -
		DRAWN - CADD	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - S.E.B.	REVISED -
	PLOT DATE = 1/4/2008	DATE - 06-16-04	REVISED -

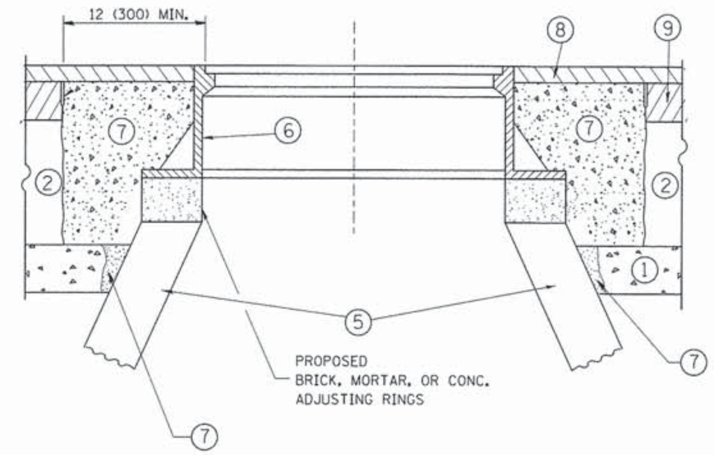
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL
FOR EMBANKMENT WIDENING

SCALE: NONE | SHEET NO. 141 OF 183 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	07-00086-08-CH	LAKE	183	141
	BD-51	CONTRACT NO. 63875		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		





NOTES:

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
D) BACKFILL WITH CRUSHED STONE AND A MINIMUM $1\frac{1}{2}$ (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

STAGE 2 (AFTER PAVEMENT MILLING)

A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-1* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

LEGEND

1 SUB-BASE GRANULAR MATERIAL
2 EXISTING PAVEMENT
3 36 (900) DIAMETER METAL PLATE
4 PROPOSED CRUSHED STONE AND HMA SURFACE MIX
5 EXISTING STRUCTURE
6 FRAME AND LID (SEE NOTES)
7 CLASS PP-1* CONCRETE
8 PROPOSED HMA SURFACE COURSE
9 PROPOSED HMA BINDER COURSE

LOCATION OF STRUCTURES:

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

BASIS OF PAYMENT:

REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."

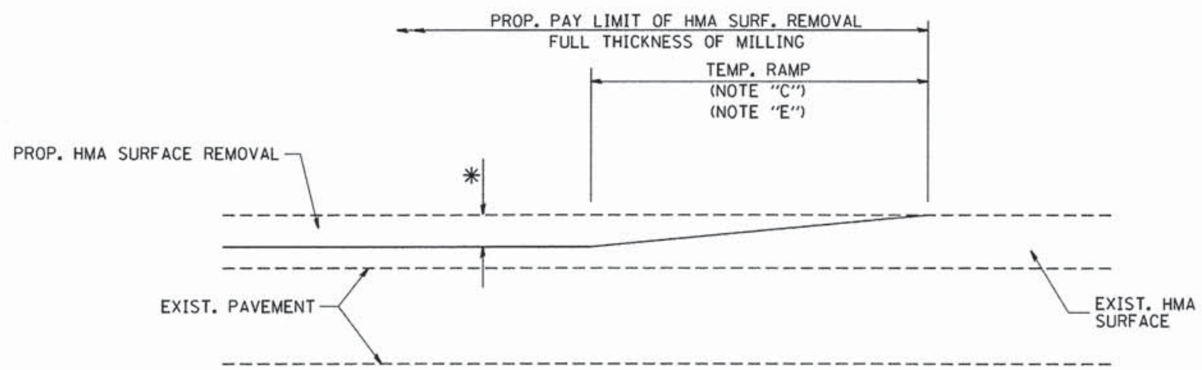
THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

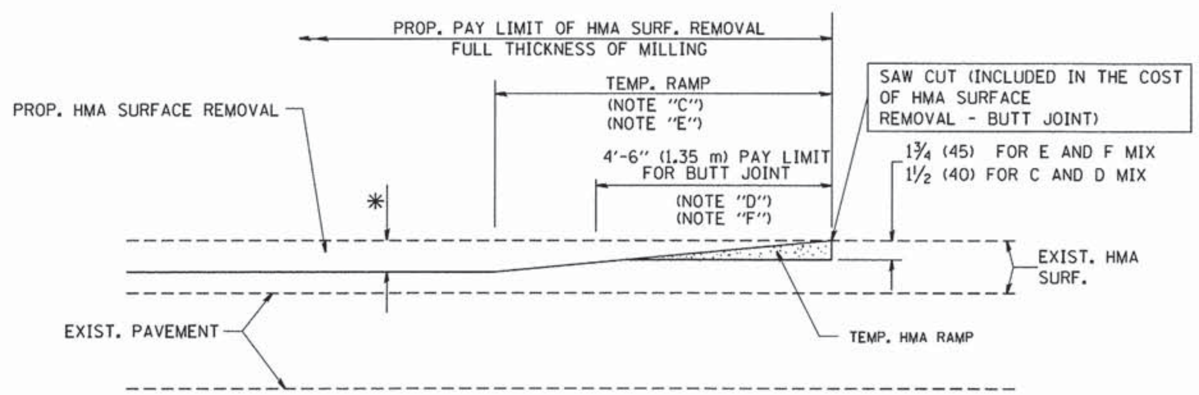
FILE NAME = c:\pw_work\pwidot\bauerdl\d0108315\bd08.dgn	USER NAME = bauerdl	DESIGNED - R. SHAH	REVISED - R. WIEDEMAN 05-14-04	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS / SHEET NO.
		DRAWN -	REVISED - R. BORO 01-01-07				07-00086-08-CH	LAKE	183 / 142
	PLOT SCALE = 1968.5000 ' / m	CHECKED -	REVISED - R. BORO 03-09-11				BD600-03 (BD-8)	CONTRACT NO. 63875	
	PLOT DATE = 12/6/2011	DATE - 10-25-94	REVISED - R. BORO 12-06-11		SCALE: NONE / SHEET NO. 1 42 OF 183 SHEETS / STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

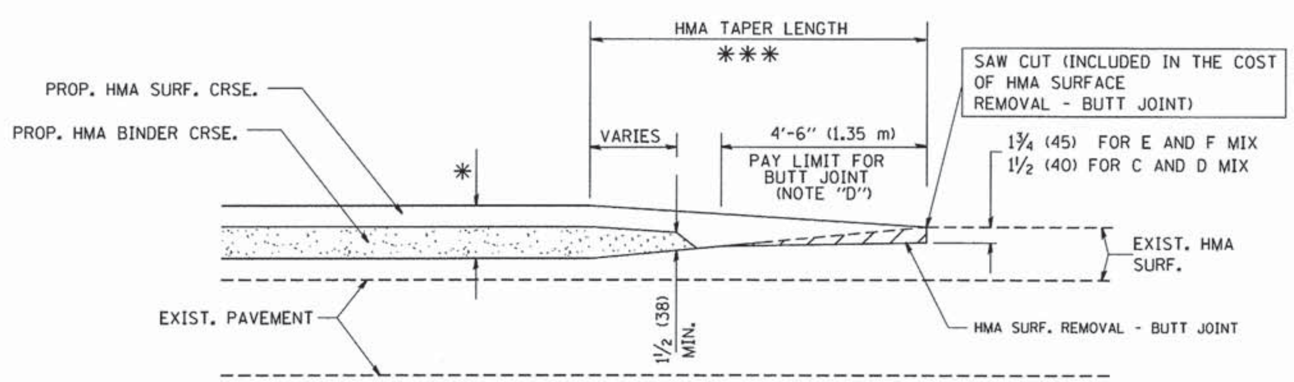


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

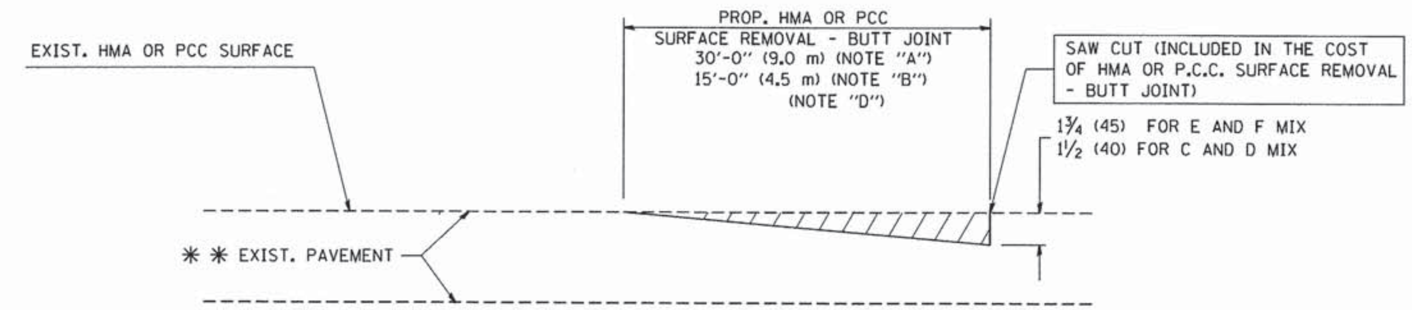
OPTION 2

TYPICAL TEMPORARY RAMP

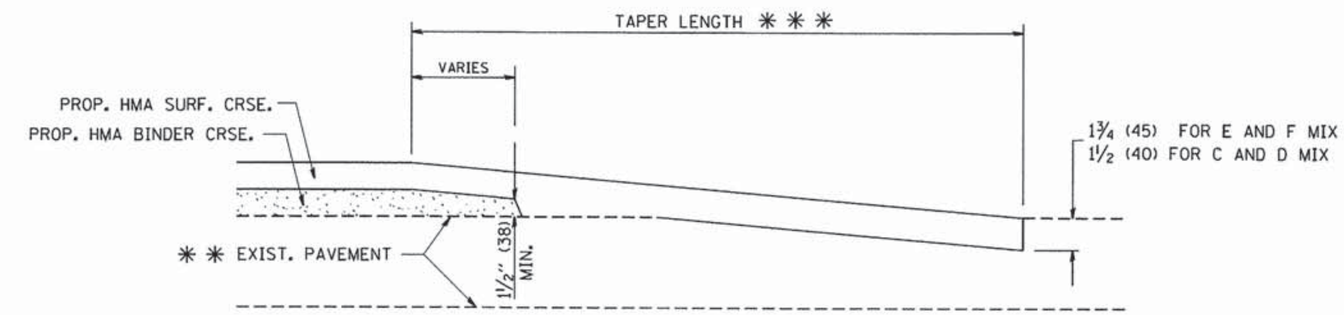


BUTT JOINT AND HMA TAPER

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")

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".

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

FILE NAME = W:\diststd\22x34\bd32.dgn	USER NAME = gaglianobt	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94
		DRAWN -	REVISED - A. ABBAS 03-21-97
	PLOT SCALE = 50.0000 '/ IN.	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 1/4/2008	DATE - 06-13-90	REVISED - R. BORO 01-01-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND HMA TAPER DETAILS

SCALE: NONE	SHEET NO. 1 OF 3 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	07-00086-08-CH	LAKE	183	143
	BD400-05 BD32	CONTRACT NO. 63875		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

750
745
740

47+00.00

STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
RGB S/0.00 GBO SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
RGB S/0.00 GBO SF

STAGE 3
CUT = 6.20 SF
FILL = 20.53 SF
UNSUITABLE = 6.13 SF

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 144 OF 183 SHEETS | STA. 47+00.00 TO STA. 47+00.00

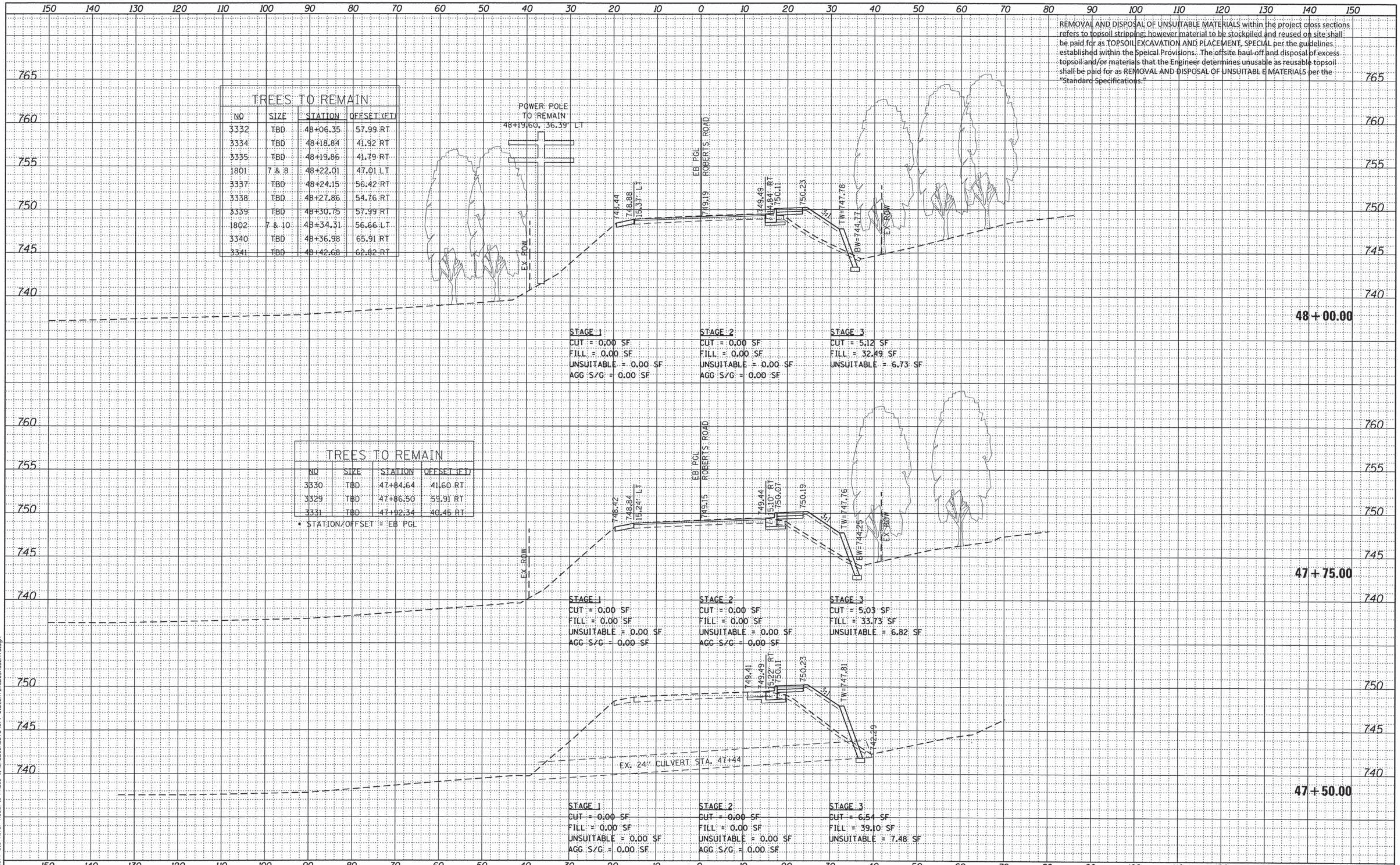
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	144

CONTRACT NO. 63875

ILLINOIS | FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



STA. 48+00.00

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3332	TBD	48+06.35	57.99 RT
3334	TBD	48+18.84	41.92 RT
3335	TBD	48+19.86	41.79 RT
1801	7 & 8	48+22.01	47.01 LT
3337	TBD	48+24.15	56.42 RT
3338	TBD	48+27.86	54.76 RT
3339	TBD	48+30.75	57.99 RT
1802	7 & 10	48+34.31	56.66 LT
3340	TBD	48+36.98	65.91 RT
3341	TBD	48+42.68	62.82 RT

STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 5.12 SF
FILL = 32.49 SF
UNSUITABLE = 6.73 SF

STA. 47+75.00

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3330	TBD	47+84.64	41.60 RT
3329	TBD	47+86.50	55.91 RT
3331	TBD	47+92.34	40.45 RT

• STATION/OFFSET = EB PGL

STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 5.03 SF
FILL = 33.73 SF
UNSUITABLE = 6.82 SF

STA. 47+50.00

STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 6.54 SF
FILL = 39.10 SF
UNSUITABLE = 7.48 SF

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$
PLOT SCALE = $SCALE$
PLOT DATE = 11/6/2013

DESIGNED - GJE
DRAWN - GJE
CHECKED - DBB
DATE - 11/08/2013

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1"=5' VT
SCALE: 1"=10' HZ

ROBERTS ROAD
CROSS SECTIONS

SHEET 145 OF 183 SHEETS | STA. 47+80.00 TO STA. 47+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	145

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

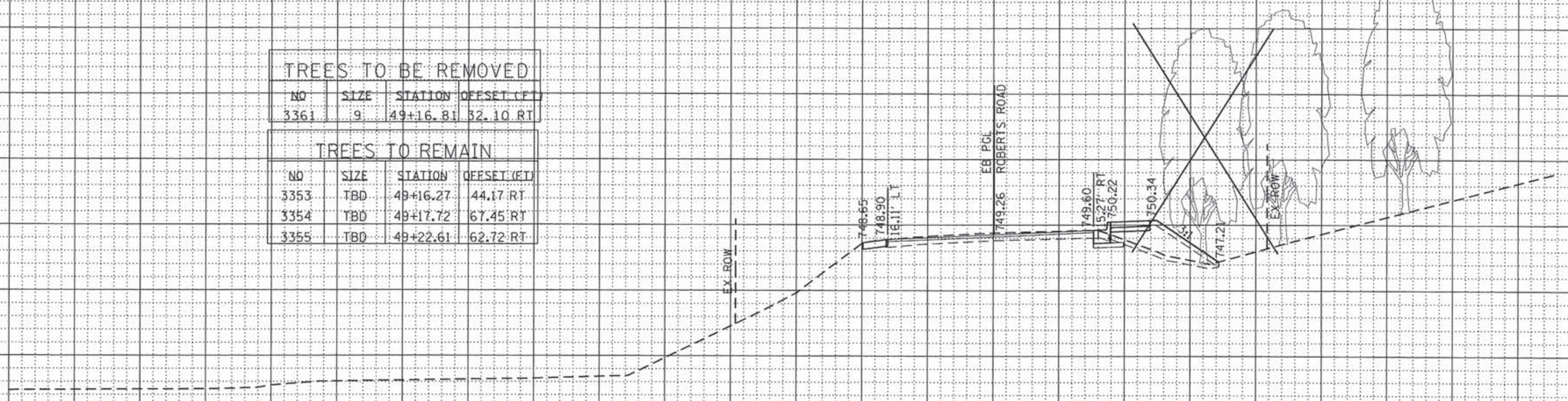
49 + 00.00

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
3361	9	49+16.81	32.10 RT

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3353	TBD	49+16.27	44.17 RT
3354	TBD	49+17.72	67.45 RT
3355	TBD	49+22.61	62.72 RT



STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 3.37 SF
FILL = 22.01 SF
UNSUITABLE = 5.83 SF

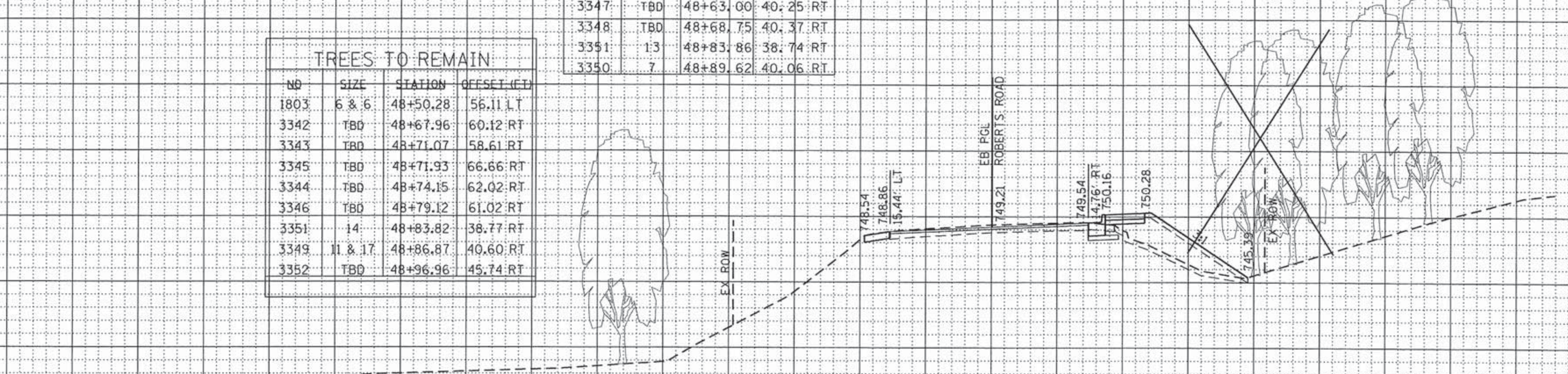
48 + 50.00

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
3347	TBD	48+63.00	40.25 RT
3348	TBD	48+68.75	40.37 RT
3351	13	48+83.86	38.74 RT
3350	7	48+89.62	40.06 RT

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1803	6 & 6	48+50.28	56.11 LT
3342	TBD	48+67.96	60.12 RT
3343	TBD	48+71.07	58.61 RT
3345	TBD	48+71.93	66.66 RT
3344	TBD	48+74.15	62.02 RT
3346	TBD	48+79.12	61.02 RT
3351	14	48+83.82	38.77 RT
3349	11 & 17	48+86.87	40.60 RT
3352	TBD	48+96.96	45.74 RT

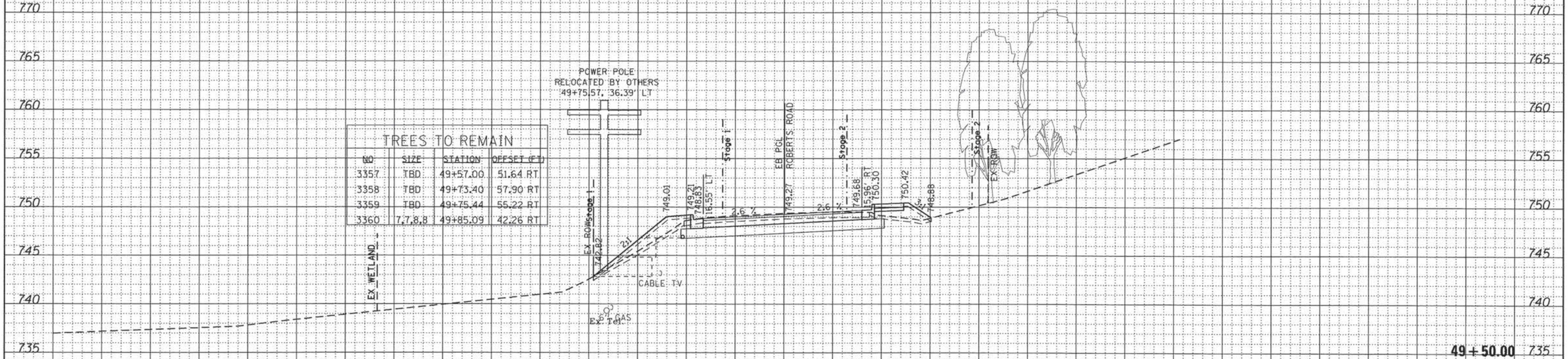


STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 5.14 SF
FILL = 33.07 SF
UNSUITABLE = 7.50 SF

