CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121 +1 122	1

3-7-08 Letting, Item 078

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

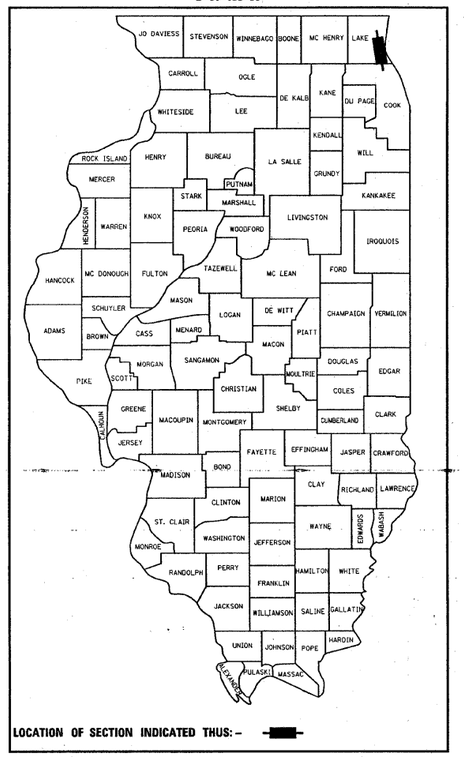
FOR INDEX OF SHEETS, SEE SHEET NO. 2

THIS IMPROVEMENT IS LOCATED IN THE VILLAGE OF BUFFALO GROVE

PROPOSED
HIGHWAY PLANS

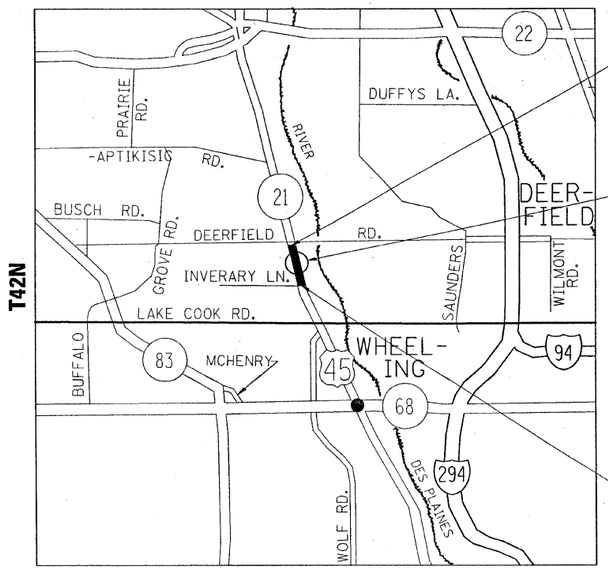
FAP 330 (US 45/IL 21)
OVER APTAKISIC CREEK
SECTION: 1Y–B–R–1
PAVEMENT WIDENING, RECONSTRUCTION & BRIDGE REPLACEMENT
PROJECT: BRF-0330(046)
LAKE COUNTY
C–91–433–00

D–91–433–00



LOCATION OF SECTION INDICATED THUS: –

R11E



VERNON TOWNSHIP

IMPROVEMENT ENDS
STA. 10 + 507.3

IL 21/US 45
OVER APTAKISIC CREEK
S.N.: 049–0194

AVERAGE DAILY TRAFFIC
2005 ADT = 38,400

POSTED SPEED LIMIT
40 MPH

IMPROVEMENT BEGINS
STA. 9 + 708.1

METRIC PLANS

METRIC RATIOS

1 m 0 2 m
1 : 50

0 5 m 10 m
1 : 100

10 m 0 20 m
1 : 250

5 m 0 20 m
1 : 500

0 50 m 100 m
1 : 1000

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

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1–800–892–0123

CONTRACT NO. 62032

GROSS & NET LENGTH OF IMPROVEMENT = 799.2 METER (.799 KILOMETER)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED December 27 20 07
Diane O'Keefe /cal
DEPUTY DIRECTORY OF HIGHWAYS, REGION ENGINEER
February 1, 20 08
Eric E. Harm /cal
Date ENGINEER OF DESIGN AND ENVIRONMENT
February 1, 20 08
Christine M. Reed /cal
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

DISTRICT ONE-PLAN PREPARATION ENGINEER KEN ENG (847) 705-4247

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

INDEX OF SHEETS

LIST OF STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
353001-04	PCC BASE COURSE WITH HMA BINDER AND SURFACE COURSES
420401-06	BRIDGE APPROACH PAVEMENT
515001-02	NAME PLATES FOR BRIDGES
606001-03	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
609001-03	BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN
609006-03	BRIDGE APPROACH PAVEMENT (DRAIN DETAIL)
630001-07	STEEL PLATE BEAM GUARDRAIL
630201-05	STEEL PLATE BEAM, PCC/HMA STABILIZATION
631031-06	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
701101-01	OFF-RD OPERATIONS 2L, 2W, 4.5m (15') TO PAVEMENT EDGE FOR SPEEDS GREATER OF EQUAL TO 45 MPH
701321-09	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-02	LANE CLOSURE 2L, 2W, PAVEMENT WIDENING FOR SPEEDS GREATER OR EQUAL TO 45 MPH
701901	TRAFFIC CONTROL DEVICES
704001-04	TEMPORARY CONCRETE BARRIER
635011-01	
601101	

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 FOR FILED LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES. (48 HOUR NOTIFICATION IS REQUIRED)

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE VILLAGE OF BUFFALO GROVE. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE A FIELD LABORATORY FOR USE FOR ANY ON SITE ESTING BY THE ENVIRONMENTAL FIRM. NO TESTING OF ANY KIND CONTAMINATED OR NON-CONTAMINATED FLUID OR SOID SHALL BE PERMITTED IN THE ENGINEER'S FIELD OFFICE.

BARRICADES: THE CONTRACTOR SHALL PROVIDE AND INSTALL TWO (2) WEIGHTED SANDBAGS ON EACH TYPE I, TYPE II OR TYPE III BARRICADE USED- ONE (1) WEIGHTED SAND BAG ACROSS EACH BOTTOM RAIL.

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT AND HMA TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES FO THE MILLING MACHINE SHALL NOT EXCEED 1 1/2 INCHES (40 mm) WHERE THE SPEED LIMIT IS 45 MPH (80 Km/h) OR LESS AND 1 INCH (25 mm) WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH (80 Km/h), WITH WRITTEN APPROVAL FROM THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 mm) MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM 1:3 (V:H)

THE RESIDENT ENGINEER SHALL VERIFY THE LOCATIONS OF ALL EXISTING PAVEMENT MARKINGS PRIOR TO MILLING OR RESURFACING.

ALL PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE IMPROVEMENT ACCORDING TO "DISTRICT 1 TYPICAL PAVEMENT MARKINGS."

THE RESIDENT ENGINEER SHALL CONTACT MS. DEBBIE HANLON, AREA TRAFFIC FIELD ENGINEER AT (847) 438-2300, A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS

PAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED THROUGHOUT THE IMPROVEMENT ACCORDING TO THE DISTRICT STANDARS AS NOTED IN THE DETAIL.

PRIOR TO EMBANKMENT PLACEMENT, ALL VEGETATION, LOOSE MATERIAL, AND UNSUITABLE MATERIAL SHOULD BE REMOVED TO DEPTH ENCOUNTERED AND REPLACED WITH SUITABLE EMBANKMENT MATERIAL. ANY EMBANKMENT WIDENING ON EXISTING SLOPES SHOULD BE BENCHED IN ACCORDANCE WITH ARTICLE 205.04 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

POROUS GRANULAR EMBANKMENT, SUBGRADE (PGES) HAS BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR SOILS THAT ARE CONSIDERED TO BE UNSUITABLE OR UNSTABLE. THE ACTUAL NEED FOR REMOVAL AND REPLACEMENT WITH PGES WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY A QUALIFIED SOILS INSPECTOR. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC CONE PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.03 AND THE IDOT SUBGRADE STABILITY MANUAL (REV. 2005).

THE UNIT WEIGHT (CONVERSION FACTOR) QUOTED IS FOR THE ESTIMATING PLAN QUANTITIES ONLY. ACTUAL QUANTITIES TO FULFILL CONTRACTO REQUIREMENTS WILL BE DETERMINED BASED ON UNIT WEIGHT OF APPROVED MIX DESIGN, PLAN DIMENSIONS, AND DENSITY LIMITATIONS. MAXIMUM PAYMENT WILL BE COMUPTED BASED ON WEIGHT AVERAGE DENSITIES OF THE IN-PLACE MIXTURE.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE ARTERIAL TRAFFIC CONTROL SUPERVISOR A MINIMUM OF 72 HOURS PRIOR TO BEGINNING OF WORK.

REVISIONS	
NAME	DATE

Rev.

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21

OVER APTAKISIC CREEK

INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES

DRAWN BY

DATE CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1 Y-B-R-1	LAKE	121	3
FED. ROAD DIST. NO. 1	ILLINOIS	HIGHWAY PROJECT		

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	① ROADWAY I000-2A	② BICYCLE PATH/ SIDEWALK SFTY-1B	③ BRIDGE X020-2A	④ TRAFFIC SIGNAL INVERARY Y031-1F	⑤ TRAFFIC SIGNAL DEERFIELD Y031-1F	⑥ TRAFFIC SIGNAL INTERCONN Y031-1F
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1			1			
50300100	FLOOR DRAINS	EACH	2			2			
50800515	BAR SPLICERS	EACH	207			207			
51203200	TEST PILE METAL SHELLS	EACH	4			4			
51500100	NAME PLATES	EACH	1			1			
60208230	CATCH BASINS, TYPE C, TYPE 23 FRAME AND GRATE	EACH	20	20					
60251730	CATCH BASINS TO BE ADJUSTED WITH NEW TYPE 23 FRAME AND GRATE	EACH	4	4					
60261530	INLETS TO BE ADJUSTED WITH NEW TYPE 23 FRAME AND GRATE	EACH	9	9					
60500060	REMOVING INLETS	EACH	6	6					
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4					
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2	2					
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	2	2					
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	12	12					
67100100	MOBILIZATION	L SUM	1	0.5		0.5			
70101800	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1					
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	28	14				14	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	204	204					
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	18	18					
* 78200420	GUARDRAIL MARKERS, TYPE B	EACH	8	8					
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4					
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	129	129					
81400100	HANDHOLE	EACH	4				1		3
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1					1	
* 87800115	CONCRETE FOUNDATION, TYPE A	EACH	2				1	1	
* 87900200	DRILL EXISTING HANDHOLE	EACH	2				1		1
* 88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	4				2	2	
* 88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2				2		
* 88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1					1	
* 88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	8				2	6	
* 88030220	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4				1	3	
* 88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1				1		
* 88102710	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	3				1	2	
* 88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	12				4	8	
* 88800100	PEDESTRIAN PUSH-BUTTON	EACH	4				2	2	
* 89502200	MODIFY EXISTING CONTROLLER	EACH	2				1	1	
* 89502380	REMOVE EXISTING HANDHOLE	EACH	4				1	3	
* 89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	1				1		
M2020010	EARTH EXCAVATION	CU M	3937	3806	131				
M2021200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU M	300	300					
M2040800	FURNISHED EXCAVATION	CU M	2744	2744					
M2070220	POROUS GRANULAR EMBANKMENT	CU M	123	123					
M2070400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU M	57			57			
M2070420	POROUS GRANULAR EMBANKMENT, SUBGRADE	CU M	123	123					
M2080150	TRENCH BACKFILL	CU M	500	500					
M2101000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ M	1000	1000					
M2113100	TOPSOIL FURNISH AND PLACE, 100MM	SQ M	3894	3894					
M2140100	GRADING AND SHAPING DITCHES	METER	190	190					
M2500314	SEEDING, CLASS 4B	HA	0.4	0.4					
M2500400	NITROGEN FERTILIZER NUTRIENT	KG	28	28					
M2500500	PHOSPHORUS FERTILIZER NUTRIENT	KG	28	28					
M2500600	POTASSIUM FERTILIZER NUTRIENT	KG	28	28					

① 80% FED. 20% STATE
② 50% STATE 50% VILLAGE 0F BUFFALO GROVE
③ 80% FED. 20% STATE
④ 80% FED. 13.3% STATE 6.7% VERNON TWP.
⑤ 80% FED. 10% STATE 5% BUFFALO GROVE 5% LAKE COUNTY
⑥ 80% FED. 20% STATE

*SPECIALTY ITEMS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
US 45/IL 21
OVER APTAKISIC CREEK
SUMMARY OF QUANTITIES

PLOT DATE: 1/5/2008

1/5/2008

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1 Y-B-R-1	LAKE	121	4
FED. ROAD DIST. NO. 1	ILLINOIS	HIGHWAY PROJECT		

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	① ROADWAY I000-2A	② BICYCLE PATH/ SIDEWALK SFTY-1B	③ BRIDGE X020-2A	④ TRAFFIC SIGNAL INVERARY Y031-1F	⑤ TRAFFIC SIGNAL DEERFIELD Y031-1F	⑥ TRAFFIC SIGNAL INTERCONN Y031-1F
M2510630	EROSION CONTROL BLANKET	SQ M	3111	3111					
M2520110	SODDING, SALT TOLERANT	SQ M	783	783					
M2520200	SUPPLEMENTAL WATERING	UNIT	46.6	46.6					
M2800250	TEMPORARY EROSION CONTROL SEEDING	KG	35	35					
M2800400	PERIMETER EROSION BARRIER	METER	628	628					
M2810107	STONE RIPRAP, CLASS A4	SQ M	853			853			
M2820200	FILTER FABRIC	SQ M	846			846			
M3111100	SUB-BASE GRANULAR MATERIAL, TYPE B 100MM	SQ M	1022	1022					
M3111150	SUB-BASE GRANULAR MATERIAL, TYPE B 150MM	SQ M	1914		1914				
M3111300	SUB-BASE GRANULAR MATERIAL, TYPE B 300MM	SQ M	5885	5885					
M3530330	PORTLAND CEMENT CONCRETE BASE COURSE 330MM	SQ M	1022	1022					
M4060200	BITUMINOUS MATERIALS (PRIME COAT)	M TON	4.7	4.7					
M4060300	AGGREGATE (PRIME COAT)	M TON	24	24					
M4060895	CONSTRUCTING TEST STRIP	EACH	1	1					
M4060982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ M	74.3	74.3					
M4063310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	M TON	240		240				
M4063595	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90	M TON	720	720					
M4202285	PORTLAND CEMENT CONCRETE PAVEMENT 280MM (JOINTED)	SQ M	5885	5885					
M4205000	BRIDGE APPROACH PAVEMENT	SQ M	458	458					
M4205200	PROTECTIVE COAT	SQ M	3203	3203					
M4206100	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ M	35	35					
M4230200	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 200MM	SQ M	470	470					
M4240125	PORTLAND CEMENT CONCRETE SIDEWALK 125MM	SQ M	1910		1910				
M4400750	HOT-MIX ASPHALT SURFACE REMOVAL, 50MM	SQ M	5033	5033					
M4402000	PAVEMENT REMOVAL	SQ M	2540	2540					

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	① ROADWAY I000-2A	② BICYCLE PATH/ SIDEWALK SFTY-1B	③ BRIDGE X020-2A	④ TRAFFIC SIGNAL INVERARY Y031-1F	⑤ TRAFFIC SIGNAL DEERFIELD Y031-1F	⑥ TRAFFIC SIGNAL INTERCONN Y031-1F
M4402010	DRIVEWAY PAVEMENT REMOVAL	SQ M	500	500					
M4402040	COMBINATION CURB AND GUTTER REMOVAL	METER	501	501					
M4402060	APPROACH SLAB REMOVAL	SQ M	347	347					
M4402540	PAVEMENT BREAKING	SQ M	1547	1547					
M5020100	STRUCTURE EXCAVATION	CU M	176			176			
M5030280	CONCRETE ENCASEMENT	CU M	14			14			
M5030350	CONCRETE STRUCTURES	CU M	171.2			171.2			
M5030360	CONCRETE SUPERSTRUCTURE	CU M	213.2			213.2			
M5030390	BRIDGE DECK GROOVING	SQ M	427			427			
M5030450	PROTECTIVE COAT	SQ M	636			636			
M5080205	REINFORCEMENT BARS, EPOXY COATED	KG	40970			40970			
M5090010	ALUMINUM RAILING, TYPE L	METER	18			18			
M5090500	BICYCLE RAILING	METER	214		191	23			
M5090530	PARAPET RAILING	METER	23			23			
M5120128	FURNISHING METAL SHELL PILES 305MM X 4.55MM	METER	1298			1298			
M5120335	DRIVING PILES	METER	1298			1298			
M5120900	TEMPORARY SHEET PILING	SQ M	71			71			
M542E120	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 450MM	EACH	1	1					
M542E128	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 600MM	EACH	1	1					
M542E144	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 900MM	EACH	1	1					
M5504800	STORM SEWERS TO BE CLEANED	METER	100	100					
M5505530	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 300MM	METER	278	278					
M5505550	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 450MM	METER	75	75					
M5505560	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 525MM	METER	65	65					
M5505570	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 600MM	METER	194	194					
M5505610	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 900MM	METER	5	5					
M5510025	STORM SEWER REMOVAL 300MM	METER	25	25					

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② 50% STATE 50% VILLAGE 0F BUFFALO GROVE
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
SUMMARY OF QUANTITIES

PLOT DATE: 1/5/2008

1/5/2008

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1 Y-B-R-1	LAKE	121	5
FED. ROAD DIST. NO. 1	ILLINOIS	HIGHWAY PROJECT		

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	① ROADWAY I000-2A	② BICYCLE PATH/ SIDEWALK SFTY-1B	③ BRIDGE X020-2A	④ TRAFFIC SIGNAL INVERARY Y031-1F	⑤ TRAFFIC SIGNAL DEERFIELD Y031-1F	⑥ TRAFFIC SIGNAL INTERCONN Y031-1F
				CONSTRUCTION TYPE CODE					
M5910100	GEOCOMPOSITE WALL DRAIN	SQ M	50			50			
M6010605	PIPE UNDERDRAINS 100MM	METER	40	40					
M6011100	PIPE UNDERDRAINS FOR STRUCTURES 100MM	METER	61			61			
M6020180	CATCH BASINS, TYPE A, 1.2M DIAMETER, TYPE 23 FRAME AND GRATE	EACH	6	6					
M6021410	MANHOLES, TYPE A, 1.2M DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	19	19					
M6060700	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-15.60	METER	1263	1263					
* M6300100	STEEL PLATE BEAM GUARD RAIL, TYPE A	METER	162	162					
M6320030	GUARDRAIL REMOVAL	METER	189	189					
M7030100	SHORT-TERM PAVEMENT MARKING	METER	400	400					
M7030220	TEMPORARY PAVEMENT MARKING - LINE 100MM	METER	2240	2200			40		
M7030240	TEMPORARY PAVEMENT MARKING - LINE 150MM	METER	52.5	52.5					
M7030260	TEMPORARY PAVEMENT MARKING - LINE 300MM	METER	81.2	81.2					
M7030280	TEMPORARY PAVEMENT MARKING - LINE 600MM	METER	9				9		
M7031000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ M	20	20					
M7040100	TEMPORARY CONCRETE BARRIER	METER	180	180					
M7040200	RELOCATE TEMPORARY CONCRETE BARRIER	METER	180	180					
M7800100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ M	9				9		
M7800105	THERMOPLASTIC PAVEMENT MARKING - LINE 100MM	METER	2240	2200			40		
M7800115	THERMOPLASTIC PAVEMENT MARKING - LINE 150MM	METER	52.5	52.5					
M7800125	THERMOPLASTIC PAVEMENT MARKING - LINE 300MM	METER	81.2	81.2					
* M7800140	THERMOPLASTIC PAVEMENT MARKING - LINE 600MM	METER	9	9					
M7802010	POLYUREA PAVEMENT MARKING TYPE I - LINE 100MM	METER	182.3	182.3					
M8100060	CONDUIT IN TRENCH, 50MM DIA., GALVANIZED STEEL	METER	406						406
M8100070	CONDUIT IN TRENCH, 65MM DIA., GALVANIZED STEEL	METER	4.6					4.6	

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	① ROADWAY I000-2A	② BICYCLE PATH/ SIDEWALK SFTY-1B	③ BRIDGE X020-2A	④ TRAFFIC SIGNAL INVERARY Y031-1F	⑤ TRAFFIC SIGNAL DEERFIELD Y031-1F	⑥ TRAFFIC SIGNAL INTERCONN Y031-1F
				CONSTRUCTION TYPE CODE					
M8101050	CONDUIT PUSHED, 50MM DIA., GALVANIZED STEEL	METER	110						110
M8101060	CONDUIT PUSHED, 65MM DIA., GALVANIZED STEEL	METER	5				5		
M8120230	CONDUIT EMBEDDED IN STRUCTURE, 50 MM DIA. PVC	METER	18.5						18.5
M8190200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	METER	411				5		406
M8731210	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	METER	201				61	140	
M8731220	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	METER	201				61	140	
M8731240	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	METER	31				31		
* M8731300	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	METER	83				83		
M8731800	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	METER	37				37		
M8750050	TRAFFIC SIGNAL POST, 3.00 METER	EACH	1					1	
M8750090	TRAFFIC SIGNAL POST, 4.25 METER	EACH	1				1		
M8750110	TRAFFIC SIGNAL POST, 4.85 METER	EACH	3				3		
M8860100	DETECTOR LOOP, TYPE I	METER	52				52		
M8950230	REMOVE ELECTRIC CABLE FROM CONDUIT	METER	1354					1354	
M8950235	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	METER	25				25		
MX032178	TEMPORARY INFORMATION SIGNING	SQ M	6.9	6.9					
MX032529	SEGMENTAL CONCRETE BLOCK WALL	SQ M	268		268				
* MX032922	ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1C	METER	37				37		
MX033704	MANHOLE TY A 1.2M DIA W/FR & LID	EACH	10	10					
* MX871055	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	METER	823						823
* X0322374	REMOVE EXISTING TRAFFIC SIGNAL HEAD	EACH	25				11	14	
* X0322936	REMOVE EXISTING FLARED END SECTION	EACH	4	4					
* X0323412	REMOVE EXISTING SERVICE INSTALLATION	EACH	1				1		
* X0962500	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	L SUM	1				1		
X4022000	TEMPORARY ACCESS (COMMERCIAL ENTRANCE)	EACH	3	3					

①	②	③	④	⑤	⑥
80% FED. 20% STATE	50% STATE 50% VILLAGE OF BUFFALO GROVE	80% FED. 20% STATE	80% FED. 13.3% STATE 6.7% VERNON TWP.	80% FED. 10% STATE 5% BUFFALO GROVE 5% LAKE COUNTY	80% FED. 20% STATE

*SPECIALTY ITEMS

Rev.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
SUMMARY OF QUANTITIES

PLOT DATE: 1/5/2008

1/5/2008

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1 Y-B-R-1	LAKE	121	5a
FED. ROAD DIST. NO. 1	ILLINOIS	HIGHWAY PROJECT		

SUMMARY OF QUANTITIES

				CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	① ROADWAY I000-2A	② BICYCLE PATH/ SIDEWALK SFTY-1B	③ BRIDGE X020-2A	④ TRAFFIC SIGNAL INVERARY Y031-1F	⑤ TRAFFIC SIGNAL DEERFIELD Y031-1F	⑥ TRAFFIC SIGNAL INTERCONN Y031-1F
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1			1			
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1			1			
* X8050015	SERVICE INSTALLATION - POLE MOUNTED	EACH	1				1		
X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	2				1	1	
XX003136	CATCH BASIN TYPE C	EACH	2	2					
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	0.5		0.5			
Z0030240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2					
Z0030340	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2					
MX033290	SEDIMENT CONTROL, SILT FENCE	METER	50	50					

① 80% FED. 20% STATE
② 50% STATE 50% VILLAGE 0F BUFFALO GROVE
③ 80% FED. 20% STATE
④ 80% FED. 13.3% STATE 6.7% VERNON TWP.
⑤ 80% FED. 10% STATE 5% BUFFALO GROVE 5% LAKE COUNTY
⑥ 80% FED. 20% STATE

SUMMARY OF QUANTITIES

				CONSTRUCTION TYPE CODE					
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	ROADWAY I000-2A	~~BICYCLE PATH/ SIDEWALK SFTY-1B~~	~~BRIDGE X020-2A~~	TRAFFIC SIGNAL INVERARY I000-2A	TRAFFIC SIGNAL DEERFIELD I000-2A	TRAFFIC SIGNAL INTERCONN I000-2A

*SPECIALTY ITEMS

REVISIONS	
NAME	DATE

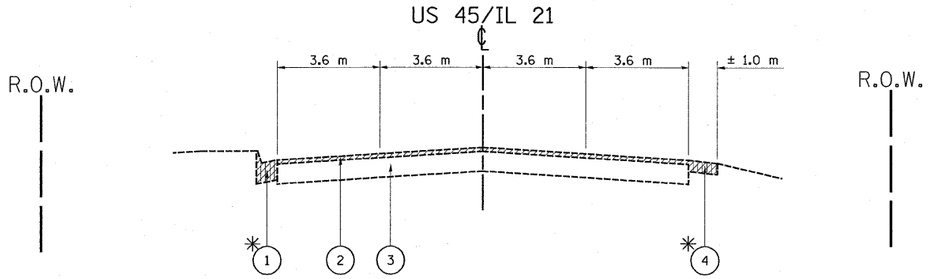
ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
SUMMARY OF QUANTITIES

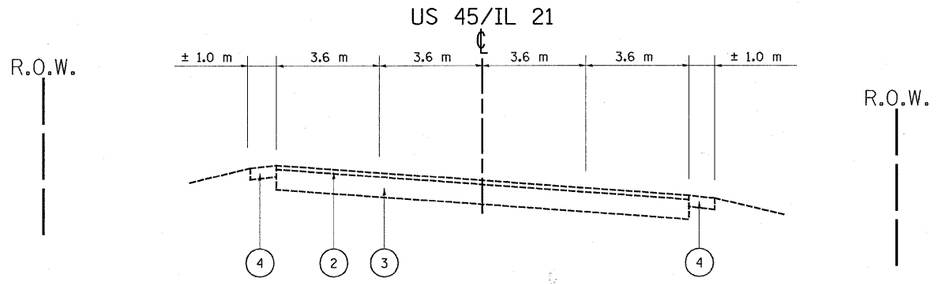
PLOT DATE: 1/5/2008

CONTRACT NO. 62032

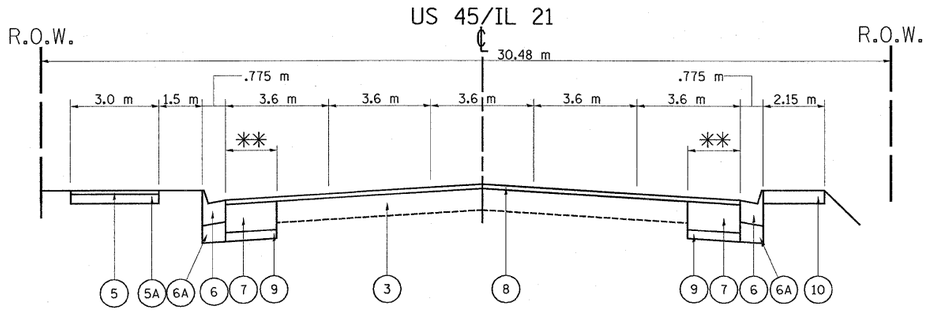
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



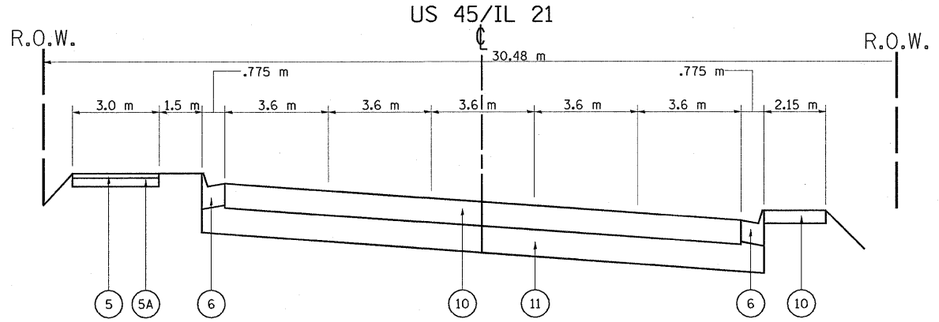
EXISTING TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 9+735 TO STA. 9+811.3



EXISTING TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 9+811.3 TO STA. 9+900



PROPOSED TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 9+735 TO STA. 9+811.3



PROPOSED TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 9+811.3 TO STA. 9+900

LEGENDS

(1) EXISTING CONCRETE CURB & GUTTER

(2) EXISTING HMA SURFACE, 50mm

(3) EXISTING PCC SLAB

(4) EXISTING AGGREGATE SHOULDER TY A

BIKE PATH

(5) HMA SURFACE COURSE, MIX "C", N 50, 50mm

(5A) SUB-BASE GRANULAR MATERIAL, (TYP) 150 mm

✳ TO BE REMOVED WHERE HATCHED

✳✳ 1.8 m AND VARIES, WIDENING LIMIT

COMB. CC & G

(6) PROPOSED COMB. CC & G TY. B-15.60. (TYP)

(6A) 190 mm ADDITIONAL SUB-BASE GRANULAR MATERIAL TY B
COST INCL. IN CCC & G. NO ADDITIONAL COST

(7) PROPOSED PCC BASE COURSE, 330 mm

(8) PROPOSED HMA SURFACE COURSE MIX "F", N90, 50 mm

(9) PROPOSED SUB-BASE GRANULAR MATERIAL, TY B, 100 mm

(10) PROPOSED PCC PVT, 280mm, JOINTED

(11) PROPOSED SUB-BASE GRANULAR MATERIAL, TY B, 300 mm

(12) PROPOSED PCC SIDEWALK, 125mm

(13) PROPOSED RETAINING WALL

REVISIONS	
NAME	DATE

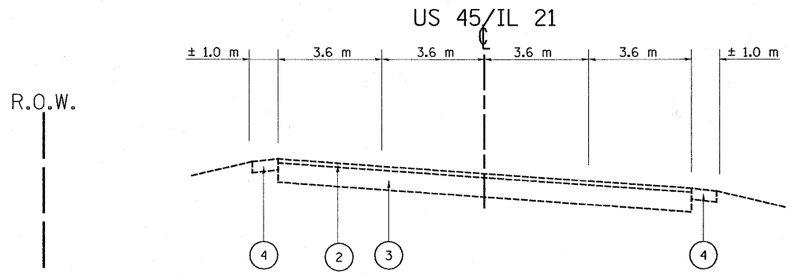
ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
TYPICAL SECTION

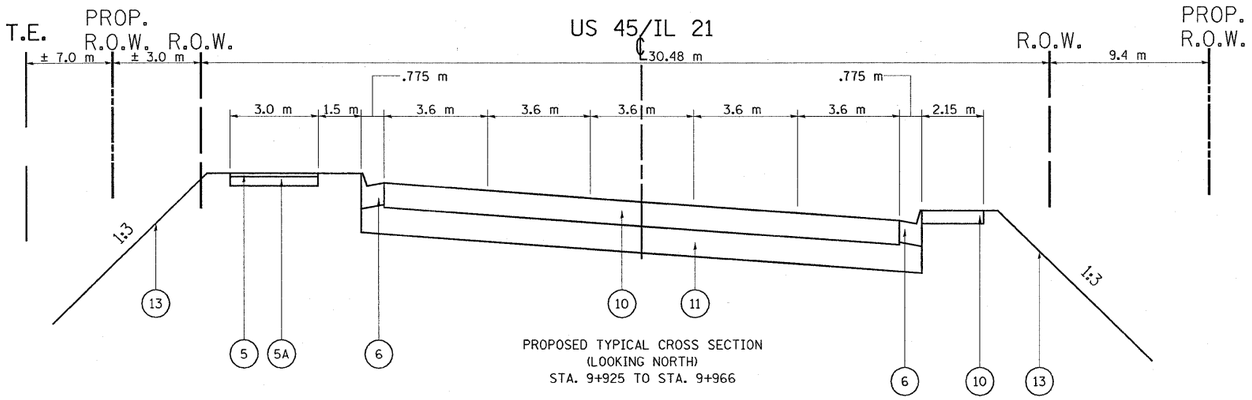
DRAWN BY
DATE CHECKED BY

CONTRACT NO. 62032

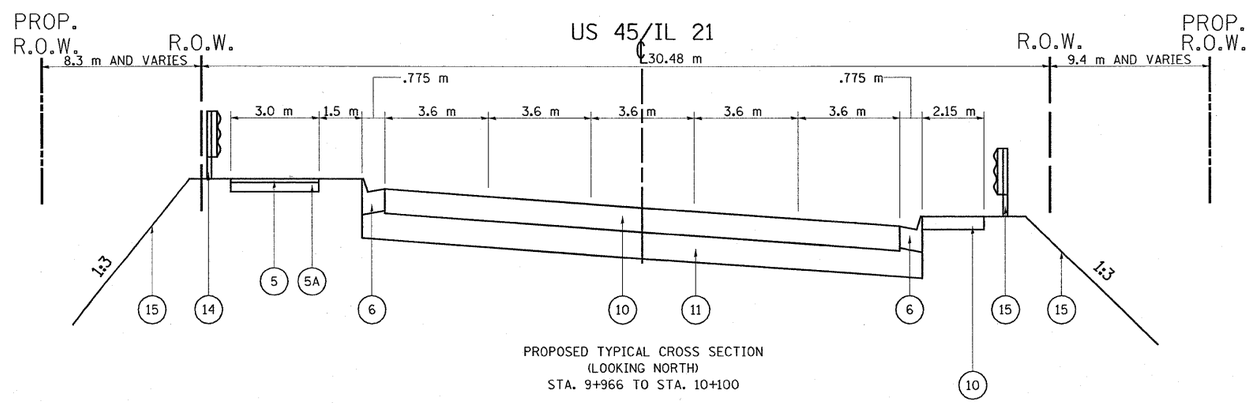
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	7
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



EXISTING TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 9+900 TO STA. 10+109.4



PROPOSED TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 9+925 TO STA. 9+966



PROPOSED TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 9+966 TO STA. 10+100

LEGENDS

(1) EXISTING CONCRETE CURB & GUTTER TO BE REMOVED

(2) EXISTING HMA SURFACE TO BE REMOVED, 50mm

(3) EXISTING PCC SLAB

(4) EXISTING AGGREGATE SHOULDER TY A

BIKE PATH

(5) HMA SURFACE COURSE, MIX "C", N 50, 50mm

(5A) SUB-BASE GRANULAR MATERIAL, 150 mm

(6) PROPOSED CCC & G TY. B-15.60. (TYP)

(7) PROPOSED PCC BASE COURSE, 330 mm

(8) PROPOSED HMA SURFACE COURSE MIX "F", N90, 50 mm

(9) PROPOSED SUB-BASE GRANULAR MATERIAL, TY B, 100 mm

(10) PROPOSED PCC PVT, 280 mm, JOINTED

(11) PROPOSED SUB-BASE GRANULAR MATERIAL, TY B, 300 mm

(12) PROPOSED PCC SIDEWALK, 125 mm

(13) PROPOSED STEEL PLATE BEAM GUARDRAIL

(14) PROPOSED STEEL PLATE BEAM GUARDRAIL

(15) PROPOSED EMBANKMENT

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

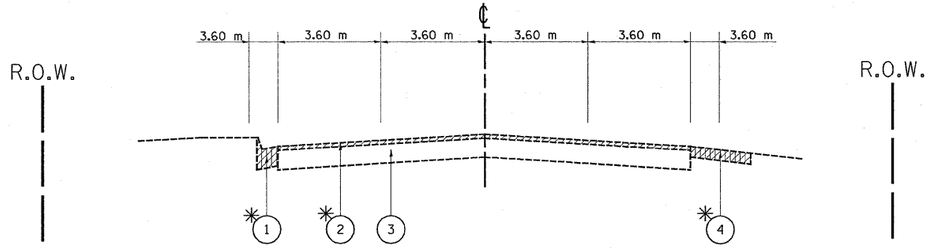
US 45/IL 21
OVER APTAKISIC CREEK
TYPICAL SECTION

DRAWN BY
DATE CHECKED BY

CONTRACT NO. 62032

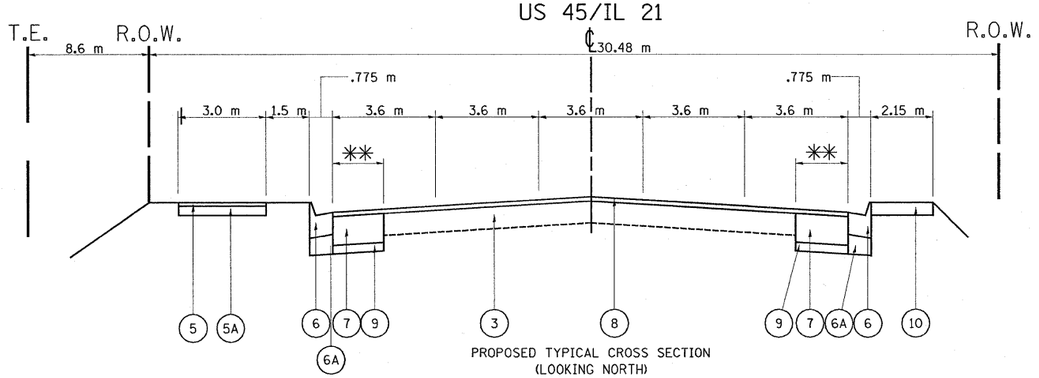
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	8
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

US 45/IL 21



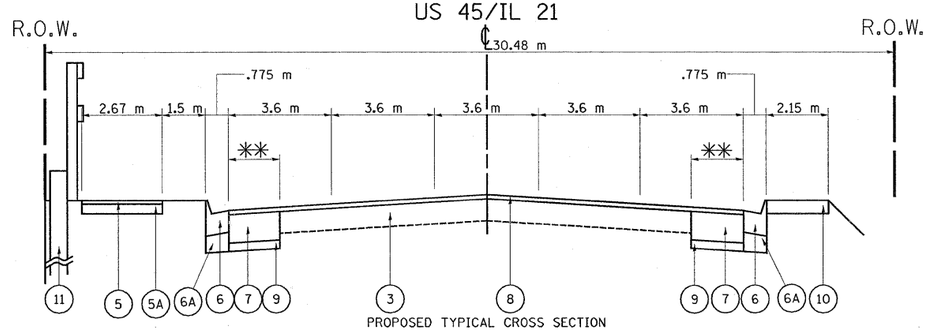
EXISTING TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 9+109.4 TO STA. 10+381

US 45/IL 21



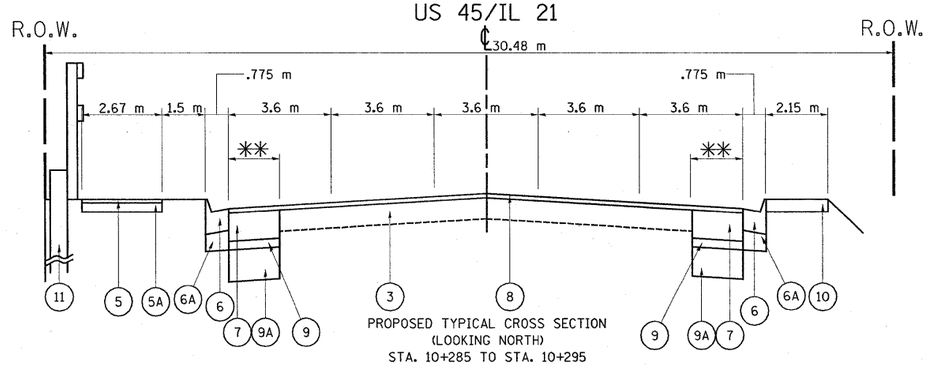
PROPOSED TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 10+109.4 TO STA. 10+155.3

US 45/IL 21



PROPOSED TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 10+155.3 TO STA. 10+285
STA. 10+295 TO STA. 10+340
STA. 10+350 TO STA. 10+381

US 45/IL 21



PROPOSED TYPICAL CROSS SECTION
(LOOKING NORTH)
STA. 10+285 TO STA. 10+295
STA. 10+340 TO STA. 10+350

LEGENDS

(1) EXISTING CONCRETE CURB & GUTTER TO BE REMOVED

(2) EXISTING HMA SURFACE TO BE REMOVED, 50mm

(3) EXISTING PCC SLAB

(4) EXISTING AGGREGATE SHOULDER TY A

BIKE PATH

(5) HMA SURFACE COURSE, MIX "C", N 50, 50mm

(5A) SUB-BASE GRANULAR MATERIAL, 150 mm

COMB CC & G

(6) PROPOSED COMB CC & G TY. B-15.60. (TYP)

(6A) 190 mm ADDITIONAL SUB-BASE GRANULAR MATERIAL TY B
COST INCL. IN CCC & G, NO ADDITIONAL COST

(7) PROPOSED PCC BASE COURSE, 330 mm

(8) PROPOSED HMA SURFACE COURSE MIX "F", N90, 50 mm

(9) PROPOSED SUB-BASE GRANULAR MATERIAL, TY B, 100 mm

*** (9A) PROPOSED POROUS GRANULAR EMBANKMENT, SUBGRADE
STA. 10+285 TO STA. 10+295, PGES DEPTH 600 mm
STA. 10+340 TO STA. 10+350, PGES DEPTH 150 mm

(10) PROPOSED PCC PVT, 280 mm, JOINTED

(11) PROPOSED SUB-BASE GRANULAR MATERIAL, TY B, 300 mm

(12) PROPOSED SIDEWALK, 125 mm

(13) PROPOSED RETAINING WALL

HOT-MIX ASPHALT MIXTURE SELECTION TABLE-ROADWAY

MIX TYPE	AC TYPE	% AIR VOIDS
POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90 (IL-9.5 mm)	SBS/SBR PG 70-22	4% @ 90 Gyr

HOT-MIX ASPHALT MIXTURE SELECTION TABLE-BIKE PATH

MIX TYPE	AC TYPE	% AIR VOIDS
HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 (IL-9.5 mm)	PG 64-22	4% @ 50 Gyr

NOTE: THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE IS 2.4 $Kg^3/m/mm$

* TO BE REMOVED WHERE HATCHED

** 1.8 m AND VARIES, WIDENING LIMIT

*** FOR OTHER LOCATIONS SEE CROSS SECTIONS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
TYPICAL SECTION

DRAWN BY
DATE CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	9
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

EARTHWORK QUANTITIES

US RTE 45 / IL 21 OVER APTAKISIC CREEK	EARTH EXCAVATION (CU METER)		UNSUITABLE MATERIAL (CU METER)		EMBANKMENT (CU METER)		ADJUSTMENT FOR SHRINKAGE (CU METER)		FURNISHED EXCAVATION (CU METER)		TOP SOIL FURNISH AND PLACE (SQ METER)	
	STAGE I	STAGE II	STAGE I	STAGE II	STAGE I	STAGE II	STAGE I	STAGE II	STAGE I	STAGE II	STAGE I	STAGE II
US 45/IL 21 (STA. 9+706 TO STA. 9+805.4)	80	80	20	20	3	3	51	51	-48	-48	200	200
US 45/IL 21 (STA. 9+805.4 TO STA. 10+125.49)	1429	1375	140	140	2636	2636	1034	1034	1602	1602	1250	1250
US 45/IL 21 (STA. 10+125.49 TO STA. 10+381)	421	421	100	100	77	77	259	259	-182	-182	500	500
TOTAL	1930	1876	150	150	2716	2716	712	712	1372	1372	1950	1950

COLUMN 1: LOCATION FROM PLANS

COLUMN 2: CUT QUANTITIES FROM CROSS SECTIONS, WHICH DOES NOT INCLUDE UNSUITABLE MATERIAL

COLUMN 3: CUT MATERIAL THAT IS DERTERMINED TO BE EITHER UNSTABLE OR UNSUITABLE FOR USE IN EMBANKMENT, ASSUME 15 cm FROM SURFACE OF UNSUITABLE MATERIAL

COLUMN 4: QUANTITIES FROM CROSS SECTION (FILL)

COLUMN 5: EARTH EXCAVATION THAT IS TO BE USED AS FILL MATERIAL IN THE EMBANKMENT. SHIRINKAGE FACTOR WAS DETERMINED TO BE 15%

COLUMN 6: COLUMN 4 MINUS COLUMN 5

COLUMN 7: AREA OF SEEDING AND SODDING

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
TYPICAL SECTION

DRAWN BY

DATE CHECKED BY

CONTRACT NO. 62032

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			121	10
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

Tangent Runout (TR) = 16.22 m
Superelevation Runoff Length = 38.93 m
e = 2.4 %
PC Station = 9+867.269
PT Station = 10+125.554

	Station	S.E. Cross Slope LT	%	RT	%	CL Elev. (m)	EOP Elev. (m) LT	RT
TR	9+867.269	-0.020	-2.000	0.0200	2.00	196.1176	195.9376	195.9376
	9+872.269	-0.0140	-1.4000	0.0200	2.00	196.1126	195.9866	195.9326
	9+877.269	-0.0070	-0.7000	0.0200	2.00	196.1077	196.0447	195.9277
	9+883.489	0.000	0.000	0.0200	2.00	196.1015	196.1015	195.9215
SE Run	9+889	0.0034	0.3400	0.0200	2.00	196.1165	196.1471	195.9365
	9+894	0.0064	0.6400	0.0200	2.00	196.1466	196.2042	195.9666
	9+899	0.0095	0.9500	0.0200	2.00	196.1873	196.2728	196.0073
	9+904	0.0130	1.3000	0.0200	2.00	196.2386	196.3556	196.0586
	9+909	0.0156	1.5600	0.0200	2.00	196.3005	196.4409	196.1205
	9+914	0.0186	1.8600	0.0200	2.00	196.373	196.5404	196.193
	9+916.209	0.0200	2.0000	0.0200	2.00	196.4085	196.5885	196.2285
	9+919	0.0217	2.1700	0.0217	2.17	196.4562	196.6515	196.2609
	9+922.419	0.024	2.400	0.0240	2.40	196.5191	196.7351	196.3031
SE Run	10+070.404	0.0240	2.4000	0.0240	2.40	196.7849	197.0009	196.5689
	10+075	0.0210	2.1000	0.0210	2.10	196.6897	196.8787	196.5007
	10+076.614	0.0200	2.0000	0.0200	2.00	196.6591	196.8391	196.4791
	10+080	0.0179	1.7900	0.0200	2.00	196.5991	196.7602	196.4191
	10+085	0.0149	1.4900	0.0200	2.00	196.5219	196.656	196.3419
	10+090	0.0118	1.1800	0.0200	2.00	196.4583	196.5645	196.2783
	10+095	0.0088	0.8800	0.0200	2.00	196.4081	196.4873	196.2281
	10+100	0.0057	0.5700	0.0200	2.00	196.3714	196.4227	196.1914
	10+105	0.0026	0.2600	0.0200	2.00	196.3482	196.3716	196.1682
TR	10+109.334	0.0000	0.0000	0.0200	2.00	196.339	196.339	196.159
	10+115.554	-0.0070	-0.7000	0.0200	2.00	196.3435	196.2805	196.1635
	10+120.554	-0.0140	-1.4000	0.0200	2.00	196.3566	196.2306	196.1766
	10+125.554	-0.02	-2.0000	0.0200	2.00	196.3635	196.1835	196.1835

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

IL. RTE. 21/ U.S. 45
SUPERELEVATION TABLE

DRAWN BY
DATE 12/21/2007 CHECKED BY

PLOT DATE = 12/21/2007
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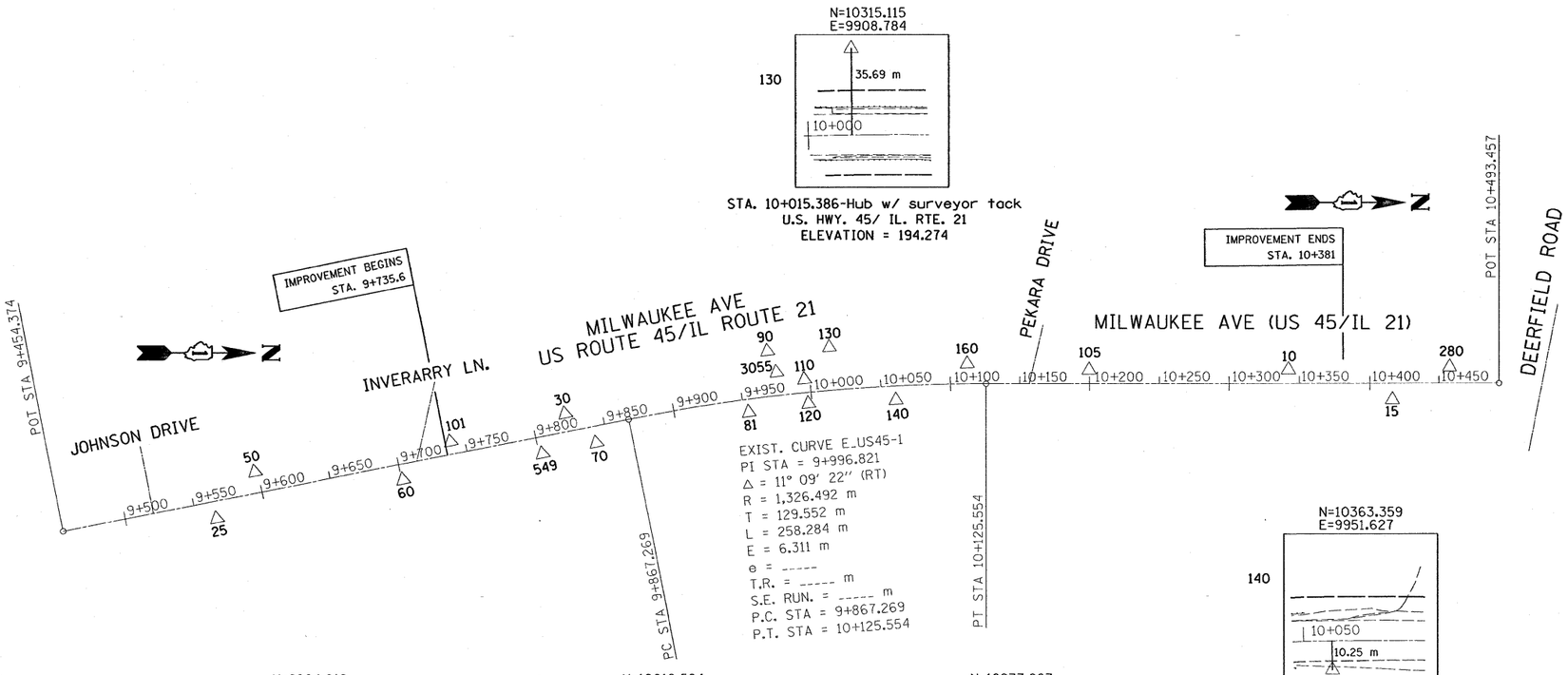
PLOT SCALE = 500.0000 m / M.
USER NAME = ulrichkd

CONTRACT # 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	/ /
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

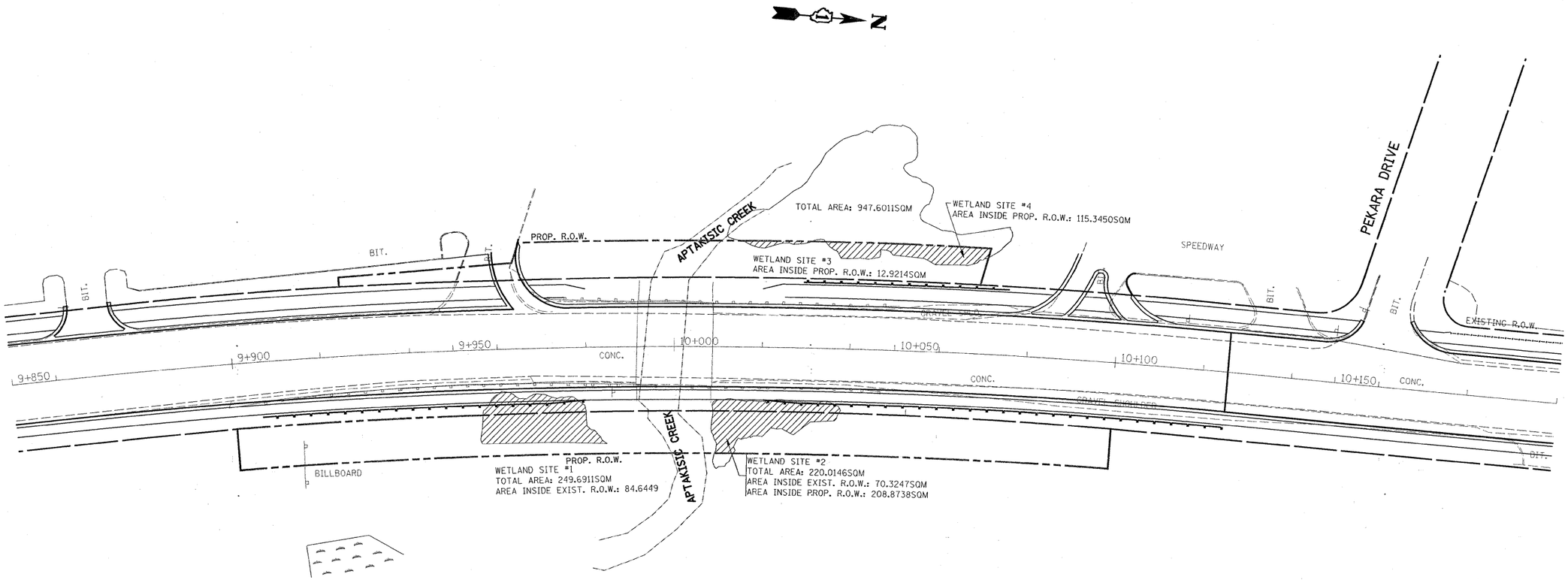
IL. RTE. 21/ U.S. 45
ALIGNMENT, TIES,
& BENCHMARKS PLAN

DRAWN BY

DATE 12/28/2007 CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	12
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
WETLANT LOCATIONS

SCALE IN METERS
1:500
DATE

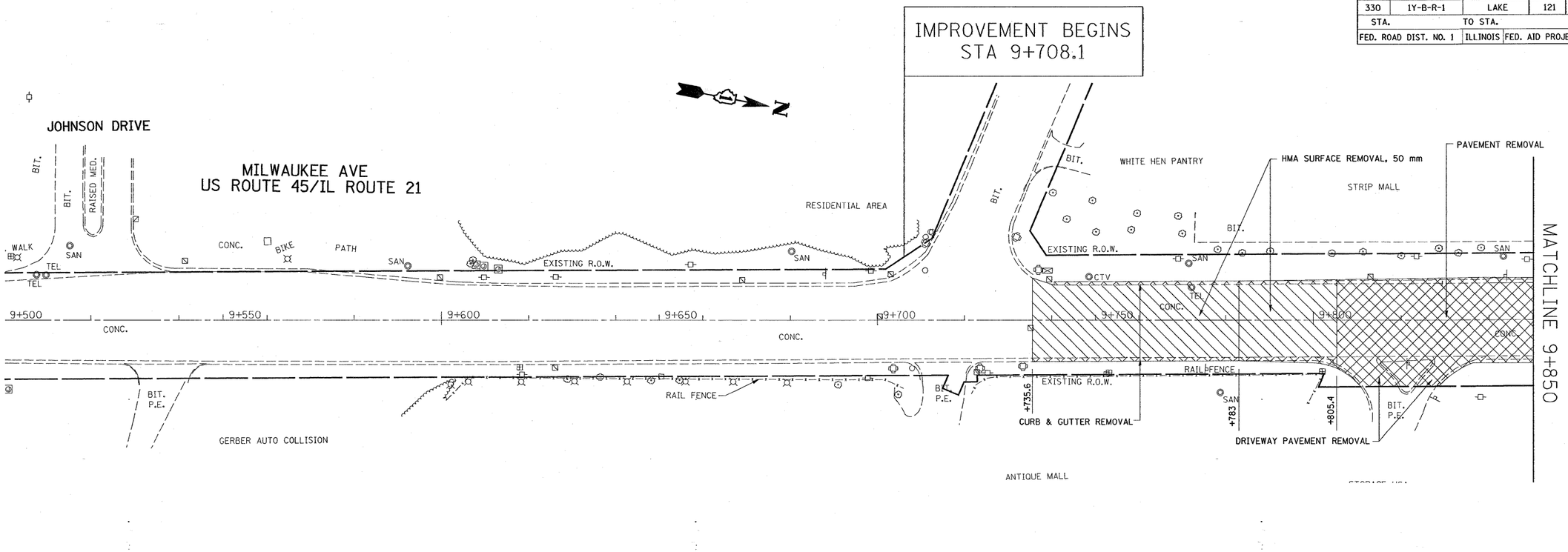
DRAWN BY

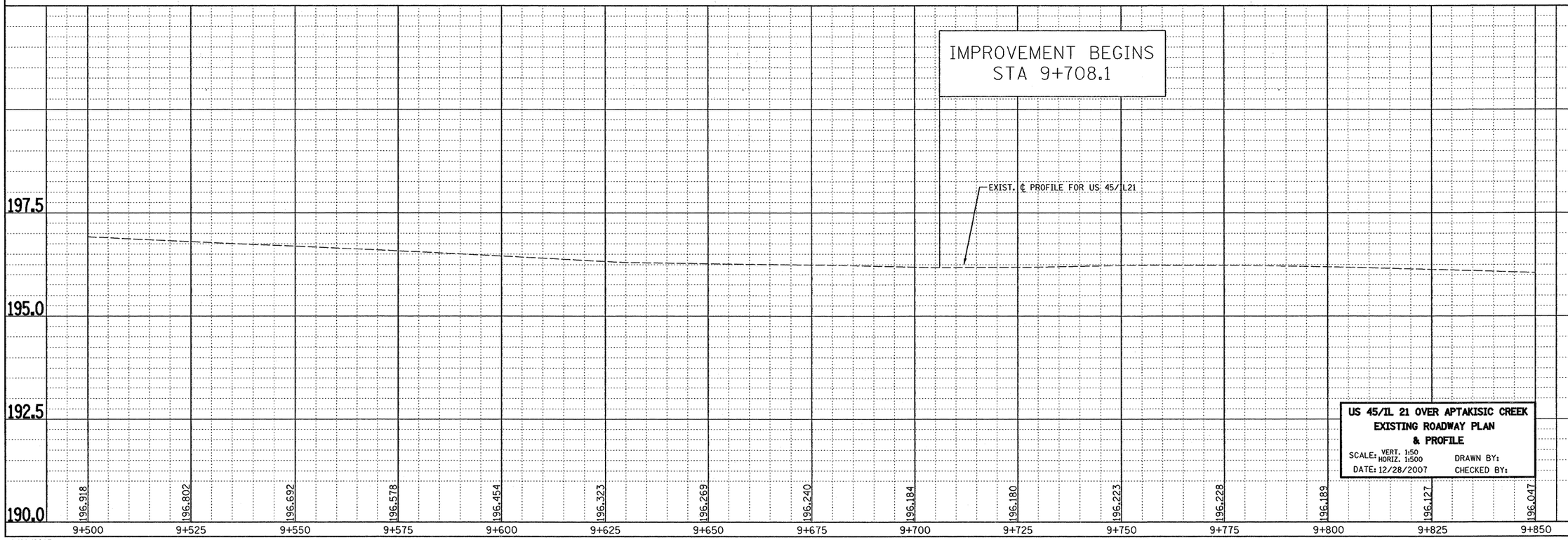
CHECKED BY

•REF-
•REF-
•REF-

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	13
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	



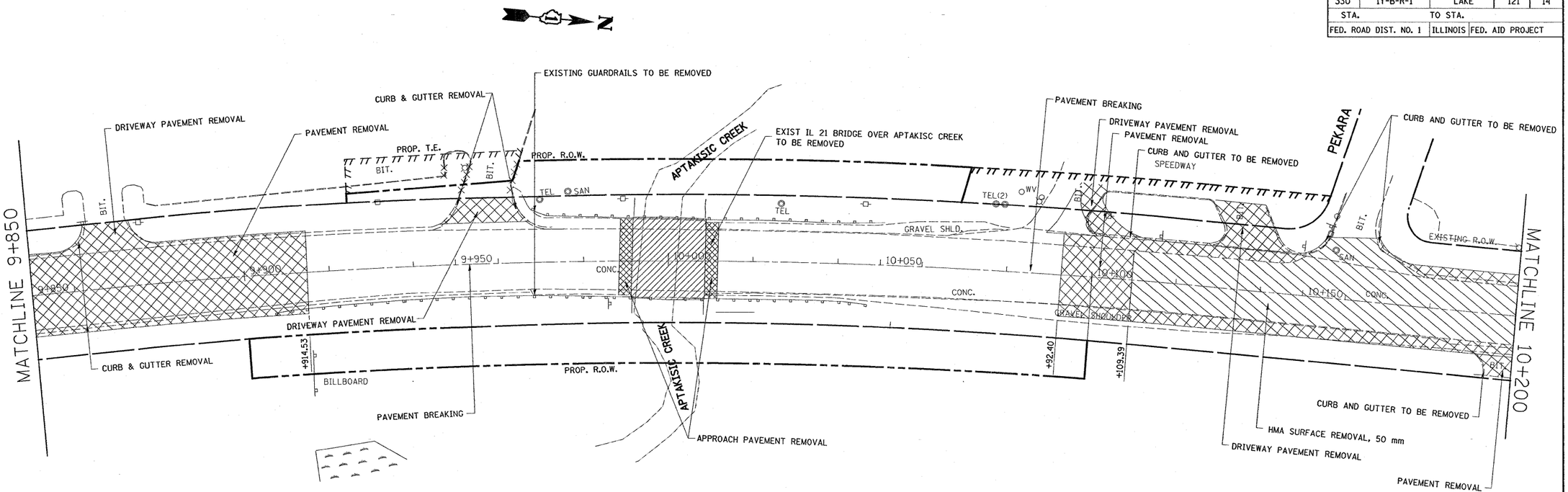


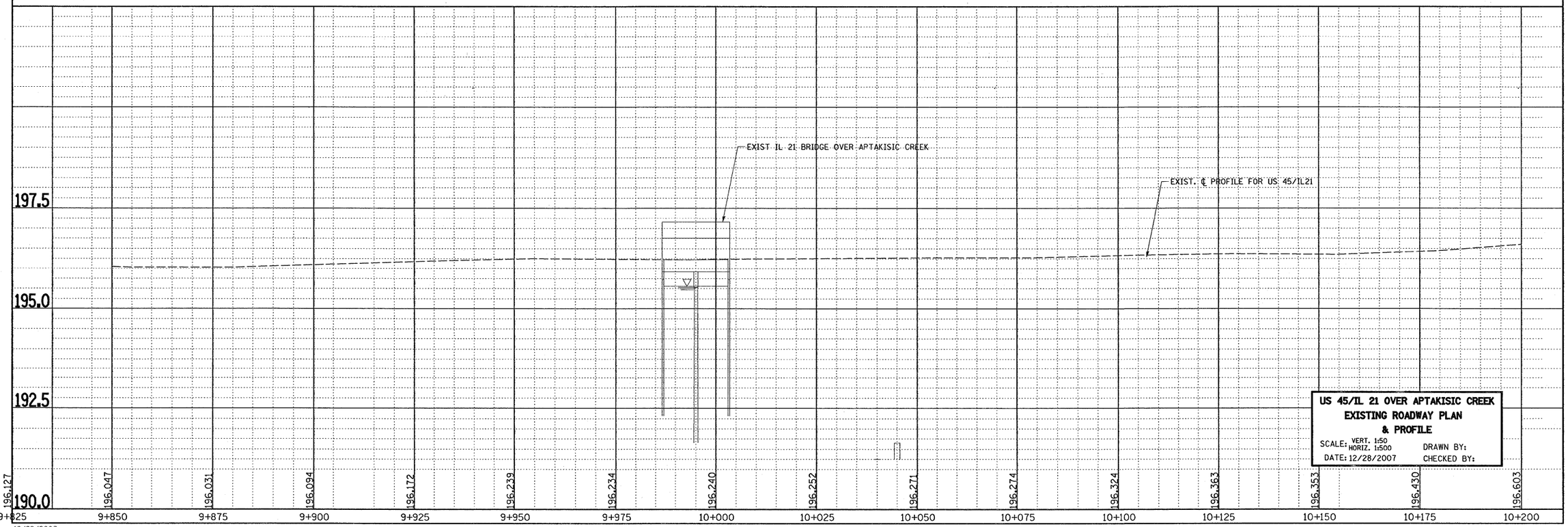
12/28/2007
c:\projects\d1433008\design_aa.dgn

•REF-
•REF-
•REF-

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	14
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	





US 45/IL 21 OVER APTAKISIC CREEK
EXISTING ROADWAY PLAN & PROFILE

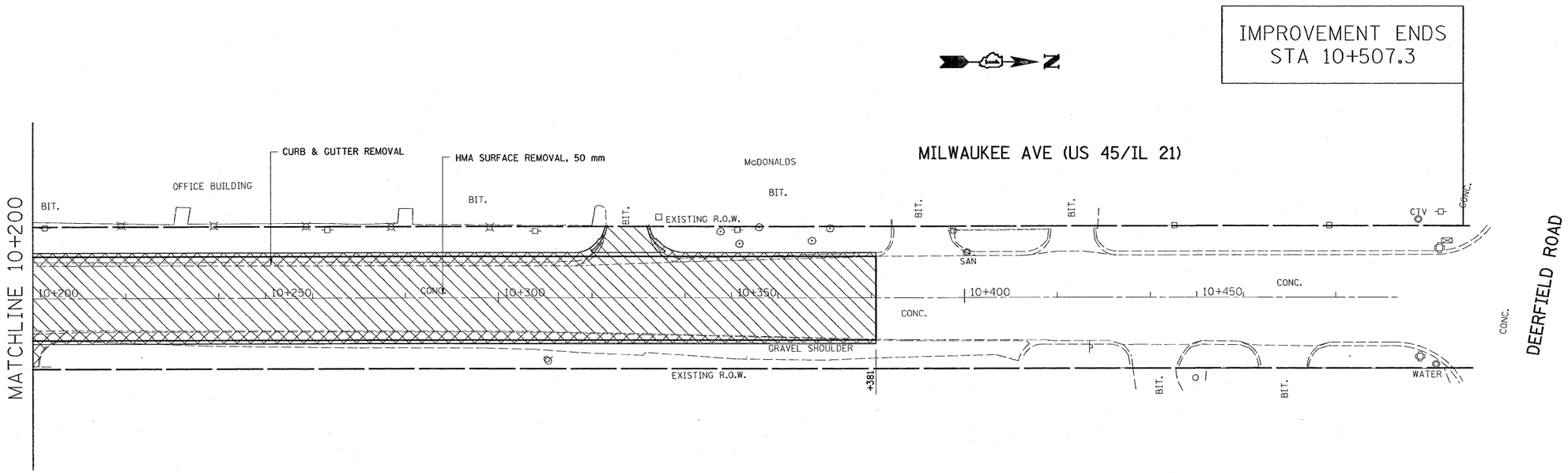
SCALE: VERT. 1:50 HORIZ. 1:500
DATE: 12/28/2007
DRAWN BY:
CHECKED BY:

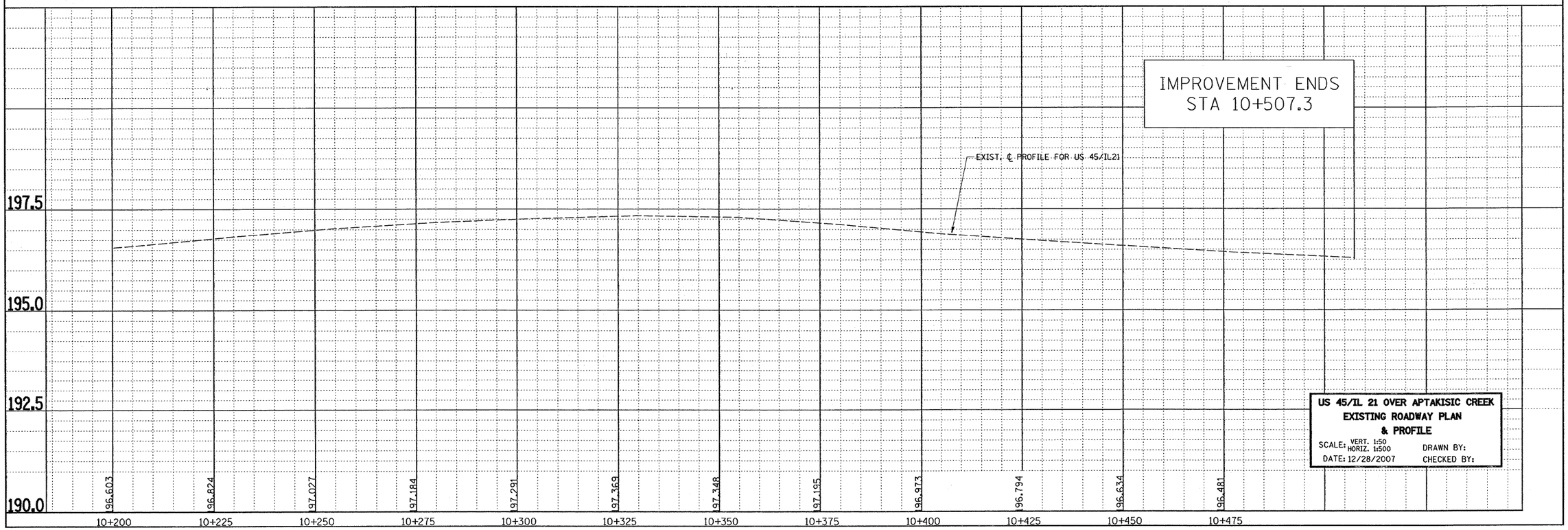
196.189
+800

12/28/2007
c:\projects\d1433008\design_aa.dgn
hyunsh

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	15
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	





12/28/2007
c:\projects\d1433008\design_ac.dgn

•REF-
•REF-
•REF-

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	16
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

IMPROVEMENT BEGINS
STA 9+706.1

N

JOHNSON DRIVE

MILWAUKEE AVE
US ROUTE 45/IL ROUTE 21

INVERARRY LN.