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



TREES TO REMAIN

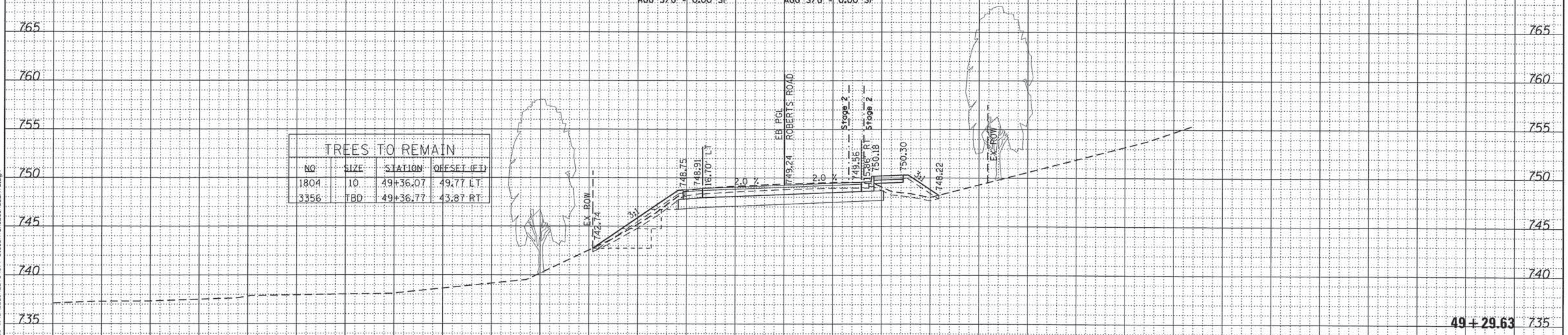
NO	SIZE	STATION	OFFSET (FT)
3357	TBD	49+57.00	51.64 RT
3358	TBD	49+73.40	57.90 RT
3359	TBD	49+75.44	55.22 RT
3360	7,7,8,8	49+85.09	42.26 RT

49 + 50.00

STAGE 1
CUT = 33.37 SF
FILL = 38.36 SF
UNSUITABLE = 7.29 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 46.49 SF
FILL = 1.64 SF
UNSUITABLE = 10.94 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF



TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1804	10	49+36.07	49.77 LT
3356	TBD	49+36.77	43.87 RT

49 + 29.63

STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
PGE = 0.00 SF

STAGE 3
CUT = 80.85 SF
FILL = 42.70 SF
UNSUITABLE = 12.39 SF

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 147 OF 183 SHEETS | STA. 49+29.63 TO STA. 49+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	147

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

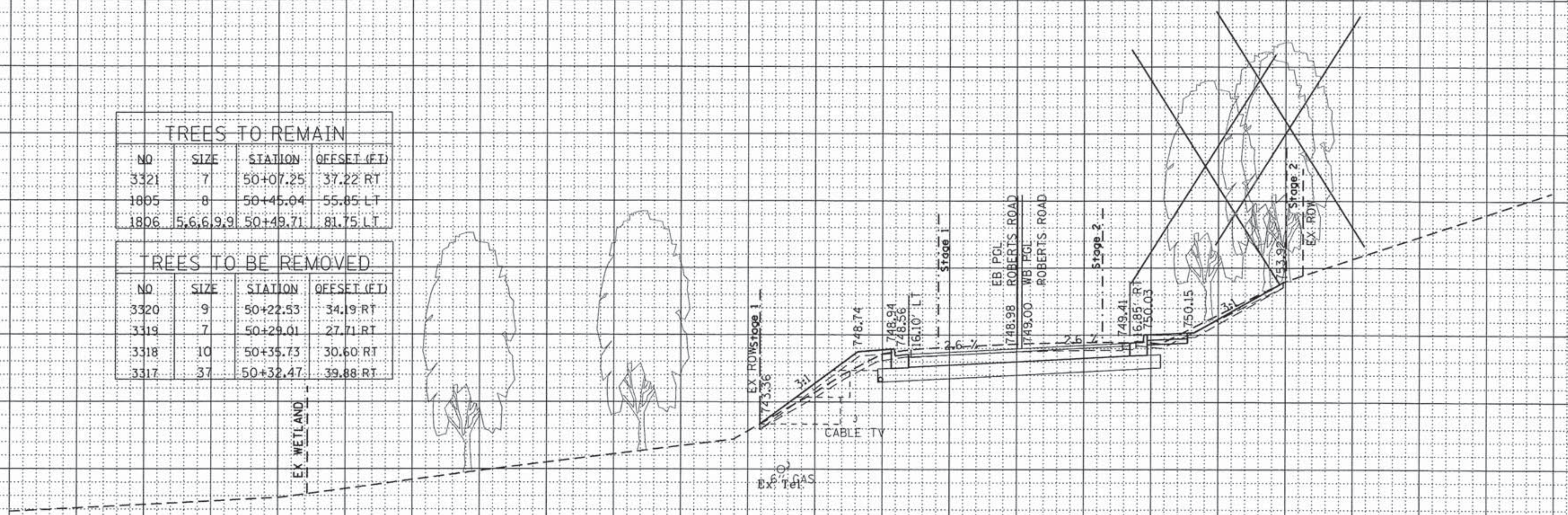
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3321	7	50+07.25	37.22 RT
1805	8	50+45.04	55.85 LT
1806	5,6,6,9,9	50+49.71	81.75 LT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
3320	9	50+22.53	34.19 RT
3319	7	50+29.01	27.71 RT
3318	10	50+35.73	30.60 RT
3317	37	50+32.47	39.88 RT



50+00.00

STAGE 1
CUT = 36.80 SF
FILL = 31.80 SF
UNSUITABLE = 7.01 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 65.69 SF
FILL = 1.83 SF
UNSUITABLE = 8.04 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 148 OF 183 SHEETS | STA. 50+00.00 TO STA. 50+00.00

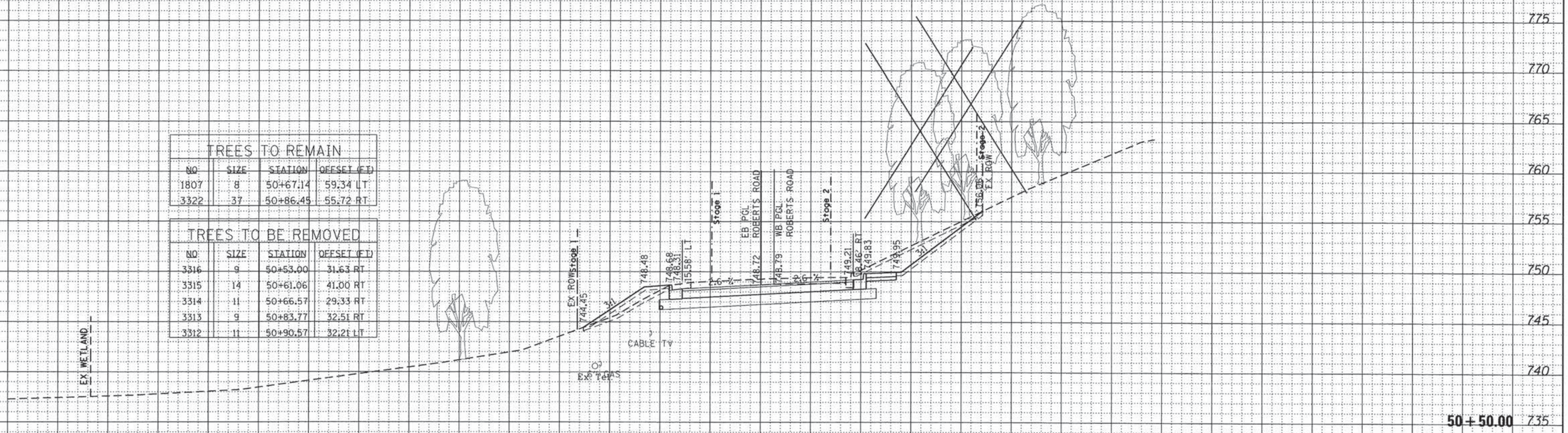
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	148

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1807	8	50+67.14	59.34 LT
3322	37	50+86.45	55.72 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
3316	9	50+53.00	31.63 RT
3315	14	50+61.06	41.00 RT
3314	11	50+66.57	29.33 RT
3313	9	50+83.77	32.51 RT
3312	11	50+90.57	32.21 LT

STAGE 1
CUT = 22.15 SF
FILL = 11.90 SF
UNSUITABLE = 6.38 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 91.28 SF
FILL = 1.56 SF
UNSUITABLE = 10.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 149 OF 183 SHEETS | STA. 50+50.00 TO STA. 50+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	149

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

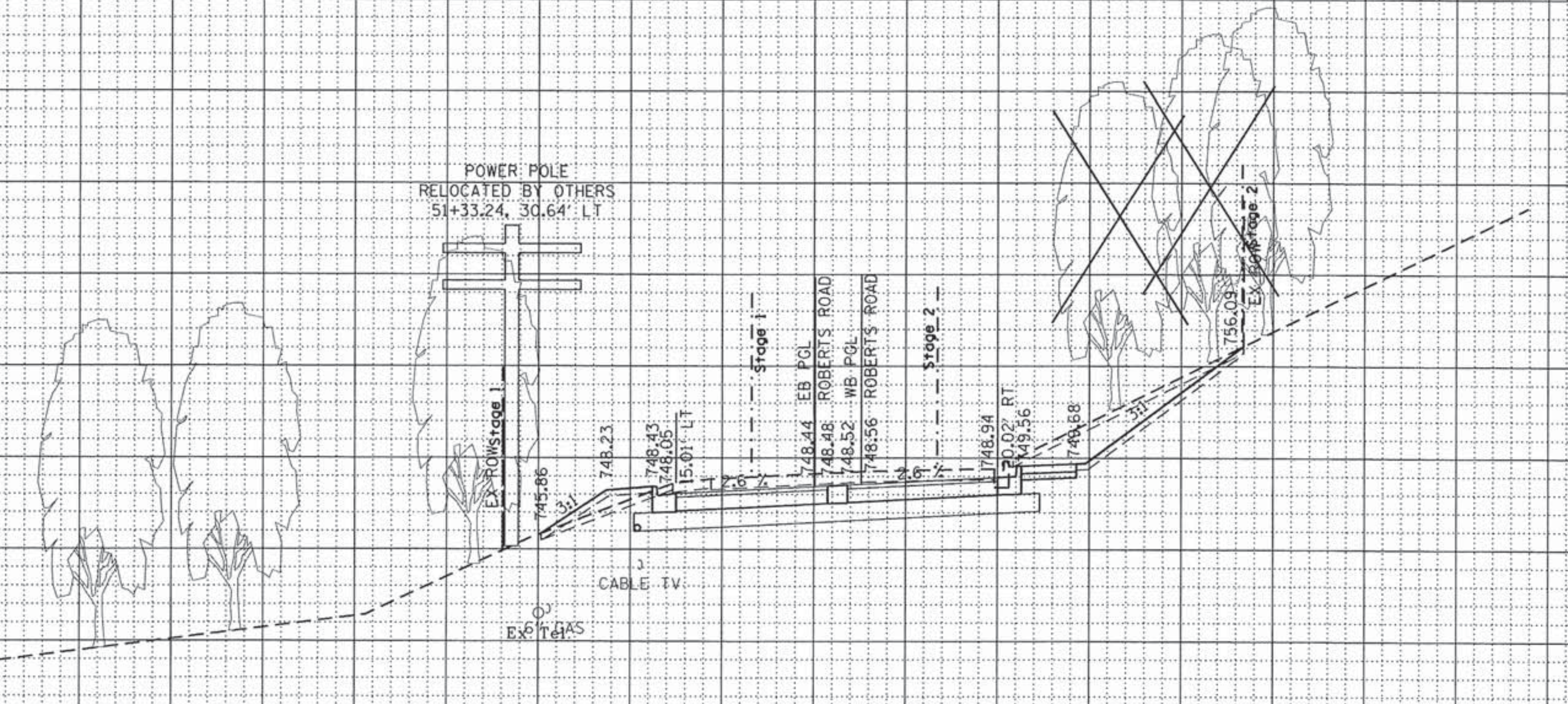
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1808	7	51+05.08	77.83 LT
1809	9	51+11.48	63.04 LT
1810	41	51+14.86	36.94 LT
3307	9	51+45.94	49.34 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
3311	6	51+04.75	43.68 RT
3311	6	51+04.75	43.68 RT
3310	27	51+13.43	37.66 RT
3309	7	51+35.85	40.27 RT
3308	13	51+41.46	32.84 RT



51+00.00

STAGE 1
CUT = 27.66 SF
FILL = 6.55 SF
UNSUITABLE = 15.35 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 93.48 SF
FILL = 1.55 SF
UNSUITABLE = 10.02 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 150 OF 183 SHEETS | STA. 51+00.00 TO STA. 51+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	150

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

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

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

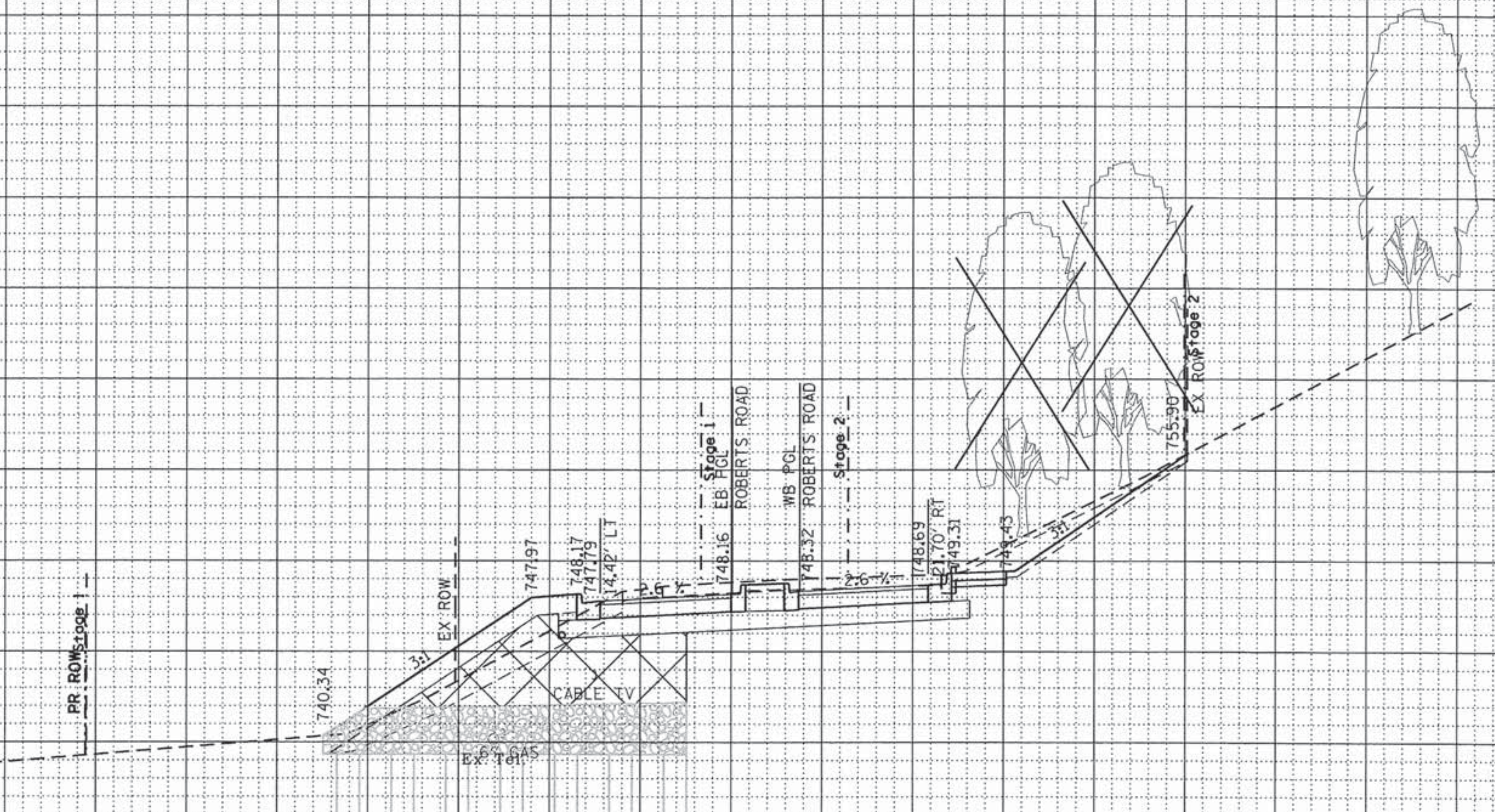
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3323	10	51+81.53	75.26 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
3306	15	51+63.73	32.06 RT
3305	9	51+67.60	45.16 RT
3304	TBD	51+80.94	43.34 RT
3303	36	51+86.45	41.95 RT
3302	9	51+89.13	32.63 RT



51+50.00

STAGE 1
CUT = 181.11 SF
FILL = 0.82 SF
UNSUITABLE = 36.77 SF
AGG S/G = 103.10 SF

STAGE 2
CUT = 82.51 SF
FILL = 6.46 SF
FILL = 6.46 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 151 OF 183 SHEETS | STA. 51+50.00 TO STA. 51+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	151

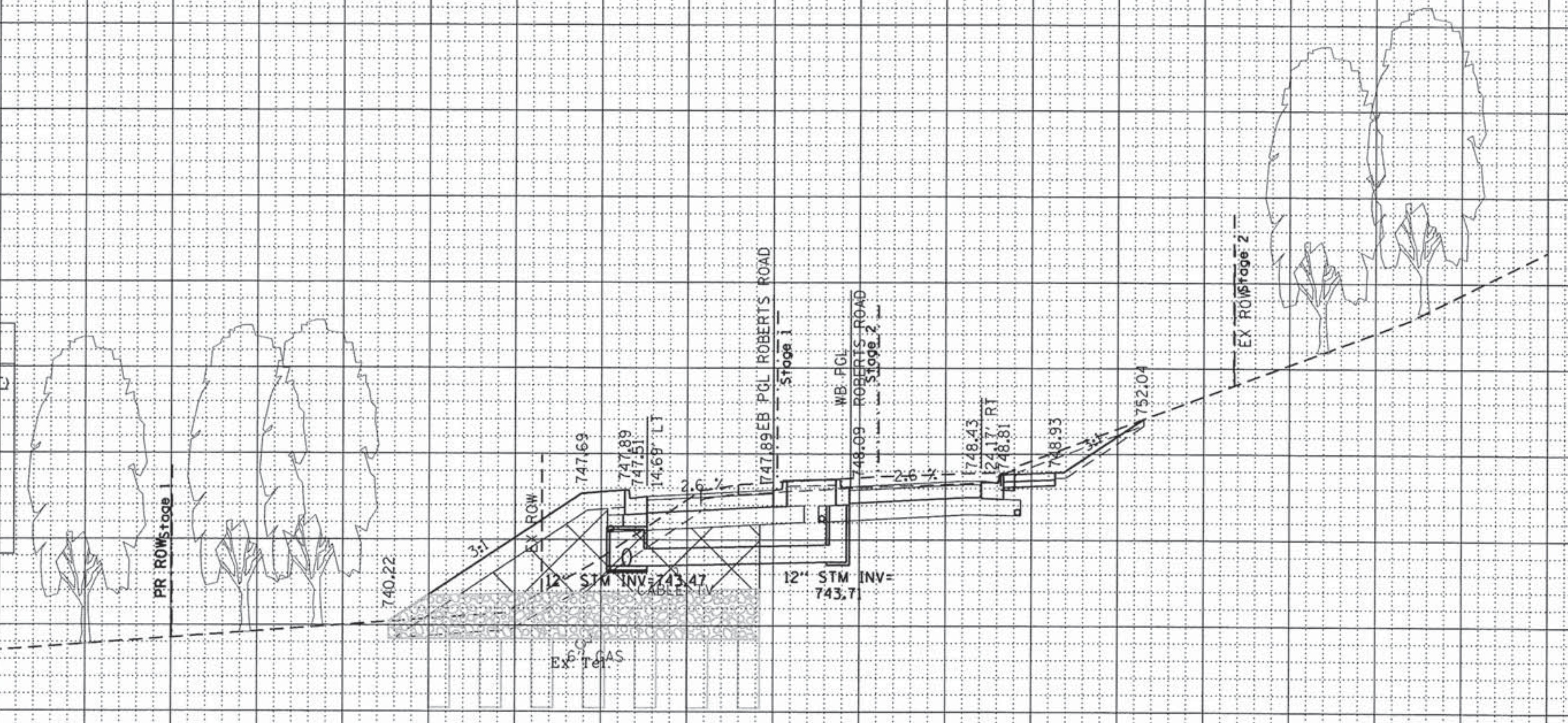
CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3324	7	52+13.78	75.62 RT
3325	8	52+14.19	63.93 RT
1811	13	52+14.46	61.43 LT
3326	7	52+28.30	65.43 RT
1812	9	52+39.67	52.98 LT
1813	8	52+40.59	54.56 LT



52+00.00

STAGE 1
CUT = 151.50 SF
FILL = 0.82 SF
UNSUITABLE = 40.36 SF
AGG S/G = 103.10 SF

STAGE 2
CUT = 65.30 SF
FILL = 9.67 SF
UNSUITABLE = 5.40 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 152 OF 183 SHEETS | STA. 52+00.00 TO STA. 52+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	152

CONTRACT NO. 63875

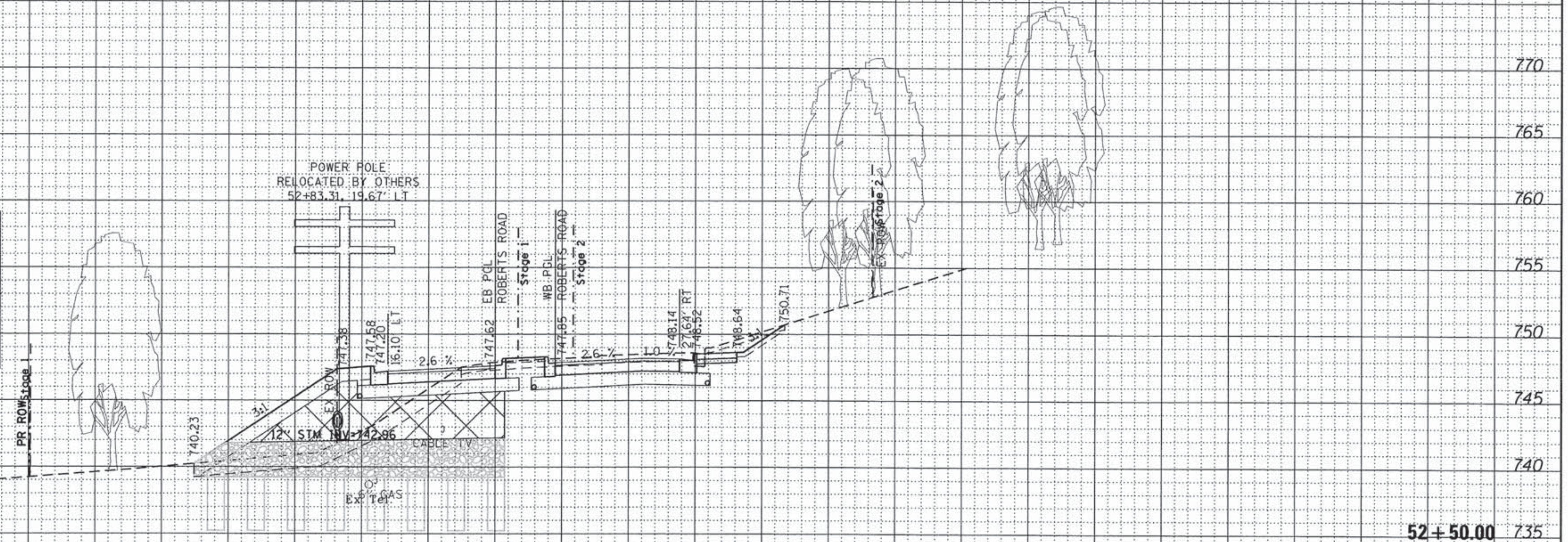
ILLINOIS FED. AID PROJECT

FILE NAME = FA877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3327	18,24,28	52+76.91	57.27 RT
3301	22	52+64.11	52.00 RT
1883	10	52+66.05	84.02 RT
1815	13	52+76.91	57.27 LT
1882	7	52+94.71	81.66 RT



STAGE 1
CUT = 143.85 SF
FILL = 0.82 SF
UNSUITABLE = 43.66 SF
AGG S/G = 110.92 SF

STAGE 2
CUT = 58.54 SF
FILL = 10.02 SF
UNSUITABLE = 4.21 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 153 OF 183 SHEETS | STA. 52+50.00 TO STA. 52+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	153

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010-SHT_XSEC_ROBERTS.dgn

ORIGINAL SURVEY / FINAL SURVEY: SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

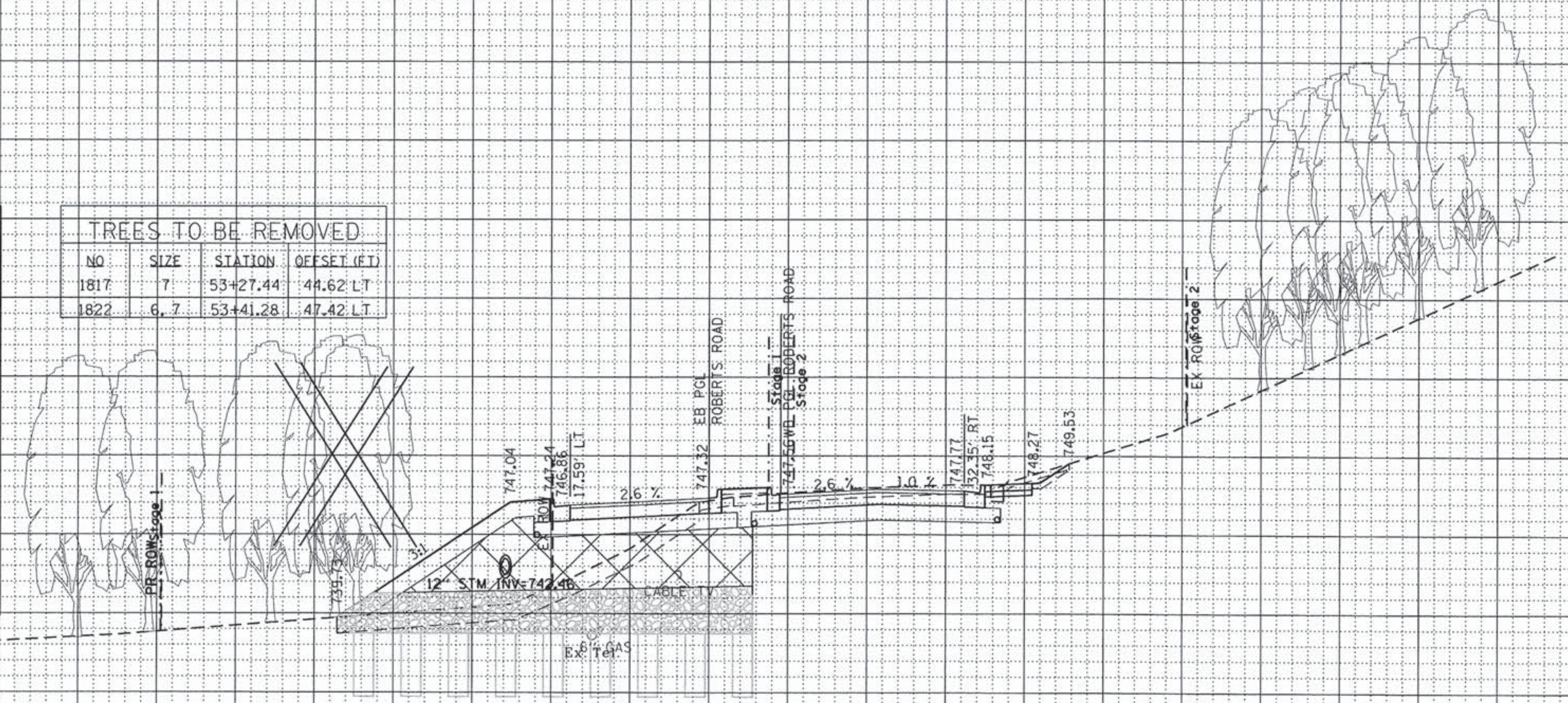
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1820	10	53+01.28	55.50 LT
1881	7	53+03.00	75.79 RT
1878	11, 14	53+24.72	90.05 RT
1879	9	53+30.05	73.62 RT
1818	7	53+31.23	82.14 LT
1819	6,6	53+33.90	71.00 LT
1876	7	53+35.02	89.60 RT
1880	10	53+35.20	70.20 RT
1875	19, 19	53+36.25	81.91 RT
1877	11	53+37.96	97.67 RT
1874	20	53+41.18	82.97 RT
1873	9	53+42.98	70.29 RT
1821	7	53+47.06	80.11 LT
1872	7	53+48.08	76.47 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1817	7	53+27.44	44.62 LT
1822	6, 7	53+41.28	47.42 LT



53+00.00

STAGE 1
CUT = 155.47 SF
FILL = 9.30 SF
UNSUITABLE = 49.25 SF
AGG S/G = 114.71 SF

STAGE 2
CUT = 50.27 SF
FILL = 1.57 SF
UNSUITABLE = 2.97 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 154 OF 183 SHEETS | STA. 53+00.00 TO STA. 53+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	154

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

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

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010.SHT_XSEC-ROBERTS.dgn

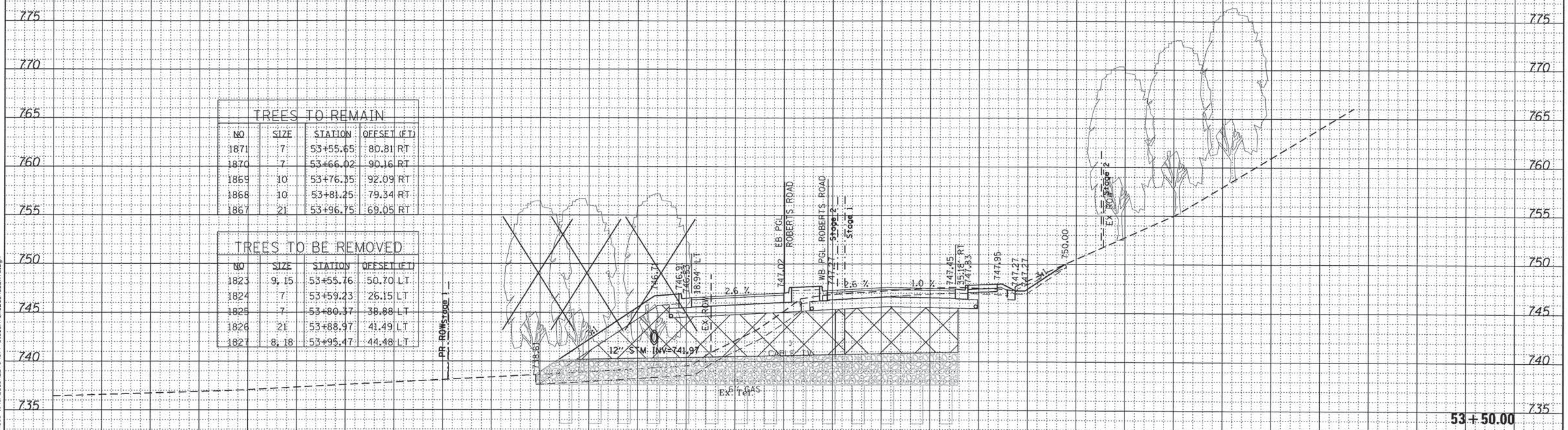
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1871	7	53+55.65	80.81 RT
1870	7	53+66.02	90.16 RT
1869	10	53+76.35	92.09 RT
1868	10	53+81.25	79.34 RT
1867	21	53+96.75	69.05 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1823	9, 15	53+55.76	50.70 LT
1824	7	53+59.23	26.15 LT
1825	7	53+80.37	38.88 LT
1826	21	53+88.97	41.49 LT
1827	8, 18	53+95.47	44.48 LT



53+50.00

STAGE 1
CUT = 186.37 SF
FILL = 9.22 SF
UNSUITABLE = 58.11 SF
AGG S/G = 141.04 SF

STAGE 2
CUT = 223.58 SF
FILL = 5.12 SF
UNSUITABLE = 3.87 SF
AGG S/G = 108.92 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$
PLOT SCALE = $SCALE$
PLOT DATE = 11/6/2013

DESIGNED - GJE
DRAWN - GJE
CHECKED - DBB
DATE - 11/08/2013

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 155 OF 183 SHEETS | STA. 53+50.00 TO STA. 53+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	155

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

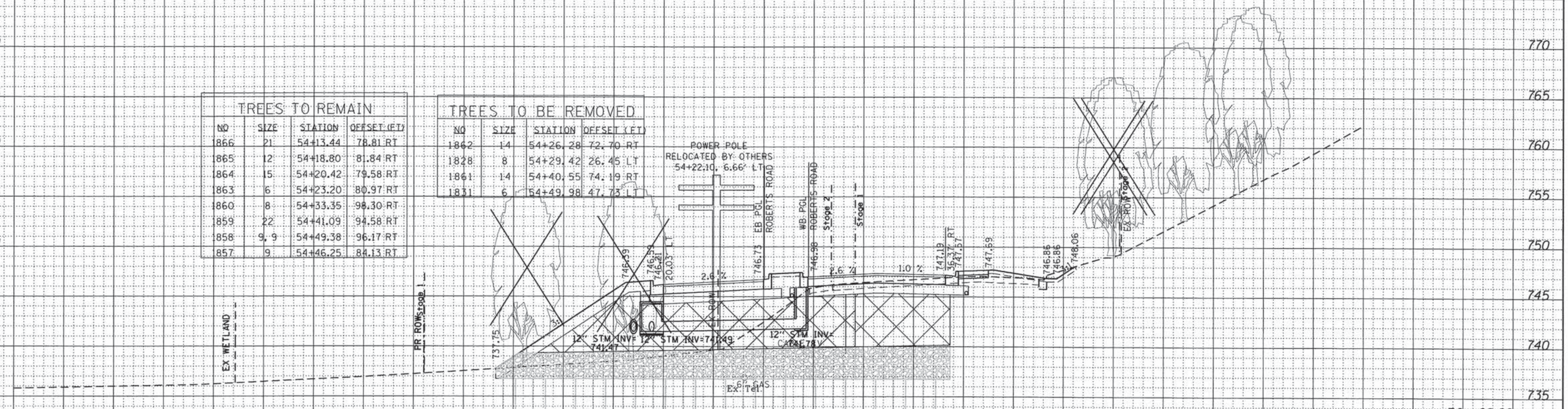
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1866	21	54+13.44	78.81 RT
1865	12	54+18.80	81.84 RT
1864	15	54+20.42	79.58 RT
1863	6	54+23.20	80.97 RT
1860	8	54+33.35	98.30 RT
1859	22	54+41.09	94.58 RT
1858	9, 9	54+49.38	96.17 RT
1857	9	54+46.25	84.13 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1862	14	54+26.28	72.70 RT
1828	8	54+29.42	26.45 LT
1861	14	54+40.55	74.19 RT
1831	6	54+49.98	47.73 LT



54 + 00.00

STAGE 1
CUT = 203.18 SF
FILL = 9.09 SF
UNSUITABLE = 66.65 SF
AGG S/G = 214.54 SF

STAGE 2
CUT = 183.66 SF
FILL = 11.32 SF
UNSUITABLE = 2.02 SF
AGG S/G = 99.45 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
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	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 156 OF 183 SHEETS | STA. 54+00.00 TO STA. 54+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	156

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

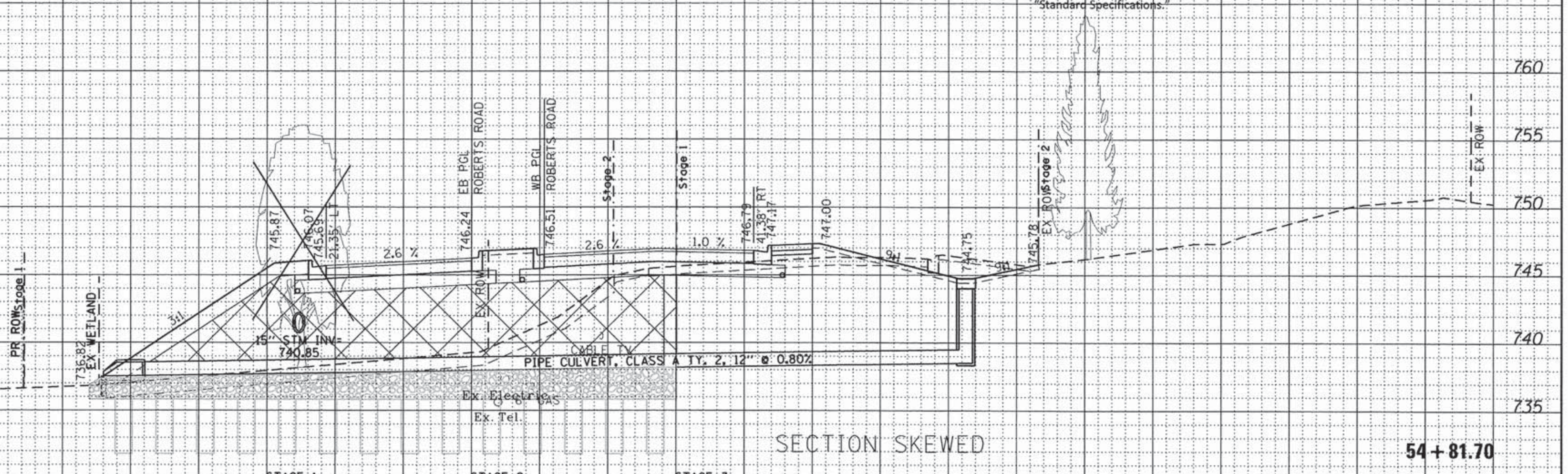
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
TBD	10	54+80.90	90.56 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
835	7	54+92.68	24.93 LT



54 + 81.70

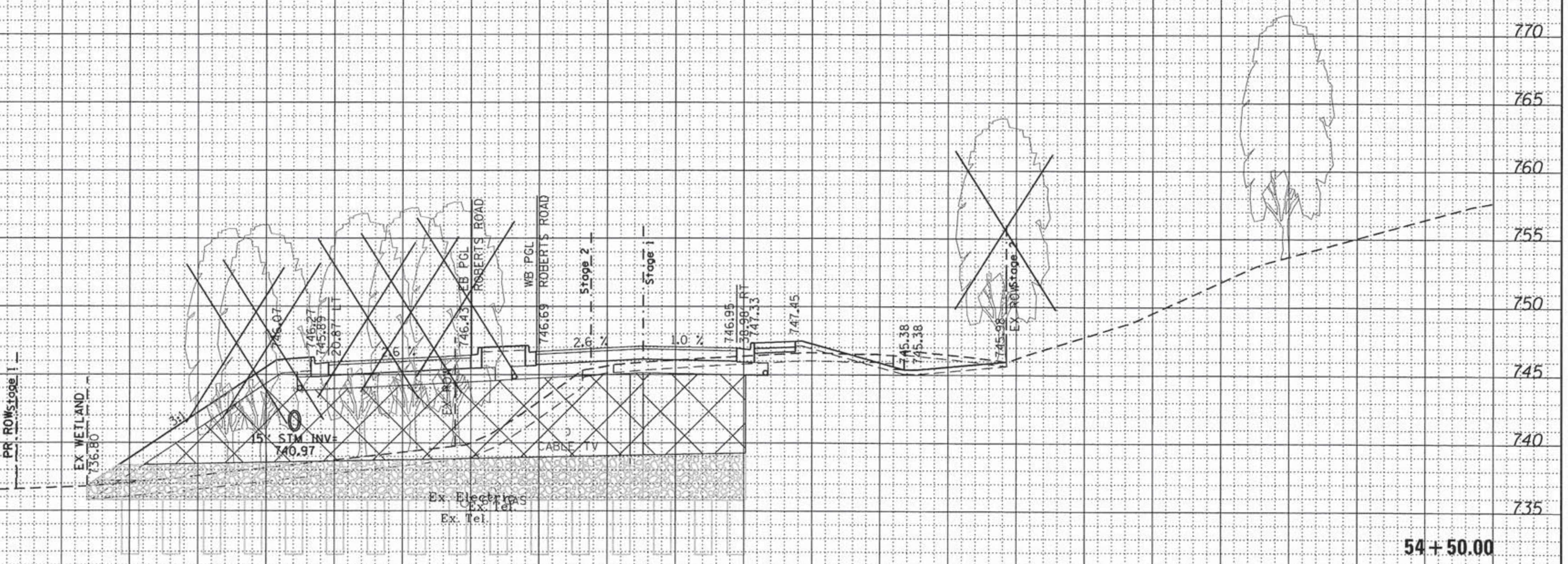
STAGE 1	STAGE 2	STAGE 3
CUT = 249.95 SF	CUT = 22.64 SF	CUT = 0.00 SF
FILL = 12.75 SF	FILL = 12.74 SF	FILL = 0.00 SF
UNSUITABLE = 80.21 SF	UNSUITABLE = 4.95 SF	UNSUITABLE = 0.00 SF
AGG S/G = 365.52 SF	AGG S/G = 0.00 SF	

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3952	14	54+65.14	119.50 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
829	9	54+51.20	30.37 LT
856	11	54+53.54	79.11 RT
830	7, 13	54+57.40	35.21 LT
832	7, 8	54+60.93	8.51 LT
833	9	54+69.70	15.86 LT
834	7, 9	54+78.58	2.22 LT



54 + 50.00

STAGE 1	STAGE 2	STAGE 3
CUT = 258.16 SF	CUT = 162.96 SF	CUT = 0.00 SF
FILL = 10.58 SF	FILL = 9.99 SF	FILL = 0.00 SF
UNSUITABLE = 76.11 SF	UNSUITABLE = 5.04 SF	UNSUITABLE = 0.00 SF
AGG S/G = 279.53 SF	AGG S/G = 88.03 SF	

FILE NAME = Fx877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -
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PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 157 OF 183 SHEETS | STA. 54+50.00 TO STA. 54+81.70

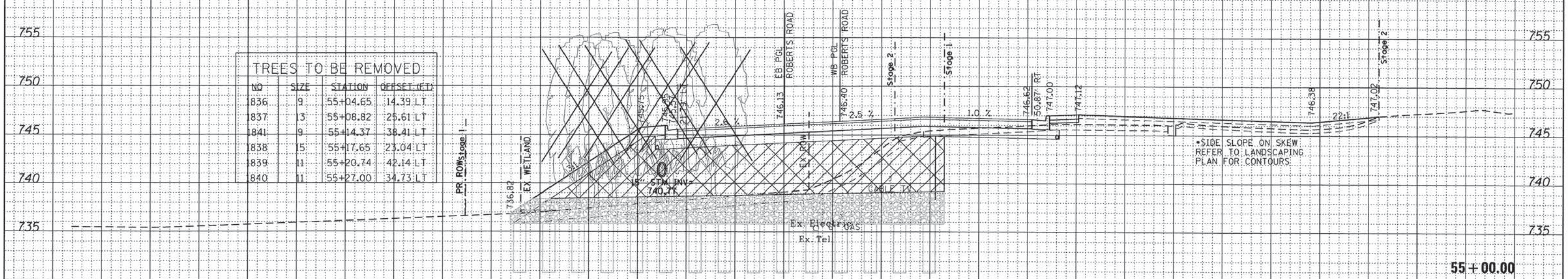
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	157

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1836	9	55+04.65	14.39 LT
1837	13	55+08.82	25.61 LT
1841	9	55+14.37	38.41 LT
1838	15	55+17.65	23.04 LT
1839	11	55+20.74	42.14 LT
1840	11	55+27.00	34.73 LT

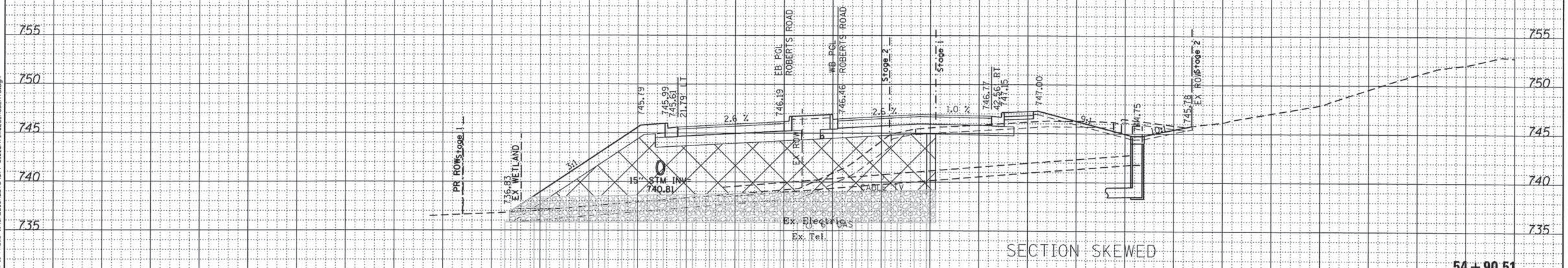


55+00.00

STAGE 1
CUT = 249.26 SF
FILL = 0.83 SF
UNSUITABLE = 83.00 SF
AGG S/G = 382.58 SF

STAGE 2
CUT = 12.29 SF
FILL = 52.71 SF
UNSUITABLE = 14.09 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF



SECTION SKEWED

54+90.51

STAGE 1
CUT = 247.49 SF
FILL = 13.54 SF
UNSUITABLE = 81.57 SF
AGG S/G = 459.16 SF

STAGE 2
CUT = 22.64 SF
FILL = 12.30 SF
UNSUITABLE = 4.91 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 158 OF 183 SHEETS | STA. 54+90.51 TO STA. 55+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	158