EXISTING R.O.W.

9+500 9+550 9+600 9+650 9+700 9+750 9+800

PROP. P.C.C. SIDEWALK,
125 mm (TYP.)

ROADWAY RECONSTRUCTION
PROPOSED JPCC COURSE, 280 mm
PROPOSED SUB-BASE GRUANULAR MATERIA, TY B, 300 mm

PROPOSED HMA BIKE PATH
HMA SURFACE CRSE MIX "C", N50, 50 mm
SUB-BASE GRANULAR MATERIAL, 150 mm

COMB. CONC. C & G
TY B-15.60

ROADWAY RESURFACING
PROPOSED POLYMERIZED HMA SURFACE COURSE,
MIX "F", N90, 50 mm

3.0m

16.7 m

18.0 m

EXISTING R.O.W.

2.15m

5.75m

4.6m

+735.6

+783

+805.4

+811.3
R=16.15m
O/S=15.2m

+827.9
R=16.15m
O/S=15.1m

RESURFACING

WIDENING AND
RESURFACING

RECONSTRUCTION

ROADWAY WIDENING
PROPOSED POLYMERIZED HMA SURFACE COURSE MIX "F", N90, 50 mm
PROPOSED PCC BASE COURSE, 330 mm
PROPOSED SUB-BASE GRANULAR MATERIAL, TY B, 100 mm

COMMERCIAL DRIVEWAY
SEE DRIVEWAY DETAILS

MATCHLINE 9+850

IMPROVEMENT BEGINS
STA 9+706.1

EXIST. ℄ PROFILE FOR US 45/IL 21

PROP. ℄ PROFILE FOR US 45/IL 21

197.5
195.0
192.5
190.0

96.918 96.802 96.692 96.578 96.454 96.323 96.269 96.240 96.184 96.180 96.223 96.223 96.228 96.228 96.189 96.189 96.127 96.160 96.047 96.135

9+500 9+525 9+550 9+575 9+600 9+625 9+650 9+675 9+700 9+725 9+750 9+775 9+800 9+825 9+850

US 45/IL 21 OVER APTAKISIC CREEK
PROPOSED ROADWAY PLAN & PROFILE

SCALE: VERT. 1:50 HORIZ. 1:500
DATE: 1/5/2008
DRAWN BY:
CHECKED BY:

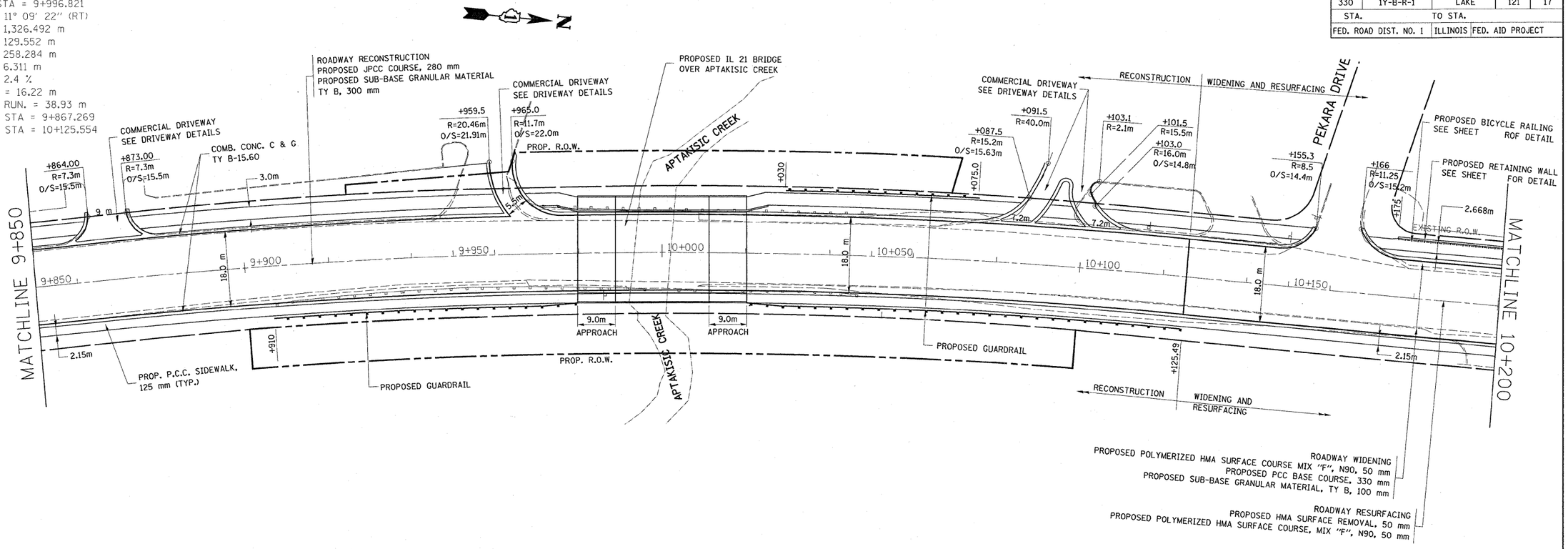
1/5/2008

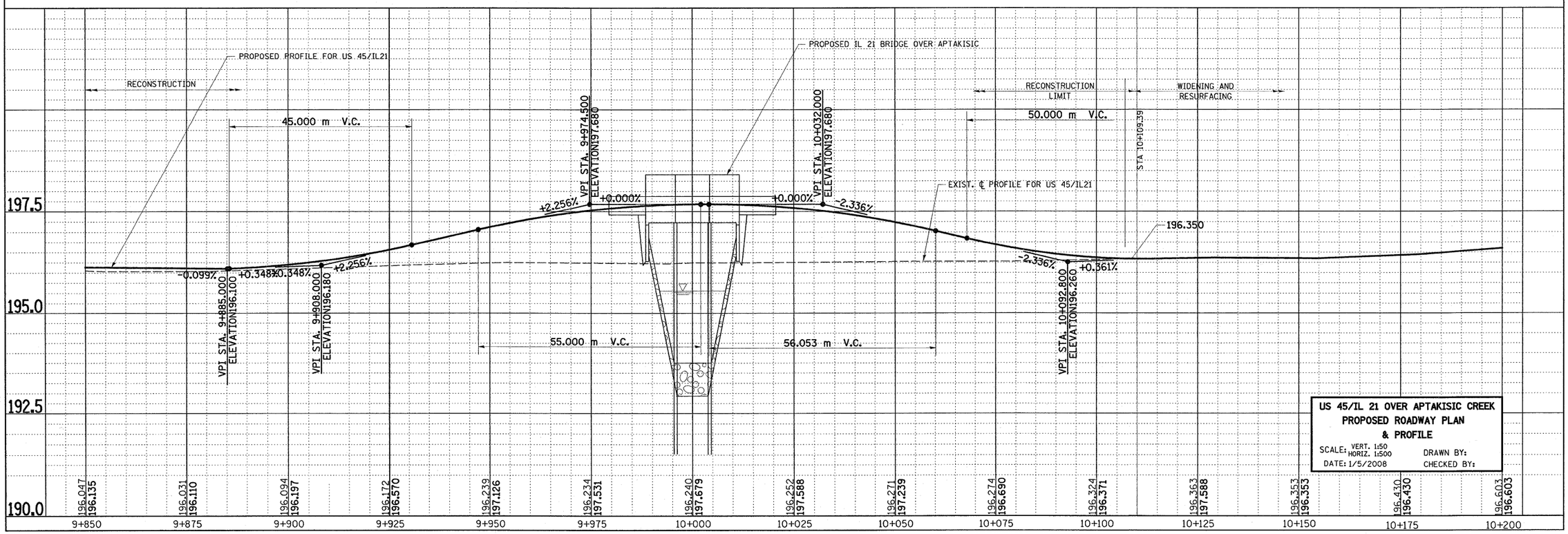
*REF-
*REF-
*REF-

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	17
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

PROPOSED. CURVE E_US45-1
PI STA = 9+996.821
Δ = 11° 09' 22" (RT)
R = 1,326.492 m
T = 129.552 m
L = 258.284 m
E = 6.311 m
e = 2.4 %
T.R. = 16.22 m
S.E. RUN. = 38.93 m
P.C. STA = 9+867.269
P.T. STA = 10+125.554





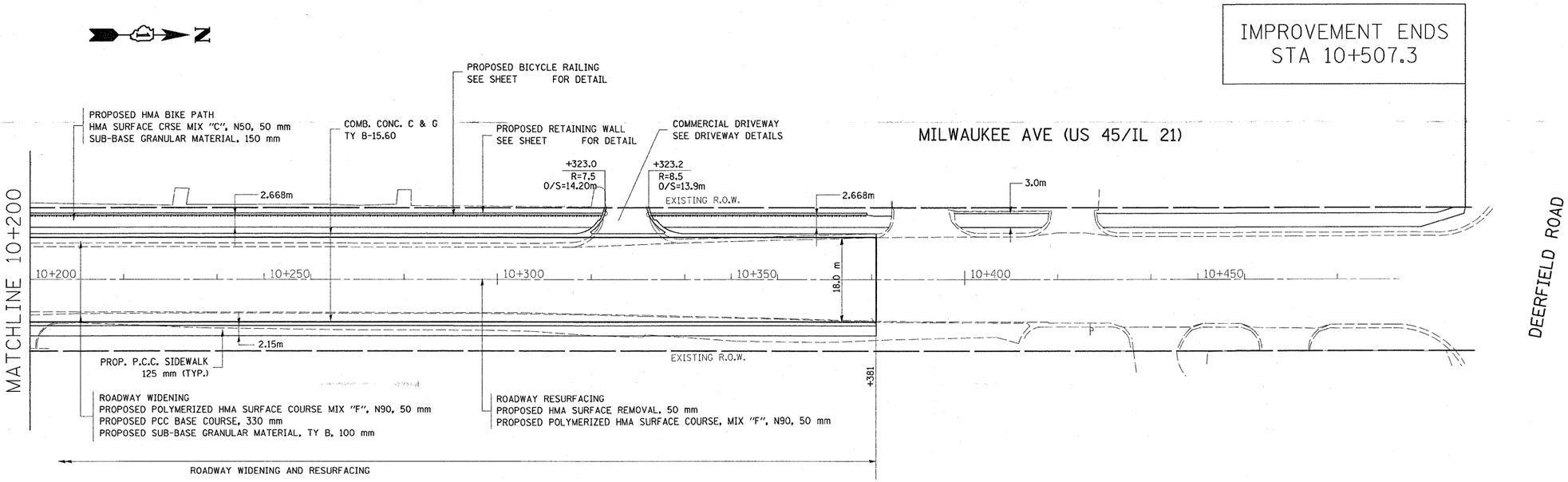
US 45/IL 21 OVER APTAKISIC CREEK
PROPOSED ROADWAY PLAN & PROFILE
SCALE: VERT. 1:50 HORIZ. 1:500
DATE: 1/5/2008
DRAWN BY:
CHECKED BY:

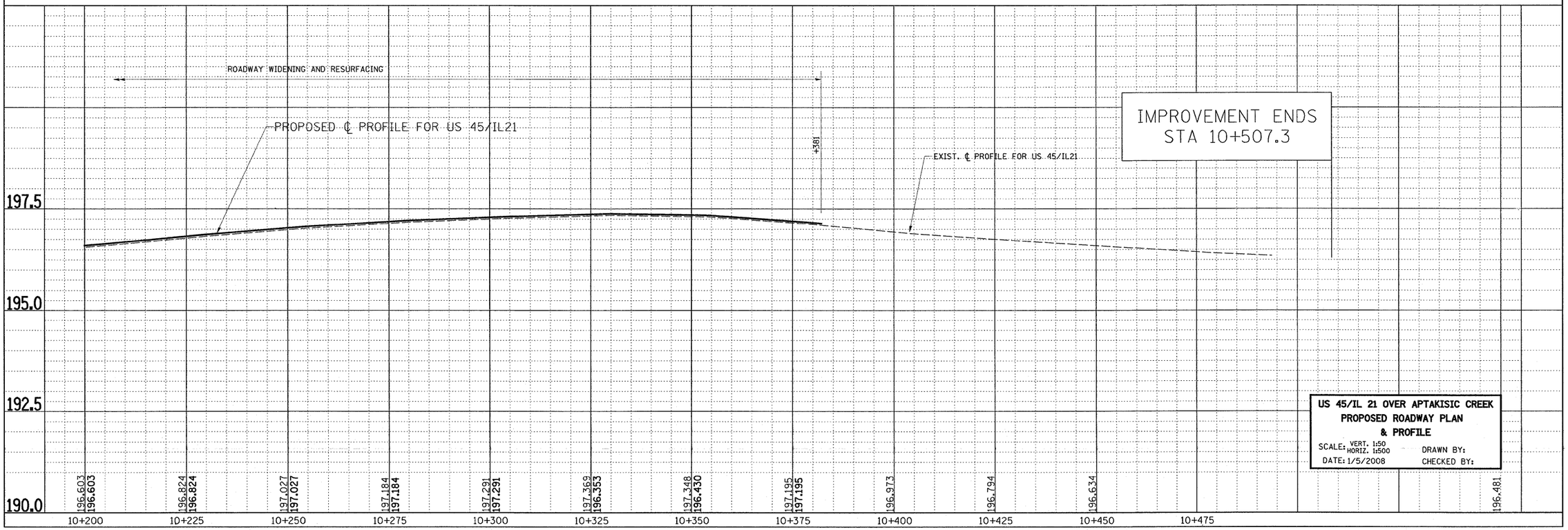
1/5/2008

*REF-
*REF-
*REF-

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	18
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	





US 45/IL 21 OVER APTAKISIC CREEK
PROPOSED ROADWAY PLAN & PROFILE

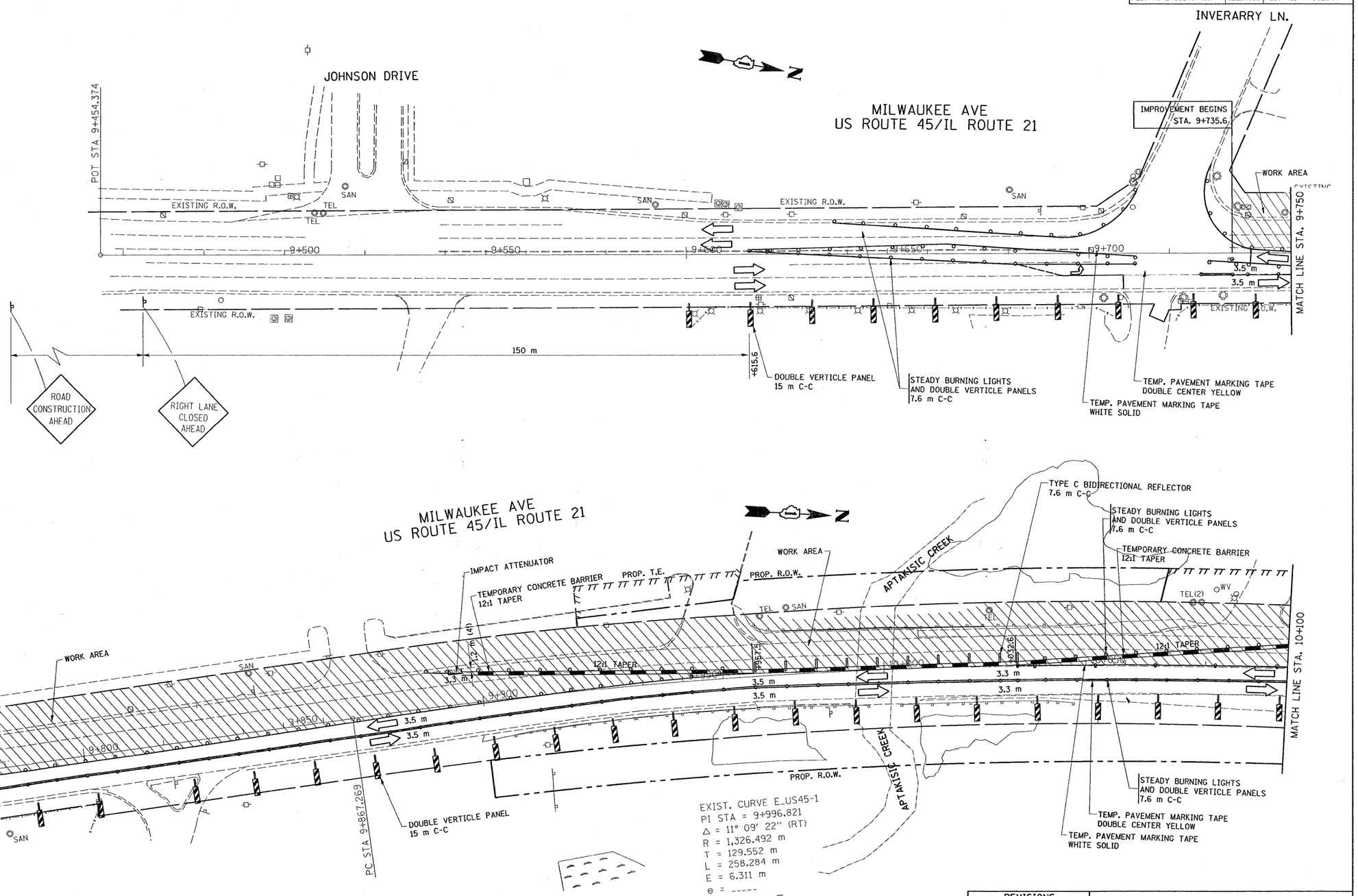
SCALE: VERT. 1:50 HORIZ. 1:500
DATE: 1/5/2008
DRAWN BY:
CHECKED BY:

1/5/2008

*REF-stagel-1
*REF-stagel-2
*REF-stagel-3

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-8-R-1	LAKE	121	19
STA. 9+500		TO STA. 10+493.457		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STAGE I
CONSTRUCTION
U.S. RTE. 45/ IL. 21

SCALE 1:500 DRAWN BY

DATE 12/28/2007 CHECKED BY

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PLOT SCALE = 500.0000 m / M.
USER NAME = ulrichkd

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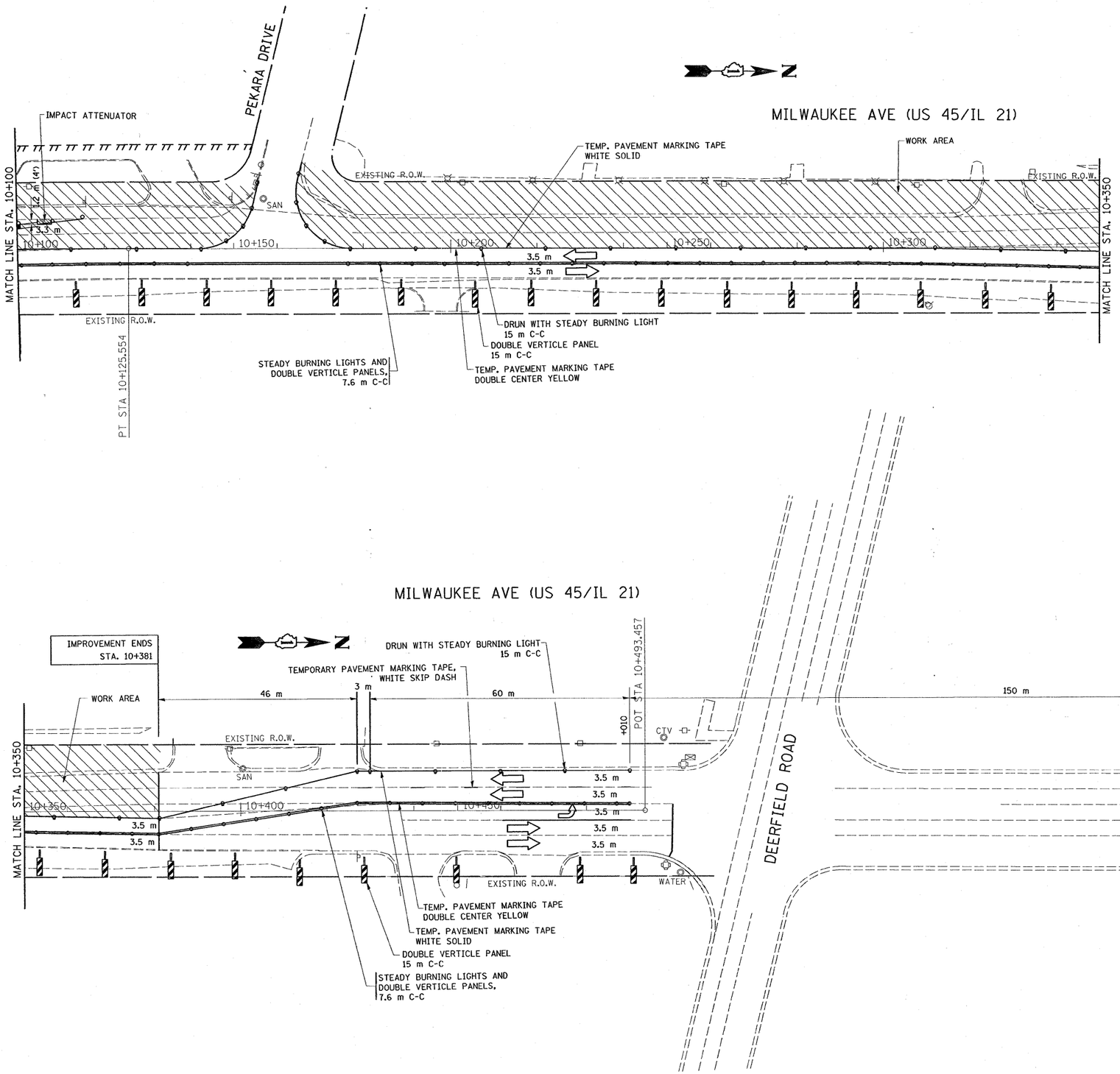
CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	20
STA. 9+500		TO STA. 10+493.457		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STAGE I
CONSTRUCTION
U.S. RTE. 45/ IL. 21

SCALE 1:500 DRAWN BY

DATE 12/28/2007 CHECKED BY

PLOT DATE = 12/28/2007
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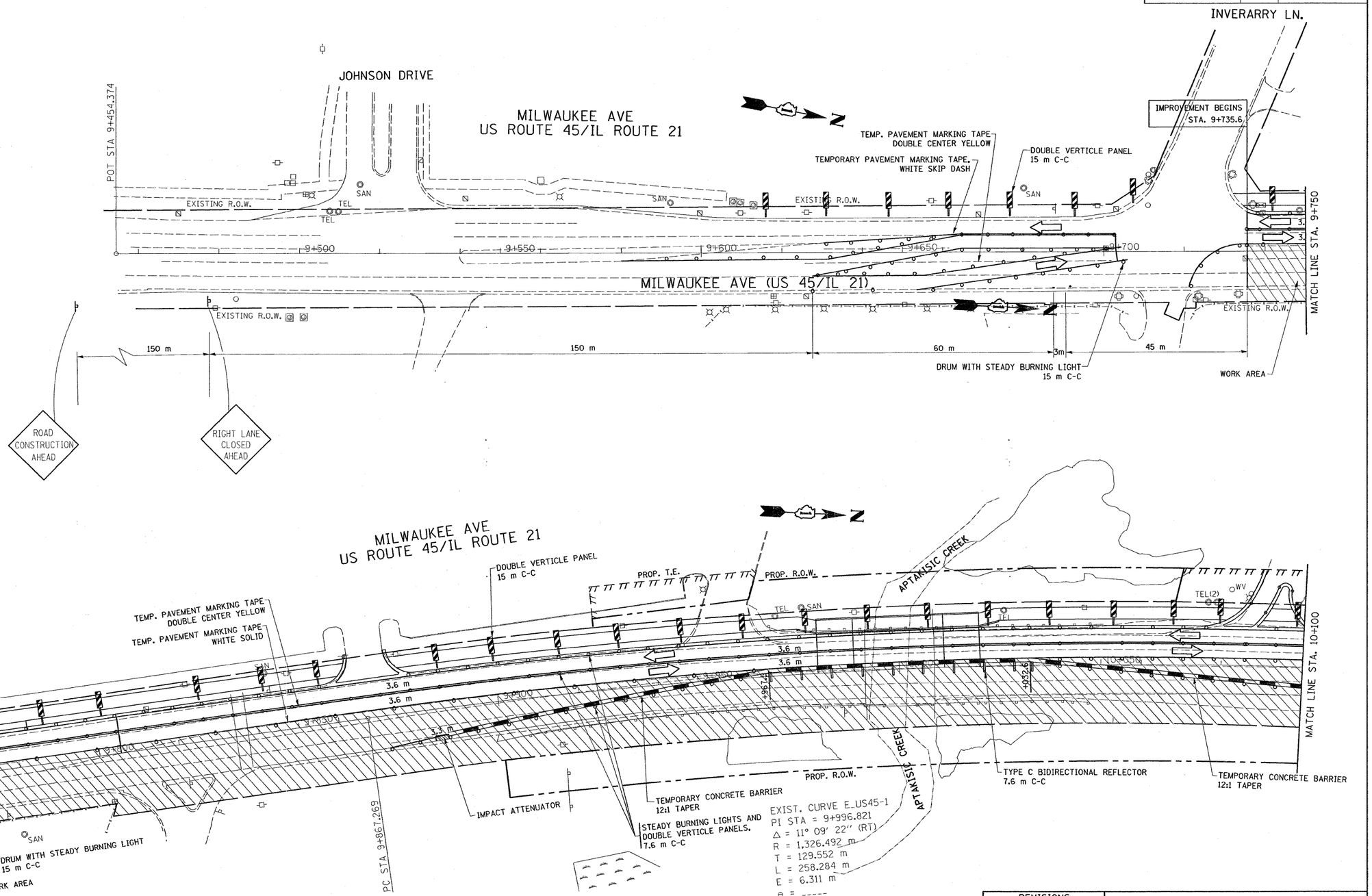
USER NAME = ulrichd

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	21
STA. 9+500		TO STA. 10+493.457		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STAGE II
CONSTRUCTION
U.S. RTE. 45/ IL. 21

SCALE 1:500 DRAWN BY

DATE 12/28/2007 CHECKED BY

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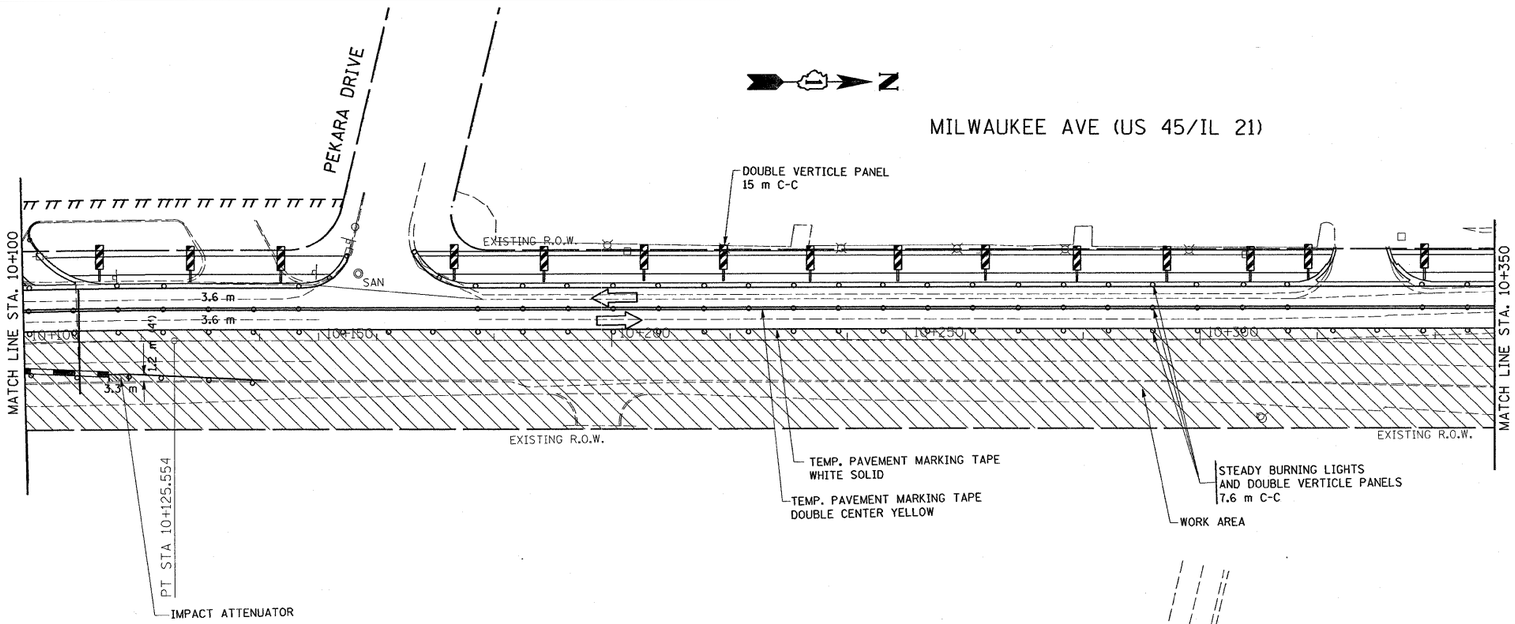
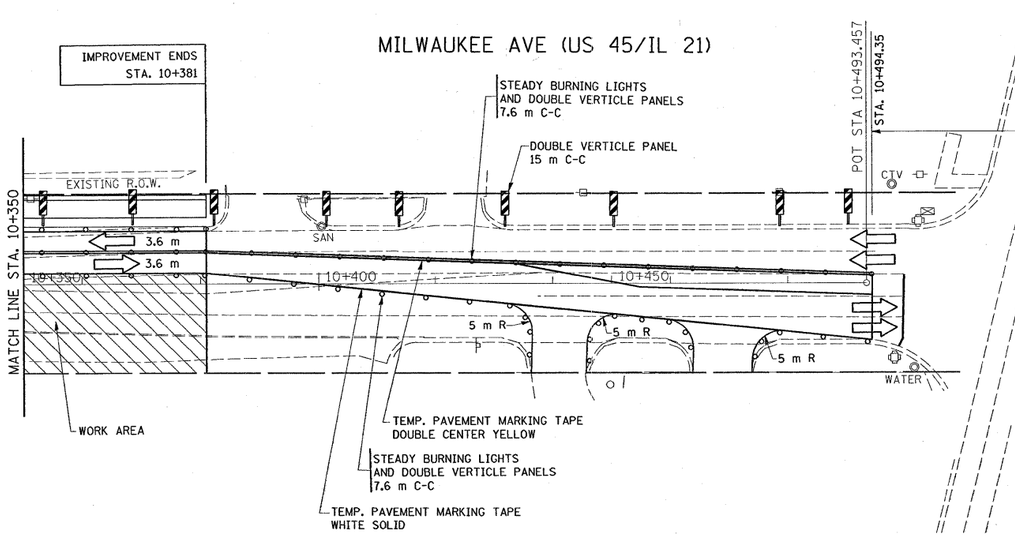
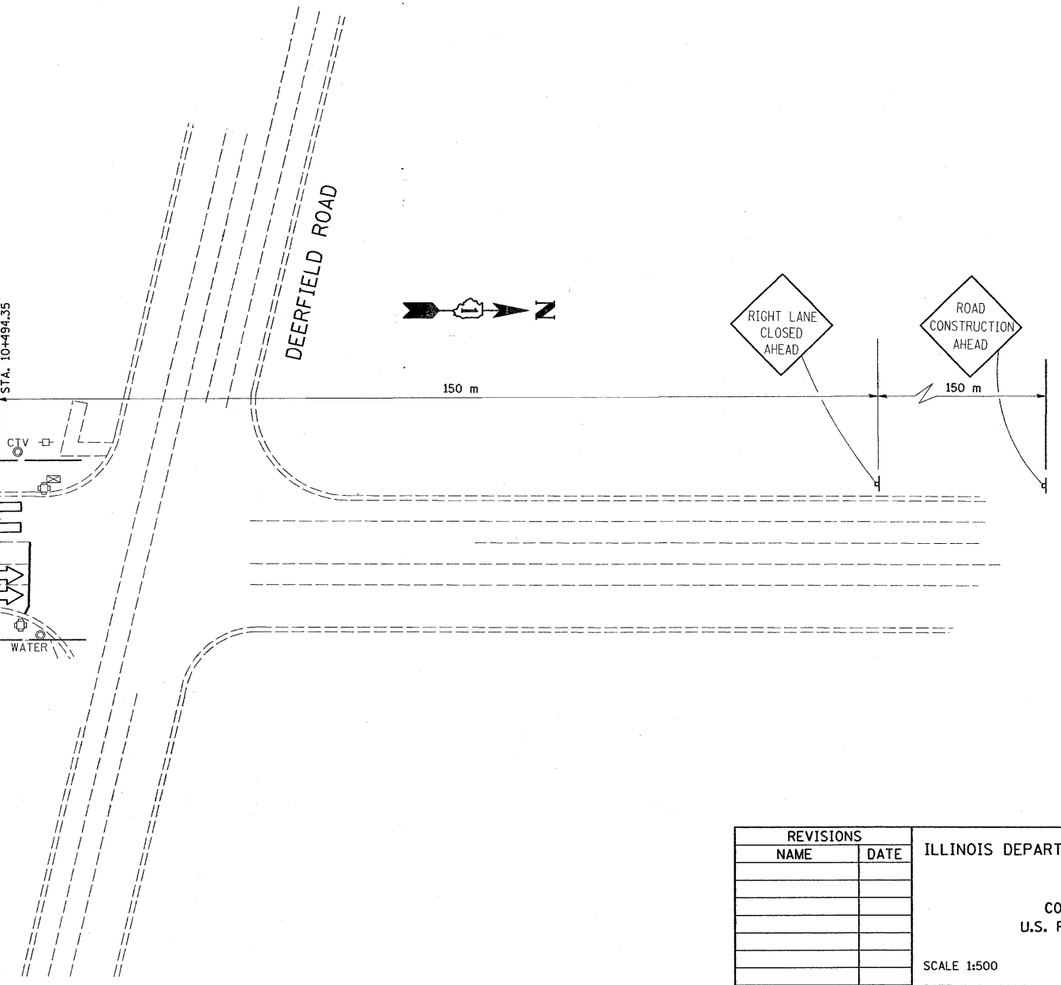
CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	22
STA. 9+500		TO STA. 10+493.457		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	







REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STAGE II
CONSTRUCTION
U.S. RTE. 45/ IL. 21

SCALE 1:500 DRAWN BY

DATE 12/28/2007 CHECKED BY

PLOT DATE = 12/28/2007
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PLOT SCALE = 500.0000 m / M.
USER NAME = ulrichkd

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	23
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

1. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.

2. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.

3. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE, OR REDISTURBANCE.

4. AREAS OR ENBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3H: 1V, AND APPROVED BY THE ENFORCEMENT OFFICER, SHALL BE STABILIZED WITH SOD, MAT OR BLANKET IN COMBINATION WITH SEEDING.

5. EROSION CONTROL BLANKET SHALL BE REQUIRED ON ALL INTERIOR DETENTION BASIN SIDE SLOPES BETWEEN NORMAL WATER LEVEL AND HIGH WATER LEVEL.

6. ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED, BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.

7. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.

8. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE PROPERTY OWNER SHALL BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE AND REPAIR.

9. ANY SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.

10. SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD PRONE AREA OR A DISIGNATED BUFFER PROTECTING WATERS OF THE UNITED STATES OR ISOLATED WATERS OF LAKE COUNTY.

11. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (E.G. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURE.).

12. THE EROSION CONTROL MEASURE INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTIED BY THE ENGINEER OR GOVERNING AGENCY.

13. EROSION CONTROL BLANKET AND SEEDING CLASS 2A SHALL BE PLACED AFTER EACH STAGE CONSTRUCTION WHERE INDICATED AND/OR AS DIRECTED BY THE ENGINEER.

14. STRAW BALES FOR INLET PROTECTION AND TEMPORARY DITCH CHECKS WILL NOT BE ALLOWED.

15. THE CONTRACTOR SHALL USE BASKET FILTERS OR STAKED SILT FENCE FOR INLET PROTECTION.

16. THE CONTRACTOR SHALL SUBMIT THE PROPOSED IN-STREAM WORK PLAN TO THE US ARMY CORPS OF ENGINEERS AND THE LAKE COUNTY STORMWATER MANAGEMENT COMMISSION FOR REVIEW AND APPROVAL.

17. UPON INSTALLATION OF COFFERDAMS THE SEDIMENT BAG SHALL BE PLACED AWAY FROM THE CREEK SO DISCHARGED WATER CAN SHEET FLOW THROUGH THE NATIVE VEGETATION PRIOR TO ENTERING THE CREEK ENHANCING SEDIMENT REMOVAL. ANIONIC POLYMERS CAN BE SUED IN CONJUNCTION WITH THE SEDIMENT BAG TO REMOVE SUSPENDED CLAY PARTICLES, IF NECESSARY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
SEDIMENTATION AND
EROSION CONTROL NOTES

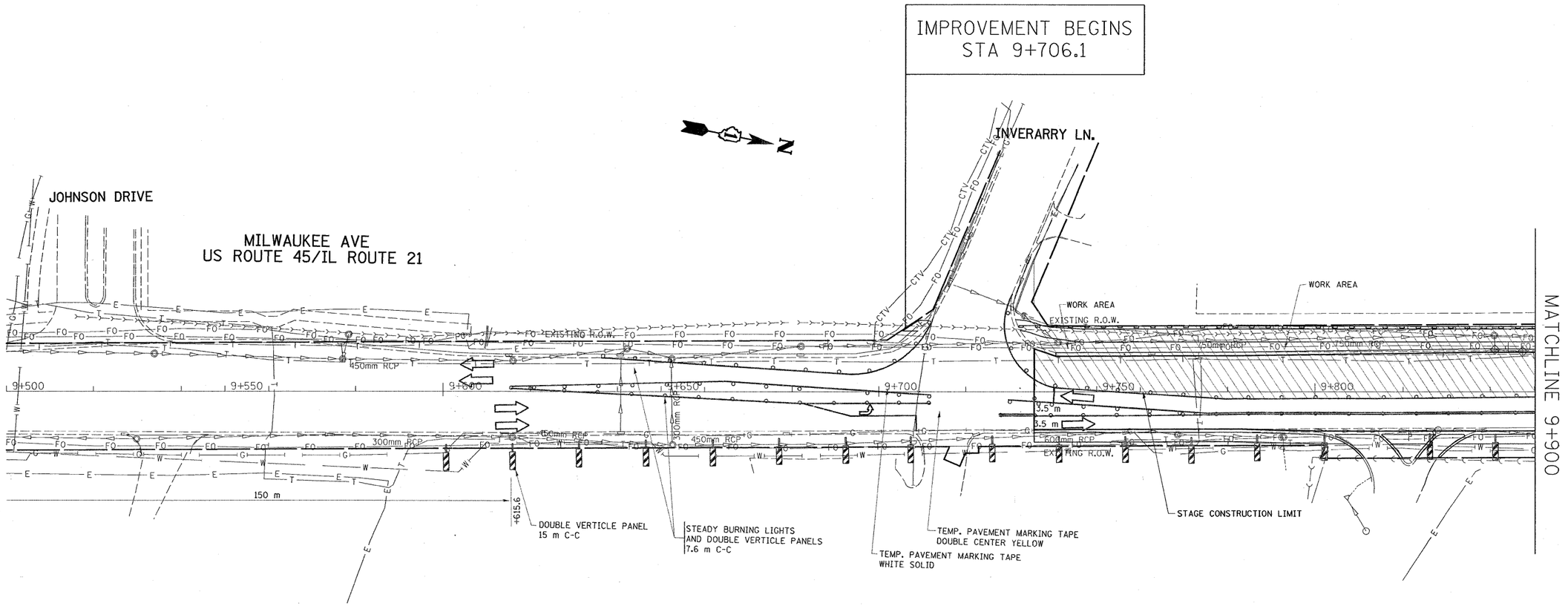
DRAWN BY

DATE CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	IY-B-R-1	LAKE	121	24
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

IMPROVEMENT BEGINS
STA 9+706.1



LEGEND

- PERIMETER EROSION BARRIER
- DRAINAGE STRUCTURE INLET FILTER
- INLET AND PIPE PROTECTION, BASKET TYPE
- TRAFFIC FLOW DIRECTION

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

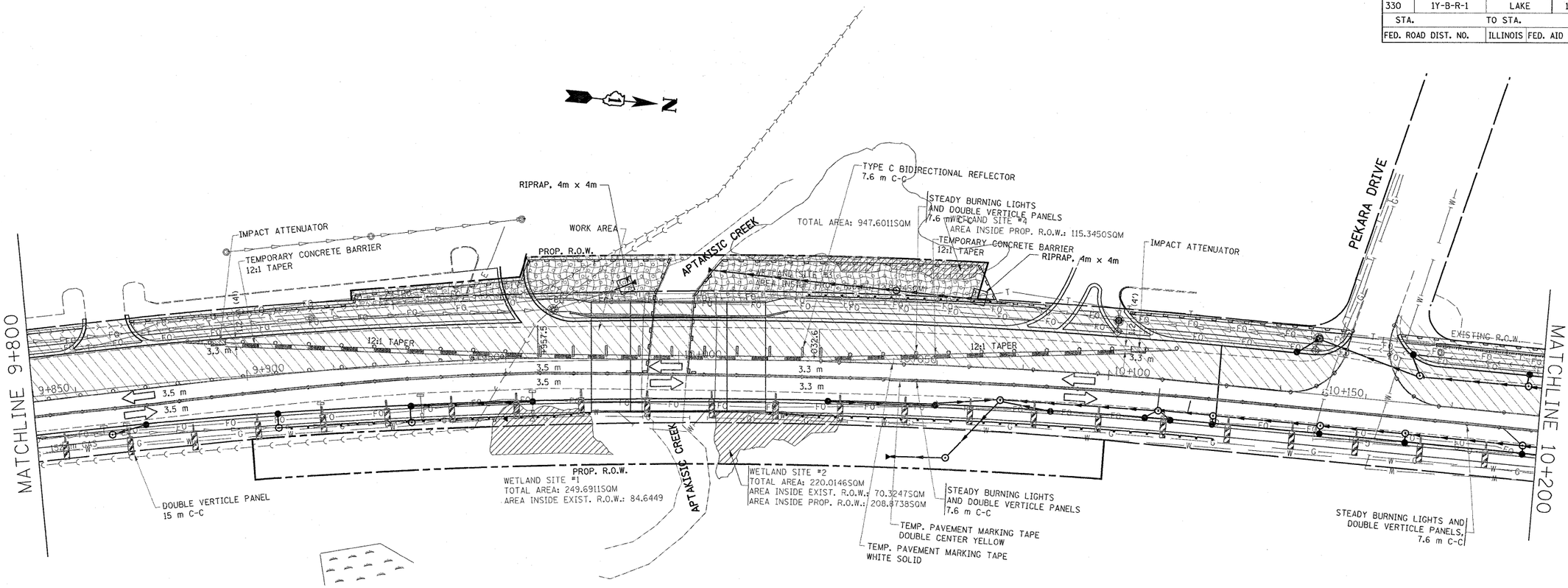
US 45/IL 21
OVER APTAKISIC CREEK
EROSION CONTROL PLAN
STAGE I

SCALE IN METERS
1:500
DATE

DRAWN BY
CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	25
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



LEGEND

- EROSION CONTROL BLANKET
- SEEDING, CLASS 4B
- PERIMETER EROSION BARRIER
- DRAINAGE STRUCTURE INLET FILTER
- INLET AND PIPE PROTECTION, BASKET TYPE
- TEMPORARY DITCH CHECK
  ROLLED EXCELSIOR, SEE STD 280001
- TRAFFIC FLOW DIRECTION

NOTE: IN ORDER TO PREVENT MIGRATIONS OF ANY CONSTRUCTION DEBRIS, SILT FENCE SHALL BE PROVIDED ALONG THE LINES WHERE COFFERDAMS WILL BE INSTALLED FOR ANY INSTREAM WORK BEFORE THE COFFERDAMS ARE PLACED. AFTER COFFERDAMS ARE PLACED, SILT FENCE CAN BE REMOVED.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
EROSION CONTROL PLAN
STAGE I

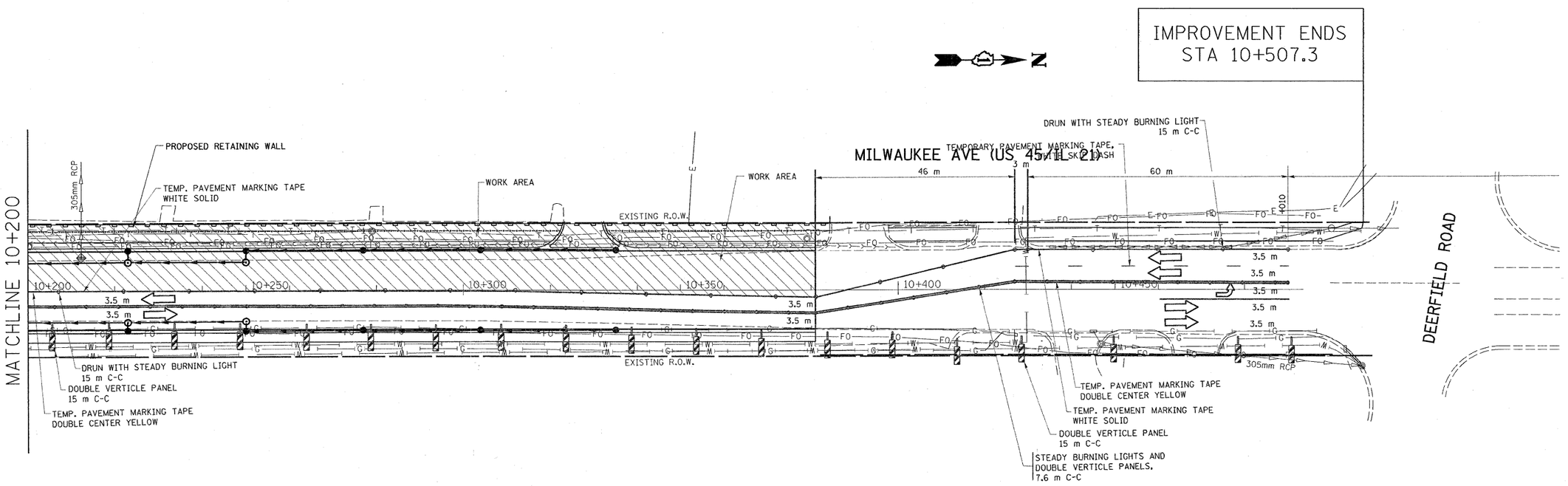
SCALE IN METERS
1:500
DATE

DRAWN BY

CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	26
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



LEGEND

PERIMETER EROSION BARRIER

INLET AND PIPE PROTECTION, BASKET TYPE

TRAFFIC FLOW DIRECTION

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21
OVER APTAKISIC CREEK
EROSION CONTROL PLAN
STAGE I

SCALE IN METERS
1:500

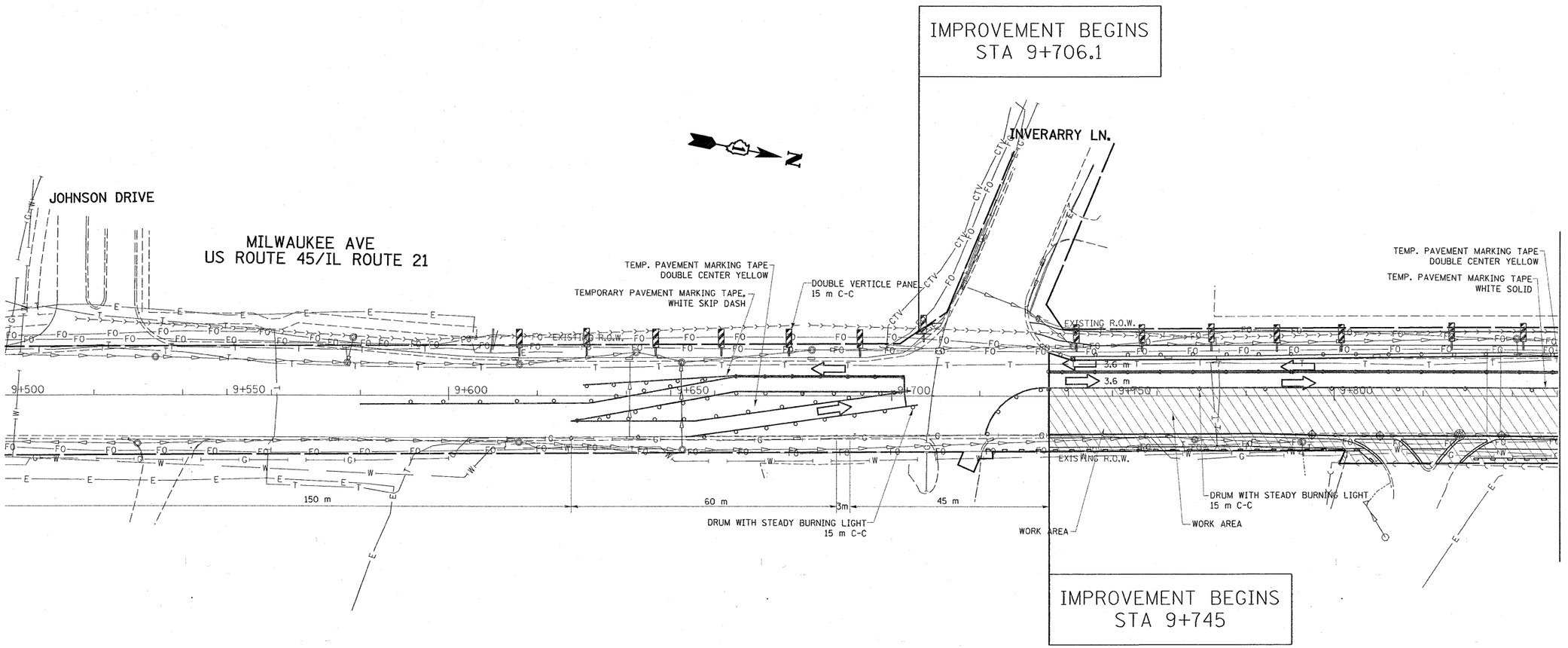
DRAWN BY

DATE

CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	27
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



LEGEND

- PERIMETER EROSION BARRIER
- DRAINAGE STRUCTURE INLET FILTER
- INLET AND PIPE PROTECTION, BASKET TYPE
- TRAFFIC FLOW DIRECTION

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

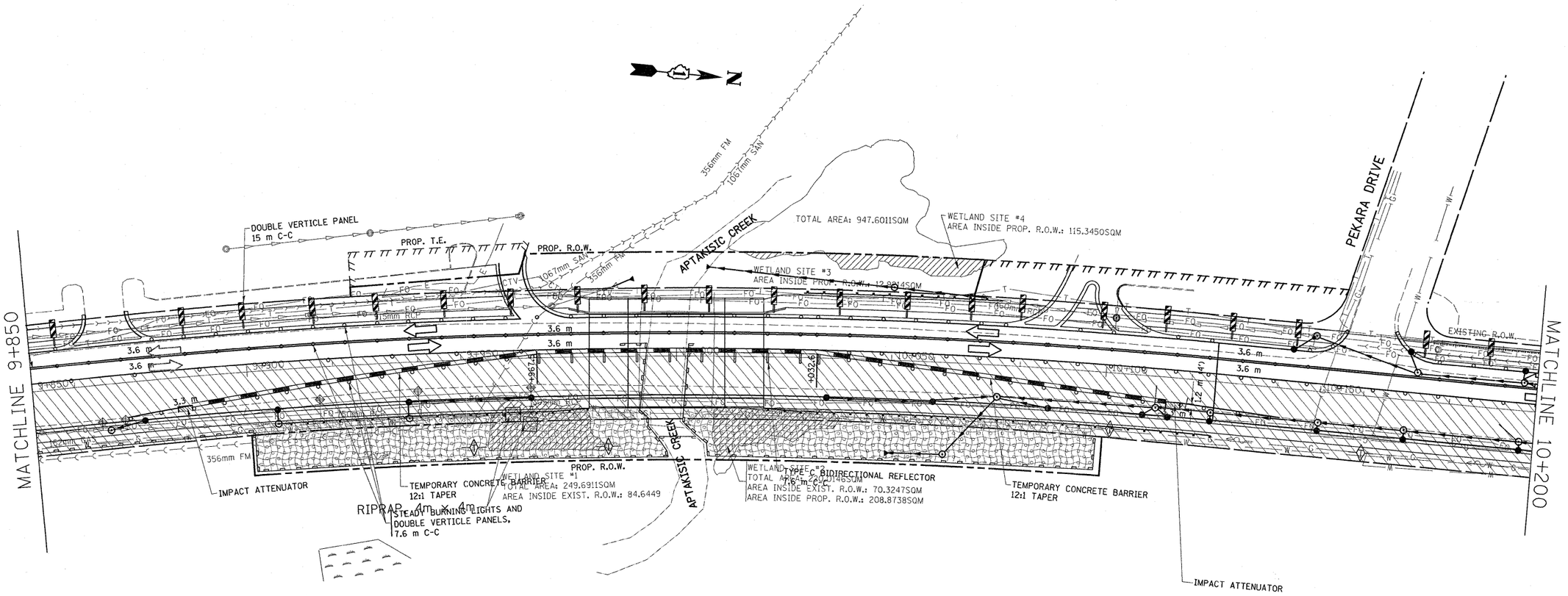
US 45/IL 21
OVER APTAKISIC CREEK
EROSION CONTROL PLAN
STAGE II

SCALE IN METERS
1:500
DATE

DRAWN BY
CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	28
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



LEGEND

- EROSION CONTROL BLANKET
- SEEDING, CLASS 4B
- PERIMETER EROSION BARRIER
- DRAINAGE STRUCTURE INLET FILTER
- INLET AND PIPE PROTECTION, BASKET TYPE
- TEMPORARY DITCH CHECK
  ROLLED EXCELSIOR, SEE STD 280001
- DITCH FLOW DIRECTION
- TRAFFIC FLOW DIRECTION

NOTE: IN ORDER TO PREVENT MIGRATIONS OF ANY CONSTRUCTION DEBRIS, SILT FENCE SHALL BE PROVIDED ALONG THE LINES WHERE COFFERDAMS WILL BE INSTALLED FOR ANY INSTREAM WORK BEFORE THE COFFERDAMS ARE PLACED. AFTER COFFERDAMS ARE PLACED, SILT FENCE CAN BE REMOVED.