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

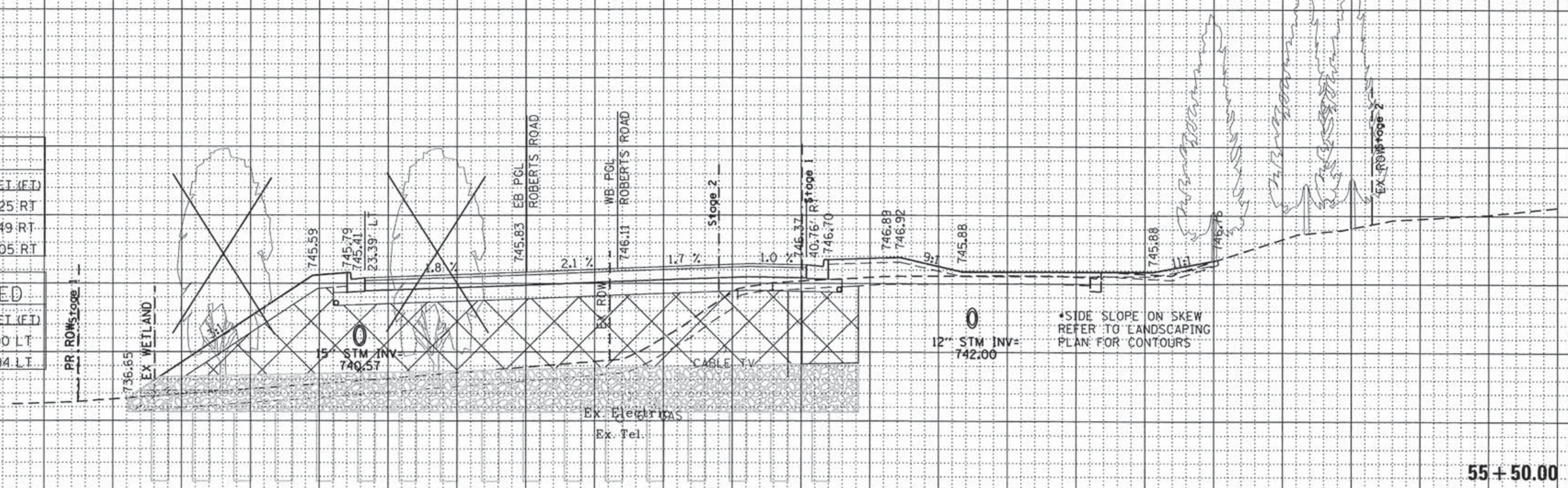
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
TBD	TBD	55+59.48	120.25 RT
TBD	TBD	55+60.89	113.49 RT
TBD	TBD	55+72.87	100.05 RT

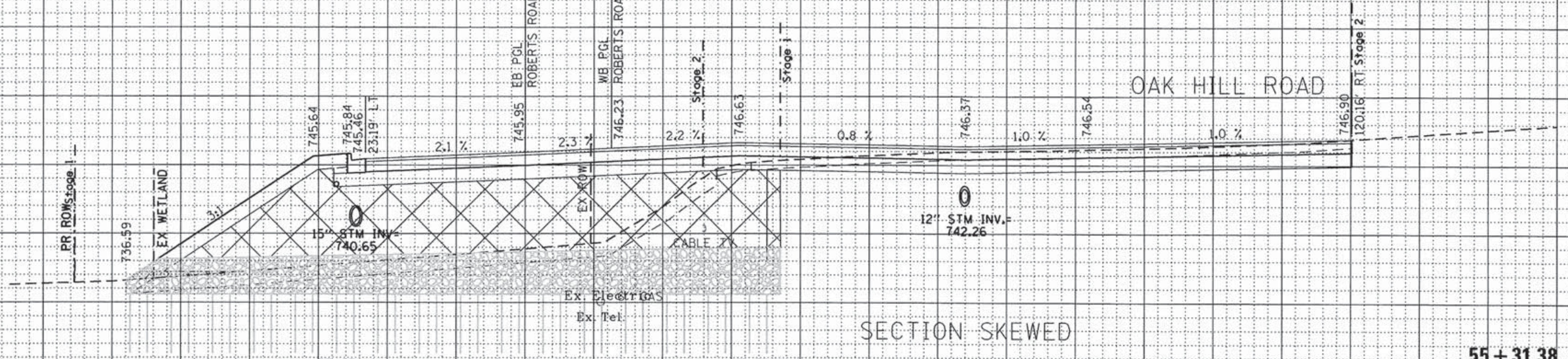
TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1844	12	55+67.41	13.00 LT
1842	24	55+71.30	43.94 LT



55 + 50.00

STAGE 1	STAGE 2	STAGE 3
CUT = 268.09 SF	CUT = 74.14 SF	CUT = 0.00 SF
FILL = 0.83 SF	FILL = 41.17 SF	FILL = 0.00 SF
UNSUITABLE = 91.68 SF	UNSUITABLE = 5.86 SF	UNSUITABLE = 0.00 SF
AGG S/G = 424.37 SF	AGG S/G = 43.66 SF	



55 + 31.38

STAGE 1	STAGE 2	STAGE 3
CUT = 263.82 SF	CUT = 75.54 SF	CUT = 0.00 SF
FILL = 0.83 SF	FILL = 0.00 SF	FILL = 0.00 SF
UNSUITABLE = 89.11 SF	UNSUITABLE = 0.00 SF	UNSUITABLE = 0.00 SF
AGG S/G = 390.39 SF	AGG S/G = 0.00 SF	

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
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	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 159 OF 183 SHEETS | STA. 55+31.38 TO STA. 55+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	159

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

FILE NAME = F:\077-010 River Roberts Phase II\CADD\SHEETS\077-010_SHT_XSEC_ROBERTS.dgn

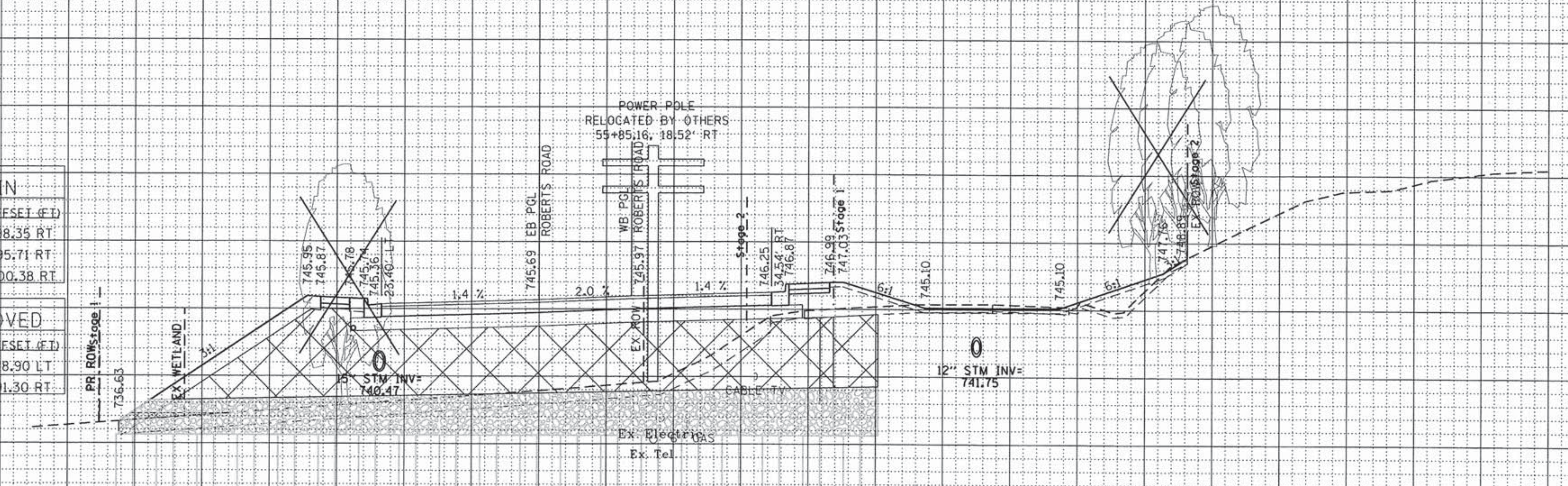
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3390	15	55+80.07	98.35 RT
3389	15	55+88.23	95.71 RT
3387	18	55+94.78	100.38 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1843	9	55+77.98	28.90 LT
3388	29	55+99.03	91.30 RT



STAGE 1
CUT = 287.46 SF
FILL = 11.23 SF
UNSUITABLE = 99.55 SF
AGG S/G = 428.09 SF

STAGE 2
CUT = 59.48 SF
FILL = 30.14 SF
UNSUITABLE = 7.10 SF
AGG S/G = 34.93 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

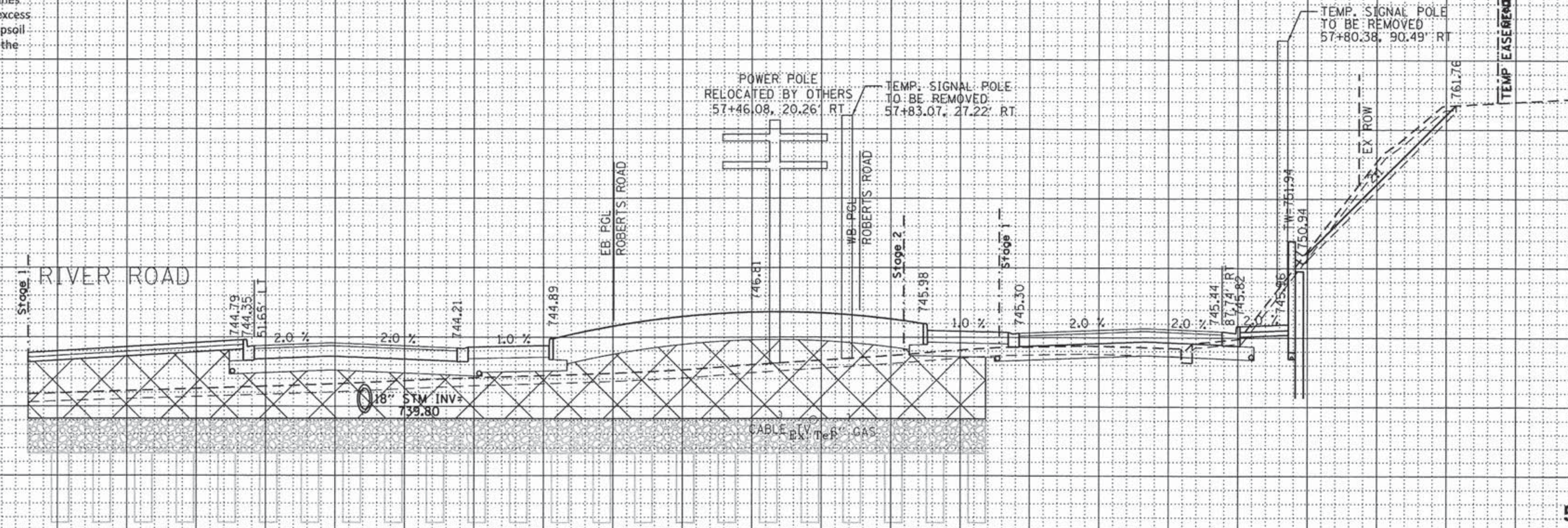
1"=5' VT
SCALE: 1"=10' HZ | SHEET 160 OF 183 SHEETS | STA. 55+75.00 TO STA. 55+75.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	160

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



57+00.00

STAGE 1
CUT = 697.13 SF
FILL = 1.65 SF
UNSUITABLE = 0.00 SF
AGG S/G = 503.30 SF

STAGE 2
CUT = 56.24 SF
FILL = 10.68 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

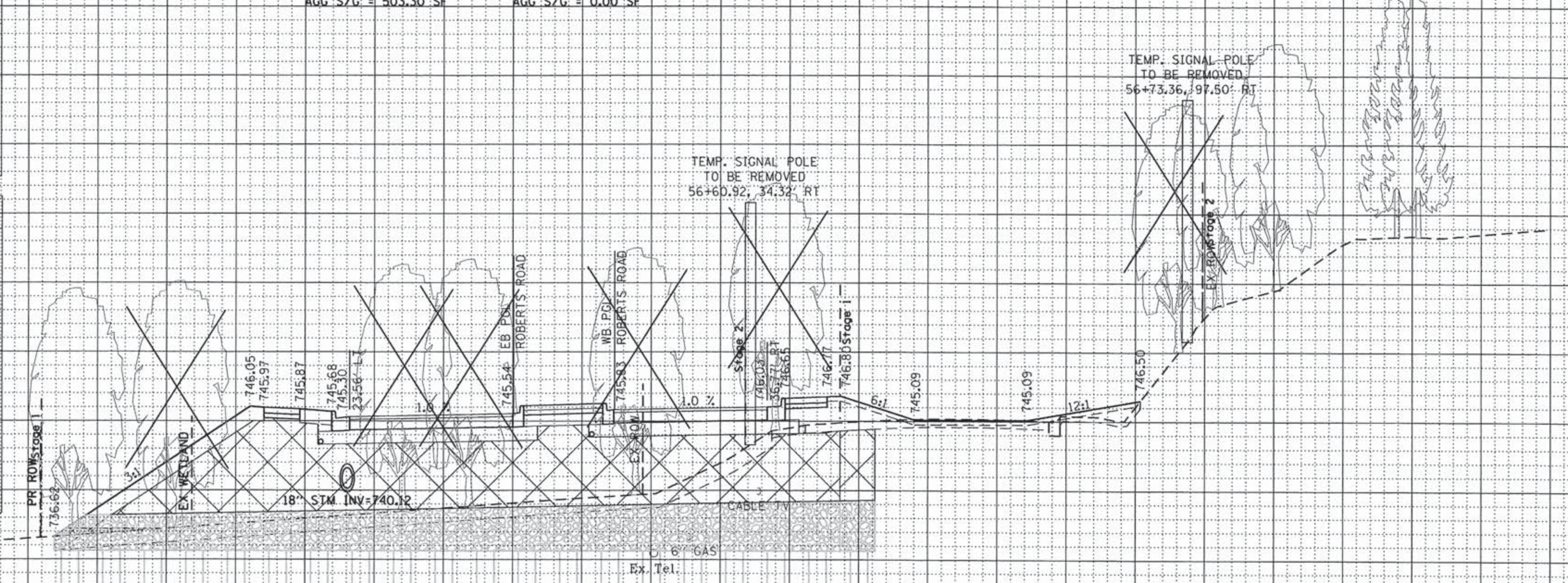
STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3386	17	56+08.07	102.14 RT
3385	12	56+08.41	96.22 RT
3384	15	56+13.21	104.34 RT
3383	8	56+20.41	97.61 RT
TBD	TBD	56+79.41	130.93 RT
TBD	TBD	56+94.44	127.76 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1845	9	56+02.70	6.31 LT
1846	13	56+17.55	3.04 LT
1854	14	56+18.21	48.20 LT
1849	8,17	56+22.75	5.25 LT
1850	TBD	56+24.36	15.92 LT
1847	8	56+28.45	17.79 RT
3382	8	56+34.43	110.36 RT
1848	8	56+41.72	16.55 RT
1851	7	56+47.17	37.86 RT
1852	6,7,8	56+50.33	48.70 LT
1853	7,9	56+53.12	63.15 LT
3381	11	56+64.25	110.38 RT



56+00.00

STAGE 1
CUT = 310.88 SF
FILL = 23.77 SF
UNSUITABLE = 106.15 SF
AGG S/G = 465.97 SF

STAGE 2
CUT = 44.10 SF
FILL = 26.62 SF
UNSUITABLE = 4.39 SF
AGG S/G = 25.66 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

FILE NAME = F:\077-010 River Roberts Phase II\CADD_SHEETS\077-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -
	DRAWN - GJE	REVISED -
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 161 OF 183 SHEETS | STA. 56+00.00 TO STA. 57+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	161

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

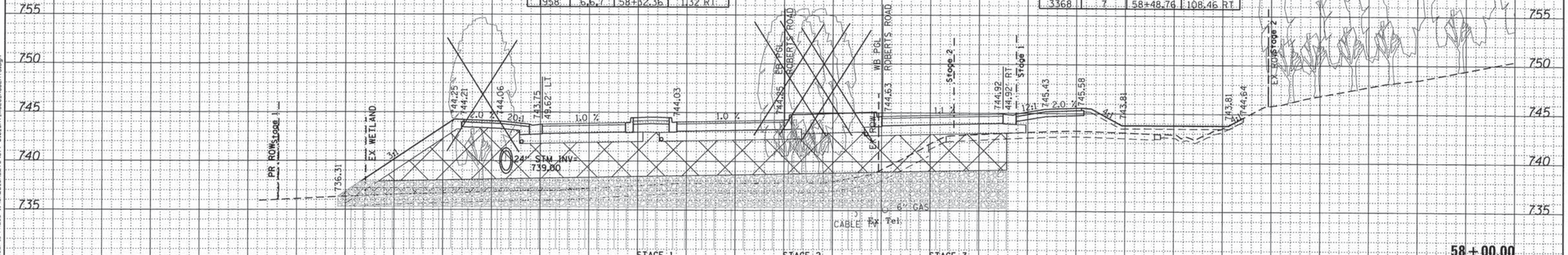
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
2148	6	58+15.29	4.06 RT
2132	6	58+15.76	62.07 LT
1959	8	58+20.33	7.63 RT
1957	8	58+32.15	1.94 LT
1958	6,6,7	58+32.36	1.32 RT

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1999	24	58+04.51	124.61 RT
3362	8	58+05.02	104.11 RT
1998	26	58+06.12	139.03 RT
3363	19	58+19.29	106.46 RT
3365	9	58+22.05	116.98 RT
3364	9	58+30.16	106.16 RT
3375	21	58+37.30	153.25 RT
3366	11	58+42.94	129.29 RT
3367	22	58+47.53	109.41 RT
3368	7	58+48.76	108.46 RT



STAGE 1
CUT = 259.97 SF
FILL = 25.00 SF
UNSUITABLE = 122.87 SF
AGG S/G = 600.95 SF

STAGE 2
CUT = 0.00 SF
FILL = 63.85 SF
UNSUITABLE = 6.16 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

58 + 00.00

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

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

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1"=5' VT
SCALE: 1"=10' HZ | SHEET 162 OF 183 SHEETS | STA. 58+00.00 TO STA. 58+00.00

ROBERTS ROAD
CROSS SECTIONS

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	162

CONTRACT NO. 63875

ILLINOIS | FED. AID PROJECT

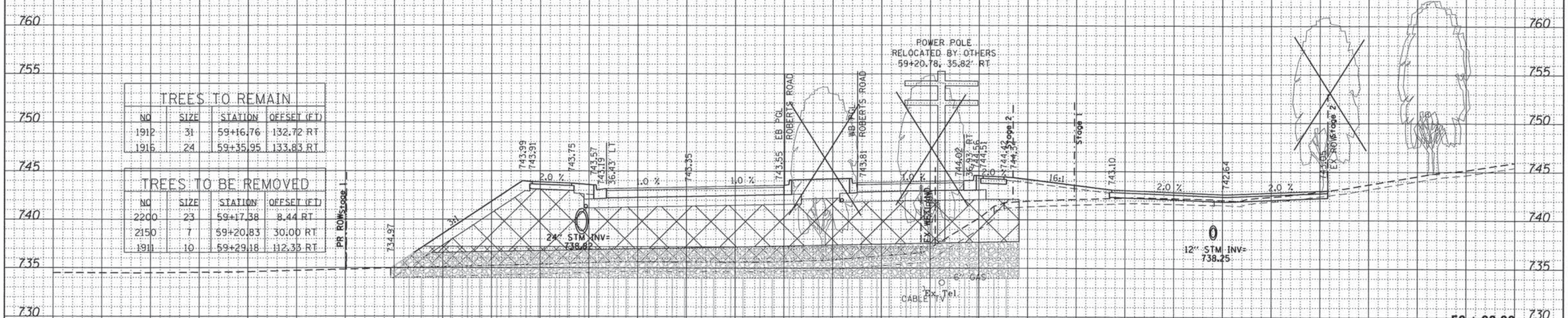
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1912	31	59+16.76	132.72 RT
1916	24	59+35.95	133.83 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
2200	23	59+17.38	8.44 RT
2150	7	59+20.83	30.00 RT
1911	10	59+29.18	112.33 RT



STAGE 1
CUT = 160.09 SF
FILL = 38.13 SF
UNSUITABLE = 126.70 SF
AGG S/G = 504.66 SF

STAGE 2
CUT = 12.47 SF
FILL = 21.38 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

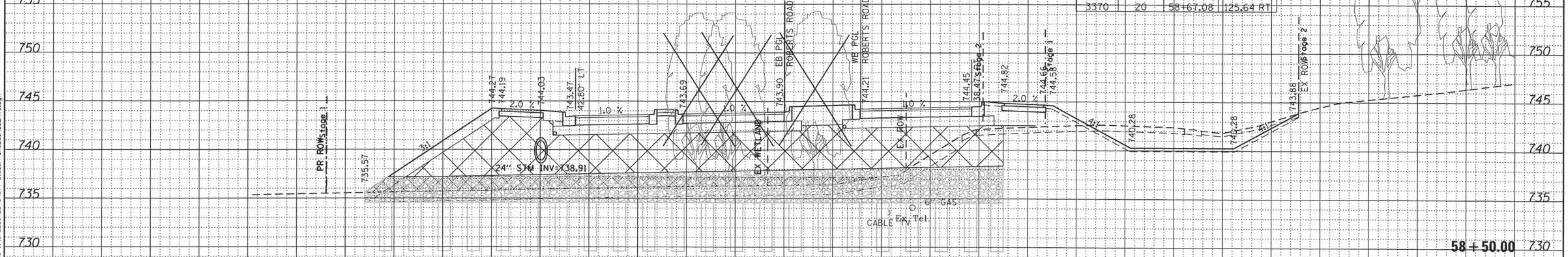
STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
2149	6.8	58+53.67	6.59 RT
1955	10	58+62.67	10.93 LT
1956	9	58+63.31	17.58 LT
2199	7	58+88.92	10.73 LT

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
3374	12	58+55.10	146.47 RT
3371	10	58+59.93	140.45 RT
3369	7	58+60.54	123.70 RT
3373	15	58+62.93	148.55 RT
3372	9	58+63.92	146.19 RT
3370	20	58+67.08	125.64 RT



STAGE 1
CUT = 171.90 SF
FILL = 20.76 SF
UNSUITABLE = 124.99 SF
AGG S/G = 481.22 SF

STAGE 2
CUT = 59.63 SF
FILL = 13.20 SF
UNSUITABLE = 6.83 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$
PLOT SCALE = $SCALE$
PLOT DATE = 11/6/2013

DESIGNED - GJE
DRAWN - GJE
CHECKED - DBB
DATE - 11/08/2013

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 163 OF 183 SHEETS | STA. 58+50.00 TO STA. 59+00.00