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

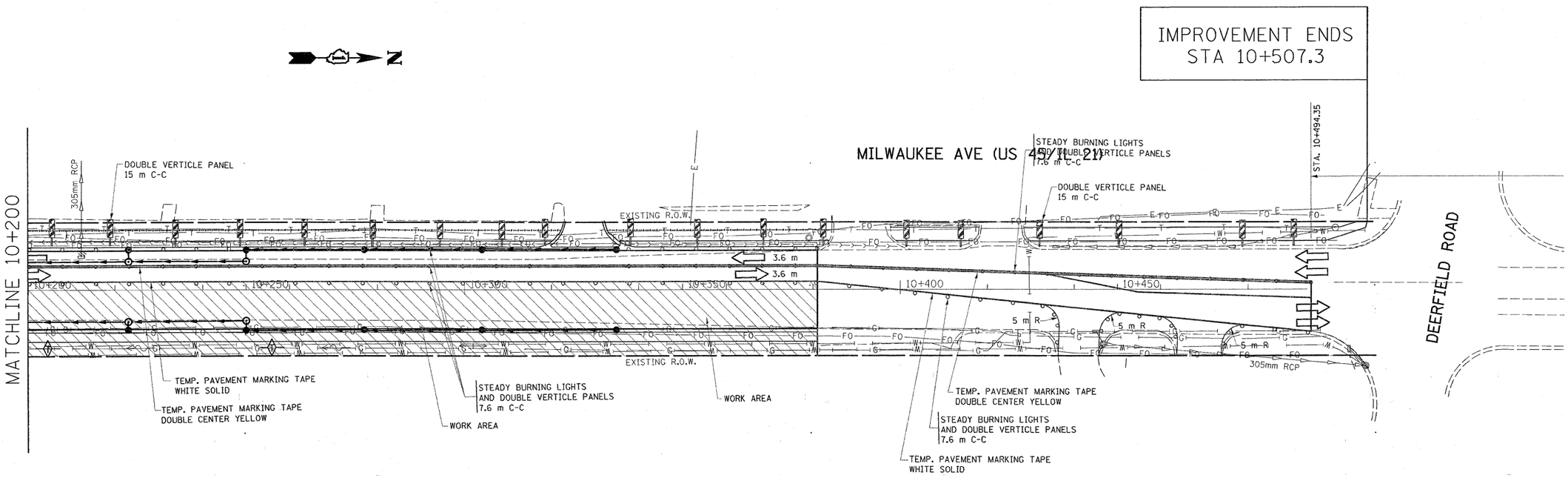
US 45/IL 21
OVER APTAKISIC CREEK
EROSION CONTROL PLAN
STAGE II

SCALE IN METERS
1:500
DATE

DRAWN BY
CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	29
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



LEGEND

- PERIMETER EROSION BARRIER
- DRAINAGE STRUCTURE INLET FILTER
- INLET AND PIPE PROTECTION, BASKET TYPE
- TEMPORARY DITCH CHECK ROLLED EXCELSIOR, SEE STD 280001
- DRAINAGE SUMMIT (EXISTING)
- DITCH FLOW DIRECTION
- TRAFFIC FLOW DIRECTION

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

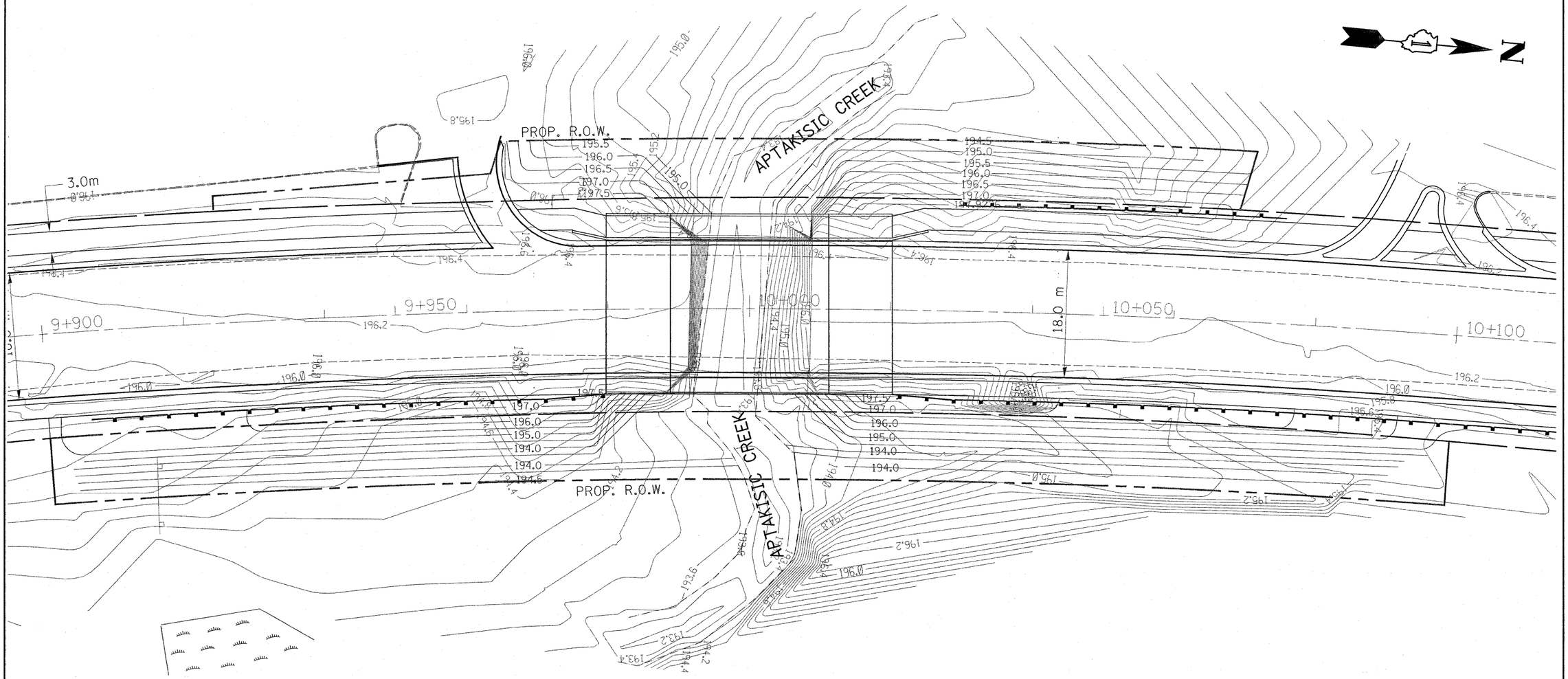
US 45/IL 21
OVER APTAKISIC CREEK
EROSION CONTROL PLAN
STAGE II

SCALE IN METERS
1:500
DATE

DRAWN BY
CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	30
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

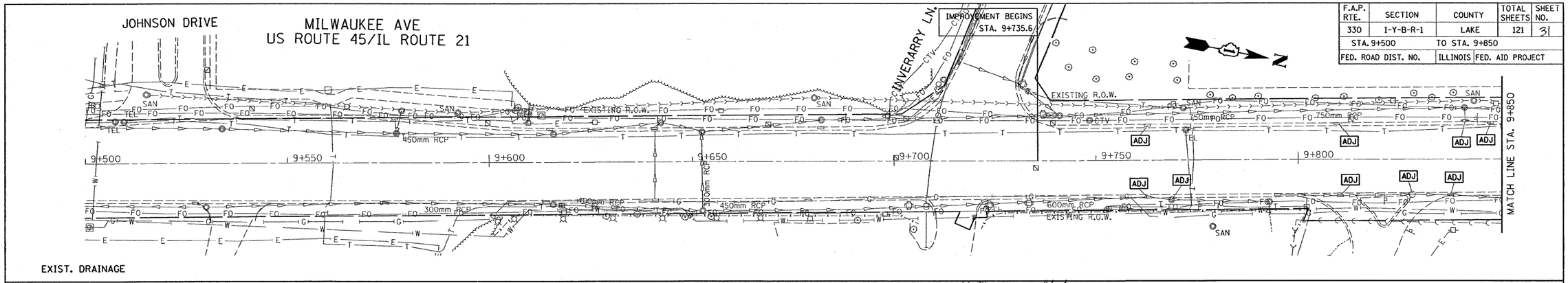
US 45/IL 21
OVER APTAKISIC CREEK
PROPOSED GRADING PLAN

SCALE IN METERS
1:500
DATE

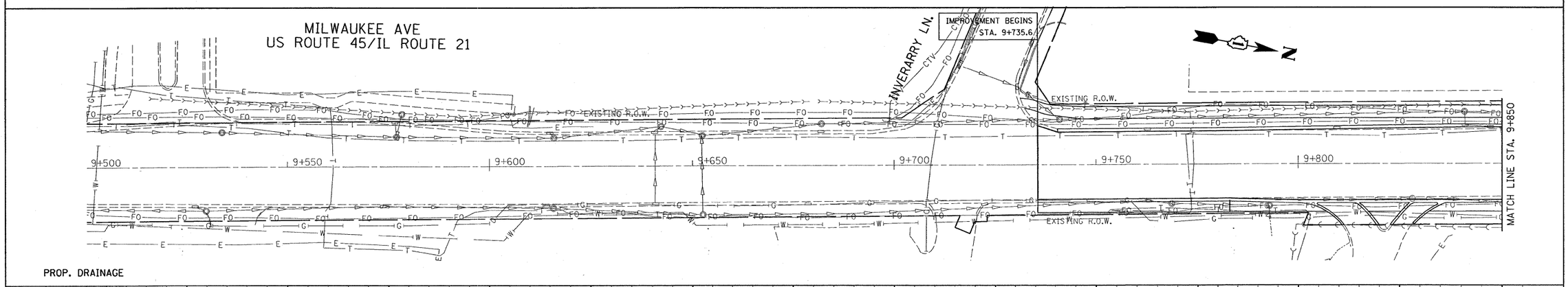
DRAWN BY
CHECKED BY

CONTRACT NO. 62032

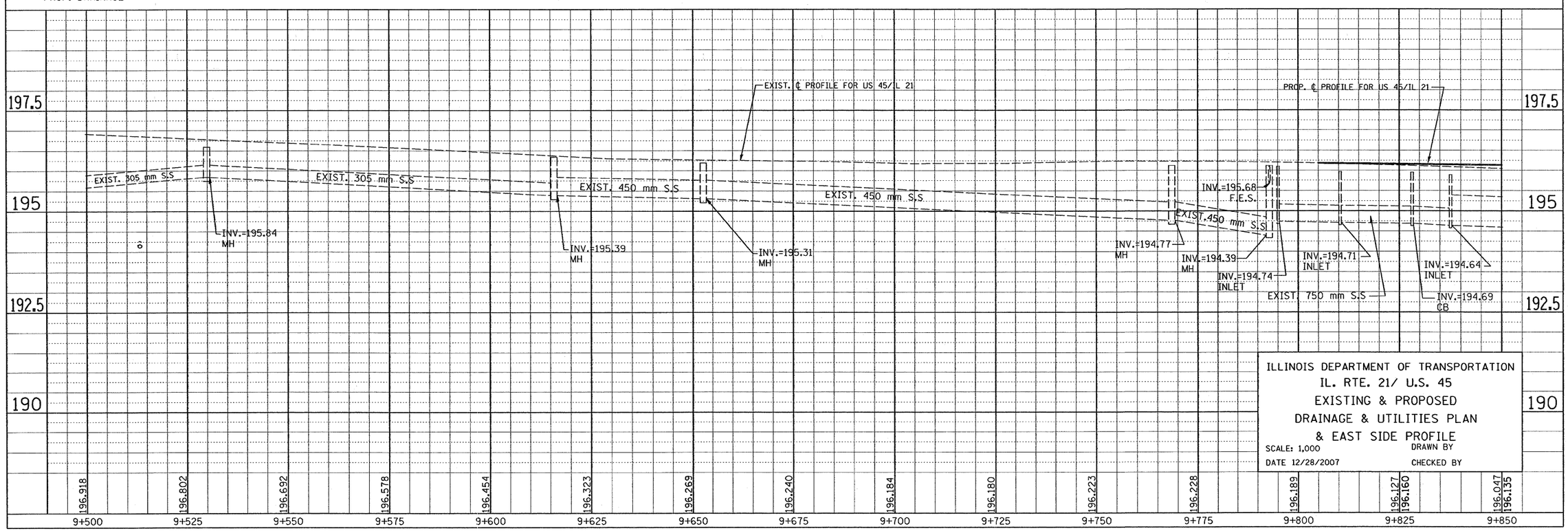
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1-Y-B-R-1	LAKE	121	31
STA. 9+500		TO STA. 9+850		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



EXIST. DRAINAGE



PROP. DRAINAGE



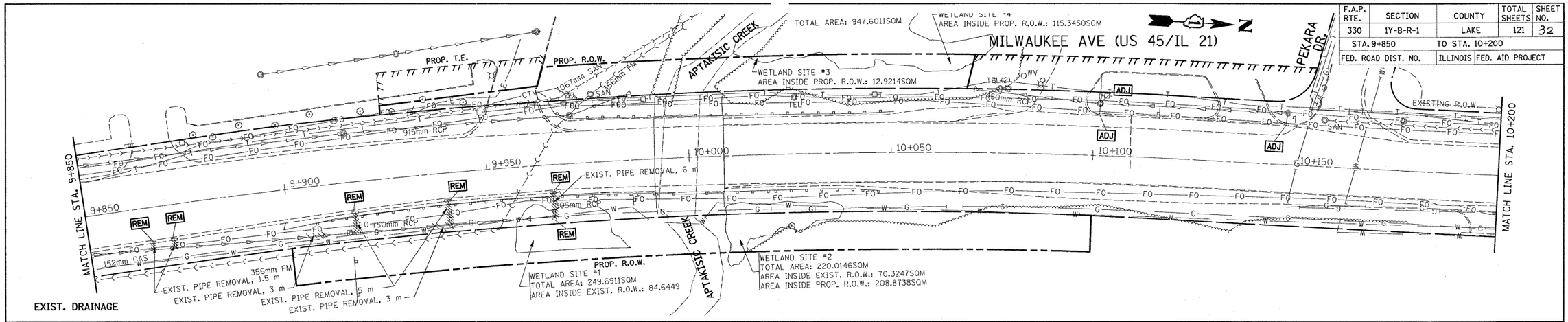
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 21/ U.S. 45
EXISTING & PROPOSED
DRAINAGE & UTILITIES PLAN
& EAST SIDE PROFILE

SCALE: 1,000 DRAWN BY

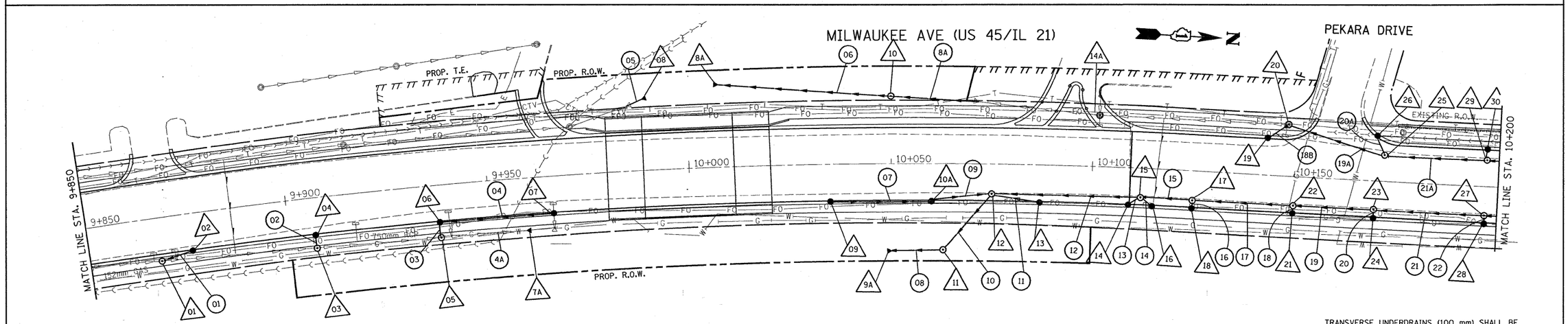
DATE 12/28/2007 CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	32
STA. 9+850	TO STA. 10+200			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

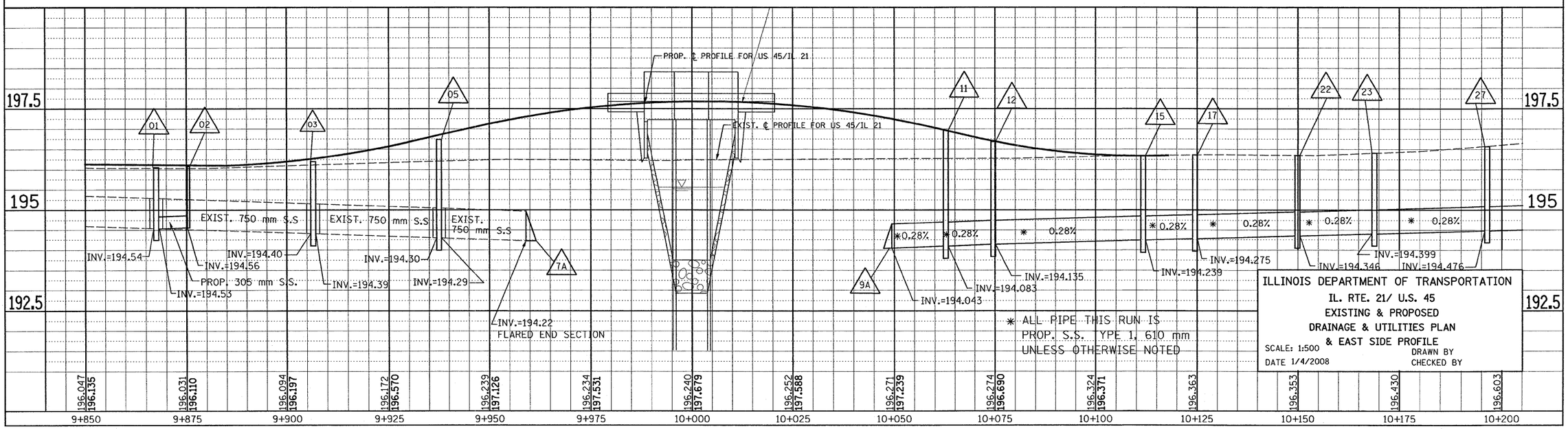


EXIST. DRAINAGE



PROP. DRAINAGE

TRANSVERSE UNDERDRAINS (100 mm) SHALL BE PLACED AT STATIONS 9+886 AND 10+117



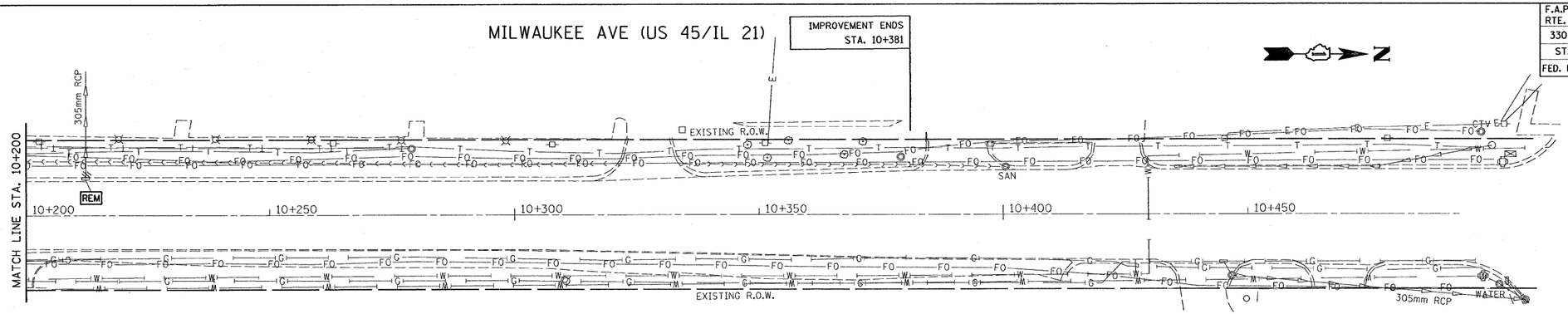
* ALL PIPE THIS RUN IS PROP. S.S. TYPE 1, 610 mm UNLESS OTHERWISE NOTED

ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 21/ U.S. 45
EXISTING & PROPOSED
DRAINAGE & UTILITIES PLAN
& EAST SIDE PROFILE

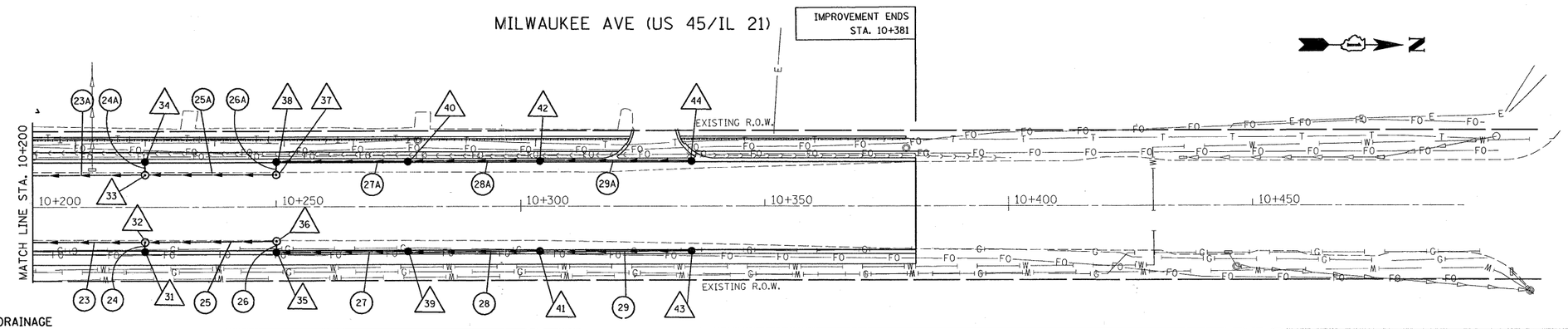
SCALE: 1:500 DRAWN BY
DATE 1/4/2008 CHECKED BY

CONTRACT NO. 62032

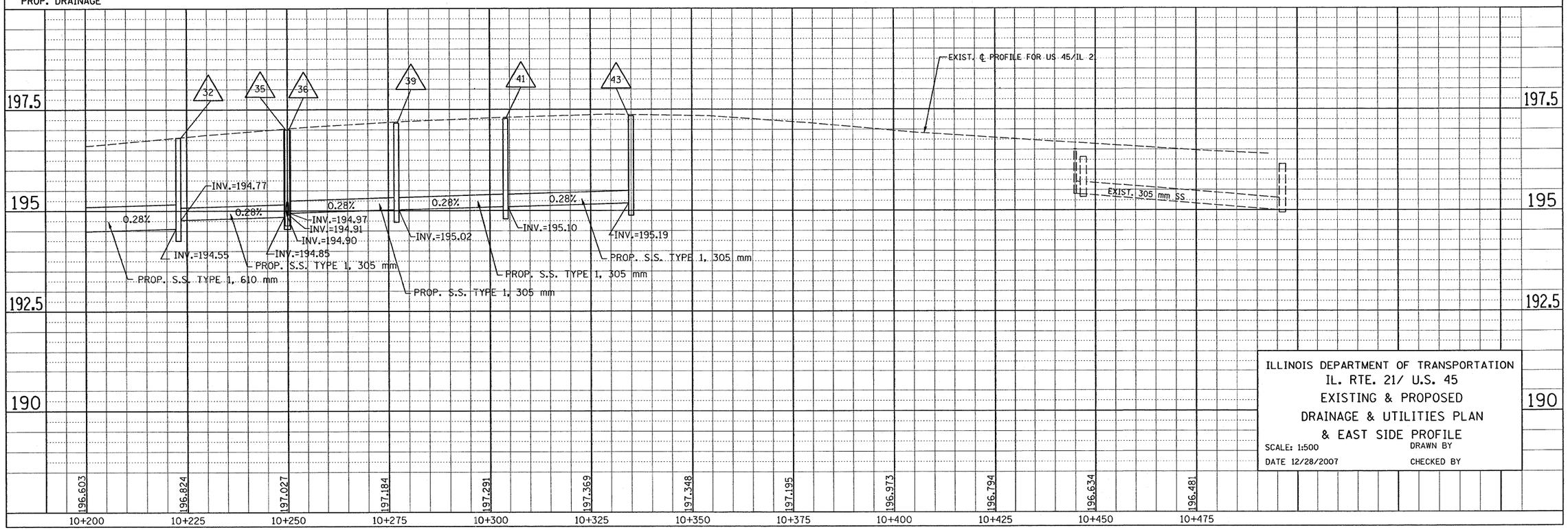
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	33
STA. 10+200		TO STA. 10+381		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



EXIST. DRAINAGE



PROP. DRAINAGE



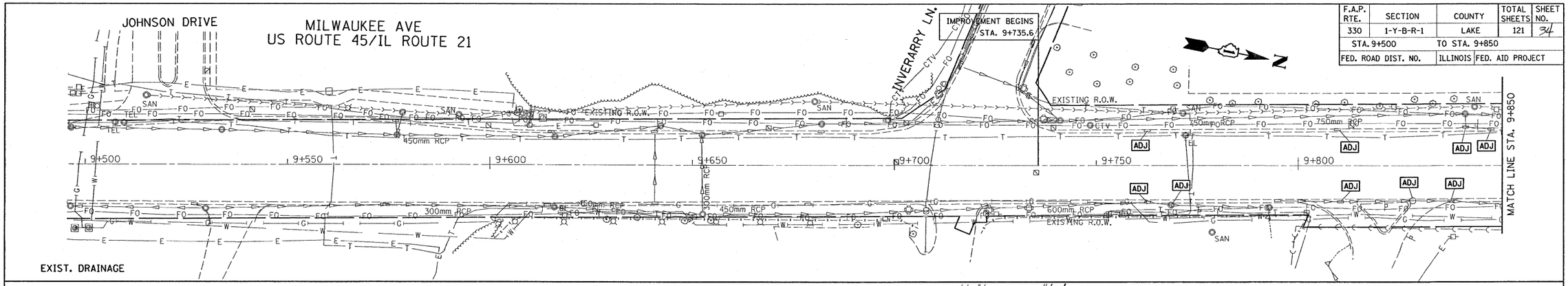
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 21/ U.S. 45
EXISTING & PROPOSED
DRAINAGE & UTILITIES PLAN
& EAST SIDE PROFILE

SCALE: 1:500 DRAWN BY

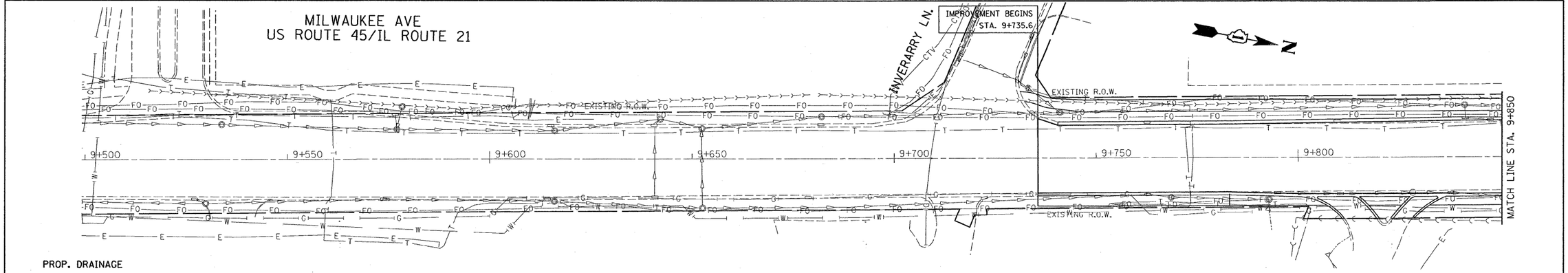
DATE 12/28/2007 CHECKED BY

CONTRACT NO. 62032

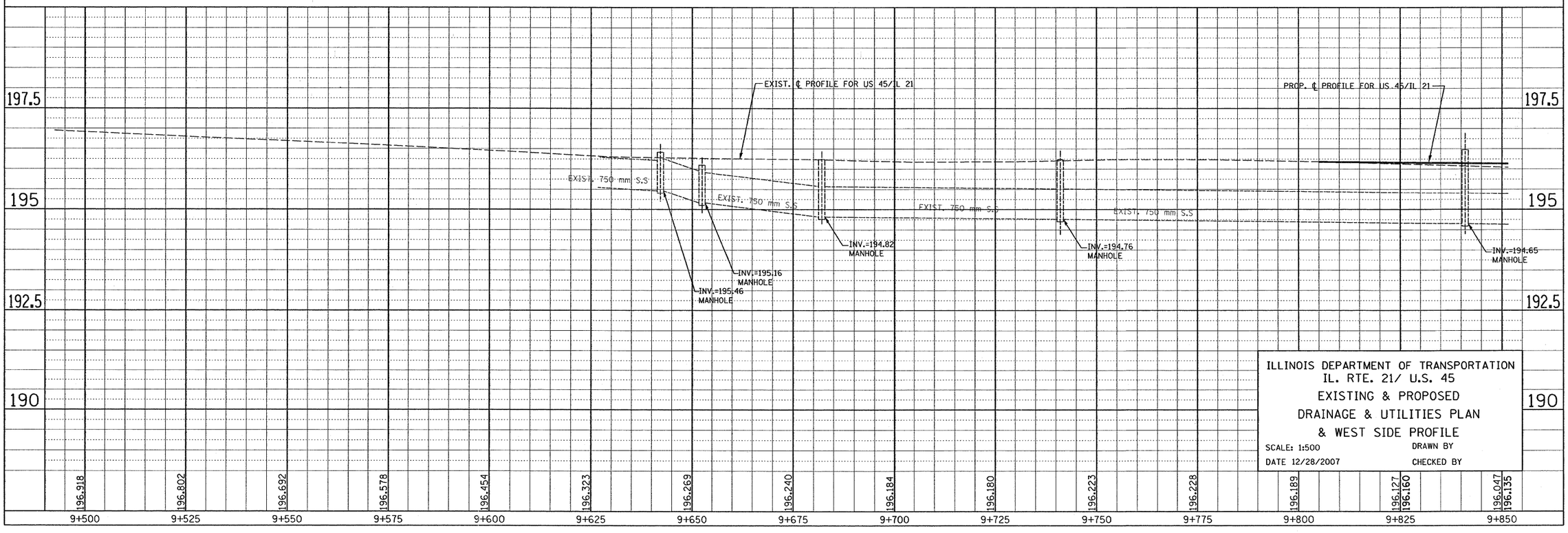
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1-Y-B-R-1	LAKE	121	34
STA. 9+500	TO STA. 9+850			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



EXIST. DRAINAGE



PROP. DRAINAGE



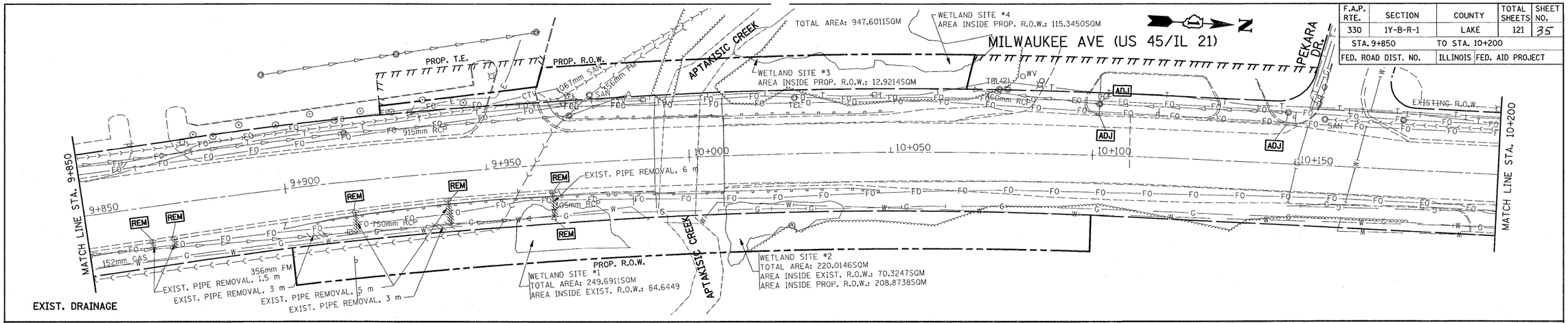
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 21/ U.S. 45
EXISTING & PROPOSED
DRAINAGE & UTILITIES PLAN
& WEST SIDE PROFILE

SCALE: 1:500 DRAWN BY

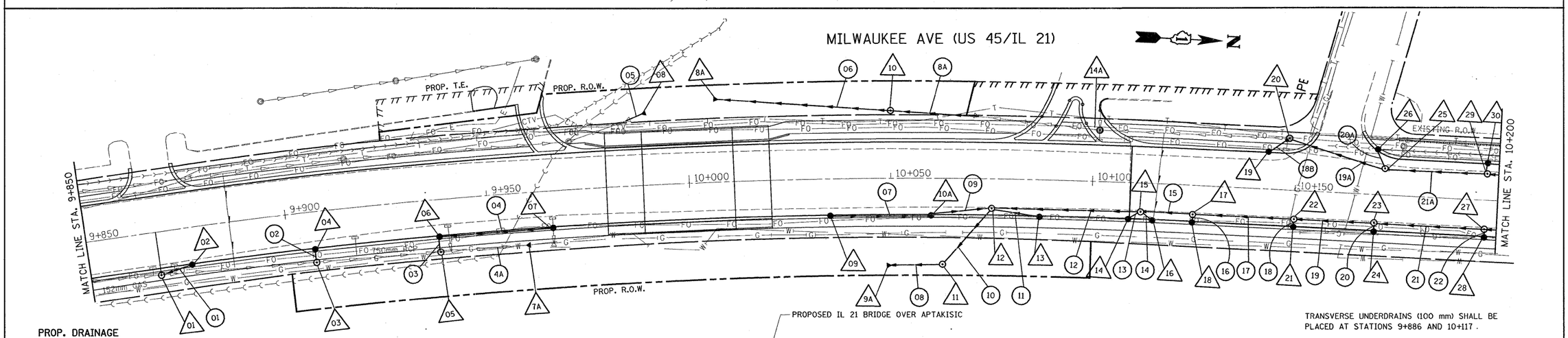
DATE 12/28/2007 CHECKED BY

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	35
STA. 9+850		TO STA. 10+200		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

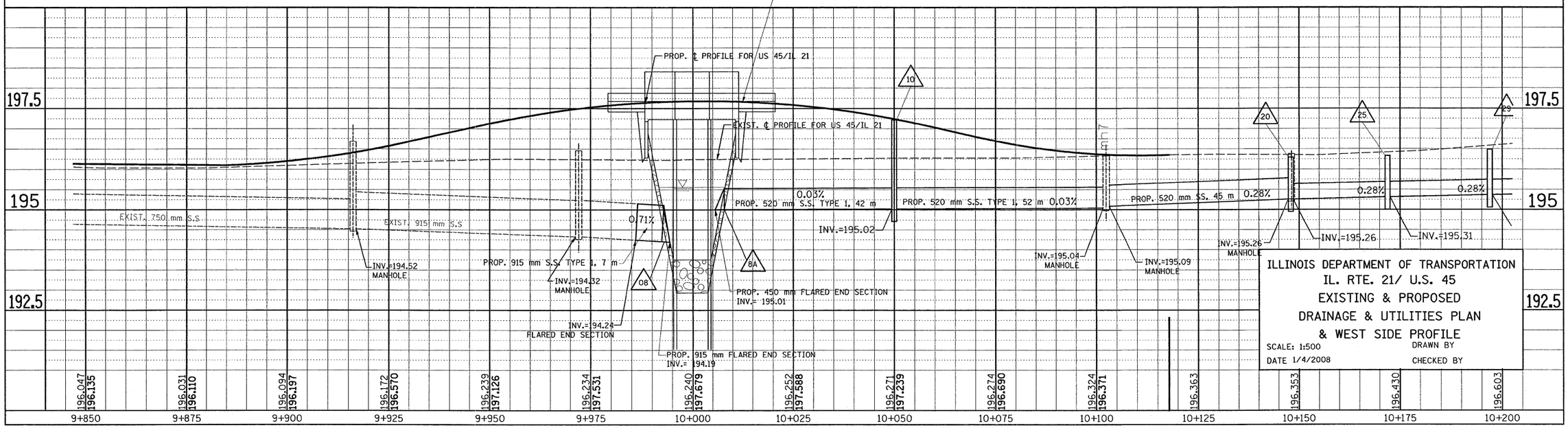


EXIST. DRAINAGE



PROP. DRAINAGE

TRANSVERSE UNDERDRAINS (100 mm) SHALL BE PLACED AT STATIONS 9+886 AND 10+117 .



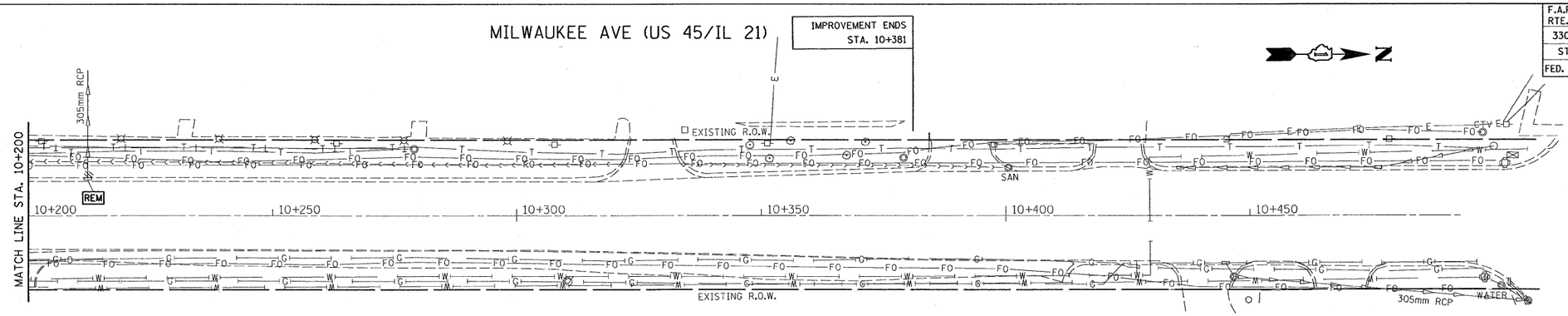
ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 21/ U.S. 45
EXISTING & PROPOSED
DRAINAGE & UTILITIES PLAN
& WEST SIDE PROFILE

SCALE: 1:500 DRAWN BY

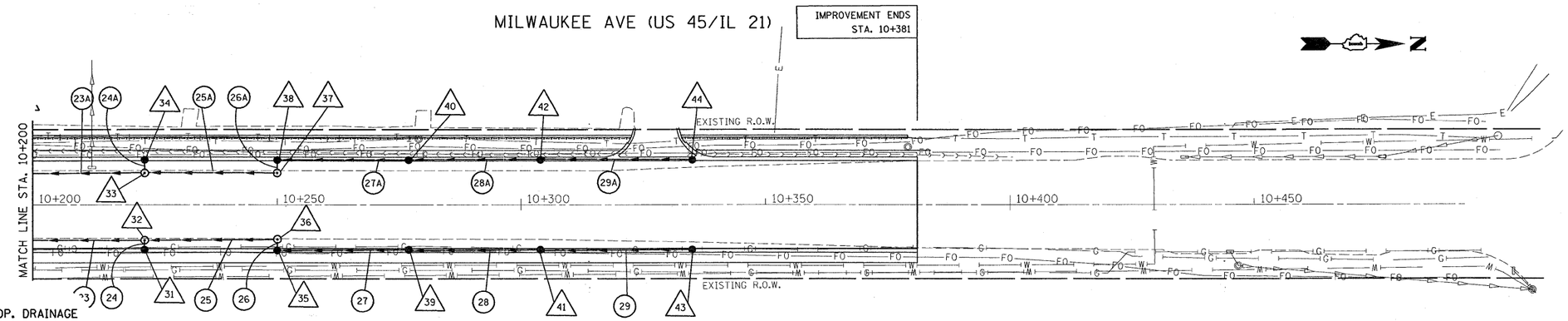
DATE 1/4/2008 CHECKED BY

CONTRACT NO. 62032

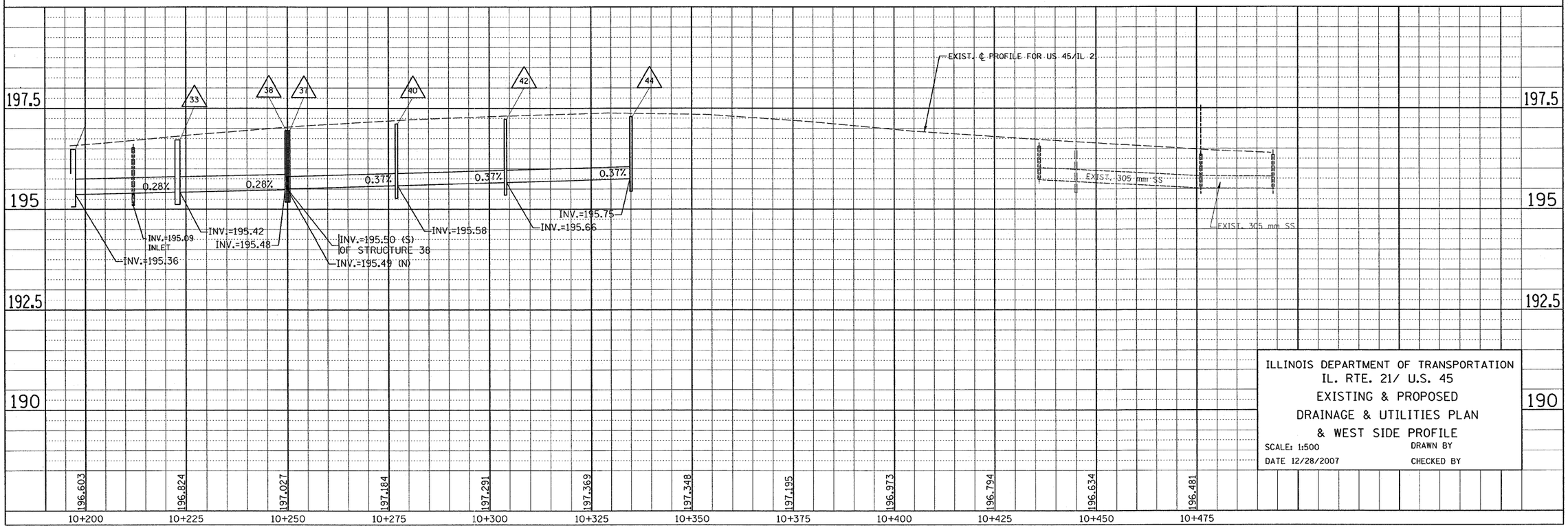
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	36
STA. 10+200		TO STA. 10+381		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



EXIST. DRAINAGE



PROP. DRAINAGE



ILLINOIS DEPARTMENT OF TRANSPORTATION
IL. RTE. 21/ U.S. 45
EXISTING & PROPOSED
DRAINAGE & UTILITIES PLAN
& WEST SIDE PROFILE

SCALE: 1:500 DRAWN BY

DATE 12/28/2007 CHECKED BY

*REF-
*REF-
*REF-

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1-Y-B-R-1	LAKE	121	37
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

DRAINAGE STRUCTURE TABLE

1
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.9+867.5, 10.7 m RT.
T.G.196.01
INV.194.54 (S)
INV.194.53 (N)
T.B.

2
C.B. TYPE A W/ TYPE 23 F&G
STA.9+875.5, 9.19 m RT.
T.G.195.88
INV.194.56
INV.
T.B.

3
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.9+906.44, 12.5 m RT.
T.G.196.21
INV.194.41 (W)
INV.194.40 (S)
INV.194.39 (N)
T.B.

4
C.B. TYPE A W/ TYPE 23 F&G
STA.9+906.44, 9.21 m RT.
T.G.196.25
INV.194.43 (E)
INV.194.42 (E)
T.B.

5
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.9+937.23, 13 m RT.
T.G.196.5
INV.194.29 (N)
INV.194.30 (S)
INV.194.31 (W)
T.B.

6
C.B. TYPE A W/ TYPE 23 F&G
STA.9+937.23, 9.21 m RT.
T.G.196.63
INV.194.33 (E)
INV.194.43
T.B.

7
C.B. TYPE A W/ TYPE 23 F&G
STA.9+965.88, 9.21 m RT.
T.G.197.13
INV.194.54 (E)
INV.194.41
T.B.

8
FLARED END SECTION, 1.2 m DIA.
STA.9+990.5, 17.76 m LT.
T.G.
INV.194.19
INV.
T.B.

8A
FLARED END SECTION, 1.2 DIA.
STA.10+007, 20.5 m LT.
INV.195.00
T.B.

9
C.B. TYPE A W/ TYPE 23 F&G
STA.10+034.7, 9.15 m RT.
T.G.197.22
INV.194.24 (N)
INV.
T.B.

9A
FLARED END SECTION, 1.2 m DIA
STA.10+049, 21.5 m RT.
INV.194.04
INV.
T.B.

10
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+050, 16.8 m LT.
T.G.
INV.
INV.
T.B.

10A
C.B. TYPE A W/ TYPE 23 F&G
STA.10+059.9, 9.19 m RT.
T.G.197.17
INV.197.02 (N)
INV.197.02 (S)
T.B.

11
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+062.7, 21.23 m RT.
T.G.195.01
INV.194.08 (S)
INV.194.08 (NW)
INV.
T.B.

12
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+075, 7.32 m RT.
T.G.196.53
INV.194.13 (SE)
INV.194.14 (N)
INV.194.14 (S)
INV.194.14 (NE)

13
C.B. TYPE C, W/ TYPE 23 F&G
STA.10+086.7, 9.21 m RT.
T.G.196.20
INV.194.17 (SW)
INV.
T.B.

14
C.B. TYPE A, W/ TYPE 23 F&G
STA.10+109, 9.1 m RT.
T.G.196.18
INV.194.25 (NE)
INV.
T.B.

14A
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+102.4, 12.7 m LT
T.G.196.46
INV.195.09 (N)
INV.195.04 (S)
T.B.

15
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+105, 7.27 RT
T.G.196.22
INV.194.24 (N)
INV.194.24 (S)
T.B.

16
C.B. TYPE A W/ TYPE 23 F&G
STA.10+115, 9.2 m RT.
T.G.196.18
INV.194.25 (SW)
T.B.

17
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+124.8, 7.27 m RT.
T.G.196.24
INV.194.28 (N)
INV.194.28 (S)
INV.194.29 (E)
T.B.

18
C.B. TYPE A W/ TYPE 23 F&G
STA.10+124.8, 9.24 m RT.
T.G.196.17
INV.194.30 (W)
INV.
T.B.

19
C.B. TYPE C W/ TYPE 23 F&G
STA.10+143, 9.21 m LT.
T.G.196.16
INV.195.28 (NW)
INV.
INV.
T.B.

20
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+148, 12.7 m LT.
T.G.196.30
INV.195.26 (N)
INV.195.26 (SW)
T.B.

21
C.B. TYPE A W/ TYPE 23 F&G
STA.10+150, 9.1 m RT.
T.G.196.17
INV.194.37 (W)
INV.
T.B.

22
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+150, 7.2 m RT.
T.G.196.23
INV.194.35 (N)
INV.194.35 (S)
INV.194.36 (E)
T.B.

23
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+170, 7.07 m LT.
T.G.196.28
INV.194.40 (N)
INV.194.40 (S)
INV.194.41 (E)
T.B.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

IL. RTE. 21/ U.S. 45
PROPOSED STURUCTURE &
PIPE TABLE

SCALE:
DRAWN BY
DATE: 12/28/2007
CHECKED BY

12/28/2007
c:\projects\d143300\sh_drain.dgn

*REF-
*REF-
*REF-

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1-Y-B-R-1	LAKE	121	38
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

DRAINAGE STRUCTURE TABLE

24
C.B. TYPE A W/ TYPE 23 F&G
STA.10+170, 9.22 m RT.
T.G.196.20
INV.194.42 (W)
INV.
T.B.

25
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+172, 6.5 m LT.
T.G.196.29
INV.195.31 (N)
INV.195.31 (S)
INV.195.32 (SW)
T.B.

26
C.B. TYPE C W/ TYPE 23 F&G
STA.10+170, 11.17 m LT.
T.G.196.31
INV.195.34 (NE)
INV.
T.B.

27
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+197, 7.22 m RT.
T.G.196.45
INV.194.48 (N)
INV.194.48 (S)
INV.194.49 (E)
T.B.

28
C.B. TYPE A W/ TYPE 23 F&G
STA.10+197, 9.21 m RT.
T.G.196.41
INV.194.50 (W)
INV.
T.B.

29
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+197, 6.5 m LT.
T.G.196.46
INV.195.36 (N)
INV.195.36 (S)
INV.195.37 (W)
T.B.

30
C.B. TYPE C W/ TYPE 23 F&G
STA.10+197, 9.21 m LT.
T.G.196.41
INV.195.38 (E)
INV.
INV.
T.B.

31
C.B. TYPE C W/ TYPE 23 F&G
STA.10+223, 9.20 m RT.
T.G.196.61
INV.194.80 (W)
INV.
T.B.

32
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+223, 7.28 m RT.
T.G.196.67
INV.194.55 (S)
INV.194.78 (N)
INV.194.79 (E)
T.B.

33
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+223, 6.5 m LT.
T.G.196.69
INV.195.42 (W)
INV.195.42 (S)
INV.195.43 (W)
T.B.

34
C.B. TYPE C W/ TYPE 23 F&G
STA.10+223, 9.2 m LT.
T.G.196.62
INV.195.44 (E)
INV.
T.B.

35
C.B. TYPE C W/ TYPE 23 F&G
STA.10+250, 9.34 m RT.
T.G.196.83
INV.194.97 (N)
INV.194.91 (W)
T.B.

36
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+250, 7.09 m RT.
T.G.196.89
INV.194.85 (S)
INV.194.90 (E)
T.B.

37
M.H., TYPE A, TYPE 1 FR, C.L., 1.2 m DIA.
STA.10+250, 6.5 m LT.
T.G.196.90
INV.195.49 (W)
INV.195.48 (S)
INV.
T.B.

38
C.B. TYPE C W/ TYPE 23 F&G
STA.10+250, 9.16 m LT.
T.G.196.85
INV.195.50 (N)
INV.195.50 (E)
T.B.

39
C.B. TYPE C W/ TYPE 23 F&G
STA.10+277, 9.2 m RT.
T.G.197.00
INV.195.02 (N)
INV.195.02 (S)
T.B.

40
C.B. TYPE C W/ TYPE 23 F&G
STA.10+277, 9.18 m LT.
T.G.197.00
INV.195.58 (N)
INV.195.58 (S)
T.B.

41
C.B. TYPE C W/ TYPE 23 F&G
STA.10+304, 9.2 m RT.
T.G.197.12
INV.195.10 (N)
INV.195.10 (S)
T.B.

42
C.B. TYPE C W/ TYPE 23 F&G
STA.10+304, 9.2 m LT.
T.G.197.12
INV.195.66 (N)
INV.195.66 (S)
T.B.

43
C.B. TYPE C W/ TYPE 23 F&G
STA.10+335, 9.2 m RT.
T.G.197.18
INV.195.19 (S)
INV.
T.B.

44
C.B. TYPE C W/ TYPE 23 F&G
STA.10+335, 9.2 m LT.
T.G.197.18
INV.195.75 (S)
INV.
T.B.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

IL. RTE. 21/ U.S. 45
PROPOSED STURUCTURE &
PIPE TABLE

SCALE:
DRAWN BY
DATE: 12/28/2007
CHECKED BY

12/28/2007
c:\projects\d143300\sh_drain.dgn

*REF-
*REF-
*REF-

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1-Y-B-R-1	LAKE	121	39
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

DRAINAGE PIPE TABLE

01	S.S. PIPE, TYPE 1, 300 mm , 7.00m
02	S.S. PIPE, TYPE 1, 300 mm , 2.20m
03	S.S. PIPE, TYPE 1, 300 mm , 2.70m
04	S.S. PIPE, TYPE 1, 300 mm , 27.20m
05	S.S. PIPE, TYPE 1, 900 mm , 5.00m
06	S.S. PIPE, TYPE 1, 525 mm , 42.50m
07	S.S. PIPE, TYPE 1, 300 mm , 22.80m
08	S.S. PIPE, TYPE 1, 600 mm , 12.00m
8A	S.S. PIPE, TYPE 1, 525 mm , 21.80m
09	S.S. PIPE, TYPE 1, 300 mm , 13.00m
10	S.S. PIPE, TYPE 1, 600 mm , 16.50m
11	S.S. PIPE, TYPE 1, 300 mm , 10.50m
12	S.S. PIPE, TYPE 1, 600 mm , 35.50m
13	S.S. PIPE, TYPE 1, 300 mm , 1.50m
14	S.S. PIPE, TYPE 1, 300 mm , 1.50m
15	S.S. PIPE, TYPE 1, 600 mm , 11.50m
16	S.S. PIPE, TYPE 1, 300 mm , 1.0m
17	S.S. PIPE, TYPE 1, 600 mm , 24.00m
18	S.S. PIPE, TYPE 1, 300 mm , 1.0m
18A	S.S. PIPE, TYPE 1, 300 mm , 1.0m
18B	S.S. PIPE, TYPE 1, 300 mm , 5.50m
19	S.S. PIPE, TYPE 1, 600 mm , 18.00m
19A	S.S. PIPE, TYPE 1, 450 mm , 23.80m
20	S.S. PIPE, TYPE 1, 300 mm , 0.5m
20A	S.S. PIPE, TYPE 1, 300 mm , 6.0m
21	S.S. PIPE, TYPE 1, 600 mm , 25.00m
21A	S.S. PIPE, TYPE 1, 450 mm , 24.0m
22	S.S. PIPE, TYPE 1, 300 mm , 0.8m
22A	S.S. PIPE, TYPE 1, 300 mm , 1.40m
23	S.S. PIPE, TYPE 1, 600 mm ,25.00 m
23A	S.S. PIPE, TYPE 1, 450 mm , 25.00m
24	S.S. PIPE, TYPE 1, 300 mm , 1.15m
24A	S.S. PIPE, TYPE 1, 300 mm , 1.95m
25	S.S. PIPE, TYPE 1, 600 mm , 26.00m
25A	S.S. PIPE, TYPE 1, 450 mm , 26.00m
26	S.S. PIPE, TYPE 1, 300 mm , 1.50m
26A	S.S. PIPE, TYPE 1, 300 mm , 1.90m
27	S.S. PIPE, TYPE 1, 300 mm , 26.20m
27A	S.S. PIPE, TYPE 1, 300 mm , 26.20m
28	S.S. PIPE, TYPE 1, 300 mm , 26.40m
28A	S.S. PIPE, TYPE 1, 300 mm , 26.50m
29	S.S. PIPE, TYPE 1, 300 mm , 30.30m
29A	S.S. PIPE, TYPE 1, 300 mm , 30.25m

NOTE: ALL PIPE CONNECTIONS SHALL BE WITH RUBBER GASKETS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

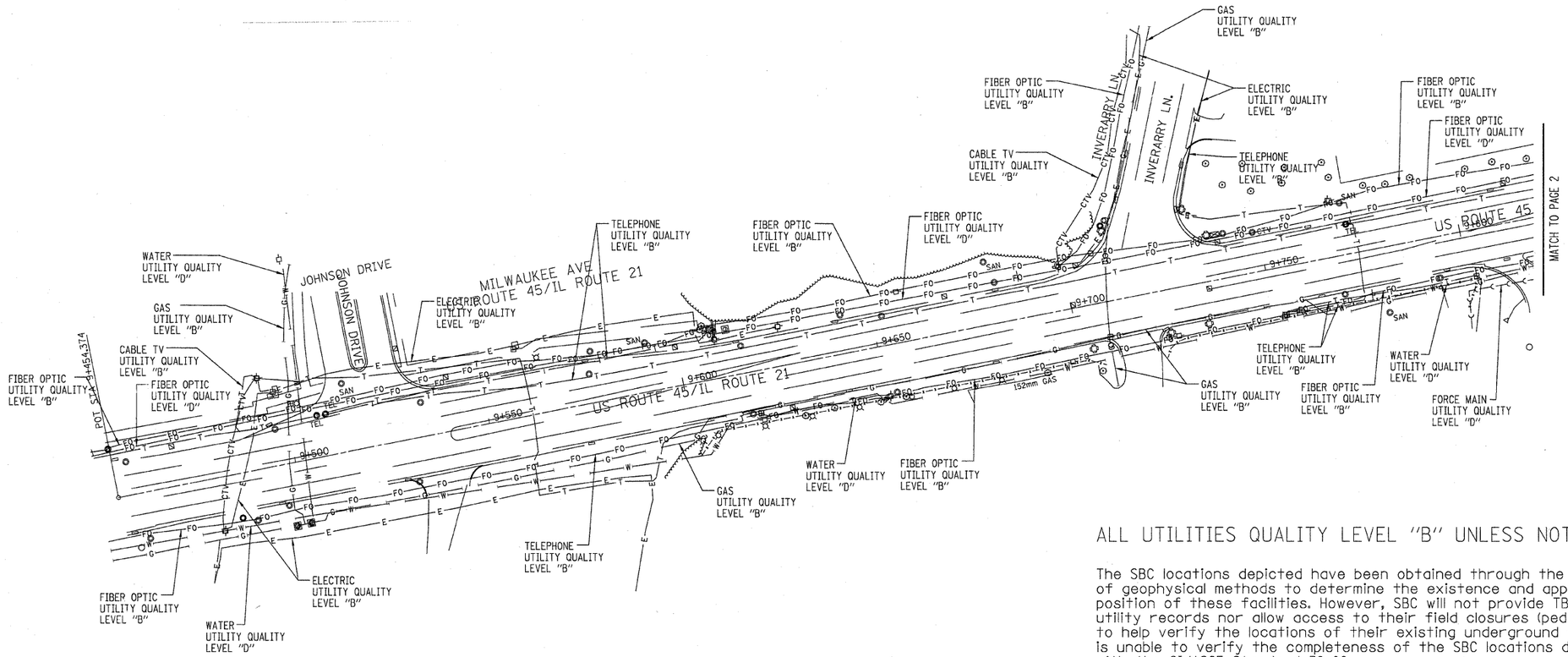
IL. RTE. 21/ U.S. 45
PROPOSED STURUCTURE &
PIPE TABLE

SCALE: DRAWN BY

DATE: 12/28/2007 CHECKED BY

12/28/2007
c:\projects\dl43300\sh_drainp.dgn

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1Y-B-R-1	Lake	121	40
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



ALL UTILITIES QUALITY LEVEL "B" UNLESS NOTED OTHERWISE.

The SBC locations depicted have been obtained through the application of geophysical methods to determine the existence and approximate horizontal position of these facilities. However, SBC will not provide TBE Group, Inc. with utility records nor allow access to their field closures (pedestals/manholes etc.), to help verify the locations of their existing underground facilities. Therefore, TBE is unable to verify the completeness of the SBC locations depicted in accordance with the CI/ASCE Standard 38-02.

The field representative from Adesta that was on-site would not provide or allow TBE Group, Inc. access to their field enclosures(Pedestals/Manholes etc.) to help verify the location of the underground fiber optic cable within the project limits. Therefore, TBE is unable to verify the location of the fiber optic cable and labeled the utility as Quality Level "D".

TBE GROUP, INC.
CIVIL ENGINEERING * TRANSPORTATION * ENVIRONMENTAL
* PLANNING * UTILITY ENGINEERING/LOCATING

TBE GROUP
IL0950017

TBE PAGE NO: 1 of 3
Checked by: _____
Utility Quality Level "B" : Designating
Utility Quality Level "D" : Records Research

CTV CTV CTV — CABLE TV
T T — TELEPHONE
SEWER
G G — GAS
FO FO FO — FIBER OPTIC
E E — ELECTRIC

Utilities shown in color on these plans as depicted in the legend have been investigated by TBE Group, Inc in accordance with SUE Industry Standards. All other information shown has been provided to TBE Group, Inc by others. TBE's SUE field investigation was performed during the period 6-07-07 through 6-28-07. Changes to utilities after these dates may have been made and therefore may result in variances from this plan. Consideration should be given to updating this plan if deemed advisable prior to final design and construction.

205 W. WACKER DRIVE
SUITE 1020
CHICAGO, IL 60606
(312) 704-1970

REVISIONS	
NAME	DATE

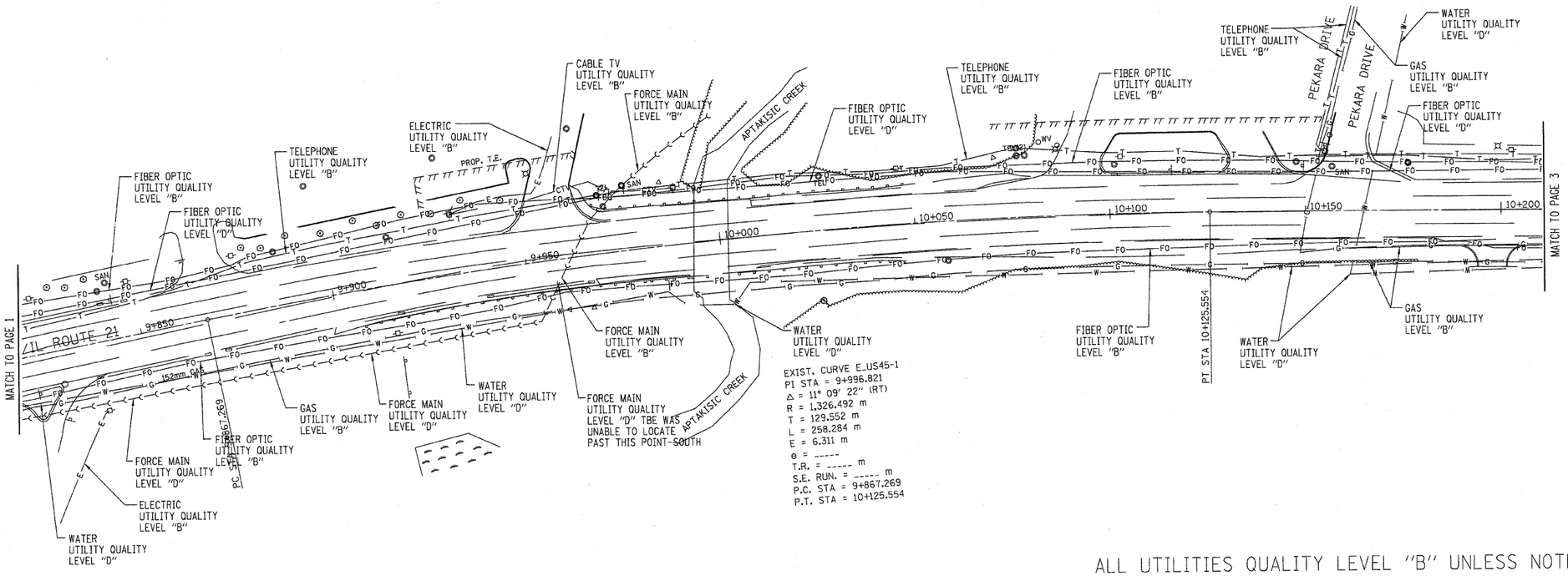
ILLINOIS DEPARTMENT OF TRANSPORTATION

SUE Investigation of Underground Utilities

US 45/IL RT. 21 over Aptakisic Creek
Buffalo Grove, IL.
Lake County
Contract No. 62032
Section No. 1Y-B-R-1

DRAWN BY : KLC
SCALE : 1 : 600

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1Y-B-R-1	Lake	121	41
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



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The field representative from Adesta that was on-site would not provide or allow TBE Group, Inc. access to their field enclosures(Pedestals/Manholes etc.) to help verify the location of the underground fiber optic cable within the project limits. Therefore, TBE is unable to verify the location of the fiber optic cable and labeled the utility as Quality Level "D".

TBE GROUP

TBE GROUP, INC.
CIVIL ENGINEERING * TRANSPORTATION * ENVIRONMENTAL * PLANNING * UTILITY ENGINEERING-LOCATING

IL09500177
TBE PAGE NO: 2 of 3
Checked by: _____
Utility Quality Level "B": Designating
Utility Quality Level "D" : Records Research

CTV CTV CTV	CABLE TV
T T	TELEPHONE
	SEWER
G G	GAS
FO FO FO	FIBER OPTIC
E E	ELECTRIC

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205 W. WACKER DRIVE
SUITE 1020
CHICAGO, IL 60606
(312) 704-1970

REVISIONS	
NAME	DATE

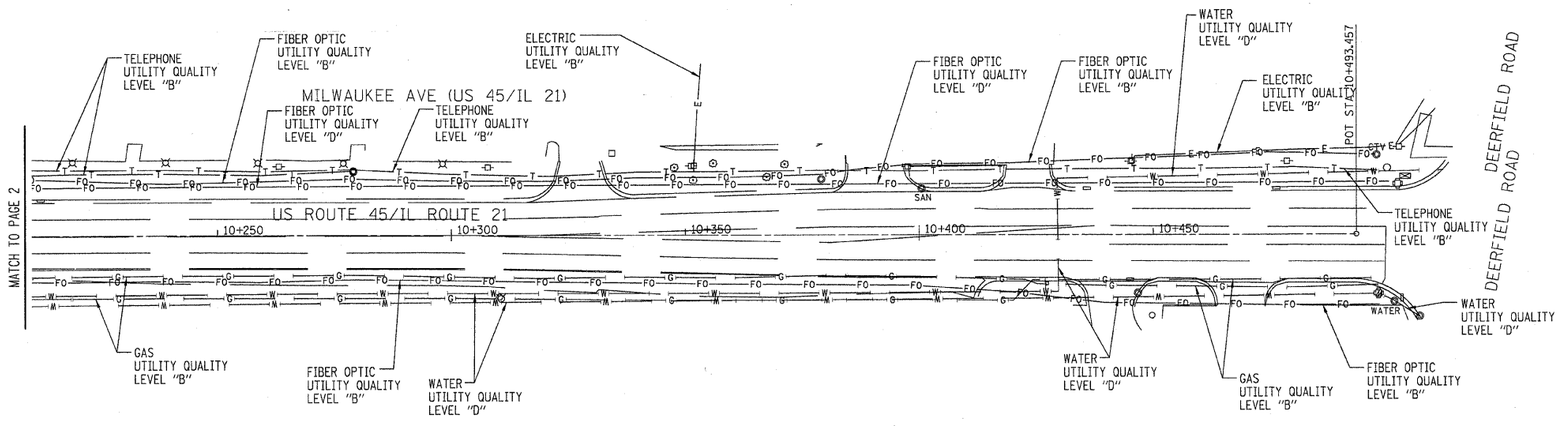
ILLINOIS DEPARTMENT OF TRANSPORTATION

SUE Investigation of Underground Utilities

US 45/IL RT. 21 over Aptakisic Creek
Buffalo Grove, IL.
Lake County
Contract No. 62032
Section No. 1Y-B-R-1

DRAWN BY : KLC
SCALE : 1 : 600

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1Y-B-R-1	Lake	121	42
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



SCALE 1:500

ALL UTILITIES QUALITY LEVEL "B" UNLESS NOTED OTHERWISE.

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The field representative from Adesta that was on-site would not provide or allow TBE Group, Inc. access to their field enclosures(Pedestals/Manholes etc.) to help verify the location of the underground fiber optic cable within the project limits. Therefore, TBE is unable to verify the location of the fiber optic cable and labeled the utility as Quality Level "D".

TBE GROUP

TBE GROUP, INC.
CIVIL ENGINEERING * TRANSPORTATION * ENVIRONMENTAL * PLANNING * UTILITY ENGINEERING/LOCATING

IL09500177
TBE PAGE NO: 3 of 3
Checked by: _____
Utility Quality Level "B" : Designating
Utility Quality Level "D" : Records Research

CTV	CABLE TV
T	TELEPHONE
S	SEWER
G	GAS
FO	FIBER OPTIC
E	ELECTRIC

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205 W. WACKER DRIVE
SUITE 1020
CHICAGO, IL 60606
(312) 704-1970

REVISIONS	
NAME	DATE

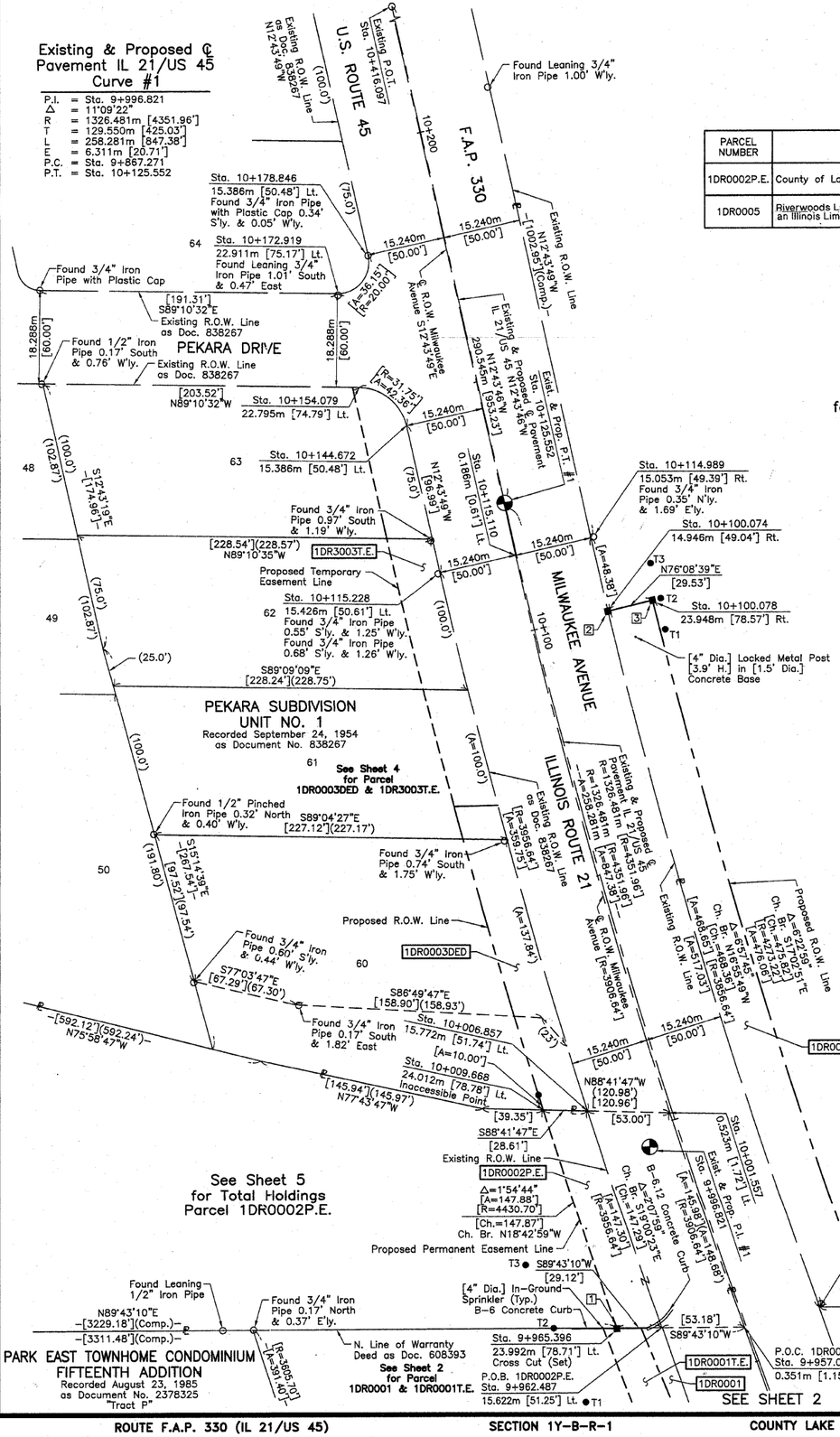
ILLINOIS DEPARTMENT OF TRANSPORTATION

SUE Investigation of Underground Utilities

US 45/IL RT. 21 over Aptakisic Creek
Buffalo Grove, IL.
Lake County
Contract No. 62032
Section No. 1Y-B-R-1

DRAWN BY : KLC
SCALE : 1 : 600

PART OF THE NW 1/4 OF SEC. 35, TWP. 43 N., R. 11 E. OF THE 3RD. P.M., IN LAKE COUNTY, ILLINOIS.



PARCEL NUMBER	OWNER	TOTAL HOLDINGS ACRES	PART TAKEN ACRES	AREA IN EXISTING R.O.W. ACRES	REMAINDER AREA ACRES	EASEMENT AREA ACRES	EASEMENT PURPOSE	PERMANENT INDEX NUMBER	PROPERTY ACQUIRED BY
1DR0002P.E.	County of Lake, Illinois	34.187	N/A	N/A	34.187	0.092	Highway Purposes	15–35–200–580	
1DR0005	Riverwoods Land Venture, L.L.C. an Illinois Limited Liability Company	32.515	0.328	N/A	32.187	N/A	N/A	15–35–100–124(pt)	

EXISTING R.O.W. RECORDED INFORMATION		
Parcel	Document No.	Date Recorded
-----	838267	September 24, 1954

COORDINATE TABLE			
STATION	OFFSET	NORTH	EAST
10+115.110	0.186m Lt.	610,417.5368	186,513.0933
10+115.228	15.426m Lt.	610,414.1785	186,498.2279
10+144.672	15.386m Lt.	610,443.0151	186,491.7133
10+154.079	22.795m Lt.	610,450.5590	186,482.4130
10+172.919	22.911m Lt.	610,468.9103	186,478.1488
10+178.846	15.386m Lt.	610,476.3490	186,484.1827

Schedule of Ties		
Point Number ☐	Tie to point	Tie Distance (feet)
1	T1	51.60
	T2	40.52
	T3	71.23
2	T1	38.73
	T2	35.00
	T3	41.27
3	T1	20.52
	T2	5.47
	T3	23.76

T1 to Point No. 1 is a "MAG" Nail (Set) in Bituminous Parking Lot.
T2 to Point No. 1 is a Cross Cut (Set) in Concrete Curb.

LEGEND

- SECTION CORNER
- QUARTER SECTION CORNER
- SECTION LINE
- QUARTER SECTION LINE
- QUARTER, QUARTER SECTION LINE
- PLATTED LOT LINE
- PROPERTY (DEED) LINE
- APL — APPARENT PROPERTY LINE
- CENTER LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED EASEMENT
- 120.327m MEASURED DIMENSION
- 129.325m(Comp.) COMPUTED DIMENSION
- [120.00'] RECORD DATA U.S. FOOT
- MEASURED DIMENSION U.S. FOOT
- EXISTING BUILDING

15 10 5 0 12.7
SCALE: 1:500

Bearings are referenced to the Illinois State Plane Coordinate Grid System, NAD27, East Zone.

- ○ IRON PIPE OR ROD FOUND
- ⊕ "MAG" NAIL SET
- \+ CUT CROSS FOUND OR SET
- ● 5/8" REBAR SET
- ● T1, T2, T3 ***THESE STAKES REFERENCE FOUND OR SET MONUMENTATION.*** SET 5/8 INCH IRON ROD FLUSH WITH GROUND TO TIE FOUND IRON STAKE. IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER.
- ● BT1, BT2, BT3 ***THESE STAKES, IN CULTIVATED AREAS, REFERENCE FOUND OR SET MONUMENTATION.*** BURIED 5/8 INCH IRON ROD 20 INCHES BELOW GROUND TO TIE FOUND IRON STAKE. IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER
- ■ ***STAKING OF PROPOSED RIGHT OF WAY.*** SET DIVISION OF HIGHWAYS SURVEY MARKER TO MONUMENT THE POSITION SHOWN. IDENTIFIED BY INSCRIPTION DATA AND SURVEYORS REGISTRATION NUMBER.
- ■ M ***STAKING OF PROPOSED RIGHT OF WAY IN CULTIVATED AREAS.*** BURIED 5/8 INCH METAL ROD 20 INCHES BELOW GROUND TO MARK FUTURE SURVEY MARKER POSITION IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER
- PERMANENT SURVEY MARKER, I.D.O.T STD 2135 (TO BE SET BY OTHERS)
- ☐ RIGHT OF WAY STAKING PROPOSED TO BE SET

STATE OF ILLINOIS } SS
COUNTY OF LAKE }

THIS IS TO CERTIFY THAT WE, JORGENSEN & ASSOCIATES, INC., AN ILLINOIS PROFESSIONAL DESIGN FIRM LAND SURVEYING CORPORATION, NUMBER 184–2771, HAVE SURVEYED THE PLAT OF HIGHWAYS SHOWN HEREON IN SECTION 35, TOWNSHIP 43N., RANGE 11E., OF THE THIRD PRINCIPAL MERIDIAN, LAKE COUNTY, THAT THE SURVEY IS TRUE AND COMPLETE AS SHOWN TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THE PLAT CORRECTLY REPRESENTS SAID SURVEY, THAT ALL MONUMENTS FOUND AND ESTABLISHED ARE OF PERMANENT QUALITY AND OCCUPY THE POSITIONS SHOWN THEREON AND THAT THE MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED. MADE FOR THE DEPARTMENT OF TRANSPORTATION, STATE OF ILLINOIS.

DATED AT LAKE VILLA, ILLINOIS THIS 25th DAY OF November 2002 A.D.

Christian H. Jorgensen PRESIDENT
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 35–2797
LICENSE EXPIRATION DATE: NOVEMBER 30, 2002

CHRISTIAN H. JORGENSEN 2797 PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS LAKE VILLA, ILLINOIS

NOTE: COORDINATES ARE GROUND VALUES, CONVERTED TO METRIC UNITS.

COORDINATE TABLE			
STATION	OFFSET	NORTH	EAST
9+952.302	24.014m Rt.	610,270.0306	186,582.5558
9+955.621	14.897m Rt.	610,269.9614	186,572.8707
9+957.079	0.351m Lt.	610,266.0991	186,558.0480
9+962.487	15.622m Lt.	610,266.0197	186,541.8379
9+965.396	23.992m Rt.	610,265.9762	186,532.9624
10+001.557	0.523m Lt.	610,308.0983	186,543.3676
10+006.857	15.772m Lt.	610,308.4658	186,527.2172
10+009.668	24.012m Lt.	610,308.6641	186,518.4997
10+100.074	14.946m Rt.	610,406.5314	186,531.2986
10+100.078	23.948m Rt.	610,408.6872	186,540.0386
10+114.989	15.053m Rt.	610,420.8952	186,527.9587

JORGENSEN & ASSOCIATES, INC.
120 PARK AVENUE
LAKE VILLA, ILLINOIS 60046
(847) 356–3371

SHEET 1 IS A COVER SHEET AND IS NOT RECORDED.

SCANNED

PLAT OF HIGHWAYS STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.P. 330 (IL 21/US 45)

SECTION 1Y-B-R-1 — LAKE COUNTY
PROJECT — JOB NO. R-91-059-01
STATION 9+950 — TO STATION 10+416.097
SCALE: 1:500/1"=12.7 — SHEET 3 OF 5

BUREAU OF LAND ACQUISITION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196

REVISION	DATE	BY
Changed 1DR0002 to 1DR0002P.E. Ownership Parcel 1DR0005	June 12, 2003	
Project Center Line Alignment & Parcel 1DR0005	April 24, 2003	
	July 25, 2002	

MADE BY

ROW PLAT — MADE — CHECKED — INKED — NOTEBOOK NO

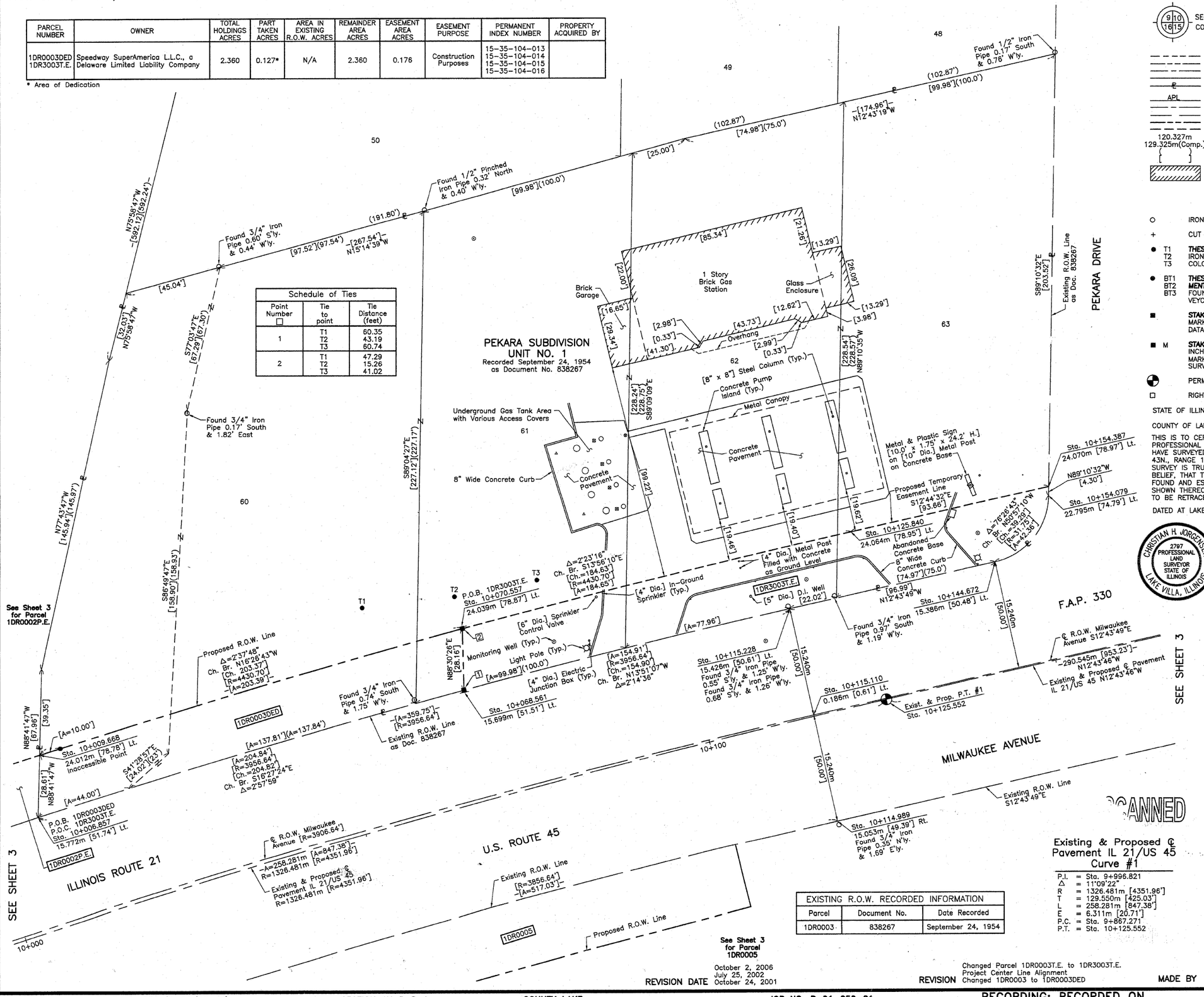
ROUTE F.A.P. 330 (IL 21/US 45) | SECTION 1Y-B-R-1 | COUNTY LAKE | JOB NO. R-91-059-01 | RECORDING: RECORDED ON | AS DOCUMENT NO.

PART OF THE NW 1/4 OF SEC. 35, TWP. 43 N., R. 11 E. OF THE 3RD. P.M., IN LAKE COUNTY, ILLINOIS.

PARCEL NUMBER	OWNER	TOTAL HOLDINGS ACRES	PART TAKEN ACRES	AREA IN EXISTING R.O.W. ACRES	REMAINDER AREA ACRES	EASEMENT AREA ACRES	EASEMENT PURPOSE	PERMANENT INDEX NUMBER	PROPERTY ACQUIRED BY
1DR0003DED 1DR3003T.E.	Speedway SuperAmerica L.L.C., a Delaware Limited Liability Company	2.360	0.127*	N/A	2.360	0.176	Construction Purposes	15-35-104-013 15-35-104-014 15-35-104-015 15-35-104-016	

* Area of Dedication

Schedule of Ties		
Point Number □	Tie to point	Tie Distance (feet)
1	T1	60.35
	T2	43.19
	T3	60.74
2	T1	47.29
	T2	15.26
	T3	41.02



LEGEND

- SECTION CORNER
- QUARTER SECTION CORNER
- SECTION LINE
- QUARTER SECTION LINE
- QUARTER, QUARTER SECTION LINE
- PLATTED LOT LINE
- ℄ PROPERTY (DEED) LINE
- APL APPARENT PROPERTY LINE
- CENTER LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED EASEMENT
- 120.327m MEASURED DIMENSION
- 129.325m(Comp.) COMPUTED DIMENSION
- RECORD DATA U.S. FOOT
- MEASURED DIMENSION U.S. FOOT
- EXISTING BUILDING

10 5 0 6.35
SCALE: 1:250

Bearings are referenced to the Illinois State Plane Coordinate Grid System, NAD27, East Zone.

- ○ IRON PIPE OR ROD FOUND
- ⊕ "MAG" NAIL SET
- \+ CUT CROSS FOUND OR SET
- ● 5/8" REBAR SET
- ● T1 T2 T3 ***THESE STAKES REFERENCE FOUND OR SET MONUMENTATION.*** SET 5/8 INCH IRON ROD FLUSH WITH GROUND TO TIE FOUND IRON STAKE. IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER.
- ● BT1 BT2 BT3 ***THESE STAKES, IN CULTIVATED AREAS, REFERENCE FOUND OR SET MONUMENTATION.*** BURIED 5/8 INCH IRON ROD 20 INCHES BELOW GROUND TO TIE FOUND IRON STAKE. IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER
- ■ ***STAKING OF PROPOSED RIGHT OF WAY.*** SET DIVISION OF HIGHWAYS SURVEY MARKER TO MONUMENT THE POSITION SHOWN. IDENTIFIED BY INSCRIPTION DATA AND SURVEYORS REGISTRATION NUMBER.
- ■ M ***STAKING OF PROPOSED RIGHT OF WAY IN CULTIVATED AREAS.*** BURIED 5/8 INCH METAL ROD 20 INCHES BELOW GROUND TO MARK FUTURE SURVEY MARKER POSITION IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER
- PERMANENT SURVEY MARKER, I.D.O.T STD 2135 (TO BE SET BY OTHERS)
- □ RIGHT OF WAY STAKING PROPOSED TO BE SET

STATE OF ILLINOIS)
)SS
COUNTY OF LAKE)

THIS IS TO CERTIFY THAT WE, JORGENSEN & ASSOCIATES, INC., AN ILLINOIS PROFESSIONAL DESIGN FIRM LAND SURVEYING CORPORATION, NUMBER 184-2771, HAVE SURVEYED THE PLAT OF HIGHWAYS SHOWN HEREON IN SECTION 35, TOWNSHIP 43N., RANGE 11E., OF THE THIRD PRINCIPAL MERIDIAN, LAKE COUNTY, THAT THE SURVEY IS TRUE AND COMPLETE AS SHOWN TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THE PLAT CORRECTLY REPRESENTS SAID SURVEY, THAT ALL MONUMENTS FOUND AND ESTABLISHED ARE OF PERMANENT QUALITY AND OCCUPY THE POSITIONS SHOWN THEREON AND THAT THE MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED. MADE FOR THE DEPARTMENT OF TRANSPORTATION, STATE OF ILLINOIS.

DATED AT LAKE VILLA, ILLINOIS THIS 23rd DAY OF September 2002 A.D.

CHRISTIAN H. JORGENSEN 2797 PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS LAKE VILLA, ILLINOIS

PRESIDENT
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 35-2797
LICENSE EXPIRATION DATE: NOVEMBER 30, 2002

NOTE: COORDINATES ARE GROUND VALUES, CONVERTED TO METRIC UNITS.

COORDINATE TABLE			
STATION	OFFSET	NORTH	EAST
10+006.857	15.772m Lt.	610,308.4658	186,527.2172
10+009.668	24.012m Lt.	610,308.6641	186,518.4997
10+068.561	15.699m Lt.	610,368.3383	186,509.5314
10+070.557	24.039m Lt.	610,368.1147	186,500.9515
10+114.989	15.053m Rt.	610,420.8952	186,527.9587
10+115.110	0.186m Lt.	610,417.5368	186,513.0933
10+115.228	15.426m Lt.	610,414.1785	186,498.2279
10+125.840	24.064m Lt.	610,422.7347	186,487.3978
10+144.672	15.386m Lt.	610,443.0151	186,491.7133
10+154.079	22.795m Lt.	610,450.5590	186,482.4130
10+154.387	24.070m Lt.	610,450.5778	186,481.1014

ROW PLAT	NOTEBOOK NO	MADE	CHECKED	INKED	BY	DATE

REVISION	DATE
Changed Parcel 1DR0003T.E. to 1DR3003T.E. Project Center Line Alignment	October 2, 2006
Changed 1DR0003 to 1DR0003DED	July 25, 2002
	October 24, 2001

MADE BY

EXISTING R.O.W. RECORDED INFORMATION		
Parcel	Document No.	Date Recorded
1DR0003	838267	September 24, 1954

Existing & Proposed ℄ Pavement IL 21/US 45 Curve #1

P.I. = Sta. 9+996.821
Δ = 11°09'22"
R = 1326.481m [4351.96']
T = 129.550m [425.03']
L = 258.281m [847.38']
E = 6.311m [20.71']
P.C. = Sta. 9+867.271
P.T. = Sta. 10+125.552

See Sheet 3 for Parcel 1DR0005

See Sheet 3 for Parcel 1DR0002P.E.

JORGENSEN & ASSOCIATES, INC.
120 PARK AVENUE
LAKE VILLA, ILLINOIS 60046
(847) 356-3371

SHEET 1 IS A COVER SHEET AND IS NOT RECORDED.

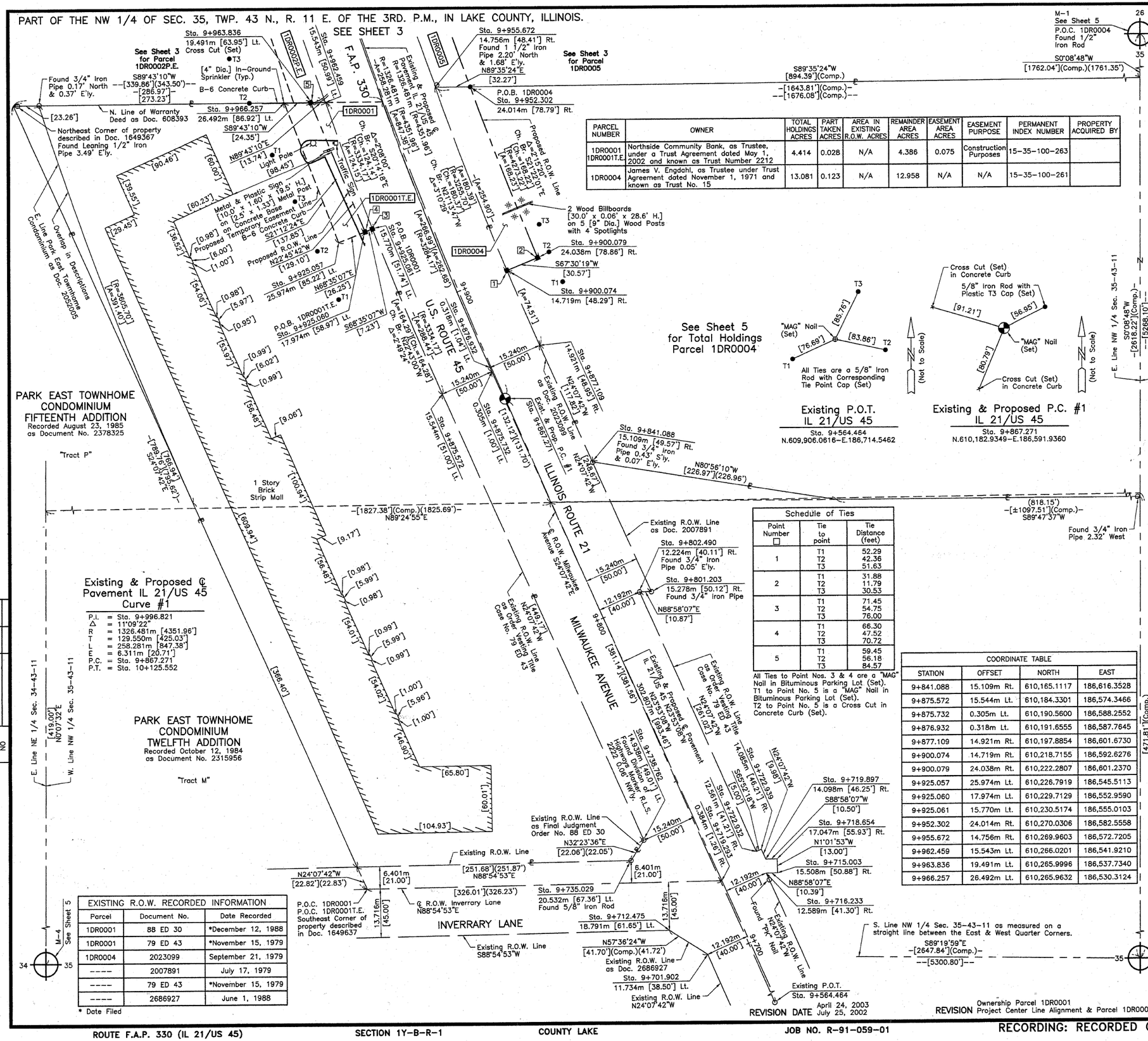
PLAT OF HIGHWAYS
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.P. 330 (IL 21/US 45)

SECTION 1Y-B-R-1 LAKE COUNTY
PROJECT JOB NO. R-91-059-01
STATION 10+000 TO STATION 10+150
SCALE: 1:250/1"=6.35 SHEET 4 OF 5

BUREAU OF LAND ACQUISITION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196

ROUTE F.A.P. 330 (IL 21/US 45) SECTION 1Y-B-R-1 COUNTY LAKE JOB NO. R-91-059-01 RECORDING: RECORDED ON AS DOCUMENT NO.

PART OF THE NW 1/4 OF SEC. 35, TWP. 43 N., R. 11 E. OF THE 3RD. P.M., IN LAKE COUNTY, ILLINOIS.



LEGEND

- SECTION CORNER (9 10 16 15)
- QUARTER SECTION CORNER (16 15)
- SECTION LINE
- QUARTER SECTION LINE
- QUARTER, QUARTER SECTION LINE
- PLATTED LOT LINE
- PROPERTY (DEED) LINE
- APL APPARENT PROPERTY LINE
- CENTER LINE
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED EASEMENT
- 120.327m MEASURED DIMENSION
- 129.325m(Comp.) COMPUTED DIMENSION
- [ ] RECORD DATA U.S. FOOT
- MEASURED DIMENSION U.S. FOOT
- EXISTING BUILDING

N

1

15 10 5 0 12.5

SCALE: 1:500

Bearings are referenced to the Illinois State Plane Coordinate Grid System, NAD27, East Zone.

- ○ IRON PIPE OR ROD FOUND
- ⊕ "MAG" NAIL SET
- \+ CUT CROSS FOUND OR SET
- ● 5/8" REBAR SET
- ● T1 T2 T3 ***THESE STAKES REFERENCE FOUND OR SET MONUMENTATION.*** SET 5/8 INCH IRON ROD FLUSH WITH GROUND TO TIE FOUND IRON STAKE. IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER.
- ● BT1 BT2 BT3 ***THESE STAKES, IN CULTIVATED AREAS, REFERENCE FOUND OR SET MONUMENTATION.*** BURIED 5/8 INCH IRON ROD 20 INCHES BELOW GROUND TO TIE FOUND IRON STAKE. IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER
- ■ ***STAKING OF PROPOSED RIGHT OF WAY.*** SET DIVISION OF HIGHWAYS SURVEY MARKER TO MONUMENT THE POSITION SHOWN. IDENTIFIED BY INSCRIPTION DATA AND SURVEYORS REGISTRATION NUMBER.
- ■ M ***STAKING OF PROPOSED RIGHT OF WAY IN CULTIVATED AREAS.*** BURIED 5/8 INCH METAL ROD 20 INCHES BELOW GROUND TO MARK FUTURE SURVEY MARKER POSITION IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER
- ⊕ PERMANENT SURVEY MARKER, I.D.O.T STD 2135 (TO BE SET BY OTHERS)
- □ RIGHT OF WAY STAKING PROPOSED TO BE SET

PARCEL NUMBER	OWNER	TOTAL HOLDINGS ACRES	PART TAKEN ACRES	AREA IN EXISTING R.O.W. ACRES	REMAINDER AREA ACRES	EASEMENT AREA ACRES	EASEMENT PURPOSE	PERMANENT INDEX NUMBER	PROPERTY ACQUIRED BY
1DR0001 1DR0001T.E.	Northside Community Bank, as Trustee, under a Trust Agreement dated May 1, 2002 and known as Trust Number 2212	4.414	0.028	N/A	4.386	0.075	Construction Purposes	15-35-100-263	
1DR0004	James V. Engdahl, as Trustee under Trust Agreement dated November 1, 1971 and known as Trust No. 15	13.081	0.123	N/A	12.958	N/A	N/A	15-35-100-261	

Schedule of Ties			
Point Number □	Tie to point	Tie Distance (feet)
1	T1	52.29
	T2	42.36
	T3	51.63
2	T1	31.88
	T2	11.79
	T3	30.53
3	T1	71.45
	T2	54.75
	T3	76.00
4	T1	66.30
	T2	47.52
	T3	70.72
5	T1	59.45
	T2	56.18
	T3	84.57

All Ties to Point Nos. 3 & 4 are a "MAG" Nail in Bituminous Parking Lot (Set).
T1 to Point No. 5 is a "MAG" Nail in Bituminous Parking Lot (Set).
T2 to Point No. 5 is a Cross Cut in Concrete Curb (Set).

COORDINATE TABLE			
STATION	OFFSET	NORTH	EAST
9+841.088	15.109m Rt.	610,165.1117	186,616.3528
9+875.572	15.544m Lt.	610,184.3301	186,574.3466
9+875.732	0.305m Lt.	610,190.5600	186,588.2552
9+876.932	0.318m Lt.	610,191.6555	186,587.7645
9+877.109	14.921m Rt.	610,197.8854	186,601.6730
9+900.074	14.719m Rt.	610,218.7155	186,592.6276
9+900.079	24.038m Rt.	610,222.2807	186,601.2370
9+925.057	25.974m Lt.	610,226.7919	186,545.5113
9+925.060	17.974m Lt.	610,229.7129	186,552.9590
9+925.061	15.770m Lt.	610,230.5174	186,555.0103
9+952.302	24.014m Rt.	610,270.0306	186,582.5558
9+955.672	14.756m Rt.	610,269.9603	186,572.7205
9+962.459	15.543m Lt.	610,266.0201	186,541.9210
9+963.836	19.491m Lt.	610,265.9996	186,537.7340
9+966.257	26.492m Lt.	610,265.9632	186,530.3124

EXISTING R.O.W. RECORDED INFORMATION		
Parcel	Document No.	Date Recorded
1DR0001	88 ED 30	*December 12, 1988
1DR0001	79 ED 43	*November 15, 1979
1DR0004	2023099	September 21, 1979
----	2007891	July 17, 1979
----	79 ED 43	*November 15, 1979
----	2686927	June 1, 1988

* Date Filed

STATE OF ILLINOIS } SS
COUNTY OF LAKE }

THIS IS TO CERTIFY THAT WE, JORGENSEN & ASSOCIATES, INC., AN ILLINOIS PROFESSIONAL DESIGN FIRM-LAND SURVEYING CORPORATION, NUMBER 184–2771, HAVE SURVEYED THE PLAT OF HIGHWAYS SHOWN HEREON IN SECTION 35, TOWNSHIP 43N., RANGE 11E., OF THE THIRD PRINCIPAL MERIDIAN, LAKE COUNTY, THAT THE SURVEY IS TRUE AND COMPLETE AS SHOWN TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THE PLAT CORRECTLY REPRESENTS SAID SURVEY, THAT ALL MONUMENTS FOUND AND ESTABLISHED ARE OF PERMANENT QUALITY AND OCCUPY THE POSITIONS SHOWN THEREON AND THAT THE MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED. MADE FOR THE DEPARTMENT OF TRANSPORTATION, STATE OF ILLINOIS.

DATED AT LAKE VILLA, ILLINOIS THIS 24th DAY OF September 2002 A.D.

CHRISTIAN H. JORGENSEN 2797 PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS LAKE VILLA, ILLINOIS

Christian H. Jorgensen PRESIDENT
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 35-2797
LICENSE EXPIRATION DATE: NOVEMBER 30, 2002

NOTE: COORDINATES ARE GROUND VALUES, CONVERTED TO METRIC UNITS.

COORDINATE TABLE			
STATION	OFFSET	NORTH	EAST
9+701.902	11.734m Lt.	610,026.9777	186,648.1668
9+712.475	18.791m Lt.	610,033.7876	186,637.4332
9+715.003	15.508m Lt.	610,049.9867	186,667.7710
9+716.233	12.589m Lt.	610,049.9297	186,664.6046
9+718.654	17.047m Lt.	610,053.9485	186,667.6997
9+719.293	0.384m Rt.	610,047.7859	186,652.2057
9+719.897	14.098m Rt.	610,053.8909	186,664.5002
9+722.932	12.561m Rt.	610,056.0441	186,661.8659
9+722.939	14.085m Rt.	610,056.6670	186,663.2568
9+735.029	20.532m Lt.	610,053.7049	186,626.7089
9+738.762	14.938m Lt.	610,059.3838	186,630.3119
9+801.203	15.278m Rt.	610,128.7118	186,632.6568
9+802.490	12.224m Rt.	610,128.6521	186,629.3438

JORGENSEN & ASSOCIATES, INC.
120 PARK AVENUE
LAKE VILLA, ILLINOIS 60046
(847) 356-3371

SHEET 1 IS A COVER SHEET AND IS NOT RECORDED.

PLAT OF HIGHWAYS
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.P. 330 (IL 21/US 45)

SECTION 1Y-B-R-1 LAKE COUNTY
PROJECT JOB NO. R-91-059-01
STATION 9+564.464 TO STATION 9+950
SCALE: 1:500/1"=12.7 SHEET 2 OF 5

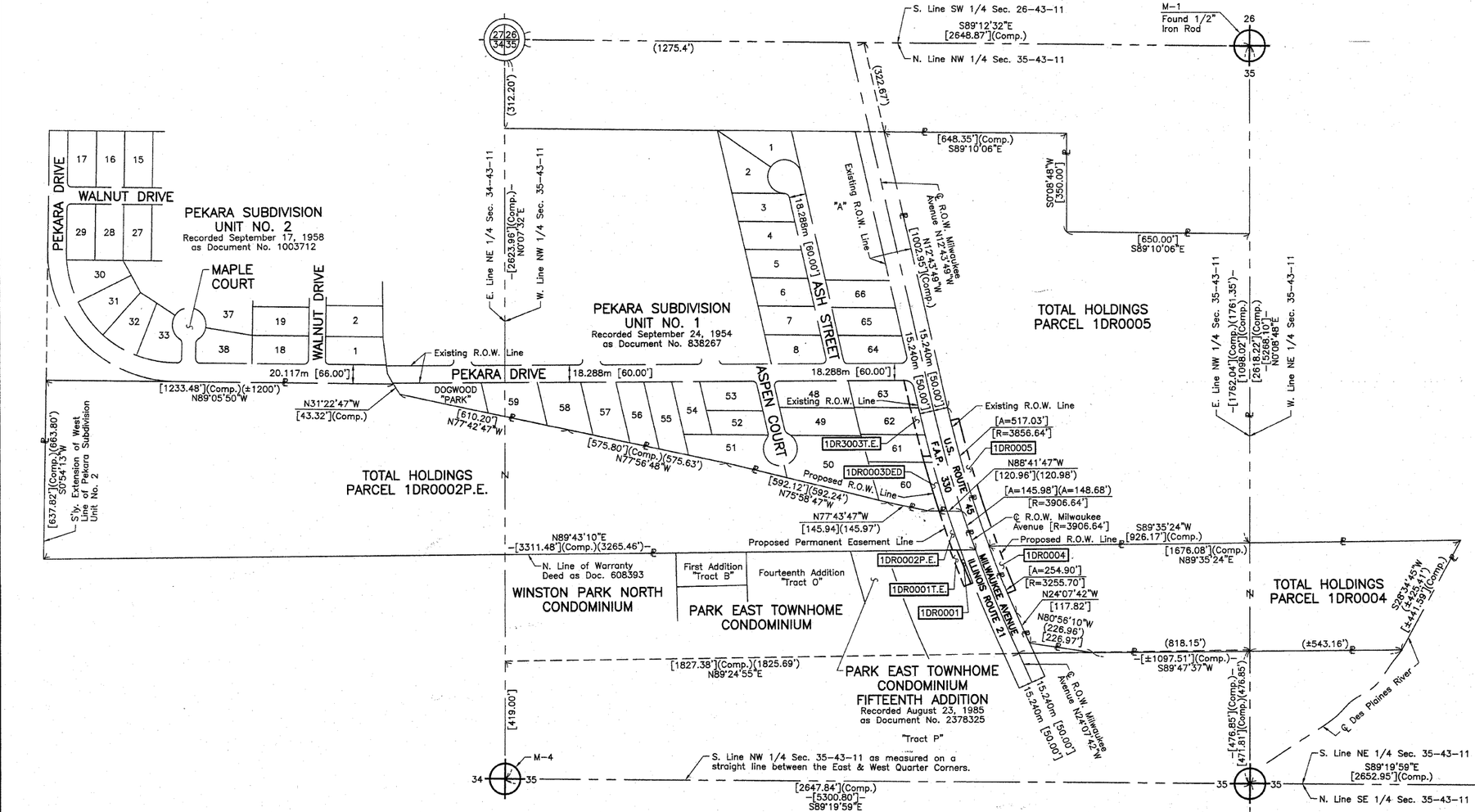
BUREAU OF LAND ACQUISITION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196

ROW PLAT	MADE	BY	DATE
	CHECKED		
	INKED		
NOTEBOOK NO			

REVISION DATE April 24, 2003 July 25, 2002
REVISION Ownership Parcel 1DR0001 Project Center Line Alignment & Parcel 1DR0004
MADE BY

ROUTE F.A.P. 330 (IL 21/US 45) SECTION 1Y-B-R-1 COUNTY LAKE JOB NO. R-91-059-01 RECORDING: RECORDED ON AS DOCUMENT NO.

PART OF THE NE 1/4 OF SEC. 34 AND PART OF THE N. 1/2 OF SEC. 35, TWP. 43 N., R. 11 E. OF THE 3RD. P.M., IN LAKE COUNTY, ILLINOIS.



LEGEND

SECTION CORNER

QUARTER SECTION CORNER

SECTION LINE
QUARTER SECTION LINE
QUARTER, QUARTER SECTION LINE
PLATTED LOT LINE
PROPERTY (DEED) LINE
APPARENT PROPERTY LINE
CENTER LINE
EXISTING RIGHT OF WAY LINE
PROPOSED RIGHT OF WAY LINE
PROPOSED EASEMENT
MEASURED DIMENSION
COMPUTED DIMENSION
RECORD DATA U.S. FOOT
MEASURED DIMENSION U.S. FOOT
EXISTING BUILDING

120.327m
129.325m(Comp.)

100 50 0 63.5
SCALE: 1:2500

N

Bearings are referenced to the Illinois State Plane Coordinate Grid System, NAD27, East Zone.

- IRON PIPE OR ROD FOUND
- "MAG" NAIL SET
- CUT CROSS FOUND OR SET
- 5/8" REBAR SET
- T1, T2, T3 — ***THESE STAKES REFERENCE FOUND OR SET MONUMENTATION.*** SET 5/8 INCH IRON ROD FLUSH WITH GROUND TO TIE FOUND IRON STAKE. IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER.
- BT1, BT2, BT3 — ***THESE STAKES, IN CULTIVATED AREAS, REFERENCE FOUND OR SET MONUMENTATION.*** BURIED 5/8 INCH IRON ROD 20 INCHES BELOW GROUND TO TIE FOUND IRON STAKE. IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER
- ***STAKING OF PROPOSED RIGHT OF WAY.*** SET DIVISION OF HIGHWAYS SURVEY MARKER TO MONUMENT THE POSITION SHOWN. IDENTIFIED BY INSCRIPTION DATA AND SURVEYORS REGISTRATION NUMBER.
- M — ***STAKING OF PROPOSED RIGHT OF WAY IN CULTIVATED AREAS.*** BURIED 5/8 INCH METAL ROD 20 INCHES BELOW GROUND TO MARK FUTURE SURVEY MARKER POSITION IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS REGISTRATION NUMBER
- PERMANENT SURVEY MARKER, I.D.O.T STD 2135 (TO BE SET BY OTHERS)
- RIGHT OF WAY STAKING PROPOSED TO BE SET

STATE OF ILLINOIS } SS
COUNTY OF LAKE }

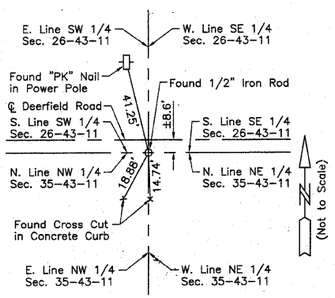
THIS IS TO CERTIFY THAT WE, JORGENSEN & ASSOCIATES, INC., AN ILLINOIS PROFESSIONAL DESIGN FIRM LAND SURVEYING CORPORATION, NUMBER 184-2771, HAVE SURVEYED THE PLAT OF HIGHWAYS SHOWN HEREON BETWEEN SECTION 34, TOWNSHIP 43N., RANGE 11E. AND SECTION 35, TOWNSHIP 43N., RANGE 11E., OF THE THIRD PRINCIPAL MERIDIAN, LAKE COUNTY, THAT THE SURVEY IS TRUE AND COMPLETE AS SHOWN TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THE PLAT CORRECTLY REPRESENTS SAID SURVEY, THAT ALL MONUMENTS FOUND AND ESTABLISHED ARE OF PERMANENT QUALITY AND OCCUPY THE POSITIONS SHOWN THEREON AND THAT THE MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED. MADE FOR THE DEPARTMENT OF TRANSPORTATION, STATE OF ILLINOIS.

DATED AT LAKE VILLA, ILLINOIS THIS 26th DAY OF November 2002 A.D.

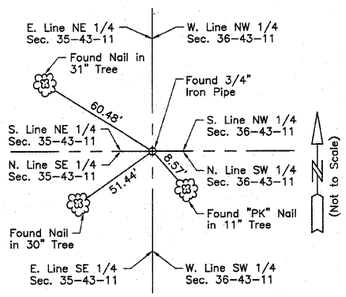
Christian H. Jorgensen — PRESIDENT
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 35-2797
LICENSE EXPIRATION DATE: NOVEMBER 30, 2002

CHRISTIAN H. JORGENSEN 2797 PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS LAKE VILLA, ILLINOIS

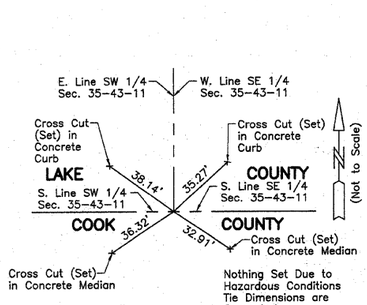
NOTE: COORDINATES ARE GROUND VALUES, CONVERTED TO METRIC UNITS.



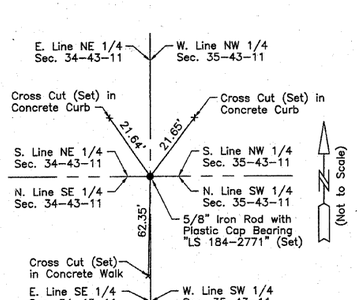
M-1
"Monument Record"
North 1/4 Corner of Section 35-43-11
N.610,809.0501-E.186,856.5338
Recorded November 26, 2002
Document No. 5059909



M-2
"Monument Record"
East 1/4 Corner of Section 35-43-11
N.610,001.6039-E.187,663.0581
Recorded November 26, 2002
Document No. 5059910



M-3
"Monument Record"
South 1/4 Corner of Section 35-43-11
N.609,203.3338-E.186,852.4238
Recorded November 26, 2002
Document No. 5059909



M-4
"Monument Record"
West 1/4 Corner of Section 35-43-11
N.610,020.4128-E.186,047.4810
Recorded November 26, 2002
Document No. 5059910

JORGENSEN & ASSOCIATES, INC.
120 PARK AVENUE
LAKE VILLA, ILLINOIS 60046
(847) 356-3371

SHEET 1 IS A COVER SHEET AND IS NOT RECORDED.

PLAT OF HIGHWAYS
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.P. 330 (IL 21/US 45)

SECTION 1Y-B-R-1 — LAKE COUNTY
PROJECT — JOB NO. R-91-059-01
STATION NONE — TO STATION
SCALE: 1:2500/1"=63.5 — SHEET 5 OF 5

BUREAU OF LAND ACQUISITION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196

SCANNED

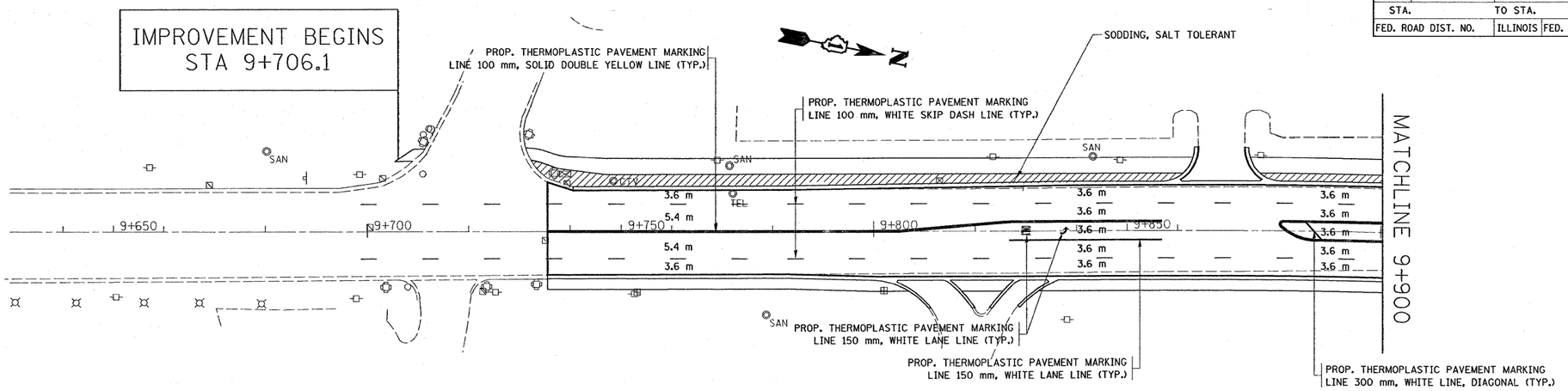
ROW PLAT	NOTEBOOK NO	MADE	CHECKED	INKED	BY	DATE

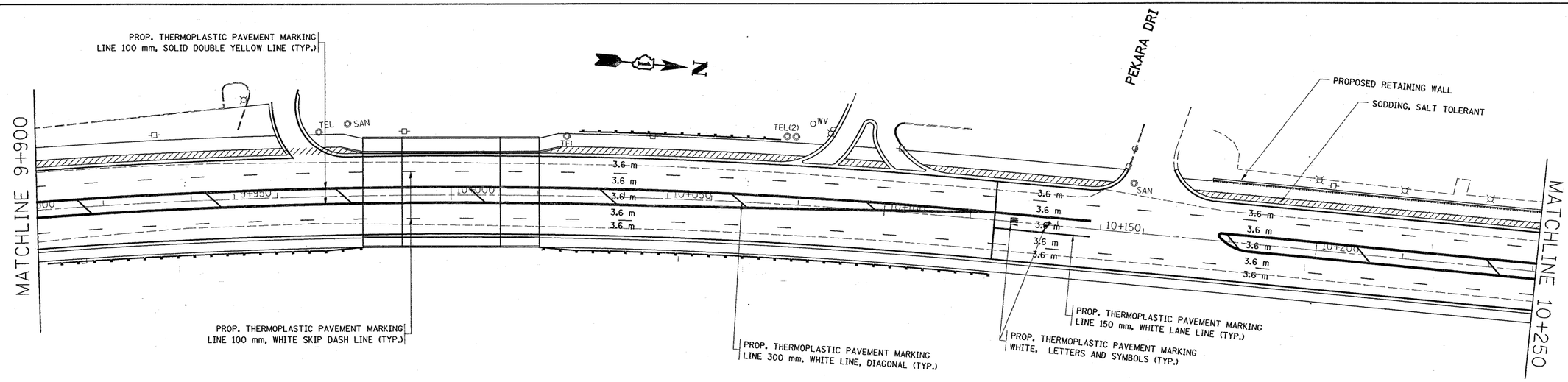
REVISION DATE June 12, 2003 July 26, 2002
REVISION Changed 1DR0002 to 1DR0002P.E. Parcels 1DR0004 & 1DR0005
MADE BY

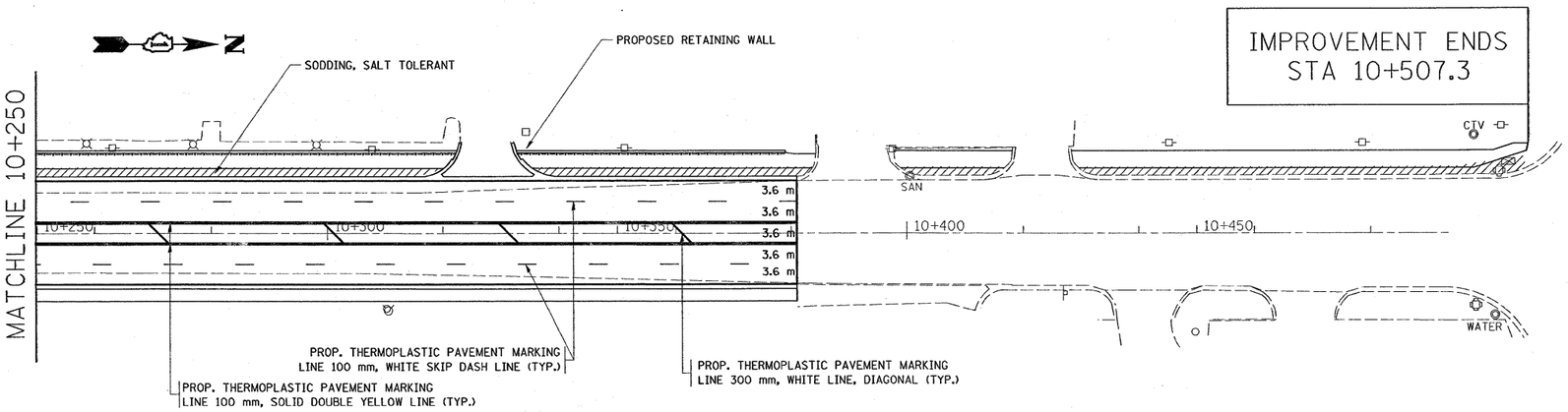
ROUTE F.A.P. 330 (IL 21/US 45) | SECTION 1Y-B-R-1 | COUNTY LAKE | JOB NO. R-91-059-01 | RECORDING: RECORDED ON | AS DOCUMENT NO.

CONTRACT NO. 62032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	47
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	







SODDING, SALT TOLERANT

NOTE: ALL FINAL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC (OR EXRUDED TYPE) AND SHOULD BE PLACED IN ACCORDANCE WITH "DISTRICT ONE TYPICAL PAVEMENT MARKINGS" DETAIL (TC-13)

ALL RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH THE DISTRICT ONE "TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKER DETAIL." (TC-11)

DEERFIELD ROAD

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 45/IL 21 OVER APTAKISIC CREEK PAVEMENT MARKING AND LANDSCAPING PLAN

SCALE IN METERS
1:500
DATE

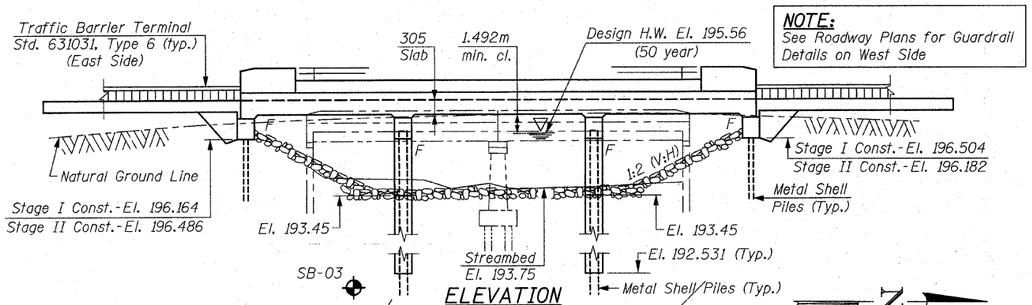
DRAWN BY
CHECKED BY

BENCH MARK:
Control Point #120, Sta. 9+997.36, 8.07m Rt., PK Nail Elev. 196.048 - N. 10300.898, E. 9954.002

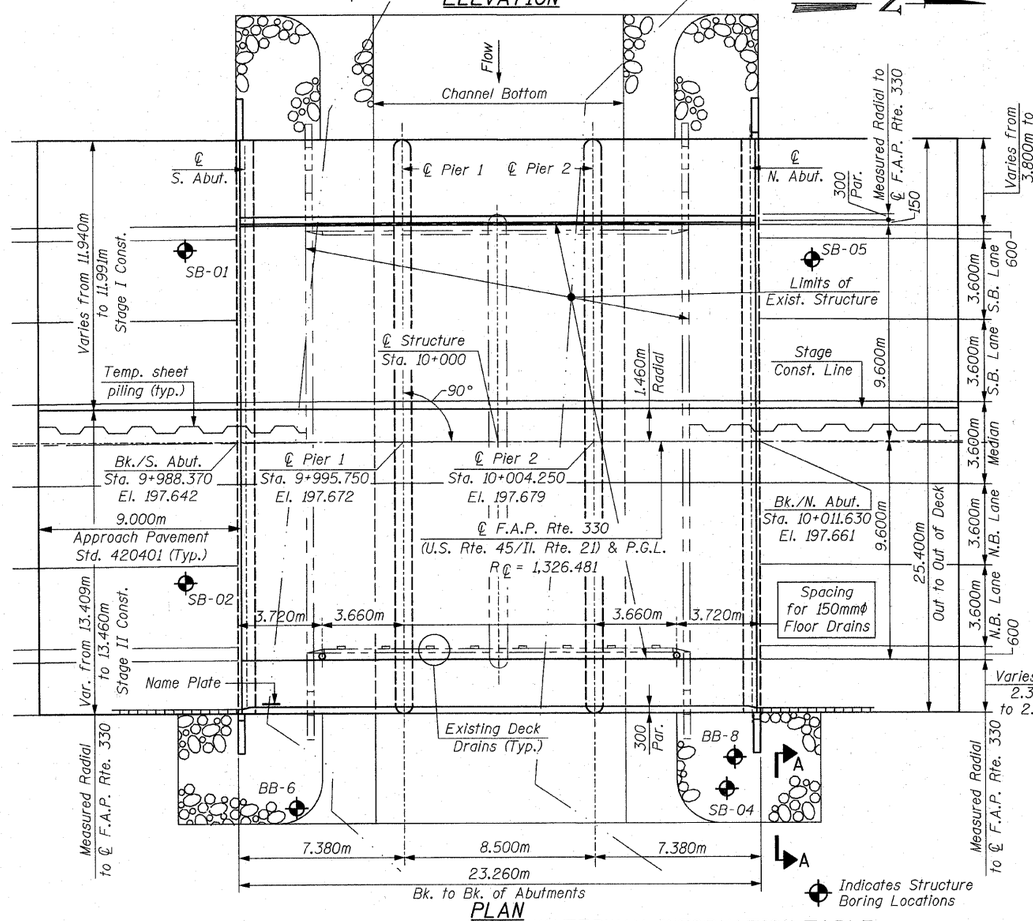
Existing Structure: S.N. 049-0007 was built in 1922. 17.12m long. 9.14m wide, as a two-span continuous R.C. Slab Bridge on closed abutments and single solid wall Concrete Pier supported on Timber Piles, widened in 1930 to 15.80m. The Structure was widened and given a new 44mm Bituminous Wearing Surface in 1980. Milling and Resurfacing was done in 1994.

The Existing Structure is to be removed and replaced utilizing Stage Construction.

Salvage: none



ELEVATION



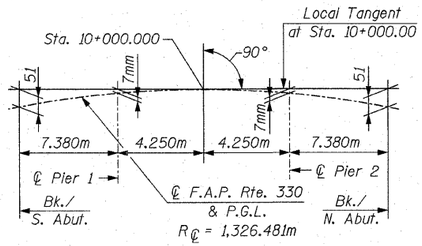
PLAN

WATERWAY INFORMATION TABLE

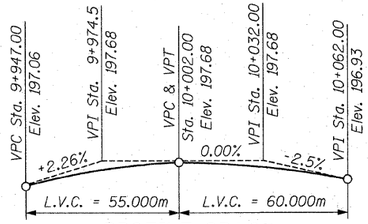
Drainage Area = 17.09 km²

Exist. low grade elev. = 196.080m @ Sta. 9+984.66
Prop. low grade elev. = 196.110m @ Sta. 9+885.50

FLOOD	FREQ. (YEAR)	Q m³/s	WATERWAY OPENING m² EXIST.	WATERWAY OPENING m² PROP.	NATURAL H.W.E.	HEAD (m) EXIST.	HEAD (m) PROP.	HEADWATER ELEV. EXIST.	HEADWATER ELEV. PROP.
	10	11.8	23.4	26.1	195.53	0.02	0.01	195.55	195.54
DESIGN	50	15.9	23.4	26.6	195.56	0.04	0.01	195.60	195.57
BASE	100	23.2	23.4	27.1	195.59	0.08	0.03	195.67	195.62
MAX. CALC.	500	24.6	23.4	27.5	195.62	0.09	0.03	195.71	195.65



OFFSET SKETCH

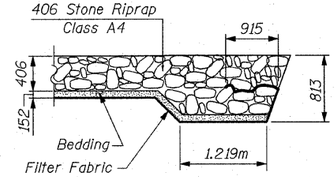


PROFILE GRADE

(ALONG ℄ F.A.P. Rte. 330)

CURVE DATA

P.I. Sta. = 9+992.250
Δ = 11.58°
R = 1,326.481
T = 134.486
L = 268.055m
E = 6.8000
e = 5.79°
P.C. Sta. = 9+857.764m
P.T. Sta. = 10+125.820m



SECTION A-A

DESIGN SCOUR ELEVATION TABLE

Location	S. Abut.	Pier 1	Pier 2	N. Abut.
Design Scour Elevations	196.164	187.650	187.650	196.182

LOADING MS18

Allow 2.4 kN/m² for future Wearing Surface

DESIGN SPECIFICATIONS

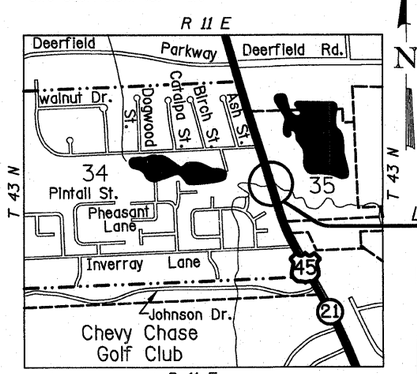
AASHTO 2002

DESIGN STRESSES

FIELD UNITS
f'_c = 24 MPa
f_y = 400 MPa (reinforcement)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.035g
Site Coefficient (S) = 1.0



LOCATION SKETCH

LOCATION OF STRUCTURE

REVISIONS NAME	DATE

SHEET S01 OF S26

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	124	48
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

INDEX OF SHEETS

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

STATION 10+000.000
BUILT 2008 BY
STATE OF ILLINOIS
F.A.P. RTE. 330 SEC. 1Y-B-R-1
LOADING MS18
STR. NO. 049-0194

NAME PLATE

See Std. 515001

STATE OF ILLINOIS · BHADRESH N. SHAH · 081-004476 · LICENSED STRUCTURAL ENGINEER · CHICAGO

BHADRESH N. SHAH
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS LIC. No. 081-004476
EXPIRES: 11-30-08

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

...\STRUCTURAL\sheets\gen_plan.dgn 11/27/2007 10:14:26 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	49
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

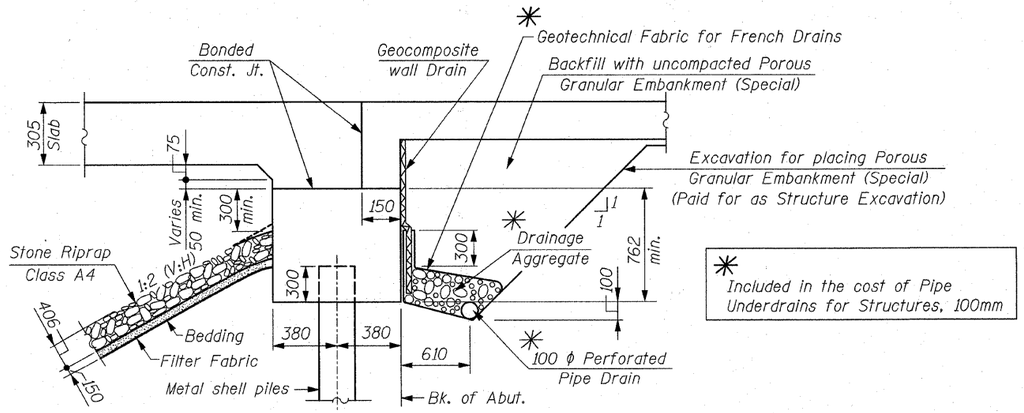
CONTRACT NO. 62032

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. m	-	57	57
Stone Riprap, Class A4	Sq. m	-	853	853
Filter Fabric	Sq. m	-	846	846
Structure Excavation	Cu. m	-	176	176
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu. m	171.2	-	171.2
Concrete Superstructure	Cu. m	213.2	-	213.2
Bridge Deck Grooving	Sq. m	427	-	427
Protective Coat	Sq. m	636	-	636
Reinforcement Bars, Epoxy Coated	kg	28,990	11,980	40,970
Furnishing Metal Shell Piles 305mmx4.55mm	m	-	1,298	1,298
Driving Piles	m	-	1,298	1,298
Test Piles Metal Shell	Each	-	4	4
Name Plates	Each	1	-	1
Pipe Underdrains for Structures 100 mm	m	-	61	61
Geocomposite Wall Drain	Sq. m	-	50	50
Underwater Structure Excavation Protection-Location 1	Each	-	1	1
Underwater Structure Excavation Protection-Location 2	Each	-	1	1
Temporary Sheet Piling	Sq. m	71	-	71
Bar Splicers	Each	135	72	207
Concrete Encasement	Cu. m	-	14	14
Floor Drains	Each	2	-	2
Aluminum Railing, Type L	m	17.982	-	17.982
Bicycle Railing	m	22.960	-	22.960
Parapet Railing	m	22.960	-	22.960

GENERAL NOTES:

1. Layout of Slope Protection may be varied to suit ground conditions in the field as directed by the Engineer.
2. For Pavement Removal and Channel Excavation between existing and new abutments, see Roadway Plans.
3. For Cleaning Out and Reshaping Channel, see Roadway Plans. Removal of existing debris in the Channel is included with Pay Item for "Channel Excavation".
4. The Contractor shall drive Test Piles to 110% of the nominal required Bearing specified in production locations at Substructures specified or approved by the Engineer before ordering the remainder of Piles.
5. The Contractor shall make allowance for the deflection of Forms shrinkage and settlement of Falsework, in addition to allowance for Dead Load Deflection. Forms for Deck Slab shall be removed prior to placement of Bridge Approach Pavement.
6. Reinforcement Bars shall conform to the requirements of ASTM A 706m GR. 400 (IL Modified) See Special Provisions.
7. Reinforcement Bars designated (E) shall be Epoxy Coated.



SECTION THRU ABUTMENT

NOTES:

All Drainage System Components shall extend to 600mm from the end of each Wingwall except an Outlet Pipe shall extend until intersecting with the Side Slpoes.

The Pipes shall drain into the Concrete Headwalls (See Article 601.05 of The Standard Specifications and Highway Standard 601101)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES & TOTAL BILL OF MATERIAL
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

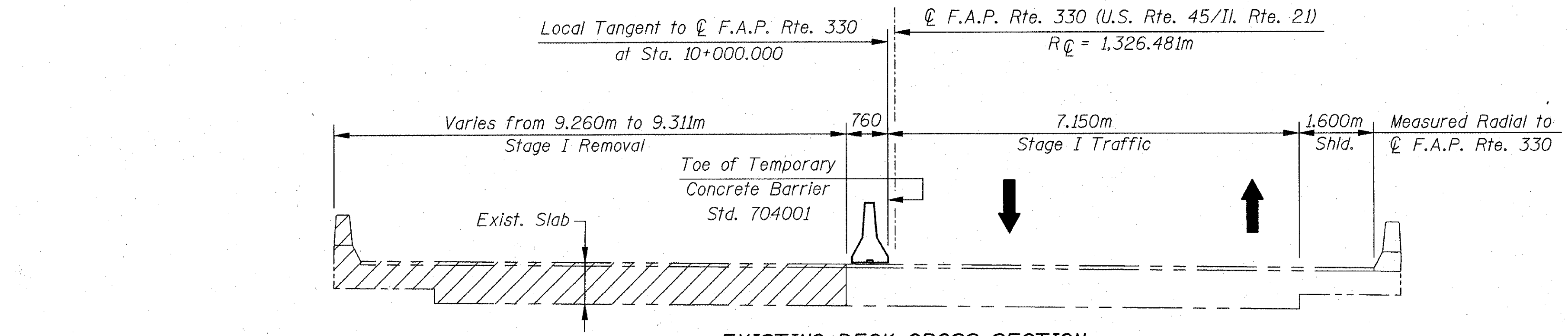
CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

...\Sheets\General Notes.sht 11/27/2007 10:14:42 AM

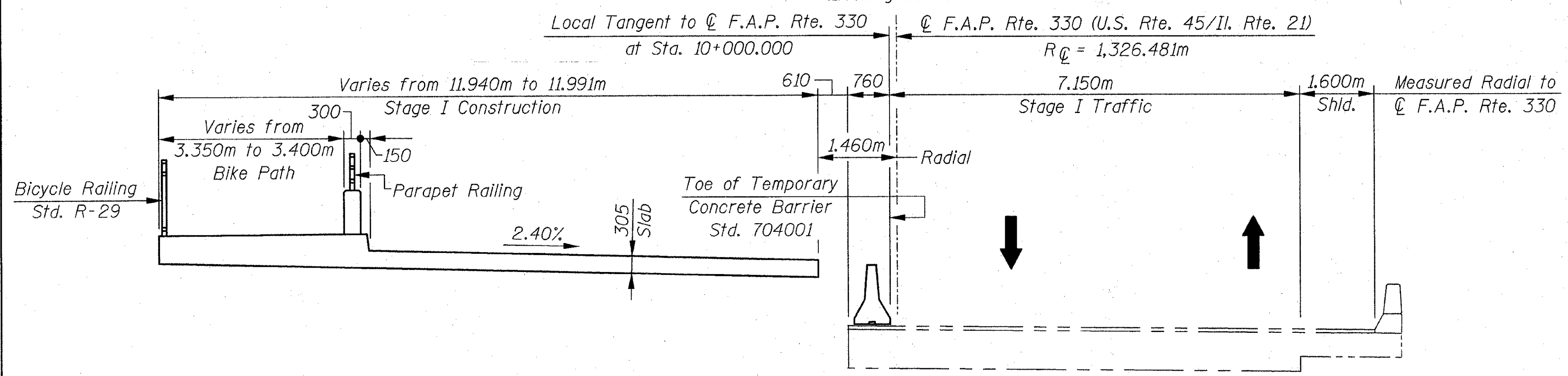
SHEET S03 OF S26

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	50
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

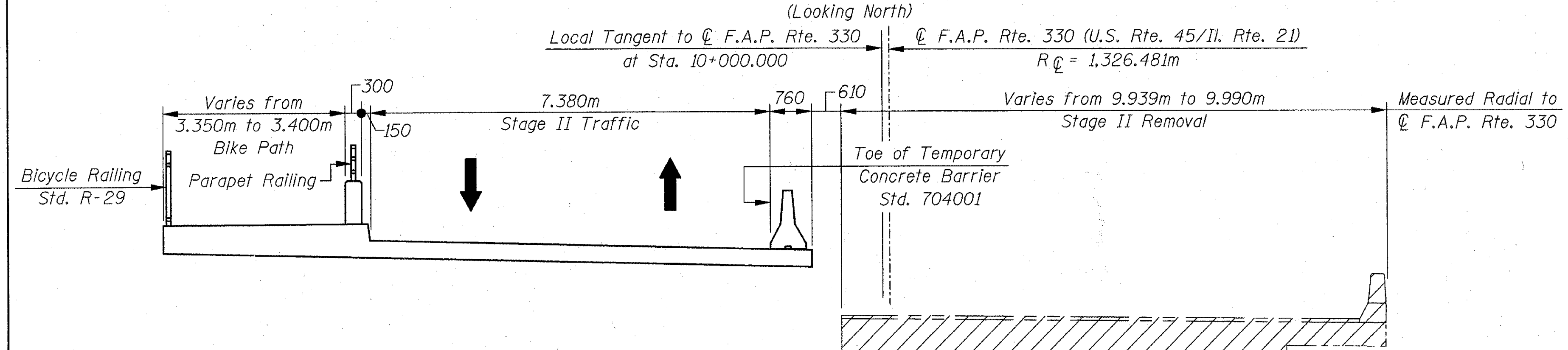
CONTRACT NO. 62032



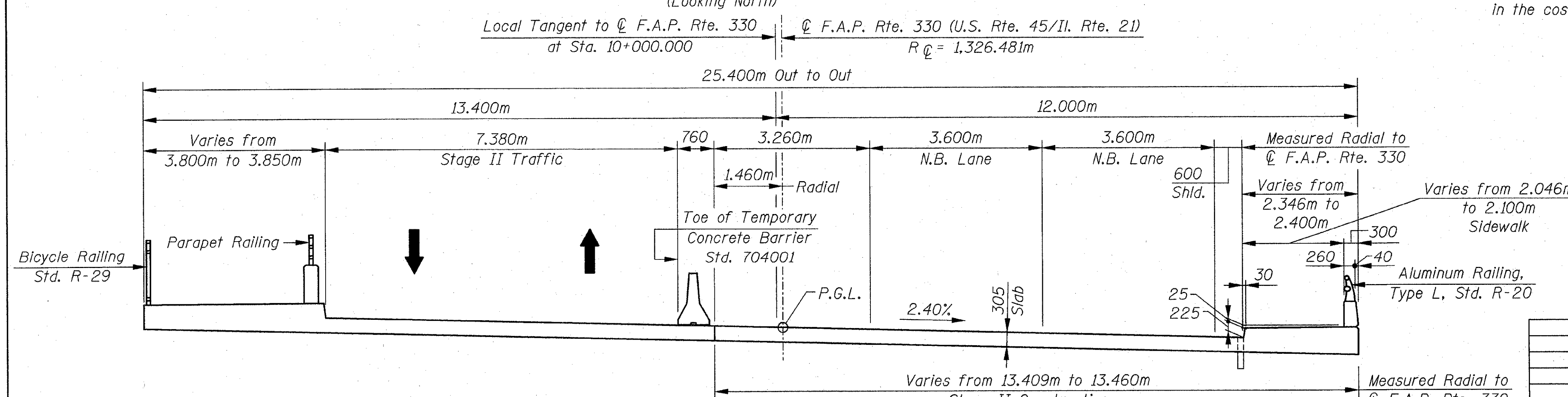
EXISTING DECK CROSS SECTION
(Looking North)



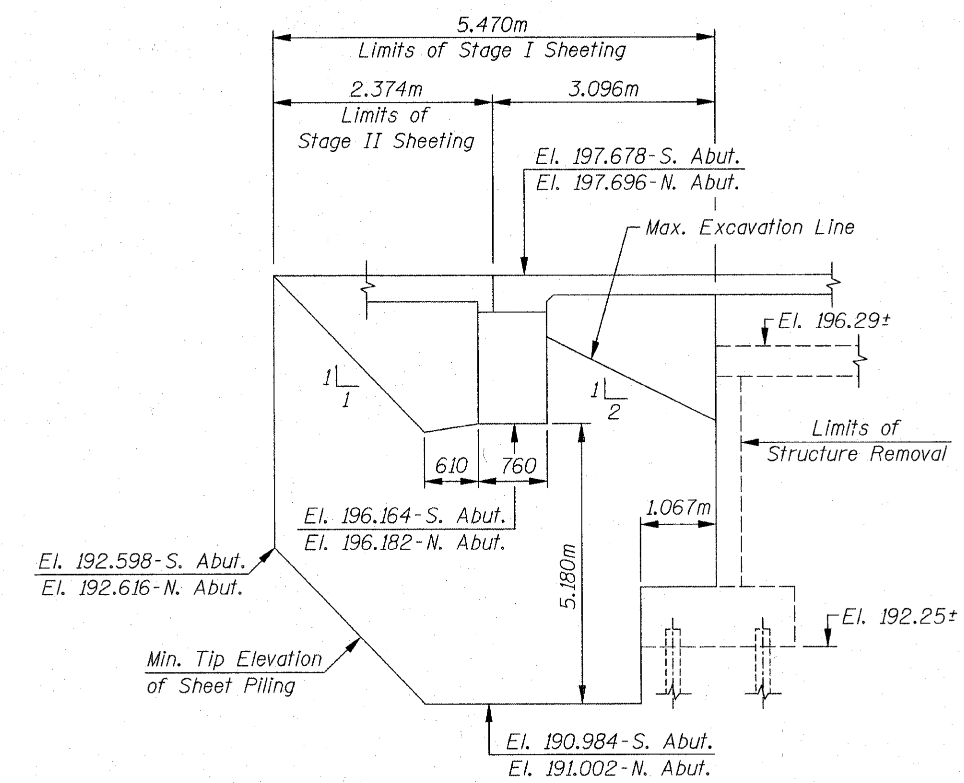
STAGE I CONSTRUCTION
(Looking North)



STAGE II REMOVAL
(Looking North)



STAGE II CONSTRUCTION
DECK CROSS SECTION
(Looking North)



Sheet Piling shall be Anchored to the existing Abutment
Minimum Embedment Depth = 5.200m
Minimum Section Modulus of Sheet Piling = 797mm^3/mx10^3

TEMPORARY SHEET PILING AT ABUTMENTS

NOTES:

If the Contractor chooses to alter the Temporary Cantilevered Sheet Piling Design requirements shown on the Plans, a design submittal including Plan Details and Calculations will be required for review and acceptance by the Engineer.