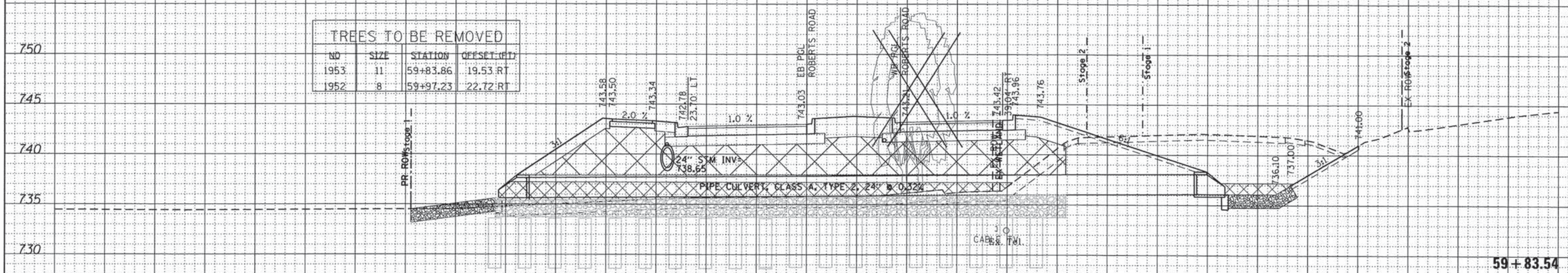
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	163

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1953	11	59+83.86	19.53 RT
1952	8	59+97.23	22.72 RT



59 + 83.54

STAGE 1
CUT = 141.22 SF
FILL = 23.87 SF
UNSUITABLE = 117.16 SF
AGG S/G = 498.98 SF

STAGE 2
CUT = 146.17 SF
FILL = 13.25 SF
UNSUITABLE = 3.87 SF
AGG S/G = 0.00 SF

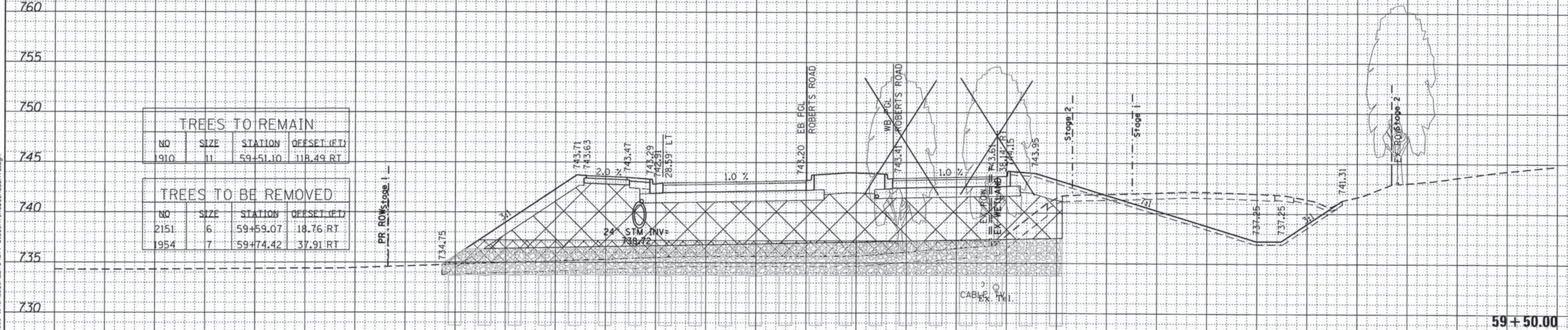
STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1910	11	59+51.10	118.49 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
2151	6	59+59.07	18.76 RT
1954	7	59+74.42	37.91 RT



59 + 50.00

STAGE 1
CUT = 154.16 SF
FILL = 24.36 SF
UNSUITABLE = 123.93 SF
AGG S/G = 527.26 SF

STAGE 2
CUT = 117.25 SF
FILL = 0.00 SF
UNSUITABLE = 3.44 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

FILE NAME = F:\B77-010 River Roberts Phase II\CADD_SHEETS\B77-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
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PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

SCALE: 1"=10' HZ, 1"=5' VT | SHEET 164 OF 183 SHEETS | STA. 59+50.00 TO STA. 59+83.54

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	164

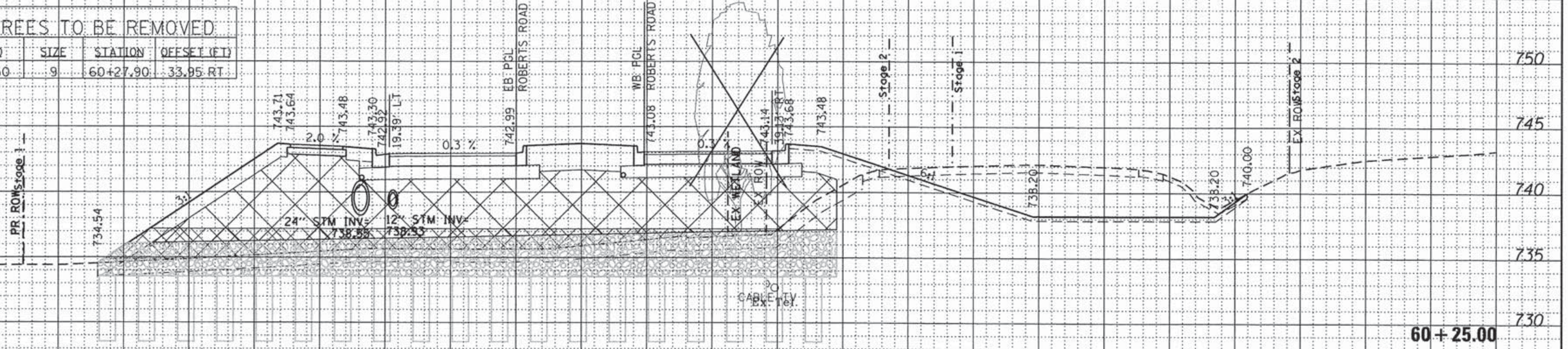
CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1950	9	60+27.90	33.95 RT



60+25.00

STAGE 1
CUT = 154.24 SF
FILL = 25.97 SF
UNSUITABLE = 120.14 SF
AGG S/G = 472.77 SF

STAGE 2
CUT = 128.83 SF
FILL = 0.00 SF
UNSUITABLE = 5.05 SF
AGG S/G = 0.00 SF

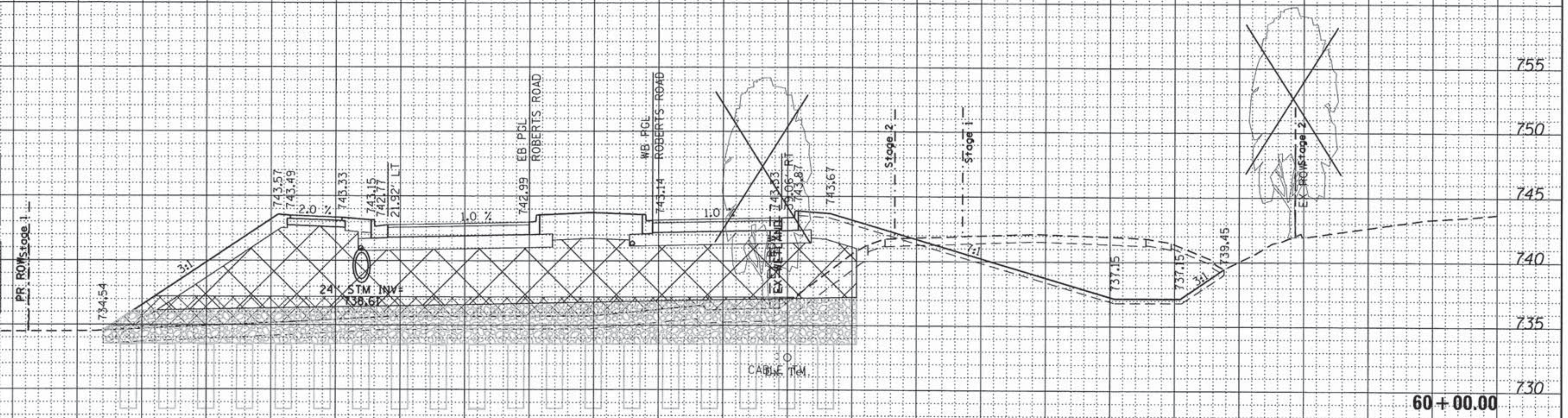
STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1909	12	60+06.38	121.07 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1951	10	60+03.25	36.55 RT



60+00.00

STAGE 1
CUT = 152.93 SF
FILL = 26.11 SF
UNSUITABLE = 122.18 SF
AGG S/G = 602.21 SF

STAGE 2
CUT = 132.58 SF
FILL = 0.00 SF
UNSUITABLE = 3.08 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

SCALE: 1"=10' HZ 1"=5' VT | SHEET 165 OF 183 SHEETS | STA. 60+00.00 TO STA. 60+25.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	165

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

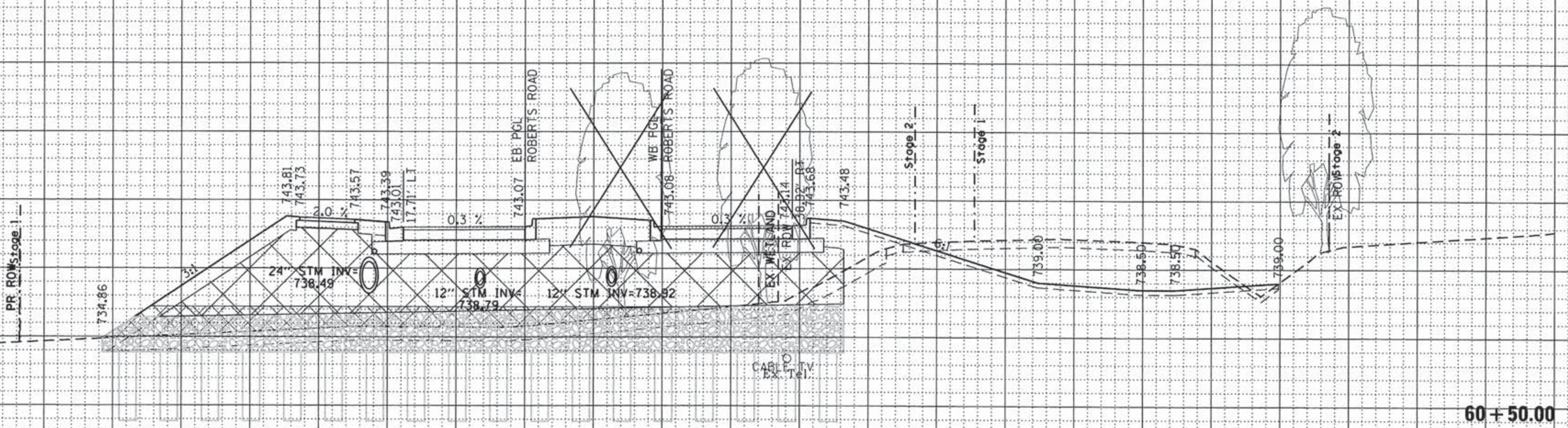
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1908	10	60+74.32	116.48 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1946	9	60+68.99	14.12 RT
1948	7	60+72.41	34.70 RT

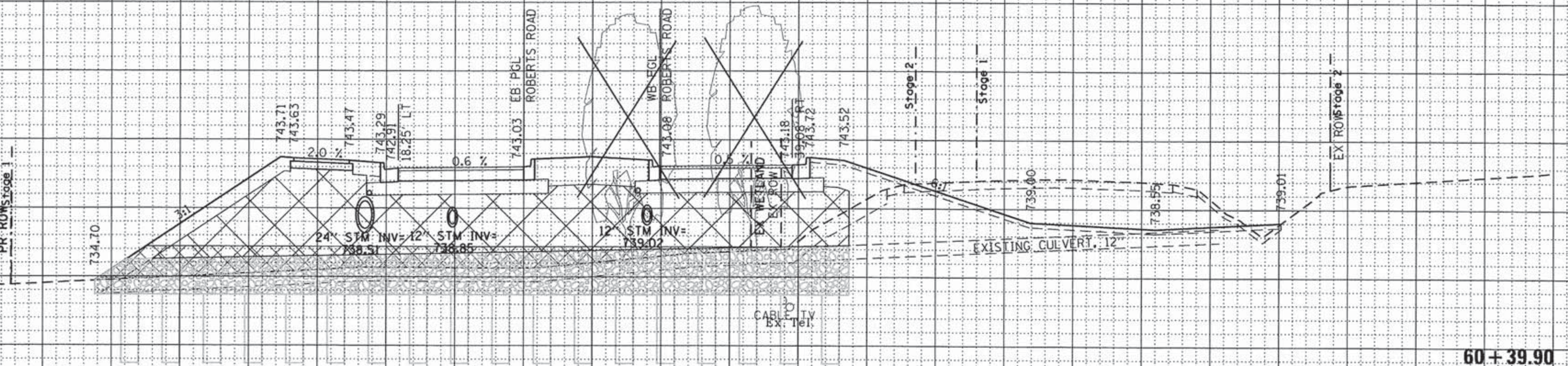


60+50.00

STAGE 1	STAGE 2	STAGE 3
CUT = 140.16 SF	CUT = 108.46 SF	CUT = 0.00 SF
FILL = 29.86 SF	FILL = 2.37 SF	FILL = 0.00 SF
UNSUITABLE = 116.31 SF	UNSUITABLE = 4.96 SF	UNSUITABLE = 0.00 SF
AGG S/G = 433.74 SF	AGG S/G = 0.00 SF	

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1949	34	60+42.87	33.41 RT
2159	6	60+43.01	15.19 RT



60+39.90

STAGE 1	STAGE 2	STAGE 3
CUT = 141.22 SF	CUT = 107.83 SF	CUT = 0.00 SF
FILL = 28.84 SF	FILL = 2.75 SF	FILL = 0.00 SF
UNSUITABLE = 118.04 SF	UNSUITABLE = 5.08 SF	UNSUITABLE = 0.00 SF
AGG S/G = 458.95 SF	AGG S/G = 0.00 SF	

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

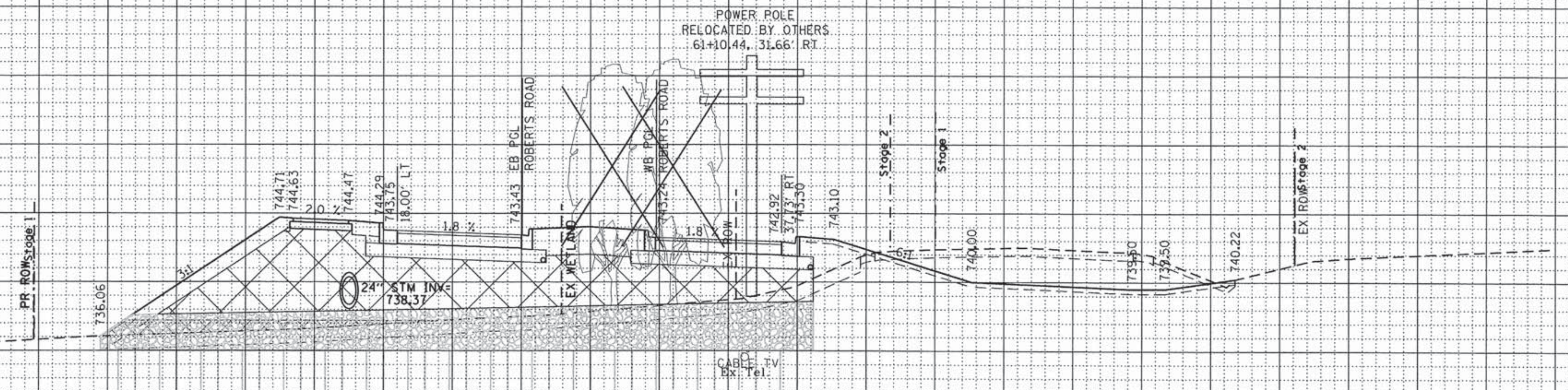
SCALE: 1"=10' HZ 1"=5' VT | SHEET 166 OF 183 SHEETS | STA. 60+39.90 TO STA. 60+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	166

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



TREES TO BE REMOVED

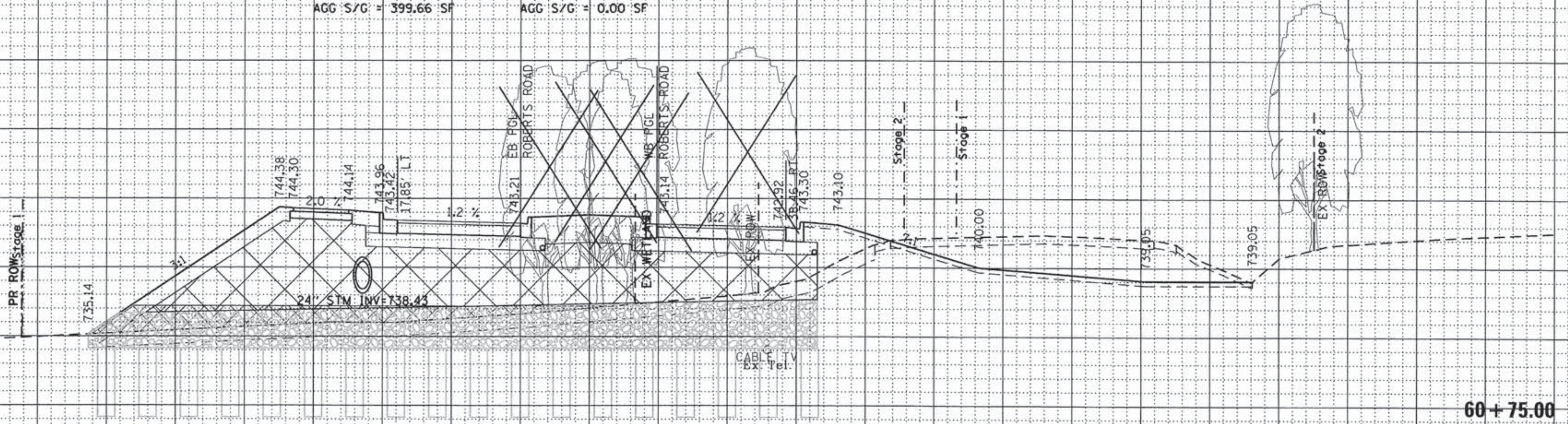
NO	SIZE	STATION	OFFSET (FT)
2160	6	61+09.43	21.42 RT
1943	6	61+12.63	22.05 RT
1942	9	61+24.15	13.45 RT

61+00.00

STAGE 1
CUT = 141.19 SF
FILL = 19.69 SF
UNSUITABLE = 111.53 SF
AGG S/G = 399.66 SF

STAGE 2
CUT = 89.02 SF
FILL = 0.82 SF
UNSUITABLE = 4.39 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF



TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1945	10	60+78.95	11.53 RT
1947	7, 9, 10	60+84.03	33.06 RT
1944	10	60+86.72	3.62 RT
2163	8	60+94.32	15.93 RT

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1907	9, 9, 9	60+97.11	115.13 RT

60+75.00

STAGE 1
CUT = 153.11 SF
FILL = 28.82 SF
UNSUITABLE = 115.80 SF
AGG S/G = 416.13 SF

STAGE 2
CUT = 97.74 SF
FILL = 0.00 SF
UNSUITABLE = 4.15 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

FILE NAME = F:\877-018 River Roberts Phase II\CADD\SHEETS\877-018_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		DRAWN - GJE	REVISED -	
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

ROBERTS ROAD
CROSS SECTIONS

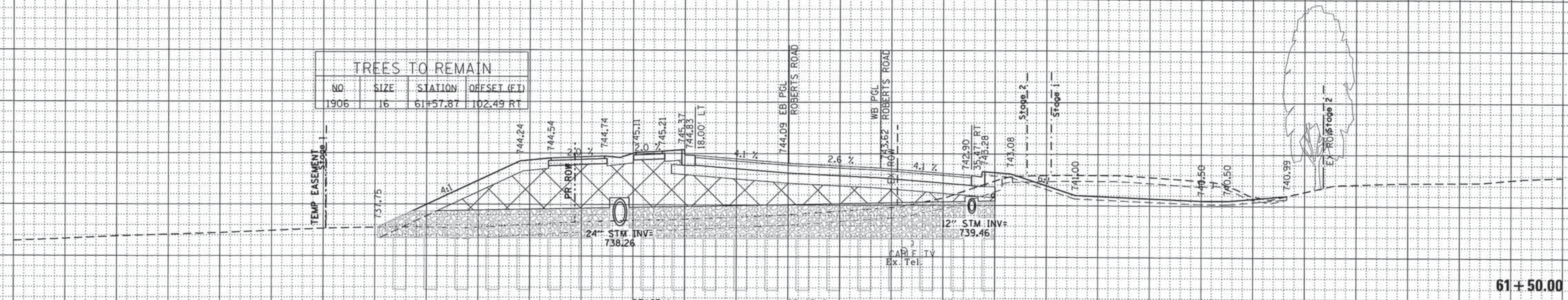
1"=5' VT
SCALE: 1"=10' HZ | SHEET 167 OF 183 SHEETS | STA. 60+75.00 TO STA. 61+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	167

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

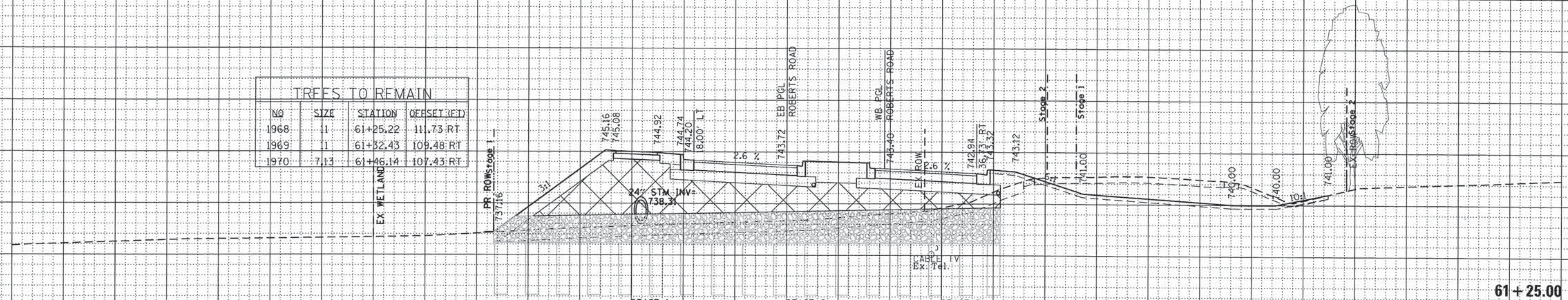


TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1906	16	61+57.87	102.49 RT

61 + 50.00

STAGE 1	STAGE 2	STAGE 3
CUT = 138.22 SF	CUT = 66.87 SF	CUT = 0.00 SF
FILL = 5.61 SF	FILL = 0.60 SF	FILL = 0.00 SF
UNSUITABLE = 121.77 SF	UNSUITABLE = 4.98 SF	UNSUITABLE = 0.00 SF
AGG S/G = 250.20 SF	AGG S/G = 0.00 SF	



TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1968	11	61+25.22	111.73 RT
1969	11	61+32.43	109.48 RT
1970	7.13	61+46.14	107.43 RT

61 + 25.00

STAGE 1	STAGE 2	STAGE 3
CUT = 124.94 SF	CUT = 73.75 SF	CUT = 0.00 SF
FILL = 13.45 SF	FILL = 0.46 SF	FILL = 0.00 SF
UNSUITABLE = 103.61 SF	UNSUITABLE = 6.10 SF	UNSUITABLE = 0.00 SF
AGG S/G = 332.09 SF	AGG S/G = 0.00 SF	

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROBERTS ROAD CROSS SECTIONS
		DRAWN - GJE	REVISED -		1"=5' VT
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -		SCALE: 1"=10' HZ · SHEET 168 OF 183 SHEETS · STA. 61+25.00 TO STA. 61+50.00
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -		

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	168

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

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

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

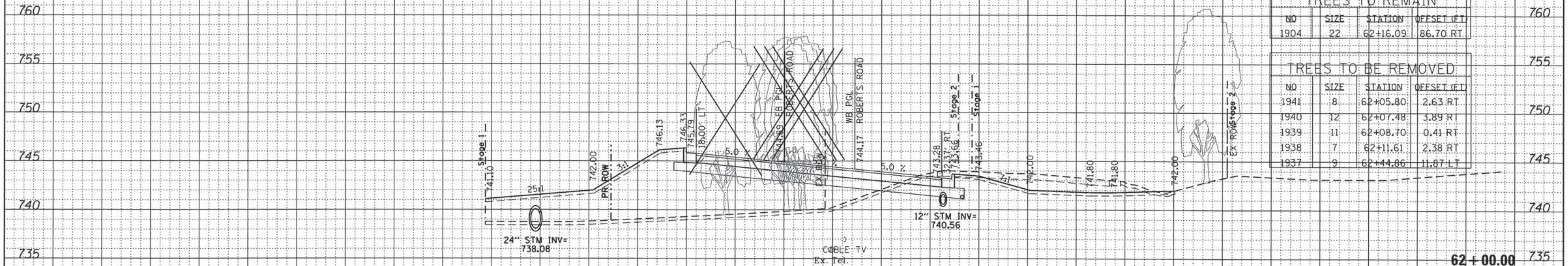
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1904	22	62+16.09	86.70 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1941	8	62+05.80	2.63 RT
1940	12	62+07.48	3.89 RT
1939	11	62+08.70	0.41 RT
1938	7	62+11.61	2.38 RT
1937	9	62+44.86	11.87 LT



62 + 00.00

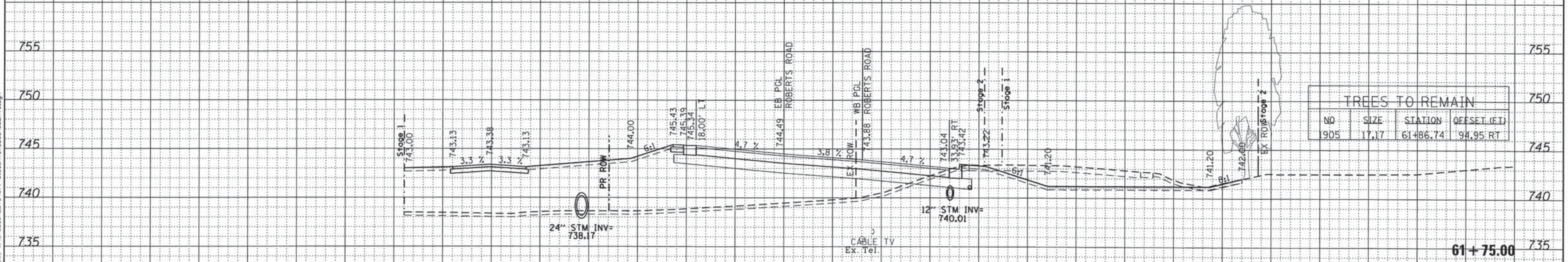
STAGE 1
CUT = 25.26 SF
FILL = 296.09 SF
UNSUITABLE = 31.38 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 37.14 SF
FILL = 0.46 SF
UNSUITABLE = 3.86 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1905	17,17	61+86.74	94.95 RT



61 + 75.00

STAGE 1
CUT = 15.74 SF
FILL = 431.82 SF
UNSUITABLE = 39.99 SF
AGG S/G = 260.39 SF

STAGE 2
CUT = 53.30 SF
FILL = 0.00 SF
UNSUITABLE = 6.33 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$
PLOT SCALE = $SCALE$
PLOT DATE = 11/6/2013

DESIGNED - GJE
DRAWN - GJE
CHECKED - DBB
DATE - 11/08/2013

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1"=5' VT
SCALE: 1"=10' HZ

ROBERTS ROAD
CROSS SECTIONS

SHEET 169 OF 183 SHEETS | STA. 61+75.00 TO STA. 62+00.00

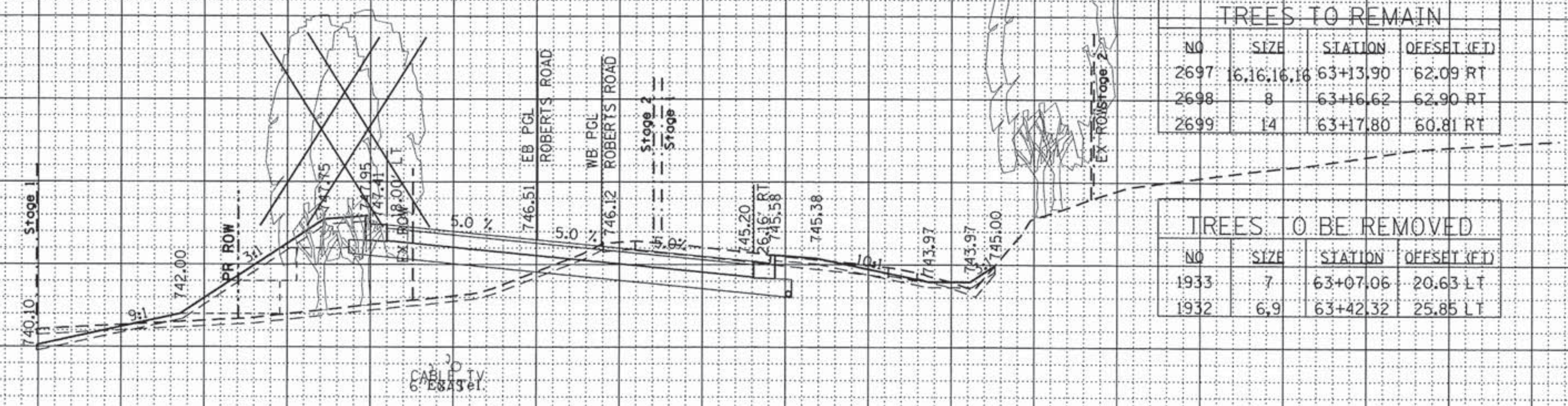
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	169

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
2697	16,16,16,16	63+13.90	62.09 RT
2698	8	63+16.62	62.90 RT
2699	14	63+17.80	60.81 RT

TREES TO BE REMOVED

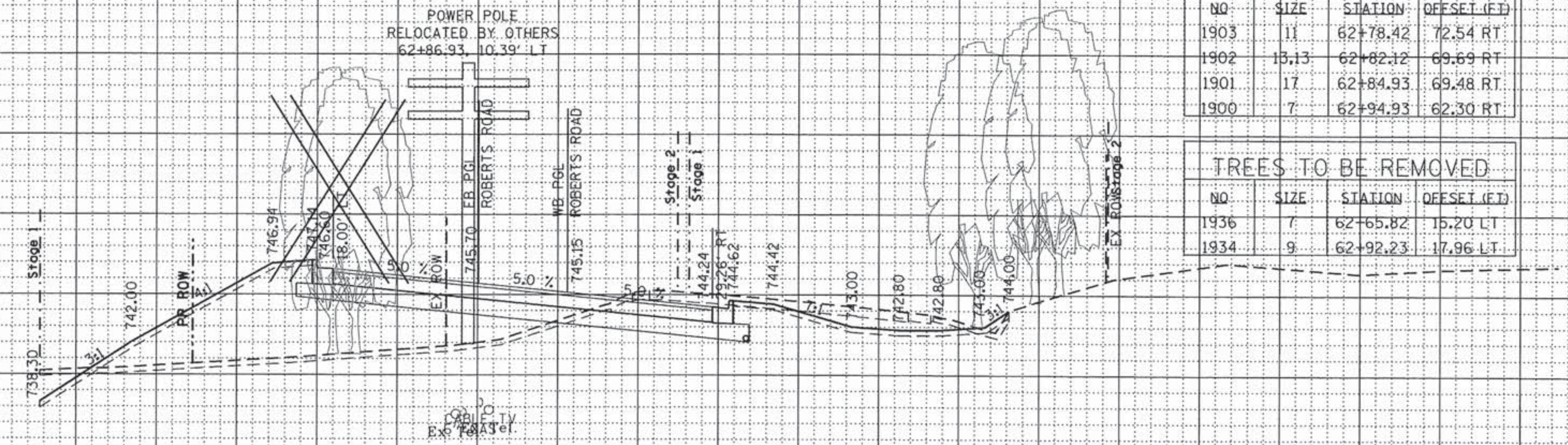
NO	SIZE	STATION	OFFSET (FT)
1933	7	63+07.06	20.63 LT
1932	6,9	63+42.32	25.85 LT

STAGE 1
CUT = 26.32 SF
FILL = 123.38 SF
UNSUITABLE = 23.22 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 33.35 SF
FILL = 5.99 SF
UNSUITABLE = 3.69 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

63+00.00



TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1903	11	62+78.42	72.54 RT
1902	13,13	62+82.12	69.69 RT
1901	17	62+84.93	69.48 RT
1900	7	62+94.93	62.30 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1936	7	62+65.82	15.20 LT
1934	9	62+92.23	17.96 LT

STAGE 1
CUT = 29.97 SF
FILL = 171.24 SF
UNSUITABLE = 25.02 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 35.36 SF
FILL = 3.79 SF
UNSUITABLE = 3.80 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

62+50.00

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

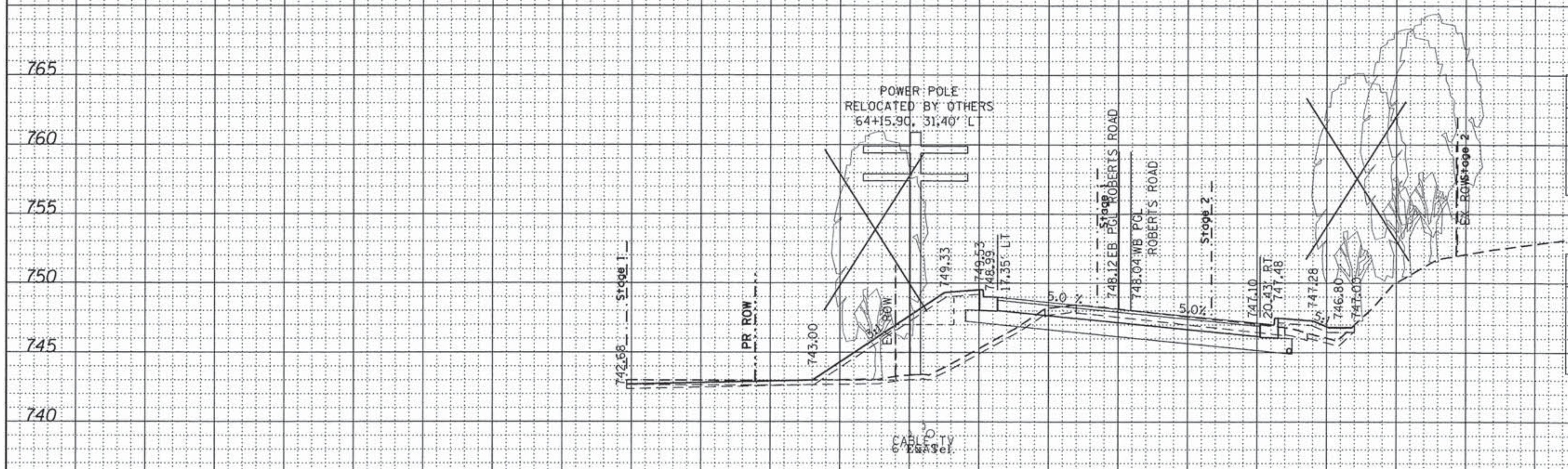
1"=5' VT
SCALE: 1"=10' HZ | SHEET 170 OF 183 SHEETS | STA. 62+50.00 TO STA. 63+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	170

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

FILE NAME = F:\077-010 River Roberts Phase II\CADD\SHEETS\077-010_SHT_XSEC_ROBERTS.dgn

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



TREES TO REMAIN

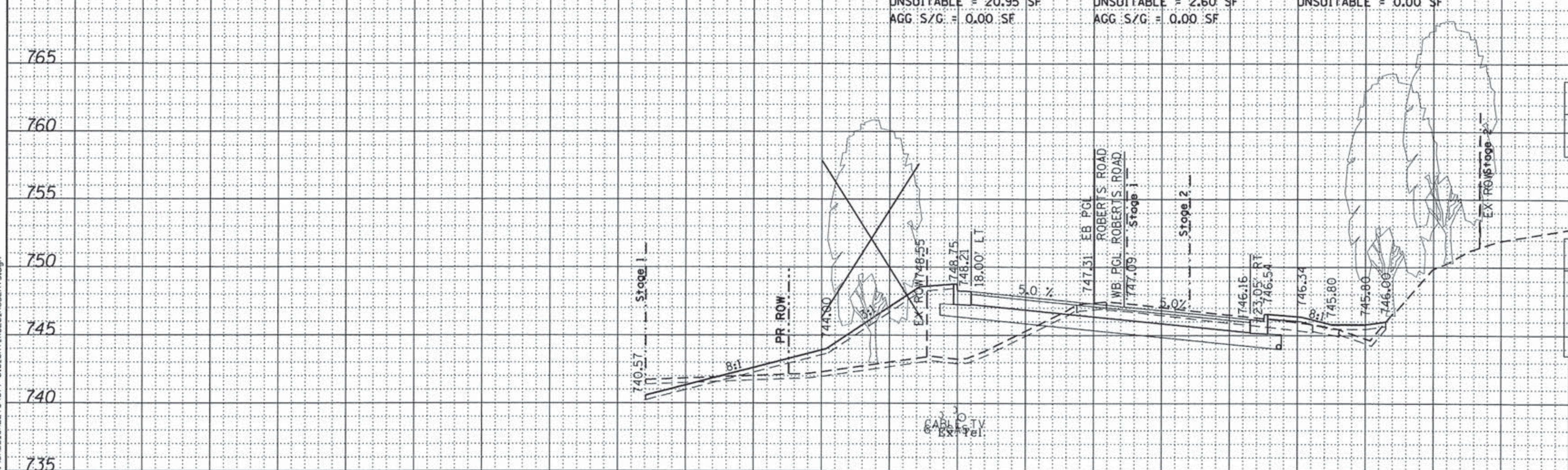
NO	SIZE	STATION	OFFSET (FT)
2693	9	64+12.69	44.64 RT
2691	10	64+26.47	41.55 RT
2692	10,10	64+33.79	45.43 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
2694	23	64+10.06	34.48 RT
1929	14	64+10.61	34.98 LT
1928	7	64+30.70	34.54 LT

64+00.00

STAGE 1	STAGE 2	STAGE 3
CUT = 17.19 SF	CUT = 39.19 SF	CUT = 0.00 SF
FILL = 85.01 SF	FILL = 9.39 SF	FILL = 0.00 SF
UNSUITABLE = 20.95 SF	UNSUITABLE = 2.60 SF	UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF	AGG S/G = 0.00 SF	



TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
2696	9,11	63+52.67	52.20 RT

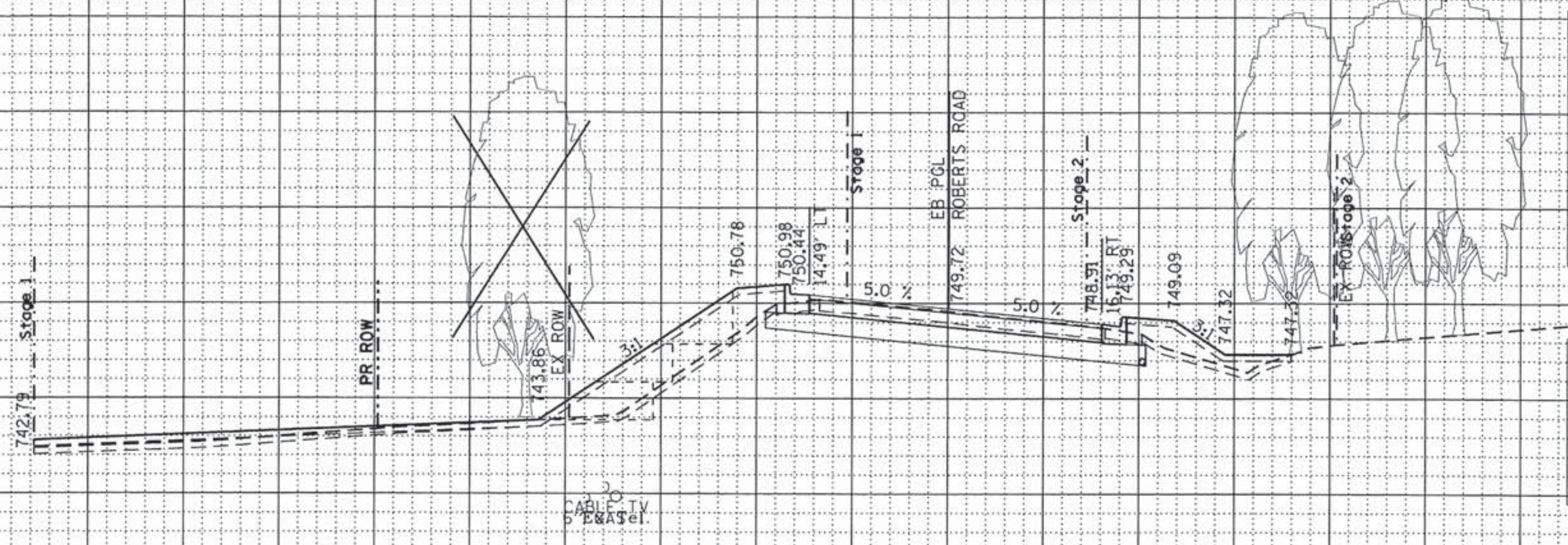
TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1931	10	63+65.91	32.40 LT
1930	10	63+72.40	33.29 LT
2695	12	63+79.47	43.69 RT

63+50.00

STAGE 1	STAGE 2	STAGE 3
CUT = 22.68 SF	CUT = 35.73 SF	CUT = 0.00 SF
FILL = 111.37 SF	FILL = 12.37 SF	FILL = 0.00 SF
UNSUITABLE = 21.83 SF	UNSUITABLE = 2.80 SF	UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF	AGG S/G = 0.00 SF	

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
2688	8	65+00.07	36.98 RT
2685	12	65+20.85	34.67 RT
2681	TBD	65+35.42	46.37 RT
2680	TBD	65+42.14	53.51 RT
2686	10	65+44.99	36.35 RT
2687	14	65+47.48	36.14 RT

TREES TO BE REMOVED

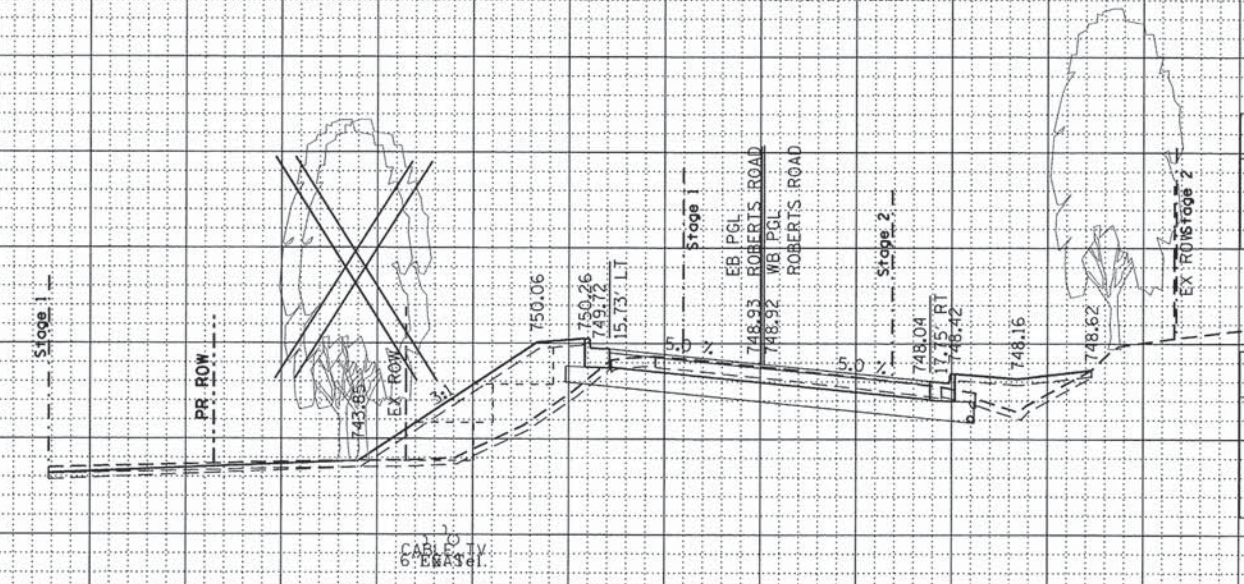
NO	SIZE	STATION	OFFSET (FT)
1923	13	65+06.54	43.02 LT
1924	10	65+07.75	44.13 LT
1922	11	65+12.59	42.34 LT

65+00.00

STAGE 1
CUT = 12.93 SF
FILL = 63.73 SF
UNSUITABLE = 27.13 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 39.80 SF
FILL = 15.57 SF
UNSUITABLE = 5.61 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF



TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
2690	10,10	64+82.70	37.02 RT
2689	13,13	64+85.56	37.75 RT

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1927	9,16	64+77.75	41.51 LT
1926	12	64+92.54	43.52 LT
1925	7,14	64+99.35	41.60 LT

64+50.00

STAGE 1
CUT = 17.26 SF
FILL = 60.33 SF
UNSUITABLE = 20.61 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 38.31 SF
FILL = 15.68 SF
UNSUITABLE = 4.59 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF

FILE NAME = F:\B77-010 River Roberts Phase II\CADD\SHEETS\B77-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 172 OF 183 SHEETS | STA. 64+50.00 TO STA. 65+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	172

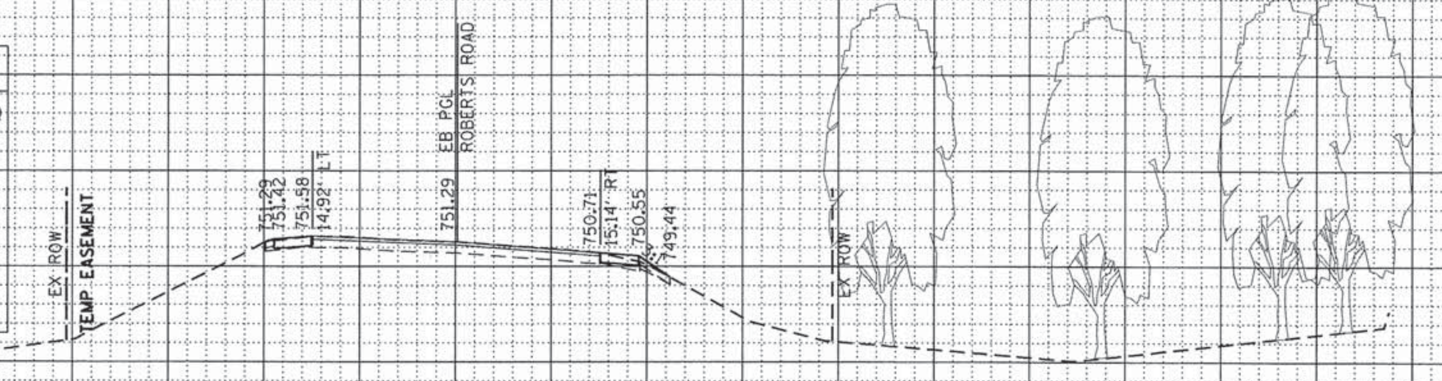
CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