The Contractor shall connect the first sheet to the existing Abutment Wall to ensure stability of Sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

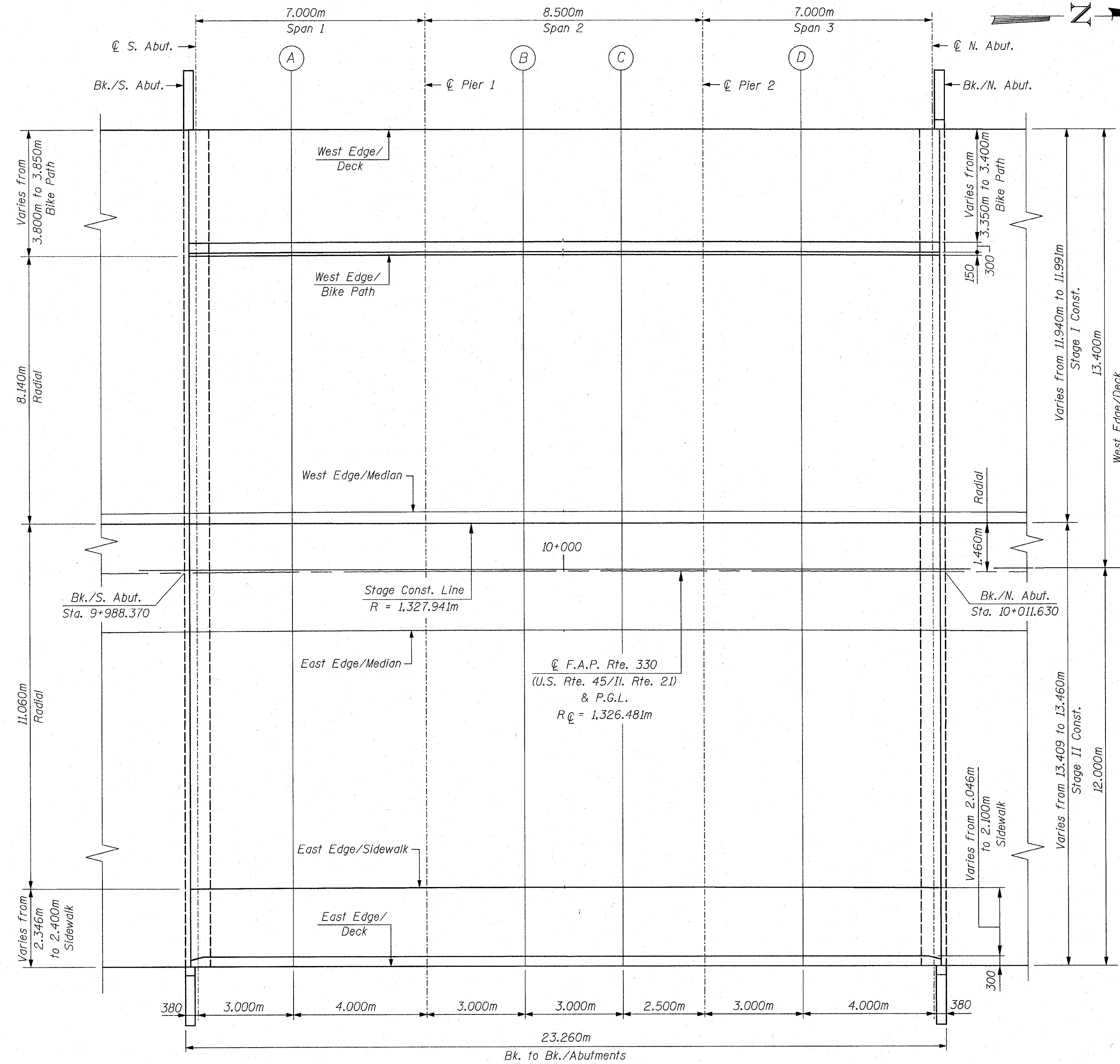
CONSTRUCTION STAGING & TEMPORARY SHEET PILING
U.S. RTE. 45 / IL. RTE. 21 OVER APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

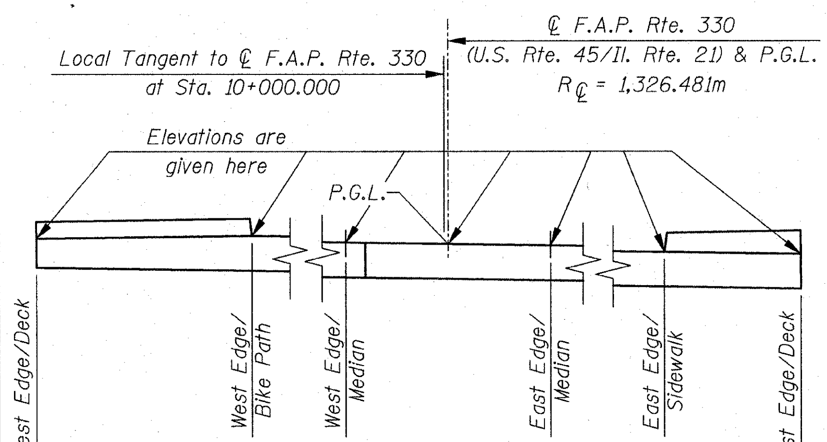
CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	51
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

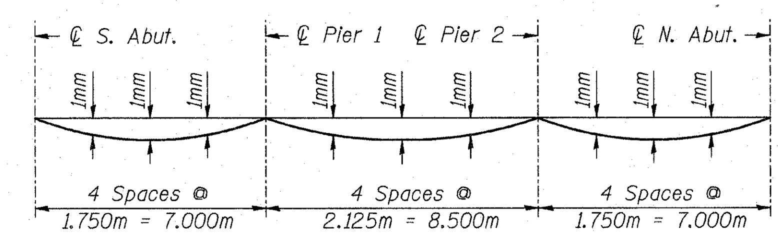


PLAN



CROSS SECTION
(Looking North)

Local Tangent to ℄ F.A.P. Rte. 330
at Sta. 10+000.000



DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete)

NOTES:
The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown in "Top of Slab Elevations".

All dimensions are in millimeters (mm) except as noted.

All offsets are in meters.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS-I
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	52
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

WEST EDGE/DECK

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF SOUTH ABUT.	9+988.487	-13.450	197.965	197.965
CL SOUTH ABUT.	9+988.863	-13.447	197.967	197.967
A	9+991.833	-13.425	197.981	197.982
CL PIER 1	9+995.793	-13.407	197.994	197.994
B	9+998.763	-13.401	197.999	198.000
C	10+001.732	-13.401	198.002	198.003
CL PIER 2	10+004.207	-13.407	198.001	198.001
D	10+007.177	-13.420	197.996	197.997
CL NORTH ABUT.	10+011.137	-13.447	197.985	197.985
BACK OF NORTH ABUT.	10+011.513	-13.450	197.984	197.984

WEST EDGE/BIKE PATH

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF SOUTH ABUT.	9+988.453	-9.600	197.873	197.873
CL SOUTH ABUT.	9+988.831	-9.600	197.875	197.875
A	9+991.809	-9.600	197.889	197.890
CL PIER 1	9+995.781	-9.600	197.902	197.902
B	9+998.759	-9.600	197.908	197.909
C	10+001.737	-9.600	197.910	197.911
CL PIER 2	10+004.219	-9.600	197.909	197.909
D	10+007.198	-9.600	197.905	197.906
CL NORTH ABUT.	10+011.169	-9.600	197.893	197.893
BACK OF NORTH ABUT.	10+011.547	-9.600	197.891	197.891

WEST EDGE/MEDIAN

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF SOUTH ABUT.	9+988.386	-1.800	197.685	197.685
CL SOUTH ABUT.	9+988.765	-1.800	197.687	197.687
A	9+991.761	-1.800	197.702	197.703
CL PIER 1	9+995.756	-1.800	197.715	197.715
B	9+998.752	-1.800	197.721	197.722
C	10+001.748	-1.800	197.723	197.724
CL PIER 2	10+004.244	-1.800	197.722	197.722
D	10+007.240	-1.800	197.717	197.718
CL NORTH ABUT.	10+011.235	-1.800	197.705	197.705
BACK OF NORTH ABUT.	10+011.614	-1.800	197.704	197.704

STAGE CONST. LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF SOUTH ABUT.	9+988.383	-1.460	197.677	197.677
CL SOUTH ABUT.	9+988.762	-1.460	197.679	197.679
A	9+991.759	-1.460	197.693	197.694
CL PIER 1	9+995.755	-1.460	197.707	197.707
B	9+998.751	-1.460	197.713	197.714
C	10+001.748	-1.460	197.715	197.716
CL PIER 2	10+004.245	-1.460	197.714	197.714
D	10+007.242	-1.460	197.709	197.710
CL NORTH ABUT.	10+011.238	-1.460	197.697	197.697
BACK OF NORTH ABUT.	10+011.617	-1.460	197.696	197.696

CL & P.G.L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF SOUTH ABUT.	9+988.370	0.000	197.642	197.642
CL SOUTH ABUT.	9+988.750	0.000	197.644	197.644
A	9+991.750	0.000	197.658	197.659
CL PIER 1	9+995.750	0.000	197.672	197.672
B	9+998.750	0.000	197.678	197.679
C	10+001.750	0.000	197.680	197.681
CL PIER 2	10+004.250	0.000	197.679	197.679
D	10+007.250	0.000	197.674	197.675
CL NORTH ABUT.	10+011.250	0.000	197.662	197.662
BACK OF NORTH ABUT.	10+011.630	0.000	197.661	197.661

EAST EDGE/MEDIAN

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF SOUTH ABUT.	9+988.354	1.800	197.599	197.599
CL SOUTH ABUT.	9+988.735	1.800	197.601	197.601
A	9+991.739	1.800	197.615	197.616
CL PIER 1	9+995.744	1.800	197.629	197.629
B	9+998.748	1.800	197.635	197.636
C	10+001.752	1.800	197.637	197.638
CL PIER 2	10+004.256	1.800	197.636	197.636
D	10+007.260	1.800	197.631	197.632
CL NORTH ABUT.	10+011.265	1.800	197.619	197.619
BACK OF NORTH ABUT.	10+011.646	1.800	197.617	197.617

EAST EDGE/SIDEWALK

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF SOUTH ABUT.	9+988.285	9.600	197.411	197.411
CL SOUTH ABUT.	9+988.668	9.600	197.413	197.413
A	9+991.690	9.600	197.428	197.429
CL PIER 1	9+995.719	9.600	197.441	197.441
B	9+998.741	9.600	197.447	197.448
C	10+001.763	9.600	197.450	197.451
CL PIER 2	10+004.281	9.600	197.449	197.449
D	10+007.303	9.600	197.444	197.445
CL NORTH ABUT.	10+011.332	9.600	197.431	197.431
BACK OF NORTH ABUT.	10+011.715	9.600	197.430	197.430

EAST EDGE/DECK

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF SOUTH ABUT.	9+988.264	11.949	197.355	197.355
CL SOUTH ABUT.	9+988.648	11.952	197.357	197.357
A	9+991.675	11.974	197.371	197.372
CL PIER 1	9+995.711	11.993	197.384	197.384
B	9+998.739	11.999	197.390	197.391
C	10+001.766	11.999	197.392	197.393
CL PIER 2	10+004.289	11.993	197.391	197.391
D	10+007.316	11.980	197.387	197.388
CL NORTH ABUT.	10+011.352	11.952	197.375	197.375
BACK OF NORTH ABUT.	10+011.736	11.949	197.373	197.373

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS-II
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	53
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

WEST EDGE/DECK

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
END S. APPR. PAV'T	9+979.578	-13.559	197.902	197.902
A	9+982.547	-13.516	197.927	197.927
B	9+985.517	-13.480	197.948	197.948
BACK OF SOUTH ABUT.	9+988.487	-13.450	197.965	197.965

WEST EDGE/BIKE PATH

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
END S. APPR. PAV'T	9+979.517	-9.600	197.807	197.807
A	9+982.496	-9.600	197.832	197.832
B	9+985.474	-9.600	197.854	197.854
BACK OF SOUTH ABUT.	9+988.453	-9.600	197.873	197.873

WEST EDGE/MEDIAN

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
END S. APPR. PAV'T	9+979.397	-1.800	197.618	197.618
A	9+982.393	-1.800	197.644	197.644
B	9+985.389	-1.800	197.666	197.666
BACK OF SOUTH ABUT.	9+988.386	-1.800	197.685	197.685

STAGE CONST. LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
END S. APPR. PAV'T	9+979.392	-1.460	197.610	197.610
A	9+982.389	-1.460	197.636	197.636
B	9+985.385	-1.460	197.658	197.658
BACK OF SOUTH ABUT.	9+988.383	-1.460	197.677	197.677

CL & P.G.L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
END S. APPR. PAV'T	9+979.369	0.000	197.575	197.575
A	9+982.369	0.000	197.601	197.601
B	9+985.369	0.000	197.623	197.623
BACK OF SOUTH ABUT.	9+988.370	0.000	197.642	197.642

EAST EDGE/SIDEWALK

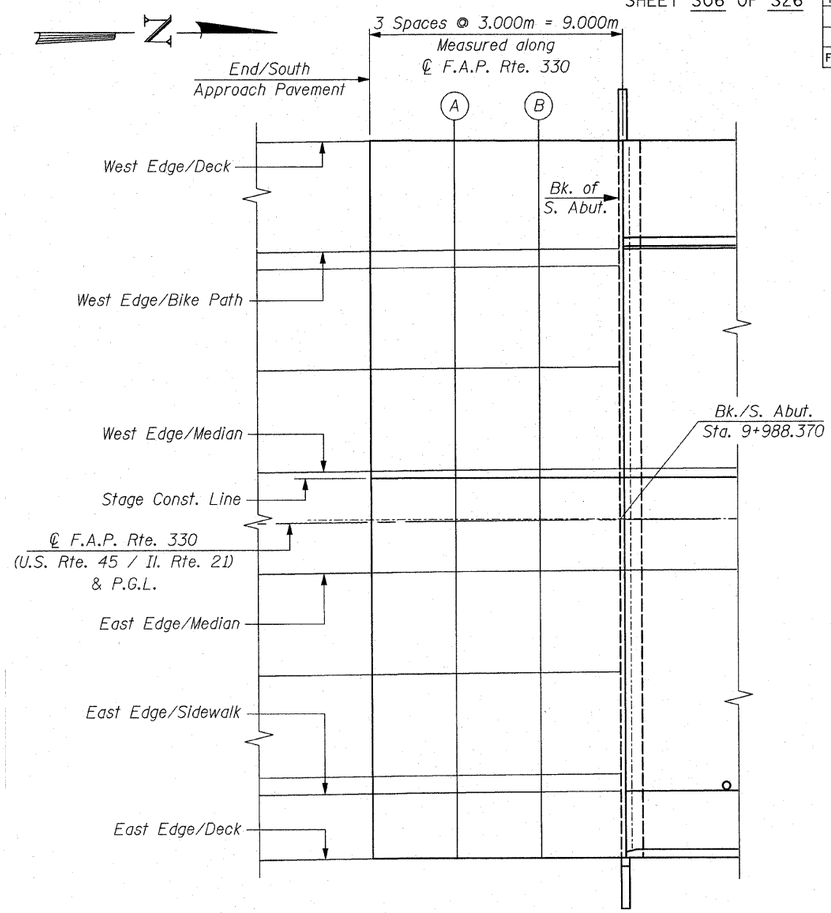
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
END S. APPR. PAV'T	9+979.219	9.600	197.343	197.343
A	9+982.241	9.600	197.369	197.369
B	9+985.262	9.600	197.392	197.392
BACK OF SOUTH ABUT.	9+988.285	9.600	197.411	197.411

EAST EDGE/MEDIAN

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
END S. APPR. PAV'T	9+979.341	1.800	197.531	197.531
A	9+982.345	1.800	197.557	197.557
B	9+985.349	1.800	197.580	197.580
BACK OF SOUTH ABUT.	9+988.354	1.800	197.599	197.599

EAST EDGE/DECK

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
END S. APPR. PAV'T	9+979.183	11.838	197.355	197.355
A	9+982.210	11.882	197.357	197.357
B	9+985.237	11.919	197.371	197.372
BACK OF SOUTH ABUT.	9+988.264	11.949	197.384	197.384



PLAN

SOUTH APPROACH PAVEMENT

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOUTH APPROACH PAVEMENT-ELEVATIONS
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	54
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

WEST EDGE/DECK

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF NORTH ABUT.	10+011.513	-13.450	197.984	197.984
A	10+014.483	-13.480	197.971	197.971
B	10+017.453	-13.516	197.955	197.955
END N. APPR. PAV'T	10+020.422	-13.559	197.935	197.935

WEST EDGE/BIKE PATH

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF NORTH ABUT.	10+011.547	-9.600	197.891	197.891
A	10+014.525	-9.600	197.878	197.878
B	10+017.503	-9.600	197.860	197.860
END N. APPR. PAV'T	10+020.483	-9.600	197.839	197.839

WEST EDGE/MEDIAN

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF NORTH ABUT.	10+011.614	-1.800	197.704	197.704
A	10+014.610	-1.800	197.690	197.690
B	10+017.606	-1.800	197.672	197.672
END N. APPR. PAV'T	10+020.603	-1.800	197.651	197.651

STAGE CONST. LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF NORTH ABUT.	10+011.617	-1.460	197.696	197.696
A	10+014.614	-1.460	197.682	197.682
B	10+017.611	-1.460	197.664	197.664
END N. APPR. PAV'T	10+020.608	-1.460	197.643	197.643

CL & P.G.L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF NORTH ABUT.	10+011.630	0.000	197.661	197.661
A	10+014.630	0.000	197.647	197.647
B	10+017.630	0.000	197.629	197.629
END N. APPR. PAV'T	10+020.631	0.000	197.608	197.608

EAST EDGE/SIDEWALK

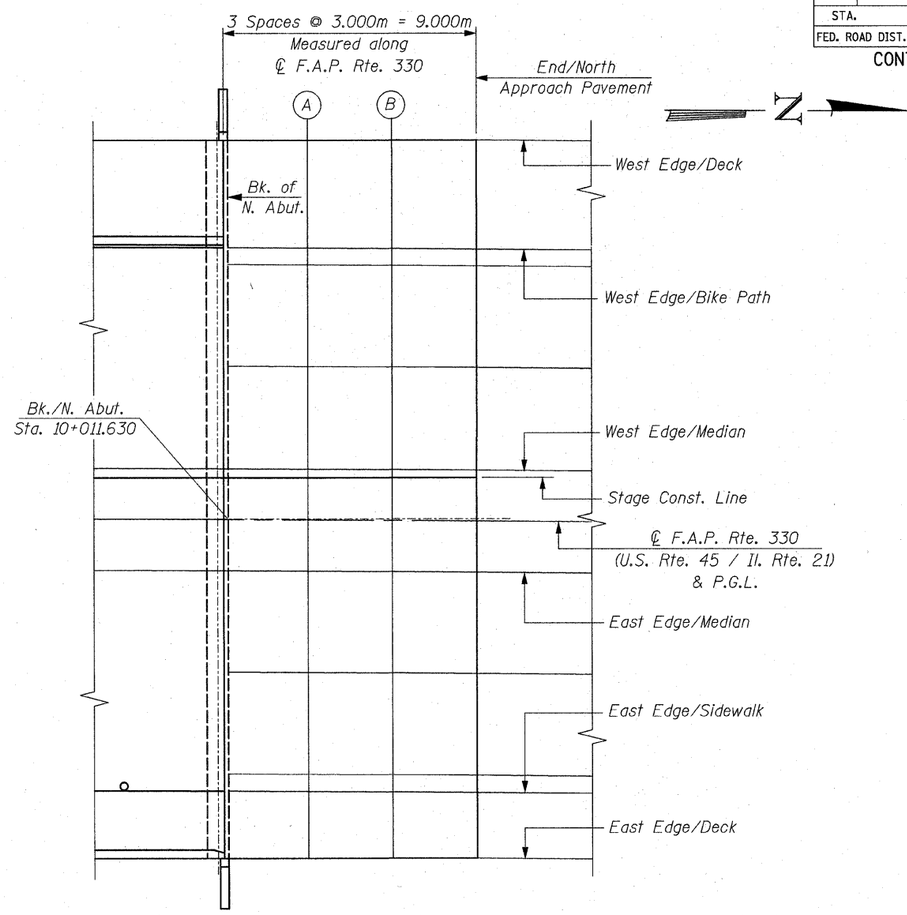
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF NORTH ABUT.	10+011.715	9.600	197.430	197.430
A	10+014.737	9.600	197.416	197.416
B	10+017.759	9.600	197.398	197.398
END N. APPR. PAV'T	10+020.781	9.600	197.376	197.376

EAST EDGE/MEDIAN

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF NORTH ABUT.	10+011.646	1.800	197.617	197.617
A	10+014.650	1.800	197.603	197.603
B	10+017.654	1.800	197.586	197.586
END N. APPR. PAV'T	10+020.659	1.800	197.564	197.564

EAST EDGE/DECK

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
BACK OF NORTH ABUT.	10+011.736	11.949	197.373	197.373
A	10+014.763	11.919	197.360	197.360
B	10+017.790	11.882	197.343	197.343
END N. APPR. PAV'T	10+020.817	11.838	197.322	197.322



PLAN

NORTH APPROACH PAVEMENT

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

NORTH APPROACH PAVEMENT-ELEVATIONS
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

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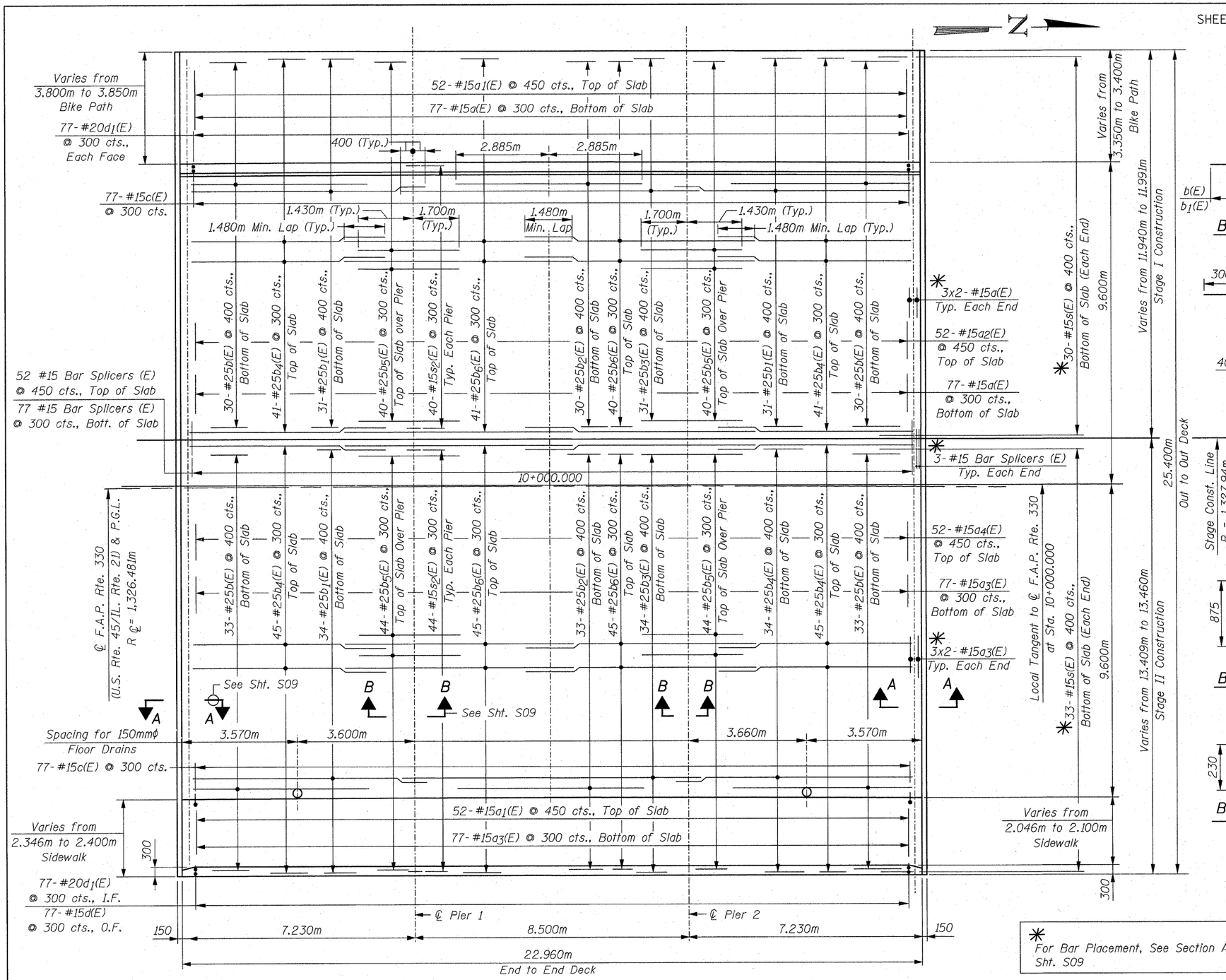
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	55
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032



PLAN

✳ For Bar Placement, See Section A-A Sht. S09

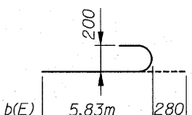
MIN. LAP:
#15 Bars = 640
#25 Bars = 1.480m

LEGEND:
I.F. = Inside Face
O.F. = Outside Face

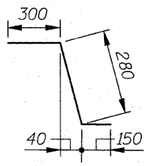
NOTE:
For Superstructure Details, see Sht's. S09 & S10

SUPERSTRUCTURE BILL OF MATERIAL

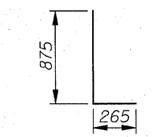
Bar	No.	Size	Length (m)	Shape
a(E)	166	#15	6.27	
a1(E)	104	#15	5.03	
a2(E)	52	#15	7.50	
a3(E)	166	#15	7.00	
a4(E)	52	#15	8.97	
b(E)	126	#25	6.11	
b1(E)	130	#25	7.87	
b2(E)	63	#25	5.77	
b3(E)	65	#25	9.30	
b4(E)	172	#25	6.49	
b5(E)	168	#25	3.13	
b6(E)	86	#25	7.16	
b7(E)	69	#15	7.83	
c(E)	154	#15	0.73	
c1(E)	77	#15	2.22	
c2(E)	77	#15	3.67	
d(E)	77	#15	1.14	
d1(E)	231	#20	1.14	
d2(E)	32	#15	0.61	
d3(E)	18	#20	0.98	
d4(E)	18	#15	0.98	
e(E)	32	#15	3.52	
e1(E)	22	#15	4.15	
e2(E)	20	#15	2.36	
e3(E)	12	#15	4.67	
s(E)	126	#15	1.32	
s2(E)	168	#15	1.24	
Reinforcement Bars, Epoxy Coated		kg	28,990	
Concrete Superstructure		Cu. m	213.2	
Bar Splicers		Each	135	
Protective Coat		Sq. m	636	
Floor Drains		Each	2	
Bridge Deck Grooving		Sq. m	427	



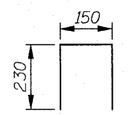
BARS b(E) & b1(E)



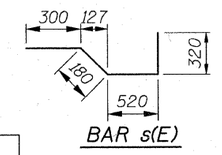
BAR c(E)



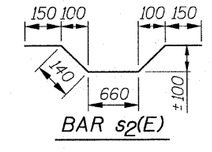
BARS d(E) & d1(E)



BAR d2(E)



BAR s(E)



BAR s2(E)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK PLAN
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

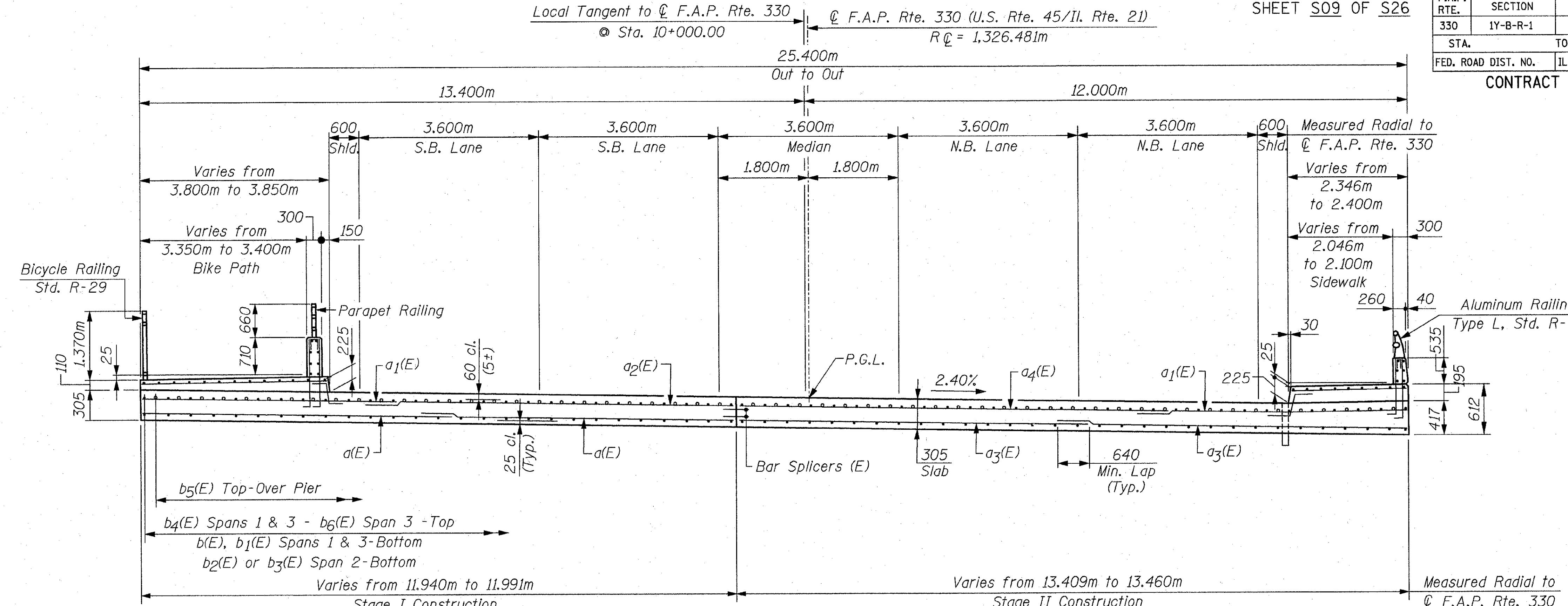
SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

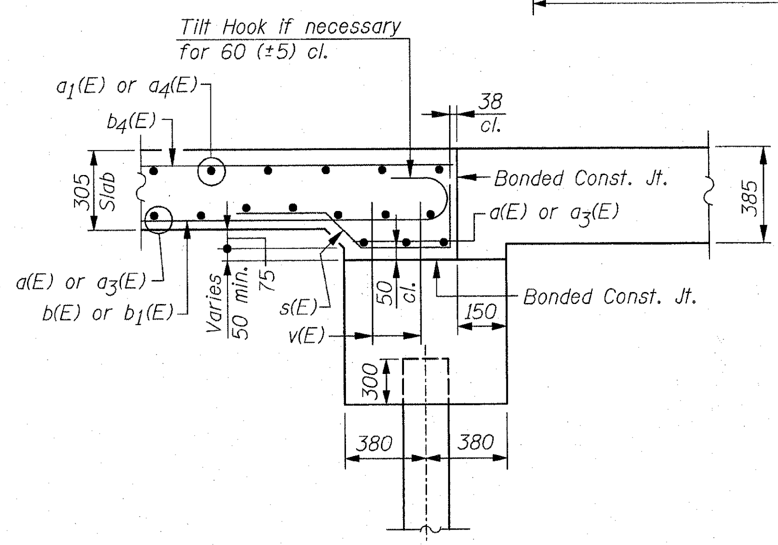
...\STRUCTURAL\Current\deck plan sht - 11/27/2007 06:12:19 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	56
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

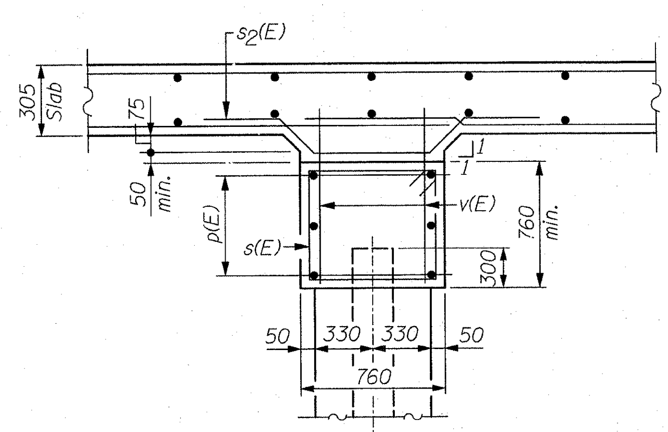
CONTRACT NO. 62032



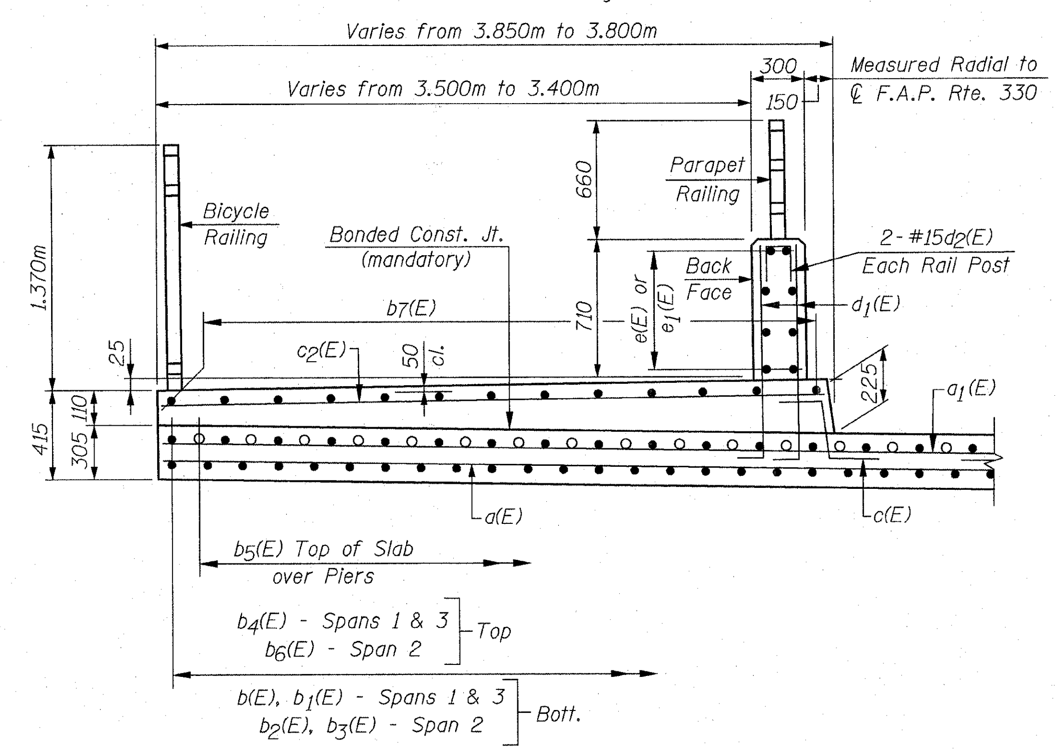
DECK CROSS SECTION
(Looking North)



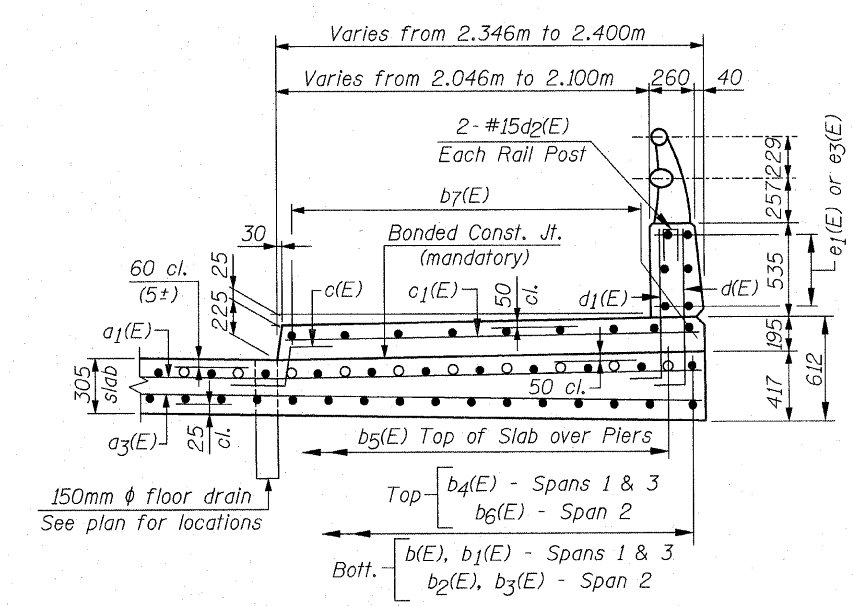
SECTION A-A



SECTION B-B



ENLARGED DETAIL AT BIKE PATH



ENLARGED DETAIL AT SIDEWALK

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

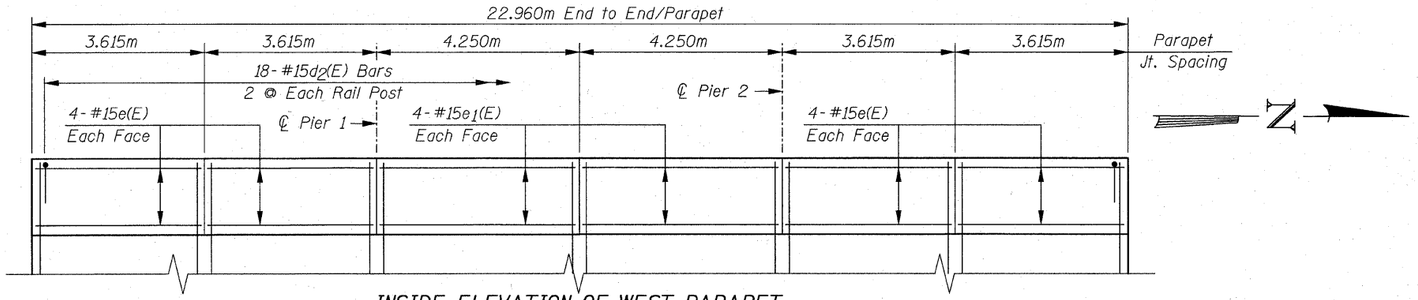
SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	57
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

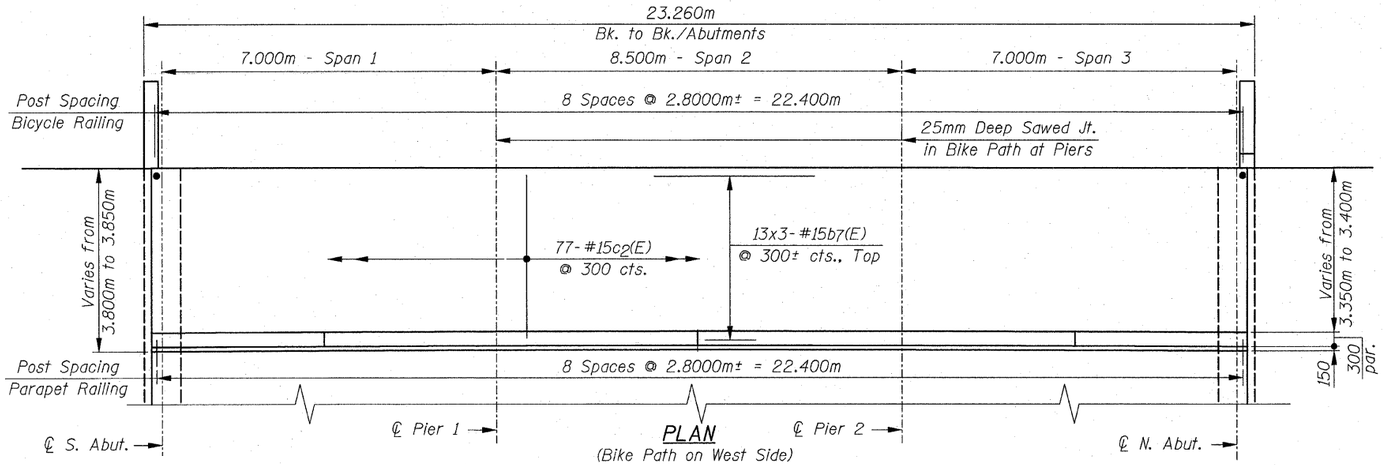
SHEET S10 OF S26

CONTRACT NO. 62032



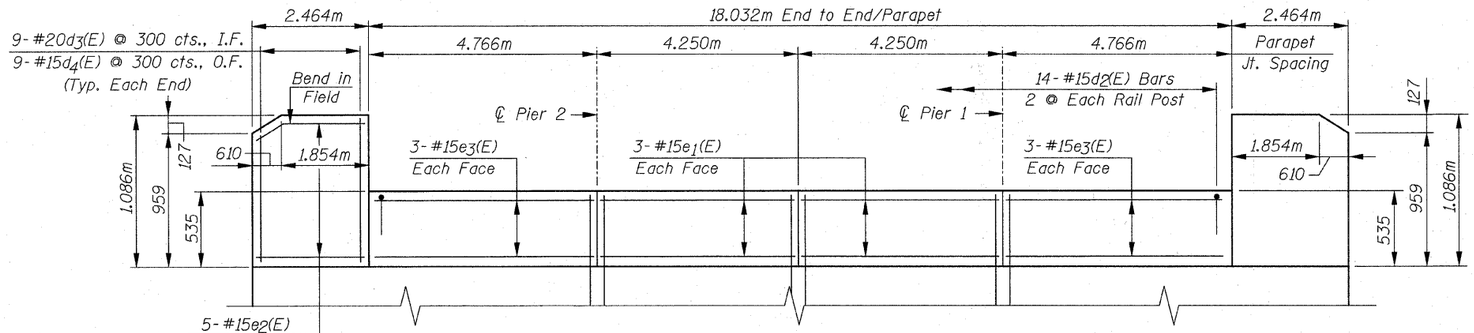
INSIDE ELEVATION OF WEST PARAPET

(Looking West)



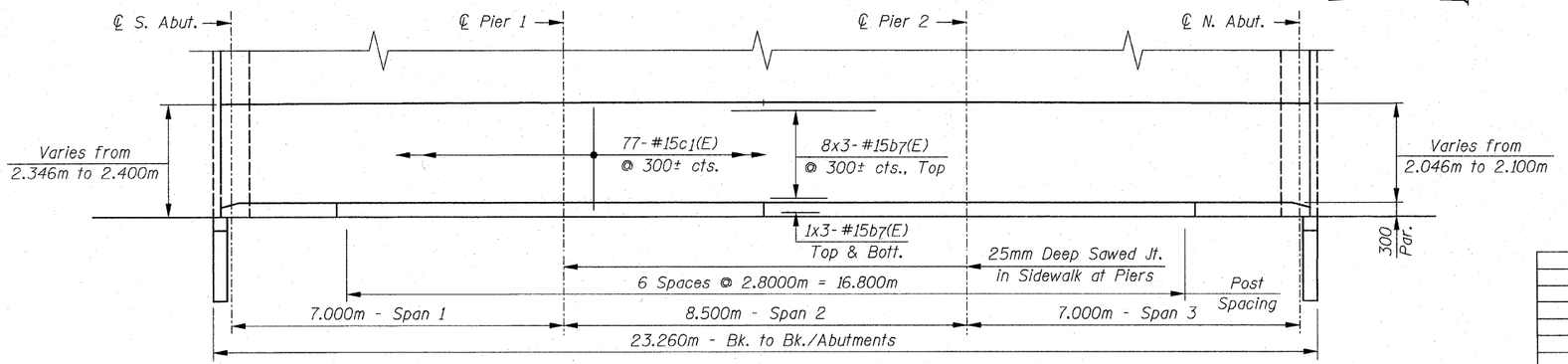
PLAN

(Bike Path on West Side)



INSIDE ELEVATION OF EAST PARAPET

(Looking East)



PLAN

(Sidewalk on East Side)

NOTES:

For Bill of Material, see Sht. S08.

Bars indicated thus 13x3-#15 etc., indicates 13 line of Bars with 3 lengths per line.

MIN. LAP:

#15 Bars = 640

LEGEND:

I.F. = Inside Face
O.F. = Outside Face

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SIDEWALK & BIKE PATH
PLANS & ELEVATIONS
U.S. RTE. 45 / IL. RTE. 21 OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

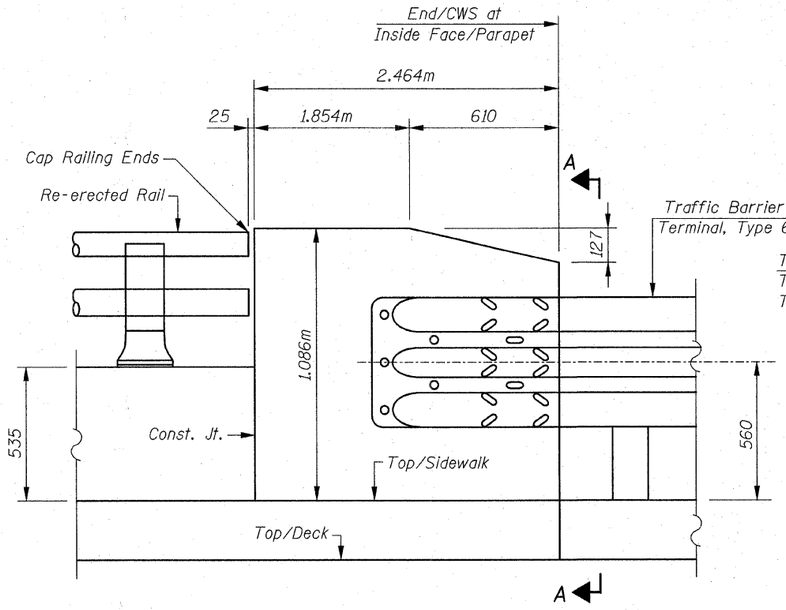
SCALE: NONE
DATE: OCTOBER 16, 2007

DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

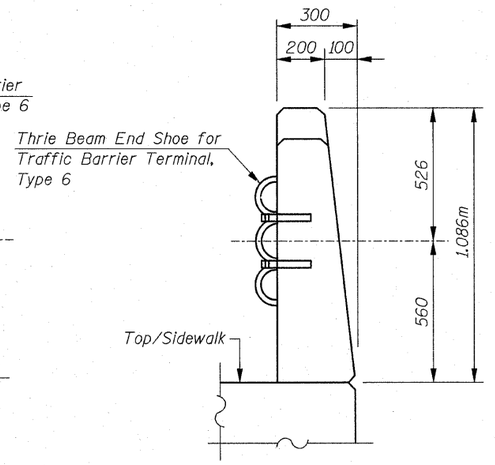
CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	58
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

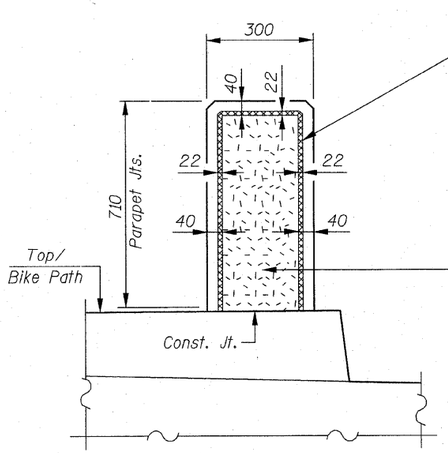
CONTRACT NO. 62032



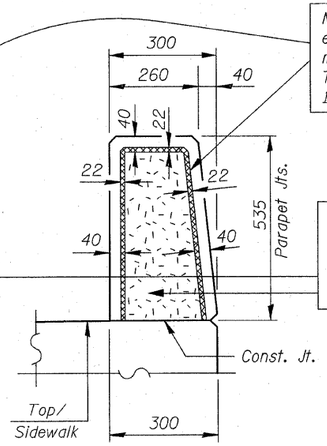
INSIDE ELEVATION OF PARAPET AT N.E. CORNER
(S.E. Corner opposite hand)
(Looking East)



SECTION A-A



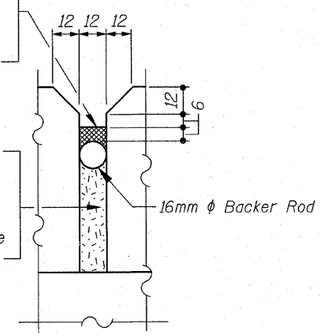
SECTION THRU PARAPET
(At Bike Path)



SECTION THRU PARAPET
(At Sidewalk)

Non-Staining gray one component non-sag elastomeric gun grade Polyurethane Sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25, use T with a 16mm ϕ Backer Rod

12mm Preformed Self-Expanding Cork Jt. Filler according to Articles 1051.06 or 1051.07 of the Standard Specifications. Cost included with Concrete Superstructure



SECTION THRU JOINT

PARAPET JOINT DETAILS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PARAPET DETAILS
U.S. RTE. 45 / IL. RTE. 21 OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

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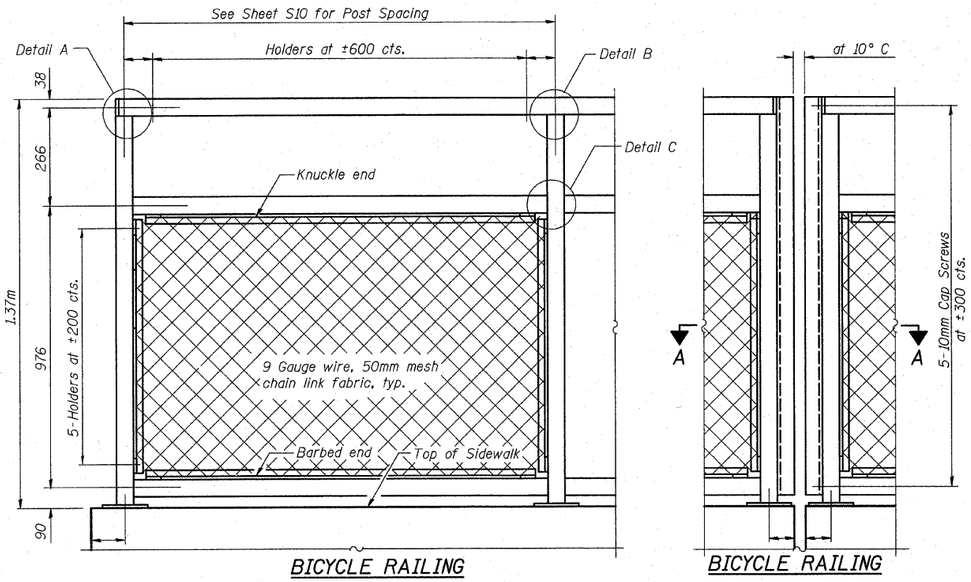
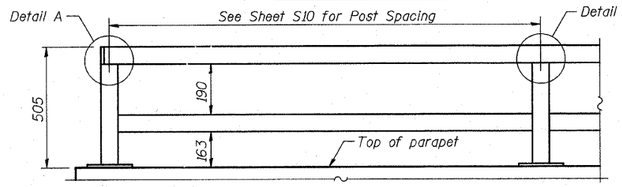
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	59
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

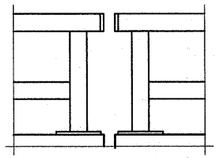


BICYCLE RAILING

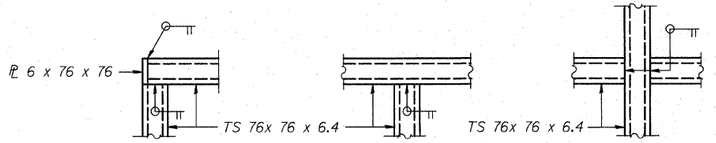
BICYCLE RAILING



PARAPET RAILING ELEVATION
(Inside Face of Two Element Rail)

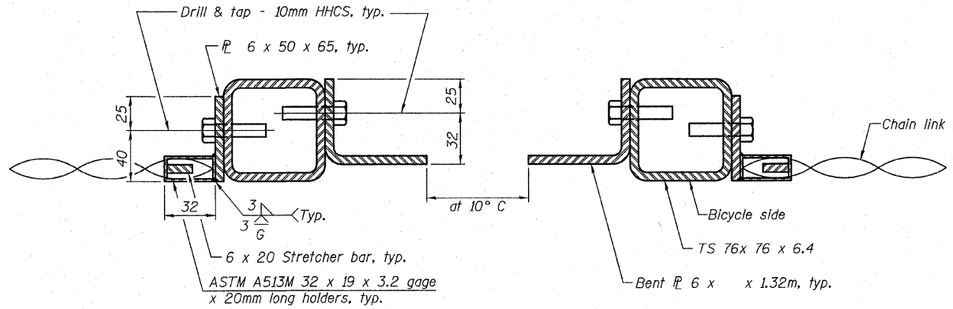


PARAPET RAILING ELEVATION AT EXPANSION JOINT
(Two Element Rail Shown - Three Element Rail Similar)

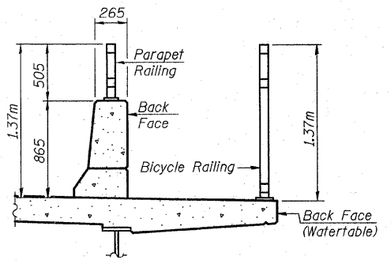


DETAIL A DETAIL B DETAIL C

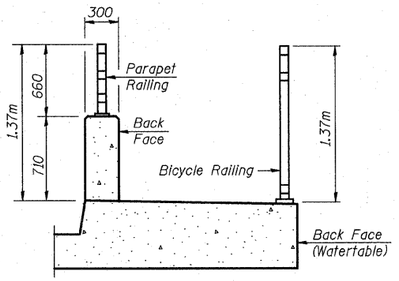
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



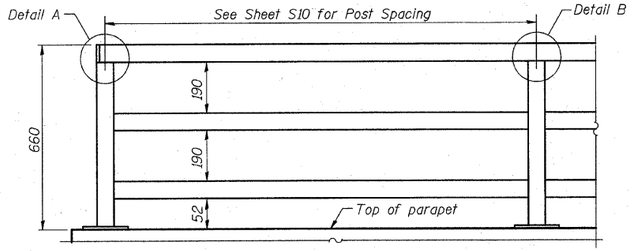
SECTION A-A



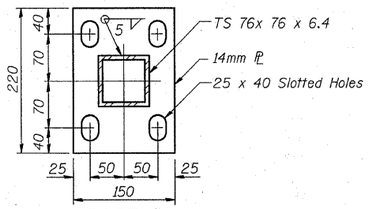
SECTION THRU DECK



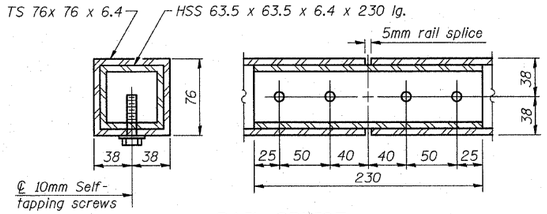
SECTION THRU SIDEWALK



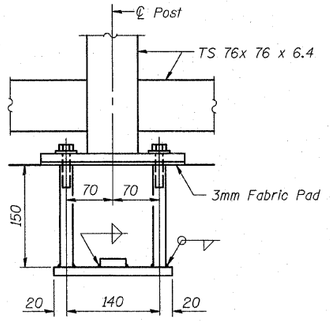
PARAPET RAILING ELEVATION
(Inside Face of Three Element Rail)

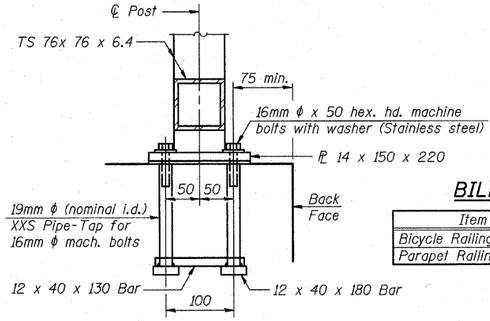


BASE PL



RAIL SPLICE





BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing	m	22.960
Parapet Railing	m	22.960

ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 16mm ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

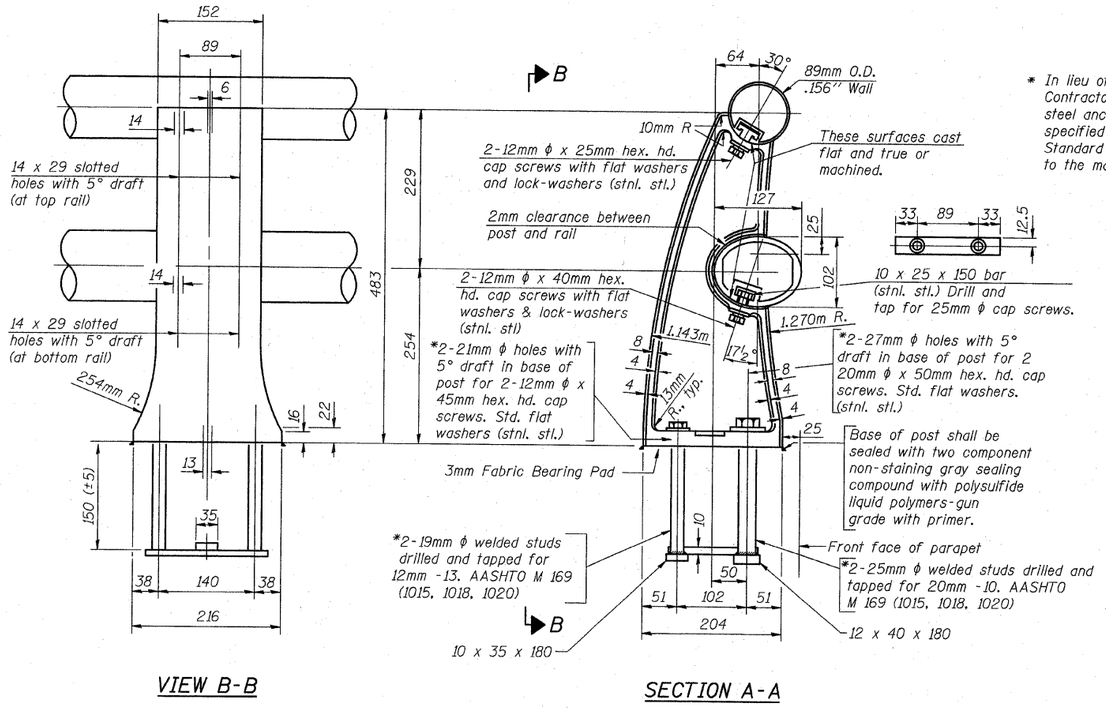
BICYCLE & PARAPET RAILING
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	IY-B-R-1	LAKE	12	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

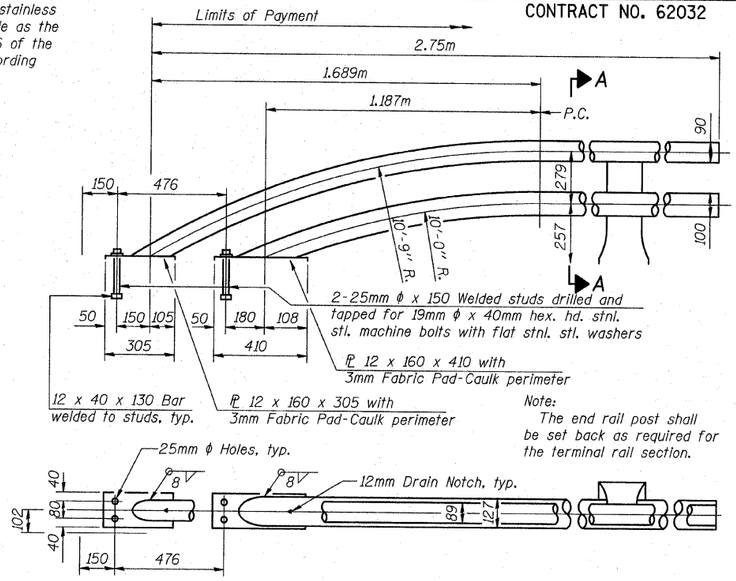


VIEW B-B

SECTION A-A

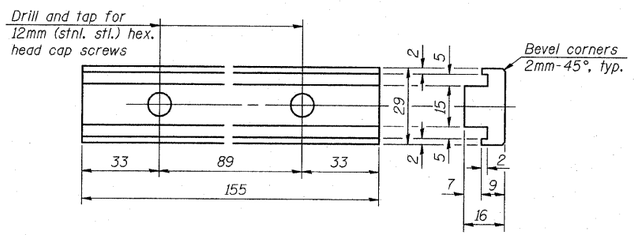
RAIL POST DETAILS

* *In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting stainless steel anchor rods of the same diameter and grade as the specified cap screws according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.*



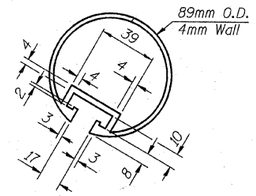
Note:
The end rail post shall be set back as required for the terminal rail section.