66+00.00

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
1921	13	66+01.63	45.24 LT
2670	TBD	66+06.34	93.12 RT
1920	14	66+20.27	43.88 LT
2669	TBD	66+26.08	85.52 RT
2668	TBD	66+27.05	91.46 RT
2684	TBD	66+37.18	67.48 RT
2667	TBD	66+38.19	86.35 RT



STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

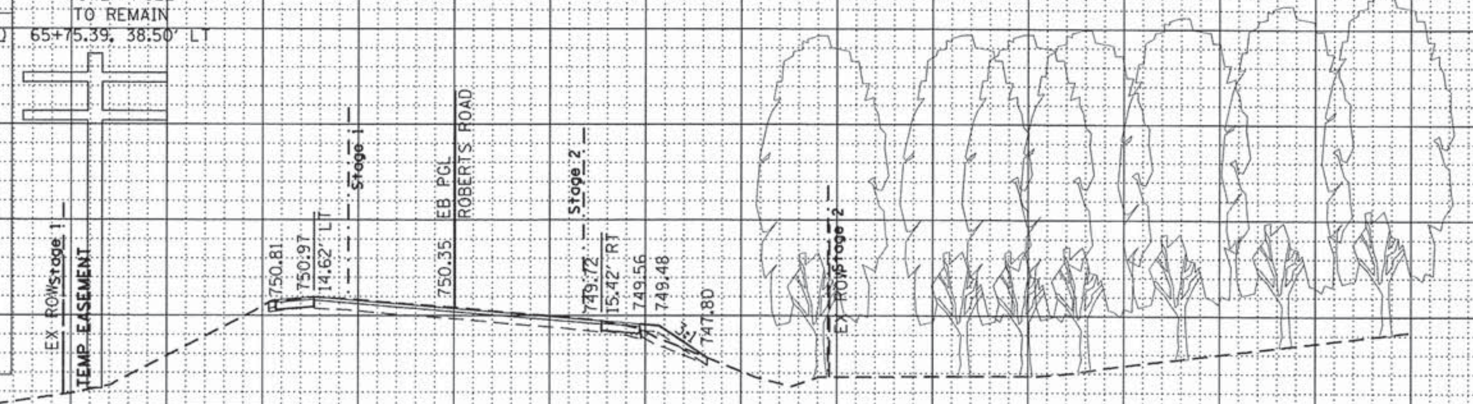
STAGE 3
CUT = 4.57 SF
FILL = 1.40 SF
UNSUITABLE = 1.18 SF

65+50.00

TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
2682	8	65+54.15	38.25 RT
2687	TBD	65+55.30	65.90 RT
2677	TBD	65+59.96	73.21 RT
2679	TBD	65+64.92	53.28 RT
2676	TBD	65+74.46	76.07 RT
2673	TBD	65+81.13	97.36 RT
2675	TBD	65+84.05	73.12 RT
2672	TBD	65+90.38	96.13 RT
2674	TBD	65+93.53	86.91 RT
2671	TBD	65+96.11	93.24 RT
2683	TBD	65+97.88	59.75 RT

POWER POLE
TO REMAIN
65+75.39, 38.50' LT



STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 4.48 SF
FILL = 3.01 SF
UNSUITABLE = 2.52 SF

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

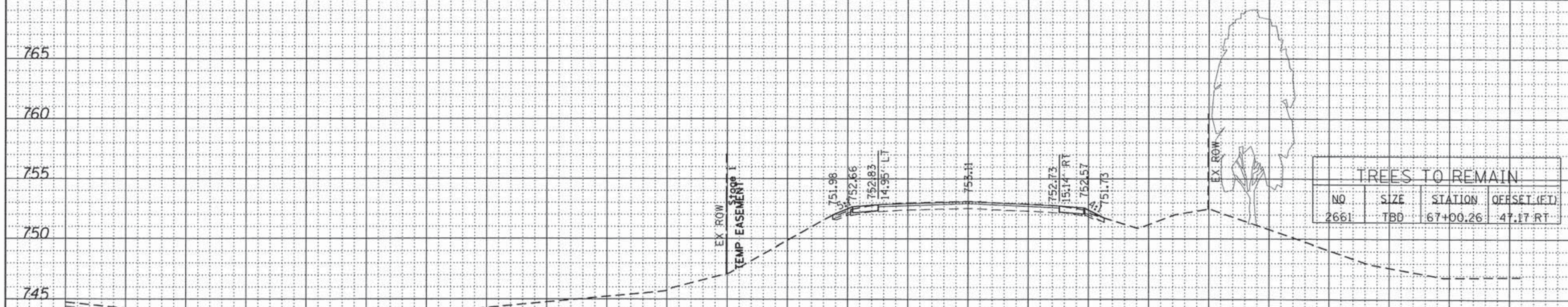
ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 173 OF 183 SHEETS | STA. 65+50.00 TO STA. 66+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	173

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



TREES TO REMAIN

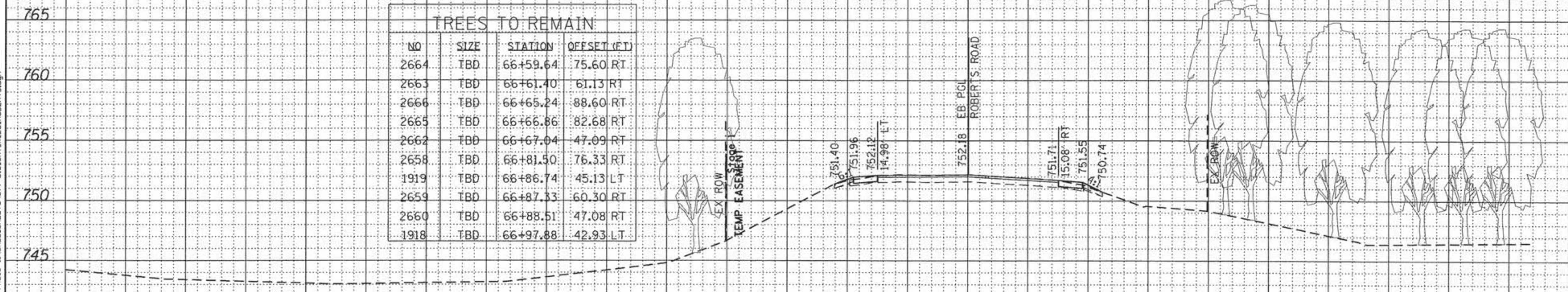
NO	SIZE	STATION	OFFSET (FT)
2661	TBD	67+00.26	47.17 RT

67+00.00

STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 4.49 SF
FILL = 1.70 SF
UNSUITABLE = 2.23 SF



TREES TO REMAIN

NO	SIZE	STATION	OFFSET (FT)
2664	TBD	66+59.64	75.60 RT
2663	TBD	66+61.40	61.13 RT
2666	TBD	66+65.24	88.60 RT
2665	TBD	66+66.86	82.68 RT
2662	TBD	66+67.04	47.09 RT
2658	TBD	66+81.50	76.33 RT
1919	TBD	66+86.74	45.13 LT
2659	TBD	66+87.33	60.30 RT
2660	TBD	66+88.51	47.08 RT
1918	TBD	66+97.88	42.93 LT

66+50.00

STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 4.50 SF
FILL = 1.60 SF
UNSUITABLE = 2.00 SF

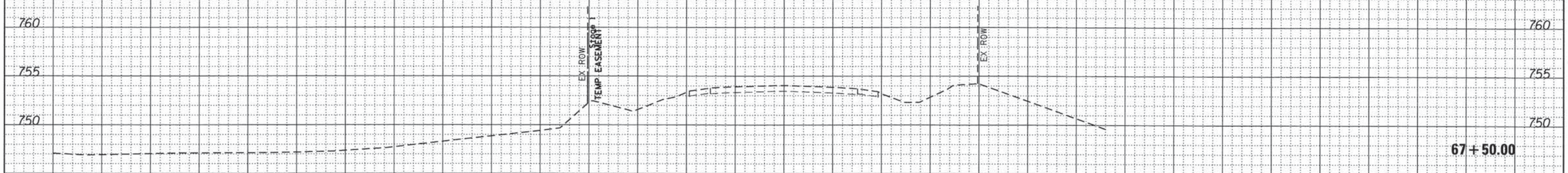
FINAL SURVEY: NOTE BOOK / NO. — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — BY — DATE

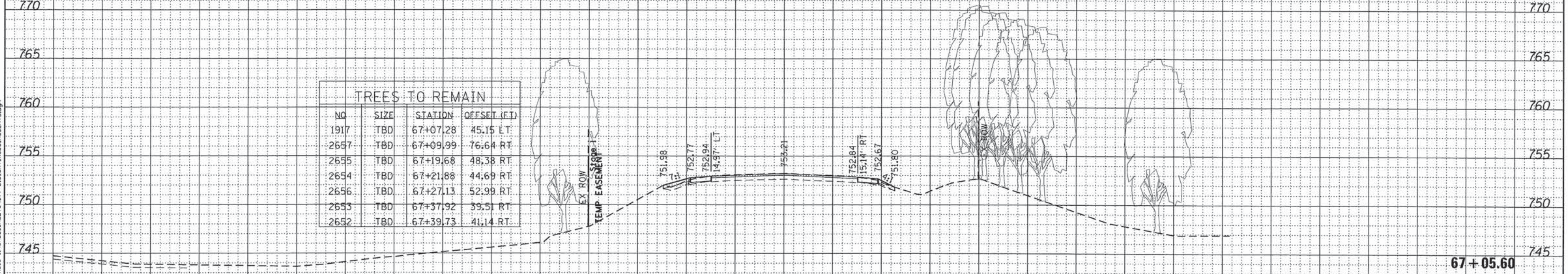
ORIGINAL SURVEY: NOTE BOOK / NO. — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — BY — DATE

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC-ROBERTS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROBERTS ROAD CROSS SECTIONS	F.A.U RTE. 3704	SECTION 07-00086-08-CH	COUNTY LAKE	TOTAL SHEETS 183	SHEET NO. 174
		DRAWN - GJE	REVISED -		1"=5' VT			CONTRACT NO. 63875		
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -		SCALE: 1"=10' HZ	SHEET 174 OF 183 SHEETS	STA. 66+50.00 TO STA. 67+00.00			
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -			ILLINOIS FED. AID PROJECT				

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."





TREES TO REMAIN			
NO	SIZE	STATION	OFFSET (FT)
1917	TBD	67+07.28	45.15 LT
2657	TBD	67+09.99	76.64 RT
2655	TBD	67+19.68	48.38 RT
2654	TBD	67+21.88	44.69 RT
2656	TBD	67+27.13	52.99 RT
2653	TBD	67+37.92	39.51 RT
2652	TBD	67+39.73	41.14 RT

STAGE 1
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 2
CUT = 0.00 SF
FILL = 0.00 SF
UNSUITABLE = 0.00 SF
AGG S/G = 0.00 SF

STAGE 3
CUT = 4.10 SF
FILL = 2.62 SF
UNSUITABLE = 3.07 SF

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_ROBERTS.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

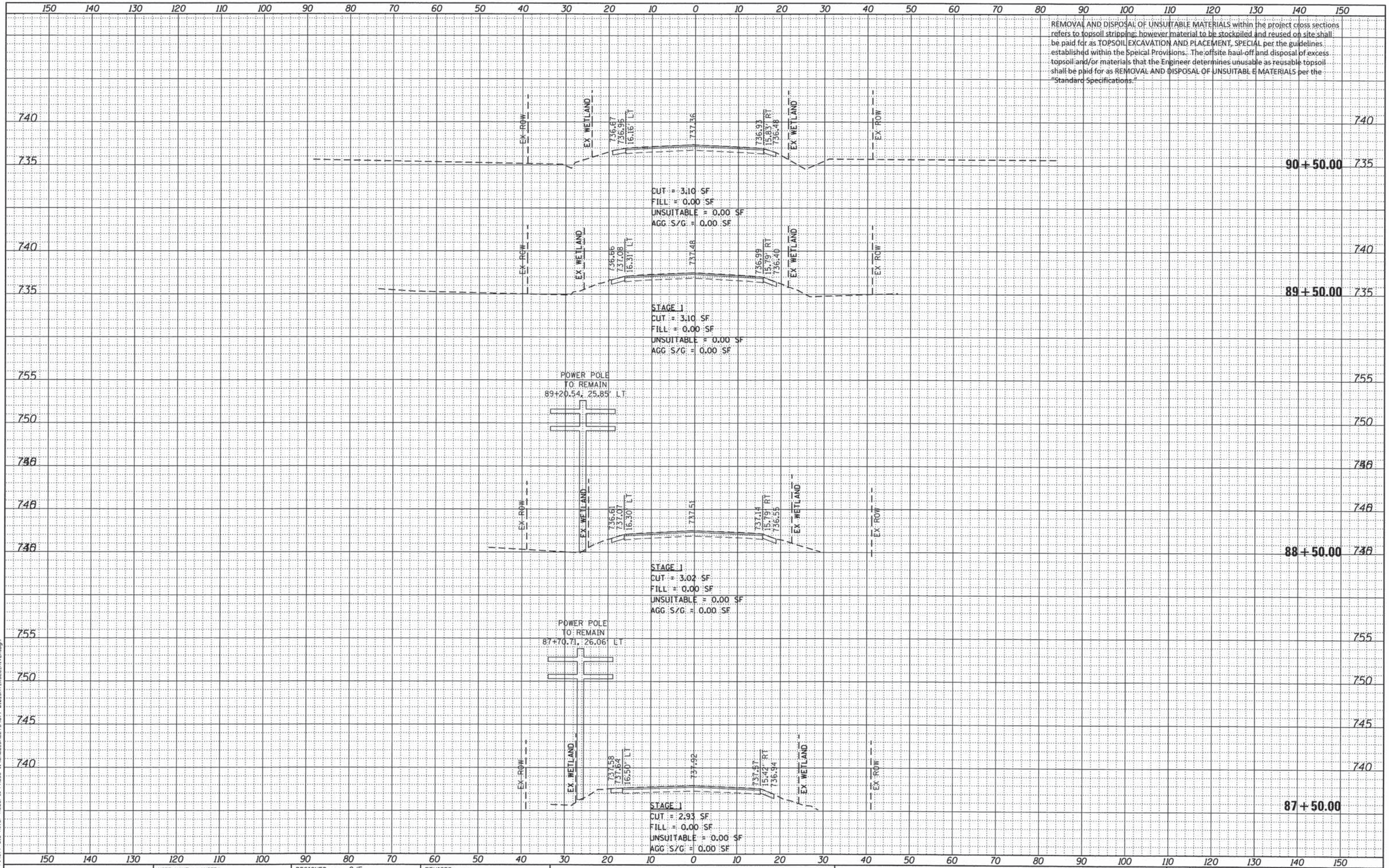
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROBERTS ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 175 OF 183 SHEETS | STA. 67+05.60 TO STA. 67+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	175

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT



FILE NAME = F:\877-010 River Roberts Phase I\CADD\SHEETS\877-010_SHT_XSEC_RIVER.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIVER ROAD
CROSS SECTIONS

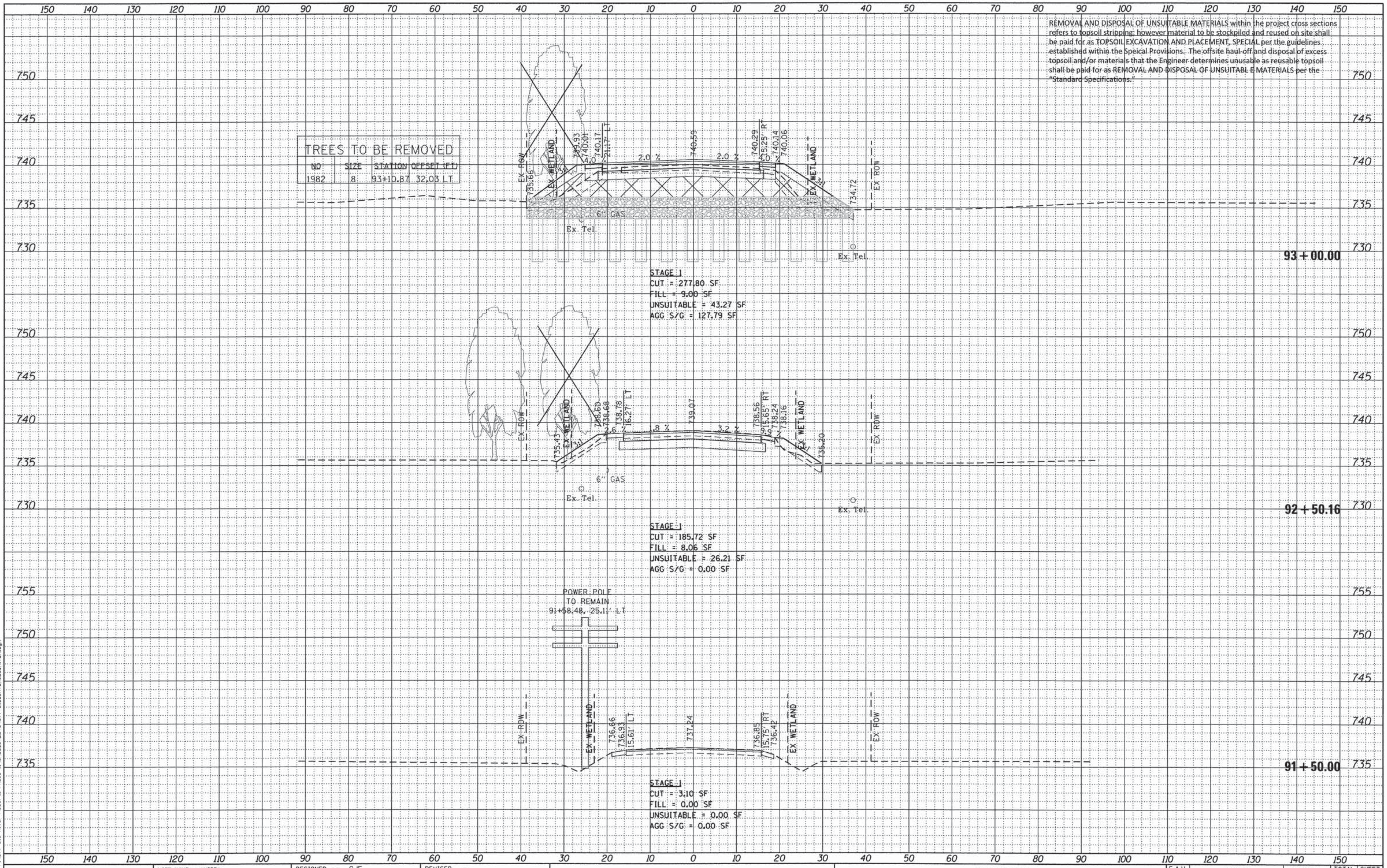
SCALE: 1"=10' HZ 1"=5' VT | SHEET 176 OF 183 SHEETS | STA. 87+50.00 TO STA. 90+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	176

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

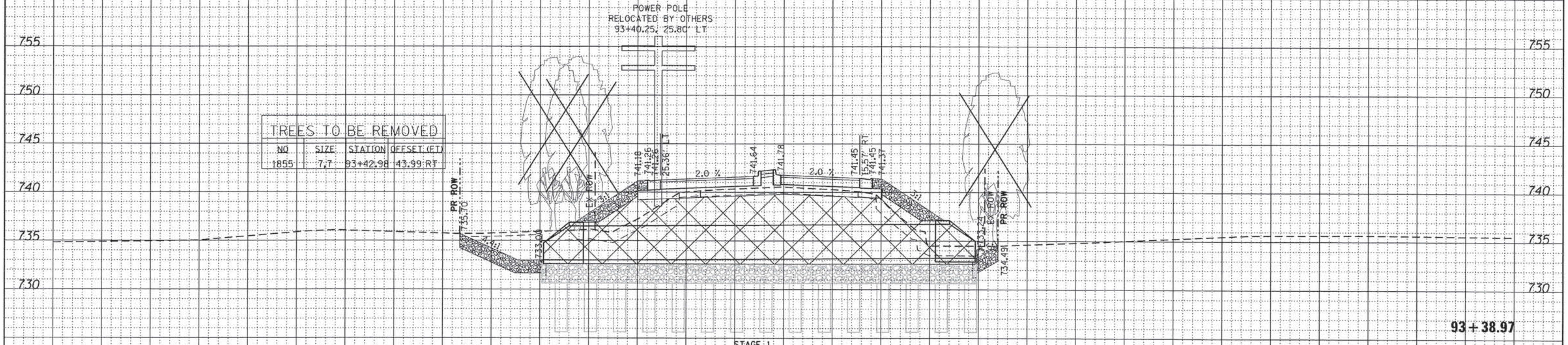


Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RIVER ROAD CROSS SECTIONS
		DRAWN - GJE	REVISED -		
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -		1"=5' VT
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -		SCALE: 1"=10' HZ SHEET 177 OF 183 SHEETS STA. 91+50.00 TO STA. 93+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	177
		CONTRACT NO. 63875		
		ILLINOIS FED. AID PROJECT		

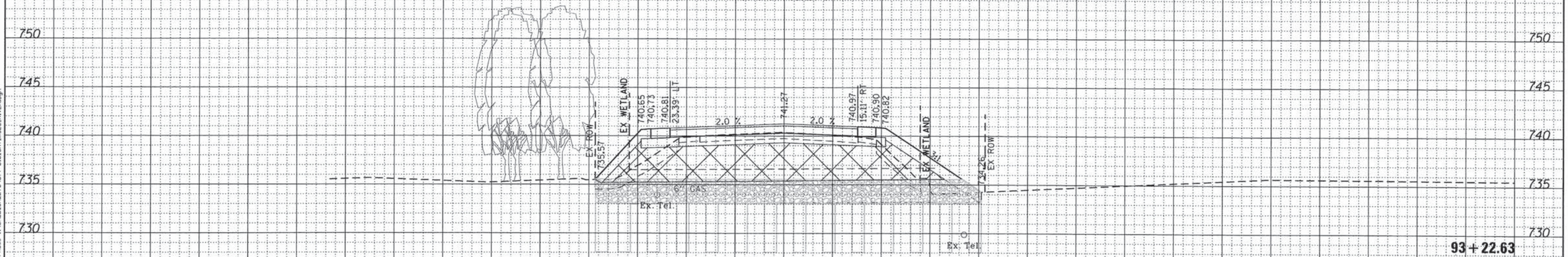
FILE NAME = FA\877-010 River Roberts Phase

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



93+38.97

STAGE 1
CUT = 628.97 SF
FILL = 0.00 SF
UNSUITABLE = 62.98 SF
AGG S/G = 525.21 SF



93+22.63

STAGE 1
CUT = 351.88 SF
FILL = 0.00 SF
UNSUITABLE = 52.62 SF
AGG S/G = 222.19 SF

FILE NAME = F:\877-010 River Roberts Phase I\CADD_SHEETS\877-010_SHT_XSEC_RIVER.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