RAIL TERMINAL SECTION

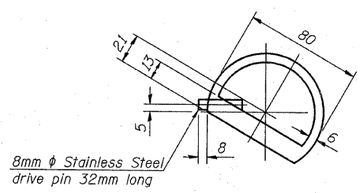


RAIL POST CLAMP BAR

For Top Rail

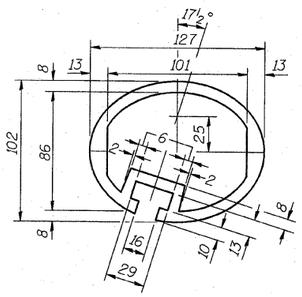


SECTION THRU TOP RAIL

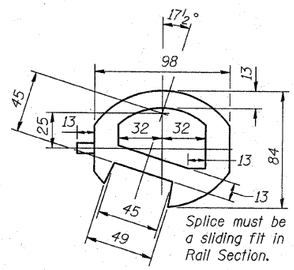


SECTION THRU SPLICE

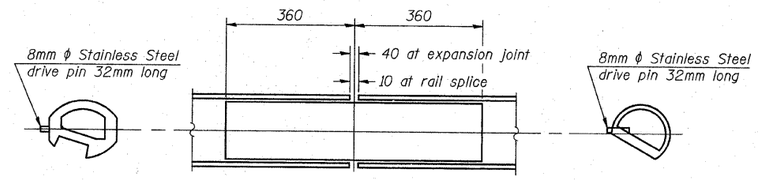
For Top Rail



SEC. THRU ELLIPTICAL RAIL SECTION



SEC. THRU SPLICE



BOTTOM RAIL — **TOP RAIL**

RAIL SPLICE

Notes:
All Posts shall be normal to parapet.
All joints in rail shall be spliced per detail.
Provide 1- 3mm and 2- 1.5mm Aluminum Shims for 25% of the Posts. Rail elements shall be parallel to Grade-high spots will be ground and low spots shimmed.
See sheet S10 for rail post spacing.

BILL OF MATERIAL

Item	Unit	Quantity
Aluminum Railing, Type L	m	17.982

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

ALUMINUM RAILING, TYPE L
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE — DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 — CHECKED BY: B.N.S.

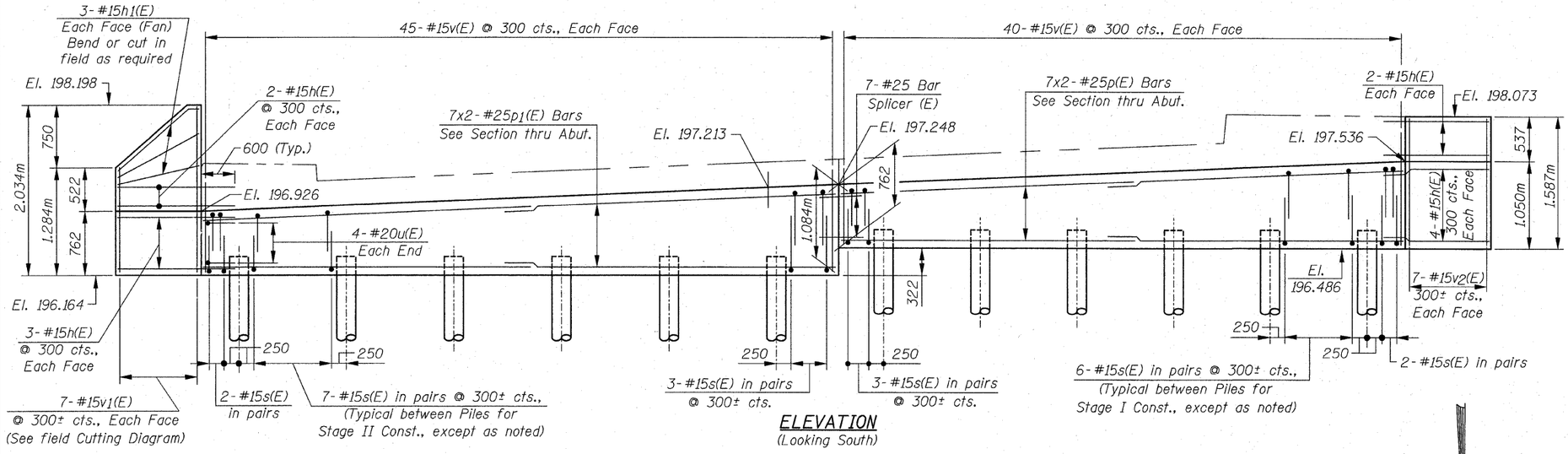
CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12	61
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

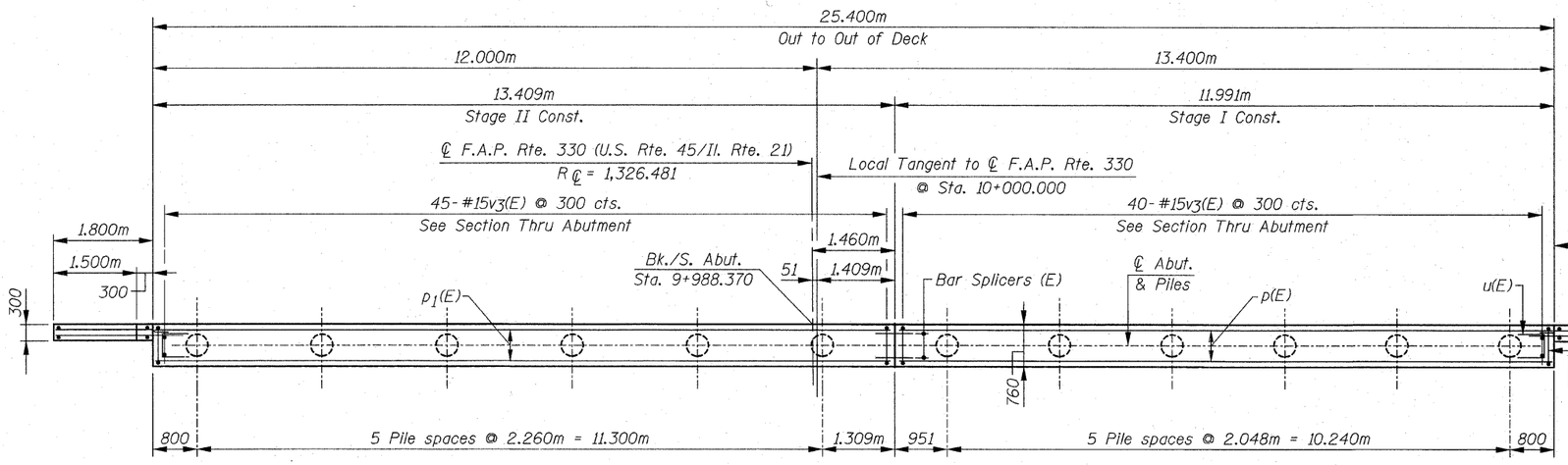
CONTRACT NO. 62032

BILL OF MATERIAL

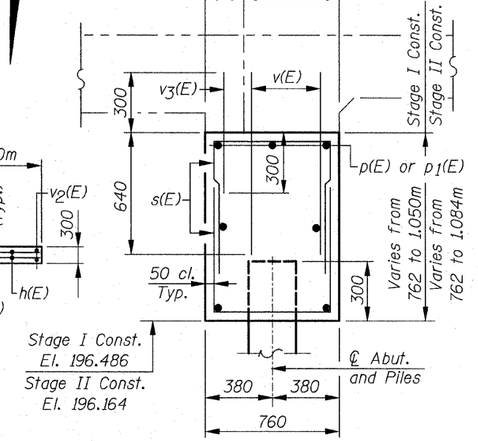
Bar	No.	Size	Length (m)	Shape
h(E)	22	#15	2.35	
h_1(E)	6	#15	1.80	
p(E)	14	#25	6.48	
p_1(E)	14	#25	7.19	
s(E)	150	#15	1.98	
u(E)	8	#20	3.65	
v(E)	170	#15	0.94	
v_1(E)	7	#15	3.15	
v_2(E)	14	#15	1.49	
v_3(E)	85	#15	0.60	
Concrete Structures		Cu. m	19.5	
Reinforcement Bars Epoxy Coated		kg	1,780	
Structure Excavation		Cu. m	66	
Furnishing Metal Shell Piles, 305mmx4.55mm		m	211	
Driving Piles		m	211	
Test Pile Metal Shell		Each	1	
Bar Splicers		Each	7	



ELEVATION
(Looking South)



PLAN



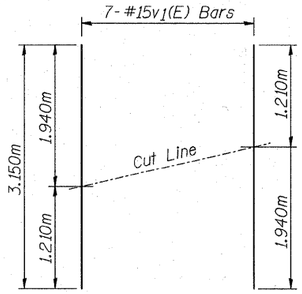
SECTION THRU ABUT.

NOTES:

Piles shall be driven through 305mm dia. holes extending to Elevation 192.200m according to Article 512.09 (c) of the Standard Specifications. Cost is included in Driving Piles.

Excavation behind the existing Abutment Walls shall be performed to balance front and back Soil Pressure before removing the existing Superstructure. The Contractor shall Sawcut the upper portion of the existing Abutments at the Stage Removal Lines before Stage I Removal to ensure the remaining portion will not be prematurely damaged.

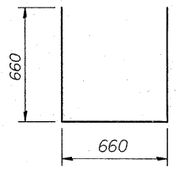
All Dimensions are in millimeters (mm) except as noted.



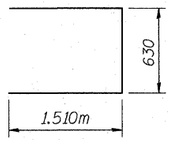
FIELD CUTTING DIAGRAM
Order v_1(E) full length. Cut as shown and use remainder of Bars in opposite face

MIN. LAP:

#15 Bars = 640
#25 Bars = 1.060m



BAR s(E)



BAR u(E)

PILE DATA

Type & Size: Metal Shell-305mmx4.55mm Walls
Nominal Required Bearing: 1,139kN
Allowable Resistance Available: 380kN
Est. Length: 19.200m
No. of Production Piles: 11
No. of Test Piles: 1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

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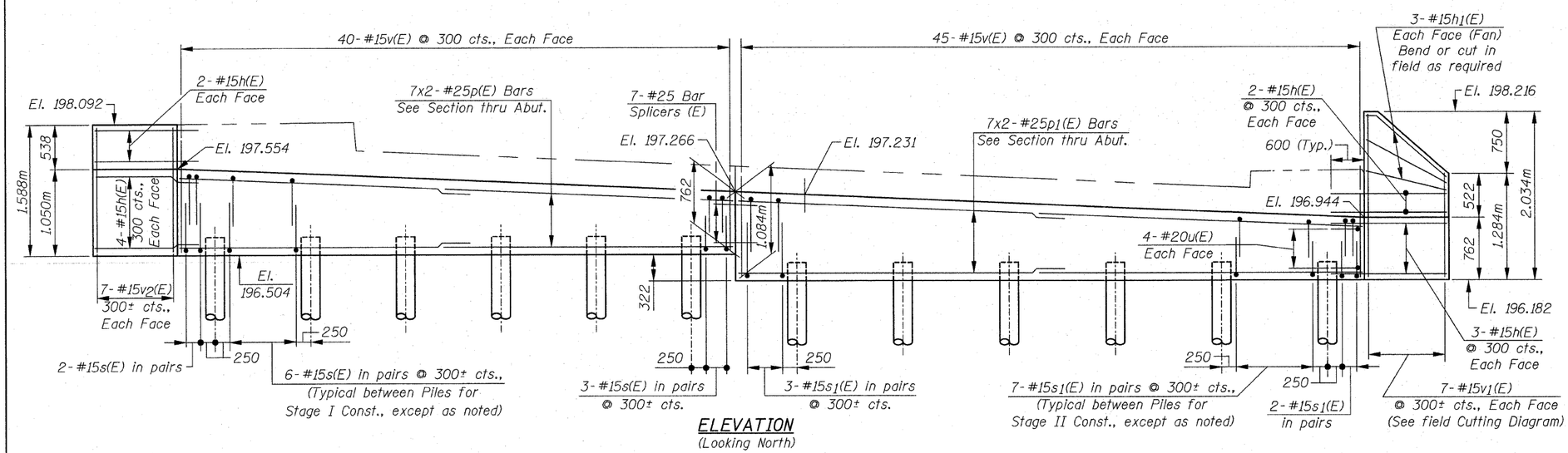
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	62
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

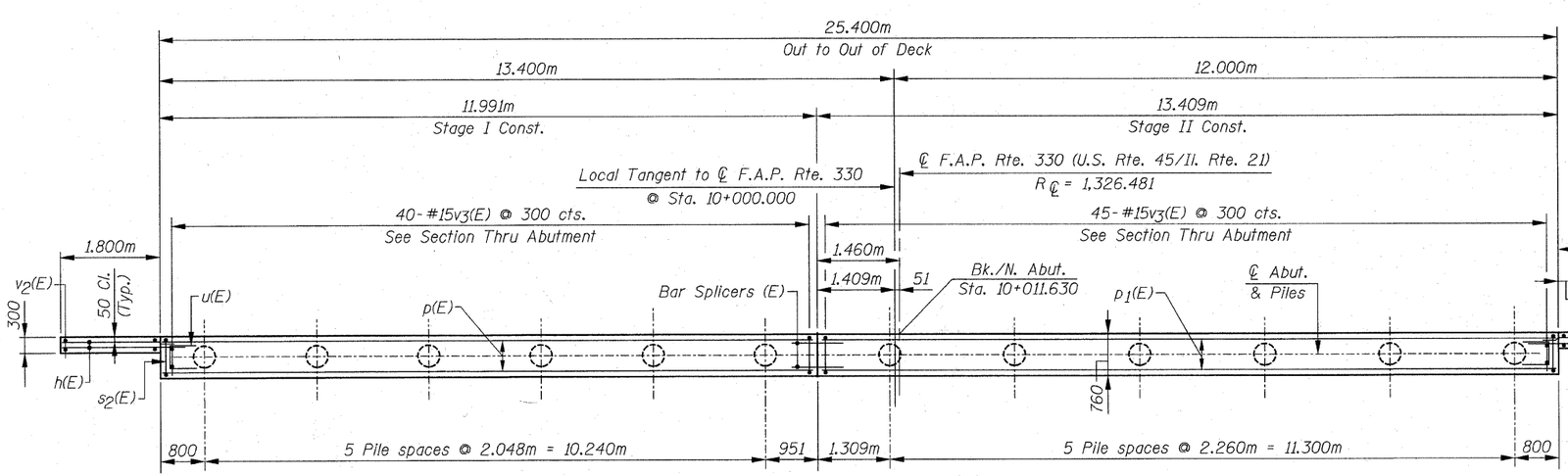
CONTRACT NO. 62032

BILL OF MATERIAL

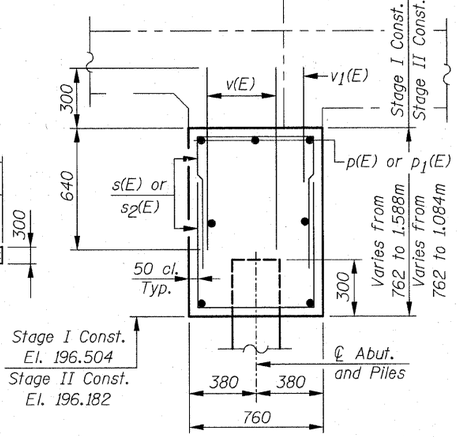
Bar	No.	Size	Length (m)	Shape
h(E)	22	#15	2.35	
h_1(E)	6	#15	1.80	
p(E)	14	#25	6.48	
p_1(E)	14	#25	7.19	
s(E)	150	#15	1.98	
u(E)	8	#20	3.65	
v(E)	170	#15	0.94	
v_1(E)	7	#15	3.15	
v_2(E)	14	#15	1.49	
v_3(E)	85	#15	0.60	
Concrete Structures		Cu. m	19.5	
Reinforcement Bars Epoxy Coated		kg	1,780	
Structure Excavation		Cu. m	66	
Furnishing Metal Shell Piles, 305mmx4.55mm		m	191	
Driving Piles		m	191	
Test Pile Metal Shell		Each	1	
Bar Splicers		Each	7	



ELEVATION
(Looking North)



PLAN



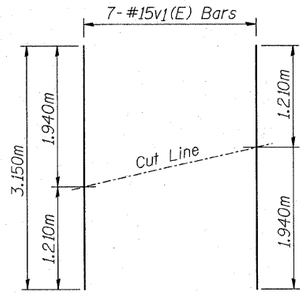
SECTION THRU ABUT.

NOTES:

Piles shall be driven through 305mm dia. holes extending to Elevation 192.200m according to Article 512.09 (c) of the Standard Specifications. Cost is included in Driving Piles.

Excavation behind the existing Abutment Walls shall be performed to balance front and back Soil Pressure before removing the existing Superstructure. The Contractor shall Sawcut the upper portion of the existing Abutments at the Stage Removal Lines before Stage I Removal to ensure the remaining portion will not be prematurely damaged.

All Dimensions are in millimeters (mm) except as noted.

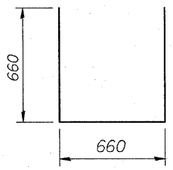


FIELD CUTTING DIAGRAM

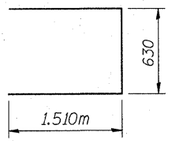
Order v_1(E) full length. Cut as shown and use remainder of Bars in opposite face

MIN. LAP:

#15 Bars = 640
#25 Bars = 1.060m



BAR s(E)



BAR u(E)

PILE DATA

Type & Size: Metal Shell- 305mmx4.55mm Walls
Nominal Required Bearing: 1,139kN
Allowable Resistance Available: 380kN
Est. Length: 17.400m
No. of Production Piles: 11
No. of Test Piles: 1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	63
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

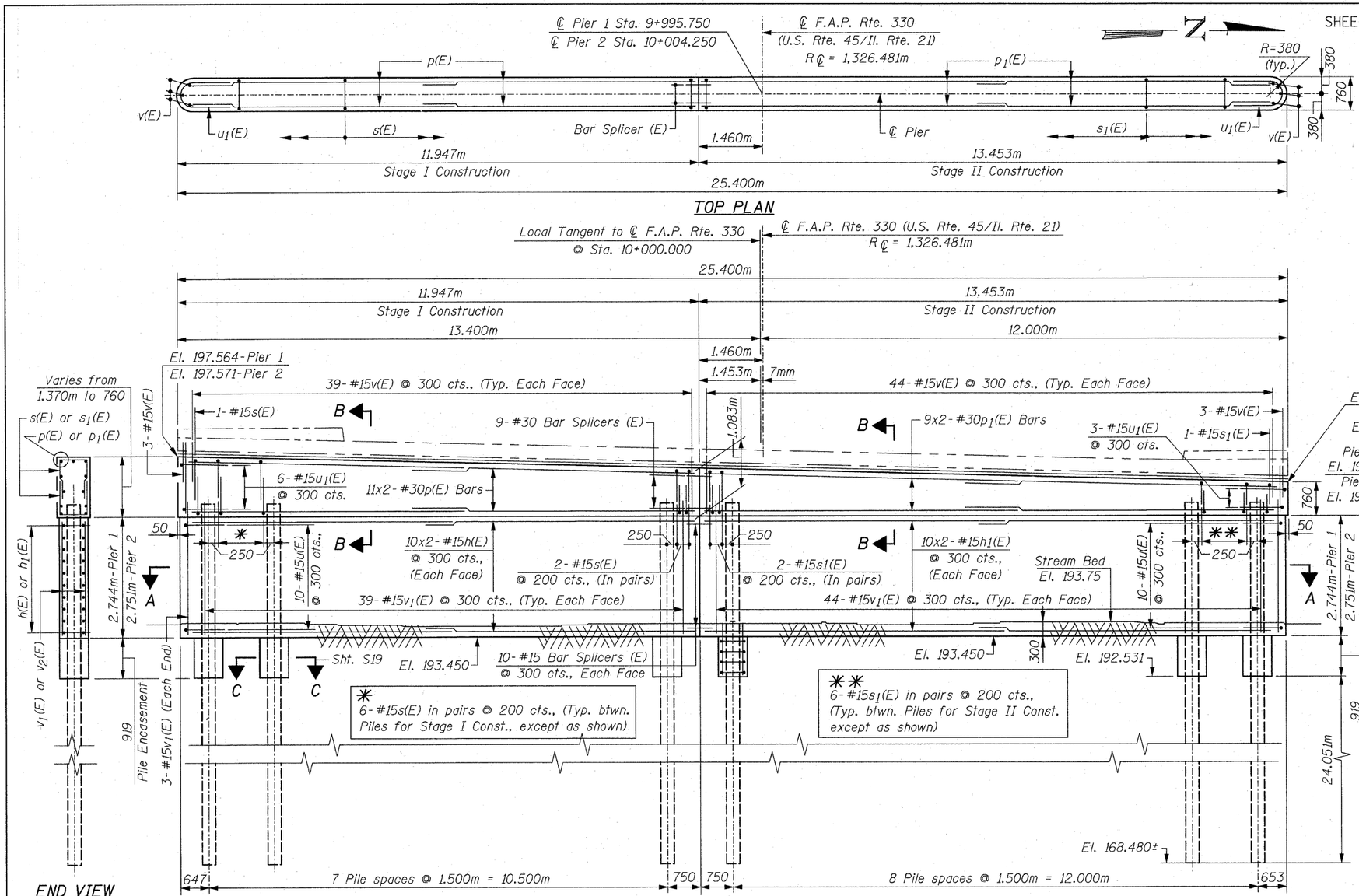
CONTRACT NO. 62032

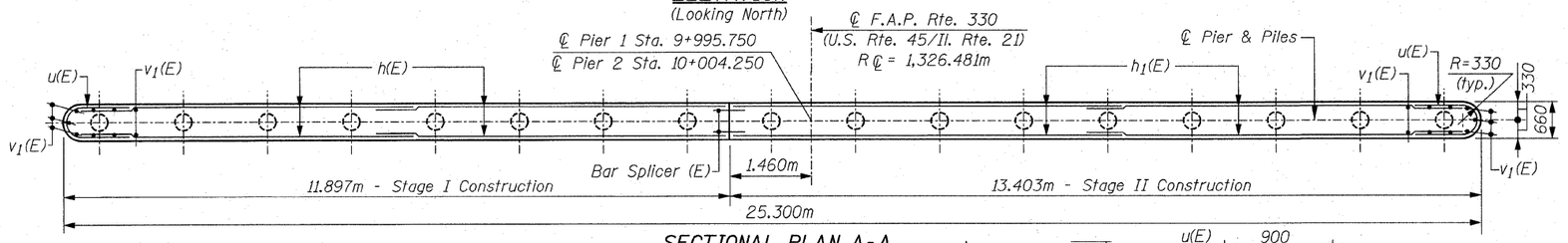
BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
h(E)	40	#15	6.08	—
h_1(E)	40	#15	6.83	—
p(E)	22	#30	6.68	—
p_1(E)	18	#30	7.44	—
s(E)	90	#15	2.57	⊔
s_1(E)	102	#15	1.98	⊔
u(E)	20	#15	2.68	⊃
u_1(E)	9	#15	2.84	⊃
v(E)	172	#15	0.75	—
v_1(E)	172	#15	3.15	—

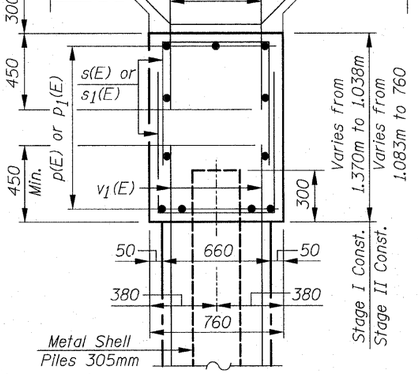
Each Pier

		Pier 1	Pier 2
Concrete Structures	Cu. m	66.0	66.2
Reinforcement Bars, Epoxy Coated	kg	4,210	4,210
Furnishing Metal Shell Piles, 305mmx4.55m	m	448	448
Driving Piles	m	448	448
Test Pile Metal Shell	Each	1	1
Structure Excavation	Cu. m	22.0	22.0
Concrete Encasement	Cu. m	7.0	7.0
Underwater Structure Excavation Protection-Location 1	Each	1	-
Underwater Structure Excavation Protection-Location 2	Each	-	1
Bar Splicers	Each	29	29





SECTIONAL PLAN A-A



SECTION B-B

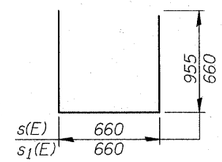
PILE DATA-EACH PIER

Type & Size: Metal Shell - 305mm Dia.x4.55mm Walls
Nominal Required Bearing: 1,684kN
Allowable Resistance Available: 380kN
Est. Length: 28.000m
Number of Production Piles: 16
Number of Test Piles: 1

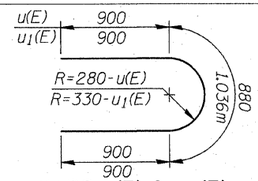
NOTE:
All dimensions are in millimeters (mm) except as noted

MIN. BAR LAP

#15 Bars = 640
#30 Bars = 1.850m



BARS s(E) & s1(E)



BARS u(E) & u1(E)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIERS 1 & 2
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

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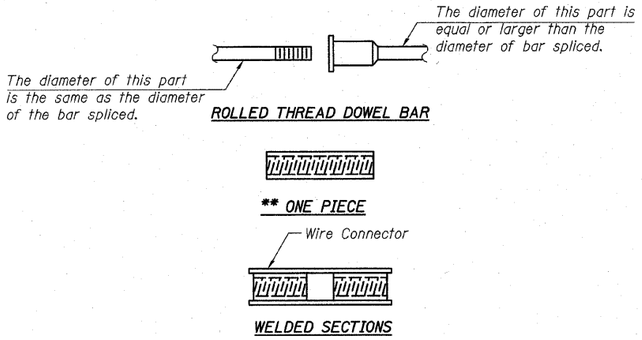
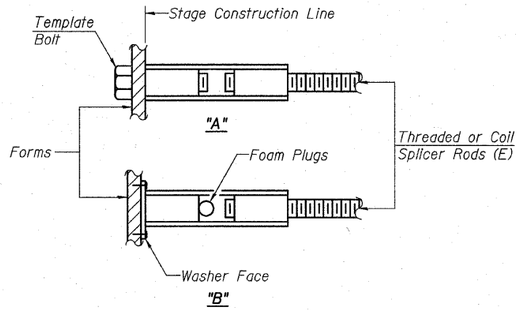
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	64
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032



BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

NOTES

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

Splicer rods shall be of minimum 400m Pa yield strength, threaded or coiled full length.

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

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

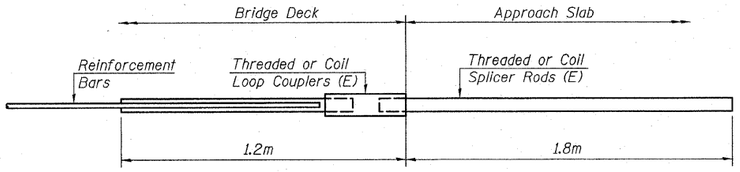
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kN) $= 1.25 \times 10^3 \times f_y \times A_f$

② Minimum *Pull-out Strength (Tension in kN) $= 1.25 \times 10^3 \times f_s$ allow. $\times A_f$

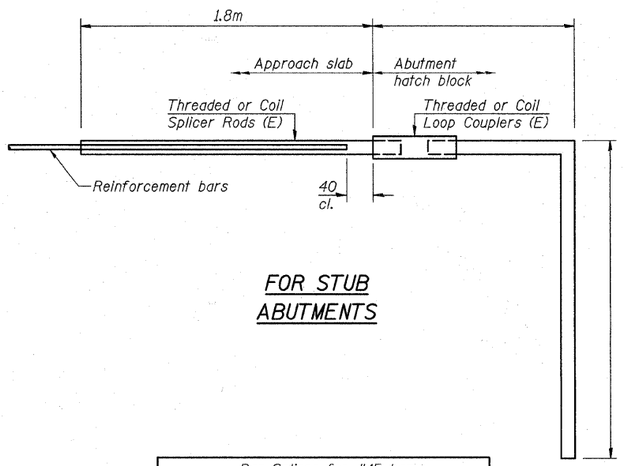
Where f_y = Yield strength of lapped reinforcement bars in MPa.
A_f = Tensile stress area of lapped reinforcement bars (mm^2).
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kN - tension	Min. Pull-Out Strength kN - tension
#15	610 mm	100	40
#20	790 mm	150	60
#25	1.04 m	250	100
#30	1.37 m	350	140



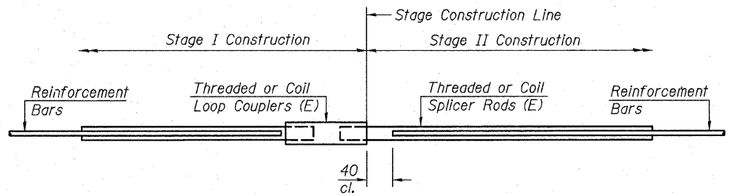
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #15 bar
Min. Capacity = 100kN - tension
Min. Pull-out Strength = 54kN - tension
No. Required = -



FOR STUB ABUTMENTS

Bar Splicer for #15 bar
Min. Capacity = 100kN - tension
Min. Pull-out Strength = 54kN - tension
No. Required = -



STANDARD

Bar Size	No. Assemblies Required	Location
#15	135	Deck Slab
#25	14	Abutments
#15 #30	40 18	Piers
Total	207	

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

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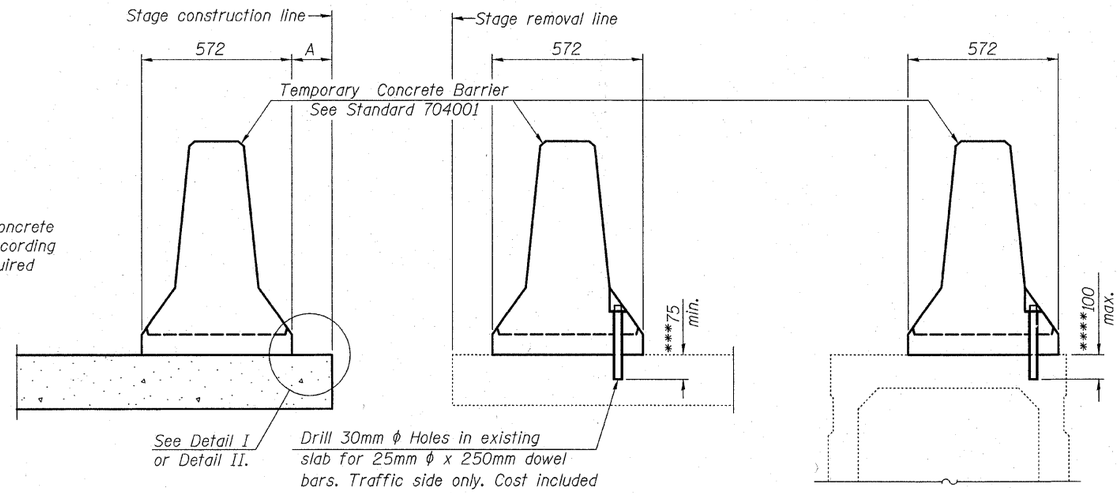
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	65
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

When "A" is 1.067m or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 1.067m.



NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 25x180x250 steel ℙ to the top layer of couplers with 2- 16mm ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 25x180x250 steel ℙ to the concrete slab or concrete wearing surface with 2- 16mm ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

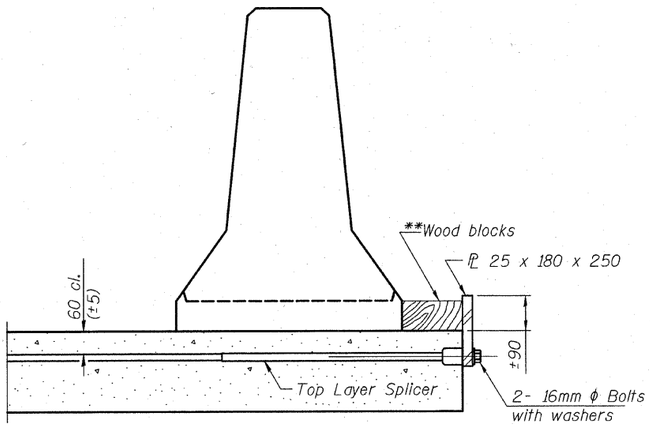
Cost of anchorage is included with Temporary Concrete Barrier.

The 25x180x250 plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

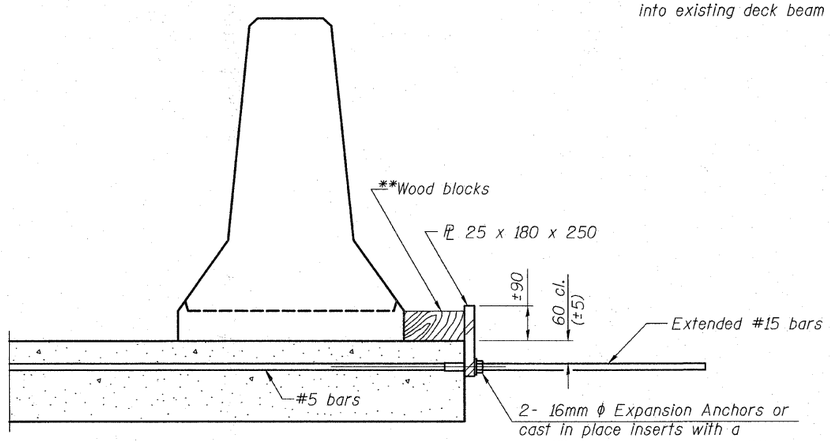
SECTIONS THRU SLAB OR DECK BEAM

***Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

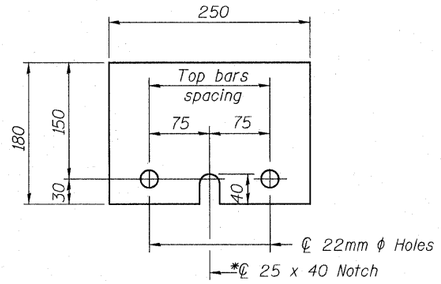
****If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER ℙ 25 x 180 x 250

* Required only with Detail II

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
U.S. RTE. 45 / IL. RTE. 21 OVER APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

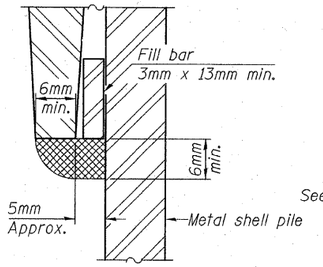
CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	66
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

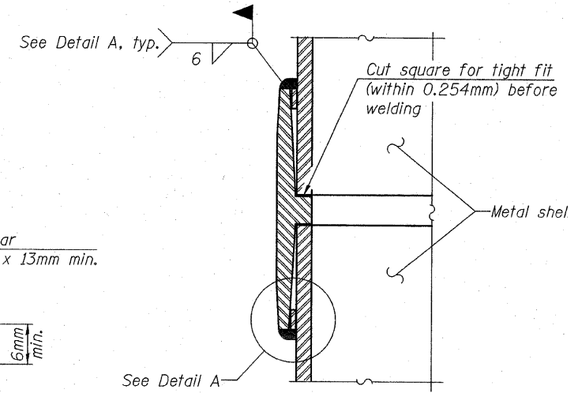
CONTRACT NO. 62032

METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Kg/m)	Inside volume (m^3/m)
PP305	4.55	33.63	0.0210
PP305	6.35	45.68	0.0204
PP356	6.35	54.63	0.0281
PP356	7.92	67.87	0.0276

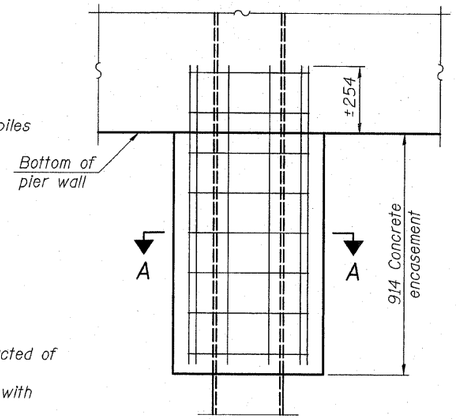


DETAIL A

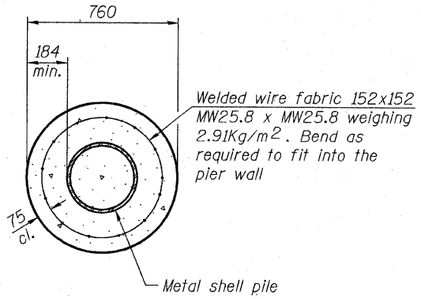


Notes:
The 3mm x 13mm min. fill bar may be constructed of 2 bars with a 3mm max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



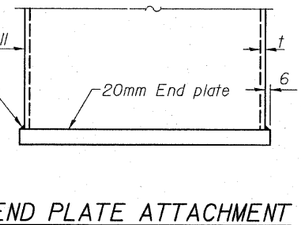
ELEVATION



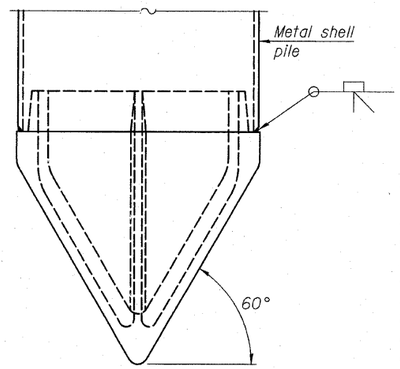
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



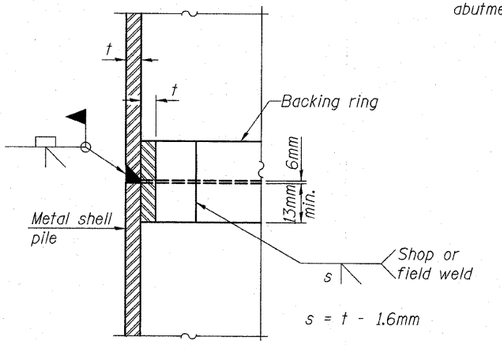
END PLATE ATTACHMENT



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 620-413 or AASHTO M 103M Grade 448-241 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

METAL SHELL PILE SHOE ATTACHMENT

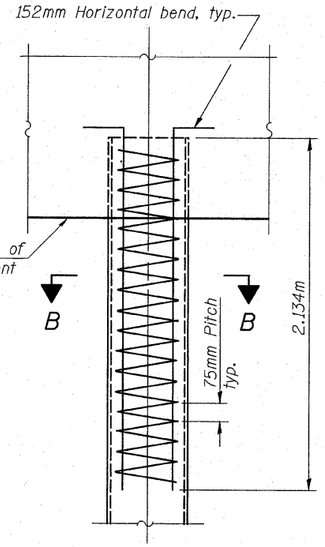
(See Note A)



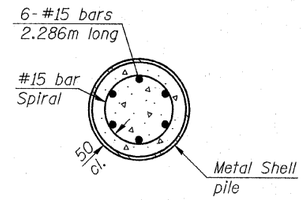
COMPLETE PENETRATION WELD SPLICE

Backing ring made from pile shell. Remove segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	67
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62032

BORING LOG SB-01

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

WEI Job No.: 950-08-01
Client Christian Roge and Associates, Inc.
Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06
Location T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 196.40 m
North: 610289.37 m
East: 334123.56 m
Station: 9+986.111
Offset: 8.48L

Elevation (m)	Soil and Rock Description	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
196.2	7"-thick ASPHALT --PAVEMENT--				
	Medium stiff to stiff, black to brown, gravelly CLAY LOAM --FILL--	1	6 6 7	96 P	22
		2	3 4 5	48 P	24
		3	2 3 3	48 P	17
194.0	Medium stiff, black to brown, gravelly SILTY CLAY	4	1 2 5	94 B	24
193.2	Medium dense, gray GRAVELLY SAND	5	6 9 7	NP	16
		6	7 11 15	NP	17
191.7	Stiff to very stiff, gray CLAY, trace gravel	7	4 6 10	165 B	17
		8	3 6 10	346 B	18
		9	4 5 8	251 B	21
		10	4 5 7	172 B	17
188.6	Soft to medium stiff, gray CLAY --LL=17%, PL=13%--	11	4 8 8	86 B	22
		12	2 3 4	47 B	14
186.7	Stiff to very stiff, gray CLAY	13	4 4 6	142 B	17
		14	4 7 8	243 B	15
		15	3 5 8	196 B	15
		16	4 8 12	260 B	15

GENERAL NOTES

Begin Drilling 03-06-2007 Complete Drilling 03-06-2007
Drilling Contractor Precon Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25" ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 3.20 m
At Completion of Drilling ▼
Time After Drilling NA
Depth to Water ▽ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

BORING LOG SB-01

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

WEI Job No.: 950-08-01
Client Christian Roge and Associates, Inc.
Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06
Location T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 196.40 m
North: 610289.37 m
East: 334123.56 m
Station: 9+986.111
Offset: 8.48L

Elevation (m)	Soil and Rock Description	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
		17	4 8 10	299 B	14
179.0	Medium dense, gray COARSE SAND	18A	8 6	NP	18
178.3	Medium stiff to very stiff, grey CLAY, trace gravel	18B	5	94 B	
		19	6 5 13	110 B	13
		20	4 7 8	172 B	24
		21	5 7 8	220 B	30
		22	6 10 12	275 B	18
		23	7 10 12	275 B	20
		24	6 9 11	228 B	20
169.0	Boring terminated at 27.43 m				

GENERAL NOTES

Begin Drilling 03-06-2007 Complete Drilling 03-06-2007
Drilling Contractor Precon Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25" ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 3.20 m
At Completion of Drilling ▼
Time After Drilling NA
Depth to Water ▽ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS-I
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

SHEET S21 OF S26

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	68
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

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

BORING LOG SB-02

WEI Job No.: 950-08-01

Client Christian Roge and Associates, Inc.

Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06

Location 43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 196.03 m
North: 610293.96 m
East: 334137.64 m
Station: 9+986.081
Offset: 6.192

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	195.8	10"-layer ASPHALT						
		--PAVEMENT						
		Medium stiff to stiff, black, gravelly CLAY LOAM			1	2 1 4	118 B	20
		--FILL--	1		2	4 2 3		13
			2		3	2 2 3	55 B	19
					4	0 2 7	96 P	52
	192.8		3					
		Medium dense, gray GRAVELLY SAND			5	7 7 9	NP	12
	192.1		4					
		Very stiff to hard, gray CLAY, with silt interbeds			6	7 8 9	511 B	15
			5		7	5 7 9	256 B	16
	190.2							
		Dense, gray SILT	6		8	4 14 21	275 B	15
	189.8	Very stiff, gray CLAY						
	189.5	Loose to medium dense, gray SILT			9	4 4 5	NP	24
			7					
					10	5 5 7	NP	23
	188.3	Medium stiff, gray SILTY CLAY	8		11	2 3 5	79 B	13
	187.5	Stiff to very stiff, gray CLAY; trace gravel	9		12	4 5 5	172 B	18
			10					
					13	4 6 8	NR	
			11					
			12		14	5 6 7	275 B	16
			13		15	5 6 11	369 B	15
			14					
			15		16	4 7 9	330 B	16

GENERAL NOTES

Begin Drilling 03-07-2007 Complete Drilling 03-07-2007
Drilling Contractor Precon Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 3.20 m
At Completion of Drilling ▽
Time After Drilling NA
Depth to Water ▽ NA

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

WANGENG INC 950801.GPJ WANGENG.GDT 4/10/07

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

BORING LOG SB-02

WEI Job No.: 950-08-01

Client Christian Roge and Associates, Inc.

Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06

Location 43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 196.03 m
North: 610293.96 m
East: 334137.64 m
Station: 9+986.081
Offset: 6.192

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
			16		17	6 7 10	212 B	
			17					
			18		18	5 5 9	212 B	12
			19		19	3 6 7	204 B	18
			20					
			21		20	5 7 8	172 B	24
	174.7	Boring terminated at 21.34 m	22					

GENERAL NOTES

Begin Drilling 03-07-2007 Complete Drilling 03-07-2007
Drilling Contractor Precon Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 3.20 m
At Completion of Drilling ▽
Time After Drilling NA
Depth to Water ▽ NA

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

WANGENG INC 950801.GPJ WANGENG.GDT 4/10/07

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS-II
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

...\sheet\boring logs-II.dgn 11/27/2007 10:11:11 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	69
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

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

BORING LOG SB-03

WEI Job No.: 950-08-01

Client: Christian Roge and Associates, Inc.
Project: IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06
Location: T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 194.37 m
North: 610292.61 m
East: 334110.58 m
Station: 9+993.588
Offset: 20.036L

Elevation (m)	Soil and Rock Description	Depth (m)
194.3	3-inch thick, black CLAY LOAM --TOPSOIL--	
	Soft, black CLAY with organics	
193.5	Medium dense, gray GRAVELLY SAND --A-1-b (0)-- --%Silt and Clay = 6.1%--	1
191.7	Stiff to very stiff, gray CLAY with occasional silt lenses	
190.4	Dense, gray SILT	4
189.6	Medium stiff to stiff, gray CLAY with occasional lenses of silt and sand	
187.4	Stiff to very stiff, gray CLAY	7

Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
1	1 1 3	47 B	69
2	9 16 12	NP	11
3	0 6 10	NP	20
4	6 10 8	275 B	16
5	6 8 8	142 B	18
6	7 20 11	NP	17
7	3 4 6	125 B	16
8	5 7 5	125 B	13
9	3 5 5	94 B	13
10	2 4 6	260 B	19
11	3 6 7	196 B	21
12	5 6 5	260 B	21
13	4 8 8	275 B	13
14	6 6 9	346 B	15
15	4 6 8	267 B	17
16	5 8 10	245 B	17

GENERAL NOTES

Begin Drilling 03-01-2007 Complete Drilling 03-01-2007
Drilling Contractor Precon Drilling Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ∇ 1.68 m
At Completion of Drilling ▼ 9.45 m
Time After Drilling NA
Depth to Water ∇ NA

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

Wang Engineering, INC.
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BORING LOG SB-03

WEI Job No.: 950-08-01

Client: Christian Roge and Associates, Inc.
Project: IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06
Location: T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 194.37 m
North: 610292.61 m
East: 334110.58 m
Station: 9+993.588
Offset: 20.036L

Elevation (m)	Soil and Rock Description	Depth (m)
172.5	Very soft, gray CLAY --LL = 17%, PL = 12%--	22
171.0	Very stiff to stiff, gray CLAY	
166.9	Boring terminated at 27.43 m	

Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
17	5 8 8	172 B	18
18	5 10 10	196 B	17
19	5 7 7	157 B	27
20	6 6 8	196 B	32
21	4 5 10	24 B	
22	7 12 13	204 B	
23	7 10 12	204 B	
24	34 10 12	142 B	

GENERAL NOTES

Begin Drilling 03-01-2007 Complete Drilling 03-01-2007
Drilling Contractor Precon Drilling Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ∇ 1.68 m
At Completion of Drilling ▼ 9.45 m
Time After Drilling NA
Depth to Water ∇ NA

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS-III
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE
DATE: OCTOBER 16, 2007
DRAWN BY: D.L./F.M.
CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	70
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

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

BORING LOG SB-04

WEI Job No.: 950-08-01

Client Christian Roge and Associates, Inc.

Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06

Location T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 194.35 m
North: 610319.60 m
East: 334138.99 m
Station: 10+010.142
Offset: 15.375R

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	194.0	12-inch thick, brown CLAY with organics	0					
		Very soft, brown and black CLAY LOAM to SILTY CLAY LOAM, trace organics			1	2 2 2	47 B	28
		--LL = 12%, PL = 17%--	1		2	1 2 3	48 P	34
	192.7	Loose, black LOAM	2		3	0 1 3	NP	55
	191.9	Medium stiff, black-gray CLAY LOAM, trace gravel	3		4	5 3 4	71 B	23
	191.2	Very stiff, gray SILTY CLAY LOAM --%Sand = 1.3%, %Silt = 67.5% and %Clay = 31.3%--			5	4 5 8	338 B	16
	190.4	Medium dense, gray SILT	4		6	12 13 8	NP	17
	189.6	Medium dense, gray GRAVELLY SAND	5		7	7 7 7	NP	14
	188.9	Medium stiff to stiff, gray CLAY, trace gravel	6		8	2 3 6	118 B	16
					9	5 3 5	63 B	13
	187.3	Stiff to hard, gray CLAY, with occasional silt seams, trace gravel	7		10	4 7 9	346 B	18
			8		11	5 8 13	440 B	20
			9		12	5 8 18	432 B	20
			10		13	4 5 7	260 B	15
			11		14	5 7 9	212 B	17
			12		15	3 7 9	133 B	16
			13		16	3 5 6	212 B	16

GENERAL NOTES

Begin Drilling 02-28-2007 Complete Drilling 03-01-2007
Drilling Contractor Precon Drilling Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 4.72 m
At Completion of Drilling ▽ 9.45 m
Time After Drilling NA
Depth to Water ▽ NA

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

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

BORING LOG SB-04

WEI Job No.: 950-08-01

Client Christian Roge and Associates, Inc.

Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06

Location T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 194.35 m
North: 610319.60 m
East: 334138.99 m
Station: 10+010.142
Offset: 15.375R

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
			16		17	4 8 8	196 B	12
			18		18	9 10 8	165 B	10
			19		19	6 6 7	157 B	27
			21		20	4 4 5	142 B	34
	165.6	Boring terminated at 28.73 m	22		21	3 5 7	212 B	21
			23		22	6 9 11	260 B	16
			24		23	15 15 10	142 B	20
			25		24	18 16 16	522 B	
			26		25	24 50/3	181 S	9

GENERAL NOTES

Begin Drilling 02-28-2007 Complete Drilling 03-01-2007
Drilling Contractor Precon Drilling Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 4.72 m
At Completion of Drilling ▽ 9.45 m
Time After Drilling NA
Depth to Water ▽ NA

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS-IV
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	71
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

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

BORING LOG SB-05

WEI Job No.: 950-08-01

Client Christian Roge and Associates, Inc.

Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06

Location 43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 196.34 m
North: 610316.29 m
East: 334115.42 m
Station: 10+014.023
Offset: 8.013L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type recovery	Sample No.	SPT Values (b/w/150 mm)	Qu (kPa)	Moisture Content (%)
	196.3	2-inch thick black LOAM						
	196.2	--FILL--						
		2-inch-thick gray GRAVEL						
		--FILL--			1	9 4 5	311 P	14
		Medium stiff to very stiff, brown and black, gravelly CLAY LOAM	1					
		--FILL--			2	1 1 2	96 P	10
			2		3	0 4 2	120 P	17
					4	1 2 7	72 P	30
	193.1	Medium dense, gray GRAVELLY SAND	3					
					5	7 12 14	NP	4
			4		6	7 12 12	NP	15
	191.6	Very stiff, gray CLAY, with silt interbeds	5		7	6 4 6	283 B	17
					8	2 6 13	243 B	16
	190.1	Stiff to very stiff, gray SILTY CLAY	6					
			7		9	3 4 6	204 B	14
					10	3 3 5	133 B	14
	188.6	Medium stiff to stiff, gray CLAY	8					
			9		11	3 4 4	110 B	14
	186.7	Very stiff to hard, gray CLAY			12	3 5 5	79 B	15
			10					
					13	3 9 10	408 B	22
			11					
			12		14	4 4 6	283 B	20
			13					
			14		15	3 5 7	149 B	
			15		16	3 6 7	181 B	16

GENERAL NOTES

Begin Drilling 03-05-2007 Complete Drilling 03-05-2007
Drilling Contractor Precon Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 3.20 m
At Completion of Drilling ▽
Time After Drilling NA
Depth to Water ▽ NA

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

Wang Engineering, INC.
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1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG SB-05

WEI Job No.: 950-08-01

Client Christian Roge and Associates, Inc.

Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06

Location 43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 196.34 m
North: 610316.29 m
East: 334115.42 m
Station: 10+014.023
Offset: 8.013L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type recovery	Sample No.	SPT Values (b/w/150 mm)	Qu (kPa)	Moisture Content (%)
			16		17	4 5 8	307 B	
			17					
	177.4	Very stiff, gray SILTY CLAY, trace gravel	18		18	4 6 8	189 B	15
			19		19	3 5 9	212 B	10
	175.9	Stiff to very stiff, gray CLAY, with silt interbeds	20					
			21		20	5 6 8	228 B	26
			22					
					21	4 6 6	157 B	31
			23					
			24		22	4 5 9	165 B	19
	171.3	Medium dense, gray SILT	25					
	170.8	Stiff to very stiff, gray CLAY			23	7 5 8	133 B	21
			26					
			27		24	9 10 12	251 B	14
	168.9	Boring terminated at 27.43 m	28					
			29					
			30					

GENERAL NOTES

Begin Drilling 03-05-2007 Complete Drilling 03-05-2007
Drilling Contractor Precon Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by E. Datz
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 3.20 m
At Completion of Drilling ▽
Time After Drilling NA
Depth to Water ▽ NA

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS-V
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12	72
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

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

BORING LOG BB-6

Page 1 of 2

WEI Job No.: 950-08-01

Client Christian Roge and Associates, Inc.

Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06

Location T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 194.46 m
North: 610325.12 m
East: 334135.17 m
Station: 9+991.0
Offset: 16.2R

Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type	Recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
194.0	Dark brown SILTY CLAY	1				x x x	---	13
	Dark brown to dark brown and gray ORGANIC SILT	2				2 2 2	67 P	26
192.9	Gray, coarse to fine SAND AND coarse to fine GRAVEL, trace silt	3				1 2 6	48 B	59
		4				6	---	9
192.2		5				7 12	---	15
		6				7	287 P	15
191.1	--@ 10' - SILT AND SAND seam	7				6 6 10	249 B	17
	Gray SILT, trace clay, trace medium to fine sand	8				5 6 6	393 B	23
189.6	--@ 15' - CLAY AND fine SAND seam	9				8 9 9	---	20
	Gray and brown SILTY SANDY CLAY, trace coarse to fine gravel	10				4 5	77 B	9
189.1	Gray CLAYEY SILT, little coarse to fine sand, trace coarse to fine gravel	11				5	192 B	15
		12				4 4 8	115 B	13
		13				4 6 6	182 B	15
		14				4	57	17
185.0	Gray SILTY CLAY, little coarse to fine sand, trace coarse to fine gravel	8				5	B	
		9				4 6 8	268 B	17
		10				4 5 7	268 B	16
		11				4 7 10	374 B	16
		12				8 11 12	402 B	17
		13				5 8 12	402 B	15
		14				5 11 13	374 B	17
		15				6 9 12	335 B	17
		16				9 12 15	297 B	13
		17				9 15 23	354 B	14
	--@ 49' - with gravel	18				9	383	14

GENERAL NOTES

Begin Drilling 08-14-2001 Complete Drilling 08-14-2001
Drilling Contractor Contract Drilling Co. Drill Rig CME 45
Driller R. Wolf Logger J. Dalton Checked by E. Datz
Drilling Method 6-inch HSA

WATER LEVEL DATA

While Drilling ▽ 1.52 m
At Completion of Drilling ▽ 1.80 m
Time After Drilling 168 hours
Depth to Water ▽ 0.61 m

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

Wang Engineering, INC.
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BORING LOG BB-6

Page 2 of 2

WEI Job No.: 950-08-01

Client Christian Roge and Associates, Inc.

Project IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06

Location T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 194.46 m
North: 610325.12 m
East: 334135.17 m
Station: 9+991.0
Offset: 16.2R

Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type	Recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
		16				12	B	
		17				9 15 25	374 B	14
		18				9 9 16	297 B	17
175.9	Gray SILTY CLAY with silt and sand layers	19				12 12 19	268 B	12
		20				6 10 16	201 B	11
		21				12 16 22	153 B	23
		22				7 10 12	220 B	21
		23				0 17 18	230 B	33
		24				7 10 13	297 B	31
172.2	Boring terminated at 22.25 m	25				6 9 10	240 B	33

GENERAL NOTES

Begin Drilling 08-14-2001 Complete Drilling 08-14-2001
Drilling Contractor Contract Drilling Co. Drill Rig CME 45
Driller R. Wolf Logger J. Dalton Checked by E. Datz
Drilling Method 6-inch HSA

WATER LEVEL DATA

While Drilling ▽ 1.52 m
At Completion of Drilling ▽ 1.80 m
Time After Drilling 168 hours
Depth to Water ▽ 0.61 m

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS-VI
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

...\Name\Boring logs-VI.dgn 11/7/2007 10:12:07 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	[illegible]	73
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 62032

BORING LOG BB-8

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

WEI Job No.: 950-08-01
Client: Christian Roge and Associates, Inc.
Project: IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06
Location: T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 194.43 m
North: 610299.82 m
East: 334139.44 m
Station: 10+010.5
Offset: 14.0R

Elevation (m)	Soil and Rock Description	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	Black to dark brown CLAYEY SILT, occasional gravel, grass roots, moist --FILL--	1	x x x	---	10
194.1	Black to dark brown SILTY CLAY, some fine to coarse sand, some fine gravel, trace cinders, moist --FILL--	2	2 2 2	86 B	18
		3	4 3 4	--- B	22
192.5	Gray SILTY CLAY, some sandy clay seams, some wet fine sand seams, wet --FILL--	4	7 10 10	240 B	15
		5	5 8 8	268 B	21
191.0	Gray SILT with very fine sand, occasional thin clay or sand lense, moist --FILL--	6	5 7 10	316 B	15
		7	13 15 17	105 B	16
189.6	Gray, fine to coarse SANDY SILT, trace fine to medium gravel, some silt seams, some sand seams, wet --FILL--	8	12 14 13	259 P	7
188.5	Gray CLAYEY SILT, trace fine to coarse sand, occasional fine to medium gravel, moist --FILL--	9	6	---	14
		10	7 8	144 B	15
		11	5 7 11	182 B	12
		12	6 8 10	125 B	14
186.2	Gray SILTY CLAY, trace medium to fine sand, with silt seams	13	8 9 16	517 B	19
		14	9 16 24	498 B	16
		15	10 11 17	383 B	20
184.4	Gray CLAYEY SILT, little coarse to fine sand, trace fine gravel	16	8 12 13	469 B	16
		17	8 13 24	297 B	18
		18	8 16 21	412 B	15
		19	9 13 20	364 B	16
		20	9 12 16	345 B	14
180.4	Gray SILTY CLAY, little coarse to fine sand, trace coarse to fine gravel	21	8 12 14	220 B	15
		22	6 10 12	192 B	16

GENERAL NOTES

Begin Drilling 08-15-2001 Complete Drilling 08-15-2001
Drilling Contractor Contract Drilling Co. Drill Rig CME 45
Driller B. Wolf Logger B. Wolf Checked by E. Datz
Drilling Method 6-inch HSA

WATER LEVEL DATA

While Drilling 1.92 m
At Completion of Drilling 2.90 m
Time After Drilling 144 hours
Depth to Water 0.61 m
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

BORING LOG BB-8

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

WEI Job No.: 950-08-01
Client: Christian Roge and Associates, Inc.
Project: IL21/US45 Over Aptakisic Creek, IDOT # D-91-198-06
Location: T43N, R11E, Sect. 35 NW 1/4, Lake County, IL

Datum: NGVD
Elevation: 194.43 m
North: 610299.82 m
East: 334139.44 m
Station: 10+010.5
Offset: 14.0R

Elevation (m)	Soil and Rock Description	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	(Gray SILTY CLAY, continued)	23	7 10 13	249 B	16
		24	6 12 13	211 B	13
		25	6 11 15	230 B	12
		26	6 12 17	249 B	13
175.8	Gray SILTY CLAY, trace medium to fine sand, with silt seams	27	11 11 13	259 B	21
		28	4 6 7	220 B	24
		29	3 4 6	115 B	30
		30	4 4 7	153 B	29
172.6	Gray CLAY, trace fine sand, moist	31	6 7 9	268 B	29
171.6	Gray SILT, trace medium to fine sand --@ 75.5' - with clayey silt pocket	32	7 9 11	230 B	21
		33		77 B	25
		34	9 14 18	345 B	16
170.5	Gray SILTY CLAY, little coarse to fine sand, trace coarse to fine gravel	35	7 11 14	422 B	15
		36	10 12 16	249 B	14
169.1	Boring terminated at 25.30 m				

GENERAL NOTES

Begin Drilling 08-15-2001 Complete Drilling 08-15-2001
Drilling Contractor Contract Drilling Co. Drill Rig CME 45
Driller B. Wolf Logger B. Wolf Checked by E. Datz
Drilling Method 6-inch HSA

WATER LEVEL DATA

While Drilling 1.92 m
At Completion of Drilling 2.90 m
Time After Drilling 144 hours
Depth to Water 0.61 m
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

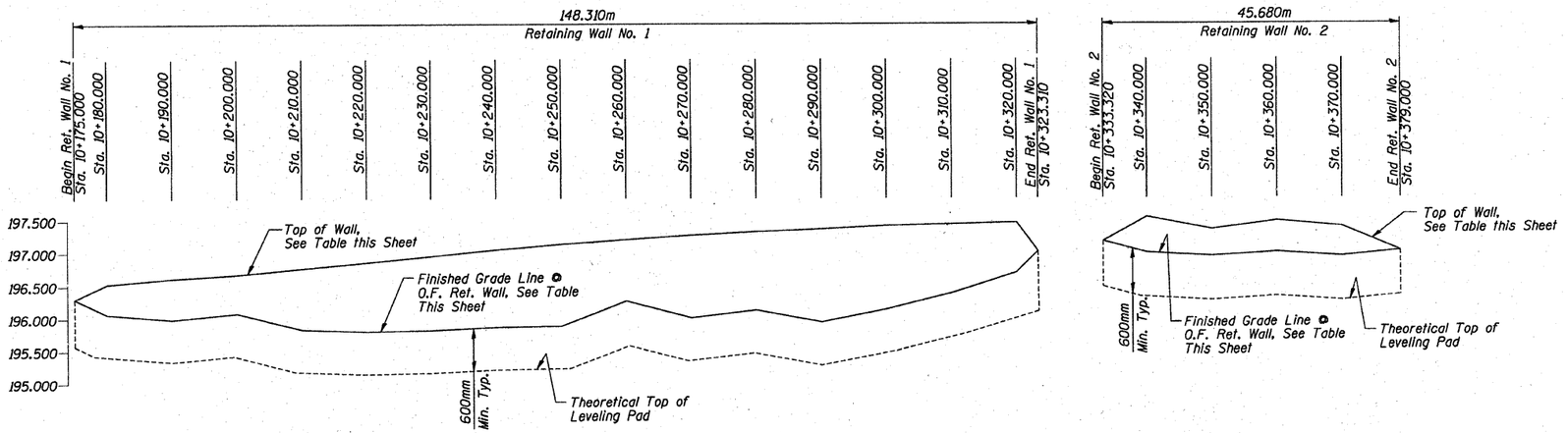
SOIL BORING LOGS-VII
U.S. RTE. 45 / IL. RTE. 21
OVER
APTAKISIC CREEK
F.A.P. RTE. 330 SECTION: 1Y-B-R-1
LAKE COUNTY STATION 10+000.000
STRUCTURE NO. 049-0194

SCALE: NONE DRAWN BY: D.L./F.M.
DATE: OCTOBER 16, 2007 CHECKED BY: B.N.S.

CHRISTIAN-ROGE & ASSOC., INC.
CHICAGO ILLINOIS

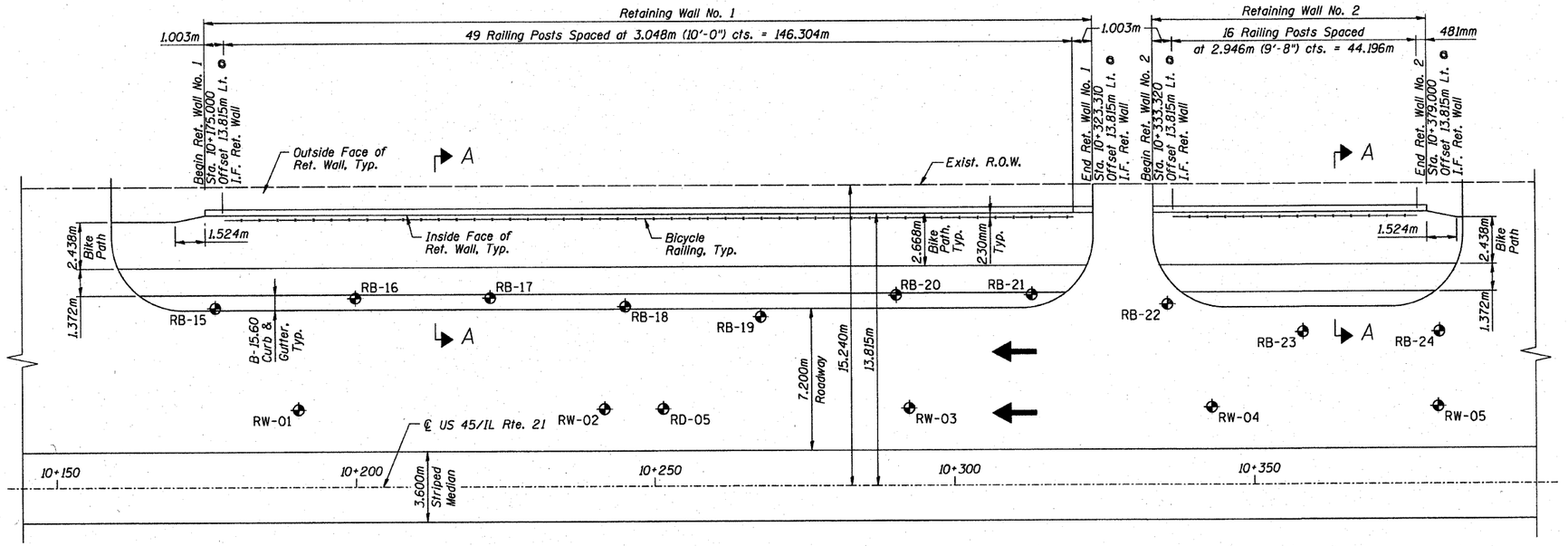
F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	12	7
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX



REFLECTED ELEVATION - RETAINING WALL NO. 1 & RETAINING WALL NO. 2

(Looking East at Outside Face)



PLAN - RETAINING WALL NO. 1 & RETAINING WALL NO. 2

RETAINING WALL ELEVATIONS

Retaining Wall No. 1

Station	Top of Wall	Finished Grade Line ✪ O.F. Ret. Wall
10+175.000	196.305	196.305
10+180.000	196.525	196.109
10+190.000	196.606	196.079
10+200.000	196.660	196.170
10+210.000	196.752	195.935
10+220.000	196.842	195.900
10+230.000	196.936	195.947
10+240.000	197.038	195.988
10+250.000	197.120	196.002
10+260.000	197.192	196.257
10+270.000	197.253	196.161
10+280.000	197.307	196.260
10+290.000	197.347	196.060
10+300.000	197.398	196.248
10+310.000	197.423	196.482
10+320.000	197.446	196.762
10+323.310	197.008	197.008

Retaining Wall No. 2

Station	Top of Wall	Finished Grade Line ✪ O.F. Ret. Wall
10+333.320	197.133	197.133
10+340.000	197.498	196.937
10+350.000	197.307	196.907
10+360.000	197.434	196.944
10+370.000	197.350	196.883
10+379.000	197.012	197.012

DESIGN SPECIFICATIONS

See Special Provision for Segmental Concrete Block Wall for Design Specifications

LEGEND

RB-15 ⊕ - Soil Boring

Notes:

1. See Retaining Wall Details Sheet for Section A-A.
2. See Retaining Wall Soil Boring Sheets (8 Sheets) for Soil Boring Logs.
3. For Total Bill of Material, see Retaining Wall Details Sheet.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

RETAINING WALL NO. 1 & NO. 2
PLAN AND ELEVATION

US 45/IL RTE. 21 OVER
APTAKISIC CREEK

DRAWN BY: M.S.M.
CHECKED BY: S.D.H.
DATE: 11-29-07

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

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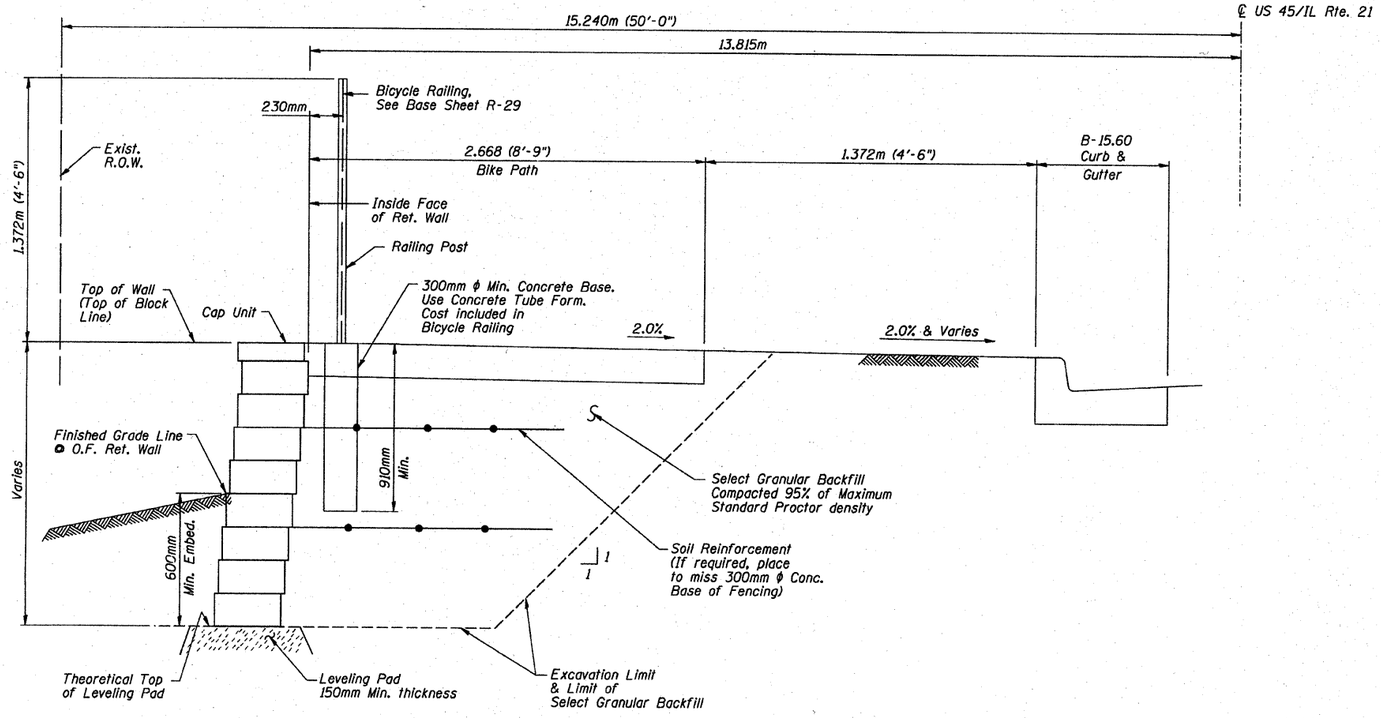
11/29/2007

F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	12	75
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. XXXXX				



SECTION A-A

Note:

1. Cost of Excavation & Select Granular Backfill included in Segmental Concrete Block Wall.

TOTAL BILL OF MATERIAL

ITEM	UNIT	Retaining Wall No. 1	Retaining Wall No. 2	TOTAL
Segmental Concrete Block Wall	Sq. M.	222	46	268
Bicycle Railing	Meter	147	44	191

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	RETAINING WALL NO. 1 & No. 2 DETAILS
		US 45/IL RTE. 21 OVER APTAKISIC CREEK
		DRAWN BY: M.S.M.
		DATE: 11-29-07 CHECKED BY: S.D.H.
		GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC. CHICAGO, ILLINOIS

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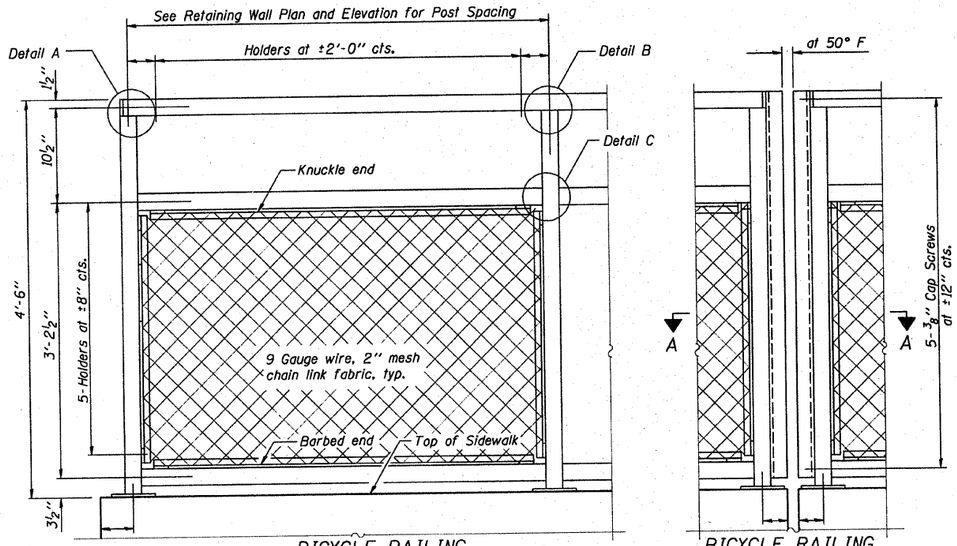
11/29/2007

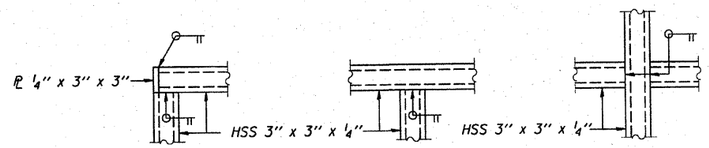
F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	134	76
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX



BICYCLE RAILING

BICYCLE RAILING

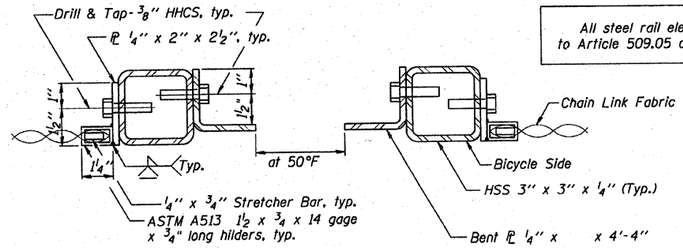


DETAIL A DETAIL B DETAIL C

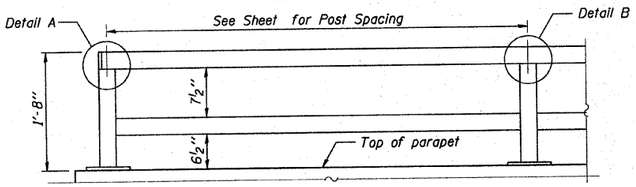
BILL OF MATERIAL

Item	Unit	Quantity	Unit	Quantity
Bicycle Railing	Meter	191	Foot	625
Parapet Railing	Meter	N/A	Foot	N/A

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

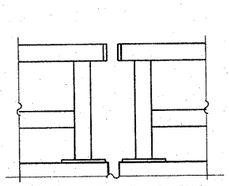


SECTION A-A



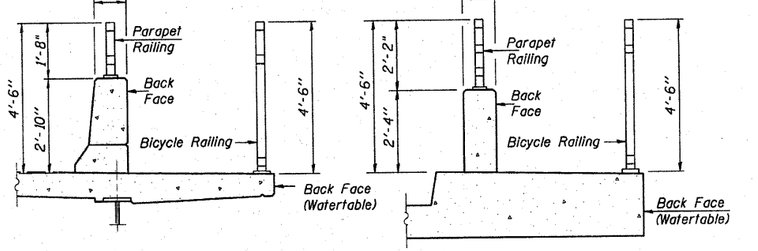
PARAPET RAILING ELEVATION

(Inside Face of Two Element Rail)

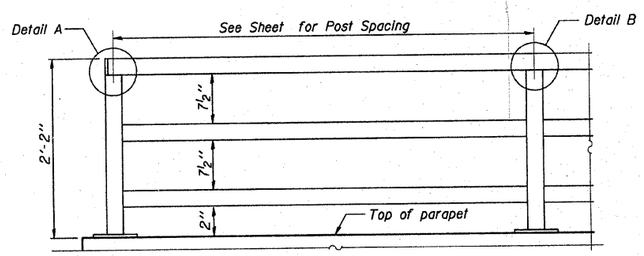


PARAPET RAILING ELEVATION AT EXPANSION JOINT

(Two Element Rail Shown - Three Element Rail Similar)

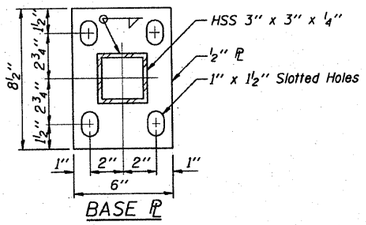


SECTION THRU DECK SECTION THRU SIDEWALK

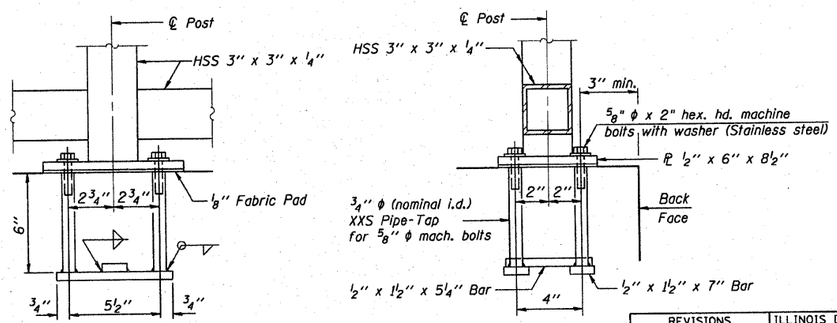


PARAPET RAILING ELEVATION

(Inside Face of Three Element Rail)

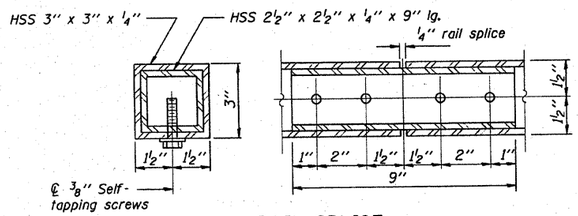


BASE ℄



ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and epoxy grouting ⅝" ϕ anchor rods. Embedment shall be according to the manufacturer's specifications.



RAIL SPLICE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BICYCLE RAILING

US 45/IL RTE. 21 OVER APTAKISIC CREEK

DATE: 11-29-07

DRAWN BY: M.S.M.
CHECKED BY: S.D.H.

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

R-29 9-03-07 (10'-0" Maximum Post Spacing)

H:\Jobs2006\20063028-26\CAD\Structural\dgn\00\US45-BIKE.dgn
11/29/2007

F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	121	77
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX

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Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG RB-15

WEI Job No.: 555-12-01

Client IDOT Project No. D-91-336-06,

Project FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd

Location Village of Buffalo Grove, Lake County IL

Datum NGVD
Elevation 59.87 m
North m
East m
Station 10+176.6
Offset 9.0L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / Recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	59.5	Dark brown SILTY CLAY --FILL--	1		1	x x	---	19
		Dark gray to brown CLAYEY SAND	1		2	4 4 4	268 B	16
	58.7	Brown, coarse to fine SAND and coarse to fine GRAVEL, trace to little silt, with cobble	2		3	3 5 5	---	9
			3		4	10 10 9	---	9
			4		5	10 10 8	---	12
	56.5	Gray SILTY CLAY, trace medium to fine sand, with silt seams -- A-7-6 --	4		6	2 4 3	220 B	24
	55.6	Gray coarse to fine GRAVEL, some coarse to fine sand	5		7	9 6 8	---	9
	55.2	Boring terminated at 4.72 m	5					

GENERAL NOTES

Begin Drilling 08-21-2001 Complete Drilling 08-21-2001
Drilling Contractor Contract Drilling Co. Drill Rig CME 45
Driller B. Wolf Logger J. Dalton Checked by
Drilling Method 6-inch HSA

WATER LEVEL DATA

While Drilling ▽ 2.74 m
At Completion of Drilling ▼ 2.96 m
Time After Drilling 48 hours
Depth to Water ▼ 2.32 m

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

WANGENGINC 555201.GPJ WANGENG.GDT 5/4/07

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BORING LOG RB-16

WEI Job No.: 555-12-01

Client IDOT Project No. D-91-336-06,

Project FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd

Location Village of Buffalo Grove, Lake County IL

Datum NGVD
Elevation 59.91 m
North m
East m
Station 10+200.0
Offset 9.3L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / Recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	59.5	Dark brown SILTY CLAY --FILL--	1		1	x x	---	16
	58.7	Brown and dark gray SILTY CLAY, some coarse to fine sand	1		2	6 5 6	824 B	11
		Brown coarse to fine SAND and coarse to fine GRAVEL, trace to little silt, with cobble	2		3	6 8 8	---	8
			3		4	11 11 13	---	9
			4		5	10 9 10	---	11
	56.5	Gray SILTY CLAY, trace fine sand, with silt seams -- A-7-6 -- --@ 4.63m - coarse to fine SAND seam	4		6	4 6 9	287 B	23
	55.2	Boring terminated at 4.72 m	5		7	4 5 14	297 B	23

GENERAL NOTES

Begin Drilling 08-21-2001 Complete Drilling 08-21-2001
Drilling Contractor Contract Drilling Co. Drill Rig CME 45
Driller B. Wolf Logger J. Dalton Checked by
Drilling Method 6-inch HSA

WATER LEVEL DATA

While Drilling ▽ 2.90 m
At Completion of Drilling ▼ 2.96 m
Time After Drilling 48 hours
Depth to Water ▼ 2.87 m

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

WANGENGINC 555201.GPJ WANGENG.GDT 5/4/07

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

RETAINING WALL
SOIL BORING LOGS

US 45/IL RTE. 21 OVER
APTAKISIC CREEK

DRAWN BY: M.S.M.
DATE: 11-27-07 CHECKED BY: S.D.H.

GRAEF ANHALT SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

h:\jobs2006\20063028-26\cad\structural\dgn\00\SoilBoring_1.dgn
11/27/2007

F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	121	78
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX

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BORING LOG RB-17

Page 1 of 1

WEI Job No.: 555-12-01

Client IDOT Project No. D-91-336-06,

Project FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd

Location Village of Buffalo Grove, Lake County IL

Datum NGVD
Elevation 59.96 m
North m
East m
Station 10+222.6
Offset 9.3L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
		Black SILTY CLAY --FILL--		1	1	x x	...	18
	59.6	Dark gray to brown SILTY CLAY, some coarse to fine sand		2	2	6	613 B	14
	59.4	Brown, coarse to fine SAND and SILT	1	3	3	5 4	144 P	12
	58.9	Brown, coarse to fine SAND and coarse to fine GRAVEL, trace silt		4	4	9 11 10	...	5
			2	5	5	12 13 14	...	3
				6	6	13 12 13	...	6
	56.6	Gray SILTY CLAY, trace medium to fine sand, with silt seams -- A-7-6 --	3	7	7	2 4 5	201 B	26
			4	8	8	5 8 9	297 B	24
	55.2	Boring terminated at 4.72 m	5					

GENERAL NOTES

Begin Drilling 08-21-2001 Complete Drilling 08-21-2001
Drilling Contractor Contract Drilling Co. Drill Rig CME 45
Driller B. Wolf Logger J. Dalton Checked by
Drilling Method 6-inch HSA

WATER LEVEL DATA

While Drilling ▽ 3.20 m
At Completion of Drilling ▼ 2.53 m
Time After Drilling 48 hours
Depth to Water ▼ 2.53 m

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

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BORING LOG RB-18

Page 1 of 1

WEI Job No.: 555-12-01

Client IDOT Project No. D-91-336-06,

Project FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd

Location Village of Buffalo Grove, Lake County IL

Datum NGVD
Elevation 60.02 m
North m
East m
Station 10+245.2
Offset 9.0L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
		Black SILTY CLAY		1	1	x x	...	7
	59.6	Dark gray, coarse to fine SAND and SILT		2	2	8 10	450 P	17
	59.3	Brown, coarse to fine SAND, some silt	1	3	3	7	144 P	11
	58.3	Brown, coarse to fine SAND and coarse to fine GRAVEL, trace to little silt, with cobble		4	4	3 3 4	249 B	16
			2	5	5	6 8 13	...	6
			3	6	6	10 11 12	...	8
	55.9	Gray SILTY CLAY, trace medium to fine sand, with silt seam -- A-7-6 --	4	7	7	7 8 6	...	9
	55.3	Boring terminated at 4.72 m	5	8	8	3 6 6	211 B	26

GENERAL NOTES

Begin Drilling 08-21-2001 Complete Drilling 08-21-2001
Drilling Contractor Contract Drilling Co. Drill Rig CME 45
Driller B. Wolf Logger J. Dalton Checked by
Drilling Method 6-inch HSA

WATER LEVEL DATA

While Drilling ▽ 3.35 m
At Completion of Drilling ▼ 2.87 m
Time After Drilling 48 hours
Depth to Water ▼ 2.77 m

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

RETAINING WALL
SOIL BORING LOGS

US 45/IL RTE. 21 OVER
APTAKISIC CREEK

DRAWN BY: M.S.M.
CHECKED BY: S.D.H.
DATE: 11-27-07

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

h:\jobs2006\20063028-26\cad\structural\dgn\00\SoilBoring_2.dgn
11/27/2007

F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	121	79
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX

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BORING LOG RB-19

Page 1 of 1

WEI Job No.: 555-12-01

Client **IDOT Project No. D-91-336-06,**
Project **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**
Location **Village of Buffalo Grove, Lake County IL**

Datum NGVD
Elevation 60.09 m
North m
East m
Station 10+267.8
Offset 8.7L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / Recovery	Sample No	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
		Black SILTY CLAY --FILL--		1		x x	---	11
	59.7	Dark gray to brown and dark gray, coarse to fine SAND and SILT	1	2		6 7 7	345 B	19
	58.7	Brown, coarse to fine SAND and coarse to fine GRAVEL, with cobble	2	3		3	---	15
				4		5 6	---	7
				5		18 17 15	---	6
			3	6		15 14 15	---	6
				7		12 9 9	---	12
	56.0	Gray, coarse to fine SAND	4					
	55.7	Gray SILTY CLAY, trace sand -- A-7-6 --		8		3	---	17
	55.4	Boring terminated at 4.72 m	5	9		4 5	230 B	25

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / Recovery	Sample No	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)

GENERAL NOTES

Begin Drilling **08-21-2001** Complete Drilling **08-21-2001**
Drilling Contractor **Contract Drilling Co.** Drill Rig **CME 45**
Driller **B. Wolf** Logger **J. Dalton** Checked by
Drilling Method **6-inch HSA**

WATER LEVEL DATA

While Drilling ▽ 3.35 m
At Completion of Drilling ▼ 2.74 m
Time After Drilling 48 hours
Depth to Water ▼ 2.32 m
The stratification lines represent the approximate boundary between soil types, the actual transition may be gradual.

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BORING LOG RB-20

Page 1 of 1

WEI Job No.: 555-12-01

Client **IDOT Project No. D-91-336-06,**
Project **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**
Location **Village of Buffalo Grove, Lake County IL**

Datum NGVD
Elevation 60.10 m
North m
East m
Station 10+290.4
Offset 9.3L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / Recovery	Sample No	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	59.8	Black SILTY CLAY --FILL--		1		x x	---	8
		Brown, coarse to fine SAND and coarse to fine GRAVEL --FILL--	1	2		7 6 7	---	8
	59.0	Dark brown, medium to fine SAND and SILT		3		2 3 3	354 B	11
	58.3	Brown, medium to fine SAND and SILT	2	4		4 4	316 B	12
	57.6	Brown, coarse to fine SAND and coarse to fine GRAVEL		5		7	---	9
			3	6		12 16 19	---	5
				7		11 12 12	---	10
	56.1	Gray SILTY CLAY, trace medium to fine sand -- A-7-6 --	4					
	55.4	Boring terminated at 4.72 m		8		3 5 7	201 B	25
			5					

GENERAL NOTES

Begin Drilling **08-21-2001** Complete Drilling **08-21-2001**
Drilling Contractor **Contract Drilling Co.** Drill Rig **CME 45**
Driller **B. Wolf** Logger **J. Dalton** Checked by
Drilling Method **6-inch HSA**

WATER LEVEL DATA

While Drilling ▽ 3.35 m
At Completion of Drilling ▼ 2.44 m
Time After Drilling 48 hours
Depth to Water ▼ 2.26 m
The stratification lines represent the approximate boundary between soil types, the actual transition may be gradual.

WANGENGINC 555120I GPJ WANGENG GDT 5/4/07

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

RETAINING WALL
SOIL BORING LOGS

US 45/IL RTE. 21 OVER
APTAKISIC CREEK

DRAWN BY: M.S.M.
DATE: 11-27-07 CHECKED BY: S.D.H.

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

h:\jobs2006\20063028-26\cad\structural\dgn\00\SoilBoring_3.dgn
11/27/2007

F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	21	80
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX

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BORING LOG RB-21

WEI Job No.: 555-12-01

Client **IDOT Project No. D-91-336-06,**
Project **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**
Location **Village of Buffalo Grove, Lake County IL**

Datum NGVD
Elevation 60 14 m
North m
East m
Station 10+313 0
Offset 9.6L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	59.9	Dark brown to black CLAYEY SILT with fine to medium sand, trace grass roots, moist --TOPSOIL--	1		1	x x	---	13
	59.5	Brown to dark brown CLAYEY SILT with fine to coarse gravel, occasional fine to coarse sand, moist --FILL--	1		2	10	---	15
					3	13 16	---	8
	59.1	Brown, fine to coarse GRAVEL, some clay and silt, some fine to coarse sand, dry to moist --FILL--				4		
		Brown to dark brown CLAYEY SILT with fine to coarse gravel and fine to coarse sand, some silt or clay layers, moist --FILL--	2		4	4 4 7	105 B	21
					5	4 3 4	96 B	12
			3		6	3 3 3	---	11
	56.8	Brown, fine to coarse GRAVEL, some fine to coarse sand, some clay, wet	4		7	7 7 10	---	13
	56.0	Gray, fine to coarse SAND, trace fine to medium gravel, wet			8	2	---	12
	55.7	Gray CLAY, moist			9	2 2	125 B	29
	55.4	Boring terminated at 4 72 m	5					

GENERAL NOTES

Begin Drilling **08-21-2001** Complete Drilling **08-21-2001**
Drilling Contractor **Contract Drilling Co.** Drill Rig **CME 45**
Driller **B. Wolf** Logger **B. Wolf** Checked by
Drilling Method **6-inch HSA**

WATER LEVEL DATA

While Drilling ▽ **3.35 m**
At Completion of Drilling ▼ **2.87 m**
Time After Drilling **48 hours**
Depth to Water ▼ **2.50 m**

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

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BORING LOG RB-22

WEI Job No.: 555-12-01

Client **IDOT Project No. D-91-336-06,**
Project **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**
Location **Village of Buffalo Grove, Lake County IL**

Datum NGVD
Elevation 60 13 m
North m
East m
Station 10+335.6
Offset 8.8L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	59.7	25.4 centimeter thick ASPHALT; 8-inch thick GRAVEL BASE --PAVEMENT and BASE COURSE--						
		Brown, gray and black SILTY CLAY, little coarse to fine sand with black silty clay @0.76m feet	1		1	6 7	479 B	21
	59.1				2	6		26
		Brown SILTY CLAY and coarse to fine SAND				2		
	58.5				3	3 6	163 B	16
		Brown, coarse to fine SAND and coarse to fine GRAVEL, trace silt	2		4	11 11 8		6
			3		5	11 8 9		8
			4		6	10 15 9		9
	56.0	Gray, coarse to fine SAND, little coarse to fine gravel			7	6		8
	55.7	Gray SILTY CLAY, trace coarse to fine sand			8	6 5	96 P	23
	55.4	Boring terminated at 4.72 m	5					

GENERAL NOTES

Begin Drilling **08-23-2001** Complete Drilling **08-23-2001**
Drilling Contractor **Contract Drilling Co.** Drill Rig **CME 45**
Driller **R. Wolf** Logger **J. Dalton** Checked by
Drilling Method **6-inch HSA**

WATER LEVEL DATA

While Drilling ▽ **3.35 m**
At Completion of Drilling ▼ **2.93 m**
Time After Drilling **96 hours**
Depth to Water ▼ **2.93 m**

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

RETAINING WALL
SOIL BORING LOGS

US 45/IL RTE. 21 OVER
APTAKISIC CREEK

DRAWN BY: M.S.M.
CHECKED BY: S.D.H.
DATE: 11-27-07

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

H:\Jobs2006\20063028-26\CAD\Structural\dgn\00\SoilBoring_4.dgn
11/27/2007

F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	121	81
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX

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BORING LOG RB-23

Page 1 of 1

WEI Job No.: 555-12-01

Client **IDOT Project No. D-91-336-06,**
Project **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**
Location **Village of Buffalo Grove, Lake County IL**

Datum NGVD
Elevation 60.12 m
North m
East m
Station 10+358.2
Offset 7.0L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type	Sample No	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	59.8	8.26 centimeter thick ASPHALT; 22.2 centimeter thick CONCRETE						
		--PAVEMENT--			1	X		10
	59.7	Brown, coarse to fine SAND and coarse to fine GRAVEL			2	4	153 B	21
	59.4	Dark gray and dark brown SILTY CLAY and coarse to fine SAND	1		3	3 2	96 P	18
		Brown, coarse to fine CLAYEY SAND						
					4	2 3 5	115 B	18
	58.5	Brown, coarse to fine SAND and coarse to fine GRAVEL, trace silt	2		5	8 11 16	---	9
			3	▽	6	14 16 16	---	5
			4		7	10 13 13	---	10
	56.0	Gray, coarse to fine SAND, little coarse to fine gravel			8	8	-	11
	55.7	Gray CLAY, trace fine sand			9	5 5	134 B	27
	55.4	Boring terminated at 4.72 m	5					

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)

GENERAL NOTES

Begin Drilling **08-23-2001** Complete Drilling **08-23-2001**
Drilling Contractor **Contract Drilling Co.** Drill Rig **CME 45**
Driller **R. Wolf** Logger **J. Dalton** Checked by
Drilling Method **6-inch HSA**

WATER LEVEL DATA

While Drilling ▽ **3.35 m**
At Completion of Drilling ▼ **2.96 m**
Time After Drilling **NA**
Depth to Water ▽ **NA**

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

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BORING LOG RB-24

Page 1 of 1

WEI Job No.: 555-12-01

Client **IDOT Project No. D-91-336-06,**
Project **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**
Location **Village of Buffalo Grove, Lake County IL**

Datum: NGVD
Elevation 60.05 m
North m
East m
Station 10+381.0
Offset 7.5L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type	Sample No	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	59.7	8.89 centimeter thick ASPHALT; 23.5 centimeter thick CONCRETE						
		--PAVEMENT--			1	X	---	4
	59.5	Light gray, coarse to fine SAND and coarse to fine GRAVEL			2	1	---	7
		--BASE COURSE--						
	59.1	Black, coarse to fine SAND, trace silt	1		3	3	105 B	24
		--FILL--						
		Brown, gray and dark gray SILTY CLAY			4	12 13 15	---	16
		--FILL--						
	58.5	Brown, coarse to fine SAND and SILT	2		5	3	---	15
	57.9	Brown, coarse to fine SAND and coarse to fine GRAVEL			6	4 4	---	6
			3	▽	7	6 6 6	---	8
			4		8	8 8 10	---	7
	55.9	Brown, coarse to fine SAND, little coarse to fine gravel			9	6 5 4	---	23
	55.7	Boring terminated at 4.72 m	5					

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type recovery	Sample No	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)

GENERAL NOTES

Begin Drilling **08-23-2001** Complete Drilling **08-23-2001**
Drilling Contractor **Contract Drilling Co.** Drill Rig **CME 45**
Driller **R. Wolf** Logger **J. Dalton** Checked by
Drilling Method **6-inch HSA**

WATER LEVEL DATA

While Drilling ▽ **3.05 m**
At Completion of Drilling ▼ **2.77 m**
Time After Drilling **NA**
Depth to Water ▽ **NA**

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

RETAINING WALL
SOIL BORING LOGS

US 45/IL RTE. 21 OVER
APTAKISIC CREEK

DRAWN BY: M.S.M.
CHECKED BY: S.D.H.
DATE: 11-27-07

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

h:\jobs2006\20063028-26\cad\structural\dgn\00\SoilBoring_5.dgn
11/27/2007

F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	121	82
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX

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Fax 630 953-9938

BORING LOG RW-01

WEI Job No.: 555-12-01

Client IDOT Project No. D-91-336-06,

Project FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd

Location Village of Buffalo Grove, Lake County IL

Datum NGVD
Elevation 196.49 m
North 610490 08 m
East 334073 34 m
Station 10+190 41
Offset 5 15L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	196.4	10.16 centimeter thick ASPHALT --PAVEMENT--						
		50.8 centimeter thick CONCRETE						
	195.9	--CONCRETE--						
		Very stiff, brown gravelly SANDY CLAY LOAM --FILL--	1		1	6 3 5	192 P	15
	195.3	Medium dense, brown to gray GRAVELLY SAND						
			2		2	5 6 11	NP	6
			2		3	8 12 10	NP	5
			3		4	3 7 7	NP	12
	193.3	Very stiff, gray CLAY with silt seams						
			4		5	3 4 5	243 B	25
			4		6	2 5 11	228 B	25
	191.9	Boring terminated at 4.57 m	5					

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)

GENERAL NOTES

Begin Drilling 03-09-2007 Complete Drilling 03-09-2007
Drilling Contractor Precon Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 3.20 m
At Completion of Drilling ▽
Time After Drilling NA
Depth to Water ▽ NA

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

WANGENGINC 555201.GPJ WANGENG.GDT 5/4/07

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BORING LOG RW-02

WEI Job No.: 555-12-01

Client IDOT Project No. D-91-336-06,

Project FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd

Location Village of Buffalo Grove, Lake County IL

Datum: NGVD
Elevation: 196 78 m
North 610539.30 m
East 334062 45 m
Station. 10+241.66
Offset 5.26L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	196.7	10 16 centimeter thick ASPHALT --PAVEMENT--						
		50 8 centimeter thick CONCRETE						
	196.2	--CONCRETE--						
		Stiff, brown gravelly SANDY CLAY LOAM --FILL--	1		1	4 3 4	118 B	
	195.8	Medium dense to dense, brown GRAVELLY SAND						
			2		2	4 9 8	NP	5
			2		3	7 12 10	NP	6
			3		4	6 17 12	NP	11
	193.0	Very stiff, gray CLAY						
			4		5	7 3 4	NP	11
			4		6	3 5 7	260 B	24
	192.2	Boring terminated at 4 57 m	5					

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)

GENERAL NOTES

Begin Drilling 03-09-2007 Complete Drilling 03-09-2007
Drilling Contractor Precon Drill Rig ATV
Driller K&W Logger Y. Shiu Checked by
Drilling Method 3.25", ID HSA, Boring backfilled with cuttings

WATER LEVEL DATA

While Drilling ▽ 3.20 m
At Completion of Drilling ▽
Time After Drilling NA
Depth to Water ▽ NA

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

WANGENGINC 555201.GPJ WANGENG.GDT 5/4/07

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

RETAINING WALL
SOIL BORING LOGS

US 45/IL RTE. 21 OVER
APTAKISIC CREEK

DRAWN BY: M.S.M.
CHECKED BY: S.D.H.
DATE: 11-27-07

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

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11/27/2007

F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	121	83
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX

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BORING LOG RD-05

WEI Job No.: 555-12-01

Client: **IDOT Project No. D-91-336-06,**

Project: **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**

Location: **Village of Buffalo Grove, Lake County IL**

Datum: NGVD
Elevation: 196.78 m
North: 610548.89 m
East: 334060.38 m
Station: 10+251.47
Offset: 5.25L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	196.7	10.16 centimeter thick ASPHALT --PAVEMENT--						
		50.8 centimeter thick CONCRETE --CONCRETE--						
	196.2	Very stiff, black to brown SANDY CLAY LOAM --FILL--	1		1	5 4 5 5	287 P	16
	195.6	Medium dense, brown GRAVELLY SAND	2		2	3 5 5 6	NP	8
			3		3	8 12 15 16	NP	4
			4		4	6 15 13 13	NP	11
			5		5	8 13 14 11	NP	12
	193.1	Boring terminated at 3.66 m						

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)

GENERAL NOTES

Begin Drilling: **03-09-2007** Complete Drilling: **03-09-2007**
Drilling Contractor: **Precon** Drill Rig: **ATV**
Driller: **K&W** Logger: **Y. Shiu** Checked by: **E.D.**
Drilling Method: **3.25", ID HSA, Boring backfilled with cuttings**

WATER LEVEL DATA

While Drilling ▽ 2.44 m
At Completion of Drilling ▼
Time After Drilling: NA
Depth to Water ▽ NA

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

WANGENGINC 555121 GPJ WANGENG GDT 5-4-07

BORING LOG RW-03

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WEI Job No.: 555-12-01

Client: **IDOT Project No. D-91-336-06,**

Project: **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**

Location: **Village of Buffalo Grove, Lake County IL**

Datum: NGVD
Elevation: 196.96 m
North: 610588.94 m
East: 334051.45 m
Station: 10+292.50
Offset: 5.05L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	196.9	10.16 centimeter thick CONCRETE --PAVEMENT--						
	196.6	20.4 centimeter thick CRUSHED STONE --BASE COURSE--						
		Medium stiff, black CLAY LOAM --FILL--			1	3 4 5	72 P	23
	196.0	Medium dense, brown, GRAVELLY SAND	1		2	4 6 7	NP	5
			2		3	8 13 12	NP	6
			3		4	8 12 12	NP	10
			4		5	4 9 7	NP	11
	193.0	Stiff, gray CLAY	4		6	3 4 7	189 B	26
	192.4	Boring terminated at 4.57 m	5					

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type / recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)

GENERAL NOTES

Begin Drilling: **03-09-2007** Complete Drilling: **03-09-2007**
Drilling Contractor: **Precon** Drill Rig: **ATV**
Driller: **K&W** Logger: **Y. Shiu** Checked by: **E.D.**
Drilling Method: **3.25", ID HSA, Boring backfilled with cuttings**

WATER LEVEL DATA

While Drilling ▽ 2.44 m
At Completion of Drilling ▼ 3.96 m
Time After Drilling: NA
Depth to Water ▽ NA

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

WANGENGINC 555121 GPJ WANGENG GDT 5-4-07

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

RETAINING WALL
SOIL BORING LOGS

US 45/IL RTE. 21 OVER
APTAKISIC CREEK

DATE: 11-27-07

DRAWN BY: M.S.M.
CHECKED BY: S.D.H.

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

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11/27/2007

F.A. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		LAKE	12	84
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. XXXXX

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BORING LOG RW-04

WEI Job No.: 555-12-01

Client **IDOT Project No. D-91-336-06,**
Project **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**
Location **Village of Buffalo Grove, Lake County IL**

Datum: NGVD
Elevation: 197.25 m
North: 610637.85 m
East: 334039.13 m
Station: 10+342.93
Offset: 6.27L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type & recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	197.1	10 16-centimeter thick ASPHALT --PAVEMENT--						
	196.9	10-inch thick CRUSHED STONE --CA-6--						
	196.4	Black SILTY CLAY LOAM --BURIED TOPSOIL--						
		Very stiff, black to brown CLAY LOAM --FILL--	1		1	5 5 5	228 B	29
			2		2	1 2 4	192 P	23
	195.6	Medium dense, brown medium GRAVELLY SAND	2		3	3 5 7	NP	8
			3		4	4 9 11	NP	8
			4		5	7 8 10	NP	10
			5		6	1 7 8	NP	15
	192.7	Boring terminated at 4.57 m						

GENERAL NOTES

Begin Drilling **03-09-2007** Complete Drilling **03-09-2007**
Drilling Contractor **Precon** Drill Rig **ATV**
Driller **K&W** Logger **Y. Shiu** Checked by **E.D.**
Drilling Method **3.25", ID HSA, Boring backfilled with cuttings**

WATER LEVEL DATA

While Drilling ▽ **3.20 m**
At Completion of Drilling ▼ **3.96 m**
Time After Drilling **NA**
Depth to Water ▼ **NA**

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

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BORING LOG RW-05

WEI Job No.: 555-12-01

Client **IDOT Project No. D-91-336-06,**
Project **FAP 330 [IL21 to US45] Inverrary Ln to Deerfield Rd**
Location **Village of Buffalo Grove, Lake County IL**

Datum: NGVD
Elevation: 197.00 m
North: 610674.60 m
East: 334030.18 m
Station: 10+380.75
Offset: 6.89L

Profile	Elevation (m)	SOIL AND ROCK DESCRIPTION	Depth (m)	Sample Type & recovery	Sample No.	SPT Values (blw/150 mm)	Qu (kPa)	Moisture Content (%)
	196.9	10.16-centimeter thick ASPHALT --PAVEMENT--						
	196.7	8-inch thick CRUSHED STONE --CA-6--						
		Very stiff, black SANDY CLAY LOAM --FILL--	1		1	10 6 5	220 B	16
	196.1	Medium dense, green to brown, GRAVELLY SAND	2		2	5 5 5	NP	10
			3		3	7 10 9	NP	10
			4		4	7 8 11	NP	12
			5		5	4 10 10	NP	11
	193.0	Stiff, gray CLAY	4		6	2 2 4	172 B	21
	192.4	Boring terminated at 4.57 m						

GENERAL NOTES

Begin Drilling **03-09-2007** Complete Drilling **03-09-2007**
Drilling Contractor **Precon** Drill Rig **ATV**
Driller **K&W** Logger **Y. Shiu** Checked by **E.D.**
Drilling Method **3.25", ID HSA, Boring backfilled with cuttings**

WATER LEVEL DATA

While Drilling ▽ **2.44 m**
At Completion of Drilling ▼ **2.44 m**
Time After Drilling **NA**
Depth to Water ▼ **NA**

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

RETAINING WALL
SOIL BORING LOGS

US 45/IL RTE. 21 OVER
APTAKISIC CREEK

DRAWN BY: M.S.M.
DATE: 11-27-07 CHECKED BY: S.D.H.

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

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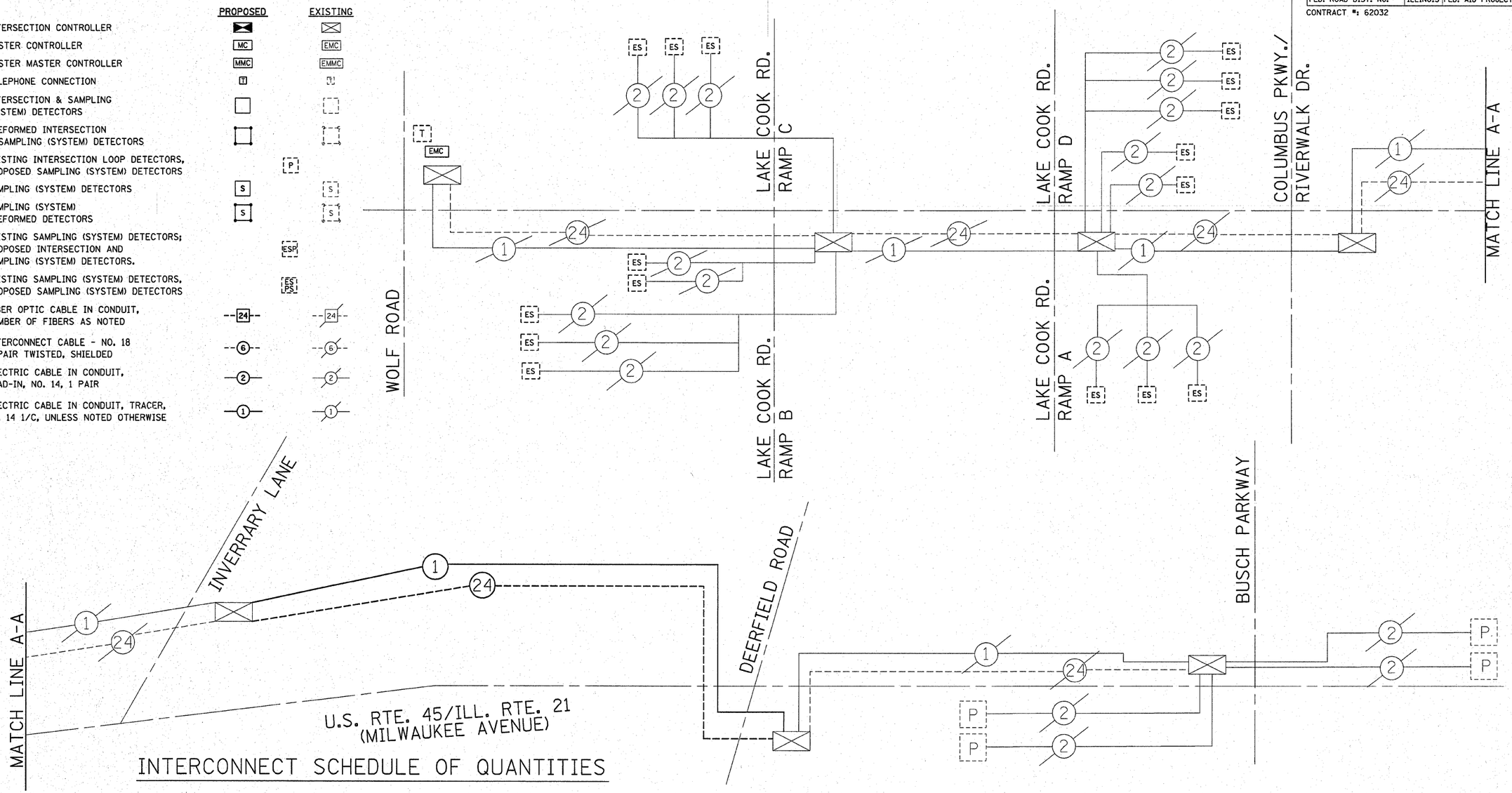
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	127	85
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT #: 62032

INTERCONNECT SCHEMATIC LEGEND

	PROPOSED	EXISTING
INTERSECTION CONTROLLER		
MASTER CONTROLLER	MC	EMC
MASTER MASTER CONTROLLER	MMC	EMMC
TELEPHONE CONNECTION	T	T
INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
EXISTING INTERSECTION LOOP DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS	P	
SAMPLING (SYSTEM) DETECTORS	S	S
SAMPLING (SYSTEM) PREFORMED DETECTORS	S	S
EXISTING SAMPLING (SYSTEM) DETECTORS; PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS.	ESP	
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS	ES PS	
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED	24	24
INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	6	6
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR	2	2
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE	1	1



INTERCONNECT SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
406	METER	CONDUIT TRENCHED, 50MM GALVANIZED STEEL
110	METER	CONDUIT PUSHED, 50MM GALVANIZED STEEL
18.3	METER	CONDUIT EMBEDDED IN STRUCTURE, 50MM DIA., PVC
823	METER	FIBER OPTIC CABLE IN CONDUIT, NO 62.5/125, MM12F,SM12F
823	METER	ELECTRIC CABLE IN CONDUIT, TRACER CABLE NO. 14 1C
3	EACH	HANDHOLE
406	METER	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1	EACH	DRILL EXISTING HANDHOLE
3	EACH	REMOVE EXISTING HANDHOLE
1354	METER	REMOVE ELECTRIC CABLE FROM CONDUIT

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC PLAN
US RTE. 45/ILL. RTE. 21
FROM WOLF RD. TO BUSCH PRKWY.

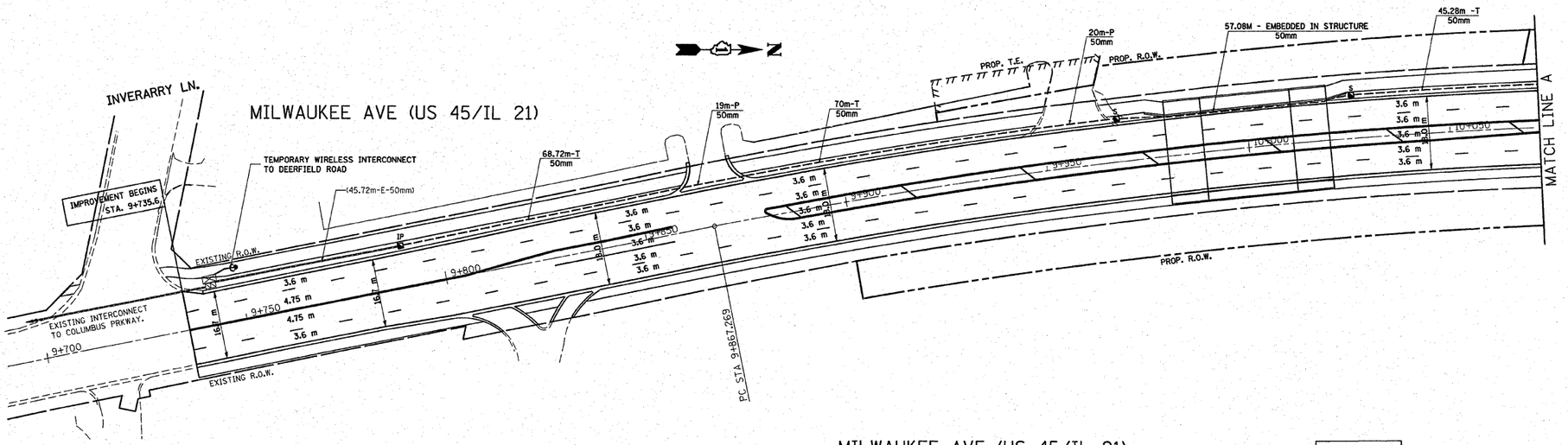
DATE:12/27/2007

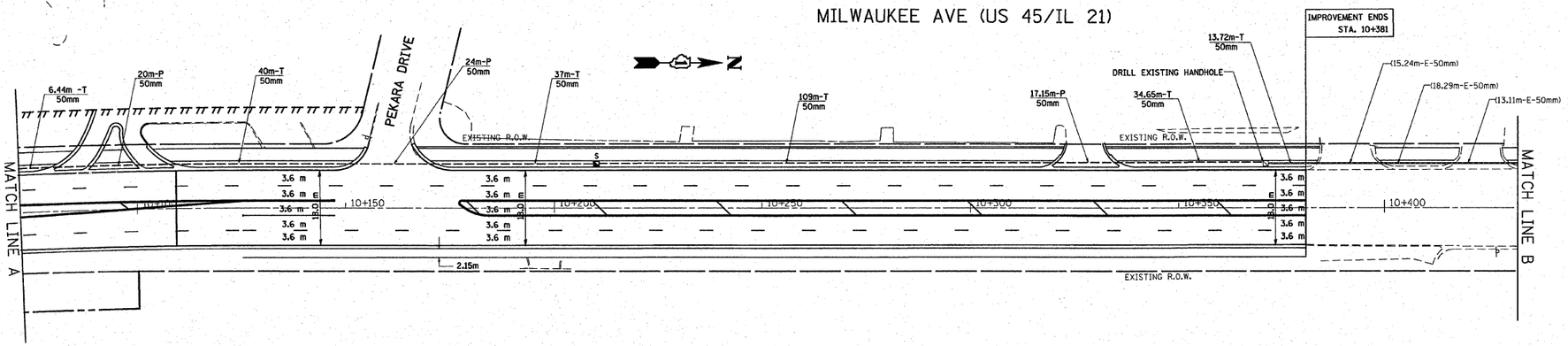
DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

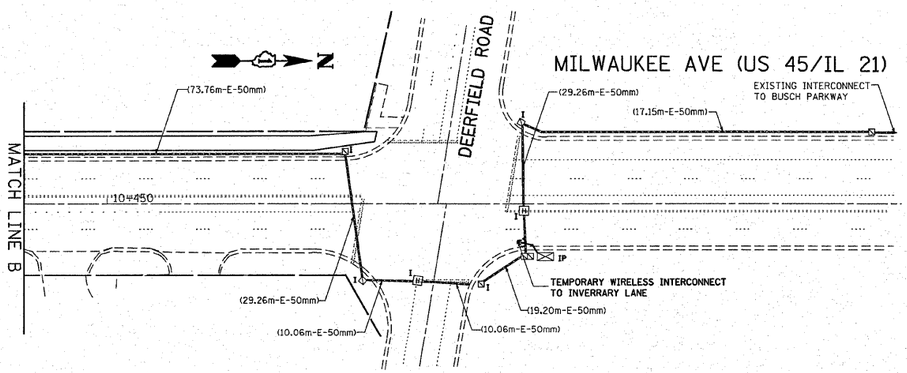
•REF-
•REF-
•REF-

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1		LAKE	86
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60232







INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	P G	P G
TELEPHONE CONNECTION	T	T
HANDHOLE	H	H
HEAVY DUTY HANDHOLE	HD	HD
DOUBLE HANDHOLE	HH	HH
G.S. CONDUIT IN TRENCH OR PUSHED		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	
DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP		

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
ILLINOIS ROUTE 132

TEMPORARY AND PERMANENT INTERCONNECT PLAN

US RTE. 45/IL. RTE. 21 FROM INVERRARY LN. TO BUSCH PRKWAY.

SCALE: 1"=50'
DATE 12/27/2007

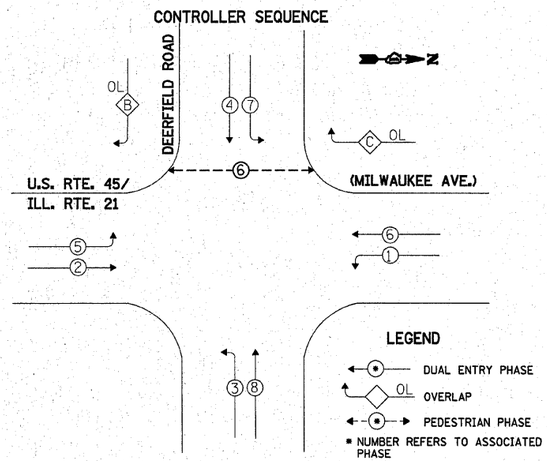
DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

12/27/2007
c:\projects\traffic\070026\us45.dgn
kanthaphixaybc

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12/	87
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT #: 62032

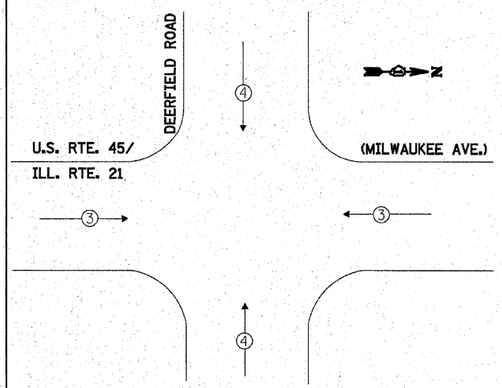
CONTROLLER SEQUENCE



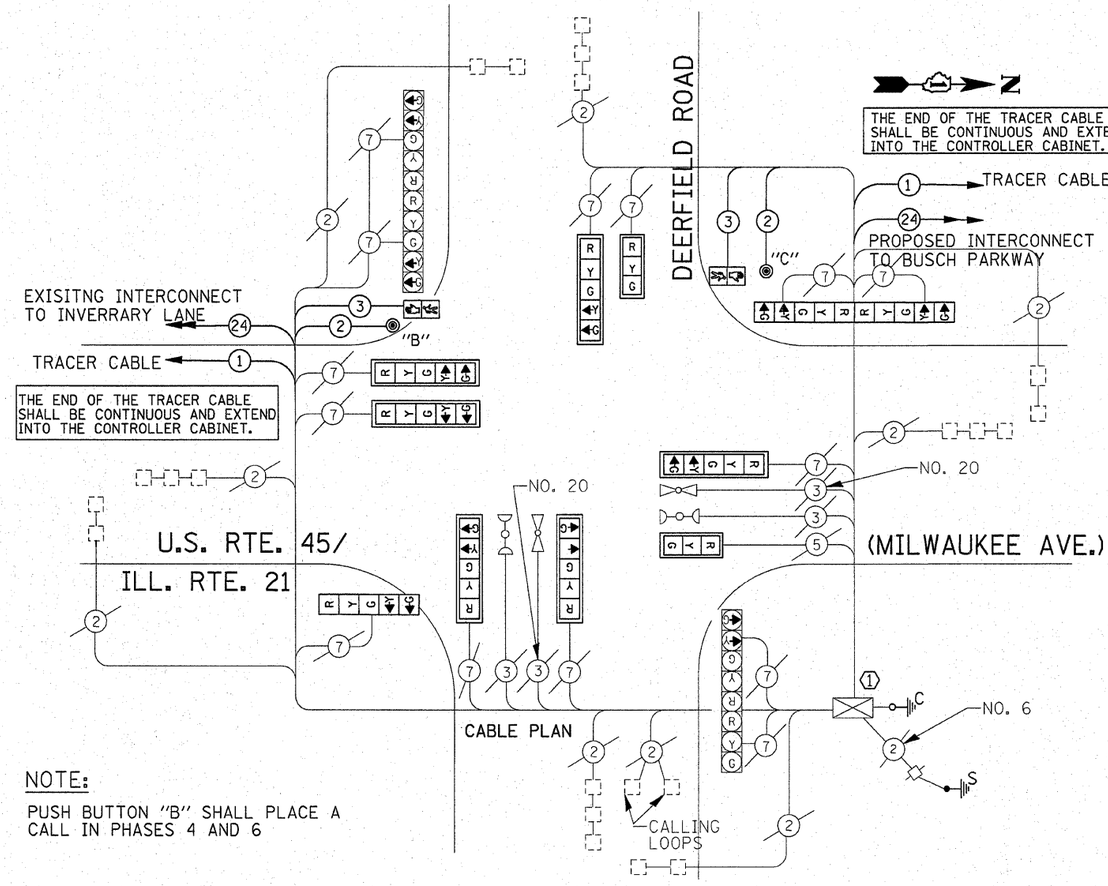
PHASE DESIGNATION DIAGRAM

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
B	=	4	+	5
C	=	6	+	7

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		



CABLE PLAN

NOTE:

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

CABLE PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
RAILROAD CONTROL CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	P	P
TELEPHONE CONNECTION	T	T
GROUND ROD AT (C) CONTROLLER, (H)HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE	C	C
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED	24	24
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED	2	2
GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)	1	1
SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD	R Y G Y G "P"	R Y G Y G "P"
12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE		R Y G
12" (300mm) TRAFFIC SIGNAL SECTION	R	R
12" (300mm) PEDESTRIAN SIGNAL SECTION	PW UH	PW UH OR DW W
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
PUSHBUTTON DETECTOR		
DETECTOR LOOP		
PREFORMED DETECTOR LOOP		
MICROWAVE VEHICLE SENSOR	M	M
VIDEO DETECTOR	V	V
CLOSED CIRCUT TV	C	C
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
4.6	METER	CONDUIT TRENCHED, 65mm GALVANIZED STEEL
140	METER	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
140	METER	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
2	EACH	PEDESTRIAN PUSHBUTTON
1	EACH	MODIFY EXISTING CONTROLLER
1	EACH	CONCRETE FOUNDATION, TYPE A
1	EACH	TRAFFIC SIGNAL POST, 3.0M
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	SIGNAL HEAD, L.E.D., 1 FACE, 3-SECTION, M.A. MNTD.
6	EACH	SIGNAL HEAD, L.E.D., 1 FACE, 5-SECTION, M.A. MNTD.
1	EACH	SIGNAL HEAD, L.E.D., 1 FACE, 5-SECTION, BRKT. MNTD.
3	EACH	SIGNAL HEAD, L.E.D., 2 FACE, 5-SECTION, BRKT. MNTD.
2	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 1 FACE, BRKT.MNTD.
1	EACH	UNINTERRUPTIBLE POWER SUPPLY
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	X %OPERATION	
SIGNAL (RED)	15	135	17	0.50	127.50
(YELLOW)	15	135	25	0.25	93.75
(GREEN)	15	135	15	0.25	56.25
ARROW	24	135	12	0.10	28.80
PED. SIGNAL	2	90	25	1.00	50.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	456.30

ENERGY SUPPLY
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096
CONTACT: _____
PHONE: _____
COMPANY: _____

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		(6m+L-0.6m)=
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
36" (900mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PROPOSED CABLE PLAN
US RTE. 45/ILL. RTE. 21
(MILWAUKEE AVE.) @ DEERFIELD RD.

DATE:12/27/2007

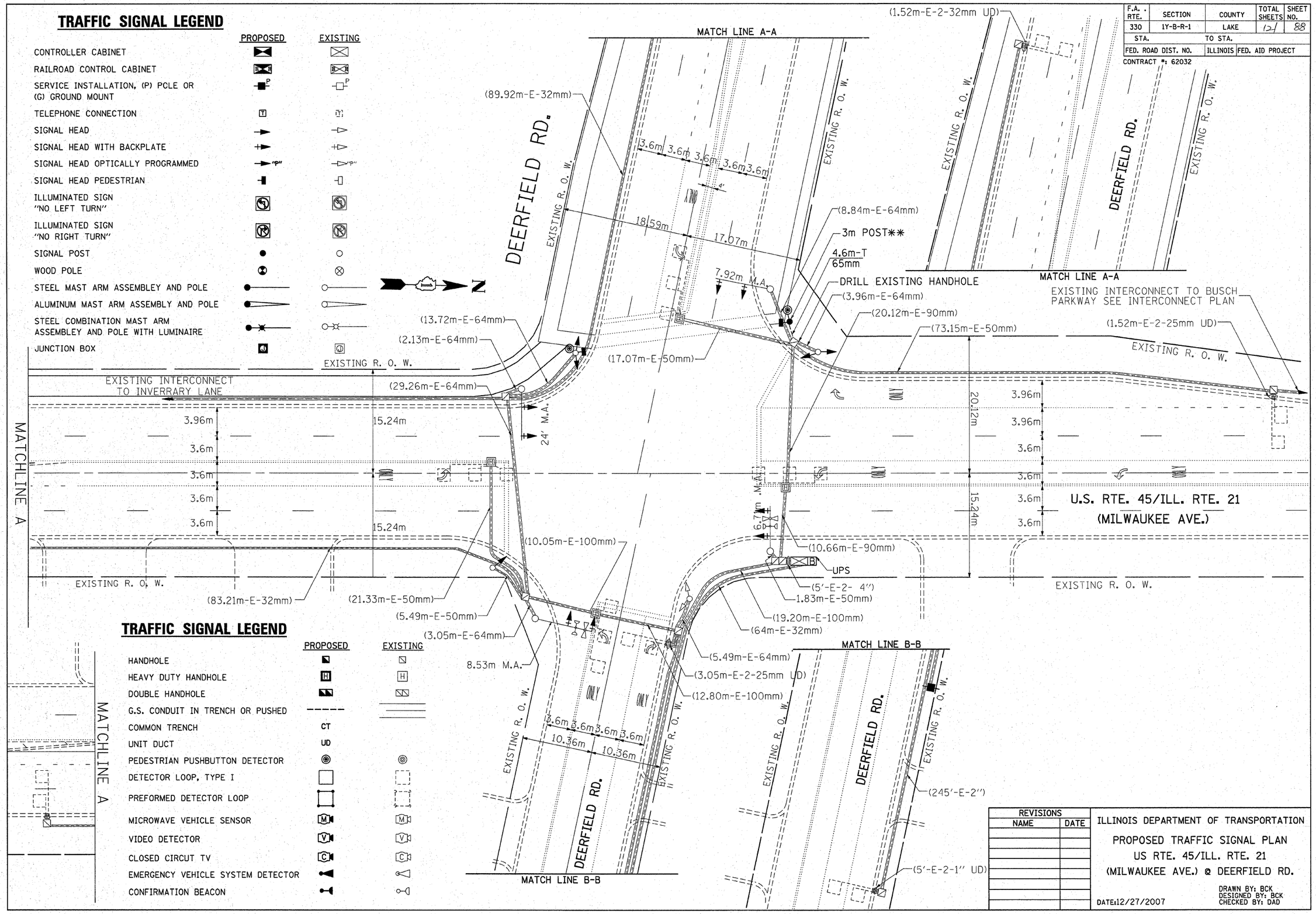
DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12	88
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT #: 62032

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
RAILROAD CONTROL CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	P	P
TELEPHONE CONNECTION	T	T
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD OPTICALLY PROGRAMMED	"P"	"P"
SIGNAL HEAD PEDESTRIAN		
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
SIGNAL POST		
WOOD POLE		
STEEL MAST ARM ASSEMBLEY AND POLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE		
STEEL COMBINATION MAST ARM ASSEMBLEY AND POLE WITH LUMINAIRE		
JUNCTION BOX		



TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
HANDHOLE		
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
COMMON TRENCH	CT	
UNIT DUCT	UD	
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP		
MICROWAVE VEHICLE SENSOR	M	M
VIDEO DETECTOR	V	V
CLOSED CIRCUT TV	C	C
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PROPOSED TRAFFIC SIGNAL PLAN
US RTE. 45/ILL. RTE. 21
(MILWAUKEE AVE.) @ DEERFIELD RD.