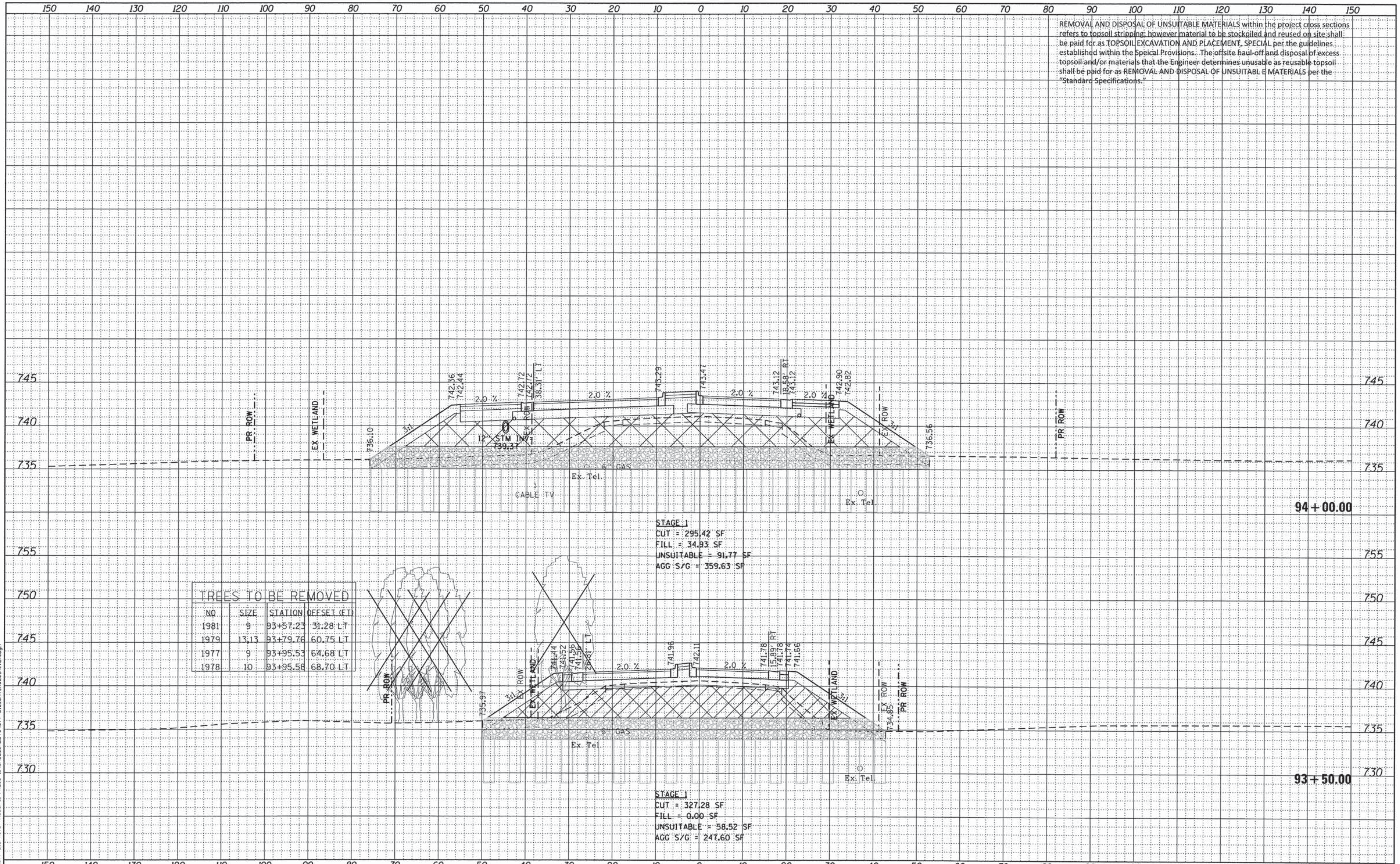
RIVER ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 178 OF 183 SHEETS | STA. 93+22.63 TO STA. 93+38.97

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	178

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



STAGE I
CUT = 295.42 SF
FILL = 34.93 SF
UNSUITABLE = 91.77 SF
AGG S/G = 359.63 SF

TREES TO BE REMOVED

NO	SIZE	STATION	OFFSET (FT)
1981	9	93+57.23	31.28 LT
1979	13,13	93+79.76	60.75 LT
1977	9	93+95.53	64.68 LT
1978	10	93+95.58	68.70 LT

STAGE I
CUT = 327.28 SF
FILL = 0.00 SF
UNSUITABLE = 58.52 SF
AGG S/G = 247.60 SF

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

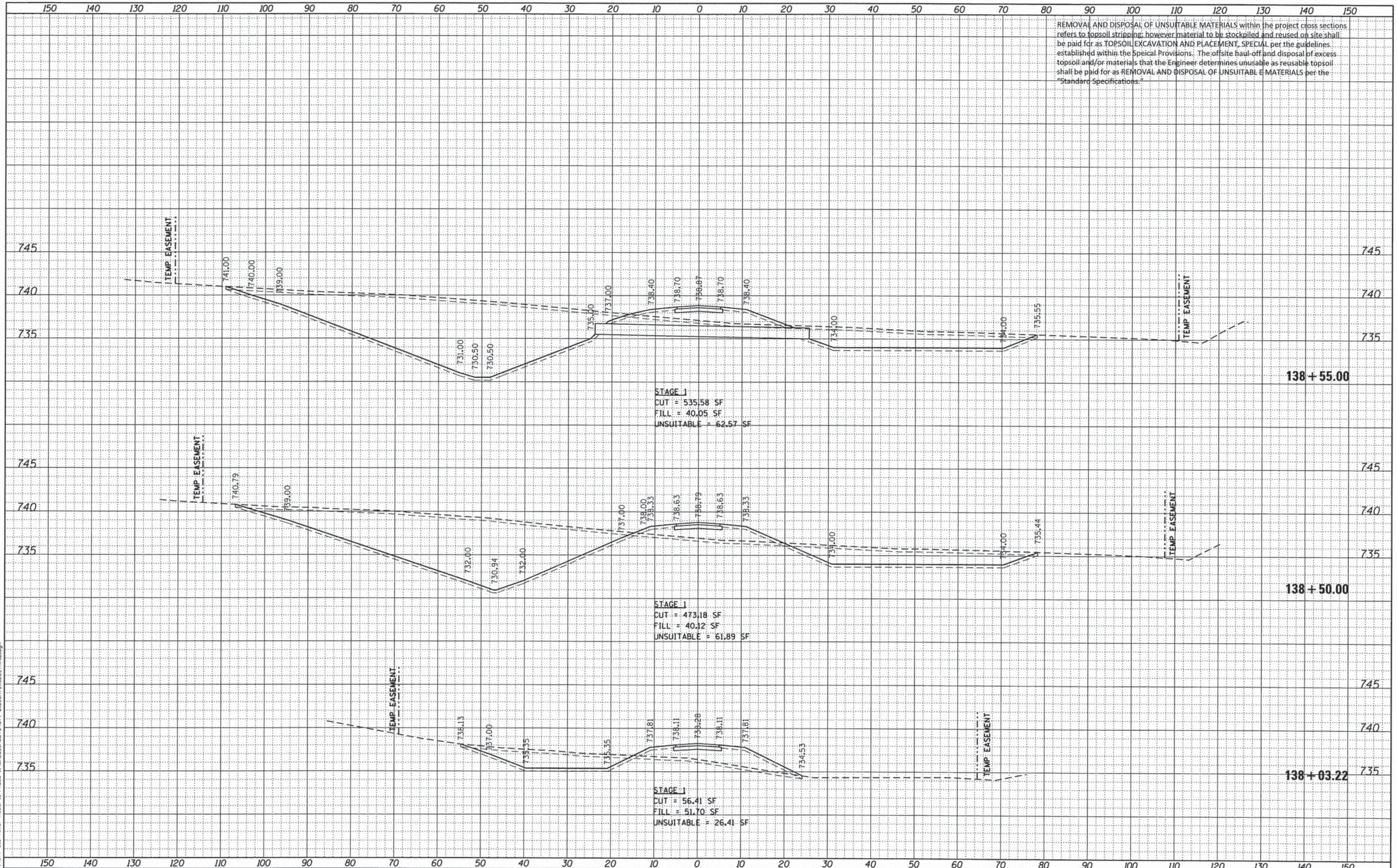
RIVER ROAD
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 179 OF 183 SHEETS | STA. 93+50.00 TO STA. 94+00.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	179

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

FILE NAME = F:\877-010 River Roberts Phase II\CADD_SHEETS\877-010_SHT_XSEC_RIVER.dgn



REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."

138 + 55.00

STAGE 1
CUT = 535.58 SF
FILL = 40.05 SF
UNSUITABLE = 62.57 SF

138 + 50.00

STAGE 1
CUT = 473.18 SF
FILL = 40.12 SF
UNSUITABLE = 61.89 SF

138 + 03.22

STAGE 1
CUT = 56.41 SF
FILL = 51.70 SF
UNSUITABLE = 26.41 SF

FILE NAME = F:\877-010 River Roberts Phase I\CADD\SHEETS\877-010_SHT_XSEC_TRAIL.dgn

Bollinger, Lach & Associates, Inc.
ITASCA, ILLINOIS

USER NAME = $USER$	DESIGNED - GJE	REVISED -	
	DRAWN - GJE	REVISED -	
PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -	
PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

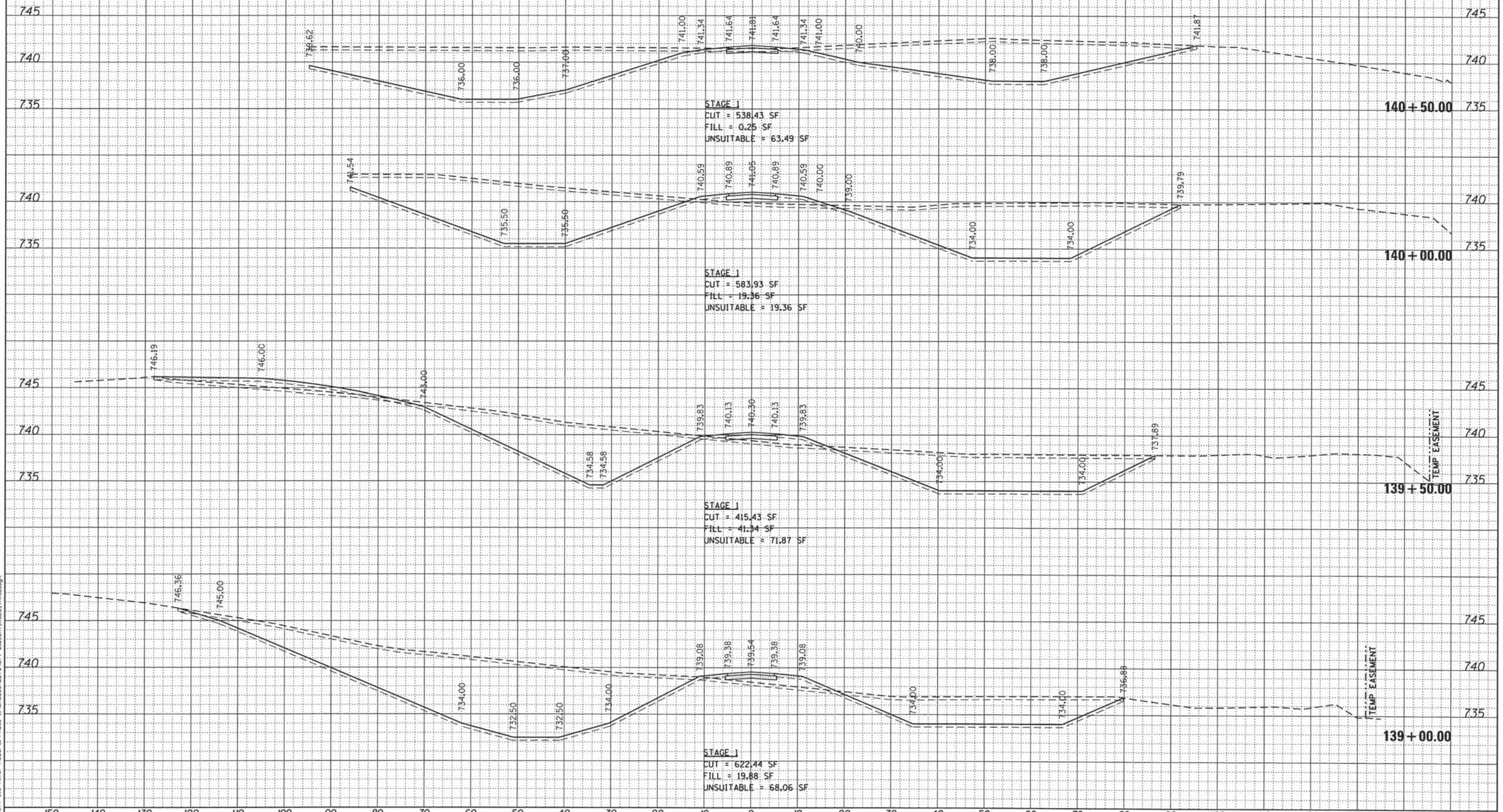
LAKE COUNTY FOREST PRESERVES DISTRICT TRAIL
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 180 OF 183 SHEETS | STA. 138+03.22 TO STA. 138+55.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	180

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS within the project cross sections refers to topsoil stripping; however material to be stockpiled and reused on site shall be paid for as TOPSOIL EXCAVATION AND PLACEMENT, SPECIAL per the guidelines established within the Speical Provisions. The offsite haul-off and disposal of excess topsoil and/or materials that the Engineer determines unusable as reusable topsoil shall be paid for as REMOVAL AND DISPOSAL OF UNSUITABL E MATERIALS per the "Standard Specifications."



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Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

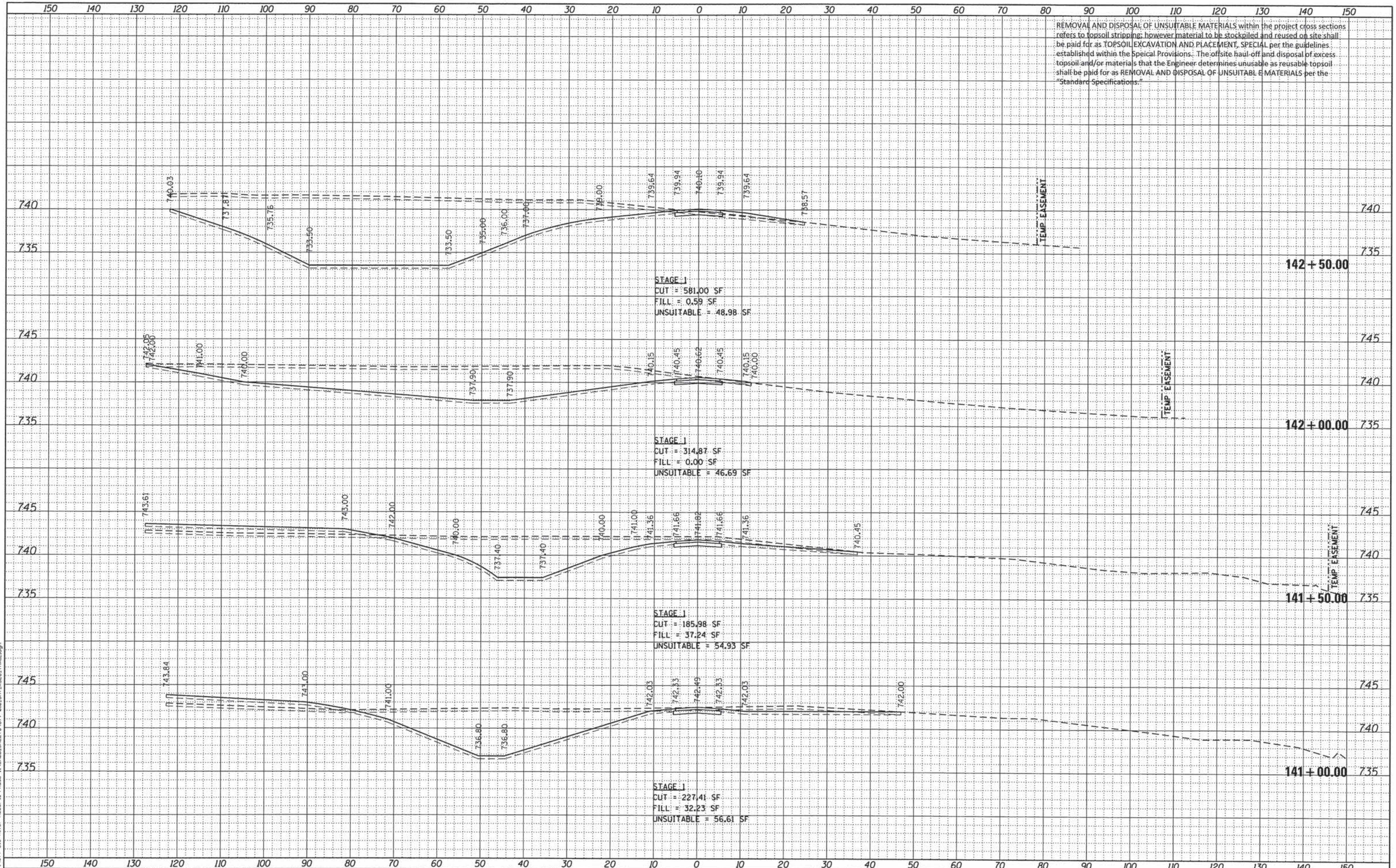
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LAKE COUNTY FOREST PRESERVES DISTRICT TRAIL
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 181 OF 183 SHEETS | STA. 139+00.00 TO STA. 140+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	181

CONTRACT NO. 63875
ILLINOIS FED. AID PROJECT



FILE NAME = F:\877-010 River Roberts Phase I\CADD_SHEETS\877-010_SHT_XSEC_TRAIL.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -
		DRAWN - GJE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LAKE COUNTY FOREST PRESERVES DISTRICT TRAIL
CROSS SECTIONS

1"=5' VT
SCALE: 1"=10' HZ | SHEET 182 OF 183 SHEETS | STA. 141+00.00 TO STA. 142+50.00

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3704	07-00086-08-CH	LAKE	183	182

CONTRACT NO. 63875

ILLINOIS FED. AID PROJECT

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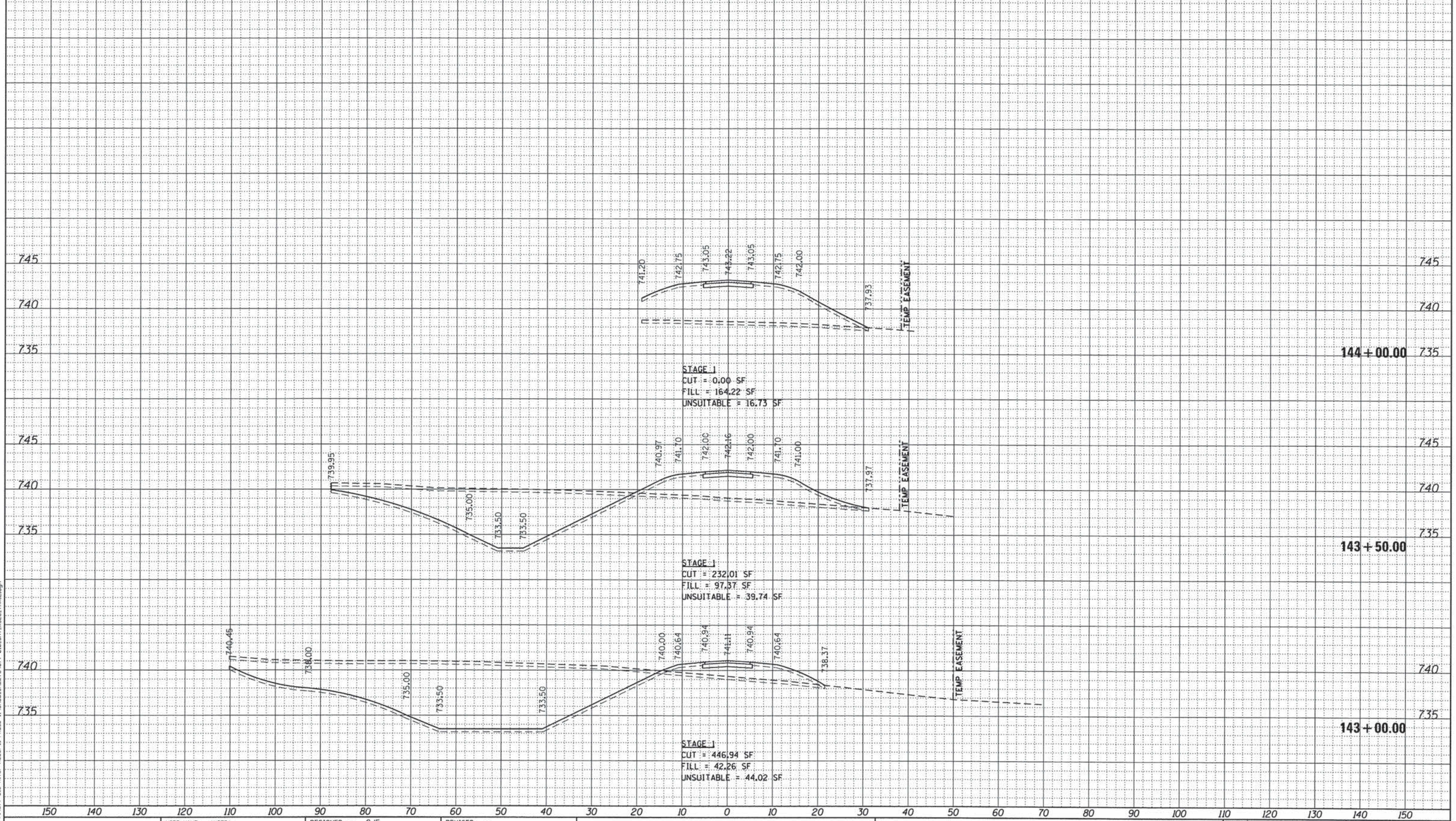

FINAL SURVEY: SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED / NOTE BOOK NO. / BY / DATE

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

FILE NAME = F:\877-010 River Roberts Phase II\CADD\SHEETS\877-010_SHT_XSEC_TRAIL.dgn

Bollinger, Lach & Associates, Inc. ITASCA, ILLINOIS	USER NAME = $USER$	DESIGNED - GJE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LAKE COUNTY FOREST PRESERVES DISTRICT TRAIL CROSS SECTIONS	F.A.U RTE. 3704	SECTION 07-00086-08-CH	COUNTY LAKE	TOTAL SHEETS 183	SHEET NO. 183
		DRAWN - GJE	REVISED -		1"=5' VT			CONTRACT NO. 63875		
	PLOT SCALE = $SCALE$	CHECKED - DBB	REVISED -		SCALE: 1"=10' HZ; SHEET 183 OF 183 SHEETS; STA. 143+00.00 TO STA. 144+00.00		ILLINOIS FED. AID PROJECT			
	PLOT DATE = 11/6/2013	DATE - 11/08/2013	REVISED -							