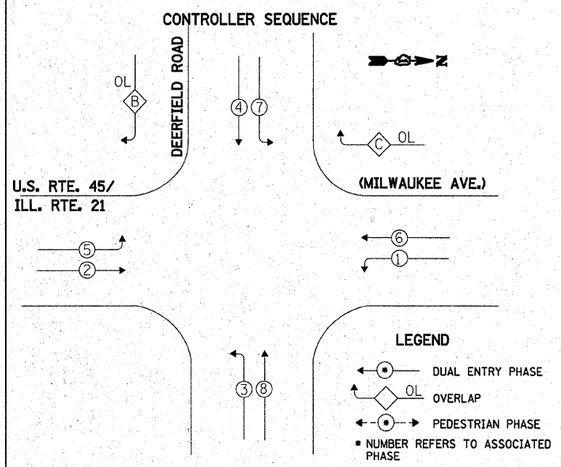
DATE:12/27/2007

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12	89
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT #: 62032

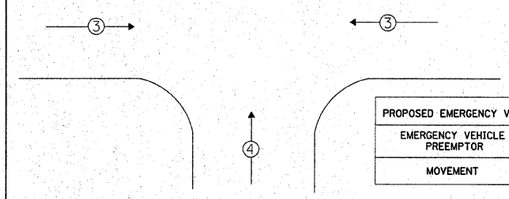
CONTROLLER SEQUENCE



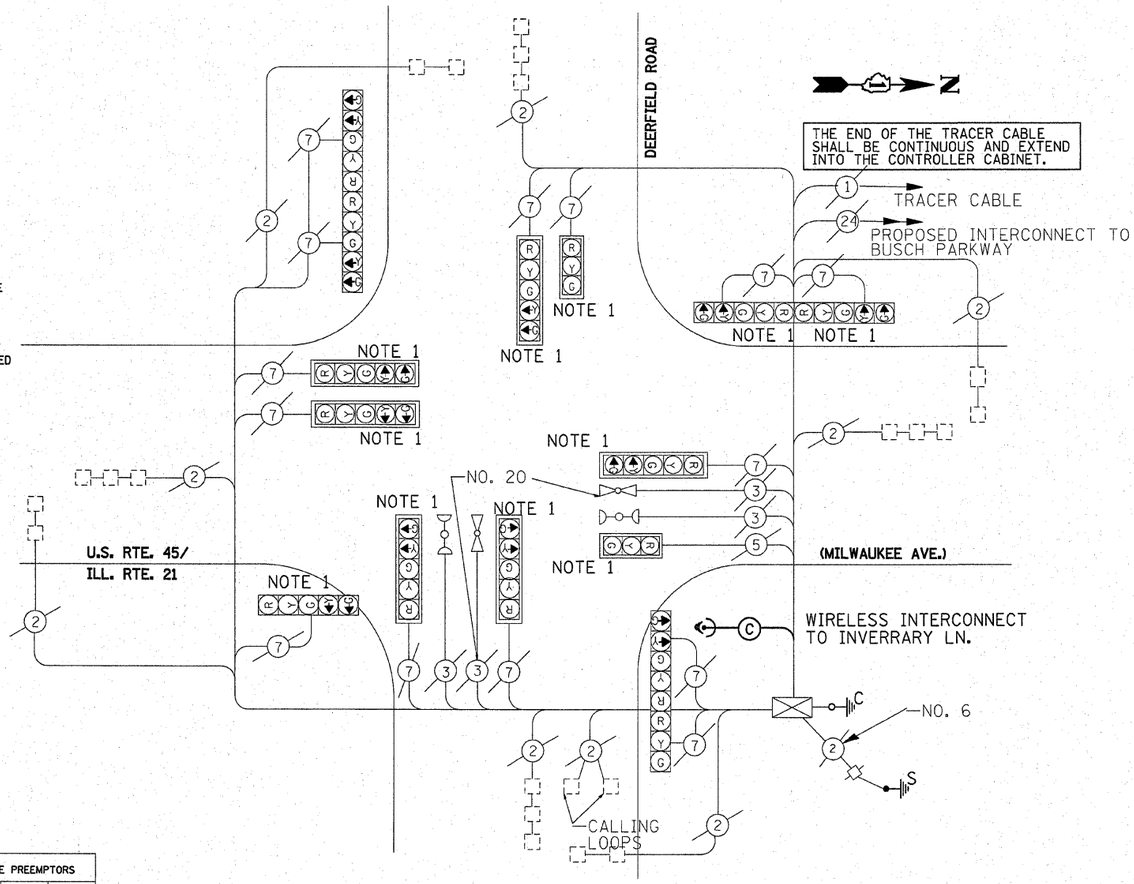
PHASE DESIGNATION DIAGRAM

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE		
B	=	4	+	5		
C	=	6	+	7		

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		



TEMPORARY CABLE DIAGRAM LEGEND

	PROPOSED	EXISTING
TEMPORARY CONTROLLER CABINET		
TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	P	P
TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)	R	R
12" (300 MM) PEDESTRIAN SIGNAL SECTION		
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED	2	2
PEDESTRIAN PUSHBUTTON DETECTOR		
VEHICLE DETECTOR, INDUCTION LOOP		
MICROWAVE VEHICLE SENSOR	M	M
VIDEO DETECTOR	V	V
CLOSED CIRCUT TV	C	C
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
WIRELESS INTERCONNECT ANTENNA		

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	WIRELESS INTERCONNECT

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	
SIGNAL (RED)	15	135	17	0.50	1012.50
(YELLOW)	15	135	25	0.25	506.25
(GREEN)	15	135	15	0.25	506.25
ARROW	24	135	12	0.10	324.00
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	2449.00

ENERGY SUPPLY
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096
CONTACT: _____
PHONE: _____
COMPANY: _____

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2= (6m+L-0.6m)=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
36" (900mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

CONSTRUCTION NOTES:

NOTE 1 - REPLACE EXISTING HEAD(S) WITH NEW L.E.D. SIGNAL HEAD(S).

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN
US RTE. 45/ILL. RTE. 21
(MILWAUKEE AVE.) @ DEERFIELD RD.

DATE:12/27/2007

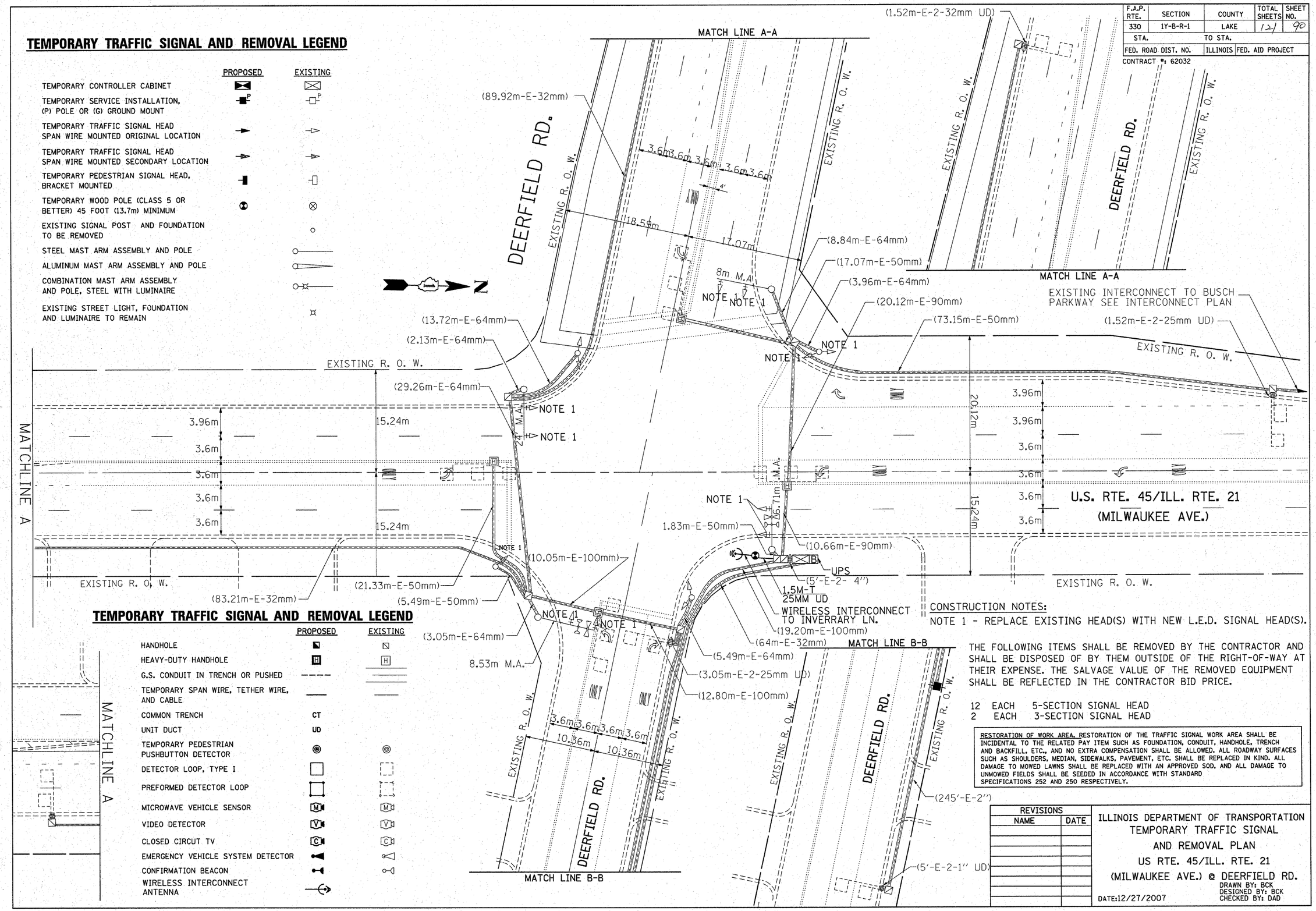
DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	IY-B-R-1	LAKE	12	90
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT #: 62032

TEMPORARY TRAFFIC SIGNAL AND REMOVAL LEGEND

	PROPOSED	EXISTING
TEMPORARY CONTROLLER CABINET	⊠	⊠
TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	P	P
TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION	→	→
TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION	→	→
TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED	■	□
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM	⊗	⊗
EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED		○
STEEL MAST ARM ASSEMBLY AND POLE	○——	○——
ALUMINUM MAST ARM ASSEMBLY AND POLE	○——	○——
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE	○—⊠	○—⊠
EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN		⊠



TEMPORARY TRAFFIC SIGNAL AND REMOVAL LEGEND

	PROPOSED	EXISTING
HANDHOLE	◥	◥
HEAVY-DUTY HANDHOLE	H	H
G.S. CONDUIT IN TRENCH OR PUSHED	-----	———
TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE	——	——
COMMON TRENCH	CT	
UNIT DUCT	UD	
TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR	◉	◉
DETECTOR LOOP, TYPE I	□	□
PREFORMED DETECTOR LOOP	□	□
MICROWAVE VEHICLE SENSOR	M	M
VIDEO DETECTOR	V	V
CLOSED CIRCUT TV	C	C
EMERGENCY VEHICLE SYSTEM DETECTOR	◀	◁
CONFIRMATION BEACON	●◀	○◁
WIRELESS INTERCONNECT ANTENNA	—◉	

CONSTRUCTION NOTES:

NOTE 1 - REPLACE EXISTING HEAD(S) WITH NEW L.E.D. SIGNAL HEAD(S).

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

12 EACH 5-SECTION SIGNAL HEAD
2 EACH 3-SECTION SIGNAL HEAD

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN

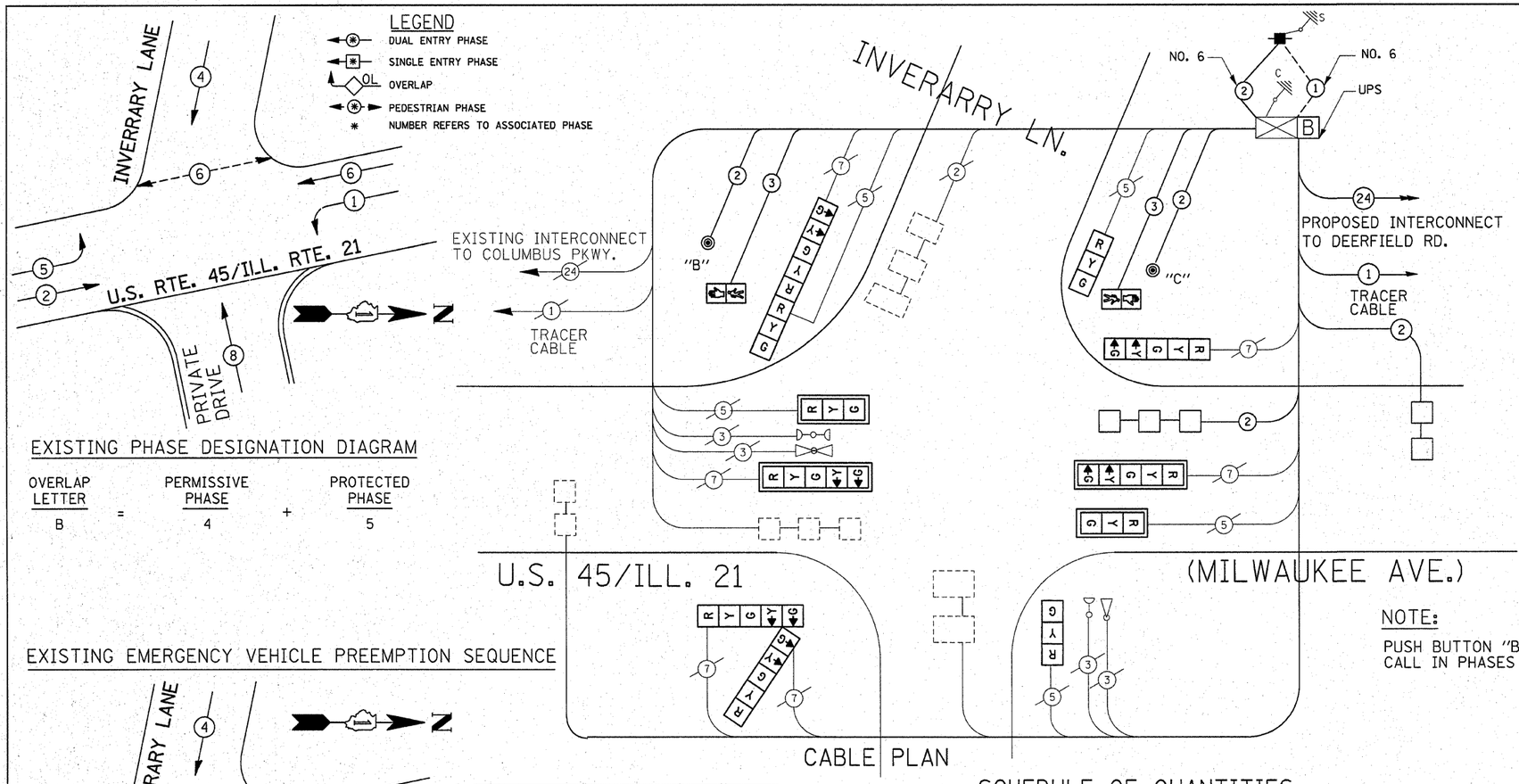
US RTE. 45/ILL. RTE. 21 (MILWAUKEE AVE.) @ DEERFIELD RD.

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

DATE:12/27/2007

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12	9
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT #: 62032

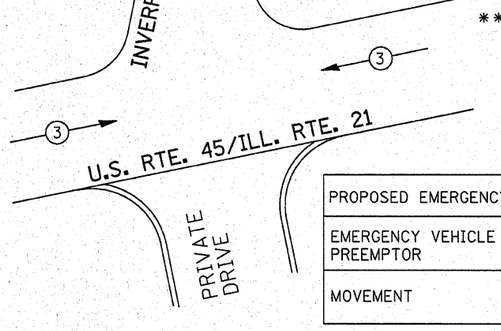


CABLE PLAN

EXISTING PHASE DESIGNATION DIAGRAM

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
B	=	4	+	5

EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE



** IF A NEW POST IS NEEDED TO REPLACE EXISTING TO INSTALL BIKE PATH, (SEE PLAN FOR LOCATION)

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

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	
SIGNAL (RED)	11	135	17	0.50	93.50
(YELLOW)	11	135	25	0.25	68.75
(GREEN)	11	135	15	0.25	41.25
ARROW	12	135	12	0.10	14.40
PED. SIGNAL	8	90	25	1.00	200.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	517.90

ENERGY SUPPLY
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096
CONTACT: _____
PHONE: _____
COMPANY: _____

VERTICAL	FT.	(m)
ALL FOUNDATIONS	3.5	(1.0)
MAST ARM (L) POLE	20'+L-2=	(6m+L-0.6m)=
BRACKET MOUNTED	13	(4.0)
PED. PUSHBUTTON	4	(1.2)
ELECTRIC SERVICE	13.5	(4.1)
SERVICE TO GROUND	13.5	(4.1)
POST MOUNTED	6	(1.8)

FOUNDATION (DEPTH)	FT.	(m)
TYPE A - POST	4	(1.2)
D - CONTROLLER	4	(1.2)
E - M. ARM POLE		
24" (600mm)	10	(3.0)
30" (750mm)	15	(4.6)
36" (900mm)	15	(4.6)

CABLE SLACK	FT.	(m)
HANDHOLE	6.5	(2.0)
DOUBLE HANDHOLE	13	(4.0)
SIGNAL POST	2	(1.0)
CONTROLLER CAB.	1	(0.5)
FIBER OPTIC	13	(4.0)
ELECTRIC SERVICE	1	(0.5)
GROUND CABLE	1	(0.5)

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
40	METER	THERMOPLASTIC PAVEMENT MARKING-LINE 100MM (TYP.)
9.0	METER	THERMOPLASTIC PAVEMENT MARKING-LINE 600MM (TYP.)
** 5	METER	CONDUIT PUSHED, 64mm GALVANIZED STEEL
** 5	METER	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1	EACH	HANDHOLE
61	METER	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
61	METER	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
31	METER	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
83	METER	ELECTRIC CABLE IN CONDUIT, LEAD-IN NO. 14 1 PAIR
37	METER	ELECTRIC CABLE IN CONDUIT, SERVICE NO. 6 2C
37	METER	ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1C
1	EACH	DRILL EXISTING HANDHOLE
2	EACH	PEDESTRIAN PUSHBUTTON
52	METER	DETECTOR LOOP, TYPE 1
1	EACH	TEMPORARY WIRELESS INTERCONNECT
1	EACH	MODIFY EXISTING CONTROLLER
** 1	EACH	CONCRETE FOUNDATION, TYPE A
1	EACH	TRAFFIC SIGNAL POST, 4.3M
3	EACH	TRAFFIC SIGNAL POST, 5.0M
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
** 1	EACH	REMOVE EXISTING CONCRETE FOUNDATION
1	EACH	REMOVE EXISTING HANDHOLE
** 37	METER	REMOVE EXISTING ELECTRIC CABLE FROM CONDUIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
2	EACH	SIGNAL HEAD, L.E.D., 1 FACE, 3-SECTION, M.A. MNTD.
2	EACH	SIGNAL HEAD, L.E.D., 1 FACE, 5-SECTION, M.A. MNTD.
2	EACH	SIGNAL HEAD, L.E.D., 1 FACE, 3-SECTION, BRKT. MNTD.
1	EACH	SIGNAL HEAD, L.E.D., 2 FACE, 1-3, 1-5 -SECTION, BRKT. MNTD.
1	EACH	SIGNAL HEAD, L.E.D., 2 FACE, 5 -SECTION, BRKT. MNTD.
2	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 1 FACE, BRKT.MNTD.
1	EACH	SERVICE INSTALLATION, POLE MOUNT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY

CABLE PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
RAILROAD CONTROL CABINET	RR	RR
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	P	P
TELEPHONE CONNECTION	T	T
GROUND ROD AT (C) CONTROLLER, (H)HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE	C	C
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED	24	24
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED	2	2
GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)	1	1
SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD	R Y G Y G "P"	R Y G Y G "P"

NOTE:
PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6

12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE	R Y G
12" (300mm) TRAFFIC SIGNAL SECTION	R
12" (300mm) PEDESTRIAN SIGNAL SECTION	DW OR W
ILLUMINATED SIGN "NO LEFT TURN"	
ILLUMINATED SIGN "NO RIGHT TURN"	
PUSHBUTTON DETECTOR	
DETECTOR LOOP	
PREFORMED DETECTOR LOOP	
MICROWAVE VEHICLE SENSOR	M
VIDEO DETECTOR	V
CLOSED CIRCUT TV	C
EMERGENCY VEHICLE SYSTEM DETECTOR	
CONFIRMATION BEACON	
UNINTERRUPTIBLE POWER SUPPLY	B

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PROPOSED CABLE PLAN
US RTE. 45/ILL. RTE. 21
(MILWAUKEE AVE.) @ INVERRARY LN.

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

DATE:12/27/2007

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-8-R-1	LAKE	121	92
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

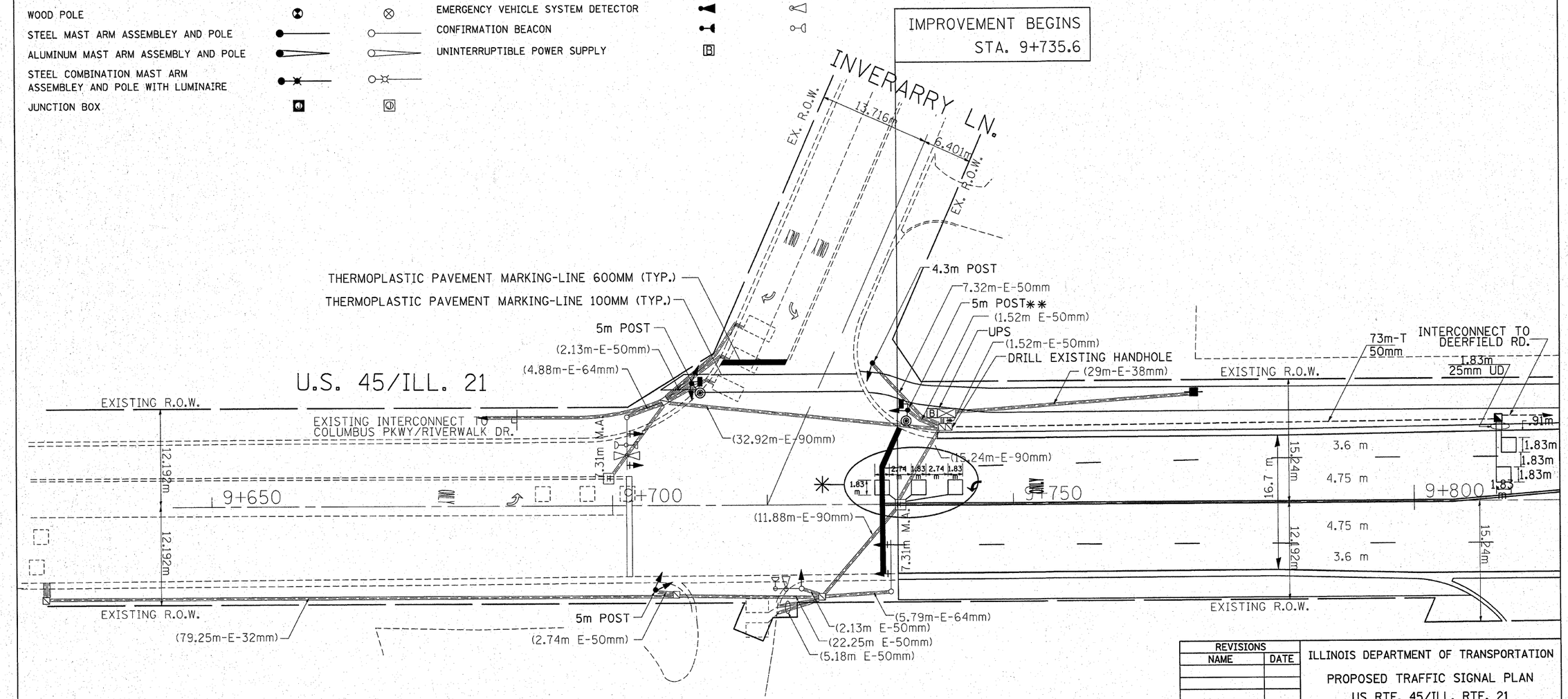
CONTRACT #: 62032

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET	▣	▣
RAILROAD CONTROL CABINET	▣R	▣R
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	■P	□P
TELEPHONE CONNECTION	T	T
SIGNAL HEAD	→	→
SIGNAL HEAD WITH BACKPLATE	+→	+→
SIGNAL HEAD OPTICALLY PROGRAMMED	→"P"	→"P"
SIGNAL HEAD PEDESTRIAN	▮	▯
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
SIGNAL POST	●	○
WOOD POLE	⊗	⊗
STEEL MAST ARM ASSEMBLEY AND POLE	●—	○—
ALUMINUM MAST ARM ASSEMBLY AND POLE	●—	○—
STEEL COMBINATION MAST ARM ASSEMBLEY AND POLE WITH LUMINAIRE	●—☼	○—☼
JUNCTION BOX	Ⓙ	Ⓙ

	PROPOSED	EXISTING
HANDHOLE	◥	◥
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE	◥◤	◥◤
G.S. CONDUIT IN TRENCH OR PUSHED	-----	———
COMMON TRENCH	CT	
UNIT DUCT	UD	
PEDESTRIAN PUSHBUTTON DETECTOR	◎	◎
DETECTOR LOOP, TYPE I	□	⬚
PREFORMED DETECTOR LOOP	▣	⬚
MICROWAVE VEHICLE SENSOR	M	M
VIDEO DETECTOR	V	V
CLOSED CIRCUT TV	C	C
EMERGENCY VEHICLE SYSTEM DETECTOR	◀	◁
CONFIRMATION BEACON	●—	○—
UNINTERRUPTIBLE POWER SUPPLY	B	

✳ NOTE:
THESE LOOPS WILL BE REMOVE AND REPLACED DURING RESURFACING. THE LEFT TURN SIGNAL PHASE WILL BE MAINTAINED AS DIRECTED BY THE RESIDENT ENGINEER.



REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

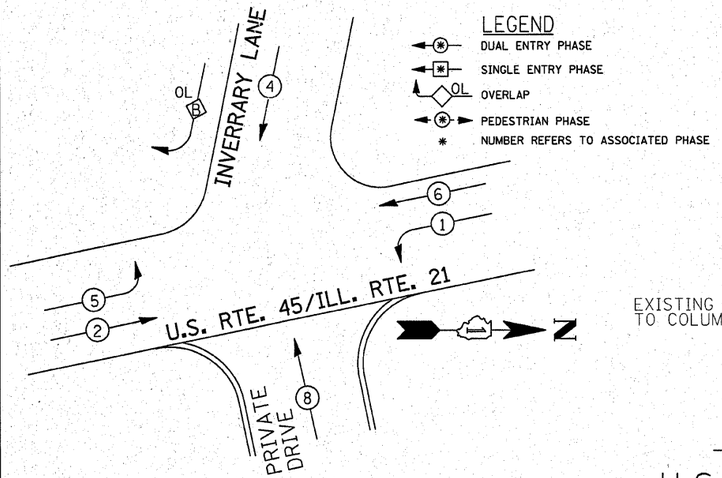
PROPOSED TRAFFIC SIGNAL PLAN
US RTE. 45/ILL. RTE. 21
(MILWAUKEE AVE.) @ INVERRARY LN.

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

DATE:12/27/2007

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12/	93
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT #: 62032



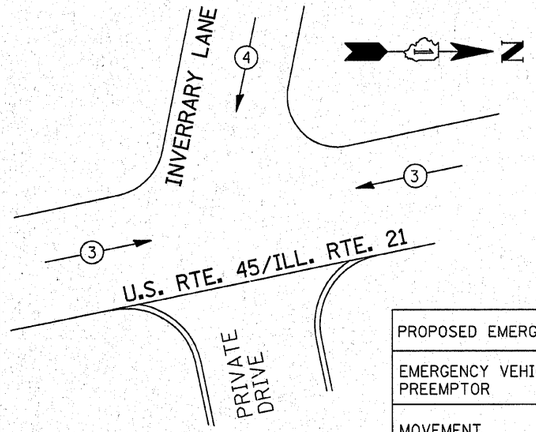
LEGEND

- DUAL ENTRY PHASE
- SINGLE ENTRY PHASE
- OL OVERLAP
- PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE

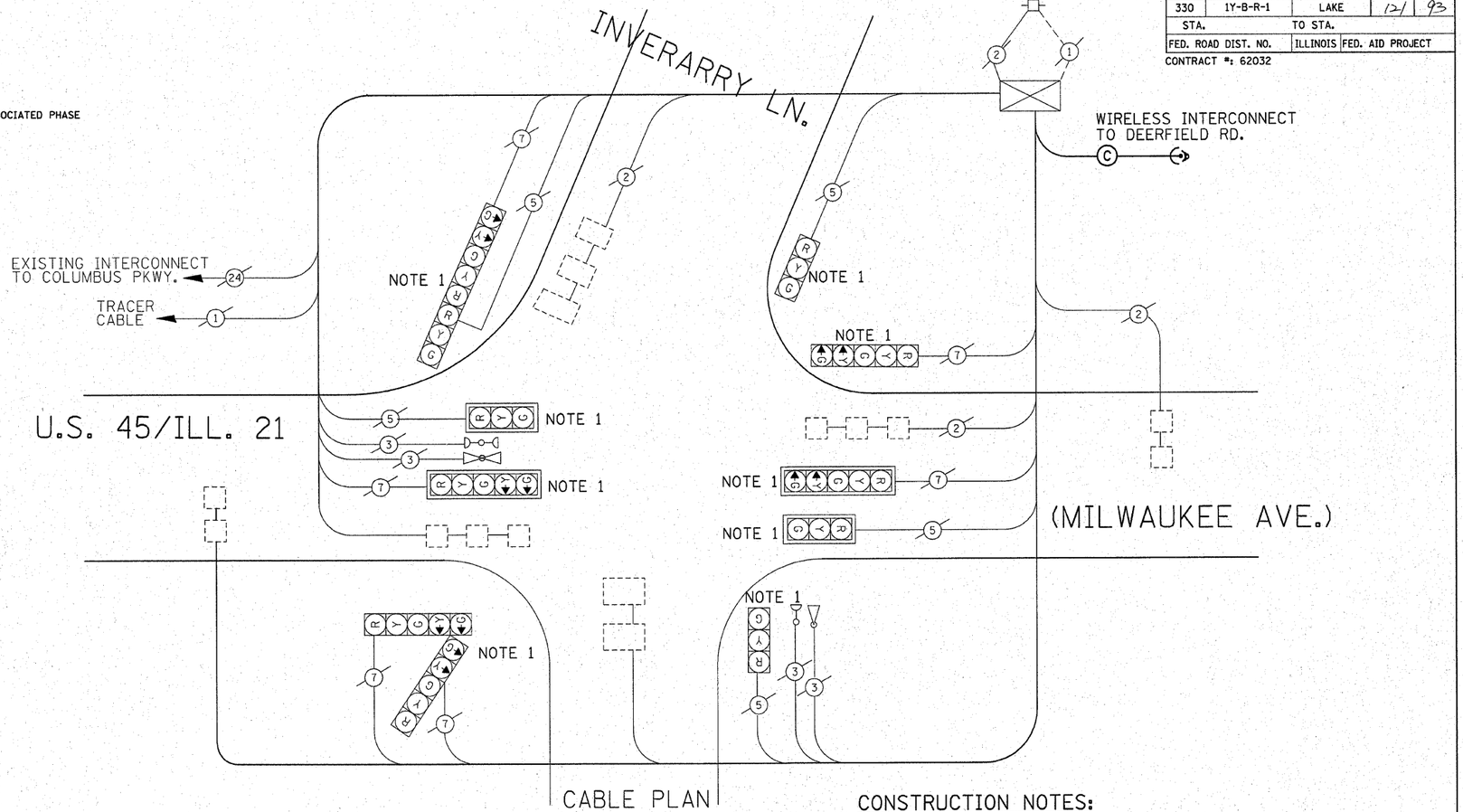
EXISTING PHASE DESIGNATION DIAGRAM

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
B	=	4	+	5

EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE



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



CONSTRUCTION NOTES:

NOTE 1 - REPLACE EXISTING HEAD(S) WITH NEW L.E.D. SIGNAL HEAD(S).

TEMPORARY CABLE DIAGRAM LEGEND

	PROPOSED	EXISTING
TEMPORARY CONTROLLER CABINET		
TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	P	P
TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)	R	R
12" (300 MM) PEDESTRIAN SIGNAL SECTION		
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED	2	2
PEDESTRIAN PUSHBUTTON DETECTOR		
VEHICLE DETECTOR, INDUCTION LOOP		
MICROWAVE VEHICLE SENSOR	M	M
VIDEO DETECTOR	V	V
CLOSED CIRCUT TV	C	C
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
WIRELESS INTERCONNECT ANTENNA		

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	WIRELESS INTERCONNECT

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	
SIGNAL (RED)	11	135	17	0.50	742.50
(YELLOW)	11	135	25	0.25	371.25
(GREEN)	11	135	15	0.25	371.25
ARROW	12	135	12	0.10	162.00
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	1747.00

ENERGY SUPPLY
ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096
CONTACT: _____
PHONE: _____
COMPANY: _____

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1,2)	HANDHOLE	6,5 (2,0)	ALL FOUNDATIONS	3,5 (1,0)
D - CONTROLLER	4 (1,2)	DOUBLE HANDHOLE	13 (4,0)	MAST ARM (L) POLE	20'+L-2= (6m+L-0.6m)=
E - M. ARM POLE		SIGNAL POST	2 (1,0)		
24" (600mm)	10 (3,0)	CONTROLLER CAB.	1 (0,5)	BRACKET MOUNTED	13 (4,0)
30" (750mm)	15 (4,6)	FIBER OPTIC	13 (4,0)	PED. PUSHBUTTON	4 (1,2)
36" (900mm)	15 (4,6)	ELECTRIC SERVICE	1 (0,5)	ELECTRIC SERVICE	13,5 (4,1)
		GROUND CABLE	1 (0,5)	SERVICE TO GROUND	13,5 (4,1)
				POST MOUNTED	6 (1,8)

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN
US RTE. 45/ILL. RTE. 21
(MILWAUKEE AVE.) @ INVERRARY LN.

DATE:12/27/2007

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12	9
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT #: 62032

TEMPORARY TRAFFIC SIGNAL AND REMOVAL LEGEND

	PROPOSED	EXISTING
TEMPORARY CONTROLLER CABINET		
TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	P	P
TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION		
TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION		
TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED		
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM		
EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED		
STEEL MAST ARM ASSEMBLY AND POLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE		
EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN		
HANDHOLE		
HEAVY-DUTY HANDHOLE	H	H
G.S. CONDUIT IN TRENCH OR PUSHED		
TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE		
COMMON TRENCH	CT	
UNIT DUCT	UD	
TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP		
MICROWAVE VEHICLE SENSOR	M	M
VIDEO DETECTOR	V	V
CLOSED CIRCUT TV	C	C
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
WIRELESS INTERCONNECT ANTENNA		

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

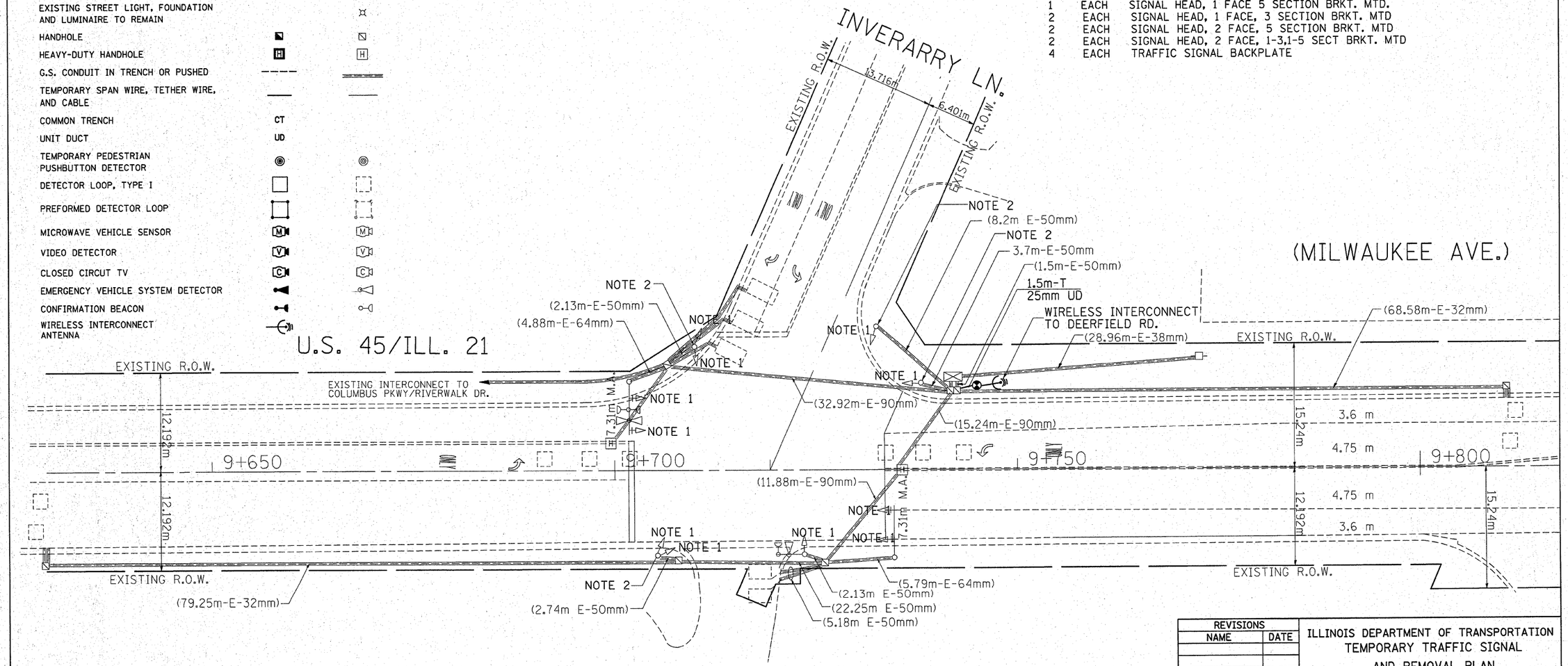
CONSTRUCTION NOTES:

NOTE 1 - REPLACE EXISTING HEAD(S) WITH NEW L.E.D. SIGNAL HEAD(S).

NOTE 2 - REMOVE EXISTING TRAFFIC SIGNAL PAINTED POST . REPLACE WITH NEW GALVANIZED STEEL POST RE-USING EXISTING FOUNDATION.

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

1	EACH	EXISTING SERVICE
3	EACH	TRAFFIC SIGNAL POST (PAINTED)
2	EACH	SIGNAL HEAD, 1 FACE, 3 SECTION M.A. MTD.
2	EACH	SIGNAL HEAD, 1 FACE, 5 SECTION M.A. MTD
1	EACH	SIGNAL HEAD, 1 FACE 5 SECTION BRKT. MTD.
2	EACH	SIGNAL HEAD, 1 FACE, 3 SECTION BRKT. MTD
2	EACH	SIGNAL HEAD, 2 FACE, 5 SECTION BRKT. MTD
2	EACH	SIGNAL HEAD, 2 FACE, 1-3,1-5 SECT BRKT. MTD
4	EACH	TRAFFIC SIGNAL BACKPLATE



REVISIONS NAME	DATE

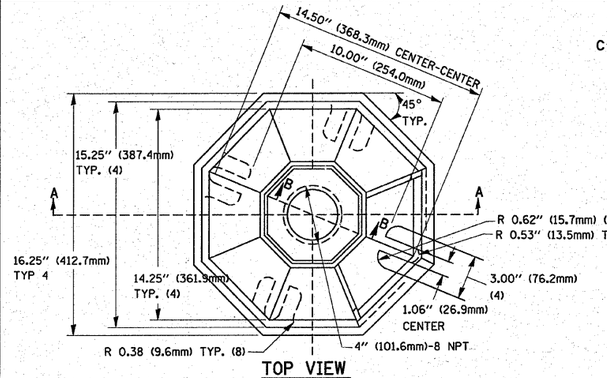
ILLINOIS DEPARTMENT OF TRANSPORTATION
TEMPORARY TRAFFIC SIGNAL
AND REMOVAL PLAN
US RTE. 45/ILL. RTE. 21
(MILWAUKEE AVE.) @ INVERRARY LN.

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

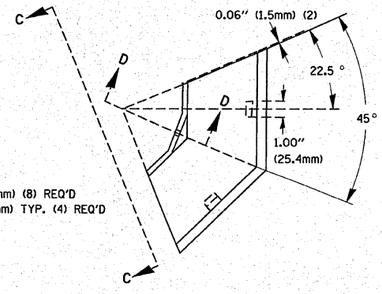
DATE:12/27/2007

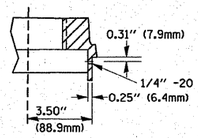
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	95
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT #: 62032

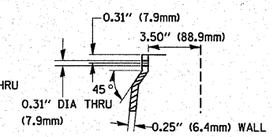


TOP VIEW

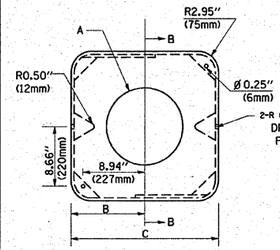




SECTION B-B



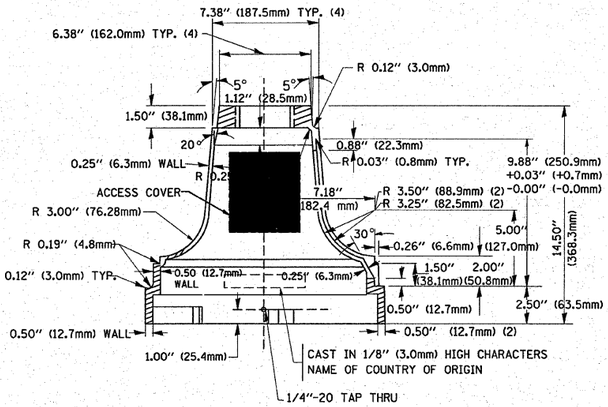
SECTION D-D



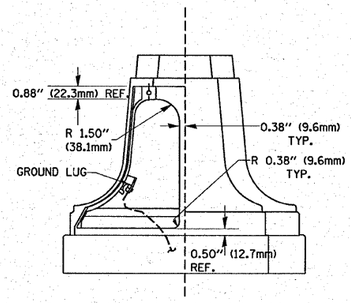
MATERIAL:
- ASTM A48 CLASS 30 GREY IRON
- ASTM A123 HOT DIPPED GALVANIZED

TYPE	A	B	C	HEIGHT	WEIGHT
I	Ø 10.125"(257mm)	9.5"(241mm)	19"(483mm)	12" (300mm)	24kg
II	Ø 11.125"(283mm)	10.75"(273mm)	21.5"(546mm)	12" (300mm)	26kg

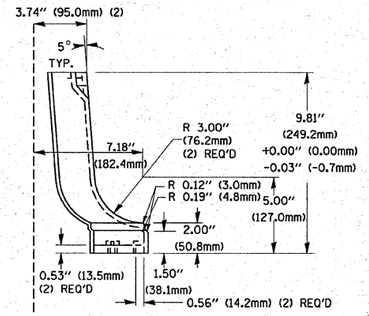
SHROUD DETAIL



SECTION A-A

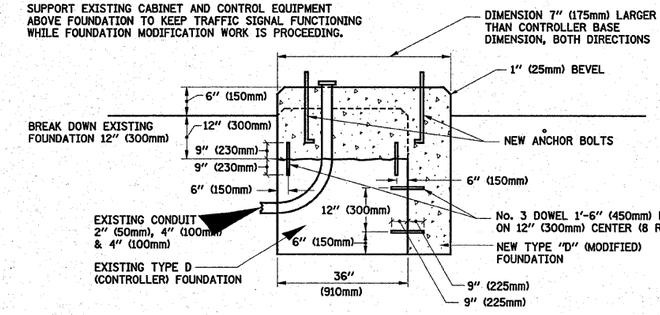


VIEW C-C



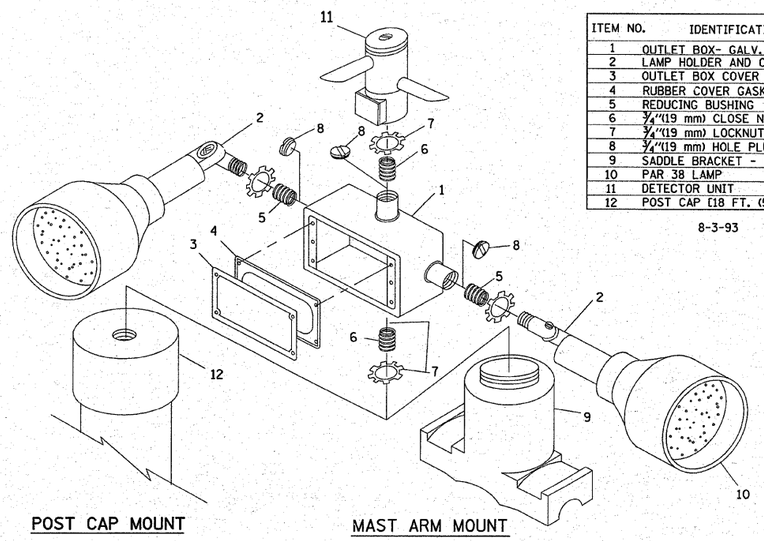
TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

NOTE:
SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION

(NOT TO SCALE)



ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	¾"(19 mm) CLOSE NIPPLE
7	¾"(19 mm) LOCKNUT
8	¾"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	PAR 38 LAMP
11	DETECTOR UNIT
12	POST CAP (18 FT. (5.4 m) POST MIN.)

8-3-93

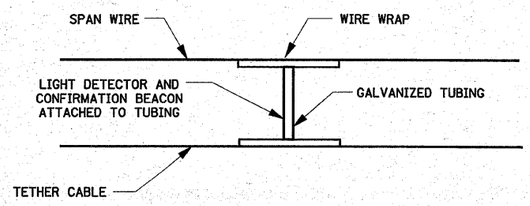
POST CAP MOUNT

MAST ARM MOUNT

EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

NOTES:

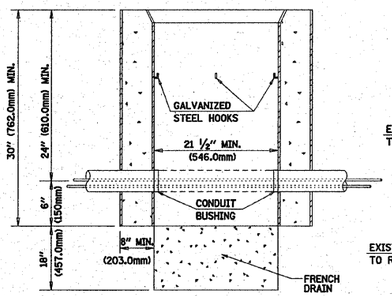
1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
   ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
   ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A ¾"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS

(NOT TO SCALE)

NOTES:
1. REMOVAL OF EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHING SHALL BE INCIDENTAL TO THE HANDHOLE.



DETAIL
HANDHOLE TO INTERCEPT EXISTING CONDUIT
N.T.S.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE HORIZ.
DATE 1-01-02

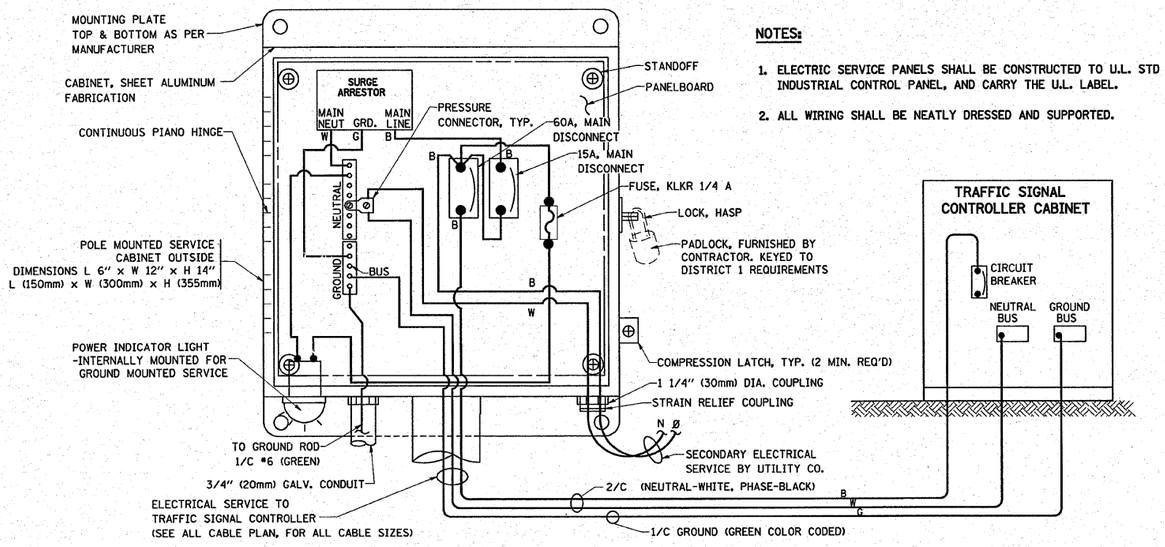
DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 4 OF 4

TS05

12/27/2007
c:\projects\traffic\1070026\us45.dgn

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12	96
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT #: 62032



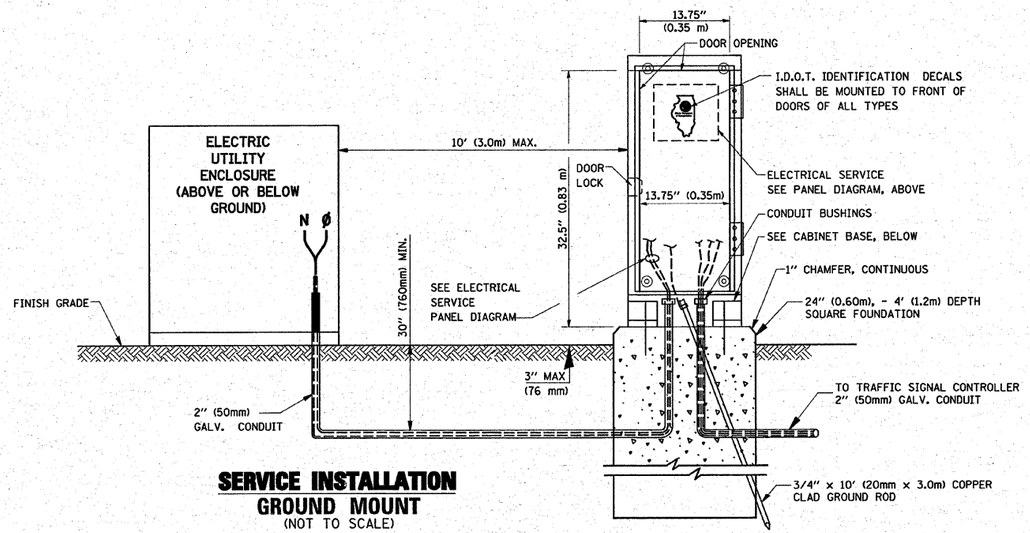
ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

NOTES:

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.

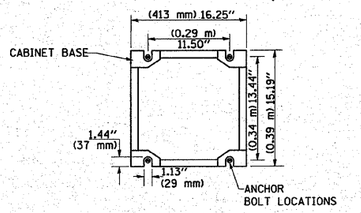
SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)



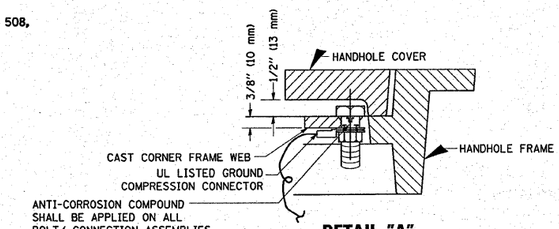
SERVICE INSTALLATION GROUND MOUNT

(NOT TO SCALE)

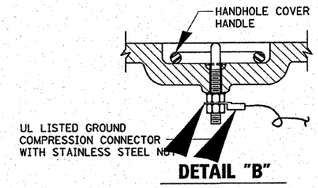


CABINET – BASE BOLT PATTERN

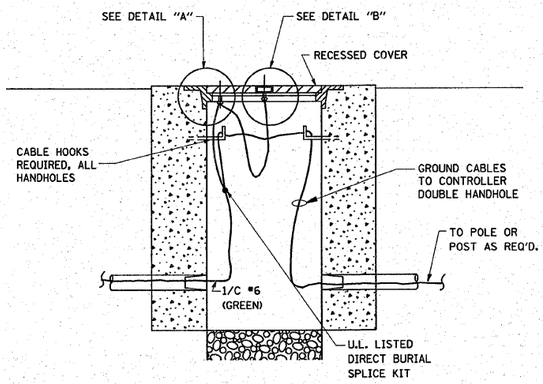
(NOT TO SCALE)



DETAIL "A"

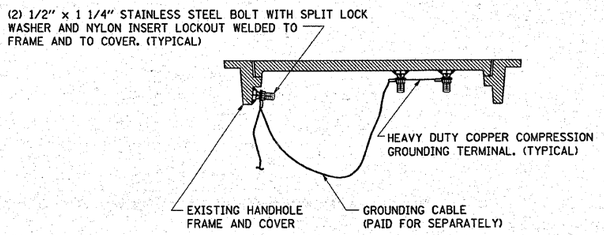


DETAIL "B"



HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)



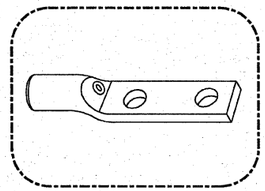
EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)

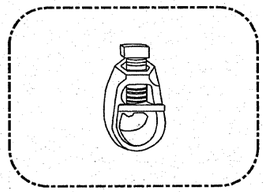
NOTES:

GROUNDING SYSTEM

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC,). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



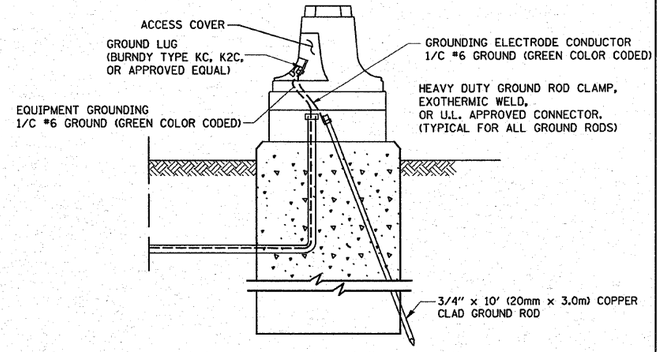
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EQUAL)

NOTES:

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES
  6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES
  13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES.
  5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



MAST ARM POLE / POST–GROUNDING DETAIL

(NOT TO SCALE)

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1

STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE HORIZ.
DATE 1-01-02

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 3 OF 4

TS05

12/27/2007
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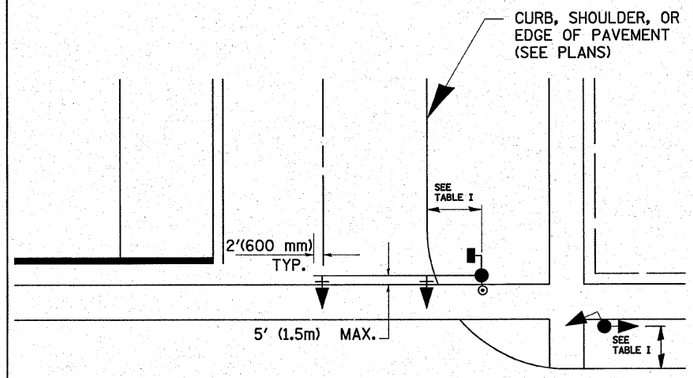
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	12	9
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

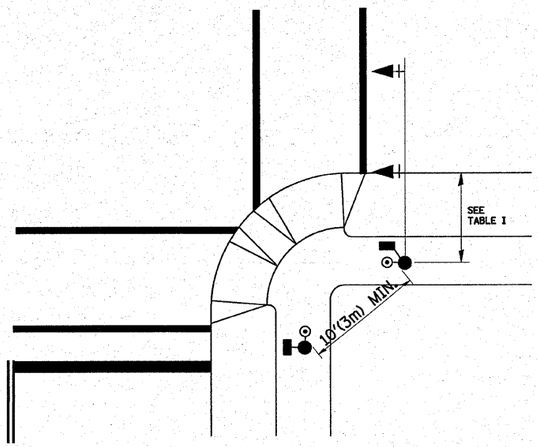
CONTRACT #: 62032

TRAFFIC SIGNAL MAST ARM AND POST

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



PEDESTRIAN SIGNAL PUSHBUTTON



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

NOTES:

1. AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION. EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.

   AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.

   PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:

   A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.

   B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.

   C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.

   D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).

   E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK

2. PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.

3. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.

4. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

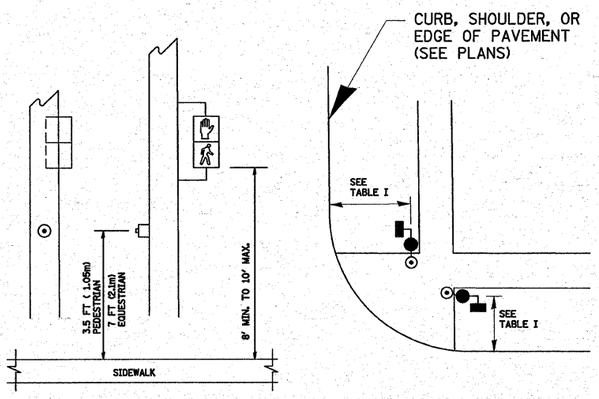


TABLE I

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN PUSHBUTTON	SEE NOTE 1	SEE NOTE 1

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1

STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE HORIZ.

DATE 1-01-02

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 2 OF 4

TS05

12/27/2007
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	1Y-B-R-1	LAKE	121	98
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CONTRACT #: 62032

LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.

2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.

3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.

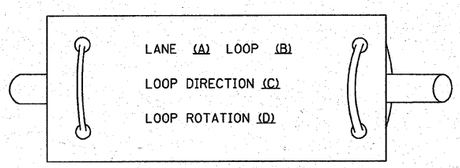
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.

5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.

6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.

7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

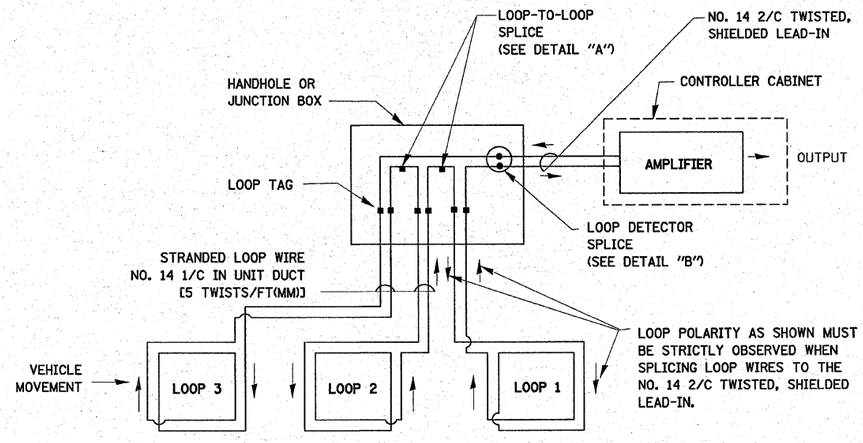


A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY

B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.

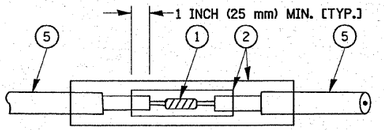
C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".

D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

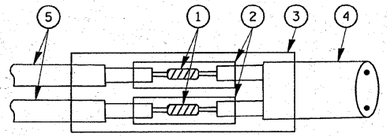


DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

(1) WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.

(2) WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.

(3) WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGHT 6" (150 mm), UNDERWATER GRADE.

(4) NO. 14 2/C TWISTED, SHIELDED CABLE.

(5) LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 1-01-02

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 1 OF 4

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12/27/2007
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CONTRACT NO. 62032

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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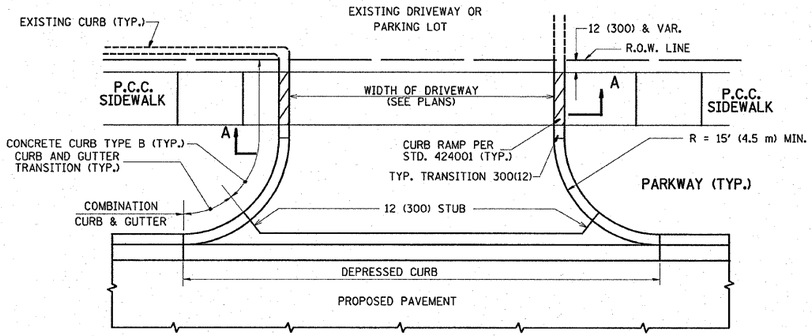
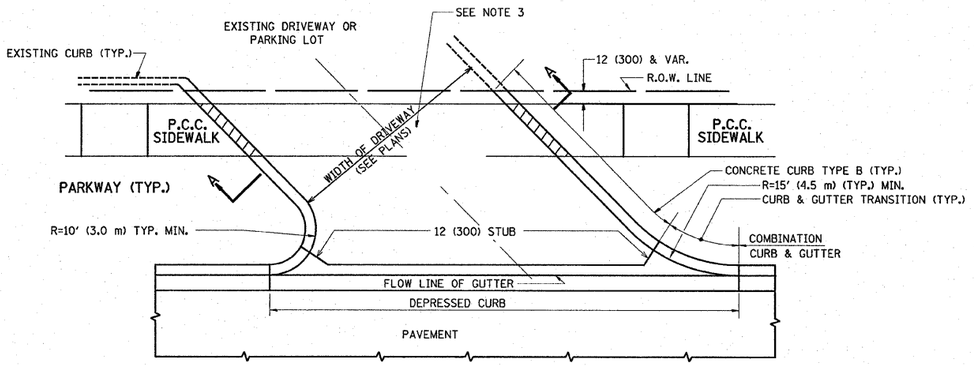
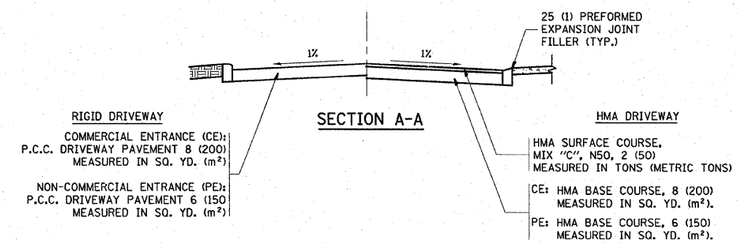
STA.		TO STA.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

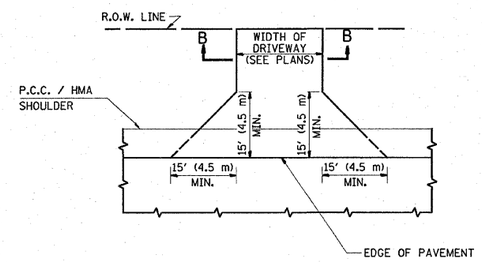


WITH CONCRETE CURB, TYPE B

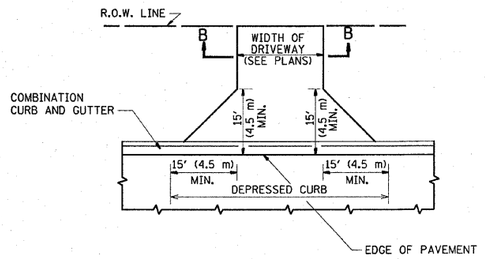


WITH CONCRETE CURB, TYPE B

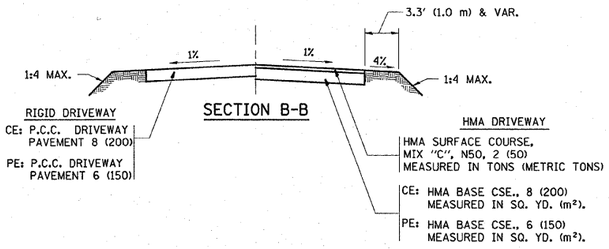




ADJACENT TO P.C.C. / HMA SHOULDER



ADJACENT TO CURB AND GUTTER



RURAL FIELD ENTRANCE (FE)

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

AGGREGATE BASE CSE., TYPE A 8 (200)
MEASURED IN SQ. YD. (m²).

GENERAL NOTES:

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

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

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

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

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

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

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

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

SCALE: VERT. NONE HORIZ.

DRAWN BY

CHECKED BY

BD0156-07 (BD-01)

PLOT DATE = 10/4/2007
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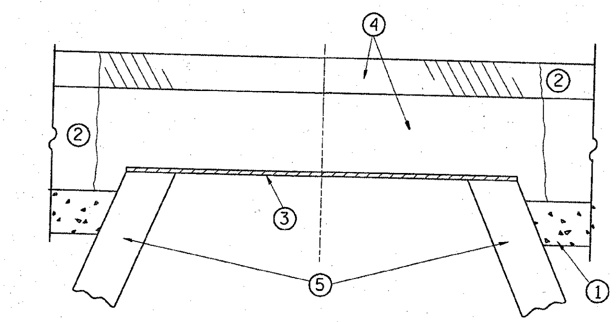
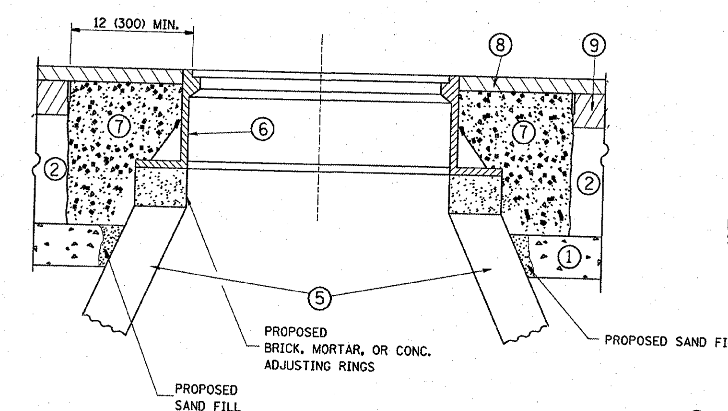
CONTRACT NO. 62032

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			121	100
STA.		TO STA.		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		





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 1½ (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 SI CONCRETE, OR HMA SURFACE COURSE OR HMA BINDER COURSE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS.

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 SI CONCRETE, HMA SURFACE COURSE OR HMA BINDER COURSE

⑧ PROPOSED HMA SURFACE COURSE

⑨ PROPOSED HMA BINDER COURSE

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.

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: THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR "FRAMES AND LIDS TO BE ADJUSTED, SPECIAL"

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

REVISIONS	
NAME	DATE
R. SHAH	10/25/94
R. SHAH	01/30/95
R. SHAH	03/10/95
A. ABBAS	03/21/97
R. WIEDEMAN	05/14/04
R. BORO	01/01/07

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

SCALE: VERT. HORIZ. NONE

DRAWN BY

CHECKED BY

BD600-03 (BD-8)

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USER NAME = byunsh

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